Work Order Plus Production Manual

Introduction

This manual will instruct you how to operate Work Order Plus (WO+) in a production department. The content includes how to place an order, print production documents, and to report and post transactions.

Chapter 1: Background

(Figure 1) Manufacturing Flow

To make a product, a **Production Work Order** is needed. Each work order has information about what to make, the quantity, what components should be used and how many steps to complete the whole production. There are three types of work orders in the Elliott Bill Of Material Production (BOMP) Module: Legacy Work Order, Material Work Order and Plus Work Order. Legacy Work Order is the simplest type of work order which has a fixed bill of material structure. Material Work Order provides a flexible bill of material which can be changed order by order. Plus Work Order, in addition to the capabilities of Material Work Order, supports routing and allows the reporting of labor hours and machine hours.

Each Plus Work Order has a **Routing**, which will be called **Order Routing** in this manual to differentiate it from Item Routing, which is the routing record defined from items. This routing contains all the production steps to finish the ordered product. These steps are called **operations**. Each operation contains information about the work center to do this operation, how long this operation usually takes, how many pieces are usually processed, etc. Shop workers can use the information in this order routing to make items step by step. This order routing can be copied from the ordered item's routing, copied from a base order template or created from scratch.

To make a product, one or more components will be consumed, or assembled, into the finished item. The list of these components is called a **Bill of Material** (BOM). A bill of material will indicate the components and quantity needed for a finished product. For

each Plus Work Order, the bill of material will indicate which operation the components will be used. The components can be used in any operation and can be used in more than one operation. Those operations which consume components are called **Material Issue Points,** like the operation marked with a red "M" in (Figure 1).

The operation in which products are finished is called the **Y Count Point**. Once this operation is complete, it will add the ordered product(s) to inventory. Plus Work Order always assumes that the Y Count Point is the **Last Operation,** as indicated by the operation marked with a red "Y" in (Figure 1). If an order routing has only one operation, this operation is always the Y Count Point.

During manufacturing, an operator will need to tell the system which operation of which work order the operator is going to work on so the system can record time toward this **Production**. The system will assign a sequential Production ID for further tracking. Multiple **Production Activities** can be reported if an operation cannot be completed in one day. Each activity is a period of time when the production is active.

When all the work for an operation is finished, an operator needs to report how many pieces have been successfully processed and how many of them were scrapped. This information becomes a **Production Transaction** record. In addition to the quantity, the labor hours, machine hours, cost information and serial and lot numbers will be stored in the transaction record. A manager can review these transaction records before posting them or simply allow the operators to post the transaction immediately after it is created. Once the transaction has been **posted**, the system will update all item quantity information and account distribution records. This transaction record will also be stored in **Production Transaction History**.

Some of these names may be different from what is used in certain industries, so they will be capitalized for generalization.
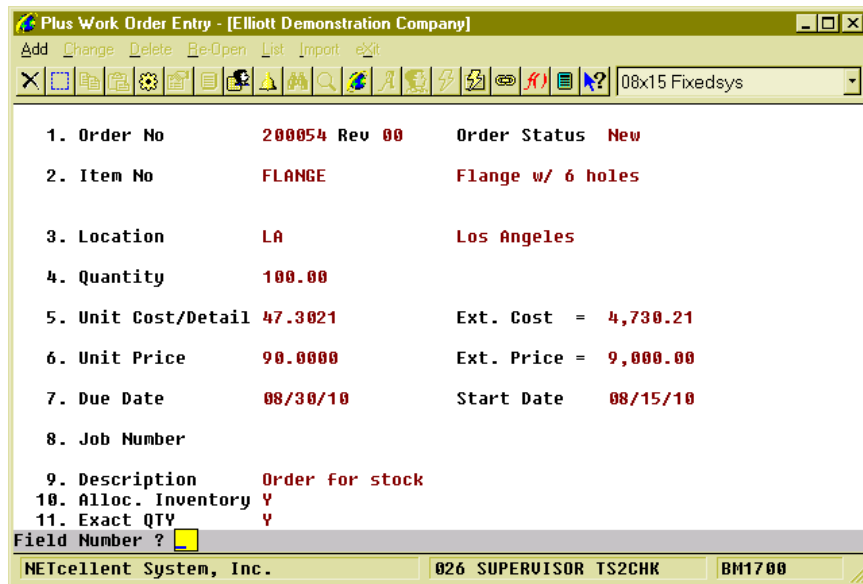
Chapter 2: Create a Work Order

Work orders in WO+ can assist with tracking production, but there are several ways to create the work order depending on the situation.

- **Production Order Entry** - The traditional way to create work orders, mostly to replenish stock.
- **Copy COP Orders into BOMP** - Each work order is specifically for one sales order. This is usually where the products are built as ordered and not stocked.
- **Work Order Import** – This is for productions that require complicated shop capacity planning for multiple work orders.
- **ATP Processing** – This can be generated through ATP to maintain stock status and long term availability. (This manual will not describe this feature. Please read the I/M Manual for more information.)

Production Order Entry

How to Access:

Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Processing ➔ Production Order Entry ➔ Process ➔ Plus Work Order

(Figure 2) Production Order Entry

The most basic way to create a work order is through Production Order Entry. In this interface you can add, change and delete an order and edit most of the detail. No matter how the work order was created you can always maintain it through this interface.

Basic information needs to be entered for each work order, like order quantity and the start and end dates. Most importantly in work order plus a routing and components used for the production need to be specified.

Field Descriptions

Name	Type and Description
1. Order No (Work Order Number)	6 numeric digits. Enter the production order number, which will be used to track the order through the production process. In add mode, press the **F1** key to display the next sequential production order number. This field may not be changed in change mode. In change mode, press the **F1** key to choose the next order number on file.
Rev (Revision Number)	2 numeric digits, display only. The revision number of the routing for one work order. If the order routing is changed after order has been released, the revision number will increase by 1 when the traveler is reprinted. The initial value is 0.
Order Status	Automatically displayed. The current status of the production order is automatically displayed. "New" – In add mode, when this order is newly created. "New – Not Allocated" – New order where the inventory has not been allocated. "New – Allocated" – New order where the components have been allocated. "Work Order Printed" – The order has been released. The traveler and/or pick list have been printed. "Started" – Production for this order has been started, but no parent item has been finished. "Partially Reported" – More than one parent item has been finished. "Complete" – Order is complete and closed. "Reopened" – The order has been reopened after it was closed. This is an exceptional situation and requires assistance from a supervisor.
2. Item No	15 alphanumeric characters. Enter the number of the item to be produced. This item must be in the Inventory Item File and may not be designated as a kit item. If the entered item is a Feature Item, a window will be displayed after the quantity field to allow selection of Feature options. Add mode offers the following function key options: F1 - Searches for Feature Items F4 - Searches for Firm Planned Orders, if the MRP package is installed. F4 - If the MRP package is not installed, but the COP package is installed, this is the key search for customer orders that have manufactured parent items and should satisfy the backorder status and vendor number criteria based on the BOMP Global Setup fields 19 and 20. F5 - Copy from a base work order template. The rest fields will default to this base work order. The routing and bill of material will be copied from this base work

Name	Type and Description
	order.
	F7 - Searches for items by number.
	F8 - Searches for items by description.
	In change mode, this key field is automatically displayed and may not be changed.
3. Location	2 alphanumeric characters.
	Enter the location where the item will be produced. This location must be in the Inventory Location File. In add mode, press the F7 key to search for Location Codes. In change mode, this field is automatically displayed and may not be changed.
	In add mode, the location will default to the one entered for the previous production order.
4. Quantity	A standard quantity format with an optional minus sign.
	Enter the quantity of the item to be produced. If this number is positive, it is an Assembly Work Order which would use components to build the parent item. If this number is negative, it is a Disassembly Work Order which disassembles parent items into components. Cost calculation of a disassembly work order is different from an assembly work order. If this number is zero, it is considered an assembly work order. This is for cases where the quantity is not known when order is created.
	If the item is a feature item, the Feature Selection window will appear after a value is entered in this field.
	In add and change modes, press the F1 key to calculate the recommended quantity to be ordered. The recommended quantity will be for the location entered in field 3. To calculate for another location, press the up arrow key while the Recommended Quantity Window is displayed.
	Default is 1.
Qty. Rptd.	A quantity in the standard format.
	In change mode, this field will automatically display the quantity already reported as produced in Production Transaction Processing. This is equal to the quantity reported in the last operation of the whole routing since the last operation is Y count point in WO+. New orders will display zero for quantity reported.
5. Unit Cost/Detail	10 numeric digits with 4 decimal places and an optional minus sign.
	Estimated unit cost for each parent item. This unit cost is calculated based on the order routing and bill of material. By selecting this field, the system will bring up the Order Routing Maintenance screen and the routing and bill of material for this work order can be selected and edited. This interface is described elsewhere in this document.
	This field will not be displayed if the Display And Print Item Cost flag in BOMP Setup is set to N.

Name	Type and Description
Ext. Cost	9 numeric digits with two decimal places and an optional minus sign (9,999,999.99). Calculated by multiplying the quantity to be produced by the unit cost.
6. Unit Price	10 numeric digits with 4 decimal places and an optional minus sign. Enter the unit selling price for the item. It is the selling price entered in field 16 of the Inventory Item File. This field may only be changed if the Allow Change To Order Prices flag in BOMP Setup is set to Y.
Ext. Price	9 numeric digits with two decimal places and an optional minus sign (9,999,999.99). This field is calculated by multiplying the quantity to be produced by the selling price.
7. Due Date	A date in the standard date format. Enter the date the finished item is due. Entry is required. The start date will be automatically determined based on the lead-time of the item being produced. ATP assumes the parent item will be completed by the work order's due date.
Start Date	A date in the standard date format. Enter the date when production is planned to start. Entry is required. This field is automatically determined based on the lead-time of the item being produced. ATP assumes the components will be consumed on the work order's start date.
8. Job Number	6 alphanumeric characters. Enter the job number associated with the production order. The job number must be in the Job Code File if the Use Job Numbers flag is set to Y in BOMP Setup. Entry is not verified if the Use Job Numbers flag is set to N in BOMP Setup. If the order is copied from a COP sales order, the job number will be automatically assigned based on BOMP Global Setup field 42, Job No Default Value When Copy from COP. Defaults to spaces.
9. Description	30 alphanumeric characters. Enter any additional information relative to the production order. If the order was copied from COP, this field will display the Customer Name, Number and COP Order Number. If the order was copied from MRP, the MRP Order Number will be displayed.

Name	Type and Description
10. Alloc. Inventory	Y or N. Enter Y to allocate inventory immediately or N to allocate when the production work order is printed. If this flag is "Y" and BOMP Global Setup field 8, Check Comp Availability When Enter BOMP WO, is "Y", the system will check component availability after order entry is complete. If any component is not available at the time, the system will display a warning with additional information. This field defaults to the value in BOMP Global Setup.
11. Exact QTY (Exact Quantity flag)	Y or N. Enter "Y" if the ordered quantity is an exact quantity and must match the reported quantity when this work order is complete. If the ordered quantity and reported quantity are inconsistent, a warning will be given and only an authorized user can close the order. This field defaults to BOMP Global Setup field 22, Exact Qty Flag Default When Enter WO Manually.
Other Display fields	COP Order No – If this order is copied from a COP sales order, this is the sales order number. Customer No – If this order is copied from a COP sales order, this is the customer number. Base Order No – If this order is copied from a Base Work Order, this is the base work order number.

Disassembly Work Order

When the Order Quantity is less than zero, the system regards this work order as a disassembly order. There are several differences between an assembly order and a disassembly order.
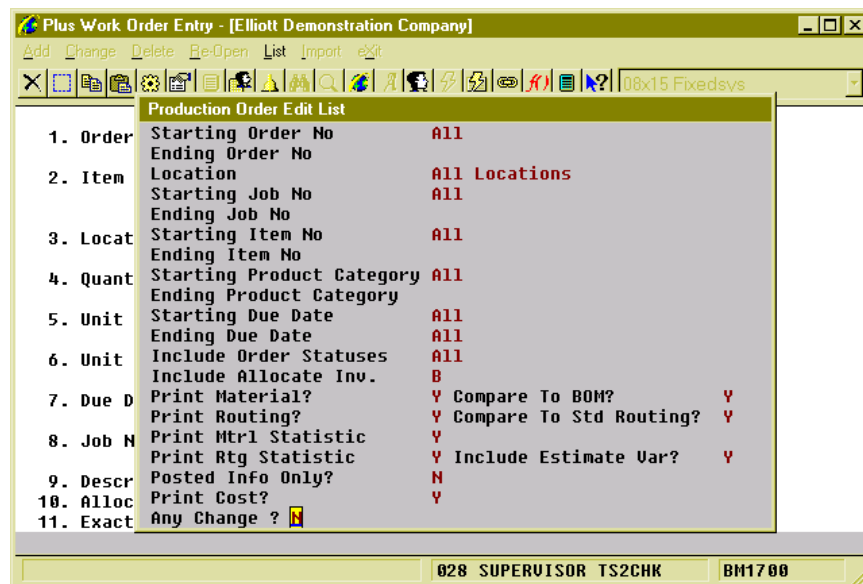
- Disassembly work orders will not allocate components, adjust Quantity On Order for the parent item or create any ATP records.
- Disassembly work orders have no Work-In-Process amount.
- Since disassembly orders have no WIP amount, all components will always be reported in the last operation. All labor, overhead and outside process cost goes to the WIP Variance Account instead of the Finished Goods Account. The cost variance between the components and the parent item goes to the WIP Variance Account as well.
- Material cost is excluded when estimating the production cost of a disassembly order. The estimated cost only includes labor, overhead and the outside process cost.

Reopen Work Order

This feature is to reopen a closed work order. Reporting can continue for this work order and you can correct a misreported transaction. The order will need to be closed again. Reopening an order does not allocate components and ATP records are not created.

Work Order Edit List

The WO+ Order Edit List is superior to the Material Work Order Edit List in format and criteria. This report can be used to simply display work order data, compare work order routing and bill of material between standard and planned, or to compare them between planned and actual.

