Robot Schedule 13

IBM i User Guide

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■ About This Guide

This user guide is a reference guide to Robot Schedule, the job scheduling, batch job management, and automated computer operator software for your IBM® System i™ (System i5™, iSeries™, or AS/400®) systems. The guide describes Robot Schedule program features, commands, the user interface, and provides some examples of how you can use them to automate your job scheduling tasks.

Robot Schedule allows you to:

- Schedule jobs based on every conceivable scheduling pattern

- Schedule jobs to run in reaction to events on your system

- Run jobs after checking on the completion of prerequisite jobs

- Create an audit log of job schedule changes to help you comply with government regulations and privacy laws, such as the Sarbanes-Oxley Act or HIPAA

- Maintain complete job completion history

- Schedule jobs on other platforms and across systems

Robot Schedule works with Robot Schedule Enterprise, the enter-prise job scheduler, to provide enterprise scheduling across your non-System i systems. Schedule jobs on your Windows, UNIX, and Linux servers. Or, specify server tasks as prerequisites to System i jobs or jobs on other servers.

Robot Schedule also works with the other products of the Robot Automated Operations Solution, giving you the ability to completely automate all your scheduling needs. Robot Schedule runs all your jobs as scheduled, day after day, without your constant attendance. If a job fails or requires human intervention, Robot Schedule works with Robot Alert to send a text, pager, or e-mail message directly to your operator.

■ Who Should Use This Guide

This user guide is for IBM i users who are responsible for setting up and managing Robot Schedule job scheduling on your IBM i systems. You should be familiar with the following:

- Basic IBM i operations

- Other Fortra software installed on your systems

■ How This Guide Is Organized

The user guide is meant to be used as a reference while you work. Therefore, the user guide is organized in the same order you find the options in the product. The topics within each section follow the Robot Schedule menu system. Each section begins with a description of the topic, followed by a discussion of the user interface panels and how to complete them to set up each Robot Schedule function. The panel descriptions provide detailed information on valid values, the function of each field, and any additional information that can help you when using Robot Schedule.

Note: This guide describes how to schedule your jobs using the Robot Schedule green screen panels. The other guide describes using the Robot Schedule GUI. See the *Robot Schedule User Guide* for complete information on these functions.

In addition to the user guide, another source of information is the online help text. Press the help key from any panel to display the online help.

Along with this user guide, Robot Schedule has the following additional manuals to help you set up and use the product.

■ Additional Manuals

•   The *Robot Schedule User Guide* describes how to use the Robot Schedule GUI. Some Robot Schedule functions are available only the GUI, and are described completely in this user guide.

•   The *OPAL Reference Guide* describes using OPerator Assistance Language (OPAL) in Robot Schedule. It is a complete discussion of all OPAL operations, keywords, and variables, and provides examples of how to use OPAL for common scheduling tasks.

Introduction

■ Three Packages in One

Robot Schedule is the cornerstone of the Robot Automated Operations Solution, the Fortra product line that allows you to run your IBM® System i™ (System i5™, iSeries™, or AS/400) unattended. Thousands of Robot Schedule users have found that their operations run more smoothly after automation with Robot Schedule.

Automation using Robot Schedule is unsurpassed because Robot Schedule is three packages in one. It is:

* An automatic computer operator
* A job scheduler
* A batch management system

■ Job Scheduler

Robot Schedule is unsurpassed as a job scheduler. It has more than 100 scheduling options to match every conceivable scheduling pattern. This means you can set up a job once and not touch it again for years.

Robot Schedule gives you easy, one-panel entry for most jobs. You enter the program name and the times it should run and then select the days of the week or month it should run. That's all there is to it. But, if you need more complex scheduling, Robot Schedule can do that, too. You tell Robot Schedule what you want it to do, and it has the power to do it.

Even jobs that have no schedule can be run by Robot Schedule. Robot Schedule's Reactive Scheduling™ allows it to run jobs in response to events on your system. Or, you can enter jobs in Robot Schedule that run only when you select them.

■ Automatic Computer Operator

Robot Schedule is unsurpassed as an automatic computer operator. It provides you with a variety of job control options and Robot Schedule utilities to keep your system running the way you want it to.

The Robot Schedule Command Processor eliminates all those little CL programs you write to make your batch jobs do exactly what you want. You can tell Robot Schedule to run a sequence of up to 999 commands as a job. Supply values from your programs for Robot Schedule command variables. Use Robot Schedule reserved command variables to insert system values automatically.

■ Batch Management System

Robot Schedule is unsurpassed as a batch management system. Power-ful Robot Schedule commands make batch job setup a snap. Just fill in the blanks. No more coding SBMJOB commands. No more writing little CL programs.

Even easier, have Robot Schedule watch while you submit jobs. Once you turn on Robot Schedule's "Learn" function, it captures each SBMJOB command issued and the local data area; it then sets up a Robot Schedule job record for the job. All you do is enter the job's schedule. This is an ideal method for scheduling jobs issued by purchased software.

What's more, Robot Schedule batch commands give the power of Robot Schedule to your programs and menus. Create and change job records, pass in variable values, or alter the job schedule. You can even have users schedule their own jobs.

■ Job Completion History

Robot Schedule's Job Completion History gives you instant informa-tion on all batch jobs now running or completed. You can track all jobs, including those not submitted by Robot Schedule.

If you want, you can limit the display to jobs that completed normally, that terminated abnormally, or that are currently running. You can search for a job by group name, job name, or job number.

For each job, you can see the following:

- Time started and finished and total elapsed run time
- Completion or running status
- Job log and history log entries
- Journal entries created by the job
- Robot Schedule setup and documentation for the job
- WRKJOB options

You can even cancel the job.
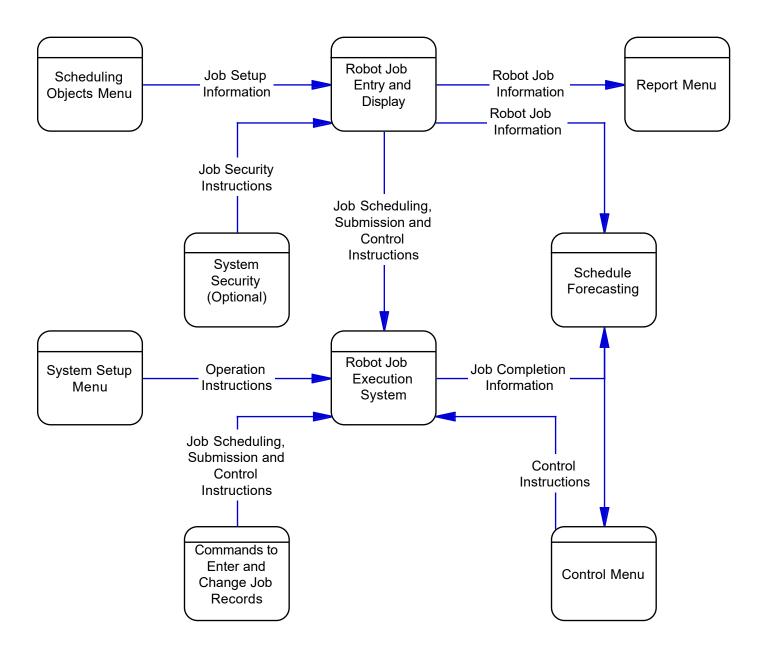
■ Easy Job Setup

Robot Schedule's job setup is easy. It is easier and faster than main-taining system run books, easier and faster than writing CL programs, easier and faster than writing SBMJOB commands, and easier and faster than writing procedure manuals. Robot Schedule is designed to re-place them all.

Robot Schedule comes with interactive displays and written reports that document both the history of jobs run on the system and the jobs scheduled to run in the future. Robot Schedule can forecast the run schedule for any time period you specify, graphically showing you when new jobs can be scheduled.

Try Robot Schedule and you will agree with our customers who say, "Since we got Robot Schedule, the place seems to run by itself."

Robot Schedule Data Flow Diagram

Scheduling Objects Menu

— Job Setup Information → Robot Job Entry and Display

Robot Job Entry and Display — Robot Job Information → Report Menu

Robot Job Entry and Display — Robot Job Information → Schedule Forecasting

System Security (Optional) — Job Security Instructions → Robot Job Entry and Display

Robot Job Entry and Display — Job Scheduling, Submission and Control Instructions → Robot Job Execution System

System Setup Menu — Operation Instructions → Robot Job Execution System

Robot Job Execution System — Job Completion Information → Schedule Forecasting

Commands to Enter and Change Job Records — Job Scheduling, Submission and Control Instructions → Robot Job Execution System

Control Menu — Control Instructions → Robot Job Execution System

■ Robot Schedule Overview

As shown on the Robot Schedule data flow diagram on the preceding page, Robot Schedule has nine major components. This overview touches on each of these components, which are explained in depth in the rest of this manual.

■ Robot Schedule Job Entry

The heart of Robot Schedule job entry is the Job Schedule List. This panel shows your schedule at-a-glance and is the starting point for entering and changing Robot Schedule jobs. You can enter most jobs using just one panel. More advanced scheduling and job control options also are available on other panels.

■ Robot Schedule Job Execution System

While Robot Schedule is active, five schedule monitor jobs sit in a wait state in the RBTSLEEPER subsystem. The monitors submit Robot Schedule jobs for execution when the required conditions are met, collect user job history, record schedule changes in the audit log, and provide alerts for jobs that being monitored.

Robot Schedule Monitor Jobs

- **ROBOT** is the time-dependent schedule monitor. It sleeps until the time that a job is scheduled to run; then wakes up, submits the job, and goes back to sleep.

- **ROBOTREACT** is the event-reactive monitor. It sleeps until an event is communicated to it; then wakes up to see if the prerequisites for a reactive job have been satisfied. If the prerequisites for a job are met, ROBOTREACT submits the job and then goes back to sleep.

- **ROBOTSBMJ** processes OS/400 job status messages for all jobs in all subsystems. This job collects user job history. User jobs are jobs run by anyone other than Robot Schedule. This job is required for tracking Robot Replay job logs.

- **ROBOTAUDIT** records schedule changes, overrides, and product control actions to the Robot Schedule audit log.

- **ROBOTJM** monitors the job schedule and provides real-time alerts for jobs that start late, run longer than they should, or complete too quickly.

■ **Scheduling Objects Menu**

The Scheduling Objects menu allows you to create several types of scheduling objects that can be attached to multiple jobs. By attaching the same objects to multiple jobs, you gain the benefits of reuse including simplifying the setup and maintenance of jobs. The objects you can define include calendars, date objects, library lists, job environments, reserved command variables, OPerator Assistance Language (OPAL) objects, command sets, and queries.

■ **Control Menu**

The Control Menu lets you start and stop the Robot Schedule moni-tors. It also lets you display the completion history of all jobs, including jobs not submitted by Robot Schedule. From the history panel, you can learn why a job terminated abnormally.

■ **Commands to Enter and Change Robot Schedule Jobs**

Robot Schedule can "learn" how you submit jobs. It can capture the job setup information while you submit the jobs. The Robot Schedule RBTBCHUPD command lets you change Robot Schedule records from your own programs and menus. Use it to change job options, job commands, and the job schedule, permanently or temporarily.

■ **System Setup Menu**

From the System Setup menu, you enter general system defaults, lists of authorized objects, and security information. Robot Schedule provides an optional security system that lets you define authorities and restrictions for user profiles.

■ **Report Menu**

Robot Schedule provides job schedule reports, job setup reports, and distribution reports. List the job schedule for the day, the week, or the month. Print the job setup information entered in Robot Schedule, including full job documentation, all commands, all LDA records, and reactive job cross-references. The distribution reports list the reports Robot Schedule jobs will print–by day, by recipient, or by job. Query functions allow you to customize your reports.

■ **Job Schedule Blueprint**

The Robot Schedule GUI allows you to select all, or a portion, of your job schedule and display it in a graphical blueprint that identifies the relationships between jobs, including cross-system reactivity. Using the blueprint, you can discover gaps in your job schedule where jobs can be added; find inefficiencies in your schedule; and see the effect of schedule changes before you apply them. You can print the blueprints for a visual overview, or use them to train your operators. See the *Robot Schedule User Guide* for complete information.

■ Schedule Forecasting

Robot Schedule can forecast your run schedule for you. It forecasts when job runs will start and complete. It then shows you, on a graphic display, the expected run activity over any period of time that you specify.

■ Audit Menu

From the Audit Menu, Robot Schedule allows you to start or stop auditing of modifications made to your job schedule. Every job schedule addition, change (including override codes), and deletion is included in an audit log. The name of the user who made the change and the time and date of the change also appears. You can display or print the audit log for your records. Use the audit log to document your job schedule and help you comply with privacy laws and legislation, such as the Sarbanes-Oxley Act (SOX) or HIPAA.
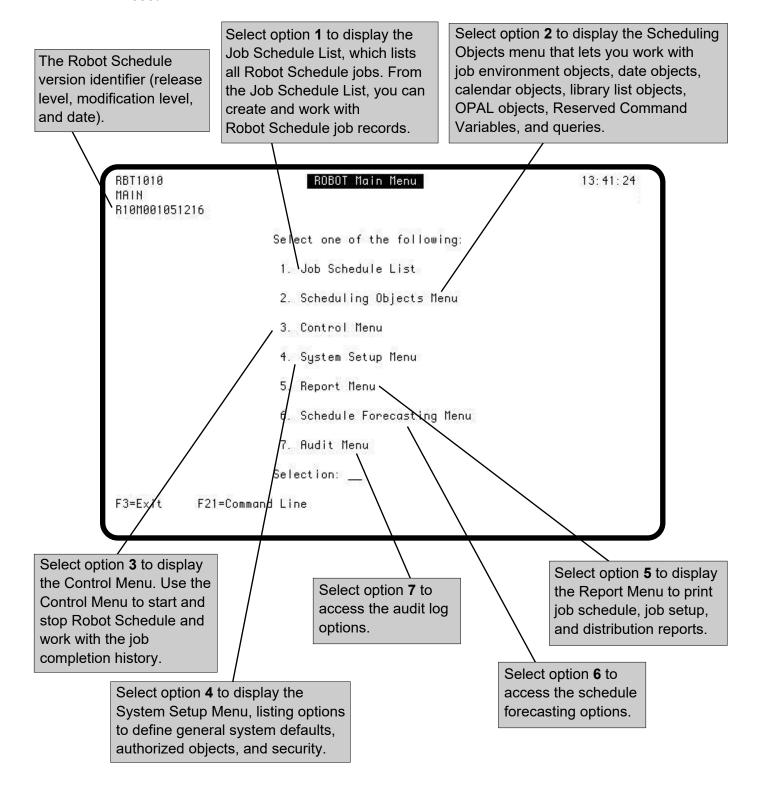
■ Domino Commands

Robot Schedule's Domino commands allow you to manage your Domino servers and maintain your Domino databases using the products of the Robot Automated Operations Solution.

Robot Schedule Main Menu

To display the Robot Main Menu:
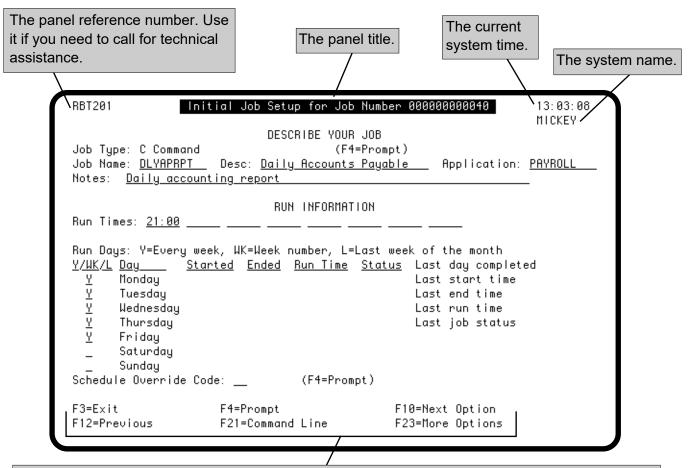
1. Add the Robot Schedule library to your library list with the command **ADDLIBLE ROBOTLIB**.

2. Enter the Robot Schedule menu command **RBM**.

The Robot Schedule version identifier (release level, modification level, and date).

Select option **1** to display the Job Schedule List, which lists all Robot Schedule jobs. From the Job Schedule List, you can create and work with Robot Schedule job records.

Select option **2** to display the Scheduling Objects menu that lets you work with job environment objects, date objects, calendar objects, library list objects, OPAL objects, Reserved Command Variables, and queries.

```
RBT1010                        ROBOT Main Menu                    13:41:24
MAIN
R10M001051216


                        Select one of the following:

                          1. Job Schedule List

                          2. Scheduling Objects Menu

                          3. Control Menu

                          4. System Setup Menu

                          5. Report Menu

                          6. Schedule Forecasting Menu

                          7. Audit Menu

                          Selection: __

      F3=Exit      F21=Command Line
```

Select option **3** to display the Control Menu. Use the Control Menu to start and stop Robot Schedule and work with the job completion history.

Select option **7** to access the audit log options.

Select option **5** to display the Report Menu to print job schedule, job setup, and distribution reports.

Select option **6** to access the schedule forecasting options.

Select option **4** to display the System Setup Menu, listing options to define general system defaults, authorized objects, and security.

Standard Panel Features and Function Keys

Use this section to become familiar with the standard features of the Robot Schedule user interface. You'll find they make Robot Schedule easy to use.

First, become familiar with the layout of a Robot Schedule panel. Robot Schedule panels have a heading line at the top and function key prompts at the bottom. To read about the panel you have displayed, press the Help key.

The panel reference number. Use it if you need to call for technical assistance.

The panel title.

The current system time.

The system name.

```
RBT201            Initial Job Setup for Job Number 000000000040        13:03:08
                                                                        MICKEY
                              DESCRIBE YOUR JOB
    Job Type: C Command                  (F4=Prompt)
    Job Name: DLYAPRPT    Desc: Daily Accounts Payable    Application: PAYROLL
    Notes:  Daily accounting report

                              RUN INFORMATION
    Run Times: 21:00 ____  ____  ____  ____  ____  ____  ____

    Run Days: Y=Every week, WK=Week number, L=Last week of the month
    Y/WK/L Day____    Started  Ended   Run Time  Status  Last day completed
      Y     Monday                                       Last start time
      Y     Tuesday                                      Last end time
      Y     Wednesday                                    Last run time
      Y     Thursday                                     Last job status
      Y     Friday
      _     Saturday
      _     Sunday
    Schedule Override Code: __          (F4=Prompt)

    F3=Exit              F4=Prompt              F10=Next Option
    F12=Previous         F21=Command Line       F23=More Options
```

The following function keys appear on most Robot Schedule panels. Other function keys can vary from panel to panel.

F3=Exit   Exits the current panel or pop-up window. Any Information typed on the panel, but not saved (by pressing the Enter key), is discarded.

F4=Prompt   Displays the options available from the field where the cursor is located.

F10=Next Option   Saves what you have typed and takes you to the next option in the options list.
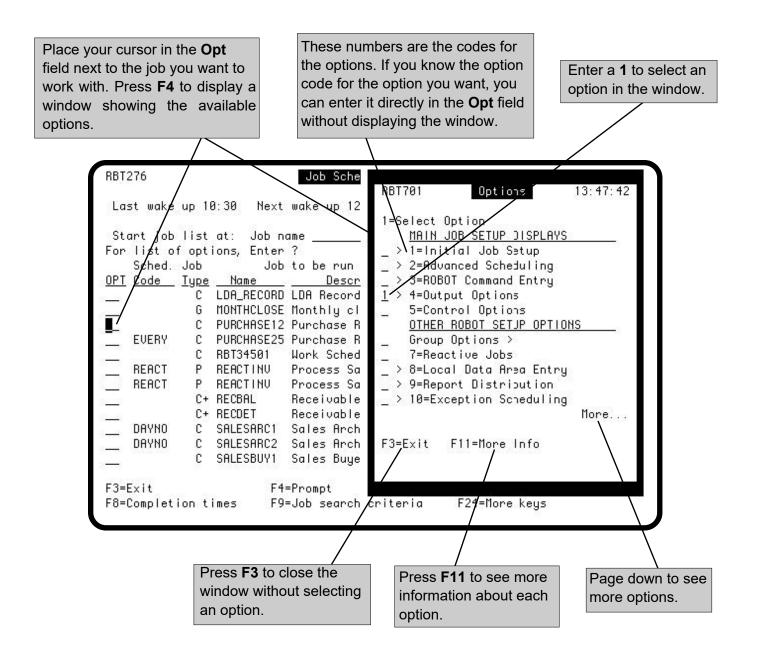
F12=Previous   Saves what you have typed and returns you to the previous panel.

F21=Command Line   Displays an IBM i command line to enter system commands.

F23=More Options   Displays the options menu window.
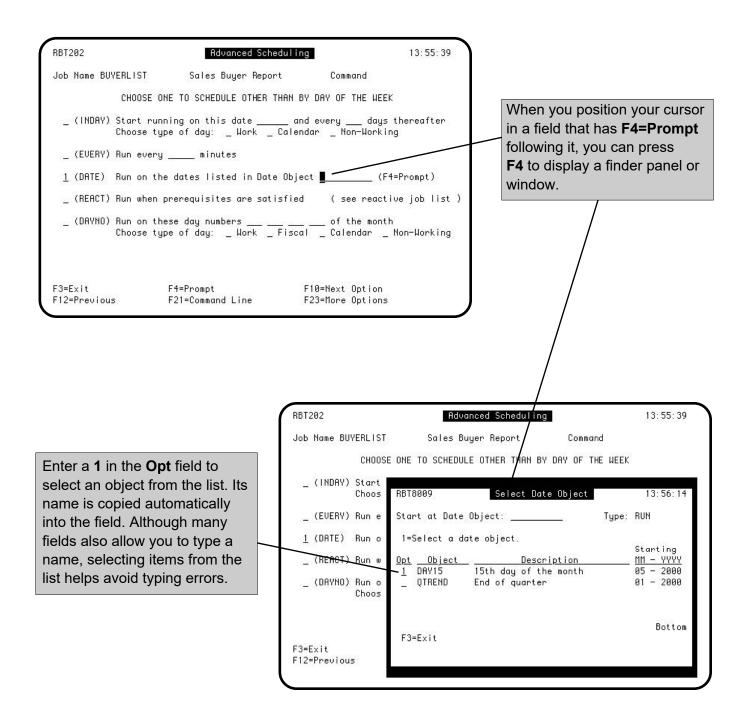
Option Menus

Many Robot Schedule panels, such as the Job Schedule List, display lists. The first column of the list is the options field (**Opt**). You can use this field to enter an option code for a specific job. To see a list of the option codes you can enter in the Opt field, position your cursor next to the job you want to work with and press F4 A pop-up window, listing a menu of options, displays. Select an option for the job from the menu by placing a **1** next to your choice.

Place your cursor in the **Opt** field next to the job you want to work with. Press **F4** to display a window showing the available options.

These numbers are the codes for the options. If you know the option code for the option you want, you can enter it directly in the **Opt** field without displaying the window.

Enter a **1** to select an option in the window.

```
RBT276                        Job Sche
                                           RBT701           Options         13:47:42
   Last wake up 10:30    Next wake up 12
                                           1=Select Option
   Start job list at:  Job name _____       MAIN JOB SETUP DISPLAYS
For list of options, Enter ?               _ > 1=Initial Job Setup
      Sched. Job            Job to be run   _ > 2=Advanced Scheduling
OPT Code    Type   Name         Descr      _ > 3=ROBOT Command Entry
   __            C   LDA_RECORD LDA Record  1 > 4=Output Options
                G   MONTHCLOSE Monthly cl   _   5=Control Options
   █            C   PURCHASE12 Purchase R       OTHER ROBOT SETUP OPTIONS
   __ EVERY     C   PURCHASE25 Purchase R   _   Group Options >
   __            C   RBT34501   Work Sched  _   7=Reactive Jobs
   __ REACT     P   REACTINV   Process Sa   _ > 8=Local Data Area Entry
   __ REACT     P   REACTINV   Process Sa   _ > 9=Report Distribution
   __            C+ RECBAL     Receivable   _ > 10=Exception Scheduling
   __            C+ RECDET     Receivable                        More...
   __ DAYNO     C   SALESARC1  Sales Arch
   __ DAYNO     C   SALESARC2  Sales Arch   F3=Exit   F11=More Info
   __            C   SALESBUY1  Sales Buye

F3=Exit              F4=Prompt
F8=Completion times  F9=Job search criteria      F24=More keys
```

Press **F3** to close the window without selecting an option.

Press **F11** to see more information about each option.

Page down to see more options.

Finder Panels

The label **F4=Prompt** (or simply **F4**) follows some fields. For these fields, you can press **F4** to see a finder panel or window. The finder panel or window lists all values already defined for that field. You then can select a value from the list, and it is copied into the field. If only a single value has been defined for the field, pressing **F4** automatically copies the value into the field.

```
 RBT202                    Advanced Scheduling              13:55:39

 Job Name BUYERLIST       Sales Buyer Report         Command

            CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

   _ (INDAY) Start running on this date _____ and every ___ days thereafter
             Choose type of day:  _ Work  _ Calendar  _ Non-Working

   _ (EVERY) Run every _____ minutes

   1 (DATE)  Run on the dates listed in Date Object █_____ (F4=Prompt)

   _ (REACT) Run when prerequisites are satisfied     ( see reactive job list )

   _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
             Choose type of day:  _ Work _ Fiscal _ Calendar _ Non-Working



 F3=Exit               F4=Prompt            F10=Next Option
 F12=Previous          F21=Command Line     F23=More Options
```

When you position your cursor in a field that has **F4=Prompt** following it, you can press **F4** to display a finder panel or window.

Enter a **1** in the **Opt** field to select an object from the list. Its name is copied automatically into the field. Although many fields also allow you to type a name, selecting items from the list helps avoid typing errors.

```
 RBT202                    Advanced Scheduling              13:55:39

 Job Name BUYERLIST       Sales Buyer Report         Command

            CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

   _ (INDAY) Start
             Choos  RBT8009              Select Date Object       13:56:14

   _ (EVERY) Run e  Start at Date Object: _____       Type: RUN

   1 (DATE)  Run o    1=Select a date object.
                                                            Starting
   _ (REACT) Run w  Opt   Object          Description      MM - YYYY
                     1   DAY15    15th day of the month    05 - 2000
   _ (DAYNO) Run o   _   QTREND   End of quarter           01 - 2000
             Choos

                                                            Bottom

                    F3=Exit
 F3=Exit
 F12=Previous
```

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Select Search

To make it easier to find an entry in a list, many Robot Schedule panels let you select the way the list is sorted. If you change the search criteria, the panel is redisplayed using the selected sort option and the label changes on the **Start list at** field near the top of the panel. To find a record in the list, enter its value in the **Start list at** field. Robot Schedule finds the first record with that value and positions it at the top of the panel display.

```
RBT276                    Job Schedule List            14:04:12

 Last wake up 10:30   Next wake up 12:00        ROBOT is: INACTIVE

  Start job list at:  Job name _____
For list of options, Enter ?
    Sched. Job          Job to be run          Days or cates job runs
OPT Code   Type  Name        Description    Time  M  T  W  TH  F  ST  SN
 __         C  LDA_RECORD LDA Record Review   00:00
 __         G  MONTHCLOSE Monthly closing proced 18:00
 __         C  PURCHASE12 Purchase Report 12  99:99
 __  EVERY  C  PURCHASE25 Purchase Report 25  00:00 Y  Y  Y  Y     Y  Y     Y
 __         C  RBT34501   Work Schedule by Time 08:00 Y  Y  Y  Y     Y
 __  REACT  P  REACTINV   Process Sales transact 00:00
 __  REACT  P  REACTINV   Process Sales transact 00:00
 __         C+ RECBAL     Receivables Balance  17:00                    L
 __         C+ RECDET     Receivables Detail   17:00                 L
 __  DAYNO  C  SALESARC1  Sales Archive Rep1   99:99   1,  5, 10, 15
 __  DAYNO  C  SALESARC2  Sales Archive Rep2   99:99  -1, 15, 25
 __         C  SALESBUY1  Sales Buyer Rep1     99:99
                                                       More...
F3=Exit          F4=Prompt           F6=Add record
F8=Completion times   F9=Job search criteria   F24=More keys
```

In this example, the Job Schedule List is sorted by job name. To locate a job in the list, enter the job name in the **Start job list at:** field. Robot Schedule searches for the first job with that name and position it at the top of the panel.

If you want to search by a different criteria, press **F9** to display the Search Options window.

Enter a **1** next to an option to change the criteria used to sort the list.

```
RBT276                    Job Schedule List            14:04:12

 Last wake up 10:30   Next wake up 12:00        ROBOT is: INACTIVE

  Start job list at:  Job name _____
For list of options, Enter ?
    Sched. Job          Job to be run          Days or dates job runs
OPT Code   Type  Name        Description    Time  M  T  W  TH  F  ST  SN
 __         C  LDA_RECORD LDA Record Review   00:00
                                    ng proced 18:00
  RBT702  Search Options  14:04:43  rt 12   99:99
                           MICKEY   rt 25    00:00 Y  Y  Y  Y     Y  Y     Y
   1=Select Option               by Time 08:00 Y  Y  Y  Y     Y
   _  Time - Ascending         transact 00:00
   _  Time - Descending        transact 00:00
   _  Job name                 alance   17:00                    L
   _  Group control job name   etail    17:00                 L
   1  Group with members       Rep1     99:99   1,  5, 10, 15
                     More...    Rep2     99:99  -1, 15, 25
   F3=Exit                      ep1      99:99
                                                  More...
                                      F6=Add record
F8=Completion times   F9=Job search criteria   F24=More keys
```

Add/Copy/Delete Window

You can display the Add/Copy/Delete window from many Robot Schedule panels. Use the window to copy or delete the existing record, or add a new record.

Enter a **1** to select an option.

```
RBT276                        Job Schedule List                      14:18:06

  Last wake up 10:30   Next wake up 12:00              ROBOT is:  INACTIVE

  Start job list at:  Job name _____
For list of options, Enter ?
     Sched.  Job           Job to be run                   Days or dates job runs
OPT  Code    Type   Name          Description       Time   M  T  W  TH  F  ST  SN
 __            C    LDA_RECORD LDA Record Review      00:00
 __            G    MONTHCLOSE Monthly closing proced 18:00
 __            C    PURCHASE12 Purchase Repo ┌──────────────────────────────────
 A   EVERY     C    PURCHASE25 Purchase Repo │RBT700        14:18:16   Y   Y  Y     Y
 __            C    RBT34501   Work Schedule │              MICKEY     Y   Y
 __  REACT     P    REACTINV   Process Sales │1=Select
 __  REACT     P    REACTINV   Process Sales │ _ Copy Record
 __            C+   RECBAL     Receivables B │ _ Delete Record                    L
 __            C+   RECDET     Receivables D │ _ Add Record                  L
 __  DAYNO     C    SALESARC1  Sales Archive │                          10, 15
 __  DAYNO     C    SALESARC2  Sales Archive │ F3=Exit                   25
 __            C    SALESBUY1  Sales Buyer R │
                                            └──────────────────────────────────
                                                                         More...
F3=Exit                   F4=Prompt
F8=Completion times       F9=Job search criteria      F24=More keys
```

Enter option **A** to display the Add/Copy/Delete window.

Press **F3** to close the window without selecting an option.

Adding Records Using F6

On certain list panels, you can add another item to the list by pressing F6 Check the function keys shown at the bottom of the panel to find out if F6 is available. Pressing **F6** automatically gives you a panel that is ready to be filled in or a finder to select additions to the list. When you want to add to a list, pressing **F6** is a little quicker and easier than using the add/copy/delete window.

```
RBT276                    Job Schedule List                  14:04:12
                                                               MICKEY
  Last wake up 10:30   Next wake up 12:00        ROBOT is: INACTIVE

  Start job list at:  Job name _____
For list of options, Enter ?
     Sched. Job        Job to be run              Days or dates job runs
OPT  Code   Type  Name        Description    Time  M  T  W  TH  F  ST  SN
 __           C  LDA_RECORD LDA Record Review   00:00
 __           G  MONTHCLOSE Monthly closing proced 18:00
 __           C  PURCHASE12 Purchase Report 12  99:99
 __  EVERY    C  PURCHASE25 Purchase Report 25  00:00  Y  Y  Y  Y     Y  Y     Y
 __           C  RBT34501   Work Schedule by Time 08:00  Y  Y  Y  Y     Y
 __  REACT    P  REACTINV   Process Sales transact 00:00
 __  REACT    P  REACTINV   Process Sales transact 00:00
 __           C+ RECBAL     Receivables Balance 17:00                        L
 __           C+ RECDET     Receivables Detail  17:00              L
 __  DAYNO    C  SALESARC1  Sales Archive Rep1  99:99    1,  5, 10, 15
 __  DAYNO    C  SALESARC2  Sales Archive Rep2  99:99   -1, 15, 25
 __           C  SALESBUY1  Sales Buyer Rep1    99:99
                                                          More...
F3=Exit              F4=Prompt           F6=Add record
F8=Completion times  F9=Job search criteria   F24=More keys
```

When you press **F6** on the Job Schedule List, it automatically displays an Initial Job Setup panel that is ready to be filled in.

```
RBT201          Initial Job Setup for Job Number 000000000043    15:00:12
                                                                   MICKEY
                          DESCRIBE YOUR JOB
     Job Type: _                         (F4=Prompt)
     Job Name: _____  Desc: _____  Application: _____
     Notes:  _____

                          RUN INFORMATION
     Run Times: _____ _____ _____ _____ _____ _____ _____ _____

     Run Days: Y=Every week, WK=Week number, L=Last week of the month
     Y/WK/L Day       Started  Ended  Run Time  Status  Last day completed
       _     Monday                                     Last start time
       _     Tuesday                                    Last end time
       _     Wednesday                                  Last run time
       _     Thursday                                   Last job status
       _     Friday
       _     Saturday
       _     Sunday
     Schedule Override Code: __         (F4=Prompt)

     F3=Exit          F4=Prompt              F10=Next Option
     F12=Previous     F21=Command Line       F23=More Options
     Add was successful.
```

Robot Schedule Job Entry and Display


```
RBT1010              ROBOT Main Menu              11:48:00
MAIN

              Select one of the following:

                 1.  Job Schedule List

                 2.  Scheduling Objects Menu

                 3.  Control Menu

                 4.  System Setup Menu

                 5.  Report Menu

                 6.  Schedule Forecasting Menu

                 7.  Audit Menu

              Selection:  1_

F3=Exit      F21=Command Line
```

Select option **1** for job entry and display.

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Robot Schedule Job Entry and Display

Advanced Scheduling

Command Entry

Schedule other than by day-of-week

To execute commands

Exception Scheduling

Exceptions to the job's regular schedule

To change output options

Output Options

Job Schedule List

Job Docu-mentation Displays

To display job documentation

To change job control options

Control Options

Job Text Entry

To enter more text

Initial Job Setup

If a job belongs to a group

Group Control

Enter prerequisites for a reactive job

To distribute reports

Report Distribution

Reactive Job Setup

To pass parameters in a Local Data Area

To monitor job schedule and send alerts

LDA Record Entry

Job Monitors

■ **Job Entry and Display Diagram**

The Job Entry and Display diagram on the preceding page shows you the panels available for entering and displaying job information. This diagram is repeated before the discussion of each panel to remind you of how the panel fits in with the other panels.

■ **Job Schedule List**

Robot Schedule job entry and display always begins at the Job Schedule List, the main panel listing all jobs in the Robot Schedule schedule. You access the other panels from the Job Schedule List.

■ **Initial Job Setup**

On the Initial Job Setup panel, you enter the basic job identification information, including its name, description, type, and run times. You also can enter the job schedule if the job is to run on specific days of the week.

■ **Advanced Scheduling**

Use the Advanced Scheduling panel if the job schedule is not for specific days of the week. On the Advanced Scheduling panel, you can choose from five different scheduling patterns.

■ **Exception Scheduling**

Use the Exception Scheduling panel to indicate exceptions to the scheduling pattern you have chosen on the Initial Job Setup or Advanced Scheduling panels or to make a job a Submit-Delay model job.

■ **Command Entry**

When the job is a command-type job to run on the IBM i or PC, enter the commands on the Command Entry panel. You can enter up to 999 commands to be executed by the job. You also can specify and test command variables to be passed to the job.

■ **Output Options**

Use the Output Options panel to change options that control the job's output. Although Robot Schedule has default values for these options, you can indicate the output queue, priority, print text, number of copies, distribution, and the date to use (if not today's) for reports produced by the job.

■ **Control Options**

On the Control Options panel, you can change the job description, job queue, user profile, library list, environment, and calendar. You can also specify the job priority, current library, number of runs for forecasting and history, job switches, message queue, initial ASP group, default message reply, pager name, run time limit (and action to take at the time limit), accounting code, and Robot Autotune pool size.

■ **Job Monitors**

Job monitors allow you to monitor your job schedule for jobs that run too long, complete too quickly, or start later than their scheduled run time. You can specify the criteria for each job at setup time. You also specify what Robot Schedule should do if it identifies a monitored job. Robot Schedule can end a job or notify you by sending a message to the job's message queue; sending a text, e-mail, or pager message via Robot Alert; or sending a status to the Robot Network Status Center.

■ **Group Control**

Robot Schedule can run a group of jobs at the same time or in sequence. A group control job defines the schedule for all jobs in the group. If a job is a group control job, you must display and fill in the Group Options panel for the job.

■ **Reactive Job Setup**

A reactive job is one that Robot Schedule runs only after certain events have happened. Robot Schedule then can run the job immediately or check the run schedule and wait until the next run time for the job. To schedule a reactive job, you enter the prerequisite conditions for a run on the Reactive Job Setup panel.

■ **LDA Record Entry**

If the job is to run programs that receive their parameters from the local data area (LDA), you can enter information to be copied to the LDA when the job is submitted. You also can store the contents of your workstation's LDA for use by the job.

■ **Report Distribution**

Use the Report Distribution panels to automate the distribution of reports from the job. You can enter specifications for all print files, for specific print files, and for recipients, including output queues, number of copies, print attributes, and banner page text.

■ **Job Text Entry**

To document a job, enter text on the Job Text Entry panel. You also can edit and print the text from this panel.
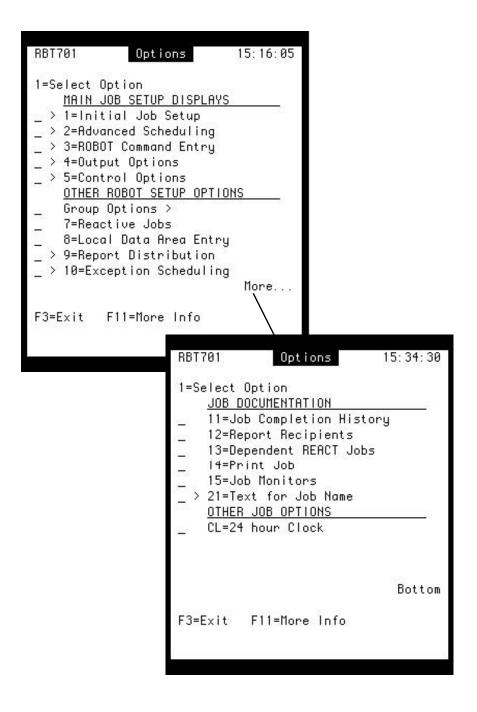
■ **Job Documentation Displays**

See the run history for a job by displaying its Job Completion History. The panel lists the date, time, and completion status of each job run, and provides a variety of options for working with the job.
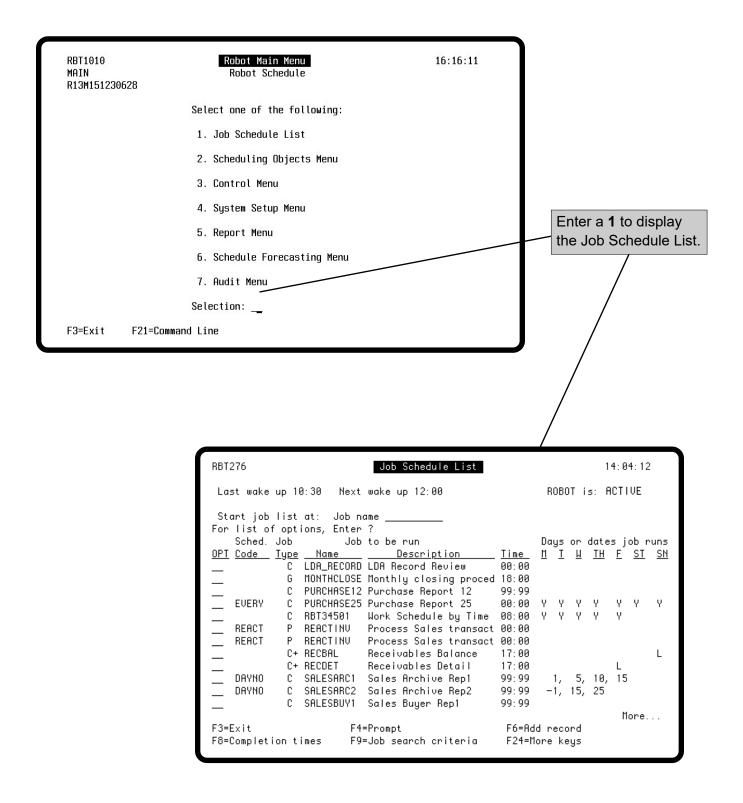
Select the Dependent React Jobs option to determine if completion of this job is a prerequisite condition for a reactive job. If it is, the reactive jobs are listed on the Dependent REACT Jobs panel.

■ Job Options Menu
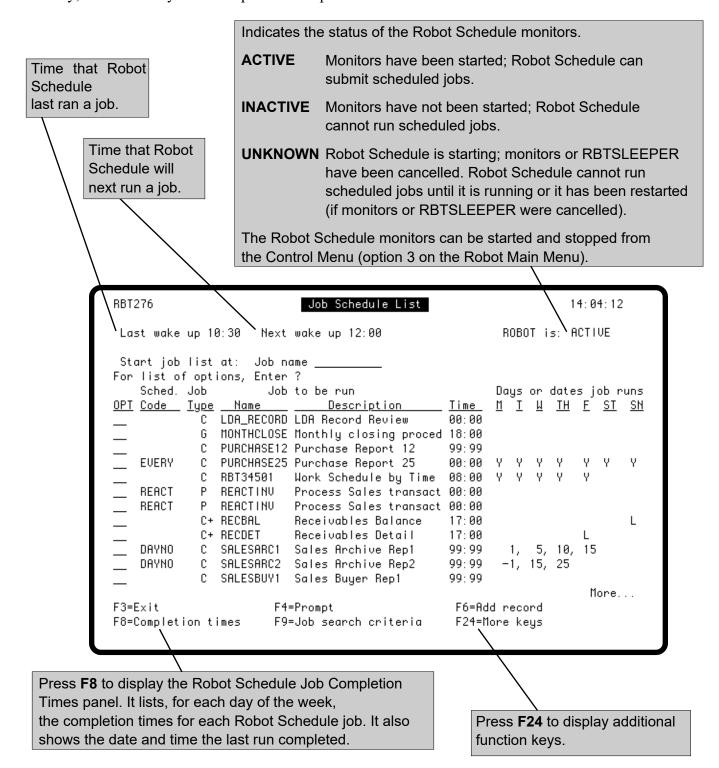
You can display any of the job entry panels from any other job entry panel. To select a panel, you just press **F23** to display the job options menu on a pop-up window. The job options menu windows are shown below. Just page down from the first window to see the second.

```
RBT701          Options        15:16:05

1=Select Option
        MAIN JOB SETUP DISPLAYS
_   > 1=Initial Job Setup
_   > 2=Advanced Scheduling
_   > 3=ROBOT Command Entry
_   > 4=Output Options
_   > 5=Control Options
        OTHER ROBOT SETUP OPTIONS
_     Group Options >
_     7=Reactive Jobs
_     8=Local Data Area Entry
_   > 9=Report Distribution
_   > 10=Exception Scheduling
                            More...


F3=Exit    F11=More Info
```

```
RBT701          Options        15:34:30

1=Select Option
        JOB DOCUMENTATION
_     11=Job Completion History
_     12=Report Recipients
_     13=Dependent REACT Jobs
_     14=Print Job
_     15=Job Monitors
_   > 21=Text for Job Name
        OTHER JOB OPTIONS
_     CL=24 hour Clock



                            Bottom

F3=Exit    F11=More Info
```

Job Schedule List

Robot Schedule job entry and display always begins from the Job Schedule List. To display the Job Schedule List, select option **1** on the Robot Main Menu.

```
RBT1010                    Robot Main Menu                  16:16:11
MAIN                        Robot Schedule
R13M151230628

                    Select one of the following:

                        1. Job Schedule List

                        2. Scheduling Objects Menu

                        3. Control Menu

                        4. System Setup Menu

                        5. Report Menu

                        6. Schedule Forecasting Menu

                        7. Audit Menu

                    Selection: _

    F3=Exit     F21=Command Line
```

> Enter a **1** to display the Job Schedule List.

```
RBT276                      Job Schedule List                14:04:12

  Last wake up 10:30   Next wake up 12:00           ROBOT is: ACTIVE

  Start job list at:  Job name _____
For list of options, Enter ?
     Sched.  Job         Job to be run             Days or dates job runs
OPT  Code   Type   Name       Description    Time  M  T  W  TH  F  ST  SN
__           C   LDA_RECORD LDA Record Review  00:00
__           G   MONTHCLOSE Monthly closing proced 18:00
__           C   PURCHASE12 Purchase Report 12 99:99
__   EVERY   C   PURCHASE25 Purchase Report 25 00:00  Y  Y  Y  Y     Y  Y     Y
__           C   RBT34501   Work Schedule by Time 08:00  Y  Y  Y  Y     Y
__   REACT   P   REACTINV   Process Sales transact 00:00
__   REACT   P   REACTINV   Process Sales transact 00:00
__           C+  RECBAL     Receivables Balance 17:00                    L
__           C+  RECDET     Receivables Detail  17:00               L
__   DAYNO   C   SALESARC1  Sales Archive Rep1 99:99    1,  5, 10, 15
__   DAYNO   C   SALESARC2  Sales Archive Rep2 99:99   -1, 15, 25
__           C   SALESBUY1  Sales Buyer Rep1   99:99
                                                              More...
F3=Exit                 F4=Prompt              F6=Add record
F8=Completion times     F9=Job search criteria   F24=More keys
```

Job Schedule List

The Job Schedule List summarizes the Robot Schedule job schedule. From this panel, you can schedule new jobs and manage the existing job schedule. If the list is sorted by Job Name (using the F9 sort criteria), all jobs are displayed. Robot Schedule has its own optional security system. If you are not authorized to access a job, no OPT field appears for that job. For more informa-tion about Security, turn to the System Setup Menu chapter.

Time that Robot Schedule
last ran a job.

Time that Robot Schedule will
next run a job.

Indicates the status of the Robot Schedule monitors.

ACTIVE Monitors have been started; Robot Schedule can submit scheduled jobs.

INACTIVE Monitors have not been started; Robot Schedule cannot run scheduled jobs.

UNKNOWN Robot Schedule is starting; monitors or RBTSLEEPER have been cancelled. Robot Schedule cannot run scheduled jobs until it is running or it has been restarted (if monitors or RBTSLEEPER were cancelled).

The Robot Schedule monitors can be started and stopped from the Control Menu (option 3 on the Robot Main Menu).

```
RBT276                      Job Schedule List                      14:04:12

 Last wake up 10:30    Next wake up 12:00            ROBOT is: ACTIVE

   Start job list at:  Job name _____
 For list of options, Enter ?
       Sched.  Job          Job to be run             Days or dates job runs
 OPT  Code    Type  Name         Description     Time   M  T  W  TH  F  ST  SN
 __            C   LDA_RECORD  LDA Record Review   00:00
 __            G   MONTHCLOSE  Monthly closing proced 18:00
 __            C   PURCHASE12  Purchase Report 12  99:99
 __   EVERY    C   PURCHASE25  Purchase Report 25  00:00  Y  Y  Y  Y   Y  Y   Y
 __            C   RBT34501    Work Schedule by Time 08:00 Y  Y  Y  Y   Y
 __   REACT    P   REACTINV    Process Sales transact 00:00
 __   REACT    P   REACTINV    Process Sales transact 00:00
 __            C+  RECBAL      Receivables Balance  17:00                  L
 __            C+  RECDET      Receivables Detail   17:00            L
 __   DAYNO    C   SALESARC1   Sales Archive Rep1   99:99   1,  5, 10, 15
 __   DAYNO    C   SALESARC2   Sales Archive Rep2   99:99  -1, 15, 25
 __            C   SALESBUY1   Sales Buyer Rep1     99:99
                                                                   More...
 F3=Exit              F4=Prompt               F6=Add record
 F8=Completion times  F9=Job search criteria  F24=More keys
```

Press **F8** to display the Robot Schedule Job Completion Times panel. It lists, for each day of the week, the completion times for each Robot Schedule job. It also shows the date and time the last run completed.

Press **F24** to display additional function keys.

Job Schedule List

The Sched. Code column shows any Schedule Override or Advanced Scheduling code that has been applied to the job. If the job has both codes, the Schedule Override code is shown in **boldface**. To remove the Schedule Override code, enter an **R** in the **Opt** column.

Schedule Override Codes

DO   Run job immediately.

DS   Run job immediately (more options).

HOLD   Do not run job.

OMIT   Skip next job run.

START   Restart the dependent group at this job.

NEXT   Run once, at next run time.

Advanced Scheduling Codes

INDAY   Job runs every n days.

EVERY   Job runs every n minutes.

REACT   Job runs when conditions met.

DAYNO   Job runs on nth day of month.

DATE   Job runs on specified dates.

Job type code indicates the type of the Robot Schedule job:

P   Job that calls a program that needs no parameters.

C   Job that executes commands.

G   Control job for a group of jobs.

A plus sign (+) following any job type indicates the job is a member of. at least one group.

```
RBT276                    Job Schedule List                    14:04:12

 Last wake up 10:30   Next wake up 12:00          ROBOT is: ACTIVE

  Start job list at:  Job name _____
 For list of options, Enter ?
     Sched. Job         Job to be run              Days or dates job runs
 OPT Code   Type   Name       Description     Time  M  T  W  TH  F  ST  SN
 __         C  LDA_RECORD LDA Record Review   00:00
 __         G  MONTHCLOSE Monthly closing proced 18:00
 __         C  PURCHASE12 Purchase Report 12  99:99
 __  EVERY  C  PURCHASE25 Purchase Report 25  00:00 Y  Y  Y  Y   Y  Y   Y
 __         C  RBT34501   Work Schedule by Time 08:00 Y  Y  Y  Y   Y
 __  REACT  P  REACTINV   Process Sales transact 00:00
 __  REACT  P  REACTINV   Process Sales transact 00:00
 __         C+ RECBAL     Receivables Balance  17:00                  L
 __         C+ RECDET     Receivables Detail   17:00              L
 __  DAYNO  C  SALESARC1  Sales Archive Rep1   99:99   1,  5, 10, 15
 __  DAYNO  C  SALESARC2  Sales Archive Rep2   99:99  -1, 15, 25
 __         C  SALESBUY1  Sales Buyer Rep1     99:99
                                                           More...
 F3=Exit              F4=Prompt            F6=Add record
 F8=Completion times  F9=Job search criteria   F24=More keys
```

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Job Schedule List

Week's schedule for this job, with completion codes for completed runs.
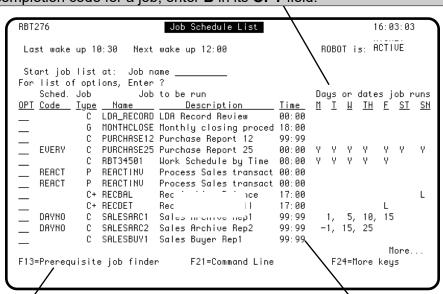
Y Job will run on this day every week.

1-5 Job will run on this day during this week number (week 1-5). Numbers align precisely with a day of the week.

L Job will run on this day during the last week of the month. This follows only a STANDARD calendar.

Numbers
If this job uses the DAYNO advanced scheduling option, numbers (any combination of positive or negative) show you the day numbers on which it will run. See Advanced Scheduling for complete information. You can always tell these numbers from the 1-5 above because the first number appears between Monday and Tuesday and any additional numbers are separated by commas.

C Job ran on this day and completed normally.

T Job ran on this day, but terminated abnormally or the job received a Warning (W) status. See the job completion history for more information.

S Job has been submitted, but it has not yet run.

O Job run was omitted as you directed.

R Job is currently running.

K Job was skipped because run conditions weren't met according to the processing done by the OPAL object.

D Job was delayed by the OPAL object.

P Job is pending (in queue waiting for the OPAL object to run).

To clear today's completion code for a job, enter **B** in its **OPT** field.

```
 RBT276                   Job Schedule List                 16:03:03

  Last wake up 10:30   Next wake up 12:00          ROBOT is: ACTIVE

   Start job list at:  Job name _____
 For list of options, Enter ?
      Sched. Job        Job to be run          Days or dates job runs
 OPT  Code   Type   Name       Description    Time   M  T  W  TH  F  ST  SN
  __          C  LDA_RECORD LDA Record Review  00:00
  __          G  MONTHCLOSE Monthly closing proced 18:00
  __          C  PURCHASE12 Purchase Report 12 99:99
  __  EVERY   C  PURCHASE25 Purchase Report 25 00:00  Y  Y  Y  Y     Y  Y      Y
  __          C  RBT34501   Work Schedule by Time 08:00 Y  Y  Y  Y     Y
  __  REACT   P  REACTINV   Process Sales transact 00:00
  __  REACT   P  REACTINV   Process Sales transact 00:00
  __          C+ RECBAL     Rec           nce    17:00                        L
  __          C+ RECDET     Rec                   17:00              L
  __  DAYNO   C  SALESARC1  Sales Archive Rep1 99:99   1,  5, 10, 15
  __  DAYNO   C  SALESARC2  Sales Archive Rep2 99:99  -1, 15, 25
  __          C  SALESBUY1  Sales Buyer Rep1   99:99
                                                                More...

 F13=Prerequisite job finder      F21=Command Line          F24=More keys
```

Press **F13** to display the Prerequisite Job Finder panel that lists the jobs that are prerequisite conditions for reactive jobs (see Reactive Jobs).

Next time this job is scheduled to run.

Job Search Criteria

To make it easier to find a job on the Job Schedule List panel, you can both limit the jobs shown and change how the job list is sorted. Press **F9** to display the Job Search Criteria window. Select one of the criteria, and Robot Schedule limits and resorts the list according to your selection.
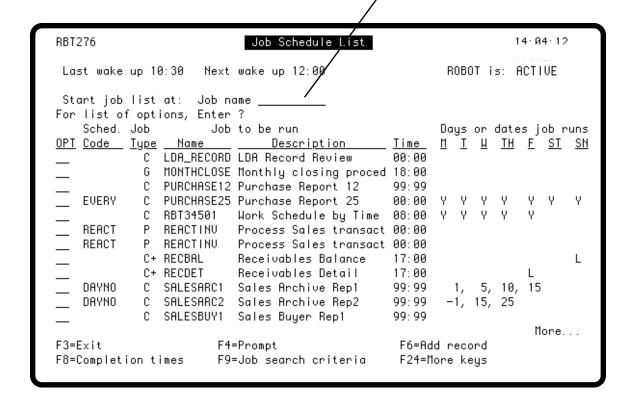
Enter a **1** to select a search option.

Time - Ascending   Sort all jobs by run time in ascending order, then ascending by job name.

Time - Descending   Sort all jobs by run time in descending order, then descending by job name.

Job name   Sort all jobs alphabetically by job name, then ascending by run time.

Group control job name   Limit display to group control jobs, sorted by job name.

Group with members   Show group jobs with their group members, sorted by group name, then ascending by run time.

Schedule code   Limit display to jobs with advanced scheduling codes; sort by schedule code, then ascending by run time.

Schedule override   Limit display to jobs with schedule override codes; sort by schedule override code, then by job name, job number.

Application   Limit display to jobs with application names; sort by application, then by job number.

Restrict to date   Limit display to the selected schedule forecast; sort ascending by run time, with all jobs appearing at all scheduled run times.

Use a Robot query   Limit display to jobs that meet the search criteria of a query object. See the Report Menu section for more information about query objects.

```
RBT276                      Job Schedule List                    14:04:12

  Last wake up 10:30    Next wake up 12:00            ROBOT is:  ACTIVE

   Start job list at:   Job name _____
 For list of options, Enter ?
       Sched.  Job          Job to be run                   Days or dates job runs
  OPT  Code    Type   Name                                    M  T  W  TH  F  ST  SN
   __          C   LDA_RECO  RBT702    Search Options    16:10:20
   __          G   MONTHCL                               MICKEY
   __          C   PURCHASE   1=Select Option
   __  EVERY   C   PURCHASE  _   Time - Ascending              Y  Y  Y  Y   Y
   __          C   RBT34501  _   Time - Descending             Y  Y  Y
   __  REACT   P   REACTINV  _   Job name
   __  REACT   P   REACTINV  _   Group control job name
              C+  RECBAL    _   Group with members                          L
              C+  RECDET    1   Group with members                    L
   __  DAYNO   C   SALESARC             More...               5, 10, 15
   __  DAYNO   C   SALESARC  F3=Exit                           5, 25
   __          C   SALESBUY
                                                                        More...

 F3=Exit              F4=Prompt            F6=Add record
 F8=Completion times  F9=Job search criteria  F24=More keys
```

Press **F9** to display the Search Options window.

Job Search Criteria

To position the list at a specific job, enter a search value in the **Start job list at:** field. The value entered depends on the search criteria in effect, as indicated by the label on the field. (On the sample panel on this page, **Job name** is the label so you would enter the name of the job to be found.)

> Enter the search value to find a job in the list. Robot Schedule starts the list at that value or at the point in the list where that value would be if it was in the list. The search value is determined by the search criteria you selected.

```
RBT276                      Job Schedule List                    14·04·12

  Last wake up 10:30    Next wake up 12:00            ROBOT is:  ACTIVE

  Start job list at:   Job name _____
For list of options, Enter ?
     Sched. Job          Job to be run                 Days or dates job runs
OPT  Code   Type   Name        Description      Time   M  T  W  TH  F  ST  SN
 __            C   LDA_RECORD LDA Record Review  00:00
 __            G   MONTHCLOSE Monthly closing proced 18:00
 __            C   PURCHASE12 Purchase Report 12  99:99
 __   EVERY   C   PURCHASE25 Purchase Report 25  00:00  Y  Y  Y  Y   Y  Y   Y
 __            C   RBT34501   Work Schedule by Time 08:00 Y  Y  Y  Y   Y
 __   REACT   P   REACTINV   Process Sales transact 00:00
 __   REACT   P   REACTINV   Process Sales transact 00:00
 __            C+  RECBAL     Receivables Balance  17:00                   L
 __            C+  RECDET     Receivables Detail   17:00              L
 __   DAYNO   C   SALESARC1  Sales Archive Rep1   99:99    1,  5, 10, 15
 __   DAYNO   C   SALESARC2  Sales Archive Rep2   99:99  -1, 15, 25
 __            C   SALESBUY1  Sales Buyer Rep1     99:99
                                                                      More...
F3=Exit              F4=Prompt              F6=Add record
F8=Completion times  F9=Job search criteria  F24=More keys
```

Job Setup Options

To work with a job in the job schedule list, enter an option code in its **OPT** field or, press **F4** in the **OPT** field and select an option from the options menu that appears. You can display the same options menu on the other job entry panels by pressing F23

Press **F4** to display the options menu window.

An arrow (**>**) next to an option number means either that the option is required for the job type or that the job has an entry for that option.

```
RBT276                      Job Sche
                                         RBT701           Options          13:08:19
  Last wake up 10:30    Next wake up 12
                                         1=Select Option
  Start job list at:   Job name _____       MAIN JOB SETUP DISPLAYS_____
For list of options, Enter ?            _ > 1=Initial Job Setup
     Sched.  Job           Job to be run _ > 2=Advanced Scheduling
OPT  Code    Type   Name        Descr    _ > 3=ROBOT Command Entry
 __          C    LDA_RECORD LDA Record   1 > 4=Output Options
 __          G    MONTHCLOSE Monthly cl  _ > 5=Control Options
 █           C    PURCHASE12 Purchase R      OTHER ROBOT SETUP OPTIONS_____
 __   EVERY  C    PURCHASE25 Purchase R   _    Group Options >
 __          C    RBT34501   Work Sched   _    7=Reactive Jobs
 __   REACT  P    REACTINV   Process Sa   _    8=Local Data Area Entry
 __   REACT  P    REACTINV   Process Sa  _ > 9=Report Distribution
 __          C+   RECBAL     Receivable  _ > 10=Exception Scheduling
 __          C+   RECDET     Receivable                           More...
 __   DAYNO  C    SALESARC1  Sales Arch
 __   DAYNO  C    SALESARC2  Sales Arch   F3=Exit    F11=More Info
 __          C    SALESBUY1  Sales Buye


F3=Exit                  F4=Prompt
F8=Completion times    F9=Job search criteria       F24=More keys
```

Page down to see more options.

```
RBT705       Options       16:32:25

1=Select Option
       Group Options Sub-Menu_____
  _    6=Group Control Job
  _ > 18=Group Members
  _   19=Group Membership
  _   20=Group Completion History



                              Bottom
F3=Exit  F11=More Info  F12=Cancel
```

An arrow (**>**) following an option number means that the option leads to a sub-menu for further choices. Select the option with a **1** to display the sub-menu.

Job Setup Options

You can use the numbered options to display other panels that apply to the job, or to print the job; these panels are described later in this manual. When you page down, you see additional options for the job. The Schedule Override Codes are described in the Initial Job Setup section; the other options are described later in this manual.

```
RBT701         Options        15:16:05

1=Select Option
     JOB DOCUMENTATION
_    11=Job Completion History
_    12=Report Recipients
_    13=Dependent REACT Jobs
_    14=Print Job
_    15=Job Monitors
_  > 21=Text for Job Name
     OTHER JOB OPTIONS
_    B=Blank Completion
_    Override Options >
_    A=Add/Copy/Delete Job
_    CA=Copy Application
                           More...


F3=Exit    F11=More Info
```

```
RBT705         Options        15:42:25

1=Select Option
     SCHEDULE OVERRIDE CODES
_    DO=DO Job Right Now
_    DS=DO Special
_    H=HOLD job
_    HA=HOLD Application
_    N=Run NEXT Time
_    O=OMIT Next Time
_    S=Start GROUP This Job
                            More...
F3=Exit   F11=More Info   F12=Cancel
```

```
RBT701         Options        15:23:31

1=Select Option
_    CL=24 hour Clock
     EXPORT OPTIONS
_    E=Export Job
_    EG=Export Group
_    EA=Export Application








                              Bottom

F3=Exit     F11=More Info
```

Clearing Completion Codes on the Job Schedule List

If you need to rerun a job thatRobot Schedule ran today, you should clear its completion code first. To do so, enter a **B** in the Opt field or select the Blank Completion option from the job options menu. On the window that appears, select the completion code you want to clear.
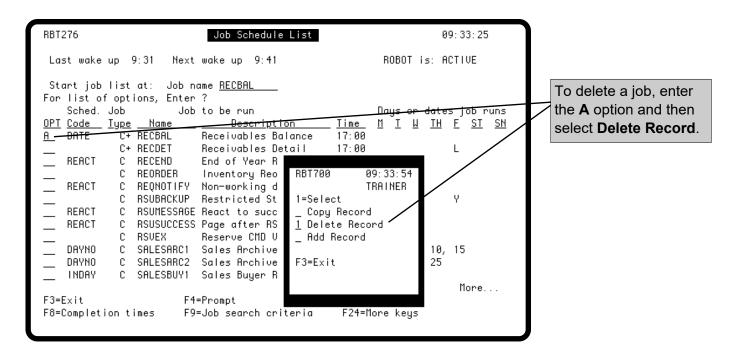
To run the job again, enter the **DO** schedule override code to run the job immediately. Or, you can enter a run time on the Initial Job Setup panel and the **N** schedule override code to run the job at its next run time.

Enter the **B** option to display the Clear Completion Codes window.

```
RBT276                        Job Schedule List                16:25:14

  Last wake up 16:14   Next wake up 16:34           ROBOT is: ACTIVE

  Start job list at:  Job name _
For list of options, Enter ?      RBT847   Clear Completion Codes  16:25:25
     Sched. Job          Job to b
OPT Code   Type  Name            Select which day(s) completion
           C  ACCTRCVRPT Dail    codes to clear.
__  REACT  C  ACTREACT   Reac  1=Select
__  HOLD   C  BACKUP1    Even    Opt          Day_          Code
__         C  BUYERLIST  Sale    _            MON            C
B          C+ CALCMD     Comm    1            TUE            C
__  EVERY  C  CKLINES    Chec    _            WED
__  DAYNO  G  CLOSEIT    Mont    _            THU
__         G  CLOSIT     Mont    _            FRI
__  EVERY  C  COMMLINE   Chec    _            SAT
__         C  CRTCLPGM   Capt    _            SUN
__         C  CRTCLPGM   SD-T
__      SD C  CRTRPGPGM  Capt  F3=Exit

F13=Prerequisite job finder
```

Enter a **1** next to each completion code you want to clear.

Deleting a Job

To delete a Robot Schedule job record, display the Add/Copy/Delete window and select the Delete option. From the Job Schedule List, enter the **A** job option to display the Add/Copy/Delete window. When you choose the delete option, a confirmation window appears. You also can delete jobs by using the **RBTBCHDLT** command.

Note: If you delete a group control job, it simply removes the group membership record from each member of the group. It does NOT delete the member jobs.

```
RBT276                   Job Schedule List                  09:33:25

  Last wake up  9:31    Next wake up  9:41          ROBOT is: ACTIVE

   Start job list at:   Job name RECBAL
 For list of options, Enter ?
     Sched. Job          Job to be run                Days or dates job runs
 OPT Code   Type   Name         Description      Time   M  T  W  TH  F  ST  SN
 A   DATE   C+ RECBAL     Receivables Balance     17:00
 __         C+ RECDET     Receivables Detail      17:00             L
 __  REACT  C  RECEND     End of Year R
 __         C  REORDER    Inventory Reo   RBT700        09:33:54
 __  REACT  C  REQNOTIFY  Non-working d                 TRAINER          Y
 __         C  RSUBACKUP  Restricted St   1=Select
 __  REACT  C  RSUMESSAGE React to succ   _ Copy Record
 __  REACT  C  RSUSUCCESS Page after RS   1 Delete Record
 __         C  RSVEX      Reserve CMD V   _ Add Record
 __  DAYNO  C  SALESARC1  Sales Archive                          10, 15
 __  DAYNO  C  SALESARC2  Sales Archive   F3=Exit                25
 __  INDAY  C  SALESBUY1  Sales Buyer R
                                                              More...
 F3=Exit                 F4=Prompt
 F8=Completion times     F9=Job search criteria      F24=More keys
```

To delete a job, enter the **A** option and then select **Delete Record**.

```
RBT276                      Job Schedule List                   16:31:11

  Last wake up 16:14    Next wake up 16:34           ROBOT is: ACTIVE

   Start job list at:   Job name _____
 For list
     Sche   RBT815                    Confirm Delete            16:46:25    uns
 OPT Code   1=Select                                            MICKEY       SN
 A   DATE
 __          You are about to delete ROBOT Job RECBAL     ( 000000000027 )
 __  REAC   Warning - This job is a member of one or more group(s).
 __                   All occurrences of this job will be deleted.
 __  REAC   Warning - This job is a prerequisite of a reactive job.
 __
 __  REAC   Select one:
 __  REAC     1 Yes, perform the delete
 __           _ No, don't perform the delete
 __  DAYN
 __  DAYN   F13=Dependent Reactive Jobs List     F14=Group Membership List
 __  INDA
                                                                       . .
 F13=Prer
```

Note any messages about the job before you delete it. If the job being deleted is a group control job, group members will be removed from the group and will no longer be associated with each other. If the job is a member of one or more groups, the job is deleted from all groups.

Select **Yes** to delete the job or **No** to cancel the deletion.

Deleting a Job

```
RBT285                      Dependent REACT Jobs                    09:18:46


Prereq Job Name . . : RECBAL
  Start list at job name: _____
Options
  1=Select
                                                     React
                     ------Reactive------             To
      Opt    Job Name    System    Status    Status    Date    Time
             RECEND                            C




                                                               Bottom
F3=Exit      F21=Command Line
Information is in display only mode.
```

Press **F13** to display the Dependent REACT Jobs panel listing any jobs that are dependent on the job you are deleting. If the job is not a prerequisite to any other job, the function key does not display on the panel.

```
RBT815              Confirm Delete            09:20:27
1=Select

You are about to delete ROBOT Job RECBAL    ( 000000000027 )
Warning - This job is a member of one or more group(s).
          All occurrences of this job will be deleted.
Warning - This job is a prerequisite of a reactive job.

Select one:
    _ Yes, perform the delete
    _ No, don't perform the delete

F13=Dependent Reactive Jobs List    F14=Group Membership List
Select one option
```

Press **F14** to display the Group Membership window showing any groups to which the job belongs. If the job does not belong to a group, the function key does not display.

```
RBT2032              Group Membership           09:19:52

  Job Name: RECBAL       Receivables Balance

                                                Schedule
  Group Name         Description          Code
  *NONE         Job can run independently
  CLOMON        Monthly closing procedure
  GRPCTL        Acct rec. group control



                                                Bottom
     F3=Exit
```

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Initial Job Setup

Initial Job Setup

You must fill in the Initial Job Setup panel for every job that you schedule. For a job that calls a program, it may be the only panel you have to fill in. On the Initial Job Setup panel, you describe the job, and you also can enter a basic run schedule. You then fill in additional panels for the job, if needed.

To display a blank Initial Job Setup panel for a new job, press **F6** on the Job Schedule List. To edit the Initial Job Setup for an existing job, enter option **1** next to the job on the Job Schedule List.

```
RBT276                    Job Schedule
                                        RBT701         Options          13:08:19
  Last wake up 10:30    Next wake up 12:00
                                        1=Select Option
  Start job list at:  Job name _____       MAIN JOB SETUP DISPLAYS
For list of options, Enter ?          1 > 1=Initial Job Setup
    Sched. Job          Job to be run  _ > 2=Advanced Scheduling
OPT Code   Type   Name        Descripti _ > 3=ROBOT Command Entry
  __          C   LDA_RECORD LDA Record Rev _ > 4=Output Options
  __          G   MONTHCLOSE Monthly closing _ > 5=Control Options
  __          C   PURCHASE12 Purchase Report    OTHER ROBOT SETUP OPTIONS
  __ EVERY    C   PURCHASE25 Purchase Report _   Group Options >
  __          C   RBT34501   Work Schedule L _   7=Reactive Jobs
  __ REACT    P   REACTINV   Process Sales  _   8=Local Data Area Entry
  __ REACT    P   REACTINV   Process Sales  _ > 9=Report Distribution
  __          C+  RECBAL     Receivables Ba _ > 10=Exception Scheduling
  __          C+  RECDET     Receivables Det                     More...
  __ DAYNO    C   SALESARC1  Sales Archive R
  __ DAYNO    C   SALESARC2  Sales Archive R F3-Exit   F11-More Info
  __          C   SALESBUY1  Sales Buyer Rep

F3=Exit              F4=Prompt              F6=Add record
F8=Completion times  F9=Job search criteria F24=More keys
```

> Select option **1** to display the Initial Job Setup panel for an existing job.

> Press **F6** to display the Initial Job Setup panel for a new job.

```
RBT201          Initial Job Setup for Job Number 000000000045    12:34:39
                          DESCRIBE YOUR JOB
Job Type: C                          (F4=Prompt)
Job Name: EMP432    Desc: Hours Report           Application: _____
Notes:  _____

                          RUN INFORMATION
Run Times: 2300  ____ ____ ____ ____ ____ ____ ____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day____   Started  Ended  Run Time  Status  Last day completed
   Y    Monday                                     Last start time
   Y    Tuesday                                    Last end time
   Y    Wednesday                                  Last run time
   Y    Thursday                                   Last job status
   Y    Friday
   Y    Saturday
   Y    Sunday
Schedule Override Code: __        (F4=Prompt)

F3=Exit              F4=Prompt              F10=Next Option
F12=Previous         F21=Command Line       F23=More Options
```

Describe Your Job

For a new job, you describe your job on the top part of the Initial Job Setup panel. Select a job type and enter the job name and description. If you are displaying an existing job, you cannot change the job type.

Position your cursor in the Job Type field and press **F4** to display the Job Types window from which you can select a job type.

```
RBT201               Initial Job Setup for Job Number 000000000046        12:36:09

                             DESCRIBE YOUR JOB
Job Type:  _                        (F4=Prompt)
Job Name:                                         ____  Application: _____
Notes:   _    RBT2701        Job Types     08:25:35    _____

                  1=Select
Run Times                                             __  ____

                     _  C=Command
Run Days:            _  G=Group                       ek of the month
Y/WK/L  Da           _  P=Program                        Last day completed
   _    Mo                                                Last start time
   _    Tu                                                Last end time
   _    We                             Bottom            Last run time
   _    Th    F3=Exit                                    Last job status
   _    Fr
   _    Sa
   _    Sunday
Schedule Override Code: __           (F4=Prompt)

F3=Exit                   F4=Prompt                F10=Next Option
F12=Previous              F21=Command Line         F23=More Options
```

Enter an **1** to select the job type. You can select from the following:

C=Command   Job that executes commands.

G=Group   Control job for a group of jobs.

P=Program   Job that calls a program that needs no parameters.

Describe Your Job

Complete the top portion of the panel to describe your job. You should enter a name and brief description of the job, and you also can enter additional notes to describe the job.

You also can associate the job with an application name, such as SALES. Application names have several uses. For example, you can:

• Sort the Job Schedule List by application name.
• Hold all jobs with the same application name at the same time and later release them together.
• Copy and export all job records with the same application name.

Enter a name for the job. If the job type is **Program**, enter the name of the program to be called by the job. Robot Schedule finds the program in the library list for the job (see Control Options).

Robot Schedule assigns a unique number to this job.

Enter a description to help you identify the job in a job list.

```
RBT201          Initial Job Setup for Job Number 000000000045      12:34:39

                            DESCRIBE YOUR JOB
Job Type: C                      (F4=Prompt)
Job Name: EMP432     Desc: Hours Report              Application: _____
Notes:   _____

                            RUN INFORMATION
Run Times  2300  ____  ____  ____  ____  ____  ____  ____

Run Days  Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day____   Started  Ended  Run Time  Status  Last day completed
   Y    Monday                                     Last start time
   Y    Tuesday                                    Last end time
   Y    Wednesday                                  Last run time
   Y    Thursday                                   Last job status
   Y    Friday
   Y    Saturday
   Y    Sunday
Schedule Override Code: __         (F4=Prompt)

F3=Exit               F4=Prompt               F10=Next Option
F12=Previous          F21=Command Line        F23=More Options
```

Enter any notes about the job that might be useful to you later. To enter more text, press **F23** and select option **21,** Text for Job Name.

You can enter an optional application name to be associated with the job.

Enter Run Times

Use the Run Information part of the Initial Job Setup panel to enter a basic run schedule for the job. A basic run schedule gives the times at which Robot Schedule should submit the job and the days of the week on which the job should run. You can enter more complex schedules on the Advanced Scheduling and Exception Scheduling panels. Do not enter run times on the Initial Job Setup panel if you intend to select the REACT or EVERY option on the Advanced Scheduling panel.
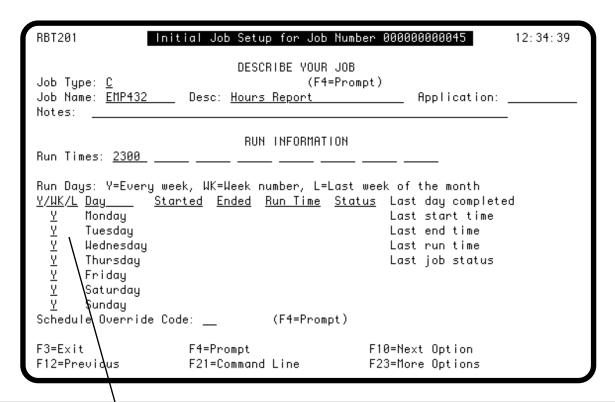
Note: We recommend that you do **NOT** schedule jobs between 23:55 and 00:05 because Robot Schedule performs certain housekeeping tasks for itself around midnight. These include security validity checking, and more.

> You can enter up to eight times a day when Robot Schedule is to submit the job. Enter the times in 24-hour clock format with no separating characters. For example, enter 15 minutes after midnight as 15; enter 3:30 a.m. as 330; enter 4 p.m. as 1600; and enter 11:50 p.m. as 2350. To see a 24-hour conversion chart, press **F23**, page down, and select the **CL** option.

```
RBT201            Initial Job Setup for Job Number 000000000045      12:34:39

                            DESCRIBE YOUR JOB
Job Type: C                          (F4=Prompt)
Job Name: EMP432    Desc: Hours Report_____   Application: _____
Notes:   _____

                            RUN INFORMATION
Run Times: 2300  _____ _____ _____ _____ _____ _____ _____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day____    Started  Ended  Run Time  Status  Last day completed
   Y      Monday                                    Last start time
   Y      Tuesday                                   Last end time
   Y      Wednesday                                 Last run time
   Y      Thursday                                  Last job status
   Y      Friday
   Y      Saturday
   Y      Sunday
Schedule Override Code: __           (F4=Prompt)


F3=Exit             F4=Prompt             F10=Next Option
F12=Previous        F21=Command Line      F23=More Options
```

Enter Run Days

You also can enter the days of the week on which the job should run. If you specify a week number, the run days are determined by the month-end dates on the calendar used by the job. If you specify the last week of the month, the run days follow the STANDARD calendar shipped with Robot Schedule. The STANDARD calendar is a traditional calendar that runs January 1 to December 31 and assumes the month-end is the last day of the month. The last week of the month is defined as the seven days before the month-end date. If the calendar has fiscal month-ends, the fiscal month-ends are used. You can enter more complex schedules on the Advanced Scheduling and Exception Scheduling windows. Do NOT select days of the week on the Initial Job Setup window if you plan to select an Advanced Scheduling option (other than EVERY or REACT)

```
RBT201            Initial Job Setup for Job Number 000000000045      12:34:39

                            DESCRIBE YOUR JOB
Job Type: C                           (F4=Prompt)
Job Name: EMP432    Desc: Hours Report_____   Application: _____
Notes:    _____

                            RUN INFORMATION
Run Times: 2300  _____ _____ _____ _____ _____ _____ _____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day____   Started  Ended  Run Time  Status  Last day completed
   Y   Monday                                      Last start time
   Y   Tuesday                                     Last end time
   Y   Wednesday                                   Last run time
   Y   Thursday                                    Last job status
   Y   Friday
   Y   Saturday
   Y   Sunday
Schedule Override Code:  __         (F4=Prompt)


F3=Exit               F4=Prompt              F10=Next Option
F12=Previous          F21=Command Line       F23=More Options
```

Select a Run Code for each day of the week on which the job should run.

Blank Do not run the job on this day each week.

Y   Run the job on this day each week (for example, every Monday).

L   Run the job on this day only during the last week of the month following a traditional month-end calendar.

1–5   Run the job on this day during this week number of the month (for example, 1 for the first Monday). If you enter a **5**, the job will run on that day only if there are five of those days in the month (for example, five Mondays).
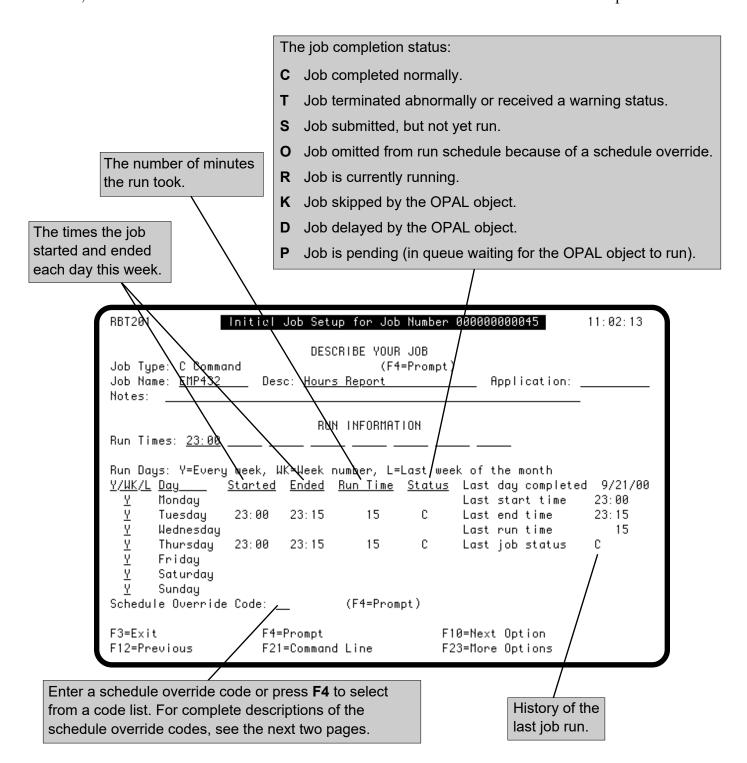
The following sample run schedule would be interpreted by Robot Schedule as follows:

Y	Monday	Run the job every Monday.
_	Tuesday	Do not run the job on Tuesdays.
1	Thursday	Run the job on the first Thursday of the month.
5	Friday	Run the job on the fifth Friday if there is a fifth Friday in the month.

Run History

After the job has run, its Initial Job Setup panel also shows the run history for the job since the previous Sunday. In addition, it shows the run history for the last run, whenever that occurred, which is useful if the job has not run since Sunday.

After looking at the job schedule and run history on this panel, you might decide to override the schedule. To do so, enter an override code in the Schedule Override Code field near the bottom of the panel.

The job completion status:

C   Job completed normally.

T   Job terminated abnormally or received a warning status.

S   Job submitted, but not yet run.

O   Job omitted from run schedule because of a schedule override.

The number of minutes the run took.

R   Job is currently running.

K   Job skipped by the OPAL object.

The times the job started and ended each day this week.

D   Job delayed by the OPAL object.

P   Job is pending (in queue waiting for the OPAL object to run).

```
RBT20            Initial Job Setup for Job Number 000000000045        11:02:13

                             DESCRIBE YOUR JOB
Job Type: C Command                      (F4=Prompt)
Job Name: EMP432    Desc: Hours Report              Application: _____
Notes:   _____

                             RUN INFORMATION
Run Times: 23:00  _____  _____  _____  _____  _____  _____  _____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day____    Started  Ended   Run Time  Status  Last day completed  9/21/00
   Y     Monday                                       Last start time     23:00
   Y     Tuesday    23:00   23:15      15       C      Last end time       23:15
   Y     Wednesday                                     Last run time          15
   Y     Thursday   23:00   23:15      15       C      Last job status      C
   Y     Friday
   Y     Saturday
   Y     Sunday
Schedule Override Code: __        (F4=Prompt)

F3=Exit                F4=Prompt               F10=Next Option
F12=Previous           F21=Command Line        F23=More Options
```

Enter a schedule override code or press **F4** to select from a code list. For complete descriptions of the schedule override codes, see the next two pages.

History of the last job run.

■ **Schedule Override Codes**

Robot Schedule lets you override the normal run schedule for a job as needed. You can do this from the Initial Job Setup panel or from the Job Schedule List. Just enter a schedule override code or select the code from the options menu. The code overrules the run schedule for the job temporarily, but does not change it permanently.

■ **DO Immediately**

The **DO** option allows you to run most jobs immediately, even if the Robot Schedule monitors are not active. The exceptions are group control jobs, Submit-Delay model jobs, and jobs that use the REACT Advanced Scheduling option. If you enter the DO option for a group control job, the Robot Schedule monitors must be active for the DO to take effect. The DO option is not allowed for Submit-Delay model jobs. If you enter the DO option for a REACT job, the job runs, but any reactive jobs won't run until the Robot Schedule monitors are active.

When you select the DO option for a job, all exception scheduling options are ignored. This includes the OPAL object, if the job has one. A window appears on which you confirm or cancel the request. You are warned if running this job could cause a reactive job to run as well.

After the job run completes, the job completion history is updated. If it is scheduled to run only once in a day, the job is not run again the same day unless you blank out its completion code (its normal schedule resumes the next day) or you can use the DO Special (DS) option instead of the DO option.

If the Robot Schedule monitors are active and the job is a Group Control Job, the DO option causes Robot Schedule to submit the group. If you enter the DO option for a Group Control Job, all job options, including exception scheduling options (even OPAL), process normally. If you want to start a dependent group with a specific member and continue through the rest of the group, use the START option, described on the next page.

Note: If the job has its own LDA record, selecting DO will submit the job and the LDA record. If there is no LDA record for the job, selecting DO will submit the job with the LDA from your workstation (interactive) job.

■ DO Special

The **DS** option allows you to run most jobs immediately, even if the Robot Schedule monitors are not active. The exceptions are group control jobs and Submit-Delay model jobs. The Robot Schedule monitors must be active to enter the DS option on a group control job. If you enter the DS option on a group control job with the RBTBCHUPD (Create/Update Robot Schedule Job in Batch) command, the job's status is immediately set to **R** and the job runs when the Robot Schedule monitors are started. Entering the DS option on a Submit-Delay model job is not allowed.

All exception scheduling options are IGNORED, including an OPAL object if a job has one and the OPAL option is not selected on the DO special.

DS allows you to choose the following scheduling options that the DO schedule override code does not offer.

- OPAL—Runs before or after OPAL for the selected job

- No Reactivity—Runs the job and prevents reactivity

- DO and set to run at scheduled time—If the job is scheduled to run only once on the day that the DS option is selected, the job runs immediately and at the scheduled time

After the job completes, the job completion history is updated.

Notes:
- If you use the DO option and then, later in the same day, use the DS override code and set-to-run-at-scheduled-time option, the job's completion code is not cleared because the job ran earlier in the day.

- If you use the DS override code and set-to-run-at-scheduled-time option on a OPAL delay job, the job may not clear the completion code. OPAL delay jobs are temporary jobs and are created separately from the original job.

■ HOLD Job

Enter the **H** option to keep the job from running. The job will not run until after you remove the override.

■ HOLD Application

Enter the **HA** option to hold all jobs belonging to the same application as this job. A window appears with the name of the application; you then can confirm or cancel the request.

■ **Run NEXT Time**

Enter the **N** option to run the job at its next run time. The job will run at the next run time, regardless of any other scheduling options, such as Day, Advanced Scheduling, or Exception Scheduling. For example, if a job is scheduled to run at 9:00 and 11:00 Monday through Friday and you enter the **N** override code at 15:00 on Friday, the job will run at 9:00 on Saturday.

If the job was put on hold before you selected the **N** override code, it is put back on hold after the job run completes. If the job was not on hold, it returns to its normal run schedule.

■ **OMIT Next Time**

Enter the **O** option to keep the job from running at its next scheduled time. After that time has passed, Robot Schedule removes the O option and the normal schedule resumes.

Note: The **O** option acts like a normal completion. If you have a reactive job waiting for a completion code of C from the job you are overriding, the O option will kick off the reactive job.

■ **START Group at This Job**

Enter the **S** option to restart the group at this job, rather than re-running the entire group (see Group Control).

■ **REMOVE Override Code**

Enter the **R** option to remove any schedule override code on the job.

■ **RELEASE Application**

Enter the **RA** option to release all jobs belonging to the same application as this job. A window then appears asking you to confirm or cancel the request.

■ Create Jobs By Having Robot Schedule Learn Them

So far, you have seen how to create Robot Schedule job records using the Robot Schedule menu system. However, for complex jobs, there is an even simpler method available. Just have Robot Schedule "learn" how you submit jobs as you submit them.

To begin the learn process, enter the Start Learn command (**RBTSTRLRN**) on an IBM i command line before you start submitting jobs. From that point on, Robot Schedule captures how you submit each job and creates a Robot Schedule job record that can submit the same job. When you finish submitting jobs, enter the End Learn command (**RBTENDLRN**).

Do you execute jobs using purchased third-party software for which you have no source? The Robot Schedule learn process is ideally suited for capturing and scheduling those jobs. Robot Schedule captures the SBMJOB command created by the software; it also captures the data in the local data area and the current library list. It then creates a job record, along with other job-specific items, that allows you to run that same job automatically according to your schedule.

■ Steps to Use the Robot Schedule Learn Commands

To create job records using the Robot Schedule learn commands, follow these steps:

1. Sign on with a user profile that has sufficient access authority. You must be able to access the menus from which the jobs are submitted.

2. Enter **RBTSTRLRN** on a command line and press F4 Enter parameter values on the prompt screen as shown after the next page.

3. Submit the job you want to capture. You can display application menus and select options to submit jobs. You also can enter SBMJOB commands from the command entry line. Each time you submit a job, Robot Schedule does the following:

   a. Captures the submission of your job (using the SBMJOB command) and stores it in a new Robot Schedule job record. **Note**: In some instances, the Capture User Job (RBTCAPTURE) command may appear during the learn function. When this hap-pens, press Enter so that your job is run. For more information on RBTCAPTURE, refer to the Submit-Delay Model Jobs topic in the Exception Scheduling section later in this guide.

   b. Captures the data in the local data area and stores it in the LDA record for the Robot Schedule job.

c. Captures the current library list, creates a Robot Schedule library list, and enters the name of that library list in the job record.

4. If you selected **SCHEDULE=*YES** on the RBTSTRLRN command, Robot Schedule displays its Initial Job Setup panel. Enter the run times and select the run days for the new job.

5. When you are finished submitting the jobs you want captured, enter the **RBTENDLRN** command to end the Robot Schedule learn session. RBTENDLRN has no parameters.

■ Tailor Dynamic Parameters

You should check each captured command to determine if any of the command parameters are dynamic, that is, parameters whose values need to be changed for each run. In most cases, you can provide the dynamic value automatically using a Robot Schedule reserved command variable. For example, if one of the parameter values should be the current time, edit the Robot Schedule job command line so it uses the Robot Schedule reserved command variable @@TIME.

Or, if your parameter values currently include the following dates:

CALL PGM(ACTPAY/ACT105) PARM('030307' '040307')

you can replace the dates with reserved command variables, as shown:

PARM('@@DATE1' '@@DATECUR')

In other cases, you could use the RBTBCHUPD command to pass in parameter values. For more information about passing in parameter values to a Robot Schedule job, see the Command Entry section of this manual.

■ Steps to Schedule Captured Jobs

If you selected **SCHEDULE=*NO** on the RBTSTRLRN command, the created job has no run schedule, but it does appear on the Job Schedule List. To enter a schedule for the job (you can do this from either an AS/400 session or from your PC):

1. Enter **RBM** and then option **1** to display the Job Schedule List.

2. Press **F9** and select the search criteria **Application Name**. As the search value, enter the application name **LEARN**. A list of the jobs captured by the learn process displays.

3. Display the Initial Job Setup panel for each "Learned" job. Remove the hold on the job, and enter its schedule. You also can change the application name if you wish.

RBTSTRLRN Command

The **RBTSTRLRN** command starts the Robot Schedule learn process. Enter the RBTSTRLRN command before you begin submitting jobs you want captured.

The **RBTSTRLRN** command has two options. The Submit Job after Created option lets you choose whether each job is submitted after it is captured. The Schedule Job option lets you schedule each job after it is captured or wait and schedule it later.

To end the Robot Schedule learn session, enter the command **RBTENDLRN**.

Note: All jobs created by RBTSTRLRN are put on hold.
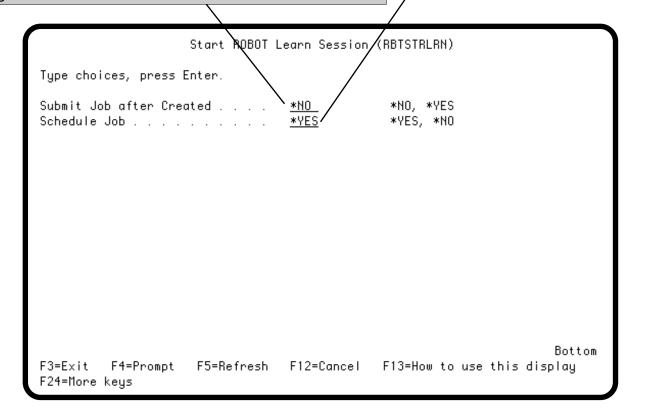
Enter ***YES** if each captured SBMJOB command should be executed. Use this option when you are capturing a job that you also want to run right now. The job will run and then be put on hold.

Enter ***NO** if the captured SBMJOB commands should not be executed. The jobs are captured, but not run right now.
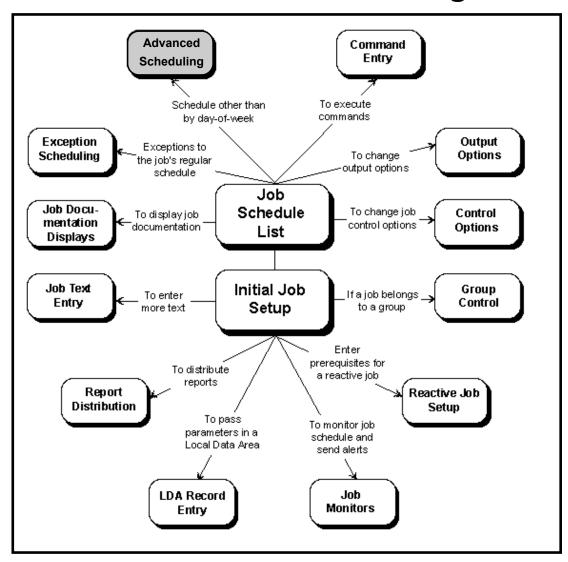
Note: In some instances, the Capture User Job (RBTCAPTURE) command may appear during the learn function. When this happens, press Enter so that your job is run. For more information on RBTCAPTURE, see Submit-Delay Model Jobs in the Exception Scheduling section later in this guide.
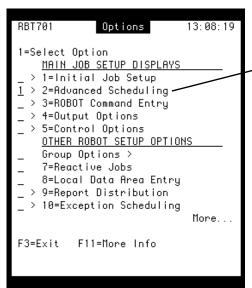
Enter ***YES** to have Robot Schedule display the job record on its Initial Job Setup panel after it captures it. You then enter the job schedule on the panel.
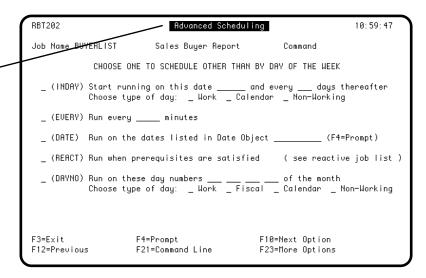
Enter ***NO** if you want to enter the job schedule later.

```
                    Start ROBOT Learn Session (RBTSTRLRN)

  Type choices, press Enter.

  Submit Job after Created . . . .   *NO          *NO, *YES
  Schedule Job . . . . . . . . . .   *YES         *YES, *NO


























                                                                   Bottom
     F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel   F13=How to use this display
     F24=More keys
```

Advanced Scheduling

Advanced Scheduling — Schedule other than by day-of-week

Command Entry — To execute commands

Exception Scheduling — Exceptions to the job's regular schedule

Output Options — To change output options

Job Schedule List

Job Documentation Displays — To display job documentation

Control Options — To change job control options

Job Text Entry — To enter more text

Initial Job Setup

Group Control — If a job belongs to a group

Report Distribution — To distribute reports

Reactive Job Setup — Enter prerequisites for a reactive job

LDA Record Entry — To pass parameters in a Local Data Area

Job Monitors — To monitor job schedule and send alerts

```
RBT701        Options        13:08:19

1=Select Option
     MAIN JOB SETUP DISPLAYS
_  > 1=Initial Job Setup
1  > 2=Advanced Scheduling
_  > 3=ROBOT Command Entry
_  > 4=Output Options
_  > 5=Control Options
     OTHER ROBOT SETUP OPTIONS
_      Group Options >
_      7=Reactive Jobs
_      8=Local Data Area Entry
_  > 9=Report Distribution
_  > 10=Exception Scheduling
                              More...


F3=Exit   F11=More Info
```

```
RBT202          Advanced Scheduling          10:59:47

Job Name BUYERLIST        Sales Buyer Report       Command

          CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

 _ (INDAY) Start running on this date _____ and every ___ days thereafter
           Choose type of day:  _ Work  _ Calendar  _ Non-Working

 _ (EVERY) Run every _____ minutes

 _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

 _ (REACT) Run when prerequisites are satisfied    ( see reactive job list )

 _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
           Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working


F3=Exit            F4=Prompt            F10=Next Option
F12=Previous       F21=Command Line     F23=More Options
```

■ **Advanced Scheduling Options**

Use the Advanced Scheduling options if the basic run patterns available on the Initial Job Setup panel are not right for the job. The five Advanced Scheduling options offer five different run patterns, as described below.

Three Advanced Scheduling options use a calendar to determine the days on which the job is run. You can define your own calendars in Robot Schedule. This lets you schedule runs for work days or nonworking days, for fiscal months or traditional months (see Control Options). With calendars and the Advanced Scheduling options, you can create just about any run schedule.

■ **INDAY: Run Every *n* Days**

If you choose the INDAY option, Robot Schedule first runs the job on the start date that you enter. After it submits the job on the start date, it calculates a new start date by adding the day increment to the date. It then places the new date in the start date field. The job runs only once on each date at the first run time listed on the Initial Job Setup panel. Any additional run times are ignored.

You can choose from three day types: work days, nonworking days, and calendar days (both work and nonworking days). Whether a day is a work day or not is determined from the calendar for the job (see Control Options).

For example, if the start date is April 9 and the increment is 4 calendar days, the job would run on April 9, April 13, April 17, and so forth.

Note: Enter the start date using the same format as your system date. (The examples in this manual use month/day/year format.)

■ **EVERY: Run Every *n* Minutes**

Choose the EVERY scheduling option to run a job at regular time intervals of from 5 to 1429 minutes. This is the best scheduling option to use for jobs that accumulate statistics, check if communication lines are down, or change journal receivers.

Robot Schedule determines the days that the job runs from the schedule you enter on the Initial Job Setup panel. You can limit the hours during which the job runs by entering a time range on the Exception Scheduling panel. If no time range is entered on that panel, Robot Schedule submits the job at regular time intervals all day long.

For example, suppose you enter 20 as the time interval for the EVERY option, and do not limit the hours or days that the job runs. Robot Schedule submits the job immediately, and then runs the job at approximately 20-minute intervals. Thus, if you enter the job at 3 p.m., Robot Schedule would submit the job at about 3 p.m., 3:20 p.m., 3:40 p.m., 4 p.m., and so forth, 3 runs an hour, every hour, whenever Robot Schedule is active. Therefore, you must enter a time range when you use the EVERY option. EVERY does not guarantee the job will run exactly every 20 minutes.

Note: The job schedule is recalculated whenever you update the job or press **F10** to go to the next option.

■ DATE: Run on Specific Dates

Choose the DATE scheduling option to run a job only on certain dates. You enter the dates in a run-type date object. You can use a single date object with many jobs. Robot Schedule submits the job on those days at the run times specified on the Initial Job Setup panel. For more information on date objects, see the Scheduling Objects Menu section of this user guide.

■ REACT: Run After Conditions Met

Choose the REACT scheduling option when the job should run in reaction to another job or a set of events. Usually, an event is the completion of a batch job. A job that runs in reaction to events is called a reactive job.

As described in the Reactive Jobs section, you can select the REACT option but limit the runs to certain days and/or times. You can specify the REACT option with any other option on the Advanced Scheduling panel (except the EVERY option).

■ DAYNO: Run on *n*th Day or *n* Days from End of Month
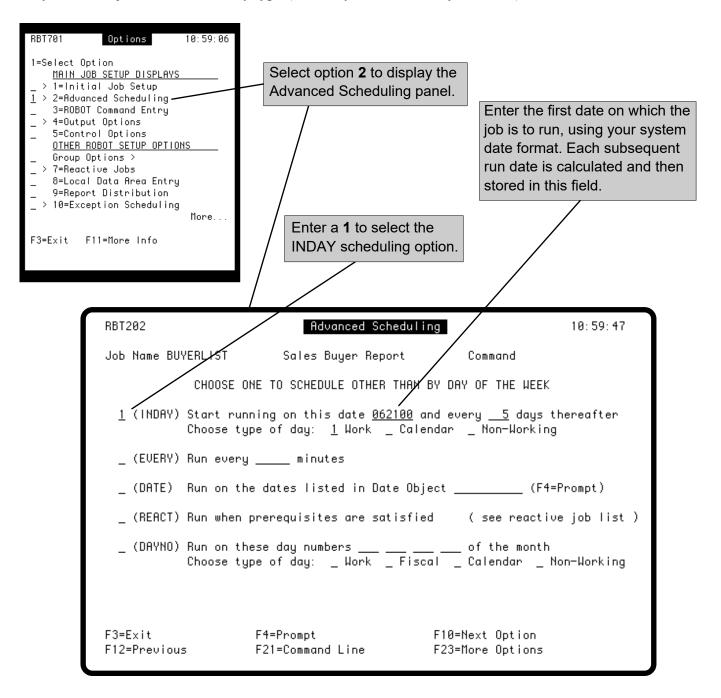
Choose the DAYNO scheduling option to run a job on the *nth* day of the month or *n* days before the start of the next month. You can choose from four day types: work days, non-work days, fiscal days, or calendar days. You enter the day number or the number of days before the start of the next month and the type of day you want Robot Schedule to count. When counting days in a month, Robot Schedule uses the calendar specified for the job on its Control Options panel. The job runs only once on each day.

