

***Shop Control***

*Capacity Scheduling for Pro Series*

***Lahey***

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June, 2001 Edition

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# *1. Overview*

- ◆ Introduction
- ◆ Understanding Lahey Shop Control
- ◆ Other Lahey Products

◆ *Chapter 1: Overview*

## Introduction

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Lahey Shop Control provides fixed capacity scheduling and what-if work orders, which are critical elements of Manufacturing Resource Planning (MRPII). It imports work orders and routes stored in a separate module, Lahey Work Orders, to schedule the operation steps against work center capacity. During the scheduling process, Shop Control records the start and stop times for each operation step on all work orders previously imported into the scheduling module. The program prints work order schedules, work center schedules, and material requirement planning reports with plan orders separated from production orders to help with purchasing, inventory management, and work order tracking.

Featuring completely seamless integration with Pro Series, Shop Control adheres to Pro Series programming and interface standards. This guarantees the highest level of productivity by delivering the same intuitive operation no matter which Pro Series module is in use. Users are also able to take advantage of convenient Pro Series features like, File Browsers, Key Changes, and the Business Status Report. All data files are updated in real time, providing up-to-the-minute access to your company's most valuable asset—information.

Your first step to using Shop Control begins by installing Inventory Control. This module includes settings for multiple warehouse locations, the inventory costing method, cost decimals, and inventory item characteristics. After you create your inventory files, Inventory Control automatically maintains inventory costs and quantities by sharing its information with other applications.

Accounts Receivable, Sales Orders, Purchase Orders, Production Entry, Work Orders and Shop Control share the inventory file with Inventory Control, so as you enter a transaction that affects inventory, your inventory balances always reflect the most up-to-date information. You can also add items or make changes to the inventory files directly from these modules.

## ◆ Chapter 1: Overview

The second step that needs to be done before using Shop Control involves installing Production Entry and defining your bill of material structures. These structures define the relationship between component parts and finished goods, as well as, how the bill of materials should behave during transaction processing. Please refer to your Production Entry manual for more information on bills of materials.

The final step that needs to be done before using Shop Control is to install Work Orders and define your route structures. A route tells the manufacturing system how to make a finished good by defining the sequential operation steps and recording how much time each operation requires at each work center. Please refer to your Work Orders manual for more information on routes.

Once your inventory files, bill of material files, and route files are defined, you can perform the daily tasks of creating work orders, scheduling work centers, and generating planning reports.

## Understanding Lahey Shop Control

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*Make sure that you have defined your inventory items, bill of material files, and your route files and verified that they are operating correctly before you start working with Shop Control. Bad information in your inventory, bill of materials, or work order system will render any information provided by Shop Control to be incorrect, leading to potentially costly errors.*

This section contains some of the basic concepts behind the program: work orders, plan orders, routes, MRP, MRPII, and how Shop Control's scheduling algorithm calculates completion dates.

### Work Orders

The work order is a document that provides the information necessary to manufacture a parent part. It includes information from the inventory files, the bill of material files, the route files, and the sales order (if linked to Sales Orders). A work order stores the parent part to be manufactured, the finished quantity to be produced, the component parts and quantities required, and the instructions for how the parent part is to be produced (if routes are in use). All component and finished good allocations in Inventory Control are derived from work order transactions.

Shop Control can import open work order transactions created in Lahey Work Orders and then calculate a predictive, fixed-capacity schedule based on work center capacities, operation cycle times, and finished good quantities.



*For more information about work orders, see "Understanding Lahey Work Orders, The Work Order" in Chapter 1 of the Lahey Work Orders manual.*

## Plan Orders

A plan order provides a method for proposing a “what-if” production scenario. It behaves almost identically to a work order in that it includes information from the inventory files, the bill of material files, the route files, and the sales order (if linked to Sales Orders). The difference is that a plan order does not update the On Order and Allocated values in Inventory Control. This gives the production manager an environment to experiment with material requirements and production resources without affecting actual production decisions.

Entering plan orders in Shop Control is virtually identical to entering work orders in Work Orders. The only exception is that Shop Control will calculate the necessary component requirements and operation steps as soon as each document is saved.



*For more information about creating plan orders, see “Creating Plan Orders” in Chapter 4 of this manual.*

## Routes

While the bill of materials describes *what* is required to make a finished good, the route describes *how* to make a finished good. The route files specify the operations (or labor steps), work centers (or resource areas), and time required to make a finished good. The route can also store processing instructions for an operation step, a key ingredient to ISO certification. Shop Control uses the route files as the framework to calculate a fixed capacity schedule.



*For more information about maintaining routes, see “Routes” in Chapter 3 of the Lahey Work Orders manual.*

## Material Requirement Planning (MRP)

MRP is a technique to calculate when components are required by time-phasing required dates from sales orders, purchase orders, and work orders. By including inventory and bill of material data, MRP makes recommendations of not only what to purchase and what to make, but when to purchase it and when to make it. MRP can also identify when to reschedule open orders when required dates are not in sync with each other.

The following table is an example of the MRP available with Shop Control. The rows with the On Order values will add to the On-Hand balance, while the rows with the Allocated values will subtract from the On-Hand balance. Notice the rows for Shop Control receipts and issues from the plan order transactions.

MRP calculated using a weekly reporting calendar	Period 1	Period 2	Period 3	Period <i>n</i>
	Week 1	Week 2	Week 3	Week <i>n</i>
On-Hand	400	122	39	175
On Order, PO	0	200	0	200
On Order, WO	0	0	600	300
On Order, SC	100	0	100	0
Allocated, SO	125	75	250	180
Allocated, WO	253	158	314	279
Allocated, SC	0	50	0	200
Surplus/Shortage	122	39	175	16

## Manufacturing Resource Planning (MRPII)

MRPII is a method for the effective planning of all components and routes of a manufacturing company. It includes many advanced and sometimes sophisticated elements, but mainly involves MRP with fixed capacity scheduling in the middle-market where Pro Series is sold. Lahey Production Entry, Lahey Work Orders, and Lahey Shop Control work together to provide an effective MRPII solution for Pro Series.

### Scheduling Completion Dates

Shop Control utilizes the operation steps and work center capacities defined in the route to calculate the predicted completion date for each order. The following outline explains each step of scheduling process.

1. Each work center starts with an empty schedule for the number of days specified by the scheduler. The work center record defines what time each work center goes online each day and the number of hours each work center is available.

Work Center	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day n
A								
B								
C								
n								

2. As the scheduling algorithm steps through the Shop Control transaction file, it tracks how much capacity is used at each work center by subtracting the labor required for each operation from the total capacity. Each symbol represents a different order in the following table.

Work Center	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day n
A	①①	②③	③③	④⑤	open	open	open	open
B	open	①②	open	③③	③④	⑤	open	open
C	open	①	②	open	④	③③	③⑤	open
n	open	open	①②	open	open	④	⑤	open

3. Notice how Order ③ uses the capacity of Work Center A on Day 3 and prevents Orders ④ and ⑤ from starting until Day 4. Shop Control quickly and efficiently tracks work center availability and then determines the date each order will be completed. It compares the completion date to the required date and marks the overdue orders.



## Other Lahey Products

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Lahey offers an expansive line of seamlessly integrated ERP modules:

### Warehouse Manager

Warehouse Manager supports the planning and tracking of inventory movement between warehouse locations. Bill of ladings can be printed for warehouse transfer or sales order transactions. An optional item description and other attributes can be assigned to each inventory item for rules-based handling of National Motor Freight Classification (NMFC) codes that universally identify the contents being shipped. Distributor Requirement Planning (DRP) reports are available to ensure the proper time phasing for on-hand inventory, sales order required dates, and purchase order dates.

**Enter Transfers**

Add Edit Delete Header

In-Transit **INTRAN** Transfer Number 1001

Ship From **PLANT1** **PLANT1** Req Ship Date 03/23/00

Receive Into **WH2** **Warehouse 2** Req Receipt Date 03/27/00

Carrier ID **GIT1** **GI Trucking** Transit Days 3

Item Quantity U/M Factor On Hand

1.00000

Item	Qty	U/M	Description
A2EW	12.000	EA	Uninterruptible Power Supply Protection
BACD	30.000	EA	Backup Drive, 3.0 GB Parallel/SCSI(w/2 cartridges)

◆ Chapter 1: Overview

Customer Service

Customer Service tracks customer, vendor, and prospect events for an unlimited number of contact names per company. It provides unlimited notes for each contact event and a follow-up field for effective contact management and customer service. Each contact record supports eight phone numbers, nine user-defined fields, and additional fields for personal information management. Single-click access to critical data puts information at your fingertips.

PRO Company Screen

Select Ewd Back Edit Delete Export Company

Comp ID ADG1 Cst/Vnd ADG1 /

Company Addison, Dutton and Grant, Inc

Address Main Offices  
1334 New Park Mall

City/St Palo Alto CA

Zip 94306

Country U.S.A.

Contacts 06/22/95

Hugh Grant  
Susan B. Anthony

Add  
Edit  
Delete  
Contact  
Events

Comp 1 Comp 3 Comp 5  
Comp 2 Comp 4 Source  
SIC Code Size

Customer Information Vendor Information

Credit Limit 500000 Past Due Credit Limit

< 30 0 < 60 0 > 60 70555 < 30 0 < 60 0 > 60 0

## Project Accounting

Project Accounting provides a budget and costing tool for project accounting and job cost management. Its design allows for up to four levels of cost tracking with project, phase, category, and cost-type definition. The job account mask supports the optional use of phases and/or categories and cost-types are user-definable.