(Figure 3) Production Order Edit List

Name	Type and Description
Starting/Ending Order No	6 numeric digits. The range of order numbers to include in the edit list. Defaults to **All**.
Location	2 alpha-numeric digits with wildcard support. Select a production location.
Starting/Ending Job No	6 alpha-numeric digits. The range of Job Numbers to include in the edit list.
Starting/Ending Item No	15 alpha-numeric digits. The range of Item Numbers to include in the edit list. F7 - Search Item by Number F8 - Search Item by Description
Starting/Ending Product Category	3 alpha-numeric digits. The range of Product Categories to include in the edit list. F7 - Search Product Category
Starting/Ending Due Date	A date in standard date format. The range of due dates to include in the edit list.
Include Order Statuses	1 alphabetic character. Enter the letters representing the order statuses you want to include in the edit list. Up to 5 statuses are allowed. N = New P = Printed S = Started I = Partially Reported C = Complete R = Reopened Defaults to **All**.
Include Allocate Inv.	1 alphabetic character. Enter "Y" for allocated orders only. Enter "N" for unallocated orders only. Enter "B" to include both. Defaults to **Both.**
Print Material?	"Y" or "N". Enter "Y" to print the bill of material of the orders.

Name	Type and Description
	Defaults to "N".
Compare to BOM?	"Y" or "N". Enter "Y" to compare the order bill of material to the standard bill of material defined in the product structure. This criterion is only available if you select "Y" for Print Material. Defaults to "N".
Print Routing?	"Y" or "N". Enter "Y" to print the routing of the orders. Defaults to "N".
Compare to Std Routing?	"Y" or "N". Enter "Y" to compare the order routing to the standard routing, which is the item routing from which the order routing originated. This criterion is only available if you select "Y" for Print Routing. Defaults to "N".
Print Mtrl Statistics	"Y" or "N". Enter "Y" to print the reported statistics of materials, like item number used, quantity used, etc. Defaults to "N".
Print Rtgl Statistics	"Y" or "N". Enter "Y" to print the reported statistics of operations, like quantity processed, labor hours, etc. Defaults to "N".
Include Estimate Var?	"Y" or "N". Enter "Y" to show the cost variance for those operations which use an estimated statistic, like labor hour per quantity, instead of a standard statistic. This criterion is only available if you select "Y" for Print Routing Statistics. Defaults to "N".
Posted Info Only?	"Y" or "N". Enter "Y" if you want to show statistics from a posted transaction only. Enter "N" to include statistics from transactions which are not yet posted. Defaults to "N".

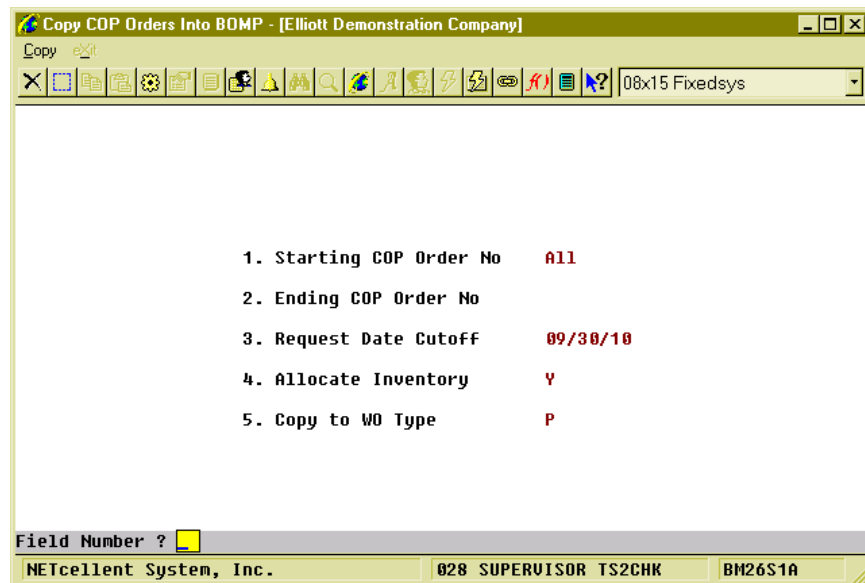| Name	Type and Description
Print Cost?	"Y" or "N".
	Enter "Y" to show cost in the edit list. This flag is subject to several security flags and BOMP Setup. If you are not authorized to view cost, this option will be not applicable.
	Defaults to "N".

Copy COP Orders into BOMP

Copy a COP sales order directly to a BOMP work order if the work order is for one specific sales order. The work order will be associated with the sales order and it will be possible to drill down directly to the work order inquiry from sales order inquiry to monitor production progress. Also, you can analyze the production cost variance by customer if the work order is related to a customer.

There are two ways to copy COP orders to BOMP work orders, copy a single order or batch copy multiple orders. The first method was described in the previous Production Order Entry section and that interface can be used to press the F4 key at the Item Number field in add mode to list all the available sales order line items to copy. You can only copy one sales order at a time this way. The second method is to copy multiple sales orders into a BOMP work order through the "Copy COP Orders into BOMP" feature.

How to Access:
Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Processing ➔ Copy COP Orders into BOMP

(Figure 4) Copy COP Orders into BOMP

There are some restrictions for this feature.
- You cannot use this feature if you are using the MRP package in Elliott, but you can copy a plan order in MRP into BOMP.
- If BOMP Global Setup field 1, Copy Regular Order To BOMP, is set to "N", the system will only allow you to copy sales orders for feature items into BOMP.
- BOMP Global Setup fields 19, Copy Reg Mfg Item WO from COP Base on Qty BO, and 20, Copy Mfg Item From COP For This Vendor Only, limit which sales order line items can be copied.

- If the routing number is not specified in COP order, this program will always use **Default Item Routing** defined in the Item Master file to create new work orders. If you want to use an alternative, you need to use Production Order Entry to copy COP orders.

Field Descriptions

Name	Type and Description
Starting/Ending COP Order No	6 numeric digits. The range of sales order numbers to copy. Defaults to **All**.
Request Date Cutoff	A date in the standard date format. Enter the cutoff date for the range of orders to be copied. Only **COP** orders with request dates (set in the **COP Order Entry** application) on or before this date will be copied. Entry is required.
Allocate Inventory	"Y" or "N". Enter "Y" if you want to allocate inventory when the work orders are created. Defaults to "Y".
Copy to WO Type	1 alpha-numeric digit; "O", "M" or "P". Type of work order to create; "O" for legacy work order, "M" for material work order, "P" for plus work order. Defaults to the value in BOMP Global Setup.

Customize Manufactured Item in COP Order Entry

When the system copies a COP order to BOMP plus work order, if nothing is customized, the system will use default routing and default bill of material to create the new work order. However, just like feature item, the system allows you to customize the bill of material in COP line item screen, or even routing. The system will use this customization to create work orders instead of using the default setup.

(Figure 5) Customized Manufacture Item in COP Order Line Item screen

To enable the feature to customize bill of material for a normal manufactured item, you need to turn on field 22, Customize WO Structure in COP, in COP Order Line Item Global Setup[1]. The F4 Key is available in the Unit Price field in the COP Order Line Item screen. This will bring up a screen for you to add, change and delete components of the parent item.

To select routing in the COP Order Line Item screen, turn on field 26, Customize Routing for Feature/Mfg Item, in COP Order Line Item Global Setup. In order to grant this privilege to certain Elliott users, turn on the "Allow User to Use BOMP Plus Work Order" flag in Security Setup[2]. With proper setup, operators can press the F4 Key in the Unit Price field in COP Order Line Item screen. The system will ask "Do you want to choose a routing?" and by selecting "Yes" you are able to choose and customize a routing. You can still customize the bill of material if you select "No".

Either way, the system will use the specified routing or bill of material while copying the COP order to BOMP work order.

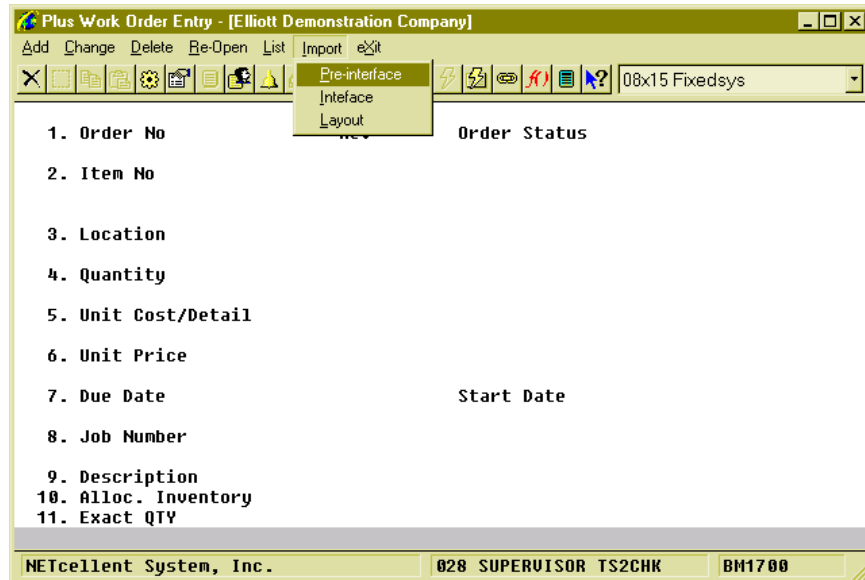[1] Main Menu ➔ Util-Setup ➔ Global Setup ➔ COP-Func ➔ Order Line Item Screen
[2] Main Menu ➔ Util_Setup ➔ Password Setup ➔ Global Security ➔ User Global Security
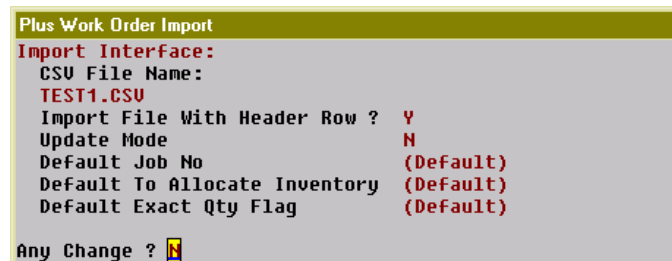
Work Order Import

This feature will allow you to edit work order data in a CSV format through Excel and import this file to system. It can be used to create new work orders or modify existing ones.

How to Access:
Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Processing ➔ Production Order Entry ➔ Process ➔ Plus Work Order ➔ Import

(Figure 6) Work Order Import under Production Order Entry

(Figure 7) Work Order Import Criteria

Field Descriptions

Name	Type and Description
CSV File Name:	50 alpha-numeric digits. CSV file name to import from, including the directory path.
Import File With Header Row?	"Y" or "N". Enter "Y" to indicate the first row in the CSV file is a header row and it will be skipped.
Update Mode	1 alpha-numeric digit. Enter the mode for this import. N - Add mode. Imported work order numbers should not exist in Elliott. U - Change mode. All work order numbers should exist in Elliott. O - Override mode. If a work order number does not exist, the record will be added. Otherwise, the record will be updated. Defaults to "N".
Default Job Number	6 alpha-numeric digits. Enter the default Job Number in Add mode.
Default to Allocate Inventory	1 alpha-numeric digit. "Y", "N" or space. Enter the value of the default in Add mode for the Allocate Inventory flag of the imported work order.
Default Exact Qty	1 alpha-numeric digit. "Y", "N" or space. Enter the value of the default in Add mode for the Exact Qty flag of the imported work order.

Required Fields

(Figure 8) Work Order Import Layout

Name	Type and Description
A. Order No	6 numeric digits. Order number to import. In Add mode, this field can be blank and the system will automatically assign an order number sequentially. If this field contains a value in Add mode, the order number should not exist in the system. In Change mode, this field is required and the order number should exist in the system. In Override mode, an existing order number will update the order and a new order number will add the order.
B. Item No	15 alpha-numeric characters. Item number for the order. This field is required in Add mode, unless the order is copied from a base work order. This field is not required in Change mode. The item number cannot be changed in Change mode.
C. Location	2 alpha-numeric characters. Manufacturing location of the item on the order. This field is required in Add mode, unless the order is copied from a base work order. This field is not required in Change mode. The location cannot be changed in change mode.
D. Quantity	Standard quantity field. Ordered quantity of the production. This field is required in Add mode. In Change mode, order quantity can only be changed if the order status is "New". Leave it blank for no changes.
E. Start Date	A date in standard date format. Planned start date of the work order. You can provide a Due Date and leave the Start Date blank in Add mode and the system will calculate the Start Date based on the Due Date and planning lead time. If both the Start Date and Due Date are blank, the system date will be used as the Start Date and the Due Date will be calculated based on planning lead time. In Change mode, Start Date can only be changed if the order status is "New" or "Printed". Leave it blank for no changes.
F. Due Date	A date in standard date format. Due date of the work order. Leave this field blank in Add mode and the system will calculate Due Date based on

Name	Type and Description
	Start Date and planning lead time.
	You can always change Due Date in Change mode. Leave it blank for no changes.
G. Job No	6 alpha-numeric digits.
	Job Number for the work order.
	A blank value in Add mode will default to the passed default value, unless the order is copied from a base order and it will default to the value in the base order.
	This should be a valid number in the Job Code file if the BOMP package uses job numbers.
	In change mode, leave it blank for no changes.
H. Description	30 alpha-numeric characters.
	Additional information about this work order.
	Leave it blank in Change mode for no changes.
I. Allocate Inventory Flag	1 alpha-numeric character. "Y", "N" or space.
	Determines if the work order should allocate inventory.
	A blank in Add mode will default to the passed default value. If that is blank, it will default to the value in the base order. If that is blank, it will default to the value in the BOMP Global Setup.
	Leave it blank in Change mode for no changes.
J. Exact Qty Flag	1 alpha-numeric character. "Y", "N" or space.
	Enter "Y" if the ordered quantity is an exact quantity.
	A blank in Add mode will default to the passed default value. If that is blank, it will default to the value in the base order. If that is blank, it will default to the value in the BOMP Global Setup.
	Leave it blank in Change mode for no changes.
K. Copy from Base WO#	6 numeric digits.
	Base order number to copy from.
	This can only be used in Add mode. The system will copy the routing and bill of material to a new work order. If this is not specified in Add mode, the system will always use the Default Item Routing defined in the Item Master file.

This feature is for the following situations:
- Massively create work orders after scheduling or planning.
- Massively update the planning start date and due date of work orders.
- Massively allocate or de-allocate inventory for work orders.

Chapter 3: Release Work Order

After work orders are created, a physical copy of the work order can be released to the production department about what to produce and how to produce it. Once this physical copy is printed, the system will regard the work order as released and the order status will be changed to Printed. This physical copy can be batch printed by the **Print Production Work Orders** application.

The **Traveler** and **Pick List** can be printed through **Print Production Work Orders**. The **Traveler** contains all the basic information about the order, the routing and in which operation the materials are used. This document can be passed from one operator to another in the production department, hence named Traveler. Printing the Traveler will update the work order status to Printed and the order is considered released. An operator can use information on it to report production, including scanning barcodes of the order number and operation numbers that may be printed on the form. On the other hand, the **Pick List** contains the item number and quantity of the components in use for this work order. It can be used to collect materials from the warehouse.