For example, to run a job on the 5th, 15th, 20th, and last day of each fiscal month, select the DAYNO option, enter 5, 15, 20, and 1– as the day numbers, and select Fiscal as the day type. Then check the Control Options panel to make sure that the calendar for the job is a fiscal calendar. For more information about setting up calendars, see the Scheduling Objects Menu section.

Run Every n Days (INDAY
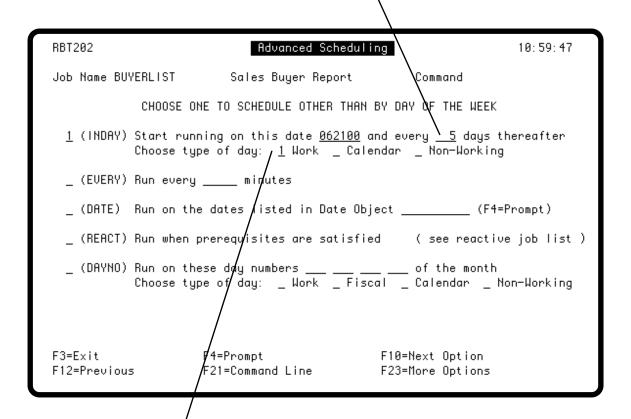
To select an Advanced Scheduling option, you must display the Advanced Scheduling panel. Select **option 2** on the Job Options menu. (To display the Job Options menu, press **F4** in the OPT field next to a job on the Job Schedule List or press **F23** on the other job entry panels.) You can select from five scheduling patterns on the Advanced Scheduling panel.

To run the job once a day at regular day intervals, select the **INDAY** scheduling option. Each job run date is calculated by adding the day interval to the previous run date. You enter a start date, the number of days between job runs, and the day type (work days, non-work days, or both).

```
RBT701        Options          10:59:06

1=Select Option
     MAIN JOB SETUP DISPLAYS
  _  > 1=Initial Job Setup
  1  > 2=Advanced Scheduling
  _     3=ROBOT Command Entry
  _  > 4=Output Options
  _     5=Control Options
     OTHER ROBOT SETUP OPTIONS
  _     Group Options >
  _  > 7=Reactive Jobs
  _     8=Local Data Area Entry
  _     9=Report Distribution
  _  > 10=Exception Scheduling
                        More...

F3=Exit   F11=More Info
```

Select option **2** to display the Advanced Scheduling panel.

Enter the first date on which the job is to run, using your system date format. Each subsequent run date is calculated and then stored in this field.

Enter a **1** to select the INDAY scheduling option.

```
RBT202              Advanced Scheduling              10:59:47

Job Name BUYERLIST       Sales Buyer Report        Command

            CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

    1 (INDAY) Start running on this date 062100 and every __5 days thereafter
              Choose type of day:  1 Work  _ Calendar  _ Non-Working

    _ (EVERY) Run every _____ minutes

    _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

    _ (REACT) Run when prerequisites are satisfied    ( see reactive job list )

    _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
              Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working



    F3=Exit              F4=Prompt              F10=Next Option
    F12=Previous         F21=Command Line       F23=More Options
```

Run Every n Days (INDAY)

Enter the number of days (up to 999) to add to the last run date to determine the next run date.

```
RBT202                    Advanced Scheduling              10:59:47

Job Name BUYERLIST        Sales Buyer Report        Command

          CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

  1 (INDAY) Start running on this date 062100 and every _5 days thereafter
            Choose type of day: 1 Work  _ Calendar  _ Non-Working

  _ (EVERY) Run every _____ minutes

  _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

  _ (REACT) Run when prerequisites are satisfied    ( see reactive job list )

  _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
            Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working




F3=Exit              F4=Prompt              F10=Next Option
F12=Previous         F21=Command Line       F23=More Options
```

Enter a **1** to select the type of day to be added to the last run date (work days, nonworking days, or both). Whether a day is a work day or not is determined by the calendar for the job.

Note: When you select the type of day, you also must consider whether you will allow the job to run on nonworking days (see Exception Scheduling). If you select calendar days, the job must be allowed to run on nonworking days.
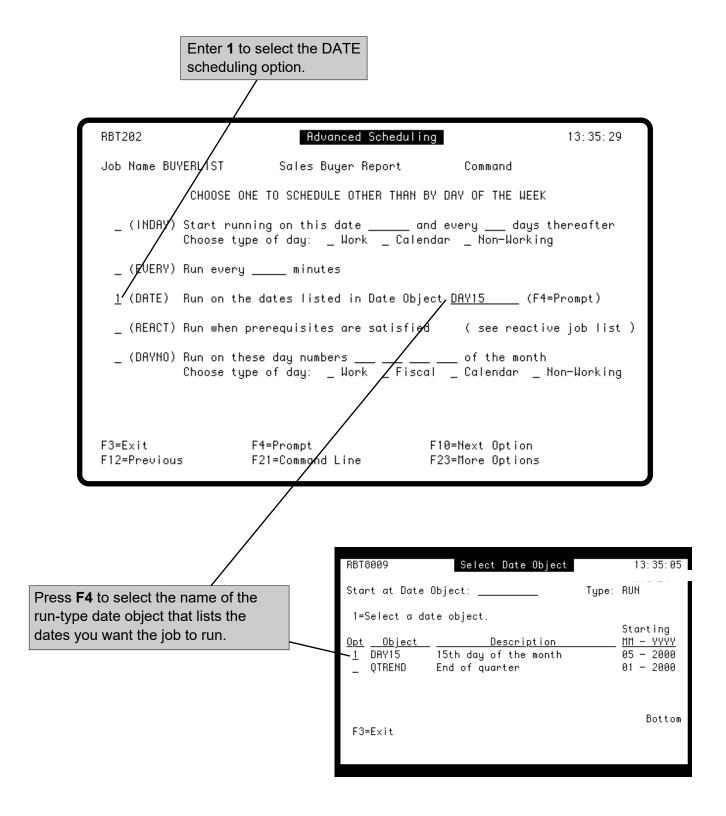
Run Every n Minutes (EVERY)

To run the job at regular time intervals, such as every 30 minutes, select the **EVERY** scheduling option. When you use the EVERY option, you must enter a time range on the Exception Scheduling panel to limit the runs to a certain part of the day. The job is submitted and run only during the time range you specify. The default time range is the full day starting at midnight. You can limit the days on which the job runs by selecting days on the Initial Job Setup panel. The default is every day.

Enter a **1** to select the EVERY scheduling option.

Enter the number of minutes between runs (you can enter any value between 5 and 1429).

```
RBT202                        Advanced Scheduling                    13:34:28

Job Name BUYERLIST        Sales Buyer Report          Command

              CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

  _ (INDAY) Start running on this date _____ and every ___ days thereafter
            Choose type of day:  _ Work  _ Calendar  _ Non-Working

  1 (EVERY) Run every ____30 minutes

  _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

  _ (REACT) Run when prerequisites are satisfied    ( see reactive job list )

  _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
            Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working



   F3=Exit            F4=Prompt            F10=Next Option
   F12=Previous       F21=Command Line     F23=More Options
```

Run on Specific Dates (DATE)

To run the job on certain dates, select the **DATE** scheduling option. Enter your dates in a run-type date object (see the Scheduling Objects Menu) and select the name of the object from the prompt panel. Fill in the run times for the job on the Initial Job Setup panel.

Enter **1** to select the DATE scheduling option.

```
RBT202                        Advanced Scheduling                13:35:29

Job Name BUYERLIST         Sales Buyer Report          Command

              CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

  _ (INDAY) Start running on this date _____ and every ___ days thereafter
            Choose type of day:  _ Work  _ Calendar  _ Non-Working

  _ (EVERY) Run every _____ minutes

  1 (DATE)  Run on the dates listed in Date Object DAY15_____  (F4=Prompt)

  _ (REACT) Run when prerequisites are satisfied     ( see reactive job list )

  _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
            Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working




  F3=Exit              F4=Prompt              F10=Next Option
  F12=Previous         F21=Command Line       F23=More Options
```

Press **F4** to select the name of the run-type date object that lists the dates you want the job to run.

```
RBT8009              Select Date Object           13:35:05

Start at Date Object: _____        Type: RUN

  1=Select a date object.
                                              Starting
Opt  Object         Description            MM - YYYY
 1  DAY15      15th day of the month        05 - 2000
 _  QTREND     End of quarter               01 - 2000



                                               Bottom
  F3=Exit
```

Run After Conditions Met (REACT)

A reactive job is a job that runs only after certain events happen. To schedule a reactive job, select the
REACT scheduling option. List the prerequisites for the job on its Reactive Jobs panel. You can limit the
reactive job runs to certain times and/or days. For more information on scheduling a reactive job, see the
Reactive Jobs section.

Enter a **1** to schedule the job as a
reactive job. Fill in the Reactive
Jobs panel for the job.

```
RBT202                      Advanced Scheduling                    13:51:14

Job Name BUYERLIST          Sales Buyer Report          Command

                 CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

   _ (INDAY) Start running on this date _____ and every ___ days thereafter
             Choose type of day:  _ Work  _ Calendar  _ Non-Working

   _ (EVERY) Run every _____ minutes

   _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

   1 (REACT) Run when prerequisites are satisfied    ( see reactive job list )

   _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
             Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working



 F3=Exit              F4=Prompt              F10=Next Option
 F12=Previous         F21=Command Line       F23=More Options
```

Run on Certain Days (DAYNO

The **DAYNO** scheduling option lets you do two different things. First, it lets you schedule a job to run on the same day number each month. For example, if you want the job to run on the 5th of each month, enter a 5 as the job's day number. Second, it lets you run the job the same number of days before the start of the next month. For example, if you want the job to run on the last day of each month, enter a negative 1. With either approach, the job runs only once on the scheduled day, at the first time specified on the Initial Job Setup panel.

You can enter up to four day numbers (positive, negative, or any combination) for the job. You also must enter the type of day you want Robot Schedule to count. Robot Schedule can count work days, nonworking days, fiscal days, or calendar days using the calendar specified on the Control Options panel for the job. Calendar days use traditional month-ends; if you specify fiscal days, the calendar must specify fiscal month-ends. If the DAYNO value is greater than the number of days in a month (for example, day number 31 does not occur in all months), Robot Schedule will not run the job on that day number that month.

```
RBT202                        Advanced Scheduling                 13:51:14

Job Name BUYERLIST        Sales Buyer Report        Command

              CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

   _ (INDAY) Start running on this date _____ and every ___ days thereafter
              Choose type of day:  _ Work  _ Calendar  _ Non-Working

   _ (EVERY) Run every _____ minutes

   _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

   _ (REACT) Run when prerequisites are satisfied    ( see reactive job list )

   1 (DAYNO) Run on these day numbers -1_ 5__  15_ 20_ of the month
              Choose type of day:   _ Work  1 Fiscal  _ Calendar  _ Non-Working



   F3=Exit                  F4=Prompt                F10=Next Option
   F12=Previous             F21=Command Line         F23=More Options
```

Enter a **1** to select the DAYNO scheduling option.

Enter a **1** next to the type of day to be counted.

Note: If you select Calendar, both work days and nonworking days are counted. If you select Fiscal, make sure the job's calendar has fiscal dates marked. If you select Work or Non-Working, the calendar that the job uses affects how days are counted. For example, some calendars may have 6 work days in each week, while others have only 5.

Enter up to four day numbers on which the job is to run each month. Permitted values are 1 to 45 for positive numbers and –45 to –1 for negative numbers. A negative number indicates the number of days from the end of the month. Thus, –1 specifies the last day of the month, –2 is the second to the last day of the month, and so on.

Command Entry


```
RBT701          Options            13:08:19

1=Select Option
     MAIN JOB SETUP DISPLAYS
_  > 1=Initial Job Setup
_  > 2=Advanced Scheduling
1  > 3=ROBOT Command Entry
_  > 4=Output Options
_  > 5=Control Options
     OTHER ROBOT SETUP OPTIONS
_      Group Options >
_      7=Reactive Jobs
_      8=Local Data Area Entry
_  > 9=Report Distribution
_  > 10=Exception Scheduling
                              More...


F3=Exit   F11=More Info
```

```
RBT292M1            ROBOT Command Entry            14:10:33

Commands for job . . . : EMP407CMD

Options
  1=Select      4=Delete      7=Insert      DC=Do Job at Command

Opt  Seq                    Command                        Error
 _    1   OVRDBF FILE(EMPMAST) TOFILE(PAYLIB/EMPMAST1) POSITION(*KEY 1 >   C
 _    2   OVRDBF FILE(EMPWORK) TOFILE(QTEMP/EMPWORK) LVLCHK(*NO)           C
 _    4   /* COPY TIMECARDS TO WORK FILE*/                                 C
 _    5   CALL PGM(EMP407) PARM('@1' '@2' '@3' @@DATE)                     C




                                                               Bottom

F3=Exit              F4=Prompt         F7=Reserved Cmd Variables
F6=Command Finder    F10=Next Option   F12=Previous   F24=More keys
```

■ Robot Schedule Command Jobs

You can use a Robot Schedule job to execute just about any kind of command, even a command-within-a-command. Just create a command job and enter the commands Robot Schedule is to execute. You also can create a command job by using Robot LEARN (see the Robot LEARN Function section for more information).

Robot Schedule allows you to run up to 999 commands under one Robot Schedule command job. All commands under the same Robot Schedule job name are executed at the same invocation level, so all file overrides work.

■ Entering Robot. Schedule Commands

Entering CL commands for Robot Schedule jobs is very similar to entering commands on the IBM Command Entry panel.

- Enter one command on a line. Display the Extended Command Display panel to enter a longer command.

- All commands you enter or change are syntax-checked. The error messages are shown at the bottom of the panel.

- You can display a command prompt panel to fill in parameter values.

- You can copy any command that has already been entered in Robot Schedule so you only need to enter a command once.

- You can specify what to do if the command fails.

- You can modify the library list that will be used by the job at run time.

■ Command Sets

The Robot Schedule GUI allows you to create command sets, groups of commands that can be used by different jobs. Although you can see the command set when you display the Robot Command Entry panel, you cannot attach a command set to a job from the panel. Command sets cannot be managed from the Robot Schedule green screen panels. You must create and maintain command sets from the Robot Schedule GUI. See the Scheduling Objects section of the *Robot Schedule User Guide* for complete information on creating and maintaining command sets.

■ Testing Commands

You may want to test the series of CL commands before you make them into a Robot Schedule job. To do so, enter them one at a time on the IBM Command Entry panel. Press Enter after each command and check that you get the result you want. Then press Print to get a printout of your commands. Use the printout when entering the commands on the Command Entry panel so you enter exactly the same syntax.

■ **Changing
Parameters
in Robot
Schedule
Commands**

You can change parameters on a Robot Schedule command by inserting variables into the parameters. A command parameter is made up of a parameter keyword and its value. Instead of the parameter value, you can put in a Robot Schedule reserved variable or command variable.

Robot Schedule substitutes values for the Robot Schedule reserved variables or command variables before it executes the commands.

■ **Reserved
Command
Variables**

When you put a reserved command variable into a Robot Schedule command, Robot Schedule substitutes a global value for the variable before it executes the command. For example, the reserved command variable **@@DATE** substitutes the current system date. The following command uses **@@DATE** to pass the current system date to a program:

    CALL EMP407(@@DATE)

You can substitute reserved variables into any spot in the command, as long as you use correct syntax. When substituted, reserved variables truncate the trailing blanks.

You can display a list of the reserved command variables from the Robot Command Entry panel. Every reserved command variable is available to all Robot Schedule jobs. Reserved variables can be used with any command, such as CHGDTAARA to modify the LDA.

Robot Schedule provides several predefined reserved command variables; you can also define your own. You define a new reserved command variable from the Scheduling Objects Menu; it can return a constant value or a value returned by a program. For more information, see the Scheduling Objects Menu section.

■ **Robot
Schedule
Command
Variables**

  Every Robot Schedule command variable begins with the @ character. The @ is followed by a number identifying the variable. For example, the following command contains two Robot Schedule command variables:

    CPYF FROMFILE(@1) TOFILE(@2)

You can enter values on the Command Variable Entry panel. Or, you can have the RBTBCHUPD command substitute values for the Robot Schedule command variables (see the RBTBCHUPD Command section).

Suppose an RBTBCHUPD command substitutes the values PAYVEND and PAYHIST in the job record. When Robot Schedule executes the command, it will look like this:

CPYF FROMFILE(PAYVEND) TOFILE(PAYHIST)

You can make the change either temporary, for just one run, or permanent to apply to all runs of this Robot Schedule job. For more information, see the RBTBCHUPD section.

■ **Each Command is Written to the Job Log**

Every command executed by a Robot Schedule job is written to the job log after a value is substituted for each variable. Thus, the job log shows every command, exactly as it was executed. You can display the job log from the Job Completion History panel.

■ **Rules for Entering Robot Schedule Commands**

Follow these rules when entering Robot Schedule commands:

1. Every command must be able to run in both batch and Exec settings. (The command syntax diagram for the command must have both a B and an Exec in the command entry code.) CL variables and conditional commands are not allowed.

2. Enter one command on a line. If a command is longer than a line on the Robot Command Entry panel, display the Extended Command Display panel, which allows you to enter a command up to 3,000 characters long. Do not use the + continuation symbol at the end of command lines. You will get an error message if you do.

3. If you want the job to continue if the command fails, specify this on the Extended Command Display panel.

4. You can call other Robot Schedule commands from within a Robot Schedule command. Thus, a Robot Schedule job can execute the commands of another Robot Schedule job. To do this, enter, as a command, the name of the other Robot Schedule job preceded by a ¢ character.

   For example, suppose you have defined a Robot Schedule command job named OVR1 that contains one command:

   CPYF FROMFILE(PAYVEND) TOFILE(PAYHIST)

   You then can enter the following Robot Schedule commands in a second Robot Schedule command job named OVR2:

   ¢OVR1
   CALL SAL410 PARM('0' '00000')

■ **Rules for
Entering Robot
Schedule
Commands
(continued)**

When Robot Schedule runs OVR2, the following Robot Schedule commands are executed:

**CPYF FROMFILE(PAYVEND) TOFILE(PAYHIST)
CALL SAL410 PARM('0' '00000')**

Robot Schedule command variables are substituted before the Robot Schedule commands are copied. The nested commands are then executed just as if you had coded them in the same job. Robot Schedule commands can only be nested at one level; an inserted Robot Schedule command cannot insert other Robot Schedule commands.

5. Robot Schedule command variables should be numbered consecutively throughout the job, starting with 1; do not restart numbering at each command. If the same value is to be inserted more than one place in the job, use the same number (i.e., @1) in each place the value is to be used.
   When entering values to be substituted for the Robot Schedule command variables, separate the values with semicolons (the **;** symbol). List the values in the order corresponding to the variable numbers. Robot Schedule substitutes the first value for each @1, the second value for each @2, and so forth.

6. To code commands to run jobs on the IBM i in S/36 mode, you must use the STRS36PRC command to call a procedure. For example:
   STRS36PRC PRC(CHKPRNT)
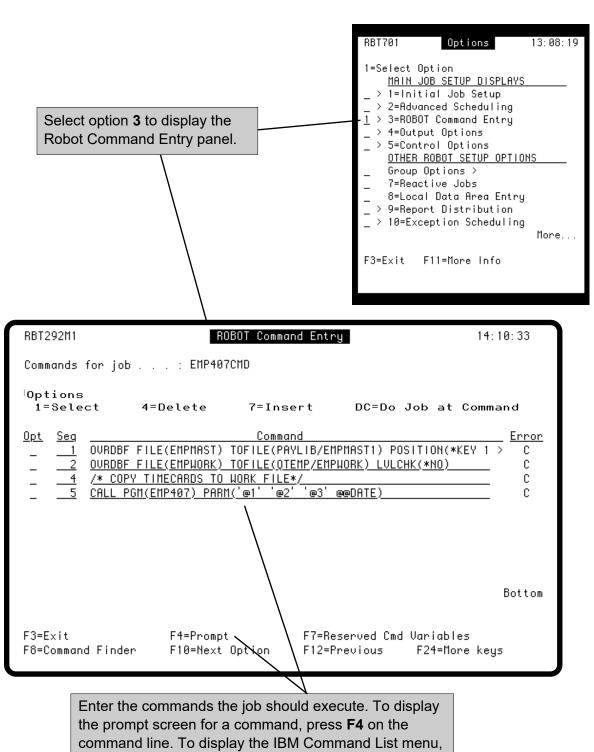
■ **Enterprise Job
Scheduling**

Robot Schedule Enterprise, the enterprise job scheduler, is completely integrated with Robot Schedule. You can enter commands for your attached Windows, UNIX, and Linux servers using the Command Entry panel in the Robot Schedule Explorer.

For example, you can use Robot Schedule to initiate a DOS batch file to download the transactions from your point-of-sale devices. When all of the device tasks are completed, Robot Schedule can run a System i job to summarize the transactions and transmit them to the home office. See the *Robot Schedule User Guide* for more information.

Robot Command Entry Panel

If you select **C** (command) as the job type on the Initial Job Setup panel, you must enter one or more commands to be executed by the job. You enter these commands on the Robot Command Entry panel displayed when you press **F10** on the Initial Job Setup panel or select option **3** from the Job Options menu.

```
RBT701              Options              13:08:19

1=Select Option
       MAIN JOB SETUP DISPLAYS
 _  > 1=Initial Job Setup
 _  > 2=Advanced Scheduling
 1  > 3=ROBOT Command Entry
 _  > 4=Output Options
 _  > 5=Control Options
       OTHER ROBOT SETUP OPTIONS
 _     Group Options >
 _     7=Reactive Jobs
 _     8=Local Data Area Entry
 _  > 9=Report Distribution
 _  > 10=Exception Scheduling
                              More...

F3=Exit   F11=More Info
```

Select option **3** to display the Robot Command Entry panel.

```
RBT292M1            ROBOT Command Entry            14:10:33

Commands for job . . . . : EMP407CMD

Options
 1=Select      4=Delete      7=Insert      DC=Do Job at Command

Opt  Seq                    Command                          Error
 _    1    OVRDBF FILE(EMPMAST) TOFILE(PAYLIB/EMPMAST1) POSITION(*KEY 1 >  C
 _    2    OVRDBF FILE(EMPWORK) TOFILE(QTEMP/EMPWORK) LVLCHK(*NO)          C
 _    4    /* COPY TIMECARDS TO WORK FILE*/                                C
 _    5    CALL PGM(EMP407) PARM('@1' '@2' '@3' @@DATE)                    C

                                                          Bottom

F3=Exit            F4=Prompt            F7=Reserved Cmd Variables
F8=Command Finder  F10=Next Option      F12=Previous    F24=More keys
```

Enter the commands the job should execute. To display the prompt screen for a command, press **F4** on the command line. To display the IBM Command List menu, press **F4** on a blank line.

Robot Command Entry Panel

You can edit the Robot Schedule commands at any time. You can reorder commands, insert new commands, copy commands, change commands, and delete commands. By default, Robot Schedule cancels the job if a command fails. You can specify that the job should continue to run when a command fails; select the command with option **1** to display the Extended Command Display.

Note: If the command contains a non-displayable character (< '40'), the command contains a protected character. The character may appear as • or ⧀. You cannot edit these commands on this panel. Enter a **1** in the **Opt** field to work with such commands and see the section, Working with Commands that Contain Protected Characters, for more information.

Options
- **1** Display the Extended Command Display to enter a longer command or to specify what Robot Schedule does if the command fails.
- **4** Delete the Command.
- **7** Insert blank lines after this line so you can enter more commands.
- **DC** Do this scheduled job now starting at the selected command sequence. Using the DC option behaves similar to running a DO on a job, with the added flexibility of starting the job at a specific command instead of running the entire job. This allows you to restart a failed job at the point of failure instead of at the beginning of a job.
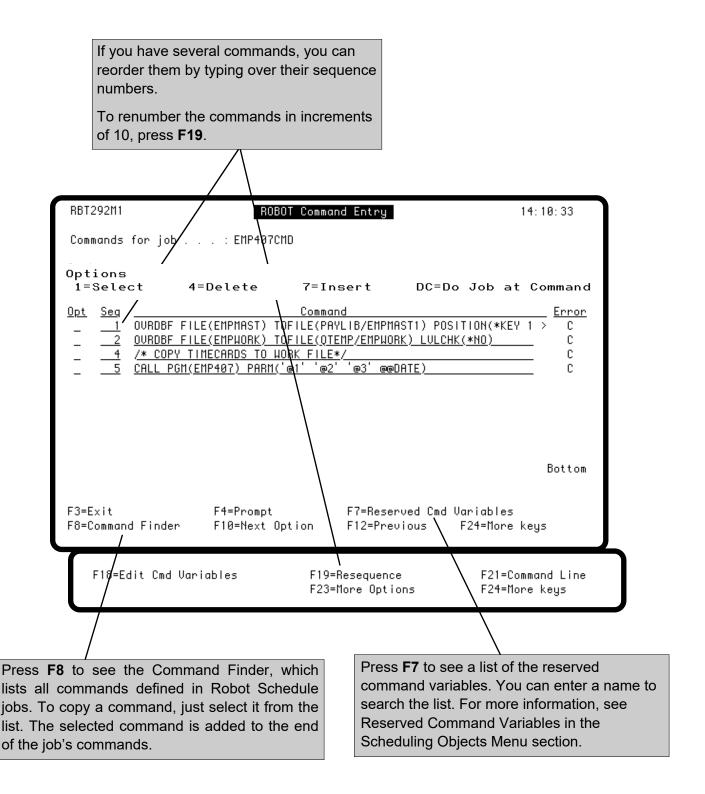
Error
Specifies what Robot Schedule does if the command fails with an informational type error that does not require a message to be answered. You can change the error code by selecting the command with option **1.**
- **C** Cancels the job
- **I** Ignores the failed command, continues to run the job,

```
RBT292M1                    Robot Command Entry                09:31:02

Commands for job . . . :   INVOICES


Options
  1=Select       4=Delete        7=Insert       DC=Do Job at Command

Opt  Seq _____ Command _____ Error
 __    1   SNDMSG MSG('Invoice processing has begun!') TOUSR(*SYSOPR)      C
 __    2   CALL PGM(INVOICEBLD)                                            C
 __    3   CALL PGM(INVOICEPRC)                                            C
 __    4   CALL PGM(INVOICERPT)                                            C








                                                                     Bottom


 F3=Exit              F4=Prompt            F7=Reserved Cmd Variables
 F8=Command Finder    F10=Next Option      F12=Previous     F24=More keys
```

Robot Command Entry Panel

If you have several commands, you can reorder them by typing over their sequence numbers.

To renumber the commands in increments of 10, press **F19**.

```
RBT292M1                    ROBOT Command Entry                    14:10:33

  Commands for job . . . : EMP407CMD


 Options
  1=Select        4=Delete        7=Insert        DC=Do Job at Command

 Opt  Seq _____Command_____    Error
  _    1   OVRDBF FILE(EMPMAST) TOFILE(PAYLIB/EMPMAST1) POSITION(*KEY 1 >   C
  _    2   OVRDBF FILE(EMPWORK) TOFILE(QTEMP/EMPWORK) LVLCHK(*NO)_____   C
  _    4   /* COPY TIMECARDS TO WORK FILE*/_____    C
  _    5   CALL PGM(EMP407) PARM('@1' '@2' '@3' @@DATE)_____    C





                                                                   Bottom



 F3=Exit          F4=Prompt          F7=Reserved Cmd Variables
 F8=Command Finder  F10=Next Option    F12=Previous     F24=More keys

    F18=Edit Cmd Variables        F19=Resequence        F21=Command Line
                                  F23=More Options       F24=More keys
```

Press **F8** to see the Command Finder, which lists all commands defined in Robot Schedule jobs. To copy a command, just select it from the list. The selected command is added to the end of the job's commands.

Press **F7** to see a list of the reserved command variables. You can enter a name to search the list. For more information, see Reserved Command Variables in the Scheduling Objects Menu section.

Command Sets

If a command set has been attached to a job in the Robot Schedule GUI, you can see the commands on the Robot Command Entry panel. However, you cannot modify the commands in the command set. A message displays on the panel indicating that you must use the Robot Schedule GUI to work with command sets.

Options
1 Display the Extended Command Entry panel in read-only mode. The commands in command sets can only be edited within the GUI.

DC Do this scheduled job now starting at the selected command sequence. Using the DC option behaves similar to running a DO on a job, with the added flexibility of starting the job at a specific command instead of running the entire job. This allows you to restart a failed job at the point of failure instead of at the beginning of a job.

```
RBT292M1                    Robot Command Entry                    09:38:51

Commands for job . . . :   WCS
Command set  . . . . . :   CMDSET1

Options
 1=Select                                 DC=Do Job at Command

Opt  Seq _____Command_____  Error
       10  WRKACTJOB OUTPUT(*PRINT)                                   C
       11  DSPJOB OUTPUT(*PRINT)                                      C




                                                                  Bottom


 F3=Exit                              F7=Reserved Cmd Variables
                 F10=Next Option      F12=Previous      F24=More keys
 Use Robot Schedule GUI to modify this command set.
```

A message displays telling you that you must use the Robot Schedule GUI to work with the command set. See the Scheduling Objects section of the *Robot Schedule User Guide* for complete information on creating and maintaining command sets.
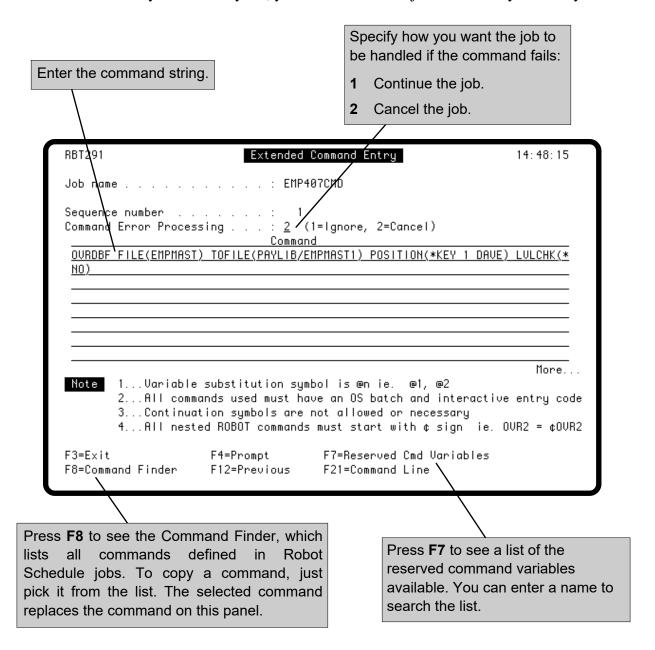
Extended Command Display

To enter a command that is longer than the line on the Robot Command Entry panel, enter an **1** in the **Opt** field of the command line to display the Extended Command Display panel.

On the Extended Command Display panel, you can enter a command string up to 3,000 characters long. The string must follow the rules listed on the panel. The command syntax is checked when you press Enter.

Note: Do not use the + continuation symbol at the end of command lines on the Extended Command Display panel. You will get an error message if you use it.
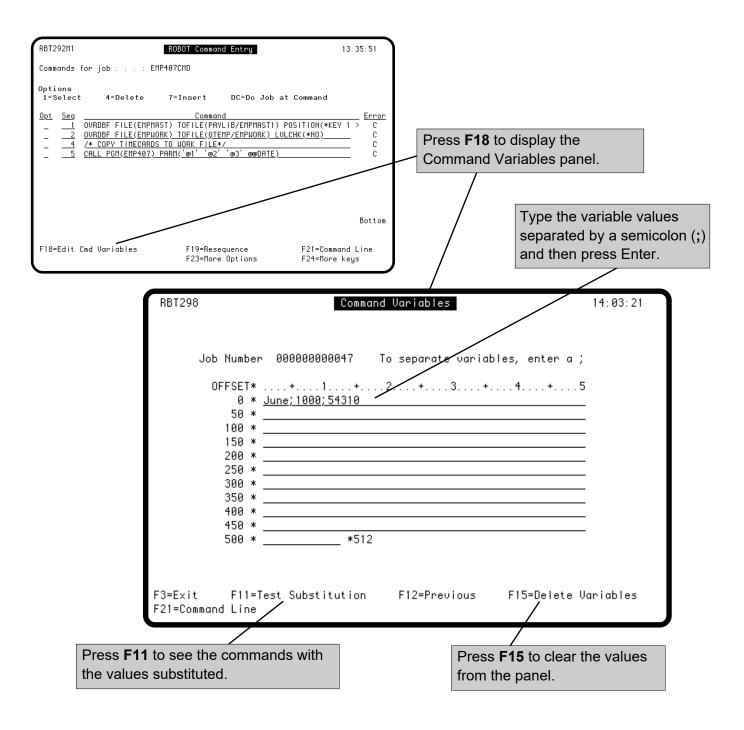
You also can indicate whether you want the job to continue if the command fails. For example, if the command adds a library to the library list, you can continue the job if the library is already in the list.

Specify how you want the job to be handled if the command fails:

1   Continue the job.

2   Cancel the job.

Enter the command string.

```
RBT291                        Extended Command Entry                  14:48:15

Job name . . . . . . . . . . . : EMP407CMD

Sequence number  . . . . . . . :   1
Command Error Processing . . . : 2  (1=Ignore, 2=Cancel)
                               Command
OVRDBF FILE(EMPMAST) TOFILE(PAYLIB/EMPMAST1) POSITION(*KEY 1 DAVE) LVLCHK(*
NO)
_____
_____
_____
_____
_____
_____
                                                                    More...
   Note   1...Variable substitution symbol is @n ie.  @1, @2
          2...All commands used must have an OS batch and interactive entry code
          3...Continuation symbols are not allowed or necessary
          4...All nested ROBOT commands must start with ¢ sign  ie. OVR2 = ¢OVR2

  F3=Exit            F4=Prompt      F7=Reserved Cmd Variables
  F8=Command Finder  F12=Previous   F21=Command Line
```

Press **F8** to see the Command Finder, which lists all commands defined in Robot Schedule jobs. To copy a command, just pick it from the list. The selected command replaces the command on this panel.

Press **F7** to see a list of the reserved command variables available. You can enter a name to search the list.

Entering Command Variable Values

If the Robot Schedule commands contain command variables, you can store values for the variables with the job. The values are substituted into the commands when the job is run. To enter values, press **F18** on the Robot Command Entry panel to display the Command Variables panel.
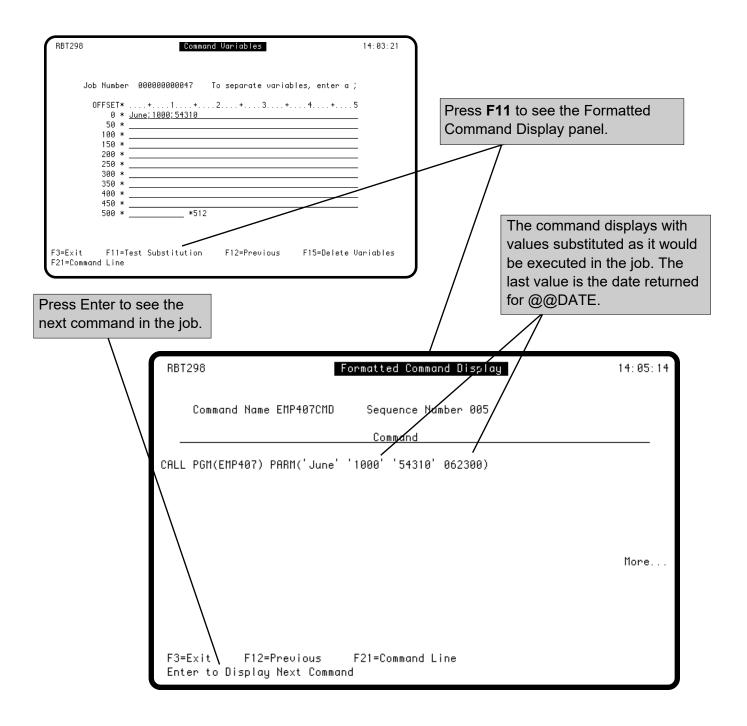
Enter the values in the order they are to be substituted; use a semicolon (**;**) character to separate the values. The first value is substituted for each @1 command variable; the second value is substituted for each @2, and so forth. Robot Schedule substitutes the first character of the value at the @ character in the command and continues inserting characters until it finds a **;** separator or the end of the string.

```
RBT292M1                   ROBOT Command Entry              13:35:51

Commands for job . . . : EMP407CMD

Options
 1=Select      4=Delete      7=Insert      DC=Do Job at Command

Opt  Seq  _____Command_____  Error
 _     1  OVRDBF FILE(EMPMAST) TOFILE(PAYLIB/EMPMAST1) POSITION(*KEY 1 >   C
 _     2  OVRDBF FILE(EMPWORK) TOFILE(QTEMP/EMPWORK) LVLCHK(*NO)           C
 _     4  /* COPY TIMECARDS TO WORK FILE*/                                 C
 _     5  CALL PGM(EMP407) PARM('@1' '@2' '@3' @@DATE)                     C




                                                        Bottom

F18=Edit Cmd Variables      F19=Resequence       F21=Command Line
                            F23=More Options      F24=More keys
```

Press **F18** to display the Command Variables panel.

```
RBT298                         Command Variables              14:03:21



          Job Number  000000000047    To separate variables, enter a ;

             OFFSET* ....+....1....+....2....+....3....+....4....+....5
                 0 * June;1000;54310_____
                50 * _____
               100 * _____
               150 * _____
               200 * _____
               250 * _____
               300 * _____
               350 * _____
               400 * _____
               450 * _____
               500 * _____  *512



F3=Exit     F11=Test Substitution     F12=Previous     F15=Delete Variables
F21=Command Line
```

Type the variable values separated by a semicolon (;) and then press Enter.

Press **F11** to see the commands with the values substituted.

Press **F15** to clear the values from the panel.

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Testing Variable Substitutions
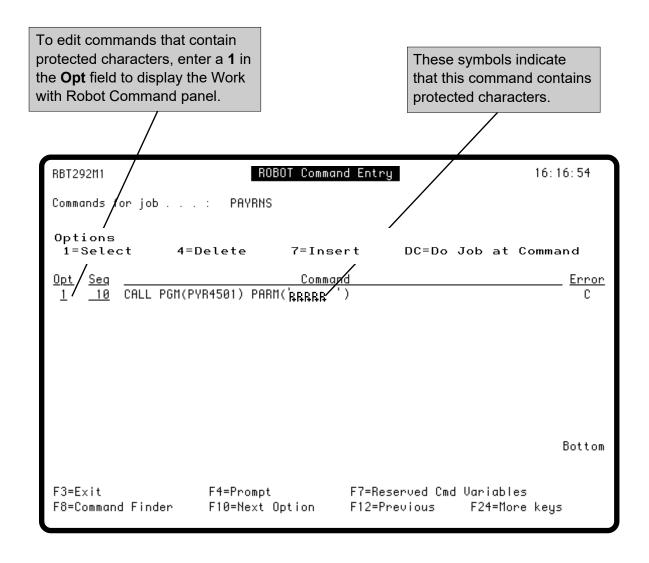
After you enter values for the Robot Schedule command variables, you should check how the values are substituted in the commands. Press **F11** on the Command Variables panel to display the For-matted Command Display panel. Initially, the panel displays the first command in the job; variables are substituted using the values on the Command Variables panel. Reserved command variables also are substi-tuted by their current values.

Press Enter to see the next command; continue pressing Enter until you have seen all commands in the job.

```
RBT298                    Command Variables              14:03:21


        Job Number  000000000047    To separate variables, enter a ;

        OFFSET*  ....+....1....+....2....+....3....+....4....+....5
            0 *  June;1000;54310
           50 *  _____
          100 *  _____
          150 *  _____
          200 *  _____
          250 *  _____
          300 *  _____
          350 *  _____
          400 *  _____
          450 *  _____
          500 *  _____   *512


    F3=Exit     F11=Test Substitution    F12=Previous    F15=Delete Variables
    F21=Command Line
```

Press **F11** to see the Formatted Command Display panel.

The command displays with values substituted as it would be executed in the job. The last value is the date returned for @@DATE.

Press Enter to see the next command in the job.

```
RBT298                     Formatted Command Display         14:05:14


        Command Name EMP407CMD      Sequence Number 005

    _____ Command _____

    CALL PGM(EMP407) PARM('June' '1000' '54310' 062300)




                                                              More...




    F3=Exit      F12=Previous      F21=Command Line
    Enter to Display Next Command
```

Working with Commands that Contain Protected Characters

Robot Schedule's learn feature allows you to capture commands to submit jobs for a wide variety of software packages. For example, IBAX, which is popular in the health care industry, has commands that contain protected characters. Since these characters can't be displayed, Robot Schedule shows you where they occur by displaying a symbol (the symbol varies depending on your terminal emulation). Com-mands containing these characters cannot be changed on the Robot Command Entry panel. Enter a **1** in the **Opt** field to display the Work with Robot Command panel.

To edit commands that contain protected characters, enter a **1** in the **Opt** field to display the Work with Robot Command panel.

These symbols indicate that this command contains protected characters.

```
RBT292M1                    ROBOT Command Entry                      16:16:54

Commands for job . . . :    PAYRNS


 Options
  1=Select        4=Delete       7=Insert        DC=Do Job at Command

 Opt  Seq                         Command                              Error
  1   10   CALL PGM(PYR4501) PARM('ЯЯЯЯЯ ')                              C














                                                                       Bottom



 F3=Exit            F4=Prompt         F7=Reserved Cmd Variables
 F8=Command Finder  F10=Next Option   F12=Previous    F24=More keys
```

Working with Commands that Contain Protected Characters
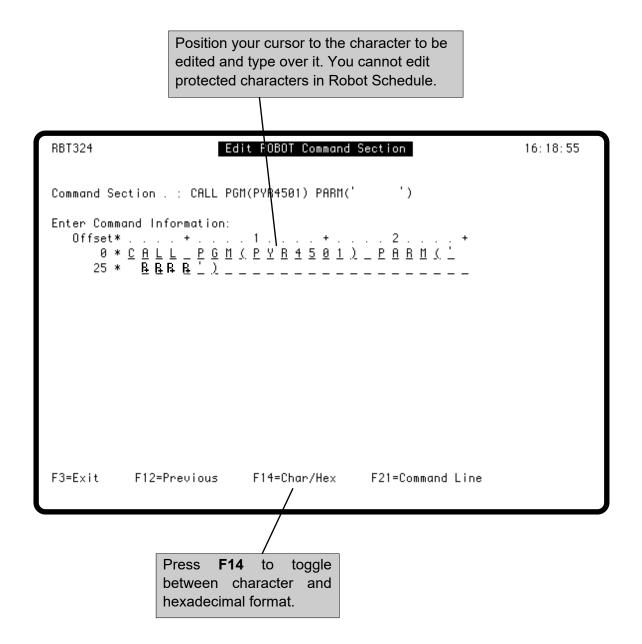
The Work with Robot Command panel allows you to select a portion of the command to be edited and to display the command in hexadecimal format.

Note: This function is not available from the Robot Schedule GUI. You must edit commands that contain protected characters from the green screen panel.

Position your cursor at the beginning of the section of the command you want to edit and press **F15**.

```
RBT323                    Work With ROBOT Command                    16:17:13

Job Name: PAYRNS

Place cursor at beginning of section to be edited and press F15

                              COMMAND
CALL PGM(PYR4501) PARM('RRRRR ')
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
                                                              More...

F3=Exit      F12=Previous           F14=Char/Hex  F15=Cmd Section Edit
F21=Command Line
```

Press **F14** to toggle between character and hexadecimal format.

Working with Commands that Contain Protected Characters
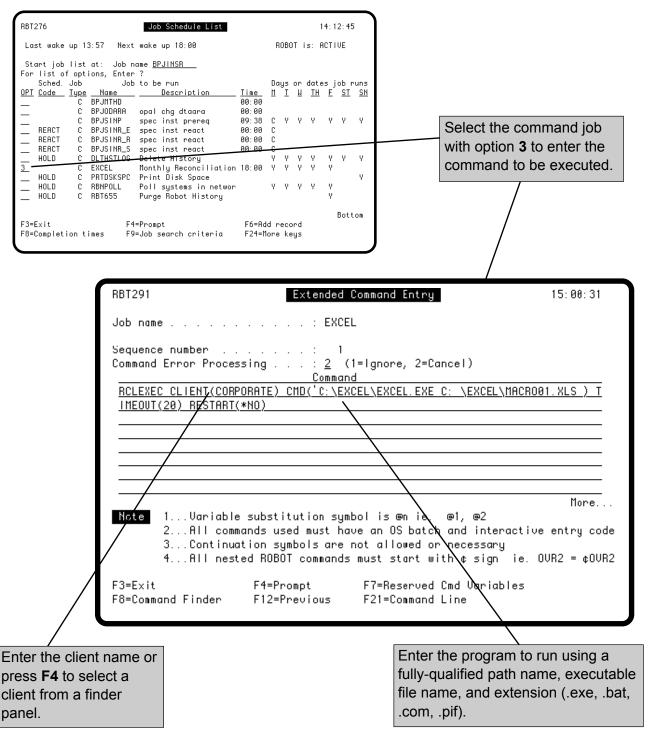
The Edit Robot Command Section panel allows you to edit any non-protected characters in the command.

Position your cursor to the character to be edited and type over it. You cannot edit protected characters in Robot Schedule.

```
RBT324                    Edit ROBOT Command Section              16:18:55


Command Section . : CALL PGM(PYR4501) PARM('      ')

Enter Command Information:
   Offset* . . . . + . . . . 1 . . . . + . . . . 2 . . . . +
        0 * C A L L _ P G M ( P Y R 4 5 0 1 ) _ P A R M ( '
       25 *   R R R R _ ' ) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _








  F3=Exit     F12=Previous     F14=Char/Hex     F21=Command Line
```

Press **F14** to toggle between character and hexadecimal format.

PC Windows Tasks

If you have Robot Client, Fortra's server operations event manager, you can send a Windows task to a PC to be executed. Simply create a Command (C)-type job and select it from the Job Schedule List using option **3**. The example below starts Microsoft Excel and opens a spreadsheet named Macro1.xls, which runs a macro. For more information about Robot Client, see the *Robot Client User Guide*.

Note: To see how you can schedule jobs across your enterprise using the Robot Schedule Explorer, see the *Robot Schedule User Guide*.

```
RBT276                    Job Schedule List              14:12:45

 Last wake up 13:57   Next wake up 18:00         ROBOT is: ACTIVE

  Start job list at:   Job name BPJINSR
 For list of options, Enter ?
     Sched.  Job         Job to be run           Days or dates job runs
 OPT Code   Type  Name        Description    Time  M  T  W  TH  F  ST  SN
  _          C  BPJMTHD                       00:00
  _          C  BPJODARA   opal chg dtaara    00:00
  _          C  BPJSINP    spec inst prereq   09:38  C  Y  Y  Y   Y  Y   Y
  _   REACT  C  BPJSINR_E  spec inst react    00:00  C
  _   REACT  C  BPJSINR_R  spec inst react    00:00  C
  _   REACT  C  BPJSINR_S  spec inst react    00:00  C
  _   HOLD   C  DLTHSTLOG  Delete History            Y  Y  Y  Y   Y  Y   Y
  3          C  EXCEL      Monthly Reconciliation 18:00 Y Y Y Y  Y
  _   HOLD   C  PRTDSKSPC  Print Disk Space                              Y
  _   HOLD   C  RBNPOLL    Poll systems in networ    Y  Y  Y  Y   Y
  _   HOLD   C  RBT655     Purge Robot History                       Y

                                                          Bottom
 F3=Exit              F4=Prompt           F6=Add record
 F8=Completion times  F9=Job search criteria  F24=More keys
```

Select the command job with option **3** to enter the command to be executed.

```
RBT291                    Extended Command Entry          15:00:31

 Job name . . . . . . . . . . . . . : EXCEL

 Sequence number  . . . . . . . . . :    1
 Command Error Processing . . . . : 2  (1=Ignore, 2=Cancel)
                                Command
 RCLEXEC CLIENT(CORPORATE) CMD('C:\EXCEL\EXCEL.EXE C: \EXCEL\MACRO01.XLS ) T
 IMEOUT(20) RESTART(*NO)




                                                          More...
    Note   1...Variable substitution symbol is @n ie.  @1, @2
           2...All commands used must have an OS batch and interactive entry code
           3...Continuation symbols are not allowed or necessary
           4...All nested ROBOT commands must start with ¢ sign  ie. OVR2 = ¢OVR2

    F3=Exit            F4=Prompt         F7=Reserved Cmd Variables
    F8=Command Finder  F12=Previous      F21=Command Line
```

Enter the client name or press **F4** to select a client from a finder panel.

Enter the program to run using a fully-qualified path name, executable file name, and extension (.exe, .bat, .com, .pif).

PC Windows Tasks

Enter the number of minutes allowed for the job to complete before being cancelled. The timeout value sets a time limit on how long an application can run to conserve memory and to keep the number of applications running at a minimum. If the task completes before the timeout period, Robot Client sends a successful task completion status back to the IBM i. Otherwise, at the expiration of the timeout value, Robot Client tries to end the Windows task and sends a task failure status. It is best to test how long (in minutes) the task normally runs. Then, enter this value, plus a few minutes, as the timeout value for the task. Valid entries are from 0 to 999 minutes. Enter zero when you want Robot Client simply to launch an application. If the application launches successfully, successful task completion status is returned; if the application won't launch, task failure is returned. The default value is 1 minute.

```
RBT291                      Extended Command Entry                   15:00:31

Job name . . . . . . . . . . . . : EXCEL

Sequence number   . . . . . . . . :    1
Command Error Processing . . . . : 2   (1=Ignore, 2=Cancel)
                                  Command
RCLEXEC CLIENT(CORPORATE) CMD('C:\EXCEL\EXCEL.EXE C: \EXCEL\MACRO01.XLS') T
IMEOUT(20) RESTART(*NO)
_____
_____
_____
_____
_____
_____
                                                                  More...
   Note   1...Variable substitution symbol is @n ie.   @1, @2
          2...All commands used must have an OS batch and interactive entry code
          3...Continuation symbols are not allowed or necessary
          4...All nested ROBOT commands must start with ¢ sign  ie. OVR2 = ¢OVR2

  F3=Exit              F4=Prompt         F7=Reserved Cmd Variables
  F8=Command Finder    F12=Previous      F21=Command Line
```

Robot Client allows you to restart the PC after it finishes processing the command string. Enter one of the following options:

1   No action is performed when the task completes.

2   The client is restarted when the task completes. Any tasks that were active before the client restarted are not restarted unless they normally start at client startup.

3   The client is shut down.

Output Options


```
RBT701          Options          13:08:19

1=Select Option
    MAIN JOB SETUP DISPLAYS
_ >  1=Initial Job Setup
_ >  2=Advanced Scheduling
_ >  3=ROBOT Command Entry
1 >  4=Output Options
_ >  5=Control Options
    OTHER ROBOT SETUP OPTIONS
_    Group Options >
_    7=Reactive Jobs
_    8=Local Data Area Entry
_ >  9=Report Distribution
_ >  10=Exception Scheduling
                        More...


F3=Exit   F11=More Info
```

```
RBT203                    Output Options                    15:15:40

Job name . . . :  EMP407CMD   Weekly Labor Report        Command

Printer output control
    Output Queue . . . . . . . . . . . :   *RBTDFT    F4
      Library . . . . . . . . . . . . :    *RBTDFT
    Print text . . . . . . . . . . . :   Weekly Labor Report
    Number of copies  . . . . . . . . :    5 (1 - 255)
    Output priority . . . . . . . . . :   _   (1 - 9)

Job date calculator (to have job date different than system date)
    Start with date type  . . . . . . :   1  F4   System Date
    Date, Day Nbr, + or - Days  . . . :   _____
    Equals the job date . . . . . . . :   6/23/00 (Date used if job ran today)

Report distribution control
    Use Report Distribution? . . . . . :   Y   (Y=Yes, N=No, R=Robot/REPORTS)



F3=Exit           F4=Prompt          F10=Next Option    F12=Previous
F15=Select PreReq  F21=Command Line   F23=More Options
```

Output Options Panel

If the job you are scheduling produces print files, Robot Schedule lets you change output options for the job. In many cases, the only information you need to fill out is on the Output Options panel. On the Output Options panel, you can change the output queue, print text, number of copies, and job date for all print files produced by the job.

If you are setting up a Submit-Delay model job, you can enter ***SBM** for the output queue to have the output queue picked up from the submitted job rather than copied from the model job. See Exception Scheduling for more information about Submit-Delay model jobs.

If you need to use more than one output queue, change other print attributes, attach banner pages, or enter recipient lists, use the Report Distribution panels. For more information, see the Report Distribution section.

For even more sophisticated report management facilities, look into Robot Reports, the report management software. Its advanced features include report bundling, bursting, archiving, and viewing.

```
RBT701       Options        15:13:31

1=Select Option
     MAIN JOB SETUP DISPLAYS
 _ > 1=Initial Job Setup
 _ > 2=Advanced Scheduling
 _ > 3=ROBOT Command Entry
 1 > 4=Output Options
 _    5=Control Options
     OTHER ROBOT SETUP OPTIONS
 _    Group Options >
 _    7=Reactive Jobs
 _    8=Local Data Area Entry
 _ > 9=Report Distribution
 _ > 10=Exception Scheduling
                        More...

F3=Exit   F11=More Info
```

Select option **4** for a job to display the Output Options panel.

```
RBT203                    Output Options                    15:15:40

Job name . . :  EMP407CMD   Weekly Labor Report        Command

Printer output control
   Output Queue  . . . . . . . . . . :   *RBTDFT      F4
     Library . . . . . . . . . . . . :    *RBTDFT
   Print text  . . . . . . . . . . . :   Weekly Labor Report
   Number of copies  . . . . . . . . :    5 (1 - 255)
   Output priority . . . . . . . . . :   _    (1 - 9)

Job date calculator (to have job date different than system date)
   Start with date type  . . . . . . :   1   F4   System Date
   Date, Day Nbr, + or - Days  . . . :   _____
   Equals the job date . . . . . . . :   6/23/00 (Date used if job ran today)

Report distribution control
   Use Report Distribution?  . . . . :   Y   (Y=Yes, N=No, R=Robot/REPORTS)



F3=Exit              F4=Prompt           F10=Next Option     F12=Previous
F15=Select PreReq    F21=Command Line    F23=More Options
```

Output Options Panel

The first part of the Output Options panel, **Printer output control**, lets you change output options for all print files produced by the job. You can use Robot Schedule Report Distribution to override these values for all print files, for individual print files, or for individual recipients of a print file. For more information, see Report Distribution.

Enter an output queue and its library. If you are using authorized objects, press **F4** to select from a list of authorized output queues. **Note:** Authorized output queues are defined in system setup; see the System Setup section of this manual for more information. Or, enter one of these:

*JOBD   Use the output queue from the job description. If *DEV or *WRKSTN is specified as the output queue in the job description, refer to the job log to see the output queue that was used.

*RBTDFT   Use the output queue specified by the job's environment. You enter the environment name on the Control Options panel.
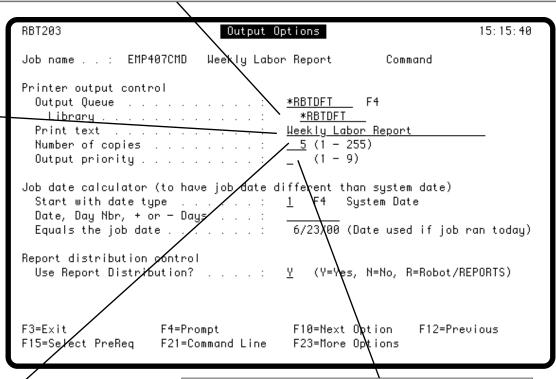
*SBM   If this is a submit-delay model job, you can use the special value *SBM to have Robot Schedule get the output queue information from the submitted job rather than from the model job. See Submit-Delay Model Jobs for more information.

You can enter up to 27 characters to be printed at the bottom of the separator page for each report.

```
RBT203                         Output Options                    15:15:40

 Job name . . :  EMP407CMD   Weekly Labor Report       Command

 Printer output control
   Output Queue  . . . . . . . . . . :  *RBTDFT____   F4
      Library . . . . . . . . . . . :    *RBTDFT____
   Print text  . . . . . . . . . . . :  Weekly Labor Report_____
   Number of copies  . . . . . . . . :  _5 (1 - 255)
   Output priority . . . . . . . . . :  _   (1 - 9)

 Job date calculator (to have job date different than system date)
   Start with date type  . . . . . . :  1   F4   System Date
   Date, Day Nbr, + or - Days  . . . :  _____
   Equals the job date . . . . . . . :  6/23/00 (Date used if job ran today)

 Report distribution control
   Use Report Distribution?  . . . . :  Y   (Y=Yes, N=No, R=Robot/REPORTS)



 F3=Exit            F4=Prompt          F10=Next Option     F12=Previous
 F15=Select PreReq  F21=Command Line   F23=More Options
```

Enter the number of copies of each print file to be printed. The default is zero copies, which allows your application to determine the number of copies.

Enter the priority (1-9) given the print files from this job on the output queue. If the field is blank, the job description's output priority is used.

Note: At job submission, OS/400 verifies that the submitting user profile has sufficient scheduling priority. If not, the user's Highest Priority Scheduling value is used.

Changing the Job Date

Normally, the job date is the system date when the job was submitted. Robot Schedule lets you change the job date so that it differs from the system date. You can change it to a specific date or have Robot Schedule calculate the job date from the current date. To take advantage of this feature, your high-level language program must be coded to use the job date instead of the system date. For example, the RPG reserved word UDATE retrieves the job date. Before using this feature, you should check with your programmers.

Changing the date makes it easy to do monthly closings days after the actual end of the month. It also makes it easy to give a certain date to a report, no matter when the report job is run. Changing the job date does not affect the system date or the job date of any other job. You also can use the job date for output purposes if your job (programs) use the JOBDATE field

Press **F4** in the **Start with date type** field to select the type of date to start with. The date options are explained in the table on the next page.

Enter a value based on the table on the next page. **Note:** If you enter negative numbers, enter them with the negative sign following the number. For example, enter **3 –** to make the job date three days before the current system date when the job is executed.

```
RBT203                      Output Options                        15:15:40

Job name  . . :  EMP407CMD    Weekly Labor Report          Command

Printer output control
   Output Queue  . . . . . . . . . . :   *RBTDFT      F4
     Library . . . . . . . . . . . . :     *RBTDFT
   Print text  . . . . . . . . . . . :   Weekly Labor Report
   Number of copies  . . . . . . . . :     5 (1 - 255)
   Output priority . . . . . . . . . :   _   (1 - 9)

Job date calculator (to have job date different than system date)
   Start with date type  . . . . . . :   1   F4   System Date
   Date, Day Nbr, + or - Days  . . . :   _____
   Equals the job date . . . . . . . :   6/23/00 (Date used if job ran today)

Report distribution control
   Use Report Distribution?  . . . . :   Y   (Y=Yes, N=No, R=Robot/REPORTS)



F3=Exit              F4=Prompt          F10=Next Option    F12=Previous
F15=Select PreReq    F21=Command Line   F23=More Options
```

If you use a date type of 7 (Prerequisite Job Start Date), press **F15** to display the prerequisites for this job. Then, select the prerequisite with the job date you want to use.

The job date that would be used if the job ran today.

Using the Job Date Calculator

Date Type	Description	Date, Day Number, + or - Days	Examples
1	System Date	Enter the number of days after the system date that you want to set the job date. Or, enter a negative number (-) to calculate the number of days before the system date.	Enter 3 to add three days to the system date. If today is May 26, the job date will be May 29.
2	Job Description Date	No data allowed.	This options retrieves the job date parameter from the job description.
3	Current Month Day Number	Enter the day number of the current month that you want the job date to equal.	If today is May 26 and you enter 12, the job date will be May 12.
4	Last Month Day Number	Enter the day number of the last month that you want the job date to equal.	If today is May 26 and you enter 12, the job date will be April 12.
5	Current Month Last Day	No data allowed.	If today is May 26, the job date will be May 31.
6	Last Month Last Day	No data allowed.	If today is May 26, the job date will be April 30.
7	Prerequisite Job Start Date	No data allowed.	If this is a reactive job, it will use the start date of the prerequisite job. If today is May 26 and the prerequisite job began on May 25, the job date for this job also will be May 25.
8	Use Entered Date	Enter the job date you want to use. Enter it in your System Date Format.	If today is May 26 and you enter May 30, the job date will be May 30.
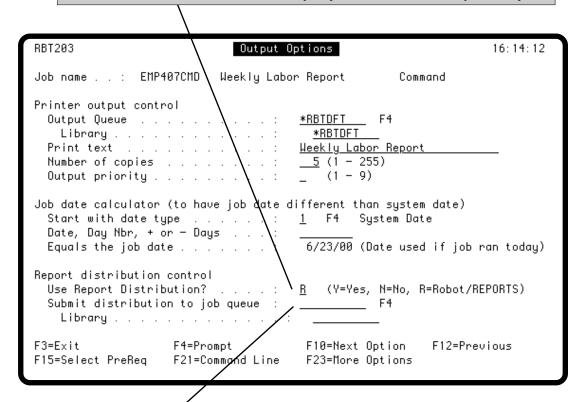
Using Report Distribution

Use the **Use Report Distribution?** field to tell Robot Schedule whether or not to use the information on the Robot Schedule Report Distribution panels. The field automatically changes to **Y** when you enter the first banner page or recipient on a Report Distribution panel. The field changes to **N** if you delete all Report Distribution entries. If you have entered information on the Report Distribution panels, but decide not to use it, you can tell Robot Schedule not to use that information by changing the field value to **N**. Later, you can use the Report Distribution information again by changing the field value to **Y**.

If you have Robot Reports installed, you have a third choice. You can enter an **R** to use the information entered in Robot Reports for distribution. You also can enter a different job queue and library for submitting the distribution job. If you enter a different job queue, it generally will allow your night processing to finish faster.

Enter **Y** to have Robot Schedule use the information entered on the Report Distribution panels. Enter **N** if you do not want Robot Schedule to use the information. If you have Robot Reports installed, you can enter **R** to use the information entered in Robot Reports for distribution.

Note: The **R** option does not work with temporary jobs created by the RBTBCHUPD command, OPAL-delayed jobs, or Submit-Delay model jobs.

```
RBT203                      Output Options                      16:14:12

Job name . . :  EMP407CMD   Weekly Labor Report        Command

Printer output control
   Output Queue  . . . . . . . . . . . :   *RBTDFT      F4
      Library . . . . . . . . . . . . :     *RBTDFT
   Print text  . . . . . . . . . . . . :   Weekly Labor Report
   Number of copies  . . . . . . . . . :    5 (1 - 255)
   Output priority . . . . . . . . . . :    _   (1 - 9)

Job date calculator (to have job date different than system date)
   Start with date type  . . . . . . . :   1   F4   System Date
   Date, Day Nbr, + or - Days  . . . . :   _____
   Equals the job date . . . . . . . . :   6/23/00 (Date used if job ran today)

Report distribution control
   Use Report Distribution?  . . . . . :   R   (Y=Yes, N=No, R=Robot/REPORTS)
   Submit distribution to job queue  :   _____   F4
      Library . . . . . . . . . . . . :     _____

F3=Exit              F4=Prompt        F10=Next Option    F12=Previous
F15=Select PreReq    F21=Command Line F23=More Options
```

If you are using Robot Reports for distribution, you can enter a different job queue and library for the report distribution job. Robot Schedule submits the job that does the report distribution after it submits the report job. Submitting distribution to a different job queue allows your night processing to finish sooner.

Control Options

Flowchart with boxes: Advanced Scheduling, Command Entry, Exception Scheduling, Output Options, Job Documentation Displays, Job Schedule List, Control Options, Job Text Entry, Initial Job Setup, Group Control, Report Distribution, Reactive Job Setup, LDA Record Entry, Job Monitors.

Connecting labels: "Schedule other than by day-of-week", "To execute commands", "Exceptions to the job's regular schedule", "To change output options", "To display job documentation", "To change job control options", "To enter more text", "If a job belongs to a group", "To distribute reports", "Enter prerequisites for a reactive job", "To pass parameters in a Local Data Area", "To monitor job schedule and send alerts".

```
RBT701        Options        15:16:39
                                    i
1=Select Option
    MAIN JOB SETUP DISPLAYS
_  > 1=Initial Job Setup
_  > 2=Advanced Scheduling
_  > 3=ROBOT Command Entry
_  > 4=Output Options
1  > 5=Control Options
    OTHER ROBOT SETUP OPTIONS
_    Group Options >
_    7=Reactive Jobs
_    8=Local Data Area Entry
_  > 9=Report Distribution
_  > 10=Exception Scheduling
                         More...

F3=Exit   F11=More Info
```

```
RBT204          Control Options              16:04:22

Job Name . . :  AGEOUTQ     Age Outq Qprint         Command

  Job Submission Options
  Job description . . :  AUTON    F4  Job Queue . . . . :  QBATCH    F4
    Library . . . . :    QGPL          Library . . . . :  QGPL
  Message Queue . . :  *RBTDFT      Library List Name :  *JOBD     F4
    Library . . . . :  *RBTDFT      User Profile . . :  QPGMR
  Message reply value: 1 Default    _ Operator Required
                                    _ System Reply _ Job Description
  Job Priority . . :  _             Job switches . . :  _____
  Current Library . :  *RBTDFT  F4  Accounting Code . :  *BLANK
                                    Initial ASP Group :  *NONE
  Other Job Control Options
  Pager Name . . . . :  *RBTDFT  F4
  Calendar Name . . :  STANDARD  F4  Environment Name . . : STANDARD  F4
  Maximum Run Minutes: ____          Action . . . : 1  End the Job   F4
  Auto Tune Pool Size for this job: _____
  Number of runs to track for Job History: __6

F3=Exit        F4=Prompt        F10=Next Option
F12=Previous    F21=Command Line    F23=More Options
```

Control Options Panel

The Control Options panel lets you change a variety of options that affect how the job is run. To display the Control Options panel, select option **5** from the job options menu.

Robot Schedule lets you define default values for the job control options by setting up job environments through the Scheduling Objects Menu. This allows you to create any number of jobs that use identical job options. The Control Options panel gives you detailed, job-by-job control of the job options. It initially defaults to Robot Schedule's STANDARD environment. If you specify ***RBTDFT** for a control option value, the actual value is retrieved from the environment named in the Environment Name field. If you later change the values in the named environment, the control option value for this job changes automatically.

```
RBT701        Options        15:16:39

1=Select Option
      MAIN JOB SETUP DISPLAYS
  _ > 1=Initial Job Setup
  _ > 2=Advanced Scheduling
  _ > 3=ROBOT Command Entry
  _ > 4=Output Options
  1 > 5=Control Options
      OTHER ROBOT SETUP OPTIONS
  _     Group Options >
  _     7=Reactive Jobs
  _     8=Local Data Area Entry
  _ > 9=Report Distribution
  _ > 10=Exception Scheduling
                          More...

F3=Exit   F11=More Info
```

Select option **5** to display the Control Options panel.

```
RBT204              Control Options              16:04:22

Job Name . . :  AGEOUTQ      Age Outq Qprint         Command

   Job Submission Options
      Job description . :  AUTON      F4  Job Queue . . . . . :  QBATCH     F4
         Library . . . . :    UGPL           Library . . . . . :    UGPL
      Message Queue . . .  *RBTDFT       Library List Name .  *JOBD      F4
         Library . . . . :  *RBTDFT        User Profile . . :  QPGMR
      Message reply value: 1 Default      _ Operator Required
                           _ System Reply _ Job Description
      Job Priority . . :  _               Job switches . . :  _____
      Current Library . :  *RBTDFT    F4  Accounting Code . :  *BLANK
                                          Initial ASP Group :  *NONE
   Other Job Control Options
      Pager Name . . . . . :  *RBTDFT    F4
      Calendar Name   . . :  STANDARD   F4  Environment Name  . . :  STANDARD   F4
      Maximum Run Minutes: ____           Action  . . . : 1  End the Job       F4
      Auto Tune Pool Size for this job: _____
      Number of runs to track for Job History:  __6

F3=Exit         F4=Prompt         F10=Next Option
F12=Previous     F21=Command Line   F23=More Options
```

Job Submission Options

Enter the job description and library for the job; the job description must be for a batch job.

Press **F4** to select a job description from a list of authorized job descriptions. **Note:** To set up authorized job descriptions, go to the System Setup Menu: Authorized Objects. For more information, see the System Setup section of this manual. You also can enter one of the following:

*RBTDFT   Uses the job description listed in the Environment for this job.

*USRPRF   Uses the job description on the user profile attached for this job.

*SBM   If this is a submit-delay model job and you want the job description to be picked up from the submitted job rather than copied from the model job.

```
RBT201                      Control Options                    16:01:22

Job Name . . :  AGEOUTQ       Age Outq Qprint            Command

  Job Submission Options
    Job description    :  AUTON_____  F4   Job Queue       :  QBATCH____  F4
      Library          :      QGPL_____      Library      :      QGPL_____
    Message Queue . . :  *RBTDFT___       Library List Name :  *JOBD_____  F4
      Library . . . . :    *RBTDFT        User Profile  . . :    QPGMR
    Message reply value: 1 Default          Operator Required
                         _ System Reply _ Job Description
    Job Priority  . . :  _               Job switches  . . :  _____
    Current Library . :  *RBTDFT___  F4  Accounting Code . :  *BLANK_____
                                         Initial ASP Group :  *NONE_____
  Other Job Control Options
    Pager Name . . . . :  *RBTDFT___  F4
    Calendar Name  . . :  STANDARD__  F4  Environment Name  . . :  STANDARD__  F4
    Maximum Run Minutes:  ____          Action  . . . . :  1  End the Job    F4
    Auto Tune Pool Size for this job:  _____
    Number of runs to track for Job History:  __6

F3-Exit          F4-Prompt          F10-Next Option
F12-Previous     F21-Command Line   F23-More Options
```

Enter the job queue and library to which Robot Schedule should submit this job.

Press **F4** to select a job queue from a list of authorized job queues. **Note:** To set up authorized job queues, go to the System Setup Menu: Authorized Objects. For more information, see the System Setup section. You also can enter one of the following:

*JOBD   Uses the job queue specified in the job description.

*RBTDFT   Uses the job queue listed in the Environment for this job.

*SBM   If this is a submit-delay model job and you want the job queue to be picked up from the submitted job rather than copied from the model job.

Job Submission Options
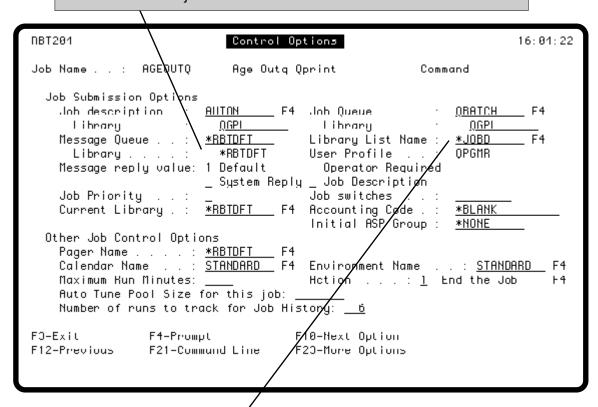
Enter the message queue and library that should receive the message returned by SBMJOB when the job completes. This is the IBM completion message; it is not a Robot Schedule message. Enter one of the following:

*NONE　　　You do not want the message returned.

*RBTDFT　　Use the value specified in the Environment for this job.

*USRPRF　　Use the message queue attached to the user profile for this job.

```
RBT201                    Control Options                    16:01:22

Job Name . . :  AGEOUTQ      Age Outq Qprint            Command

   Job Submission Options
     Job description   :   AUTON       F4   Job Queue          ·  QBATCH     F4
       Library         :   QGPL             Library          ·  QGPL
     Message Queue . . :  *RBTDFT          Library List Name :  *JOBD      F4
       Library . . . . :   *RBTDFT         User Profile  . .    QPGMR
     Message reply value: 1 Default          Operator Required
                         _ System Reply _ Job Description
     Job Priority  . . :  _              Job switches  . . :  _____
     Current Library . :  *RBTDFT     F4   Accounting Code . :  *BLANK
                                            Initial ASP Group :  *NONE
   Other Job Control Options
     Pager Name . . . . :  *RBTDFT     F4
     Calendar Name  . . :  STANDARD    F4   Environment Name   . . :  STANDARD    F4
     Maximum Run Minutes:  ____             Action  . . . : 1  End the Job    F4
     Auto Tune Pool Size for this job:  _____
     Number of runs to track for Job History:  __6

F3-Exit          F4-Prompt          F10-Next Option
F12-Previous     F21-Command Line   F23-More Options
```

The Robot Schedule Library List Management system lets you enter a list of libraries under a library list name (see Scheduling Objects). If you have defined library list names, enter the name of the library list to be used by this job. Before it runs the job, Robot Schedule sets the library list for the job to the libraries in the list. Press **F4** to select a library list. You also can enter one of the following:
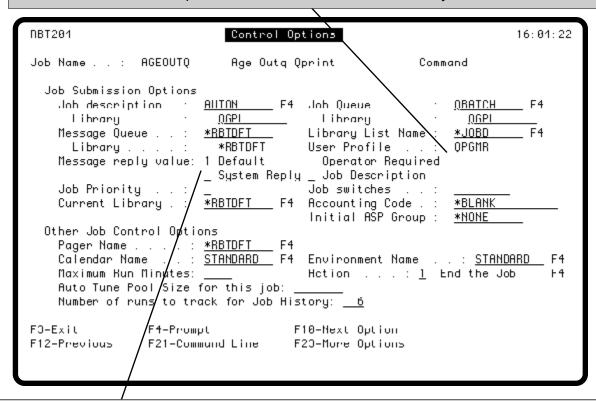
*JOBD　　　Use the library list specified in the job description.

*RBTDFT　　Use the library list specified in the Environment for the job.

Job Submission Options

Enter the user profile under which the job should run (you must be authorized to the profile). This user profile must have authority to all objects this job uses in its processing, but it cannot be QSECOFR, RBTUSER, or RBTADMIN. Robot Schedule will allow a user profile whose authority is less than the one attached to the job to copy a job. If you want to prevent users from doing this or from changing profiles, restrict them from accessing this panel (see System Setup Menu). You also can enter one of the following:

*JOBD   Use the user profile specified in the job description by its USER parameter.

*RBTDFT   Use the user profile listed in the Environment for this job.

```
NBT201                        Control Options                      16:01:22

 Job Name . . :  AGEOUTQ      Age Outq Qprint           Command

    Job Submission Options
      Job description    :  AUTON____  F4  Job Queue          :  QBATCH____  F4
        Library          :  QGPL_____      Library           :  QGPL_____
      Message Queue . . :  *RBTDFT___      Library List Name :  *JOBD_____  F4
        Library . . . . :  *RBTDFT         User Profile . . :  QPGMR
      Message reply value: 1 Default          Operator Required
                          _ System Reply  _ Job Description
      Job Priority  . . :  _              Job switches . . :  _____
      Current Library . :  *RBTDFT___ F4  Accounting Code . :  *BLANK_____
                                          Initial ASP Group :  *NONE_____

    Other Job Control Options
      Pager Name . . . . :  *RBTDFT___  F4
      Calendar Name  . . :  STANDARD__  F4  Environment Name  . . :  STANDARD__  F4
      Maximum Run Minutes:  ____           Action . . . :  1  End the Job      F4
      Auto Tune Pool Size for this job:  _____
      Number of runs to track for Job History:  __6

 F3-Exit        F4-Prompt          F10-Next Option
 F12-Previous   F21-Command Line   F23-More Options
```

Enter a **1** to select a message reply value option. Your selection tells Robot Schedule what to do if a job sends a terminal error message that requires a reply. This value does not default to the value in the Environment for the job.

Default   Use the default message reply. The default usually cancels the job. Use this option if you want the job to run unattended.

Operator Required   Do not enter a message reply; the operator must reply to the message. Use this option if tapes must be mounted or if nothing else should run if this job halts with an error message.

System Reply   Check the system reply list for the appropriate reply. We do not recommend this option. Use Robot Console, our message management system, for sophisticated unattended message handling.

Job Description   Use the message reply option in the job description.

Job Submission Options

Enter the priority (1-9) to be given the job on the job queue. If the field is blank, the job description's job priority is used.

Note: The highest priority you can enter is determined by the Highest Priority Scheduling field on your user profile. At job submission, OS/400 verifies that the submitting user profile has sufficient scheduling priority. If not, the user's Highest Priority Scheduling value is used.

Enter any job switch settings.

```
RBT204                    Control Options                      16:04:22

Job Name . . :  AGEOUTQ      Age Outq Qprint            Command

   Job Submission Options
      Job description  :   AUTON      F4  Job Queue . . . . . :   QBATCH     F4
         Library . . . . :    QGPL          Library . . . . . :    QGPL
      Message Queue      :  *RRTNFT       Library List Name :  *.INBN      F4
         Library . . . . :    *RBTDFT     User Profile  . . :   QPGMR
      Message reply value: 1 Default       _ Operator Required
                           _ System Reply _ Job Description
      Job Priority  . . :   _              Job switches  . . :   _____
      Current Library . :  *RBTDFT     F4  Accounting Code . :  *BLANK
                                           Initial ASP Group :  *NONE

   Other Job Control Options
      Pager Name . . . . :  *RBTDFT     F4
      Calendar Name  . . :  STANDARD    F4  Environment Name . . : STANDARD   F4
      Maximum Run Minutes: ____          Action  . . . : 1 End the Job       F4
      Auto Tune Pool Size for this job: _____
      Number of runs to track for Job History:  __6

 F3=Exit        F4=Prompt         F10=Next Option
 F12=Previous   F21=Command Line  F23=More Options
```

Enter the library to be used as the current library for the job. The value you enter is substituted when the job actually runs.

Enter ***CRTDFT** if you do not want a current library designated.

Enter ***RBTDFT** to use the current library listed in the job's Environment.

Enter the initial ASP Group. You can specify one of the following: *RBTDFT, *NONE, or the name of an ASP group.

If you are using Robot CPA or the job accounting journal to record job statistics, enter the account code to which the statistics for this job should be assigned.

Enter ***RBTDFT** to use the account code specified in the job's Environment.

Other Job Control Options

If you have Robot Alert installed, enter the device name to which a message should be sent if the job terminates abnormally.

Press **F4** to select a device name from a finder panel showing all defined device names.

Enter ***RBTDFT** to use the device name from the job's Environment.

```
NBT201                    Control Options                      16:01:22

Job Name . . :  AGEOUTQ     Age Outq Qprint          Command

  Job Submission Options
    Job description   ·  AUTON____ F4  Job Queue      ·   QBATCH____ F4
       Library       ·  QGPL____       Library        ·   QGPL_____
    Message Queue . . : *RBTDFT___     Library List Name : *JOBD____ F4
       Library . . . . :  *RBTDFT      User Profile  . . :  QPGMR
    Message reply value: 1 Default        Operator Required
                      _ System Reply _ Job Description
    Job Priority . . :  _             Job switches  . . :  _____
    Current Library . : *RBTDFT___ F4 Accounting Code . :  *BLANK_____
                                      Initial ASP Group :  *NONE_____

  Other Job Control Options
    Pager Name . . . . . : *RBTDFT___  F4
    Calendar Name  . . : STANDARD_  F4  Environment Name . . : STANDARD__ F4
    Maximum Run Minutes/ ____        Action . . . : 1  End the Job    F4
    Auto Tune Pool Size for this job: _____
    Number of runs to track for Job History: __6

F3-Exit          F4-Prompt          F10-Next Option
F12-Previous     F21-Command Line   F23-More Options
```

Enter the name of the calendar the job is to follow when determining working and nonworking days and fiscal month-ends (see Calendars in Scheduling Objects).

Press **F4** to select a calendar from a list of available calendars.

Enter ***RBTDFT** to use the calendar from the job's Environment.

Enter the name of the Environment for this job. Press **F4** to select an environment name from a list.

Note: You must set up Environments before they can be selected here. For information about Environments, see Scheduling Objects.
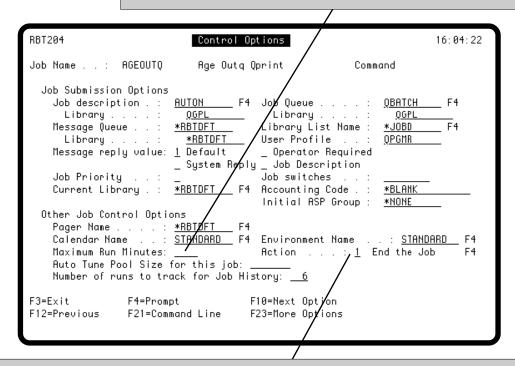
Other Job Control Options

The maximum run time option allows you to tell Robot Schedule what to do when a job runs for too long. Use this option when you have an application that might go into a loop and need to be cancelled, or when your schedule is tight. You can have Robot Schedule end the job or continue running it. If it continues running, Robot Schedule can send a warning status record and a pager message. Then, if a job is taking an unusually long time to run, you will receive a warning and can take corrective action to adjust the schedule.

Notes:
- If you specify the option to end the job, another job is submitted to batch to end it.

- You also can use job monitors to specify the action Robot Schedule should take if a job runs too long. See the Job Monitors section, later in this user guide, for more information on defining job monitors.

> If it is essential that the action specified in the next field be taken after a fixed amount of run time, enter that time limit here. The time limit can be from 1 to 1439 minutes. Leave it blank to indicate NO time limit.

```
RBT204                        Control Options                    16:04:22

Job Name . . :  AGEOUTQ      Age Outq Qprint            Command

   Job Submission Options
      Job description . . :  AUTON_____ F4  Job Queue . . . . . :  QBATCH____ F4
         Library . . . . . :   QGPL_____     Library . . . . . :    QGPL_____
      Message Queue . . :  *RBTDFT___     Library List Name :  *JOBD____ F4
         Library . . . . . :    *RBTDFT___   User Profile  . . :  QPGMR_____
      Message reply value: 1 Default      _ Operator Required
                           _ System Reply _ Job Description
      Job Priority  . . :  _              Job switches  . . :  _____
      Current Library . :  *RBTDFT___ F4  Accounting Code . :  *BLANK_____
                                          Initial ASP Group :  *NONE_____
   Other Job Control Options
      Pager Name . . . . :  *RBTDFT___ F4
      Calendar Name  . . :  STANDARD__ F4  Environment Name  . . :  STANDARD__ F4
      Maximum Run Minutes: ____         Action  . . . . :  1  End the Job    F4
      Auto Tune Pool Size for this job: _____
      Number of runs to track for Job History:  __6

F3=Exit         F4=Prompt         F10=Next Option
F12=Previous    F21=Command Line  F23=More Options
```

When the job has run for the number of minutes specified in the Maximum Run Minutes field, Robot Schedule takes the action specified in the Action field. Press **F4** to select from the following options.

1 End the Job—Cancel the job. Before selecting this option, consider the possible problems that could result from cancelling the job before it has finished processing.

2 Warning Status—Allow the job to continue running. Send a warning message to the message queue listed on this panel and create a warning status record.

3 Warn and Page—Allow the job to continue running. Send a warning message to the message queue listed on this panel and create a warning status record. Also send a message to the specified device.
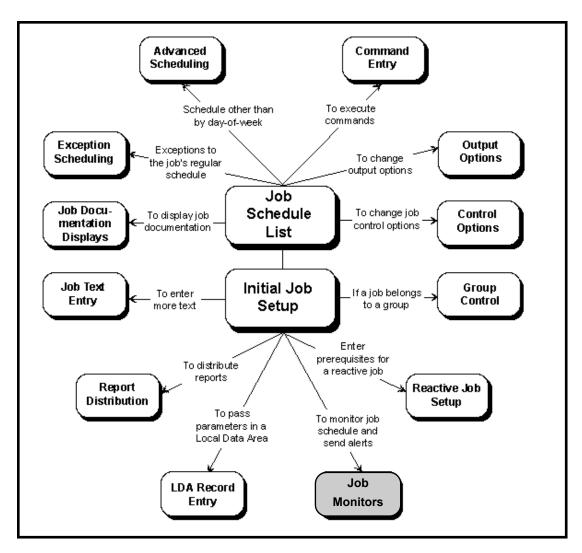
Other Job Control Options
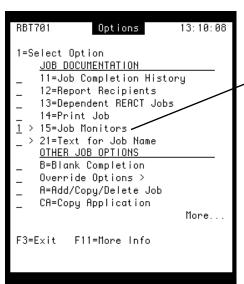
If you use Robot Autotune (the automatic performance tuning and monitoring software), enter the size (in K) of the memory pool in which this job should run. You can enter up to 7 digits. Use this value to control the amount of system resources this job can use and thus, how fast the job runs. This value does not default to the value in the Environment for the job.

```
NBT201                    Control Options                     16:01:22

Job Name . . :  AGEOUTQ      Age Outq Qprint            Command

   Job Submission Options
     Job description    :  AUTON     F4  Job Queue        :  QBATCH    F4
       Library          :  QGPL          Library          :  QGPL
     Message Queue . . :  *RBTDFT       Library List Name :  *JOBD     F4
       Library . . . . :  *RBTDFT       User Profile  . . :  QPGMR
     Message reply value: 1 Default        Operator Required
                          _ System Reply _ Job Description
     Job Priority . . :  _              Job switches  . . :  _____
     Current Library . :  *RBTDFT   F4  Accounting Code . :  *BLANK
                                        Initial ASP Group :  *NONE
   Other Job Control Options
     Pager Name . . . . :  *RBTDFT    F4
     Calendar Name  . . :  STANDARD   F4  Environment Name  . . :  STANDARD  F4
     Maximum Run Minutes:  ____          Action  . . . :  1  End the Job    F4
     Auto Tune Pool Size for this job: _____
     Number of runs to track for Job History:  __6_

F3-Exit          F4-Prompt            F10-Next Option
F12-Previous     F21-Command Line     F23-More Options
```

Enter the number of runs to be maintained in Job History. Job History also is used to determine the average run time for this job. The average run time is used when forecasting the effect of this job on the run schedule (see Schedule Forecasting). Robot Schedule also uses the value specified in this field when performing an automatic purge of completion history (see System Setup).

Job Monitors

■ Introduction to Job Monitors

Job monitors allow you to monitor your job schedule for specific events, such as jobs that run too long, complete too quickly, or start later than their scheduled run time. You can specify the criteria for each monitored job at setup time. You also specify what Robot Schedule should do if it identifies a job monitor event. Robot Schedule can end a job or notify you by sending a message to the job's message queue; sending a text, email, or pager message via Robot Alert; or sending a status to the Robot Network Status Center.

When a monitored job reaches one or more of the criteria defined on the Job Monitors panel, Robot Schedule takes the specified action and enters a record in the job monitor event log.

The Job Monitor Events Report lists all monitored events that have occurred on the system. You can print the report from the Job History Report Selection panel. See Printing the Job Monitor Events Report, in the Control Menu section of this user guide, for more information. You also can view the job monitor event log from the Robot Schedule GUI to see the types of events that occurred and the actions taken in response to the event.

You can specify whether to purge the job monitor log and how many job monitor events to retain in the log from the General System Defaults panel.

■ Specifying Job Monitors

Keep the following considerations in mind when specifying job monitors:

- You can define job monitors for any Command- or Program-type job. You cannot define job monitors for Group-type jobs. However, a job that has a job monitor specified can be a member of a group. The job monitor works the same when the job is run as a group member as when the job is run according to its independent schedule.

- The Maximum Run Minutes field on the Control Options panel also allows you to specify an action to take if a job runs longer than the specified time. Except for Group-type jobs, you can specify both job monitor and maximum run time controls. The two features function completely independently of one another.

- You can enter job monitor values even when no monitoring is selected. For example, you can specify job overrun maximum duration values even if job overrun monitoring is not selected. This allows you to disable a monitor, and then re-enable it later, without losing the job monitor settings.
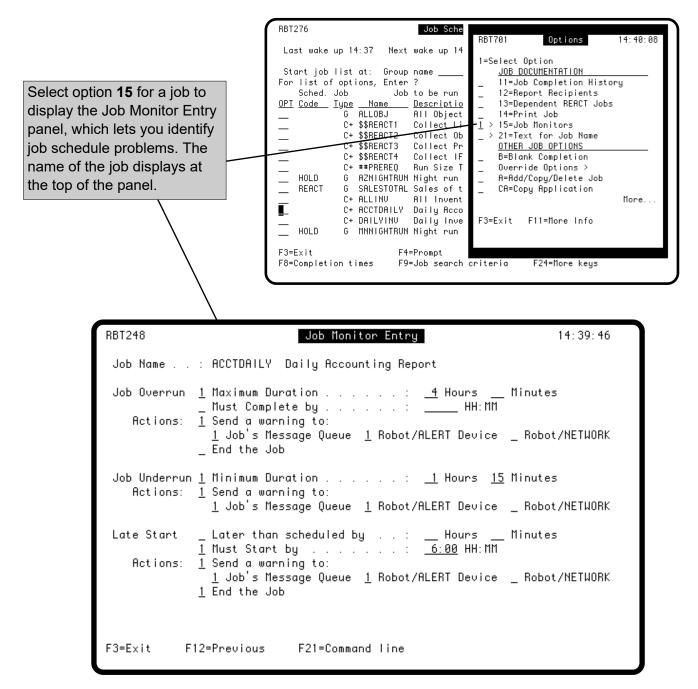
- The range of values allowed for monitor settings that define a duration (Job Overrun - Maximum Duration and Late Start - Later than scheduled by) is 00:01 to 23:59 (one minute through 23 hours 59 minutes).

- If you select to send a warning to a Robot Alert device, a device name must be specified on the job or in the job environment. If no device name is specified, you cannot select this option. **Note:** If the specified device is removed after the job monitor is set up, the job monitor is not changed.

- Deleting a job also deletes all job monitor events associated with that job.

- You cannot enter job monitor values if the job is a reactive job with dependencies of Skip (K) or Delay (D).

Specifying Job Monitors

Use the Job Monitor Entry panel to set Job Overrun, Job Underrun, and Late Start options for the job. The options are independent of one another; you can use one, two, or all three. Robot Schedule includes these options to help you identify job schedule problems quickly .

The job monitors allow you to specify if Robot Schedule should end the job, or notify you in three ways: send a message to the job's message queue; send a text, e-mail, or pager message to the Robot Alert device specified for the job (if Robot Alert is installed on your system); and send a status to the Robot Network Status Center (if Robot Network is installed). If you don't select to send a warning, Robot Schedule writes the event to the job completion history and the job monitor event log.

Select option **15** for a job to display the Job Monitor Entry panel, which lets you identify job schedule problems. The name of the job displays at the top of the panel.

```
RBT276                    Job Sche
                                        ┌─────────────────────────────────────┐
                                        │ RBT701          Options     14:40:08 │
  Last wake up 14:37   Next wake up 14  │                                      │
                                        │ 1=Select Option                      │
  Start job list at:  Group name _____  │     JOB DOCUMENTATION                │
 For list of options, Enter ?           │  _  11=Job Completion History        │
    Sched. Job         Job to be run    │  _  12=Report Recipients             │
 OPT Code  Type   Name    Descriptio    │  _  13=Dependent REACT Jobs          │
  _        G  ALLOBJ    All Object       │  _  14=Print Job                     │
  _        C+ $$REACT1  Collect Li     ──┼─ 1  > 15=Job Monitors                │
  _        C+ $$REACT2  Collect Ob      │  _  > 21=Text for Job Name           │
  _        C+ $$REACT3  Collect Pr      │     OTHER JOB OPTIONS                 │
  _        C+ $$REACT4  Collect IF      │  _  B=Blank Completion               │
  _        C+ ##PREREQ  Run Size T      │  _  Override Options >               │
  __ HOLD  G  AZNIGHTRUN Night run      │  _  A=Add/Copy/Delete Job            │
  __ REACT G  SALESTOTAL Sales of t     │  _  CA=Copy Application              │
           C+ ALLINV    All Invent      │                            More...   │
  ▌        C+ ACCTDAILY Daily Acco       │                                      │
  _        C+ DAILYINV  Daily Inve      │ F3=Exit   F11=More Info              │
  __ HOLD  G  MNNIGHTRUN Night run      │                                      │
                                        └─────────────────────────────────────┘
 F3=Exit                F4=Prompt
 F8=Completion times    F9=Job search criteria     F24=More keys
```

```
RBT248                    Job Monitor Entry                14:39:46

  Job Name . . : ACCTDAILY  Daily Accounting Report

  Job Overrun  1 Maximum Duration . . . . . . . :  _4 Hours  __ Minutes
               _ Must Complete by . . . . . . . :  _____ HH:MM
     Actions:  1 Send a warning to:
                 1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
               _ End the Job

  Job Underrun 1 Minimum Duration . . . . . . . :  _1 Hours  15 Minutes
     Actions:  1 Send a warning to:
                 1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK

  Late Start   _ Later than scheduled by  . . :  __ Hours  __ Minutes
               1 Must Start by . . . . . . . . :  _6:00 HH:MM
     Actions:  1 Send a warning to:
                 1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
               1 End the Job




  F3=Exit     F12=Previous     F21=Command line
```

Specifying the Job Overrun Monitor

The Job Overrun job monitor allows you to specify what actions Robot Schedule should take if a job runs longer than it should. You can specify either a maximum time (in hours and minutes) the job should take to complete or a time by which the job should finish. You can enter values even if you have not selected the job monitor. Job monitoring will not take place until you select either Maximum Duration or Must Complete by.

Select Must Complete by to monitor a job based on a time by which the job should finish. Then, enter the time by which the job should have completed.

Notes:
- Must Complete by is not valid if the job is an EVERY-type job.

- If you enter a Must Complete by time, the time must be a valid time. For jobs that run over midnight, enter the complete by time as an early morning time. For example, if the job starts at 23:30, enter the complete by time as 1:15. If the job doesn't complete by 1:15 a.m., a job monitor event will occur.

Select Maximum Duration to monitor a job based on how long it takes to complete.

Then, enter the maximum time (in hours and minutes) the job can take to complete.

```
RBT248                      Job Monitor Entry                    14:39:46

 Job Name . . :  ACCTDAILY  Daily Accounting Report

 Job Overrun  1 Maximum Duration . . . . . . :   _4 Hours  __ Minutes
              _ Must Complete by . . . . . . :   _____ HH:MM
    Actions:  1 Send a warning to:
                1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
              _ End the Job

 Job Underrun 1 Minimum Duration . . . . . . :   _1 Hours  15 Minutes
    Actions:  1 Send a warning to:
                1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK

 Late Start   _ Later than scheduled by  . . :  __ Hours  __ Minutes
              1 Must Start by  . . . . . . . :   6:00 HH:MM
    Actions:  1 Send a warning to:
                1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
              1 End the Job



 F3=Exit      F12=Previous     F21=Command line
```

Specify the action(s) Robot Schedule should take if the job does not complete in the time allowed.
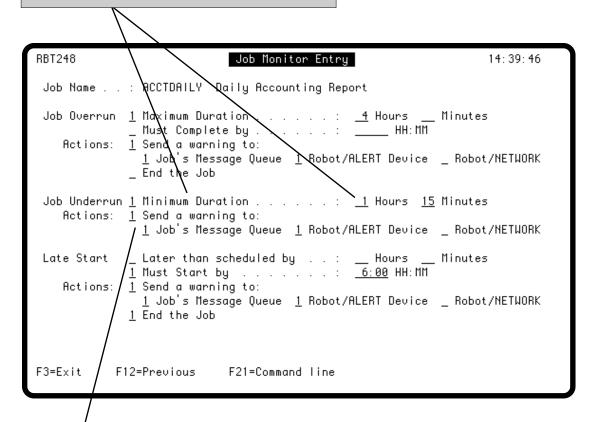
You can select both Send a warning to and End the Job. If you select to send a warning, you can select any combination, but must select at least one, of the following: Job's Message Queue, Robot Alert Device, or Robot Network. If you don't select to send a warning, Robot Schedule writes the event to the job completion history and the job monitor event log. Robot Schedule can end the job only if it has been submitted and is on a job queue or running.

Specifying the Job Underrun Monitor

 The Job Underrun job monitor allows you to specify what actions Robot Schedule should take if a job completes too quickly. You can specify a minimum run time for the job. You can enter a value even if you have not selected the job monitor. Job monitoring will not take place until you select Minimum Duration.

Select Minimum Duration to monitor a job based on if it completes too soon.

Then, enter the minimum time (in hours and minutes) the job should run before completing. **Note:** You must enter a minimum duration if you select job underrun monitoring.

```
RBT248                      Job Monitor Entry                    14:39:46

  Job Name . . : ACCTDAILY  Daily Accounting Report

  Job Overrun  1 Maximum Duration . . . . . . :  _4 Hours  __ Minutes
               _ Must Complete by . . . . . . :  _____ HH:MM
      Actions: 1 Send a warning to:
                 1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
               _ End the Job

  Job Underrun 1 Minimum Duration . . . . . . :  _1 Hours  15 Minutes
      Actions: 1 Send a warning to:
                 1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK

  Late Start   _ Later than scheduled by  . . :  __ Hours  __ Minutes
               1 Must Start by  . . . . . . . :  _6:00 HH:MM
      Actions: 1 Send a warning to:
                 1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
               1 End the Job




  F3=Exit     F12=Previous      F21=Command line
```

Specify where Robot Schedule should send a warning if the job completes faster than the time specified.

You can select any combination, but must select at least one, of the following: Job's Message Queue, Robot Alert Device, or Robot Network. If you don't select to send a warning, Robot Schedule writes the event to the job completion history and the job monitor event log.

Specifying the Late Start Job Monitor

The Late Start job monitor allows you to specify what actions Robot Schedule should take if a job starts later than its scheduled run time. You can enter either the maximum amount of time (in hours and minutes) after its scheduled run time that the job can start or the latest time by which the job must start. You can enter values even if you have not selected the job monitor. Job monitoring will not take place until you select either Later than scheduled by or Must Start by.
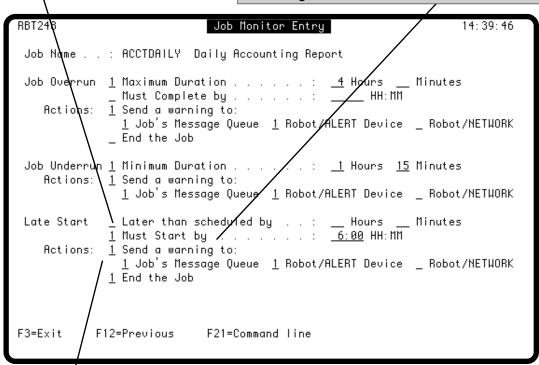
Select Later than scheduled by to monitor a job based on whether it starts later than its scheduled run time.

Then, enter the maximum time (in hours and minutes) after its scheduled run time that the job can start.

Select Must Start by to monitor a job based on a time by which the job should start. Then, enter the time by which the job should have started.

Notes:
- Must Start by is not valid if the job is an EVERY-type job.
- If you enter a Must Start by time, the time must be a valid time.
- The job must be included in the internal forecast (*INTERNAL) for the Late Start monitor action to be recognized.
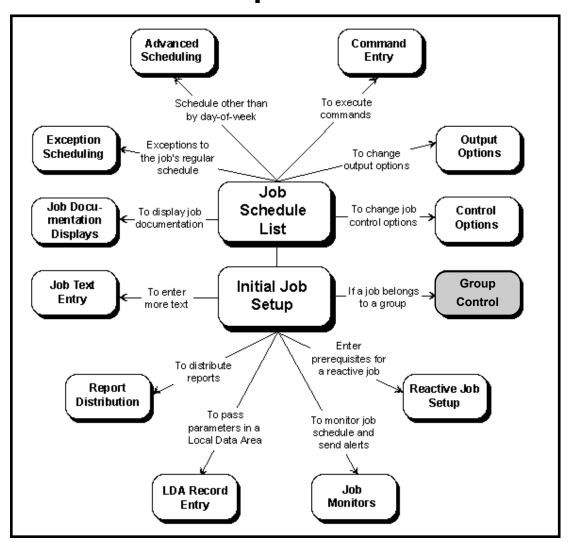
```
RBT248                        Job Monitor Entry                    14:39:46

   Job Name . . : ACCTDAILY  Daily Accounting Report

   Job Overrun  1 Maximum Duration . . . . . . :   4 Hours  __ Minutes
                _ Must Complete by . . . . . . :  _____ HH:MM
        Actions:  1 Send a warning to:
                  1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
                _ End the Job

   Job Underrun 1 Minimum Duration . . . . . . :   1 Hours  15 Minutes
        Actions:  1 Send a warning to:
                  1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK

   Late Start   1 Later than scheduled by  . . :  __ Hours  __ Minutes
                1 Must Start by . . . . . . . :   6:00 HH:MM
        Actions:  1 Send a warning to:
                  1 Job's Message Queue  1 Robot/ALERT Device  _ Robot/NETWORK
                  1 End the Job



   F3=Exit      F12=Previous      F21=Command line
```

Specify the action(s) Robot Schedule should take if the job does not start within the time specified.