The screenshot shows a software window titled "Job Maintenance, Detail Screen". It contains the following fields and data:

- Job: ADCAMP
- Description: Ad Campaign for New Line
- Customer No.: AHC1
- Company: Argentina Hanover Corporation
- Phase: DESIGN
- Description: Design
- Category: BRAN
- Description: Brainstorm/Creative Session
- Code: AD
- Started: 10/01/93
- Completed: / /

	Estimate	Budget	Actual
Quantity	0.000	20.000	3.000
Unit Cost	0.0000	50.0000	333.33
Amount	0.00	1000.00	1000.00

## For More Information

Call Lahey at **818/735-7300** or visit <http://www.lahey.net> for more information on seamlessly integrated ERP modules for Pro Series.

◆ *Chapter 1: Overview*

## 2. *Installing the Program*

- ◆ Quick Start
- ◆ Running the Setup Program
- ◆ Updating Your Installation
- ◆ Installing Updates
- ◆ Trial Version Limitations
- ◆ Manual Installation

◆ *Chapter 2: Installing the Program*

## Quick Start

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This section contains a checklist of the steps necessary to install Lahey applications for Pro Series. Be sure to complete each step in the order specified here. Do not proceed to the next step until you have completed the previous step.

- Install and link all of your Pro Series modules. See the Pro Series Installation Guide for instructions.
- Read the Overview (Chapter 1) for each Lahey application you are installing.
- Install the Lahey application. See “Running the Setup Program” in this chapter.
- Update your installation with data dictionary changes, custom program files, and custom screen files for Pro Series applications, if necessary. See “Updating Your Installation” in this chapter.
- If you are installing a trial version of a Lahey application, see "Trial Version Limitations" in this chapter.

Once you have done all of these steps, you are ready to handle the tasks that make up the day-to-day routine of working with the program: maintaining key application tables, processing transactions, and printing reports.

## Running the Setup Program

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*Make sure you have done a complete backup of your Pro Series installation before installing a Lahey application. The Lahey installation procedure may install modified versions of Pro Series program files.*

The instructions in this section tell you how to install a Lahey application using Windows NT, Windows 98, or Windows 95.



For linking purposes, be sure that you have already installed and linked all of your Pro Series applications *before* installing a Lahey application.

### Starting SBTINSTW

1. Start Microsoft Windows in the normal mode.
2. From the **Start** menu, select **Run**.
3. In the Open field, type the drive letter and path where Pro Series has been installed followed by SBTINSTW.EXE and click on OK. For example, to call SBTINSTW.EXE in a directory called PRO on drive S:, your command line should look like this:

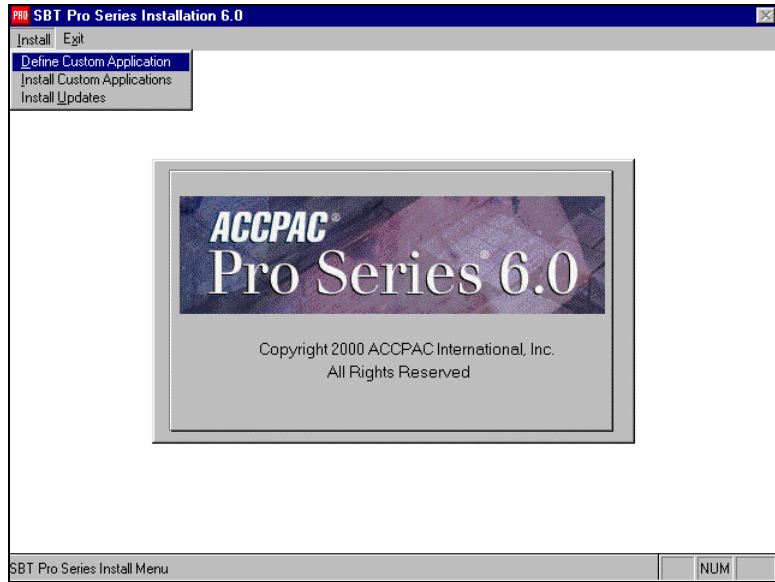
S:\PRO\SBTINSTW.EXE



If you have any problems starting or running the Pro Series installation program, please contact your Pro Series reseller or Pro Series Technical Support at 800/944-1000. Lahey has not modified these routines. The most common problem is documented in our knowledge base at <http://www.lahey.net/kb/qzzins07.htm>.

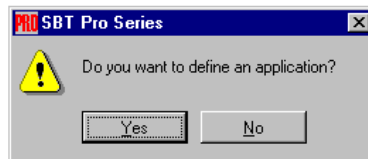


Once you've started SBTINSTW, you'll see the following screen:



### Define the Application

Select **Install | Define Custom Application**. You will see the following prompt:



Click **Yes** to add the Lahey application.  
 Click **No** to return to the **Install** menu.

## ◆ Chapter 2: Installing the Program

Next, specify the floppy disk drive from which you want to copy the application files. Enter the drive letter, insert the program disk for the application into that drive, select **OK** and then select **Ready**.

Once the installation program has updated the Pro Series application database, you will see a prompt that says the application is defined. Select **OK** to proceed.

### Install Applications



For linking purposes, be sure that you have already installed and linked all of your Pro Series applications *before* installing a Lahey application.

Select **Install | Install Customer Applications**. To install an application, highlight it, and press the space bar. “Yes” appears in the Selected column. Press **<Enter>** to continue. You will see a screen for entering paths for the data and program files.

The default paths are separate subdirectories under the main system directory you specified upon starting the Pro Series install program. The default directory for data and index files is named `..\xxDATA` and the default directory for program files is named `..\xx` (where `xx` is the two-digit application ID).

When you enter a directory that does not exist, you will see a message telling you that the directory does not exist and asking you if you want to create one.

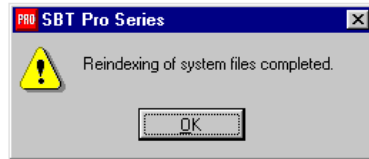
Select	<b>Yes</b>	to have the install program create the directory you have specified.
	<b>No</b>	to reenter the directory.

After you enter both paths, you will have these options:

Select	<b>Install</b>	to have the install program create the directory you have specified.
	<b>Edit</b>	to reenter the directory.

Next, specify the floppy disk drive from which you want to install the application files. Enter the drive letter, insert the program disk for the application into that drive, select **OK** and then select **Ready**.

When the installation program has copied the application files and updated the data dictionary, you will see the following dialog box:



Click **OK** to close the dialog box and complete the installation process.



In certain cases, you may be prompted with a Select Installed Applications to Update from Data Dictionary dialog box.



*For more information about the Update from Data Dictionary dialog box, see “Running the Pro Series Setup Program” in the Pro Series Conversion Guide.*

## Updating Your Installation

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In order to be able to take advantage of a Lahey application from within Pro Series applications, it is sometimes necessary to manually copy customized versions of Pro Series files into your installation and update the data dictionary for linked applications.

### Installing Lahey-Enhanced Pro Series Files

The enhanced files are located on your Lahey distribution disk and they must be manually copied into the affected program directory. These Lahey-enhanced files must match the version and build number of your Pro Series application.



The enhanced program files are specific to the current build of your Pro Series installation. Be sure to get updated files from Lahey when installing subsequent builds from SBT. These files are located in the download section of our web site at <http://www.lahey.net>.

The following table outlines which files are modified for each Lahey application:

Lahey Application	Lahey-Enhanced Files
Customer Service	None
Production Entry	SOPOST.PRG, SOSHIP.PRG and SOSHPP.PRG <i>(Only necessary if processing BOM configurator or sales kit transactions.)</i>
Project Accounting	APPOSD.PRG, APPOSD.VCX, APPOSD.SPR, APOST.PRG, APPREC.PRG, APRECR.PRG, ARMINV.VCX, ARPOSD.VCX, ARPOST.PRG, ICPOST.PRG, ICPROC.PRG, ICTRAN.PRG, ICISSU.VCX, POPOSD.VCX, ICRCPT.VCX, POPOSD.VCX, POPOST.PRG, PORECP.PRG, PRPCHK.PRG, PRPOSP.PRG, PRPOSP.VCX, PRPOST.PRG, SOPOSD.VCX, SOPOST.PRG, SOSHIP.PRG, SOSHPP.PRG
Shop Control	None
Warehouse Manager	None
Work Orders	None

### Changing Data Structures in the Pro Series Data Dictionary

The data dictionary is maintained in System Manager. Select **Maintain | Dictionary | Tables**. Enter the table name in the **Table ID** field, then select **Field**.



The Pro Series Trial Version does not allow you to update from the data dictionary.

The following table outlines which tables are modified for each Lahey application:

Lahey Application	Table Name	Necessary Action
Customer Service	None	None
Production Entry	SOTRAN, SOYTRN	Change WONO, C,10
Project Accounting	ARDIST, ARTRAN, ARYDST, ARYTRN, ICDIST, ICTRAN, ICYDST, ICYTRN, POTRAN, POYTRN, PRDIST, PRRODT, PRYDST, SOTRAN, SOYTRN	Add JOBCODE, C,10 Add PHASE, C,6 Add SUBCODE, C,4  (Add JCCODE, C,1 to all xxDIST/xxYDST tables)
	APDIST, APYDST	Change JOBCODE, C,10
	PRDTPT, PREMPT, PRPAYT, PRXPST, PRYDPT	Change PROJECT, C,10
Shop Control	None	None
Warehouse Manager	ICITEM	Add BLCLASS, C,4 Add CUBEAMT, N, 5, 0 Add CASEPACK, N, 6, 0
Work Orders	SOTRAN, SOYTRN	Change WONO, C,10

◆ Chapter 2: Installing the Program

Once you have recorded all your changes to the data dictionary, exit to the **System Manager** main menu. From the **Transaction** menu, select **System Recovery**, then **Update from Data Dictionary**.