Once orders are released, the system will update several things:
- The order status will be changed from New to Printed.
- Inventory for components will be allocated if they were not allocated in a previous step.
- If Multi-Bin is configured to use Transfer Tickets, the system will create a transfer batch for all components.
- If the routing was modified after the order was released in a previous step, the system will increase revision number of the work order.

Some restrictions will apply to a released order:
- Some order information cannot be changed, like order quantity and planning start date.
- The bill of material for this work order cannot be changed.
- The system will prevent operators from reporting on the work order until the Traveler is reprinted if a change is made to the routing and the BOMP Global Setup field 47, Enforce +WO Revision Control, is set to "Y".

If a change needs to be made after an order is released, you can **Void** the work order and the order status will be changed back to New.

It is not necessary to print these copies before production.

How to Access:

Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Processing ➔ Print Production Work Orders ➔ Print ➔ Plus Work Order ➔ Print
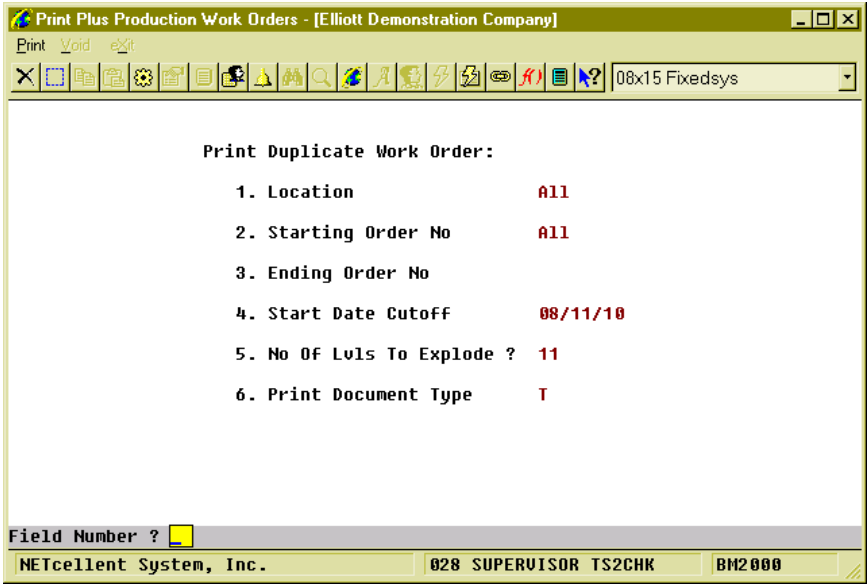

(Figure 9) Print Production Work Order

There are three options under the Print menu:

- **Print Work Order** – To print newly created work orders.
- **Print Changed Traveler** – If the routing was updated after the order was released, the operator can reprint the Traveler. The order revision number will increase by one and the order will be unlocked if revision control is enforced. The old copy of the Traveler should be destroyed and the new version released to the production department.
- **Print Duplicate Work Order** – A duplicate copy of the Traveler or Pick List can be printed after the order has been released.

Field Description

Name	Type and Description
1. Location	2 alphanumeric characters. Enter the location of the work orders to be printed. Defaults to **All**.
2. Starting Order No	6 numeric digits. Enter the starting order number of the range of work orders to be printed. Defaults to **All**.
3. Ending Order No	6 numeric digits. Enter the ending order number of the range of work orders to be printed. Defaults to the starting order number. This field is skipped if the starting order number is **All**.
4. Start Date Cutoff	A date in the standard date format. Enter the cutoff for order start dates. Only orders with a start date on or before this

Name	Type and Description
	date will be printed.
	Defaults to the **system date**.
5. No Of Lvls To Explode?	2 numeric digits.
	Enter the number of product structure levels to be printed on the work orders. Enter 11 to show all levels. Defaults to 11.
6. Print Document Type	1 alpha-numeric character.
	Select to print Traveler or Pick List. This selection is only available when printing a duplicate copy.

(Figure 10) Print Duplicate Work Order

Void Work Order

(Figure 11) Void Work Order

Operators can **Void the physical copy** of the work order through this feature so changes can be made to a released order. This can be found under the same menu in Print Production Work Order.

The following will take place if a work order is successfully voided:
- The order status will be changed from **Printed** to **New**. The inventory for the components will remain allocated.
- If the Transfer Ticket feature in the Multi-Bin Add-on is in use, the system will attempt to remove the transfer batch. However, if the Transfer Ticket has been printed, you will need to destroy the ticket manually.
- The work order WILL NOT be deleted. You can further edit the order or remove it in the Production Order Entry screen.
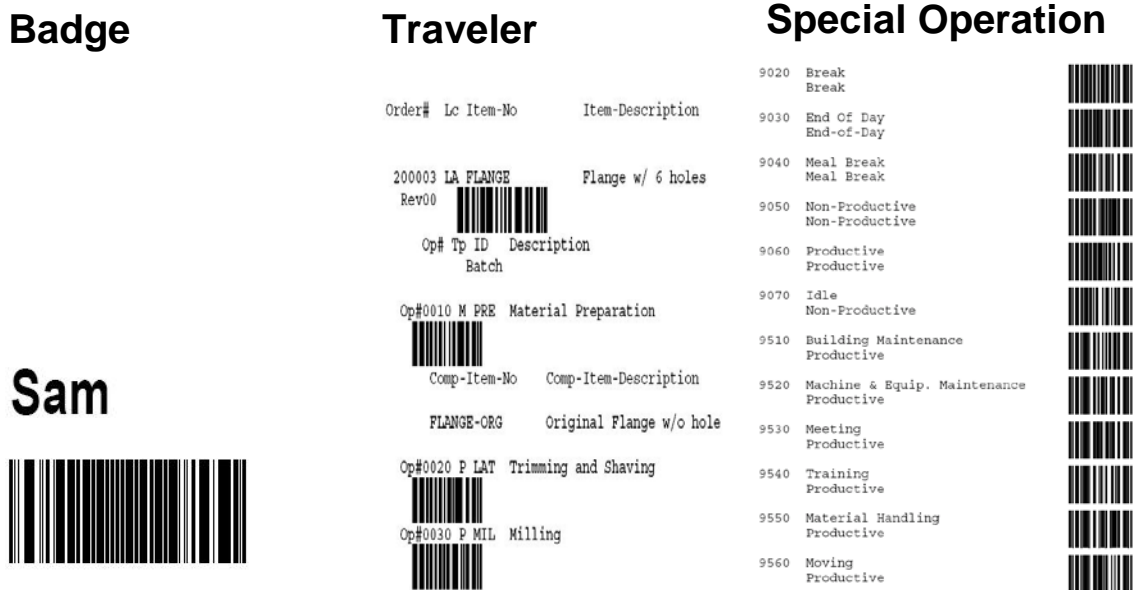
Once the production for this work order is started, partially reported or completed, the order can no longer be voided.

Chapter 4: Barcode Preparation

We recommend preparing barcodes before starting production to make the process more efficient. Barcode scanning is a powerful and easy-to-implement data entry solution. Instead of typing letter-by-letter, operators can input a long string of data like an Operator ID, Product Number or Order Number through a single scan of a printed barcode. This not only alleviates the data entry burden, but eliminates mistyping errors. In WO+, most of the time-clock interfaces are designed for scanning. To benefit from this, you will need to prepare scanners and barcodes.

We used the Symbol Cobra LS 2208 Laser Scanner for in-house testing. It requires only an USB interface, but you can use any scanner capable of reading the barcodes created.

There are many barcode symbologies. One of the most commonly used is **Code 128[3],** which can encode 128 characters into one high-density barcode. You can choose a different symbology as long as the scanner can read it. In WO+, some fields work well as a barcode, like **Operator ID**, **Order Number**, **Routing Operation Number** and **Special Operation Number**.
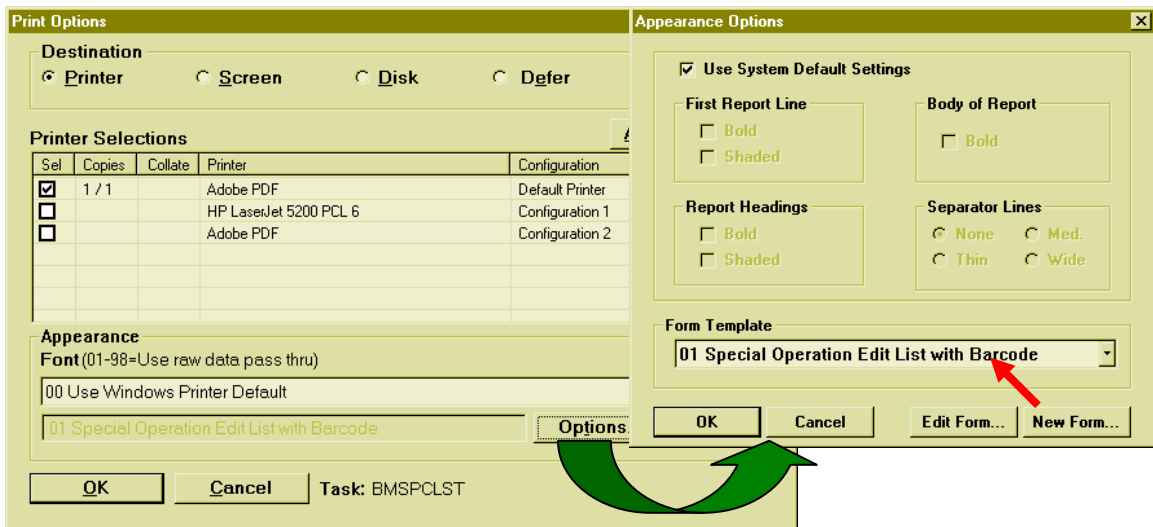

(Figure 12) Different Barcodes
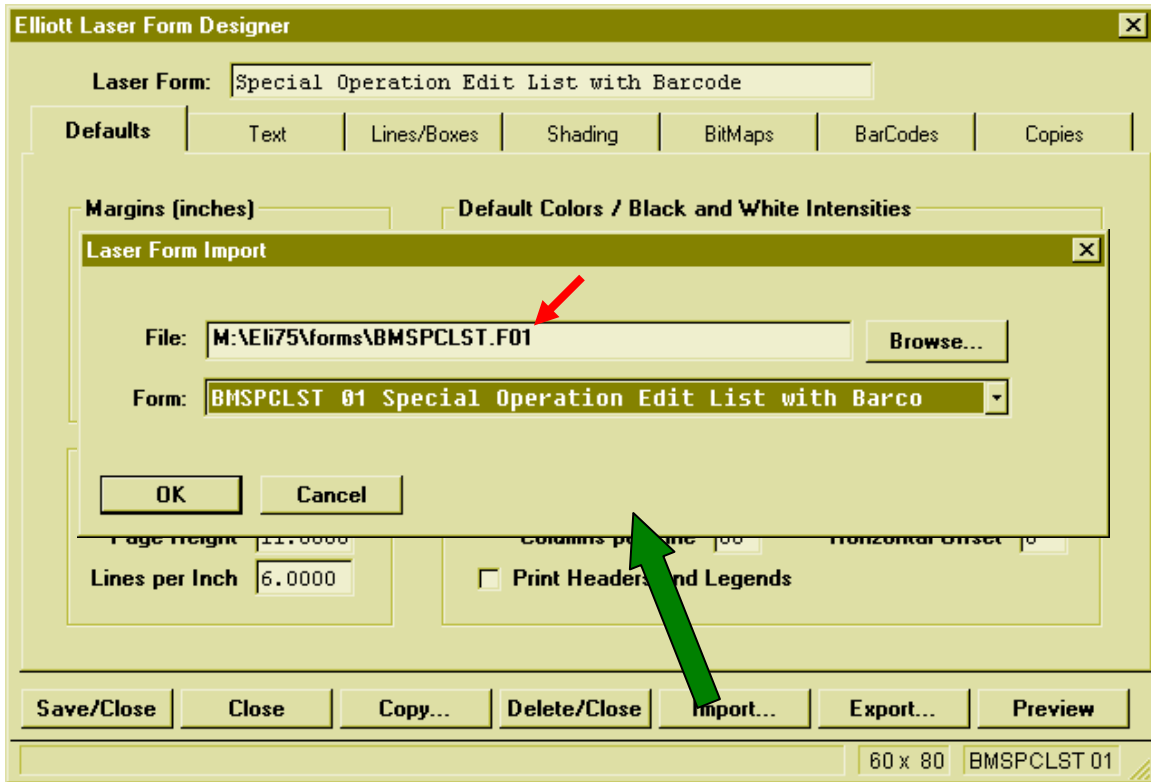
There are several ways to create barcodes:

- You can use a barcode printing application like Bartender, which allows you to edit the layout and create barcodes in batches.
- There are some font-based solutions which require an application like Excel or Word to create the barcode.
- We have discovered a free online barcode generator.
- In Elliott, you can print barcodes on a report by selecting a Form Template by following these instructions:

---

[3] Code 128 on wikipedia

o Bring up the Print Options window by printing a report, like the Special Operation Edit List. Be sure the Destination selection is Printer and click the Option button in the right bottom corner. The system will bring up the Appearance Options screen (Figure 12).

o In Appearance Options, click on Form Template, select a template with a barcode description and click OK. Click OK in the Print Options screen to printing. The result should be similar to Figure 11.

o If a template is unavailable under Form Template (only "00 No Form" is available), you can create new templates or import one from the template files. Several templates can be found in the [*$Elliott_Directory$\forms*] directory (ex. *C:\Elliott\forms*). **BMSPCLST.F01** is for the Special Operation Edit List, **BM20P3.F01** is for the Pick List, **BM20P3T.F01** and **BM20P3T.F02** are for the Traveler. To import these files, click the "New Form…" button on the Appearance Options screen and click OK in the next screen. This will bring up the Elliott Laser Form Designer (Figure 13). Click the "Import…" button and select template files to import. You can import any template in any print program.

(Figure 13) Select Form Template while printing

(Figure 14) Import a Form Template

To create a **badge** for an Operator, the badge is a combination of the Operator ID and the password so both will be entered in one scan. The Operator ID (10 characters) and password (30 characters) will need to be concatenated into one string (40 characters) and this will be used to create the barcode.

(Figure 15) Badge Format

You can have Travelers with barcodes of the order numbers and operation numbers, Pick Lists with the order numbers and item numbers barcoded, a Special Operation List with operation numbers in barcode and badges with the operator's ID and password in a barcode. These are sufficient to use most of the interfaces in Work Order Plus, although a barcode is not required.