You can select both Send a warning to and End the Job. If you select to send a warning, you can select any combination, but must select at least one, of the following: Job's Message Queue, Robot Alert Device, or Robot Network. If you don't select to send a warning, Robot Schedule writes the event to the job completion history and the job monitor event log. Robot Schedule can end the job only if it has been submitted and is on a job queue or running.

Group Control

Diagram showing relationships:

- **Advanced Scheduling** — Schedule other than by day-of-week
- **Command Entry** — To execute commands
- **Exception Scheduling** — Exceptions to the job's regular schedule
- **Output Options** — To change output options
- **Job Schedule List** (central)
- **Job Documentation Displays** — To display job documentation
- **Control Options** — To change job control options
- **Job Text Entry** — To enter more text
- **Initial Job Setup** (central)
- **Group Control** — If a job belongs to a group
- **Report Distribution** — To distribute reports
- **Reactive Job Setup** — Enter prerequisites for a reactive job
- **LDA Record Entry** — To pass parameters in a Local Data Area
- **Job Monitors** — To monitor job schedule and send alerts


```
RBT701        Options          13:22:32

1=Select Option
      MAIN JOB SETUP DISPLAYS
_  >  1=Initial Job Setup
_  >  2=Advanced Scheduling
_     3=ROBOT Command Entry
_  >  4=Output Options
_     5=Control Options
      OTHER ROBOT SETUP OPTIONS
1     Group Options >
_     7=Reactive Jobs
_     8=Local Data Area
_     9=Report Distribu
_  > 10=Exception Sche


F3=Exit   F11=More I
```

```
RBT705        Options          13:23:06

1=Select Option
      Group Options Sub-Menu
1     6=Group Control Job
_     18=Group Members
_     19=Group Membership
_     20=Group Completion History




                              Bottom
F3=Exit  F11=More Info  F12=Cancel
```

```
RBT206                    Group Control                    14:55:14

Job Name . . :  CLOSIT       Monthly closing procedure

Group Name . . :  CLOMON


        GROUP CONTROL OPTIONS WHICH APPLY TO ALL JOBS IN A GROUP

Use group control options for all jobs in group   1  (1=Select)

Stop processing group if one job fails            1  (1=Select)

Use group control start date as the start date
of all group member jobs                          1  (1=Select)




F3=Exit              F10=Next Option       F12=Previous
F21=Command Line     F23=More Options
```

■ **Group Jobs That Run Together**

Robot Schedule lets you group several jobs together under the control of a group control job. The group control job contains the run schedule for the group; it also can contain the control options for all jobs in the group. By entering these values only once, you save time and avoid errors.

It's easy to find group control jobs on the Job Schedule List because they are designated by a Job Type of **G** on the list. To see a group control job and its group members together on the Job Schedule List, press **F9** and select the sort option **Group with members**.

A second sort option on the Job Schedule List for working with groups that also might come in handy is **Group control job name**. This option shows you only your group control jobs in alphabetical order.

■ **Groups are Flexible**

Groups are very flexible. Look at the diagram below. The group member record forms a bridge between the group control job and the Robot Schedule jobs that are members of the group. By connecting the two in this way, you gain the power to use the same job in different groups or to run it independently.

When you are running the job as member of the group, you can use exception scheduling options to create exceptions to the schedule on the group member record. For example, you can attach a date object to the member that indicates dates the member should NOT run. The group continues just as if the member were no longer part of the group. In addition, you can attach OPAL objects that can skip or delay a job unless conditions are just right.

Notice the Robot Schedule jobs shown in the diagram, too. If you have Robot Schedule on remote IBM i, group members can reside on those systems. The capability to include group members on remote IBM i allows you to have a master Robot Schedule that controls the running of remote Robot Schedule jobs. If you have Robot Schedule Enterprise, you can do the same thing with your Windows, UNIX, and Linux servers. Jobs that run on your servers can be part of a group. In fact, you could create a group control job that controls nothing but server jobs.

The group control job shows a status of running until all members of the group, including members on remote systems, end. If all the jobs in the group complete normally, the group control job shows a status of **C** on the Group Completion History panel. If any member ends abnormally, the group control job shows a status of **T**.

Tip: We recommend that you limit the number of jobs in a group to 99 or fewer. If you have a larger number of jobs that you logically group together, you can set them up in multiple groups so that one group control job reacts to the completion of another. Since the group control job does not have a status of C until the last member finishes normally, it makes it easy to have another group control job react to the completion of the first. In addition, you can change which jobs are members of a group without affecting the group that reacts to it.

■ **Dependent Groups Create Procedures**

You can create two different types of groups. The most common type of group is a dependent group. You might create a dependent group to control the execution of procedures. You can easily enter procedures such as monthly, quarterly, and annual closings as dependent group jobs.

By scheduling these procedures as group jobs, you can document their submission options, programs, and processing sequence. And, you can enter job text to further document each job. Finally, Robot Schedule lets you print this documentation in presentable form.

■ **Crash Protection**

Robot Schedule runs the procedure exactly as you have instructed, and you have the benefit of crash protection.

A dependent group provides crash protection because you can choose to have Robot Schedule stop processing the group if any job in the group fails. If you select this option, Robot Schedule does not submit the next job in the group until the previous job has completed successfully. Each job in the group is dependent on the jobs before it.

For example, if a program in your group of monthly closing procedures fails, Robot Schedule can stop processing the group and notify you. You can then fix the problem and restart the group at any job in the group. To do so, you just enter the schedule override code **S** next to the job on the Job Schedule List. Robot Schedule resumes processing the group at the selected job.

■ Independent Group Members are Submitted at the Same Time

Robot Schedule also lets you create a second type of group, called an independent group, because Robot Schedule submits all jobs in the group at the same time. The jobs in the group are *not* dependent on each other. In this case, each job runs without regard to the completion status of other jobs in the group.

■ DS (DO Special) With Group Jobs

The DS override code functions differently with group jobs. You can select the DS option and apply one, two, or all three of its options to all members of the group. The DS options work with group jobs as follows:

- DO with OPAL—All group members with OPAL are run as usual

- DO without reactivity—All group members, including the group control job, run but do not cause reactivity

- DO and set to run at scheduled time—If the job is scheduled to run only once the day that the DS option is selected, the job runs immediately and at the scheduled time.

■ How to Set Up a Group of Jobs
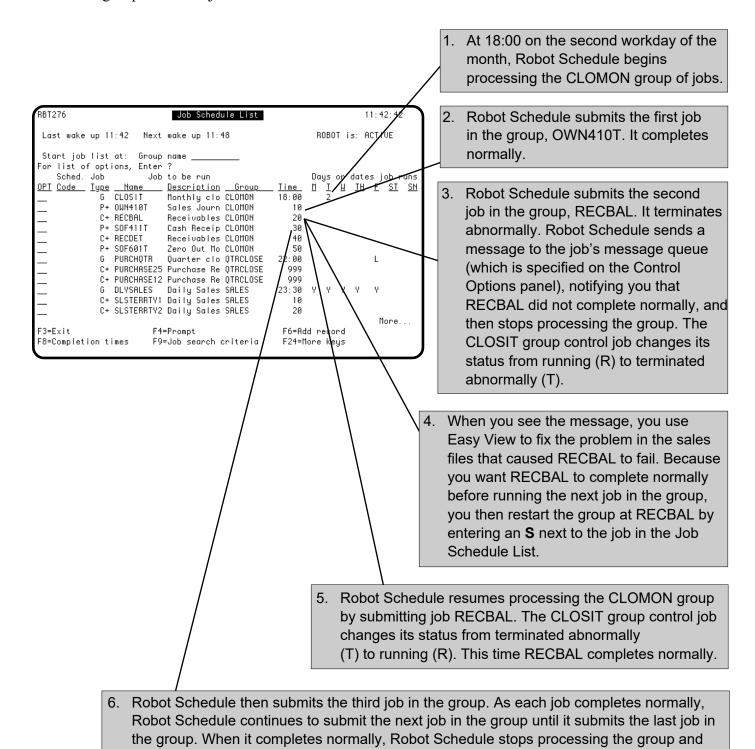
It's easy to set up a group control job and put jobs into the group. Just follow these steps:

1. Create a job record; specify its job type as Group, enter its name, and enter the schedule for the group.

2. Choose its group control options on the Group Control panel (select the group control job from the Job Schedule List with option 6).

3. Create the jobs to be included in the group, if they do not already exist.

4. To add a job to the group, select the group control job from the Job Schedule List with option 18 (Group Members).

5. In the Group Members panel, press **F6** to select jobs from the local system; press **F15** to select jobs from remote systems.

Each of these steps is explained on the next few pages.

Running a Dependent Group

The following is an example of how Robot Schedule runs a dependent group. It also shows how you restart the group when one job fails.

1. At 18:00 on the second workday of the month, Robot Schedule begins processing the CLOMON group of jobs.

2. Robot Schedule submits the first job in the group, OWN410T. It completes normally.

```
RBT276                     Job Schedule List                    11:42:42

 Last wake up 11:42   Next wake up 11:48              ROBOT is: ACTIVE

 Start job list at:  Group name _____
For list of options, Enter ?
   Sched. Job           Job to be run               Days or dates job runs
OPT Code  Type   Name      Description   Group   Time   M  T  W  TH  F  ST  SN
 __        G  CLOSIT     Monthly clo CLOMON   18:00      2
 __        P+ OWN410T    Sales Journ CLOMON      10
 __        C+ RECBAL     Receivables CLOMON      20
 __        P+ SOF411T    Cash Receip CLOMON      30
 __        C+ RECDET     Receivables CLOMON      40
 __        P+ SOF601T    Zero Out Mo CLOMON      50
 __        G  PURCHQTR   Quarter clo QTRCLOSE 22:00              L
 __        C+ PURCHASE25 Purchase Re QTRCLOSE    999
 __        C+ PURCHASE12 Purchase Re QTRCLOSE    999
 __        G  DLYSALES   Daily Sales SALES    23:30  Y  Y  Y  Y  Y
 __        C+ SLSTERRTY1 Daily Sales SALES       10
 __        C+ SLSTERRTY2 Daily Sales SALES       20
                                                            More...
F3=Exit                 F4=Prompt            F6=Add record
F8=Completion times     F9=Job search criteria   F24=More keys
```

3. Robot Schedule submits the second job in the group, RECBAL. It terminates abnormally. Robot Schedule sends a message to the job's message queue (which is specified on the Control Options panel), notifying you that RECBAL did not complete normally, and then stops processing the group. The CLOSIT group control job changes its status from running (R) to terminated abnormally (T).

4. When you see the message, you use Easy View to fix the problem in the sales files that caused RECBAL to fail. Because you want RECBAL to complete normally before running the next job in the group, you then restart the group at RECBAL by entering an **S** next to the job in the Job Schedule List.

5. Robot Schedule resumes processing the CLOMON group by submitting job RECBAL. The CLOSIT group control job changes its status from terminated abnormally (T) to running (R). This time RECBAL completes normally.

6. Robot Schedule then submits the third job in the group. As each job completes normally, Robot Schedule continues to submit the next job in the group until it submits the last job in the group. When it completes normally, Robot Schedule stops processing the group and the status of the group control job CLOSIT changes from running (R) to completed normally (C). Thus, just by looking at the group control job's completion status, you can tell at a glance whether or not the group completed normally.

Step 1: Create the Group Control Job and Schedule the Group

The first step in creating a group is to create the group control job. To do so, select job type **Group** on the Initial Job Setup panel. Then, fill in descriptive information for the record and enter the schedule for the group. To select an advanced scheduling option for the group, press **F23** to display the job options window and select option **2** to display the Advanced Scheduling panel .

Enter a **G** to set up a Group Control Job. Or, press **F4** to display a prompt panel of all job types and select **Group**.

When you press Enter to record the information about the group control job, Robot Schedule sees that this is a group control job, displays the Group Name field, and asks you for a name. Enter any logical name up to 10 characters in length.

```
RBT201           Initial Job Setup for Job Number 000000000026        15:00:34

                            DESCRIBE YOUR JOB
Job Type: G Group                       (F4=Prompt)       Grp Name: CLOMON____
Job Name: CLOSIT____  Desc: Monthly closing procedure  Application: SALES_____
Notes:   Close out sales and receivables for the month
             Advanced Scheduling Information is being used for this job
                            RUN INFORMATION
Run Times: 18:00 _____ _____ _____ _____ _____ _____ _____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day____    Started   Ended   Run Time   Status  Last day completed
  _    Monday                                          Last start time
  _    Tuesday                                         Last end time
  _    Wednesday                                       Last run time
  _    Thursday                                        Last job status
  _    Friday
  _    Saturday
  _    Sunday
Schedule Override Code: __        (F4=Prompt)

F3=Exit              F4=Prompt                F10=Next Option
F12=Previous         F21=Command Line         F23=More Options
```

The group of jobs controlled by this record is scheduled to run at 6 p.m. on the days selected by the Advanced Scheduling option chosen.

Press **F10** to display the Group Control panel for this job.

Step 2: Select Group Control Options for the Group

On the Group Control panel for the group control job, specify the group control options that you want for the group. You can display the Group Control panel by selecting option **6** from the job options menu on the Job Schedule List. After you've completed your entries, return to the Job Schedule List and enter option **18** next to the group control job to display the Group Members panel.
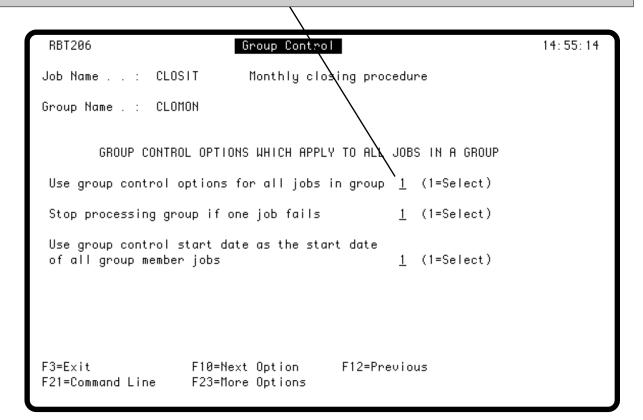
Enter a **1** to have every job in the group use the control options and output options specified for the group control job (see the exceptions shown below). Use this option to avoid entering control options for every job. The job date calculator also is used for each group member, regardless of their individual setup (see the exceptions shown below).

Leave this field blank to use each job's individual options.

Note: If the group has members on remote systems, this option does NOT affect those members.

Exceptions:
• If you select this option also have specified 7 (Prereq Job Start Date) in the Start with date type field on the Output Option panel, that option is not passed to the members in the group.
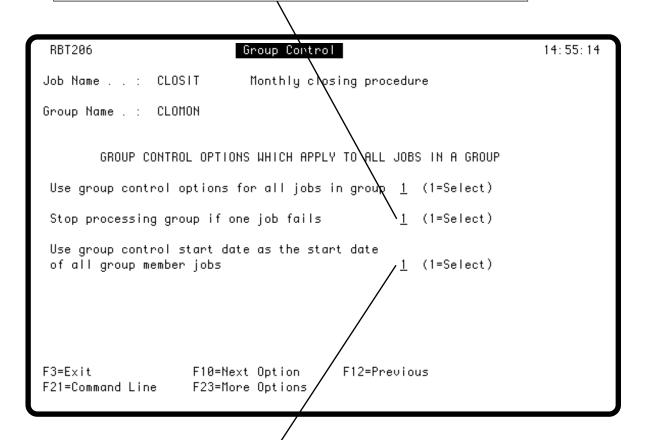
• If you select this option, also select Use group control start date as the start date of all group member jobs, AND have specified a Job date calculator option on the Output Options panel, the Job date calculator options are not used for the job start date for the members. The group control start date is used as the start date for all members.

• If you select this option, you cannot select Use Report Distribution on the Output Options panel of the group control job.

```
 RBT206                     Group Control                        14:55:14

 Job Name . . :  CLOSIT        Monthly closing procedure

 Group Name . :  CLOMON


            GROUP CONTROL OPTIONS WHICH APPLY TO ALL JOBS IN A GROUP

  Use group control options for all jobs in group   1   (1=Select)

  Stop processing group if one job fails            1   (1=Select)

  Use group control start date as the start date
  of all group member jobs                          1   (1=Select)




    F3=Exit           F10=Next Option      F12=Previous
    F21=Command Line  F23=More Options
```

Step 2: Select Group Control Options for the Group

Enter a **1** if the group is a dependent group. If so, each job in the group is submitted only after the preceding job in the sequence has completed normally. If a job terminates abnormally, Robot Schedule stops processing the group. You then can restart the group at any job in the sequence.

Leave this field blank if the group is an immediate group. All jobs in the group are submitted at the same time, one immediately after another, without regard to any abnormal job terminations.

```
 RBT206                      Group Control                         14:55:14

 Job Name . . :  CLOSIT       Monthly closing procedure

 Group Name . :  CLOMON


          GROUP CONTROL OPTIONS WHICH APPLY TO ALL JOBS IN A GROUP

  Use group control options for all jobs in group  1  (1=Select)

  Stop processing group if one job fails            1  (1=Select)

  Use group control start date as the start date
  of all group member jobs                          1  (1=Select)




  F3=Exit             F10=Next Option      F12=Previous
  F21=Command Line    F23=More Options
```

Enter a **1** to use the group control job's start date as the job date for all group members. For example, if the group starts on one day and runs past midnight, this option gives all members the same job date.
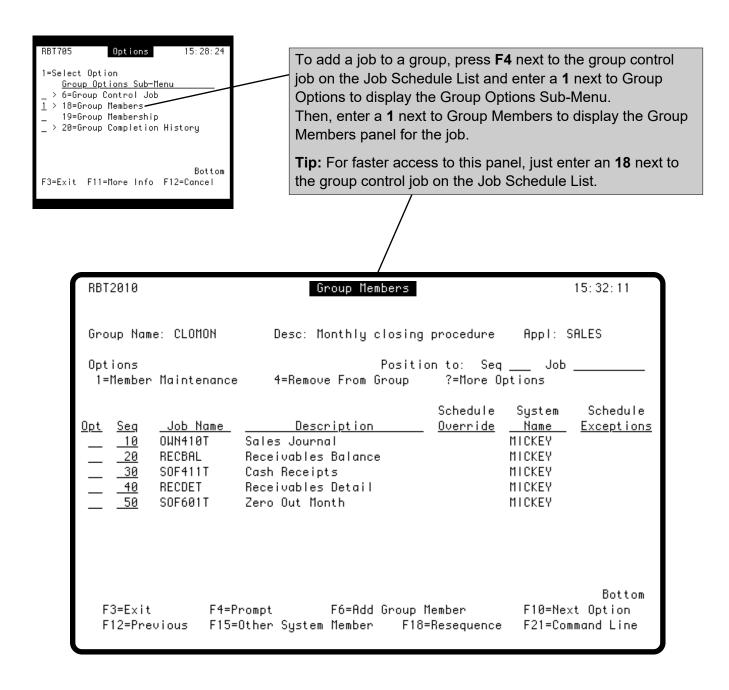
Date objects use the date that this option determines.

Leave this field blank if you want the job date to reflect the actual system date when the job runs.

Note: If the group has members on remote systems, this option does NOT affect those members.
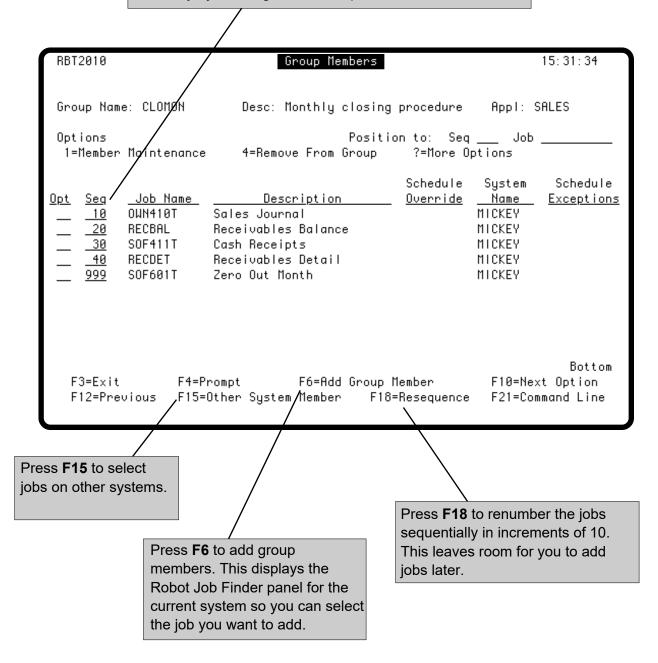
Step 3: Add Jobs to the Group

After you create the group control job and select your group control options, your next step is to add jobs to the group. If you want to create new jobs to add to the group, set them up and then return to this step. On the Job Schedule List, select the group control job with option **18** to display the Group Members panel. Then, press **F6** to select jobs from the local system or **F15** to select jobs from remote systems. You can select any type of job, *except another group control job,* as a group member. If an individual job has a schedule, it is overridden by the group schedule when it runs as part of the group. Control options for individual jobs also are overridden if you selected that Group Control option.

```
RBT705        Options        15:28:24

1=Select Option
     Group Options Sub-Menu
 _  > 6=Group Control Job
 1  > 18=Group Members
 _    19=Group Membership
 _  > 20=Group Completion History


                            Bottom
F3=Exit  F11=More Info  F12=Cancel
```

To add a job to a group, press **F4** next to the group control job on the Job Schedule List and enter a **1** next to Group Options to display the Group Options Sub-Menu.
Then, enter a **1** next to Group Members to display the Group Members panel for the job.

Tip: For faster access to this panel, just enter an **18** next to the group control job on the Job Schedule List.

```
RBT2010                    Group Members                  15:32:11


  Group Name: CLOMON      Desc: Monthly closing procedure    Appl: SALES

  Options                              Position to:  Seq ___  Job _____
   1=Member Maintenance     4=Remove From Group    ?=More Options

                                       Schedule   System    Schedule
 Opt   Seq    Job Name        Description        Override   Name    Exceptions
  __    10   OWN410T    Sales Journal                       MICKEY
  __    20   RECBAL     Receivables Balance                 MICKEY
  __    30   SOF411T    Cash Receipts                       MICKEY
  __    40   RECDET     Receivables Detail                  MICKEY
  __    50   SOF601T    Zero Out Month                      MICKEY




                                                             Bottom
    F3=Exit        F4=Prompt       F6=Add Group Member      F10=Next Option
    F12=Previous   F15=Other System Member    F18=Resequence  F21=Command Line
```

Group Control

Step 3: Add Jobs to the Group

Use the **Seq** field to arrange the group members of a dependent group in the order you want each job to process. As jobs are added to the group, Robot Schedule gives them a sequence number of 999. Press **F18** to renumber the jobs sequentially. You also can renumber the jobs manually by entering the new sequence numbers.

```
RBT2010                        Group Members                      15:31:34


Group Name: CLOMON         Desc: Monthly closing procedure    Appl: SALES

Options                                   Position to:  Seq ___  Job _____
 1=Member Maintenance        4=Remove From Group     ?=More Options

                                           Schedule   System    Schedule
Opt  Seq    Job Name          Description   Override   Name     Exceptions
 __   10   OWN410T    Sales Journal                   MICKEY
 __   20   RECBAL     Receivables Balance             MICKEY
 __   30   SOF411T    Cash Receipts                   MICKEY
 __   40   RECDET     Receivables Detail              MICKEY
 __  999   SOF601T    Zero Out Month                  MICKEY


                                                                  Bottom
  F3=Exit        F4=Prompt        F6=Add Group Member    F10=Next Option
  F12=Previous   F15=Other System Member     F18=Resequence  F21=Command Line
```

Press **F15** to select jobs on other systems.

Press **F6** to add group members. This displays the Robot Job Finder panel for the current system so you can select the job you want to add.

Press **F18** to renumber the jobs sequentially in increments of 10. This leaves room for you to add jobs later.

Sorting by Groups on the Job Schedule List
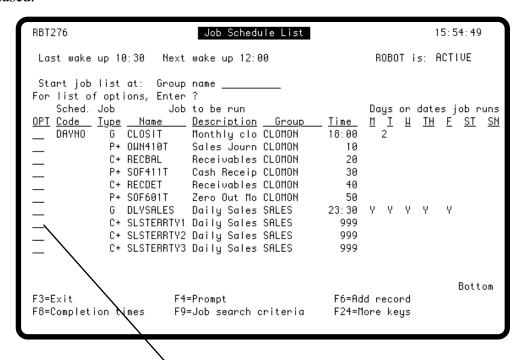
After you have added jobs to the group, the group will run as scheduled in the group control job. If you sort the jobs in the Job Schedule List using the Group with members option, the local jobs in the group are listed after the group control job in their sequence number order. Check that the jobs are ordered correctly so that the data required for each is available when that job is run.

Note: Group members that reside and run on remote systems are NOT listed on the Job Schedule List. However, you can see them on the Group Members panel (option 18 from the Job Schedule List).

Press **F9** to display the Search Options window. Select the Group with members option and press Enter.

The Job Schedule List is reorganized by the new criteria. It lists the local jobs in the group after the group control job in their sequence number order. To change the sort criteria, press **F9** again and select a different sort option.

```
RBT276                    Job Schedule List                 15:57:44

   Last wake up 10:30   Next wake up 12:00            ROBOT is: ACTIVE

    Start job list at:  Job name _____
  For list of options, Enter ?
     Sched. Job          Job to  RBT702   Search Options   15:57:47    job runs
  OPT Code   Type   Name          __                     MICKEY       F  ST  SN
   __                               1=Select Option
   __             C  ACCTRCVRPT Da  _    Time - Ascending              Y
   __             C  BACKUP1    Ev  _    Time - Descending
   __             C  BUYERLIST  Sa  _    Job name                      Y
   __  DAYNO      G  CLOSIT     Mo  _    Group control job name
   __             C  DLYAPRPT   Da  1    Group with members            Y
   __             G  DLYSALES   Da                        More...       Y
   __             P  EMPHRS     We   F3=Exit
   __             C  EMP407CMD  We                                      Y
   __             C  EMP432     Ho                                      Y  Y  Y
   __             W  EXCEL         Monthly Reconciliation 00:00
   __             C  FORECAST1     Sales Forecast Rep1    05:00  Y    Y  Y    Y
                                                                      More...
  F3=Exit              F4=Prompt                   F6=Add record
  F8=Completion times  F9=Job search criteria      F24=More keys
```

```
RBT276                    Job Schedule List                 15:54:49

   Last wake up 10:30   Next wake up 12:00            ROBOT is: ACTIVE

    Start job list at: [Group name __ __ __ __ ]
  For list of options, Enter ?
     Sched. Job          Job to be run                 Days or dates job runs
  OPT Code   Type   Name   Description   Group   Time   M  T  W  TH  F  ST  SN
   __  DAYNO    G  CLOSIT    Monthly clo CLOMON  18:00   2  __ __ __ __ __ __
   __           P+ OWN410T   Sales Journ CLOMON    10
   __           C+ RECBAL    Receivables CLOMON    20
   __           P+ SOF411T   Cash Receip CLOMON    30
   __           C+ RECDET    Receivables CLOMON    40
   __           P+ SOF601T   Zero Out Mo CLOMON    50
   __           G  DLYSALES  Daily Sales SALES   23:30  Y  Y  Y  Y   Y
   __           C+ SLSTERRTY1 Daily Sales SALES   999
   __           C+ SLSTERRTY2 Daily Sales SALES   999
   __           C+ SLSTERRTY3 Daily Sales SALES   999
                                                            Bottom
  F3=Exit              F4=Prompt                   F6=Add record
  F8=Completion times  F9=Job Search criteria      F24=More keys
```

The **Start job list at:** field changes based on the sort criteria you have selected.

The group control job.

The sequence number of each job within the group.

Group member jobs have a plus (+) after their job type. The plus tells you that the job is a member or one or more groups.

Applying Schedule Override Codes to Group Members

You can enter schedule override codes for group members on the Job Schedule List. If you have the Job
Schedule List sorted by the Group with members option (as shown below, just enter the override code in
the **OPT** column next to the member with which you want to work. If you have the Job Schedule List sorted
by another criteria, Robot Schedule will not know that you want to work with the job as a member of a
specific group. Therefore, when a job has both an independent run schedule and one or more group
schedules, you are prompted to select the instance of the job to which the schedule override code should be
applied. However, if you use the HA or RA override codes, you are asked to confirm the application to be
held or released.

```
RBT276                        Job Schedule List                    15:54:49

 Last wake up 10:30   Next wake up 12:00             ROBOT is: ACTIVE

 Start job list at:  Group name _____
 For list of options, Enter ?
       Sched. Job        Job to be run                    Days or dates job runs
 OPT  Code   Type   Name     Description  Group    Time   M  T  W  TH  F  ST  SN
 __   DAYNO   G   CLOSIT    Monthly clo CLOMON    18:00    2
 __           P+  OWN410T   Sales Journ CLOMON       10
 __           C+  RECBAL    Receivables CLOMON       20
 __           P+  SOF411T   Cash Receip CLOMON       30
 __           C+  RECDET    Receivables CLOMON       40
 __           P+  SOF601T   Zero Out Mo CLOMON       50
 __           G   DLYSALES  Daily Sales SALES     23:30   Y  Y  Y  Y     Y
 __           C+  SLSTERRTY1 Daily Sales SALES       999
 __           C+  SLSTERRTY2 Daily Sales SALES       999
 __           C+  SLSTERRTY3 Daily Sales SALES       999

                                                                    Bottom
 F3=Exit                  F4=Prompt              F6=Add record
 F8=Completion times      F9=Job search criteria F24=More keys
```

You can use the following schedule override codes on individual group members:

H   HOLD job—hold this job; Robot Schedule skips this job each time it runs the group
as if it were not part of the group.

HA   HOLD Application—hold all jobs belonging to the same application as this job.*

N   Run NEXT Time—run this job the next time the group runs.

O   OMIT Next Time—omit this job the next time the group runs.

S   Start GROUP This Job—restart group processing at this job. This code works only for
dependent groups; that is, if group processing stops when a job in the group fails.

R   REMOVE Override code—remove any schedule override code on this job.

RA   RELEASE Application—release all jobs belonging to the same application as this job.*

*Note: Generally, you use the HA and RA codes with group control jobs. If you use these
codes on group members, Robot Schedule retrieves the application information from the
job when it runs independently (not as a group member).
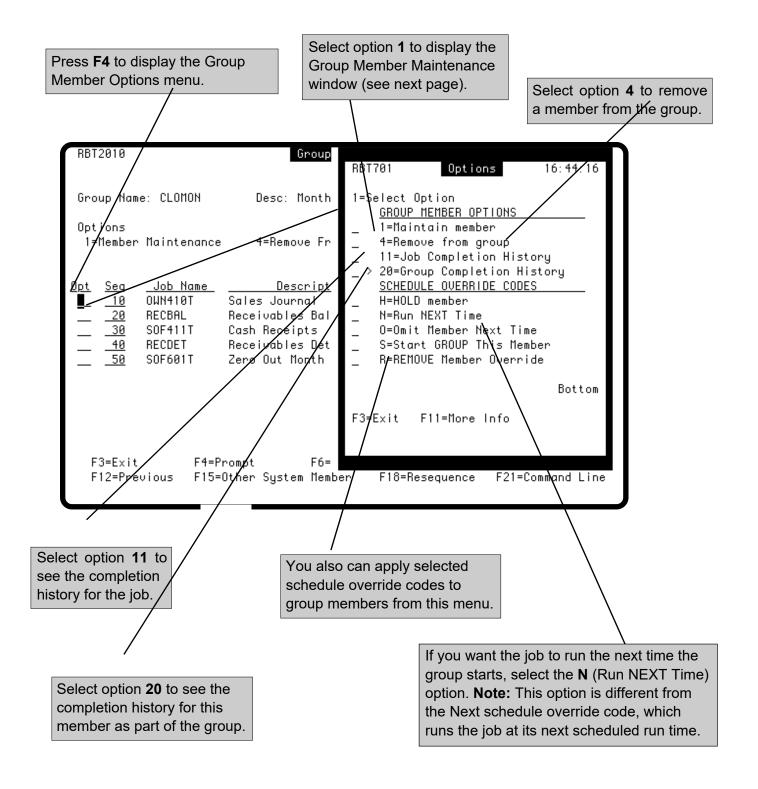
Displaying Group Membership Information

A plus sign following the Job Type on the Job Schedule List indicates the job is a member of one or more groups. Enter option **19** next to one of these jobs to display the Group Membership panel. This panel lists the groups to which this job belongs.

```
RBT705        Options          16:34:56

1=Select Option
      Group Options Sub-Menu
   _  6=Group Control Job
   _ > 18=Group Members
   1 > 19=Group Membership
   _ > 20=Group Completion History



                              Bottom
 F3=Exit   F11=More Info   F12=Cancel
```

Display the Job Options Menu from the Job Schedule List. Select Group Options, then Group Membership to display the Group Membership panel.

```
 RBT2030                    Group Membership              16:35:20

 Job Name: RECBAL        Receivables Balance

 Options
   1=Group Members    11=Job Completion History    ?=More Options

 Opt   Group Name          Description        Schedule Override
  __    *NONE       Job can run independently
  1     CLOMON      Monthly closing procedure




                                                          Bottom
  F3=Exit              F4=Prompt            F10=Next Option
  F12=Previous         F21=Command Line     F23=More Options
```

Enter option **1** to display the Group Members panel showing the other members of the group.

This panel shows that the Job RECBAL can run independently and is also a member of the CLOMON group.

Working with Group Member Options

Enter option **18** next to the group control job on the Job Schedule List to work with members of that group. The Group Members panel gives you a number of options for working with group members. It allows you to maintain group members, remove group members, display job completion history for members, or display group completion history for the member as part of the group.

Press **F4** to display the Group Member Options menu.

Select option **1** to display the Group Member Maintenance window (see next page).

Select option **4** to remove a member from the group.

```
RBT2010                      Group
                                    RBT701           Options          16:44/16
Group Name: CLOMON           Desc: Month  1=Select Option
                                            GROUP MEMBER OPTIONS
Options                                    _  1=Maintain member
  1=Member Maintenance    4=Remove Fr     _  4=Remove from group
                                              11=Job Completion History
                                           _  20=Group Completion History
Opt  Seg    Job Name         Descript       SCHEDULE OVERRIDE CODES
 █    10   OWN410T     Sales Journal       _  H=HOLD member
 _    20   RECBAL      Receivables Bal     _  N=Run NEXT Time
 _    30   SOF411T     Cash Receipts       _  O=Omit Member Next Time
 _    40   RECDET      Receivables Det     _  S=Start GROUP This Member
 _    50   SOF601T     Zero Out Month      _  R=REMOVE Member Override

                                                                  Bottom

                                           F3=Exit    F11=More Info

  F3=Exit          F4=Prompt         F6=
  F12=Previous     F15=Other System Member     F18=Resequence     F21=Command Line
```

Select option **11** to see the completion history for the job.

You also can apply selected schedule override codes to group members from this menu.

Select option **20** to see the completion history for this member as part of the group.

If you want the job to run the next time the group starts, select the **N** (Run NEXT Time) option. **Note:** This option is different from the Next schedule override code, which runs the job at its next scheduled run time.

Maintaining Group Members

The Group Member Maintenance window allows you to associate omit-type date objects and OPAL procedures with group members. Both omit-type date objects and OPAL procedures allow you to create exceptions to the group schedule for individual group members.

Enter a **1** in the **Opt** field on the Group Members panel to display the Group Member Maintenance window.

```
RBT2010                        Group Members                    16:59:32


Group Name: CLOMON          Desc: Monthly closing procedure    Appl: SALES

Options                                                         b _____
  1=Memb    RBT2020         Group Member Maintenance       16:59:38
                                                                    Schedule
            Member Name: SOF601T                                    Schedule
Opt   Seq   Description: Zero Out Month                           _ Exceptions
__    10    Sequence No:    50                                       +
__    20
__    30        EXCEPTIONS TO GROUP SCHEDULE FOR THIS MEMBER
__    40
 1    50    Do Not Run Dates : EOMEXCEPT   (F4=Date Object Name)
            OPAL Object Name   _____   (F4=OPAL Object Name)

            F3=Exit    F4=Prompt


                                                                    Bottom
    F3=Exit          F4=Prompt        F6=Add Group Member      F10=Next Option
    F12=Previous     F15=Other System Member    F18=Resequence  F21=Command Line
```

Enter a date object name. Press **F4** to select from a list of omit-type date object names. Using a date object can give you the ability to skip a given date for just one member of the group. The rest of the members will run as usual. For more information about Date Objects, see the Scheduling Objects Menu section of this manual.
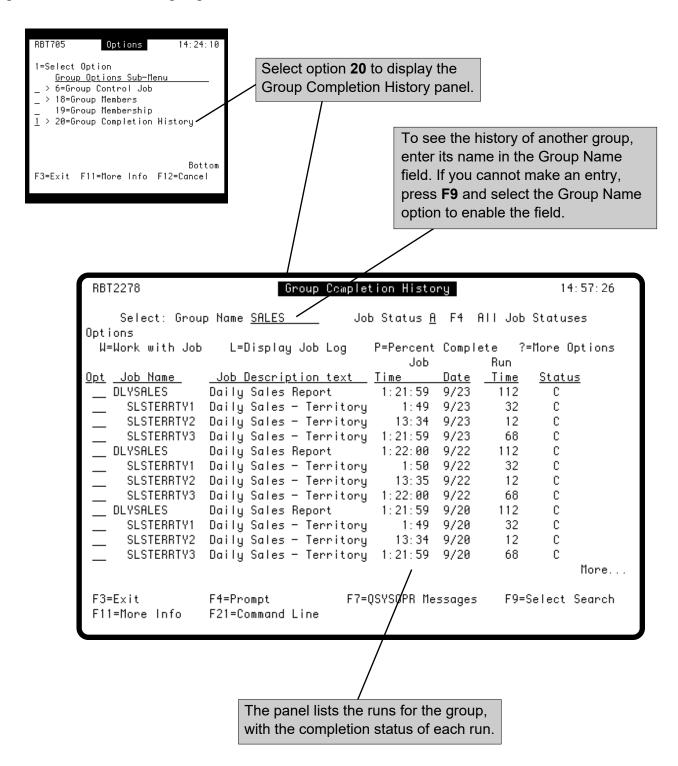
Enter the name of an OPAL Object. Press **F4** to select from a list of OPAL Object names. If you are comfortable with OPAL programming, using an OPAL object can be an easy way to skip a given day of the week for just one member of the group. The rest of the group will still run.

Note: If you are using an OPAL object that delays the job, the group will not proceed until the OPAL-delayed job completes.

For more information about OPAL, see the Scheduling Objects Menu section and the OPAL Reference Guide.
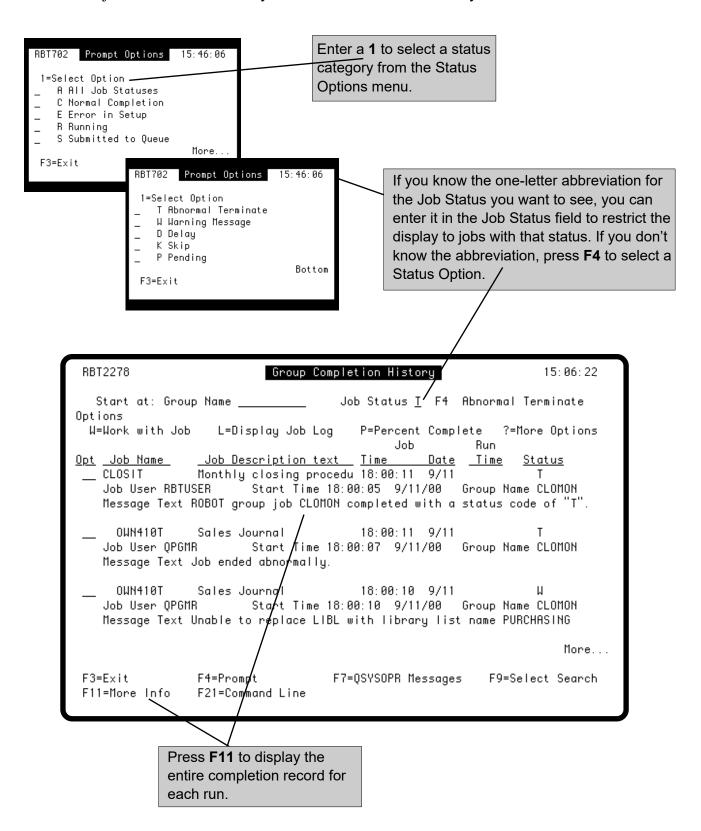
Group Completion History

You can see the completion history for a group by entering option **20** next to the group control job on the Job Schedule List or by selecting option **20** on the Group Options menu. The Group Completion History panel lists all runs of the group.

```
RBT705        Options        14:24:10

1=Select Option
      Group Options Sub-Menu
  _ > 6=Group Control Job
  _ > 18=Group Members
  _   19=Group Membership
  1 > 20=Group Completion History



                          Bottom
F3=Exit  F11=More Info  F12=Cancel
```

Select option **20** to display the Group Completion History panel.

To see the history of another group, enter its name in the Group Name field. If you cannot make an entry, press **F9** and select the Group Name option to enable the field.

```
RBT2278                   Group Completion History              14:57:26

       Select: Group Name SALES        Job Status A  F4  All Job Statuses
Options
   W=Work with Job     L=Display Job Log     P=Percent Complete   ?=More Options
                                             Job          Run
Opt  Job Name     Job Description text     Time      Date   Time    Status
 __  DLYSALES     Daily Sales Report       1:21:59   9/23   112      C
 __    SLSTERRTY1 Daily Sales - Territory     1:49   9/23    32      C
 __    SLSTERRTY2 Daily Sales - Territory   13:34   9/23    12      C
 __    SLSTERRTY3 Daily Sales - Territory   1:21:59  9/23    68      C
 __  DLYSALES     Daily Sales Report       1:22:00   9/22   112      C
 __    SLSTERRTY1 Daily Sales - Territory     1:50   9/22    32      C
 __    SLSTERRTY2 Daily Sales - Territory   13:35   9/22    12      C
 __    SLSTERRTY3 Daily Sales - Territory   1:22:00  9/22    68      C
 __  DLYSALES     Daily Sales Report       1:21:59   9/20   112      C
 __    SLSTERRTY1 Daily Sales - Territory     1:49   9/20    32      C
 __    SLSTERRTY2 Daily Sales - Territory   13:34   9/20    12      C
 __    SLSTERRTY3 Daily Sales - Territory   1:21:59  9/20    68      C
                                                               More...

F3=Exit          F4=Prompt        F7=QSYSOPR Messages    F9=Select Search
F11=More Info    F21=Command Line
```

The panel lists the runs for the group, with the completion status of each run.

Finding a Run in the Group Completion History

You can limit the list of runs on the Group Completion History to a specific status category. For example, you could select a job status of **T** to list only runs that terminated abnormally.

```
RBT702    Prompt Options    15:46:06

 1=Select Option
 _    A All Job Statuses
 _    C Normal Completion
 _    E Error in Setup
 _    R Running
 _    S Submitted to Queue
                        More...

 F3=Exit
```

Enter a **1** to select a status category from the Status Options menu.

```
RBT702    Prompt Options    15:46:06

 1=Select Option
 _    T Abnormal Terminate
 _    W Warning Message
 _    D Delay
 _    K Skip
 _    P Pending
                        Bottom

 F3=Exit
```

If you know the one-letter abbreviation for the Job Status you want to see, you can enter it in the Job Status field to restrict the display to jobs with that status. If you don't know the abbreviation, press **F4** to select a Status Option.

```
 RBT2278                  Group Completion History              15:06:22

    Start at: Group Name _____      Job Status T  F4  Abnormal Terminate
 Options
   W=Work with Job    L=Display Job Log    P=Percent Complete   ?=More Options
                                          Job         Run
 Opt  Job Name      Job Description text   Time     Date   Time     Status
 __  CLOSIT          Monthly closing procedu 18:00:11  9/11          T
     Job User RBTUSER     Start Time 18:00:05  9/11/00   Group Name CLOMON
     Message Text ROBOT group job CLOMON completed with a status code of "T".

 __    OWN410T     Sales Journal           18:00:11  9/11          T
     Job User QPGMR        Start Time 18:00:07  9/11/00   Group Name CLOMON
     Message Text Job ended abnormally.

 __    OWN410T     Sales Journal           18:00:10  9/11          W
     Job User QPGMR        Start Time 18:00:10  9/11/00   Group Name CLOMON
     Message Text Unable to replace LIBL with library list name PURCHASING

                                                              More...


 F3=Exit        F4=Prompt        F7=QSYSOPR Messages    F9=Select Search
 F11=More Info    F21=Command Line
```

Press **F11** to display the entire completion record for each run.

Reactive Jobs

■ Run Jobs in Reaction to Prerequisites

Robot Schedule lets you schedule jobs that run only after certain prerequisite conditions occur. These jobs are called reactive jobs because they react to conditions. A prerequisite job can be a Robot Schedule job, a batch job, a PC event, or a job on another system. Before the reactive job can start, the prerequisite job must return the specified status code. The status can be submitted, running, normal completion, abnormal completion, pending, skip, delay, or either normal or abnormal completion.

■ Add Schedule to Reactive Job

A reactive job can run only when its prerequisites are satisfied. However, a reactive job also can be limited by a run schedule. The options are:

- **Specify prerequisites, but no run schedule: the job runs every time its prerequisites are met.**
  When all prerequisites are met, the job runs, and the completion statuses on the prerequisite list are cleared.

- **Specify prerequisites and run days or dates: the job runs only if it is scheduled for that day.**
  When all prerequisites are met, Robot Schedule checks whether the job is scheduled to run that day. If it is, the job runs. Robot Schedule clears the completion statuses on the prerequisite list whether the job runs or not. Thus, the last of its prerequisites must happen on a run day or the job does not run.

- **Specify prerequisites and a schedule with run days and times: the job runs at its next run day and time if its prerequisites are met.** Each day and time that the job is scheduled to run, Robot Schedule checks whether all prerequisites for the job are satisfied. If they are, the job runs. If they are not, Robot Schedule sends a message that the job run was omitted.

■ **Specify One or More Sets of Prerequisites**

If you specify run times for a reactive job, you also must specify run days. You can specify more than one set of prerequisites for a reactive job. Use the OR logical operator to separate sets of prerequisites. Use the AND logical operator to link the prerequisites within a set. For example, suppose you are scheduling a reactive job that should run after job A completes abnormally or after jobs B and C or jobs B and E complete normally. You would enter a prerequisite list that looks like this:

	Job	**Status Code**
	A	T (abnormal)
OR	B	C (normal)
AND	C	C (normal)
OR	B	C (normal)
AND	E	C (normal)

Like job B in the example, a job can appear more than once in the list if it belongs to more than one set of prerequisites.

■ **Run Error Recovery Programs**

When a job fails and Robot Alert is installed, Robot Schedule can send a pager message to notify you. But, you might want error recovery procedures run right away. A reactive job could execute error recovery procedures whenever certain jobs fail.

For example, you have a sales update job called SALUPD. You also schedule an error recovery job called RECOVER as a reactive job. In the prerequisite list for RECOVER, you would list the name of the sales update job, SALUPD, and a completion status of T for abnormal termination. Then, RECOVER will run whenever SALUPD fails.

You can run the same error recovery job when any of several jobs fail. For example, to run job RECOVER if job SALUPD, PAYUPD, or DBUPD fails, the prerequisite list for RECOVER would appear as follows:

	Job	**Status Code**
	SALUPD	T (abnormal)
OR	PAYUPD	T (abnormal)
OR	DBUPD	T (abnormal)

The list of prerequisites can include batch job completions and other named events. The completion of a named event is signalled by a SNDRBTDTA command or a call to RBT661.

Note: If a prerequisite job happens to run out of order, on a different day, or earlier in the day, it could affect how the reactive job executes. Use the RBTCLRDEP command to clean up any outstanding completion codes displayed on the Reactive Jobs panel.

■ **Prerequisite Can Be Batch Job or Another Event**

Suppose a batch sales update job should run each evening immediately after all data entry operators have finished for the day. The operators could use a group profile that has an operator-only command processor program in its library list. When an operator signs off, the program executes a SNDRBTDTA command with the user name as the named event. Then, it uses the standard IBM signoff command. When Robot Schedule receives the names of all operators in the list, it submits the sales update job.

■ **Prerequisite Status Recorded Automatically**

If the prerequisite is a batch job, Robot Schedule automatically records its status (submitted, running, skipped, delayed, pending, normal or abnormal completion).

• If the prerequisite is a Robot Schedule job that runs on the same IBM i as the reactive job, Robot Schedule updates the prerequisite status automatically.

• If the prerequisite is a Robot Schedule job that runs on another IBM i in the network, Robot Network updates the prerequisite status automatically.

• If the prerequisite batch job is not submitted by Robot Schedule, but the Robot Schedule SBMJOB command has been installed, Robot Schedule updates the prerequisite status automatically.

• If the prerequisite batch job is not submitted by Robot Schedule, the prerequisite status must be updated by a SNDRBTDTA command or RBT661 call.

■ **Job on One System Can Start Jobs on Other Systems**

Assuming you have installed Robot Network, the list of prerequisites for a reactive job can include Robot Schedule jobs on other systems in the network. For example, you could schedule job A on system X to run only when job B on system Y completes.

Robot Schedule makes this easy to do. From the Reactive Jobs panel, press **F15** to see a list of the systems on the network. When you select a system, Robot Schedule builds a finder list of the Robot Schedule jobs on that system. Select one or more Robot Schedule jobs to be used as prerequisites.

When a prerequisite job completes, its completion status is returned automatically to every system that has a reactive job that uses that prerequisite.

To keep track of which jobs are prerequisites for reactive jobs, Robot Schedule provides cross-reference lists.

* From the Job Schedule List, you can press **F13** to see a list of all prerequisite jobs and their corresponding reactive jobs.

* From the Reactive Jobs panel, you can enter a **2** next to a prerequisite job to see a list of all jobs for which that job is a prerequisite.

* From the Job Setup Report Selection panel (within the Report Menu), you can select a Reactive Job Cross Reference report, either by Dependency or by Reactive Job.

Robot Schedule warns you if you attempt to delete a job that is a prerequisite for another job.

■ Cross-System Reactivity

If you have Robot Schedule Enterprise, the enterprise job scheduler, you can schedule jobs on attached Windows, UNIX, and Linux servers. The server job can be a prerequisite to any other System i job in your enterprise. Normal Robot Schedule job completion status information is created for each job.

For example, you can use Robot Schedule to initiate a job that downloads the transactions from your Linux point-of-sale devices. When all of the jobs are complete, Robot Schedule can run a System i job to summarize the transactions and transmit them to the home office.

See Enterprise Job Scheduling in this user guide and the *Robot Schedule User Guide* for more information about setting up server jobs as prerequisites.

Example: Reactive Job That Runs Immediately

The reactive job will run immediately when its prerequisites are met if the job has no schedule (no run days or times have been entered). The following example shows prerequisites for a report job that is to run immediately after the sales results are received from Chicago, Seattle, and Dallas.

Prerequisite Job List

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	
PRD418	Seattle	Normal	
PRD418	Dallas	Normal	

These conditions must be met before the consolidated sales report can run.

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	
PRD418	Seattle	Normal	Normal
PRD418	Dallas	Normal	

Robot Network sends a normal completion status for job PRD418 from the Seattle system.

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	Normal
PRD418	Seattle	Normal	Normal
PRD418	Dallas	Normal	

Robot Network sends a normal completion status for job PRD418 from the Chicago system.

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	Normal
PRD418	Seattle	Normal	Normal
PRD418	Dallas	Normal	Normal

Robot Network sends a normal completion status for job PRD418 from the Dallas system.

Job Schedule

Run Times:	None
Run Days:	None

All conditions for the job run are now satisfied. Robot Schedule looks at the schedule for the reactive job and sees that it has no scheduled run days or times. Therefore, Robot Schedule submits the reactive job immediately.

Prerequisite Job List

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	
PRD418	Seattle	Normal	
PRD418	Dallas	Normal	

After Robot Schedule submits the reactive job for the consolidated sales report, it clears the statuses on the prerequisite list to set up for the next run.

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Example: Reactive Job That Runs Only If Scheduled For That Day

In addition to the conditions on the prerequisite list, you also can limit the job runs to certain days. You do so by entering a day schedule for the job, either on the Initial Job Setup panel or by selecting the INDAY, DATE, or DAYNO options on the Advanced Scheduling panel.

Note: Do not enter run times when using event plus date-triggered reactivity.

When the conditions for running the job have been met, Robot Schedule checks whether the job is scheduled to run that day. If it is scheduled to run, Robot Schedule submits the job immediately and then clears the statuses on the prerequisite list. If it is not scheduled to run that day, Robot Schedule does not submit the job, but does clear the statuses. For example, suppose that in addition to the report printed by the example on the preceding page, a second report also should be run in reaction to the same prerequisites, but only on Fridays.

Job Schedule

Run Times:	None
Run Days:	Every Friday

The job schedule on the Initial Job Setup window specifies every Friday. No run times are specified.

Today is: Thursday

Prerequisite Job List

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	Normal
PRD418	Seattle	Normal	Normal
PRD418	Dallas	Normal	Normal

On a Thursday, the last of the conditions are met, so Robot Schedule checks if the day is in the job schedule. Thursday is not a scheduled day so the reactive job is not run.

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	
PRD418	Seattle	Normal	
PRD418	Dallas	Normal	

Robot Schedule clears the statuses.

Today is: Friday

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	Normal
PRD418	Seattle	Normal	Normal
PRD418	Dallas	Normal	Normal

On Friday, the prerequisites are satisfied again. Robot Schedule checks the job schedule. The job is scheduled for Fridays so Robot Schedule submits the job immediately.

Job	System	Required Status	Actual Status
PRD418	Chicago	Normal	
PRD418	Seattle	Normal	
PRD418	Dallas	Normal	

Robot Schedule then clears the statuses for the next job run.

Example: Reactive Job That Runs Only on Scheduled Days and Times

You can attach a list of conditions to a regularly scheduled job (a job that has both run times and dates entered). Then, each time the job is scheduled to run, Robot Schedule checks if the conditions for the job have been met. If they have, the job is submitted. If they have not, Robot Schedule does not run the job. It clears the condition statuses and sends a warning message to the job's completion history.

Notes:
- If you specify run times for a reactive job, you also must specify the days or dates the job should run.

- If you do not use the Keep option, the prerequisite statuses are cleared each time the job could run; thus, for the job to run, all prerequisites must happen before the job can run. See Using the Keep Option for more information.

For example, suppose you have a job that runs every workday at 4 p.m., but now you want the job to run only if jobs PRD417 and PRD418 have completed normally before 4 p.m.

Job Schedule

Run Times:	1600
Run Days:	Every workday

Time is: Tuesday, 1600

Prerequisite Job List

Job	Required Status	Actual Status
PRD417	Normal	Normal
PRD418	Normal	

The job is scheduled to run at 4 p.m. on Tuesday, but before submitting the job, Robot Schedule checks its condition list. Job PRD417 has completed normally, but job PRD418 has not, so Robot Schedule does not submit the job.

Job	Required Status	Actual Status
PRD417	Normal	
PRD418	Normal	

Robot Schedule clears the statuses.

Time is: Wednesday, 1600

Job	Required Status	Actual Status
PRD417	Normal	Normal
PRD418	Normal	Normal

The job is next scheduled for 4 p.m. on Wednesday. Robot Schedule checks the condition list and finds that jobs PRD417 and PRD418 have both completed normally, so Robot Schedule submits the job.

Job	Required Status	Actual Status
PRD417	Normal	
PRD418	Normal	

Robot Schedule clears the statuses for the next job run.

■ **Steps to Schedule a Reactive Job**
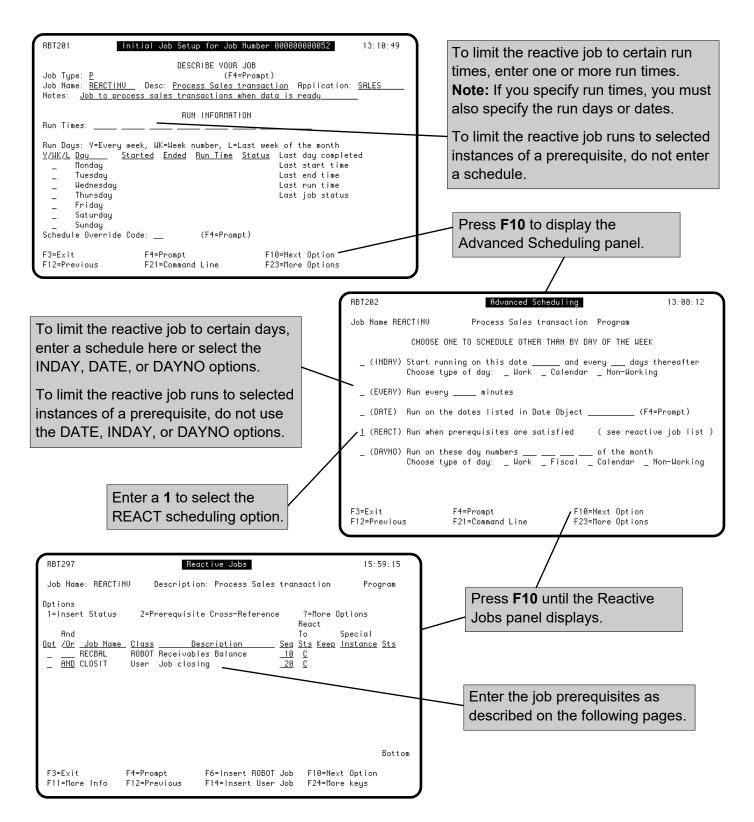
Although reactive job scheduling is powerful and flexible, Robot Schedule also makes it easy to do. A reactive job can run whenever its prerequisites complete, only when limited instances of its prerequisites complete, or on scheduled days and times. Just follow these steps:

1. Create a job record (or select an existing one). To limit the reactive job runs to certain days or times, enter the run times on the Initial Job Setup panel and the run schedule on the Initial Job Setup panel or Advanced Scheduling panel.
   Do not create a schedule if you want to limit the reactive job to selected instances of the prerequisite jobs, or if you want to react any time the prerequisites are met.

2. Display the Advanced Scheduling panel (option 2 on the Job Schedule List) and select the REACT option.

3. Display the Reactive Jobs panel (option 7 on the Job Schedule List) and enter the prerequisites for the job. You can choose Robot Schedule jobs from a finder list.

4. Enter the completion status required for each prerequisite (**C** for normal completion, **T** for abnormal termination, **E** for either normal or abnormal completion, **R** for running, **S** for submitted, **K** for skipped, **D** for delayed, or **P** for pending). Separate prerequisite sets (if any) with OR operators.

5. To limit the reactive job runs to selected instances of a prerequisite job, display the Special Instances Selection panel (option 3 on the Reactive Job Setup panel). See Advanced Reactivity for more information about special instances.

If the job has a prerequisite that is not a Robot Schedule job, you must code a command or call to signal that prerequisite. See the description of SNDRBTDTA and RBT661 later in this section. You also can use the Robot Schedule SBMJOB function; see Use Robot Schedule to Track All Batch Jobs in the System Setup Menu section.

Scheduling a Reactive Job

To schedule a job to run in reaction to prerequisites, select the REACT scheduling option on the Advanced Scheduling panel and then fill in the Reactive Jobs panel. To display the Reactive Jobs panel, press **F10** on the Advanced Scheduling panel or select option **7** from the Job Schedule List.

```
RBT201           Initial Job Setup for Job Number 000000000052        13:10:49

                            DESCRIBE YOUR JOB
Job Type: P                           (F4=Prompt)
Job Name: REACTINV   Desc: Process Sales transaction   Application: SALES
Notes:   Job to process sales transactions when data is ready

                            RUN INFORMATION
Run Times: ____ ____ ____ ____ ____ ____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day       Started  Ended  Run Time  Status  Last day completed
  _    Monday                                       Last start time
  _    Tuesday                                       Last end time
  _    Wednesday                                     Last run time
  _    Thursday                                      Last job status
  _    Friday
  _    Saturday
  _    Sunday
Schedule Override Code: __       (F4=Prompt)

F3=Exit              F4=Prompt              F10=Next Option
F12=Previous         F21=Command Line       F23=More Options
```

To limit the reactive job to certain run times, enter one or more run times. **Note:** If you specify run times, you must also specify the run days or dates.

To limit the reactive job runs to selected instances of a prerequisite, do not enter a schedule.

Press **F10** to display the Advanced Scheduling panel.

```
RBT202                        Advanced Scheduling                  13:08:12

Job Name REACTINV        Process Sales transaction   Program

                 CHOOSE ONE TO SCHEDULE OTHER THAN BY DAY OF THE WEEK

  _ (INDAY) Start running on this date _____ and every ___ days thereafter
            Choose type of day:  _ Work  _ Calendar  _ Non-Working

  _ (EVERY) Run every _____ minutes

  _ (DATE)  Run on the dates listed in Date Object _____ (F4=Prompt)

  1 (REACT) Run when prerequisites are satisfied     ( see reactive job list )

  _ (DAYNO) Run on these day numbers ___ ___ ___ ___ of the month
            Choose type of day:  _ Work  _ Fiscal  _ Calendar  _ Non-Working


F3=Exit              F4=Prompt              F10=Next Option
F12=Previous         F21=Command Line       F23=More Options
```

To limit the reactive job to certain days, enter a schedule here or select the INDAY, DATE, or DAYNO options.

To limit the reactive job runs to selected instances of a prerequisite, do not use the DATE, INDAY, or DAYNO options.

Enter a **1** to select the REACT scheduling option.

```
RBT297                        Reactive Jobs                        15:59:15

 Job Name: REACTINV    Description: Process Sales transaction      Program

Options
 1=Insert Status    2=Prerequisite Cross-Reference    ?=More Options
                                              React
     And                                       To        Special
Opt /Or  Job Name  Class     Description     Seq Sts Keep Instance Sts
 _  ___  RECBAL    ROBOT Receivables Balance  10  C
 _  AND  CLOSIT    User  Job closing          20  C




                                                            Bottom

F3=Exit         F4=Prompt        F6=Insert ROBOT Job   F10=Next Option
F11=More Info   F12=Previous     F14=Insert User Job   F24=More keys
```

Press **F10** until the Reactive Jobs panel displays.

Enter the job prerequisites as described on the following pages.

Entering Robot Schedule Jobs as Prerequisite Conditions

On the Reactive Jobs panel, enter the prerequisite conditions that allow the reactive job to run. First, enter the Robot Schedule job prerequisites. A Robot Schedule job prerequisite is the completion of a job submitted by Robot Schedule. You do not change the job; the completion status is returned automatically to the prerequisite list. To add a Robot Schedule job to the list, press F6 The Robot Job Finder lists all the Robot Schedule jobs on the system; select one to add to the prerequisite list.

If you have Robot Network installed, you can select Robot Schedule jobs from other systems in the network. Press **F15** to select a system from a list of systems in the network. Robot Schedule then builds a job finder that lists the Robot Schedule jobs on that system. Pick one or more jobs from the list. The completion status of each job is returned automatically to this system.

```
RBT297                    Reactive Jobs                    15:59:15

 Job Name: REACTINV    Description: Process Sales transaction      Program

Options
 1=Insert Status     2=Prerequisite Cross-Reference     ?=More Options
                                                  React
    And                                           To      Special
Opt /Or  Job Name  Class      Description    Seq Sts Keep Instance Sts
 _   ___  RECBAL    ROBOT Receivables Balance   10  C
 _   AND  CLOSIT    User  Job closing          20  C




                                                         Bottom

 F3=Exit         F4=Prompt      F6=Insert ROBOT Job   F10=Next Option
 F11=More Info   F12=Previous   F14=Insert User Job   F24=More keys

  F15=Other System Dependents    F21=Command Line    F23=More Options
  F24=More keys
```

Press **F6** to display the Robot Job Finder panel. Select a job from the Robot Schedule job schedule for this system. The job you select is inserted in the list of prerequisites.

If you have Robot Network installed, press **F15** to see a list of systems on the network. Select a system and Robot Schedule lists the Robot Schedule jobs on that system. You can then pick a job to insert into the list of prerequisites.

```
RBT279                   ROBOT Job Finder                 13:38:14

  Start job list at:   Job _____
Options
  1=Select
     Sched. Job      Job to be run               Days or dates job runs
 OPT  Code  Type  Name      Description     Time  M  T  W  TH  F  ST  SN
                                            00:00
  _
  _          C   ACCTRCVRPT Daily Receivables Re 22:00  Y  Y  Y  Y   Y
  _          C   BACKUP1    Evening Backup       23:00  Y          Y
  _          C   BUYERLIST  Sales Buyer Report   17:00  Y  Y  Y  Y   Y
  _   DAYNO  G   CLOSIT     Monthly closing proc 18:00     2
  _          C   DLYAPRPT   Daily Accounts Payab 21:00  Y  Y  Y  Y   Y
  _          G   DLYSALES   Daily Sales Report   23:30  Y  Y  Y  Y   Y
  _          P   EMPHRS     Weekly Employee Hour 06:00  Y
  _          C   EMP407CMD  Weekly Labor Report  22:00              Y
  _          C   EMP432     Hours Report         23:00  Y  Y  Y  Y   Y  Y   Y
  _          W   EXCEL      Monthly Reconciliati 00:00
  _          C   FORECAST1  Sales Forecast Rep1  05:00  Y     Y     Y     Y
  _          C   FORECAST2  Sales Forecast2 Rep1 01:00  Y  Y  Y  Y   Y
                                                                 More...

 F3=Exit   F9=Job search criteria
```

Editing the Prerequisite List

Select one of the following options for a prerequisite job. Press **F4** in the Opt column to display the options window.

1 Insert status. This option allows you to force a desired completion status for testing or overriding.

2 Lists reactive jobs that are dependent on this job.

3 Displays the Special Instance Selection panel.

4 Deletes the prerequisite from the list.

5 Allows you to change the information entered for a user job prerequisite.

6 Sets the Keep field flag to keep the status for this prerequisite until a status value for each prerequisite has been received and used. Entering 6 again removes the Keep flag. This option is valid only for reactive jobs that are triggered by an event, date, and time. See Using the Keep Option.

```
RBT701        Options        13:41:11
                             MICKEY
1=Select Option
 _   1=Insert status
 _   2=Prerequisite cross reference
 _   3=Special instances
 _   4=Delete prerequisite
 _   5=Modify user job
 _   6=Set keep status flag




                            Bottom

F3=Exit   F11=More Info
```

```
RBT297                  Reactive Jobs                    15:59:15

 Job Name: REACTINV    Description: Process Sales transaction       Program

Options
 1=Insert Status      2=Prerequisite Cross-Reference    ?=More Options
                                                  React
         And                                      To        Special
Opt  /Or  Job Name  Class        Description      Seq Sts Keep Instance Sts
 _        RECBAL    ROBOT  Receivables Balance     10   C
 _   AND  CLOSIT    User   Job closing             20   C
```

```
RBT702   Prompt Options   13:42:03

 1=Select Option
 _   C Normal Completion
 _   E Either C or T
 _   D Delay
 _   K Skip
 _   P Pending
                           More...
 F3=Exit
```

```
F3=Exit         F4=Prompt       F6=Insert ROBOT Job   F10=Next Option
F11=More Info   F12=Previous     F14=Insert User Job  F24=More keys
```

Enter **AND** to connect prerequisites in a set; enter **OR** to separate prerequisite sets.

Enter a sequence number to reorder the prerequisites in the list.

Enter the completion code that must be returned before the prerequisite is considered satisfied. Press **F4** to select from the following:

C Normal completion

E Either normal or abnormal completion

D Delayed by OPAL

K Skipped by OPAL

P Pending OPAL processing

R Running

S Submitted to queue

T Abnormal termination

Completion Status

The **Sts** field shows the last status of the job. This field must match the code in the **React to Sts** field before the reactive job will run. If necessary, you can change the completion status of a job manually so that the reactive job will run. Enter a **1** in the **Opt** field to display the list of valid statuses from which you can select.

To clear all completion statuses for a reactive job, enter the command **RBTCLRDEP** on a command line and press **F4** to prompt the command. Then, specify the name of a Robot Schedule job for which you want prerequisite completion statuses cleared.

To change the completion status of a prerequisite job manually, enter a **1** in the **Opt** field for the prerequisite job and select one of the following codes:

B   Clear last completion code. (Robot Schedule does this automatically each time the reactive job could run, unless you use the Keep option.)

C   Insert C (Normal completion).

D   Insert D (Delay). Use only with jobs that have OPAL objects.

K   Insert K (Skip). Use only with jobs that have OPAL objects.

P   Insert P (Pending). Use only with jobs that have OPAL objects.

R   Insert R (Running).

S   Insert S (Submitted to batch).

T   Insert T (Abnormal termination).

These codes affect only the prerequisite list; they do not update the Robot Schedule completion history or weekly completion log.

```
RBT297                          Reactive Jobs                     14:05:24

 Job Name: REACTINV     Description: Process Sales transaction        Program

 Options
   1=Insert Status      2=Prerequisite Cross-Reference      ?=More Options
                                                          React
        And                                               To        Special
 Opt  /Or  Job Name  Class        Description        Seq  Sts Keep  Instance Sts
  1    ___  RECBAL    ROBOT  Receivables Balance      10   C
  _                                                   20   C
        RBT702   Prompt Options    14:25:02
                                   MICKEY
         1=Select Option
          _   B Blank Status
          _   C Normal Completion
          _   D Delay
          _   K Skip
          _   P Pending
                                   More...
         F3=Exit
   F3                                     ROBOT Job   F10=Next Option
   F1                                   t User Job    F24=More keys
```

The last completion status. Robot Schedule runs the reactive job only when all codes in this column match the codes in the **React To Sts** column.

If you use the **RBTCLRDEP** command, described above, it clears (blanks out) this column for all prerequisites.

Entering Conditions Returned by User Jobs

All other prerequisite conditions (other than the completion of Robot Schedule jobs must be entered as user job prerequisites. A user job prerequisite is identified by a name and a completion status.

You can enter, as a user job prerequisite, the name of a batch job that is not submitted by Robot Schedule. If the Robot Schedule SBMJOB command is installed, you do not need to change the job; its completion status is returned automatically to the prerequisite list.

The completion of all other user job prerequisites must be signaled by a SNDRBTDTA command or RBT661 program call. The command or call returns a name and a completion code (normal or abnormal. When you enter the prerequisite in the list, you enter the name and code that the command or call returns. (A job could return more than one name and code at different points in its processing.

Enter the name and description of the prerequisite. If the prerequisite is a batch job completion, the name must be the job name. Otherwise, the name must be the name returned by SNDRBTDTA or RBT661.

```
RBT297                    Reactive Jobs                      14:52:59

 Job Name: REACT  RBT299          User Job          14:53:10       Program

Options           Reactive Job: REACTINV
 1=Insert Status               Process Sales transaction         ptions

      And         Enter User Job Information:                   Special
Opt /Or  Job Nam                                                Instance Sts
 _  ___  RECBAL  Job Name  . . .  _____
 _  AND  CLOSIT  Description . .   _____
                 React On Status  C
                 System  . . . .   _____     (F4=Prompt)

                       Press ENTER to update
                 F3=Exit


                                                               Bottom

 F3=Exit          F4=Prompt       F6=Insert ROBOT Job   F10=Next Option
 F11=More Info    F12=Previous    F14=Insert User Job   F24=More keys
```

Press **F14** to enter a user job prerequisite.

Entering Conditions Returned by User Jobs

Enter the completion code the job must return before the reactive job runs.

C Normal completion.

T Abnormal termination.

E Either normal or abnormal completion.

R Running.

S Submitted to batch.

K Skipped by OPAL.

D Delayed by OPAL.

P Pending OPAL processing.

B Blank status.

```
RBT297                        Reactive Jobs                    14:52:59

Job Name: REACT   RBT299            User Job          14:53:10      Program

Options           Reactive Job: REACTINV
 1=Insert Status                Process Sales transaction          ptions

      And         Enter User Job Information:                      Special
Opt /Or  Job Nam                                                  Instance Sts
 _   ___ RECBAL   Job Name  . . .  _____
 _   AND CLOSIT   Description . .  _____
                  React On Status  C
                  System  . . . .  _____     (F4=Prompt)

                       Press ENTER to update
                  F3=Exit


                                                                    Bottom

 F3=Exit          F4=Prompt      F6=Insert ROBOT Job   F10=Next Option
 F11=More Info    F12=Previous   F14=Insert User Job   F24=More keys
```

Press Enter to remove the window and update the prerequisite list; press **F3** to remove the window without updating the prerequisite list.

If the prerequisite will occur on another system in the network, enter the system name. Press **F4** to see a list of systems in the network.

SNDRBTDTA Command and RBT661 Program

If the prerequisite is a batch job, Robot Schedule automatically records the completion status of the prerequisite (assuming the Robot Schedule SBMJOB command is installed. To signal the completion of any other prerequisite, you need to alter a job or program to return the status of that prerequisite to Robot Schedule. To return a prerequisite status, code a SNDRBTDTA command or RBT661 program call.
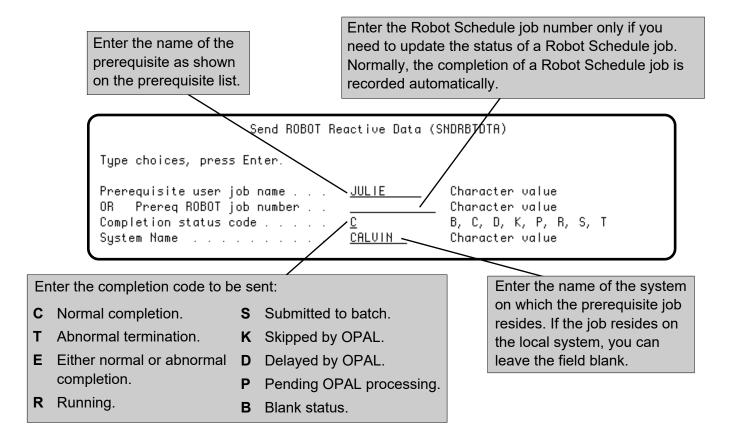
When the command or call is executed, all prerequisite lists containing that prerequisite are updated automatically, even if the prerequisite list is on another system in the network. Robot Network knows which systems need to be notified of the prerequisite and sends the prerequisite status immediately.

Enter the SNDRBTDTA command on an IBM i command line and press **F4** to prompt it.

```
                    Send ROBOT Reactive Data (SNDRBTDTA)

 Type choices, press Enter.

 Prerequisite user job name . . .    JULIE          Character value
 OR   Prereq ROBOT job number . .    _____   Character value
 Completion status code . . . . .    C              B, C, D, K, P, R, S, T
 System Name  . . . . . . . . . .    CALVIN         Character value




















                                                                   Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

SNDRBTDTA Command and RBT661 Program

The following shows a SNDRBTDTA command prompt screen, parameter list for RBT661, and an example call to RBT661.

Enter the name of the prerequisite as shown on the prerequisite list.

Enter the Robot Schedule job number only if you need to update the status of a Robot Schedule job. Normally, the completion of a Robot Schedule job is recorded automatically.

```
                   Send ROBOT Reactive Data (SNDRBTDTA)

  Type choices, press Enter.

  Prerequisite user job name . . .   JULIE        Character value
  OR   Prereq ROBOT job number . .   _____   Character value
  Completion status code . . . . .   C            B, C, D, K, P, R, S, T
  System Name  . . . . . . . . . .   CALVIN_      Character value
```

Enter the completion code to be sent:

C	Normal completion.	**S**	Submitted to batch.
T	Abnormal termination.	**K**	Skipped by OPAL.
E	Either normal or abnormal completion.	**D**	Delayed by OPAL.
		P	Pending OPAL processing.
R	Running.	**B**	Blank status.

Enter the name of the system on which the prerequisite job resides. If the job resides on the local system, you can leave the field blank.

Error code passed back in this field:

Blank No error.

UR Robot Schedule does not have a record for this prerequisite.

RJ Robot Schedule does not have a record for this Robot Schedule job.

```
  100     DCL VAR(&JBNM) TYPE(*CHAR) LEN(10) VALUE(JULIE)
  200     DCL VAR(&JBNBR) TYPE(*CHAR) LEN(12)
  300     DCL VAR(&STS) TYPE(*CHAR) LEN(1) VALUE('C')
  400     DCL VAR(&ERR) TYPE(*CHAR) LEN(2) VALUE('  ')
  500     DCL VAR(&GRP) TYPE(*CHAR) LEN(22) VALUE('                      ')
  600     DCL VAR(&SYS) TYPE(*CHAR) LEN(8) VALUE('        ')
  700     CALL PGM(ROBOTLIB/RBT661) PARM(&JBNM &JBNBR &STS &ERR &GRP &SYS)
```

Prerequisite Job Finder

From the Job Schedule List, press **F13** to see a list of all Robot Schedule jobs that are prerequisite conditions for reactive jobs on this system. For each job, the list shows the reactive job dependent on it, the required status, and the last completion status of the job.

You can display a similar list for just one job from the Reactive Jobs panel. Enter a **2** next to a prerequisite job. Robot Schedule displays the Dependent REACT Jobs panel listing all reactive jobs that are dependent on the job. You also can display the same panel using option **13** on the Job Schedule List.

```
RBT276                      Job Schedule List                    15:47:54

  Last wake up 15:41   Next wake up 16:00          ROBOT is: ACTIVE

  Start job list at:  Job name _____
For list of options, Enter ?
    Sched. Job        Job to be run              Days or dates job runs
OPT Code   Type   Name       Description    Time   M  T  W  TH  F  ST  SN
__                C  ACCTRCVRPT Daily Receivables Repo 22:00 Y  Y  Y  Y   Y
__  REACT         C  ACTREACT   Reactive Job for KEEP  18:00             Y
__  HOLD          C  BACKUP1    Evening Backup               Y      Y
__                C  BUYERLIST  Sales Buyer Report     17:00 Y  Y  Y  Y   Y
__                C  CALCMD     Command Calculation    00:00
__  EVERY         C  CKLINES    Check comm lines       20:00 Y  Y  Y  Y   Y  Y   Y
__                G  CLOSIT     Monthly closing proced 18:00    2
__  EVERY         C  COMMLINE   Check communications l 16:01 C  Y  Y  Y   Y  Y   Y
__                C  CRTCLPGM   Capture compiles       18:00 Y  Y  Y  Y   Y
__                C  CRTCLPGM   SD-TEMPCapture compile 18:00 Y  Y  Y  Y   Y
__           SD C  CRTRPGPGM   Capture compiles       18:00 Y  Y  Y  Y   Y
__                C  DAILYPAY   Daily Pay Reports      17:00 Y     Y      Y
                                                                    More...
F13=Prerequisite job finder     F21=Command Line        F24=More keys
```

Press **F13** to display the Prerequisite Job Finder panel.

Enter a **1** to display the Reactive Jobs panel for the reactive job.

```
RBT286                     Prerequisite Job Finder                15:49:07

  Start list at prereq job name _____
  Options
    1=Select                                       React
       ------Prereq------    ------Reactive-----    To
Opt  Job Name    System     Job Name    System   Status  Status  Date    Time
_    BACKUP1                 ERRRECOVER           C
_    BACKUP1                 ERRRECOVER           C
1    CLOSIT                  REACTINV             C
_    CLOSIT                  EMP407CMD            C
_    DAILYPAY                ACTREACT             C
_    EMP407CMD               ERRRECOVER           C
_    RECBAL                  RECEND               C
_    RSUBACKUP               RSUMESSAGE           C       T       9/22/00  12:17
_    RSUDONE                 RSUSUCCESS           C
_    SALESUPD                REACTINV             C       C       9/22/00  23:32
_    SALUPD                  SOF420               C
_    SUPPORTREQ              REQNOTIFY            C
_    SUPPORTREQ ROBOTU       REQNOTIFY            C
_    SYSSTATUS               WEEKLYSTAT           C
                                                                    More...
F3=Exit
```

■ Limit Instances of a Prerequisite

Robot Schedule lets you limit the instances of prerequisite jobs that will trigger the reactive job. The reactive job runs only when the selected instances of the prerequisites return the desired status.

For example, if a prerequisite job runs every day at 2:00 and 4:00 p.m., you can trigger the reactive job with the 4:00 p.m. run of the prerequisite on Tuesdays (a special instance of the job.

This is an alternative to creating a schedule for the reactive job. If the reactive job has a run day schedule and the prerequisites do not complete before midnight, the reactive job does not run. By selecting instances of the prerequisites, you can avoid the midnight boundary problem.

■ Keep Option

Use the Keep option with reactive jobs that run on scheduled days and times and have more than one prerequisite. It allows you to keep the completion status for the selected prerequisite until a status for each prerequisite has been received and used. If the reactive job does not run because a prerequisite did not finish on time, the statuses for jobs using the keep status option are retained. On the next scheduled run day that all prerequisite statuses exist, the statuses are cleared after Robot Schedule determines whether to run the job.

■ Use OPAL Objects

OPAL objects can check for certain conditions before running the reactive job, such as making sure that printers, workstations, controllers, and so forth are running. OPAL can veto the running of the job based on:

- The status of other jobs
- More complex date and time relationships
- The status of IBM i devices, subsystems, and jobs
- The existence or nonexistence of objects or records
- Value in a data area or LDA
- Values in Robot Schedule reserved command variables.

All of the above can be used together in AND/OR relationships. See the OPAL Reference Guide for more information on OPAL objects. See Exception Scheduling in this manual for information about using OPAL objects as prerequisites.

■ Use Robot Console

If you have Robot Console, Fortra's message management system, you can create a message set to monitor for a message. When it detects the message, it can use the SNDRBTDTA command to trigger a reactive job. See the *Robot Console User Guide* for more information about monitoring for messages. Also see the SNDRBTDTA Command section in this manual.

Example: Limiting Reactive Job Runs to Special Instances of a Prerequisite

You can limit the reactive job runs to selected instances of a prerequisite job. The reactive job runs whenever the selected instances of the prerequisite jobs run and return the desired status. If there are several prerequisites and you select special instances of only one prerequisite, Robot Schedule assumes that you have selected all instances of the remaining prerequisites.

In the example below, there are three prerequisites (PRD417, PRD418, and PRD419. You want a reactive job to run after the Friday instance of jobs PRD417 and PRD418 have completed normally. It also should run after the Sunday instance of job PRD419 completes normally. The job schedules are shown below along with the special instances that will trigger the reactive job.

	Mon	Tue	Wed	Thur	Fri	Sat	Sun
PRD417 Job Schedule **Special Instance**	Y	Y	Y	Y	Y **Y**		
PRD418 Job Schedule **Special Instance**	Y	Y	Y	Y	Y **Y**		
PRD419 Job Schedule **Special Instance**	Y	Y	Y	Y	Y	Y	Y **Y**

Today is: Wednesday

And /Or	Job	Required Status	Actual Status	Special Instance
	PRD417	Normal		
And	PRD418	Normal		
Or	PRD419	Normal		

On Wednesday, no instances of the prerequisites have been chosen, so the reactive job does not run.

Today is: Saturday

And /Or	Job	Required Status	Actual Status	Special Instance
	PRD417	Normal	Normal	
And	PRD418	Normal	Normal	
Or	PRD419	Normal		

On Saturday, the special instance of PRD417 that was submitted on Friday completes normally. PRD418 completed normally on Friday. The reactive job runs on Saturday and the statuses are cleared.

Today is: Sunday
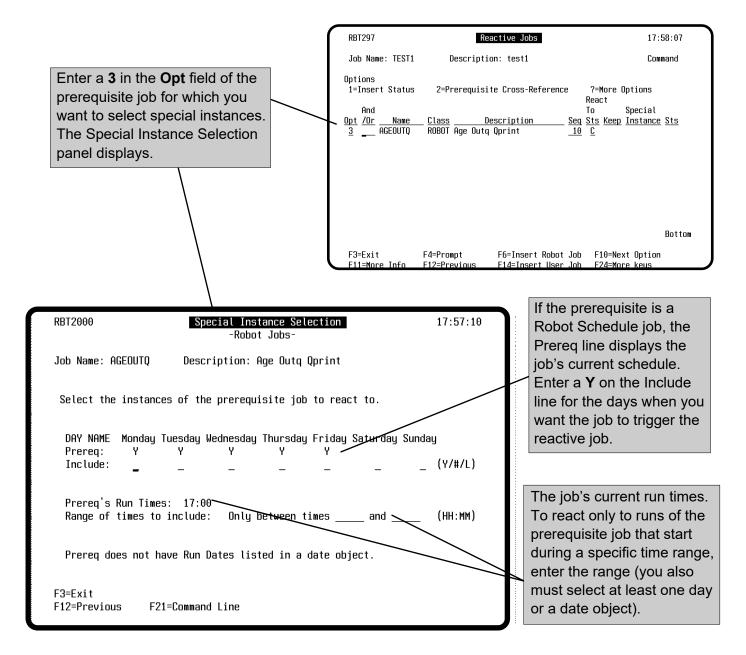
And /Or	Job	Required Status	Actual Status	Special Instance
	PRD417	Normal		
And	PRD418	Normal		
Or	PRD419	Normal	Normal	*

On Sunday, PRD419 completes normally, so the reactive job runs and the status is cleared.

Special Instance Selection Panel
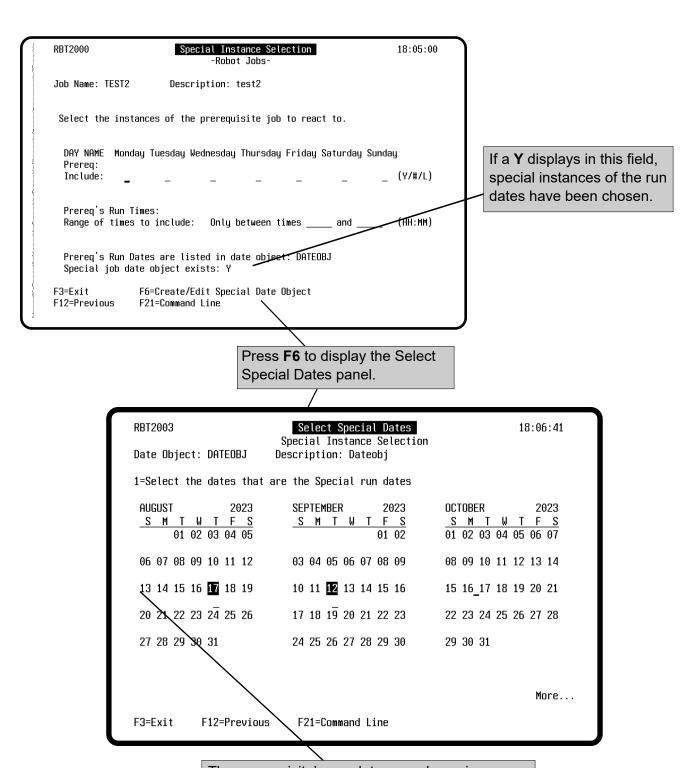
The Special Instance Selection panel lets you pick instances of the prerequisite job to trigger the reactive job. This panel is an alternative to adding a schedule to the reactive job. For example, if you schedule a job to run on Friday after two prerequisites complete, the job does not run if the prerequisites do not complete before midnight. However, if you set up the job to react to the Friday instance of the prerequisite jobs, the reactive job runs whenever those jobs complete.

The Special Instance Selection panel that displays depends on whether the prerequisite is a Robot Schedule job or a user job. The Robot Schedule job panel displays the prerequisite job's schedule; the user panel does not. In either panel, select the days the job will trigger the reactive job. If the prerequisite has run dates scheduled, you can display the schedule and select from those dates. You also can specify a range of run times during which the prerequisite job must be submitted to trigger the reactive job.

```
RBT297                        Reactive Jobs                        17:58:07

   Job Name: TEST1        Description: test1                       Command

   Options
    1=Insert Status      2=Prerequisite Cross-Reference      ?=More Options
                                                          React
         And                                               To       Special
   Opt /Or    Name    Class         Description         Seq Sts Keep Instance Sts
    3   __   AGEOUTQ   ROBOT Age Outq Qprint              10  C




                                                                       Bottom

   F3=Exit          F4=Prompt        F6=Insert Robot Job  F10=Next Option
   F11=More Info     F12=Previous     F14=Insert User Job  F24=More keys
```

Enter a **3** in the **Opt** field of the prerequisite job for which you want to select special instances. The Special Instance Selection panel displays.

```
RBT2000              Special Instance Selection              17:57:10
                          -Robot Jobs-

  Job Name: AGEOUTQ      Description: Age Outq Qprint


   Select the instances of the prerequisite job to react to.


    DAY NAME   Monday Tuesday Wednesday Thursday Friday Saturday Sunday
    Prereq:      Y      Y        Y         Y       Y
    Include:     _      _        _         _       _       _       _    (Y/#/L)


   Prereq's Run Times:  17:00
   Range of times to include:   Only between times _____ and _____  (HH:MM)


   Prereq does not have Run Dates listed in a date object.


   F3=Exit
   F12=Previous      F21=Command Line
```

If the prerequisite is a Robot Schedule job, the Prereq line displays the job's current schedule. Enter a **Y** on the Include line for the days when you want the job to trigger the reactive job.

The job's current run times. To react only to runs of the prerequisite job that start during a specific time range, enter the range (you also must select at least one day or a date object).

Select Special Dates Panel

When a prerequisite job uses the DATE advanced scheduling option, you can display the run dates for the job and select the days you want the job to trigger the reactive job. To display the run dates, press F6

```
RBT2000              Special Instance Selection              18:05:00
                            -Robot Jobs-

  Job Name: TEST2       Description: test2


   Select the instances of the prerequisite job to react to.


    DAY NAME  Monday Tuesday Wednesday Thursday Friday Saturday Sunday
    Prereq:
    Include:    _        _        _        _        _        _        _   (Y/#/L)


    Prereq's Run Times:
    Range of times to include:   Only between times _____ and _____ (HH:MM)


    Prereq's Run Dates are listed in date object: DATEOBJ
    Special job date object exists: Y

  F3=Exit        F6=Create/Edit Special Date Object
  F12=Previous   F21=Command Line
```

If a **Y** displays in this field, special instances of the run dates have been chosen.

Press **F6** to display the Select Special Dates panel.

```
     RBT2003              Select Special Dates              18:06:41
                        Special Instance Selection
       Date Object: DATEOBJ    Description: Dateobj

       1=Select the dates that are the Special run dates

       AUGUST          2023      SEPTEMBER       2023      OCTOBER          2023
        S  M  T  W  T  F  S       S  M  T  W  T  F  S       S  M  T  W  T  F  S
                 01 02 03 04 05                   01 02     01 02 03 04 05 06 07

       06 07 08 09 10 11 12      03 04 05 06 07 08 09      08 09 10 11 12 13 14

       13 14 15 16 17 18 19      10 11 12 13 14 15 16      15 16 17 18 19 20 21

       20 21 22 23 24 25 26      17 18 19 20 21 22 23      22 23 24 25 26 27 28

       27 28 29 30 31           24 25 26 27 28 29 30      29 30 31


                                                                    More...

       F3=Exit    F12=Previous    F21=Command Line
```

The prerequisite's run dates are shown in reverse image. Enter a **1** below the date to select it.

Using the Keep Option

The keep option allows you to keep the status of a prerequisite job until a status value for each prerequisite is received and used. If the reactive job does not run because a prerequisite did not finish on time, the statuses for jobs using the keep status option will be retained. On the next scheduled run day that all prerequisite statuses exist, the statuses are cleared after Robot Schedule determines whether to run the job.

The keep status option is valid only when the reactive job has a date and time schedule and more than one prerequisite. Use it when you need to schedule a time for the reactive job and occasionally a prerequisite does not complete before the scheduled time.

To use the Keep option, enter a 6 in the **Opt** field for the prerequisite job or jobs whose status you want to keep.

> Enter a **6** in the Opt column if you want Robot Schedule to keep the status until a status value for each prerequisite is received and used. When you press Enter, Robot Schedule adds a K in the Keep field. Enter a **6** again to remove the Keep.
>
> If the Keep field is blank, Robot Schedule clears the status field whenever the job is scheduled to run. The keep status option is valid only when the reactive job has a date and time schedule and more than one prerequisite.

```
RBT297                        Reactive Jobs                        12:45:39

 Job Name: REACTINV     Description: Process Sales transaction       Program

 Options
  1=Insert Status      2=Prerequisite Cross-Reference       ?=More Options
                                                     React
      And                                              To          Special
 Opt  /Or  Job Name  Class        Description      Seq Sts Keep Instance Sts
 6    ___  SALESUPD  ROBOT  Sales Update            10  C                 C
 _    AND  CLOSIT    User   Job closing             20  C


                                                                    Bottom

  F3=Exit           F4=Prompt        F6=Insert ROBOT Job   F10=Next Option
  F11=More Info     F12=Previous     F14=Insert User Job   F24=More keys
```

Example: Using the Keep Option

The Keep option is for use only with reactive jobs that run on scheduled days and times and have more than one prerequisite. It lets you to keep the completion status for the selected prerequisite until a status for each prerequisite has been received and used.

For example, suppose you have a job that should run every Friday after two prerequisite jobs have completed. You want to run the reactive job during off-peak hours, so you schedule it for 10 p.m. The prerequisite jobs usually finish before then, but when they don't, the reactive job doesn't run, the statuses are cleared, and the job doesn't run again until next Friday.

To ensure that the reactive job runs, use the keep status option and schedule the job to run also on Saturday. If the job doesn't run on Friday, the completion statuses for the prerequisite jobs are kept. On Saturday when the job is scheduled to run, the required prerequisites exist, the job runs, and the statuses are cleared.

Job Schedule

Run Times:	2200
Run Days:	Every Friday or Saturday

Time is: Friday, 2200

Prerequisite Job List

Job	Required Status	Actual Status	Keep
PRD417	Normal	Normal	Y
PRD418	Normal		

The job is scheduled to run at 10 p.m. on Friday, but before submitting the job, Robot Schedule checks its condition list. Job PRD417 has completed normally, but job PRD418 has not, so Robot Schedule does not submit the job. Robot Schedule does NOT clear the status for PRD417.

Time is: Friday, 2300

Job	Required Status	Actual Status	Keep
PRD417	Normal	Normal	Y
PRD418	Normal	Normal	

At 11:00 PRD418 completes and Robot Schedule records its status.

Time is: Saturday, 2200
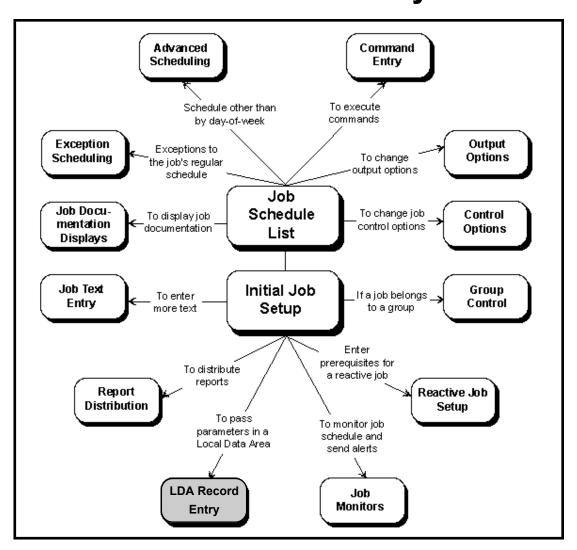
Job	Required Status	Actual Status	Keep
PRD417	Normal	Normal	Y
PRD418	Normal	Normal	
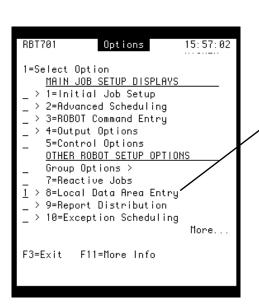
The job is next scheduled for 10 p.m. on Saturday. Robot Schedule checks the condition list and finds that jobs PRD417 and PRD418 have both completed normally, so Robot Schedule submits the job.
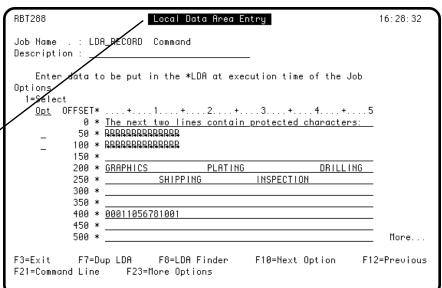
Job	Required Status	Actual Status	Keep
PRD417	Normal		Y
PRD418	Normal		

Robot Schedule clears the statuses for the next job run.

LDA Record Entry


```
RBT701          Options          15:57:02

1=Select Option
     MAIN JOB SETUP DISPLAYS
_  > 1=Initial Job Setup
_  > 2=Advanced Scheduling
_  > 3=ROBOT Command Entry
_  > 4=Output Options
_    5=Control Options
     OTHER ROBOT SETUP OPTIONS
_    Group Options >
     7=Reactive Jobs
1  > 8=Local Data Area Entry
_  > 9=Report Distribution
_  > 10=Exception Scheduling
                            More...


F3=Exit   F11=More Info
```

```
RBT288          Local Data Area Entry          16:28:32

Job Name  . : LDA_RECORD   Command
Description :  _____

        Enter data to be put in the *LDA at execution time of the Job
Options
  1=Select
  Opt  OFFSET* ....+....1....+....2....+....3....+....4....+....5
          0 * The next two lines contain protected characters:
         50 * RRRRRRRRRRRRRR
    _   100 * RRRRRRRRRRRRRR
        150 * _____
        200 * GRAPHICS          PLATING              DRILLING
        250 *           SHIPPING          INSPECTION
        300 * _____
        350 * _____
        400 * 00011056781001
        450 * _____
        500 * _____    More...