Select the applications you have updated for the company you are using, press the <**Space**> bar to select the application, then press <**Enter**>. Select **Yes** to the **Rebuild all indexes?** prompt, then select **Update**.



*For more information on updating the Data Dictionary, see “Using the System Recovery Utilities, Update from Data Dictionary” in the System Manager manual.*

## Installing Updates

---

Updates are disks from Lahey that contain new program files for your version of Pro Series. They are not an *upgrade*, but rather, they are in-line enhancements and refinements to the features of the version you already have.

1. Start the Pro Series Windows setup program, SBTINSTW.EXE. For more information on how to do this, refer to Starting SBTINSTW in the section “Running the Setup Program” of this manual.
2. Select the **Install Updates** option on the **Install** menu.

When you select **Install Updates**, you must first specify which drive to copy the updated file from, then insert the first disk for the update into that drive. The program checks to see if the disk is an update disk or the first of a full set of disks for an application.



Lahey update disks contain the most up-to-date versions of all program, screen, and report files, as well as files that have not changed since the application began shipping.



*If you have made modifications to your program, screen, or report form files, you should back up those files before installing any update disk. The update program overwrites all existing files.*

## Trial Version Limitations

---



*Extreme caution should be taken when installing a trial module in a "live" installation. When you open a trial module, the entire installation is set into a trial mode and can destroy live data if file sizes of "live" data are larger than the Pro Series trial mode allows. To avoid this problem, you must exit Pro Series from the trial module before opening a "live" module.*

Here are the limitations for trial version modules:

<b>Application</b>	<b>Table Name</b>	<b>Number of Records</b>
Accounts Payable	APVEND	50 Vendors
Accounts Receivable	ARCADR ARCUST	50 Ship-To Addresses 50 Customers
Customer Service	CCPROS	25 Companies
Inventory Control	ICITEM	50 Items
Payroll	PREMPL	15 Employees
Production Entry	PEBMHD	5 BOM Headers
Project Accounting	PAMAST	5 Projects
Purchase Orders	APVEND	50 Vendors
Sales Orders	ARCADR ARCUST	50 Ship-To Addresses 50 Customers
Shop Control	SCMAST	25 Plan Orders
Warehouse Manager	WMAST	5 Transfers
Work Orders	WOMAST WORTHD	25 Work Orders 5 Routes



## Manual Installation

---



This is an optional method for installing an application or update. If you have already successfully installed an application or update using SBTINSTW, you do *not* need to follow the instructions in the remainder of this section.

1. Insert the Lahey Shop Control Program Disk into your floppy disk drive.
2. From a DOS prompt, create the Shop Control program and data directories if they do not already exist.

Change to the drive and directory where Pro Series has been installed. For example, you might type (substitute the correct drive and path for your installation throughout these steps):

```
S: and press <Enter>  
CD \PRO and press <Enter>
```

Once you are in the Pro Series command directory, you can create the Shop Control program and data file directories. For example, type:

```
MD SC and press <Enter>  
MD SCDATA and press <Enter>
```

◆ Chapter 2: Installing the Program

3. Extract all the files from the distribution disk into the program directory. From the Pro Series command directory, type:

```
CD SC and press <Enter>
A:ZIPSCC01 SC????.* and press <Enter>
```



If the extraction process encounters any existing files with the same name, type Y to overwrite the existing file.

4. Copy the extracted files over the existing files. From the Shop Control program directory, type:

```
COPY *._XP *.FXP and press <Enter>
COPY *._C? *.SC? and press <Enter>
COPY *._PX *.SPX and press <Enter>
COPY *._R? *.FR? and press <Enter>
ERASE *._?? and press <Enter>
CD .. and press <Enter>
```

5. Extract the sample and system data files into the data directory. From the Pro Series command directory, type:

```
CD SCDATA and press <Enter>
A:ZIPSCC01 SC????99._?? and press <Enter>
A:ZIPSCC01 SY*._?? and press <Enter>
```

6. Copy the extracted sample and system data files over the existing files. From the Shop Control data directory, type:

```
COPY *._BF *.DBF and press <Enter>
COPY *._PT *.FPT and press <Enter>
ERASE *._?? and press <Enter>
CD .. and press <Enter>
```

7. Start FoxPro and get to a command line. There are many ways to get to a FoxPro command line. You can use the **FoxPro Access** option from the Pro Series **File** menu, run SBTDOTW for Windows, or SBTDOT for DOS.

8. Update the Pro Series installed applications file. There must be one record for each company and application in this database. Be sure to use the correct paths for your installation. From the FoxPro command line, type:

```
USE syodata EXCLUSIVE and press <Enter>
DELETE ALL FOR applid = "SC" and press <Enter>
PACK and press <Enter>
APPEND BLANK and press <Enter>
BROWSE and press <Enter>
99 in the COMPID field press <Enter>
SC in the APPLID field press <Enter>
S:\PRO\SCDATA\ in the ADOSDBF field and press <Enter>
S:\PRO\SCDATA\ in the ADOSNDX field and press <Enter>
S:\PRO\SC\ in the ADOSPRG field and press <Enter> until
you reach the CHKRULE field
T in the CHKRULE field
F in the CONFRME field
F in the CONFRMS field and press <Enter>
<Esc> to exit the record
USE sysdata EXCLUSIVE and press <Enter>
DELETE ALL FOR sysid = "SC" and press <Enter>
PACK and press <Enter>
APPEND FROM scdata\sysdata and press <Enter>
```

9. Update the Pro Series data dictionary files. From the FoxPro command line, type:

```
USE sydappl EXCLUSIVE and press <Enter>
DELETE ALL FOR applid = "SC" and press <Enter>
PACK and press <Enter>
APPEND FROM A:\SC.ADD and press <Enter>
USE sydflds EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "SC" and
press <Enter>
PACK and press <Enter>
APPEND FROM scdata\sydflds and press <Enter>
USE sydindx EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "SC" and
press <Enter>
PACK and press <Enter>
APPEND FROM scdata\sydindx and press <Enter>
USE sydtabl EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "SC" and
press <Enter>
PACK and press <Enter>
APPEND FROM scdata\sydtabl and press <Enter>
USE sydtapp EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "SC" and
press <Enter>
```