Chapter 5: Report for Production

One way WO+ is superior to Material Work Order is that it will collect labor. Labor hours can be manually entered for each work order, but WO+ provides a time clock system that combines this function with production reporting. Operators can use one interface to clock in, clock out and report production. The system will gather information automatically and calculate the production costs for each work order.

WO+ categorizes labor time into two different types: **Direct Labor** and **Shared Labor**. **Direct Labor** is labor from operators who are directly responsible to the work order. These are usually foremen or group leaders that hold a copy of the Traveler and use it to report the starting and ending of the production. On the other hand, **Shared Labor** is labor from operators who are not directly in charge of the work order. They may work in a work center or department and perform an assigned task. This may be assembly line workers or a department manager monitoring every machine in a department. They will not report anything about work orders. So, Direct Labor workers will need to enter an order number to report labor, but Shared Labor workers do not.
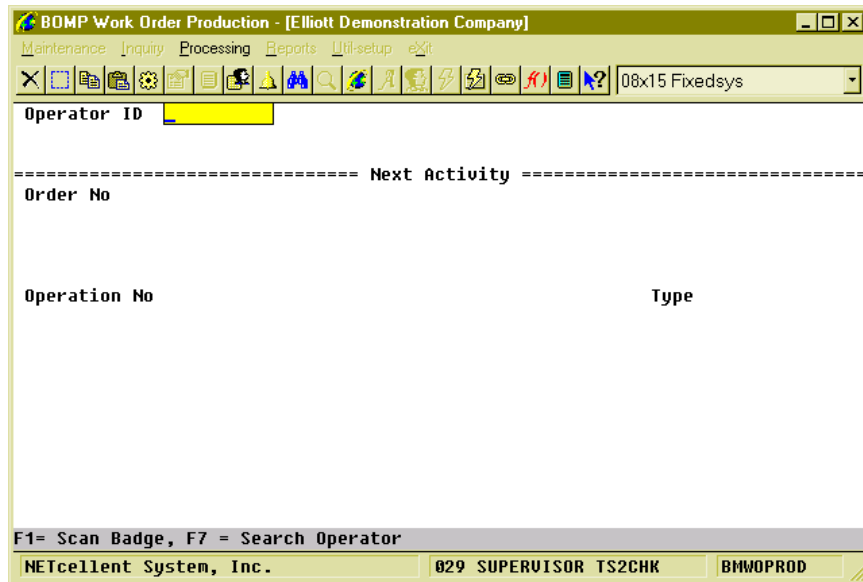
WO+ provides an interface for each type of labor, so there will be less confusion for an operator about the functionality. These interfaces are:
- **Work Order Production** – For direct labor to report time as well as report production.
- **Work Center Time Clock** – For shared labor to clock in to or clock out from a work center.
- **Department Time Clock** – For shared labor to clock in to or clock out from a department.
- **General Time Clock** – For anyone to clock in or clock out from the company. Time gathered from this interface is not related to any production. This can be used for office employees or any other worker.

Work Order Production

How to Access:

Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Maintenance ➔ Work Order Production

(Figure 16) Work Order Production, Typing Mode

This is the Time Clock Interface for Work Order Reporting. It is for workers who report when production starts and when production ends. When production ends, the system will ask for the production result of how many pieces are completed. It will collect labor time from these workers and add it to work orders as direct labor. There are only 3 stages in this screen:

- In the first stage, the operator needs to enter the Operator ID and password, which can be entered by scanning a badge.
- In the second stage, the operator needs to report the function, like progress on a work order or a special operation like a break.
- In the third stage, the operator needs to report how many pieces were finished for the production if working on a work order.
- Based on the BOMP Global Setup, control will return to the first stage or second stage.

The operator always needs to enter the activity. The system will determine if this ends an operation and prompt for additional information if necessary. At the end of the day, the operator needs to "start" a special operation, End of Day, to log off.

First Stage – Sign in

(Figure 17) Work Order Production, Scanning Mode

The operator must first enter an Operator ID and password. To manually type the data, you must enter the Operator ID, press Enter, type the password and press Enter again. On the other hand, you can scan the barcode on a badge. Press the **F1 Key** to toggle between scanning mode and manual mode. The barcode scanning mode will prompt for a much longer string to allow for both fields. After successfully authenticated, the system will display on the top 3 lines information about the operator and what this operator is currently doing.

The operator can currently log off the system, work on a production, work in a work center, or perform a special operation like a break. The system will display different details for different activities.

On the right side of the third line is a two decimal number (in figure 17 it is 0.89). This is the elapsed time of the current activity in hours.

The system will prompt for the order number after the first stage.

Second Stage – Next Activity

(Figure 18) Work Order Production, After First Stage

In the second stage, the operator can report what to do next. This can be to start a new production, resume a suspended production, report for a current production, start a break, go to a meeting or log off from the system at the end of the day. Each activity is defined as an operation in WO+ and each operation has its own number. These are the numbers that are entered in the second stage. They can be scanned if a barcode is provided for these numbers.

There are two operation types for different activities, Order Operation and Special Operation. Order Operations are those defined in the routing of work orders and are used for production activities. The work order number and order operations must be entered. Special Operations are for activities other than production related. Special Operations can represent a break, a meal break, a log off or other purpose. So to report production related activity, use the Order Operation and the operations listed on the Traveler. Otherwise, use a Special Operation. Figures 18 and 19 show the screens after entering an Order Operation or Special Operation respectively.

```
BOMP Work Order Production - [Elliott Demonstration Company]                    _ □ ×
 Maintenance  Inquiry  Processing  Reports  Util-setup  eXit
 X □ 🗎 📋 ⚙ 🖼 ▤ 🖰 ⚠ 🏭 🔍 🎨 🔠 🔣 ⚡ 🔓 👓 𝑓() ▤ ▶? 08x15 Fixedsys                    ▼
 Operator ID   FRANK       Frank, The Foreman
 Current WO#   200054 Op# 10   M PRE  Material Preparation   Prod#   000000067
 Work Center   WHS     Dep GEN  Item# FLANGE          Qty 10.00       0.90  Hrs
 ================================= Next Activity ================================
 Order No      200054 Rev 00 Status: Partially Reporte
               Item Number   FLANGE              Flange w/ 6 holes
               Due Date      08/20/10
               Qty Ordered   10.00      Balance Qty   6.00
               Qty Complete  4.00       Qty Scrapped  0.00
 Operation No 20            Trimming and Shaving        Type Production
                                                        ID   LAT
 Work Center  LAT           CNC Lathe Machine           Department CNC
              0    Labor in Work Center 0    in Dept
 Production#  68            NEW
              Plan-Qty      10.00
                            Estimate     Current     Remain      Var%
         Direct Labor Hours     0.25        0.00        N/A       N/A
         Shared Labor Hours     0.13        0.00        N/A       N/A
             Machine Hours      0.13        0.00        N/A       N/A


 Start This Operation? Y
 NETcellent System, Inc.               028 SUPERVISOR TS2CHK      BMWOPROD
```
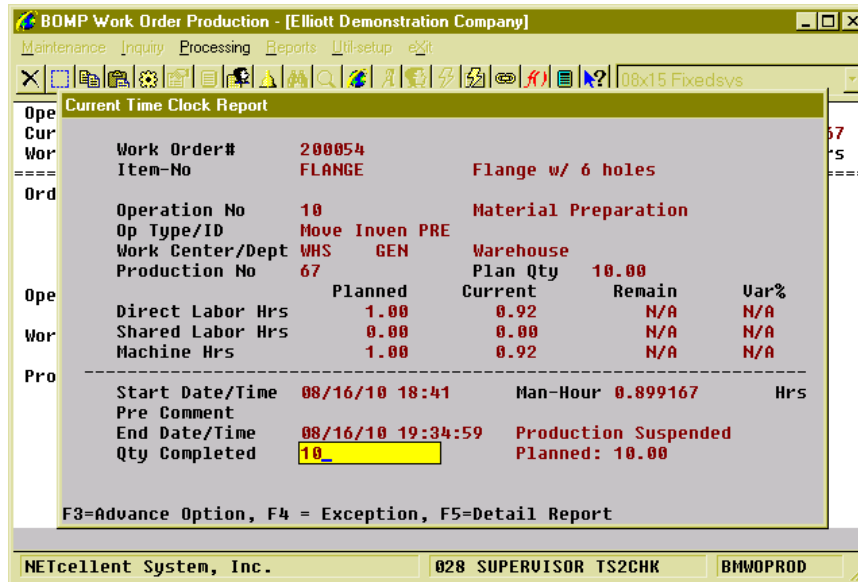
(Figure 19) Work Order Production, Start a Work Order

```
BOMP Work Order Production - [Elliott Demonstration Company]                    _ □ ×
 Maintenance  Inquiry  Processing  Reports  Util-setup  eXit
 X □ 🗎 📋 ⚙ 🖼 ▤ 🖰 ⚠ 🏭 🔍 🎨 🔠 🔣 ⚡ 🔓 👓 𝑓() ▤ ▶? 08x15 Fixedsys                    ▼
 Operator ID   FRANK       Frank, The Foreman
 Current WO#   200054 Op# 10   M PRE  Material Preparation   Prod#   000000067
 Work Center   WHS     Dep GEN  Item# FLANGE          Qty 10.00       0.91  Hrs
 ================================= Next Activity ================================
 Order No




 Operation No 9020          Break                       Type Break
                            Special Operation










 Are You Sure? Y
 NETcellent System, Inc.               028 SUPERVISOR TS2CHK      BMWOPROD
```

(Figure 20) Work Order Production, Start a Break

Field Description in Stage 2

Name	Type and Description
Order Number	6 numeric digits. The order number of an ongoing production. If a special operation will be entered, this field can be blank. **Function Keys** **F1** - Start a Batch Production. A Batch Production allows you to work on multiple work orders at the same time. Labor and Machine time will be distributed to each work order based on reported quantity. **F3** - Advanced Options. Options include inquiry of the current status (operator time clock or production status) and changing the interface behavior. • Operation Time Clock • Current Production Detail • Current Production Activity Inquiry • Production Inquiry for the Current Work Order • Production Inquiry for the Current Operation • Change ID Prompt Setting **F4** - Exception Handling. Exception handling options to change the activity time or change the current activity content. • Reassign Current Time Clock Activity • Change End Time **F7** - Enter a Production Number. If the Production Number is known, you can enter it instead of entering the order number and operation number. Normally, the system will automatically determine the proper production number after the order number and operation number are entered. Defaults to the current work order number.

Operation Number	4 numeric digits.
	
	The operation number of an ongoing activity. If the order number is blank, this field can only be a special operation. Otherwise, it can be both an order operation and special operation.
	
	Function Key
	F7 - Search for an order operation, if the order number is not blank. Search for a special operation, if the order number is blank.
	F8 - Search for a special operation, if the order number is not blank.
	
	The system determines the next activity based on the operation number.
	• If the operation number entered is the same as the current activity, this means the operator wants to end the current activity and the next activity has not been assigned. The system will change the operator's current activity to "Idle".
	• If the operation number is for a special operation (from 9000 thru 9999), the system will determine the next activity based on the operation type.
	    o For a break, productive and non-productive operation types, the system will change the operator's current activity status.
	    o For a meal break and End Of Day operation types, the system

Name	Type and Description
	will log the operator off and the activity status.
	For monitor operation types, like W and D, the system will change the operator's activity to a work center or department shared labor.
	• If the operation number is an order operation, from 1 thru 8999, the system will try to determine the production number.
	- If the productions for this operation are not yet started, all completed or all worked on by another operator, the system will assume the operator wants to start a new production for this operation. - If any production is suspend or active without an operator and the production was previously worked on by the operator, the system will assume the operator wants to resume, continue or report for that production. - If the system is unable to determine the production number, a list of productions will be presented for the operator to choose from.
	If the operator is going to start a production for an outside process, the system will prompt for PO related information, like vendor number and PO number. You can enter this information now or when reporting.
Plan Quantity	Standard quantity format. Enter the planning quantity for a new production. **Function Key** **F4** - Change Operation. If this operation has not been started, you can change the value for this operation.
Confirmation	1 alpha-numeric character. After entering all information about the next activity, the system will prompt for confirmation. This confirmation question may vary based on the next activity. For example, if you want to start a suspended production, the system will prompt "S = Start This Operation, R = Report This Operation". The latter option will allow you to directly report for the production without scanning the same operation number again.

Third Stage – Current Production Reporting

(Figure 21) Work Order Production, Third Stage

If the operator's activity is for a special operation, like a break or meeting, the system will change the status to the next activity. The operator will not need to report for the current activity, except for a required comment. Otherwise, the operator will be required to report for the current production before starting the next activity. This will bring you to the third stage, current production reporting.

In most cases, the only requirement is to enter the quantity of completed pieces. However, WO+ provides several functions for different situations.

- Usually, only the completed pieces and the quantity need to be reported. **However, the quantity entered should not be zero.** If this operation is a material issued point, the system will show the list of issued material to confirm. If this operation is the last operation and the product is a serialized item, the system will prompt for a serial number.
- If the operator wants to stop working on the production, but the production is not completed, a zero can be entered in the Qty Completed field. This usually means production is suspended, but in some cases, like with a CNC Machine, the production can be continued without an operator. The literal right of the "End Date/Time" will indicate if the production will be reported, suspended or continued without an operator. You can report if a CNC machine will continue running or not by pressing **F3** for **Advance Option** and selecting the "**Machine On/Off**" to change the status of the machine. If the machine is off, production will be suspended. The default value is defined in each work center file through the "(Machine) End By Def If Labor End" field.
- If some pieces are scrapped during the production, the operator would need to report the quantity scrapped. There are two ways to report this.

- o If BOMP Global Setup field 52, Warning If Plan & Report Qty Are Different, is set to "Y", the operator will be prompted for the quantity scrapped. For example, the prompt for reporting 7 pieces when the planning quantity is 10 would be, "Did you scrap 3 pieces?" Respond with "Y" and the system will report 7 pieces completed and 3 pieces scrapped. Respond with "N" and the system will report 7 pieces completed and zero scrapped.
    - o Whatever value is in the BOMP Global Setup, the operator can always press **F5** for **Detail Report** to report the scrapped quantity.
  - If an error occurs when the operator enters a completed quantity, the system will ask you to use the **F5** option.
  - Press **F3** for **Advance Options** to inquiry the current production or your time clock entries.
  - If an exception occurs, the operator can press F4 for option to handle the exception. The system will provide a list of options based on the authorization in the operator file. If production has been reported for the operation, no option will be available.

