

***Work Orders***

*MRP & Routing for Pro Series*

***Lahey***

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# *1. Overview*

- ◆ Introduction
- ◆ Features
- ◆ Understanding Lahey Work Orders
- ◆ Real-Life Scenarios
- ◆ Other Lahey Products

◆ *Chapter 1: Overview*

## Introduction

---

Lahey Work Orders provides Material Requirement Planning (MRP) and routing functionality. It utilizes bills of materials stored in a separate module, Lahey Production Entry, to calculate component allocations for finished good requirements. Once the finished goods have been manufactured, Work Orders performs the necessary inventory accounting to adjust the balances of both component and top-level items. The program prints gross and net requirement planning reports to help with purchasing, inventory management, and work order tracking.

Featuring completely seamless integration with Pro Series, Work Orders adheres to the 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 Work Orders 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 and Work Orders 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 Work Orders 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.

Both manual and automatic methods are available to create work order transactions. Work Orders can create transactions based on sales order requirements, inventory shortages, or minimum inventory production rates. Demand can be placed immediately on component parts or you can approve selected work orders to be put in line for processing. During transaction processing, Work Orders calculates how many of each component will be needed to complete the open orders. When you complete a work order, the program depletes the inventory balance of the parts used and adds to that of the finished item.

## Features

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- *New Feature!* **Generate Purchase Orders:** Selectively creates purchase order bids for component parts based on inventory shortages or inventory forecast of stock levels.
- *New Feature!* **Enhanced Work Order Completion Handling:** Allows work orders to be closed short with or without generating a backorder, components to be edited, over-run production to be recorded, and a trial completion with full reporting.
- *New Feature!* **Auto Completion Logs:** Suppresses the prompt for transaction logs and automatically creates a file for each day's production.
- **Smart Explosion Method:** Intelligently allocates component parts of mid-level bills of materials based on current on-hand values.
- **Routing:** Automatically attaches the labor bill of materials, or route, to the work order during work order processing.
- **Pro Forma Work Order:** Prints a trial-run work order without creating a transaction that would allocate components.
- **Customized Work Orders:** Allows work order components to be added, changed or deleted after work order processing.
- **Generate Work Orders:** Selectively creates work orders for parent parts based on sales order requirements, inventory shortages, or inventory forecast of stock levels.
- **Material Requirement Planning (MRP):** Automatically calculates time-phased transactions to show detailed labor and material requirements for the next 13 periods. You define the length of each period.

- **Inventory Item Serial Number and Lot Number Support:** Tracks serial numbers and lot numbers for specified items.
- **Real-Time Costing:** Uses up-to-date costs from Inventory Control during report generation and transaction processing.
- **Up to 5 Decimal-Place Cost:** Maintains up to 5 decimal-place cost throughout the manufacturing process.
- **Route Notes:** You can maintain note text of unlimited length for each operation step of the route.
- **Work Order Tagging:** Enables you to tag any work order or group of work orders for processing.
- **Approve or Close Work Orders Automatically:** You can select all work orders or a group of work orders to approve or close automatically.
- **Reverse Work Orders:** You can enter a negative quantity to reverse a manufacturing process.
- **Work Order Travelers:** Prints documents to keep track of pulled and completed stock during the work in progress by work order or sales order number.

## Understanding Lahey Work Orders

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*Make sure that you have defined your inventory and bill of material files and that they are operating correctly before you start processing work order transactions. Bad information in your inventory or bill of materials system will render any information provided by Work Orders to be incorrect, leading to potentially costly errors.*

This section contains some of the basic concepts behind the program: the work order, MRP, routes, and how Work Orders handles effective dates and costs.

### The Work Order

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).

Work Orders allows you to create individual work order records or to generate groups of work orders. Individual work orders can be created from a sales order or by a finished good. Groups of work orders can be created by sales order requirements, inventory shortages, or minimum production levels.



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



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

◆ Chapter 1: Overview

A work order allows a manufacturer to create a manufacturing transaction and control when the work order is put into production. The work order contains a status field, which indicates the level of allocation processing for both the parent part and components. The following table illustrates the relationship between the work orders status and the allocation processing:

Work Order Status	Parent Part On Order	Components Allocated
Held	No	No
Approved	Yes	No
Exploded	Yes	Yes



The default work order status is specified on the System Settings screen in the Work Orders System Setup screens. The program allows you to override the default setting in most areas of the program.



*For more information about the System Setup screens, see “Setting up Work Orders” in Chapter 3 of this manual.*

A work order also provides an environment where work order components can be customized without affecting the standard bill of materials. During the work order explosion process, the work order transaction file is populated with records from the bill of materials detail file. Once the work order explosion process is complete, the user has the ability to add, edit, or delete the standard component entries in the work order transaction files.



*For more information about customizing work orders, see “Change Work Orders” in Chapter 4 of this 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.

In order to calculate the time-phased required dates, Work Orders utilizes reporting calendars to define the time-phased periods. The calendars establish the number of days for each of the 13 periods and there is no limit to the number of reporting calendars you can define. Reporting calendars are the key to all MRP functionality in Work Orders.



*For more information on time-phased periods, see “Reporting Calendars” in Chapter 3 of this manual.*

The following table is a snapshot of what MRP provides. 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 how the Surplus/Shortage at the bottom of one period is carried over to the following period, projecting what the On-Hand value will be for that period.

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	22	-11	25
On Order, PO	0	200	0	200
On Order, WO	0	0	600	300
Allocated, SO	125	75	250	180
Allocated, WO	253	158	314	279
Surplus/Shortage	22	-11	25	66



MRP calculations are used in the Generate Work Orders transaction screen and in Gross Requirements, Net Requirements, and Shortages reports.

## ◆ Chapter 1: Overview

### Operations



Operations are only necessary if you choose to use routes, an optional feature of Work Orders. You must use operations and routes in order to take advantage of the fixed capacity scheduling features in Lahey Shop Control, a separate Pro Series module.

An operation is a labor step, production task, or manufacturing procedure. Work Orders uses operations to 1) build a global library of descriptive steps in the manufacturing process for use during route maintenance; and 2) link a labor grade and unit cost to the operation by specifying a service-type item that must already be defined in Inventory Control.

### Work Centers



Work centers are only necessary if you choose to use routes, an optional feature of Work Orders. You must use work centers and routes in order to take advantage of the fixed capacity scheduling features in Lahey Shop Control, a separate Pro Series module.

A work center is a resource area within your facility or a vendor's facility where a production process occurs. Work centers are used by a route to identify where an operation is performed.

### Routes



Routes are an optional feature of Work Orders. You must define routes in order to take advantage of the fixed capacity scheduling features in Lahey Shop Control, a separate Pro Series module.

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 labor steps, resource area, 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.

## Effective Dates

In order to keep track of the different versions of a route, the program gives each line a beginning date (the date to begin or start using a line) and an ending date (the date a line was deleted, changed, or inactivated).

You can specify a particular version of a route by referring to its effective date. This tells the program to use all lines that are active as of that date.



When you delete a line from a route, you have the choice of either permanently deleting the line, or updating the ending date only. In order to maintain an accurate engineering change history, it is more desirable to update the ending date instead of deleting an operation step.

## Calculating Costs

To help keep track of the costs associated with each product your company makes, the program looks to the Inventory Control file for up-to-date costs.

Inventory Control supports four methods of inventory costing: average weighted cost, LIFO, FIFO, and standard costing. When you first create your data files for Inventory Control, select the costing method you want to use.



*For more information about inventory costing methods, see “Understanding Inventory Control” in the Inventory Control manual.*

## Real-Life Scenarios

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In the real world, there are many kinds of uses for Work Orders. Here are some notes about how to use the program in different real-life scenarios.

### Materials-Based Manufacturer

Production Entry serves as the foundation for manufacturing companies that are looking to control their raw materials in the production of repetitive, discrete (or distinct) finished goods. Material Requirement Planning (MRP) is a technique to calculate when components are required based on time-phased required dates from sales orders, purchase orders, and work orders. Time-phased MRP is accomplished by exploding the bill of materials created in Production Entry, adjusting for inventory quantities on-hand or on-order, and offsetting the net requirements by the appropriate lead times.

Work Orders provides the additional features necessary to assist the materials-based manufacturer, including component allocation, MRP reporting, and routing with operations and work centers.

### Operations-Based Manufacturer

This type of manufacturer is looking to control raw materials and plant resources. Manufacturing Resource Planning (MRPII) is a method for the effective planning of all components and routes of a manufacturing company. MRPII includes many advanced and sometimes sophisticated elements, but mainly involves MRP with fixed capacity scheduling in the middle-market where Pro Series is sold.



Call Lahey at **818/735-7300** or visit <http://www.lahey.net/sc.htm> for more information on Lahey Shop Control, a separate Pro Series module that offers forward and backward scheduling, fixed capacity scheduling, and what-if work orders.

## Process Manufacturing

This type of manufacturer combines raw materials based on a recipe or formula to produce a batch of finished goods. Typical process-oriented companies include food and chemical manufacturers. Lot number tracking, extended decimal quantity support for raw material ingredients, batch yields, and comprehensive quality control documentation are common issues that concern these types of companies.

By making some simple changes to the Pro Series data dictionary, Production Entry can be adapted to address the extended decimal quantity requirements for raw material ingredients. Our Work Orders module supports lot number tracking of raw materials and finished goods. Please visit our Online Knowledgebase at <http://www.lahey.net/kb/qpeenv01/htm> for more information on making changes to the Pro Series data dictionary.



While Production Entry now supports calculating batch yields, there is currently no support in any Lahey module for producing quality control documentation.

## Other Lahey Products

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Lahey offers an expansive line of seamlessly integrated ERP modules:

### Shop Control

Shop Control provides shop floor capacity scheduling, what-if planning capabilities, and WIP tracking for production managers that require Manufacturing Resource Planning (MRPII). It imports open work orders with defined routes, identifies bottlenecks, and calculates work order completion dates. What-if plan orders can be created to view resource requirements without affecting real-time purchasing decisions.