F3=Exit     F7=Dup LDA     F8=LDA Finder     F10=Next Option     F12=Previous
F21=Command Line     F23=More Options
```

LDA Record Entry

■ Local Data Area Entry

Every IBM i job has a local data area (LDA in which information can be passed between programs in the job. The programs can then read their parameter values from the local data area. To schedule those programs in Robot Schedule, you need to store the LDA values with the Robot Schedule job. Robot Schedule can store LDA values in a record, and later, when it submits the job, it copies the record to the job's local data area.

■ Five Ways to Enter LDA Data

Robot Schedule provides five ways to enter LDA data:

- **Type the data on the Local Data Area Entry panel.**
  Select **option 8** on the Job Schedule List to display the Local Data Area Entry panel.

- **Copy the data from your workstation's LDA.**
  Press **F7** on the Local Data Area Entry panel to duplicate the LDA. You then can edit the data on the panel.

- **Copy the LDA record for another Robot Schedule job.** Press **F8** on the Local Data Area Entry panel to display the LDA Finder panel. You can display or copy any LDA record in the list.

- **Use an RBTBCHUPD command**.
  You can execute an RBTBCHUPD command at any time before the job run. The RBTBCHUPD command replaces the LDA data stored for the Robot Schedule job with the LDA data of the job that executes the command.

- **Use the Robot Schedule Learn feature.**
  Use the Learn feature to capture the job's LDA. Then, select the job using **option 8** on the Job Schedule List to display the Local Data Area Entry panel and modify the LDA.

■ If Your LDA Data Contains Undisplayable Characters
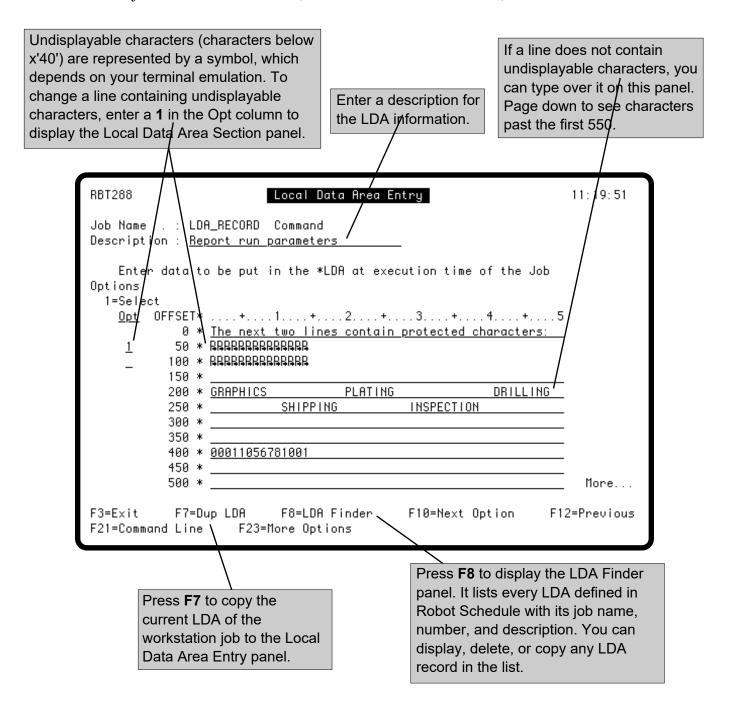
Your LDA data could contain undisplayable characters. (An undisplayable character is any character whose code is less than x'40'.) When you display the Local Data Area Entry panel, any undisplayable characters are represented by a symbol, which varies depending on your terminal emulation. You cannot edit the undisplayable characters, but you can edit the other characters on the same line by selecting the line and editing it on the LDA Section Entry panel.

Local Data Area Entry Panel

Use the Local Data Area Entry panel to display, enter, and edit the LDA data for the job. To display the panel, select **option 8** from the job options menu.
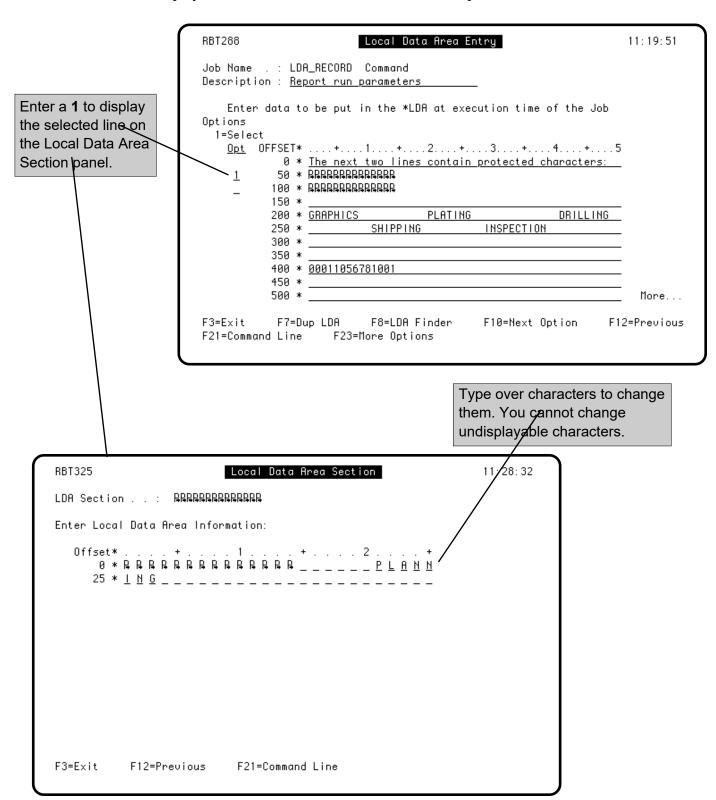
On the Local Data Area Entry panel, you can enter LDA data by typing it on the panel, copying it from the workstation's LDA, or copying it from another LDA record. You then can edit the data by typing over it.

LDA data passed in by an RBTBCHUPD command also can be displayed and edited on this panel. The RBTBCHUPD command can copy the LDA of the job that executes it and store it in the LDA record of a Robot Schedule job. For more information, see the RBTBCHUPD section, later in this manual.

Undisplayable characters (characters below x'40') are represented by a symbol, which depends on your terminal emulation. To change a line containing undisplayable characters, enter a **1** in the Opt column to display the Local Data Area Section panel.

Enter a description for the LDA information.

If a line does not contain undisplayable characters, you can type over it on this panel. Page down to see characters past the first 550.

```
RBT288                      Local Data Area Entry                    11:19:51

Job Name  . : LDA_RECORD   Command
Description : Report run parameters

      Enter data to be put in the *LDA at execution time of the Job
Options
  1=Select
     Opt   OFFSET* ....+....1....+....2....+....3....+....4....+....5
             0 * The next two lines contain protected characters:
       1    50 * RRRRRRRRRRRRRRR
             100 * RRRRRRRRRRRRRRR
             150 * _____
             200 * GRAPHICS          PLATING               DRILLING
             250 * _____SHIPPING_____INSPECTION_____
             300 * _____
             350 * _____
             400 * 00011056781001_____
             450 * _____
             500 * _____  More...

F3=Exit      F7=Dup LDA    F8=LDA Finder     F10=Next Option    F12=Previous
F21=Command Line     F23=More Options
```

Press **F7** to copy the current LDA of the workstation job to the Local Data Area Entry panel.

Press **F8** to display the LDA Finder panel. It lists every LDA defined in Robot Schedule with its job name, number, and description. You can display, delete, or copy any LDA record in the list.

Editing LDA Lines That Have Undisplayable Characters

You cannot change lines that contain undisplayable characters (characters below x'40' on the Local Data Area Entry panel. To edit a line containing undisplayable characters, select it by entering a **1** in its **Opt** field. Robot Schedule then displays the line on the Local Data Area Section panel.

```
RBT288                    Local Data Area Entry                    11:19:51

Job Name   . : LDA_RECORD  Command
Description : Report run parameters

        Enter data to be put in the *LDA at execution time of the Job
  Options
    1=Select
    Opt   OFFSET* ....+....1....+....2....+....3....+....4....+....5
            0 * The next two lines contain protected characters:
     1     50 * ЯЯЯЯЯЯЯЯЯЯЯЯЯЯ
     _    100 * ЯЯЯЯЯЯЯЯЯЯЯЯЯЯ
          150 * _____
          200 * GRAPHICS          PLATING           DRILLING
          250 * _____ SHIPPING          INSPECTION
          300 * _____
          350 * _____
          400 * 00011056781001_____
          450 * _____
          500 * _____    More...

F3=Exit      F7=Dup LDA      F8=LDA Finder      F10=Next Option      F12=Previous
F21=Command Line      F23=More Options
```

Enter a **1** to display the selected line on the Local Data Area Section panel.

Type over characters to change them. You cannot change undisplayable characters.

```
RBT325                    Local Data Area Section                   11:28:32

LDA Section . . :   ЯЯЯЯЯЯЯЯЯЯЯЯЯЯ

Enter Local Data Area Information:

   Offset* . . . . + . . . . 1 . . . . + . . . . 2 . . . . +
       0 * Я Я Я Я Я Я Я Я Я Я Я Я Я Я _ _ _ _ _ P L A N N
      25 * I N G _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

F3=Exit      F12=Previous      F21=Command Line
```

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Report Distribution


```
RBT301                    Report Distribution                13:28:05

Job Name . . :  EMP407CMD    Weekly Labor Report        Command
   Start list at Print File: _____
Options
  A=Add/Copy/Delete      1=Select      ?=More Options

  Opt   Print File         Print File Description
  _     *ALL              *ALL Print File
  _     SHIFT1            First Shift Report
  _     SHIFT2            Second Shift Report
  _     SHIFT3            Third Shift Report








                                                          Bottom

F3=Exit           F4=Prompt        F6=Add Record       F8=Print File Finder
F10=Next Option   F12=Previous     F21=Command Line    F23=More Options
```

```
RBT701          Options        11:39:55

1=Select Option
      MAIN JOB SETUP DISPLAYS
_  >  1=Initial Job Setup
_  >  2=Advanced Scheduling
_  >  3=ROBOT Command Entry
_  >  4=Output Options
_     5=Control Options
      OTHER ROBOT SETUP OPTIONS
_     Group Options >
_     7=Reactive Jobs
_     8=Local Data Area Entry
1  >  9=Report Distribution
_  >  10=Exception Scheduling
                         More...


F3=Exit    F11=More Info
```

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■ Automate Report Distribution

Robot Schedule Report Distribution is designed to ensure that the right number of reports get to the right people on the right days, automatically.

When you schedule a report job on Robot Schedule, you can specify how, when, and to whom reports are to be distributed. After each run of the report job completes, Robot Schedule processes the print files produced by the job. You can change print attributes, attach banner pages, and distribute the right number of spooled files to the right output queues for that day.

■ Enter Recipient Lists

A recipient list is a list of the individuals, with their departments and locations, who are to receive the report. You can enter a default recipient list for all print files and individual recipient lists for specific print files.

You enter distribution instructions for each recipient, including:

- Days that the recipient is to receive the report.
- Output queue to which the report is sent.
- Number of copies to be printed for the recipient.

■ Change Print Attributes

Robot Schedule can change the print attributes for the job. You can enter attributes for all print files produced by the job, for a specific print file, and for a specific recipient.

The print attributes you can enter include:

- Option to hold the spooled file on the output queue until it is released.
- Option to keep the spooled file on the output queue until it is deleted.
- Option to bundle reports produced by this job by print file or by recipient.
- Form type.
- Page size.
- Print text (the line printed on the separator page).
- User data (identifies the spooled file in the output queue).

■ Distribute Reports to Other Systems

You can distribute reports to other systems on the network. Just enter the system address and a user profile. You can distribute all print files, a specific print file, or just the copies for a specific recipient.

■ Attach Banner Pages

Robot Schedule can attach a banner page to your reports. Just enter the text to be printed on the cover page of the report. You can enter banner page text for all print files, for a specific print file, and for a specific recipient.

■ **Print Recipient Lists**
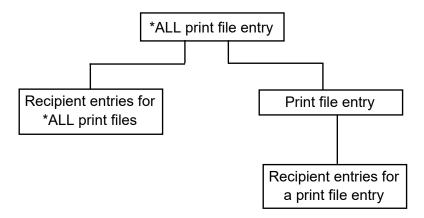
You can direct Robot Schedule to print the recipient list with the banner page. The recipient list includes the name of each report recipient with their department and location. You can print recipient lists for all print files, a specific print file, or a specific recipient. (When requested for a specific recipient, Robot Schedule prints the recipient list that includes that recipient.)

■ **Entry Hierarchy**

The Robot Schedule Report Distribution system allows you to enter print attribute changes and banner pages for print file entries and for recipient entries. The entries form a hierarchy as follows:

■ **Searching for a Banner Page**

To find the banner page to use for a print file copy, Robot Schedule starts at the most specific entry and works up the hierarchy to the most general entry (all print files). As soon as it finds a banner page, it stops looking. If it does not find a banner page, Robot Schedule does not attach a banner page to the copy.

```
                    ┌──────────────────────┐
                    │ *ALL print file entry│
                    └──────────────────────┘
                      │                  │
          ┌───────────────────┐    ┌──────────────────┐
          │ Recipient entries │    │ Print file entry │
          │ for *ALL print    │    └──────────────────┘
          │ files             │              │
          └───────────────────┘    ┌──────────────────┐
                                    │ Recipient entries│
                                    │ for a print file │
                                    │ entry            │
                                    └──────────────────┘
```

For example, suppose Robot Schedule is printing a copy of print file Y for recipient X. To find a banner page to attach to the copy, it first looks for an entry for print file Y.

If print file Y has its own print file entry, Robot Schedule looks for a banner page in:

1. Recipient X entry for print file Y
2. Print file Y entry
3. *ALL print file entry

If print file Y does not have its own print file entry, Robot Schedule looks for a banner page in:

1. Recipient X entry for *ALL print files
2. *ALL print file entry

■ **Searching for Print Attribute Changes**
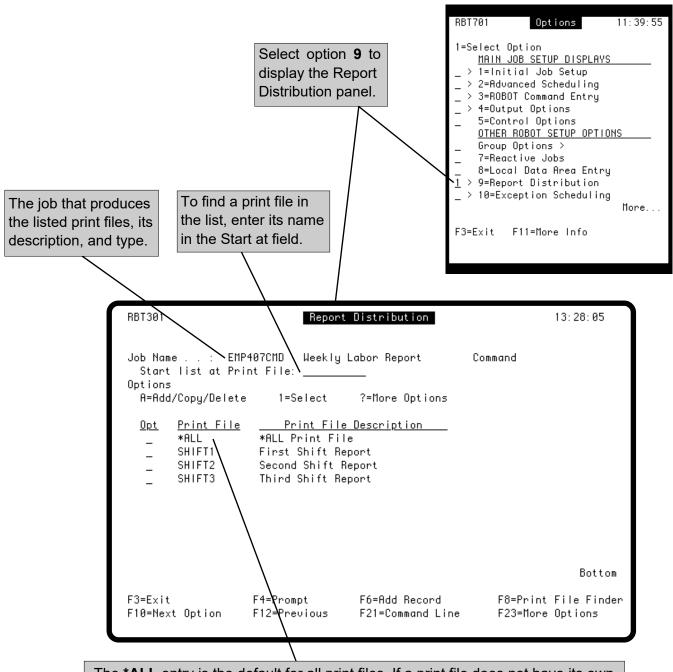
Similarly, when Robot Schedule looks for print attribute changes, it looks in the same order it did for the banner page. If it finds no changes for an attribute, it uses the attribute as set by the job.

You do not have to re-enter every attribute at every level. Attributes carry forward to more specific levels. For example, suppose that print attributes for a recipient copy should be the same as those for the print file except for the Print Text attribute. Enter the Print Text attribute for the recipient entry; the other attributes are carried forward from the print file entry.

Report Distribution Panel

To enter Report Distribution information for the job, begin by displaying the Report Distribution panel for the job. To do so, select option **9** on the Job Schedule List.

Note: The **Use Report Distribution?** field on the Output Options panel determines whether the Report Distribution information is used. For more information, see the Output Options section.

```
RBT701            Options            11:39:55

1=Select Option
     MAIN JOB SETUP DISPLAYS
_  > 1=Initial Job Setup
_  > 2=Advanced Scheduling
_  > 3=ROBOT Command Entry
_  > 4=Output Options
_    5=Control Options
     OTHER ROBOT SETUP OPTIONS
_    Group Options >
_    7=Reactive Jobs
_    8=Local Data Area Entry
1  > 9=Report Distribution
_  > 10=Exception Scheduling
                              More...

F3=Exit   F11=More Info
```

Select option **9** to display the Report Distribution panel.

The job that produces the listed print files, its description, and type.

To find a print file in the list, enter its name in the Start at field.

```
RBT301                  Report Distribution              13:28:05


Job Name . . : EMP407CMD  Weekly Labor Report        Command
   Start list at Print File: _____
Options
   A=Add/Copy/Delete     1=Select      ?=More Options

   Opt   Print File      Print File Description
    _    *ALL          *ALL Print File
    _    SHIFT1         First Shift Report
    _    SHIFT2         Second Shift Report
    _    SHIFT3         Third Shift Report




                                                        Bottom

   F3=Exit          F4=Prompt       F6=Add Record      F8=Print File Finder
   F10=Next Option  F12=Previous    F21=Command Line   F23=More Options
```

The ***ALL** entry is the default for all print files. If a print file does not have its own entry, Robot Schedule uses the recipient list, print attributes, and banner page for the ***ALL** print file entry. If you delete the ***ALL** entry, it deletes all entries you must then re-create the ***ALL** entry before you can add individual print file entries.

Report Distribution Panel

The Report Distribution panel for a job must have an entry for ***ALL**. It is the default entry for all print files the job produces. You also can enter specific print files in the list. Enter a print file if its specifications should differ from the defaults in the ***ALL** entry.

To define a new print file to add to the list, enter an **A** in the **Opt** field and select the Add Record option. The Print File Attributes panel displays, on which you enter the name and description of the print file and any print attribute changes for that file.

To copy a print file already defined for another job, press **F8.** The Print File Finder displays, which lists every print file defined in Robot Schedule.

Press **F4** to display the options window and select an option for the file:

A   Displays a window on which you can select to add, copy, or delete a file entry.

1   Displays the Print File Attributes panel.

2   Displays the Report Recipients panel.

3   Displays the Banner Page panel.

```
RBT701          Options          13:49:09

1=Select Option
      Print File Options
_ > A=Add/copy/delete
_ > 1=Print File Attributes
_ > 2=Recipient Selection
_   3=Banner Page



                              Bottom

F3=Exit    F11=More Info
```

```
RBT301              Report Distribution              13:28:05


Job Name . . :  EMP407CMD   Weekly Labor Report        Command
    Start list at Print File: _____
Options
   A=Add/Copy/Delete    1=Select    ?=More Options

   Opt    Print File       Print File Description
    _     *ALL         *ALL Print File
    _     SHIFT1       First Shift Report
    _     SHIFT2       Second Shift Report
    _     SHIFT3       Third Shift Report




                                            Bottom

F3=Exit        F4=Prompt       F6=Add Record    F8=Print File Finder
F10=Next Option  F12=Previous  F21=Command Line  F23=More Options
```

Press **F8** to display the Print File Finder. The panel lists every print file defined in Robot Schedule. You can copy a file from the finder list to the list for the job. Press **F9** on the finder panel to search for a file by file name or job name.
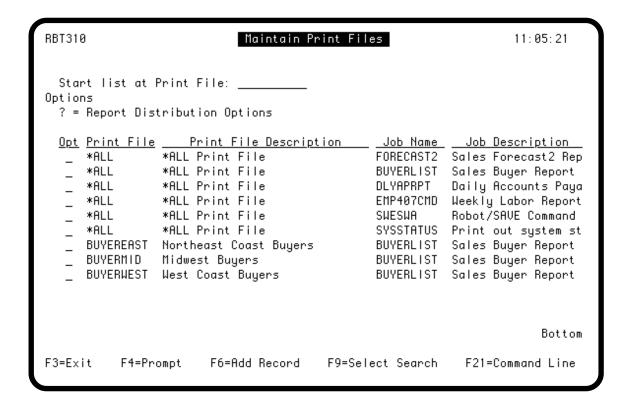
Creating Report Print File Templates

The Maintain Print Files panel allows you to create templates for print files you use often. Once created, the templates display in the Print File Finder. After copying a template into a Robot Schedule job, you can customize it for the job. You cannot delete print file templates.
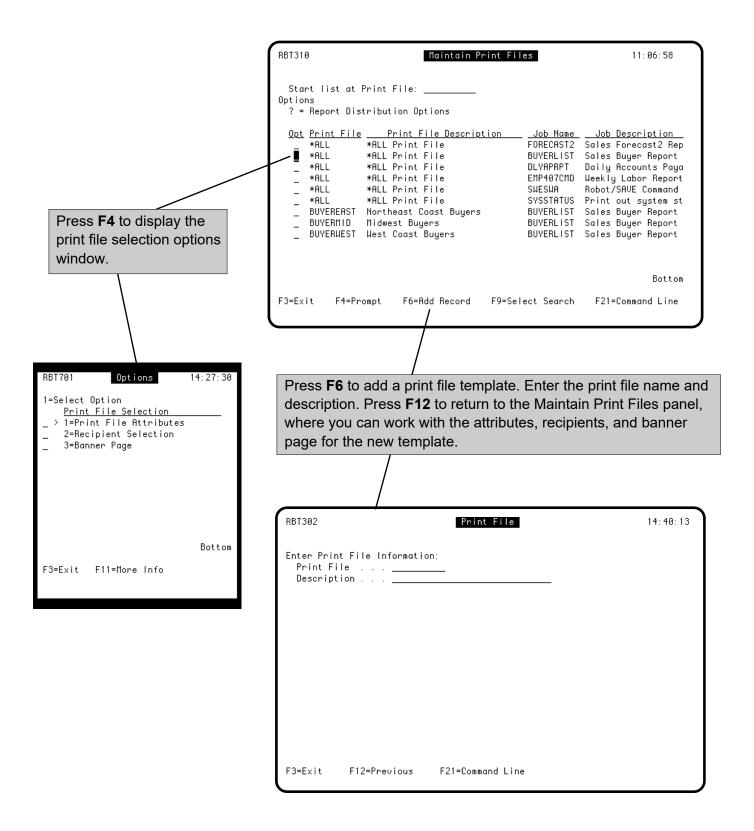
The Maintain Print Files panel also lists all print files that exist and the Robot Schedule jobs that use them. You can make changes to the print files without going through the Job Schedule List.

To display the panel, enter **rbtrpt** or **rbm printfiles** on an IBM i command line.

Note: Do not enter this command on a command line that was accessed within Robot Schedule (using **F21**). This causes an error because you are already in Robot Schedule.

```
RBT310                     Maintain Print Files                    11:05:21


   Start list at Print File: _____
Options
  ? = Report Distribution Options

  Opt  Print File      Print File Description      Job Name    Job Description
   _   *ALL            *ALL Print File             FORECAST2   Sales Forecast2 Rep
   _   *ALL            *ALL Print File             BUYERLIST   Sales Buyer Report
   _   *ALL            *ALL Print File             DLYAPRPT    Daily Accounts Paya
   _   *ALL            *ALL Print File             EMP407CMD   Weekly Labor Report
   _   *ALL            *ALL Print File             SWESWA      Robot/SAVE Command
   _   *ALL            *ALL Print File             SYSSTATUS   Print out system st
   _   BUYEREAST       Northeast Coast Buyers      BUYERLIST   Sales Buyer Report
   _   BUYERMID        Midwest Buyers              BUYERLIST   Sales Buyer Report
   _   BUYERWEST       West Coast Buyers           BUYERLIST   Sales Buyer Report




                                                                      Bottom

  F3=Exit      F4=Prompt      F6=Add Record    F9=Select Search    F21=Command Line
```

Maintain Report Print File Templates

```
RBT310                        Maintain Print Files                    11:06:58

   Start list at Print File: _____
Options
   ? = Report Distribution Options

   Opt  Print File      Print File Description     Job Name     Job Description
    _     *ALL          *ALL Print File            FORECAST2   Sales Forecast2 Rep
    █     *ALL          *ALL Print File            BUYERLIST   Sales Buyer Report
    _     *ALL          *ALL Print File            DLYAPRPT    Daily Accounts Paya
    _     *ALL          *ALL Print File            EMP407CMD   Weekly Labor Report
    _     *ALL          *ALL Print File            SWESWA      Robot/SAVE Command
    _     *ALL          *ALL Print File            SYSSTATUS   Print out system st
    _   BUYEREAST     Northeast Coast Buyers       BUYERLIST   Sales Buyer Report
    _   BUYERMID      Midwest Buyers               BUYERLIST   Sales Buyer Report
    _   BUYERWEST     West Coast Buyers            BUYERLIST   Sales Buyer Report

                                                                        Bottom

F3=Exit     F4=Prompt      F6=Add Record    F9=Select Search     F21=Command Line
```

Press **F4** to display the print file selection options window.

```
RBT701         Options        14:27:30

1=Select Option
        Print File Selection
   _  > 1=Print File Attributes
   _    2=Recipient Selection
   _    3=Banner Page




                                Bottom
F3=Exit   F11=More Info
```

Press **F6** to add a print file template. Enter the print file name and description. Press **F12** to return to the Maintain Print Files panel, where you can work with the attributes, recipients, and banner page for the new template.

```
RBT302                              Print File                        14:40:13

   Enter Print File Information:
      Print File  . . . _____
      Description . . . _____








F3=Exit      F12=Previous     F21=Command Line
```

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Print File Attributes

The Print File Attributes panel lets you change the print attributes for the *ALL print file, a specific print file, or a recipient.

To change print attributes for:	Display the Print File Attributes panel for the:
All reports produced by the job	***ALL** print file (select **Print File Attributes** from the Report Distribution panel)
All copies of one print file	Print file (select **Print File Attributes** from the Report Distribution panel)
All copies for one recipient	Recipient (select **Print File Attributes** from the Report Recipients panel)

You do not have to enter a value for every print attribute. Enter only the attributes that are to differ from the more general level; the other attributes are carried forward to the more specific levels.

The job name and print file for which the print attributes are used.

Enter the output queue to which the spooled files are sent; leave this field blank if the report is to be distributed on another system only. Press **F4** to select from a list of output queues.

```
RBT303                    Print File Attributes              14:38:07

Job Name  . . . :  EMP407CMD   Weekly Labor Report       Command
Print File  . . :  *ALL        Description . :  *ALL Print File


Print File Information
  Output Queue    PRT01      (F4)    Other System Distribution:
    Library . .   QUSRSYS               User ID . . .
  Copies  . . .     1  (1 thru 255)    System Address _____ (F4=Prompt)
  Form Type . .   *STD              Hold Spool File  N  (Y=Yes, N=No)
  Print Text      Weekly Labor Report
  User Data . .   Labor Rpt          Save Spool File  Y  (Y=Yes, N=No)
  Page Size:                         Output Priority  ____  (*JOB, 1 thru 9)
    Length  . .    62  (1 thru 255)  Lines per Inch    6    (F4=Prompt)
    Width . . .   198  (1 thru 378)  Chars per Inch   12    (F4=Prompt)
  Overflow Line   60  (1 thru 255)
Report Distribution Options For Job
  Submit Distribution to:            Save Undistributed
    Job Queue  QPGMR                   Print Files?   N  (Y, N, O=Original, H)
      Library  QGPL                  Bundle By  . . . P    (P=Print File,
                                                           R=Recipient)
  F3=Exit     F4=Prompt     F12=Previous     F21=Command Line
```

Use these fields only when distributing to another system in your network. See the discussion later in this section.

Print File Attributes

Enter the number of copies to be printed (1 through 255).

Enter the form type identifier of the forms on which the report should be printed. Enter ***STD** for the standard form type for the system.

Enter a **Y** if the spooled files should be held on the output queue until the files are released.

```
RBT303                          Print File Attributes                    14:38:07

   Job Name    . . :   EMP407CMD   Weekly Labor Report         Command
   Print File  . . :   *ALL        Description . :   *ALL Print File


   Print File Information
      Output Queue    PRT01       (F4)     Other System Distribution:
        Library . .   QUSRSYS               User ID   . . .    _____
      Copies   . . .    1   (1 thru 255)    System Address   _____  (F4=Prompt)
      Form Type . .   *STD                 Hold Spool File    N   (Y=Yes, N=No)
      Print Text      Weekly Labor Report
      User Data . .   Labor Rpt            Save Spool File    Y   (Y=Yes, N=No)
      Page Size:                           Output Priority   ____  (*JOB, 1 thru 9)
        Length  . .    62   (1 thru 255)   Lines per Inch     6     (F4=Prompt)
        Width . . .   198   (1 thru 378)   Chars per Inch    12     (F4=Prompt)
      Overflow Line   60   (1 thru 255)
   Report Distribution Options For Job
      Submit Distribution to:              Save Undistributed
        Job Queue   QPGMR                    Print Files?     N   (Y, N, O=Original, H)
          Library     QGPL                 Bundle By  . . .   P     (P=Print File,
                                                                     R=Recipient)
   F3=Exit       F4=Prompt      F12=Previous      F21=Command Line
```

Enter up to 30 characters to be printed on the separator page of the duplicated spool files. The original spool file print text is retained and printed at the bottom of each page of the report.

Enter up to 10 characters that identify the spooled file.

Enter a **Y** if the spooled files should be kept on the output queue until the files are deleted.

Print File Attributes

Enter the page dimensions in Length (print lines per page; 1 through 255) and Width (characters per printed line; 1 through 378).

Enter the priority (1 through 9) of the spooled file in the output queue. Enter ***JOB** if it should be the same as that of the job that created the spooled file.

```
RBT303                        Print File Attributes              14:38:07

Job Name   . . . :  EMP407CMD    Weekly Labor Report       Command
Print File . . . :  *ALL         Description . :  *ALL Print File


Print File Information
  Output Queue   PRT01      (F4)    Other System Distribution:
    Library. .     QUSRSYS             User ID  . . .   _____
  Copies . . .     _1_ (1 thru 255)   System Address  _____  (F4=Prompt)
  Form Type . .  *STD_____          Hold Spool File   N   (Y=Yes, N=No)
  Print Text     Weekly Labor Report
  User Data . .  Labor Rpt           Save Spool File   Y   (Y=Yes, N=No)
  Page Size:                         Output Priority   ____  (*JOB, 1 thru 9)
    Length . .  _62_ (1 thru 255)    Lines per Inch    6 _   (F4=Prompt)
    Width  . . . 198  (1 thru 378)   Chars per Inch    12_   (F4=Prompt)
  Overflow Line  _60_ (1 thru 255)
Report Distribution Options For Job
  Submit Distribution to:            Save Undistributed
    Job Queue  QPGMR_____              Print Files?   N  (Y, N, O=Original, H)
      Library    QGPL_____           Bundle By  . . .  P   (P=Print File,
                                                             R=Recipient)
F3=Exit      F4=Prompt      F12=Previous      F21=Command Line
```

Enter the maximum lines to be printed on a page (1 through 255). Printing then continues on the next page.

This section does not display at the recipient level.

Enter the vertical print density in lines per inch (LPI). Press **F4** to select the LPI.

Enter the horizontal print density in characters per inch (CPI). Press **F4** to select the CPI.

Distributing Reports on the Network

You can send report copies to be printed on the IBM i in your network via QSNADS. Specify the system address and the user ID to be used on the other system. The report copies are placed on the default output queue for the specified user ID. Report distribution to another system can be specified on three levels:
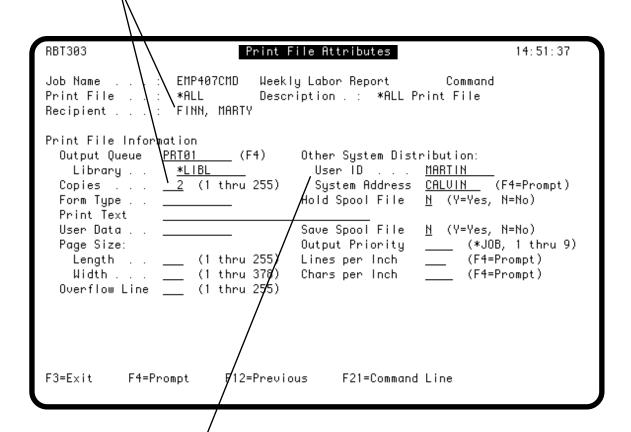
To change print attributes for:	Display the Print File Attributes panel for the:
All reports produced by the job	***ALL** print file (select **Print File Attributes** from the Report Distribution panel)
All copies of one print file	Print file (select **Print File Attributes** from the Report Distribution panel)
All copies for one recipient	Recipient (select **Print File Attributes** from the Report Recipients panel)

Note: The user profile that runs the sending job must be in the system directory. To see the user profile that runs a Robot Schedule job, look at its Control Options panel. For example, if the user profile on the Control Options panel for RPTJOB is QPGMR, then QPGMR must be in the system directory if report copies from RPTJOB are to be sent to another system.

```
RBT303                       Print File Attributes                    14:51:37

 Job Name  . . . :  EMP407CMD    Weekly Labor Report         Command
 Print File  . . :  *ALL         Description . :  *ALL Print File
 Recipient . . . :  FINN, MARTY

 Print File Information
   Output Queue    PRT01       (F4)     Other System Distribution:
     Library . .   *LIBL                   User ID  . . .   MARTIN
   Copies  . . .   2  (1 thru 255)         System Address   CALVIN    (F4=Prompt)
   Form Type . .   _____          Hold Spool File   N  (Y=Yes, N=No)
   Print Text      _____
   User Data . .   _____              Save Spool File   N  (Y=Yes, N=No)
   Page Size:                              Output Priority   ____  (*JOB, 1 thru 9)
     Length  . .   ___  (1 thru 255)   Lines per Inch    ___   (F4=Prompt)
     Width . . .   ___  (1 thru 378)   Chars per Inch    ____  (F4=Prompt)
   Overflow Line   ___  (1 thru 255)




 F3=Exit     F4=Prompt     F12=Previous     F21=Command Line
```

Distributing Reports on the Network

This panel applies only to the two copies for this recipient. (You can enter this information on either the Recipient Setup panel or the Print File Attributes panel for the recipient.)

```
RBT303                     Print File Attributes                14:51:37

Job Name   . .  :    EMP407CMD   Weekly Labor Report       Command
Print File . . :    *ALL        Description . :   *ALL Print File
Recipient . . . :   FINN, MARTY


Print File Information
  Output Queue    PRT01       (F4)      Other System Distribution:
    Library . .     *LIBL               User ID  . . .    MARTIN
  Copies   . . .    2  (1 thru 255)     System Address   CALVIN    (F4=Prompt)
  Form Type . .    _____           Hold Spool File   N  (Y=Yes, N=No)
  Print Text       _____
  User Data . .    _____           Save Spool File   N  (Y=Yes, N=No)
  Page Size:                            Output Priority   ____  (*JOB, 1 thru 9)
    Length  . .    ___  (1 thru 255)    Lines per Inch    ___   (F4=Prompt)
    Width . . .    ___  (1 thru 378)    Chars per Inch    ____  (F4=Prompt)
  Overflow Line    ___  (1 thru 255)




  F3=Exit     F4=Prompt       F12=Previous      F21=Command Line
```

To send report copies to another system in the network, enter a user ID and the system address. If Robot Network is configured via QSNADS, press **F4** to see a list of available systems.
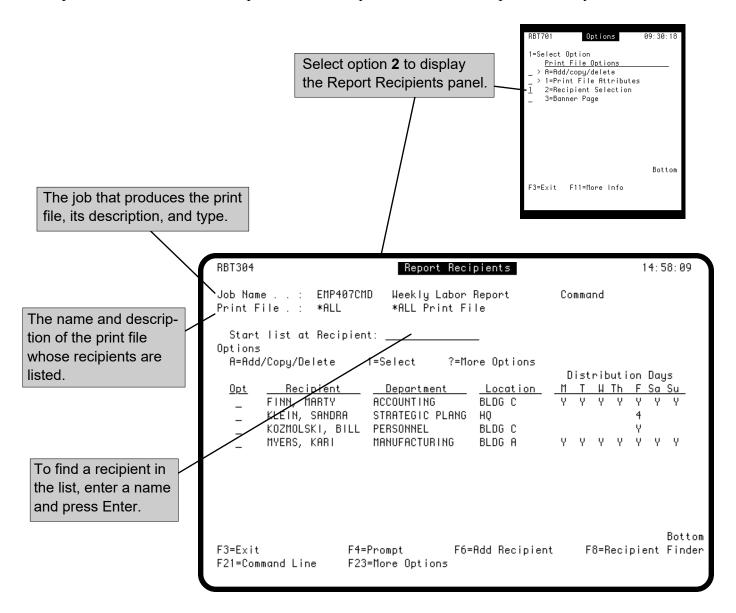
A copy of the print file is sent to the other system; the specified number of copies are printed from the default print queue for the user ID. Robot Schedule cannot determine if the specified user ID is valid on the other system. If the specified user ID is invalid, the report copies are not distributed on the other system.

Report Recipients Panel

The Report Recipients panel shows the recipient list for the selected print file entry. Enter a default recipient list for the ***ALL** entry. Enter recipient lists for individual print files only if their recipient lists should differ from the default. For example, suppose a job produces three print files, RPT1, RPT2, and RPT3. If Tom, Dick, and Harry are on the *ALL recipient list and Tom, Dick and Bob are on the RPT3 recipient list, Tom and Dick will receive all three reports, Harry will receive RPT1 and RPT2, and Bob will receive only RPT3.

Each recipient is identified by name, department, and location. Every recipient entry must specify a destination (output queue or user ID and system address. A recipient can receive multiple copies of the print file, but all copies for a recipient are sent to the same output queue.

To see the recipient list for a print file entry, select option **2** for the entry on the Maintain Report Print Files panel. To see the default recipient list, select option **2** for the ***ALL** print file entry.

```
RBT701          Options          09:30:18

1=Select Option
        Print File Options
 _  > A=Add/copy/delete
 _  > 1=Print File Attributes
 1    2=Recipient Selection
 _    3=Banner Page




                                 Bottom

F3=Exit   F11=More Info
```

Select option **2** to display the Report Recipients panel.

The job that produces the print file, its description, and type.

The name and description of the print file whose recipients are listed.

To find a recipient in the list, enter a name and press Enter.

```
RBT304                    Report Recipients                 14:58:09

Job Name . . :  EMP407CMD   Weekly Labor Report      Command
Print File . :  *ALL        *ALL Print File

   Start list at Recipient: _____
Options
  A=Add/Copy/Delete    1=Select      ?=More Options
                                                   Distribution Days
  Opt     Recipient      Department    Location    M  T  W  Th  F  Sa  Su
   _    FINN, MARTY      ACCOUNTING    BLDG C       Y  Y  Y  Y   Y  Y   Y
   _    KLEIN, SANDRA    STRATEGIC PLANG HQ                      4
   _    KOZMOLSKI, BILL  PERSONNEL     BLDG C                    Y
   _    MYERS, KARI      MANUFACTURING BLDG A       Y  Y  Y  Y   Y  Y   Y




                                                              Bottom
  F3=Exit          F4=Prompt       F6=Add Recipient    F8=Recipient Finder
  F21=Command Line  F23=More Options
```

Report Recipients Panel

Enter each person who is to receive the report on the Report Recipients panel. Do this for documentation purposes, even if you do not change the job specifications at this time. You can enter distribution instructions for each recipient. You also can print the recipient list at the beginning of the report.

To define a new recipient to add to the list, press **F6** or enter **A** in the **Opt** column and select the Add Record option. The Recipient Setup panel displays, on which you enter distribution information for the recipient.

To copy a recipient already defined for another Robot Schedule job, press F8 The Recipient Finder panel displays, from which you can copy any recipient entry defined in Robot Schedule.

After the recipient is in the list, you can enter print attributes and banner page text for that recipient. Do this only if the print attributes or banner page should differ for that recipient.

Enter an option for the recipient:

A Displays a window on which you can select to add, copy, or delete the entry.

1 Displays the Recipient Setup panel.

2 Displays the Print File Attributes panel.

3 Displays the Banner Page panel.

```
RBT701          Options          09:37:15

1=Select Option
        Recipient Options
 _ > A=Add/copy/delete
 _ > 1=Recipient Setup
 _ > 2=Print File Attributes
 _   3=Banner Page




                                   Bottom

F3=Exit    F11=More Info
```

```
RBT304                 Report Recipients

Job Name .  :  EMP407CMD   Weekly Labor Report        Command
Print File. :  *ALL        *ALL Print File

   Start list at Recipient: _____
Options
  A=Add/Copy/Delete      1=Select     ?=More Options
                                              Distribution Days
  Opt    Recipient       Department     Location   M  T  W Th  F Sa Su
   █    FINN, MARTY      ACCOUNTING      BLDG C     Y  Y  Y  Y  Y  Y  Y
   _    KLEIN, SANDRA    STRATEGIC PLANG HQ                     4
   _    KOZMOLSKI, BILL  PERSONNEL       BLDG C                 Y
   _    MYERS, KARI      MANUFACTURING   BLDG A     Y  Y  Y  Y  Y  Y  Y




                                                            Bottom
  F3=Exit            F4=Prompt       F6=Add Recipient    F8=Recipient Finder
  F21=Command Line   F23=More Options
```

Press **F6** to add a recipient to the list.

Press **F8** to display the Recipient Finder. The panel lists every recipient entry defined in Robot Schedule. Press **F9** to search for a recipient by recipient name, print file name, or job name. Enter a **1** by each recipient entry you want to add to the print file.

Recipient Setup Panel

Use the Recipient Setup panel to define the recipient by name, department, and location, and enter distribution instructions for the recipient. **Note:** You must specify a destination for the recipient's copies (either an output queue or a user ID and system address). Otherwise, no copies are distributed for the recipient.

Select the days of the week and the distribution schedule when the recipient should get the report. Enter a **Y** if the recipient should get the report every week on that day. Enter a week number (**1** through **5**) if the recipient should get it on that day for only that one week of the month.

For example, if you enter a Y on Monday, the recipient gets the report every Monday that the job runs. If you enter a 1 on Monday, the recipient can get the report only on the first Monday of each month. If you enter 5 on Monday, the recipient can get the report only if there is a fifth Monday in the month. The week numbers in a month are determined from the calendar used by the job.

Notes:
- If a job date is specified on the Output Options panel, this field uses the job date instead of the system date.

- To ensure that the recipient gets the report every time the job runs, enter a **Y** after every day of the week.

```
RBT306                          Recipient Setup                    15:05:49

Job Name  . . :  EMP407CMD   Weekly Labor Report        Command
Print File . :  *ALL        *ALL Print File

Recipient Information
    Recipient  . . . .    FINN, MARTY
    Department . . . .    ACCOUNTING
    Location . . . . .    BLDG C
Distribution Information
    Monday . . . . . .    Y   (Y=Yes, N=No, 1 thru 5)
    Tuesday  . . . . .    Y
    Wednesday  . . . .    Y
    Thursday . . . . .    Y
    Friday . . . . . .    Y
    Saturday . . . . .    Y
    Sunday . . . . . .    Y
    Output Queue . . .    PRT01      (F4=Prompt)  Other System Distribution:
       Library . . . .    *LIBL                      User ID  . . .   MARTIN
    Copies . . . . . .    2  (1 thru 255)            System Address  CALVIN
                                                                     (F4=Prompt)

F3=Exit     F4=Prompt      F12=Previous      F2=Command Line
```

Enter the name, department, and location of the recipient.

Enter the number of copies to be printed for the recipient.

Enter the destination for the recipient's copies. It can be either an output queue and library on this system or a user ID and system address on another system. Press **F4** to select from a list of output queues or a list of system addresses. If you do not specify a destination, the report copies cannot be distributed. (Distribution on the network is discussed earlier in this section.)

Options to Leave Print Files on Output Queue

When Robot Schedule distributes print files, it copies the original print file on the output queue to other output queues as directed. Normally, it then deletes the original print file from the output queue, but, if you wish, it will keep the print file on the queue for you.

You can set this option for individual print files and for all print files. The option for the individual print file overrides the option for all print files. For example, if the *ALL print file entry specifies option **O** to keep the original print files from being deleted, but the individual print file entry specifies option **Y**, option **Y** is used for the print file, so it is deleted after it is distributed.

Enter one of the following for Save Undistributed Print Files:

Y   Leave the original spooled file on the output queue only if it is not distributed.

N   Delete the original spooled file from the output queue.

O   Leave the original spooled file on the output queue.

H   Leave the original spooled file in Held status on the output queue.

For example, if the job is run on a Tuesday, but the distribution instructions indicate that no one is to receive the report on a Tuesday, the report is not distributed. Or, if no destination is specified for the report copies, that is, no output queue or network system address is specified, the report is not distributed.

If the spooled file is not deleted, it remains on the output queue specified on the Output Options panel.

```
RBT303                    Print File Attributes              14:38:07

Job Name   . . . :  EMP407CMD   Weekly Labor Report       Command
Print File  . . :  *ALL        Description . :   *ALL Print File


Print File Information
   Output Queue    PRT01      (F4)    Other System Distribution:
     Library . .     QUSRSYS           User ID  . . .   _____
   Copies   . . .    _1_  (1 thru 255)  System Address  _____  (F4=Prompt)
   Form Type . .   *STD_____        Hold Spool File   N  (Y=Yes, N=No)
   Print Text      Weekly Labor Report_____
   User Data . .   Labor Rpt_        Save Spool File   Y  (Y=Yes, N=No)
   Page Size:                        Output Priority   ____  (*JOB, 1 thru 9)
     Length  . .   _62_ (1 thru 255)  Lines per Inch   6__   (F4=Prompt)
     Width . . .   198_ (1 thru 378)  Chars per Inch   12__  (F4=Prompt)
   Overflow Line  _60_ (1 thru 255)
Report Distribution Options For Job
   Submit Distribution to:           Save Undistributed
     Job Queue   QPGMR_____           Print Files?   N   (Y, N, O=Original, H)
       Library   QGPL_____         Bundle By  . . .  P    (P=Print File,
                                                            R=Recipient)

F3=Exit     F4=Prompt     F12=Previous     F21=Command Line
```

*Report Distribution Options for the *ALL Entry Only*

The options described on this page appear only on the Print File Attributes panel for the ***ALL** print file entry. These options apply to all reports produced by the job.

Note: If the Capture Job Logs option on the General System Defaults panel is set to N (No), the report distribution job is submitted using the same job description as the Robot Schedule job. If the Capture Job Logs option is set to Y (yes), the job description for RBTSLEEPER in ROBOTLIB is used.

Enter a job queue to which a report distribution job should be submitted. Specifying a different job queue allows large reports or your night processing to finish sooner.

```
RBT303                    Print File Attributes              14:38:07

  Job Name  . . . :  EMP407CMD   Weekly Labor Report       Command
  Print File  . . :  *ALL         Description . :  *ALL Print File


  Print File Information
    Output Queue    PRT01      (F4)    Other System Distribution:
      Library . .   QUSRSYS              User ID  . . .  _____
    Copies  . . .   _1  (1 thru 255)    System Address  _____  (F4=Prompt)
    Form Type . .   *STD_____          Hold Spool File   N   (Y=Yes, N=No)
    Print Text      Weekly Labor Report_____
    User Data  .    Labor Rpt_          Save Spool File   Y   (Y=Yes, N=No)
    Page Size:                          Output Priority   ____   (*JOB, 1 thru 9)
      Length . .    62  (1 thru 255)    Lines per Inch    6__   (F4=Prompt)
      Width . . .   198 (1 thru 378)    Chars per Inch    12__  (F4=Prompt)
    Overflow Line   60  (1 thru 255)
  Report Distribution Options For Job
    Submit Distribution to:            Save Undistributed
      Job Queue   QPGMR_____             Print Files?    N  (Y, N, O=Original, H)
        Library   QGPL_____           Bundle By  . . .  P   (P=Print File,
                                                              R=Recipient)
  F3=Exit     F4=Prompt     F12=Previous     F21=Command Line
```

Specify a Bundling option. Enter a **P** to group the reports by print file. (This option applies only to reports produced by this job.) Enter an **R** to print all reports for a recipient together.

Banner Page Entry

You can set up a banner page for the *ALL print file, a specific print file, or a recipient.
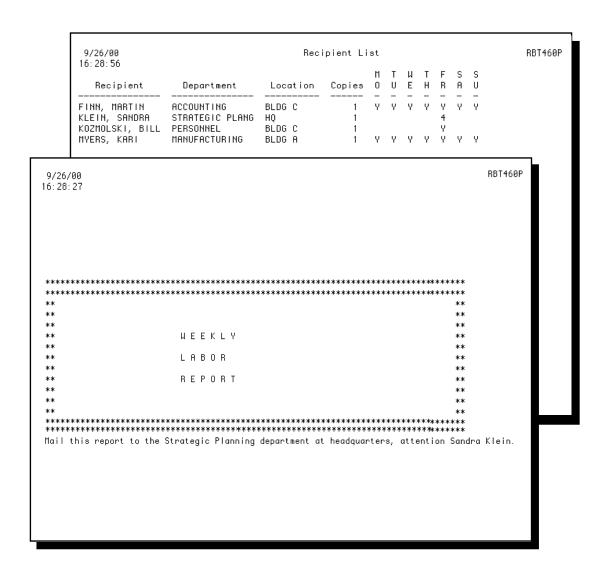
To change banner page info for:	Display the Banner Page panel for the:
All reports produced by the job	***ALL** print file (select **Banner Page** from the Report Distribution panel)
All copies of one print file	Print file (select **Banner Page** from the Report Distribution panel)
All copies for one recipient	Recipient (select **Banner Page** from the Report Recipients panel)

The job, print file, and recipient for whom the banner page is printed. (**Note:** The recipient line does not appear at the print file level.)

Enter up to three 15-character lines to be printed inside a box on the first page. The default title for a print file entry lists the job name and print file name; the default title for a recipient entry lists the recipient name, department, and location.

```
RBT305                              Banner Page                          15:55:50

Job Name  . . .    EMP407CMD   Weekly Labor Report         Command
Print File  . . :  *ALL         *ALL Print File
Recipient . . . :  KLEIN, SANDRA

Enter Banner Page Information:
   Title Lines . . .   KLEIN, SANDRA
                       STRATEGIC PLANG
                       HQ

   Instruction Lines  Main this report to the Strategic Planning department at h
eadquarters, attention Sandra Klein.




     Print Recipient List with Banner Page  Y  (Y=Yes, N=No)



   F3=Exit      F6=Delete      F12=Previous      F21=Command Line
```

Enter up to 500 characters to be printed below the box on the first page.

Press **F6** to delete this banner page entry.

Enter a **Y** to print the recipient list for the print file as the second page of the report. The recipient list shows all recipients of the report with their departments and locations as entered on the Report Recipients panel.

Banner Page Entry
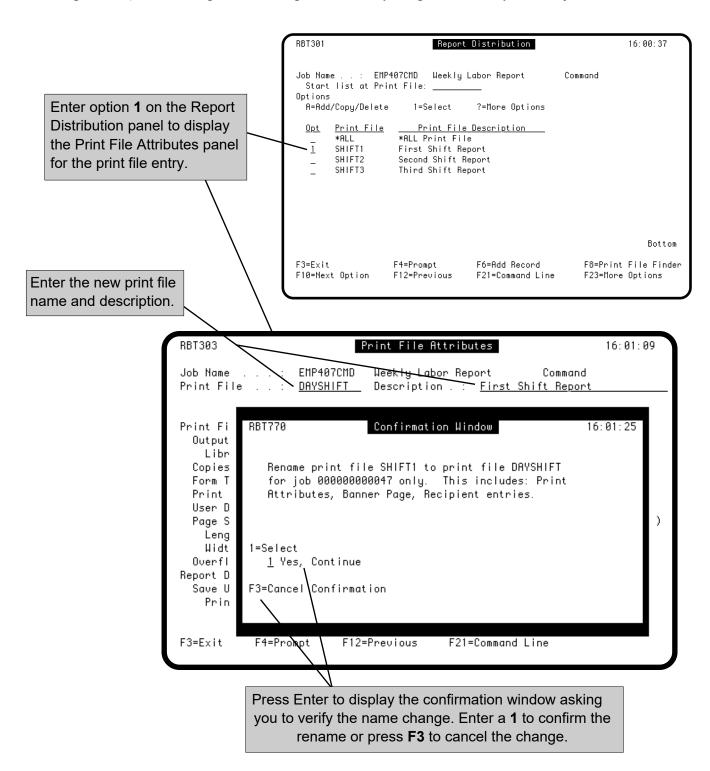
The banner page entered on the panel shown on the previous page would be printed on the first page of the report. The recipient list, if requested, prints on the second page, as shown below.

The source for this banner page report is shipped with the product in source file RBTBPSRC in library ROBOTLIB.

```
 9/26/00                                  Recipient List                              RBT460P
16:28:56
                                                            M  T  W  T  F  S  S
      Recipient         Department        Location   Copies 0  U  E  H  R  A  U
 ----------------    ----------------   ----------   ------ -  -  -  -  -  -  -
 FINN, MARTIN        ACCOUNTING         BLDG C          1   Y  Y  Y  Y  Y  Y  Y
 KLEIN, SANDRA       STRATEGIC PLANG    HQ             1                 4
 KOZMOLSKI, BILL     PERSONNEL          BLDG C         1                 Y
 MYERS, KARI         MANUFACTURING      BLDG A         1   Y  Y  Y  Y  Y  Y  Y
```

```
 9/26/00                                                                         RBT460P
16:28:27




    ****************************************************************************
    ****************************************************************************
    **                                                                      **
    **                                                                      **
    **                                                                      **
    **                       W E E K L Y                                    **
    **                                                                      **
    **                       L A B O R                                      **
    **                                                                      **
    **                       R E P O R T                                    **
    **                                                                      **
    **                                                                      **
    **                                                                      **
    ****************************************************************************
    ****************************************************************************
    Mail this report to the Strategic Planning department at headquarters, attention Sandra Klein.
```

Renaming a Print File Entry
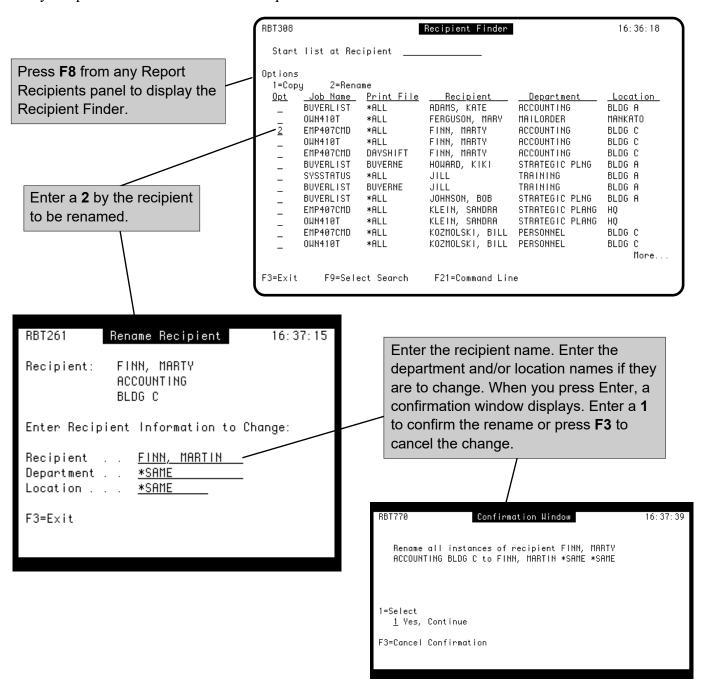
Suppose the name of a print file produced by a job changes. If that print file has its own entry in Robot Schedule Report Distribution, you must rename the print file entry to match the new print file name. To do so, display the Print File Attributes panel for the print file entry (select option **1** from the Report Distribution panel). Change the print file name on the panel. The entire entry (print attributes, banner page, and recipient list) now belongs to the new print file. Only the print file entry for this job is renamed.

```
RBT301                          Report Distribution                  16:00:37


 Job Name . . :  EMP407CMD   Weekly Labor Report        Command
   Start list at Print File: _____
 Options
   A=Add/Copy/Delete     1=Select     ?=More Options

   Opt   Print File       Print File Description
    _     *ALL           *ALL Print File
    1     SHIFT1          First Shift Report
    _     SHIFT2          Second Shift Report
    _     SHIFT3          Third Shift Report




                                                                     Bottom

 F3=Exit           F4=Prompt         F6=Add Record        F8=Print File Finder
 F10=Next Option   F12=Previous      F21=Command Line     F23=More Options
```

Enter option **1** on the Report Distribution panel to display the Print File Attributes panel for the print file entry.

Enter the new print file name and description.

```
RBT303                       Print File Attributes                  16:01:09

 Job Name   . . . :   EMP407CMD   Weekly Labor Report      Command
 Print File  . . :   DAYSHIFT    Description . :  First Shift Report


 Print Fi  | RBT770              Confirmation Window              16:01:25
  Output   |
    Libr   |
  Copies   |     Rename print file SHIFT1 to print file DAYSHIFT
  Form T   |     for job 000000000047 only.  This includes: Print
  Print    |     Attributes, Banner Page, Recipient entries.
  User D   |
  Page S   |                                                           )
    Leng   |
    Widt   | 1=Select
  Overfl   |   1 Yes, Continue
 Report D  |
  Save U   | F3=Cancel Confirmation
    Prin   |



 F3=Exit      F4=Prompt      F12=Previous      F21=Command Line
```

Press Enter to display the confirmation window asking you to verify the name change. Enter a **1** to confirm the rename or press **F3** to cancel the change.

Renaming a Recipient

Suppose Ann Jones leaves the company and Bob Smith takes her place, or someone changes from Sales to Marketing, and/or moves from Building A to Building B. Robot Schedule Report Distribution makes it easy to make the change. With one option, it changes all instances of that recipient for all jobs using Robot Schedule Report Distribution.

To rename a recipient, display the Recipient Finder (press **F8** from any Report Recipients panel. Find the recipient in the list and enter option **2** for that recipient. The Rename Recipient window displays; enter the new name, new department, and/or new location. If you confirm the change, the recipient is renamed in every recipient list in Robot Schedule Report Distribution.

Press **F8** from any Report Recipients panel to display the Recipient Finder.

Enter a **2** by the recipient to be renamed.

```
RBT308                          Recipient Finder                    16:36:18

   Start list at Recipient  _____

Options
  1=Copy      2=Rename
  Opt    Job Name   Print File      Recipient      Department       Location
   _     BUYERLIST  *ALL        ADAMS, KATE      ACCOUNTING       BLDG A
   _     OWN410T    *ALL        FERGUSON, MARY   MAILORDER        MANKATO
   2     EMP407CMD  *ALL        FINN, MARTY      ACCOUNTING       BLDG C
   _     OWN410T    *ALL        FINN, MARTY      ACCOUNTING       BLDG C
   _     EMP407CMD  DAYSHIFT    FINN, MARTY      ACCOUNTING       BLDG C
   _     BUYERLIST  BUYERNE     HOWARD, KIKI     STRATEGIC PLNG   BLDG A
   _     SYSSTATUS  *ALL        JILL             TRAINING         BLDG A
   _     BUYERLIST  BUYERNE     JILL             TRAINING         BLDG A
   _     BUYERLIST  *ALL        JOHNSON, BOB     STRATEGIC PLNG   BLDG A
   _     EMP407CMD  *ALL        KLEIN, SANDRA    STRATEGIC PLANG  HQ
   _     OWN410T    *ALL        KLEIN, SANDRA    STRATEGIC PLANG  HQ
   _     EMP407CMD  *ALL        KOZMOLSKI, BILL  PERSONNEL        BLDG C
   _     OWN410T    *ALL        KOZMOLSKI, BILL  PERSONNEL        BLDG C
                                                                  More...

  F3=Exit     F9=Select Search     F21=Command Line
```

```
RBT261        Rename Recipient        16:37:15

Recipient:    FINN, MARTY
              ACCOUNTING
              BLDG C

Enter Recipient Information to Change:

Recipient  . .   FINN, MARTIN
Department . .   *SAME
Location . . .   *SAME

F3=Exit
```

Enter the recipient name. Enter the department and/or location names if they are to change. When you press Enter, a confirmation window displays. Enter a **1** to confirm the rename or press **F3** to cancel the change.

```
RBT770              Confirmation Window              16:37:39

   Rename all instances of recipient FINN, MARTY
   ACCOUNTING BLDG C to FINN, MARTIN *SAME *SAME

1=Select
   1 Yes, Continue

F3=Cancel Confirmation
```

Exception Scheduling


```
RBT701          Options          14:02:09

1=Select Option
    MAIN JOB SETUP DISPLAYS
_  > 1=Initial Job Setup
_  > 2=Advanced Scheduling
_  > 3=ROBOT Command Entry
_  > 4=Output Options
_    5=Control Options
     OTHER ROBOT SETUP OPTIONS
_    Group Options >
_    7=Reactive Jobs
_    8=Local Data Area Entry
_  > 9=Report Distribution
1  > 10=Exception Scheduling
                        More...

F3=Exit   F11=More Info
```

```
RBT205                Exception Scheduling              14:02:51

Job Name EMP432        Hours Report              Command
        MISCELLANEOUS SCHEDULING EXCEPTIONS

Run on non-working day Y (Y=Yes, N=No, F=Run after, B=Run before)

Start executing job only between times 20:00 and  6:00

Make this a Submit-Delay model job _ (F4=Prompt for Compare Options)


    EXCEPTION SCHEDULING OBJECTS

Don't run on dates listed in Date Object _____    (F4=Prompt)

Execute schedule instructions in OPAL Object _____ (F4=Prompt)


F3=Exit              F4=Prompt            F10=Next Option
F12=Previous         F21=Command Line     F23=More Options
```

■ **Exception Scheduling Options**

Once you have scheduled the job on either the Initial Job Setup panel or the Advanced Scheduling panel, you can use the Exception Scheduling panel to create exceptions to the job's regular schedule.

■ **Run on Nonworking Days?**

Indicate if the job is to run on nonworking days (by default, it does. If the job should run only on workdays, you can skip runs that fall on nonworking days or have the job run on the workday before or after the nonworking day.

■ **Run Only During Time Range**

Enter a time range within which execution of the job can start. Job execution cannot start at other times, even if the job is on the job queue. This can prevent jobs like library saves or file reorganizations from running during working hours.

■ **Make This a Submit-Delay Job**

Create Submit-Delay model jobs to capture jobs that users submit from menus or workstations, and run them immediately or delay them until a convenient run time. For example, by using this feature, resource-intensive queries and compiles can be captured and run at night rather than bogging down the system during the day. This feature is similar to having a group control job that controls the run schedule of a variable set of temporary jobs.

The Submit-Delay model job has another useful feature. You have the option of using the Job Description, Job Queue, and Output Queue of either the submitted job or the model job. Robot Schedule also maintains a run history of the jobs users submit under the model. It uses this to develop an accurate schedule forecast.

■ **Attach Do Not Run Dates**

Enter the name of an omit-type date object that contains the dates the job should NOT run. (You cannot use this option with the DATE advanced scheduling option.

■ **Attach an OPAL Object**

Enter the name of an OPAL object that should be run with this job. The OPAL object allows you to create exceptions to the job's run schedule based on the conditions at the time the job is submitted or starts execution. OPAL can veto the running of the job based on:

• The status of other jobs
• More complex date and time relationships
• The status of IBM i devices, subsystems, and jobs
• The existence or nonexistence of objects or records
• Values in a data area or LDA
• Values in Robot Schedule reserved command variables

You can find more information on date objects and OPAL objects in the Scheduling Objects Menu section of this user guide.

Exception Scheduling Options

Use the Exception Scheduling panel to create exceptions to the job's regular schedule.

Indicate what Robot Schedule should do if the job is scheduled to run on a nonworking day.
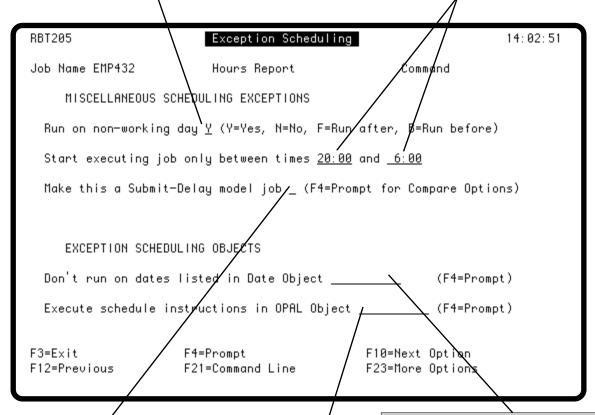
Y   Run the job on a nonworking day.

N   Do not run the job on a nonworking day.

F   Run the job on the following workday.

B   Run the job on the preceding workday.

Note: If this is an INDAY Advanced Scheduling Job, see restrictions under Run Every *n* Days.

Enter a time range in which the job can start running. If the job's run time is outside the specified time range, the job is not submitted. If the job is submitted within the specified time range, but is delayed until its run time is outside the time range, the job will not run and a warning message indicates that the time range was exceeded.

Notes:
* If you are using the EVERY option and want the job to run all day, enter **00:01** and **23:59**. This is the maximum time range.

* If the job is reactive, the prerequisites must finish within this time range for the reactive job to run.

```
RBT205                    Exception Scheduling                  14:02:51

Job Name EMP432          Hours Report               Command

         MISCELLANEOUS SCHEDULING EXCEPTIONS

  Run on non-working day Y (Y=Yes, N=No, F=Run after, B=Run before)

  Start executing job only between times 20:00 and  6:00

  Make this a Submit-Delay model job _ (F4=Prompt for Compare Options)


         EXCEPTION SCHEDULING OBJECTS

  Don't run on dates listed in Date Object _____       (F4=Prompt)

  Execute schedule instructions in OPAL Object _____   (F4=Prompt)


 F3=Exit              F4=Prompt              F10=Next Option
 F12=Previous         F21=Command Line       F23=More Options
```

If this is a Submit-Delay model job, press **F4** to select a comparison option for jobs. Leave this field blank if this is *not* a Submit-Delay model job. See the next page for more information about Submit-Delay model jobs.

Enter the name of an omit-type date object. Press **F4** to select from a list of omit-type objects.

Enter the name of an OPAL object that should be used with this job. Press **F4** to select from a list of OPAL objects.

■ **Submit-Delay Model Jobs**

Set up a Submit-Delay model job when you want jobs that meet certain criteria to be captured and run later. Submit-Delay model jobs must meet two requirements:

- They must be command-type jobs.
- They can have a run schedule entered on the Initial Job Setup panel, they can be defined as reactive jobs on the Advanced Scheduling panel, *or* they can be submitted immediately based on an end-user job match.

You must have selected to use Submit-Delay on the General System Defaults panel (see System Setup).

A Submit-Delay model job is a special job that never runs. Because it never runs, you cannot use the DO or DS schedule override codes on a Submit-Delay job. The model job provides the following attributes to the jobs it captures:

- A run schedule
- Report distribution
- A list of prerequisites (if the model job is a reactive job)
- Library list
- All other attributes not specifically mentioned below

The model job is also the storehouse for the accumulated job completion history for the jobs it captures. This history is used for schedule forecasting.

Restrictions: A model job cannot:

- Be a member of a group
- Use the EVERY Advanced Scheduling option
- Be a prerequisite for a reactive job
- Be used with OPAL

■ **Get Attributes from Model or Submitted Job**

Three job attributes can be copied from either the model job or from the jobs it captures. They are Output Queue, Job Description, and Job Queue. (See Setting Up a Submit-Delay Model Job, later in this section.)

■ Submit-Delay Jobs are Temporary

The jobs submitted by users that are captured by the model job are called delayed-submit jobs, and they are temporary jobs. When delayed-submit jobs complete successfully, Robot Schedule automatically deletes them. If a job ends abnormally, it stays on the job schedule list. You will want to fix these jobs so that they can be run successfully either immediately or at a later time.

The delayed-submit jobs always retain the following attributes:

- LDA
- Message Reply Value
- Output Priority
- Command String

- Print Text
- Job Queue Priority
- User Profile

■ Submit-Delay Job Commands

You can view the delayed-submit job's command string by using option **3** from the Job Schedule List for the temporary job. However, you cannot use reserved command variables in the delayed-submit job's command line.

If the Submit-Delay Model job has commands, the commands on the delayed-submit job are executed after the model job's commands.

■ RBTCAPTURE— Capture User Job Panel

In some instances when you use the submit-delay job feature, the Capture User Job (RBTCAPTURE command appears and indicates why the SBMJOB command was replaced with RBTCAPTURE. The RBTCAPTURE command appears when you prompt the original SBMJOB or RBTSBMJOB command for the job. Whenever the RBTCAPTURE command appears, you must press Enter so your job is run.

The RBTCAPTURE command displays the command captured and the following information that describes how it was captured.
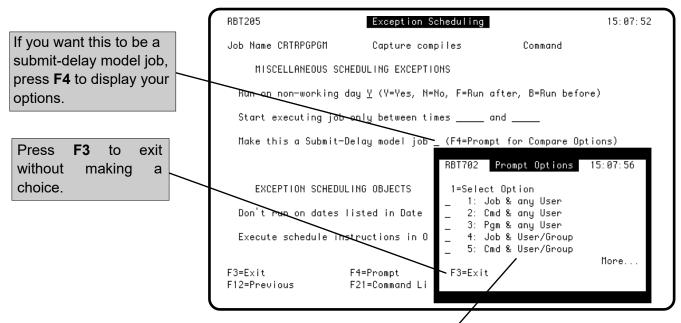
- Run command—Indicates whether Robot Schedule will run the job (SBMJOB or RBTSBMJOB) when you press Enter.

- Learn mode—Indicates whether learn mode has captured the job into Robot Schedule.

- Submit delay—Indicates whether the submit-delay feature has captured the job into Robot Schedule.

- Robot Replay—Indicates whether the job completion history and Robot Replay information will be created.

- RBTSBMJOB—Indicates whether the job completion history can be created and reactive jobs can receive user-prerequisite job status.

Using Submit-Delay Model Jobs

When users submit jobs, the jobs are checked for a match against the job name of the model job. If a match is found, the jobs are captured by the model job. These jobs are called delayed-submit jobs and are temporary jobs.

You can specify the comparison values to be used for the match to the model job. On the Exception Scheduling panel, place your cursor in the Make this a Submit-Delay model job field and press **F4** to display the options window.

- **Options 1** and **4** compare the job name parameter on the SBMJOB command with the model job's Job name.

- **Options 2** and **5** compare the Command to Run on the SBMJOB command with the model job's Job name. You can name a model job any command except CALL. An example of type 5 is shown on the following pages.

- **Options 3** and **6** compare the called program name of the SBMJOB command with the model job's Job name.

If you want this to be a submit-delay model job, press **F4** to display your options.

Press **F3** to exit without making a choice.

```
RBT205                    Exception Scheduling                    15:07:52

Job Name CRTRPGPGM          Capture compiles           Command

     MISCELLANEOUS SCHEDULING EXCEPTIONS

Run on non-working day Y (Y=Yes, N=No, F=Run after, B=Run before)

  Start executing job only between times _____ and _____

  Make this a Submit-Delay model job _ (F4=Prompt for Compare Options)

                                    RBT702   Prompt Options   15:07:56

                                     1=Select Option
     EXCEPTION SCHEDULING OBJECTS    _  1: Job & any User
                                     _  2: Cmd & any User
  Don't run on dates listed in Date  _  3: Pgm & any User
                                     _  4: Job & User/Group
  Execute schedule instructions in O _  5: Cmd & User/Group
                                                          More...
  F3=Exit          F4=Prompt          F3=Exit
  F12=Previous     F21=Command Li
```

You can select from the following options for a job. Page down to display all options.
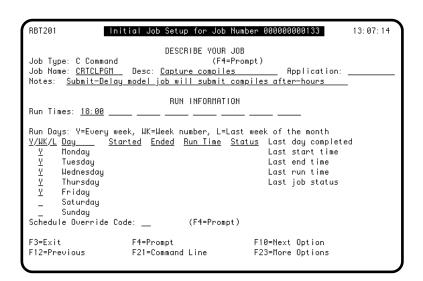
blank Not a Submit-Delay model job

1 **Job & any User**—Match the job name when it is submitted by any user.

2 **Cmd & any User**—Match the command when it is submitted by any user.

3 **Pgm & any User**—Match the program name when it is submitted by any user.

4 **Job & User/Group**—Match the job name, but only when it is submitted by the specified user or group profile.

5 **Cmd & User/Group**—Match the command, but only when it is submitted by the specified user or group profile. See the example on the next page.

6 **Pgm & User/Group**—Match the program name, but only when it is submitted by the specified user or group profile.
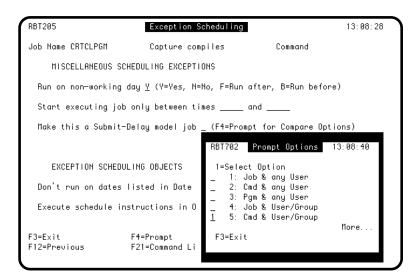
Setting Up a Submit-Delay Model Job

If you don't have a dedicated IBM i for use by your programmers, you might set up a Submit-Delay job that will find all the compile jobs as they are submitted and delay them to run in the off-hours. This will prevent long compiles from interfering with interactive users during the day. You also can capture these jobs and allow them to run immediately instead of delaying them.

Note: If you want to set up Submit-Delay model jobs, make sure that Submit-Delay jobs are selected on the General System Defaults panel (see System Setup).

```
RBT201          Initial Job Setup for Job Number 000000000133      13:07:14

                          DESCRIBE YOUR JOB
Job Type: C Command                     (F4=Prompt)
Job Name: CRTCLPGM    Desc: Capture compiles         Application: _____
Notes:   Submit-Delay model job will submit compiles after-hours

                          RUN INFORMATION
Run Times: 18:00 ____ ____ ____ ____ ____ ____ ____

Run Days: Y=Every week, WK=Week number, L=Last week of the month
Y/WK/L Day      Started  Ended  Run Time  Status  Last day completed
  Y    Monday                                     Last start time
  Y    Tuesday                                    Last end time
  Y    Wednesday                                  Last run time
  Y    Thursday                                   Last job status
  Y    Friday
  _    Saturday
  _    Sunday
Schedule Override Code: __       (F4=Prompt)

F3=Exit           F4=Prompt              F10=Next Option
F12=Previous      F21=Command Line       F23=More Options
```

1. From the Job Schedule List, press **F6** to display the Initial Job Setup panel. Set up a command-type job. Name the job the command you want to capture (CRTCLPGM, in this case). Enter a run schedule for the model job. Or, leave the model job with no sched-ule, so the end-user jobs run immedi-ately.

```
RBT205              Exception Scheduling              13:08:28

Job Name CRTCLPGM        Capture compiles        Command

    MISCELLANEOUS SCHEDULING EXCEPTIONS

  Run on non-working day Y (Y=Yes, N=No, F=Run after, B=Run before)

  Start executing job only between times _____ and _____

  Make this a Submit-Delay model job _ (F4=Prompt for Compare Options)

                              RBT702  Prompt Options  13:08:40

     EXCEPTION SCHEDULING OBJECTS     1=Select Option
                                      _  1: Job & any User
  Don't run on dates listed in Date   _  2: Cmd & any User
                                      _  3: Pgm & any User
  Execute schedule instructions in O  _  4: Job & User/Group
                                      1  5: Cmd & User/Group
                                                          More...
F3=Exit           F4=Prompt            F3=Exit
F12=Previous      F21=Command Li
```

2. Display the Exception Scheduling panel (option **10** from the Job Schedule List). Make this a Submit-Delay model job by entering a valid code in the Submit-Delay model job field. In this example, we selected option **5**, so that the com-mand CRTCLPGM can be captured when it is submitted by our programmers (User Profile QPGMR).

Setting Up a Submit-Delay Model Job

```
RBT203                    Output Options                    13:09:28

Job name . . :  CRTCLPGM    Capture compiles          Command

Printer output control
  Output Queue . . . . . . . . . . . :   *SBM       F4
    Library . . . . . . . . . . . . :      _____
  Print text . . . . . . . . . . . . :   _____
  Number of copies  . . . . . . . . :    1 (1 - 255)
  Output priority . . . . . . . . . :    _   (1 - 9)

Job date calculator (to have job date different than system date)
  Start with date type  . . . . . . :    1  F4    System Date
  Date, Day Nbr, + or - Days  . . . :    _____
  Equals the job date . . . . . . . :     9/27/00 (Date used if job ran today)

Report distribution control
  Use Report Distribution?  . . . . :    N   (Y=Yes, N=No, R=Robot/REPORTS)



F3=Exit          F4=Prompt          F10=Next Option      F12=Previous
F15=Select PreReq    F21=Command Line     F23=More Options
```

3. If you want to use the output queue specified by the submitted job, go to the Output Options panel. Enter ***SBM** in the Output Queue field to capture this information from the submitted job.

```
RBT204                    Control Options                   15:33:38

Job Name . . :  CRTCLPGM    Capture compiles          Command

  Job Submission Options
    Job description . :  *SBM      F4  Job Queue . . . . :   *SBM      F4
      Library . . . . :    *RBTDFT        Library . . . . :     *RBTDFT
    Message Queue . . :  *RBTDFT      Library List Name :   *RBTDFT   F4
      Library . . . . :    *RBTDFT      User Profile . . :    *RBTDFT
    Message reply value: 1 Default     _ Operator Required
                         _ System Reply _ Job Description
    Job Priority . . :   _              Job switches . . :   _____
    Current Library . :  *RBTDFT   F4  Accounting Code . :   *RBTDFT
                                       Initial ASP Group :   *RBTDFT
  Other Job Control Options
    Pager Name . . . . :  *RBTDFT    F4
    Calendar Name . . :  *RBTDFT    F4  Environment Name  . . :  STANDARD   F4
    Maximum Run Minutes: ____           Action  . . . : 2  Warning Status  F4
    Auto Tune Pool Size for this job: _____
    Number of runs to track for Job History:  12

F3=Exit         F4=Prompt          F10=Next Option
F12=Previous    F21=Command Line    F23=More Options
```

4. If you want to use the job description and job queue specified by the submitted job, go to the Control Options panel. Enter ***SBM** in the Job Description and the Job Queue fields to capture this information from the submitted job. In this example, we want to capture CRTCLPGM jobs only when they are submitted by our programmers, so we enter our programmers' group profile name, QPGMR, in the User Profile field. That's all there is to it!

Setting Up a Submit-Delay Model Job

```
RBT276                    Job Sche
                                      RBT701          Options
  Last wake up 13:11   Next wake up 13
                                      1=Select Option
  Start job list at:   Job name _____    MAIN JOB SETUP DISPLAYS
For list of options, Enter ?          _ > 1=Initial Job Setup
    Sched. Job        Job to be run    _ > 2=Advanced Scheduling
OPT Code   Type  Name       Descr     1 > 3=ROBOT Command Entry
__         C+ ACCTRCURPT Daily Rece   _ > 4=Output Options
__ REACT   C  ACTREACT   Reactive J   _   5=Control Options
__ HOLD    C  BACKUP1    Evening Ba       OTHER ROBOT SETUP OPTIONS
__         C+ BUYERLIST  Sales Buye   _   Group Options >
__         C  CALCMD     Command Ca   _   7=Reactive Jobs
__ EVERY   C  CKLINES    Check comm   _   8=Local Data Area Entry
__         G  CLOSIT     Monthly cl   _ > 9=Report Distribution
__ EVERY   C+ COMMLINE   Check comm   _ > 10=Exception Scheduling
__      SD C  CRTCLPGM   Capture co                        More...
I          C  CRTCLPGM   SD-TEMPCap
__      SD C  CRTRPGPGM  Capture co   F3=Exit   F11=More Info
__         C  CUSTRQST   Customer i

F3=Exit              F4=Prompt
F8=Completion times  F9=Job search criteria   F24=More keys
```

5. When a programmer submits a command job that matches the submit-delay job criteria, the submit-delay model job captures it and creates a temporary job that is scheduled to run at the time specified on the model job. The temporary job appears on the Job Schedule List below the model job.

   Note:
   - During the capture process, the RBTCAPTURE command displays. You must press Enter on the RBTCAPTURE command for the SBMJOB process to continue.
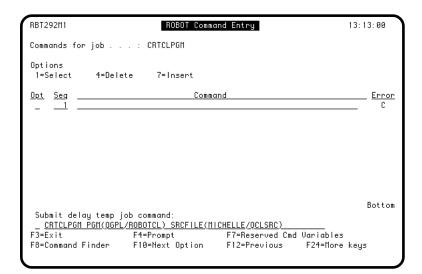
   To see the command the temporary job is to run, press **F4** and select Robot Command Entry from the options window.

```
RBT292M1            ROBOT Command Entry            13:13:00

Commands for job . . . . :  CRTCLPGM

Options
 1=Select      4=Delete     7=Insert

Opt  Seq _____ Command _____  Error
 _    1  _____    C








                                               Bottom
 Submit delay temp job command:
 _ CRTCLPGM PGM(QGPL/ROBOTCL) SRCFILE(MICHELLE/QCLSRC)
F3=Exit            F4=Prompt        F7=Reserved Cmd Variables
F8=Command Finder  F10=Next Option  F12=Previous    F24=More keys
```

6. The Command Entry window shows the captured command at the bottom of the window. You can edit the command, if necessary. Place your cursor on the command and press **F4** to display the prompt panel for the command.
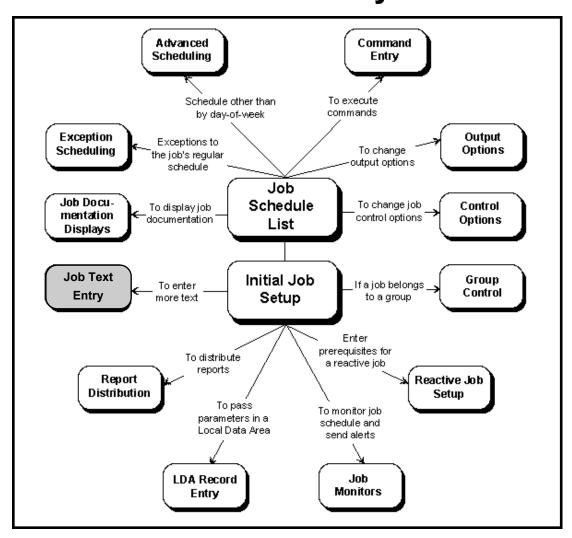
   Notes:
   - You cannot enter reserved command variables in the command when you edit it from this panel.
   - You cannot delete the command.
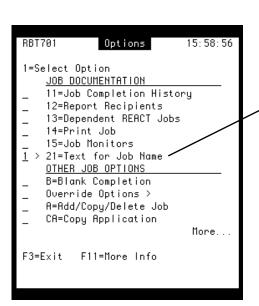
   When the temporary job runs successfully, Robot Schedule deletes it from the schedule.

Job Text Entry

Job Text Entry

To enter additional documentation about a job, select Text for Job Name, option **21** on the job options menu. You can edit and print the text you enter.

```
RBT701              Options            15:58:56

1=Select Option
      JOB DOCUMENTATION
 _    11=Job Completion History
 _    12=Report Recipients
 _    13=Dependent REACT Jobs
 _    14=Print Job
 _    15=Job Monitors
 1 >  21=Text for Job Name
      OTHER JOB OPTIONS
 _    B=Blank Completion
 _    Override Options >
 _    A=Add/Copy/Delete Job
 _    CA=Copy Application
                              More...

F3=Exit    F11=More Info
```

Select option **21** to display the Text for Job Name panel for the job.

Type as many lines of text as you need to document the job. You can include run instructions, details on what the job does, alternative schedule instructions, or any other details about the job.

Page down to display more blank lines.

```
RBT296                 Text for Job Name                15:45:53


Job Name . . . . . . . . . . : EMP407CMD   Weekly Labor Report

                         Text                          Seq
This report lists all hours worked for each department.  10
All time cards for the week must be entered before this  20
report is run.                                           30
For any questions concerning this report, contact the    40
payroll supervisor, Joan Fox.                            50
_____  __
_____  __
_____  __
_____  __
_____  __
_____  __
_____  __
_____  __
_____  __
_____  __
                                                    More...

 F3=Exit            F12=Previous          F17=Print
 F18=Resequence     F21=System Command    F23=Prev Options
```

Press **F18** to renumber the lines in increments of 10.

Press **F17** to print the text for this job.

To reorder the text lines, type over the sequence numbers.

To delete a line, blank out the sequence number and press Enter.

Job Documentation Displays


```
RBT701          Options          15:58:56

1=Select Option
     JOB DOCUMENTATION
1    11=Job Completion History
_    12=Report Recipients
_    13=Dependent REACT Jobs
_    14=Print Job
_    15=Job Monitors
_  > 21=Text for Job Name
     OTHER JOB OPTIONS
_    B=Blank Completion
_    Override Options >
_    A=Add/Copy/Delete Job
_    CA=Copy Application
                              More...


F3=Exit   F11=More Info
```

```
RBT278                Job Completion History              13:51:13

     Select:  Job Name BUYERLIST        Job Status A  F4  All Job Statuses
Options
     W=Work with Job      L=Display Job Log    P=Percent Complete    ?=More Options
                                       Job      Run
Opt  Job Name      Job Description text  Time     Date   Time  Status  Job Nbr
__   BUYERLIST     Sales Buyer Report   20:30:10  9/26    30    C     031620
__   BUYERLIST     Sales Buyer Report   17:30:08  9/26    30    C     031536
__   BUYERLIST     Sales Buyer Report   20:30:10  9/25    30    C     030957
__   BUYERLIST     Sales Buyer Report   17:30:09  9/25    30    C     030868
__   BUYERLIST     Sales Buyer Report   20:30:10  9/22    30    C     029203
__   BUYERLIST     Sales Buyer Report   17:30:07  9/22    30    C     029117




                                                                Bottom

F3=Exit        F4=Prompt        F7=QSYSOPR Messages    F9=Select Search
F11=More Info  F21=Command Line
```

Job Completion History

To see the completion history for a single job, enter option **11** next to the job on the Job Schedule List or select option **11** on the job options menu. The Job Completion History panel lists all runs of the job.

The completion messages for job runs continue to accumulate until you delete them, or until the number of messages reaches the value specified in the Number of runs to track for Job History field on the Control Option panel and you've specified automatic deletion of job history on the General System Defaults panel. For more information about deleting completion messages, manually or automatically, see the Control Menu section.

```
RBT701                Options              15:58:56

1=Select Option
      JOB DOCUMENTATION
_     11=Job Completion History
_     12=Report Recipients
_     13=Dependent REACT Jobs
_     14=Print Job
_     15=Job Monitors
_ >   21=Text for Job Name
      OTHER JOB OPTIONS
_     B=Blank Completion
_     Override Options >
_     A=Add/Copy/Delete Job
_     CA=Copy Application
                                           More...

F3=Exit    F11=More Info
```

Select option **11** to display the Job Completion History panel.

The panel shows a list of runs for the job with the completion status of each.

```
RBT278                 Job Completion History              13:51:13

      Select: Job Name BUYERLIST       Job Status A  F4  All Job Statuses
Options
   W=Work with Job     L=Display Job Log    P=Percent Complete   ?=More Options
                                          Job        Run
Opt  Job Name    Job Description text   Time     Date   Time  Status  Job Nbr
__   BUYERLIST   Sales Buyer Report    20:30:10  9/26    30     C     031620
__   BUYERLIST   Sales Buyer Report    17:30:08  9/26    30     C     031536
__   BUYERLIST   Sales Buyer Report    20:30:10  9/25    30     C     030957
__   BUYERLIST   Sales Buyer Report    17:30:09  9/25    30     C     030868
__   BUYERLIST   Sales Buyer Report    20:30:10  9/22    30     C     029203
__   BUYERLIST   Sales Buyer Report    17:30:07  9/22    30     C     029117




                                                                       Bottom
   F3=Exit          F4=Prompt         F7=QSYSOPR Messages    F9=Select Search
   F11=More Info    F21=Command Line
```

Finding a Run in the Job Completion History

You can limit the list of runs on the Job Completion History panel to a specific status category. For example, you could limit the list to only runs that terminated abnormally.

```
RBT278                    Job Completion History                     13:51:13

      Select: Job Name BUYERLIST        Job Status A  F4  All Job Statuses
 Options
   W=Work with Job    L=Display Job Log     P=Percent Complete   ?=More Options
                                            Job          Run
 Opt  Job Name    Job Description text  Time       Date  Time   Status  Job Nbr
  __  BUYERLIST   Sales Buyer Report   20:30:10   9/26    30      C     031620
  __  BUYERLIST   Sales Buyer Report   17:30:08   9/26    30      C     031536
  __  BUYERLIST   Sales Buyer Report   20:30:10   9/25    30      C     030957
  __  BUYERLIST   Sales Buyer Report   17:30:09   9/25    30      C     030868
  __  BUYERLIST   Sales Buyer Report   20:30:10   9/22    30      C     029203
  __  BUYERLIST   Sales Buyer Report   17:30:07   9/22    30      C     029117



                                                                      Bottom

   F3=Exit         F4=Prompt          F7=QSYSOPR Messages    F9=Select Search
   F11=More Info   F21=Command Line
```

Enter a letter for a status category or press **F4** to display a list of status categories.

Enter a **1** to select a status category.

```
RBT702   Prompt Options   16:38:44

 1=Select Option
 1    A All Job Statuses        RBT702   Prompt Options   09:29:34
 _    C Normal Completion
 _    E Error in Setup           1=Select Option
 _    R Running                  _    T Abnormal Terminate
 _    S Submitted to Queue       _    W Warning Message
                        More..   _    D Delay
   F3=Exit                       _    K Skip
                                 _    P Pending
                                                          Bottom
                                   F3=Exit
```

Getting More Information From the Job Completion History

To see more information on the Job Completion History panel, press **F11** to display the entire run completion record.

The user profile under which the job ran.

The start time, completion time, and run time (in minutes) for the run.

```
RBT278                    Job Completion History              14:05:38
                                                               MICKEY
        Select: Job Name BUYERLIST        Job Status A  F4  All Job Statuses
Options
  W=Work with Job     L=Display Job Log    P=Percent Complete   ?=More Options
                                         Job        Run
Opt  Job Name     Job Description text   Time      Date   Time  Status  Job Nbr
 __  BUYERLIST   Sales Buyer Report     20:30:10  9/26    30     C      031620
     Job User QPGMR        Start Time 20:00:07  9/26/00   Group Name
     Message Text Job completed normally.

 __  BUYERLIST   Sales Buyer Report     17:30:08  9/26    30     C      031536
     Job User QPGMR        Start Time 17:00:04  9/26/00   Group Name
     Message Text Job completed normally.

 __  BUYERLIST   Sales Buyer Report     20:30:10  9/25    30     C      030957
     Job User QPGMR        Start Time 20:00:07  9/25/00   Group Name
     Message Text Job completed normally.

                                                                More...

 F3=Exit         F4=Prompt          F7=QSYSOPR Messages    F9=Select Search
 F11=More Info   F21=Command Line
```

F11 toggles between abbreviated job completion information and the entire completion record for each run.

Report Recipients

To see a list of report recipients for the job, enter option **12** by the job in the Job Schedule List or select option **12** on the options menu.

The recipient list that displays is the default list for all print files produced by the job. Individual print files also can have their own recipient lists that override the default list. For more information, see the Report Distribution section, earlier in this manual.

```
RBT701          Options          15:58:56
                                  MICKEY
1=Select Option
    JOB DOCUMENTATION
 _  11=Job Completion History
 1  12=Report Recipients
 _  13=Dependent REACT Jobs
 _  14=Print Job
 _  15=Job Monitors
 _ > 21=Text for Job Name
    OTHER JOB OPTIONS
 _  B=Blank Completion
 _  Override Options >
 _  A=Add/Copy/Delete Job
 _  CA=Copy Application
                                   More...


F3=Exit   F11=More Info
```

Select option **12** to display the Report Recipients panel for the *ALL print file entry.

```
RBT304                Report Recipients              09:36:42
                                                     MICKEY
Job Name . . :  BUYERLIST   Sales Buyer Report    Command
Print File . :  *ALL        *ALL Print File

   Start list at Recipient: _____
Options
  A=Add/Copy/Delete      1=Select      ?=More Options
                                              Distribution Days
  Opt    Recipient      Department      Location   M  T  W Th  F Sa Su
   _   ADAMS, KATE     ACCOUNTING      BLDG A     Y  Y  Y  Y  Y
   _   JOHNSON, BOB    STRATEGIC PLNG  BLDG A     Y  Y  Y  Y  Y
   _   LARSON, SAM     MANUFACTURING   BLDG C              Y
   _   MISCHKA, LILYA  PERSONNEL       BLDG A     Y  Y  Y  Y  Y




                                                          Bottom
  F3=Exit          F4=Prompt       F6=Add Recipient    F8=Recipient Finder
  F21=Command Line  F23=More Options
```

Dependent REACT Jobs

Robot Schedule makes it easy to discover if a job is a prerequisite for a reactive job. To do so, enter
option **13** by the job in the Job Schedule List or select option **13** on the job options menu. Robot Schedule
displays the Dependent REACT Jobs panel, listing all reactive jobs that have the job in their prerequi-site
lists.

Select option **13** to display the Dependent REACT Jobs panel for a job.

The reactive job that has the job in its prerequisite list.

```
RBT276                           Job Sche

   Last wake up 14:16    Next wake up 14

   Start job list at:   Job name _____
 For list of options, Enter ?
      Sched.  Job              Job to be run
OPT  Code    Type   Name           Descr
  __           C+ ACCTRCURPT Daily Rece
  __  REACT    C  ACTREACT    Reactive J
  __  HOLD     C  BACKUP1     Evening Ba
  __           C+ BUYERLIST   Sales Buye
  __           C  CALCMD      Command Ca
  __  EVERY    C  CKLINES     Check comm
  ▌   DAYNO    G  CLOSIT      Monthly cl
  __  EVERY    C+ COMMLINE    Check comm
  __        SD C  CRTCLPGM    Capture co
  __           C  CRTCLPGM    SD-TEMPCap
  __        SD C  CRTRPGPGM   Capture co
  __           C  CUSTRQST    Customer i


F3=Exit              F4=Prompt
F8=Completion times  F9=Job search criteria    F24=More keys
```

```
RBT701               Options            15:58:56
                                         MICKEY
1=Select Option
        JOB DOCUMENTATION
  _     11=Job Completion History
  _     12=Report Recipients
 _1     13=Dependent REACT Jobs
  _     14=Print Job
  _     15=Job Monitors
  _ >   21=Text for Job Name
        OTHER JOB OPTIONS
  _     B=Blank Completion
  _     Override Options >
  _     A=Add/Copy/Delete Job
  _     CA=Copy Application
                              More...

F3=Exit    F11=More Info
```

```
RBT285                   Dependent REACT Jobs              14:18:20
                                                          MICKEY


Prereq Job Name . . : CLOSIT
  Start list at job name: _____
Options
  1=Select
                                    React
                                     To
        ------Reactive------
  Opt    Job Name   System   Status  Status     Date     Time
   _    EMP407CMD                       C




                                                          Bottom
   F3=Exit    F21=Command Line
```

Enter a **1** in the Opt column to display the Reactive Jobs panel for this job.

The completion code returned by the job at the given date and time. The completion status is cleared after all conditions for the reactive job are satisfied.

The completion code that the job must return to satisfy the condition.

Printing the Job Documentation

To print the documentation for a job, select option **14** on the job options menu. The report runs immediately and prints all the information you have entered for the job record.

Depending on the job setup, the job documentation includes the job identification, group member information, setup options, environment values, schedule, output options, Robot Schedule commands (if it's a command job), last run history, report distribution information, and the local data area record. You can print the same information for all jobs by selecting the Job Record List report (see the Report Menu section under Job Setup Reports).

Select option **14** to print
the job record information.

```
RBT276                       Job Schedule List                      16:23:46
                                                                    MICKEY
    Last wake up 16:23   Next wake up 16:36              ROBOT is: ACTIVE

    Start job list at:   Job name _____
 For list of options, Enter ?
        Sched.  Job          Job to be run                Days or dates job runs
 OPT  Code   Type   Name        Description      Time   M   T   W   TH  F   ST  SN
  __          C    DAILYPAY   Daily Pay Reports    17:00  C       Y       Y
  __          C    DLYAPRPT   Daily Accounts Payable 21:00 C   C   Y   Y   Y
  __          G    DLYSALES   Daily Sales Report   23:30  C   C   Y   Y   Y
  __          P    EMPHRS     Weekly Employee Hours 06:00 C
  __          P    EMPSHIFT   Shift Report         23:00  T   T   T   Y   Y
  __          P    EMPSHIFTA  Shift Report         18:00  T   T   T   Y   Y
  14  REACT   C    EMP407CMD  Weekly Labor Report  22:00                  Y
  __          C    EMP432     Hours Report         23:00  C   C   Y   Y   Y   Y   Y
  __  REACT   C    ERRRECOVER Error recovery for EMP 00:00
  __          W    EXCEL      Start MS Excel       17:00  T   T   Y   Y   Y   Y   Y
  __          W    EXCELREC   Monthly Reconciliation 17:00 T   T   Y   Y   Y   Y   Y
  __          C    EXTEDEDCMD Extended Commands    00:00
                                                                      More...
 F3=Exit                  F4=Prompt              F6=Add record
 F8=Completion times      F9=Job search criteria F24=More keys
```

Scheduling Objects Menu

Scheduling Objects Menu	Robot Job Entry and Display	Report Menu

Job Setup Information

Robot Job Information

Robot Job Information

Job Security Instructions

Job Scheduling, Submission and Control Instructions

System Security (Optional)

Schedule Forecasting

System Setup Menu	Robot Job Execution System	

Operation Instructions

Job Completion Information

Job Scheduling, Submission and Control Instructions

Control Instructions

Commands to Enter and Change Job Records

Control Menu

```
RBT1010                    ROBOT Main Menu                    10:52:56
MAIN                                                          CYBRKING
R10M001051216

                    Select one of the following:

                    1.  Job Schedule List

                    2.  Scheduling Objects Menu

                    3.  Control Menu

                    4.  System Setup Menu

                    5.  Report Menu

                    6.  Schedule Forecasting Menu

                    7.  Audit Menu

                    Selection:  2

F3=Exit      F21=Command Line
                         (C) COPYRIGHT HELP/SYSTEMS INC. 1982, 2002.
```

Select option **2** to display the Scheduling Objects Menu.

■ Scheduling Objects Menu

Object-oriented scheduling allows you to create several types of scheduling objects that can be attached to multiple jobs. By attaching the same objects to multiple jobs you gain the benefits of reuse, including simplifying the setup and maintenance of jobs. The use of scheduling objects is optional.

■ Time-Based Objects

Robot Schedule provides two different objects for working with dates—Calendars and Date Objects. You should use Calendars to define your standard working and nonworking days and your fiscal month-end dates.

You should use a date object to create complex schedules that do not follow any repeatable time pattern. There are two types of date objects: objects that contain run dates and objects that contain Do Not Run dates.

The Do Not Run dates can veto the running of a job no matter what other scheduling options are used on it. This allows you to schedule a job to run every third workday *except*, for example, on 3/26/07, 6/01/07, and 9/14/07.

Dates for date objects can be selected quickly using a graphic calendar page and then assigning a name to this set of dates. Once a date object is set up, you can use it over and over again. Robot Schedule automatically tells you when a date object is close to expiring.

■ Job Definition Objects

Robot Schedule provides four different objects that help you define your jobs — Library Lists, Job Environments, Reserved Command Variables, and OPAL objects.

■ Library Lists

You can set up different named library lists that you can associate with your jobs.

■ Environments

Robot Schedule lets you create named groups of job control defaults called *environments*. These environments make job creation easier now and job changes easier later. A standard Robot Schedule default environment (that you can edit) is shipped with the product.

When you create a Robot Schedule job, the standard Robot Schedule default environment is assigned automatically as its control options. Many users find they do not need to change the standard default values. If you want to select a different environment, you simply choose one from a finder you display from the Control Options panel.

The advantage of having named environments is that they can be used by many jobs. For example, you might want all the jobs that are associated with a certain application to run in the same job environment.

Environments can be a powerful tool by simplifying the maintenance of Robot Schedule jobs. When you change a named environment or the standard Robot Schedule default environment, you automatically change control options for all the jobs that use that environment.

For example, assume the Robot Schedule default job queue is QPGMR, and jobs A, B, and C use the Robot Schedule default environment. Later, you edit the Robot Schedule default environment so that the new default job queue is ROBOTQ. The result is that jobs A, B, and C stop using the job queue QPGMR and start using ROBOTQ *automatically*! For these reasons, we recommend that you use environments.

■ Reserved Command Variables

Reserved Command Variables allow you to define variables that are calculated at the time the job runs. This mechanism allows you to put current values into command strings that are executed by Robot Schedule Command jobs. For example, the Reserved Command Variable @@DATE will get the current system date at the time the command is executed.

■ OPAL Objects

Another major job definition object is OPAL—the OPerator Assistance Language. OPAL is our powerful fourth-generation operations language that was added to Robot Schedule by popular demand. See the separate OPAL Reference Guide for more information about using OPAL with Robot Schedule.

With OPAL, you can check a variety of tasks, including:

• If an object exists on the IBM i
• If the object has any locks
• If a file has any records in it
• If printers, workstations, users, controllers, and communication lines are up and running
• The completion status of any batch job
• If a batch job is running

OPAL lets you set up any type of job-prerequisite requirement.

OPAL also can read or update Robot Schedule Reserved Variables. This capability gives you two-way communication with other Robot Automated Operations Solution products. It also allows for two-way communications with PCs.

Thus, you can use OPAL to do the following:

• Change any Robot Schedule job to reflect changed conditions.

• Change any job environment object to reflect changed conditions. For example, if one printer is down, you can direct all the night's reports to another printer automatically.

• Change any data area, including the LDA.

• Skip running the job at this time.

• Delay running the job to a later time when conditions can be rechecked.

• Page an expert using Robot Alert.

• Start another Robot Schedule job—even if it is on a remote system.

Plus, other things too numerous to mention.

Once you enter the OPAL code, you can assign a name to the set of instructions and use them over and over again.

This means that users can create their own very advanced scheduling options, their own very advanced job prerequisites, and their own very advanced event monitoring options. You can have exactly the options you want. With OPAL, Robot Schedule is the most powerful scheduler in existence on any computer at any price.

Within OPAL, you also can work with Data Area Definition Objects. Using a fill-in-the-blanks panel, you can define user fields to segment any data area or LDA. You then can assign names to these data area definitions and use them over and over again.

OPAL uses the data area objects to read and update data areas. This feature greatly enhances interprogram and interjob communications.

■ **Query Objects**

Robot Schedule also provides a powerful query function. Using a fill-in-the-blanks approach, you can enter selection criteria based on many Robot Schedule job setup options. You can assign a name to these sets of selection criteria and use them over and over again. Thus, you can use job query objects to sort and limit displays. You also can use them to print reports about only those jobs you want to see.
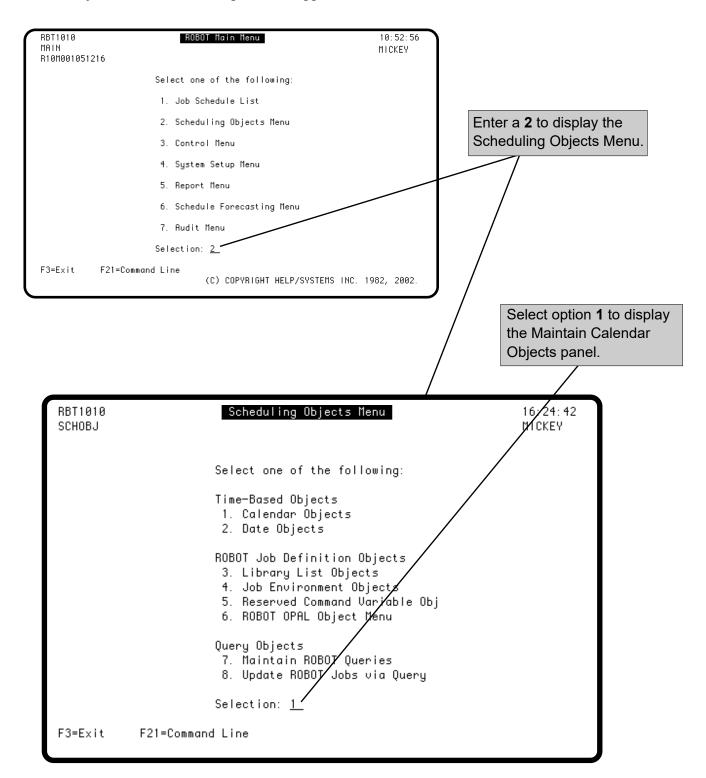
You can use job query objects to perform mass updates of Robot Schedule jobs. For example, if you want to change the accounting code on all sales application jobs, you can do it in a minute.

■ **Command Sets**

The Robot Schedule GUI allows you to create command sets, groups of commands that can be used by different jobs. Command sets cannot be managed from the Robot Schedule green screen panels. You must create and manage command sets from the Robot Schedule GUI. See the Scheduling Objects section of the *Robot Schedule User Guide* for complete information on creating and maintaining command sets.

Scheduling Objects Menu
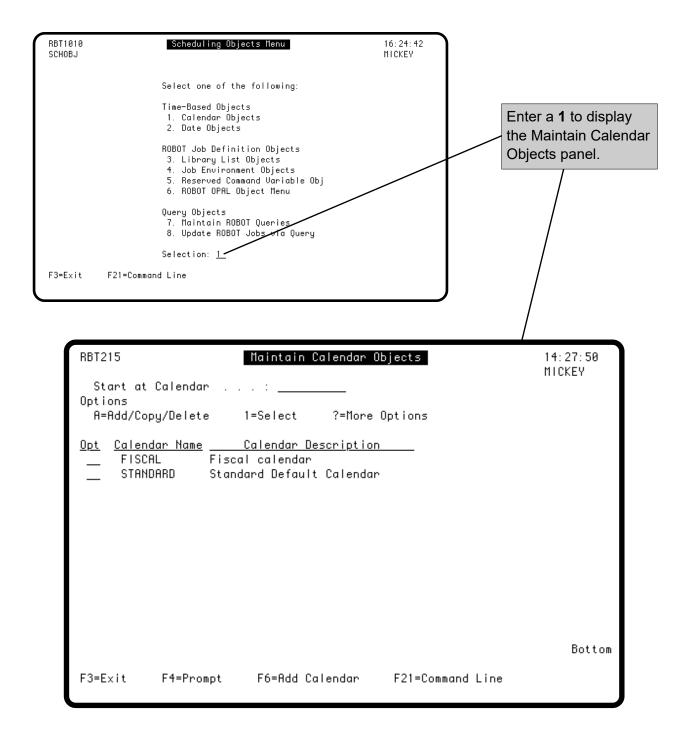
Access the Scheduling Objects Menu by selecting option **2** on the Robot Schedule Main Menu. The first option on the Scheduling Objects Menu is Calendars. Robot Schedule allows you to create and name as many calendars as you need. These calendars can be used by many different jobs. For example, you might want all the jobs associated with a particular application to use the same calendar.