If an operator reports complete quantity for the production, the system will prompt for addition information depending on the operation type.
  - Material Issued Reporting Screen, if this operation is a material issued point.
  - Serial Number Reporting Screen, if the parent item is a serialized item and the operation is the last operation.
  - Lot Number Screen, if the parent item is a lot item and the operation is the last operation. The system will ask the operator to report this in the detail reporting screen.
  - PO Information Screen, if the operation is an outside process operation.

Details about these screens can be found in the Report Additional Information section.

You will be prompted "Are you sure?" after the quantity is entered. This allows you to check your entry before continuing. Also, check the literal to the right of End Date/Time (it is "Production Suspended" in Figure 20). This literal will reflect the reporting status and can be the following:
  - Production Reported – The operator successfully reported for the production.
  - Production Suspended – The operator did not report for the production and will be suspended.
  - Production Continued – The operator did not report for the production and will continue without an operator.
  - Production Canceled – The operator canceled the production.

If the order is going to be closed, the system will display "Order Complete" to the right of the quantity. Press Enter to continue.

If a production is successfully reported, a production transaction will be created. If BOMP Global Setup field 21, Immediately Post For Completed Scan Trx, is "Y", the operator will be able to post this transaction immediately. Otherwise, a manager can review the production transactions before posting them.

After reporting the production, the prompt will return to the Operator ID field or Order Number field based on the BOMP Global Setup.

If the operator's next activity is a break, meal break or End Of Day logoff, the system skips the third stage and automatically suspends or continues the production based on the setup in the work center file.

Work Center Time Clock

How to Access:

Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Maintenance ➔ Work Center Time Clock

(Figure 22) Work Center Time Clock, 1st Stage

This is the Time Clock Interface for a Work Center. It allows the operator to log into a work center and the labor will be shared among any work orders currently active in this work center. This type of operator does not report about a work order or completed quantity, but only needs to clock in or out from one work center to another. This is suitable for assembly line workers or CNC machine operators.
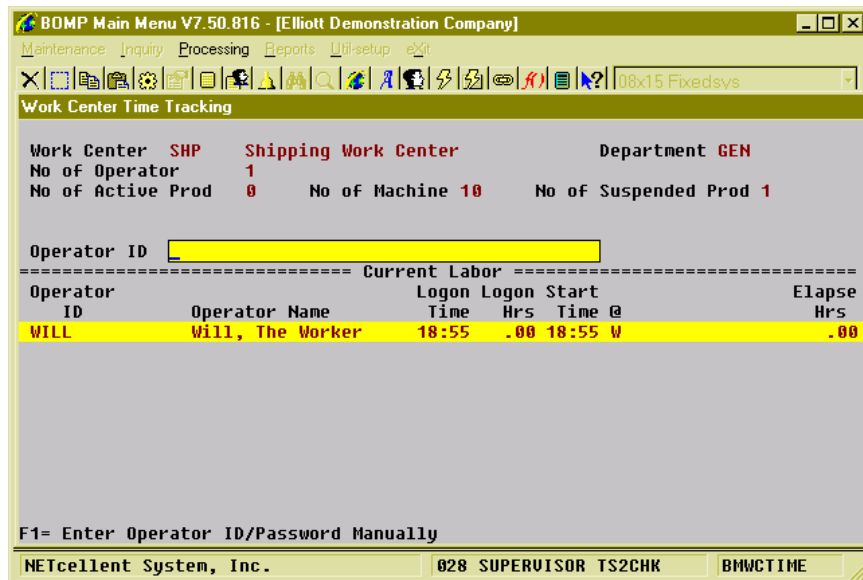
This interface is simpler than Work Order Production and only needs two stages.

- In the first stage, a work center is selected.
- In the second stage, the operator will clock in or clock out.
- The second stage is repeated.

First Stage – Select a Work Center

An operator must first select a work center for this interface. The **F7 Key** can be pressed to search available work centers. The work center field may be left blank if the operator would like to start an activity for a special operation. This can be used at the beginning of a day when no job has been assigned to the operator.
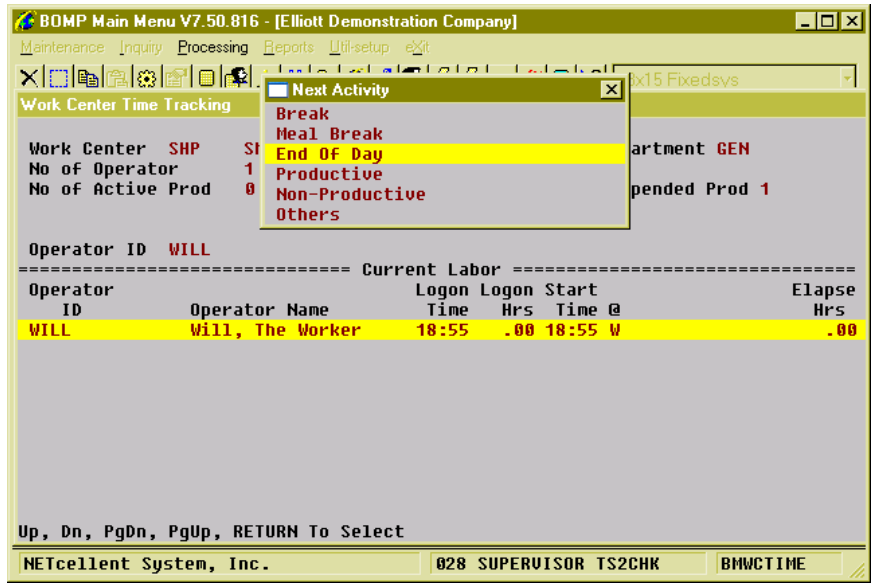
Second Stage – Clock In/Out

(Figure 23) Work Center Time Clock, 2ⁿᵈ Stage

This stage will display all operators who are currently in this work center. The system will show basic statistics about this work center under the work center ID.

The system will prompt for an Operator ID in this stage. Like the first stage of Work Order Production, the operator can scan a barcoded badge or type the ID and password manually. In manual mode, the operator can use the Up and Down Arrow keys to select one operator. The system will select the highlighted Operator ID, but the password will still need to be entered.

After the operator ID and password have been entered, the behavior is fairly simple:
- If the operator has not clocked into the work center, the system will clock-in the operator and the labor will be shared among all work orders currently active in the work center. The Operator ID will be displayed in the list below, as well.
- If the operator has already clocked into the work center, the system will provide a list of choices for the next activity. The system will highlight one option based on the current time and operator profile. For example, if the operator's shift ends at 8:00pm, the default choice around 8:00pm will be End Of Day. If the operator's next activity is not listed, the last option of "Others" can be selected and a special operation number entered. (Figure 23)

(Figure 24) Work Center Time Clock, 2nd Stage, List of Special Operation
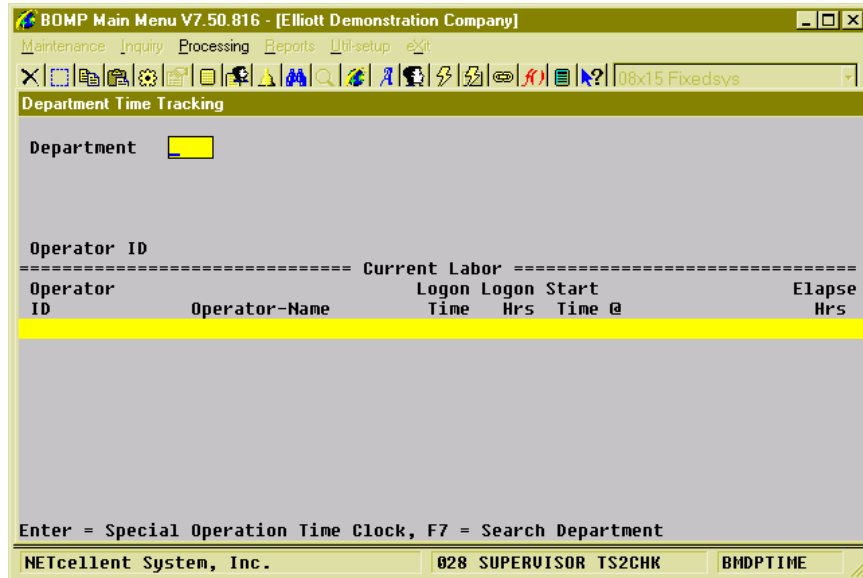
If a Work Center ID was not entered, for Special Operation Mode, the system will provide a list of special operations to choose from each time the operator logs in.

If an operator needs to change work centers, it is not necessary to clock-out from the current work center. You can simply walk to the new work center and clock into the computer at that work center. The system will automatically clock the operator out from the previous work center. If the production department does not have multiple computers, you can press the Escape key and enter a new work center ID to clock in.

Department Time Clock

How to Access:

Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Maintenance ➔ Department Time Clock

(Figure 25) Department Time Clock, 1ˢᵗ Stage

This is the <u>Time Clock Interface</u> for a Department. It allows an operator to clock into a department and the labor will be shared to all currently active work orders in the department. This interface is similar to Work Center Time Clock, but this one is for department managers or operators that monitor all machines in a department.
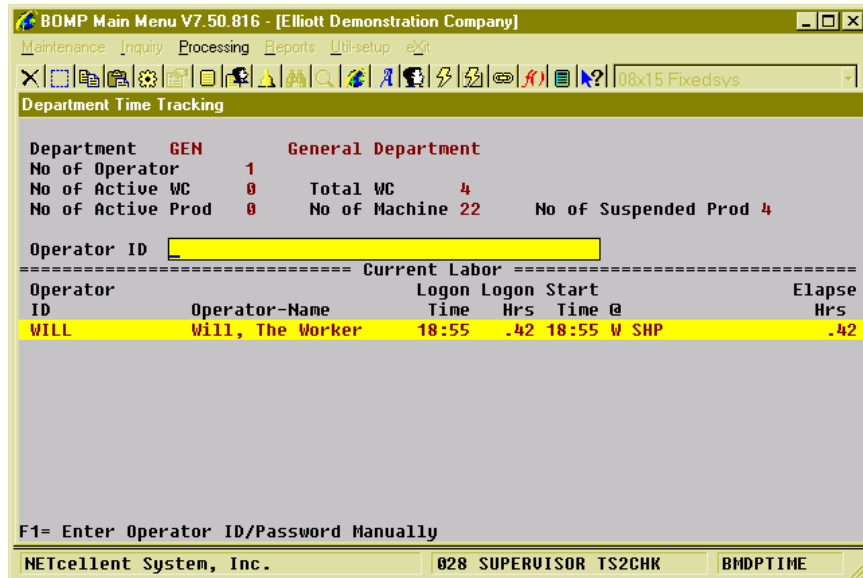
This interface has 2 stages.
- In the first stage, a department is selected.
- In the second stage, the operator will clock in or clock out.
- The second stage is repeated.

First Stage – Selected a Department

An operator must first select a department for this interface. Press **F7** to search available departments. The department field may be left blank if you want to start an activity for a special operation, like a break or meeting. This can be used at the beginning of the day when no job has been assigned to the operator.

Second Stage – Clock In/Out

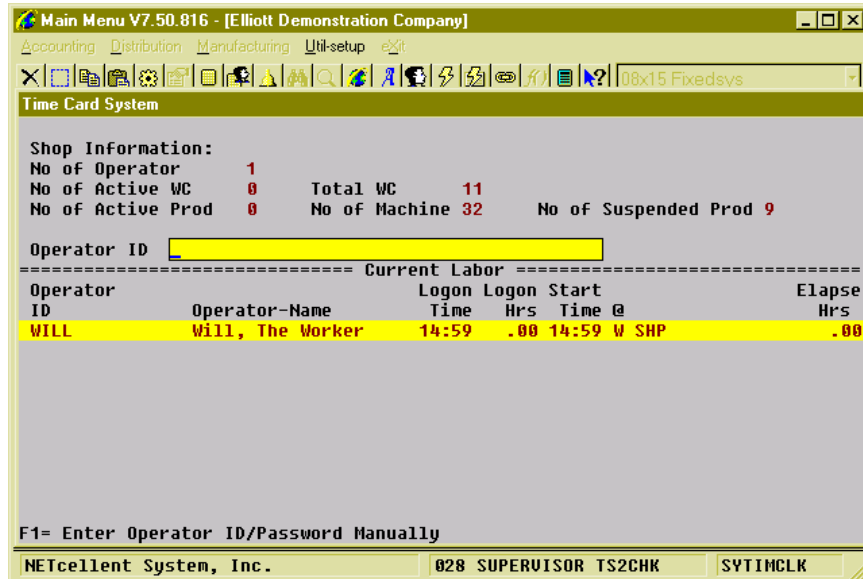**(Figure 26) Department Time Clock, 2nd Stage**

Once the Department ID has been entered, the system will display all operators who are currently working in this department, including those who clock into a work center and those who directly work on a work order. The system will show basic statistics about this department under the department field.

The system will prompt for an Operator ID and password. The operator can toggle between scanning mode and manual mode with the **F1 Key**. In manual mode, the operator can use the Up and Down Arrow Keys to select an operator ID. The operator will be clocked into this department if not clocked in. Otherwise, the system will provide a list of special operations for the operator to perform next.

General Time Clock

How to Access:

Main Menu ➔ Util-Setup ➔ Time Clock

(Figure 27) General Time Clock

This is a general and simplified Time Clock Interface that will only allow 3 functions: clock into the company, clock out for meal breaks and clock out at the end of the day. It is similar to a time card system used in most companies to record an employee's time and is independent from production.

This interface can be used for office employees who are not directly related to production. A computer can be placed at the company entrance for everyone to clock in each morning and clock out at night. Anyone who clocks in through this interface can still clock into a work center or department and report production through Work Order Production.

Once time is recorded, the system will display basic statistics about the production department at the top of the screen and list all operators who are currently in the company, no matter which work center or department. Like all the other time clock interfaces in WO+, the employee can type the ID and password or scan a barcoded badge. If the employee is not clocked in, the system will clock in. Otherwise, the system will clock out the employee and ask whether it is for a meal break or end of day.

(Figure 28) General Time Clock, Clock-Out Options

Plus Work Order Production Transaction Entry

(Figure 29) Production Transaction Processing for Plus Work Order

This is the traditional way to create, edit and delete production transactions. The operator needs to enter all the data of a transaction and is allowed to edit most of the fields, in most cases. If you are not planning to adopt the time clock system WO+ provides, you can always report production through this interface. Also, the Transaction Edit List can print out all the details of each transaction before they are posted. The list will print all warnings and errors a transaction would encounter during posting so a manager can correct them. Only some exceptions can be handled through this screen, like reversing a transaction or overriding a post exception.