Work Center	Operation	Current Qty	Updated Qty	Current Time	Updated Time	Done
AREA1	PREP	1.000	1.000	0.000	0.333	<input checked="" type="checkbox"/>
AREA2	ASSM	2.000	2.000	0.000	0.444	<input type="checkbox"/>

## 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.

**PRO 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: Credit Limit: 500000 Past Due  
< 30: [0] < 60: [0] > 60: 70555

Vendor Information: Credit Limit: [ ]  
< 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 a form with the following fields and values:

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

	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

---



*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

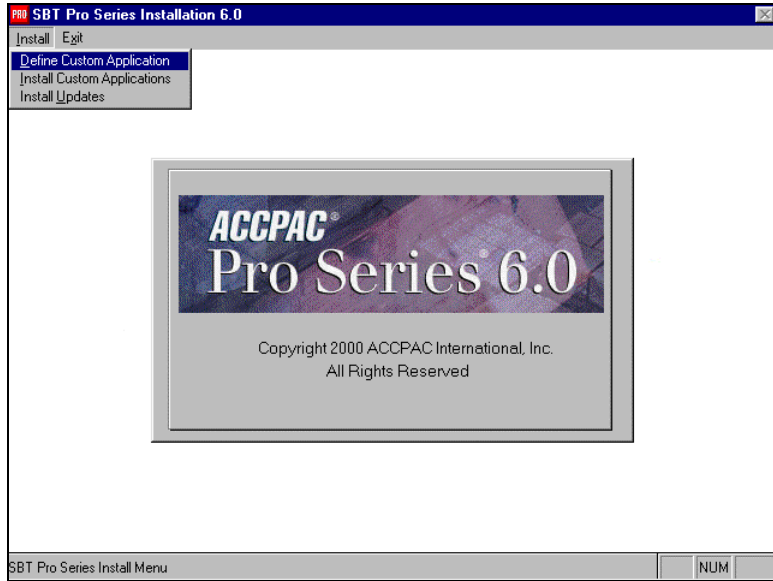
1. Start Microsoft Windows in the normal mode.
2. From the **Start** menu, select **Run**.
3. In the Open field, type the drive letter and path where Pro Series has been installed followed by SBTINSTW.EXE and click on OK. For example, to call SBTINSTW.EXE in a directory called PRO on drive S:, your command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

S:\PRO\SBTINSTW.EXE



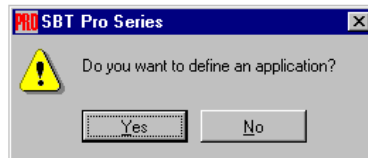
If you have any problems starting or running the Pro Series installation program, please contact your Pro Series reseller or Pro Series Technical Support at 800/944-1000. Lahey has not modified these routines. The most common problem is documented in our knowledge base at <http://www.lahey.net/kb/qzzins07.htm>.

Once you've started SBTINSTW, the system will prompt you to ensure you have made a complete backed-up of your system and then you'll see the following screen:



### Define the Application

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



Select **Yes** to add the Lahey application.  
Select **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 Custom 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 installation program. The default directory for data 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.

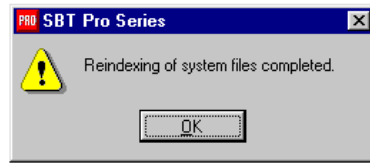
After you enter both paths, you will have these options:

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

---

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 Add BLDESC, M, 4
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

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*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	WMMAST	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 Work Orders Program Disk into your floppy disk drive.
2. From a DOS prompt, create the Work Orders 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 Work Orders program and data file directories. For example, type:

```
MD WO and press <Enter>  
MD WODATA 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 WO and press <Enter>
A:ZIPWOC01 WO????.* 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 Work Orders 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 WODATA and press <Enter>
A:ZIPWOC01 WO????99._?? and press <Enter>
A:ZIPWOC01 SY*._?? and press <Enter>
```