```
RBT1010                   ROBOT Main Menu              10:52:56
MAIN                                                   MICKEY
R10M001051216

                   Select one of the following:

                    1.  Job Schedule List

                    2.  Scheduling Objects Menu

                    3.  Control Menu

                    4.  System Setup Menu

                    5.  Report Menu

                    6.  Schedule Forecasting Menu

                    7.  Audit Menu

                   Selection: 2

  F3=Exit     F21=Command Line
                      (C) COPYRIGHT HELP/SYSTEMS INC. 1982, 2002.
```

Enter a **2** to display the Scheduling Objects Menu.

Select option **1** to display the Maintain Calendar Objects panel.

```
RBT1010               Scheduling Objects Menu         16:24:42
SCHOBJ                                                 MICKEY


                   Select one of the following:

                   Time-Based Objects
                    1.  Calendar Objects
                    2.  Date Objects

                   ROBOT Job Definition Objects
                    3.  Library List Objects
                    4.  Job Environment Objects
                    5.  Reserved Command Variable Obj
                    6.  ROBOT OPAL Object Menu

                   Query Objects
                    7.  Maintain ROBOT Queries
                    8.  Update ROBOT Jobs via Query

                   Selection: 1

  F3=Exit     F21=Command Line
```

Calendar Objects

As described in the Advanced Scheduling section, several scheduling options use a calendar to determine working and nonworking days and fiscal month-ends. You specify the calendar name on the job's Environment or Control Options panel.

Robot Schedule comes with a STANDARD calendar defined; you must define any other calendars you need. To access the Maintain Calendars panel, enter option **1** on the Scheduling Objects Menu.

```
RBT1010                 Scheduling Objects Menu              16:24:42
SCHOBJ                                                        MICKEY


             Select one of the following:

             Time-Based Objects
              1. Calendar Objects
              2. Date Objects

             ROBOT Job Definition Objects
              3. Library List Objects
              4. Job Environment Objects
              5. Reserved Command Variable Obj
              6. ROBOT OPAL Object Menu

             Query Objects
              7. Maintain ROBOT Queries
              8. Update ROBOT Jobs via Query

             Selection: 1

    F3=Exit     F21=Command Line
```

> Enter a **1** to display the Maintain Calendar Objects panel.

```
RBT215                  Maintain Calendar Objects            14:27:50
                                                             MICKEY

   Start at Calendar   . . . : _____
Options
  A=Add/Copy/Delete      1=Select      ?=More Options

Opt  Calendar Name     Calendar Description
 __    FISCAL          Fiscal calendar
 __    STANDARD        Standard Default Calendar




                                                              Bottom

    F3=Exit     F4=Prompt     F6=Add Calendar     F21=Command Line
```

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Maintain Calendar Objects Panel

The Maintain Calendar Objects panel lists the currently defined calendars and their descriptions. You can add, delete, display, and switch calendars on this panel.

If you change or switch calendars while Robot Schedule is active, Robot Schedule evaluates the jobs that use the calendar to determine when they should run. You cannot delete a calendar if a job record references it; in this case, you must switch the job's calendar before deleting the calendar.

Note: Robot Schedule calendars depend on the system date and time. If you change the system date or time, Robot Schedule must be shut down and restarted to recognize the change.

Press **F4** in the **Opt** field to display the calendar options. Select from the following options:
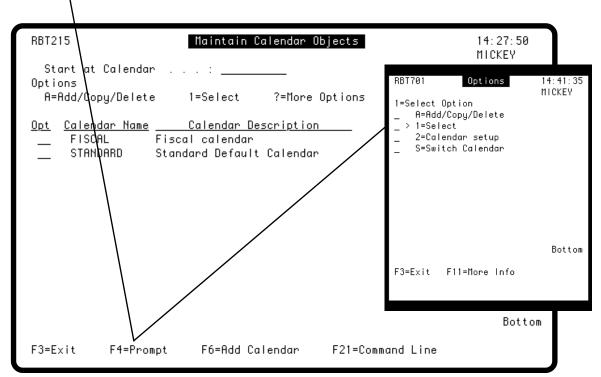
1   **Select**—displays the Calendar panel, on which you can change the description of the calendar

2   **Calendar setup**—displays the Calendar Setup panel for the calendar

S   **Switch calendar**—switches the calendar being used
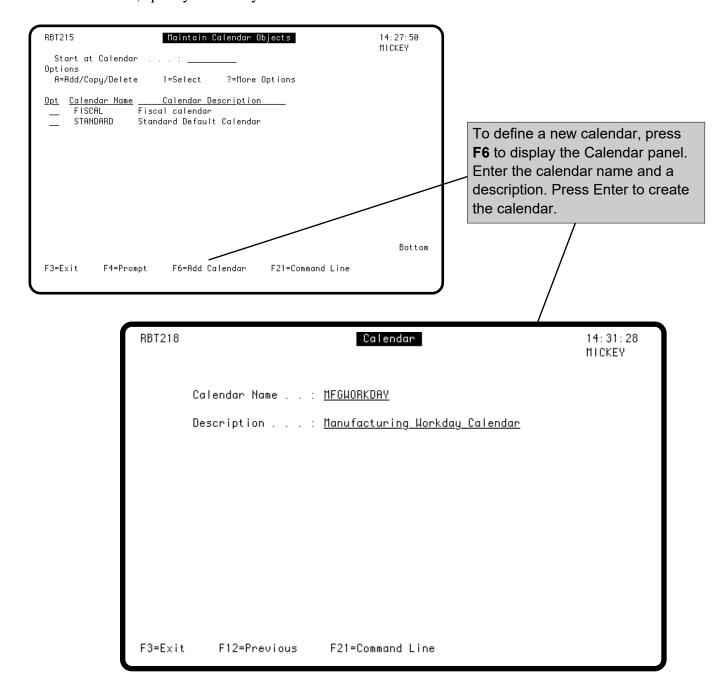
A   Displays the Add/Copy/Delete window to create a new calendar, or copy or delete an existing calendar

```
RBT215                  Maintain Calendar Objects            14:27:50
                                                              MICKEY
    Start at Calendar   . . . . : _____
Options
   A=Add/Copy/Delete      1=Select      ?=More Options    RBT701          Options          14:41:35
                                                                                            MICKEY
                                                          1=Select Option
Opt  Calendar Name       Calendar Description         _     A=Add/Copy/Delete
 __   FISCAL      Fiscal calendar                     _  >  1=Select
 __   STANDARD    Standard Default Calendar           _     2=Calendar setup
                                                      _     S=Switch Calendar




                                                                                           Bottom

                                                          F3=Exit    F11=More Info


                                                Bottom

 F3=Exit       F4=Prompt       F6=Add Calendar       F21=Command Line
```

Adding a New Calendar

To define a new calendar, press **F6** and enter a name and description for the new calendar. Robot Schedule copies the STANDARD calendar to the new calendar. Therefore, if you need a calendar with fiscal month-end dates, you need to set up a FISCAL calendar. Month-end dates are not allowed in a STANDARD calendar.

Select the new calendar to enter its nonworking days or fiscal month-ends as they differ from the STANDARD calendar. A nonworking day is a day when the computer works on a schedule that is different from a normal workday, such as a weekend or holiday schedule. Do not enter fiscal month-ends for a standard calendar; specify them only for fiscal calendars.

```
RBT215                    Maintain Calendar Objects          14:27:50
                                                              MICKEY
    Start at Calendar  . . . : _____
 Options
   A=Add/Copy/Delete     1=Select      ?=More Options

 Opt  Calendar Name ____ Calendar Description ____
   __    FISCAL        Fiscal calendar
   __    STANDARD      Standard Default Calendar
```

To define a new calendar, press **F6** to display the Calendar panel. Enter the calendar name and a description. Press Enter to create the calendar.

```
                                                              Bottom

 F3=Exit     F4=Prompt    F6=Add Calendar    F21=Command Line
```

```
RBT218                          Calendar                      14:31:28
                                                              MICKEY


          Calendar Name . . : MFGWORKDAY

          Description . . . : Manufacturing Workday Calendar













        F3=Exit     F12=Previous    F21=Command Line
```

Defining or Editing a Calendar

The Calendar Setup panel allows you to define the calendar information. The top part of the panel designates the normal working days in a week. The middle part of the panel lists the nonworking days that fall on what would normally be working days. The bottom part of the panel lists the ending dates of the fiscal months, if any.

Enter a **Y** by the normal working days of the week and **N** by the normal nonworking days.

Enter the dates of up to 40 additional nonworking days in the year that fall on what normally would be working days. Enter the dates in your system date format.

```
RBT281                       Calendar Setup                      14:22:52
                               MFGWRKCAL                          MICKEY
                              Mon   Tue   Wed   Thu   Fri   Sat   Sun
Working Days of the week (Y=Yes, N=No)   Y     Y     Y     Y     Y     N     N

Holidays or other Non-working days in your System Date format

 11606    22006    52906    70306    70406    90406   112206   112406   122506   122606
_____  _____  _____  _____  _____  _____  _____  _____  _____  _____
_____  _____  _____  _____  _____  _____  _____  _____  _____  _____
_____  _____  _____  _____  _____  _____  _____  _____  _____  _____


Last day of the month in your System Date format (If different than calendar)
     Year End
     Prior Yr    Jan(1)     Feb(2)     Mar(3)     Apr(4)     May(5)     June(6)
      122905     13106      22806      33106      42906      53106      63006

     July(7)    Aug(8)     Sept(9)    Oct(10)    Nov(11)    Dec(12)     (13)
      73106      83106      93006     103106     113006     123106     _____

F3=Exit     F12=Previous      F21=Command Line
```

Enter the dates you want Robot Schedule to use as the ends of the fiscal months. Enter the last date in the previous fiscal year and the month-end dates for the 12 or 13 fiscal months in the current year. Use your system date format.

Note: Enter month-end dates only on a fiscal-type calendar that you created separately. Month-end dates are not allowed in a STANDARD calendar.
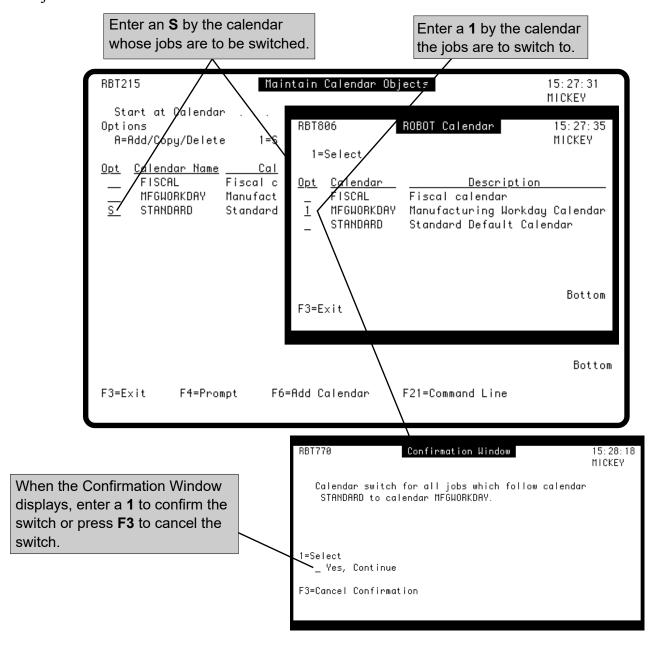
Robot Schedule uses these month-end dates only when the Fiscal calendar option is selected. It uses the month-ends when figuring week numbers and when counting days in the month, including the last day in the month.

Switching Calendars

Robot Schedule makes it easy to switch calendars at year-end, or anytime. First, define the new calendar, if it doesn't already exist. Then, enter an **S** by the old calendar. Robot Schedule displays a window listing the available calendars. Enter a **1** to select the new calendar. Robot Schedule displays another window asking you to confirm the switch. If you do confirm the switch, Robot Schedule switches the calendar for every job that used the old calendar. You also can enter the command **RBTSWTCAL** to perform this function. This command could be scheduled as a Robot Schedule job.

Note: If you use the RBTSWTCAL command, press **F10** to display the additional parameters and specify the product for which you are switching calendars, *SCHEDULE (Robot Schedule) or *MASTER (Robot Network).

To change the calendar used by an individual job, change the calendar name on the Control Options panel for the job.

Enter an **S** by the calendar whose jobs are to be switched.

Enter a **1** by the calendar the jobs are to switch to.

```
RBT215                    Maintain Calendar Objects              15:27:31
                                                                  MICKEY
    Start at Calendar   .   .
Options                           RBT806          ROBOT Calendar      15:27:35
   A=Add/Copy/Delete       1=S                                        MICKEY
                                    1=Select
Opt  Calendar Name     Cal
  __   FISCAL      Fiscal c    Opt  Calendar          Description
  __   MFGWORKDAY  Manufact     _   FISCAL      Fiscal calendar
  S    STANDARD    Standard     1   MFGWORKDAY  Manufacturing Workday Calendar
                                _   STANDARD    Standard Default Calendar


                                                                     Bottom
                                  F3=Exit


                                                                     Bottom

   F3=Exit      F4=Prompt      F6=Add Calendar      F21=Command Line
```

When the Confirmation Window displays, enter a **1** to confirm the switch or press **F3** to cancel the switch.

```
RBT770                Confirmation Window               15:28:18
                                                         MICKEY

   Calendar switch for all jobs which follow calendar
     STANDARD to calendar MFGWORKDAY.




1=Select
 _  Yes, Continue

F3=Cancel Confirmation
```

■ Date Objects

Date objects give you even greater flexibility with your scheduling. It is intended to do the following:

- Define run dates for jobs using the DATE advanced scheduling option
- Support irregular schedule patterns
- Provide an easy way to omit dates from a job's run schedule
- Provide a reusable module that can be attached to many jobs

Date objects cover a 12-month period. The date object is not a calendar. Calendars still determine working and nonworking days. **You should NOT use a date object to define your holiday schedule.**

You can edit date objects at any time. See Switching Date Objects, later in this guide, for complete information.

Robot Schedule checks for expired or nearly-expired date objects during the morning schedule build process. Objects that have expired or are within a month of expiring are listed in the job completion history for the job.

■ Two Types of Date Objects

There are two types of date objects—Run and Omit. A run-type date object is used in conjunction with the DATE advanced scheduling option. An omit-type date object contains the dates that are omitted from the job's normal schedule as determined by exception scheduling options.
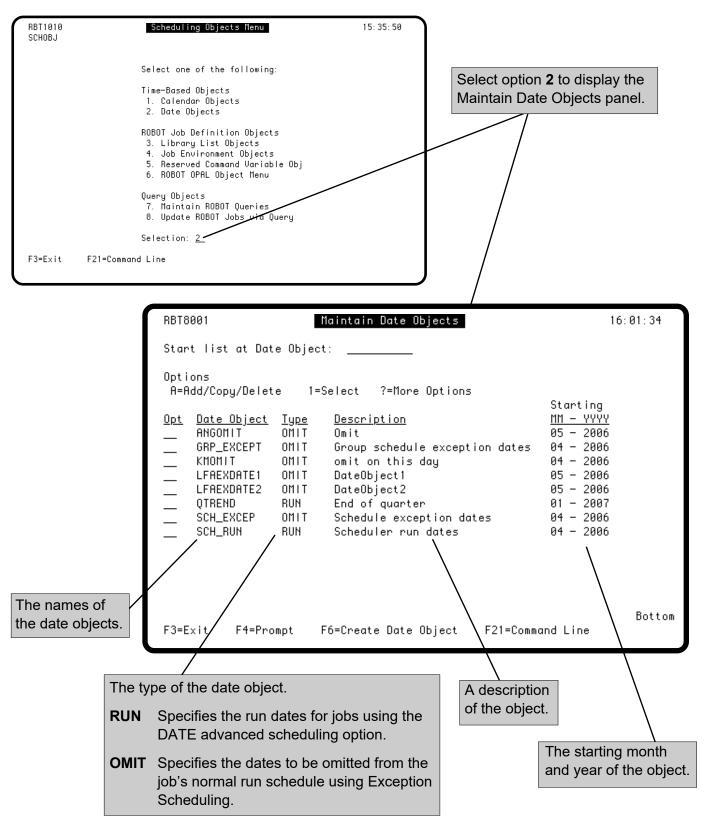
An omit-type object can provide exceptions to a job's standard schedule. You can choose to have Robot Schedule warn you (by sending a message to the job completion history file) when a normally scheduled run is omitted because of the information contained in the date object.

■ Using a Date Object with Group Jobs

For jobs that are members of a group, a date object also can provide exceptions to the group schedule for one or more members. When an omit-type date object is used for a group member, the member will be excluded from the group on the dates selected in the date object. The date object does not affect other members of the group. The group is simply scheduled as if the member were not part of the group on this date. For reactive groups, the omitted member does not run, but the next group member not also omitted by a date object will run.

Working with Date Objects

To begin working with date objects, select option **2** from the Scheduling Objects Menu. The Maintain Date Objects panel displays.

```
RBT1010              Scheduling Objects Menu              15:35:50
SCHOBJ


           Select one of the following:

           Time-Based Objects
            1. Calendar Objects
            2. Date Objects

           ROBOT Job Definition Objects
            3. Library List Objects
            4. Job Environment Objects
            5. Reserved Command Variable Obj
            6. ROBOT OPAL Object Menu

           Query Objects
            7. Maintain ROBOT Queries
            8. Update ROBOT Jobs via Query

           Selection: 2

   F3=Exit     F21=Command Line
```

Select option **2** to display the Maintain Date Objects panel.

```
RBT8001                    Maintain Date Objects              16:01:34

   Start list at Date Object: _____

   Options
    A=Add/Copy/Delete    1=Select    ?=More Options
                                                         Starting
   Opt  Date Object  Type    Description               MM - YYYY
   __   ANGOMIT      OMIT    Omit                       05 - 2006
   __   GRP_EXCEPT   OMIT    Group schedule exception dates  04 - 2006
   __   KMOMIT       OMIT    omit on this day           04 - 2006
   __   LFAEXDATE1   OMIT    DateObject1                05 - 2006
   __   LFAEXDATE2   OMIT    DateObject2                05 - 2006
   __   QTREND       RUN     End of quarter             01 - 2007
   __   SCH_EXCEP    OMIT    Schedule exception dates   04 - 2006
   __   SCH_RUN      RUN     Scheduler run dates        04 - 2006


                                                              Bottom
   F3=Exit     F4=Prompt     F6=Create Date Object    F21=Command Line
```

The names of the date objects.

The type of the date object.

RUN Specifies the run dates for jobs using the DATE advanced scheduling option.

OMIT Specifies the dates to be omitted from the job's normal run schedule using Exception Scheduling.

A description of the object.

The starting month and year of the object.

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Working with Date Objects

Enter a **1** in the **Opt** field to select a date object from the list and display the Date Object Settings panel for the object.

```
RBT8001                    Maintain Date Objects                16:01:34

Start list at Date Object:  _____

Options
 A=Add/Copy/Delete     1=Select    ?=More Options
                                                          Starting
Opt  Date Object  Type    Description                     MM - YYYY
 __   ANGOMIT      OMIT    Omit                            05 - 2006
 __   GRP_EXCEPT   OMIT    Group schedule exception dates  04 - 2006
 __   KMOMIT       OMIT    omit on this day                04 - 2006
 __   LFAEXDATE1   OMIT    DateObject1                     05 - 2006
 __   LFAEXDATE2   OMIT    DateObject2                     05 - 2006
 __   QTREND       RUN     End of quarter                  01 - 2007
 1_   SCH_EXCEP    OMIT    Schedule exception dates        04 - 2006
 __   SCH_RUN      RUN     Scheduler run dates             04 - 2006



                                                                 Bottom
 F3=Exit    F4=Prompt    F6=Create Date Object    F21=Command Line
```

Enter a name and description for the object. Use a name that helps you remember the object's purpose. Names can be up to 10 characters in length.

To create a new date object, press **F6** .

Enter a starting date for the object in year, month (YYMM) format.

```
RBT8002                      Date Object Settings               16:03:07




Date Object Name:   SCH_EXCEP

Description:        Schedule exception dates

Starting Month:     0604   (Format YYMM)

Type:                2    1=Run Dates
                          2=Exception Dates

If Type=2:
   Create Warnings   2    1=Warn on Exception Dates
                          2=Don't Create Warnings






 F3=Exit    F12=Previous    F21=Command Line     F23=Prev options
```

Select the type of object.

1 A run-type object that specifies the run dates for jobs using the DATE advanced scheduling option.

2 An omit-type object that specifies the exception dates to the job's normal run schedule.
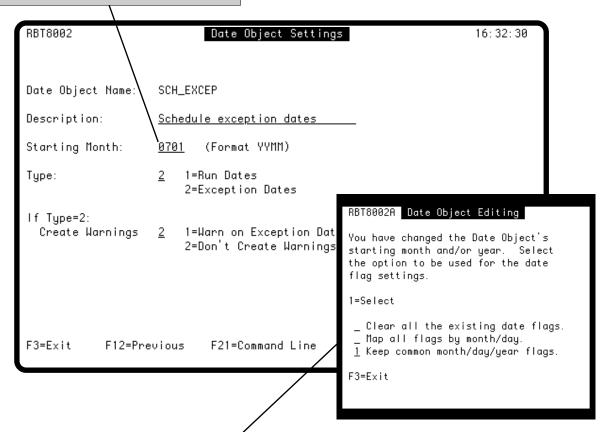
If this is an omit-type object, select whether Robot Schedule should warn you when it omits the jobs because of the information in the date object.

1   Create warnings.

2   Don't create warnings.

Changing the Start Date

When a date object expires, you can change its start date and continue to use it. This saves you from creating a new date object each time an object expires. You can change the start dates for both Run-type and Omit-type date objects.

To change the start date for the object, enter a new year and/or month. When you press Enter, the Date Object Editing window displays.

```
RBT8002                    Date Object Settings              16:32:30




Date Object Name:   SCH_EXCEP

Description:        Schedule exception dates

Starting Month:     0701    (Format YYMM)

Type:               2    1=Run Dates
                         2=Exception Dates

If Type=2:
  Create Warnings   2    1=Warn on Exception Dat
                         2=Don't Create Warnings



F3=Exit      F12=Previous      F21=Command Line
```

```
RBT8002A  Date Object Editing

You have changed the Date Object's
starting month and/or year.  Select
the option to be used for the date
flag settings.

1=Select

 _  Clear all the existing date flags.
 _  Map all flags by month/day.
 1  Keep common month/day/year flags.

F3=Exit
```

The Date Object Editing window allows you to select an option for the start date flag:

Clear all the existing date flags
   Clears all dates in the date object and allows you to enter new dates.
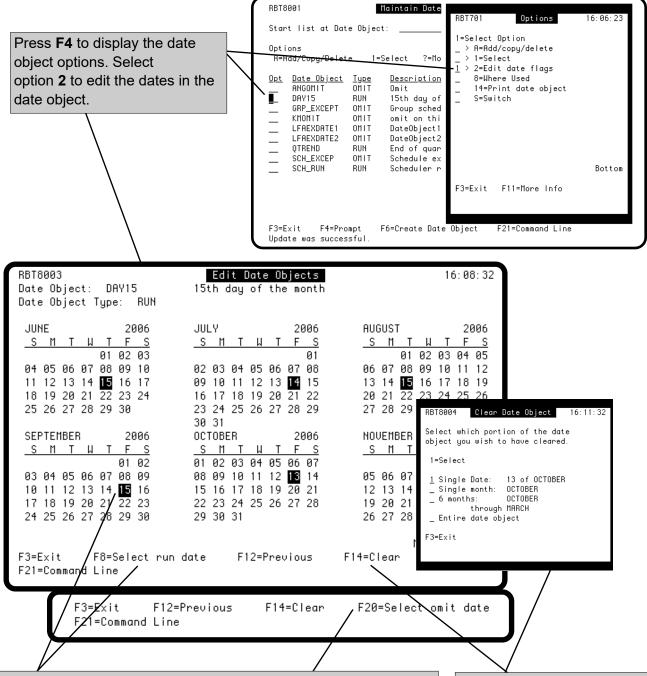
Map all flags by month/day
   Uses the same starting month and dates with a new year. Select this option if you change the starting year.

Keep common month/day/year flags
   Uses a new starting month, but keeps the dates for the rest of the year. Select this option if you change the starting month. For example, if you have dates set up for the entire year and change the starting month from 01 (January) to 06 (June), the date object now starts in June and uses the dates from June to December, plus any dates for the following year.

Editing Date Objects

Press **F4** to display the date object options. Select option **2** to edit the dates in the date object.

```
RBT8001                 Maintain Date
                                            RBT701        Options       16:06:23
Start list at Date Object: _____
                                            1=Select Option
Options                                     _ > A=Add/copy/delete
  A=Add/Copy/Delete     1=Select    ?=Mo    _ > 1=Select
                                            1 > 2=Edit date flags
Opt  Date Object  Type    Description       _   8=Where Used
_    ANGOMIT      OMIT    Omit              _   14=Print date object
█    DAY15        RUN     15th day of       _   S=Switch
_    GRP_EXCEPT   OMIT    Group sched
_    KMOMIT       OMIT    omit on thi
_    LFAEXDATE1   OMIT    DateObject1
_    LFAEXDATE2   OMIT    DateObject2
_    QTREND       RUN     End of quar
_    SCH_EXCEP    OMIT    Schedule ex                              Bottom
_    SCH_RUN      RUN     Scheduler r
                                            F3=Exit    F11=More Info

F3=Exit    F4=Prompt    F6=Create Date Object    F21=Command Line
Update was successful.
```

```
RBT8003                 Edit Date Objects                16:08:32
Date Object:  DAY15      15th day of the month
Date Object Type:  RUN

  JUNE          2006      JULY          2006      AUGUST        2006
  S  M  T  W  T  F  S     S  M  T  W  T  F  S     S  M  T  W  T  F  S
              01 02 03                      01              01 02 03 04 05
  04 05 06 07 08 09 10    02 03 04 05 06 07 08    06 07 08 09 10 11 12
  11 12 13 14 15 16 17    09 10 11 12 13 14 15    13 14 15 16 17 18 19
  18 19 20 21 22 23 24    16 17 18 19 20 21 22    20 21 22 23 24 25 26
  25 26 27 28 29 30       23 24 25 26 27 28 29    27 28 29  RBT8004   Clear Date Object   16:11:32
                          30 31
  SEPTEMBER     2006      OCTOBER       2006      NOVEMBER  Select which portion of the date
  S  M  T  W  T  F  S     S  M  T  W  T  F  S     S  M  T   object you wish to have cleared.
              01 02       01 02 03 04 05 06 07
  03 04 05 06 07 08 09    08 09 10 11 12 13 14    05 06 07    1=Select
  10 11 12 13 14 15 16    15 16 17 18 19 20 21    12 13 14
  17 18 19 20 21 22 23    22 23 24 25 26 27 28    19 20 21  1 Single Date:   13 of OCTOBER
  24 25 26 27 28 29 30    29 30 31               26 27 28  _ Single month:  OCTOBER
                                                           _ 6 months:      OCTOBER
                                                                through MARCH
                                                           _ Entire date object

F3=Exit    F8=Select run date    F12=Previous   F14=Clear   F3=Exit
F21=Command Line
```

```
F3=Exit    F12=Previous    F14=Clear    F20=Select omit date
F21=Command Line
```

For RUN-type objects, move your cursor to the dates you want the job to run and press F8 The highlighted dates are the dates the job will run. If you want to change a highlighted date, move your cursor to the date and press **F8** again.

For OMIT-type objects, move your cursor to the dates you want omitted from the job's normal run schedule and press **F20**. The highlighted dates are the exceptions to the job's normal schedule—the dates the job will NOT run. If you want to change a highlighted date, move your cursor to the date and press **F20** again.

To clear either a run date or an omit date, press **F14** and select the date (or range of dates) to clear from the Clear Date Object window.
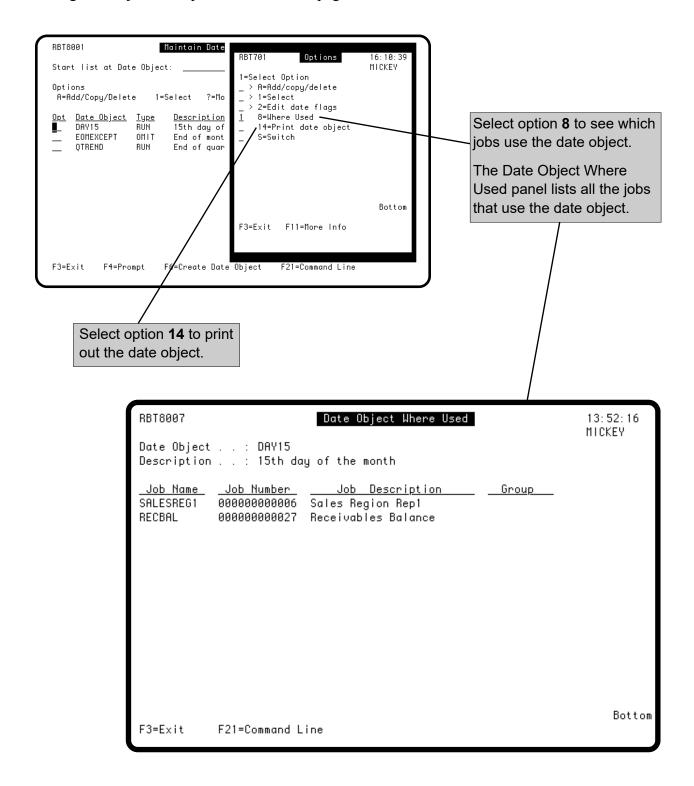
Editing Date Objects

When you have completed editing the date flags to your satisfaction and exit the Edit Date Objects panel, a
confirmation window displays. You then can save the editing you have done, discard it, or change your
mind and return to editing.

```
RBT8003                    Edit Date Objects                   16:12:46
Date Object:   DAY15       15th day of the month
Date Object Type:   RUN

   JUNE              2006      JUL   RBT8003A         Confirm Exit
 S  M  T  W  T  F  S        S
             01 02 03             Date Object Name:    DAY15
 04 05 06 07 08 09 10       02    Date Object Type:    RUN
 11 12 13 14 15 16 17       09
 18 19 20 21 22 23 24       16    1=Select
 25 26 27 28 29 30          23
                            30     1 1. Exit & Save settings.
 SEPTEMBER         2006     OCT    _ 2. Exit & Do NOT save settings.
 S  M  T  W  T  F  S        S     _ 3. Return to date flag editing.
             01 02          01
 03 04 05 06 07 08 09       08    F3=Exit
 10 11 12 13 14 15 16       15
 17 18 19 20 21 22 23       22
 24 25 26 27 28 29 30       29

                                                          More...
 F3=Exit     F8=Select run date     F12=Previous    F14=Clear
 F21=Command Line
```

When you exit the Edit Date Objects panel, the
Confirm Exit window displays. Select option **1** to
save your changes. Select option **2** to discard
your changes. Select option **3** to return to editing
the date object.

Finding Out Where a Date Object is Used

Robot Schedule does not allow you to delete a date object that is attached to a job. However, you can easily find out which jobs are using an object by selecting option **8** from the option menu on the Maintain Date Objects panel. You must switch jobs to a different date object before you can delete the object. Switching date objects is explained on the next page.

```
RBT8001              Maintain Date
                                    RBT701           Options        16:10:39
Start list at Date Object:  _____                                MICKEY
                                    1=Select Option
Options                             _ > A=Add/copy/delete
 A=Add/Copy/Delete    1=Select  ?=Mo  _ > 1=Select
                                    _ > 2=Edit date flags
Opt  Date Object  Type   Description  1   8=Where Used
█    DAY15        RUN    15th day of  _  14=Print date object
_    EOMEXCEPT    OMIT   End of mont  _   S=Switch
_    QTREND       RUN    End of quar


                                                        Bottom

                                    F3=Exit   F11=More Info


F3=Exit    F4=Prompt    F6=Create Date Object    F21=Command Line
```

Select option **8** to see which jobs use the date object.

The Date Object Where Used panel lists all the jobs that use the date object.

Select option **14** to print out the date object.

```
RBT8007                      Date Object Where Used              13:52:16
                                                                 MICKEY
Date Object . . : DAY15
Description . . : 15th day of the month

 Job Name    Job Number        Job  Description        Group
SALESREG1    000000000006   Sales Region Rep1
RECBAL       000000000027   Receivables Balance










                                                                 Bottom
F3=Exit    F21=Command Line
```

Switching Date Objects

Robot Schedule makes it easy to switch which date object is used. First define the new date object, if it doesn't already exist. Then enter option **S** next to the old date object. Robot Schedule displays a window listing the available date objects. Enter a **1** next to the new date object to select it. Robot Schedule then displays another window asking you to confirm the switch. If you confirm the switch, Robot Schedule switches the date object for every job that used the old date object. You also can use the command, **RBTSWTDO**, to perform this function.

Note: If you use the RBTSWTDO command, press **F10** to display the additional parameters and specify the product for which you are switching calendars, *SCHEDULE (Robot Schedule) or *MASTER (Robot Network).

To change the date object used by a specific job, go to the Advanced Scheduling or Exception Scheduling panel for the job.

Enter an **S** in the **Opt** field next to the old date object. The Select Date Object window displays.

Enter a **1** to select the new date object.

```
RBT8001              Maintain Date Objects              16:21:00
                                                        MICKEY

Start list at Date Object:  _____

Options
 A=Add/Copy/Delete    1=Select    ?=More Options

Opt   Date Object    RBT8009           Select Date Object        16:21:04
S     DAY15                                                      MICKEY
_     EOMEXCEPT      Start at Date Object: _____      Type: RUN
_     QTREND
                      1=Select replacement for date object DAY15
                                                            Starting
                      Opt   Object          Description      MM - YYYY
                       _    DAY15    15th day of the month    05 - 2000
                       1    QTREND   End of quarter           01 - 2000


                                                            Bottom
                      F3=Exit

F3=Exit    F4=Pro
```

```
RBT770              Confirmation Window              16:21:33
                                                     MICKEY

   Date Object switch for all jobs which use date
   object DAY15 to use date object QTREND




1=Select
   _ Yes, Continue

F3=Cancel Confirmation
```

Enter a **1** to confirm the switch or press **F3** to cancel the switch.

Library List Objects

Robot Schedule lets you store your library lists under library list object names. Before it executes a job, Robot Schedule sets the library list for the job to the libraries in the named library list object.

To define a library list object, press **F6** from the Library List Objects panel to display the Library List panel. After you have defined your library list objects, you can enter them as part of the definition of an environment. You may want to enter the name of your most commonly used library list object as part of the definition of the STANDARD environment. You can change the library list object for a specific job on its Control Options panel. You also can use the RBTBCHUPD command to change the library list object used by a job.
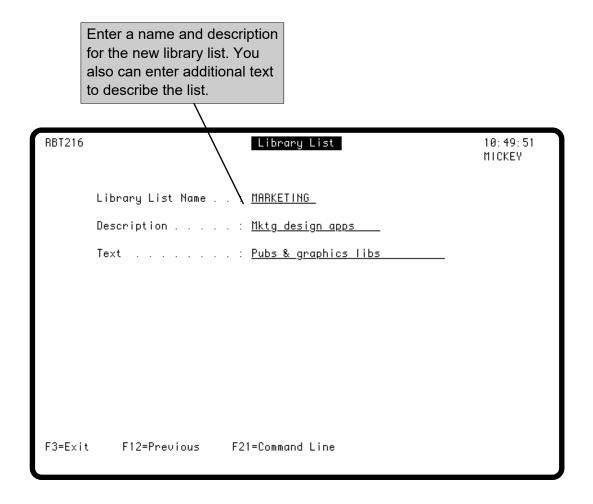
Robot Schedule provides these library list commands for use in your own programs:

• To replace the library list: **RPLLIBLIST LIBNAME (***library list name***)**
• To display the Library List Selection panel: **WRKLIBLIST**

```
RBT1010              Scheduling Objects Menu              09:59:23
SCHOBJ                                                    MICKEY

              Select one of the following:

              Time-Based Objects
                1. Calendar Objects
                2. Date Objects

              ROBOT Job Definition Objects
                3. Library List Objects
                4. Job Environment Objects
                5. Reserved Command Variable Obj
                6. ROBOT OPAL Object Menu

              Query Objects
                7. Maintain ROBOT Queries
                8. Update ROBOT Jobs via Query

              Selection: 3

   F3=Exit    F21=Command Line
```

Select option **3** to display the Library List Objects panel.

```
RBT295                      Library List Objects              10:30:23
                                                              MICKEY

     Start at List Name . . . :  _____
   Options
     A=Add/Copy/Delete       1=Select      ?=More Options

   Opt    List Name       Description              Text
    __    OPERATIONS    Operations lib list    Production libs
    __    PROGRAMMER    Programming lib list   Programming Development libs
    __    PURCHASING    Purchasing apps        Inventory libs
    __    SALES         Sales applications     Sales & customer libs

                                                              Bottom
     F3=Exit     F4=Prompt     F6=Add Library List     F21=Command Line
```

Press **F6** to create a new library list.

Library List Objects

Use the Library List panel to define a new library list object or modify the description of an existing object.

Enter a name and description for the new library list. You also can enter additional text to describe the list.

```
RBT216                          Library List                    10:49:51
                                                                MICKEY


              Library List Name . . \  MARKETING

              Description . . . . . :  Mktg design apps

              Text  . . . . . . . . :  Pubs & graphics libs













  F3=Exit     F12=Previous     F21=Command Line
```
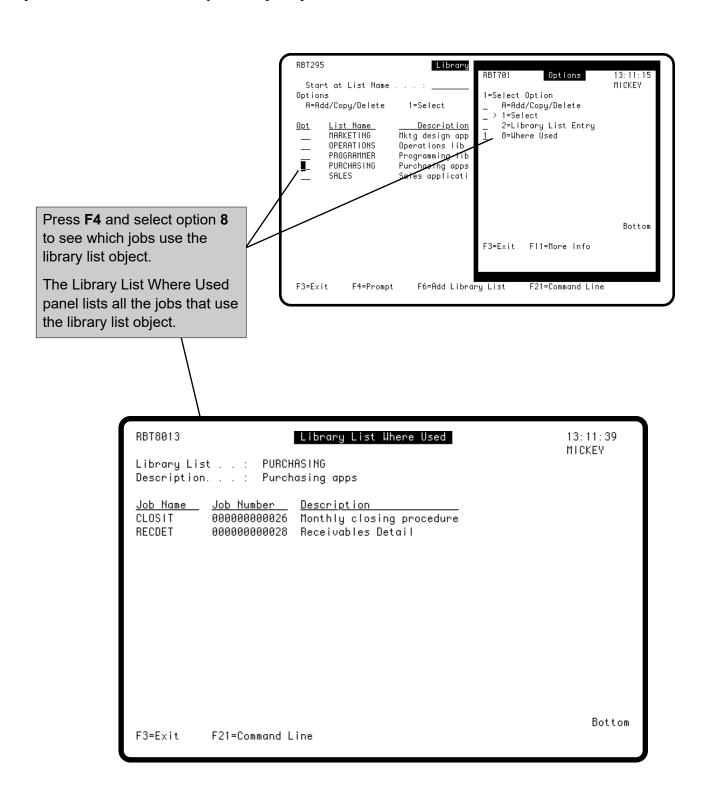
Adding Libraries to a Library List Object

After you've created a library list object, press **F4** on the Library List Objects panel to display the options
for the library list. Select option **2**, Library List Entry to display the Maintain Library List panel. If you
have entered libraries on the Authorized Objects list, you can press **F4** to see a list of authorized libraries.
You also can press **F7** to copy the current library list of your job to this panel. Edit the library list by
inserting and deleting libraries and by changing names and sequence numbers. To add a library to the list,
type a sequence number and the library name on a blank line. Each library list can contain up to 25
libraries.

```
RBT295                      Library
   Start at List Name . . . : _____
Options
   A=Add/Copy/Delete       1=Select

Opt    List Name      Description
 __    MARKETING    Mktg design app
 __    OPERATIONS   Operations lib
 1     PROGRAMMER   Programming lib
 __    PURCHASING   Purchasing apps
 __    SALES        Sales applicati




F3=Exit     F4=Prompt      F6=Add Library List      F21=Command Line
```

```
RBT701         Options       11:04:48
                              MICKEY
1=Select Option
 _     A=Add/Copy/Delete
 _ > 1=Select
 1     2=Library List Entry
 _     8=Where Used




                             Bottom

F3=Exit    F11=More Info
```

Press **F4** and select option
2 to display the Maintain
Library List panel.

Enter a **4** in the Opt
column to delete a
library from the list.

Type over sequence
numbers to reorder
the libraries in the list.

To replace a library in
the list, type over its
name with the new
library name.

```
RBT287                  Maintain Library List              12:21:19
                                                             MICKEY
   List Name PROGRAMMER   Description Programming lib list
   Text Programming Development libs

Options
  4=Delete      ?=Prompt for authorized libraries
           Opt        Seq         Library
            _          10         ROBOTLIB
            _          20         KIKI
            _          30         QGPL
            _          40         QTEMP
            _          50         QRPG
            _          __         _____
            _          __         _____
            _          __         _____
            _          __         _____
            _          __         _____
            _          __         _____
            _          __         _____
                                                            More...

F3=Exit    F4=Prompt    F7=Retrieve Current Library List    F12=Previous
F21=Command Line
```

```
RBT803       Object Lookup   12:21:50
                              MICKEY
  Start list at Object: _____

  1=Select

Opt   Object      Description
 _    QGPL




                             Bottom
F3=Exit
```

Press **F4** to display the Object Lookup
window showing a list of authorized libraries
(see Authorized Objects).

Press **F7** to copy the current library list for your
job to the panel. **Note:** Any libraries currently in
the library list are replaced when
you press F7

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Where a Library List is Used
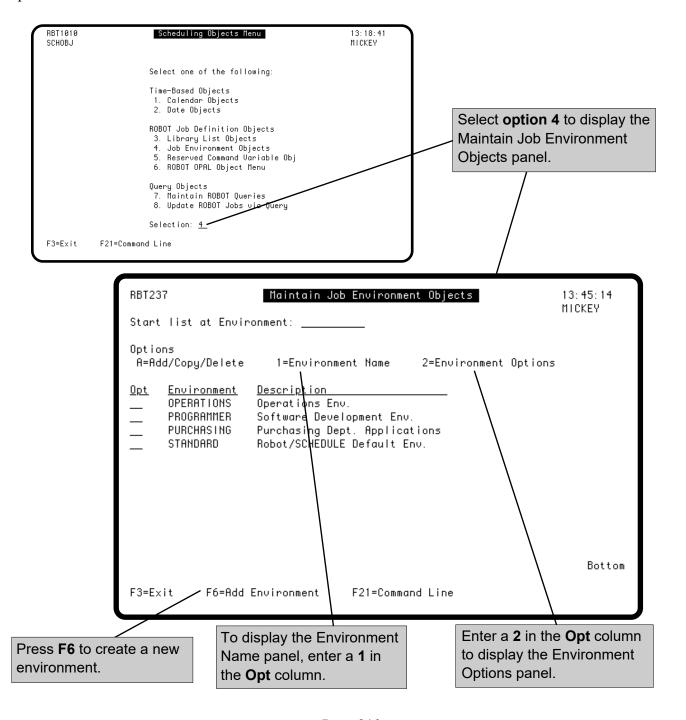
You can find out which jobs are using a library list object by selecting option **8**, Where Used, from the
options window on the Library List Objects panel.

```
RBT295                          Library
    Start at List Name . . . :  _____     RBT701          Options      13:11:15
 Options                                                                   MICKEY
   A=Add/Copy/Delete       1=Select        1=Select Option
                                           _    A=Add/Copy/Delete
 Opt    List Name          Description     _ >  1=Select
  __    MARKETING        Mktg design app   _    2=Library List Entry
  __    OPERATIONS       Operations lib    1    8=Where Used
  __    PROGRAMMER       Programming lib
  █     PURCHASING       Purchasing apps
  __    SALES            Sales applicati


                                                                          Bottom

                                           F3=Exit   F11=More Info

 F3=Exit      F4=Prompt      F6=Add Library List      F21=Command Line
```

Press **F4** and select option **8**
to see which jobs use the
library list object.

The Library List Where Used
panel lists all the jobs that use
the library list object.

```
RBT8013               Library List Where Used               13:11:39
                                                            MICKEY

 Library List . . :  PURCHASING
 Description. . . :  Purchasing apps

 Job Name    Job Number    Description
 CLOSIT      000000000026  Monthly closing procedure
 RECDET      000000000028  Receivables Detail










                                                            Bottom
 F3=Exit      F21=Command Line
```

Maintain Job Environment Objects

The Maintain Job Environment Objects panel lists the job control environments you have created. It lists the name of the environment and its description. From this panel, you can access the Environment Name or the Environment Options panel for an existing environment, or you can create a new environment. To create a new environment, press F6

Robot Schedule is shipped with a default environment **STANDARD** to make your work easier. You can tailor the Robot Schedule default values to fit the needs of your site. Review the default values before you begin to schedule jobs to decide if they will suit your needs, if they need to be edited, or if you need to set up additional environments.

```
RBT1010              Scheduling Objects Menu            13:18:41
SCHOBJ                                                  MICKEY


             Select one of the following:

             Time-Based Objects
              1. Calendar Objects
              2. Date Objects

             ROBOT Job Definition Objects
              3. Library List Objects
              4. Job Environment Objects
              5. Reserved Command Variable Obj
              6. ROBOT OPAL Object Menu

             Query Objects
              7. Maintain ROBOT Queries
              8. Update ROBOT Jobs via Query

             Selection: 4

    F3=Exit      F21=Command Line
```

Select **option 4** to display the Maintain Job Environment Objects panel.

```
RBT237                Maintain Job Environment Objects       13:45:14
                                                             MICKEY

    Start list at Environment: _____

    Options
     A=Add/Copy/Delete      1=Environment Name      2=Environment Options

    Opt    Environment    Description_____
     __     OPERATIONS     Operations Env.
     __     PROGRAMMER     Software Development Env.
     __     PURCHASING     Purchasing Dept. Applications
     __     STANDARD       Robot/SCHEDULE Default Env.




                                                                  Bottom

        F3=Exit     F6=Add Environment      F21=Command Line
```

Press **F6** to create a new environment.

To display the Environment Name panel, enter a **1** in the **Opt** column.

Enter a **2** in the **Opt** column to display the Environment Options panel.

Environment Name Panel

The Environment Name panel names and describes the job environment. You need to name an environment before you can enter the job control defaults for it.

Enter a logical name for the environment. The name can be up to 10 characters in length.

Enter a description of the environment.

```
RBT238                        Environment Name                    13:29:51
                                                                  MICKEY


Enter Environment Information:
  Environment Name . . . . . :  PROGRAMMER
  Description  . . . . . . . :  Software Development Env.








  F3=Exit    F12=Previous     F21=Command Line
```
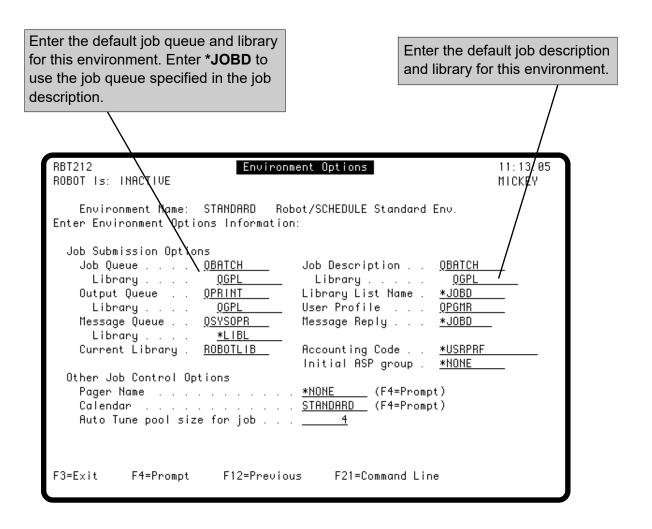
Environment Options Display

When you enter a **2** in the **Opt** field on the Maintain Job Environment Objects panel, Robot Schedule displays the Environment Options panel. Use this panel to create different environments for different sets of jobs. For example, you may want a special environment for all your accounting jobs.
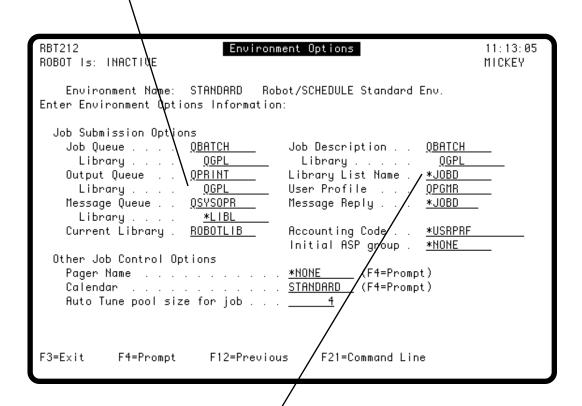
You may notice that the Environment Options panel resembles the Control Options panel. When you create a Robot Schedule job, the control options for the job default to *RBTDFT. Entering *RBTDFT in a Control Options panel field means that Robot Schedule will get the value for the field from the named environment. The named environment defaults to STANDARD. If you set up a different environment for a set of jobs, the only field that you need to change on the Control Options panel is the Environment Name field. Thus, environments can save you work and help provide more consistent environments for related jobs.

You also can edit the STANDARD environment. We recommend that you set the STANDARD environment values to fit most jobs that Robot Schedule runs on your system.

Enter the default job queue and library for this environment. Enter ***JOBD** to use the job queue specified in the job description.

Enter the default job description and library for this environment.

```
RBT212                      Environment Options                    11:13 05
ROBOT Is: INACTIVE                                                  MICKEY

       Environment Name:  STANDARD   Robot/SCHEDULE Standard Env.
Enter Environment Options Information:

   Job Submission Options
     Job Queue . . . .  QBATCH        Job Description . .   QBATCH
        Library . . . .    QGPL          Library . . . . .     QGPL
     Output Queue  . .  QPRINT        Library List Name .  *JOBD
        Library . . . .    QGPL       User Profile  . . .  QPGMR
     Message Queue . .  QSYSOPR       Message Reply . . .  *JOBD
        Library . . . .    *LIBL
     Current Library .  ROBOTLIB      Accounting Code . .  *USRPRF
                                      Initial ASP group .  *NONE

   Other Job Control Options
     Pager Name   . . . . . . . . . . . *NONE      (F4=Prompt)
     Calendar   . . . . . . . . . . . . STANDARD   (F4=Prompt)
     Auto Tune pool size for job . . .      4



   F3=Exit     F4=Prompt     F12=Previous     F21=Command Line
```

Environment Options

Enter the default output queue and library that this
environment should use for reports produced by
jobs. Enter ***JOBD** to use the output queue specified
in the job description.

```
RBT212                        Environment Options               11:13:05
ROBOT Is: INACTIVE                                               MICKEY

      Environment Name:  STANDARD   Robot/SCHEDULE Standard Env.
 Enter Environment Options Information:

    Job Submission Options
      Job Queue . . . .  QBATCH         Job Description . .  QBATCH
         Library . . . .   QGPL            Library . . . . .   QGPL
      Output Queue  . .  QPRINT         Library List Name .  *JOBD
         Library . . . .   QGPL         User Profile  . . .  QPGMR
      Message Queue . .  QSYSOPR        Message Reply . . .  *JOBD
         Library . . . .   *LIBL
      Current Library .  ROBOTLIB       Accounting Code . .  *USRPRF
                                        Initial ASP group .  *NONE

    Other Job Control Options
      Pager Name  . . . . . . . . . . .  *NONE      (F4=Prompt)
      Calendar  . . . . . . . . . . . .  STANDARD   (F4=Prompt)
      Auto Tune pool size for job . . .      4



 F3=Exit      F4=Prompt      F12=Previous      F21=Command Line
```

The Robot Schedule library list management system lets you enter a list
of libraries under a single name. Select option **3** from the Scheduling
Objects Menu to define library list object names.

If you have set up library list object names, enter the one you want to use
as the default for this environment. The job's library list is set to these
libraries before the job is executed. Enter ***JOBD** to use the library list
entered in the job description.

Environment Options

Enter the default user profile under which you want jobs using this environment to run. The user profile must have authority to all objects the jobs need in their processing, but it cannot be QSECOFR, RBTUSER, or RBTADMIN. Enter ***JOBD** to use the user profile specified by the USER parameter in the job description.

Suggestion: Create a user profile named Schedule that has authority to run everything and make it the default user profile. This ensures that you never have authority problems with Robot Schedule jobs. For more information on security, see Security in the System Setup Menu section.

```
RBT212                         Environment Options                11:13:05
ROBOT Is:  INACTIVE                                               MICKEY

     Environment Name:   STANDARD    Robot/SCHEDULE Standard Env.
 Enter Environment Options Information:

    Job Submission Options
       Job Queue . . . .    QBATCH         Job Description  .    QBATCH
          Library . . . .      QGPL           Library . . . .      QGPL
       Output Queue  . .   QPRINT         Library List Name .  *JOBD
          Library . . . .      QGPL        User Profile  . . .  QPGMR
       Message Queue . .   QSYSOPR        Message Reply . . .  *JOBD
          Library . . . .     *LIBL
       Current Library    ROBOTLIB        Accounting Code . .  *USRPRF
                                          Initial ASP group .  *NONE

    Other Job Control Options
       Pager Name  . . . . . . . . . . . . *NONE      (F4=Prompt)
       Calendar  . . . . . . . . . . . . . STANDARD   (F4=Prompt)
       Auto Tune pool size for job . . .       4



 F3=Exit      F4=Prompt     F12=Previous      F21=Command Line
```

Enter the message queue and library that should receive the message returned by SBMJOB each time a job completes. These are IBM completion messages, not Robot Schedule messages. Enter ***NONE** if you do not want the messages returned.

Enter the default message reply to be used for this environment when a Robot Schedule job issues a terminal error message requiring a reply.

*DFT   Use the default message reply, which usually cancels the job. Use this option if you want jobs to run unattended.

*RQD   Do not enter a message reply; the operator must reply to the message.

*JOBD   Use the message reply option in the job description.

*SYSRPYL Check the system reply list for the appropriate reply. Use this option to tailor replies to messages (see your IBM manuals for details).

Environment Options

Enter the library to be used as the default current library for this environment.

If you use Robot CPA or the job accounting journal to record job statistics, enter the default account code to which statistics for this environment should be assigned.

Enter the initial ASP Group. You can specify one of the following: *RBTDFT, *NONE, or the name of an ASP group.

```
RBT212                        Environment Options                    11:13:05
ROBOT Is: INACTIVE                                                    MICKEY


     Environment Name:  STANDARD   Robot/SCHEDULE Standard Env.
Enter Environment Options Information:

   Job Submission Options
     Job Queue . . . .   QBATCH       Job Description . .   QBATCH
        Library . . . .    QGPL           Library . . . . .   QGPL
     Output Queue  .    QPRINT        Library List Name .  *JOBD
        Library . . . .    QGPL        User Profile  . . .  QPGMR
     Message Queue .    QSYSOPR       Message Reply . . .  *JOBD
        Library . . . .   *LIBL
     Current Library .  ROBOTLIB      Accounting Code . .  *USRPRF
                                      Initial ASP group .  *NONE

   Other Job Control Options
     Pager Name  . . . . . . . . . .  *NONE       (F4=Prompt)
     Calendar  . . . . . . . . . . .  STANDARD    (F4=Prompt)
     Auto Tune pool size for job  . .      4



   F3=Exit      F4=Prompt     F12=Previous      F21=Command Line
```

If you have Robot Alert installed, enter the name of the default pager to which Robot Schedule jobs using this environment should send a pager message if they end abnormally. Press **F4** to select a pager name from a list.

If you use Robot Autotune (our automatic performance tuning system), enter the default size (in K) of the memory pool in which each job using this environment runs. Use this value to set a standard for the amount of system resources the average job that uses this environment should use.

Enter the name of the default calendar this environment should use when determining working, nonworking, and fiscal month-end days. (See Calendars, earlier in this section.) Press **F4** to select from a list of calendars.

Note: Once you have selected a calendar on this panel and the Environment is in use, you cannot change the calendar here. Use the Switch option on the Maintain Calendar Objects panel (option 1 from the Scheduling Objects Menu) to change calendars.

■ **Use Robot
Schedule
Reserved
Command
Variables to
Insert Global
Values**

Programs often require you to input dynamic values, such as the system date and time, the job user name, or the default printer name. Such global values apply to jobs throughout the system. Robot Schedule provides an easy way to automate this process. All you do is insert Robot Schedule reserved command variables in your Robot Schedule job; Robot Schedule replaces the reserved command variables with the corre-sponding global values before it executes the job.

For example, suppose you need to pass the current system date and time to a program when it runs. Insert two reserved command variables, @@DATE and @@TIME, in the program call in your Robot Schedule job:

```
CALL PRG105 ('@@DATE' '@@TIME')
```

Just before it executes the job, Robot Schedule substitutes the current system date and time for the reserved command variables. If the job runs on July 16, 2007 at 3:39 p.m., the command executed would be:

```
CALL PRG105 ('071607' '153907')
```

■ **Update Global
Values Easily
in All Robot
Schedule Jobs**

In addition to calculated values like the date and time, Robot Schedule reserved command variables also can substitute constant values. This makes it easy to update global values in all Robot Schedule jobs, without editing each job individually.

For example, suppose your programs need the accounts payable file name. A program call could use a reserved command variable called @@AP that returns the file name as a constant:

```
CALL PRG106 ('@@AP')
```

Yesterday, the name was APMAST1, but today the name should be APMAST2. To change the constant value for @@AP, you can change either the reserved command variable definition in Robot Schedule or use the command **RBTCHGRSV**. For example, this command changes the value of @@AP.

```
RBTCHGRSV RSVVAR(@@AP) VALUE(APMAST2)
```

Code the RBTCHGRSV command into your own programs to update global constants as needed. Or, if you have ROBOTLIB in your library list, just enter it on a command line to instantly update variables.

■ **Define Your
Own Reserved
Command
Variables**

Do you have global values that are unique to your system? Define reserved command variables to insert these values in your Robot Schedule jobs. This ensures consistency in the values used and makes your jobs easy to update when global values change.

A reserved command variable can insert a constant value or insert a value returned by a program. Robot Schedule calls the program just before it executes the job; it then substitutes the value returned for the reserved command variable in the job.

■ **Use Our
Programs to
Calculate Dates
without CL
Programming**

Fortra also ships you source code so that you can take advantage of Robot Schedule's useful date utilities through Reserved Command Variables without doing CL programming. The code is located in the file RBTRSVSRC in library ROBOTLIB. The four programs we ship do the following:
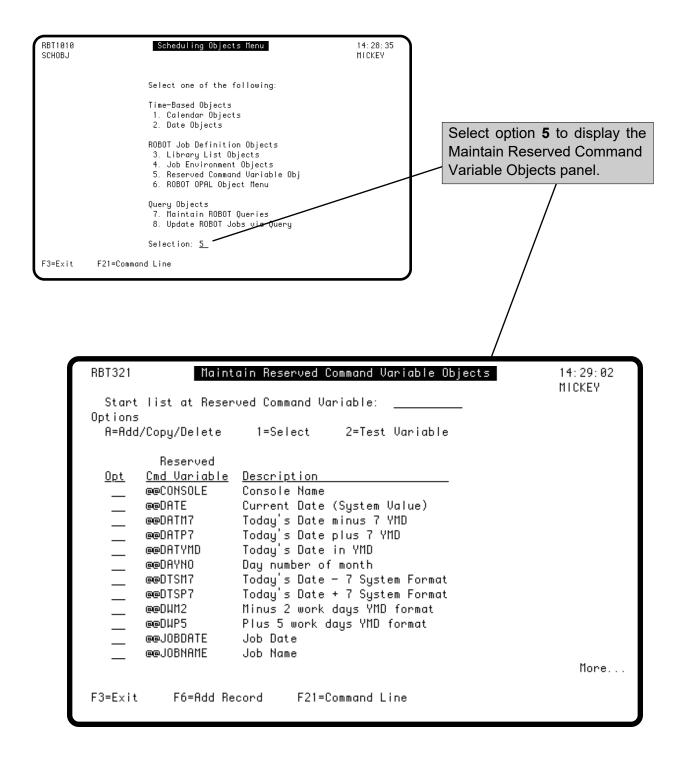
• **RBT013**—This program uses today's date as its starting point and calculates dates *x* days into the past or the future. It also can return month-end dates for the current and previous months.

• **RBT014**—This program calculates fiscal month-end dates and determines other characteristics of the day.

• **RBT017**—Based on today's date, this program calculates dates *x* days into the past or future for working, nonworking, or calendar days.

• **RBT002**—This program retrieves system values directly from the OS/400 operating system.

You can call these programs many times using different reserved variable entries. Each entry calls a program and passes it a different parameter string. Different strings return different results.

If these programs suit your needs as written, you can just use them. If you want to change the source files, copy them into a different library, make your changes, and recompile the code. Don't put modified code back into ROBOTLIB or it will be lost the next time you update your copy of Robot Schedule.
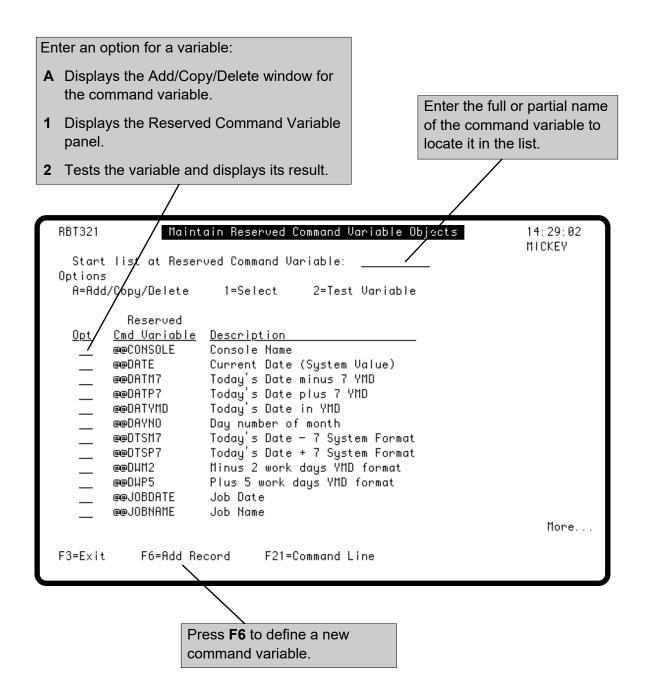
Defining Robot Schedule Reserved Command Variables

To see the definitions of Robot Schedule Reserved Command Variables and to define your own, select option **5** on the Scheduling Objects Menu. Later, when you enter Robot Schedule commands on the Command Entry panel, you can see a list of the Robot Schedule reserved command variables already defined by pressing F7

```
RBT1010               Scheduling Objects Menu           14:28:35
SCHOBJ                                                   MICKEY


               Select one of the following:

               Time-Based Objects
                1. Calendar Objects
                2. Date Objects

               ROBOT Job Definition Objects
                3. Library List Objects
                4. Job Environment Objects
                5. Reserved Command Variable Obj
                6. ROBOT OPAL Object Menu

               Query Objects
                7. Maintain ROBOT Queries
                8. Update ROBOT Jobs via Query

               Selection: 5

   F3=Exit     F21=Command Line
```

Select option **5** to display the Maintain Reserved Command Variable Objects panel.

```
RBT321          Maintain Reserved Command Variable Objects    14:29:02
                                                               MICKEY

   Start list at Reserved Command Variable: _____
 Options
  A=Add/Copy/Delete     1=Select     2=Test Variable


          Reserved
   Opt    Cmd Variable  Description_____
   __     @@CONSOLE     Console Name
   __     @@DATE        Current Date (System Value)
   __     @@DATM7       Today's Date minus 7 YMD
   __     @@DATP7       Today's Date plus 7 YMD
   __     @@DATYMD      Today's Date in YMD
   __     @@DAYNO       Day number of month
   __     @@DTSM7       Today's Date - 7 System Format
   __     @@DTSP7       Today's Date + 7 System Format
   __     @@DWM2        Minus 2 work days YMD format
   __     @@DWP5        Plus 5 work days YMD format
   __     @@JOBDATE     Job Date
   __     @@JOBNAME     Job Name
                                                          More...

   F3=Exit     F6=Add Record     F21=Command Line
```

Maintain Reserved Command Variables

The Maintain Reserved Command Variables panel lists all currently defined Robot Schedule reserved command variables. From the panel, you can search for a variable; add, copy, and delete variables; and test their results. You also can select a variable and change its definition.

Enter an option for a variable:

A Displays the Add/Copy/Delete window for the command variable.

1 Displays the Reserved Command Variable panel.

2 Tests the variable and displays its result.

Enter the full or partial name of the command variable to locate it in the list.

```
RBT321            Maintain Reserved Command Variable Objects          14:29:02
                                                                      MICKEY
   Start list at Reserved Command Variable:  _____
Options
  A=Add/Copy/Delete     1=Select      2=Test Variable

           Reserved
 Opt    Cmd Variable   Description_____
  __     @@CONSOLE     Console Name
  __     @@DATE        Current Date (System Value)
  __     @@DATM7       Today's Date minus 7 YMD
  __     @@DATP7       Today's Date plus 7 YMD
  __     @@DATYMD      Today's Date in YMD
  __     @@DAYNO       Day number of month
  __     @@DTSM7       Today's Date - 7 System Format
  __     @@DTSP7       Today's Date + 7 System Format
  __     @@DWM2        Minus 2 work days YMD format
  __     @@DWP5        Plus 5 work days YMD format
  __     @@JOBDATE     Job Date
  __     @@JOBNAME     Job Name
                                                                      More...

 F3=Exit    F6=Add Record     F21=Command Line
```

Press **F6** to define a new command variable.

Defining Reserved Command Variables

Enter a **1** in the **Opt** column next to a variable on the Maintain Reserved Command Variables panel to display the Reserved Command Variable panel. The Reserved Command Variable panel shows the name and description of the command variable. In addition, the panel shows you the constant value the named variable returns *or* the program it calls to return a value.

The examples below show you how to enter a constant or a program to call. In the second example, the source code for RBT013 is shipped with Robot Schedule in the file RBTRSVSRC. The parameter string shown tells the program to calculate a date 10 days in the future. This program and others are explained later in this section.

```
RBT322                  Reserved Command Variable              14:41:35
                                                               MICKEY
Enter Reserved Command Variable Information:
   Reserved Variable  @@PI
   Description         Return Pi
   Constant Value      3.1415965
      (Or)
   Program to Call     _____
      Library . . . .  _____
      Parameter . .    _____



   F3=Exit      F12=Previous      F21=Command Line
```

Enter the name and description of the command variable. All reserved command variable names must begin with @@ followed by up to eight alphanumeric characters. The only symbols that can be embedded in the names are the initial @@.

If the variable should always return the same value, enter the constant value.

```
RBT322                  Reserved Command Variable              14:43:05
                                                               MICKEY
Enter Reserved Command Variable Information:
   Reserved Variable  @@P10
   Description         Plus 10 days
   Constant Value      _____
      (Or)
   Program to Call     RBT013
      Library . . . .  ROBOTLIB
      Parameter . . .  S+010



   F3=Exit      F12=Previous      F21=Command Line
```

If the variable calls a program, enter the program name and library.

If necessary, enter the parameter string to be passed to the program.

Testing Reserved Command Variables

To see the value a reserved command variable will return when it is used, select option **2** for the variable on the Maintain Reserved Command Variables panel. Robot Schedule displays a window showing the current value of that variable.

Enter a **2** to test the command variable.

```
RBT321           Maintain Reserved Command Variable Objects          15:00:10
                                                                      MICKEY
   Start list at Reserved Command Variable:  _____
Options
  A=Add/Copy/Delete      1=Select      2=Test Variable

            Reserved                   RBT331    Test Variable Results   15:00:22
  Opt   Cmd Variable   Descriptio                                        MICKEY
   __   @@LASTDAY      Last Day o    @@P10        Plus 10 days
   __   @@LDATS        Last day o
   __   @@LDATY        Last day o    Value of variable after test
   __   @@MARIE        test             101306
   __   @@MONNO        Month numb
   __   @@PAULUSR2     constant P    F3=Exit
   __   @@PAULUSR3     constant P
   __   @@PAULUSR4     constant PAULUSR4
   __   @@PRINT        constant *PRINT
   __   @@PRINTER      Printer for Job
   2    @@P10          Plus 10 days
   __   @@P10WORK      Plus 10 Workdays
                                                                        More...

 F3=Exit      F6=Add Record      F21=Command Line
```

The command variable returned this value (in this case, the date 10 days in the future in system date format—mmddyy).

■ **Coding a Reserved Command Variable Program**

You can code your own program to return the value for a Robot Schedule reserved command variable. The program must be coded to receive and return a 50-character parameter value. Robot Schedule passes the parameter value (if any) that was entered on the Reserved Command Variable panel. After the program completes, Robot Schedule receives the value the program returns and substitutes it for the reserved command variable in the Robot Schedule command. The following program examples show how a value is returned for a reserved command variable.

```
PGM  (&VALUE)
   DCL  &VALUE        TYPE(*CHAR) LEN(50)
   CHGVAR  &VALUE 'Fortra' EXIT:
ENDPGM
```

■ **Using RBT013**

RBT013 is a Fortra supplied program that calls the RBT802 date utility. This program allows you to take advantage of Robot Schedule utilities and command variables without doing CL programming. For more information on Robot Schedule's utilities, see the Robot Schedule Utilities section.

RBT013 allows you to enter up to five characters in the Parameter field on the Reserved Command Variable panel. Based on the parameters you choose, the program calculates dates in the past or the future by adding or subtracting days from today's date. It can return the date in system-date format, year/month/day format, or in several other formats. It also can return the current month-end date or the previous month-end date. The table on the following page describes the input parameters for this program.
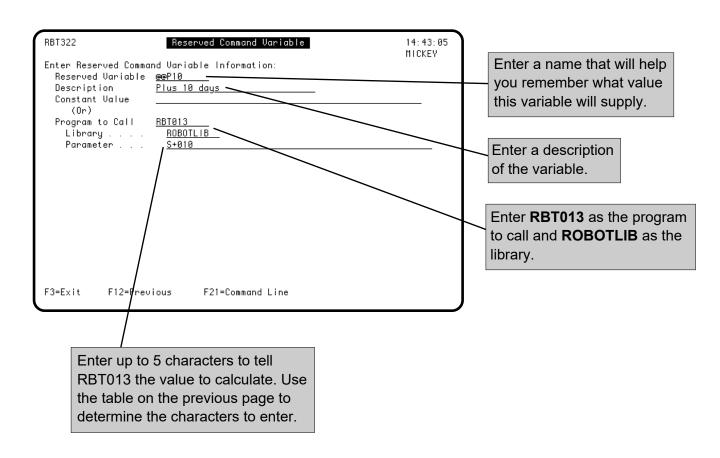
Using RBT013
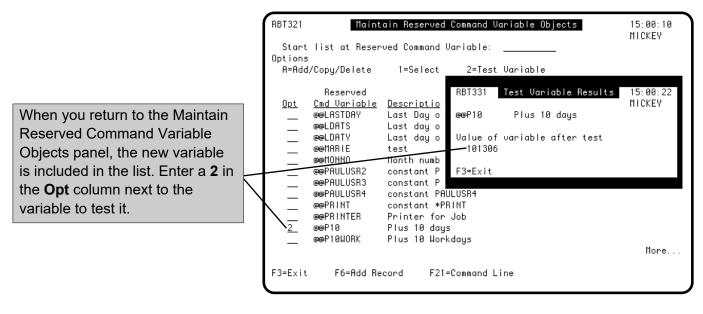
Use the following table when entering input parameters for RBT013.

Position	Description	Value to Enter	Meaning of Value	Tips
1	Date Format	S	System Date Format	Enter code in uppercase format.
		Y	YMD Format	
		C	CYMD Format (cyymmdd)	
		I	ISO Date Format (yyyy-mm-dd)	
		U	USA Format (mm/dd/yyyy)	
		E	EUR Format (dd.mm.yyyy)	
		M	MDY Format (mmddyy)	
		D	DMY Format (ddmmyy)	
		A	MDYY Format (mmddyyyy)	
		B	DMYY Format (ddmmyyyy)	
		G	YYMD Format (yyyymmdd)	
2	Calculation Code	+	Add Days	
		–	Subtract Days	
		P	Present Month	Enter letters in uppercase format.
		L	Last Month	
3-5	Number of Days	– 1	Last day of the Month	Use with P or L in position 2.
		001-031	Day of the Month	
		000-999	Number of days to add or subtract	Use with + or – in position 2.

Example: Using RBT013

Suppose you want to create a Robot Schedule reserved command variable that always calculates a date equal to today's date plus 10 days. First, enter the variable on the Reserved Command Variable panel as shown below. Then, you can test the variable. RBT013 returns six digits that represent a date in the format you specified.

```
RBT322                  Reserved Command Variable           14:43:05
                                                            MICKEY
Enter Reserved Command Variable Information:
  Reserved Variable  @@P10
  Description        Plus 10 days
  Constant Value
     (Or)
  Program to Call    RBT013
    Library . . . .    ROBOTLIB
    Parameter . . .    S+010




F3=Exit    F12=Previous     F21=Command Line
```

Enter a name that will help you remember what value this variable will supply.

Enter a description of the variable.

Enter **RBT013** as the program to call and **ROBOTLIB** as the library.

Enter up to 5 characters to tell RBT013 the value to calculate. Use the table on the previous page to determine the characters to enter.

```
RBT321          Maintain Reserved Command Variable Objects    15:00:10
                                                              MICKEY
  Start list at Reserved Command Variable:  _____
Options
  A=Add/Copy/Delete      1=Select     2=Test Variable

         Reserved                   RBT331    Test Variable Results  15:00:22
  Opt   Cmd Variable  Descriptio               MICKEY
   __    @@LASTDAY    Last Day o   @@P10      Plus 10 days
   __    @@LDATS      Last day o
   __    @@LDATY      Last day o   Value of variable after test
   __    @@MARIE      test           101306
   __    @@MONNO      Month numb
   __    @@PAULUSR2   constant P   F3=Exit
   __    @@PAULUSR3   constant P
   __    @@PAULUSR4   constant PAULUSR4
   __    @@PRINT      constant *PRINT
   __    @@PRINTER    Printer for Job
   2_    @@P10        Plus 10 days
   __    @@P10WORK    Plus 10 Workdays
                                                              More...

F3=Exit    F6=Add Record     F21=Command Line
```

When you return to the Maintain Reserved Command Variable Objects panel, the new variable is included in the list. Enter a **2** in the **Opt** column next to the variable to test it.

■ **Using RBT014 To
Work With Fiscal
Month-End Dates**

RBT014 is a Fortra supplied program that calls the RBT801 date utility. RBT014 calculates the current fiscal month-end date based on the fiscal calendar you are using in Robot Schedule. This program allows you to take advantage of Robot Schedule utilities and command variables without doing CL programming. For more information on Robot Schedule's utilities, see the Robot Schedule Utilities section.

RBT014 allows you to enter up to 12 characters in the Parameter field on the Reserved Command Variable panel. Based on the input parameters explained in the table on the following page, this program can determine any of the following about the fiscal month-end date:

- On what date does the current fiscal month-end occur?
- What day number of the month is it?
- What week number of the month is it?
- What day number of the week is it?
- Is it a workday?
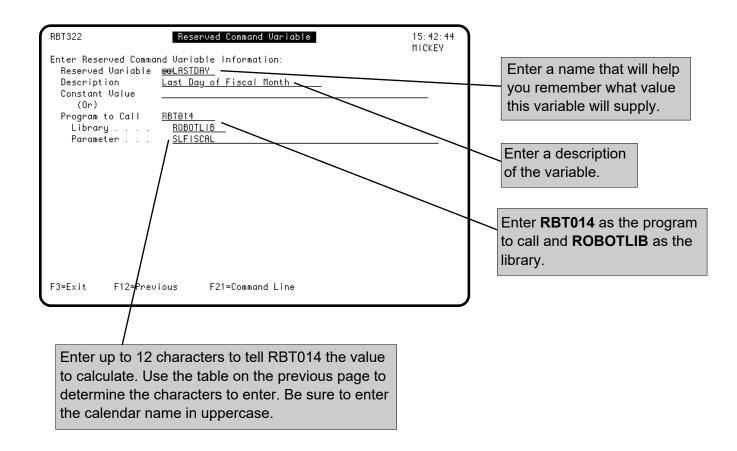
Using RBT014

Use the following table when entering input parameters for RBT014.

Position	Description	Value to Enter	Meaning of Value	Tips
1	Date Format	S	System Date Format	You must enter a date format in position 1. However, this parameter affects only calculation code L.
		Y	YMD Format	
		C	CYMD Format (cyymmdd)	
		I	ISO Date Format (yyyy-mm-dd)	
		U	USA Format (mm/dd/yyyy)	
		E	EUR Format (dd.mm.yyyy)	
		M	MDY Format (mmddyy)	
		D	DMY Format (ddmmyy)	
		A	MDYY Format (mmddyyyy)	
		B	DMYY Format (ddmmyyyy)	
		G	YYMD Format (yyyymmdd)	
2	Calculation Code	L	Last day of the fiscal month	
		D	Day number of the week on which the fiscal month-end date occurs	
		W	Week number of the month when the fiscal month-end occurs	
		T	Type of day (workday or non-workday) when the fiscal month-end date occurs	This calculation code returns a Y if this date is a workday or an N if it is a non-workday.
		N	Day number of the month	
		M	Month number	
		Y	Year number	
3-12	Calendar Name	1-10 characters	Name of your fiscal calendar in Robot Schedule	Enter calendar name in uppercase.

■ **Using RBT017**

RBT017 is a Fortra supplied program that calls the RBT825 date utility. This program allows you to take advantage of Robot Schedule utilities and command variables without doing CL programming. For more information on Robot Schedule's utilities, see the Robot Schedule Utilities section.

RBT017 allows you to enter up to 15 characters in the Parameter field on the Reserved Command Variable panel. Based on the parameters you choose, the program calculates dates in the past or the future for working, nonworking, and calendar days. It can return the date in system-date format, in year/month/day-date format, or in several other formats. The table on the following page describes the input parameters for this program.

Using RBT017
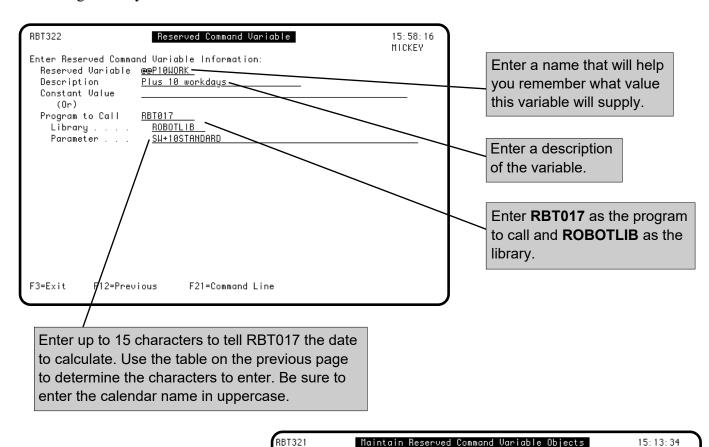
Use the following table when entering input parameters for RBT017.

Position	Description	Value to Enter	Meaning of Value	Tips
1	Date Format	S	System Date Format	Enter code in uppercase format.
		Y	YMD Format	
		C	CYMD Format (cyymmdd)	
		I	ISO Date Format (yyyy-mm-dd)	
		U	USA Format (mm/dd/yyyy)	
		E	EUR Format (dd.mm.yyyy)	
		M	MDY Format (mmddyy)	
		D	DMY Format (ddmmyy)	
		A	MDYY Format (mmddyyyy)	
		B	DMYY Format (ddmmyyyy)	
		G	YYMD Format (yyyymmdd)	
2	Day Type	W	Work Days	
		N	Non-Workdays	
		C	Calendar Days	
		F	Fiscal Days	
3	Calculation Code	+	Add Days	
		–	Subtract Days	If the subtraction results in a negative number, the date returned is based on the first day of the month minus the negative number.
4-5	Number of Days	01-49	Number of days to add or subtract	
6-15	Calendar Name	1-10 characters Schedule	Name of the Robot calendar to be used in the calculation	Enter the calendar name in uppercase format.

Example: Using RBT017

Suppose you want to create a Schedule Reserved Command Variable that always calculates the date 10 workdays from today. First, enter the variable on the Reserved Command Variable panel, as shown below. Then, you can test the variable.
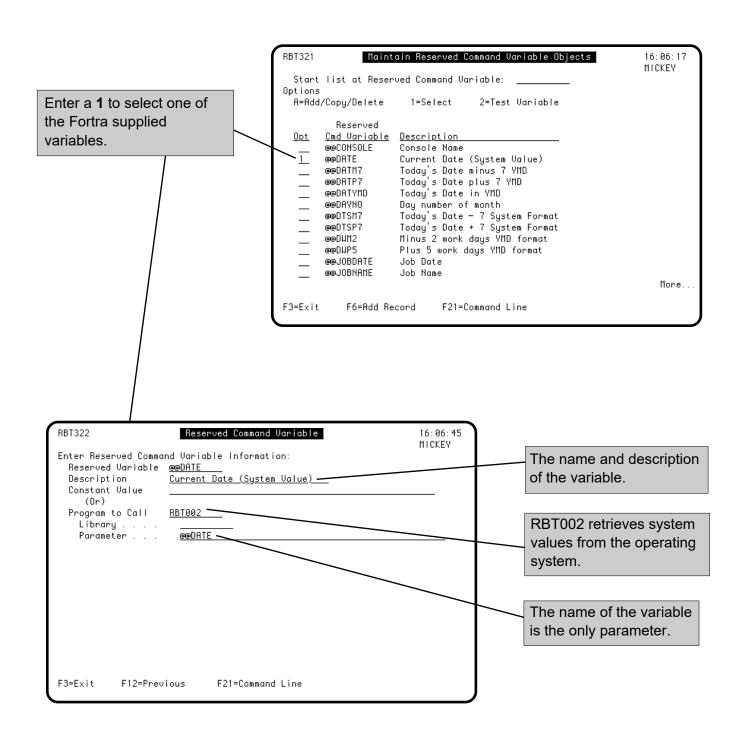
RBT017 returns a six-character numeric date value in the format you specified. If the value ERROR is returned, you are calculating a day number greater than 49 or have made an entry that caused today's date to have a negative day number value.
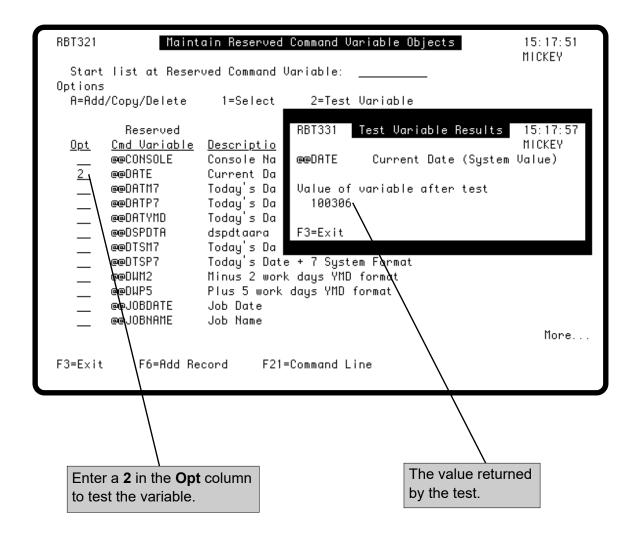
```
RBT322                 Reserved Command Variable          15:58:16
                                                          MICKEY
Enter Reserved Command Variable Information:
  Reserved Variable  @@P10WORK
  Description        Plus 10 workdays
  Constant Value
    (Or)
  Program to Call    RBT017
    Library . . . .    ROBOTLIB
    Parameter . . .    SW+10STANDARD



F3=Exit     F12=Previous     F21=Command Line
```

Enter a name that will help you remember what value this variable will supply.

Enter a description of the variable.

Enter **RBT017** as the program to call and **ROBOTLIB** as the library.

Enter up to 15 characters to tell RBT017 the date to calculate. Use the table on the previous page to determine the characters to enter. Be sure to enter the calendar name in uppercase.

```
RBT321          Maintain Reserved Command Variable Objects    15:13:34
                                                              MICKEY
  Start list at Reserved Command Variable: _____
Options
  A=Add/Copy/Delete      1=Select      2=Test Variable

        Reserved                    RBT331    Test Variable Results  15:13:41
Opt   Cmd Variable   Descriptio                                      MICKEY
 __    @@LASTDAY     Last Day o   @@P10WORK   Plus 10 Workdays
 __    @@LDATS       Last day o
 __    @@LDATY       Last day o   Value of variable after test
 __    @@MARIE       test          -101706
 __    @@MONNO       Month numb
 __    @@PAULUSR2    constant P    F3=Exit
 __    @@PAULUSR3    constant P
 __    @@PAULUSR4    constant PAULUSR4
 __    @@PRINT       constant *PRINT
 __    @@PRINTER     Printer for Job
 __    @@P10         Plus 10 days
 2     @@P10WORK     Plus 10 Workdays
                                                              More...

F3=Exit     F6=Add Record     F21=Command Line
```

When you return to the Maintain Reserved Command Variable Objects panel, the new variable is included in the list. Enter a **2** in the **Opt** column next to the variable to test it.

Using RBT002 to Retrieve System Values

RBT002 retrieves system values directly from the OS/400 operating system. Several of the reserved variables shipped as part of Robot Schedule use RBT002. You can set up additional variables to retrieve other operating system values used by your programs. When you select one of these variables (such as @@DATE, @@PRINTER, @@JOB, etc., you can see how they are set up. Only one parameter exists and it is used for both input and output.

```
RBT321               Maintain Reserved Command Variable Objects        16:06:17
                                                                       MICKEY
      Start list at Reserved Command Variable:    _____
    Options
     A=Add/Copy/Delete      1=Select     2=Test Variable

              Reserved
     Opt   Cmd Variable  Description
      __    @@CONSOLE     Console Name
      1     @@DATE        Current Date (System Value)
      __    @@DATM7       Today's Date minus 7 YMD
      __    @@DATP7       Today's Date plus 7 YMD
      __    @@DATYMD      Today's Date in YMD
      __    @@DAYNO       Day number of month
      __    @@DTSM7       Today's Date - 7 System Format
      __    @@DTSP7       Today's Date + 7 System Format
      __    @@DWM2        Minus 2 work days YMD format
      __    @@DWP5        Plus 5 work days YMD format
      __    @@JOBDATE     Job Date
      __    @@JOBNAME     Job Name
                                                                        More...

    F3=Exit      F6=Add Record      F21=Command Line
```

Enter a **1** to select one of the Fortra supplied variables.

```
RBT322                    Reserved Command Variable              16:06:45
                                                                 MICKEY
    Enter Reserved Command Variable Information:
       Reserved Variable  @@DATE____
       Description         Current Date (System Value) __
       Constant Value      _____
          (Or)
       Program to Call    RBT002____
         Library . . . .    _____
         Parameter . . .    @@DATE _____




    F3=Exit     F12=Previous     F21=Command Line
```

The name and description of the variable.

RBT002 retrieves system values from the operating system.

The name of the variable is the only parameter.

Testing RBT002 Variable Values

```
RBT321          Maintain Reserved Command Variable Objects        15:17:51
                                                                   MICKEY
   Start list at Reserved Command Variable:   _____
Options
   A=Add/Copy/Delete       1=Select      2=Test Variable

          Reserved                   RBT331    Test Variable Results   15:17:57
   Opt   Cmd Variable  Descriptio                                      MICKEY
    __    @@CONSOLE     Console Na   @@DATE       Current Date (System Value)
    2     @@DATE        Current Da
    __    @@DATM7       Today's Da   Value of variable after test
    __    @@DATP7       Today's Da      100306
    __    @@DATYMD      Today's Da
    __    @@DSPDTA      dspdtaara    F3=Exit
    __    @@DTSM7       Today's Da
    __    @@DTSP7       Today's Date + 7 System Format
    __    @@DWM2        Minus 2 work days YMD format
    __    @@DWP5        Plus 5 work days YMD format
    __    @@JOBDATE     Job Date
    __    @@JOBNAME     Job Name
                                                                    More...

 F3=Exit     F6=Add Record     F21=Command Line
```

Enter a **2** in the **Opt** column to test the variable.

The value returned by the test.

RBTCHGRSV Command

When you need to update a global constant value, you can update the variable definition in Robot Schedule. Or, you can just enter the RBTCHGRSV command. Use the RBTCHGRSV command in your programs to update global constant values as needed or set it up as a Robot Schedule command job.

Enter the name of the Robot Schedule reserved command variable to be updated. The variable must return a constant; it cannot call a program.

Enter the new value for the variable.

```
                    Change a Reserved CMD Variable (RBTCHGRSV)

 Type choices, press Enter.

 Reserved Variable  . . . . . . . .   @@ap          Name
 New Value  . . . . . . . . . . .   apmast2




                                                              Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Accessing the Robot Schedule OPAL Object Menu

OPAL (OPerator Assistance Language allows you to specify operations to be performed when certain conditions are met. For example, you can check for conditions that caused a failure and fix them; change a job setup, job environment, or data area; skip or delay a job, and much, much more. See the Robot Schedule OPAL Reference Guide for a complete discussion on using OPAL.

```
RBT1010              Scheduling Objects Menu              16:24:33
SCHOBJ                                                    MICKEY


              Select one of the following:

              Time-Based Objects
               1. Calendar Objects
               2. Date Objects

              ROBOT Job Definition Objects
               3. Library List Objects
               4. Job Environment Objects
               5. Reserved Command Variable Obj
               6. ROBOT OPAL Object Menu

              Query Objects
               7. Maintain ROBOT Queries
               8. Update ROBOT Jobs via Query

              Selection: 6

 F3=Exit    F21=Command Line
```

Select option **6** on the Scheduling Objects Menu to display the Robot OPAL Object Menu. OPAL is explained in the separate OPAL Reference Guide.

```
RBT1010                ROBOT OPAL Object Menu              16:24:57
OPALOBJ                                                    MICKEY


                  Select one of the following:

                  1. Maintain OPAL Objects


                  2. Maintain OPAL Tables


                  3. Maintain Data Area Definitions






                          Selection: __

      F3=Exit    F21=Command Line
```

Maintain Robot Schedule Queries
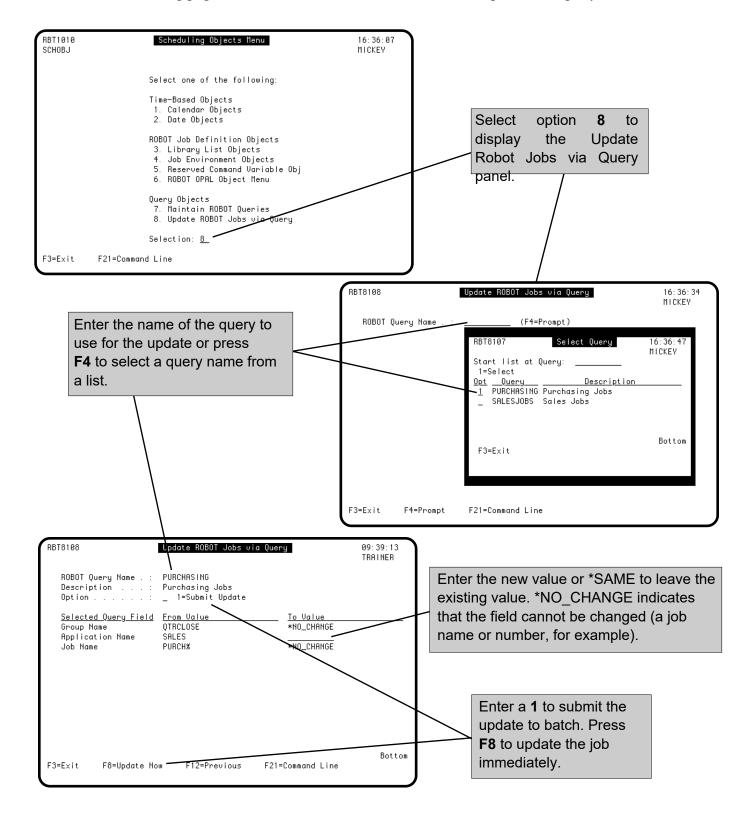
Robot Schedule gives you fill-in-the-blanks panels to enter selection criteria based on many Robot Schedule job setup options. You can assign a name to these sets of selection criteria and use them over and over again. You can use job query objects to sort and limit displays such as the Job Schedule List. Their primary use, however, is to allow you to print reports about only those jobs you want to see. Therefore, setting up and maintaining queries is explained in the Report Menu section of this user guide.

```
RBT1010              Scheduling Objects Menu          16:30:50
SCHOBJ                                                 MICKEY


            Select one of the following:

            Time-Based Objects
             1. Calendar Objects
             2. Date Objects

            ROBOT Job Definition Objects
             3. Library List Objects
             4. Job Environment Objects
             5. Reserved Command Variable Obj
             6. ROBOT OPAL Object Menu

            Query Objects
             7. Maintain ROBOT Queries
             8. Update ROBOT Jobs via Query

            Selection: 7

 F3=Exit     F21=Command Line
```

Select option **7** to display the Maintain Robot Queries panel. Although you can access queries from the Scheduling Objects Menu, how to set up and maintain queries is explained in the Report Menu section.

```
RBT8101                    Maintain ROBOT Queries            16:31:13
                                                             MICKEY
Start list at Query: _____

Options
  A=Add/Copy/Delete     1=Select      ?=More Options
                                                   Change    Change
Opt  Query Name    Query Description    Status      Date      Time
__   PURCHASING  Purchasing Jobs       TESTED      7/12/06   13:23
__   SALESJOBS   Sales Jobs            TESTED      8/17/06   12:05









                                                         Bottom
   F3=Exit     F4=Prompt     F6=Create Query     F21=Command Line
```

Update Robot Schedule Jobs via Query

Select option **8** on the Scheduling Objects Menu to use your queries to update *all* the jobs selected by the query. For information about setting up queries, see the Report Menu section.

 Note: See the following page for a list of fields that can and cannot be updated via query.

```
RBT1010              Scheduling Objects Menu           16:36:07
SCHOBJ                                                 MICKEY


              Select one of the following:

              Time-Based Objects
               1. Calendar Objects
               2. Date Objects

              ROBOT Job Definition Objects
               3. Library List Objects
               4. Job Environment Objects
               5. Reserved Command Variable Obj
               6. ROBOT OPAL Object Menu

              Query Objects
               7. Maintain ROBOT Queries
               8. Update ROBOT Jobs via Query

              Selection: 8

   F3=Exit    F21=Command Line
```

Select option **8** to display the Update Robot Jobs via Query panel.

```
RBT8108            Update ROBOT Jobs via Query         16:36:34
                                                       MICKEY

   ROBOT Query Name . :  _____   (F4=Prompt)

                        RBT8107            Select Query      16:36:47
                                                             MICKEY
                        Start list at Query:  _____
                         1=Select
                        Opt  Query          Description
                         1   PURCHASING  Purchasing Jobs
                         _   SALESJOBS   Sales Jobs


                                                            Bottom
                          F3=Exit



   F3=Exit     F4=Prompt     F21=Command Line
```

Enter the name of the query to use for the update or press **F4** to select a query name from a list.

```
RBT8108            Update ROBOT Jobs via Query         09:39:13
                                                       TRAINER

   ROBOT Query Name . :  PURCHASING
   Description  . . . :  Purchasing Jobs
   Option . . . . . . :  _  1=Submit Update

   Selected Query Field  From Value        To Value
   Group Name            QTRCLOSE          *NO_CHANGE
   Application Name       SALES             _____
   Job Name              PURCH%            *NO_CHANGE




                                                    Bottom
   F3=Exit    F8=Update Now   F12=Previous    F21=Command Line
```

Enter the new value or *SAME to leave the existing value. *NO_CHANGE indicates that the field cannot be changed (a job name or number, for example).

Enter a **1** to submit the update to batch. Press **F8** to update the job immediately.