What can be done here?
- Add a transaction.
- Edit a transaction. If the transaction was created through scanning, thus contained a production number, only certain fields can be modified.
- Delete a transaction. If the transaction was created through scanning, thus contained a production number, it cannot be deleted.
- Print the Edit List.
- Import transactions from a CSV file (not implemented yet).
- Create a reverse transaction from a posted transaction.
- If a transaction cannot be posted due to an exception, you can flag the transaction so the post program will override the exception.
- Change operation data.

Field Description

Name	Type and Description
1. Order No	6 numeric digits. Enter the Work Order Number to report. **F1 Key** - In add mode, choose the next order number. In change and delete mode, choose the next transaction.
2. Operation No	4 numeric digits. Enter the operation number to report. **F7 Key** - Search for operation number.
3. Transaction Date	Standard date format Enter the date of the transaction. **F4 Key** - In add mode and if the operation has not been started, you can change the value of this operator, like Work Center, Default Labor Grade, etc. In change mode, press the **F1 Key** or leave this field blank and all transactions for this operation will be displayed. Enter a specific date and transactions reported on that date will be displayed. Defaults to the system date.
4. Operator ID	10 alpha-numeric characters. Enter the ID of the operator who reported this transaction. If an operator ID is given, the system will use the labor rate of this operator to calculate direct labor cost. The operator ID cannot be changed if this transaction was reported through scanning. **F7 Key** - Search Operator ID.
5. Qty Complete / Qty Received	Standard quantity format. Enter the quantity of pieces which are successfully processed for this operation. **F2 Key** - In change mode, change the issued material. **F3 Key** - In change mode, change the PO information for an outside process operation. **F5 Key** - In change mode, allow this transaction to override any exception that occurs during the post. **F7 Key** - In add mode, select a posted transaction from history to create a reverse transaction. The reverse transaction has the opposite values of that in the selected transaction for quantity, hour and cost. Defaults to the quantity completed from a previous operation, but not processed in the current operation.
Qty Scrapped / Qty Rejected	Standard quantity format.

Name	Type and Description
	Enter the quantity scrapped during production. The operator cannot report scrap for Setup Operations. If this is an outside process operation in Add mode, the system will prompt for PO Information after the Rejected Quantity has been entered. The default is zero.
6. Direct Labor Hrs	12 numeric digits with 6 decimal places and an optional minus sign. The direct labor hours used for this production. If this transaction was created manually, the system will calculate direct labor cost based on the time and operator's labor rate, if provided. If the operator ID is not provided, the system will use the standard direct labor rate defined in the Operation file. This field cannot be changed if the transaction was created through scanning. Defaults to the planned direct labor hours, which is calculated based on quantity and standard direct labor rate (Qty/Hrs, fixed hours, etc.).
7. Shared Labor Hrs	12 numeric digits with 6 decimal places and an optional minus sign. The shared labor hours used for this production. If this transaction was created manually, the system will calculate shared labor cost based on the time and standard shared labor rate defined in the Operation file. This field cannot be changed if the transaction was created through scanning. Defaults to the planned shared labor hours, which is calculated based on quantity and standard direct labor rate (Qty/Hrs, fixed hours, etc.).
8. Machine Hrs	12 numeric digits with 6 decimal places and an optional minus sign. The machine hours used for this production. This field cannot be changed if the transaction was created through scanning. Defaults to the planned machine hours, which is calculated based on quantity and standard machine rate (Qty/Hrs, fixed hours, etc.).
9. Order Complete?	"Y" or "N". Enter "Y" if this order is complete and is going to be closed. This field is only available if the transaction is for the last operation. The status of the order will be examined and if any error occurs, like when transactions are missing, the system will not allow the order to be closed. Default value is based on the order status. If all conditions are satisfied, the default is "Y".
10. Lot Information	If the parent item is a lot item and the transaction is for the last operation, the system will prompt for the lot information for the completed parent items. If the Serial/Lot Batch Number is used in BOMP (a flag in BOMP Setup), the system will prompt for 11 alpha-numeric characters for the Lot Number and 5 alpha-numeric characters for the Batch Number. Otherwise, the system will simply prompt for 15 alpha-numeric characters for the Lot Number. Also, the system will prompt for an expiration month and year.

Name	Type and Description
Override Post Exception?	"Y" or "N". Indicate if the transaction should post if any exception occurs. This field cannot be directly accessed by entering a field number. The operator needs to press the F5 Key while in the quantity field. Also, the operator is required to have enough security to change this flag. Defaults to "N".

Transaction Edit List Selection


```
Production Transaction Edit List

Starting Order No      All
Ending Order No
Starting Trx Date      All
Ending Trx Date
Starting Work Center   All
Ending Work Center
Location               All Locations
Count Point            All
Include Estimate Var   Y
Print Cost             Y

Any Change ? N
```

(Figure 30) Production Transaction Edit List Selection

The Transaction Edit List can print out detailed information for each selected transaction. This includes any warnings or errors. You can print an edit list before posting and examine the statistics for any exception that might happen.

Name	Type and Description
Starting/Ending Order No	6 numeric digits. The range of order numbers to appear on the report. Defaults to **All**.
Starting/Ending Trx Date	A date in standard date format. The date range of the transactions to appear on the report.
Starting/Ending Work Center	6 alpha-numeric characters. The work center range to appear on the report. Defaults to **All**.
Location	2 alpha-numeric digits, with wildcard support. Select the production location.
Count Point	1 character. Select the operation type for the transactions. <u>Options:</u> M - Material Issue Point only.

Name	Type and Description
	Y - Y Count Point only. B - Both Material Issue Point and Y Count Point only. **Space** - All. Defaults to **All.**
Include Estimate Var?	"Y" or "N". Enter "Y" to print the cost variance for those operations which use estimated statistics, like labor hours per quantity, instead of standard statistics. Defaults to **"N".**
Print Cost?	"Y" or "N". Enter "Y" to print the cost on the edit list. This flag is subject to several security flags and the BOMP Setup. If the operator is not authorized to view cost, this option will be not applicable. Defaults to "N".

Print Label

If labels are needed for the finished products, this program outputs an item number for the completed pieces in the selected range of work orders to a CSV file. For example, if 10 pieces of product in a work order are finished, this program will create 10 records in the CSV file. A barcode printing program, like Bartender, can be used to print the barcode labels from the CSV file. You can enable this feature and fine tune the parameters through the Barcode Printing Global Setup.

Report Additional Information

Issued Material Reporting

Materials will be used to manufacture parent items and they can be issued in certain operations based on the definition in each work order. Those operations which issue material are called Material Issue Points. In WO+, more than one operation can be a material issue point. For flexibility, even if an operation is not defined as a material issue point in the work order, you can still issue material in the operation. This might be a situation where the operator needs to return some materials when the order is complete. Also, material usage may be different between planning and production, therefore the operator can change the issued quantity or substitute material when reporting.

There are two modes to report material, Material Verification Mode and Material Confirmation Mode. You can switch from one mode to another though the BOMP Global Setup field 51, Enforce Material Verification in Production. The reporting screen will have two different modes.

(Figure 31) Issued Material Reporting Screen

How to bring up Issued Material Reporting?

Elliott will automatically pop up the Material Reporting screen when an operator is reporting for a material issue point. The screen will display all materials which are planned to be issued for this work order. At this point you can verify if the item number and quantity are correct.

Extra steps are required to bring up this screen if the operator wants to report issued material for an operation which is not a material issue point. This is available in Production Transaction Processing and Work Order Production.

If the operator is reporting production through Production Transaction Processing, the following steps are required:
1. In Add mode, populate every field for a transaction.
2. Select field 5, Qty Complete/Qty Received.
3. Press the **F2 Key** to bring up the Issued Material Reporting screen.

The following are required if reporting production through Work Order Production:
1. Enter a non-zero number in the Qty Completed field. The system will display "Production Reported" to the right of the quantity and prompt "Any Change?"
2. Answer "Y" to the question and cursor will move back to the Qty Completed field.
3. Press the **F5 Key** to bring up the Detail Reporting screen.
4. In the Qty Completed/Qty Received field, press the **F2 Key** to bring up the Issued Material Reporting screen.

Even if the operation is a Material Issue Point, the operator can use the same steps to bring up the Issued Material Reporting screen.

Depending on the BOMP Global Setup, the Issued Material Reporting screen can be one of two modes.

Material Confirmation Mode

(Figure 32) Issued Material Reporting. Confirmation Mode. Changing Material.

Setting BOMP Global Setup field 51, Enforce Material Verification in Production, to "N" will set this screen to Confirmation mode. In this mode, the system will display all materials based on the planned quantities in the work order bill of material and prompt, "Any change?" Respond with "N" to issue material based on this list. Otherwise the system will bring up the next stage, Change mode.
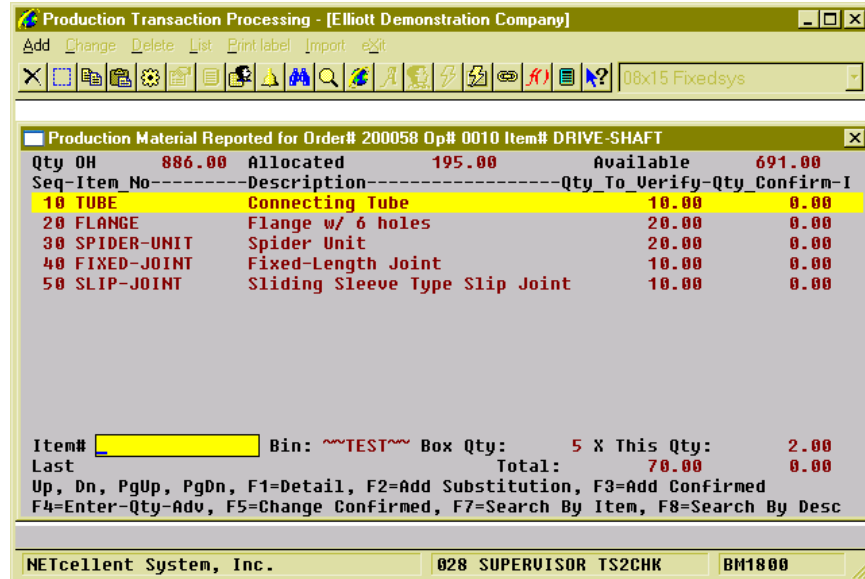
In Change mode, you can change the actual issued quantity and add substitute components. The first prompt is for an item number. Now the following can be performed in this screen:

- Press the **Up** or **Down Arrow Keys** to move the highlight bar. Press **Page Up** or **Page Down** to change to scroll a page at a time.
- Press the **Enter Key** to change Actual Issued Quantity for the highlighted component.
    - o A positive quantity means issue material with this amount.
    - o A zero quantity means the material is not used.
    - o A negative quantity means the components are being returned to stock. This is useful when the order is complete and there are some components left.
- Press the **F1 Key** to view and change the material detail. The detail includes material location and actual issued quantity.
- Press the **F2 Key** to add substitute material.
- Press the **F7 Key** or **F8 Key** to search the Item file.
- Enter a valid **Item Number**, **UPC** or **GTIN**.
    - o If the item is in the list, the system will move the cursor to that item and ask the operator to change the actual issued quantity.

o If the item is not in the list, the system will allow the operator to add the item as substitute material to the list.

Press the **Escape Key** to exit the screen.

Material Verification Mode

(Figure 33) Issued Material Reporting. Verification Mode.

Setting BOMP Global Setup field 51, Enforce Material Verification in Production, to "Y" will bring up this screen in Verification mode. In this mode, the operator needs to enter through every component required for this work order before exiting the screen. Therefore, the Confirmed Quantity of each component defaults to zero.

Verify through Accumulation
Each time an operator enters an item number, the system will accumulate the confirmed quantity of that component. If 10 pieces of one component are used during the production, the operator can enter the item number 10 times. The system not only accepts the Item Number, but the UPC or GTIN can be entered if they are defined.

Quantity to Accumulate
Each time the item number or UPC is entered, the system will accumulate the confirmed quantity by one. However, you can define this quantity to be the product of the **Package/Box Quantity** and **Quantity in Advance** for each entry. **Package/Box Quantity** is the quantity of a component packaged in one box. For example, the component TUBE in Figure 32 is packaged 5 per box (see Box Qty: 5) and scanning the barcode on the box confirms 5 pieces. The Package/Box Quantity is defined in the Item Master file and a BOMP Global Setup defines which field represents the package/box quantity. If the GTIN is scanned, the system will use the package quantity defined in the

GTIN. **Quantity in Advance** is the number of component units to report. Figure 32 is configured to report 2 boxes of TUBE (see X This Qty: 2), so when the item is scanned the confirmed quantity of this component will accumulate 10 pieces.

(Figure 34) Issued Material Reporting. Verification Mode. Reporting

Scan and Manual Entry
The system will record which input method is used to verify these components, **Scan** or **Manual Entry**. If the barcode tag on each component is scanned for a component, the system sets entry method for that component to Scanned and an "**S**" will be displayed on the right side of the line (see the FLANGE line in Figure 33). If the confirmed quantity is modified, the line is considered a Manual entry and an "**M**" will be displayed on the right side of the line (see the TUBE line in Figure 33). When a UPC or GTIN is used, the system always considers it as scanned. Overriding the quantity is always considered a manual entry. Whether the item number is manually entered or scanned is defined in the BOMP Global Setup.

Exceptions
Exceptions can occur when verifying materials. Verifying too few or when a substitute material is to be used, the system will prompt for a supervisor password. Enter the correct password to override this exception. The BOMP Global Setup defines which actions are exceptions.

Functionality
During verification, the cursor always begins at the Item Number field. Several options are available:
- Press the **Up** or **Down Arrow Key** to move the highlight bar. Press **Page Up** or **Page Down** to scroll a page at a time.
- Scan an **UPC** or **GTIN Barcode**. The system will accumulate the confirmed quantity of the corresponding component. The system always considers this action as a scan.

- Scan or type in the **Item Number**. The system will accumulate the confirmed quantity of the corresponding component. The system will consider this action as a scan or manual entry based on the BOMP Global Setup.
- If the BOMP Global Setup field "Enter Qty Before or After" is set to "A" for After, the Qty in Advance field can be changed after the item number has been entered.
- If the BOMP Global Setup field "Enter Qty Before or After" is set to "B" for Before, the quantity can be entered in the Item Number field. If a quantity is entered, the system will use the quantity as Qty in Advance. This quantity can only be a limited length integer.
- Press the **F7 Key** or **F8 Key** to search the Item file.
- Press the **F1 Key** to view component detail.
- Press the **F2 Key** to add substitute material. When substitute material is added, the confirmed quantity will be set to zero and a quantity needs to be confirmed for this material.
- Press the **F3 Key** to directly accumulate for the highlighted component. This is always considered a manual entry. It may be an exception if defined as so in the BOMP Global Setup.
- Press the **F4 Key** to change Quantity in Advance.
- Press the **F5 Key** to directly change the confirmed quantity. This is always considered a manual entry. This is the only way to enter a negative quantity for the confirmed quantity.
  - A positive confirmed quantity means you are issuing material.
  - A quantity of zero means the material is not used.
  - A negative quantity means the components are being returned to stock. This is useful when the order is complete and some components are left.
- Press the **Escape Key** to exit verification. If any component is under-verified or over-verified, the system will display a warning.