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```
PACK and press <Enter>
APPEND FROM scdata\sydtapp and press <Enter>USE
sydproc EXCLUSIVE and press <Enter>
DELETE ALL FOR applid = "SC" and press <Enter>
PACK and press <Enter>
APPEND FROM scdata\sydproc and press <Enter>
```

10. Update the Shop Control data structures and index files. Start Pro Series and select **System Manager** from the **Programs** menu. Select **System Recovery** from the **Transaction** menu. Select **Update From Data Dictionary** and select all Shop Control companies in the browse window. Be sure to rebuild all index files.



The demonstration version of Pro Series does not allow you to update file structures. If you are working with a demonstration version, you need to select **Reindex Application Files** instead of **Update from Data Dictionary**.


# 3. *Setup and Maintenance*

- ◆ Starting Shop Control
- ◆ Setting up Shop Control
- ◆ Bills of Materials
- ◆ Work Centers
- ◆ Operations
- ◆ Routes
- ◆ Reporting Calendars

◆ *Chapter 3: Setup and Maintenance*

## Starting Shop Control

---

 Before starting the program, you need to install Lahey Shop Control on your computer or network. See the chapter called “Installing the Program” in this manual for more information.

Double-click on the Pro Series icon.

### Concurrent Sessions in Separate Windows

Do not launch multiple instances of Pro Series on the same computer. Although the system may appear to function normally within the two concurrently running windows, memory conflicts prohibit data files from being updated correctly.

### Logging In

If your Pro Series installation requires a login, you will see a box where you enter your user ID and, if necessary, a password.

Select **File | Open | Shop Control**. If you only have one company using Shop Control, that company is loaded automatically, and you will see the Shop Control Main Menu.

If you have more than one company, you will see a list for selecting the company you want to work with. To select the company from the list, use the arrow keys to highlight the company you want to work with and then press **<Enter>**. You can also select a company from the list with your mouse by using your primary mouse button to highlight the company you want to work with and then using your secondary mouse button to select it. After selecting a company, you will see the Shop Control Main Menu.

### Selecting a Company

Once you are in Lahey Shop Control, you can select to work with a different company by selecting **File | Company** option.

## Setting up Shop Control

---



Before you can enter new company information for Shop Control, you must first add the company and its applications (including Work Orders, Production Entry and Inventory Control) in System Manager. See “Companies, Adding Applications” in the System Manager manual for more information.

Once you have created a company using System Manager and added Shop Control as an application, you can enter specific information for the Shop Control company.

### System Settings Screen

You will see the following screen below when you finish entering the Shop Control data and program file paths in System Manager. You can return to this screen later by selecting **File | Change Setup Information** in Shop Control.

The screenshot shows a Windows-style dialog box titled "Shop Control: System Settings for Company 99". The dialog has a blue title bar with a close button (X) on the right. Below the title bar is a menu bar with four buttons: "System Settings", "Screen Labels", "Link Settings", and "System Options". To the right of the menu bar are three icons: a floppy disk (Save), a printer (Print), and a magnifying glass (Find). The main area of the dialog is divided into two columns. The left column is labeled "Company" and contains a text box with the text "Professional Software, Incorporated". The right column is labeled "Company Address and Telephone" and contains three stacked text boxes: "1234 Your Street", "Your Town, XX 99999-9999 USA", and "415/331-9900". At the bottom of the dialog, there is a checked checkbox labeled "Autonumber Transactions" and a text box labeled "Next Plan Order number" containing the value "1001".



**Autonumber Transactions:** Select this option if you want the program to assign a unique number to each plan order, beginning with the number you entered for Next Plan Order Number. You can use plan order numbers to track your manufacturing activity. You cannot change plan order numbers if this setting is selected. If you want to enter the numbers manually, leave the option unselected.

**Next Plan Order Number:** If you choose to have Shop Control automatically assign plan order numbers, enter the next plan order number to use.

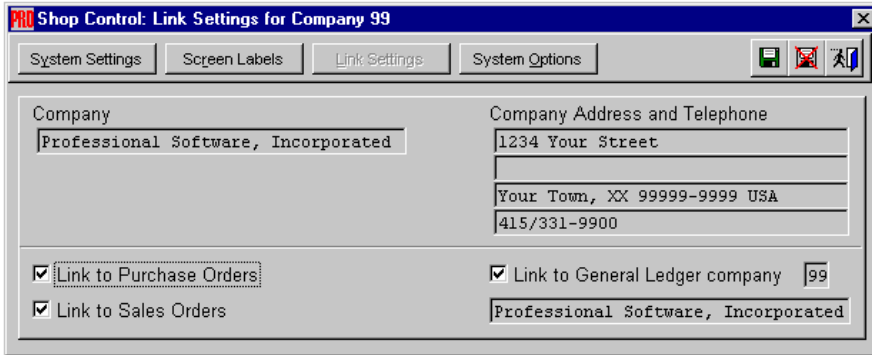
### Screen Labels Screen

Select this option to change the default screen labels Shop Control uses. You will see the following screen:



## Link Settings Screen

Select this option to change the default link settings Shop Control uses. You will see the following screen:



The screenshot shows a dialog box titled "Shop Control: Link Settings for Company 99". It has four tabs: "System Settings", "Screen Labels", "Link Settings" (which is selected), and "System Options". The "Link Settings" tab contains the following fields and options:

Company	Company Address and Telephone
Professional Software, Incorporated	1234 Your Street
	Your Town, XX 99999-9999 USA
	415/331-9900

Below the address fields, there are four checked options:

- Link to Purchase Orders
- Link to Sales Orders
- Link to General Ledger company 99
- Professional Software, Incorporated

**Link to Purchase Orders:** Select to create the link to Purchase Orders.

**Link to Sales Orders:** Select to create the link to Sales Orders.

**Link to General Ledger:** This option will be automatically selected if Inventory Control is linked to the General Ledger, and it will specify the General Ledger company Inventory Control is linked to.



*See Chapter 6 in this manual for more information about linking with other Pro Series applications.*

### Completing the Installation

Whatever configuration options you choose, you save your installation preferences by choosing **Save**.

You then see several prompts about adding application notes and copying data from an existing installation. Refer to the installation instructions.

When you finish responding to the final step questions, the program tells you that the installation is complete. You are now ready to switch from System Manager to the new Shop Control installation you have added. Select **File | Open | Shop Control**. If you have more than one company using Shop Control, select the company you want to use.

### Changing Setup Information

You can return to the setup screen at any time to change the information by selecting **File | Change Setup Information**.

### Deleting a Company

To delete a company from your Pro Series system, you must first remove any applications installed for that company. See “Companies, Deleting Companies” in the System Manager manual for more information.

### Deleting an Application

To remove only Shop Control information for an established company, switch to System Manager and select **Maintain | Companies | Companies**. Enter the company number, and select **Appls** from the top of the screen. Enter **SC** as the application ID. When Shop Control is displayed, choose **Delete** and confirm that you want to delete the Shop Control data.



You must delete the application data from all installed companies before you can remove the application from your Pro Series installation.

## Bills of Materials

---

Bills of Materials are stored and maintained in a separate module, Production Entry. For your convenience you can access the Production Entry bill of materials maintenance functionality from within Shop Control.




*For more information about maintaining bills of materials, see “Bills of Materials” in Chapter 3 of the Production Entry manual.*

# Work Centers

---

Work Centers are stored and maintained in a separate module, Work Orders. For your convenience you can access the Work Orders work center maintenance functionality from within Shop Control.

 *For more information about maintaining work centers, see “Work Centers” in Chapter 3 of the Work Orders manual.*

## Operations

---

Operations are stored and maintained in a separate module, Work Orders. For your convenience you can access the Work Orders operation maintenance functionality from within Shop Control.



*For more information about maintaining operations, see “Operations” in Chapter 3 of the Work Orders manual.*

# Routes

---

Routes are stored and maintained in a separate module, Work Orders. For your convenience you can access the Work Orders route maintenance functionality from within Shop Control.



*For more information about maintaining routes, see “Routes” in Chapter 3 of the Work Orders manual.*

## Reporting Calendars

---

Reporting Calendars are stored and maintained in a separate module, Work Orders. For your convenience you can access the Work Orders reporting calendar maintenance functionality from within Shop Control.



*For more information about maintaining reporting calendars, see “Reporting Calendars” in Chapter 3 of the Work Orders manual.*



# 4. *Working with the Program*

- ◆ Entering Plan Orders
- ◆ Changing Plan Orders
- ◆ Exploding Plan Orders
- ◆ WIP Tracking
- ◆ Importing Work Orders
- ◆ Creating the Schedule
- ◆ Implementing the Schedule
- ◆ Aborting the Schedule
- ◆ Closing the Period or Year

◆ *Chapter 4: Working with the Program*

## Entering Plan Orders

---

Select **Transaction | Enter Plan Orders**. Enter the finished good item number or press <F2> to see a list of finished good item numbers. If the finished good item number is not found in the finished good item file, you will see this message:



Once a valid finished good item is entered or selected, you will see this screen:

Plan Order	1000	Plan Order Date	/ /
Sales Order #		Sales Order Date	/ /
Finished Good		Required Date	/ /
Description			
Cust No.		Required Qty	1.000
Company		Stock U/M	
BOM Number		Revision Level	
Description			
Finish Loct	WH1	Route	
Description	Warehouse 1	Job	
Store		Bin	
Serial Number		Lot Number	
On Hand	0.000	Allocated	0.000
		On Order	0.000

◆ Chapter 4: Working with the Program