6. Copy the extracted sample and system data files over the existing files. From the Work Orders 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 = "WO" and press <Enter>
PACK and press <Enter>
APPEND BLANK and press <Enter>
BROWSE and press <Enter>
99 in the COMPID field press <Enter>
WO in the APPLID field press <Enter>
S:\PRO\WODATA\ in the ADOSDBF field and press <Enter>
S:\PRO\WODATA\ in the ADOSNDX field and press <Enter>
S:\PRO\WO\ 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 = "WO" and press <Enter>
PACK and press <Enter>
APPEND FROM wodata\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 = "WO" and press <Enter>
PACK and press <Enter>
APPEND FROM A:\WO.ADD and press <Enter>
USE sydflds EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "WO" and
press <Enter>
PACK and press <Enter>
APPEND FROM wodata\sydflds and press <Enter>
USE sydindx EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "WO" and
press <Enter>
PACK and press <Enter>
APPEND FROM wodata\sydindx and press <Enter>
USE sydtabl EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "WO" and
press <Enter>
PACK and press <Enter>
APPEND FROM wodata\sydtabl and press <Enter>
USE sydtapp EXCLUSIVE and press <Enter>
DELETE ALL FOR LEFT(tablid, 2) = "WO" and
press <Enter>
```

◆ Chapter 2: Installing the Program

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

10. Update the Work Orders 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 Work Orders 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 Work Orders
- ◆ Setting up Work Orders
- ◆ Bills of Materials
- ◆ Changing Bills of Materials
- ◆ Work Centers
- ◆ Operations
- ◆ Routes
- ◆ Changing Routes
- ◆ Reporting Calendars

◆ *Chapter 3: Setup and Maintenance*

## Starting Work Orders

---



Before starting the program, you need to install Lahey Work Orders on your computer or network. For more information about installing the program, see Chapter 2 of this manual.

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 | Work Orders**. If you only have one company using Work Orders, that company is loaded automatically, and you will see the Work Orders 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 Work Orders Main Menu.

### Selecting a Company

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

## Setting up Work Orders

---



Before you can enter new company information for Work Orders, you must first add the company and its applications (including 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 Work Orders as an application, you can enter specific information for the Work Orders company.

### System Settings Screen

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

**Work Orders: System Settings for Company 99**

System Settings | Screen Labels | Link Settings | System Options

Company: Professional Software, Incorporated

Company Address and Telephone:

Autonumber Transactions

Next Work Order number: 1021

Default Work Order status: Explode

Maximum BOM levels: 99

Start line numbers at: 10

Increment line numbers by: 10

Default method of explosion: Top


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

**Next Work Order Number:** If you choose to have Work Orders automatically assign work order numbers, enter the next work order number to use.

**Default Work Order Status:** Select the default status for new work orders.


- |        |                |   |
|--------|----------------|---|
| Select | <b>Explode</b> | to immediately allocate the component parts for new work orders.            |
|        | <b>Approve</b> | to put new work orders in line for manufacturing when you first enter them. |
|        | <b>Hold</b>    | to allow for postponed manufacturing to be approved later.                  |

**Maximum BOM Levels:** This is the maximum number of levels of parent parts that a bill of materials can contain.

 Factors to consider when choosing a maximum number of levels: entering a small number will limit the complexity of your bill of materials structures; entering an unnecessarily large number will make the program explode work orders more slowly.

**Start Line Numbers at:** Enter the default starting line number for use on bills of materials and exploded work orders.

**Increment Line Numbers by:** Enter the default value for incrementing line numbers when used on bills of materials and exploded work orders.

 Use a value of 10 if your bills of materials contain lower level parent parts or if you have 100 or more component parts on a single bill of material.

◆ Chapter 3: Setup and Maintenance

**Default method of explosion:** Select the default level of explosion to be used when exploding transactions.

- Select **Bottom** to bypass any parent parts on the top and lower levels of the bill of materials and allocate to the bottom-most level of the exploded bill of materials.
- 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.
- Top** to only consume component items on the top level of the bill of materials.

### Screen Labels Screen

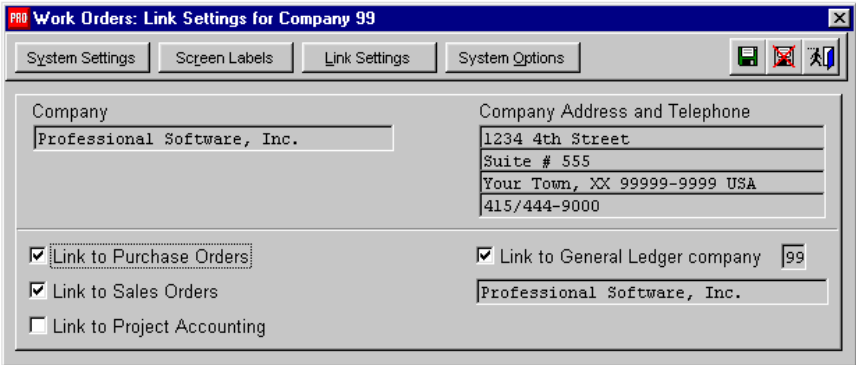
Select this option to change the default screen labels Work Orders uses. You will see the following screen:

Company		Company Address and Telephone	
Professional Software, Incorporated			
Label for Job	Job	Label for Jobs	Jobs
Label for Operation	Operation	Label for Operations	Operations
Label for Route	Route	Label for Routes	Routes
Label for Work Center	Work Center	Label for Work Centers	Work Centers
Label for Work Order	Work Order	Label for Work Orders	Work Orders



Link Settings Screen

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




**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 Project Accounting:** Select to create the link to Project Accounting.

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



*For more information about linking applications, see Chapter 6 of this manual.*

## System Options Screen

Select this option to change the default options Work Orders uses. You will see the following screen:

PRO Work Orders: System Options for Company 99

System Settings   Screen Labels   Link Settings   System Options

Company: Professional Software, Inc.

Company Address and Telephone: 1234 4th Street  
Suite # 555  
Your Town, XX 99999-9999 USA  
415/444-9000

Use Routes on Work Orders

Include Component Allocation with Smart Explosion

Use Finished Location for Component Usage

Don't Allow Serialized Components

Search Stores and/or Bins for stock

Automatically Create Daily Completion Logs

**Use Routes on Work Orders:** Select this option to define work centers, operations, and routes on work orders.

**Include Component Allocations with Smart Explosion:** Select this option to have Smart Explosion allocate components for each work order.

**Use Finished Location for Component Usage:** Select this option to have components pulled from the same location that is specified as the finished good location no matter what location is defined in the bill of materials.

**Don't Allow Serialized Components:** Select this option to suppress serialized items for the bill of materials detail. By selecting this option, Work Orders will allow you to create work orders with finished quantities greater than one.

**Search Stores and/or Bins for Stock:** Select this option to have the system automatically select any store and/or bin location based on inventory availability.

**Automatically Create Daily Completion Logs:** Select this option to have the system automatically create daily transaction logs when using the Post Completed Manufacturing screen. Log files will be created in a YYYYMMDD.OUT format.

## ◆ Chapter 3: Setup and Maintenance

### 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 Work Orders installation you have added. Select **File | Open | Work Orders**. If you have more than one company using Work Orders, 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 Work Orders 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 **WO** as the application ID. When Work Orders is displayed, choose **Delete** and confirm that you want to delete the Work Orders 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

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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 maintenance functionality from within Work Orders.



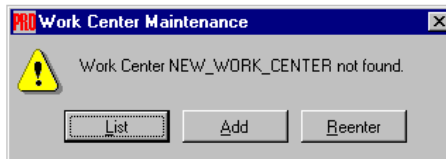
*For more information about bills of materials, see “Bills of Materials” in Chapter 3 of the Lahey Production Entry manual.*

## Work Centers

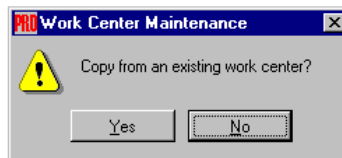
---

Select **Maintain | Work Centers**. Enter the work center ID for the resource area you want to define and press **<Enter>**. You can also press **<F2>** to see a selection list of work centers on file. You can choose the one you want by using the mouse or the up and down arrow keys to move through the list, and pressing **<Enter>** when the highlight bar is on the record you want.

When the new work center ID is not found in the work center file, you will see this message:



When you select to add a work center, you will see the prompt on the following page if there are other work centers to select from:

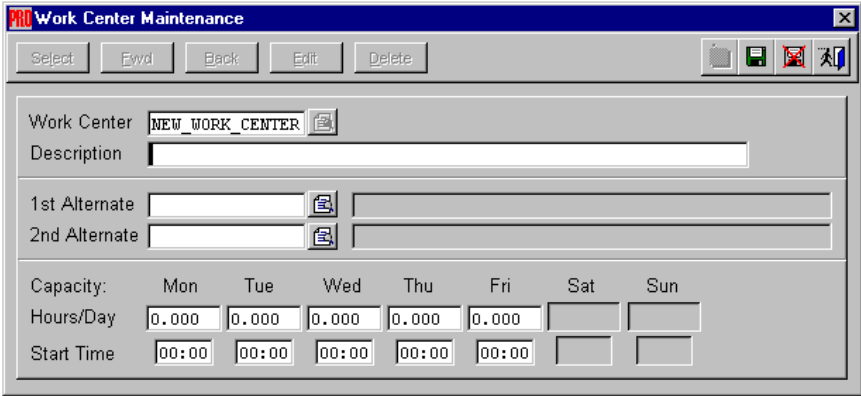


### Copying from an Existing Record

To copy the values from an existing work center, select **Yes** at the prompt above. You're asked for the work center ID you want to copy from. When you enter a valid selection, the program will copy the records. You can edit the new record until it is accurate.

Adding a New Work Center

If you are not copying from an existing work center, select **No** at the previous prompt to add a new work center. You will see a screen like this:



**1st Alternate:** Enter the work center location that is to be used first if this work station is not available. When you enter a valid work center, the work center description is displayed.

**2nd Alternate:** Enter the work center location that is to be used if this work station or the 1st Alternate work station is not available. When you enter a valid work center, the work center description is displayed.

**Capacity:** Enter the total capacity available in number of hours for this work center.

- Select **Save** to save your changes.
- Edit** to edit the screen again.
- Cancel** to quit without saving any changes.

## Editing a Work Center

To view or change a work center's information, select **Maintain | Work Centers**. Enter or select the work center ID you want to change.

Press <F2> to see a list of all existing work centers. You can then choose the one you want by using your mouse or the up and down arrow keys to move through the list, and press <Enter> when the highlight bar is on the record you want.

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


Use	<b>Select</b>	to find another work center.
	<b>Fwd</b>	to move forward to the next work center in the file.
	<b>Back</b>	to move to the previous work center in the file.
	<b>Edit</b>	to change the currently displayed work center.
	<b>Delete</b>	to delete the current work center. If a work center is in use on a route, you will not be able to delete the work center.
	<b>Exit</b>	to return to the main menu.



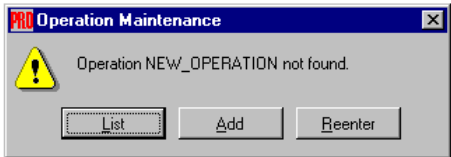
# Operations

---

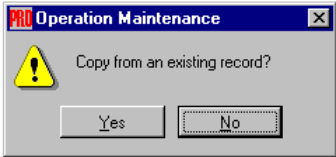
Select **Maintain | Operations**. Enter the operation ID for the procedure you want to define and press **<Enter>**. You can also press **<F2>** to see a selection list of operations on file. You can choose the one you want by using the mouse or the up and down arrow keys to move through the list, and pressing **<Enter>** when the highlight bar is on the record you want.

 Operations use service items in Inventory Control, that is, inventory items that are of a type "service" in the Item Settings screen. Service items are used because they do not track on-hand values and the unit cost is editable.

When a new operation ID is not found in the operation file, you will see this message:



When you select to add an operation, you will see this prompt if there are other operations to select from:



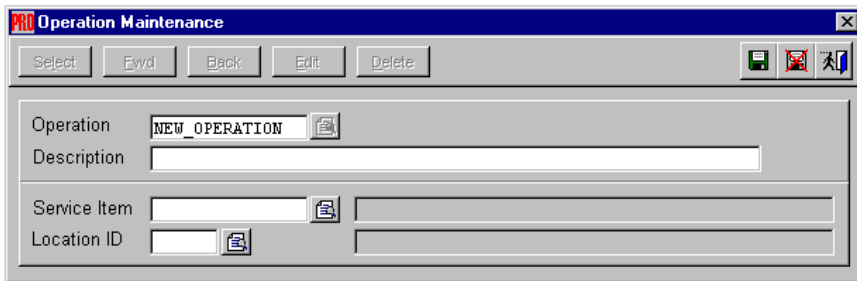
## ◆ Chapter 3: Setup and Maintenance

### Copying from an Existing Record

To copy the values from an existing operation, select **Yes** at the prompt above. You're asked for the operation ID you want to copy from. When you enter a valid selection, the program will copy the records. You can edit the new record until it is accurate.

### Adding a New Operation

If you are not copying from an existing operation, select **No** at the prompt on the previous page to add a new operation. You will see a screen like this:



The screenshot shows a window titled "Operation Maintenance" with a blue title bar. Below the title bar is a menu bar with buttons for "Select", "Ewd", "Back", "Edit", and "Delete". To the right of the menu bar are three icons: a floppy disk, a printer, and a help icon. The main area of the window contains four input fields:

- Operation:** A text box containing "NEW\_OPERATION" with a small icon to its right.
- Description:** A large empty text box.
- Service Item:** A text box with a small icon to its right.
- Location ID:** A text box with a small icon to its right.

**Service Item:** Enter the name of the service item this operation will perform. You can also press <F2> and select the service item from a list.

**Location ID:** Enter the location where the operation is to be performed.

Select    **Save**        to save your changes.  
          **Edit**        to edit the screen again.  
          **Cancel**     to quit without saving any changes.

### Editing an Operation

To view or change an operation's information, select **Maintain | Operations**. Enter or select the operation ID you want to change.

Press <**F2**> to see a list of all existing operations. You can then choose the one you want by using the mouse or the up and down arrow keys to move through the list, and press <**Enter**> when the highlight bar is on the record you want.

Once the operation record is displayed, the following options are available:

- |     |               |  |
|-----|---------------|--|
| Use | <b>Select</b> | to find another operation.                         |
|     | <b>Fwd</b>    | to move forward to the next operation in the file. |
|     | <b>Back</b>   | to move to the previous operation in the file.     |
|     | <b>Edit</b>   | to change the currently displayed operation.       |
|     | <b>Delete</b> | to delete the current operation.                   |
|     | <b>Exit</b>   | to return to the main menu.                        |

## Routes

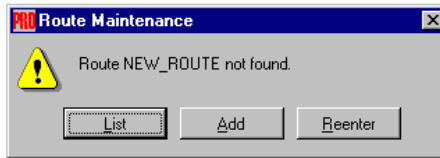
---

Select **Maintain | Routes**. Enter the inventory item number of the finished good you want to define a route for, and then press **<Enter>**.



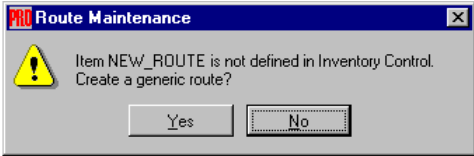
Lahey Work Orders allows you to create a generic route that can be used to make an unlimited number of finished goods. Each finished good must exist as an *item* in the inventory item file before it can be associated with a route.

When the new route is not found in the Route Header file, you will see this message:

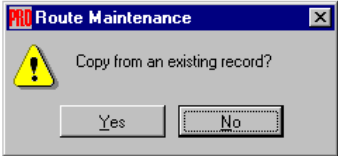


Select **List** to list the current routes.  
**Add** to add the route.  
**Reenter** to reenter the route.

When you select to add a new route, you will see the following prompt *only if* Work Orders *was not* able to find a matching item number in the Inventory Item file:



When you select to add a new route, you will see this prompt if there are any other routes to select from:



### Copying from an Existing Route

To copy the route detail from an existing route, select **Yes** at the prompt above. You're asked for the route you want to copy from. When you enter a valid selection, the program will copy the records. After completion of the last field in the Route Header, you will be given the opportunity to edit the route detail. If you do not edit at this time, you may do so later. For more information on editing routes, see the "Changing a Route" section of this manual.

◆ Chapter 3: Setup and Maintenance

### Adding a New Route

If you are not copying from an existing route, select **No** at the copy from prompt to add a new route. You will see a screen like this:

The screenshot shows a dialog box titled "Route Maintenance, Route Header". At the top, there are buttons for "Select", "Ewd", "Back", "Edit", and "Delete". To the right of these buttons is a dropdown menu labeled "Route Header". Below the buttons, there are several input fields: "Route" with the text "NEW\_ROUTE", "Description" (empty), "Effective Date" with the text "04/23/99", "Revised on" (empty), "Status" with a dropdown menu set to "Active", and "Type" with a dropdown menu set to "Standard".

### Route Header Screen

**Description:** Enter the description for this route. If the route is found in the inventory item file, you will see the description for that item.

**Effective Date:** Enter the date that you will start using this route.

**Revised On:** This field is maintained by Work Orders and is updated each time you save any changes on the main route screen.

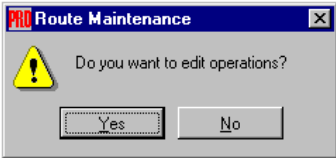
**Status:** This field indicates the current status for this route.

Select    **Active**        if this route is available for use.  
          **Hold**            if this route has not yet been approved for use.  
          **Obsolete**        if this route is no longer used.

**Type:** This field indicates the type of route you are adding.

Select    **Standard**        if this route is for regular use.  
          **Custom**        if this route is for a one-time use.

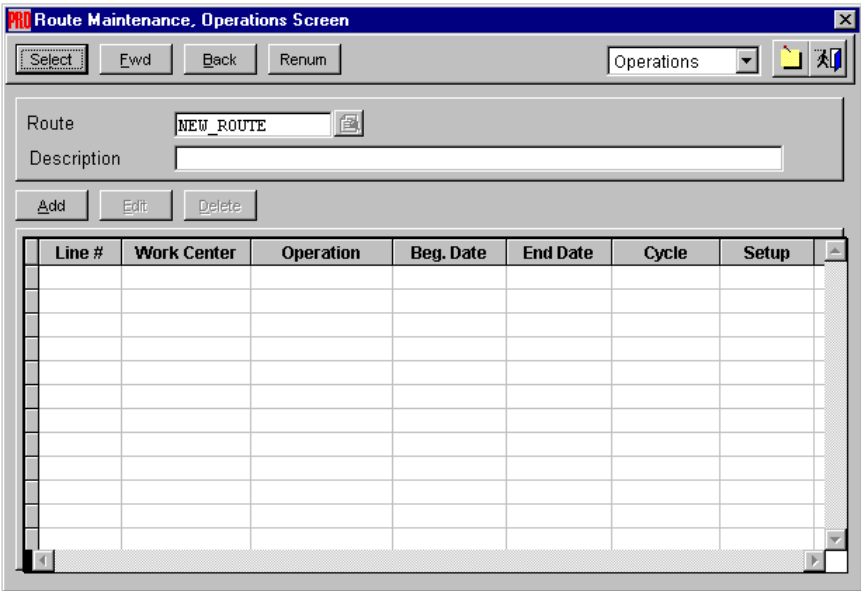
After entering information on the main route screen, select the **Save** icon. You will see the following prompt:



Select **Yes** to switch to the Operations screen.  
Select **No** to return to the Route Header screen.

### Operations Screen

If you choose to edit operations, you will see the following screen:



◆ Chapter 3: Setup and Maintenance

- Select **Select** to find another route record.
- Fwd** to advance one record.
- Back** to go back one record.
- Renum** to renumber the route detail lines.
- Add** to enter a new line item for the current route.
- Edit** to edit an operation step for the route.
- Delete** to delete or inactivate an operation step for this route.

### Operation Detail Screen

If you choose to add or edit operations, you will see the following screen:

Route	NEW_ROUTE				
Description					
Line Number	10	Active	04/23/99	Inactive	/ /
Operation					
Work Center					
Service Item					
Loct ID					
Setup Time	0.000	Usage U/M	Avg Unit Cost	Std Unit Cost	Lst Unit Cost
Cycle Time	0.000		0.00000	0.00000	0.00000
Processing Instructions					

**Line Number:** The program automatically assigns each entry a line number. These numbers increment by the value established in the company setup screen. You can type over the default numbers with any line number you like, as long as you don't repeat a number already used on this route.



**Active:** Enter the date that this item is to be included in the route.

**Inactive:** Enter the date that this item is to become inactive and therefore not included in the route.



*For more information on active and inactive dates, see “Understanding Work Orders, Effective Dates” in Chapter 1 of this manual.*

**Operation:** Enter the operation that is a labor step of the route. If the operation is found in the operation file, the description, Service Item, and Location ID fields will be displayed.



*For more information on labor steps, see “Operations” in Chapter 3 of this manual.*

**Work Center:** Enter the work center the operation will take place in. If the work center is found in the work center file, the description will be displayed.



*For more information on work centers, see “Work Centers” in Chapter 3 of this manual.*

**Setup Time:** Enter the setup time required for this operation.

**Cycle Time:** Enter the cycle time required for this operation.

**Processing Instructions:** Record any notes for this operation for processing this route.

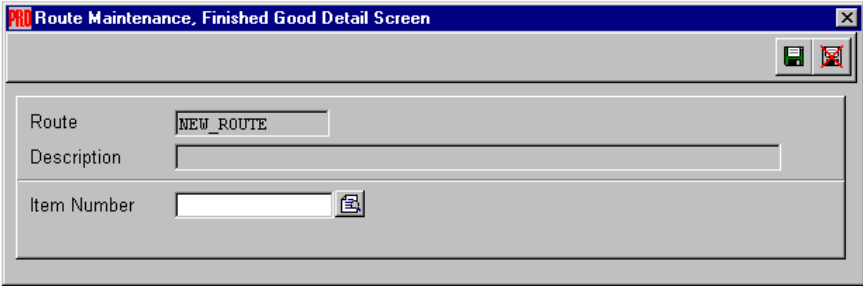
After entering information on the route detail screen and selecting **Save**, you will return to the **Operations** screen.




- Select **Select** to choose a different route record.
- Fwd** to advance one record.
- Back** to go back one record.
- Add** to associate an inventory item number to the current route.
- Edit** to change the information on the Finished Goods Detail screen for a selected finished good.
- Delete** to remove a selected finished good from being associated to the current route.

### Finished Good Detail Screen

If you choose to enter finished goods, you will see the following screen:



**Item Number:** Enter the item number of the finished good produced by this route. You can have an unlimited number of finished goods per route.

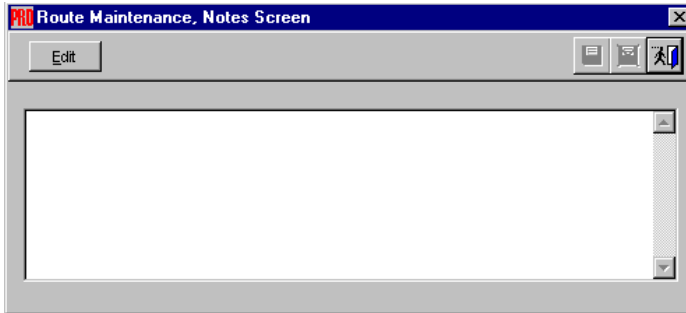
 Once an inventory item number is used as a finished good item for one route, it cannot be used as a finished good item on another route. If you enter an inventory item that is used on another route, you will get a message giving you the option to move the item to this route.

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Notes Screen

The **Notes** screen is used to enter notes about a route. The **Notes** screen can be accessed by selecting the **Notes** icon from any route maintenance screen.

If you choose to enter notes, you will see this screen:



You can use notes to record additional information about a route, such as processing notes or specifications. Route notes are kept in one scrolling window and their size is limited only by available disk space.

- |        |             |  |
|--------|-------------|--|
| Select | <b>Fwd</b>  | to move to the next route record's Note field.   |
|        | <b>Back</b> | to move to the previous route record's Note field.   |
|        | <b>Edit</b> | to add or change a route record's Note field. If adding a new entry, the current date and User ID will be automatically entered. |



When a note exists for a route, you see the Note button appear in green.

## Changing Routes

---

From time to time, you'll want to examine or change route information. To do so, select **Maintain | Routes**. Enter or select the route you want to change.

Press <**F2**> to see a list of all existing routes. You can then choose the one you want by using the mouse or the up and down arrow keys to move through the list, and press <**Enter**> when the highlight bar is on the record you want.

### Finding a Field

The following is an alphabetical listing of all route fields and the route data screen on which they appear. Use this list as a quick reference guide to locating the field you view or edit. Complete information about each of the fields is located in "Routes" in Chapter 3 of this manual.

<u>Field</u>	<u>Screen</u>
Active	Operation Detail
Cycle time	Operation Detail
Description	Route Header, Operation & Detail
Effective Date	Route Header
Inactive	Operation Detail
Item Number	Finished Goods Detail
Line Number	Operation Detail
Location ID	Operation Detail
Operation	Operation Detail
Processing Instructions	Operation Detail
Revised On	Route Header
Route	Route Header, Operation & Detail
Status	Route Header
Setup Time	Operation Detail
Type	Route Header
Work Center	Operation Detail

## Using the Command Buttons

Once the route header record is displayed, the following options are available:

Use	<b>Select</b>	to find another route record.
	<b>Fwd</b>	to move forward to the next route record in the file.
	<b>Back</b>	to move to the previous route record in the file.
	<b>Edit</b>	to change the currently displayed record.
	<b>Delete</b>	to delete the current route.
	<b>Route Header</b>	to change or display the main record for the current route.
	<b>Operations</b>	to change or display the detail lines for the current route.
	<b>Finished Goods</b>	to change or display the finished goods associated with the current route.
	<b>Notes</b>	to view, add, or change a note about this route.
	<b>Exit</b>	to return to the main menu.

## Editing a Route Record

To change the currently displayed route 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 "Routes" in Chapter 3 of this manual for detailed descriptions of each field.

Some fields cannot be edited after you have created the route record. In most cases these are fields containing information that is automatically updated by Lahey Work Orders, or another application's transactions that update the route file.

When you're finished editing a route data screen you will have the following options:

Select	<b>Save</b>	to save your changes.
	<b>Edit</b>	to edit the screen again.
	<b>Cancel</b>	to quit without saving any changes.

## Deleting a Route

Select **Delete** from the options at the top of the screen to delete this route from the route file. You must confirm that you want to delete it.



*You cannot recall a deleted route. If you delete a route in error, you must recreate the header and detail records.*

*Deleting a route will remove all entries for this route from the operations and finished good screens.*

◆ Chapter 3: Setup and Maintenance

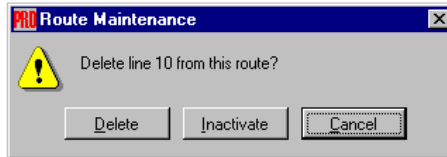
### Deleting a Detail Line

When you delete a line from a route, you have a choice to delete the line or mark the line inactive. Inactive lines can be referred to during processing or recosting by specifying an effective date that includes the inactive line.