PO Information

If an operation is an outside process, the system will prompt for PO related information about the production. This will happen in the Work Order Production interface when production starts and when production is reported.

(Figure 35) Outside Process Information

Field Description

Name	Type and Description
1. PO #	The standard PO format is used if the PO package is on. If the PO package is off, the format is 10 alpha-numeric characters. The purchase order number of the outside process. This can be blank. If the PO package is on, this should be an existing PO but not a blanket PO.
2. PO Line #	3 numeric digits. The purchase order line number for the PO of this outside process. This field is available if a PO number is entered. If the PO package is on, the item number for this line item should not exist in the item file.
3. Vendor#	6 alpha-numeric characters. The vendor number of this outside process. This field is available to change if the PO number is not entered or the PO package is off. Otherwise, it should be the same as the vendor number in the purchase order.
4. Receiver	3 alpha-numeric characters. Receiver of the outside process.
5. Inv/Doc #	8 alpha-numeric characters. Invoice Number or Document Number of the outside process. If the PO package is on, a valid invoice/document number should be entered. If the invoice/document does not exist, the system will create a new one and prompt for a comment for the record.

If the PO package is on, there are some benefits to linking a BOMP transaction to a PO line item.

- You can reference the data in BOMP back to Purchase Order.

- If the BOMP Global Setup field 36, Copy PO FOB Cost to WO+ Outside Process, is "Y", the system will use the FOB cost in the PO to calculate the outside process cost instead of that defined in order routing.
- If the BOMP Global Setup field 37, Update PO Receiving thru WO+ Outside Proc Rpt, is "Y", the system will automatically create a PO Receiving Transaction for the PO when the BOMP transaction is posted. However, the system will not allow a greater quantity to be received for the item than listed on the PO.

Follow the instructions below to change this information after the transaction is created.

Use the following steps when reporting production through Production Transaction Processing:
4. In Add mode, populate every field for the transaction.
5. At Field Number, enter 5 for the "Qty Complete/Qty Received" field.
6. Press the **F3 Key** to bring up the Outside Process Additional Information screen.

Use the following steps when reporting production through Work Order Production:
5. Enter a non-zero number in the Qty Completed field. The system will display a "Production Reported" literal to the right of the quantity and prompt "Any Change?"
6. Answer "Y" and the cursor will move back to the "Qty Completed" field.
7. Press the **F5 Key** to bring up the Detail Reporting screen.
8. In the "Qty Completed/Qty Received" field, press the **F3 Key** to bring up the Outside Process Additional Information screen.

All fields can be left blank for this transaction.

Serial Number

A serial number will need to reported for serialized parent items or components when the serial number system is in use.

Serial Number for a Parent Item

(Figure 36) Parent Item Serial Number Report

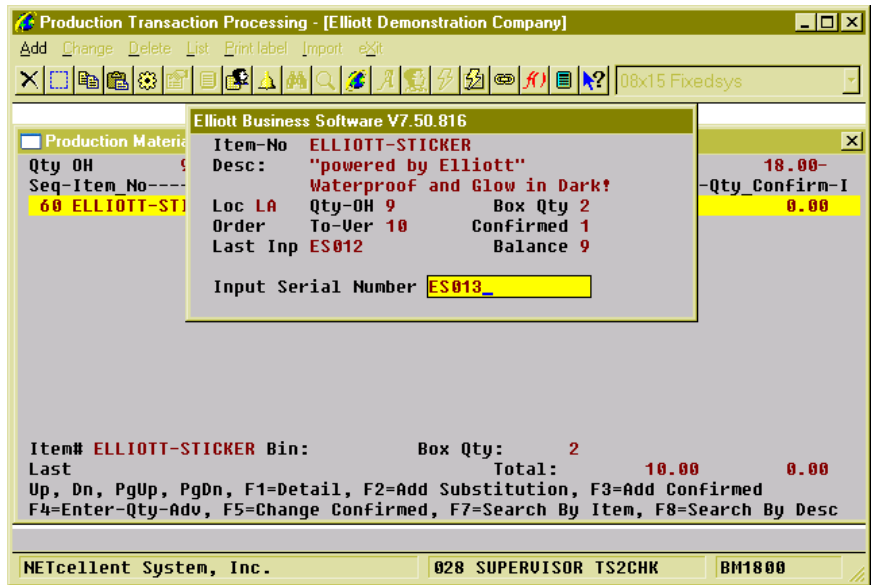After every field of the transaction has been entered for the last operation, the system will pop up a screen to let the operator enter the serial numbers for the newly created serialized parent items. They will need to be entered one by one. If 10 pieces are reported, 10 serial numbers should be entered as well. The transaction will be aborted if enough serial numbers are not reported.

Serial Number for Components

The Issued Material Reporting screen is used to report a serial number for an issued serialized component. The screen appears different for Confirmation mode and Verification mode. In Confirmation mode, the system will display an asterisk (*) for components in which serial numbers have not been reported (see Figure 36). Press Enter on this item and the Serial Number Reporting screen will pop up after entering the actual quantity. In Verification mode, the system will pop up a screen to enter serial numbers one by one after a valid item number has been entered. The quantity of issued materials is always the same as the number of serial numbers reported.

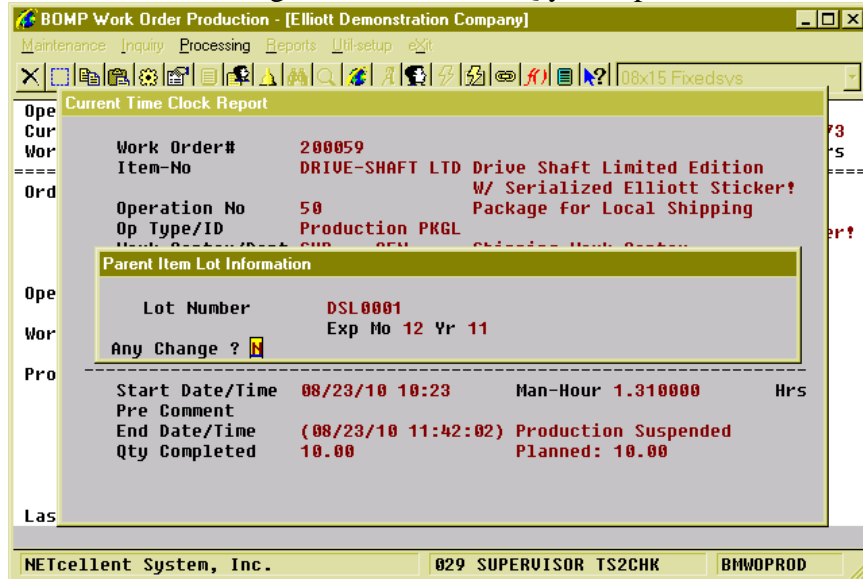**(Figure 37) Component Serial Number Report, Confirmation Mode**

(Figure 38) Component Serial Number Report, Verification Mode

Lot Number

Lot Number for Parent Item

Reporting production for a parent lot item on the last operation will prompt for lot information. In the Work Order Production interface, the system will pop up a Lot Information screen after entering an amount in the Qty Completed field.

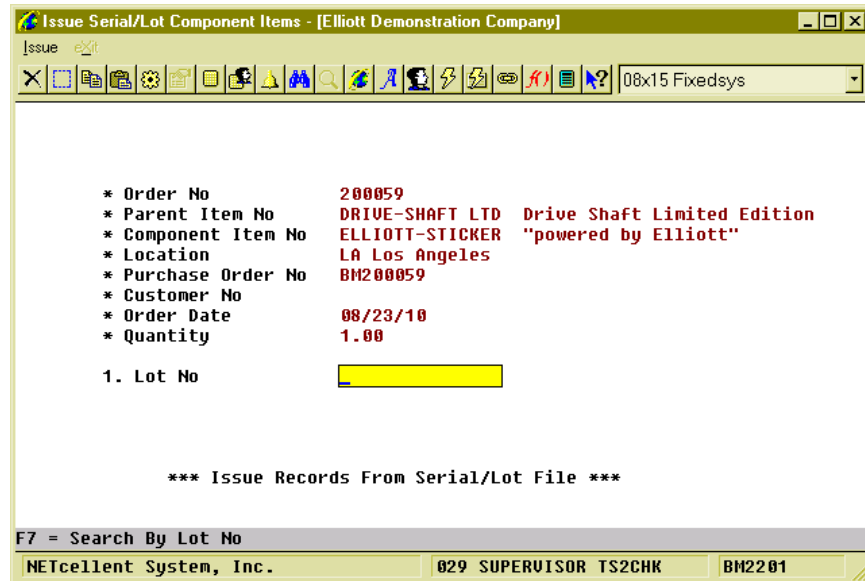**(Figure 39) Lot Number reporting in Work Order Production**

Name	Type and Description
Lot Number	If Batch Number is not used, this is 15 alpha-numeric characters. Otherwise, it is 11 alpha-numeric characters. Lot Number for the finished parent item.
Batch Number	4 numeric digits. Batch number of the finished lot items. The system will combine the batch number (4 digits) and lot number (11 digits) into a 15 character lot number. Only available if BOMP Setup field 10, Use Serial/Lot Batch Numbers, is set to "Y".
Exp Mo	2 numeric digits. Must be a valid month. Month when the lot item expires.
Yr	2 numeric digits. Year when the lot item expires.

Lot Number for Components

The lot number of issued lot items needs to be reported. It does not need to be reported immediately when reporting material. Another process is used to report these lot numbers: Issue Serial/Lot Component Items.

How to Access:
Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Processing ➔ Issue Lot/Serial Component Items

(Figure 40) Issued Serial/Lot Component Items

Each time a work order is selected, the system will bring up one component issued for the work order and the lot number for the component can be reported.

Chapter 6: Post Transaction

The last step in the production is to post all transactions. The post will update inventory, serial/lot records and G/L accounts, as well as the following:

- If the transaction issues material, the system will
    - Adjust Quantity on Hand and Quantity Allocated fields in the Item Master file or Item/Location file.
    - Create Inventory Transaction records.
    - Adjust quantity in the ATP records.
    - Update the serial record for serialized items.
    - Create temporary records for lot components. Use the "Issue Serial/Lot Component Items" function to issue lot numbers for these temporary records.
    - Adjust the quantity of the components in the default production bin if Multi-Bin is utilized.
- If the transaction is for last operation, several functions will be performed for the parent item.
    - The Quantity on Hand, Quantity Ordered, Average Cost and Last Cost fields in the Item Master file or Item/Location file will be adjusted.
    - An Inventory Transaction record will be created.
    - An adjustment will be made to the quantity in the ATP records.
    - The serial/lot record will be updated for serial/lot items.
    - If Multi-Bin is used:
        - The parent item's quantity in the default production bin will be adjusted.
        - An Inventory Transfer Batch will be created with the appropriate Global Setup.
    - Update "New Received Item" in COP if this order is not copied from COP.
- Update the Order Status and Reported Quantity in the Work Order file. If the Order Complete flag is "Y", the system will close the order and change the order status to "Complete".
- Update the time and quantity of the orders' operation and bill of material.
- Create distributions in the B/M Distribution to G/L File. The distribution amounts are for each operation and components in the order.
    - Each transaction will create distributions which credit the inventory account, labor absorbed account, burden absorbed account or outside process absorbed account. At the same time, each transaction will create offset distributions which debit the Work-In-Process Account.
    - If the transaction is for the last operation, Y Count Point, it will create distributions which credit the Work-In-Process Account and debit the finished goods account. Based on control settings, variance distributions in G/L may be created as well;
        - Standard Cost Variance, if I/M Setup is configured for Standard Cost.
        - WIP Variance, if the system cannot handle the amount left in the WIP Account.

- Scrap Account, if scrap account is in use.
  - If the transaction is for an outside process, the system may create PO Receiving Transactions with the appropriate BOMP Global Setup.
  - The system will move the transaction record to history.
  - The system will update the 12 Month record for BMOPERID, BMOPITEM, BMOPPCAT and BMLCDPWC.

Since posting will update multiple databases, we highly recommend printing a transaction edit list to review all transactions before posting them.
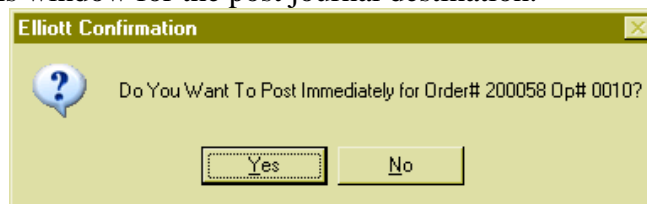
Elliott provides two options to post transactions, immediate posting after the transaction is created and batch posting.

Immediate Posting

If the transactions do not need to be reviewed, you can post the production immediately after creating it.

This needs to be enabled in BOMP Global Setup in fields 4, Enable Immediate Production Trx Posting, and 21, Immediately Post Completed Scan Trx for +WO. The first turns on the feature in the Production Transaction Processing screen and the second enables the feature in Work Order Production.

With this feature enabled, you will be prompted with "Do You Want To Post Immediately" once you have finished reporting a transaction. Selecting "Yes" will bring up the Print Options window for the post journal destination.

Elliott Confirmation

? Do You Want To Post Immediately for Order# 200058 Op# 0010?