Update Robot Schedule Jobs via Query

Only certain fields in your Robot Schedule jobs can be updated using a query. The following tables detail the fields that can and cannot be updated via query.
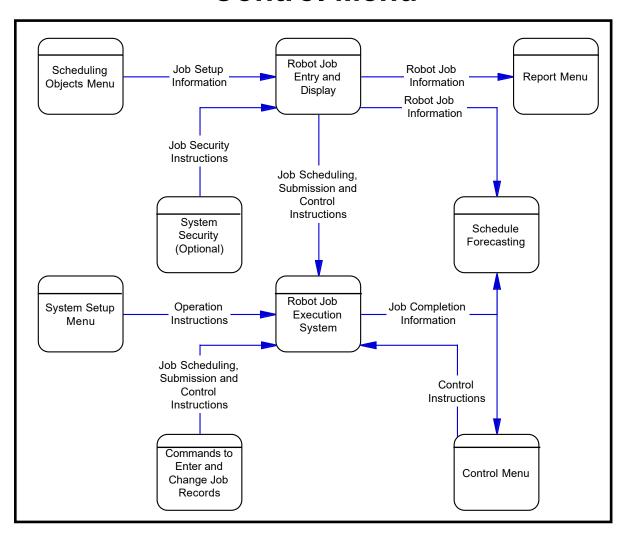
You can update the following fields via query:
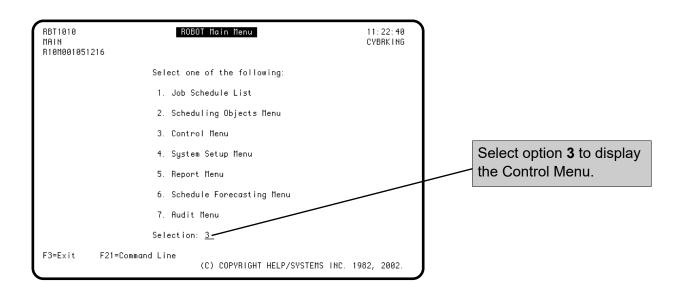
File	Field	Description
RBTROB	JBQLIB	Job Queue Library
	JOBLIB	Job Description Library
	JOBQ	Job Queue
	LSTNME	Library List Name
	OUTQLB	Output Queue Library
	PROFIL	User Profile Name
	RBJOBD	Job Description JOBD
	RBOUTQ	Output Queue
	RTCLIB	Current Library
	RTENVN	Environment Name
	RTMQLB	Message Queue Library
	RTMSGQ	Message Queue
	RTOPNM	OPAL Object Name
	RTPGR#	Pager Name: ID/List

You cannot update the following fields via query:

File	Field	Description
RBTAP	APNAME	Application Name
RBTCMD	EXCMD	Command Line
RBTDEP5	DEPKEY	Prerequisite Job
	KYTIME	Have Prerequisite(s)
RBTDEP9	DEGNME	Group Name
	DESEQ	Group Sequence #
RBTROB	ACTION	Schedule Code,Adv.
	CALNAM	Calendar Name
	JOBNAM	Job Name
	KYTIME	Job Number
	RTDONM	Date Object
	RTRACT	Reactive Job
	SCHOVR	Schedule Override
	TIMEST	Today's Start Time
RBTTXT	TXTTXT	Job Text

Control Menu

```
┌──────────────────┐   Job Setup        ┌──────────────┐   Robot Job        ┌──────────────┐
│   Scheduling     │   Information      │  Robot Job   │   Information      │              │
│ Objects Menu     │──────────────────▶│  Entry and   │──────────────────▶│ Report Menu  │
│                  │                    │   Display    │   Robot Job        │              │
└──────────────────┘                    └──────────────┘   Information      └──────────────┘
```

Job Setup Information

Robot Job Entry and Display

Job Security Instructions

Job Scheduling, Submission and Control Instructions

System Security (Optional)

Robot Job Information

Report Menu

Schedule Forecasting

System Setup Menu

Operation Instructions

Robot Job Execution System

Job Completion Information

Job Scheduling, Submission and Control Instructions

Control Instructions

Commands to Enter and Change Job Records

Control Menu

```
RBT1010                    ROBOT Main Menu                      11:22:40
MAIN                                                            CYBRKING
R10M001051216

                  Select one of the following:

                     1.  Job Schedule List

                     2.  Scheduling Objects Menu

                     3.  Control Menu

                     4.  System Setup Menu

                     5.  Report Menu

                     6.  Schedule Forecasting Menu

                     7.  Audit Menu

                  Selection:  3_

F3=Exit     F21=Command Line
                          (C) COPYRIGHT HELP/SYSTEMS INC. 1982, 2002.
```

Select option **3** to display the Control Menu.

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Starting and Stopping Robot Schedule

The Control Menu includes options to control and observe Robot Schedule operations. To display the Control Menu, select option **3** on the Robot Main Menu. The heading on the Control Menu indicates whether Robot Schedule is active, inactive, or its status is unknown. If Robot Schedule is inactive or its status is unknown (due to monitor jobs or RBTSLEEPER being canceled), it cannot submit the jobs in your schedule. To start Robot Schedule, select option **1**. To stop Robot Schedule, select option **2**.

The Robot Schedule subsystem, RBTSLEEPER, contains monitor programs for Robot Schedule and other Fortra products, including the auto start program, RBT103.

Normally, the Robot Schedule monitors should start each time the system IPLs. As described in the Robot Schedule installation instructions, the following command in your IPL procedures starts the RBTSLEEPER subsystem:

STRSBS SBSD(RBTSYSLIB/RBTSLEEPER

Robot Schedule should shut down automatically when you power down your system. To make that happen, insert a call to program **RBT107** in your power down or save program procedures.

If Robot Schedule is active, its last and next wakeup times display. Each wakeup time, Robot Schedule checks if it should submit a job.

The Robot Schedule status. Robot Schedule can have a status of ACTIVE, INACTIVE, or UNKNOWN. A status of UNKNOWN indicates that Robot Schedule is starting or stopping; or Robot Schedule ended when the subsystem was ended.

```
RBT1010                        Control Menu                        15:13:06
CONTROL
Wake Up Time    LAST 15:08    NEXT 15:23                            ACTIVE

                        Select one of the following:

                        Operation
                         1. Start ROBOT
                         2. Stop ROBOT
                         3. Display ROBOT Subsystem
                         4. Run Missed Jobs

                        Completion Data
                         5. Job Completion History
                         6. Job History Reports
                         7. Clear Completion Codes
                         8. Group Completion History



                        Selection: __

 F3=Exit     F21=Command Line
```

Starting and Stopping Robot Schedule

Enter a **1** to start the following Robot Schedule monitor programs.

ROBOT   Checks the job schedule based on time. It sleeps until the time that a job is scheduled to run; then wakes up, submits the job, and goes back to sleep.

ROBOTREACT   Checks the conditions for running reactive jobs. It sleeps until an event is communicated to it; then wakes up to see if the prerequisites for a reactive job have been satisfied. If the prerequisites for a job are met, ROBOTREACT submits the job and then goes back to sleep.

ROBOTSBMJ   Processes OS/400 job status messages for all jobs in all subsystems and collects user job history. User jobs are jobs run by anyone other than Robot Schedule. This job is required for tracking Robot Replay job logs.

ROBOTAUDIT   Records schedule changes, overrides, and product control actions to the Robot Schedule audit log.
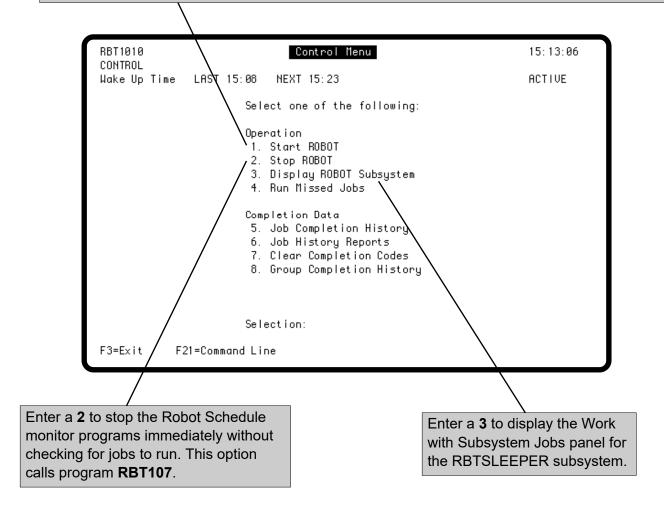
ROBOTJM   Monitors the job schedule and provides real-time alerts for jobs that start late, run longer than they should, or complete too quickly.

This option calls program **RBT103**.

```
RBT1010                        Control Menu                     15:13:06
CONTROL
Wake Up Time    LAST 15:08    NEXT 15:23                         ACTIVE

                        Select one of the following:

                        Operation
                         1. Start ROBOT
                         2. Stop ROBOT
                         3. Display ROBOT Subsystem
                         4. Run Missed Jobs

                        Completion Data
                         5. Job Completion History
                         6. Job History Reports
                         7. Clear Completion Codes
                         8. Group Completion History




                        Selection:

     F3=Exit      F21=Command Line
```

Enter a **2** to stop the Robot Schedule monitor programs immediately without checking for jobs to run. This option calls program **RBT107**.

Enter a **3** to display the Work with Subsystem Jobs panel for the RBTSLEEPER subsystem.

Running Jobs That Were Missed During a Shutdown

Jobs that would have run while the system was shut down are called missed jobs. Option **4** on the Control Menu lets you run any missed jobs. You can run all jobs missed since a specific time or choose specific jobs to run. **Note:** Schedule also can run missed jobs automatically. Each time Robot Schedule starts, it can check for jobs missed since midnight. Just enter a **Y** for the Run Autowork at Startup of Robot option on the General System Defaults panel.

You can also insert a call to program AUTOWORK in your startup program.

- The AUTOWORK program now supports a new, optional second parameter. This second parameter is defined as a 1 byte character. An inputted value for this parameter of a 'Y' or 'y' informs the underlying process to inspect all existing Completion History when determining if a job is missed.
  Example: **CALL PGM(ROBOTLIB/AUTOWORK) PARM('091822' 'Y')**

- An inputted value for this parameter that is not a 'Y' or 'y', or is NOT passed, informs the underlying process to ONLY inspect Completion History for days within the current week (Monday-Sunday) when determining if a job is missed. This scenario is how the program previously worked.
  Example: **CALL PGM(ROBOTLIB/AUTOWORK) PARM('091822')**

```
RBT1010                   Control Menu                 15:24:33
CONTROL
Wake Up Time   LAST 15:23   NEXT 15:38                  INACTIVE

                  Select one of the following:

                  Operation
                   1. Start ROBOT
                   2. Stop ROBOT
                   3. Display ROBOT Subsystem
                   4. Run Missed Jobs

                  Completion Data
                   5. Job Completion History
                   6. Job History Reports
                   7. Clear Completion Codes
                   8. Group Completion History



                  Selection: 4

F3=Exit     F21=Command Line
```

Robot Schedule must be active before you can call AUTOWORK to run jobs that were missed.

Select option **4** to run jobs that were missed during a shutdown.

```
RBT256        Run ROBOT jobs that were missed because of Shutdown   15:26:24

          last wake-up time 15.25       next wake-up time 15.30


          Make sure ROBOT is running before you do this



          Run jobs that were missed
                  On this date:    01/06   (system date format)
                  From this time:  1525    (in 24 hour clock time)

          Check Completion History  N      (Y=Yes, N=No)

          Display Missed Jobs List  Y      (Y=Yes, N=No)




F3=Exit      F21=Command Line
```

Selecting the Missed Jobs to Run
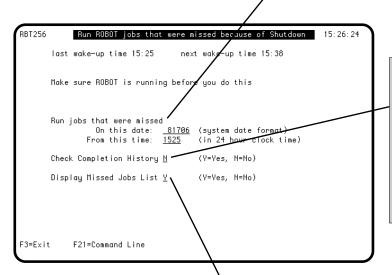
To select the missed jobs to run, you first enter the date and time at which Robot Schedule is to start checking for missed jobs. Then, enter whether you want to run all missed jobs or select missed jobs from a finder panel.

Enter the date and time at which you want Robot Schedule to start checking for missed jobs.

Today's Date: If you enter today's date, Robot Schedule will look for jobs scheduled from the time you chose to the current time.

Earlier Dates: If you enter an earlier date, Robot Schedule will look for jobs scheduled from the time you chose until midnight of that date. Then it will stop. If you need to check for missed jobs on more than one date, enter each date separately. **Note:** If you enter a date prior to the last clearing of the completion codes, Robot Schedule will show **all** jobs scheduled for that date as "missed," when the value in the Check Completion History field is **N**.

Multiple Runs: If a job was scheduled to run more than one time on the date you specified, Robot Schedule will run each missed job only once even if it has missed more than one run time. If a multiple-run job has completed once successfully on the date, it will not be listed as "missed."

```
RBT256        Run ROBOT jobs that were missed because of Shutdown    15:26:24

       last wake-up time 15:25       next wake-up time 15:38


       Make sure ROBOT is running before you do this



       Run jobs that were missed
             On this date: _81706  (system date format)
             From this time: 1525  (in 24 hour clock time)

       Check Completion History N      (Y=Yes, N=No)

       Display Missed Jobs List Y      (Y=Yes, N=No)




F3=Exit    F21=Command Line
```

Enter a **Y** to check the completion history for a job's completion status. If an entry is found for the date you specified, it will not be considered "missed."

Note: This parameter relies on completion history to perform an accurate check. Purged history records may make a job appear to have been "missed" when, actually, it ran.

Enter a **Y** to display the Jobs Missed Finder panel. Enter an **N** to run all missed jobs without displaying the finder panel. Robot Schedule must be active to run the missed jobs.

Enter a **1** to run the missed job now. Enter a **2** to skip the missed job.

Press **F13** to run all missed jobs.

```
RBT258                          Jobs Missed Finder                16:22:08
                                                                   MICKEY
     Starting from Date . :  8/17/06   Starting from Time . :  10:30
      Start job list at:  Time Ascending  ____
     Options
       1=Do Job Right Now     2=Skip Job
        Sched.  Job           Job to be run            Days or dates job runs
     OPT Code  Type  Name      Description      Time  M  T  W  TH  F  ST  SN
      _         C    FORECAST2 Sales Forecast2 Rep1 01:00 Y  Y  Y  Y   Y
      _         C    FORECAST1 Sales Forecast Rep1  05:00 Y     Y       Y      Y
      _  EVERY  C    PURCHASE25 Purchase Report 25  00:00 Y  Y  Y  Y   Y  Y   Y








                                                                    Bottom
     F3=Exit    F9=Select Search    F13=Do All Jobs Missed    F21=Command Line
```
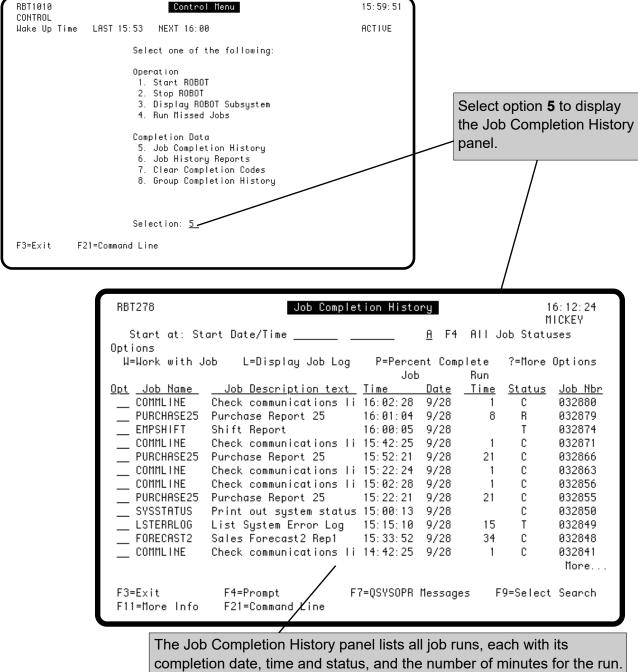
Job Completion History Panel

The Job Completion History panel lists all jobs that have been submitted; the jobs might have completed or still be running. It lists all jobs submitted by Robot Schedule; it also lists all batch jobs that were submitted outside of Robot Schedule (assuming that the Robot Schedule SBMJOB command has been installed).
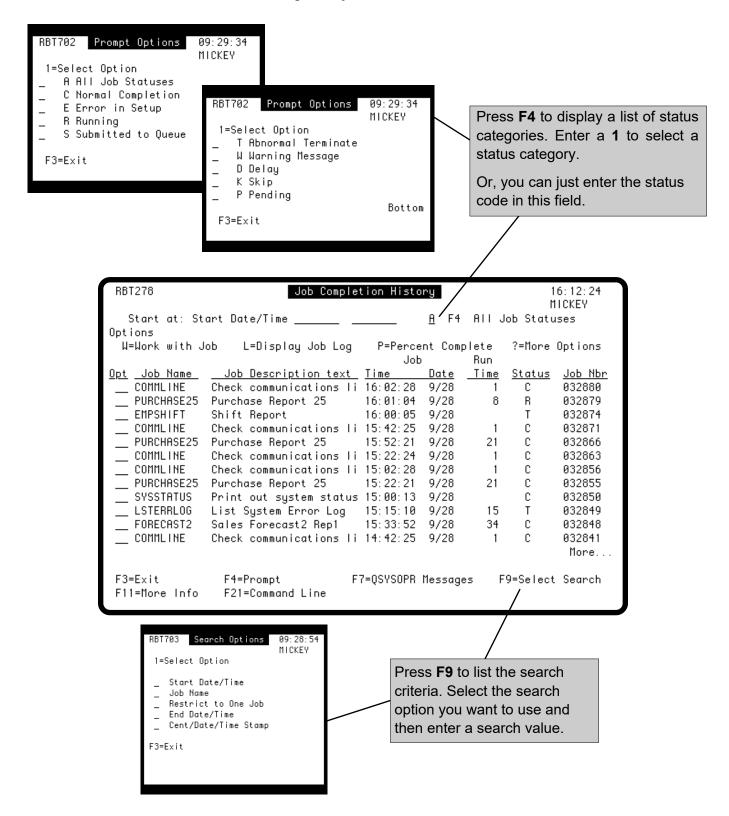
Use the Job Completion History panel to see and work with the completion history and logs of a job. To see the Job Completion History panel, select option **5** on the Control Menu.

```
RBT1010                  Control Menu                    15:59:51
CONTROL
Wake Up Time    LAST 15:53   NEXT 16:00                   ACTIVE

                 Select one of the following:

                 Operation
                  1. Start ROBOT
                  2. Stop ROBOT
                  3. Display ROBOT Subsystem
                  4. Run Missed Jobs

                 Completion Data
                  5. Job Completion History
                  6. Job History Reports
                  7. Clear Completion Codes
                  8. Group Completion History



                 Selection: 5

    F3=Exit     F21=Command Line
```

Select option **5** to display the Job Completion History panel.

```
RBT278                Job Completion History               16:12:24
                                                            MICKEY
    Start at: Start Date/Time _____  _____    A  F4  All Job Statuses
Options
   W=Work with Job     L=Display Job Log     P=Percent Complete    ?=More Options
                                              Job          Run
Opt   Job Name    Job Description text     Time      Date   Time   Status  Job Nbr
 __   COMMLINE    Check communications li 16:02:28  9/28      1      C     032880
 __   PURCHASE25  Purchase Report 25      16:01:04  9/28      8      R     032879
 __   EMPSHIFT    Shift Report            16:00:05  9/28             T     032874
 __   COMMLINE    Check communications li 15:42:25  9/28      1      C     032871
 __   PURCHASE25  Purchase Report 25      15:52:21  9/28     21      C     032866
 __   COMMLINE    Check communications li 15:22:24  9/28      1      C     032863
 __   COMMLINE    Check communications li 15:02:28  9/28      1      C     032856
 __   PURCHASE25  Purchase Report 25      15:22:21  9/28     21      C     032855
 __   SYSSTATUS   Print out system status 15:00:13  9/28             C     032850
 __   LSTERRLOG   List System Error Log   15:15:10  9/28     15      T     032849
 __   FORECAST2   Sales Forecast2 Rep1    15:33:52  9/28     34      C     032848
 __   COMMLINE    Check communications li 14:42:25  9/28      1      C     032841
                                                                     More...

    F3=Exit          F4=Prompt        F7=QSYSOPR Messages    F9=Select Search
    F11=More Info    F21=Command Line
```

The Job Completion History panel lists all job runs, each with its completion date, time and status, and the number of minutes for the run. If the job is still running, the message shows the start date and time.

Finding a Job in the Job Completion History
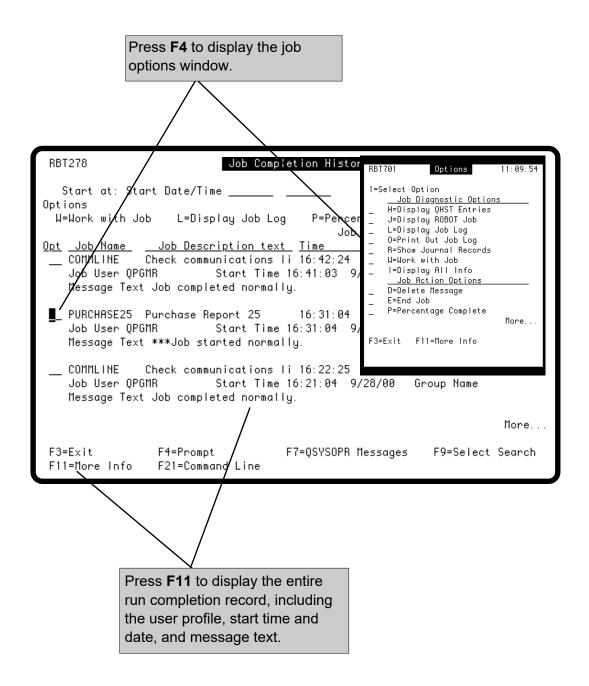
The Job Completion History panel provides two ways to help you find what you are looking for on the display. You can limit the list of runs to a specific status category, and you can select the search option to use and then enter a search value to find a specific job.

```
RBT702   Prompt Options   09:29:34
                          MICKEY
  1=Select Option
  _    A All Job Statuses
  _    C Normal Completion
  _    E Error in Setup
  _    R Running
  _    S Submitted to Queue

  F3=Exit
```

```
RBT702   Prompt Options   09:29:34
                          MICKEY
  1=Select Option
  _    T Abnormal Terminate
  _    W Warning Message
  _    D Delay
  _    K Skip
  _    P Pending
                              Bottom
  F3=Exit
```

Press **F4** to display a list of status categories. Enter a **1** to select a status category.

Or, you can just enter the status code in this field.

```
RBT278                Job Completion History              16:12:24
                                                           MICKEY
    Start at: Start Date/Time _____  _____    A  F4  All Job Statuses
Options
  W=Work with Job     L=Display Job Log      P=Percent Complete    ?=More Options
                                          Job          Run
Opt   Job Name      Job Description text   Time    Date  Time   Status   Job Nbr
 __   COMMLINE    Check communications li 16:02:28  9/28    1      C      032880
 __   PURCHASE25  Purchase Report 25      16:01:04  9/28    8      R      032879
 __   EMPSHIFT    Shift Report            16:00:05  9/28           T      032874
 __   COMMLINE    Check communications li 15:42:25  9/28    1      C      032871
 __   PURCHASE25  Purchase Report 25      15:52:21  9/28   21      C      032866
 __   COMMLINE    Check communications li 15:22:24  9/28    1      C      032863
 __   COMMLINE    Check communications li 15:02:28  9/28    1      C      032856
 __   PURCHASE25  Purchase Report 25      15:22:21  9/28   21      C      032855
 __   SYSSTATUS   Print out system status 15:00:13  9/28           C      032850
 __   LSTERRLOG   List System Error Log   15:15:10  9/28   15      T      032849
 __   FORECAST2   Sales Forecast2 Rep1    15:33:52  9/28   34      C      032848
 __   COMMLINE    Check communications li 14:42:25  9/28    1      C      032841
                                                                          More...

  F3=Exit         F4=Prompt         F7=QSYSOPR Messages    F9=Select Search
  F11=More Info    F21=Command Line
```

```
RBT703   Search Options   09:28:54
                          MICKEY
  1=Select Option

  _    Start Date/Time
  _    Job Name
  _    Restrict to One Job
  _    End Date/Time
  _    Cent/Date/Time Stamp

  F3=Exit
```

Press **F9** to list the search criteria. Select the search option you want to use and then enter a search value.

Job Completion History Options

The Job Completion History has a variety of options for learning more about a job. For example, you can display job diagnostic options to help you identify a problem with a job; job action options to work with a job; and job detail options that let you see more details information about a job.

Press **F4** to display the job options window.

```
RBT278                    Job Completion Histor   RBT701      Options        11:09:54

   Start at: Start Date/Time _____  _____   1=Select Option
Options                                              Job Diagnostic Options
  W=Work with Job    L=Display Job Log    P=Percer  _  H=Display QHST Entries
                                               Job  _  J=Display ROBOT Job
Opt  Job Name    Job Description text   Time        _  L=Display Job Log
  __ COMMLINE    Check communications li 16:42:24   _  O=Print Out Job Log
     Job User QPGMR        Start Time 16:41:03   9/ _  R=Show Journal Records
     Message Text Job completed normally.          _  W=Work with Job
                                                    _  I=Display All Info
  _  PURCHASE25  Purchase Report 25     16:31:04       Job Action Options
     Job User QPGMR        Start Time 16:31:04   9/ _  D=Delete Message
     Message Text ***Job started normally.         _  E=End Job
                                                    _  P=Percentage Complete
  __ COMMLINE    Check communications li 16:22:25                   More...
     Job User QPGMR        Start Time 16:21:04  9/28/00   Group Name
     Message Text Job completed normally.          F3=Exit   F11=More Info

                                                                     More...

 F3=Exit        F4=Prompt         F7=QSYSOPR Messages     F9=Select Search
 F11=More Info  F21=Command Line
```

Press **F11** to display the entire run completion record, including the user profile, start time and date, and message text.

Job Diagnostic Options

```
RBT278                    Job Completion Histor   RBT701        Options        11:09:54

   Start at: Start Date/Time _____  _____     1=Select Option
Options                                               Job Diagnostic Options
  W=Work with Job    L=Display Job Log    P=Percen  _   H=Display QHST Entries
                                            Job     _   J=Display ROBOT Job
                                                    _   L=Display Job Log
Opt  Job Name     Job Description text   Time       _   O=Print Out Job Log
  __ COMMLINE    Check communications li 16:42:24   _   R=Show Journal Records
     Job User QPGMR        Start Time 16:41:03  9/  _   W=Work with Job
     Message Text Job completed normally.           1   I=Display All Info
                                                        Job Action Options
  ▓_ PURCHASE25  Purchase Report 25      16:31:04   _   D=Delete Message
     Job User QPGMR        Start Time 16:31:04  9/  _   E=End Job
     Message Text ***Job started normally.          _   P=Percentage Complete
                                                                       More...
  __ COMMLINE    Check communications li 16:22:25
     Job User QPGMR        Start Time 16:21:04  9/28/00   Group Name   F3=Exit   F11=More Info
     Message Text Job completed normally.

                                                                      More...


F3=Exit         F4=Prompt          F7=QSYSOPR Messages    F9=Select Search
F11=More Info   F21=Command Line
```

Enter a **1** to select from the following job diagnostic option for the job run.

H Displays the history log entries.

J Displays the Initial Job Setup panel for the job.

L Displays the job log, if it is still in the system. (Job log capture is controlled by an option on the General System Defaults panel.)

O Prints the job log, if it is still in the system.

R Displays the DSPJRN prompt screen.

W Displays the WRKJOB menu.

I Displays the Job Completion History Detail panel.

```
_RBT271                   Job Completion History Detail              15:57:30

     Event ID  . . . : 002035830
     Job name  . . . : RBT655
     Schedule job  . : 000000000104
     Description . . : Purge Robot History
     Message . . . . : Job completed normally.
     Initiation code  . . : D
     Message Status . . . : C            Group name . . . . . :
     Blank completion code: 0            Group system . . . . :
     Message change time  : 1-23/02/09-12:13:52  Group event ID . . . :         0

     Submit time  . . . . : 02/09/23 12:13:50   System job name  . . : RBRBT655
     Start time . . . . . : 02/09/23 12:13:50   System job user  . . :   QPGMR
     End time . . . . . . : 02/09/23 12:13:52   System job number  . :   912078
     Run minutes  . . . . :      0              Job type and subtype :
     Run minutes override :      0

     Data base system . . :                     Remote submit system :
     Creation system  . . :
     Internal job ID  . . :

     F3=Exit     F7=QSYSOPR Messages     F21=Command Line
```

The Job Completion History Detail panel shows detailed information about the job run, including the user profile, start time and date, and message text.

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Job Action Options

```
RBT278                    Job Compl
                                RBT701          Options        16:07:46
   Start at: Start Date/Time _____
Options                         1=Select Option
  W=Work with Job    L=Display Job Log     Job Diagnostic Options
                                _  H=Display QHST Entries
Opt  Job Name    Job Description text  _  J=Display ROBOT Job
 __ COMMLINE    Check communications l _  L=Display Job Log
 __ PURCHASE25  Purchase Report 25     _  O=Print Out Job Log
 __ COMMLINE    Check communications l _  R=Show Journal Records
 __ COMMLINE    Check communications l _  W=Work with Job
 █  PURCHASE25  Purchase Report 25     _  I=Display All Info
 __ SYSSTATUS   Print out system statu    Job Action Options
 __ LSTERRLOG   List System Error Log  _ D=Delete Message
 __ FORECAST2   Sales Forecast2 Rep1   _ E=End Job
 __ COMMLINE    Check communications l _ P=Percentage Complete
 __ PURCHASE25  Purchase Report 25                        More...
 __ COMMLINE    Check communications l
 __ COMMLINE    Check communications l F3=Exit   F11=More Info


F3=Exit        F4=Prompt
F11=More Info  F21=Command Line
```

You can select from the following Job Action options:

D Deletes this message from the history. **Note:** If you use option **D** to delete a message from the history manually, the completion code on the Job Schedule List changes to a Y. This can cause you or someone else looking at the Job Schedule List to think the job did not run on that day.

E Ends a submitted or running job.

P Displays the percentage completed for the job run. See the following page for more information.

Tracking the Percentage Completed
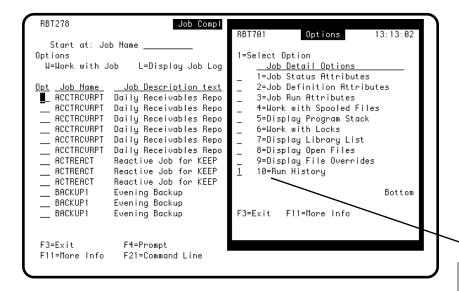
While a job is running, you can track the percentage of the job that has completed from the Job Completion History. The percentage completed is calculated by comparing how long the job has run to how long the average run of the job takes.

To see the percentage, enter option **P** by a job whose status is **R** (running). Robot Schedule displays a "thermometer," showing the percentage completed. If the job run so far is shorter than the average, the percentage is less than 100. If the job run is longer than the average, the percentage is greater than 100, but the thermometer stays at 100. If the job has completed, the completion percentage will always be 100.

Enter a **P** next to a job to display the percentage completed for the job.

The number of minutes used by this job run.

The average number of minutes for a run of the job.

```
RBT278                    Job Completion History                  16:09:33

    Start at: Start Date/Time _____  _____      A  F4  All Job Statuses
Options
   W=Work with Job    L=Display Job Log     P=Percent Complete   ?=More Options
                                             Job          Run
Opt  Job Name     Job Description text   Time     Date   Time  Status  Job Nbr
 __  COMMLINE    Check communications li 16:02:28  9/28         C      032880
     Job Us
     Messag  RBT277                Percentage Complete             16:11:35

 P   PURCHA   Job: PURCHASE25 Purchase Report 25   Normal Run Time:    21   79
     Job Us  Job Completion Percentage:   52.38%   Total Run Time :    11
     Messag
             0...10...20...30...40....52 .60...70...80...90..100
 __  EMPSHI   F3=Exit                                                      74
     Job Us
     Messag

                                                                   More...

 F3=Exit          F4=Prompt        F7=QSYSOPR Messages    F9=Select Search
 F11=More/Info    F21=Command Line
```

Press **F3** to close the window.

This shows the percentage of the average runtime that the job has run.

Job Detail Options

The Job Detail Options allow you to view more detailed information about a job run. Press **F4** on the Job Completion History panel and page down to see the Job Detail Options. Select option **10** to view a history of all runs for a specific job.

```
RBT278                    Job Compl
                                    RBT701          Options          13:13:02
    Start at: Job Name _____
Options                             1=Select Option
  W=Work with Job    L=Display Job Log      Job Detail Options
                                    _   1=Job Status Attributes
Opt  Job Name    Job Description text  _   2=Job Definition Attributes
█_  ACCTRCVRPT  Daily Receivables Repo  _   3=Job Run Attributes
__  ACCTRCVRPT  Daily Receivables Repo  _   4=Work with Spooled Files
__  ACCTRCVRPT  Daily Receivables Repo  _   5=Display Program Stack
__  ACCTRCVRPT  Daily Receivables Repo  _   6=Work with Locks
__  ACCTRCVRPT  Daily Receivables Repo  _   7=Display Library List
__  ACCTRCVRPT  Daily Receivables Repo  _   8=Display Open Files
__  ACTREACT    Reactive Job for KEEP   _   9=Display File Overrides
__  ACTREACT    Reactive Job for KEEP   1  10=Run History
__  ACTREACT    Reactive Job for KEEP
__  BACKUP1     Evening Backup                              Bottom
__  BACKUP1     Evening Backup
__  BACKUP1     Evening Backup        F3=Exit   F11=More Info

F3=Exit       F4=Prompt
F11=More Info F21=Command Line
```

> Select option **10** to display the Job Run History panel. The panel lists all runs of the selected job, its start date and time, the actual elapsed time of the run, and the forecasted time for the run.

```
RBT9001                        Job Run History                    13:13:34


    Job:    ACCTRCVRPT
    Number: 000000000032    Description: Daily Receivables Report

      Start        Start        Actual          Forecasting
      Date         Time      Elapsed Time       Elapsed Time
      9/21/00    22:00:09         8                  8
      9/22/00    22:00:08         8                  8
      9/25/00    22:00:05         8                  8
      9/26/00    22:00:04         8                  8
      9/27/00    22:00:08         8                  8
      9/28/00    22:00:10         8                  8




                                                               Bottom
    F3=Exit     F12=Previous     F21=Command Line
```
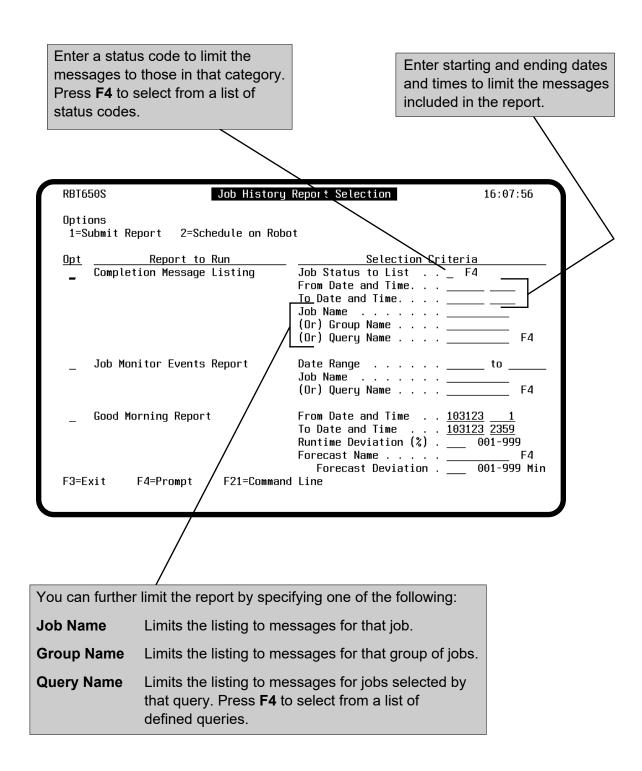
Printing Job History Reports

Select option **6** from the Control Menu to print job completion messages, job monitor events, and the Good Morning Report. You can submit the reports immediately or schedule them on Robot Schedule.

```
RBT1010                      Control Menu                    16:02:30
CONTROL                      Robot Schedule
Wake Up Time   LAST 16:00   NEXT 16:10                       ACTIVE

                        Select one of the following:

                        Operation
                         1. Start Robot
                         2. Stop Robot
                         3. Display Robot Subsystem
                         4. Run Missed Jobs

                        Completion Data
                         5. Job Completion History
                         6. Job History Reports
                         7. Clear Completion Codes
                         8. Group Completion History



                        Selection: 6_

        F3=Exit      F21=Command Line
```

Select option **6** to print job history reports.

```
RBT650S                   Job History Report Selection              16:07:56

Options
 1=Submit Report    2=Schedule on Robot

Opt _____Report to Run_____        _____Selection Criteria_____
 _   Completion Message Listing    Job Status to List  . . _   F4
                                   From Date and Time. . . _____ ___
                                   To Date and Time. . . . _____ ___
                                   Job Name  . . . . . . . _____
                                   (Or) Group Name . . . . _____
                                   (Or) Query Name . . . . _____   F4


 _   Job Monitor Events Report     Date Range  . . . . . . _____ to _____
                                   Job Name  . . . . . . . _____
                                   (Or) Query Name . . . . _____   F4


 _   Good Morning Report           From Date and Time  . . 103123    1
                                   To Date and Time   . . . 103123 2359
                                   Runtime Deviation (%) . ___   001-999
                                   Forecast Name . . . . . _____   F4
                                       Forecast Deviation . ___   001-999 Min
        F3=Exit      F4=Prompt     F21=Command Line
```

Enter a **1** to submit the report immediately. Enter a **2** to schedule the report on Robot Schedule.

Printing Job Completion History

The Completion Message Listing report (RBT650) prints all the completion messages that have occurred on the system. You can enter a status code and date, and time range to limit the completion messages that are printed. You also can enter either a specific job name, group name, or query name.

Enter a status code to limit the messages to those in that category. Press **F4** to select from a list of status codes.

Enter starting and ending dates and times to limit the messages included in the report.

```
RBT650S                    Job History Report Selection              16:07:56

 Options
  1=Submit Report    2=Schedule on Robot

 Opt _____Report to Run_____      _____Selection Criteria_____
  _    Completion Message Listing       Job Status to List  . . _  F4
                                        From Date and Time. . . _____ ____
                                        To Date and Time. . . . _____ ____
                                        Job Name  . . . . . . . _____
                                        (Or) Group Name . . . . _____
                                        (Or) Query Name . . . . _____  F4

  _    Job Monitor Events Report        Date Range  . . . . . . _____ to _____
                                        Job Name  . . . . . . . _____
                                        (Or) Query Name . . . . _____  F4

  _    Good Morning Report              From Date and Time  . . 103123 ___1
                                        To Date and Time  . . . 103123 2359
                                        Runtime Deviation (%) . ___  001-999
                                        Forecast Name . . . . . _____  F4
                                            Forecast Deviation . ___  001-999 Min
 F3=Exit      F4=Prompt      F21=Command Line
```

You can further limit the report by specifying one of the following:

Job Name — Limits the listing to messages for that job.

Group Name — Limits the listing to messages for that group of jobs.

Query Name — Limits the listing to messages for jobs selected by that query. Press **F4** to select from a list of defined queries.

Printing the Job Monitor Events Report

The Job Monitor Events report (RBT448) lists all monitored events that have occurred on the system. Job monitor events include job overrun (jobs that ran too long), job underrun (jobs that completed too quickly), or late start (jobs that started after their scheduled run time). The report includes the job name, event type, the time the monitored event occurred, and the action that was taken. You can limit the report to a specific date range, or by job name or query name.

Enter starting and ending dates to limit the report to the specified date range.

```
RBT650S                    Job History Report Selection                16:07:56

Options
 1=Submit Report    2=Schedule on Robot

Opt _____Report to Run_____  _____Selection Criteria_____
  _    Completion Message Listing     Job Status to List  . .  _   F4
                                      From Date and Time. . .  _____ ___
                                      To Date and Time. . . .  _____ ___
                                      Job Name   . . . . . . . _____
                                      (Or) Group Name . . . .  _____
                                      (Or) Query Name . . . .  _____    F4

  _    Job Monitor Events Report      Date Range  . . . . . .  _____  to _____
                                      Job Name   . . . . . . . _____
                                      (Or) Query Name . . . .  _____    F4

  _    Good Morning Report            From Date and Time . .   103123   1
                                      To Date and Time . . .   103123 2359
                                      Runtime Deviation (%) .  ___  001-999
                                      Forecast Name  . . . .   _____    F4
                                         Forecast Deviation .  ___  001-999 Min
  F3=Exit     F4=Prompt      F21=Command Line
```

You can further limit the report by specifying one of the following:

Job Name   Limits the report to monitored events for the specified job.

Query Name   Limits the report to monitored events selected by the specified query. Press **F4** to select from a list of defined queries.

Printing the Good Morning Report

The Good Morning Report (RBT9401) summarizes the job processing during a specific time period. The report can include the following information:

- Number of jobs that ran
- Number of jobs that completed normally and abnormally
- Total batch execution
- Jobs that ran outside the average runtime

- Jobs that ran outside the job forecast
- Deviation from past runs
- Number of jobs that ended in error (E status)

You can print the Good Morning Report from the Job History Report Selection panel (option **6** from the Control Menu), or by entering the RBTGM command and pressing **F4** to prompt it. The parameters on the command prompt panel are identical to the parameters on the Job History Report Selection panel, shown below.

Enter the starting date and time for the reporting period.

Enter the ending date and time for the reporting period.

```
RBT650S                    Job History Report Selection              16:07:56

Options
 1=Submit Report    2=Schedule on Robot

Opt         Report to Run                      Selection Criteria
 _    Completion Message Listing     Job Status to List  . . _   F4
                                     From Date and Time. . . _____ ____
                                     To Date and Time. . . . _____ ____
                                     Job Name  . . . . . . . _____
                                     (Or) Group Name . . . . _____
                                     (Or) Query Name . . . . _____    F4

 _    Job Monitor Events Report      Date Range  . . . . . . _____ to _____
                                     Job Name  . . . . . . . _____
                                     (Or) Query Name . . . . _____    F4

 _    Good Morning Report            From Date and Time  . . 103123 ___1
                                     To Date and Time  . . . 103123 2359
                                     Runtime Deviation (%) . ___    001-999
                                     Forecast Name . . . . . _____   F4
                                        Forecast Deviation . ___    001-999 Min
     F3=Exit     F4=Prompt     F21=Command Line
```

To see the number of jobs that varied from the average runtime, enter a percentage of deviation. For example, if you enter 15, the Good Morning Report shows you the jobs that ran outside a 15 percent deviation of their average runtime. The report also shows you the number that ran inside the deviation.

To see the number of jobs that varied from a specific forecast, enter the forecast name and deviation. For example, if you enter a forecast name and 30, the Good Morning Report shows you the jobs that ran within 30 minutes of the specified forecast. The report also shows you the number that ran outside the deviation. Press **F4** to select from a list of forecasts.

■ **Printing Messages Regularly**

■ **Limiting the Messages Printed**

You can create a Robot Schedule job to print job completion messages as a regularly scheduled job. To print messages, have the job call program **RBT650**. If you do not pass a parameter string on the program call, the program prints all messages. You can limit the messages printed by completion code, date range, job name, group or query name, and time range.

• Enter one of the following completion codes:

Blank	All codes	**T**	Abnormal termination
C	Normal completion	**W**	Warning message
E	Error on setup	**K**	Skipped
R	Running	**D**	Delayed
S	Submitted to batch	**P**	Pending

• Enter a six-digit From Date in the system date format (or 000000 or leave it blank for no beginning date) and a six-digit To Date in the system date format (or 000000 or leave it blank for no ending date). **Notes:** If a From Date is not entered, but a To Date is, all records older than the To Date are selected and *AVAILABLE displays as the From Date. If a From Date is entered without a To Date, all records created after the From Date are selected and *CURRENT displays as the To Date.

• Enter a job name and a group or query name. When not using a query name, enter ***NONE** or leave it blank.

• Enter a four-digit beginning time, followed by a four-digit ending time. **Note:** If you don't enter a beginning date, you cannot enter a time range. If you enter a From Date, the beginning time is optional (00:01 is the default). If you enter a To Date, the ending time is optional (23:59 is the default).

■ **Examples**

To limit the messages by date, time, and job name, pass the following parameter string, where *bbbbb* = blanks and *X'* denotes the end of a parameter.

CALL PGM(RBT650) PARM('C010506011606HKDELAYJOB*bbbbb*X' '*NONE' '0800' '2300')

To limit the messages by date, time, and group name, pass the following parameter string, where *bbbbb* = blanks and *X'* denotes the end of a parameter.

CALL PGM(RBT650) PARM('C010506011606*bbbbb* DLYGRPNAMEX'
'*NONE' '0800' '2300')**

To limit the messages by date, time, and query name, pass the following parameter string, where *bbbbb* = blanks and *X'* denotes the end of a parameter.

 CALL PGM(RBT650) PARM('C010506011606*bbbbbX* ' 'HTJOBS'
'0800' '2300')**

■ **Deleting Messages Automatically**

You can create a Robot Schedule job to delete job completion messages automatically. To delete messages, have the job call program **RBT655**. You also can have Robot Schedule automatically delete job history older than a specified number of days. See General System Defaults in the System Setup section of this manual.

■ **Limiting the Messages Deleted**

If you do not pass a parameter string on the program call, the program deletes all messages. The completion messages deleted also depends on the value specified on the Number of runs to track for Job History field on the Control Options panel for each job. To limit the messages deleted by completion code and/or date range, you must pass a parameter value as follows:

Completion code (position 1). Only the C and T completion codes are used for the date range and number of runs to track.

Blank	All codes	**W**	Warning message
C	Normal completion	**K**	Skipped
E	Error on setup	**D**	Delayed
R	Running	**P**	Pending
S	Submitted to batch	**U**	Delete user job messages
T	Abnormal termination		

```
1 2 3 4 5 6 7 8 9 0 1 2 3
  0 0 0 0 0 0 0 1 0 1 0 0
```

Six-digit beginning date in the system date format (or 000000 for no beginning date).

Six-digit ending date in the system date format (or 000000 for no ending date).

Note: To remove job statuses of W, E, K, P, and D, you must delete them manually for each job or you must ensure that the job has a C or T status dated after the last W, E, K, P, or D. The jobs must not exceed their specified number of runs in order to track history for the job.

For example, the sample below shows that Job A ran to completion (status C) on fives dates but was skipped (status K) on one date. If 6 is specified for Job A's number of runs to retain status, the K status is not removed until two more jobs run and complete with a status of C or T.

```
Job A      Status C      Date 4/15/07
Job A      Status C      Date 4/14/07
Job A      Status C      Date 4/13/07
Job A      Status C      Date 4/12/07
Job A      Status K      Date 4/11/07
Job A      Status C      Date 4/10/07
```

■ **Example**

Assuming the system date format is mmddyy, the following command deletes all messages dated before January 1, 2007:

CALL PGM(RBT655) PARM('000000010107')

■ **Deleting User Job Messages**

Entering a U in position 1 deletes completion messages for all user jobs between the specified dates, regardless of completion codes. For example, to delete all user job messages between 05/01/07 and 05/15/07, enter the following command:

CALL PGM(RBT655) PARM('U050107051507')
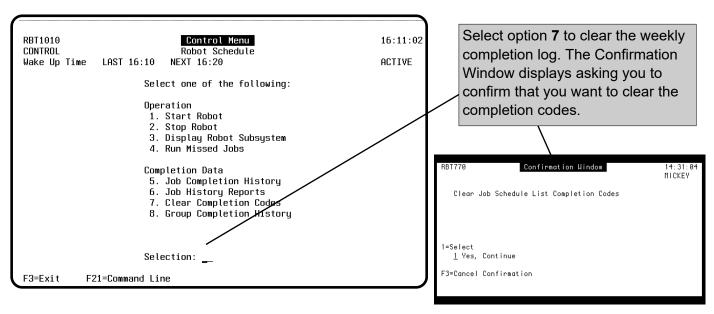
Clearing All Completion Codes on the Job Schedule List
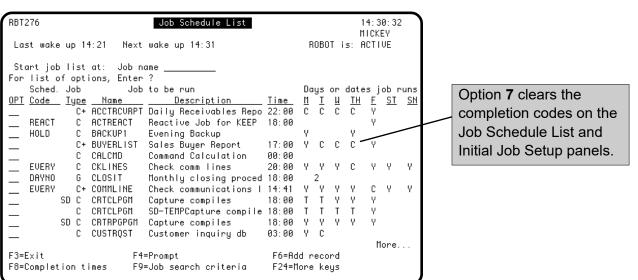
Robot Schedule records the completion of each job in its weekly job completion log. It clears its weekly log automatically as its first action each Monday morning (just after midnight). You also can clear the log manually by selecting **option 7** on the Control Menu.

Option 7 clears all completion codes shown on the Job Schedule List. To clear one or more completion codes for just one job, use the **B** option on the Job Schedule List.

Note: Option 7 does not clear the job completion history, job logs, or the reactive completion codes. To delete completion messages, use the RBT655 program or have
Schedule clear records automati-cally by selecting the option on the General System Defaults panel. The option also does not clear the completion statuses on the prerequisite lists for reactive jobs. To clear the completion status for a prerequi-site, you must display the prerequisite list on the Reactive Jobs panel and enter the **B** option for the prerequi-site.
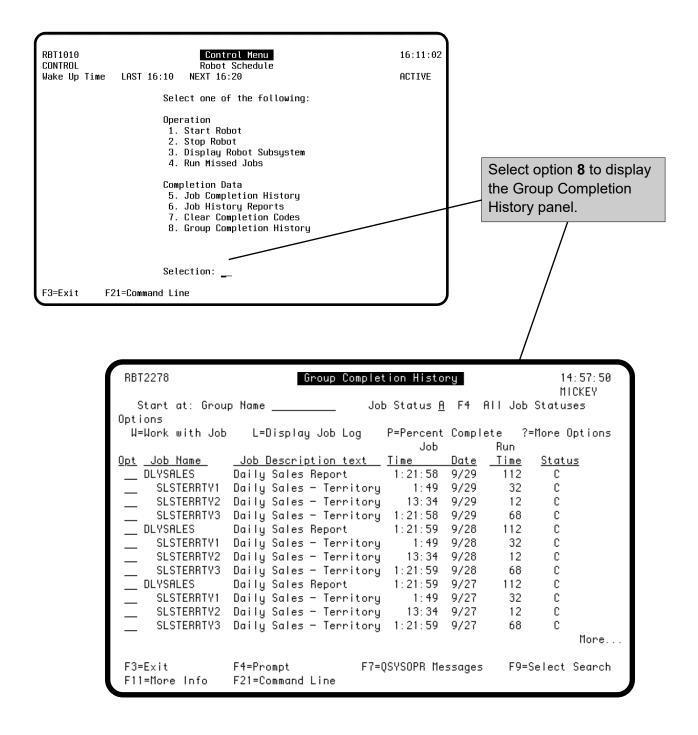
```
RBT1010                    Control Menu               16:11:02
CONTROL                    Robot Schedule
Wake Up Time    LAST 16:10   NEXT 16:20              ACTIVE

                    Select one of the following:

                    Operation
                     1. Start Robot
                     2. Stop Robot
                     3. Display Robot Subsystem
                     4. Run Missed Jobs

                    Completion Data
                     5. Job Completion History
                     6. Job History Reports
                     7. Clear Completion Codes
                     8. Group Completion History


                    Selection: __

F3=Exit     F21=Command Line
```

Select option **7** to clear the weekly completion log. The Confirmation Window displays asking you to confirm that you want to clear the completion codes.

```
RBT770               Confirmation Window           14:31:04
                                                    MICKEY

      Clear Job Schedule List Completion Codes




1=Select
   1 Yes, Continue

F3=Cancel Confirmation
```

```
RBT276                 Job Schedule List           14:30:32
                                                    MICKEY
   Last wake up 14:21   Next wake up 14:31      ROBOT is: ACTIVE

   Start job list at:  Job name _____
For list of options, Enter ?
     Sched. Job        Job to be run           Days or dates job runs
OPT Code   Type   Name      Description    Time  M  T  W  TH  F  ST  SN
__         C+  ACCTRCURPT Daily Receivables Repo 22:00  C  C  C  C   Y
__  REACT  C   ACTREACT   Reactive Job for KEEP  18:00             Y
__  HOLD   C   BACKUP1    Evening Backup              Y        Y
__         C+  BUYERLIST  Sales Buyer Report     17:00  Y  C  C  C   Y
__         C   CALCMD     Command Calculation    00:00
__  EVERY  C   CKLINES    Check comm lines       20:00  Y  Y  Y  C   Y  Y   Y
__  DAYNO  G   CLOSIT     Monthly closing proced 18:00     2
__  EVERY  C+  COMMLINE   Check communications I 14:41  Y  Y  Y  Y   C  Y   Y
__      SD C   CRTCLPGM   Capture compiles       18:00  T  T  Y  Y   Y
__         C   CRTCLPGM   SD-TEMPCapture compile 18:00  T  T  T  T   Y
__      SD C   CRTRPGPGM  Capture compiles       18:00  Y  Y  Y  Y   Y
__         C   CUSTRQST   Customer inquiry db    03:00  Y  C
                                                             More...
F3=Exit              F4=Prompt          F6=Add record
F8=Completion times  F9=Job search criteria  F24=More keys
```

Option **7** clears the completion codes on the Job Schedule List and Initial Job Setup panels.

WwO

Group Completion History

Select option **8** on the Control Menu to display completion history by group name. This panel is identical to
the Job Completion History panel (option 5 from the Control Menu), except that the jobs are arranged by
group instead of job name. Press **F9** to sort the groups. See the Job Completion History panel for a
description of the options and function keys on this panel.

```
RBT1010                    Control Menu                      16:11:02
CONTROL                    Robot Schedule
Wake Up Time    LAST 16:10   NEXT 16:20                       ACTIVE

                    Select one of the following:

                    Operation
                     1. Start Robot
                     2. Stop Robot
                     3. Display Robot Subsystem
                     4. Run Missed Jobs

                    Completion Data
                     5. Job Completion History
                     6. Job History Reports
                     7. Clear Completion Codes
                     8. Group Completion History



                    Selection: __

F3=Exit      F21=Command Line
```

Select option **8** to display
the Group Completion
History panel.

```
RBT2278                    Group Completion History              14:57:50
                                                                  MICKEY
    Start at: Group Name _____      Job Status A  F4  All Job Statuses
Options
  W=Work with Job      L=Display Job Log      P=Percent Complete    ?=More Options
                                             Job            Run
Opt  Job Name      Job Description text    Time      Date   Time    Status
 __  DLYSALES      Daily Sales Report      1:21:58   9/29   112     C
 __    SLSTERRTY1  Daily Sales - Territory   1:49    9/29    32     C
 __    SLSTERRTY2  Daily Sales - Territory  13:34    9/29    12     C
 __    SLSTERRTY3  Daily Sales - Territory  1:21:58  9/29    68     C
 __  DLYSALES      Daily Sales Report      1:21:59   9/28   112     C
 __    SLSTERRTY1  Daily Sales - Territory   1:49    9/28    32     C
 __    SLSTERRTY2  Daily Sales - Territory  13:34    9/28    12     C
 __    SLSTERRTY3  Daily Sales - Territory  1:21:59  9/28    68     C
 __  DLYSALES      Daily Sales Report      1:21:59   9/27   112     C
 __    SLSTERRTY1  Daily Sales - Territory   1:49    9/27    32     C
 __    SLSTERRTY2  Daily Sales - Territory  13:34    9/27    12     C
 __    SLSTERRTY3  Daily Sales - Territory  1:21:59  9/27    68     C
                                                              More...


F3=Exit          F4=Prompt        F7=QSYSOPR Messages    F9=Select Search
F11=More Info    F21=Command Line
```

RBTBCHUPD Command

To see the prompt panel for the RBTBCHUPD command, enter **RBTBCHUPD** on an IBM i command line and press F4

If you want to **create a new job record**, enter a job **name** and information for the job; Robot Schedule fills in default values for any options you omit. If you want to **change an existing job record**, enter the job **number** and the options you want to change; any options you omit are left unchanged in the job record. **Note:** Only temporary jobs can be added to a group. Once the temporary job runs, it is removed from the group and the job schedule list.

On the first prompt panel, you enter the same information you would enter on the Initial Job Setup panel. The last parameter on the screen lets you enter up to 13 additional run dates.

To create a new job record, enter the job name; do not specify a job number.

To change an existing job record, enter the job number of the record.

```
                    Update ROBOT in Batch (RBTBCHUPD)

 Type choices, press Enter.

 ROBOT Job Name . . . . . . . . .   LISTERRLOG    Name
 ROBOT Job Number . . . . . . . .   _____
 Job Type . . . . . . . . . . . .   C             P, C, G
 Application  . . . . . . . . . .   _____      Character value
 Description  . . . . . . . . . .   List Error Log & Disk Spc
 Time(s) to run this job  . . . .   0015          0001-2357
                 + for more values  ____
 Run on Monday  . . . . . . . . .   Y             Y, N, L, 1-5
         Tuesday  . . . . . . . .   Y             Y, N, L, 1-5
         Wednesday  . . . . . . .   Y             Y, N, L, 1-5
         Thursday . . . . . . . .   Y             Y, N, L, 1-5
         Friday . . . . . . . . .   Y             Y, N, L, 1-5
         Saturday . . . . . . . .   N             Y, N, L, 1-5
         Sunday . . . . . . . . .   N             Y, N, L, 1-5
 Dates to run this job  . . . . .   _____      Character value
                 + for more values  _____
                                                                    More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter the run schedule as you would on the Initial Job Setup panel.

You can enter up to 13 dates in your system date format. Robot Schedule will add these dates to the date object for the job. If no date object exists for the job, Robot Schedule creates one for it and names the new date object the Robot Schedule job name.

RBTBCHUPD Command

Enter an optional schedule override code
as follows:

D   Run job immediately.

*DOSPECIAL   (D) with more options.

E   Run the job every 60 minutes.

H   Hold job.

N   Run next time.

O   Omit next time.

R   Remove schedule override code.

S   Restart the group at this job.

If you specified an override code of *DOSPECIAL,
enter one of the following options.

*OPAL   Runs before or after OPAL for the
selected job.
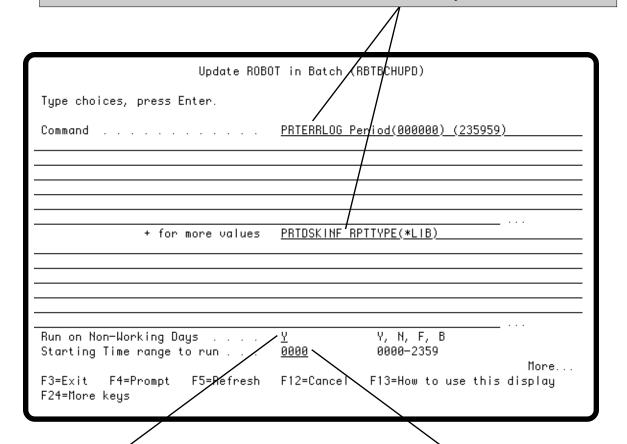
*NOREACT   Runs the job and prevents reactivity.

*CLEAR   If the job is scheduled to run once on
the day that the Do Special option is
selected, the job runs immediately
and at the scheduled time.

```
                   Update ROBOT in Batch (RBTBCHUPD)

 Type choices, press Enter.

 Schedule Override  . . . . . . .   H            D, E, H, N, O, R, S, *DO...
 DO Special Options . . . . . . .   _____     *OPAL, *NOREACT, *CLEAR
                  + for more values   _____




                                                                    More...
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Enter a plus sign (+) to enter more
than one Do Special option.

RBTBCHUPD Command

If the job type is **C** for Command, enter the commands the job is to execute. Enter one command per field. Enter a plus sign (+) for additional lines. Robot Schedule supports commands up to 3,000 bytes in length.

Note: If you are changing an existing job with this command, any new commands you enter here will overwrite the commands in the Robot Schedule job record.

```
                    Update ROBOT in Batch (RBTBCHUPD)

 Type choices, press Enter.

 Command  . . . . . . . . . . . . .   PRTERRLOG Period(000000) (235959)
 _____
 _____
 _____
 _____
 _____
 _____
 _____  ...
              + for more values   PRTDSKINF RPTTYPE(*LIB)
 _____
 _____
 _____
 _____
 _____
 _____
 _____  ...
 Run on Non-Working Days  . . . .   Y             Y, N, F, B
 Starting Time range to run . . .   0000          0000-2359
                                                             More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Indicate what Robot Schedule should do if the job is scheduled to run on a nonworking day.

Y   Run the job on a nonworking day.

N   Do not run the job on a nonworking day.

F   Run the job on the following work day.

B   Run the job on the preceding work day.

Blank Use the value on the Robot Schedule job record.

See Exception Scheduling Options in the Exception Scheduling section.

RBTBCHUPD Command
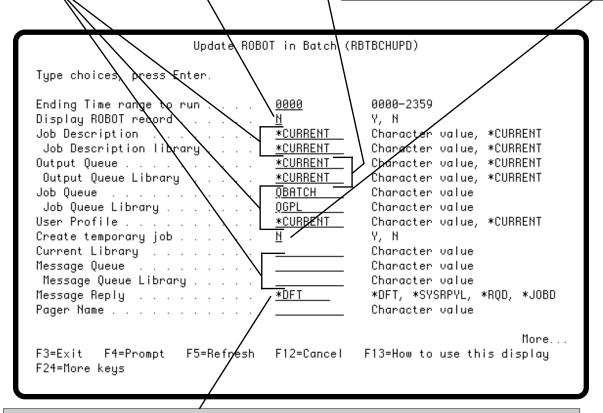
Enter control options for the job as described for the Control Options panel. Enter ***CURRENT** to change the option to the current value of the job that is executing the RBTBCHUPD command.

Enter output options for the job as described for the Output Options panel. Enter ***CURRENT** to change the option to the current value of the job that is executing the command.

Enter **Y** to have RBTBCHUPD copy the job record, make the entered changes, and then delete the copy after the job completes successfully.

Enter **N** to have RBTBCHUPD make the changes directly to the job record, overwriting the current values.

Enter **Y** to display the Initial Job Setup panel for the job so the user can enter the run schedule.

```
                    Update ROBOT in Batch (RBTBCHUPD)

Type choices, press Enter.

Ending Time range to run  . . . .    0000          0000-2359
Display ROBOT record  . . . . . .    N             Y, N
Job Description . . . . . . . . .    *CURRENT      Character value, *CURRENT
 Job Description library  . . . .    *CURRENT      Character value, *CURRENT
Output Queue  . . . . . . . . . .    *CURRENT      Character value, *CURRENT
 Output Queue Library . . . . . .    *CURRENT      Character value, *CURRENT
Job Queue . . . . . . . . . . . .    QBATCH        Character value
 Job Queue Library . . . . . . .     QGPL          Character value
User Profile  . . . . . . . . . .    *CURRENT      Character value, *CURRENT
Create temporary job  . . . . . .    N             Y, N
Current Library . . . . . . . . .    _             Character value
Message Queue . . . . . . . . . .    _             Character value
 Message Queue Library  . . . . .    _             Character value
Message Reply . . . . . . . . . .    *DFT          *DFT, *SYSRPYL, *RQD, *JOBD
Pager Name  . . . . . . . . . . .    _             Character value

                                                                      More...

F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
F24=More keys
```

Enter the default message reply to be used when a Robot Schedule job issues a terminal error message requiring a reply.

*DFT	Use the default message reply, which usually cancels the job. Use this option if you want the job to run attended.
*SYSRPYL	Check the system reply list for the appropriate reply. Use this option to tailor replies to messages (see the IBM CL Programmer's Guide (SC41-8077) for details).
*RQD	Do not enter a message reply; the operator must reply to the message.
*JOBD	Use the message reply option in the job description.
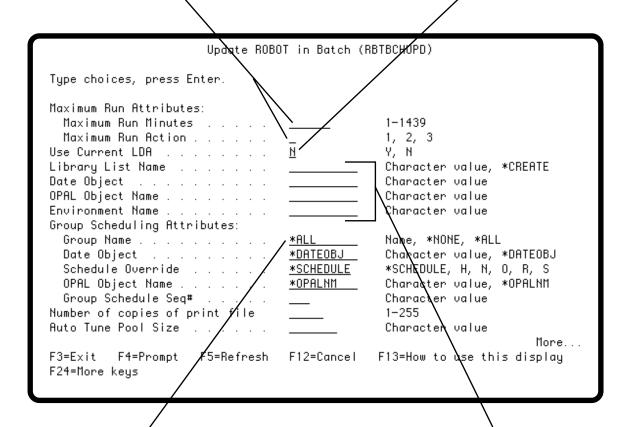
RBTBCHUPD Command

If you want add or change the maximum run time for the job, enter it in the Maximum Run Minutes field. Then, specify the action that should be taken at that time.

1 End the Job

2 Warning Status

3 Warn and Page

Enter a **Y** to use the LDA of the job executing the RBTBCHUPD command. Enter an **N** to use the LDA in the Robot Schedule job record.

```
              Update ROBOT in Batch (RBTBCHUPD)

 Type choices, press Enter.

 Maximum Run Attributes:
   Maximum Run Minutes  . . . . .    _____     1-1439
   Maximum Run Action . . . . . .    _            1, 2, 3
 Use Current LDA  . . . . . . . .    N            Y, N
 Library List Name  . . . . . . .    _____   Character value, *CREATE
 Date Object  . . . . . . . . . .    _____   Character value
 OPAL Object Name . . . . . . . .    _____   Character value
 Environment Name . . . . . . . .    _____   Character value
 Group Scheduling Attributes:
   Group Name . . . . . . . . . .    *ALL         Name, *NONE, *ALL
   Date Object  . . . . . . . . .    *DATEOBJ     Character value, *DATEOBJ
   Schedule Override  . . . . . .    *SCHEDULE    *SCHEDULE, H, N, O, R, S
   OPAL Object Name . . . . . . .    *OPALNM      Character value, *OPALNM
   Group Schedule Seq#  . . . . .    ___          Character value
 Number of copies of print file      _____        1-255
 Auto Tune Pool Size  . . . . . .    _____      Character value
                                                               More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

If you want to affect the instance of the job when it runs as part of a particular group, enter the name of the group.

Enter ***ALL** to make the same change to this job in all the groups that it belongs to.

Enter ***NONE** if you do not want to change this job when it runs as part of a group. Use *NONE to affect the job only when it runs independently.

If you want to use a different Library List, Date Object, OPAL Object, or Environment, enter its name in the appropriate field.

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RBTBCHUPD Command

The remainder of the fields allow you to affect group members rather than the instances when the job runs independently.

Enter the name of a date object for this group member. ***DATEOBJ** uses the date object listed in the earlier Date Object field.

Enter the name of an OPAL object for this group member. ***OPALNM** uses the OPAL name listed in earlier OPAL Object Name field.

Enter a schedule override code for this group member. ***SCHEDULE** uses the schedule override code listed earlier on the second prompt panel.

```
                     Update ROBOT in Batch (RBTBCHUPD)

 Type choices, press Enter.

 Maximum Run Attributes:
   Maximum Run Minutes  . . . . .    _____      1-1439
   Maximum Run Action . . . . . .    _           1, 2, 3
 Use Current LDA  . . .  . . . . .   N           Y, N
 Library List Name  . . . . . . .    _____  Character value, *CREATE
 Date Object  . . . . . . . . . .    _____  Character value
 OPAL Object Name . . . . . . . .    _____  Character value
 Environment Name . . . . . . . .    _____  Character value
 Group Scheduling Attributes:
   Group Name . . . . . . . . . .    *ALL        Name, *NONE, *ALL
   Date Object  . . . . . . . . .    *DATEOBJ    Character value, *DATEOBJ
   Schedule Override  . . . . . .    *SCHEDULE   *SCHEDULE, H, N, O, R, S
   OPAL Object Name . . . . . . .    *OPALNM     Character value, *OPALNM
   Group Schedule Seq#  . . . . .    ___         Character value
 Number of copies of print file     _____       1-255
 Auto Tune Pool Size  . . . . .      _____      Character value
                                                                  More...

 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter a group sequence number. This value is used only when the Create temporary job parameter is set to **Y**. The number cannot duplicate a sequence number that already exists in the group. Robot Schedule inserts the temporary job into the specified group at the specified sequence number.

Note: If this field is left blank and the job is not a member of the group, Robot Schedule uses the sequence number 999. If the job is a member of the group, Robot Schedule copies the sequence number from the job's group membership record.
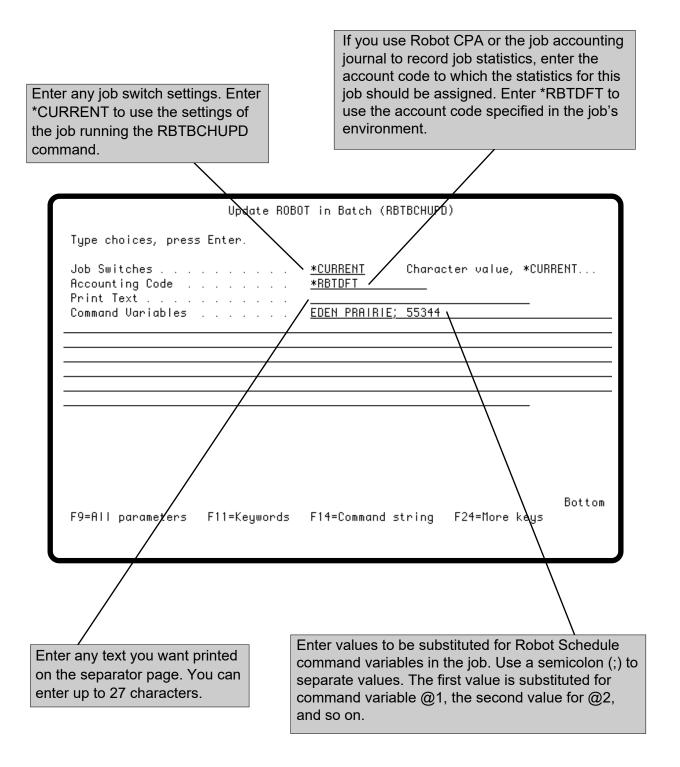
Specify the number of copies of the print file that you want.

If you use Robot Autotune, the automatic performance monitoring and tuning software, enter the size (in KB) of the memory pool in which this job should run. Use this value to control the amount of system resources this job can use, and thus, how fast the job runs.

RBTBCHUPD Command

Enter any job switch settings. Enter *CURRENT to use the settings of the job running the RBTBCHUPD command.

If you use Robot CPA or the job accounting journal to record job statistics, enter the account code to which the statistics for this job should be assigned. Enter *RBTDFT to use the account code specified in the job's environment.

```
                    Update ROBOT in Batch (RBTBCHUPD)

 Type choices, press Enter.

 Job Switches . . . . . . . . . . .   *CURRENT      Character value, *CURRENT...
 Accounting Code  . . . . . . . . .   *RBTDFT
 Print Text . . . . . . . . . . . .   _____
 Command Variables  . . . . . . . .   EDEN PRAIRIE; 55344


                                                                       Bottom
   F9=All parameters   F11=Keywords   F14=Command string   F24=More keys
```

Enter any text you want printed on the separator page. You can enter up to 27 characters.

Enter values to be substituted for Robot Schedule command variables in the job. Use a semicolon (;) to separate values. The first value is substituted for command variable @1, the second value for @2, and so on.

Copying Jobs

Robot Schedule lets you copy either an individual job record or all job records for an application. To copy a single job, use the Add/Copy/Delete option and select **Copy** for the job. The copy option copies the job as it runs independently; group membership information is ignored. However, if the job you are copying is a group control job, the copy option automatically copies the group control job *and* all group member definitions. Because the group name must be unique, it also generates a new group name by appending underscores to fill out the 10-character field and placing a number at the end. For example, if the group is called ACCTPAY, the first copy would be ACCTPAY__1.

To copy all job records with the same application name, select option **CA** for the job. Then, enter a new application name for the new records on the Application Options window.

After the copy, you see the record copy immediately below the copied record in the Job Schedule List. The new job records are identical to the records copied except that Robot Schedule assigns new job numbers to the copies. When you use the **CA** option, there is another difference—the application name for the copy is the name you entered. You then can select the new records and edit them as needed.

Press **F4** next to the job you want to copy and select option **CA** from the Options window. This copies all jobs that have the same application name as this job.

```
RBT276                    Job Sche
                                      RBT701          Options        15:27:14
  Last wake up 15:16   Next wake up 15
                                      1=Select Option
  Start job list at:  Application ____     JOB DOCUMENTATION
For list of options, Enter ?          _   11=Job Completion History
     Sched. Job        Job to be run  _   12=Report Recipients
OPT Code   Type   Name     Descriptio _   13=Dependent REACT Jobs
  _         C   RBT34608  Cross Syst  _   14=Print Job
  _         C   RBT34609  Cross Syst  _   15=Job Monitors
  _         C   RBT34503  Schedule o  _ > 21=Text for Job Name
  _         C   RBT34502  Weekly Wor      OTHER JOB OPTIONS
  _         C   RBT34601  Job Comman  _   B=Blank Completion
  █        C+   SALESCODE              _   Override Options >
  _        C+   AAAANEWJOB A new job!  _   A=Add/Copy/Delete Job
  _         G   MYGROUP                1   CA=Copy Application
  _                                                          More...
  _        RBT810  Application Options  14:00:46
  _                                          B=Exit    F11=More Info
  _  DA    Press Enter to COPY Application
  _  RE    SALES     to Application ACCTPAY_
F3=Exi
F8=Com   F3=Exit                        teria    F24=More keys
```

Press Enter to perform the copy or press **F3** to cancel the copy.

Enter the application name for the new job records.

■ Exporting Jobs to Other Systems

Robot Schedule provides several methods of transferring copies of Robot Schedule jobs to other systems.

- If the other system is in the same network, you can use Robot Network to transfer Robot Schedule jobs. For more information, see the *Robot Network User Guide*.

- If the other system is not in the network, export the jobs to the library RBTMRGLIB, transfer the RBTMRGLIB library to the other system, and then import the jobs into the Robot Schedule database there.

- If you use the Robot Schedule GUI, you can export jobs to an XML file on one system and then import the XML file on another system. See the *Robot Schedule User Guide* for more information on exporting and importing XML files.

■ Exporting Using RBTMRGLIB

You can export jobs from the Job Schedule List in Robot Schedule or by using the external IBM i command RBTMRG. In either case, you can export jobs individually, by group, or by application. The options on the RBTMRG command are ***ADD**, which appends jobs to the existing records in RBTMRGLIB, and ***REPLACE**, which clears the existing records in RBTMRGLIB before adding new jobs.
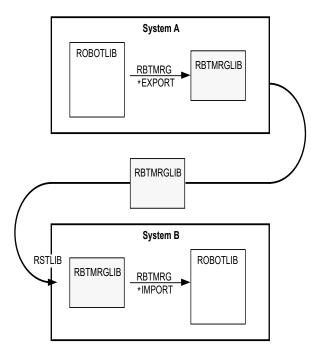
Note: If you are using Robot Schedule Security, you must have the proper authority to export a job (see System Setup Menu).

To move the jobs to another system, copy RBTMRGLIB to tape and then restore it on the other system. Or, save it to a save file and send it over a communication line. You then enter the RBTMRG command to import the jobs into the Robot Schedule database.

After the import, the jobs appear in the Job Schedule List. The copied jobs are identical to those on the original system, except for new job numbers. You can edit the copied jobs as needed for the other system.
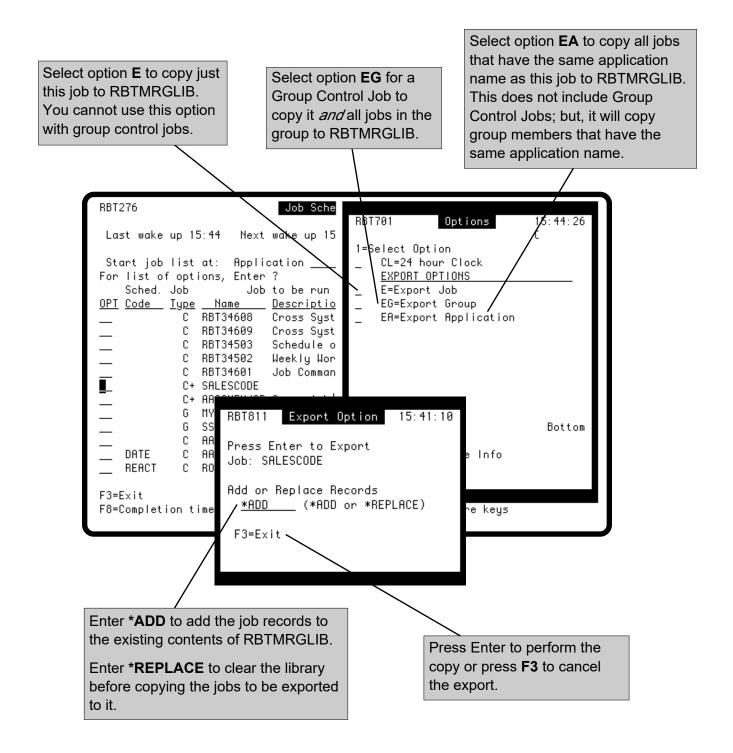
Notes:
1. If you export a reactive job, Robot Schedule automatically exports its immediate prerequisite job. For example, suppose Job C is a reactive job with a single prerequisite, Job B. When you select to export Job C on the Job Schedule List, Job B also is exported. However, if Job B also happens to be a reactive job, Robot Schedule will **not** export its prerequisites (unless you explicitly export Job B).

2. In addition, you should be aware that Robot Schedule does not export other items that are attached to jobs and affect how they run. These items include: library list objects, calendar objects, OPAL objects, environment objects, reserved command variables, and so on.

Selecting Jobs to Export

You can select jobs to export using the export options on the Job Schedule List. A window then displays on which you indicate if the RBTMRGLIB library should be cleared before the copy.

Select option **E** to copy just this job to RBTMRGLIB. You cannot use this option with group control jobs.

Select option **EG** for a Group Control Job to copy it *and* all jobs in the group to RBTMRGLIB.

Select option **EA** to copy all jobs that have the same application name as this job to RBTMRGLIB. This does not include Group Control Jobs; but, it will copy group members that have the same application name.

```
RBT276                        Job Sche
                                          RBT701          Options        15:44:26
   Last wake up 15:44   Next wake up 15                                  C

   Start job list at:  Application ___    1=Select Option
For list of options, Enter ?               _   CL=24 hour Clock
     Sched. Job           Job to be run        EXPORT OPTIONS
 OPT Code   Type   Name     Descriptio     _   E=Export Job
 __          C  RBT34608  Cross Syst        _   EG=Export Group
 __          C  RBT34609  Cross Syst        _   EA=Export Application
 __          C  RBT34503  Schedule o
 __          C  RBT34502  Weekly Wor
 __          C  RBT34601  Job Comman
 █           C+ SALESCODE
 __          C+ AA
 __          G  MY   RBT811    Export Option   15:41:10
 __          G  SS                                                    Bottom
 __          C  AA   Press Enter to Export
 __  DATE    C  AA   Job: SALESCODE                          e Info
 __  REACT   C  RO
                     Add or Replace Records
 F3=Exit              *ADD     (*ADD or *REPLACE)
 F8=Completion time                                          re keys
                        F3=Exit
```

Enter ***ADD** to add the job records to the existing contents of RBTMRGLIB.

Enter ***REPLACE** to clear the library before copying the jobs to be exported to it.

Press Enter to perform the copy or press **F3** to cancel the export.

RBTMRG Command

You can use the RBTMRG command to copy jobs either to or from the RBTMRGLIB library. In export mode, it copies records from the Robot Schedule database to RBTMRGLIB. In import mode, it copies records from RBTMRGLIB to the Robot Schedule database.

To see the command prompt panel shown below, enter **RBTMRG** and press F4

If you are *importing* jobs from the RBTMRG library, the first three parameters are not used. The import operation automatically copies all jobs in RBTMRGLIB to ROBOTLIB.

If you are *exporting* jobs, enter at least one of the following parameters:
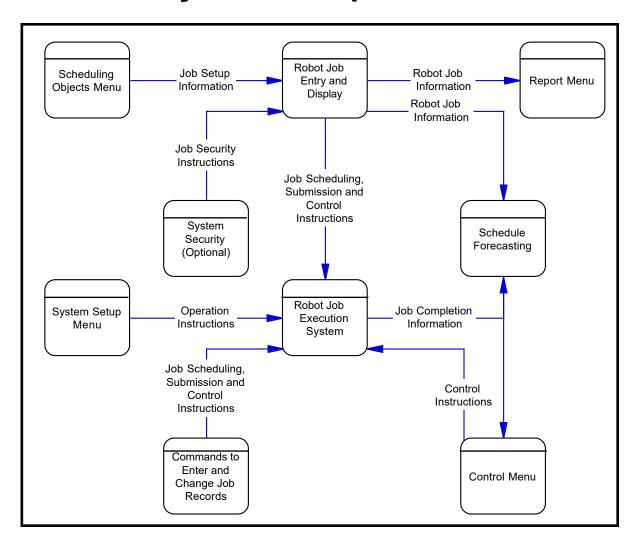
• Enter an application name to copy all jobs for that application.

• Enter a group name to copy the group control job and all jobs in that group.

• Enter the Robot Schedule job number to copy an individual job record.

```
                        Merge ROBOT Records (RBTMRG)

 Type choices, press Enter.

 Application Name . . . . . . .    SALES          Character value
 Group Name . . . . . . . . . .    _____       Character value
 ROBOT Job Number . . . . . . .    _____
 Export/Import Records  . . . .    *EXPORT        *EXPORT, *IMPORT
 Copy Option  . . . . . . . . .    *ADD           *ADD, *REPLACE




                                                                  Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More Keys
```
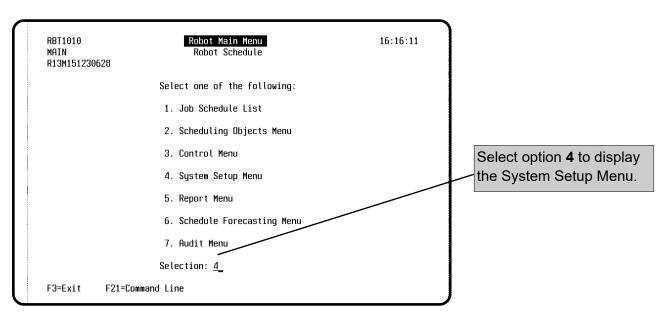
Enter ***EXPORT** to copy **to** the RBTMRGLIB library.

Enter ***IMPORT** to copy **from** the RBTMRGLIB library. If you enter ***IMPORT**, the other parameters are not used.

This parameter is used only when exporting records. Enter ***ADD** to add the jobs to the existing contents of the library; enter ***REPLACE** to clear the library before copying the jobs to it.

System Setup Menu

```
┌──────────────┐        Job Setup        ┌──────────────┐   Robot Job    ┌──────────────┐
│  Scheduling  │───── Information ──────▶│  Robot Job   │── Information ─▶│ Report Menu  │
│ Objects Menu │                         │  Entry and   │   Robot Job    │              │
└──────────────┘                         │   Display    │   Information  └──────────────┘
```

Scheduling Objects Menu → Job Setup Information → Robot Job Entry and Display → Robot Job Information → Report Menu

Robot Job Information

Job Security Instructions

Job Scheduling, Submission and Control Instructions

System Security (Optional)

Schedule Forecasting

System Setup Menu → Operation Instructions → Robot Job Execution System → Job Completion Information

Job Scheduling, Submission and Control Instructions

Control Instructions

Commands to Enter and Change Job Records

Control Menu

```
RBT1010                    Robot Main Menu                    16:16:11
MAIN                       Robot Schedule
R13M151230628

                    Select one of the following:

                      1. Job Schedule List

                      2. Scheduling Objects Menu

                      3. Control Menu

                      4. System Setup Menu

                      5. Report Menu

                      6. Schedule Forecasting Menu

                      7. Audit Menu

                    Selection: 4

  F3=Exit     F21=Command Line
```

Select option **4** to display the System Setup Menu.

■ System Setup Menu

You can tailor Robot Schedule to support operations at your site. The process of tailoring Robot Schedule begins at the System Setup Menu (option **4** on the Robot Main Menu). From the System Setup Menu, you can:
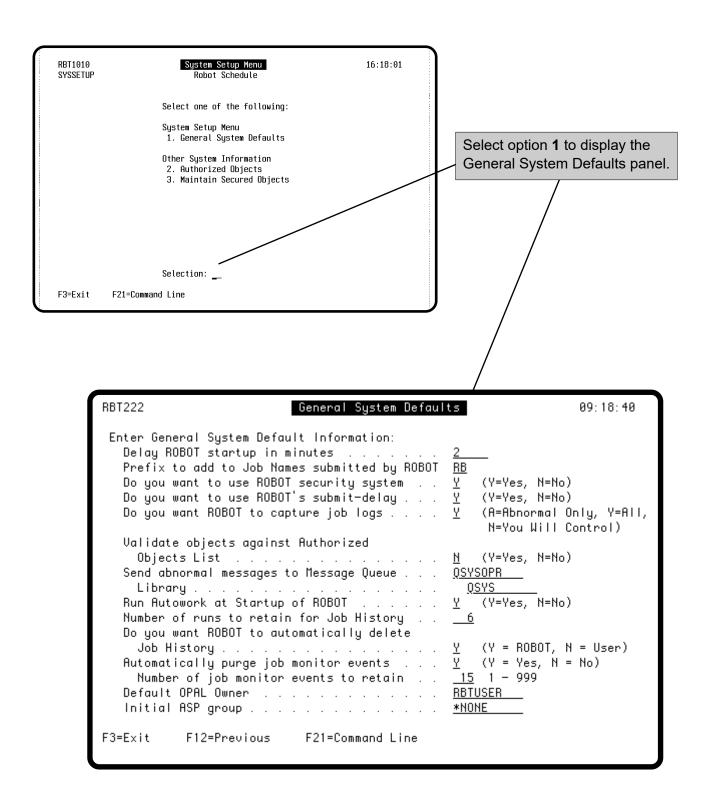
•   Change general system defaults that determine how Robot Schedule operates.

•   Change general security and security on specific Robot Schedule jobs.

•   Define Authorized Objects for use by all Robot Schedule jobs.

These System Setup options are described in detail in the rest of this section.

System Setup Menu

You display the System Setup Menu by selecting option **4** on the Robot Main Menu. Use the System Setup Menu to define general system defaults, change Robot Schedule security, and define authorized objects for Robot Schedule jobs.

```
RBT1010                    Robot Main Menu                16:16:11
MAIN                        Robot Schedule
R13M151230628

                    Select one of the following:

                      1. Job Schedule List

                      2. Scheduling Objects Menu

                      3. Control Menu

                      4. System Setup Menu

                      5. Report Menu

                      6. Schedule Forecasting Menu

                      7. Audit Menu

                    Selection: 4_

    F3=Exit    F21=Command Line
```

Select option **4** to display the System Setup Menu.

```
RBT1010                    System Setup Menu              16:18:01
SYSSETUP                    Robot Schedule


                    Select one of the following:

                    System Setup Menu
                      1. General System Defaults

                    Other System Information
                      2. Authorized Objects
                      3. Maintain Secured Objects




                              Selection: __

        F3=Exit      F21=Command Line
```

General System Defaults

The General System Defaults panel lists options that determine how Robot Schedule operates. Select option **1** on the System Setup Menu to display the General System Defaults panel.

```
RBT1010              System Setup Menu              16:18:01
SYSSETUP                Robot Schedule


          Select one of the following:

          System Setup Menu
            1. General System Defaults

          Other System Information
            2. Authorized Objects
            3. Maintain Secured Objects









          Selection: _

F3=Exit    F21=Command Line
```

Select option **1** to display the General System Defaults panel.

```
RBT222                General System Defaults            09:18:40

  Enter General System Default Information:
    Delay ROBOT startup in minutes  . . . . . . .   2
    Prefix to add to Job Names submitted by ROBOT   RB
    Do you want to use ROBOT security system  . .   Y    (Y=Yes, N=No)
    Do you want to use ROBOT's submit-delay . . .   Y    (Y=Yes, N=No)
    Do you want ROBOT to capture job logs . . . .   Y    (A=Abnormal Only, Y=All,
                                                         N=You Will Control)

    Validate objects against Authorized
       Objects List  . . . . . . . . . . . . . . .  N    (Y=Yes, N=No)
    Send abnormal messages to Message Queue . . .   QSYSOPR
       Library . . . . . . . . . . . . . . . . . .    QSYS
    Run Autowork at Startup of ROBOT  . . . . . .   Y    (Y=Yes, N=No)
    Number of runs to retain for Job History  . .    6
    Do you want ROBOT to automatically delete
       Job History . . . . . . . . . . . . . . . .  Y    (Y = ROBOT, N = User)
    Automatically purge job monitor events  . . .   Y    (Y = Yes, N = No)
       Number of job monitor events to retain  . .  15  1 - 999
    Default OPAL Owner  . . . . . . . . . . . . .   RBTUSER
    Initial ASP group . . . . . . . . . . . . . .   *NONE

  F3=Exit     F12=Previous     F21=Command Line
```

General System Defaults

Enter a delay time in minutes. After Robot Schedule starts up, it waits the specified number of minutes before it begins submitting jobs. This gives you time to stop Robot Schedule if you need to handle the aftermath of an abnormal powerdown.

Enter a two-character prefix to be added to the Robot Schedule job name to make the submitted job name. The prefix helps you identify Robot Schedule jobs. Leave the prefix blank if you want Robot Schedule to use just the Robot Schedule job name for the submitted job name. You might want to do this if, for example, you are using a job accounting package to track CPU usage.

```
RBT222                     General System Defaults                09:18:40

  Enter General System Default Information:
    Delay ROBOT startup in minutes  . . . . . . .   2
    Prefix to add to Job Names submitted by ROBOT   RB
    Do you want to use ROBOT security system  . .   Y    (Y=Yes, N=No)
    Do you want to use ROBOT's submit-delay . .     Y    (Y=Yes, N=No)
    Do you want ROBOT to capture job logs . . . .   Y    (A=Abnormal Only, Y=All,
                                                          N=You Will Control)

    Validate objects against Authorized
      Objects List  . . . . . . . . . . . . . . .   N    (Y=Yes, N=No)
    Send abnormal messages to Message Queue . . .   QSYSOPR
      Library . . . . . . . . . . . . . . . . . .     QSYS
    Run Autowork at Startup of ROBOT  . . . . . .   Y    (Y=Yes, N=No)
    Number of runs to retain for Job History  . .   6
    Do you want ROBOT to automatically delete
      Job History . . . . . . . . . . . . . . . .   Y    (Y = ROBOT, N = User)
    Automatically purge job monitor events  . . .   Y    (Y = Yes, N = No)
      Number of job monitor events to retain  . .   15  1 - 999
    Default OPAL Owner  . . . . . . . . . . . . .   RBTUSER
    Initial ASP group . . . . . . . . . . . . . .   *NONE

  F3=Exit      F12=Previous      F21=Command Line
```

Enter a **Y** if you want to use the Robot Schedule security system. (See the Robot Schedule Security section for more information.)

Enter a **Y** to use Robot Schedule's submit-delay jobs feature. (See Exception Scheduling for a complete explanation of submit-delay jobs.)

General System Defaults

Enter one of the following options if you want Robot Schedule to capture job logs so you can display them on the Job Completion History.

A Capture the job log only if the job terminates abnormally.

Y Capture job logs for all jobs.

N Capture the job log if directed by the job description.

Enter a **Y** to have Robot Schedule check that objects entered in job records are on the Authorized Objects list. The objects include job descriptions, job queues, libraries, and output queues. This prevents entry of unauthorized or incorrect objects. For more information, see the Authorized Objects section.

```
RBT222                    General System Defaults              09:18:40

  Enter General System Default Information:
    Delay ROBOT startup in minutes  .  .  .  .  .  .   2
    Prefix to add to Job Names submitted by ROBOT     RB
    Do you want to use ROBOT security system  .  .    Y    (Y=Yes, N=No)
    Do you want to use ROBOT's submit-delay .  .      Y    (Y=Yes, N=No)
    Do you want ROBOT to capture job logs .  .  .  .  Y    (A=Abnormal Only, Y=All,
                                                           N=You Will Control)

    Validate objects against Authorized
      Objects List  .  .  .  .  .  .  .  .  .  .  .  .  N   (Y=Yes, N=No)
    Send abnormal messages to Message Queue .  .  .   QSYSOPR
      Library .  .  .  .  .  .  .  .  .  .  .  .  .  .     QSYS
    Run Autowork at Startup of ROBOT  .  .  .  .  .   Y    (Y=Yes, N=No)
    Number of runs to retain for Job History  .  .      0
    Do you want ROBOT to automatically delete
      Job History .  .  .  .  .  .  .  .  .  .  .  .  .  Y   (Y = ROBOT, N = User)
    Automatically purge job monitor events  .  .  .   Y    (Y = Yes, N = No)
      Number of job monitor events to retain  .  .    15  1 - 999
    Default OPAL Owner  .  .  .  .  .  .  .  .  .  .   RBTUSER
    Initial ASP group .  .  .  .  .  .  .  .  .  .  .  *NONE

  F3=Exit      F12=Previous      F21=Command Line
```

Enter the message queue and library where Robot Schedule should send a message if a job terminates abnormally. Typically, this is the message queue of the system operator. If you leave this field blank, no messages are sent when Robot Schedule jobs terminate abnormally.

Robot Schedule doesn't run jobs when it is stopped. If you want Robot Schedule to automatically run any jobs it missed whenever it is restarted after a stoppage, enter a **Y**. It will run jobs missed since midnight. It runs each job only once, even if the job has missed more than one run time. If a job with multiple run times already ran once before Robot Schedule stopped, it will not run again. However, every job scheduled to run after Robot Schedule is restarted will run as scheduled.

General System Defaults

Enter the number of runs to be retained in the job's completion history. Robot Schedule purges runs beyond this number automatically if you enter a Y in the next field. This history also is used to calculate the average run time of the job for schedule forecasts (see Schedule Forecasting).

Enter a **Y** to have Robot Schedule automatically purge the job history of runs beyond the number you have requested it to retain.

```
RBT222                      General System Defaults                09:18:40

   Enter General System Default Information:
      Delay ROBOT startup in minutes  . . . . . . . .    2
      Prefix to add to Job Names submitted by ROBOT     RB
      Do you want to use ROBOT security system  . .     Y    (Y=Yes, N=No)
      Do you want to use ROBOT's submit-delay . . .     Y    (Y=Yes, N=No)
      Do you want ROBOT to capture job logs . . . .     Y    (A=Abnormal Only, Y=All,
                                                               N=You Will Control)

      Validate objects against Authorized
         Objects List  . . . . . . . . . . . . . .     N    (Y=Yes, N=No)
      Send abnormal messages to Message Queue . . .    QSYSOPR
         Library . . . . . . . . . . . . . . . . . .     QSYS
      Run Autowork at Startup of ROBOT  . . . . . .    Y    (Y=Yes, N=No)
      Number of runs to retain for Job History  . .     6
      Do you want ROBOT to automatically delete
         Job History . . . . . . . . . . . . . . . .    Y    (Y = ROBOT, N = User)
      Automatically purge job monitor events  . .      Y    (Y = Yes, N = No)
         Number of job monitor events to retain . .     15  1 - 999
      Default OPAL Owner  . . . . . . . . . . . . .    RBTUSER
      Initial ASP group . . . . . . . . . . . . . .    *NONE

   F3=Exit      F12=Previous      F21=Command Line
```

Specify if Robot Schedule should purge job monitor events automatically.
If you enter **Y** to purge the job monitor records, specify the number of events to retain in the job's completion history.

Enter an initial ASP group to be used by Robot Schedule. Enter *NONE if there is no initial ASP group.
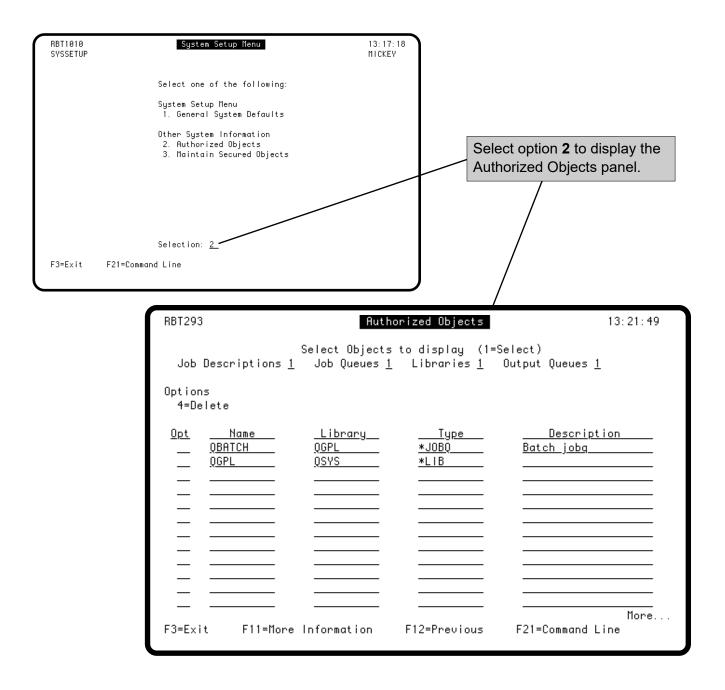
Enter the user profile your programmers normally use. All the OPAL objects you create for your Robot Schedule jobs will be owned by this profile. We recommend you use the RBTUSER user profile.

Authorized Objects

To enter a list of the authorized objects, select option **2** on the System Setup Menu to display the Authorized Objects panel. You can enter a list of the job descriptions, job queues, libraries, and output queues on this panel. Then, you can enter these objects in your Robot Schedule job records.
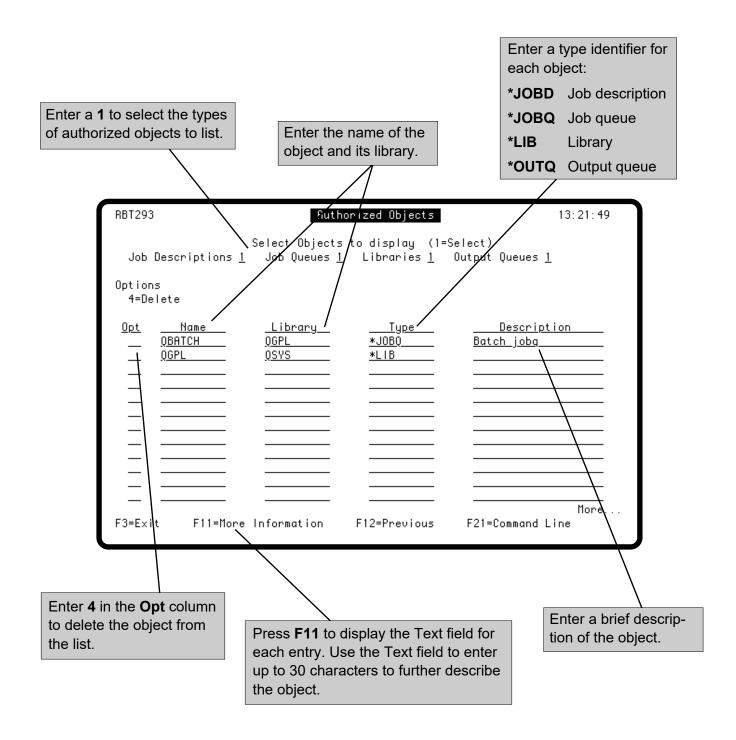
The Authorized Objects list serves two functions. First, you can have Robot Schedule validate objects against the Authorized Objects list by selecting that option on the General System Defaults panel. This prevents errors when entering object names. Second, you can use the list to restrict the objects used when Robot Schedule submits jobs.

Later, when scheduling jobs, you can press **F4** to select from a list of the authorized objects of that type.

```
RBT1010                  System Setup Menu              13:17:18
SYSSETUP                                                 MICKEY


              Select one of the following:

              System Setup Menu
               1. General System Defaults

              Other System Information
               2. Authorized Objects
               3. Maintain Secured Objects




              Selection: 2

F3=Exit     F21=Command Line
```

Select option **2** to display the Authorized Objects panel.

```
RBT293                       Authorized Objects          13:21:49

                  Select Objects to display  (1=Select)
      Job Descriptions 1   Job Queues 1   Libraries 1   Output Queues 1

  Options
    4=Delete

  Opt      Name          Library          Type           Description
   __    QBATCH_____   QGPL_____   *JOBQ_____   Batch jobq_____
   __    QGPL_____   QSYS_____   *LIB_____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
   __    _____   _____   _____   _____
                                                               More...
   F3=Exit      F11=More Information    F12=Previous    F21=Command Line
```

Authorized Objects

On the Authorized Objects panel, you enter the job descriptions, job queues, libraries, and output queues that Robot Schedule jobs are authorized to use. Enter the name of the object, its library, type identifier, and a brief description. You can edit the list at any time. Select one or more types of objects to list. Then enter new objects and change and delete existing ones.

Enter a type identifier for each object:

*JOBD   Job description
*JOBQ   Job queue
*LIB   Library
*OUTQ   Output queue

Enter a **1** to select the types of authorized objects to list.

Enter the name of the object and its library.