**Plan Order Date:** The default date is today's date, as defined by the system date.

**Required Date:** This is the date the order is planned to be completed. The default date is today's date, as defined by the system date.

**Customer Number:** Enter the customer number this product is to be built for or press <Enter> to leave it blank.

**Required Quantity:** Enter the quantity of the item you plan to manufacture.

**Revision Level:** Enter the revision level of the finished good, or press <Enter> to leave it blank.

**Finished Location:** Enter or select the inventory location receiving this manufactured item. If you changed the screen label in the company setup information of Inventory Control for location, that screen label is used here.



The default for this field is from the "Mfg Completion" location stored in the company setup information of Inventory Control.

**Route:** If you are using routing, enter the route the manufactured item will use. If there is a route associated with the manufactured item, it will automatically be entered for you.

**Job Number:** Enter the job number for this work order.

**Store/Bin:** If you are using stores and/or bins, enter the name of the store and/or bin where the manufactured item is being received. If you changed the screen labels in the company setup information of Inventory Control for stores or bins, those screen labels are used here.

**Serial Number:** If the manufactured item is serialized, enter the serial number of the item.

**Lot Number:** If the manufactured item is lotted, enter the lot number of the item.

### Saving the Plan Order

When you have finished entering the information on the previous screen, you will have the following options available:

Click	<b>Save</b>	to save this plan order.
	<b>Cancel</b>	to cancel this plan order.
	<b>Exit</b>	to return to the Main Menu.

### Exiting the Screen

After saving the plan order, you will have these options:

Click	<b>New</b>	to enter another plan order.
	<b>Lines</b>	to edit the components that have been applied to this plan order from the standard bill of materials for the manufactured item.
	<b>Exit</b>	to return to the Main Menu.

## Changing Plan Orders

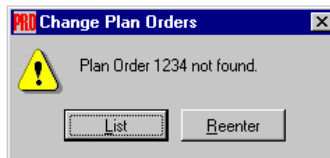
---

To change a plan order after you have entered it, select **Transaction | Change Plan Orders**. Enter the plan order number or press <F2> to see a list of plan orders.

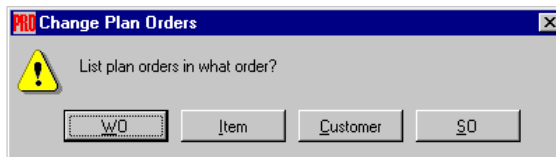


You can only change plan orders entered in Shop Control. Work orders imported into Shop Control for scheduling cannot be changed from within Shop Control.

When the plan order number is not found in the plan order transaction file, you will see this message:



If you press <F2> in the plan order number field, you will see this message:



## Using the Command Buttons

Once the work order record is displayed, the following options are available:

Click	<b>Select</b>	to find another plan order.
	<b>Fwd</b>	to move forward to the next plan order.
	<b>Back</b>	to move to the previous plan order.
	<b>Edit</b>	to change the displayed plan order.
	<b>Delete</b>	to delete the displayed plan order.
	<b>Lines</b>	to edit the components of the bill of materials for this plan order.

## Editing a Plan Order

To change the currently displayed plan order information, select **Edit** from the options at the top of the screen. Use the up and down arrow keys or your mouse to move the cursor to any highlighted field, and make your changes. See "Entering Plan Orders" in Chapter 4 of this manual for detailed descriptions of each field.

When you change the required quantity on a plan order, the finished good item will be updated immediately. However, the component items are not updated until you reprocess the plan order. Select **Transaction | Explode Plan Orders** to reprocess plan orders.



*For more information on processing plan orders, see "Exploding Plan Orders" in Chapter 4 of this manual.*

When you're finished editing the plan order, you will have the following options:

Click	<b>Save</b>	to save your changes.
	<b>Cancel</b>	to quit without saving any changes.
	<b>Exit</b>	to return to the Main Menu.

### Deleting a Plan Order

Select **Delete** from the options at the top of the screen to delete the currently displayed plan order. You must confirm that you want to delete the plan order.



*You cannot recall a deleted work order. If you delete a work order in error, you must reenter it.*



Deleting a work order that was imported into Shop Control will only remove it from the Shop Control files for scheduling purposes. You also need to delete the work order in the Work Orders module in order to remove the work order from the entire system.

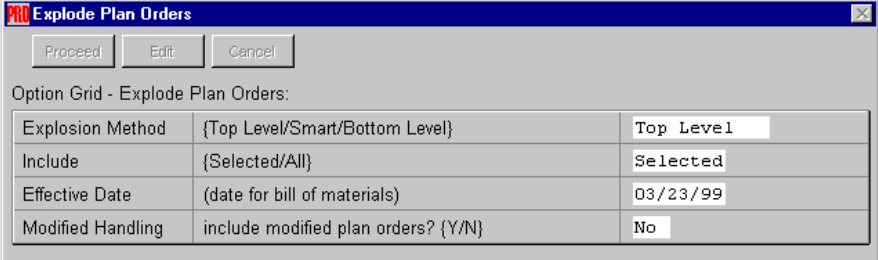


## Exploding Plan Orders

---

If you change the required finished quantity on a plan order or change a bill of materials or route and want to update existing plan orders, you'll need to re-explode the plan orders. During the explosion process, the program will remove existing components and route instructions and apply new definitions from the bill of material and route files.

Select **Transaction | Explode Plan Orders**. You will see the following option grid:



Option Grid - Explode Plan Orders:		
Explosion Method	{Top Level/Smart/Bottom Level}	Top Level
Include	{Selected/All}	Selected
Effective Date	(date for bill of materials)	03/23/99
Modified Handling	include modified plan orders? {Y/N}	No

### Explosion Method:

- Select **Top Level** to only allocate component items on the top level of the bill of materials for this group of work orders.
- Bottom Level** to bypass any parent parts on the top level of the bill of materials and allocate inventory to the bottom-most level of the exploded bill of materials for this group of work orders.
- Smart** to allocate component parts based on on-hand inventory balances. If sufficient quantities of a parent part are not available, Smart Explosion will use up the available parent parts before proceeding to the next lower level on the bill of materials tree.

## ◆ Chapter 4: Working with the Program



It is very important to understand the implications of your answer to which explosion method to use. Selecting the wrong choice can cause your allocation values in your inventory file to be incorrect.

### **Include:**

Select **All** to explode all work orders that have been approved for processing.

**Selected** to explode selected work orders. If you select this option, you are then asked to tag the work orders for explosion.

**Effective Date:** Enter the effective date (in other words, which version) for the bill of materials. Normally, you would accept the default date, which is today's date, as defined by the system date.

### **Modified Handling:**

Select **Yes** to re-explode plan orders that have been customized. Note that this will remove any custom configuration and apply the standard bill of materials.

**No** to exclude plan orders that have been customized.

If you decided to include only selected plan orders, you will be presented with a grid to tag which plan orders to process. To tag a plan order, highlight the plan order and then press the space bar to toggle the selected status. When you tag a plan order, **Yes** appears in the selected field. Repeat this procedure for each plan order you want to explode. Type **<Ctrl>+<A>** to select all plan orders or **<Ctrl>+<U>** to deselect all plan orders on this screen. Press **<Enter>** to save your selections and proceed to explode the plan orders.

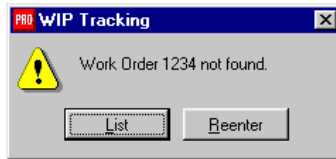
When you have completed the option grid, the program asks you to confirm that you want to process the plan orders. The status line on the bottom line of the screen will update you on the progress of the plan order explosion.

## WIP Tracking

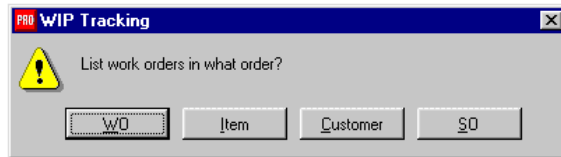
---

The WIP Tracking screen is a powerful tool that can be used by both production employees on the shop floor and customer service staff handling queries on order status. Select **Transaction | WIP Tracking**.

You can begin the WIP Tracking screen by entering a work order or customer number. Enter the work order number or press <F2> to see a list of the work orders available for WIP Tracking. If you enter a work order number that is not found in the work order file, you will see this message:



If you press <F2> in the work order number field, you will see this message:





## Editing WIP Tracking

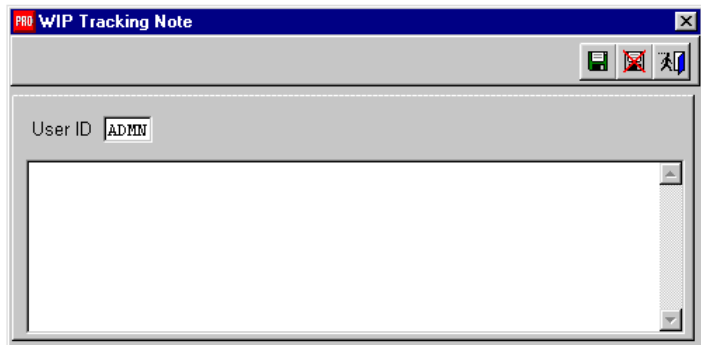
To change the finished good quantities currently displayed for each work center and operation on the selected work order, select **Edit** from the options at the top of the screen. Use the up and down arrow keys or your mouse to move the cursor into the **Updated Quantity** and **Updated Time** fields. Select **Save** when you finish updating the WIP tracking information for this work order.



As you change to finished good quantities in the Updated Quantity column, the system will display the remaining quantities to be accounted for in the **Remain to Apply** field. The system will not allow you to save any changes to the WIP tracking information for a work order until the open quantity for this work order has been completely assigned to one or more work center/operation combinations.

## WIP Tracking Note Screen

When you **Save** a WIP tracking session, you will see the following screen:



Enter any relevant production notes into the WIP Tracking Note screen. Information entered here will be displayed from within the History Tracking screen for this work order along with the date, time, and user ID of the person tracking the work order.

◆ Chapter 4: Working with the Program

### WIP Tracking History Screen

To display the tracking history for the currently displayed work order, select **History** from the options at the top of the WIP Tracking screen. You will see this screen:

The screenshot shows the 'WIP Tracking History' window. At the top, there are navigation buttons: 'Select', 'Ewd', 'Back', 'Main', and 'Detail'. Below these are several input fields:

- Cust No: SMC1
- Name: Super Micro Computer
- Work Order: 1001
- Work Order Date: 03/23/00
- Finished Good: PARENT
- Required Date: 03/27/00
- Description: Manufactured Parent Part
- Work Order Quantity: 3.000
- Open Quantity: 3.000
- User ID: ADMN
- Date/Time: 03/23/00 07:43:28

Below the fields is a text area containing the note: 'Started the job.' To the right of this area are 'Add', 'Edit', and 'Delete' buttons.

At the bottom is a table with the following data:

User ID	Date	Time	Notes
ADMN	03/23/00	07:43:28	Started the job.
ADMN	03/23/00	09:13:07	1st WIP tracking note since starting the job.

## Importing Work Orders

---

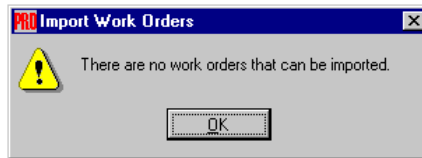
Importing work orders is the first step in using Shop Control to calculate work center scheduling and predicated completion dates. Select **Transaction | Import Work Orders**.