*You cannot recall a deleted line on a route. If you delete a line in error, you must recreate the detail record.*

To delete a detail line on the route, select **Delete** from the options at the top of the screen. You will see the following prompt:



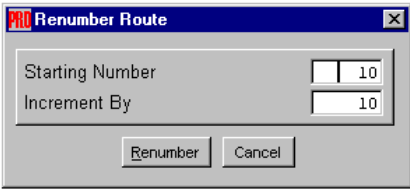
Select	<b>Delete</b>	to delete the detail line item.
	<b>Inactive</b>	to inactivate the detail line item.
	<b>Cancel</b>	to cancel without deleting.



### Renumbering Lines

Renumbering is usually used after inserting or deleting a line in the route and want the sequence numbers to be evenly numbered again.

To renumber the sequence lines on the route, select **Renum** from the options at the top of the screen. You will see a pop-up screen with this prompt:



When you've entered the starting number and increment values, you will have the following options:

- Select **Renumber** to proceed with renumbering.
- Cancel** to quit without renumbering.

## Reporting Calendars

---

Reporting calendars are a definition for the length of each of the 13 periods used for viewing material requirement planning "buckets." You can define as many reporting calendars as you like and you can specify which reporting calendar to use when the program requires any MRP functionality.

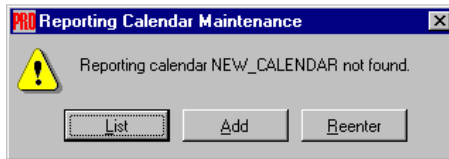
Select **Maintain | Reporting Calendars**. Enter the calendar ID of the calendar you want to create for and press <**Enter**>.

Lahey Work Orders can determine the length of each period if you enter a calendar ID in the supported format.



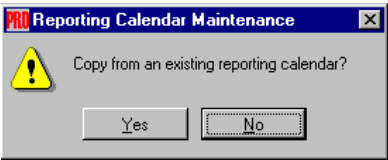
DY would create a daily reporting calendar with period lengths of 1.  
WK would create a weekly reporting calendar with period lengths of 7.  
MO would create a monthly reporting calendar with period lengths of 30.

When the new calendar ID is not found in the reporting calendar file, you will see this message:



Select **List** to list the current reporting calendars.  
**Add** to add the calendar ID.  
**Reenter** to reenter the calendar ID.

When you select to add a reporting calendar, you will see this prompt if there are other calendars to select from:

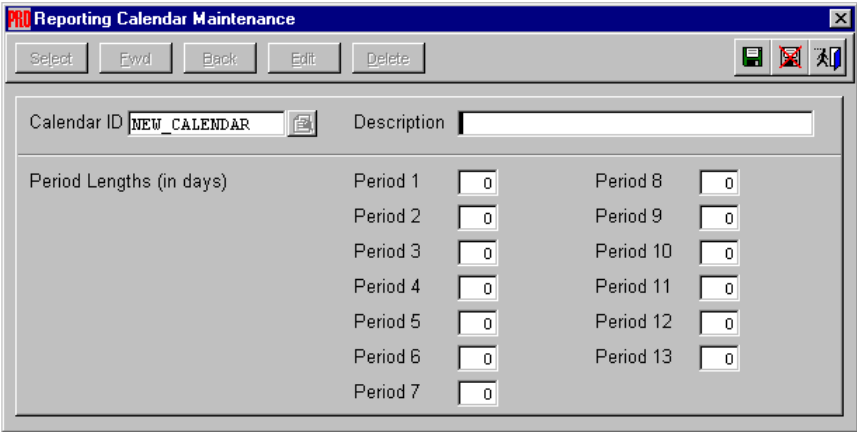


### Copying from an Existing Record

To copy the values from an existing reporting calendar, select **Yes** at the prompt above. You're asked for the calendar ID you want to copy from. When you enter a valid selection, the program will copy the record. After completion of the last field, you will be given the opportunity to edit the record until it is accurate.

### Adding a New Reporting Calendar

If you are not copying from an existing reporting calendar, select **No** at the copy-from prompt to add a new reporting calendar. You will see a screen like this:



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**Description:** Enter the name or description of this reporting calendar.

**Period 1 - 13:** Enter the length of each period you want to use for reporting requirement "buckets". These values define the periods that the program uses for MRP calculations. You can use a value from 1 to 999 days for each period.

After entering information on the reporting calendar screen, you will see these options:

Select	<b>Save</b>	to save this new reporting calendar record.
	<b>Edit</b>	to change the reporting calendar information you just entered.
	<b>Cancel</b>	to quit without saving this reporting calendar record.

### Editing a Reporting Calendar

To view or change a reporting calendar's information, Select **Maintain | Reporting Calendars**. Enter or select the reporting calendar you want to change.

Press <F2> to see a list of all existing reporting calendars. You can then choose the one you want by using the mouse or the up and down arrow keys to move through the list, and pressing <Enter> when the highlight bar is on the record you want.

Once the reporting calendar record is displayed. The following options are available:

Use	<b>Select</b>	to find another reporting calendar.
	<b>Fwd</b>	to move forward to the next reporting calendar in the file.
	<b>Back</b>	to move to the previous main reporting calendar in the file.
	<b>Edit</b>	to change the currently displayed calendar.
	<b>Delete</b>	to delete the current reporting calendar.
	<b>Exit</b>	to return to the main menu.

# 4. *Working with the Program*

- ◆ Entering Work Orders
- ◆ Changing Work Orders
- ◆ Approving Work Orders
- ◆ Exploding Work Orders
- ◆ Completing Work Orders
- ◆ Generating Work Orders
- ◆ Generating Purchase Orders
- ◆ Production Entry
- ◆ Recalculating Item Allocation
- ◆ Closing the Period or Year

◆ *Chapter 4: Working with the Program*

## Entering Work Orders

---

Entering a work order is the first step in using Work Orders to project requirements and account for goods used in production. Select **Transaction | Enter Work Orders**.

If you are linked to Sales Orders, you can enter a sales order number or press <F2> to see a list of sales order items from the sales order transaction file.

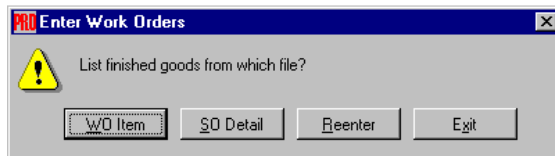


If creating work orders from sales orders, you must be sure that you have increased the WONO field size from "5" to "10" in the SOTRAN and the SOYTRN databases. See "Updating Your Sales Order Installation" in Chapter 2 of this manual.

If this transaction is to produce finished goods for stock and not to fill a sales order, leave the sales order number blank. Enter the finished good item number or press <F2> to see a list of finished good item numbers. If you enter a finished good item number that is not found in the finished good item file, you will see this message:



If you press <F2> in the finished good item field, you will see this message:



◆ Chapter 4: Working with the Program

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

The screenshot shows a software window titled "Enter Work Orders" with a standard Windows-style title bar (minimize, maximize, close buttons). The window contains a form with the following fields and values:

Work Order	1021	Work Order Date	04/23/99
Sales Order #		Sales Order Date	04/10/99
Finished Good	A2EW	Required Date	04/23/99
Description: Uninterruptible Power Supply Protection			
Cust No.		Status	Exploded
Company		Required Qty	1.000
		Stock U/M	EACH
BOM Number	A2EW	Revision Level	
Description: Analog II Exterior Wafer			
Finish Loc	PLANT2	Route	
Description: Production Plant 2			
Store		Job	
Serial Number		Bin	
		Lot Number	
On Hand	0.000	Allocated	0.000
		On Order	0.000



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

**Required Date:** This is the date the order is expected to be completed. The default date is today's date, as defined by the system date. If you entered this screen by selecting a sales order, the date is brought forward from the sales order line item.

**Sales Order Number:** If you did not select a sales order upon entering this screen, you can edit this field. Enter a sales order number this product is to be built for or press <Enter> to leave it blank. If you entered this screen by selecting a sales order, the sales order number is brought forward from the sales order line item.

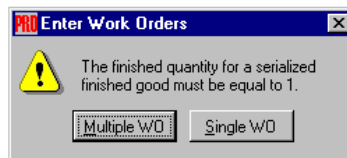
**Customer Number:** If you did not select a sales order upon entering this screen, you can edit this field. Enter the customer number this product is to be built for or press <Enter> to leave it blank. If you entered this screen by selecting a sales order, the customer number is brought forward from the sales order line item.

**Work Order Status:**

- |        |                 |  |
|--------|-----------------|--|
| Select | <b>Exploded</b> | to explode the work order.                                 |
|        | <b>Approved</b> | to put the work order in line for manufacturing.           |
|        | <b>Held</b>     | to allow for postponed manufacturing to be approved later. |

**Required Quantity:** Enter the quantity of the item you need to manufacture. If you entered this screen by selecting a sales order, the required quantity is brought forward from the sales order line item.

If you have entered a required quantity greater than 1 for a finished good item that is serialized, you will see this prompt:



◆ Chapter 4: Working with the Program

**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 Work Order

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

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

## Exiting the Screen

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

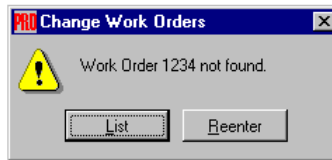
- |        |              |   |
|--------|--------------|---|
| Select | <b>New</b>   | to enter another work order.  |
|        | <b>Lines</b> | to edit the components that have been applied to this work order from the standard bill of materials for the manufactured item. |
|        | <b>Exit</b>  |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

## Changing Work Orders

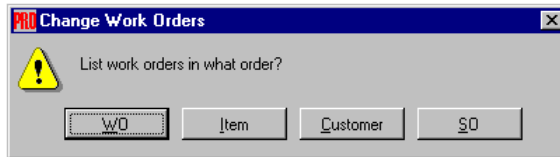
---

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

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



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



You can select any work order from this menu. The status types are: unapproved, approved, processed, changed, deleted, and completed.

## Using the Command Buttons

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

<b>Select</b>	<b>Select</b>	to find another work order.
	<b>Fwd</b>	to move forward to the next work order.
	<b>Back</b>	to move to the previous work order.
	<b>Appr</b>	to approve or unapprove this work order.
	<b>Edit</b>	to change the displayed work order.
	<b>Delete</b>	to delete the displayed work order.
	<b>Lines</b>	to edit the components of the bill of materials for this work order.
	<b>Close</b>	to close this work order if there is a partial quantity already completed on this work order.

## Approving a Work Order

To change the status of the currently displayed work order, select **Approve** from the options at the top of the screen. This choice will approve an unapproved work order or unapprove an approved or processed work order.

You can change the approval status of a work order at any time up until the work order is deleted or completed. Work Orders will update the work order allocation fields in Inventory Control in real time as the work order status is changed.

When you approve or unapprove a work order the program updates the On Order, WO field for finished good items on the Item at Location screen. When you unapprove a processed work order, the program will immediately update both the On Order, WO field for the finished good item and the Allocated, WO field for the component items in Inventory Control.

In order to update the Allocated, WO fields when approving a work order, you must choose Explode Work Orders from the Transaction menu. See "Exploding Work Orders" in Chapter 4 of this manual for more information on processing work orders.

## Editing a Work Order

To change the currently displayed work 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 Work Orders" in Chapter 4 of this manual for detailed descriptions of each field.

When you change the required quantity on a work order, the finished good item allocation will be updated immediately. However, the component item allocations are not updated until you re-explode the work order. Select **Transaction | Explode Work Orders** to re-explode work orders. See "Exploding Work Orders" for more information on processing work orders.

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

Select	<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 Work Order

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



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

When you delete a work order, the program will immediately reduce both the On Order, WO field for the finished good item and the Allocated, WO field for the component items in Inventory Control.



## Exploding Work Orders

---

During work order explosion, the program takes the orders you've approved and explodes them into their component parts. The program calculates how many of each component you'll need to fill your open work orders.



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.

For example, let's say that you build cable assemblies and there are two phases to your manufacturing process. The first phase consumes raw cable, connectors and labor. The second phase consumes the semi-complete cable, molding compound, and more labor to complete the cable assembly.