```
RBT293                      Authorized Objects                    13:21:49

                    Select Objects to display  (1=Select)
      Job Descriptions 1    Job Queues 1   Libraries 1   Output Queues 1

   Options
    4=Delete

   Opt      Name          Library          Type            Description
   __     QBATCH         QGPL            *JOBQ          Batch jobq
    1     QGPL           QSYS            *LIB           _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
   __     _____       _____        _____       _____
                                                                 More...
    F3=Exit      F11=More Information      F12=Previous    F21=Command Line
```

Enter **4** in the **Opt** column to delete the object from the list.

Press **F11** to display the Text field for each entry. Use the Text field to enter up to 30 characters to further describe the object.

Enter a brief description of the object.

■ **Security Restrictions**

The IBM i provides a security system that restricts the rights to system objects. Robot Schedule also provides an optional security system that can restrict the rights to change various Robot Schedule functions or job data. You select to use the Robot Schedule security system on the General System Defaults panel.

The Robot Schedule security system is set up to be easy to use. You can secure the following objects:

- Menus
- Menu Options
- GUI Objects
- Job Schedule List
- Job Schedule List Options
- Schedule Override Codes
- Specific Jobs

Robot Schedule security uses a powerful, hierarchical system. For example, you can secure each menu. When a user profile is restricted at the menu level, it automatically restricts each option under that menu.
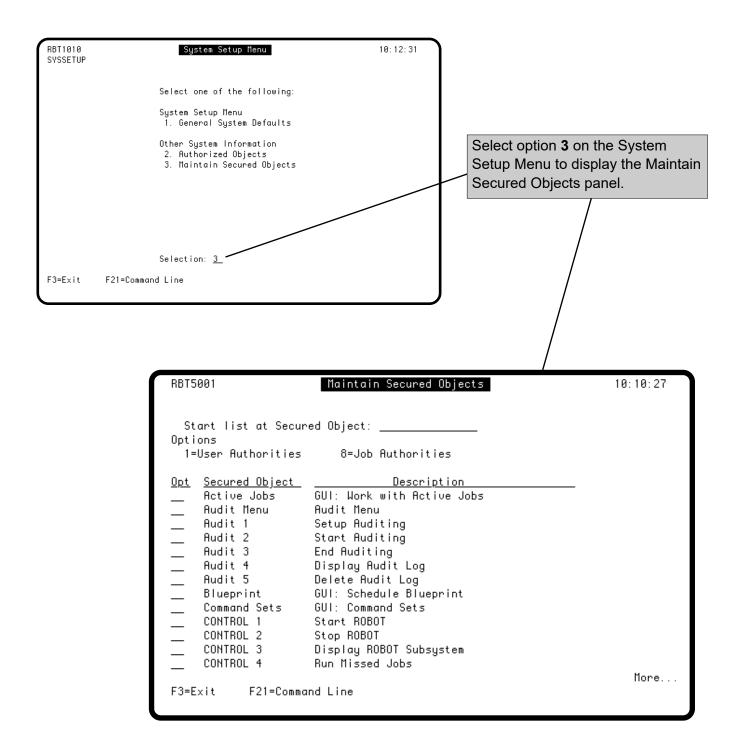
Robot Schedule security is similar to your IBM i security. If you already have group profiles and authorization lists set up, you can enter their names on the Edit Profiles for Object Authority panel.

Sometimes there can be situations involving several objects, each of which may have different security restrictions. In this case, whatever set of restrictions is the most restrictive is used.

Whoever originally sets up a job is automatically granted all authority to the job. Your security officer can edit this authority at a later time.

Accessing Robot Schedule Security

Use the Maintain Secured Objects panel to define Robot Schedule security.

```
RBT1010                 System Setup Menu              10:12:31
SYSSETUP


              Select one of the following:

              System Setup Menu
               1. General System Defaults

              Other System Information
               2. Authorized Objects
               3. Maintain Secured Objects




              Selection: 3

F3=Exit    F21=Command Line
```

Select option **3** on the System Setup Menu to display the Maintain Secured Objects panel.

```
RBT5001              Maintain Secured Objects          10:10:27


   Start list at Secured Object: _____
Options
  1=User Authorities      8=Job Authorities


Opt   Secured Object              Description
__    Active Jobs        GUI: Work with Active Jobs
__    Audit Menu         Audit Menu
__    Audit 1            Setup Auditing
__    Audit 2            Start Auditing
__    Audit 3            End Auditing
__    Audit 4            Display Audit Log
__    Audit 5            Delete Audit Log
__    Blueprint          GUI: Schedule Blueprint
__    Command Sets       GUI: Command Sets
__    CONTROL 1          Start ROBOT
__    CONTROL 2          Stop ROBOT
__    CONTROL 3          Display ROBOT Subsystem
__    CONTROL 4          Run Missed Jobs
                                                    More...
   F3=Exit     F21=Command Line
```

Using Robot Schedule Security

Robot Schedule security allows you to restrict the use of different product functions and data to specific users. You can define separate security restrictions for each item listed on the Maintain Secured Objects panel.
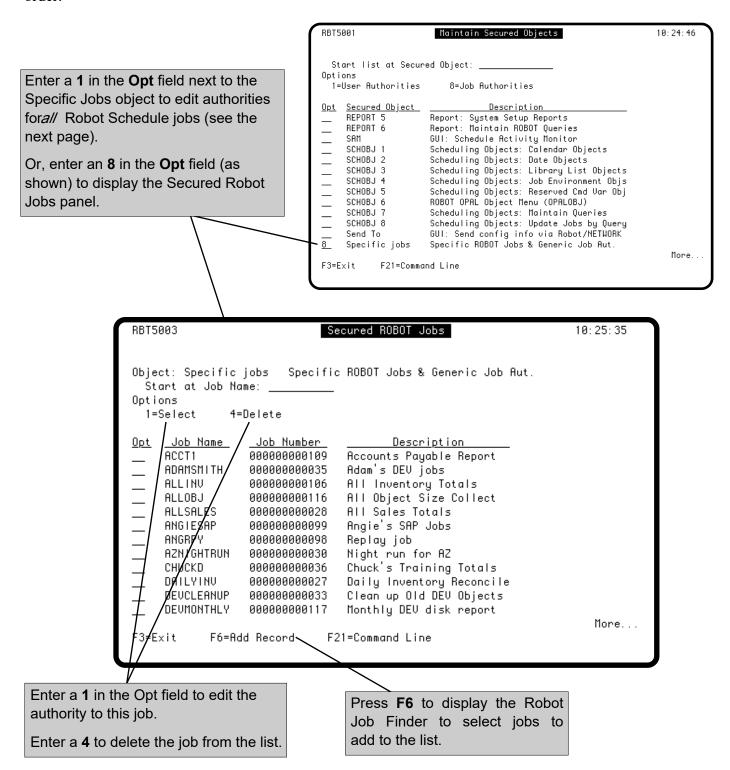
Notes:

1. The security restrictions you set up here are used by Robot Schedule only if you have selected to use Robot Schedule security on the General System Defaults panel.

2. You can access Job completion history through the Job Schedule List (option **11**) or the Control Menu (option **5**). Both options are secured by the object, JSL 11.

```
RBT5001              Maintain Secured Objects              10:16:42


   Start list at Secured Object: _____
Options
   1=User Authorities      8=Job Authorities

Opt  Secured Object              Description
 __   REPORT 5        Report: System Setup Reports
 __   REPORT 6        Report: Maintain ROBOT Queries
 __   SAM             GUI: Schedule Activity Monitor
 1    SCHOBJ 1        Scheduling Objects: Calendar Objects
 __   SCHOBJ 2        Scheduling Objects: Date Objects
 __   SCHOBJ 3        Scheduling Objects: Library List Objects
 __   SCHOBJ 4        Scheduling Objects: Job Environment Objs
 __   SCHOBJ 5        Scheduling Objects: Reserved Cmd Var Obj
 __   SCHOBJ 6        ROBOT OPAL Object Menu (OPALOBJ)
 __   SCHOBJ 7        Scheduling Objects: Maintain Queries
 __   SCHOBJ 8        Scheduling Objects: Update Jobs by Query
 __   Send To         GUI: Send config info via Robot/NETWORK
 __   Specific jobs   Specific ROBOT Jobs & Generic Job Aut.
                                                        More...

F3=Exit     F21=Command Line
```

Enter a **1** in the **Opt** field to display the Edit Profiles for Object Authority panel for that object. Different objects may have different authorities that can be edited.

```
RBT5002            Edit Profiles for Object Authority       10:22:23

Object: SCHOBJ 1        Scheduling Objects: Calendar Objects

Object secured by authorization list  . . . . . . . . :  _____
Use *PUBLIC authority from authorization list . . . :  2   1=Yes, 2=No


                       Display
    User      Exclude    Only           Change
 *PUBLIC         _        X               _
 JAMESH          _        _               X
 KEITH           _        _               X
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
 _____       _        _               _
                                                        More...

F3=Exit     F12=Previous      F21=Command Line
```

In this example, authority to change calendars (option 1 of the Scheduling Objects Menu) is given only to user profiles JamesH and Keith. All others can display the calendars, but are not allowed to change them, as indicated by the *PUBLIC authority specified.

Using Robot Schedule Security to Restrict Authority to Jobs

The Specific Jobs object allows you to do two different things. You can enter a **1** in the **Opt** field to set up authorities that apply to *all* Robot Schedule jobs. Or, you can work with individual jobs by entering an **8** in the **Opt** field. The first time you enter option 8, all Robot Schedule jobs are listed automatically on the Secured Robot Jobs panel. You then can delete jobs you don't want listed. Jobs are listed in job name order.

```
RBT5001                    Maintain Secured Objects                10:24:46


   Start list at Secured Object: _____
Options
  1=User Authorities      8=Job Authorities

Opt   Secured Object                  Description
 __   REPORT 5          Report: System Setup Reports
 __   REPORT 6          Report: Maintain ROBOT Queries
 __   SAM               GUI: Schedule Activity Monitor
 __   SCHOBJ 1          Scheduling Objects: Calendar Objects
 __   SCHOBJ 2          Scheduling Objects: Date Objects
 __   SCHOBJ 3          Scheduling Objects: Library List Objects
 __   SCHOBJ 4          Scheduling Objects: Job Environment Objs
 __   SCHOBJ 5          Scheduling Objects: Reserved Cmd Var Obj
 __   SCHOBJ 6          ROBOT OPAL Object Menu (OPALOBJ)
 __   SCHOBJ 7          Scheduling Objects: Maintain Queries
 __   SCHOBJ 8          Scheduling Objects: Update Jobs by Query
 __   Send To           GUI: Send config info via Robot/NETWORK
 8    Specific jobs     Specific ROBOT Jobs & Generic Job Aut.
                                                              More...

F3=Exit     F21=Command Line
```

Enter a **1** in the **Opt** field next to the Specific Jobs object to edit authorities for *all* Robot Schedule jobs (see the next page).

Or, enter an **8** in the **Opt** field (as shown) to display the Secured Robot Jobs panel.

```
RBT5003                     Secured ROBOT Jobs                    10:25:35


Object: Specific jobs   Specific ROBOT Jobs & Generic Job Aut.
   Start at Job Name: _____
Options
  1=Select      4=Delete

Opt    Job Name      Job Number           Description
 __    ACCT1         000000000109    Accounts Payable Report
 __    ADAMSMITH     000000000035    Adam's DEV jobs
 __    ALLINV        000000000106    All Inventory Totals
 __    ALLOBJ        000000000116    All Object Size Collect
 __    ALLSALES      000000000028    All Sales Totals
 __    ANGIESAP      000000000099    Angie's SAP Jobs
 __    ANGRY         000000000098    Replay job
 __    AZNIGHTRUN    000000000030    Night run for AZ
 __    CHUCKD        000000000036    Chuck's Training Totals
 __    DAILYINV      000000000027    Daily Inventory Reconcile
 __    DEVCLEANUP    000000000033    Clean up Old DEV Objects
 __    DEVMONTHLY    000000000117    Monthly DEV disk report
                                                              More...
F3=Exit     F6=Add Record     F21=Command Line
```

Enter a **1** in the Opt field to edit the authority to this job.

Enter a **4** to delete the job from the list.

Press **F6** to display the Robot Job Finder to select jobs to add to the list.

Editing Object Authorities

You can enter the name of an IBM authorization list to define security for the entry. If user profile names in the authorization list are duplicates of names on this panel, the authorizations defined on this panel are given to the user. For more information about authorization lists, see your IBM manuals.

The *PUBLIC line defines the authorizations for every user profile that is not listed below. If you want to restrict access to an object, set *PUBLIC to Exclude or Display Only.

Enter a **1** (Yes) to use the *PUBLIC authority from the named authorization list. If you enter a **2** (No), the authorization for *PUBLIC will be as defined in this panel.

```
RBT5002                  Edit Profiles for Object Authority           15:11:00

Object: Specific jobs    Specific ROBOT Jobs & Generic Job Aut.

Object secured by authorization list . . . . . . . . :  _____
Use *PUBLIC authority from authorization list . . . :  2   1=Yes, 2=No

                         Display
   User       Exclude     Only      Add          Change    Delete
 *PUBLIC         _          X         _             _         _
 JARED           _          _         X             X         X
 KEITH           _          _         X             X         X
 KIKI            _          _         X             X         X
 MICHELLE        _          _         X             X         X
 PAULA           _          _         X             X         X
 _____        _          _         _             _         _
 _____        _          _         _             _         _
 _____        _          _         _             _         _
 _____        _          _         _             _         _
 _____        _          _         _             _         _
                                                                   More...

 F3=Exit     F12=Previous    F21=Command Line
```

To add authority for a user, enter the user profile name on a blank line. Then, enter an **X** in each column to enable each authorization. To delete a user profile, blank out the information.

Note: If the user profile belongs to the user class *SECOFR, the user has All Object authority, regardless of the entry here.

Enter an **X** in a column to select that authorization.

Exclude	The user is denied all access.
Display Only	The user can display the secured object.
Add	The user can define new entries.
Change	The user can change existing entries.
Delete	The user can delete existing entries.
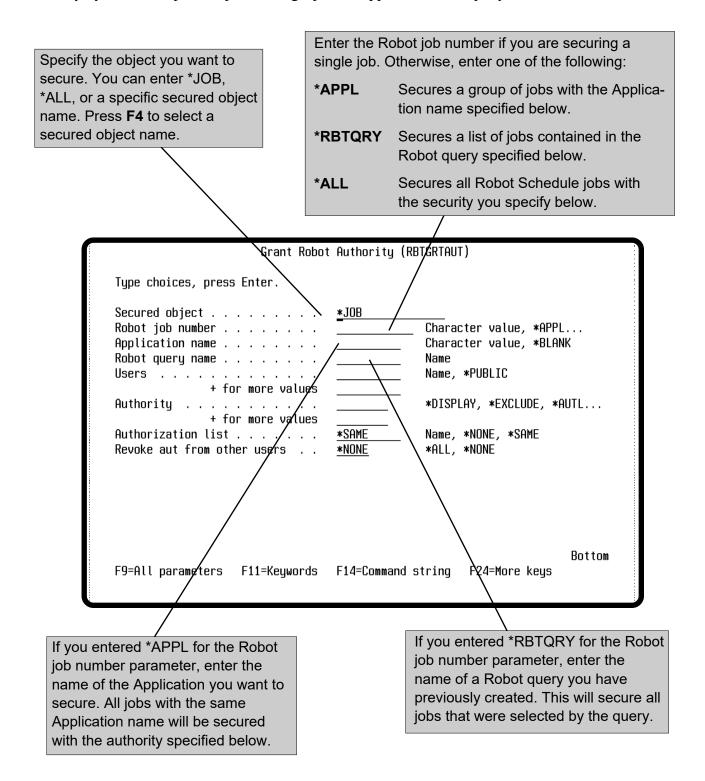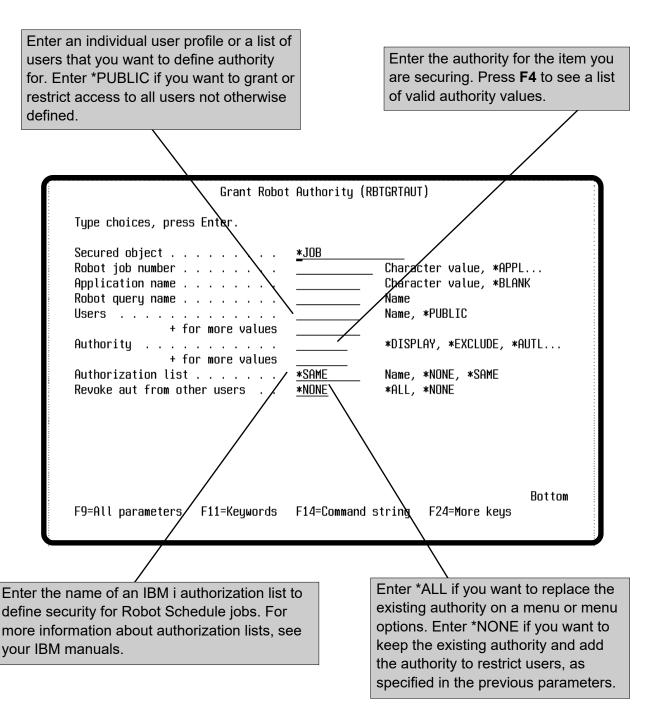
Note: If Add and Delete are not specifically listed for an object, Change authority gives the user these authorities.

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The RBTGRTAUT Command

Another easy way to set up security is to use the Grant Robot Authority (RBTGRTAUT command. This command allows you to secure all menus, menu options, job schedule list options—everything you can secure using the Maintain Secured Objects menu option. The RBTGRTAUT command makes setting up security faster, because you tell Robot Schedule which jobs or secured objects to secure. You can set security by secured object, all jobs, a single job, an application, or a query.

Specify the object you want to secure. You can enter *JOB, *ALL, or a specific secured object name. Press **F4** to select a secured object name.

Enter the Robot job number if you are securing a single job. Otherwise, enter one of the following:

*APPL Secures a group of jobs with the Application name specified below.

*RBTQRY Secures a list of jobs contained in the Robot query specified below.

*ALL Secures all Robot Schedule jobs with the security you specify below.

```
                         Grant Robot Authority (RBTGRTAUT)

  Type choices, press Enter.

  Secured object . . . . . . . . .   *JOB
  Robot job number . . . . . . . .   _____      Character value, *APPL...
  Application name . . . . . . . .   _____        Character value, *BLANK
  Robot query name . . . . . . . .   _____        Name
  Users  . . . . . . . . . . . . .   _____        Name, *PUBLIC
                  + for more values  _____
  Authority  . . . . . . . . . . .   _____         *DISPLAY, *EXCLUDE, *AUTL...
                  + for more values  _____
  Authorization list . . . . . . .   *SAME           Name, *NONE, *SAME
  Revoke aut from other users  . .   *NONE           *ALL, *NONE




                                                                    Bottom
  F9=All parameters   F11=Keywords   F14=Command string   F24=More keys
```

If you entered *APPL for the Robot job number parameter, enter the name of the Application you want to secure. All jobs with the same Application name will be secured with the authority specified below.

If you entered *RBTQRY for the Robot job number parameter, enter the name of a Robot query you have previously created. This will secure all jobs that were selected by the query.

The RBTGRTAUT Command

Enter an individual user profile or a list of users that you want to define authority for. Enter *PUBLIC if you want to grant or restrict access to all users not otherwise defined.

Enter the authority for the item you are securing. Press **F4** to see a list of valid authority values.

```
                   Grant Robot Authority (RBTGRTAUT)

 Type choices, press Enter.

 Secured object . . . . . . .  . .   *JOB
 Robot job number . . . . . . . .   _____    Character value, *APPL...
 Application name . . . . . . .     _____      Character value, *BLANK
 Robot query name . . . . . . . .   _____       Name
 Users  . . . . . . . . . . . .     _____       Name, *PUBLIC
                 + for more values  _____
 Authority  . . . . . . . . . .     _____         *DISPLAY, *EXCLUDE, *AUTL...
                 + for more values  _____
 Authorization list . . . . . . .   *SAME           Name, *NONE, *SAME
 Revoke aut from other users   . .   *NONE           *ALL, *NONE




                                                                   Bottom
  F9=All parameters   F11=Keywords   F14=Command string   F24=More keys
```

Enter the name of an IBM i authorization list to define security for Robot Schedule jobs. For more information about authorization lists, see your IBM manuals.

Enter *ALL if you want to replace the existing authority on a menu or menu options. Enter *NONE if you want to keep the existing authority and add the authority to restrict users, as specified in the previous parameters.

■ Use Robot Schedule to Track All Batch Jobs

Robot Schedule can capture the status of almost every batch job on your system if you install the Robot Schedule SBMJOB command. Installing the SBMJOB command is described as an optional step at the end of the Robot Schedule installation procedure. Although the step is optional, it provides the following important benefits:

- You can use Robot Schedule to track almost all batch jobs on your system. A completion history is kept for all batch jobs that use the SBMJOB command.

- On the Job Completion History panel, you can see completion statuses for any of these batch jobs. You also can access the job log and history log information for any of these batch jobs.

- Reactive jobs can use the completion of any of these batch jobs as a prerequisite. Robot Schedule records the completion status in the prerequisite list automatically; you do not have to change your jobs or programs.

- You can include parameter PREREQONLY(*YES) in the installation command below to track only user jobs that are defined as a prerequisite to a Robot Schedule job.

■ Installing the SBMJOB Command

To install the Robot Schedule SBMJOB command, do the following:

1. Enter the command **ROBOTLIB/RBTINSSBM INSTALL(*ON) <optional>PREREQONLY (*NO/*YES)**.
   Parameter definitions:
   INSTALL - *ON to start batch activity tracking. *OFF to end batch activity tracking.
   PREREQONLY - *NO(Default) to collect all batch job history. *YES to collect batch job history for Robot Schedule prerequisite user jobs only.
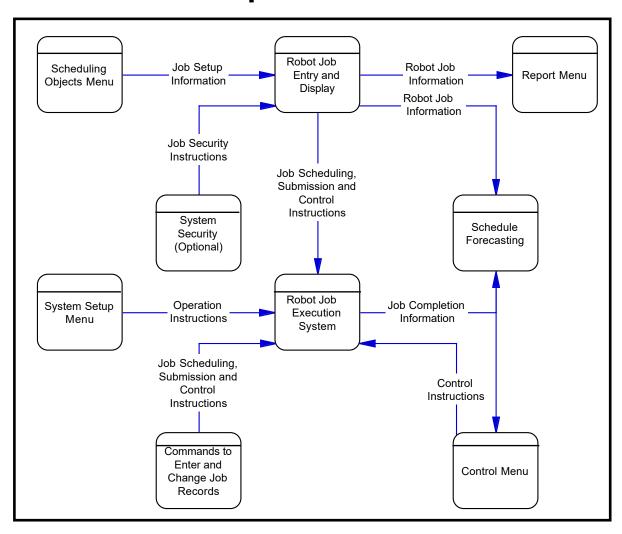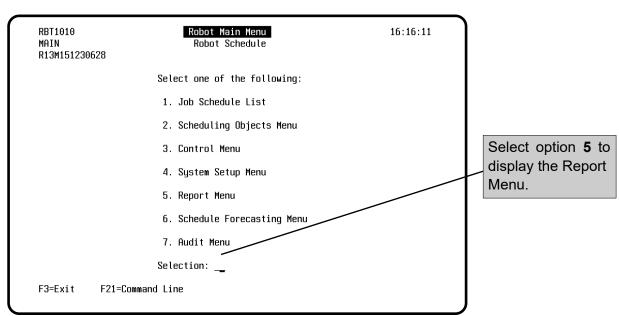
2. Either power down your system and then IPL it or stop and start any subsystem through which batch activity runs. This ensures that all jobs have the Robot Schedule tracking feature enabled.

If necessary, you can un-install the Robot Schedule SBMJOB command by entering the command **ROBOTLIB/ RBTINSSBM INSTALL(*OFF)**. This stops all batch activity tracking on your system.

Report Menu

```
Scheduling          Job Setup          Robot Job          Robot Job          Report Menu
Objects Menu        Information         Entry and          Information
                                        Display            Robot Job
                                                           Information

                    Job Security
                    Instructions
                                                    Job Scheduling,
                    System                          Submission and        Schedule
                    Security                        Control               Forecasting
                    (Optional)                      Instructions

System Setup        Operation          Robot Job          Job Completion
Menu                Instructions       Execution          Information
                                       System

Job Scheduling,                                            Control
Submission and                                             Instructions
Control
Instructions

Commands to                                                Control Menu
Enter and
Change Job
Records
```

```
RBT1010                    Robot Main Menu                    16:16:11
MAIN                       Robot Schedule
R13M151230628

                    Select one of the following:

                       1. Job Schedule List

                       2. Scheduling Objects Menu

                       3. Control Menu

                       4. System Setup Menu

                       5. Report Menu

                       6. Schedule Forecasting Menu

                       7. Audit Menu

                    Selection: __

    F3=Exit     F21=Command Line
```

Select option **5** to display the Report Menu.

Report Menu

Robot Schedule offers a variety of reports listing job schedule, job setup, report distribution, scheduling object, and system setup information. You also can set up queries to customize the Robot Schedule reports. To print Robot Schedule reports or maintain queries, select option **5** on the Robot Main Menu to display the Report Menu. The Report Menu lists five categories of Robot Schedule reports. You select the category and then select the report you want to print. When you submit the report, you can enter the output queue for the report on a pop-up window. The report programs run in batch and use the RBTBATCH job description, which is shipped in ROBOTLIB.

You can call the report programs from your own applications. The name of each report program is listed after the report description on the following pages.

```
RBT1010                    ROBOT Main Menu                10:45:50
MAIN                                                       MICKEY
R10M001051216

              Select one of the following:

                 1.  Job Schedule List

                 2.  Scheduling Objects Menu

                 3.  Control Menu

                 4.  System Setup Menu

                 5.  Report Menu

                 6.  Schedule Forecasting Menu

                 7.  Audit Menu

                 Selection:  5

  F3=Exit    F21=Command Line
                    (C) COPYRIGHT HELP/SYSTEMS INC. 1982, 2002.
```

Select option **5** to display the Report Menu.

```
RBT1010                      Report Menu                  15:29:45
REPORT                                                     MICKEY

                       Select one of the following:

                          1.  ROBOT schedule reports

                          2.  Job Setup Reports

                          3.  Distribution Reports

                          4.  Scheduling Object Reports

                          5.  System Setup Reports

                          6.  Maintain ROBOT Queries


                          Selection: __

        F3=Exit      F21=Command Line
```

Select the type of report you want to print by entering its option number.

■ Maintaining Robot Queries

The Robot Query option allows you to customize reports by including only jobs that meet the comparison criteria you define. A query is simply a set of criteria you define for Robot Schedule to use when selecting jobs. The selection criteria are stored and can be used over and over again. Robot Schedule provides many options for creating, testing, and editing a query to ensure that it includes only the jobs you want.

■ Create Query

A query includes one or more field comparisons, which consist of a field description, operand, and value. It can contain multiple comparison criteria to narrow down the list of jobs as much as you need. For example, you can create a query that includes all jobs with a group name of QTRCLOSE, an application name of SALES, and a job name that begins with the characters SOF. You can choose from many field descriptions, including application name, job name, group name, calendar name, and OPAL object name. Comparison operands include standard values (Equal, Greater Than, and so forth in addition to Like and Not Like. Like and Not Like operands allow you to include field names that are similar or not similar to the value you specify.

■ Test and Edit Query

To see which jobs your query selects, the Maintain Robot Queries panel lets you test it by running it and either viewing or printing the test results. If you need to fine tune the query, it's easy to edit from the same panel. Robot Schedule provides additional commands (RBTPRTQRYD and RBTPRTQRYR) to let you view a query description or results outside the Robot Schedule menus.

■ Use Query

Robot Schedule stores the selection criteria you define. You then can use it in the schedule and job setup reports to limit the information in those reports to only jobs selected by the query. The optional Query fields in the report selection panels let you select from a list of valid queries.

Maintaining Robot Queries

The Maintain Robot Query option allows you to customize reports by including only jobs that meet the comparison criteria you define. A query can contain multiple comparison criteria to narrow down the list of jobs as much as you need. For example, you can create a query that includes all jobs with an application name of Operations and a group name of Dave or Brian.

You can use the queries in the schedule and job setup reports to limit the information in those reports to only jobs selected by the query.
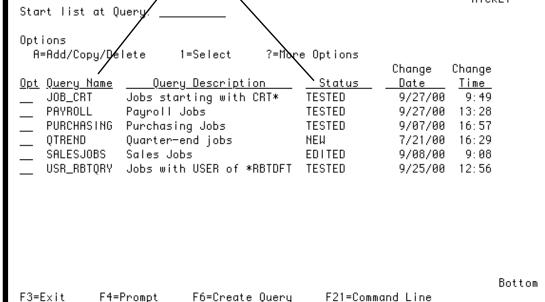
Select option **6** from the Report Menu to display the Maintain Robot Queries panel.

The Maintain Robot Queries panel lists the queries and their status. A query cannot be used with a report until it is tested, either by viewing it (option **5**) or printing it (option **6**). This encourages you to test a query to ensure that it selects the jobs you want.

```
RBT8101                    Maintain ROBOT Queries              13:22:45
                                                               MICKEY
Start list at Query: _____

Options
  A=Add/Copy/Delete      1=Select      ?=More Options
                                                     Change    Change
Opt Query Name      Query Description      Status    Date      Time
 __  JOB_CRT     Jobs starting with CRT*   TESTED    9/27/00    9:49
 __  PAYROLL     Payroll Jobs              TESTED    9/27/00   13:28
 __  PURCHASING  Purchasing Jobs           TESTED    9/07/00   16:57
 __  QTREND      Quarter-end jobs          NEW       7/21/00   16:29
 __  SALESJOBS   Sales Jobs                EDITED    9/08/00    9:08
 __  USR_RBTQRY  Jobs with USER of *RBTDFT TESTED    9/25/00   12:56




                                                               Bottom
F3=Exit    F4=Prompt     F6=Create Query     F21=Command Line
```

Press **F4** to display the list of options.

A Add, copy, or delete query.

1 Edit query description.

2 Edit query.

3 Print query.

5 Run query and display results.

6 Run query and print results.

```
RBT701          Options         16:19:39
                                MICKEY
1=Select Option
 _   A=Add/Copy/Delete Query
 _   1=Select Query
 _   2=Edit Query
 _   3=Print Query
 _   5=View Test Results
 _   6=Print Test Results



                                Bottom
F3=Exit   F11=More Info
```

Adding a New Query
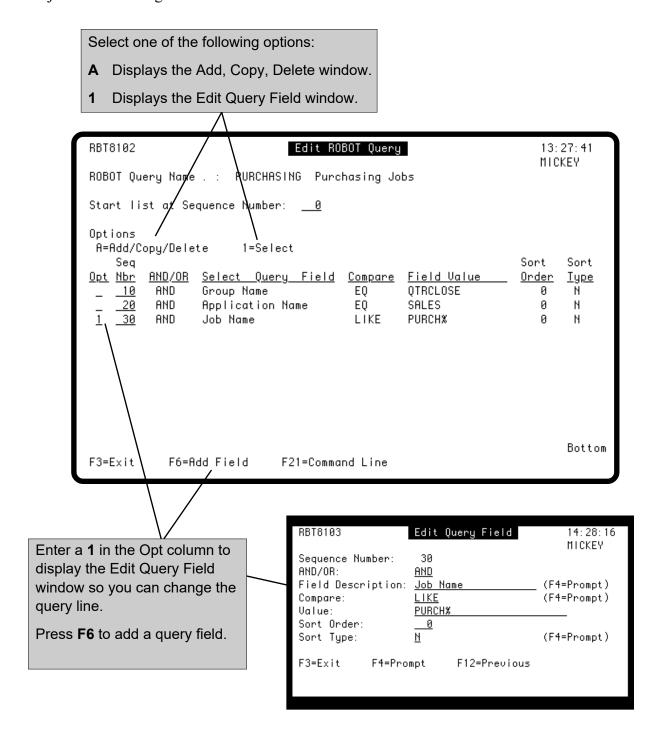
To add a new query, press **F6** in the Maintain Robot Queries panel. Enter the query name and description in the Edit Query Definition window. Press **F12** to add the query and return to the Maintain Robot Queries panel. Then, select the query with option **1** to edit the query definition.

```
RBT8101              Maintain ROBOT Queries              13:22:45
                                                         MICKEY
Start list at Query: _____

Options
  A=Add/Copy/Delete     1=Select      ?=More Options
                                                Change    Change
Opt Query Name    Query Description    Status    Date      Time
 __ JOB_CRT       Jobs starting with CRT*   TESTED    9/27/00    9:49
 __ PAYROLL       Payroll Jobs         TESTED    9/27/00   13:28
 __ PURCHASING    Purchasing Jobs      TESTED    9/07/00   16:57
 __ QTREND        Quarter-end jobs     NEW       7/21/00   16:29
 __ SALESJOBS     Sales Jobs           EDITED    9/08/00    9:08
 __ USR_RBTQRY    Jobs with USER of *RBTDFT   TESTED    9/25/00   12:56


                                                         Bottom
  F3=Exit     F4=Prompt     F6=Create Query     F21=Command Line
```

Press **F6** to add a new query.

```
RBT8101              Maintain ROBOT Queries              13:22:45
                                                         MICKEY
Start list at Query: _____

Options
  A=Add/Copy/Delete      1=Select       ?=More Options
                                                Change    Change
Opt Query Name      Query Description       Status     Date      Time
 __  JOB_CRT        Jobs starting with CRT*    TESTED     9/27/00    9:49
                                                          /27/00   13:28
 RBT8120         Edit Query Definition      13:23:13      /07/00   16:57
                                            TRAINER       /21/00   16:29
 Query Name:        BACKUPS                               /08/00    9:08
 Query Description: Nightly backup jobs                   /25/00   12:56
 Status:            NEW
 Status Date:       10/02/00
 Status Time:       13:23

 F3=Exit      F12=Previous


                                                         Bottom
  F3=Exit      F4=Prompt      F6=Create Query      F21=Command Line
```

Enter a query name and description and press Enter to return to the Maintain Robot Queries panel. Edit the query definition by selecting it with option **1**.

Editing a Query

A query is the selection criteria for including or excluding Robot Schedule jobs. To edit a query, select the query with option **2**, Edit Query, from the Maintain Robot Queries panel. In the Edit Robot Query panel, change a comparison by entering **1** in the **Opt** field; add a comparison by pressing F6 You can add up to 99 comparisons.
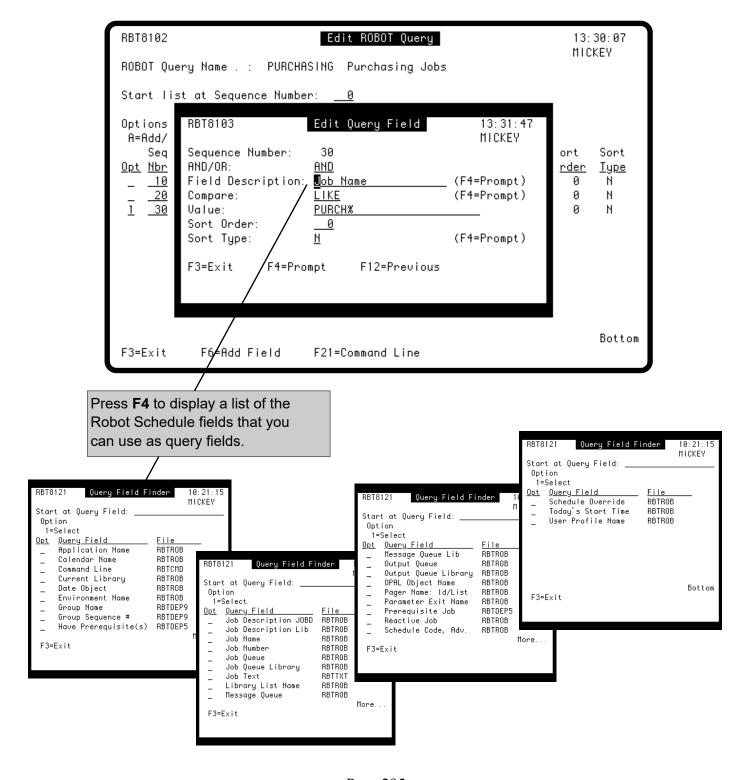
The example below includes all jobs with a group name of QTRCLOSE, an application name of SALES, and a job name that begins with the characters PURCH.

Select one of the following options:

A   Displays the Add, Copy, Delete window.

1   Displays the Edit Query Field window.

```
RBT8102                    Edit ROBOT Query                    13:27:41
                                                               MICKEY

ROBOT Query Name . :  PURCHASING  Purchasing Jobs

Start list at Sequence Number:    0

Options
 A=Add/Copy/Delete      1=Select
      Seq                                                  Sort    Sort
Opt  Nbr  AND/OR   Select  Query  Field   Compare  Field Value     Order   Type
 _    10   AND     Group Name              EQ      QTRCLOSE          0      N
 _    20   AND     Application Name         EQ      SALES            0      N
 1    30   AND     Job Name                LIKE    PURCH%           0      N




                                                              Bottom
  F3=Exit      F6=Add Field      F21=Command Line
```

Enter a **1** in the Opt column to display the Edit Query Field window so you can change the query line.

Press **F6** to add a query field.

```
RBT8103              Edit Query Field              14:28:16
                                                   MICKEY
Sequence Number:     30
AND/OR:              AND
Field Description:  Job Name            (F4=Prompt)
Compare:            LIKE                (F4=Prompt)
Value:              PURCH%
Sort Order:          0
Sort Type:          N                   (F4=Prompt)

F3=Exit     F4=Prompt     F12=Previous
```

Editing a Query Field

A query is one or more field comparisons, which consist of a field description, operand, and value.
Optionally, you can specify how the jobs will be sorted. Press **F4** in the Field Description, Compare, and
Sort Type fields to display selection windows.
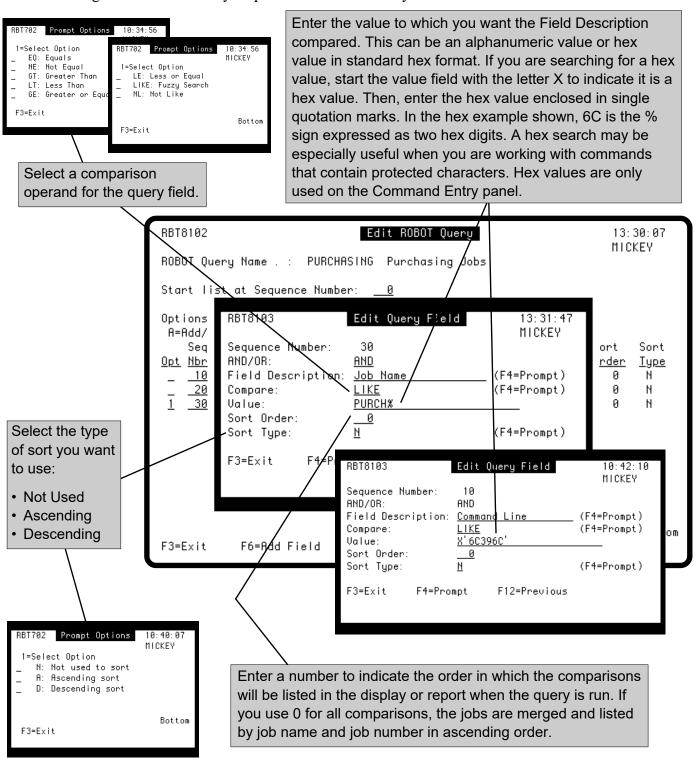
Note: The selection windows tell you where the query fields are stored. You must select at least one field
from the file RBTROB.

```
RBT8102                        Edit ROBOT Query                    13:30:07
                                                                    MICKEY

ROBOT Query Name . :  PURCHASING  Purchasing Jobs

Start list at Sequence Number:    0

  Options    RBT8103              Edit Query Field        13:31:47    ort   Sort
  A=Add/                                                   MICKEY     rder  Type
      Seq    Sequence Number:     30                                   0    N
  Opt Nbr    AND/OR:              AND                                  0    N
  _   10     Field Description:  Job Name          (F4=Prompt)        0    N
  _   20     Compare:            LIKE              (F4=Prompt)
  1   30     Value:              PURCH%
             Sort Order:           0
             Sort Type:          N                (F4=Prompt)

             F3=Exit    F4=Prompt      F12=Previous


                                                                     Bottom
  F3=Exit      F6=Add Field      F21=Command Line
```

Press **F4** to display a list of the
Robot Schedule fields that you
can use as query fields.

```
RBT8121     Query Field Finder   10:21:15
                                  MICKEY
Start at Query Field: _____
  Option
   1=Select
Opt  Query Field       File
 _   Application Name   RBTROB
 _   Calendar Name      RBTROB
 _   Command Line       RBTCMD
 _   Current Library    RBTROB
 _   Date Object        RBTROB
 _   Environment Name   RBTROB
 _   Group Name         RBTDEP9
 _   Group Sequence #   RBTDEP9
 _   Have Prerequisite(s) RBTDEP5

F3=Exit
```

```
RBT8121     Query Field Finder
Start at Query Field: _____
  Option
   1=Select
Opt  Query Field       File
 _   Job Description JOBD  RBTROB
 _   Job Description Lib   RBTROB
 _   Job Name          RBTROB
 _   Job Number        RBTROB
 _   Job Queue         RBTROB
 _   Job Queue Library RBTROB
 _   Job Text          RBTTXT
 _   Library List Name RBTROB
 _   Message Queue     RBTROB

                            More...
     F3=Exit
```

```
RBT8121     Query Field Finder
Start at Query Field: _____
  Option
   1=Select
Opt  Query Field       File
 _   Message Queue Lib    RBTROB
 _   Output Queue         RBTROB
 _   Output Queue Library RBTROB
 _   OPAL Object Name     RBTROB
 _   Pager Name: Id/List  RBTROB
 _   Parameter Exit Name  RBTROB
 _   Prerequisite Job     RBTDEP5
 _   Reactive Job         RBTROB
 _   Schedule Code, Adv.  RBTROB

                            More...
F3=Exit
```

```
RBT8121     Query Field Finder   10:21:15
                                  MICKEY
Start at Query Field: _____
  Option
   1=Select
Opt  Query Field       File
 _   Schedule Override  RBTROB
 _   Today's Start Time RBTROB
 _   User Profile Name  RBTROB



                                    Bottom
F3=Exit
```

Editing a Query Field

Comparison operands include standard values (Equal, Greater Than, and so on) in addition to Like and Not Like. Use Like and Not Like to determine if the contents of the field are similar or not similar to a value. These operands require a percent (%) in the Value field, which represents 0 or more characters. For example, PURCH% includes all names that begin with PURCH; %PURCH% includes all names with the character string "PURCH" that may be preceded or followed by other characters.

```
RBT702   Prompt Options   10:34:56
                         MICKEY
 1=Select Option
 _  EQ: Equals
 _  NE: Not Equal       RBT702   Prompt Options   10:34:56
 _  GT: Greater Than                             MICKEY
 _  LT: Less Than        1=Select Option
 _  GE: Greater or Equa  _  LE: Less or Equal
                         _  LIKE: Fuzzy Search
 F3=Exit                 _  NL: Not Like
                                              Bottom
                         F3=Exit
```

Select a comparison operand for the query field.

Enter the value to which you want the Field Description compared. This can be an alphanumeric value or hex value in standard hex format. If you are searching for a hex value, start the value field with the letter X to indicate it is a hex value. Then, enter the hex value enclosed in single quotation marks. In the hex example shown, 6C is the % sign expressed as two hex digits. A hex search may be especially useful when you are working with commands that contain protected characters. Hex values are only used on the Command Entry panel.

```
RBT8102                 Edit ROBOT Query              13:30:07
                                                      MICKEY

ROBOT Query Name . :  PURCHASING  Purchasing Jobs

Start list at Sequence Number:    0

Options                                                   ort    Sort
 A=Add/                                                   rder   Type
     Seq  Sequence Number:    30                            0     N
 Opt Nbr  AND/OR:             AND                           0     N
 _   10   Field Description: Job Name         (F4=Prompt)   0     N
 _   20   Compare:           LIKE             (F4=Prompt)
 1   30   Value:             PURCH%
          Sort Order:           0
          Sort Type:          N               (F4=Prompt)

          F3=Exit      F4=P

 F3=Exit      F6=Add Field
```

```
RBT8103                 Edit Query Field             13:31:47
                                                     MICKEY
```

```
RBT8103                 Edit Query Field             10:42:10
                                                     MICKEY
Sequence Number:    10
AND/OR:             AND
Field Description: Command Line      (F4=Prompt)
Compare:           LIKE             (F4=Prompt)
Value:             X'6C396C'
Sort Order:           0
Sort Type:          N               (F4=Prompt)

F3=Exit      F4=Prompt      F12=Previous
```

Select the type of sort you want to use:

- Not Used
- Ascending
- Descending

```
RBT702   Prompt Options   10:40:07
                         MICKEY
 1=Select Option
 _  N: Not used to sort
 _  A: Ascending sort
 _  D: Descending sort

                              Bottom
 F3=Exit
```

Enter a number to indicate the order in which the comparisons will be listed in the display or report when the query is run. If you use 0 for all comparisons, the jobs are merged and listed by job name and job number in ascending order.

Testing a Query

Before you can use a query in a report, you must test it. To test a query, select it using option **5** (View Test Results) or option **6** (Print Test Results) on the Maintain Robot Queries panel.

```
RBT8101                    Maintain ROBOT Queries              14:51:22
                                                                MICKEY
Start list at Query: _____

Options
  A=Add/Copy/Delete      1=Select      ?=More Options
                                                       Change    Change
Opt Query Name      Query Description      Status      Date      Time
 __ BACKUPS      Nightly backup jobs       NEW       10/02/00   13:23
 __ JOB_CRT      Jobs starting with CRT*   TESTED     9/27/00    9:49
 __ PAYROLL      Payroll Jobs              TESTED     9/27/00   13:28
 5  PURCHASING   Purchasing Jobs           EDITED    10/02/00   13:31
 __ QTREND       Quarter-end jobs          NEW        7/21/00   16:29
 __ SALESJOBS    Sales Jobs                EDITED     9/08/00    9:08
 __ USR_RBTQRY   Jobs with USER of *RBTDFT TESTED     9/25/00   12:56




                                                                Bottom
  F3=Exit      F4=Prompt      F6=Create Query     F21=Command Line
```

Enter a **5** in the **Opt** field of the query you want to run and view.

```
RBT8104               View ROBOT Query Results           14:51:51
                                                          MICKEY
             Query Name: PURCHASING  Purchasing Jobs
Seq                                               Sort  Sort
Num AND/OR Query Field Selected Compare Selection Value   Order Type
 30  AND   Job Name              LIKE   PURCH%            0    N

                                                   Bottom


Option: 1=Initial Job Setup
Opt   Job Number    Job Name    Type  Description
 _    000000000017  PURCHASE12  C+    Purchase Report 12
 _    000000000016  PURCHASE25  C+    Purchase Report 25
 _    000000000152  PURCHQTR    G     Quarter closing procedure




                                                   Bottom

F3=Exit     F21=Command Line
```

The jobs that meet the comparison criteria are listed on the View Robot Query Results panel.

Press **F3** to return to the Maintain Robot Queries panel.

```
RBT8101                    Maintain ROBOT Queries              14:53:22
                                                                MICKEY
Start list at Query: _____

Options
  A=Add/Copy/Delete      1=Select      ?=More Options
                                                       Change    Change
Opt Query Name      Query Description      Status      Date      Time
 __ BACKUPS      Nightly backup jobs       NEW       10/02/00   13:23
 __ JOB_CRT      Jobs starting with CRT*   TESTED     9/27/00    9:49
 __ PAYROLL      Payroll Jobs              TESTED     9/27/00   13:28
 __ PURCHASING   Purchasing Jobs           TESTED    10/02/00   13:31
 __ QTREND       Quarter-end jobs          NEW        7/21/00   16:29
 __ SALESJOBS    Sales Jobs                EDITED     9/08/00    9:08
 __ USR_RBTQRY   Jobs with USER of *RBTDFT TESTED     9/25/00   12:56




                                                                Bottom
  F3=Exit      F4=Prompt      F6=Create Query     F21=Command Line
```

The status of the query is now TESTED. If you change the query, the status will be EDITED, in which case you must test the query again before you can use it.

Note: If no jobs are selected by the query when it is tested, it remains in EDITED status.

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Printing a Query Description

The RBTPRTQRYD command prints a query description and its query fields. Enter the command on a command line and press **F4** to display the prompt panel.

Enter the name of the query for which you want to print information.

```
                    ROBOT Print Query Definition (RBTPRTQRYD)

 Type choices, press Enter.

 Query name . . . . . . . . . . .   _____      Name, *ALL













                                                                  Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Printing Query Results

The RBTPRTQRYR command prints the list of jobs that match the search criteria. Enter the command on a command line and press **F4** to display the prompt panel.

Enter the name of the query for which you want to print results.

```
                    ROBOT Print Query Results (RBTPRTQRYR)

 Type choices, press Enter.

 Query name . . . . . . . . . . .   _____        Name, *ALL




                                                                   Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Robot Schedule Reports

Select option **1** on the Report Menu to select a Schedule report.

Enter a **1** to submit the report immediately. Enter a **2** to display the Initial Job Setup panel to schedule when the report should run.

Select the **Work Schedule by Time Scheduled** (**RBT440**) report to list all jobs for the week in group order and in run time order. Group jobs are listed in their order of execution. This report is Robot Schedule's "Run book."

```
RBT345                    ROBOT Schedule Report Selection            13:55:52

Options
 1=Submit Report    2=Schedule on ROBOT

Opt          Report to Run                      Selection Criteria
 _     Work Schedule by Time Scheduled       Query  . .  _____   F4

 _     Weekly Work Schedule by Completion Time  Query  . .  _____   F4

 _     Schedule of Date Jobs to Run This Month  Query  . .  _____   F4

 _     Schedule of Jobs to Run by Date       Forecast .  _____   F4
                                             Date . . .  100406
                                             Time Range  1355 to 2359
                                             Query  . .  _____   F4
                                             Report Dist  Y (Y=Yes, N=No)


 _     Schedule Forecast                     Forecast .  _____   F4
                                             Subsystem   _____
                                             Job Queue   _____

 F3=Exit      F4=Prompt      F21=Command Line     F23=Report Options
```

Select the **Weekly Work Schedule by Completion Time** (**RBT441**) report to list a history of the jobs Robot Schedule ran in order by schedule code, group order, and completion time.

You can enter a query name to limit the report to jobs in the query. Press **F4** to display a selection panel showing available queries. Only tested queries can be used; you cannot use new or edited queries until they are tested. See Testing a Query for more information.

Select the **Schedule of Date Jobs to Run This Month** (**RBT442**) report to list all jobs scheduled to run by date this month; the jobs for each date are listed in alphabetical order.

Robot Schedule Reports

Select the **Schedule of Jobs to Run by Date** (**RBT401**) report to list all jobs for the specified forecast, date, and time range in schedule time order. You must enter a forecast name or press **F4** to select one. The time range defaults are current time to 2359. If you want to see all the jobs to run on a date, type 0001 over the current time. The date and time you enter must be within the specified forecast. You also can enter a query name if you want to limit the report to jobs in the query. If you want to print report distribution information, enter a Y in the Report Distribution field.
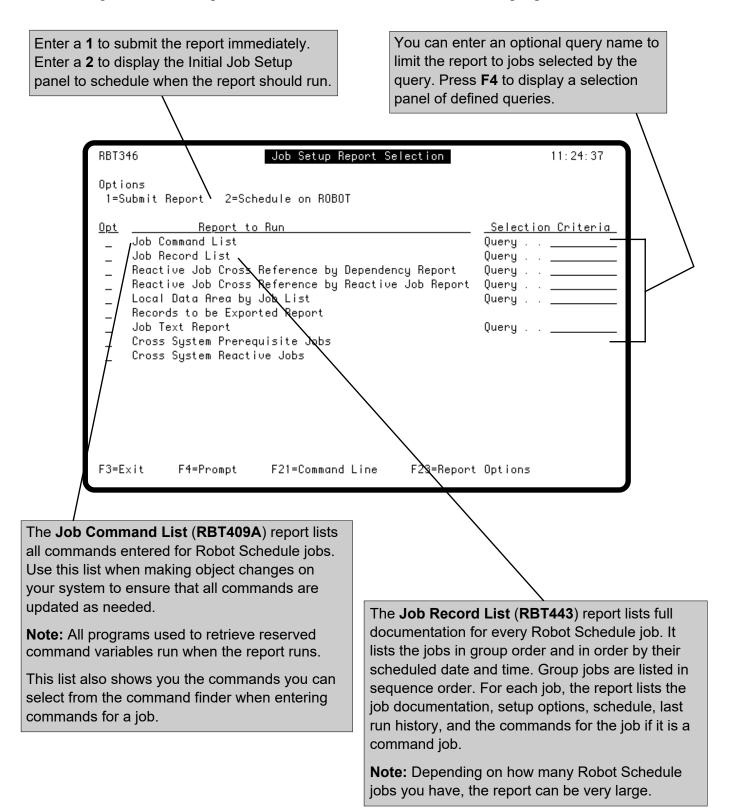
You also can use the RBTJOB2RUN command to print job information for a specified forecast, date, and time range. See RBTJOB2RUN Command.

```
RBT345                 ROBOT Schedule Report Selection              13:55:52

 Options
  1=Submit Report    2=Schedule on ROBOT

 Opt         Report to Run                        Selection Criteria
  _    Work Schedule by Time Scheduled        Query  . .  _____  F4

  _    Weekly Work Schedule by Completion Time Query  . .  _____  F4

  _    Schedule of Date Jobs to Run This Month Query  . .  _____  F4

  _    Schedule of Jobs to Run by Date         Forecast .  _____  F4
                                               Date . . .  100406
                                               Time Range  1355 to 2359
                                               Query  . .  _____  F4
                                               Report Dist Y (Y=Yes, N=No)

  _    Schedule Forecast                       Forecast .  _____  F4
                                               Subsystem   _____
                                               Job Queue   _____

 F3=Exit      F4=Prompt      F21=Command Line    F23=Report Options
```

The **Schedule Forecast** (**RBT454**) report shows the forecast for a specific period, which lists the jobs scheduled to run and their predicted run time. You must enter the forecast name. You can enter a subsystem and job queue if you want to see only those jobs. Press **F4** in a field to display its selection panel. For more information, see the Schedule Forecasting section.

Job Setup Reports

Select option **2** on the Report Menu to select a Robot Schedule Job Setup report.

Enter a **1** to submit the report immediately. Enter a **2** to display the Initial Job Setup panel to schedule when the report should run.

You can enter an optional query name to limit the report to jobs selected by the query. Press **F4** to display a selection panel of defined queries.

```
RBT346                  Job Setup Report Selection              11:24:37

Options
 1=Submit Report   2=Schedule on ROBOT

Opt           Report to Run                            Selection Criteria
 _    Job Command List                                 Query . . . _____
 _    Job Record List                                  Query . . . _____
 _    Reactive Job Cross Reference by Dependency Report  Query . . . _____
 _    Reactive Job Cross Reference by Reactive Job Report  Query . . . _____
 _    Local Data Area by Job List                      Query . . . _____
 _    Records to be Exported Report
 _    Job Text Report                                  Query . . . _____
 _    Cross System Prerequisite Jobs
 _    Cross System Reactive Jobs




 F3=Exit      F4=Prompt      F21=Command Line      F23=Report Options
```

The **Job Command List** (**RBT409A**) report lists all commands entered for Robot Schedule jobs. Use this list when making object changes on your system to ensure that all commands are updated as needed.

Note: All programs used to retrieve reserved command variables run when the report runs.

This list also shows you the commands you can select from the command finder when entering commands for a job.

The **Job Record List** (**RBT443**) report lists full documentation for every Robot Schedule job. It lists the jobs in group order and in order by their scheduled date and time. Group jobs are listed in sequence order. For each job, the report lists the job documentation, setup options, schedule, last run history, and the commands for the job if it is a command job.

Note: Depending on how many Robot Schedule jobs you have, the report can be very large.

Job Setup Reports

The **Reactive Job Cross Reference by Dependency Report** (**RBT461**) lists every prerequisite condition and the reactive jobs that depend on it.

The **Reactive Job Cross Reference by Reactive Job Report** (**RBT463**) lists every reactive job with its prerequisite conditions.

Both cross references list the last completion status for the condition.

The **Local Data Area by Job List** (**RBT462**) report lists the Local Data Area (LDA) records associated with each job in the job schedule. The records are listed in alphabetical order by job name.

```
RBT346                   Job Setup Report Selection              11:24:37

Options
 1=Submit Report    2=Schedule on ROBOT

Opt           Report to Run                          Selection Criteria
 _     Job Command List                             Query . . _____
 _     Job Record List                              Query . . _____
 _     Reactive Job Cross Reference by Dependency Report   Query . . _____
 _     Reactive Job Cross Reference by Reactive Job Report Query . . _____
 _     Local Data Area by Job List                  Query . . _____
 _     Records to be Exported Report
 _     Job Text Report                              Query . . _____
 _     Cross System Prerequisite Jobs
 _     Cross System Reactive Jobs




 F3=Exit      F4=Prompt      F21=Command Line      F23=Report Options
```

The **Records to be Exported Report** (**RBT157**) lists all job records that have been copied to RBTMRGLIB. The report format is the same as that of the Job Records List. It includes the job documentation, setup options, schedule, last run history, and, if it is a command job, the Robot Schedule commands.

The **Job Text Report (RBT296)** lists all information entered for the jobs in the Text for Job Name panel.
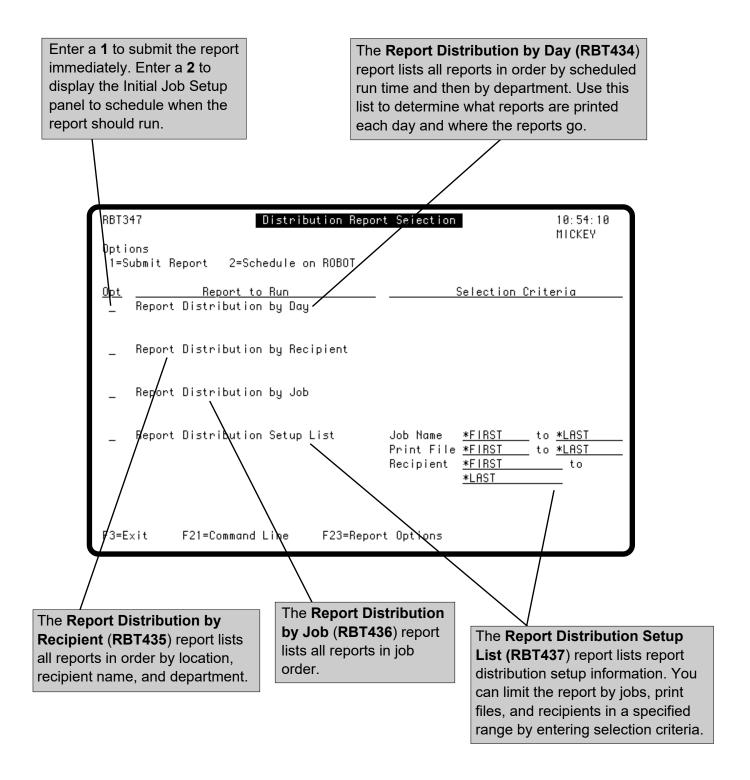
Job Setup Reports

The **Cross System Prerequisite Jobs** (**RBT483**) report lists every prerequisite condition and the reactive jobs that depend on it across systems.

```
RBT346                      Job Setup Report Selection              11:24:37

Options
 1=Submit Report    2=Schedule on ROBOT

Opt          Report to Run                                    Selection Criteria
 _     Job Command List                              Query . . _____
 _     Job Record List                               Query . . _____
 _     Reactive Job Cross Reference by Dependency Report   Query . . _____
 _     Reactive Job Cross Reference by Reactive Job Report Query . . _____
 _     Local Data Area by Job List                   Query . . _____
 _     Records to be Exported Report
 _     Job Text Report                               Query . . _____
 _     Cross System Prerequisite Jobs
 _     Cross System Reactive Jobs




 F3=Exit     F4=Prompt      F21=Command Line    F23=Report Options
```

The **Cross System Reactive Jobs** (**RBT484**) report lists every reactive job with its prerequisite conditions across systems.

Distribution Reports
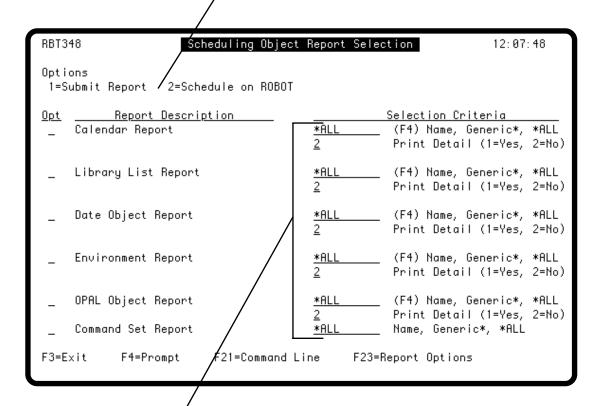
Select option **3** on the Report Menu to select a Report Distribution report.

Enter a **1** to submit the report immediately. Enter a **2** to display the Initial Job Setup panel to schedule when the report should run.

The **Report Distribution by Day (RBT434)** report lists all reports in order by scheduled run time and then by department. Use this list to determine what reports are printed each day and where the reports go.

```
RBT347                   Distribution Report Selection              10:54:10
                                                                     MICKEY
Options
 1=Submit Report    2=Schedule on ROBOT

Opt        Report to Run                   Selection Criteria
 _    Report Distribution by Day

 _    Report Distribution by Recipient

 _    Report Distribution by Job

 _    Report Distribution Setup List    Job Name  *FIRST     to *LAST
                                        Print File *FIRST    to *LAST
                                        Recipient  *FIRST        to
                                                   *LAST

F3=Exit      F21=Command Line     F23=Report Options
```

The **Report Distribution by Recipient** (**RBT435**) report lists all reports in order by location, recipient name, and department.

The **Report Distribution by Job** (**RBT436**) report lists all reports in job order.

The **Report Distribution Setup List (RBT437)** report lists report distribution setup information. You can limit the report by jobs, print files, and recipients in a specified range by entering selection criteria.

Scheduling Object Reports

Select option **4** on the Report Menu to select a report for a scheduling object. You can print summary or detailed information for all reports except the Command Set Report.

Enter a **1** to submit the report immediately. Enter a **2** to schedule the report in Robot Schedule. If the report is already scheduled in Robot Schedule, the schedule for the report displays in the Initial Job Setup panel, where you can change it, if necessary.

```
RBT348              Scheduling Object Report Selection        12:07:48

Options
 1=Submit Report  /2=Schedule on ROBOT

Opt      Report Description                     Selection Criteria
 _    Calendar Report                 *ALL       (F4) Name, Generic*, *ALL
                                      2          Print Detail (1=Yes, 2=No)

 _    Library List Report             *ALL       (F4) Name, Generic*, *ALL
                                      2          Print Detail (1=Yes, 2=No)

 _    Date Object Report              *ALL       (F4) Name, Generic*, *ALL
                                      2          Print Detail (1=Yes, 2=No)

 _    Environment Report              *ALL       (F4) Name, Generic*, *ALL
                                      2          Print Detail (1=Yes, 2=No)

 _    OPAL Object Report              *ALL       (F4) Name, Generic*, *ALL
                                      2          Print Detail (1=Yes, 2=No)
 _    Command Set Report              *ALL       Name, Generic*, *ALL

F3=Exit     F4=Prompt     F21=Command Line    F23=Report Options
```

Specify the selection criteria for the report.

Object: Enter the name of the object for the report. Press **F4** to select from a list of defined objects for each report. You also can enter a generic name to include all objects whose name match the specified pattern, or enter *ALL to print all objects for of the specified type.
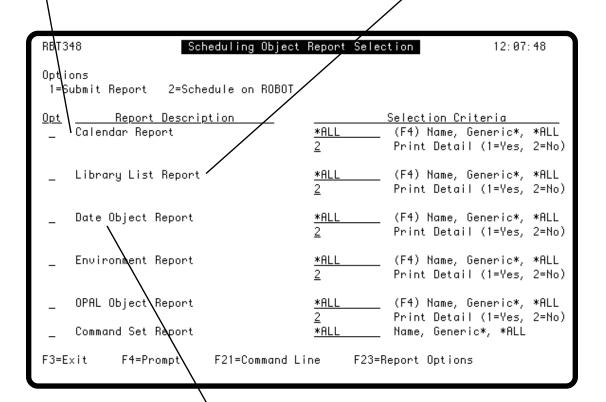
Print Detail: For all reports except the Command Set Report, enter a **1** to print the detail report. Enter a **2** to print the summary report. See the following page for a description of the detail and summary reports.

Scheduling Object Reports

Calendar Report (RBT8402): The summary report lists calendar names, descriptions, and last days. The detail report shows working days of the week, holidays and other nonworking days, and last days. You can limit the report to a specific calendar name or a generic name (*generic**).

Library List Report (RBT8403): The summary report shows the library list names, descriptions, number of libraries in the list, and attached text. The detail report shows the libraries in each library list and their sequence. You can limit the report to a specific library list name or a generic name (*generic**).

```
RBT348              Scheduling Object Report Selection         12:07:48

Options
 1=Submit Report    2=Schedule on ROBOT

Opt      Report Description                       Selection Criteria
 _    Calendar Report                  *ALL_____  (F4) Name, Generic*, *ALL
                                       2           Print Detail (1=Yes, 2=No)

 _    Library List Report              *ALL_____  (F4) Name, Generic*, *ALL
                                       2           Print Detail (1=Yes, 2=No)

 _    Date Object Report               *ALL_____  (F4) Name, Generic*, *ALL
                                       2           Print Detail (1=Yes, 2=No)

 _    Environment Report               *ALL_____  (F4) Name, Generic*, *ALL
                                       2           Print Detail (1=Yes, 2=No)

 _    OPAL Object Report               *ALL_____  (F4) Name, Generic*, *ALL
                                       2           Print Detail (1=Yes, 2=No)
 _    Command Set Report               *ALL_____  Name, Generic*, *ALL

F3=Exit    F4=Prompt    F21=Command Line    F23=Report Options
```
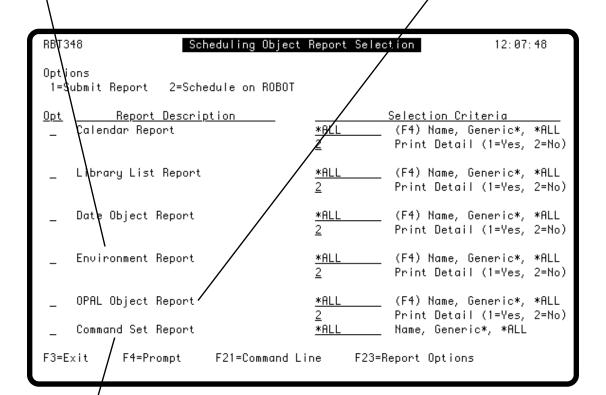
Date Object Report (RBT8401): The summary report lists the date objects, types, descriptions, and starting and ending dates. The detail report shows the calendar for each date object. You can limit the report to a specific date object name or a generic name (*generic**).

Scheduling Object Reports

Environment Report (RBT8404): The summary report lists defined environments and their descriptions. The detail report shows the setup information for each environment. You can limit the report to a specific environment name or a generic name (*generic**).

OPAL Object Report (RBT411): The summary report lists OPAL objects and their descriptions. The detail report shows the source statements for the OPAL objects. You can limit the report to a specific OPAL object name or a generic name (*generic**).

```
RBT348                  Scheduling Object Report Selection              12:07:48

Options
 1=Submit Report    2=Schedule on ROBOT

Opt        Report Description                        Selection Criteria
 _      Calendar Report                  *ALL        (F4) Name, Generic*, *ALL
                                         2           Print Detail (1=Yes, 2=No)

 _      Library List Report              *ALL        (F4) Name, Generic*, *ALL
                                         2           Print Detail (1=Yes, 2=No)

 _      Date Object Report               *ALL        (F4) Name, Generic*, *ALL
                                         2           Print Detail (1=Yes, 2=No)

 _      Environment Report               *ALL        (F4) Name, Generic*, *ALL
                                         2           Print Detail (1=Yes, 2=No)

 _      OPAL Object Report               *ALL        (F4) Name, Generic*, *ALL
                                         2           Print Detail (1=Yes, 2=No)
 _      Command Set Report               *ALL        Name, Generic*, *ALL

F3=Exit      F4=Prompt      F21=Command Line     F23=Report Options
```

Command Set Report (RBT409B: The Command Set Report lists command sets defined to Robot Schedule. You can limit the report to a specific command set name or a generic name (*generic **).

Note: You must use the Robot Schedule GUI to create or modify command sets.

System Setup Report
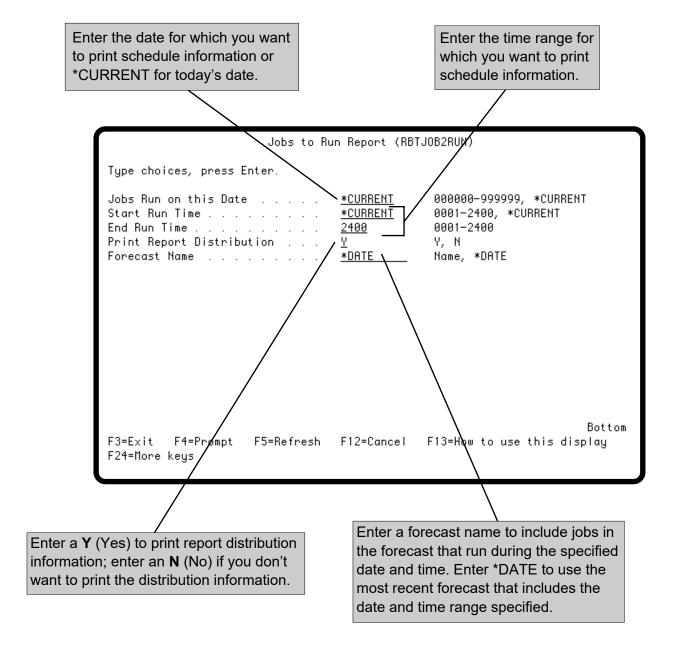
The General System Defaults Report (RBT8405) lists all the default Robot Schedule setup values you defined at system setup. Select option **5** from the Report Menu to print the report. You can submit the report immediately or schedule it on Robot Schedule.

Enter a **1** to submit the report immediately. Enter a **2** to schedule the report in Robot Schedule.

```
RBT349                    System Setup Report Selection              11:58:43
                                                                     MICKEY
Options
 1=Submit Report     2=Schedule on ROBOT

Opt        Report Description
  _     General System Defaults Report










F3=Exit     F21=Command Line     F23=Report Options
```
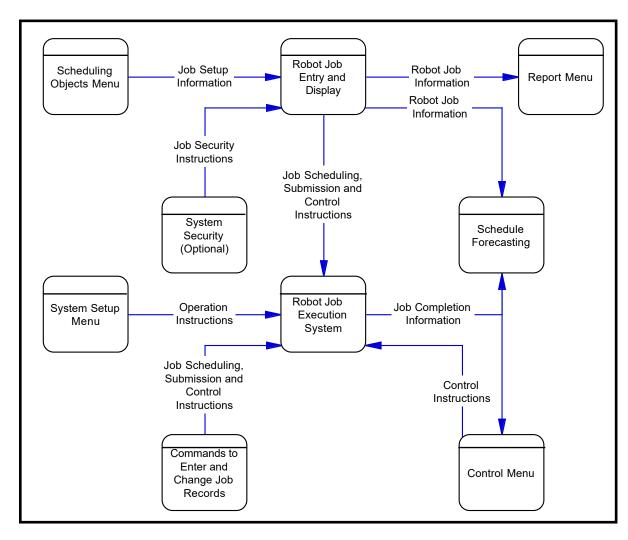
RBTJOB2RUN Command
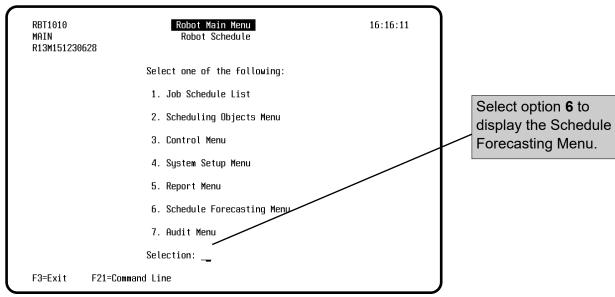
The RBTJOB2RUN command lists all jobs for the specified forecast, date, and time range in schedule time order. Enter the command on the command line and press **F4** to display the prompt panel.

If you do not enter a forecast name, Robot Schedule uses the most recent forecast that includes the date specified in the **Jobs Run on this Date** field. The time range defaults are current time to 2400. If you want to see all the jobs to run on a date, enter 0001 over the current time. The date and time you enter must be within the specified forecast. If you want to print report distribution information, enter a **Y** in the Report Distribution field.

Enter the date for which you want to print schedule information or *CURRENT for today's date.

Enter the time range for which you want to print schedule information.

```
                Jobs to Run Report (RBTJOB2RUN)

 Type choices, press Enter.

 Jobs Run on this Date  . . . . .   *CURRENT      000000-999999, *CURRENT
 Start Run Time . . . . . . . . .   *CURRENT      0001-2400, *CURRENT
 End Run Time . . . . . . . . . .   2400          0001-2400
 Print Report Distribution  . . .   Y             Y, N
 Forecast Name  . . . . . . . . .   *DATE         Name, *DATE




                                                                    Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter a **Y** (Yes) to print report distribution information; enter an **N** (No) if you don't want to print the distribution information.

Enter a forecast name to include jobs in the forecast that run during the specified date and time. Enter *DATE to use the most recent forecast that includes the date and time range specified.

8

Schedule Forecasting Menu

```
┌──────────────┐                    ┌──────────────┐                    ┌──────────────┐
│ Scheduling   │   Job Setup        │  Robot Job   │  Robot Job         │ Report Menu  │
│ Objects Menu │   Information      │  Entry and   │  Information        │              │
│              │ ────────────────> │  Display     │ ────────────────>  │              │
└──────────────┘                    └──────────────┘  Robot Job         └──────────────┘
                                                       Information
                          Job Security
                          Instructions
                                          Job Scheduling,
                    ┌──────────────┐      Submission and         ┌──────────────┐
                    │   System     │      Control               │  Schedule    │
                    │   Security   │      Instructions          │  Forecasting │
                    │  (Optional)  │                            │              │
                    └──────────────┘                            └──────────────┘

┌──────────────┐                    ┌──────────────┐
│ System Setup │   Operation        │  Robot Job   │  Job Completion
│ Menu         │   Instructions     │  Execution   │  Information
│              │ ────────────────> │  System      │ ────────────────
└──────────────┘                    └──────────────┘

                    Job Scheduling,                      Control
                    Submission and                       Instructions
                    Control
                    Instructions
                    ┌──────────────┐                    ┌──────────────┐
                    │ Commands to  │                    │ Control Menu │
                    │ Enter and    │                    │              │
                    │ Change Job   │                    │              │
                    │ Records      │                    │              │
                    └──────────────┘                    └──────────────┘
```

```
 RBT1010                  Robot Main Menu                    16:16:11
 MAIN                     Robot Schedule
 R13M151230628

                 Select one of the following:

                   1. Job Schedule List

                   2. Scheduling Objects Menu

                   3. Control Menu

                   4. System Setup Menu

                   5. Report Menu

                   6. Schedule Forecasting Menu

                   7. Audit Menu

                 Selection: __

  F3=Exit     F21=Command Line
```

Select option **6** to display the Schedule Forecasting Menu.

Schedule Forecasting

■ Introduction

A Robot Schedule forecast shows you the run activity scheduled for all Robot Schedule jobs over a time period you specify. To make its forecast, Robot Schedule uses the job schedule, job completion history, and any information you add for user jobs, remote prerequisites, and members of remote groups. If you wish, the forecast can also include a run-time analysis of each active subsystem. The run-time analysis uses the subsystem's description to predict job queue wait time.

■ Build Forecast

To build a forecast, simply specify the time period you want the forecast to encompass. You can schedule the build on Robot Schedule, build it interactively, or build it in batch. Because the forecast build is resource-intensive, we recommend that you build it in batch.

Robot Schedule creates a special internal forecast, *INTERNAL, automatically every time it starts and at 12-hour intervals at 11:00 and 23:00. The forecast is for 24-hour periods and is designed to be used by the Robot Schedule GUI Schedule Activity Monitor™ (SAM™) and Robot Schedule job monitors. The Late start job monitor uses the *INTERNAL forecast to identify jobs that are late in starting. Because the *INTERNAL forecast is used by Robot Schedule, you cannot modify or delete it. However, you can build a new *INTERNAL forecast at any time from the Work with Forecasts panel, from the Schedule Activity Monitor, or by using the RBTBLDFCT command. You can print the *INTERNAL forecast from the Schedule Forecast panel, or by selecting the forecast name on the Robot Schedule Report Selection panel.
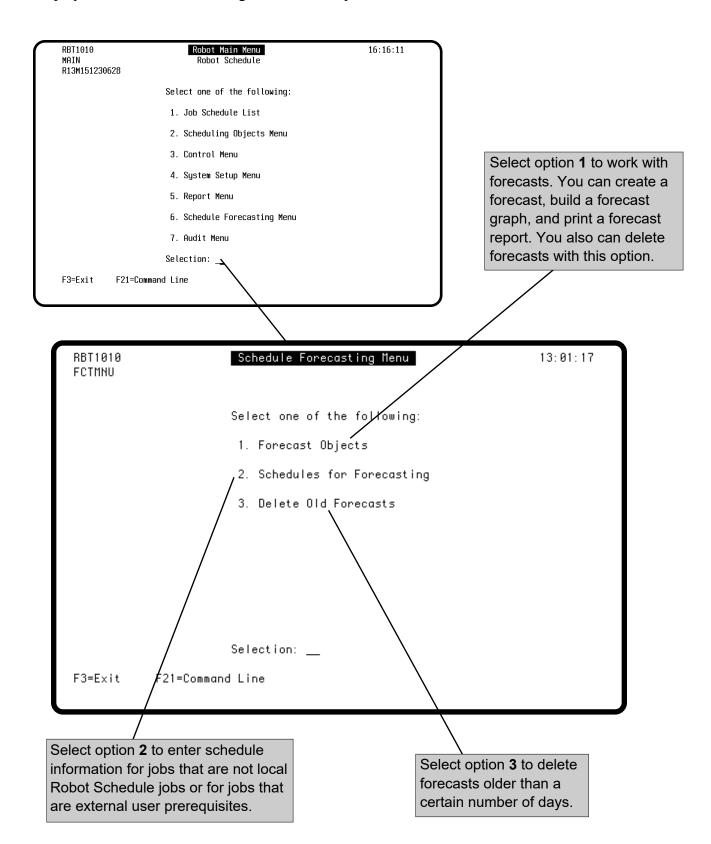
■ Work with Forecast

You can view the forecast in two ways: the forecast graph and the schedule forecast list. The forecast graph shows the time periods when jobs will be running. This makes it easy to see how the job schedule could be adjusted and to see "holes" in the schedule when additional jobs could run.

The schedule forecast list shows each job scheduled to run during the forecast period with its start time and its expected run time. You can adjust the forecast by changing start times and run times, and by holding, releasing, and deleting jobs. These options allow you to perform "what if" scenarios without affecting your schedule.

If you wish, you also can update the actual Robot Schedule job record. The update can hold or release the job or change its start time, but it cannot delete the job or change its run time.
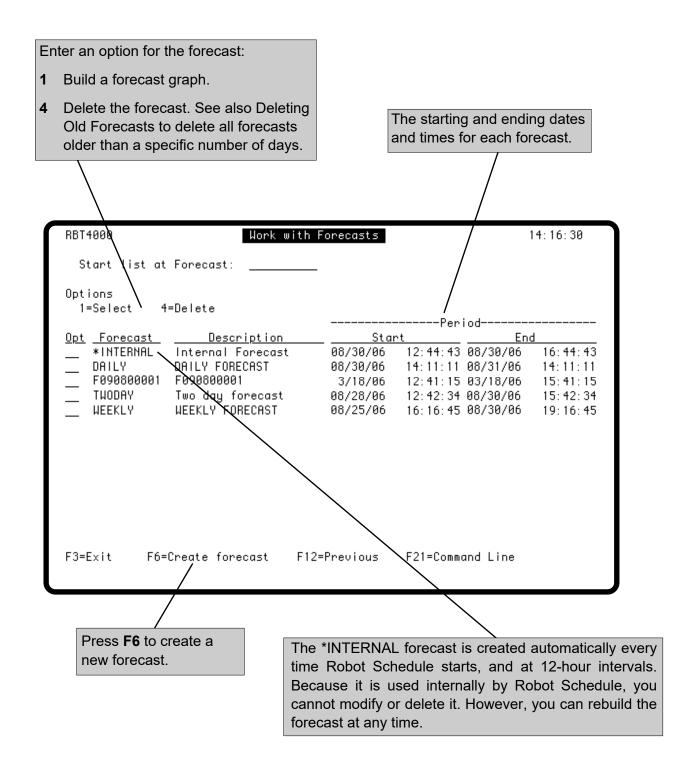
Schedule Forecasting Menu

To display the Schedule Forecasting Menu, select option **6** from the Robot Main Menu.

```
RBT1010                    Robot Main Menu              16:16:11
MAIN                        Robot Schedule
R13M151230628

                  Select one of the following:

                     1. Job Schedule List

                     2. Scheduling Objects Menu

                     3. Control Menu

                     4. System Setup Menu

                     5. Report Menu

                     6. Schedule Forecasting Menu

                     7. Audit Menu

                  Selection:

   F3=Exit    F21=Command Line
```

Select option **1** to work with forecasts. You can create a forecast, build a forecast graph, and print a forecast report. You also can delete forecasts with this option.

```
RBT1010                Schedule Forecasting Menu          13:01:17
FCTMNU


                  Select one of the following:

                     1. Forecast Objects

                     2. Schedules for Forecasting

                     3. Delete Old Forecasts




                          Selection: __

   F3=Exit      F21=Command Line
```

Select option **2** to enter schedule information for jobs that are not local Robot Schedule jobs or for jobs that are external user prerequisites.

Select option **3** to delete forecasts older than a certain number of days.

Work with Forecasts Panel

Selecting option **1** from the Schedule Forecasting Menu allows you to work with forecasts. It displays the existing forecasts along with their starting and ending date and time. You can create a new forecast, build a forecast graph, and print a forecast report. You also can delete selected forecasts from this panel.

Enter an option for the forecast:

1   Build a forecast graph.

4   Delete the forecast. See also Deleting Old Forecasts to delete all forecasts older than a specific number of days.

The starting and ending dates and times for each forecast.

```
RBT4000                     Work with Forecasts                        14:16:30

    Start list at Forecast:  _____

Options
  1=Select    4=Delete
                                      -----------------Period-----------------
Opt  Forecast      Description          Start               End
__   *INTERNAL   Internal Forecast    08/30/06   12:44:43 08/30/06   16:44:43
__   DAILY       DAILY FORECAST       08/30/06   14:11:11 08/31/06   14:11:11
__   F090800001  F090800001            3/18/06   12:41:15 03/18/06   15:41:15
__   TWODAY      Two day forecast     08/28/06   12:42:34 08/30/06   15:42:34
__   WEEKLY      WEEKLY FORECAST      08/25/06   16:16:45 08/30/06   19:16:45




 F3=Exit     F6=Create forecast    F12=Previous    F21=Command Line
```

Press **F6** to create a new forecast.

The *INTERNAL forecast is created automatically every time Robot Schedule starts, and at 12-hour intervals. Because it is used internally by Robot Schedule, you cannot modify or delete it. However, you can rebuild the forecast at any time.

Creating a Forecast

To create a new forecast, press **F6** from the Work with Forecasts panel. In the Create Forecast panel, you can enter a name and description for the forecast and specify a time period for the forecast or the length of time for the forecast in days or hours. The forecast is based on the job schedule, run history, and run-time analysis of each active subsystem. The run-time analysis uses the subsystem's description to predict job queue wait time. To omit a subsystem's run-time analysis, enter a **4** in the Opt field.
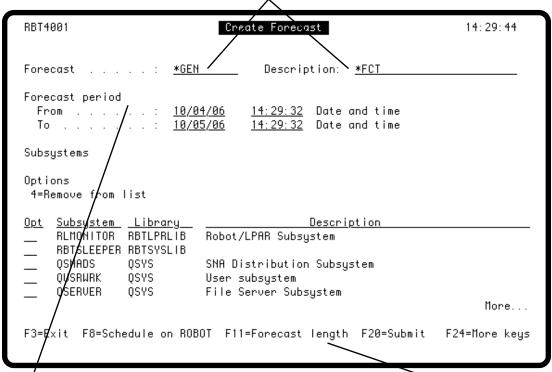
You can schedule the build on Robot Schedule, or build it interactively or in batch. Because the forecast build is resource-intensive, we recommend that you build it in batch. The forecast period begins when the forecast is run and continues for the time specified, or the period defined by the start and end times.

Note: You also can build a new forecast using the RBTBLDFCT command. See RBTBLDFCT Command, later in this user guide.

Enter a name and description for the forecast. If you accept the defaults (*GEN and *FCT),

Schedule generates a name. The name uses a 10-character format where the first character is F (for forecast), followed by a six-digit date and a three-digit sequence number; the description is identical to the forecast name. The date is in the date format of the interactive or batch job that builds the forecast.

Note: If you build a new forecast with a name that already exists, the new forecast will overwrite the old. We designed forecasting this way so that you can rebuild a forecast easily by setting up a regular schedule for the forecast in Robot Schedule.

```
RBT4001                    Create Forecast                      14:29:44


Forecast   . . . . . . :    *GEN          Description:  *FCT

Forecast period
   From . . . . . . . :    10/04/06     14:29:32  Date and time
   To   . . . . . . . :    10/05/06     14:29:32  Date and time

Subsystems

Options
 4=Remove from list


Opt  Subsystem   Library                      Description
__   RLMONITOR   RBTLPRLIB   Robot/LPAR Subsystem
__   RBTSLEEPER  RBTSYSLIB
__   QSNADS      QSYS        SNA Distribution Subsystem
__   QUSRWRK     QSYS        User subsystem
__   QSERVER     QSYS        File Server Subsystem
                                                             More...

F3=Exit  F8=Schedule on ROBOT  F11=Forecast length  F20=Submit  F24=More keys
```
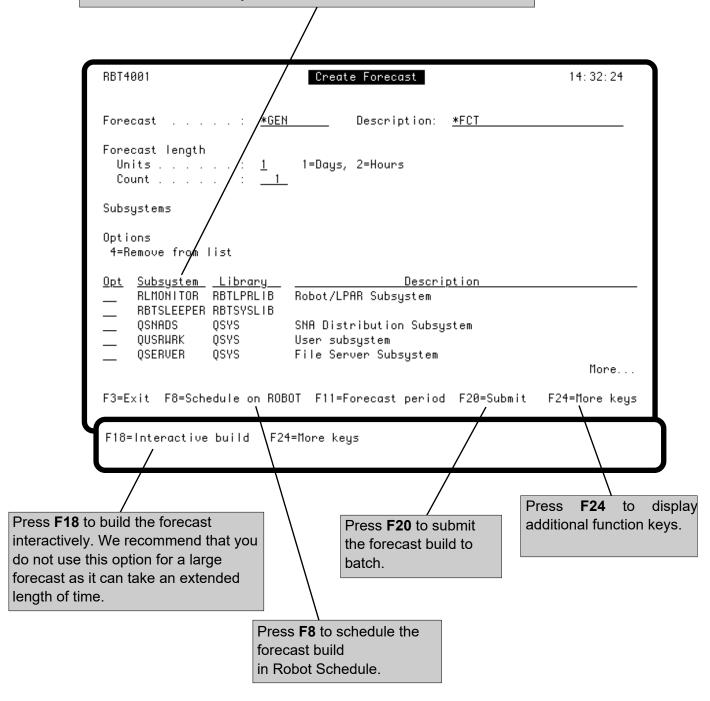
Specify the time for the forecast. You can specify either a time period by entering the beginning and ending dates and times for the forecast, or a length in days or hours.

Press **F11** to change the time for the forecast between forecast period and forecast length.

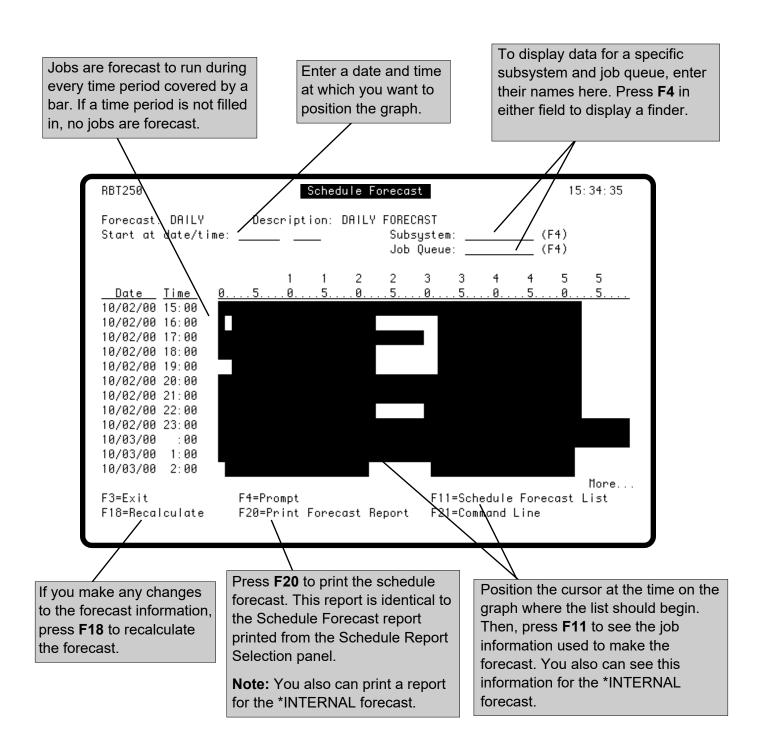Page 315

Schedule Forecasting

Creating a Forecast

The subsystem column lists the subsystems on your IBM i system that currently are active. Robot Schedule will forecast based on run-time analysis of all subsystems listed. If you do not want to include a subsystem in the run-time analysis, enter a **4** in the Opt field. You can add nonactive subsystems to the end of the list.

```
RBT4001                        Create Forecast                      14:32:24


Forecast  . . . . . . :   *GEN          Description:   *FCT

Forecast length
  Units . . . . . . :   1      1=Days,  2=Hours
  Count . . . . . :     1

Subsystems

Options
 4=Remove from list

Opt   Subsystem   Library              Description
 __   RLMONITOR   RBTLPRLIB   Robot/LPAR Subsystem
 __   RBTSLEEPER  RBTSYSLIB
 __   QSNADS      QSYS        SNA Distribution Subsystem
 __   QUSRWRK     QSYS        User subsystem
 __   QSERVER     QSYS        File Server Subsystem
                                                                     More...

F3=Exit  F8=Schedule on ROBOT  F11=Forecast period  F20=Submit   F24=More keys

F18=Interactive build   F24=More keys
```

Press **F18** to build the forecast interactively. We recommend that you do not use this option for a large forecast as it can take an extended length of time.

Press **F8** to schedule the forecast build in Robot Schedule.

Press **F20** to submit the forecast build to batch.

Press **F24** to display additional function keys.

Building a Forecast Graph

To build a forecast graph, select a forecast with option **1** on the Work with Forecasts panel. When the forecast is complete, the Schedule Forecast panel displays bars for every time period that has jobs scheduled. You can position the graph to a start date and time on the Schedule Forecast panel. You also can enter a subsystem name and job queue if you want to see only those jobs.

If you want to see the job information used to make the forecast, position the cursor at a time on the graph where you want the list to begin and press **F11.** To print the forecast report, press F20

Jobs are forecast to run during every time period covered by a bar. If a time period is not filled in, no jobs are forecast.

Enter a date and time at which you want to position the graph.

To display data for a specific subsystem and job queue, enter their names here. Press **F4** in either field to display a finder.

```
RBT250                        Schedule Forecast                    15:34:35

Forecast: DAILY       Description: DAILY FORECAST
Start at date/time: _____  ____        Subsystem: _____ (F4)
                                        Job Queue: _____ (F4)


                        1    1    2    2    3    3    4    4    5    5
  Date    Time    0....5....0....5....0....5....0....5....0....5....0....5....
10/02/00 15:00  ─────────────────────────────────────────────────────────
10/02/00 16:00
10/02/00 17:00
10/02/00 18:00
10/02/00 19:00
10/02/00 20:00
10/02/00 21:00
10/02/00 22:00
10/02/00 23:00
10/03/00  :00
10/03/00  1:00
10/03/00  2:00
                                                                More...
F3=Exit               F4=Prompt              F11=Schedule Forecast List
F18=Recalculate       F20=Print Forecast Report    F21=Command Line
```

If you make any changes to the forecast information, press **F18** to recalculate the forecast.

Press **F20** to print the schedule forecast. This report is identical to the Schedule Forecast report printed from the Schedule Report Selection panel.

Note: You also can print a report for the *INTERNAL forecast.

Position the cursor at the time on the graph where the list should begin. Then, press **F11** to see the job information used to make the forecast. You also can see this information for the *INTERNAL forecast.
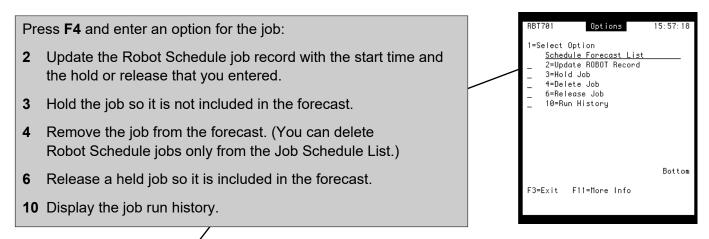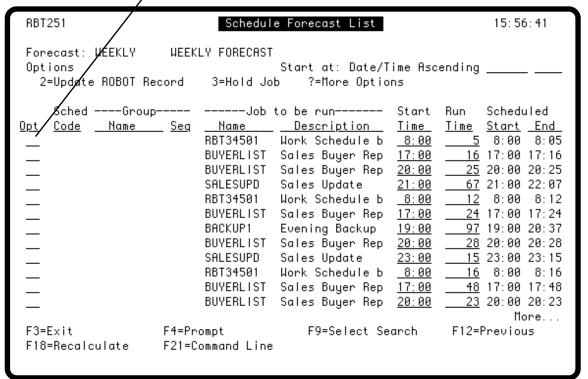
Schedule Forecast List Panel

From the Schedule Forecast panel, position the cursor on a bar in the graph and press **F11** to see the information used to make the schedule forecast.

The Schedule Forecast List panel shows each job scheduled to run during the forecast period, with its start time and its expected run time. The expected run time is a moving average of the job's past run times. You can adjust the forecast from this panel by changing start times and run times, and by holding, releasing, and deleting jobs. These options allow you to perform "what if" scenarios without affecting your schedule.
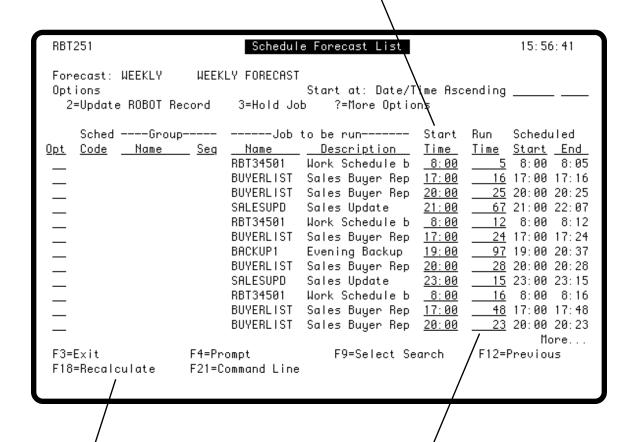
If you wish, you also can update the actual Robot Schedule job record. The update can hold or release the job or change its start time; it cannot delete the job or change its run time.

Press **F4** and enter an option for the job:

2 Update the Robot Schedule job record with the start time and the hold or release that you entered.

3 Hold the job so it is not included in the forecast.

4 Remove the job from the forecast. (You can delete Robot Schedule jobs only from the Job Schedule List.)

6 Release a held job so it is included in the forecast.

10 Display the job run history.

```
RBT701          Options          15:57:18

1=Select Option
        Schedule Forecast List
_       2=Update ROBOT Record
_       3=Hold Job
_       4=Delete Job
_       6=Release Job
_       10=Run History



                                    Bottom
F3=Exit   F11=More Info
```

```
RBT251              Schedule Forecast List           15:56:41

Forecast: WEEKLY      WEEKLY FORECAST
Options                         Start at: Date/Time Ascending _____ ____
   2=Update ROBOT Record    3=Hold Job    ?=More Options


      Sched ----Group-----  ------Job to be run-------  Start  Run   Scheduled
Opt   Code   Name    Seq    Name      Description       Time   Time  Start   End
_                           RBT34501  Work Schedule b    8:00      5  8:00   8:05
_                           BUYERLIST Sales Buyer Rep   17:00     16 17:00  17:16
_                           BUYERLIST Sales Buyer Rep   20:00     25 20:00  20:25
_                           SALESUPD  Sales Update      21:00     67 21:00  22:07
_                           RBT34501  Work Schedule b    8:00     12  8:00   8:12
_                           BUYERLIST Sales Buyer Rep   17:00     24 17:00  17:24
_                           BACKUP1   Evening Backup    19:00     97 19:00  20:37
_                           BUYERLIST Sales Buyer Rep   20:00     28 20:00  20:28
_                           SALESUPD  Sales Update      23:00     15 23:00  23:15
_                           RBT34501  Work Schedule b    8:00     16  8:00   8:16
_                           BUYERLIST Sales Buyer Rep   17:00     48 17:00  17:48
_                           BUYERLIST Sales Buyer Rep   20:00     23 20:00  20:23
                                                                         More...
  F3=Exit           F4=Prompt          F9=Select Search     F12=Previous
  F18=Recalculate   F21=Command Line
```

Schedule Forecast List Panel

You can change the start times for jobs. The changed start times are used when you recalculate the schedule forecast. A changed job start time is not changed in the Robot Schedule job record unless you enter option **2** for the job.
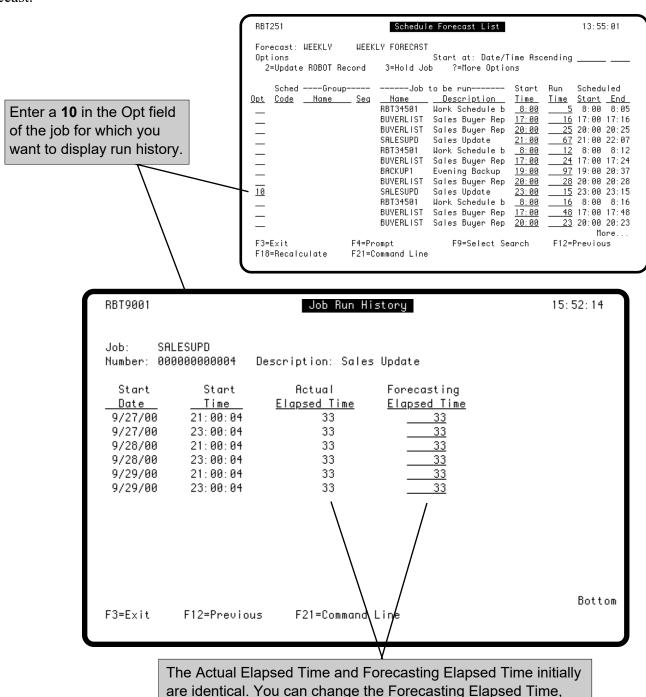
```
RBT251                      Schedule Forecast List                15:56:41

 Forecast: WEEKLY      WEEKLY FORECAST
 Options                              Start at: Date/Time Ascending _____ ____
    2=Update ROBOT Record     3=Hold Job    ?=More Options


       Sched ----Group-----   ------Job to be run-------  Start  Run   Scheduled
 Opt   Code   Name    Seq     Name      Description      Time   Time  Start  End
  __                          RBT34501  Work Schedule b  8:00     5   8:00   8:05
  __                          BUYERLIST Sales Buyer Rep  17:00   16  17:00  17:16
  __                          BUYERLIST Sales Buyer Rep  20:00   25  20:00  20:25
  __                          SALESUPD  Sales Update     21:00   67  21:00  22:07
  __                          RBT34501  Work Schedule b  8:00    12   8:00   8:12
  __                          BUYERLIST Sales Buyer Rep  17:00   24  17:00  17:24
  __                          BACKUP1   Evening Backup   19:00   97  19:00  20:37
  __                          BUYERLIST Sales Buyer Rep  20:00   28  20:00  20:28
  __                          SALESUPD  Sales Update     23:00   15  23:00  23:15
  __                          RBT34501  Work Schedule b  8:00    16   8:00   8:16
  __                          BUYERLIST Sales Buyer Rep  17:00   48  17:00  17:48
  __                          BUYERLIST Sales Buyer Rep  20:00   23  20:00  20:23
                                                                           More...
 F3=Exit            F4=Prompt           F9=Select Search      F12=Previous
 F18=Recalculate    F21=Command Line
```

If you change any information in this panel, press **F18** to recalculate the forecast. This can take awhile.

Expected run time for the job. The initial run time shown is the moving average of past run times for the job. The number of run times used for the average is set on the Control Options panel. You can change run times and then recalculate the schedule forecast. Changes you make to these values are stored with the forecast; they are not used when you build a new forecast.