Only exploded work orders can be imported into Shop Control. Exploded work orders are work orders that have bill of material and route definitions applied to the finished quantity in order to determine the material and labor requirements.

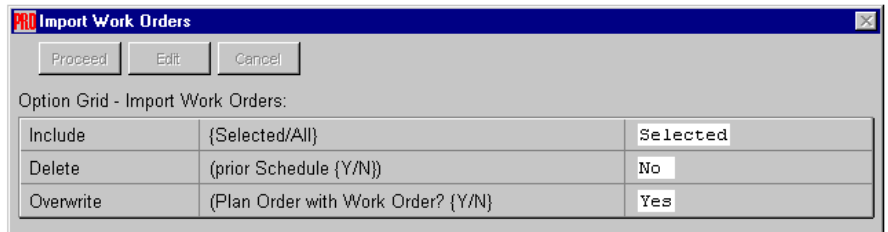


*For more information about exploded work orders, see “Understanding Lahey Shop Control, Work Orders” in Chapter 1 of this manual.*

If exploded work orders do not exist, you will see this message:



If exploded work orders are available to be imported, you will see the following option grid:



◆ *Chapter 4: Working with the Program*

**Include:**

Select **All** to import all work orders that have been exploded.  
Select **Selected** to import selected work orders. If you select this option, you are then asked to tag the work orders for importing.

**Delete:**

Select **Yes** to remove any scheduling information stored in the work order from a prior scheduling session in Shop Control.  
Select **No** to preserve any scheduling information stored in the work order from a prior scheduling session in Shop Control.

**Overwrite:**

Select **Yes** to update any work order information already in Shop Control from a prior import session.  
Select **No** to preserve any existing work order information already in Shop Control from a prior import session.

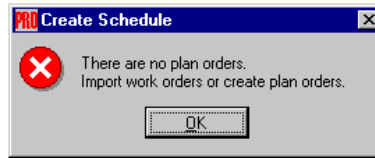


## Creating the Schedule

---

To begin the scheduling process, select **Transaction | Create Schedule**.

If you have not created any plan orders or imported any work orders, you will see this message:

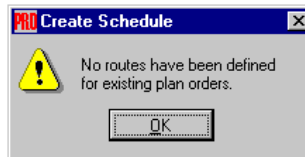


*For more information about importing work orders, see “Importing Work Orders” in Chapter 4 of this manual.*




*For more information about creating plan orders, see “Creating Plan Orders” in Chapter 4 of this manual.*

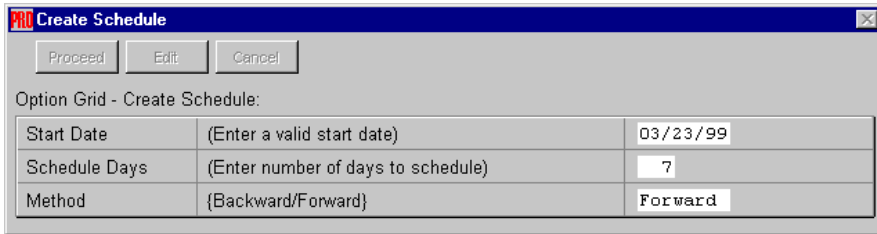
If you have created plan orders and/or imported work orders, but have not yet established any routes for the finished goods created by these orders, you will see the following message:



◆ Chapter 4: Working with the Program

 For more information about routes, see “Understanding Lahey Shop Control, Routes” in Chapter 1 of this manual.

Once you have added Shop Control transactions with route information, you are ready to create a fixed capacity schedule. You will see the following option grid:



Option Grid - Create Schedule:		
Start Date	(Enter a valid start date)	03/23/99
Schedule Days	(Enter number of days to schedule)	7
Method	{Backward/Forward}	Forward

**Start Date:** Enter the date for the first day of the schedule. The default date is today's date, as defined by the system date.

**Schedule Days:** Enter the number of days to include in the schedule.

**Method:**

Select **Backward** to calculate production start dates by working from the required date backwards.

**Forward** to calculate production completion dates by working from the start date forward.

When you select **Proceed**, Shop Control calculates a predictive, fixed-capacity schedule based on work center capacities, operation cycle times, and finished good quantities.

## Analyzing the Results

When the program has processed all the records in the Shop Control transaction files, you can print a variety of reports from the **Print | Schedule Reports** menu.

The program may report the following issues:

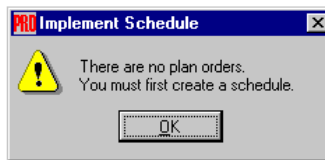
Condition	Condition Caused By	Resolution for Condition
Schedule contains overdue plan orders.	The completion date calculated by the scheduling algorithm is after the required date for the order.	Adjust the required date for the order, add additional capacity, and verify operation cycle times.
Plan Orders required before start date.	The required date for the order is earlier than the start date of the schedule.	Rerun the schedule with an earlier start date.
Plan Orders required more days to completely schedule.	The number of days to complete the order is greater than the total days in the schedule.	Rerun the schedule and increase the number of schedule days.
Undefined capacity error.	An unexpected condition occurred in the scheduling algorithm.	Abort the schedule, import all work orders again, re-run the schedule.


## Implementing the Schedule

---

Once you have reviewed the results of the predicted schedule, you can implement the schedule by sending all the updated Shop Control transactions to the Work Orders module. Select **Transaction | Implement Schedule**.

If you have not created a schedule with any plan orders or imported any work orders, you will see this message:



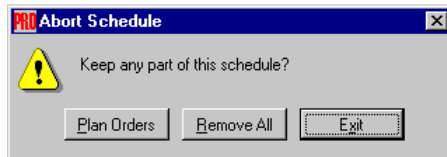
 *For more information about creating a schedule, see “Creating the Schedule” in Chapter 4 of this manual.*

When valid transactions are found, Shop Control will update Work Orders with the start and end times calculated by the scheduling algorithm. Any plan orders created in Shop Control that were not imported from Work Orders will be added as new orders in Work Orders as exploded orders and inventory allocations will be updated during this process.

## Aborting the Schedule

---

If at any time you do not want to keep the transactions created in Shop Control, you can choose to remove all or part of them. Select **Transaction | Abort Schedule**. You will see the following prompt:



Click	<b>Plan Orders</b>	to remove only those records added to Shop Control from importing work orders.
	<b>Remove All</b>	to remove all Shop Control transactions.
	<b>Exit</b>	to return to the Main Menu without removing any transactions.

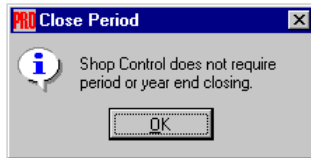
## Closing the Period or Year

---

Unlike most Pro Series modules, Shop Control does not require a period or year-end closing. Since Shop Control stores all of its transaction data in a single file, there is no need for the program to move the current period's closed transactions into a history file.

You close the period or year for all Pro Series applications using the options on the **Period Close** submenu in System Manager. Refer to your System Manager manual for information on using the period close options.

If you try to close the period or year for Shop Control, you will see the following message:



# 5. *Reports and Inquiries*


- ◆ Selecting the Output Destination
- ◆ Customizing Reports
- ◆ Pro Forma Work Orders
- ◆ Work Order Travelers
- ◆ BOM Reports
- ◆ Route Reports
- ◆ Transaction Reports

◆ *Chapter 5: Reports and Inquiries*



## Selecting the Output Destination

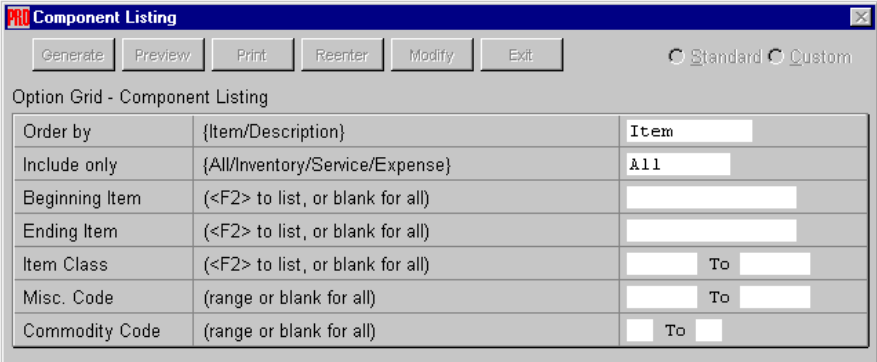
The option to print or display is available for all reports in Production Entry. You might indicate your choice by selecting a command button, selecting an option button, or clicking an icon, but the choice is always available.

 You can quit most printing routines by pressing <Esc>. If you choose this option, the program will close all data files to protect them from damage before returning you to the previous screen.

### Option Grids

When you select a report from one of the options on the Print menu, you see a report option grid, which defines the scope of the report. Detailed explanations of each report's options are found later in the chapter.

This is an example of a report option grid:



## ◆ Chapter 5: Reports and Inquiries

Producing a report is a three-step process.

1. Complete the option grid to select the data you want.
2. After completing the option grid, click **Generate** to compile the information for the report according to the option grid criteria.
3. After the program has assembled the data for the report, choose the report output destination.

Click **Preview** to display the report on your screen.  
**Print** to send the report to a printer or save it to a disk file.

After the program prints or displays the report, you return to the option grid. You can print and display the report as many times as you like before exiting.

To make changes to the report:

Click **Reenter** to change your option grid responses.  
**Modify** to create a customized report for this company.

Any time you change your responses on an option grid, you must select **Generate** again to update the version of the report that is stored for viewing.

### Displaying Reports

Use the **Preview** button to display a report before you print. You can look at entire pages to check the layout or zoom in on a particular portion to check details.

The window displays a mock-up of your report. A special toolbar offers quick access to a number of special commands.

You can also use the scroll bars to move forward and backward through the report, or scroll right and left to see its entire width.

Clicking anywhere on the document window changes the magnification. From the full-page view, the first click zooms you in on the portion of the page you clicked on. The second click returns you to the full-page view.

### Printing or Exporting Reports

After generating a report, select **Print** to choose an output destination (i.e., print or export data to a disk file).

Click	<b>Print Only</b>	to send output to the default printer.
	<b>Print and Fax/Email</b>	(available only when Message Master is set up) to send output to the printer and fax or e-mail the report.
	<b>Fax/Email Only</b>	(available only when Message Master is set up) to fax or e-mail the report to selected recipients.
	<b>Export</b>	to save the data as a spreadsheet or text.
	<b>Setup</b>	to go to the Windows Print Setup dialog box. You can use it to set print job properties or select another printer.
	<b>Cancel</b>	to return to the option grid.

If you choose to print a report, Pro Series sends the output to the default printer who's ID is displayed in the dialog box.

If you choose to export a report, you see a dialog box that enables you to specify the name and format of the file to which you are exporting.

## Customizing Reports

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This section contains information on the customizing the report forms for your Work Orders system.

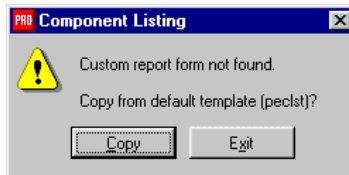
You can customize reports using the **Modify** option on the report option grid. This option opens the Visual FoxPro Report Designer, which contains a variety of tools that make it easy to modify your reports. For example, you can include a corporate logo, or rearrange the layout of the reports. For more information about the Report Designer, see your Visual FoxPro documentation.



Customizing report forms could alter export results when exporting to external applications. See your System Manager documentation for details.