If you are exploding work orders for the cable assembly that you actually sell and you already have sufficient quantity of the semi-completed cable in stock, you would select Top Level to the explosion prompt. This prevents the program from allocating the inventory of the raw cable, connectors and labor. The program will only allocate inventory of the semi-completed cable, molding compound and the additional labor to complete the cable assembly.

However, if your manufacturing process is more or less instantaneous, then you would select Bottom Level to the explosion prompt. This would allow the program to allocate inventory of the raw cable, connectors, base labor, molding compound and completion labor all in one step.

If you keep the semi-completed cable in stock, but want to keep on-hand inventories of both the semi-completed cable and the components correct, you would use Smart Explosion. The program would allocate the semi-completed cable until the on-hand inventory is depleted, then allocate the components necessary to assemble the balance.



When you select **Transaction | Explode Work Orders**, you will see the following option grid:

Option Grid - Explode Work Orders:		
Explosion Method	{Top Level/Smart/Bottom Level}	Top Level
Include	{Selected/All}	Selected
Reprocess	previously processed orders? {Y/N}	Yes
Effective Date	(date for bill of materials)	03/23/99
Delete Prior	forecast/shortage WOs? {Y/N}	Yes

#### 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.

**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.

To tag a work order, highlight the work order and then press the space bar to toggle the selected status. When you tag a work order, **Yes** appears in the selected field. Repeat this procedure for each work order you want to explode. Type **<Ctrl>+<A>** to select all work orders or **<Ctrl>+<U>** to deselect all work orders on this screen. Press **<Enter>** to save your selections and proceed to explode the work orders.

**Reprocess:**

- Select **Yes** to reprocess work orders that have already been processed.
- No** if you do not want to reprocess work orders.



You only need to reprocess work orders if you have changed a bill of materials that had an active work order and that work order should reflect the component changes.

**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.

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

Here's what is happening at each stage:

<u>1<sup>st</sup> Stage</u>	Setup for Bill of Materials Explosion	The program is creating a temporary file to be used during work order processing.
<u>2<sup>nd</sup> Stage</u>	Backout Previous Processing	If you have changed the required quantity on a work order or if you have chosen to reprocess work orders that have been previously processed, the program backs out the previous explosion and allocation.
<u>3<sup>rd</sup> Stage</u>	Explode Work Order	The program explodes each finished good item into component parts according to its bill of materials and the explosion method selected from the option grid.
<u>4<sup>th</sup> Stage</u>	Update Inventory File Allocations	As the component parts are calculated the work order allocation fields are updated in Inventory Control.
<u>5<sup>th</sup> Stage</u>	Cleanup	Erases temporary files created during work order processing.



## Editing Components

To edit the components of a work order, highlight the work order and type <Alt>+<E>. This feature gives you direct access to the components for adjusting actual quantities used and assigning lot numbers, serial numbers, stores and/or bins prior to completing the work order.



*For more information about editing work order components, see the section titled “Changing Work Orders” earlier in this chapter.*

## Completion Options

Additional completion options for each work order are available by highlighting the work order and pressing <Enter>. You will see the following screen:

Finished Good	WIDGET
Quantity Open	20.
Quantity to Close	0.
Lot Number	
Serial Number	

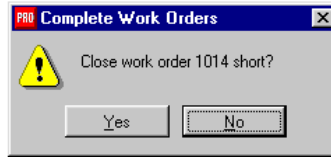
OK Cancel

**Quantity to Close:** Enter the production quantity completed for this work order. You can use this screen to enter a shortage or an overage.

◆ Chapter 4: Working with the Program

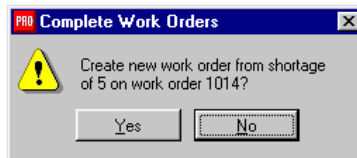
Entering A Shortage

If you enter a shortage, the system will prompt you with the following options:



Select **Yes** to proceed with closing this work order short.  
Select **No** if you do not want to close this work order short.

If you choose to proceed with closing the work order short, the system will prompt you with the following options:



Select **Yes** to create a new work order for the backordered production quantity.  
Select **No** if you do not want to backorder any production quantity.

## Entering an Overage

If you enter an overage, the system will force you to immediately re-explode the work order in order to recalculate component requirements based on the new production quantity.



*Once you enter an overage and re-explode the work order, you cannot undo it from the Complete Work Orders screen. You must edit the production quantity from the **Change Work Orders** option on the **Transaction** menu.*

## Generating Work Orders

---

Select **Transaction | Generate Work Orders** to create multiple work orders in a batch method based on different generation methods. In all cases, you will be presented with a browse window from which you can select all or none of the proposed work orders.

### Generate from:

Select	<b>Forecast</b>	to create work orders for parent parts that are over-allocated and to increase production quantity by the value in the order point field.
	<b>Requirements</b>	to create one work order for each parent part line item in the sales order transaction file.
	<b>Shortages</b>	to create work orders for parent parts that are over-allocated not considering order points.

### Work Order Status:

Select	<b>Hold</b>	to allow for postponed manufacturing to be approved later.
	<b>Approve</b>	to put the work order in line for manufacturing.
	<b>Explode</b>	to immediately approve the work order for manufacturing as well as putting demand on component parts.

### Combine Locations (only used if **Generate From** is set to **Forecast** or **Shortages**):

Select	<b>Yes</b>	to allow quantities at all warehouse locations to be used when calculating parent part requirements.
	<b>No</b>	to consider each warehouse location unique when calculating parent part requirements.



**Required Date** (only used if **Generate From** is set to **Forecast** or **Shortages**):

- |        |                      |  |
|--------|----------------------|--|
| Select | <b>Generate date</b> | to calculate the work order required date based on a 13-period forecast. |
|        | <b>System date</b>   | to use the system date as the work order required date.                  |

**Delete Prior WO's** (only used if **Generate From** is set to **Forecast** or **Shortages**): Completed and partially completed work orders will not be deleted. Only work orders previously created through generation from Forecast or Shortages will be deleted.

**Explosion Method:**

- |        |                     |   |
|--------|---------------------|---|
| Select | <b>Bottom Level</b> | 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.   |
|        | <b>Smart</b>        | 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. |
|        | <b>Top Level</b>    | to only allocate component items on the top level of the bill of materials for this group of work orders.   |

**Effective Date** (only used if **Work Order Status** is set to **Explode**): 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. You could specify a different date.

**Calendar ID** (only used if **Required Date** is set to **Generate**): Enter or select the reporting calendar to use for when calculating the time-phased requirements.

## Generating Purchase Orders

---

Select **Transaction | Generate Purchase Orders** to create multiple purchase order bids in a batch method based on different generation methods. In all cases, you will be presented with a browse window from which you can select all or none of the proposed purchase order bids.



In order to be able to generate purchase order bids, items that you purchase must have the Purchase box checked on the Item Settings tab in Inventory Item Maintenance and Vendor Part Numbers defined in Item Supplier Maintenance.

### Generate from:

- |        |                  |   |
|--------|------------------|---|
| Select | <b>Forecast</b>  | to create purchase order bids for component parts that are over-allocated and to increase order quantity by the value in the order point field. |
|        | <b>Shortages</b> | to create purchase order bids for component parts that are over-allocated not considering order points.   |

### Combine Locations:

- |        |            |   |
|--------|------------|---|
| Select | <b>Yes</b> | to allow quantities at all warehouse locations to be used when calculating component shortages. |
|        | <b>No</b>  | to consider each warehouse location unique when calculating component shortages.                |

### Required Date:

- |        |                      |  |
|--------|----------------------|--|
| Select | <b>Generate date</b> | to calculate the purchase order bid required date based on a 13-period forecast. |
|        | <b>System date</b>   | to use the system date as the purchase order bid required date.                  |



## Production Entry

---

Some manufacturers build finished goods for stock regardless of when orders are received from customers. To increase a manufactured item's on-hand quantity and reduce component quantities in a single step through Work Orders, select **Transaction | Production Entry**. For your convenience you can access the Production Entry functionality from within Work Orders.



*For more information about single-step processing without a work order, see “Post Completed Manufacturing” in Chapter 4 of the Lahey Production Entry manual.*

## Recalculating Item Allocation

---

Select Recalculate Item Allocation from the Maintain menu to resolve any inconsistencies that develop in your allocation data. For example: 1) conflicting information in reports versus what is displayed in the Item at Location screen; or 2) serial numbers or lot numbers not able to be assigned to components even though Inventory Control reports they are available.

This procedure should only be necessary if there has been a system error or modification to create the inconsistencies. This is not a routine task.

## Closing the Period or Year

---

There are several reasons to close the period or year for Lahey Work Orders. During the period or year closing, the program moves the current period's closed work orders into the history files. This process optimizes the size of your open work order files for faster processing.

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.



*You should not close the period unless you have made a backup copy of all your data files (those files ending in .DBF or .FPT)*



It's a good idea to close Work Orders, Production Entry, Sales Orders, Purchase Orders, Inventory Control, and Accounts Receivable on the same schedule to keep the data files they share from getting out of sync.

When you choose to close the period or year for Work Orders, you will see the following option grid:

Option Grid - Work Orders Period and Year Closing:		
Delete Trans Hist	{based on cutoff below}	Yes
Deletion Cutoff	(date for trans hist deletion)	09/01/98

**Delete Transaction History:** Select **Yes** to have the program delete all information in the work order transaction history files through the cutoff date which you enter in the next field.

**Deletion Cutoff:** If you answered **Yes** to Delete Transaction History, enter the date through which you wish to delete the information in the work order transaction history files.

You should only delete the data in your history files if you have previously backed up your data files and are in need of storage space on your hard disk. Otherwise, you should keep this data, which you can use to print a variety of reports.



If you do delete the work order transaction history files, you are asked to enter the deletion password, which is **DESTRUCT**.

◆ *Chapter 4: Working with the Program*




# 5. *Reports and Inquiries*

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

◆ *Chapter 5: Reports and Inquiries*

## Selecting the Output Destination

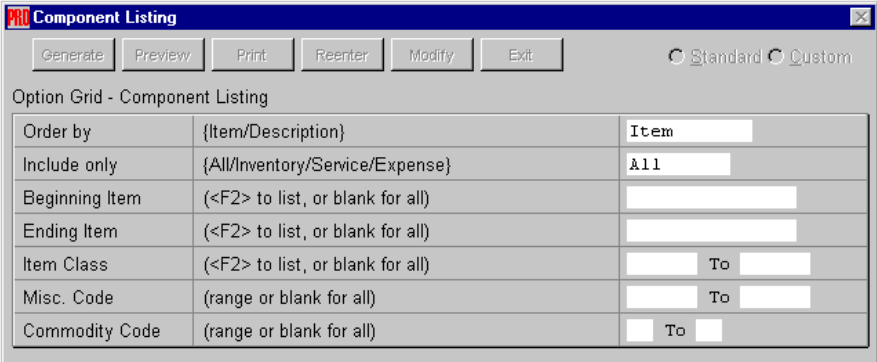
The option to print or display is available for all reports in Production Entry. You might indicate your choice by selecting a command button, selecting an option button, or clicking an icon, but the choice is always available.

 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

---