Displaying Run History

To display the run history for a job, select the job using option **10** on the Schedule Forecast List panel. The Job Run History panel shows the job's start date, start time, actual elapsed time, and forecasting elapsed time. You can change the forecasting elapsed time. This is useful if a job has a short run time because of abnormal termination and you want its normal run time to be used in the forecast. Robot Schedule uses the average of the run times stored in history to calculate the run time for this job when you build a new forecast.

```
RBT251                        Schedule Forecast List                    13:55:01

 Forecast: WEEKLY      WEEKLY FORECAST
 Options                                   Start at: Date/Time Ascending _____ ____
   2=Update ROBOT Record      3=Hold Job      ?=More Options


         Sched ----Group-----   ------Job to be run-------  Start  Run    Scheduled
  Opt    Code    Name    Seq    Name    Description   Time   Time   Start  End
   _                            RBT34501  Work Schedule b  8:00    5   8:00  8:05
   _                            BUYERLIST Sales Buyer Rep 17:00   16  17:00 17:16
   _                            BUYERLIST Sales Buyer Rep 20:00   25  20:00 20:25
   _                            SALESUPD  Sales Update    21:00   67  21:00 22:07
   _                            RBT34501  Work Schedule b  8:00   12   8:00  8:12
   _                            BUYERLIST Sales Buyer Rep 17:00   24  17:00 17:24
   _                            BACKUP1   Evening Backup  19:00   97  19:00 20:37
   _                            BUYERLIST Sales Buyer Rep 20:00   28  20:00 20:28
   10                           SALESUPD  Sales Update    23:00   15  23:00 23:15
   _                            RBT34501  Work Schedule b  8:00   16   8:00  8:16
   _                            BUYERLIST Sales Buyer Rep 17:00   48  17:00 17:48
   _                            BUYERLIST Sales Buyer Rep 20:00   23  20:00 20:23
                                                                            More...
 F3=Exit            F4=Prompt              F9=Select Search      F12=Previous
 F18=Recalculate    F21=Command Line
```

Enter a **10** in the Opt field of the job for which you want to display run history.

```
RBT9001                        Job Run History                          15:52:14


 Job:     SALESUPD
 Number:  000000000004    Description: Sales Update

    Start          Start         Actual        Forecasting
    Date           Time       Elapsed Time     Elapsed Time
   9/27/00        21:00:04         33               33
   9/27/00        23:00:04         33               33
   9/28/00        21:00:04         33               33
   9/28/00        23:00:04         33               33
   9/29/00        21:00:04         33               33
   9/29/00        23:00:04         33               33









                                                                         Bottom
   F3=Exit      F12=Previous      F21=Command Line
```

The Actual Elapsed Time and Forecasting Elapsed Time initially are identical. You can change the Forecasting Elapsed Time, which will be used to calculate the run time for this job the next time you build a forecast.
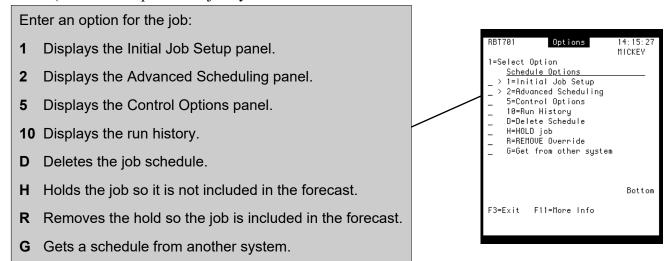
Adding Jobs That are Not Local
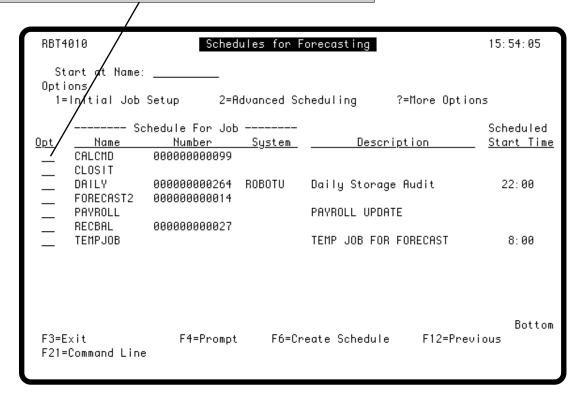
Schedule Jobs to the Forecast

Initially, the forecast uses only the information from the Robot Schedule Job Schedule and Robot Schedule Job Completion History. For a more complete forecast, you can add other jobs to be run during the forecast period. Use **option 2** on the Schedule Forecasting Menu to add the schedules for user jobs, remote prerequisites, and members of remote groups to the forecast.

When you select option **2**, the Schedules for Forecasting panel displays, listing all jobs that have been entered for schedule forecasting. Press **F6** to add the schedules for new jobs.
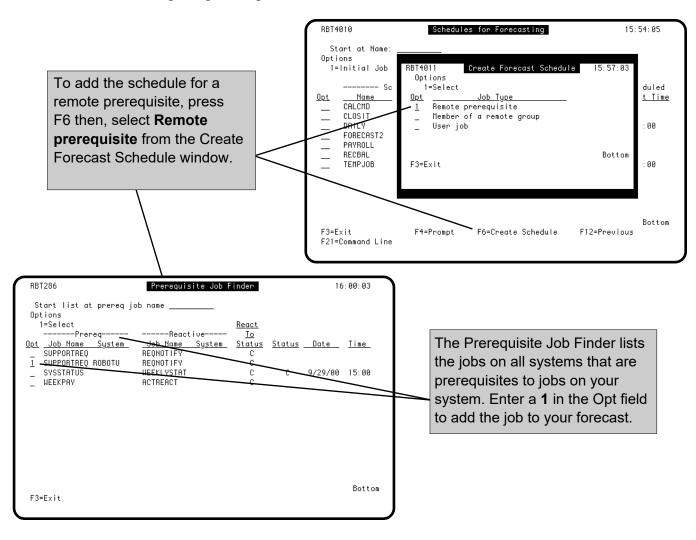
Enter **H** (hold in the Opt field of jobs you do not want to include in the forecast.

Enter an option for the job:

1   Displays the Initial Job Setup panel.

2   Displays the Advanced Scheduling panel.

5   Displays the Control Options panel.

10 Displays the run history.

D   Deletes the job schedule.

H   Holds the job so it is not included in the forecast.

R   Removes the hold so the job is included in the forecast.

G   Gets a schedule from another system.

```
RBT701          Options          14:15:27
                                  MICKEY
1=Select Option
       Schedule Options
_  > 1=Initial Job Setup
_  > 2=Advanced Scheduling
_    5=Control Options
_    10=Run History
_    D=Delete Schedule
_    H=HOLD job
_    R=REMOVE Override
_    G=Get from other system


                                  Bottom

F3=Exit   F11=More Info
```

```
RBT4010              Schedules for Forecasting              15:54:05


    Start at Name: _____
 Options
    1=Initial Job Setup    2=Advanced Scheduling    ?=More Options


       -------- Schedule For Job --------                  Scheduled
 Opt     Name        Number      System       Description     Start Time
  __    CALCMD    000000000099
  __    CLOSIT
  __    DAILY     000000000264  ROBOTU   Daily Storage Audit      22:00
  __    FORECAST2 000000000014
  __    PAYROLL                          PAYROLL UPDATE
  __    RECBAL    000000000027
  __    TEMPJOB                          TEMP JOB FOR FORECAST     8:00






                                                           Bottom
 F3=Exit          F4=Prompt     F6=Create Schedule    F12=Previous
 F21=Command Line
```

Adding Remote Prerequisites to the Forecast

If you are forecasting a job that has a prerequisite on a remote system, you can add the prerequisite job schedule to get a more accurate forecast. Press **F6** on the Schedules for Forecasting panel to add a schedule. Then, select the Remote prerequisite option.

To add the schedule for a remote prerequisite, press F6 then, select **Remote prerequisite** from the Create Forecast Schedule window.

```
RBT4010              Schedules for Forecasting            15:54:05
       Start at Name: _____
  Options
    1=Initial Job   RBT4011      Create Forecast Schedule   15:57:03
                    Options
         -------- Sc    1=Select                              duled
  Opt   Name         Opt          Job Type                    t Time
   _   CALCMD         1   Remote prerequisite
   _   CLOSIT         _   Member of a remote group
   _   DAILY          _   User job                            :00
   _   FORECAST2
   _   PAYROLL
   _   RECBAL                                      Bottom
   _   TEMPJOB        F3=Exit                                 :00



                                                          Bottom
  F3=Exit          F4=Prompt      F6=Create Schedule   F12=Previous
  F21=Command Line
```

```
RBT286            Prerequisite Job Finder          16:00:03
   Start list at prereq job name _____
  Options
    1=Select                            React
    -------Prereq------  ------Reactive-----   To
  Opt  Job Name   System   Job Name   System  Status  Status  Date    Time
   _   SUPPORTREQ         REQNOTIFY            C
   1   SUPPORTREQ ROBOTU  REQNOTIFY            C
   _   SYSSTATUS          WEEKLYSTAT           C       C    9/29/00  15:00
   _   WEEKPAY            ACTREACT             C




                                                          Bottom
  F3=Exit
```

The Prerequisite Job Finder lists the jobs on all systems that are prerequisites to jobs on your system. Enter a **1** in the Opt field to add the job to your forecast.

```
RBT201       Initial Job Setup for Job Number 000000000208    16:00:59
                        DESCRIBE YOUR JOB
  Job Type: F Forecst Schd          (F4=Prompt)
  Job Name: SUPPORTREQ  Desc: _____  Application: _____
  Notes: _____

                        RUN INFORMATION
  Run Times: ____ ____ ____ ____ ____ ____ ____ ____

  Run Days: Y=Every week, WK=Week number, L=Last week of the month
  Y/WK/L Day      Started  Ended  Run Time  Status  Last day completed
   _    Monday                                      Last start time
   _    Tuesday                                     Last end time
   _    Wednesday                                   Last run time
   _    Thursday                                    Last job status
   _    Friday
   _    Saturday
   _    Sunday
  Schedule Override Code: __      (F4=Prompt)

  F3=Exit          F4=Prompt          F10=Next Option
  F12=Previous     F21=Command Line   F23=More Options
```

The Initial Job Setup panel displays next. You can enter a schedule for the job, or exit and select the job with option **G** to have Robot Schedule get the schedule. See Getting a Job Schedule from Another System.

Note: If the prerequisite job is also a reactive job, you can enter an estimated schedule for the reactive job or add its prerequisite job to the forecast.

Adding a Member of a Remote Group to the Forecast

If a job on the local system is a member of a remote group, you can include it in your forecast to make the forecast more accurate. (This does not forecast when the group will run on the remote system.) Press **F6** on the Schedules for Forecasting panel to add a schedule. Then, select the Member of remote group option.

```
RBT4010                    Schedules for Forecasting              16:02:05

    Start at Name: _____
  Options
    1=Initial Job      RBT4011        Create Forecast Schedule    16:10:25
                        Options                                            duled
      --------- Sc        1=Select                                        t Time
  Opt      Name        Opt _____    Job Type _____
   __   CALCMD           _    Remote prerequisite
   __   CLOSIT           1    Member of a remote group
   __   DAILY            _    User job                              :00
   __   FORECAST2
   __   PAYROLL
   __   RECBAL                                            Bottom
   __   SUPPORTREQ     F3=Exit
   __   TEMPJOB                                                     :00


                                                                 Bottom
  F3=Exit           F4=Prompt       F6=Create Schedule      F12=Previous
  F21=Command Line
```

To add the schedule for a group control job, press F6 then, select **Member of a remote group** from the Create Forecast Schedule window.

```
RBT279                      ROBOT Job Finder                 16:11:51

   Start job list at:  Job _____
 Options
   1=Select
        Sched. Job       Job to be run          Days or dates job runs
 OPT   Code   Type  Name        Description      Time  M  T  W  TH  F  ST  SN
   _           C+  PURCHASE12  Purchase Report 12  20:00  Y  Y  Y  Y  Y
   _   EVERY   C+  PURCHASE25  Purchase Report 25  16:28  R  Y  Y  Y    Y  Y  Y
   _           C   PWRDWNSYS   System Powerdown    23:00                 Y
   _   HOLD    C   QDFTJOBD    QDFTJOBD
   _   HOLD    C   QDFTJOBD    QDFTJOBD
   _           P   RBCLR       Program to clear    00:30  Y
   _           C   RBSRLSTAPS  Release Expired Tape 07:00 Y  Y  Y  Y    Y  Y  Y
   _           C   RBTBLDFCT1  Forecast build      06:00                 2
   _   HOLD    C   RBTGOODM    Learn Test
   _           C   RBT34501    Work Schedule by Tim 08:00 Y  Y  Y  Y    Y
   _   REACT   P   REACTINV    Process Sales transa 18:00
   _   DATE    C+  RECBAL      Receivables Balance  17:00
   1           C+  RECDET      Receivables Detail   17:00              L
                                                                More...

 F3=Exit    F9=Job search criteria
```

The Robot Job Finder lists the Schedule jobs on your system. Enter a **1** in the Opt field of the job whose group control job is on a remote system.

```
RBT201          Initial Job Setup for Job Number 000000000209    16:12:51

                          DESCRIBE YOUR JOB
  Job Type: F Forecst Schd          (F4=Prompt)
  Job Name: RECDET    Desc: _____  Application: _____
  Notes: _____

                          RUN INFORMATION
  Run Times: ____ ____ ____ ____ ____ ____ ____ ____

  Run Days: Y=Every week, WK=Week number, L=Last week of the month
  Y/WK/L Day____  Started  Ended  Run Time  Status  Last day completed
    _   Monday                                       Last start time
    _   Tuesday                                       Last end time
    _   Wednesday                                     Last run time
    _   Thursday                                      Last job status
    _   Friday
    _   Saturday
    _   Sunday
  Schedule Override Code: __        (F4=Prompt)

  F3=Exit           F4=Prompt            F10=Next Option
  F12=Previous      F21=Command Line     F23=More Options
```

The Initial Job Setup panel displays next. You can enter a schedule for the job. You can check the completion history for the job to see its previous run schedule and run times.

Adding User Jobs to the Forecast

To add user jobs to the forecast, press **F6** on the Schedules for Forecasting panel to add a schedule. Then, select the User job option. In the User Job window, enter the job name and description and press Enter. The Initial Job Setup panel displays next so you can enter the schedule for the job.

After setting up the schedule, you can add run-time information by returning to the Schedule Forecast List panel and selecting the job with option **10**.

To add the schedule for a user job, press F6 then, select **User job** from the Create Forecast Schedule window.

Enter the job name and description. Press Enter.

The Initial Job Setup panel displays next. Enter a schedule for the job.

Getting a Job Schedule from Another System
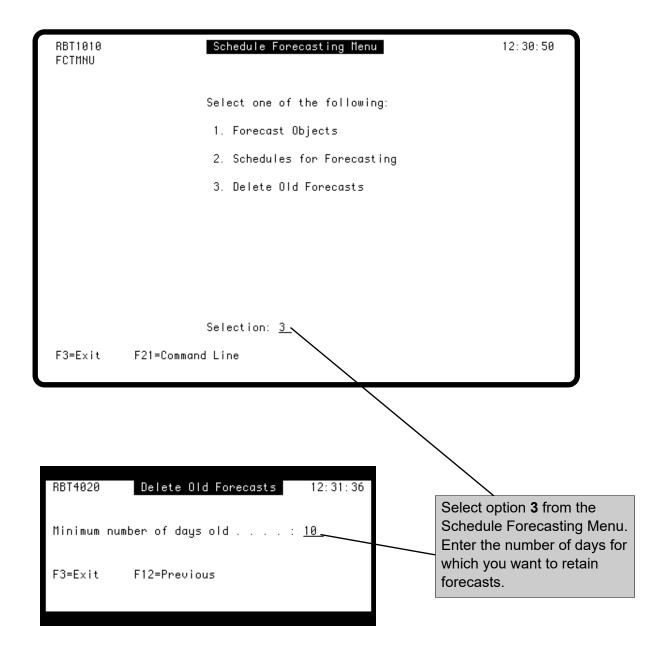
To use the job schedule from a job on another system, you can enter the schedule using the standard Schedule job scheduling panels, or use the **Get from other system** option to copy the schedule. The Get option can copy a schedule from any Robot Schedule job on any system on the Robot Schedule network. Once copied into the Schedules for Forecasting panel, you can modify the schedule. **Note:** You cannot use the Get from other system option for a user job.

Select the job with option **G** (Get from other system).

```
RBT4010                    Schedules fo
     Start at Name: _____
 Options
   1=Initial Job Setup      2=Advanced

        -------- Schedule For Job ------
 Opt    Name       Number      Syste
   _  CALCMD      000000000099
      CLOSIT
   _  DATLY       000000000264  ROBOTU
   _  FORECAST2   000000000014
   _  FRIBUNDLE
   _  PAYROLL
   _  RECBAL      000000000027
   ▌  RECDET      000000000028  TRAINE
   _  SALESSUM                  TRAINE
   _  SUPPORTREQ               ROBOTU
   _  TEMPJOB


 F3=Exit           F4=Prompt     F6
 F21=Command Line
```

```
RBT701          Options         09:41:02

1=Select Option
    Schedule Options
_   1=Initial Job Setup
_   2=Advanced Scheduling
_   5=Control Options
_   10=Run History
_   D=Delete Schedule
_   H=HOLD job
_   R=REMOVE Override
1   G=Get from other system


                                 Bottom

F3=Exit   F11=More Info
```

On the System Selection panel, select the system that has the job schedule you want to use.

```
RBN221                    System Selection          10:48:48

    Start list at Host _____  System _____
 Options
   1=Select System
        Host     System    Network   Location
 Opt   System    Name        ID       Name     Description
   _   MICKEY    MICKEY     APPN      MICKEY    Created by RBNCFGNODE
   1   MICKEY    TRAINER    APPN      TRAINER   Created by RBNCFGNODE














                                                        Bottom
 F3=Exit         F12=Previous
```

The Robot Job Finder displays the Robot Schedule jobs on the system you selected. Select a job to copy its schedule into the Schedules for Forecasting panel on your system. You then can modify the schedule using the options on that panel.

```
RBT279                    ROBOT Job Finder            10:47:25
                                                      TRAINER
    Start job list at:  Job _____
 Options
   1=Select
     Sched. Job        Job to be run              Days or dates job runs
 OPT  Code  Type   Name      Description     Time   M  T  W  TH  F  ST  SN
  _          C    CUSTRQST  Customer inquiry db  03:00  Y
  _          C    DAILYPAY  Daily Pay Reports    17:00  C     Y      Y
  1          C    DLYAPRPT  Daily Accounts Payab 11:48  C  Y  Y  Y   Y
  _          P    EMPHRS    Weekly Employee Hour 06:00  Y







 F3=Exit   F9=Job search criteria
```

Deleting Old Forecasts

There are three ways to delete forecasts:

• To delete forecasts older than a certain number of days, select option **3** from the Schedule Forecasting Menu, as shown below. Enter the number of days for which you want to retain forecasts.

• To delete forecasts with a command that can be scheduled on Robot Schedule, see RBTDLTFCT Command on the following page.

• To manually select the forecasts you want to delete, see the Work with Forecasts section.

```
RBT1010              Schedule Forecasting Menu              12:30:50
FCTMNU


                     Select one of the following:

                       1. Forecast Objects

                       2. Schedules for Forecasting

                       3. Delete Old Forecasts









                            Selection: 3

   F3=Exit      F21=Command Line
```

```
RBT4020       Delete Old Forecasts       12:31:36


Minimum number of days old . . . . . :  10


F3=Exit      F12=Previous
```

Select option **3** from the Schedule Forecasting Menu. Enter the number of days for which you want to retain forecasts.

RBTDLTFCT Command

The RBTDLTFCT (Delete Old Forecasts) command deletes forecasts older than a certain number of days, without going through the Robot Schedule menus. You can schedule the command on Robot Schedule to run automatically, as often as you want. Enter the following on the command line:

RBTDLTFCT

Press **F4** to display the command prompt panel.

Enter the number of days for which you want to retain forecasts.

```
                      Delete Old Forecasts (RBTDLTFCT)

 Type choices, press Enter.

 Minimum number of days old . . .    7         1-999












                                                                  Bottom
   F3=Exit    F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
   F24=More keys
```

RBTBLDFCT Command
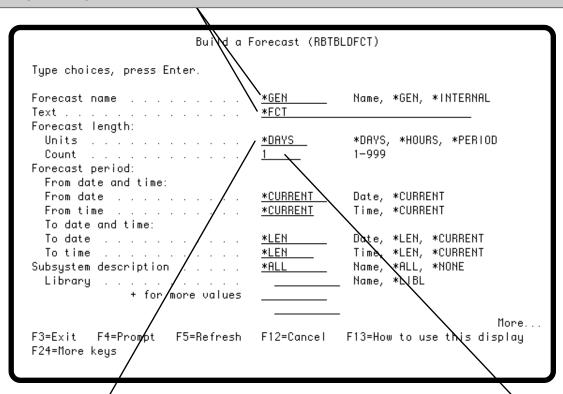
The RBTBLDFCT (Build a Forecast) command allows you to build a new forecast without going through the Robot Schedule menus. Enter the following command on the command line:

RBTBLDFCT

Press **F4** to display the command prompt panel.

Enter a name and description for the forecast. If you accept the defaults (*GEN and *FCT), Robot Schedule generates a name. The name uses a 10-character format where the first character is F for forecast, followed by a six-digit date and a three-digit sequence number; the description is identical to the forecast name. The date is in job date format. If no job date format has been set up, Robot Schedule uses the system date format.

Note: If you build a new forecast with a name that already exists, the new forecast will overwrite the old. We designed forecasting this way so that you can rebuild a forecast easily by setting up a regular schedule for the forecast in Robot Schedule.

```
                    Build a Forecast (RBTBLDFCT)

  Type choices, press Enter.

  Forecast name  . . . . . . . . .   *GEN          Name, *GEN, *INTERNAL
  Text . . . . . . . . . . . . . .   *FCT
  Forecast length:
    Units  . . . . . . . . . . . .   *DAYS         *DAYS, *HOURS, *PERIOD
    Count  . . . . . . . . . . . .   1             1-999
  Forecast period:
    From date and time:
      From date  . . . . . . . . .   *CURRENT      Date, *CURRENT
      From time  . . . . . . . . .   *CURRENT      Time, *CURRENT
    To date and time:
      To date  . . . . . . . . . .   *LEN          Date, *LEN, *CURRENT
      To time  . . . . . . . . . .   *LEN          Time, *LEN, *CURRENT
  Subsystem description  . . . . .   *ALL          Name, *ALL, *NONE
    Library  . . . . . . . . . . .   _____    Name, *LIBL
                  + for more values  _____

                                                                      More...
  F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
  F24=More keys
```

Specify the unit of measure for the forecast. You can enter one of the following:

*DAYS   The forecast length is measured in days.

*HOURS   The forecast length is measured in hours.

*PERIOD   The forecast length is determined by the starting and ending dates and times specified in the Forecast period parameters.
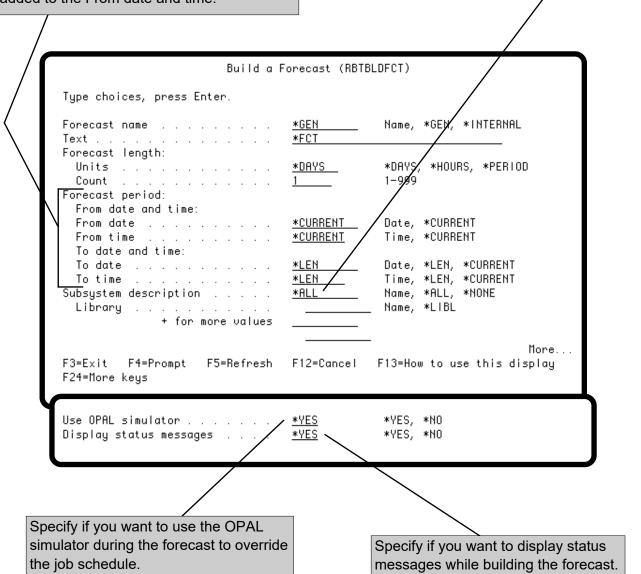
If you entered *DAYS or *HOURS in the Forecast length parameter, specify the number of days or hours for the forecast.

RBTBLDFCT Command

If you entered *PERIOD in the Forecast length parameter, use the Forecast period parameters to specify the starting and ending dates and times for the forecast.

If you want to use the values specified in the Forecast length parameters, specify *LEN as the To date and time values. The length is added to the From date and time.

To include a run-time analysis of all active subsystems, enter *ALL. To include only a specific subsystem in the run-time analysis, enter its description and library name. Enter a plus sign (+) to enter more subsystems.

```
                   Build a Forecast (RBTBLDFCT)

 Type choices, press Enter.

 Forecast name  . . . . . . . . .   *GEN          Name, *GEN, *INTERNAL
 Text . . . . . . . . . . . . . .   *FCT
 Forecast length:
   Units  . . . . . . . . . . .     *DAYS         *DAYS, *HOURS, *PERIOD
   Count  . . . . . . . . . . .     1             1-999
 Forecast period:
   From date and time:
   From date  . . . . . . . . .     *CURRENT      Date, *CURRENT
   From time  . . . . . . . . .     *CURRENT      Time, *CURRENT
   To date and time:
   To date  . . . . . . . . . .     *LEN          Date, *LEN, *CURRENT
   To time  . . . . . . . . . .     *LEN          Time, *LEN, *CURRENT
 Subsystem description  . . . . .   *ALL          Name, *ALL, *NONE
   Library  . . . . . . . . . .                   Name, *LIBL
               + for more values

                                                                  More...
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys


 Use OPAL simulator . . . . . . .   *YES          *YES, *NO
 Display status messages  . . .     *YES          *YES, *NO
```

Specify if you want to use the OPAL simulator during the forecast to override the job schedule.

Specify if you want to display status messages while building the forecast.

■ **Introduction to Robot Schedule Auditing**

Robot Schedule auditing allows you to create a log of modifications made to your job schedule. Every job schedule addition, change (including override codes), and deletion is included in the log. The name of the user who made the change and the time and date of the change also appear. You can display or print the audit log for your records. Use the audit log to document your job schedule and help you comply with privacy laws and legislation, such as the Sarbanes-Oxley Act (SOX) or HIPAA.

Note: When Robot Schedule is inactive, all transactions are queued and are not posted to the audit log. When Robot Schedule becomes active again, the monitor job, ROBOTAUDIT, records the changes to the audit log.

Audit Menu

Select option **7** on the Robot Schedule Main Menu to display the Audit Menu. The options on this menu allow you to set up, start, and end auditing; and display and delete the audit log.

```
RBT1010                    Robot Main Menu                 16:16:11
MAIN                       Robot Schedule
R13M151230628

                  Select one of the following:

                     1. Job Schedule List

                     2. Scheduling Objects Menu

                     3. Control Menu

                     4. System Setup Menu

                     5. Report Menu

                     6. Schedule Forecasting Menu

                     7. Audit Menu

                  Selection: __

     F3=Exit      F21=Command Line
```

Select option **1** to enter the number of days to keep the audit log.

Select option **2** to start auditing.

The Auditing Active/Inactive indicator.

```
RBT1010                     Audit Menu                      08:41:20
AUDIT
                                          Auditing is: Active

                  Select one of the following:

                     1. Set Up Audit Log

                     2. Start Auditing

                     3. End Auditing

                     4. Display Audit Log

                     5. Delete Audit Log




                  Selection: __

     F3=Exit      F21=Command Line
```

Select option **3** to end auditing.

Select option **4** to display the audit log.

Select option **5** to delete the audit log.

Setting Up Auditing

Select option **1** on the Audit Menu to display the Set Up Audit Log panel. This panel allows you to enter the number of days you want to keep audit logs. Audit logs are kept for the number of days you specify and then deleted automatically. For example, if you specify 16 days to keep audit logs, when a log is 17 days old, it is deleted automatically from the system.

For audit logs to be deleted automatically, Robot Schedule must be active through midnight. Otherwise, audit logs are not deleted until the next time Robot Schedule is started after midnight.

Enter the number of days to keep audit logs. You can enter any number between **001** and **999**.

```
RBT521                         Set Up Audit Log                      09:20:51



   Days To Keep Audit Logs  .  .  .  :   16




















F3=Exit      F12=Previous     F21=Command Line
```
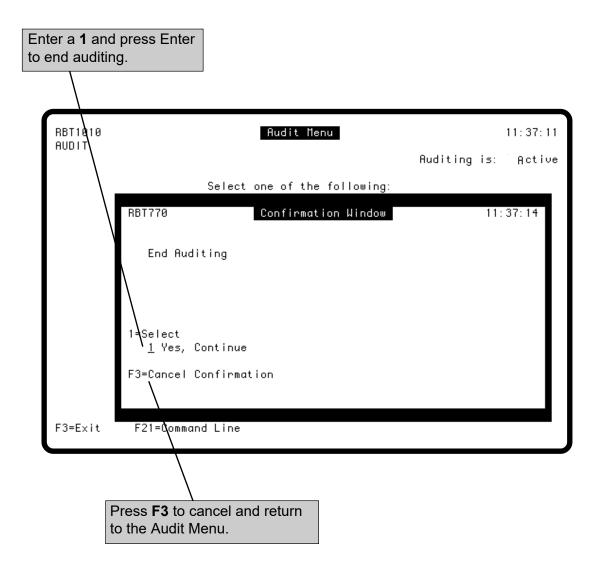
Starting Auditing

Select option **2** on the Audit Menu to display the Start Auditing Confirmation window. Enter a **1** to confirm that you want to start auditing or press **F3** to cancel the audit request. Check the Auditing Active/Inactive indicator on the Audit Menu to ensure that auditing is active.

Enter a **1** and press Enter
to start auditing.

```
RBT1010                          Audit Menu                      11:35:27
AUDIT
                                                        Auditing is: Inactive

                         Select one of the following:

        RBT770                   Confirmation Window               11:35:31


             Start Auditing




        1=Select
            1 Yes, Continue

        F3=Cancel Confirmation




F3=Exit      F21=Command Line
```

Press **F3** to cancel and return
to the Audit Menu.

Ending Auditing

Select option **3** on the Audit Menu to display the End Auditing Confirmation window. This window allows you to end auditing. Enter a **1** to confirm that you want to end auditing or press **F3** to cancel the end auditing request. Check the Auditing Active/Inactive indicator on the Audit Menu to ensure that auditing is inactive.

Enter a **1** and press Enter to end auditing.

```
RBT1010                            Audit Menu                         11:37:11
AUDIT
                                                            Auditing is:   Active

                           Select one of the following:

        RBT770                      Confirmation Window                11:37:14


             End Auditing





          1=Select
             1 Yes, Continue

          F3=Cancel Confirmation



 F3=Exit      F21=Command Line
```

Press **F3** to cancel and return to the Audit Menu.

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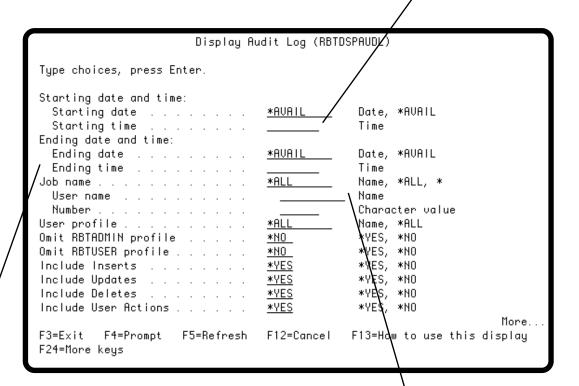
Displaying the Audit Log

Select option **4** on the Audit Menu to display the Display Audit Log (RBTDSPAUDL) command prompt panel. You also can enter the **RBTDSPAUDL** command on a command line. Use the RBTDSPAUDL command to specify the information that displays in the audit log. For example, you can choose to display all available audit logs or limit them by starting and ending dates and times; by job name; or by user profile. You also can use this panel to print the audit log.

> Enter a starting date for the audit log you want to display. Use the job date format used by your system, for example, month/day/year (mm/dd/yy). ***AVAIL** displays the audit logs for all available dates.
>
> Enter a starting time for the audit log you want to display. Use the job time format used by your system, for example, hour/minute/second (hh/mm/ss). ***AVAIL** displays the audit logs for all available times.

```
                    Display Audit Log (RBTDSPAUDL)

   Type choices, press Enter.


   Starting date and time:
     Starting date  . . . . . . . .    *AVAIL        Date, *AVAIL
     Starting time  . . . . . . . .    _____      Time
   Ending date and time:
     Ending date  . . . . . . . . .    *AVAIL        Date, *AVAIL
     Ending time  . . . . . . . . .    _____      Time
   Job name . . . . . . . . . . . .    *ALL          Name, *ALL, *
     User name  . . . . . . . . . .    _____    Name
     Number . . . . . . . . . . . .    _____        Character value
   User profile . . . . . . . . . .    *ALL          Name, *ALL
   Omit RBTADMIN profile  . . . . .    *NO           *YES, *NO
   Omit RBTUSER profile . . . . . .    *NO           *YES, *NO
   Include Inserts  . . . . . . . .    *YES          *YES, *NO
   Include Updates  . . . . . . . .    *YES          *YES, *NO
   Include Deletes  . . . . . . . .    *YES          *YES, *NO
   Include User Actions . . . . . .    *YES          *YES, *NO
                                                                    More...
   F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
   F24=More keys
```

> Enter an ending date for the audit logs you want to display. Use the job date format used by your system, for example, month/day/year (mm/dd/yy). ***AVAIL** displays the audit logs for all available dates.
>
> Enter an ending time for the audit logs you want to display. Use the job time format used by your system, for example, hour/minute/second (hh/mm/ss). ***AVAIL** displays the audit logs for all available times.

> Enter the name of the interactive job that made the changes for which you want to display the audit log. ***ALL** displays the available audit logs for all jobs that made changes. Enter an asterisk (*) to display the audit logs for the current job.
>
> You also can enter the user name and job number that made changes for which you want to display audit logs.

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Displaying the Audit Log

If you want to display audit logs for the user profile that made the changes, enter the user profile name. ***ALL** displays the available audit logs for all user profiles.

You can choose to omit the job schedule actions performed by the RBTADMIN and RBTUSER profiles from the audit log. Enter ***YES** to omit the profiles from the log. Enter ***NO** to include them in the audit log. The default value is ***NO**.

```
                    Display Audit Log (RBTDSPAUDL)

 Type choices, press Enter.

 Starting date and time:
   Starting date  . . . . . . . . .   *AVAIL       Date, *AVAIL
   Starting time  . . . . . . . . .   _____     Time
 Ending date and time:
   Ending date  . . . . . . . . . .   *AVAIL       Date, *AVAIL
   Ending time  . . . . . . . . . .   _____     Time
 Job name . . . . . . . . . . . .     *ALL         Name, *ALL, *
   User name  . . . . . . . . . .     _____   Name
   Number . . . . . . . . . . . .     _____       Character value
 User profile . . . . . . . . . .     *ALL         Name, *ALL
 Omit RBTADMIN profile  . . . . .     *NO          *YES, *NO
 Omit RBTUSER profile . . . . . .     *NO          *YES, *NO
 Include Inserts  . . . . . . . .     *YES         *YES, *NO
 Include Updates  . . . . . . . .     *YES         *YES, *NO
 Include Deletes  . . . . . . . .     *YES         *YES, *NO
 Include User Actions . . . . . .     *YES         *YES, *NO
                                                                  More...
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

You can choose if you want to include new jobs inserted into the job schedule, updated jobs, deleted jobs, and user actions (such as, who used DO or DO Special schedule override codes, and who started or stopped Robot Schedule) in the audit log. Enter ***YES** to include this information in the audit log. Enter ***NO** if you don't want it included. The default value is ***YES**.

Displaying the Audit Log

Use the Data Selection field to limit the amount of detail in the audit log. Enter ***FULL** to display key field information and every detail of each job schedule action. Enter ***BASIC** to display key field information and only the first line of information for each action. Regardless of which option you enter, all key field information and all job schedule actions (changes, updates, deletions) displays.

Specify if you want to print the field legend used in the audit log. Enter ***YES** to print the legend; enter ***NO** if you don't want it printed.

```
                        Display Audit Log (RBTDSPAUDL)

Type choices, press Enter.

Data Selection . . . . . . . . .   *FULL         *FULL, *BASIC
Print field legend . . . . . . .   *NO           *YES, *NO
Output . . . . . . . . . . . . .   *             *, *PRINT




                                                                       Bottom
 F3=Exit    F4=Prompt   F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Enter the type of output:

*   Creates and displays the audit log.

*PRINT   Creates a spooled file of the audit log.

Deleting the Audit Log

Select option **5** on the Audit Menu to display the Delete Audit Log (RBTDLTAUDL) command prompt panel. You also can enter the **RBTDLTAUDL** command on a command line. Use the **RBTDLTAUDL** command within a scheduled job to delete audit logs. This command allows you to enter the number of days you want to keep audit logs. Audit logs are kept for the number of days you specify and then deleted automatically. For example, if you specify 16 days to keep audit logs, audit logs that are 17 days old are deleted automatically when the command is run.

The value you entered in the Days to Keep Audit Logs field on the Set Up Audit Log panel is linked to the Days to Keep Audit Logs field on this panel. When you change the value on the Set Up Audit Log panel, the value on the Delete Audit Log (RBTDLTAUDL) command prompt panel is changed too.

However, the value you enter on this panel overrides the value on the Set Up Audit Log panel. If the value you specify on the **RBTDLTAUDL** command is different from that on the Set Up Audit Log panel, the value on this panel is used when the command is run.

Enter the number of days to keep audit log entries in the audit log **(001** to **999)**.

```
                    Delete Audit Log (RBTDLTAUDL)

 Type choices, press Enter.

 Days To Keep Audit Logs  . . . .    016            001-999




                                                               Bottom
   F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
   F24=More keys
```

Robot Schedule Utilities

CNLIDLEJOB–Cancel Idle Jobs

AGEOUTQ–Age Output Queue

AGEIFS–Age IFS Objects

DLTHSTLOG–Delete History Log

DLTPRB–Delete Problem Log

PRTDSKSPC–Print Disk Space Usage

RPLLIBLIST–Replace Library List

WRKLIBLIST–Work With Library Lists

RBTDUPSPLF–Duplicate Spooled File

RBT825–Calculate Date or Day Numbers

RBT801–Get Information About a Date

RBT802–Calculate a Date From Another Date

RBT802–Calculate Date Difference

RBT835–Calculate Time Difference

■ **Robot Schedule Housekeeping Utilities**

This section describes a group of useful commands and programs that do housekeeping tasks on your IBM i system. You should schedule Robot Schedule jobs to run these utilities at regular intervals. Our scheduling recommendations are included in the utility descriptions.

CNLIDLEJOB	Cancels idle jobs.
AGEOUTQ	Ages and removes old spooled files.
AGEIFS	Ages and removes objects from the IFS directory.
DLTHSTLOG	Removes old history logs.
DLTPRB	Removes old device problem logs.
PRTDSKSPC	Prints the Disk Usage Report.

■ **Robot Schedule Optional Utilities**

The following optional utilities also are described in this section:

RPLLIBLIST	Replaces the library list used.
WRKLIBLIST	Works with the library lists defined in Robot Schedule.
RBTDUPSPLF	Duplicates and distributes spooled files to output queues.
RBT825	Calculates date or day numbers.
RBT801	Gets information about a date.
RBT802	Calculates a date from another date. Calculates
RBT802	date difference.
RBT835	Calculates time difference.

■ CNLIDLEJOB Command

Use the Cancel Idle Job (CNLIDLEJOB command to cancel unattended workstations if they have used no CPU seconds in a given period of time. This can improve your system performance because the system must use CPU cycles to manage every signed-on workstation, even when it is not in use. It also improves security for your system by preventing unauthorized access from unattended workstations.

You can exclude up to 30 workstations or user profiles from monitoring by CNLIDLEJOB. CNLIDLEJOB automatically excludes and does not cancel group jobs or workstations signed on to other systems with a pass-through job.

Although CNLIDLEJOB does work for non-interactive jobs, you should use extreme caution. CNLIDLEJOB cancels batch jobs that exceed the time limit while waiting for someone to answer a message. It also cancels sleeper jobs (such as Robot Schedule if they exceed the time limit without using any CPU seconds. **Note:** Only job types BCH and INT are included in the cancel.

■ Set Time Limits for Day and for Night

The unattended time limit (idle time allowed at night should be shorter than the time limit during the day. We recommend that you create two Robot Schedule jobs to monitor workstations, one for day and one for night.

For example, you could schedule the day job to start at 8 a.m. and set the Maximum Run Minutes at 540 minutes so the job ends at 5 p.m. Set the idle interval at 60 minutes. Exclude the executives' workstations.

Then, schedule the night job to start at 5 p.m. and set its Maximum Run Minutes at 900 minutes so the job ends at 8 a.m. Set the idle interval at 20 minutes. Exclude only the workstation of the night operator (if you have one).

CNLIDLEJOB—Cancel Idle Jobs

The CNLIDLEJOB command cancels unattended workstations if they have used no CPU seconds in a given period of time. You can exempt certain workstations, batch jobs, and users, and specify the subsystems to be checked.

Enter the workstations, batch jobs, and users to be exempt from being cancelled:

- To exclude a workstation for any user, enter the workstation name and leave the User name blank.

- To exclude a user profile at any workstation, enter ***ANY** followed by the user name.

- To exclude a user profile at a certain workstation, enter both the workstation name and the user profile.

Enter a **+** to get more blanks to enter additional exemptions (up to 30).

Enter the number of minutes a job can be idle before it is cancelled (0-9999).

```
                    Cancel Idle Job (CNLIDLEJOB)

 Type choices, press Enter.

 Minutes allowed idle:  . . . . > 20           0-9999
 Exempt (job) from cancel:  . . > WRK01        Name, *NONE, *ANY
   User name:  . . . . . . . . .              Name
                                > *ANY
                                >   QSECOFR
               + for more values > WRK02
                                >   DAVEJ
 Subsystems to check:  . . . . .   QINTER      Name, *ALL
                 + for more values
 Message queue:  . . . . . . . .   QSYSOPR     Name
 Message Queue Library:  . . . .   *LIBL       Name, *LIBL

                                                          Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter subsystems to check for idle jobs. Specify ***ALL** to check all subsystems. Enter a **+** to get more blanks to enter additional subsystems (up to 5).
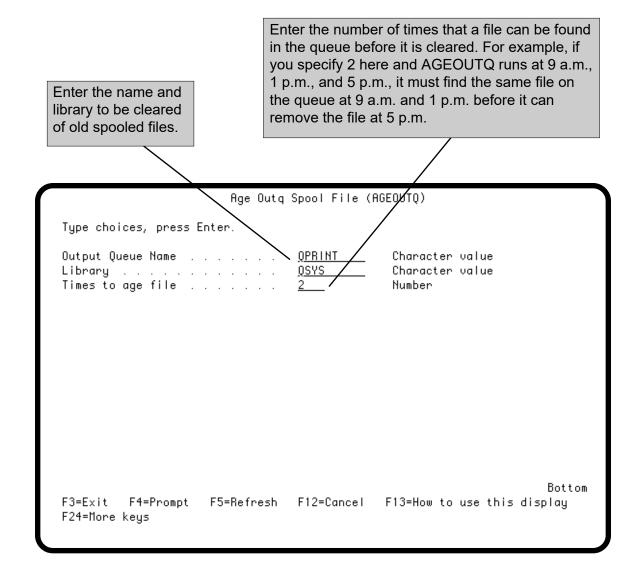
Enter the message queue and library to which CNLIDLEJOB should send its messages. CNLIDLEJOB sends a message for each job it cancels. The default is message queue QSYSOPR.

AGEOUTQ—Age Output Queue

The AGEOUTQ command removes spooled files that have been in an output queue longer than the given time limit. Old spooled files should be removed from your system for two reasons:

- Spooled files take up a lot of disk space.

- The system keeps job information for a spooled file in work management areas for as long as the spooled file is on the output queue. This slows performance because the system must use CPU cycles to manage the information. Keeping output queues relatively clean can improve your system's performance.

Use AGEOUTQ to remove old job logs. You probably do not need job logs that are more than 8 hours old during a regular workday. Create a job to run AGEOUTQ every workday at 9 a.m. (to age out logs from the previous night), at 1 p.m., and at 5 p.m. Specify on the command the queue to which your job logs are sent, and set the **Times to age file** at 2.

Enter the number of times that a file can be found in the queue before it is cleared. For example, if you specify 2 here and AGEOUTQ runs at 9 a.m., 1 p.m., and 5 p.m., it must find the same file on the queue at 9 a.m. and 1 p.m. before it can remove the file at 5 p.m.

Enter the name and library to be cleared of old spooled files.

```
                      Age Outq Spool File (AGEOUTQ)

    Type choices, press Enter.

    Output Queue Name  . . . . . . . .   QPRINT       Character value
    Library  . . . . . . . . . . . . .   QSYS         Character value
    Times to age file  . . . . . . . .   2            Number
```
```
                                                                    Bottom
    F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
    F24=More keys
```

AGEIFS—Age IFS Objects

The AGEIFS command removes objects from IFS directories that have not been accessed for a specified number of days. You should remove obsolete IFS objects regularly to make the IFS easier to manage. You can specify the objects to be deleted (by name and object type), directory, and the age of objects to be purged. You must be authorized to the objects you want to delete.

Enter the directory path for the objects you want to delete. A '\' or '/' character at the beginning of the path name indicates that the path begins at the root directory. If the path name does not begin with one of these characters, the path is assumed to begin in the current directory. The command only deletes objects in the current directory; it does not delete objects in any subdirectories of the specified directory. **Note:** You cannot delete objects from directories whose names start with Q, except QDLS.

Enter the name of the object to be deleted. You can use wildcard characters to specify multiple objects. Valid wildcard entries are: *, abc*, and abc*.xxx.

```
                        Age IFS Objects (AGEIFS)

 Type choices, press Enter.

 Directory Path . . . . . . . . . >  '/acct'
 _____
 _____
 _____
 _____
 _____
 _____   . . .
 Object Name  . . . . . . . . . . >  *
 _____
 _____

 Days to purge  . . . . . . . . . >  30          1-999
 Object Types . . . . . . . . . .    *ALL        *ALL, *DOC, *FIFO, *FILE...
             + for more values      _____
 Print IFS Objects  . . . . . . .    *YES        *NO, *YES
 Delete IFS Objects . . . . . . .    *YES        *NO, *YES
                                                                  Bottom
 F3=Exit    F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter the number of days to compare to the object's last access date. If the object's last access date is older than the number of days specified, and the object matches the criteria specified in the command, the AGEIFS command will delete the object.
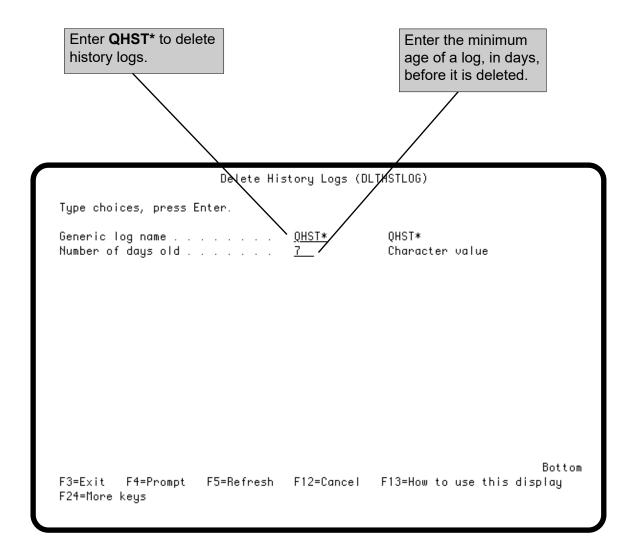
Specify the object types to be purged. You can delete objects with a type of *DOC, *FIFO, *FILE, and *STMF. The default, *ALL, deletes all objects of those types that meet the specified criteria. No other object types can be deleted using the command.

Specify if you want to print a report that lists the objects that meet the criteria specified in the command.

Specify if you want to delete the objects that meet the criteria specified in the command.
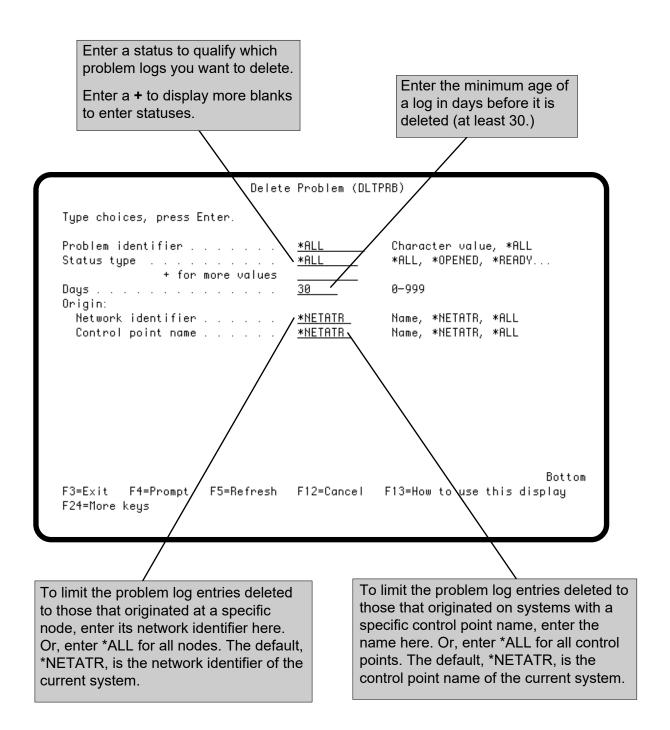
DLTHSTLOG—Delete History Log

The DLTHSTLOG command removes old history logs. We recommend that you create a Robot Schedule job to run this command once a week. The command should delete all logs over seven days old. You always will have the last seven days of logs available on your system.

Enter **QHST*** to delete history logs.

Enter the minimum age of a log, in days, before it is deleted.

```
                     Delete History Logs (DLTHSTLOG)

 Type choices, press Enter.

 Generic log name . . . . . . . .   QHST*          QHST*
 Number of days old . . . . . . .   7              Character value


















                                                                   Bottom
  F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
  F24=More keys
```

DLTPRB—Delete Problem Log

The DLTPRB command is an IBM command that deletes old device problem logs. We have included it here because it is very important that you run this command regularly. Old device problem logs can gobble up your disk space in no time. Thus, you should create a Robot Schedule job to run this command once a week. Have it delete all logs over 30 days old. You still will always have the last 30 days of problem logs available on your system.

Enter a status to qualify which problem logs you want to delete.

Enter a **+** to display more blanks to enter statuses.

Enter the minimum age of a log in days before it is deleted (at least 30.)

```
                        Delete Problem (DLTPRB)

 Type choices, press Enter.

 Problem identifier . . . . . . . .   *ALL         Character value, *ALL
 Status type  . . . . . . . . . . .   *ALL         *ALL, *OPENED, *READY...
                 + for more values   _____
 Days . . . . . . . . . . . . . . .   30           0-999
 Origin:
   Network identifier . . . . . . .   *NETATR      Name, *NETATR, *ALL
   Control point name . . . . . . .   *NETATR      Name, *NETATR, *ALL




                                                                  Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

To limit the problem log entries deleted to those that originated at a specific node, enter its network identifier here. Or, enter *ALL for all nodes. The default, *NETATR, is the network identifier of the current system.

To limit the problem log entries deleted to those that originated on systems with a specific control point name, enter the name here. Or, enter *ALL for all control points. The default, *NETATR, is the control point name of the current system.

PRTDSKSPC—Print Disk Space Usage

The PRTDSKSPC command prints the Disk Usage Report, which shows how much disk space is used by each library in your system. The size of each library is determined by adding up the sizes of all objects in the library.

The Disk Usage Report is most useful if it is run at regular intervals so you can calculate the size differences, compare them, and determine growth trends. We recommend that you run the report once a week. The report takes from 1 to 3 hours to run, depending on the number of objects in your system, so run it at night or on weekends.

The report shows the total size of all objects in a library. It does not include the library index so the library size reported differs from that shown on an IBM DSPLIB report. Also, the report does not show the actual total disk space used because it does not include temporary or microcode space.
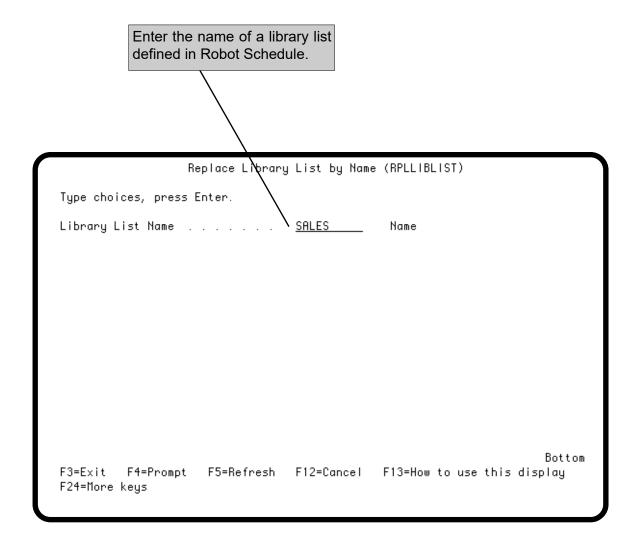
Note: To read all objects for the report, the security officer must own RBT142, the command processor program.

Enter the name of a specific library or ***ALL** for all libraries.

```
                  Print Disk Space By Library (PRTDSKSPC)

 Type choices, press Enter.

 Library name . . . . . . . . . .   *ALL          Name, or *all libraries


















                                                                    Bottom
   F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel   F13=How to use this display
   F24=More keys
```

RPLLIBLIST—Replace Library List

The RPLLIBLIST command changes your current library list to a library list you have defined in Robot Schedule. For more information about defining library lists in Robot Schedule, see Library Lists in the Scheduling Objects section. To see the library lists currently defined, enter the command **WRKLIBLIST**.

Use RPLLIBLIST instead of CHGLIBL so that you do not have to change your CL programs when you add or delete a library. All you need to do is change the library list as defined in Robot Schedule.

Enter the name of a library list defined in Robot Schedule.

```
                    Replace Library List by Name (RPLLIBLIST)

 Type choices, press Enter.

 Library List Name  . . . . . . . .   SALES        Name















                                                                    Bottom
  F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
  F24=More keys
```
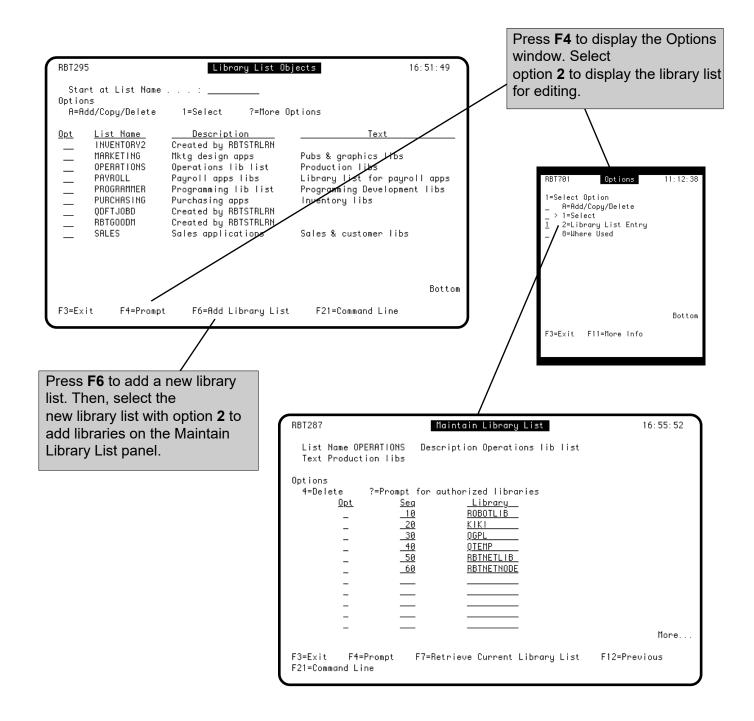
WRKLIBLIST – Work With Library Lists

The WRKLIBLIST command displays the Library List Objects panel so you can work with the library lists defined in Robot Schedule. The command has no parameters.
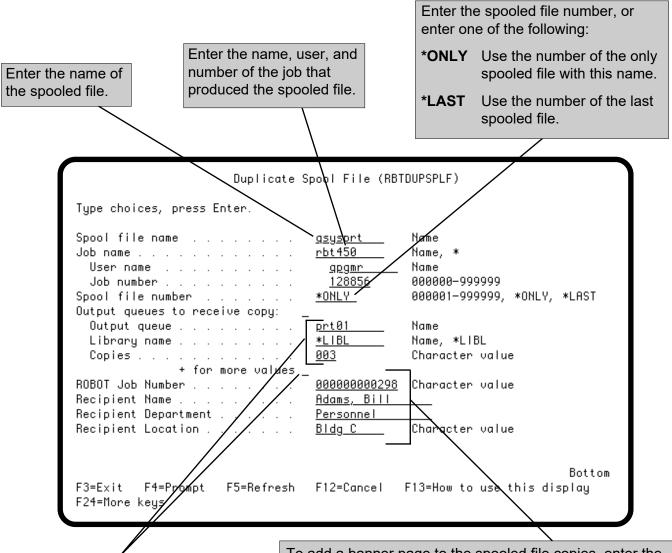
The panels displayed are the same ones described under Library List Objects in the Scheduling Objects section and you can perform the same options from them.

Note: Do not enter this command from a system command line that was accessed within Robot Schedule (using **F21**). This causes an error because you are already in Robot Schedule.

Press **F4** to display the Options window. Select option **2** to display the library list for editing.

```
RBT295                  Library List Objects              16:51:49

   Start at List Name . . . . : _____
Options
  A=Add/Copy/Delete      1=Select     ?=More Options

Opt    List Name      Description                  Text
 __    INVENTORY2    Created by RBTSTRLRN
 __    MARKETING     Mktg design apps     Pubs & graphics libs
 __    OPERATIONS    Operations lib list  Production libs
 __    PAYROLL       Payroll apps libs    Library list for payroll apps
 __    PROGRAMMER    Programming lib list Programming Development libs
 __    PURCHASING    Purchasing apps      Inventory libs
 __    QDFTJOBD      Created by RBTSTRLRN
 __    RBTGOODM      Created by RBTSTRLRN
 __    SALES         Sales applications   Sales & customer libs




                                                         Bottom

F3=Exit     F4=Prompt     F6=Add Library List     F21=Command Line
```

```
RBT701           Options           11:12:38

1=Select Option
 _    A=Add/Copy/Delete
 _ >  1=Select
 1    2=Library List Entry
 _    8=Where Used







                                 Bottom

F3=Exit    F11=More Info
```

Press **F6** to add a new library list. Then, select the new library list with option **2** to add libraries on the Maintain Library List panel.

```
RBT287                  Maintain Library List             16:55:52

   List Name OPERATIONS    Description Operations lib list
   Text Production libs

Options
  4=Delete       ?=Prompt for authorized libraries
          Opt        Seq        Library
           _          10       ROBOTLIB
           _          20       KIKI
           _          30       QGPL
           _          40       QTEMP
           _          50       RBTNETLIB
           _          60       RBTNETNODE
           _          __       _____
           _          __       _____
           _          __       _____
           _          __       _____
           _          __       _____
                                                         More...

F3=Exit    F4=Prompt    F7=Retrieve Current Library List    F12=Previous
F21=Command Line
```

RBTDUPSPLF—Duplicate Spooled File

The RBTDUPSPLF command duplicates a spooled file and puts the copies in up to 25 output queues. You can attach one of the banner pages entered in Robot Schedule Report Distribution to the spooled file copies.

Enter the spooled file number, or enter one of the following:

*ONLY Use the number of the only spooled file with this name.

*LAST Use the number of the last spooled file.

Enter the name, user, and number of the job that produced the spooled file.

Enter the name of the spooled file.

```
                    Duplicate Spool File (RBTDUPSPLF)

 Type choices, press Enter.

 Spool file name  . . . . . . . . .   qsysprt        Name
 Job name . . . . . . . . . . . . .   rbt450         Name, *
   User name  . . . . . . . . . . .     qpgmr        Name
   Job number . . . . . . . . . . .     128856       000000-999999
 Spool file number  . . . . . . . .   *ONLY          000001-999999, *ONLY, *LAST
 Output queues to receive copy:        _
   Output queue . . . . . . . . . .   prt01          Name
   Library name . . . . . . . . . .   *LIBL          Name, *LIBL
   Copies . . . . . . . . . . . . .   003            Character value
                 + for more values   _
 ROBOT Job Number . . . . . . . . .   000000000298   Character value
 Recipient Name . . . . . . . . . .   Adams, Bill
 Recipient Department . . . . . . .   Personnel
 Recipient Location . . . . . . . .   Bldg C         Character value


                                                                      Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Enter the name and library of the output queues to which the spooled file should go and the number of copies for each. Enter the number of copies as a 3-digit number. For example, for three copies, enter 003.

Enter a **+** to enter additional output queue names.

To add a banner page to the spooled file copies, enter the job number for the Robot Schedule job with the banner page entry. To use the banner page entry for an individual recipient, enter the recipient name, department, and location. If the banner page entry requests a recipient list, the recipient list also is printed.

Note: If a page range is specified in the original spooled file, it is carried over to the new spool file. The banner page and recipient list are added to the beginning of the spooled file, which adds pages to it. You can modify the specified page range in the original spool file or the new one.

RBT825—Calculate Date or Day Numbers

Call program RBT825 to calculate a date or a day number. RBT825 can either:

- Receive a date and return the day numbers for that date (fiscal, working, nonworking, and calendar).
- Receive a day number (fiscal, working, nonworking, or calendar) and return the date.

RBT825 uses the
Schedule calendar that you specify on the call. The following CL example calls RBT825 to determine today's workday number. RBT825 uses the STANDARD calendar and today's date.

Variable where result is passed out to calling program.

Robot Schedule calendar name (if blank, STANDARD is used).

Date in your system format.

Variable to convert DATE from character to decimal.

Fiscal day number.

Workday number.

Non-workday number.

Calendar day number.

```
100          PGM &VALUE
200          DCL      VAR(&VALUE) TYPE(*CHAR) LEN(3)
300          DCL      VAR(&CALNAM) TYPE(*CHAR) LEN(10)
400          DCL      VAR(&DATE) TYPE(*CHAR) LEN(6)
500          DCL      VAR(&DATE1) TYPE(*DEC) LEN(6 0)
600          DCL      VAR(&FISCAL) TYPE(*DEC) LEN(3 0)
700          DCL      VAR(&WORK) TYPE(*DEC) LEN(3 0)
800          DCL      VAR(&NONWRK) TYPE(*DEC) LEN(3 0)
900          DCL      VAR(&CALDAY) TYPE(*DEC) LEN(3 0)
1000         DCL      VAR(&GIVEN) TYPE(*CHAR) LEN(1) VALUE('1')
1100         DCL      VAR(&ERROR) TYPE(*CHAR) LEN(1)
1200         RTVSYSVAL SYSVAL(QDATE) RTNVAR(&DATE)
1300         CHGVAR   VAR(&DATE1) VALUE(&DATE)
1400         CALL     PGM(RBT825) PARM(&CALNAM &DATE1 &FISCAL &WORK
1500                   &NONWRK &CALDAY &GIVEN &ERROR)
1600         CHGVAR   VAR(&VALUE) VALUE(&WORK)
1700         ENDPGM
```

If an error is found, a **1** is returned.

Calls RBT825 to determine today's workday number.

Indicates which value the program is to use to calculate other fields:

1   Use the date you pass in (DATE). Workday and non-workday numbers are returned. Use RBT801 to determine if the date is a workday.

2   Use number of fiscal days (FISCAL).

3   Use number of workdays (WORK).

4   Use number of non-workdays (NONWRK).

5   Use number of calendar days (CALDAY).

6   Given DATE and FISCAL, use the corresponding date and day numbers of the month defined by the input value of DATE.

7   Given DATE and WORK, use the corresponding date and day numbers of the month defined by the input value of DATE.

8   Given DATE and NONWRK, use the corresponding date and day numbers of the month defined by the input value of DATE.

9   Given DATE and CALDAY, use the corresponding date and day numbers of the month defined by the input value of DATE.

RBT801—Get Information About a Date

Call program RBT801 to get information about a given date. You give it the date and the calendar to use, and it returns the day of the week, the week number, the last date in the month, the day number in the month, and whether the date is a workday or non-workday. The parameter list and an example follow. The following CL example gets information about today's date using the STANDARD calendar.

Variable used to return a result to the calling program.	Enter the date in this field.
	Variable to convert TDATE from character to decimal.

```
100              PGM &VALUE
200              DCL      VAR(&VALUE) TYPE(*CHAR) LEN(50)
300              DCL      VAR(&TDATE) TYPE(*CHAR) LEN(6)
400              DCL      VAR(&TDATED) TYPE(*DEC) LEN(6 0)
500              DCL      VAR(&DAYNO) TYPE(*CHAR) LEN(1)
600              DCL      VAR(&DAYNOD) TYPE(*DEC) LEN(1 0)
700              DCL      VAR(&WEEKNO) TYPE(*DEC) LEN(1 0)
800              DCL      VAR(&LASDAT) TYPE(*DEC) LEN(6 0)
900              DCL      VAR(&DAYMTH) TYPE(*DEC) LEN(2 0)
1000             DCL      VAR(&WRKDY) TYPE(*CHAR) LEN(1)
1100             DCL      VAR(&CALNAM) TYPE(*CHAR) LEN(10)
1200             DCL      VAR(&LASTYP) TYPE(*CHAR) LEN(1) VALUE(C)
1300             RTVSYSVAL SYSVAL(QDATE) RTNVAR(&TDATE)
1400             CHGVAR   VAR(&TDATED) VALUE(&TDATE)
1500             CALL RBT801 PARM(&TDATED &DAYNOD &WEEKNO &LASDAT +
1600                        &DAYMTH &WRKDY &CALNAM &LASTYP)
1700             CHGVAR   VAR(&VALUE) VALUE(&WRKDY)
1800             ENDPGM
```

Callouts:
- Day number of the week (1 is Monday, 2 is Tuesday, and so on).
- Variable to convert DAYNO from character to decimal.
- Week number of the month.
- Last date of the month (see LASTYP).
- Day number in the month.
- **Y** if the date is a workday; **N** if it is not.
- Enter Robot Schedule calendar to be used (if blank, STANDARD is used).
- Enter **'C'** if LASDAT should be the last calendar date. Enter **'F'** if LASDAT should be the last fiscal date.
- Calls RBT801 to get information about today's date.

RBT802—Calculate a Date From Another Date

Call program RBT802 to calculate a date from a date passed in. RBT802 can calculate a date for:

- A day number in the current month.
- The last day in the current month.
- The day that is n days before.

- A day number in the previous month.
- The last day in the previous month.
- The day that is *n* days after.

Note: RBT802 will not calculate the date of the first day of a fiscal month.
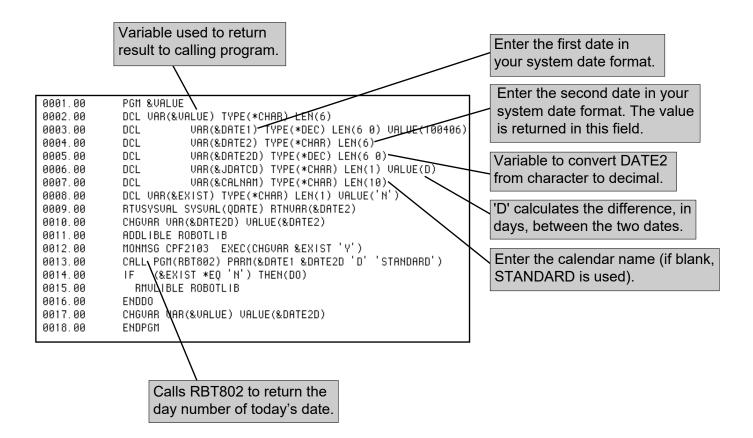
The following CL example uses the STANDARD calendar to subtract 3 days from today's date.

Variable used to return a result to the calling program.

Enter the initial date in your system date format. Robot Schedule uses this date to calculate the new date. The new date is returned in this field.

Variable to convert DATE from character to decimal.

Enter the calendar name. If blank, STANDARD is used. Always leave blank when JDATCD is '-' or '+'.

```
0001.00        PGM (&VALUE)
0002.00        DCL VAR(&VALUE) TYPE(*CHAR) LEN(6)
0003.00        DCL VAR(&DATE) TYPE(*CHAR) LEN(6)
0004.00        DCL VAR(&DATED) TYPE(*DEC) LEN(6 0)
0005.00        DCL VAR(&INCDAT) TYPE(*DEC) LEN(6 0) VALUE(3)
0006.00        DCL VAR(&CALNAM) TYPE(*CHAR) LEN(10) VALUE(STANDARD)
0007.00        DCL VAR(&EXIST) TYPE(*CHAR) LEN(1) VALUE('N')
0008.00        RTVSYSVAL SYSVAL(QDATE) RTNVAR(&DATE)
0009.00        CHGVAR VAR(&DATED) VALUE(&DATE)
0010.00        ADDLIBLE ROBOTLIB
0011.00        MONMSG CPF2103  EXEC(CHGVAR &EXIST 'Y')
0012.00        CALL PGM(RBT802) PARM(&DATED &INCDAT '-' &CALNAM)
0013.00        IF  (&EXIST *EQ 'N') THEN(DO)
0014.00         RMVLIBLE ROBOTLIB
0015.00        ENDDO
0016.00        CHGVAR VAR(&VALUE) VALUE(&DATED)
0017.00        ENDPGM
```

Calls RBT802 to subtract 3 days from today's date.

Specify the desired calculation:

JDATCD	INCDAT	Calculated date returned in DATE
P	day no.	Date for that day number in the current month.
L	day no.	Date for that day number in the previous month.
P	−1	Last date in current month.
L	−1	Last date in previous month.
'−'	*n*	Date that is *n* days before the passed-in date (1–500).
'+'	*n*	Date that is *n* days after the passed-in date (1–500).

RBT802—Calculate a Date From Another Date

This example uses a date of 10/04/06 and the current date to return the day number of today's date.

Variable used to return result to calling program.

Enter the first date in your system date format.

Enter the second date in your system date format. The value is returned in this field.

Variable to convert DATE2 from character to decimal.

'D' calculates the difference, in days, between the two dates.

Enter the calendar name (if blank, STANDARD is used).

```
0001.00      PGM &VALUE
0002.00      DCL VAR(&VALUE) TYPE(*CHAR) LEN(6)
0003.00      DCL       VAR(&DATE1) TYPE(*DEC) LEN(6 0) VALUE(100406)
0004.00      DCL       VAR(&DATE2) TYPE(*CHAR) LEN(6)
0005.00      DCL       VAR(&DATE2D) TYPE(*DEC) LEN(6 0)
0006.00      DCL       VAR(&JDATCD) TYPE(*CHAR) LEN(1) VALUE(D)
0007.00      DCL       VAR(&CALNAM) TYPE(*CHAR) LEN(10)
0008.00      DCL VAR(&EXIST) TYPE(*CHAR) LEN(1) VALUE('N')
0009.00      RTVSYSVAL SYSVAL(QDATE) RTNVAR(&DATE2)
0010.00      CHGVAR VAR(&DATE2D) VALUE(&DATE2)
0011.00      ADDLIBLE ROBOTLIB
0012.00      MONMSG CPF2103  EXEC(CHGVAR &EXIST 'Y')
0013.00      CALL PGM(RBT802) PARM(&DATE1 &DATE2D 'D' 'STANDARD')
0014.00      IF   (&EXIST *EQ 'N') THEN(DO)
0015.00        RMVLIBLE ROBOTLIB
0016.00      ENDDO
0017.00      CHGVAR VAR(&VALUE) VALUE(&DATE2D)
0018.00      ENDPGM
```

Calls RBT802 to return the day number of today's date.

RBT835—Call RBT835 To Calculate Time Difference

Call the Robot Schedule program RBT835 to calculate the number of minutes between two times. This example finds the number of minutes between today's current date and time and 6 p.m. on 9/26/06.

If you want to display audit logs for a specific user profile, enter the user profile name. ***ALL** displays the available audit logs for all user profiles.

Enter the first date.

Variable to convert BEGDAT from character to decimal.

Enter the first time (6 digits, 24-hour format).

Variable to convert BEGTIM from character to decimal.

Enter the second date.

Enter the second time (6 digits, 24-hour format).

Time difference in minutes.

```
100          PGM &VALUE
200          DCL VAR(&VALUE) TYPE(*CHAR) LEN(6)
300          DCL     VAR(&BEGDAT) TYPE(*CHAR) LEN(6)
400          DCL     VAR(&BEGDATD) TYPE(*DEC) LEN(6 0)
500          DCL     VAR(&BEGTIM) TYPE(*CHAR) LEN(6)
600          DCL     VAR(&BEGTIMD) TYPE(*DEC) LEN(6 0)
700          DCL     VAR(&ENDDAT) TYPE(*DEC) LEN(6 0) VALUE(092606)
800          DCL     VAR(&ENDTIM) TYPE(*DEC) LEN(6 0) VALUE(180000)
900          DCL     VAR(&TIMDIF) TYPE(*DEC) LEN(7 0)
1000         RTVSYSVAL  SYSVAL(QTIME) RTNVAR(&BEGTIM)
1100         CHGVAR   VAR(&BEGTIMD) VALUE(&BEGTIM)
1200         RTVSYSVAL  SYSVAL(QDATE) RTNVAR(&BEGDAT)
1300         CHGVAR   VAR(&BEGDATD) VALUE(&BEGDAT)
1400         CALL PGM(ROBOTLIB/RBT835) PARM(&BEGDATD &BEGTIMD &ENDDAT
1500                               &ENDTIM &TIMDIF)
1600         CHGVAR   VAR(&VALUE) VALUE(&TIMDIF)
1700         ENDPGM
```

Calls RBT835 to find the number of minutes between today's current date and time, and 6 p.m. on 9/26/06.

FCTJOBSMIS — Forecasted Jobs Missed Running

The Forecasted Jobs Missed Running command allows you to select a forecast name that has completed its build and a specific date/time range in that forecasting or an entire forecasting period to find the jobs that missed running.

This command creates a report that lists the forecasted jobs that have missed running based on the specified forecast name and date/time range. There is also an editable deviation time that is held within the RBT4503DT data area and is defaulted to 60 seconds. The deviation time tells the system to wait for the specified number of seconds after the forecasted submit date/time before flagging the forecasted job as missed. This time can be increased to a maximum of 9999 seconds based on system need.

■ **Overview**

Use Robot Schedule Domino commands to manage your Domino servers and maintain your Domino databases using the products of the Robot Automated Operations Solution.

The Domino server management commands allow you to:
- Start all Domino servers
- Stop all Domino servers

In addition, the Domino database maintenance commands allow you to:

- Execute Domino agents

- Archive Domino databases. This command allows you to delete all documents in a database or specify when unread, unmodified, and expired documents are archived.

- Delete Domino databases

- Compact Domino databases. This command allows you to choose from three different styles of compacting: In-place (in-place compacting with space recovery); Reduce (in-place compacting with space recovery and file size reduction); and Copy (copy-style compacting).

- Delete all attachments from database documents older than a specified date.

■ **Prerequisites to Using the Robot Schedule Domino Commands**

For security reasons, the public authority for the Domino commands is set to *EXCLUDE. To use the Domino commands, you must have authority to the QNOTES user profile. In addition, you must use Lotus Domino version 5.0.6 or later.

■ Using the Robot Schedule Domino Commands

Use the Domino commands within your regular job schedule and let Robot Schedule handle your Domino server management and database maintenance for you. You can set up the Domino commands to run when it best suits your needs: daily, weekly, monthly, or yearly. You can schedule Domino agents; schedule database archivals and compactions; delete entire databases or delete attachments from old database documents, all with Robot Schedule. Robot Schedule can keep your Domino servers and databases running smoothly, reliably, and error-free.
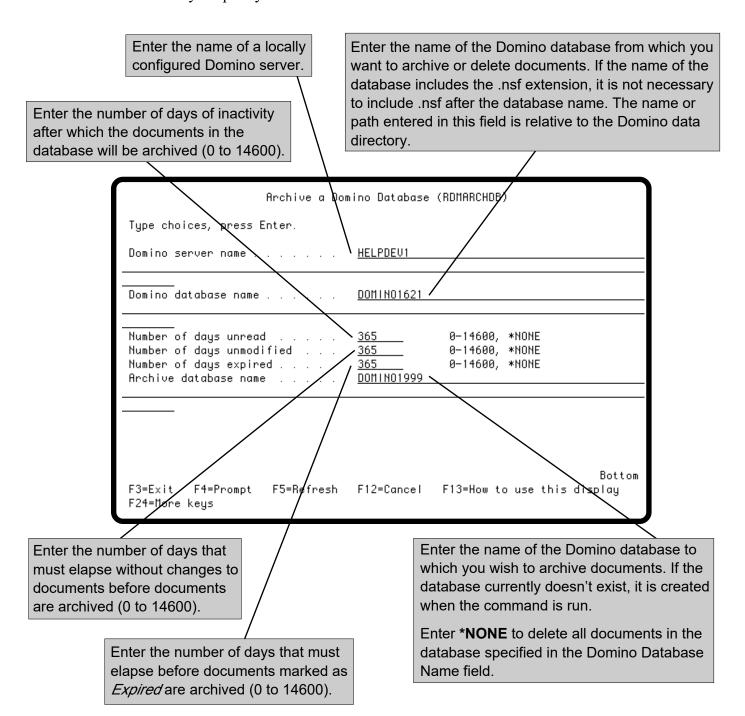
■ Using Robot Domino With Robot Console

You can set up Robot Console, the message management software, to run the Domino commands on an exception basis. Robot Console, using OPerator Assistance Language (OPAL), can execute the proper Domino commands in response to message content. See Using the Domino Commands With Robot Console OPAL, later in this guide.

The RDMARCHDB (Archive Domino Database) Command

Use the RDMARCHDB command to archive documents from one Domino database to a new or existing Domino database that you specify in the Archive Database Name field. The default value for the Archive Database Name field is ***NONE**. If you do not enter a database name in this field (***NONE** is present), all documents in the database specified in the Domino Database Name field are deleted permanently when the command is run.

You can use this command to delete all unread, unmodified, or expired documents in a database that meet the selection criteria that you specify on the command.

Enter the name of a locally configured Domino server.

Enter the name of the Domino database from which you want to archive or delete documents. If the name of the database includes the .nsf extension, it is not necessary to include .nsf after the database name. The name or path entered in this field is relative to the Domino data directory.

Enter the number of days of inactivity after which the documents in the database will be archived (0 to 14600).

```
                    Archive a Domino Database (RDMARCHDB)

 Type choices, press Enter.

 Domino server name . . . . . . .   HELPDEV1


 Domino database name . . . . .    DOMINO1621


 Number of days unread  . . . . .   365          0-14600, *NONE
 Number of days unmodified  . . .   365          0-14600, *NONE
 Number of days expired . . . .     365          0-14600, *NONE
 Archive database name  . . . . .  DOMINO1999




                                                                     Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter the number of days that must elapse without changes to documents before documents are archived (0 to 14600).

Enter the number of days that must elapse before documents marked as *Expired* are archived (0 to 14600).

Enter the name of the Domino database to which you wish to archive documents. If the database currently doesn't exist, it is created when the command is run.

Enter ***NONE** to delete all documents in the database specified in the Domino Database Name field.

The RDMCOMDB (Compact Domino Database Command

Use the RDMCOMDB command to compact a Domino database. Lotus Domino Release 5 uses three different styles of compacting: In-place (in-place compacting with space recovery); Reduce (in-place compacting with space recovery and file size reduction); and Copy (copy-style compacting).

The Percent Used parameter for this command is a required field. You must enter a percent of used space for a database in the field. If you specify the percent used as 90% and the database has greater than 90% percent used space (or 10% unused space), the database is NOT compacted. This parameter is designed to ensure that a database is not compacted when there is little or nothing to be gained by doing so.

The Revert Database to R4 Format option allows you to specify the format, R4 or R5, in which you want the database to be after compacting. When you enter a ***YES** value in this field, the Set Maximum Size To 4GB field displays. Use this field to set the maximum size of a database to 4 gigabytes. The Set Maximum Size To 4GB field is valid only when compacting databases in Release 4 file format.

Press **F9** to view the Auto archive on server parameter. Use this parameter to specify if you want to automatically archive documents using advanced archiving options. All parameters are described on the following pages.

Enter the name of a locally configured Domino server.

```
                    Compact a Domino Database (RDMCOMDB)

    Type choices, press Enter.

    Domino server name . . . . . . . >  HELPDEV1


    Domino database name . . . . . . >  DOMINO1621


    Percent Used . . . . . . . . . . >  90         0%-100%
    Discard built view indexes . . .    *NO        *YES, *NO
    Revert database to R4 format . .    *NO        *YES, *NO
    Compaction style . . . . . . . .    *INPLACE   *NONE, *INPLACE, *REDUCE...

                            Additional Parameters

    Auto archive on server . . . . .    *NO        *NO, *ONLY, *YES


                                                                 Bottom
    F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
    F24=More keys
```

The RDMCOMDB (Compact Domino Database) Command

Enter the name of the Domino database to be compacted. If the name of the database includes the .nsf extension, it is not necessary to include .nsf after the database name. The name or path entered in this field is relative to the Domino data directory.

Enter ***ALL** to compact all databases in the Domino data directory of the server specified in the Domino Server Name field.

Enter the percentage of used space allowed for a Domino database. When a database is used less efficiently, the database is compacted when the command is run.

```
                  Compact a Domino Database (RDMCOMDB)

 Type choices, press Enter.

 Domino server name . . . . . . .  > HELPDEV1
 _____
 Domino database name . . . . . . > DOMINO1621
 _____
 Percent Used . . . . . . . . . . > 90           0%-100%
 Discard built view indexes . . .   *NO           *YES, *NO
 Revert database to R4 format . .   *NO           *YES, *NO
 Compaction style . . . . . . . .   *INPLACE      *NONE, *INPLACE, *REDUCE...

                          Additional Parameters

 Auto archive on server . . . . .   *NO           *NO, *ONLY, *YES



                                                              Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Enter ***YES** to discard all database view indexes. Use this option to compact databases before storing them on tape. This uses copy-style compacting.

Enter ***NO** if you do not want to discard the database view indexes.

Enter ***NO** to convert the database to, or leave it in, the current format when compaction is complete. Compaction automatically converts databases to the current release format if this parameter is not specified.

Enter ***YES** to leave the database in, or revert it to, the previous format when compaction is complete. When you enter ***YES** in this field, the Set Maximum Size To 4GB field displays.

This field is used only when the compaction style is *COPY, *ALWACC, or *IGNERR.

The RDMCOMDB (Compact Domino Database) Command

Enter one of the following compaction methods:

*INPLACE   Recovers unused space in a database, but doesn't reduce its size. Database instance IDs (DBIIDs) are retained: the compacted database and transaction log remain in sync.

*REDUCE   Reduces the size of Release 5 databases and recovers unused space. DBIIDs are reset after compacting: the relationship between the database and transaction log is broken.

*COPY   Creates a copy of the database and deletes the original database after compacting the copy: a new database and new DBIID are created. Users cannot read the database while *COPY compaction is in progress. If users must read the database during compaction, use the *ALWACC option.
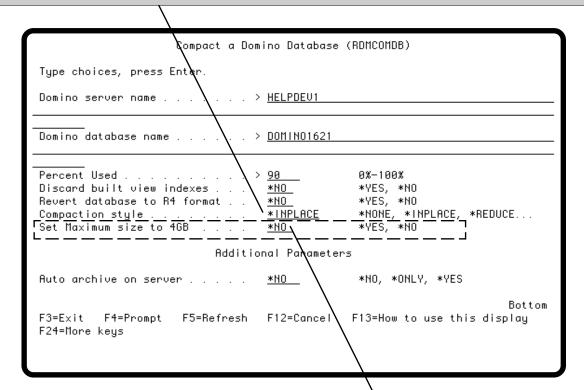
*ALWACC   Same as *COPY, but users are able to read the database during compaction.

*IGNERR   Uses copy-style compaction, but allows compaction to continue if errors occur.

*NONE   Use *NONE when you have specified ARCHIVE(*ONLY) to auto-archive a database on the server.

```
                  Compact a Domino Database (RDMCOMDB)

 Type choices, press Enter.

 Domino server name . . . . . . . . . > HELPDEV1
 _____

 _____
 Domino database name . . . . . . . . > DOMINO1621
 _____

 _____
 Percent Used . . . . . . . . . . . > 90           0%-100%
 Discard built view indexes . . .     *NO          *YES, *NO
 Revert database to R4 format . .     *NO          *YES, *NO
 Compaction style . . . . . . . .     *INPLACE     *NONE, *INPLACE, *REDUCE...
 Set Maximum size to 4GB . . . .      *NO          *YES, *NO

                          Additional Parameters

 Auto archive on server . . . . .     *NO          *NO, *ONLY, *YES


                                                              Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel   F13=How to use this display
 F24=More keys
```

Specify whether you want to set a maximum size for the database.

Enter ***NO** and the maximum size of the database is not affected by this command.

Enter ***YES** to set the maximum size of the database to 4GB when compaction is complete.

This parameter displays only when you press **F9** or enter ***YES** in the Revert Database To R4 Format field. This option is available only when compacting Release 4 file format databases. It forces Copy-style compacting.

The RDMCOMDB (Compact Domino Database) Command

Use the Auto archive on server parameter to archive documents if the current database is on a server and the advanced-archiving option, Automatically On Server, is selected. This option is NOT available through the Compact tool, under the Files tab, of the Lotus Domino Administrator. You can enter one of the following values:

***NO**   Compacts the database without archiving it.

***ONLY**   Archives the database without compacting it.
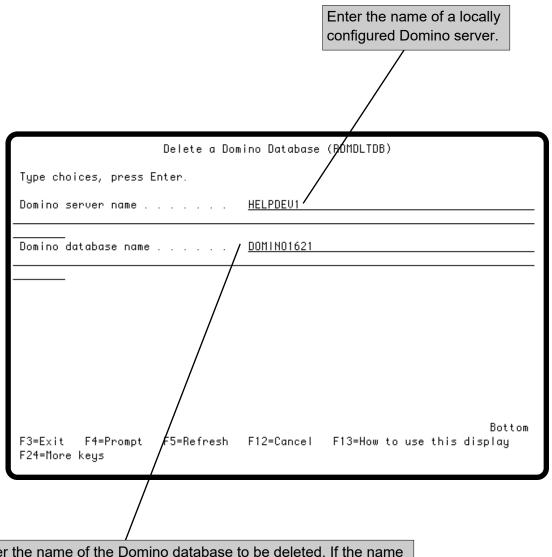
***YES**   Archives and compacts the database.

This parameter displays only when you press F9

```
                    Compact a Domino Database (RDMCOMDB)

 Type choices, press Enter.

 Domino server name . . .    . . . > HELPDEV1


 Domino database name . . .    . . > DOMINO1621


 Percent Used . . . . . . . . .  . > 90          0%-100%
 Discard built view indexes . . .   *NO          *YES, *NO
 Revert database to R4 format . .   *NO          *YES, *NO
 Compaction style . . . . . . .     *INPLACE     *NONE, *INPLACE, *REDUCE...

                           Additional Parameters

 Auto archive on server . . . . .   *NO          *NO, *ONLY, *YES


                                                                     Bottom
 F3=Exit   F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

The RDMDLTDB (Delete Domino Database) Command
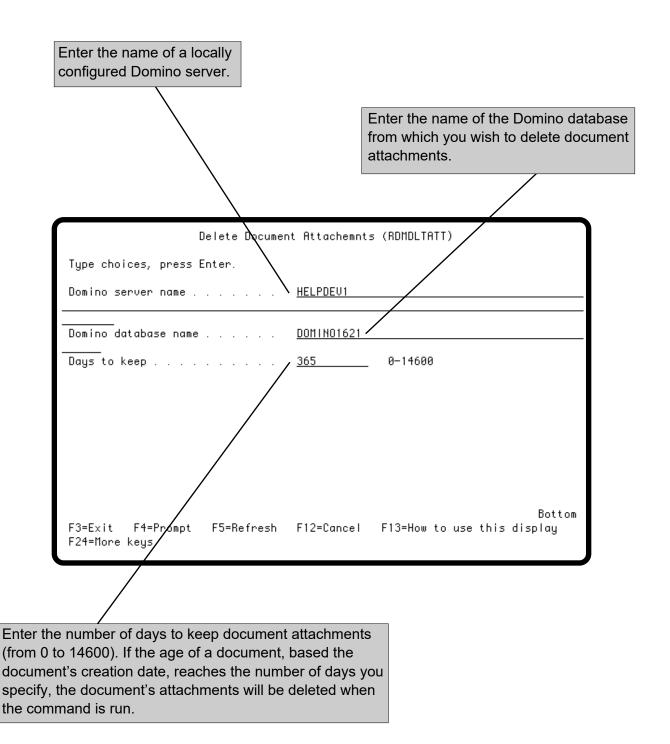
Use the RDMDLTDB command to delete a Domino database. The server must be locally configured. The RDMDLTDB command does not work on remote servers.

Enter the name of a locally configured Domino server.

```
                  Delete a Domino Database (RDMDLTDB)

 Type choices, press Enter.

 Domino server name  . . . . . . .   HELPDEV1


 Domino database name  . . . . . .   DOMINO1621




                                                                    Bottom
 F3=Exit    F4=Prompt   F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter the name of the Domino database to be deleted. If the name of the database includes the .nsf extension, you do not need to include .nsf after the database name. The name or path entered in this field is relative to the Domino data directory.
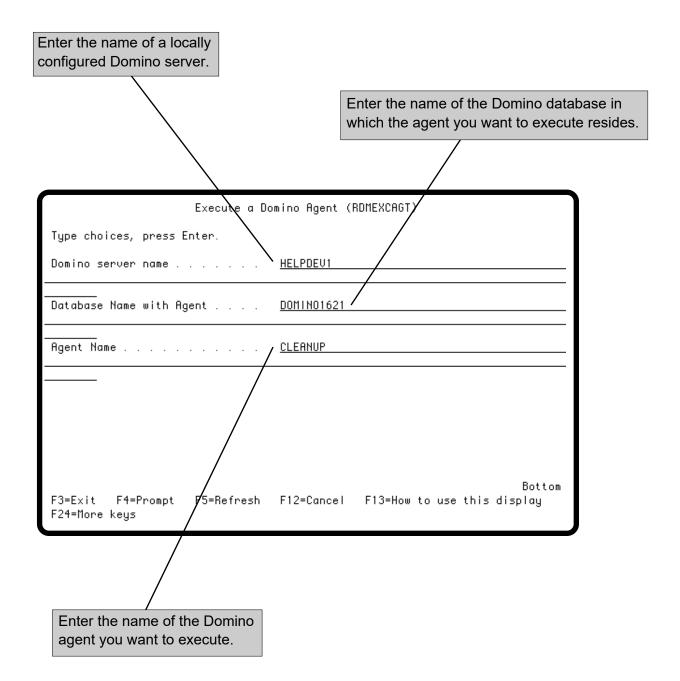
The RDMDLTATT (Delete Domino Document Attachments) Command

Use the RDMDLTATT to delete attachments from documents in a Domino database when the documents reach a specific age, based on the document's creation date.
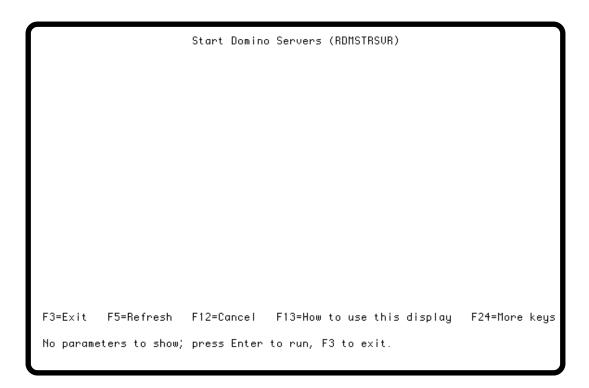
Enter the name of a locally configured Domino server.

Enter the name of the Domino database from which you wish to delete document attachments.

```
                    Delete Document Attachemnts (RDMDLTATT)

 Type choices, press Enter.

 Domino server name . . . . . . .   HELPDEV1


 Domino database name . . . . . .   DOMINO1621


 Days to keep . . . . . . . . . .   365          0-14600










                                                                    Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```

Enter the number of days to keep document attachments (from 0 to 14600). If the age of a document, based the document's creation date, reaches the number of days you specify, the document's attachments will be deleted when the command is run.

The RDMEXCAGT (Execute Domino Agent) Command

Use the RDMEXCAGT command to execute a Domino agent. The server must be locally configured. The RDMEXCAGT command does not work on remote servers.

Enter the name of a locally configured Domino server.

Enter the name of the Domino database in which the agent you want to execute resides.

```
                   Execute a Domino Agent (RDMEXCAGT)

 Type choices, press Enter.

 Domino server name . . . . . . .   HELPDEV1


 Database Name with Agent . . . .   DOMINO1621


 Agent Name . . . . . . . . . . .   CLEANUP





                                                                 Bottom
 F3=Exit    F4=Prompt    F5=Refresh   F12=Cancel   F13=How to use this display
 F24=More keys
```

Enter the name of the Domino agent you want to execute.

The RDMSTRSVR (Start Domino Servers) Command

Use the RDMSTRSVR command to start all locally-configured Domino servers from a Robot Automated Operations Solution product, from a command line, or from a CL program. There are no parameters for the RDMSTRSVR command. Press Enter to run the command. This command does not start Same Time or Quickplace servers.

```
                    Start Domino Servers (RDMSTRSVR)


















 F3=Exit    F5=Refresh    F12=Cancel    F13=How to use this display    F24=More keys

 No parameters to show; press Enter to run, F3 to exit.
```

The RDMENDSVR (End Domino Servers) Command

Use the RDMENDSVR command to end all locally configured Domino servers from the Robot Automated Operations Solution products, from a command line, or from a CL program. This command allows you to specify whether the Domino servers are ended immediately or in a controlled manner.

Enter how you want to end all Domino servers:

*CNTRLD   Sends the QUIT Domino server command to all Domino servers and shuts them down. All IBM i jobs used by the Domino server are ended, but the IBM i subsystem used by the server remains operational.
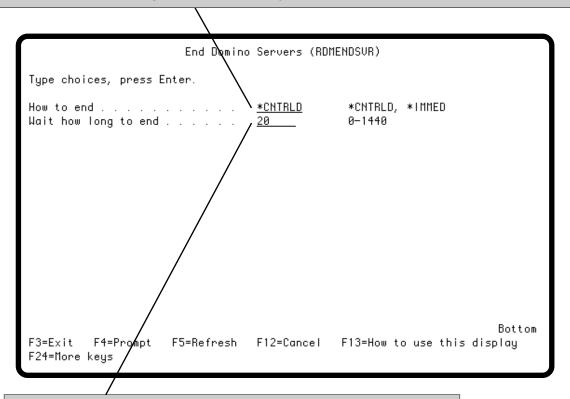
Note: If the time required to end a server exceeds the time you specify in the Wait how long to end field, the server is ended with the *IMMED option, which ends the server's subsystem.

*IMMED   Runs the IBM i End Subsystem command (ENDSBS) with an option of *IMMED. Each subsystem in which a Domino server is running is ended. All processing by the Domino server is ended immediately.

Note: Use this option only when the server fails to end using the *CNTRLD option, or when you enter the **QUIT** command from the Domino server console. Data could be lost if server processing is stopped abruptly.

```
                        End Domino Servers (RDMENDSVR)

 Type choices, press Enter.

 How to end . . . . . . . . . . .   *CNTRLD         *CNTRLD, *IMMED
 Wait how long to end . . . . . .   20              0-1440




                                                                      Bottom
 F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
 F24=More keys
```
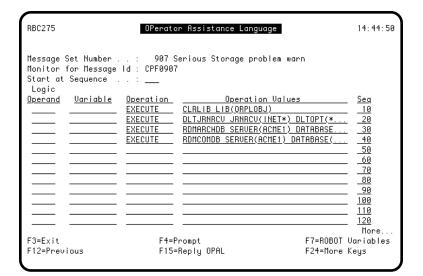
This field appears when you enter *CNTRLD in the How to end field.

Enter the number of minutes, from 0 to 1440 (24 hours), to wait for the server to end in a controlled manner before ending the server with the *IMMED option.
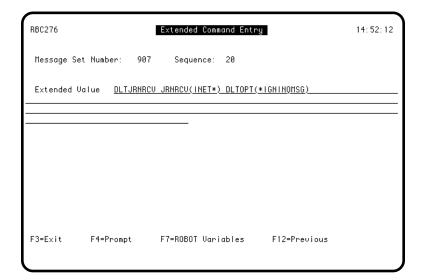
Using the Domino Commands With Robot Console OPAL

Using Robot Console, the message management software, you can run Robot DOMINO commands on an exception basis. Robot Console, using OPerator Assistance Language (OPAL), can execute the proper commands to clean up your databases when a serious storage condition exists.

The following example outlines the OPAL code required to automate the Archive Domino Database (RDMARCHDB) and Compact Domino Database (RDMCOMDB) commands.
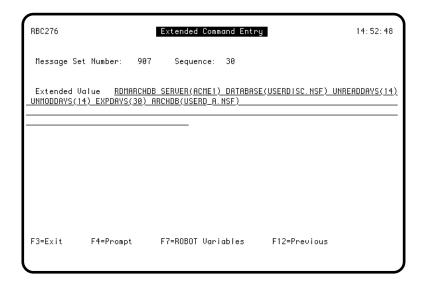
```
RBC275                  OPerator Assistance Language         14:44:50


Message Set Number . . :   907 Serious Storage problem warn
Monitor for Message Id : CPF0907
Start at Sequence  . . : ___
 Logic
Operand    Variable    Operation         Operation Values         Seq
 _____    _____    EXECUTE     CLRLIB LIB(QRPLOBJ)             10
 _____    _____    EXECUTE     DLTJRNRCV JRNRCV(INET*) DLTOPT(*...  20
 _____    _____    EXECUTE     RDMARCHDB SERVER(ACME1) DATABASE...  30
 _____    _____    EXECUTE     RDMCOMDB SERVER(ACME1) DATABASE(...  40
 _____    _____    _____    _____     50
 _____    _____    _____    _____     60
 _____    _____    _____    _____     70
 _____    _____    _____    _____     80
 _____    _____    _____    _____     90
 _____    _____    _____    _____    100
 _____    _____    _____    _____    110
 _____    _____    _____    _____    120
                                                              More...
F3=Exit              F4=Prompt             F7=ROBOT Variables
F12=Previous         F15=Reply OPAL        F24=More Keys
```

Create a message set using OPAL code to automate the RDMARCHDB and RDMCOMDB commands.

```
RBC276                  Extended Command Entry                14:52:12


  Message Set Number:   907     Sequence:   20


  Extended Value   DLTJRNRCV JRNRCV(INET*) DLTOPT(*IGNINQMSG)
  _____
  _____
  _____




F3=Exit     F4=Prompt     F7=ROBOT Variables     F12=Previous
```
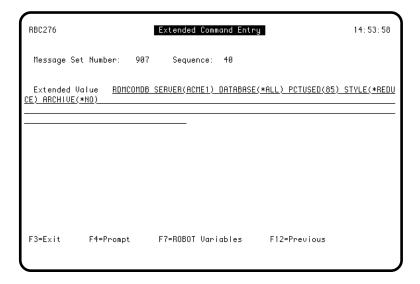
Press **F4** at sequence number 20 to display the Extended Command Entry panel and enter the parameters for the DLTJRNRCV command.

Using the Domino Commands With Robot Console OPAL

```
RBC276              Extended Command Entry              14:52:48


  Message Set Number:   907     Sequence:   30


  Extended Value   RDMARCHDB SERVER(ACME1) DATABASE(USERDISC.NSF) UNREADDAYS(14)
UNMODDAYS(14) EXPDAYS(30) ARCHDB(USERD_A.NSF)
_____

_____









  F3=Exit     F4=Prompt     F7=ROBOT Variables     F12=Previous
```

Press **F4** at sequence number 30 to display the Extended Command Entry panel and enter the parameters for the RDMARCHDB command.

```
RBC276              Extended Command Entry              14:53:58


  Message Set Number:   907     Sequence:   40


  Extended Value   RDMCOMDB SERVER(ACME1) DATABASE(*ALL) PCTUSED(85) STYLE(*REDU
CE) ARCHIVE(*NO)
_____

_____









  F3=Exit     F4=Prompt     F7=ROBOT Variables     F12=Previous
```

Press **F4** at sequence number 40 to display the Extended Command Entry panel and enter the parameters for the RDMCOMDB command.

■ Operations Checklist

For error-free operation of Robot DOMINO, we recommend that you schedule all weekly, monthly, and semiannual procedures in Robot Schedule. Keep in mind that these are general recommendations that you can tailor to your operations. Weekly and monthly procedures can be done more or less often, as required.

Execute agents whenever necessary.

■ Weekly Operations

About once a week:

- Compact all databases using the ***INPLACE** compaction option.

- Archive all frequently used databases.

■ Monthly Operations

About once a month:

- Compact all databases using the ***REDUCE** compaction option.

- Archive all databases, then delete all document attachments from the previous 30 days. Save and delete the archives.

■ Semiannual Operations

About twice a year:

- Delete all unused or temporary databases.