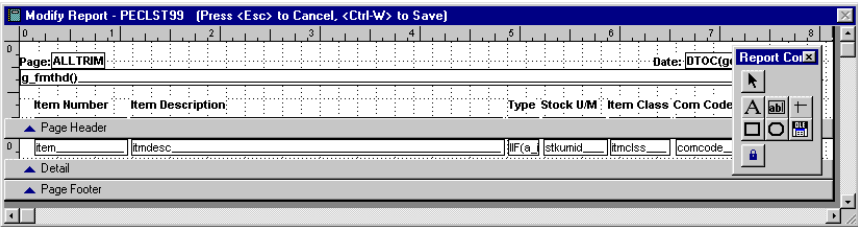
You can keep one modified version of each report, in addition to the standard version. If a modified form exists, you see the **Standard** and **Custom** buttons at the upper-right part of the report option grid. When you click **Modify**, the system assumes that you are customizing the version of the report whose button is selected.

The first time you customize a report, when you click **Modify**, the following dialog box appears:



Click **Copy** to copy the report from the default report template.  
Click **Exit** to cancel this option and return to the option grid.

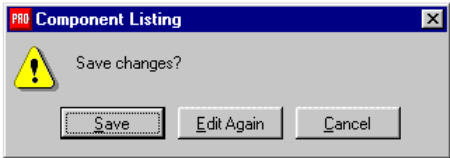
You see a standard Visual FoxPro form editor window, in which you can edit and move the report form fields.



You can add text or images (such as company logos) to any report form.

Avoid using the options on the right-click context menus—some of these options may not work properly with Pro Series reports—instead, use the options from the pull-down menus in the form editor.

When you finish, press <Ctrl-W> to save your changes. The following dialog box appears:



- Click **Save** to save the customized report.
- Edit Again** to return to the Visual FoxPro Report Designer.
- Cancel** to cancel the modifications.

◆ Chapter 5: Reports and Inquiries

When you save your changes, a **Standard** and a **Custom** version of the report are saved. The standard version is the default report and has the default report name. The custom version contains your modifications and has the company number appended to the report name. For example, if you customize a report for company number 99 with a default report name of “PECLST,” the customized report name will be “PECLST99.”



You can only save one customized version of each report.

When you choose to print a customized report, you see the **Standard** and **Custom** options at the top of the option grid. Select the version of the report you want to display, print, or modify.

Because Pro Series only allows one customized version of each report, if you choose to modify the standard version a second time, you are prompted to replace the existing custom version with a standard version before you can proceed.

Click	<b>Yes</b>	to overwrite the existing custom version of the report with the standard version. (You will lose all previous modifications to the report.)
	<b>No</b>	to update the existing custom version of the report. (You will retain any previous modifications to the report.) When you finish making changes to the report, press <Ctrl-W> to save it. The program asks you to confirm that you want to save your changes.

## Pro Forma Work Orders

---

Work Orders are stored and maintained in a separate module, Lahey Work Orders. For your convenience you can access the Pro Forma Work Orders printing functionality from within Shop Control.



*For more information about travelers, see “Pro Forma Work Orders” in Chapter 5 of the Lahey Work Orders manual.*

## Work Order Travelers

---

Work Orders are stored and maintained in a separate module, Lahey Work Orders. For your convenience you can access the Work Orders traveler printing functionality from within Shop Control.



*For more information about travelers, see “Work Order Travelers” in Chapter 5 of the Lahey Work Orders manual.*



## BOM Reports

---

Bills of Materials are stored and maintained in a separate module, Lahey Production Entry. For your convenience you can access the Production Entry bill of materials report functionality from within Shop Control.



*For more information about BOM Reports, see “BOM Reports” in Chapter 5 of the Lahey Production Entry manual.*

## Route Reports

---

Routes are stored and maintained in a separate module, Lahey Work Orders. For your convenience you can access the Work Orders route report functionality from within Shop Control.



*For more information about Route Reports, see “Route Reports” in Chapter 5 of the Lahey Work Orders manual.*

## Transaction Reports

---

Transactions are stored and maintained in a separate module, Lahey Work Orders. For your convenience you can access the Work Orders transactions report functionality from within Shop Control.



*For more information about Transaction Reports, see “Transaction Reports” in Chapter 5 of the Lahey Work Orders manual.*

## Schedule Reports

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### Gross Requirements Plan

This report uses plan orders, work orders, sales orders, and purchase orders to calculate the quantities of each item needed during 13 periods *without* starting on-hand values and periodic carryovers. Select **Print | Transaction Reports | Gross Requirements**.

**Calendar ID:** Enter the reporting calendar ID to use for specifying the starting date, as well as each interval for the 13 periods.

**Start Date:** Enter the date for the first time-phased bucket.

**Include Only:**

Select	<b>All</b>	to see the report for all inventory items.
	<b>Inventory</b>	to see the report for those items with the inventory type "Inventory".
	<b>Service</b>	to see the report for those items with the inventory type "Service".
	<b>Expense</b>	to see the report for those items with the inventory type "Expense".

**Beginning Item, Ending Item:** Enter item codes in either or both of these fields to see the report for finished good items within that range.

**Location:** Enter location IDs in either or both of these fields to see the report for items in locations within that range.

**Item Class, Misc. Code, Commodity Code:** Enter class, miscellaneous, or commodity codes in either or both of the fields available for each option to see the report for items with codes in that range.

## Net Requirements Plan

This report uses plan orders, work orders, sales orders, and purchase orders to calculate the quantities of each item needed during 13 periods with starting on-hand values and periodic carryovers. Select **Print | Transaction Reports | Net Requirements**.

**Calendar ID:** Enter the reporting calendar ID to use for specifying the starting date, as well as each interval for the 13 periods.

**Start Date:** Enter the date for the first time-phased bucket.

### Include Only:

Select	<b>All</b>	to see the report for all inventory items.
	<b>Inventory</b>	to see the report for those items with the inventory type "Inventory".
	<b>Service</b>	to see the report for those items with the inventory type "Service".
	<b>Expense</b>	to see the report for those items with the inventory type "Expense".

**Beginning Item, Ending Item:** Enter item codes in either or both of these fields to see the report for finished good items within that range.

**Location:** Enter location IDs in either or both of these fields to see the report for items in locations within that range.

**Item Class, Misc. Code, Commodity Code:** Enter class, miscellaneous, or commodity codes in either or both of the fields available for each option to see the report for items with codes in that range.

## Shortages Plan

This report uses plan orders, work orders, sales orders, and purchase orders to calculate the quantities of each item needed during 13 periods with starting on-hand values and periodic carryovers. Only items that have a projected on-hand value during one of the 13 periods are included on this report. Select **Print | Transaction Reports | Shortages**.

**Calendar ID:** Enter the reporting calendar ID to use for specifying the starting date, as well as each interval for the 13 periods.

**Start Date:** Enter the date for the first time-phased bucket.

### Include Only:

Select	<b>All</b>	to see the report for all inventory items.
	<b>Inventory</b>	to see the report for those items with the inventory type "Inventory".
	<b>Service</b>	to see the report for those items with the inventory type "Service".
	<b>Expense</b>	to see the report for those items with the inventory type "Expense".

**Beginning Item, Ending Item:** Enter item codes in either or both of these fields to see the report for finished good items within that range.

**Location:** Enter location IDs in either or both of these fields to see the report for items in locations within that range.

**Item Class, Misc. Code, Commodity Code:** Enter class, miscellaneous, or commodity codes in either or both of the fields available for each option to see the report for items with codes in that range.

### Plan Order Summary

This report lists the plan orders in a summary format with beginning and ending times for each order. Select **Print | Schedule Reports | Plan Order Summary**.

**Plan Order:** Enter a specific plan order number or leave blank for all plan orders.

**Order by:**

Select **Plan Order** to sort by plan order number.

**Schedule** to sort by required date.

**Beginning Date, Ending Date:** Enter dates in either or both of these fields to see only plan orders whose required date falls within that range.

### Plan Order Detail

This report lists the plan orders in a detail format with beginning and ending times for each operation step group by order. Select **Print | Schedule Reports | Plan Order Detail**.

**Plan Order:** Enter a specific plan order number or leave blank for all plan orders.

**Beginning Date, Ending Date:** Enter dates in either or both of these fields to see only plan orders whose required date falls within that range.

### Work Centers

This report provides a schedule for each work center. Select **Print | Schedule Reports | Work Centers**.

**Work Center:** Enter a specific work center or leave blank for all work centers.

**Beginning Date, Ending Date:** Enter dates in either or both of these fields to see only plan orders whose required date falls within that range.

◆ *Chapter 5: Reports and Inquiries*

# 6. *Linking with Other Applications*

- ◆ Linking Overview
- ◆ About General Ledger Linking
- ◆ Linking with Accounts Receivable
- ◆ Linking with Purchase Orders
- ◆ Linking with Sales Orders
- ◆ Tracking IC and GL Activity

◆ *Chapter 6: Linking with Other Applications*



## Linking Overview

---

Lahey Shop Control links with other Pro Series applications to create a flexible, easy to use MRPII system. It enables you to generate transactions in one application, which in turn updates related information in another application's data files.

There are actually two types of linking. One method works by creating postings that do not immediately affect another application's data, but are held until you decide to release them to the linked application. This is how Inventory Control links to General Ledger.