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

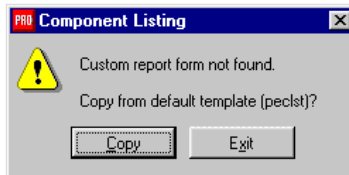
You can customize reports using the **Modify** option on the report option grid. This option opens the Visual FoxPro Report Designer, which contains a variety of tools that make it easy to modify your reports. For example, you can include a corporate logo, or rearrange the layout of the reports. For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

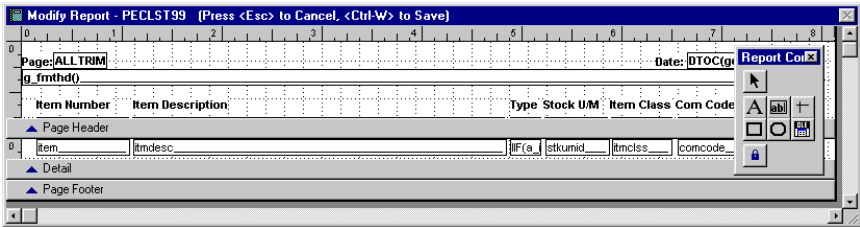
You can keep one modified version of each report, in addition to the standard version. If a modified form exists, you see the **Standard** and **Custom** buttons at the upper-right part of the report option grid. When you click **Modify**, the system assumes that you are customizing the version of the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

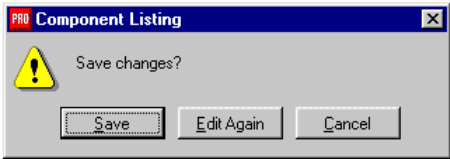
You see a standard Visual FoxPro form editor window, in which you can edit and move the report form fields.



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.

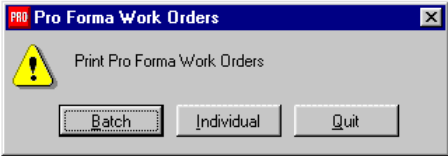


# Pro Forma Work Orders

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Sometimes it is helpful to be able to view material requirements or a rolled-up cost that includes routing information without having to create a live work order, which would affect real-time purchasing decisions. Pro Forma Work Orders provide that capability and more.

To print Pro Forma Work Orders, select **Print | Pro Forma Work Orders**. You will see the following prompt:



- Select **Batch** to print a batch of pro forma work orders.
- Individual** to print a pro forma work order for a single finished good.
- Quit** to quit without printing.

◆ Chapter 5: Reports and Inquiries

When you select the **Batch** or **Individual** option, you will see a screen similar to this:

Option Grid - Pro Forma Work Orders (Batch):		
Beg Finished Good	(<F2> , portion or blank for all)	<input type="text"/>
End Finished Good	(<F2> , portion or blank for all)	<input type="text"/>
Location	<F2> Picklist Options	<input type="text"/>
Update Parents	(update standard cost for parents)	No
Explosion Method	{Top Level/Smart/Bottom Level}	Top Level
Cost Method	{Average/Standard/Last}	Average
Qty Mult Factor	(factor to apply to all qtys)	1.000
Effective Date	(date for bill of materials)	03/23/00
Report Type	{Basic/Detail}	Detail

**Beginning Finished Good, Ending Finished Good:** (Only one of these fields appears if you chose to print individual pro forma work orders.) By entering finished good items into either or both of these fields, you can choose to print just the items within that range of item numbers.

**Location:** Enter location ID that the finished good where the finished good would be received.

**Update Parents:**

Select **Yes** to update the standard cost of the parent part.  
Select **No** to leave parent part's standard cost unchanged.

**Explosion Method:**

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

**Cost Method:**

- Select **Average** if you want to use the average cost value for each item.
- Standard** if you want to use the standard cost value for each item.
- Last** if you want to use the last cost value for each item.

**Quantity Multiplication Factor:** Enter a number other than 1.000 here if you want to multiply all quantities and costs by a constant factor. This helps to calculate total costs when items are made in quantity.

**Effective Date:** Enter a date in this field to select which version of the bill of materials you want to use for the report.

**Report Type:**

- Select **Basic** if you want to show item, revision level, item description, location, required usage, required scrap, unit of measure, and a quantity issued note column.
- Detail** if you want to include more detailed information, including on-hand, allocated and on-order information for each line item.

## Work Order Travelers

---

After you have exploded a work order, you can print a work order traveler. A work order traveler has three functions. First, it serves as a "recipe" of the components required to complete a finished good. Second, it acts as a picking ticket for the stock room. Lastly, it operates as a worksheet for the shop floor to record the actual quantities used during the manufacturing process.

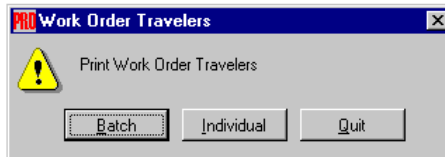
The program prints work order travelers on plain 8-1/2 " X 11" paper. The work order traveler is available in two formats, basic and detail.



See "Work Order Travelers" in Chapter 7 of this manual for a sample of each format.

When you print work order travelers, the program will set your printer to 12 characters per inch for the basic format, or 17 characters per inch for the detail format. If you select a printer that does not have a 12 or 17 CPI modem defined, you will see a warning message advising you to choose a different printer. For more information on setting up printers, see the System Manager manual.

To print travelers, select **Print | Work Order Travelers**. You will see the following prompt:



- |        |                   |  |
|--------|-------------------|--|
| Select | <b>Batch</b>      | to print a batch of work order travelers.                |
|        | <b>Individual</b> | to print travelers on-by-one as you enter their numbers. |
|        | <b>Quit</b>       | to quit without printing.                                |


When you select the **Batch** or **Individual** option, you will see a screen similar to this:

Option Grid - Print Work Order Travelers (Batch):		
Number of Copies	{1 to 99}	3
Form Type	{Basic/Detail}	Detail
Order by	{Sales Order/Work Order}	Work Order
Print Only	{New and changed/All}	New and Changed
Beginning WO #	{first or blank for all}	
Ending WO #	{last or blank for all}	
Beg. WO Req Date	{first or blank for all}	/ /
End. WO Req Date	{last or blank for all}	/ /
Customer Number	{portion or blank for all}	

**Number of Copies:** Enter the number of copies to each work order traveler you wish to print.

**Form Type:**

- Select **Basic** if you want to show item, revision level, item description, location, required usage, required scrap, unit of measure, and a quantity issued note column.
- Detail** if you want to include more detailed information, including on-hand, allocated and on-order information for each line item.

 See "Sample Reports" for a sample of each work order traveler print format.

◆ Chapter 5: Reports and Inquiries

**Print Only:** (This option does not appear if you chose to print individual work order travelers.)

Select **New and changed** to print only those work orders that have been created or changed since the last time you printed.

**All** to print all open work orders in the current period.

**Beginning Work Order Number, Ending Work Order Number:** (This option does not appear if you chose to print individual work order travelers.) By entering work order numbers into either or both of these fields, you can choose to print just the forms within that range of numbers.

**Beginning Work Order Required Date, Ending Work Order Required Date:** (This option does not appear if you chose to print individual work order travelers.) By entering required dates into either or both of these fields, you can choose to print just the forms within that range of required dates.

**Customer Number:** (This option does not appear if you chose to print individual work order travelers.) Enter one or more characters to print forms only for customers whose customer codes begin with the characters you enter.

When you complete the option grid and confirm that you want to proceed, you will see a dialog box with these choices:

Select **Print** to print work order travelers to the default printer. This is the printer connected to the port named on the dialog box.


**Select** to select another printer from a displayed list. You can choose from the printers you set up for this installation, or choose to print to a file name.

**Cancel** to quit without printing.

## 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 Work Orders.

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

## Route Reports

---

### Routes

This report contains the route information for the parent part number(s) you select. Select **Print | Route Reports | Routes**.

**Route Number:** Enter one or more characters to include only route numbers beginning with the characters you specify.

**Route Type:**

- Select **All** to include all types of routes.
- Standard** to include only standard routes.
- Custom** to include only custom routes.

**Include Costs:**

- Select **Yes** if you want to include costing information.
- No** if you do not want costs.

◆ Chapter 5: Reports and Inquiries

**Quantity Multiply Factor:** Enter a number other than 1,000 here if you want to multiply all quantities and costs by a constant factor. This helps to calculate total costs when items are made in quantity.

**Effective Date:** Enter a date in this field to select which version of the bill of materials you want to use for the report.

### Finished Goods

This report shows which finished good items are produced by your route. Select **Print | Route Reports | Finished Goods**.

**Route Number:** Enter one or more characters to include only parent part numbers beginning with the characters you specify.

**Finished Good:** Enter a portion of, or an entire Finished Good item number to see the report for routes with finished good item numbers in that range.

### Operations

This report lists information about operations. Select **Print | Route Reports | Operations**.

**Operation ID:** Enter one or more characters to see information for operations whose codes begin with those characters. Leave this field blank to see all operations.

**Dates Added:** Enter beginning and ending dates to see operations added within that date range. Leave these fields blank to see all operations regardless of dates added.

### Work Centers

This report lists information about work centers. Select **Print | Route Reports | Work Centers**.

**Work Center ID:** Enter one or more characters to see information for work centers whose codes begin with those characters. Leave this field blank to see all work centers.



**Dates Added:** Enter beginning and ending dates to see work centers added within that date range. Leave these fields blank to see all work centers regardless of dates added.

### Where Used

This report lists each operation or work center and indicates which parent parts it is used in. Select **Print | Route Reports | Where Used**.

#### Order By:

Select **Operation** to see the report for all operations.  
**Work Center** to see the report for all work centers.

**Route Number:** Enter one or more characters to include only parent part numbers beginning with the characters you specify.

**Operation ID:** Enter one or more characters to see information for operations whose codes begin with those characters. Leave this field blank to see all operations.

**Work Center ID:** Enter one or more characters to see information for work centers whose codes begin with those characters. Leave this field blank to see all work centers.

## Transaction Reports

---

### Work Order Listing

This report lists work orders you specify. Select **Print | Transaction Reports | Work Order Listing**.

#### File to Use:

Select	<b>Current</b>	to see the report for current period work orders.
	<b>History</b>	to see the report for prior period work orders.
	<b>Both</b>	to see the report for all work orders.

#### Order By:

Select	<b>Item</b>	to sort the report by item number.
	<b>Required date</b>	to sort the report by the required date.
	<b>Customer</b>	to sort the report by customer number.
	<b>Sales order</b>	to sort the report by sales order number.
	<b>Work order</b>	to sort the report by work order number.
	<b>Job</b>	to sort the report by job number.

#### Include Only:

Select	<b>All</b>	to include all work orders in the report.
	<b>Approved</b>	to include only work orders that have been approved but not processed or completed.
	<b>Unapproved</b>	to include only work orders that have not yet been approved.
	<b>Open</b>	to include only work orders that have been approved but not deleted or completed.
	<b>Complete</b>	to include only work orders that have been completed.

**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.

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

**Customer Number:** Enter one or more characters to see work orders for customers whose numbers start with those characters.



Work Orders assigns a customer number of `_MFGWO` to work orders that are not specific to a customer.