The other linking method integrates the Shop Control data with Inventory Control, Sales Orders, Purchase Orders, and Accounts Receivable. Transactions in these applications directly affect the inventory files, such as when you create an invoice, receive a purchase order, or complete a work order.

The following sections describe how Shop Control works with other Pro Series applications.

## About General Ledger Linking

---

By linking Inventory Control with General Ledger, you can accurately account for variations in your inventory values and produce detailed financial reports that include your company's inventory operations. Inventory Control lets you determine how detailed you want the linking information to be. You can specify unique general ledger accounts for each item, for all items at a location, or simply use the same general ledger accounts for all items and locations.

### How Does Linking Work?

Linking works by using the general ledger account numbers you assign in Inventory Control to create balanced debit and credit postings from inventory transactions. These postings are not automatically transferred to General Ledger. Instead, the Inventory Control postings are accumulated in a holding file, until you release them to General Ledger as necessary.

In General Ledger, you must choose to update your account balances with the postings you have released from Inventory Control. This gives you complete control over the flow of information between the two applications.

Lahey Shop Control links to General Ledger through Inventory Control via Lahey Work Orders. When work orders are closed, Work Orders will create balanced debit and credit postings from component costs to finished goods. Shop Control itself does not generate postings that update the General Ledger.



The **Item Control** field is the account that is used for all inventory transactions posted by Shop Control. You can create one general ledger account for raw materials and finished good inventory or one account for raw materials and a second account for finished goods.



*For more information on assigning general ledger account numbers, see "Linking with General Ledger" in the Inventory Control manual.*

### Work in Progress Postings

Lahey Shop Control does not make any entry to General Ledger for work in progress at the end of a period. By using the work in progress report, which must be printed prior to closing the period in Shop Control, you can determine the appropriate general ledger adjustment for work in progress at the end of each period and enter it manually. This gives you total flexibility with your general ledger. You might decide to only enter a work in progress adjusting entry at the end of each quarter or at the end of a year.

## Linking with Accounts Receivable

---

Shop Control and Accounts Receivable share the same inventory file. This means that you only have to enter an item in one place for both programs to be able to use the record. In addition, it means that the inventory file contains information about past product sales from Accounts Receivable and about upcoming requirements from Shop Control.

If you have Sales Orders, Shop Control, and Accounts Receivable, the "life cycle" of an order might look like this:

**Sales Orders:** Receive customer purchase order. Enter the sales order and schedule the customer-required dates.

**Work Orders:** Enter the work order from the sales order information. Approve the work order. Process the work order. Determine net requirements.

**Shop Control:** Import work order from the production information. Create and print a fixed capacity schedule. Implement schedule.

**Purchase Orders:** Enter purchase orders based upon the net requirements report. Receive the purchase orders.

**Work Orders:** Manufacture the item. Close the completed work order.

**Sales Orders:** Ship the sales order. Create an invoice.

**Accounts Receivable:** Receive the customer payment. Enter a cash receipt.

### Setting up the Link

Linking with Accounts Receivable is a very simple process -- all you need to do is install both programs and assign the same company number to each application.

## Linking with Purchase Orders

---

Purchase Orders uses and updates the same inventory file as Shop Control. When a purchase order is issued, Purchase Orders updates the item's **On Order, PO** quantity; and when a purchase order is received, the **On Order, PO** quantity is reset and the **On Hand** quantity is increased.

Also, Shop Control takes information from Purchase Orders about open or pending purchase orders into account when it calculates Material Requirement Planning (MRP) with the various requirement reports available.

For example, if you have an outstanding purchase order for 10 component parts and there are open work orders for 15 component parts, the MRP reports will show that you need to order 5 more pogo sticks to avoid a shortage.



It is not necessary to choose a menu option in order to transfer data from Purchase Orders to Shop Control. Instead, you tell Shop Control to get the purchasing information during the generation of requirements reports.

To create the link with Purchase Orders, follow these steps:

1. Install Purchase Orders and Shop Control, if you haven't already done so, and create the data files for both applications. The data files must use the same company number.
2. Start Shop Control. Select **Change Setup Information** from the **File** menu.
3. Click on the **Link Settings** button.
4. Select the option **Link to Purchase Orders**.

## Linking to Sales Orders

---

Shop Control and Sales Orders use the same inventory file. When you enter a sales order, Sales Orders updates the item's **Allocated, SO** quantity; and when an order is shipped, the **Allocated, SO** quantity is reset and the **On Hand** quantity is reduced.

Once you are linked, you can selectively pull sales order transactions directly into Shop Control while you are entering work orders or generating work orders.

Also, Shop Control takes information from Sales Orders about open or pending sales orders into account when it calculates Material Requirement Planning (MRP) with the various requirement reports available.

For example, if you have an outstanding sales order for 10 finished goods and there are open work orders for 5 finished goods, the MRP reports will show that you need to manufacture 5 more finished goods to avoid a shortage.



It is not necessary to choose a menu option in order to transfer data from Sales Orders to Shop Control. Instead, Shop Control will get the sales information during transaction processing or the generation of requirements reports.

To create the link with Sales Orders, follow these steps:

1. Install Sales Orders and Shop Control, if you haven't already done so, and create the data files for both applications. The data files must use the same company number.
2. Start Shop Control. Select **Change Setup Information** from the **File** menu.
3. Click on the **Link Settings** button.
4. Select the option **Link to Sales Orders**.

## Tracking IC and GL Activity

---

If you have several Pro Series applications installed for a company, the following table will help you understand what's going on "behind the scenes". It provides an overview of how various transactions in other applications affect Inventory Control, as well as the postings to General Ledger.

<b>Application-Event</b>	<b>Effect on IC</b>	<b>Effect on GL</b>
SO- enter sales order	Alloc, WO increased for finished goods	None
WO-enter work order	None	None
WO-approve work order	On Order, WO increased for finished goods	None
WO-process work order	Alloc, WO increased for component parts	None
SC-enter plan order	None	None
SC-calculate schedule	None	None
SC-implement schedule	On Order, WO increased for finished goods, Alloc, WO increased for component parts on plan orders only	None
PO-enter purchase order	On Order, PO increased for component parts	None
PO-receive purchase order	On Order, PO decreased and On Hand Qty increased for component parts	DR:Item Control-RM CR:PO Clearing
WO-close work order	Alloc, WO decreased for component parts, On Hand Qty increased for finished goods	DR:Item Control-FG CR:Item Control-RM
SO-ship sales order AR-invoice created	Alloc, SO decreased and On Hand Qty decreased for finished good	DR:Cost of Sales CR:Item Control-FG DR:Accts Receivable CR:Sales

◆ *Chapter 6: Linking with Other Applications*



# ***7. Sample Reports***

- ◆ Plan Order Summary
- ◆ Plan Order Detail
- ◆ Work Centers

◆ *Chapter 7: Sample Reports*

# Plan Order Summary

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Page: 1

Professional Software, Incorporated  
Plan Order Summary Report  
All Dates  
Order by Plan Order

Date: 03/23/99 at 7:46 PM

Plan Order	Src	Date	Req Date	Start	End	Error
1024	WO	03/20/99	03/20/99	03/01/99,07:07	03/01/99,12:45	
1025	WO	03/23/99	03/27/99	03/01/99,08:22	03/03/99,11:07	

## Plan Order Detail

Page: 1		Professional Software, Incorporated				Date: 03/23/99 at 8:10 PM	
Plan Order Detail Report							
All Dates							
Date	Req Date	Work Center, Operation	Quantity	Start	End	Error	
-----							
Plan Order:	1024						
03/20/99	03/20/99	PARENT	5.000	/ / ,00:00	/ / ,00:00		
03/20/99	03/20/99	RAW1	30.000	/ / ,00:00	/ / ,00:00		
03/20/99	03/20/99	RAW2	10.000	/ / ,00:00	/ / ,00:00		
03/20/99	03/20/99	AREA1, ASSEM	1.250	03/01/99,07:07	03/01/99,08:22		
03/20/99	03/20/99	AREA2, CUT	0.625	03/01/99,08:23	03/01/99,09:00		
03/20/99	03/20/99	AREA4, FINISH	3.750	03/01/99,09:00	03/01/99,12:45		
Plan Order:	1025						
03/23/99	03/27/99	PARENT	14.000	/ / ,00:00	/ / ,00:00		
03/23/99	03/27/99	RAW1	84.000	/ / ,00:00	/ / ,00:00		
03/23/99	03/27/99	RAW2	28.000	/ / ,00:00	/ / ,00:00		
03/23/99	03/27/99	AREA1, ASSEM	3.500	03/01/99,08:22	03/01/99,11:52		
03/23/99	03/27/99	AREA2, CUT	1.750	03/01/99,11:52	03/01/99,13:37		
03/23/99	03/27/99	AREA4, FINISH	10.500	03/01/99,13:37	03/03/99,11:07		

## Work Centers

Plan Order	Date	Req Date	Operation	Quantity	Start	End	Error
Page: 1							
Professional Software, Incorporated							
Work Center Status Report							
All Dates							
Date: 03/23/99 at 8:11 PM							
-----							
Work Center: AREA1							
1024	03/20/99	03/20/99	ASSM	1.250	03/01/99,07:07	03/01/99,08:22	
1025	03/23/99	03/27/99	ASSM	3.500	03/01/99,08:22	03/01/99,11:52	
Work Center: AREA2							
1024	03/20/99	03/20/99	CUT	0.625	03/01/99,08:23	03/01/99,09:00	
1025	03/23/99	03/27/99	CUT	1.750	03/01/99,11:52	03/01/99,13:37	
Work Center: AREA4							
1024	03/20/99	03/20/99	FINISH	3.750	03/01/99,09:00	03/01/99,12:45	
1025	03/23/99	03/27/99	FINISH	10.500	03/01/99,13:37	03/03/99,11:07	

◆ *Notes*