**Job Number:** Enter job number to see the report for work orders with a particular job number, or leave blank to list all job numbers.

## Work in Progress

This report lists processed work orders you specify with inventory costs assigned to each component part. Select **Print | Transaction Reports | Work in Progress**.

### Order by:

Select	<b>Item</b>	to sort the report by item number.
	<b>Location</b>	to sort the report by inventory location.
	<b>WO Date</b>	to sort the report by work order date.
	<b>Customer</b>	to sort the report by customer number.
	<b>Job</b>	to sort the report by job number.

### Cost Basis:

Select	<b>Average</b>	to cost items by their average cost.
	<b>Last</b>	to cost items by their last received cost.
	<b>Standard</b>	to cost items by their standard cost.

**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

◆ Chapter 5: Reports and Inquiries

items in locations within that range.

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

**Customer Number:** Enter one or more characters to see work orders for customers whose numbers start with those characters.



Work Orders assigns a customer number of `_MFGWO` to work orders that are not specific to a customer.

**Job Number:** Enter job number to see the report for work orders with a particular job number, or leave blank to list all job numbers.

## Gross Requirements

This report uses 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".

**Combine Locations** (only appears if multiple locations are in use):

Select	<b>Yes</b>	to allow quantities at all warehouse locations to be used when calculating requirements.
	<b>No</b>	to consider each warehouse location unique when calculating requirements.

**Bids/Blankets** (only appears if linked to Sales Orders or Purchase Orders):

Select	<b>Yes</b>	to include bids and/or blanket order transactions when calculating requirements.
	<b>No</b>	to exclude bids and/or blanket order transactions when calculating requirements.

**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

This report uses 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".

**Combine Locations** (only appears if multiple locations are in use):

Select	<b>Yes</b>	to allow quantities at all warehouse locations to be used when calculating requirements.
	<b>No</b>	to consider each warehouse location unique when calculating requirements.

**Bids/Blankets** (only appears if linked to Sales Orders or Purchase Orders):

Select	<b>Yes</b>	to include bids and/or blanket order transactions when calculating requirements.
	<b>No</b>	to exclude bids and/or blanket order transactions when calculating requirements.

**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

This report uses 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 negative 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 **All** to see the report for all inventory items.
- Inventory** to see the report for those items with the inventory type "Inventory".
- Service** to see the report for those items with the inventory type "Service".
- Expense** to see the report for those items with the inventory type "Expense".

**Combine Locations** (only appears if multiple locations are in use):

- Select **Yes** to allow quantities at all warehouse locations to be used when calculating requirements.
- No** to consider each warehouse location unique when calculating requirements.

**Bids/Blankets** (only appears if linked to Sales Orders or Purchase Orders):

- Select **Yes** to include bids and/or blanket order transactions when calculating requirements.
- No** to exclude bids and/or blanket order transactions when calculating requirements.

◆ Chapter 5: Reports and Inquiries

**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.

### Variance Analysis

This report gathers the variance cost in the manufacturing of Parent Items. Select **Print | Transaction Reports | Variance Analysis**.

**File to Use:**

Select	<b>Current</b>	to see the report for current period work orders.
	<b>History</b>	to see the report for prior period work orders.
	<b>Both</b>	to see the report for all work orders.

**Order by:**

Select	<b>Item</b>	to sort the report by item number.
	<b>Work Order</b>	to sort the report by work order number.

**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.

**Date Range:** Enter dates in either or both of these fields to see only work orders whose required date and/or order date falls within that range.



Manufacturing Journal

This report gathers manufacturing-oriented transaction information from the Inventory Control transaction files, as well as the Inventory Distribution files when linked to General Ledger. Select **Print | Transaction Reports | Manufacturing Journal**.

**File to Use:**

- Select **Current** to see the report for current period work orders.
- History** to see the report for prior period work orders.
- Both** to see the report for all work orders.

**Order by:**

- Select **Account** to sort the report by GL account number (this option is only available when linked to General Ledger).
- Date** to sort the report by transaction date.
- Document** to sort the report by document number.
- Item** to sort the report by item number.
- Location** to sort the report by lob number.

**Application:**

- Select **All** to include transactions from all applications.
- PE** to include only Production Entry transactions.
- WO** to include only Work Orders transactions.
- AR** to include only Accounts Receivable transactions.
- PO** to include only Purchase Order transactions.
- SO** to include only Sales Order transactions.

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

**Beginning Account, Ending Account:** Enter General Ledger account numbers in either or both of these fields to see the report for General Ledger account numbers within that range (this option is only available when linked to General Ledger).

**Transaction Date:** Enter dates in either or both of these fields to see only

## ◆ Chapter 5: Reports and Inquiries

transactions whose date falls within that range.

### Reporting Calendars

This report lists information about reporting calendars. Select **Print | Transaction Reports | Reporting Calendars**.

**Calendar ID:** Enter one or more characters to see information for calendars whose codes begin with those characters. Leave this field blank to see all calendars.

**Dates Added:** Enter beginning and ending dates to see calendars added within that date range. Leave these fields blank to see all calendars regardless of dates added.

# 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

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Lahey Work Orders links with other Pro Series applications to create a flexible, integrated accounting 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 Lahey Work Orders data with Inventory Control, Production Entry, Sales Orders, Purchase Orders, Accounts Receivable, and Warehouse Manager. Transactions in these applications directly affect the inventory files, such as when you backflush a bill of materials, create an invoice, receive a purchase order, complete a work order, or enter an inventory transfer.

The following sections describe how Lahey Work Orders works with other Pro Series applications.

## About General Ledger Linking

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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 Work Orders links to General Ledger through Inventory Control. When work orders are closed, Work Orders will create balanced debit and credit postings from component costs to finished goods.



The **Item Control** field is the account that is used for all inventory transactions posted by Work Orders. 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 Work Orders 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 Work Orders, 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

---

Lahey Work Orders 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 Work Orders.

If you have Sales Orders, Lahey Work Orders, 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.

**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

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Purchase Orders uses and updates the same inventory file as Lahey Work Orders. 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, Work Orders 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 component parts to avoid a shortage.



It is not necessary to choose a menu option in order to transfer data from Purchase Orders to Work Orders. Instead, you tell Work Orders 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 Lahey Work Orders, 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 Work Orders. 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

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Lahey Work Orders 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 Work Orders while you are entering work orders or generating work orders.

Also, Work Orders 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 Work Orders. Instead, Work Orders 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 Lahey Work Orders, 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 Work Orders. 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

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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
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
AP-invoice PO receipt	Updates billed flag	DR:PO Clearing CR:Accts Payable
AR-enter cash receipt	None	DR:Cash CR:Accts Receivable
AP-print checks	None	DR:Accts Payable CR:Cash

◆ *Chapter 6: Linking with Other Applications*

# ***7. Sample Reports***

- ◆ Work Center Listing
- ◆ Operations Listing
- ◆ Reporting Calendars Listing
- ◆ Work Order Traveler

◆ *Chapter 7: Sample Reports*

# Work Center Listing

Page: 1		Professional Software, Incorporated							Date: 06/23/95 at 5:15 PM
		Work Centers Listing							
		All Dates							
Work Center	Description	Mon	Tue	Wed	Thu	Fri	Sat	Sun	
=====	Alternate Work Centers	=====	=====	=====	=====	=====	=====	=====	
AREA1	Work Area 1	8.000	8.000	8.000	8.000	4.000	0.000	0.000	
AREA2	Work Area 2	4.000	4.000	4.000	4.000	4.000	0.000	0.000	
AREA3	Work Area 3	8.000	0.000	8.000	0.000	8.000	0.000	0.000	
AREA4	Work Area 4	8.000	0.000	8.000	0.000	8.000	0.000	0.000	

## Operation Listing

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Page: 1

Date: 06/23/95 at 5:15 PM

Professional Software, Incorporated  
Operations Report  
All Dates

Operation	Description Service Item	Location ID
=====	=====	=====
ASSM	Assemble Materials REPAIR	WH1
CUT	Cut Materials REPAIR	WH1
FINISH	Finish Detail REPAIR	WH1
PREP	Prepare Materials REPAIR	WH1
SAND1	Sanding of Cut Materials - First Pass REPAIR	WH1
SAND2	Sanding of Assembled Materials - Second Pass REPAIR	WH1



## Reporting Calendar Listing

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Page: 1	Date: 06/23/95 at 5:15 PM												
Professional Software, Incorporated													
Reporting Calendars Report													
All Dates													
Calendar ID	----- Period Lengths (in days) -----												
Description	1	2	3	4	5	6	7	8	9	10	11	12	13
=====	===	===	===	===	===	===	===	===	===	===	===	===	===
DY	1	1	1	1	1	1	1	1	1	1	1	1	1
Daily requirements													
MO	30	30	30	30	30	30	30	30	30	30	30	30	30
Monthly requirements													
WK	7	7	7	7	7	7	7	7	7	7	7	7	7
Weekly requirements													

## Work Order Traveler (Detail Format)

Page: 1		Professional Software, Incorporated Work Order Traveler		Date: 06/23/95 at 5:15 PM					
Work Order Number:	1975	BOM Number:	ASSC						
Sales Order Number:	1428	Revision Level:	BLK						
Order Quantity:	6.000	BOM Description:	Analog Super Segment Cable						
Work Order Date:	06/01/95	Customer Number:	AED1						
Required Date:	06/10/95	Company Name:	Atlantic Edison						
Item Number	Revision Level	Item Description Location ID	Req Usage Req Scrap	Stock U/M	OnHand	SO Alc	PO Ord	Qty	Operation
CABL16-BLK	BLK	Wire, 16 ga, Black Vinyl WH1	30.000 FT 0.000		1438	0	0	( )	
CSCA	BLK	Code Switch/Cable Assembly WH1	18.000 PACK6 0.000		56	0	24	( )	

## Work Order Traveler (Basic Format)

Page: 1	Professional Software, Incorporated			Date: 06/23/95 at 5:15 PM		
Work Order Traveler						
Work Order Number:	1975	BOM Number:	ASSC			
Sales Order Number:	1428	Revision Level:	BLK			
Order Quantity:	6.000	BOM Description:	Analog Super Segment Cable			
Work Order Date:	06/01/95	Customer Number:	AED1			
Required Date:	06/10/95	Company Name:	Atlantic Edison			
Item Number	Revision Level	Item Description	Req Usage	Stock U/M	Qty	
		Location ID	Req Scrap		Issued	
=====	=====	=====	=====	=====	=====	=====
CABL16-BLK	BLK	Wire, 16 ga, Black Vinyl	30.000	FT	( )	
		WH1	0.000		( )	
CSCA	BLK	Code Switch/Cable Assembly	18.000	PACK6	( )	
		WH1	0.000		( )	

◆ *Notes*