[Yes]   [No]

(Figure 41) Immediate Posting Confirmation

The system will provide a warning and solution if an exception occurs. If the exception is not handled, the system will not post the transaction immediately. Review the exceptions in the transaction edit list and correct them or override all exceptions before posting again.
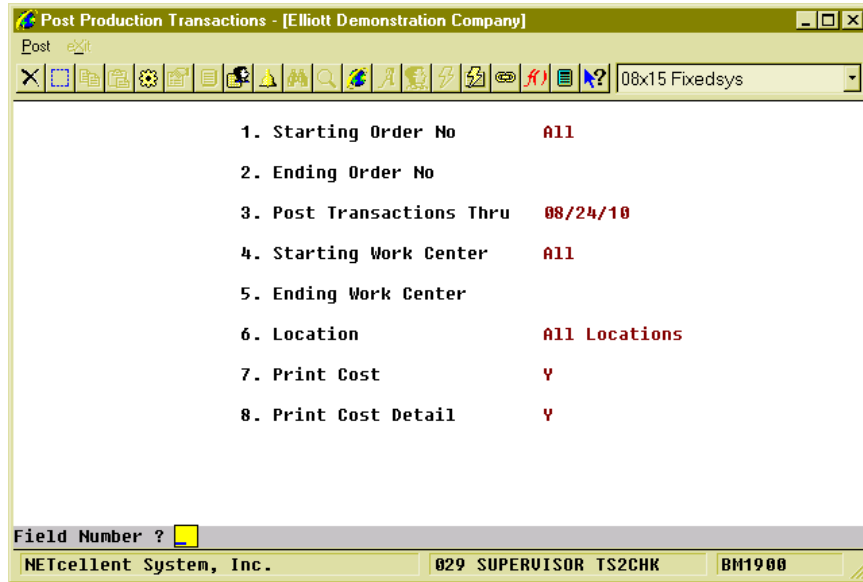
If the transaction will close the order, the system will post all transactions of the order.

Batch Posting

Transactions can be reviewed through the edit list before posting them as a batch. The post will allow you to select a range of work orders, dates, work centers and locations of the transactions, as well as the level of detail to print on the journal.

<u>**How to Access:**</u>
Main Menu ➔ Distribution ➔ Bill of Material Processor ➔ Processing ➔ Posting Production Transactions ➔ Post ➔ Plus Work Order

(Figure 42) Batch Post Transaction Routine

<u>**Field Description**</u>

Name	Type and Description
Starting/Ending Order No	6 numeric digits. The start and end of the range of order numbers. Defaults to **All**.
Post Transactions Thru	A date in the standard date format. Selects transactions with a transaction date on or before this date. Defaults to the system date.
Starting/Ending Work Center	6 alpha-numeric characters. The start and end of the range of work centers. Defaults to **All**.
Location	2 alpha-numeric digits with wildcard support. Select the production location.
Print Cost?	"Y" or "N".

Name	Type and Description
	Enter "Y" to print cost on the post journal. This flag is subject to several security flags and BOMP Setup. If the user is not authorized to view cost, this option will not be available. Defaults to "N".
Print Cost Detail?	"Y" or "N". Enter "Y" to print cost detail on the post journal. This cost details how the system calculates production cost in the Y Count Point. The system will list cost distributed from each operation and material. Default to "N".

Once a transaction is posted, it cannot be changed. However, WO+ provides a way to fix a bad transaction if it may cause serious problems. A transaction can be created with the opposite value of one posted. This transaction is called a **Reverse Transaction** and can be created in the Production Transaction Processing screen. This transaction will attempt to reverse most of the changes made by the bad transaction, including quantity, hours, distributions, and materials. However, it cannot recover 100% of the data to the status before the post due to the complexity of the transactions. For example, it cannot recover changed average cost and last cost, issued serial number or printed transfer batch. You should avoid using this often, but it can be used to deal with serious problems.

Advanced Features

Batch Production

Normally, the work on an operation of a work order is called "production" in WO+. Each transaction is identified with a Production Number, which is usually hidden from view. Only the work order number and operation number are needed to report production and create a Production Transaction. So, one Production Number is related to one operation of a work order. Start the production by entering the order number and operation number. When the order number and operation number are entered again, the system ends the production and transactions are created.

Multiple work orders can be grouped together and processed at the same time in one work center. One example would be when a worker moves products from one production department to the packaging department for a group of work orders. The labor for the worker should be distributed to all work orders in the group. Instead of starting a production for each work order, you can create a **Batch Production**.
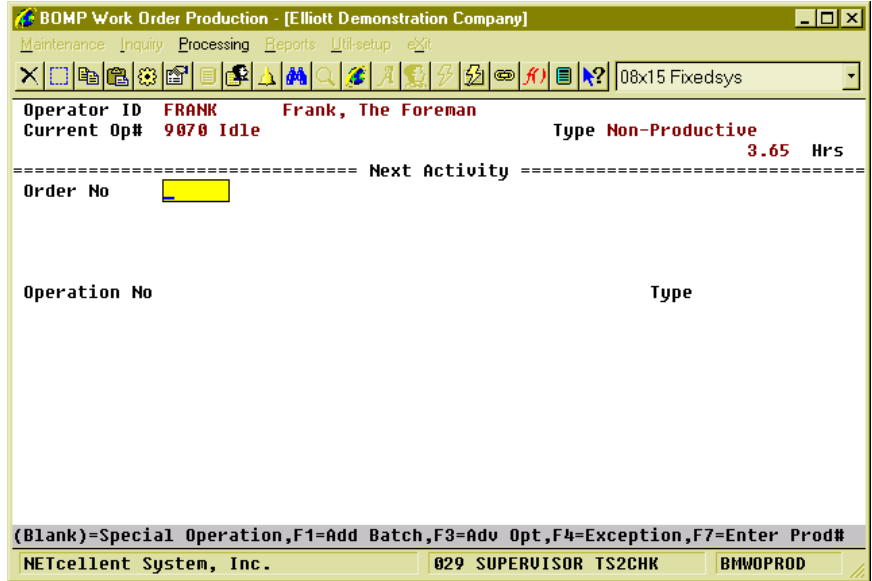
Batch Production is related to multiple operations from multiple work orders. These operations should share similar attributes, like if they are all moving steps in the same work center. All labor and machine time contributed to the Batch Production will be distributed to each work order based on quantity.

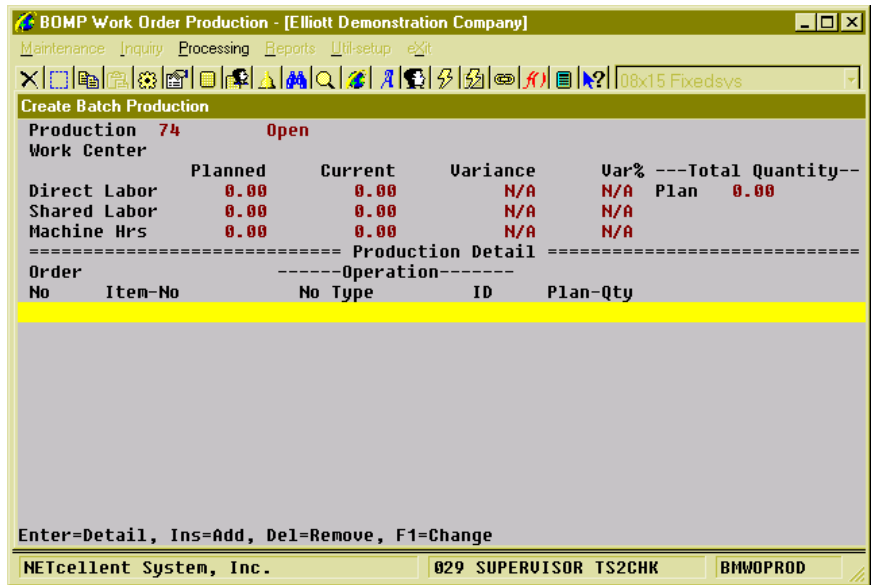## Creating a Batch Production through Work Order Production

The most basic way to create a Batch Production is through the **Work Order Production** interface.

In the **Work Order Production** section, press the F1 function key to add a batch when the cursor is on the Order Number field. The system will bring up the Batch Production maintenance screen. From here, multiple operations can be added from different work orders through the **Insert Key**. Each operation is called a **Production Detail** of the Batch Production. You can also use the Delete Key to remove detail and use the F1 Key to change detail.
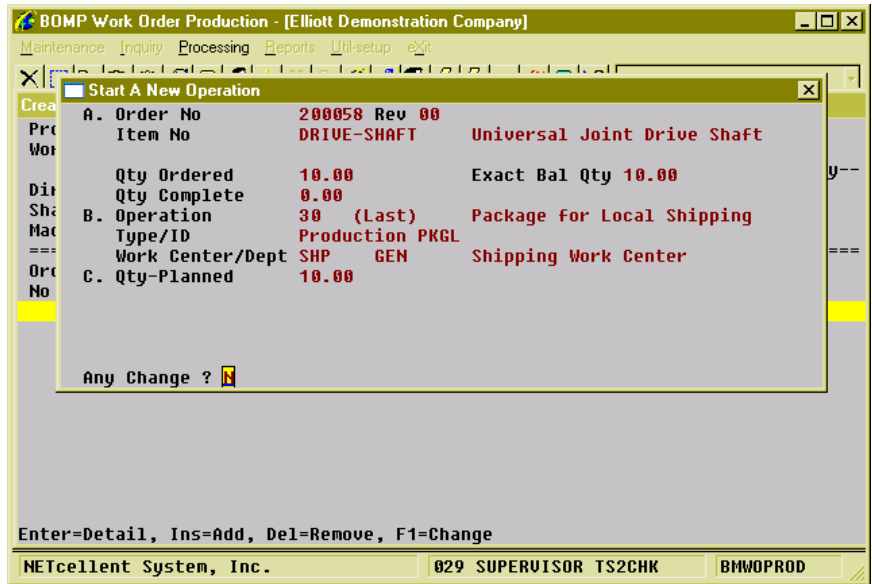
To add Production Detail, the Work Order Number, Operation Number and Plan Quantity need to be entered. The system will reflect the new production status at the top of the screen with total hours and total pieces.
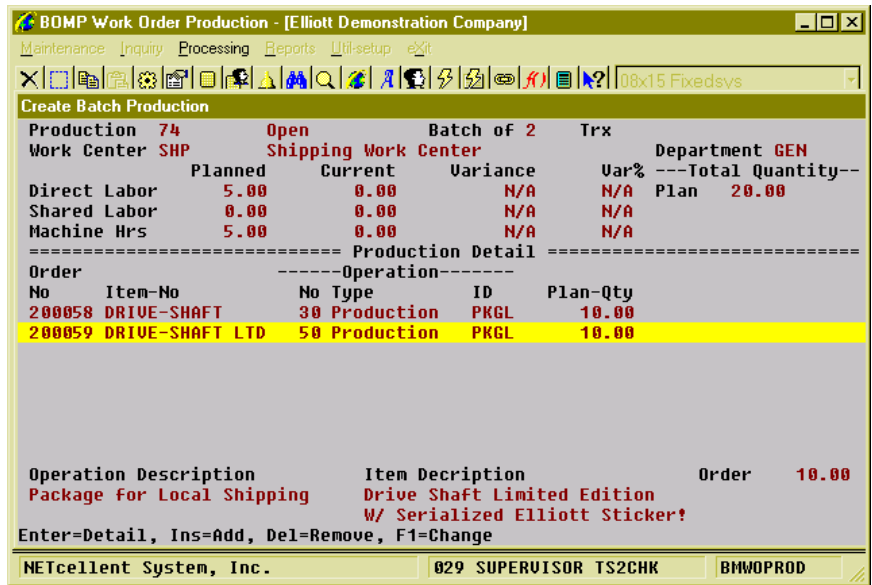
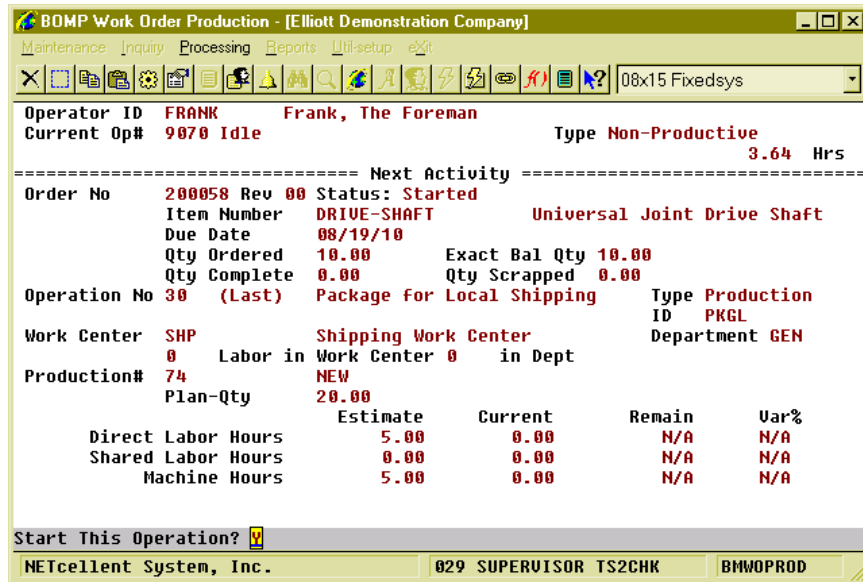**(Figure 43) Press F1 to Add a Batch Production**

(Figure 44) Create Batch Production Screen

(Figure 45) Add an operation to Batch Production

(Figure 46) Two work orders have been added to this Batch Production

(Figure 47) Start this Batch Production

Figure 42 shows where to start a Batch Production in Work Order Production. Figure 43 shows the initial screen to create a Batch Production. Figure 44 shows the screen to add a Production Detail. The Work Order Number, Operation Number and Planned Quantity need to be entered. Figure 45 shows two work orders have been added to this Batch Production and it will take 5 hours of machine time to complete all 20 pieces. Figure 46 shows Work Order Production after leaving the Batch Production Create Screen.

There are some limitations for all operations in the same Batch Production.
- All operations should have the same Operation Type.
- All operations should be in the same Work Center.
- All operations should use the same Machine Operation Mode (Setup Mode or Running Mode).

If these are satisfied, the Batch Work Order can have different work order numbers, different product numbers and different order quantity.

Reporting a Batch Production through Work Order Production

There are three ways to report production for the current Batch Production in Work Order Production:

- Start the next activity, except for breaks, meal breaks or end-of-day log off.
- Enter the order number and operation number of any Production Detail in the Batch Production.
- When cursor is on the Order Number field, use the **F7 Key** to enter a Production Number.

Any method will bring up the Production Reporting screen, which is usually seen in this interface. There are two options for reporting:.

- If the actual processed quantity matches the planned quantity, you can simply enter the total quantity. The system will automatically create a transaction for each work order in this batch.
- If the actual processed quantity does not match the planned, you will need to use Detail Reporting. Press F5 to bring up the Detail Reporting screen.

(Figure 48) Report Batch Production when Complete Qty matches Planned Qty

(Figure 49) Report Batch Production, Detail Reporting Screen.

In the Detail Reporting screen, the system will list all details required to be reported. An asterisk "*" will be displayed on the left side of any operation not yet reported. The following functions are available:

- Press the **Enter Key** to report for one Production Detail (Figure 49).
- Use the **Insert Key** or **Delete Key** to add or delete one Production Detail.
- Press the **F1 Key** to Auto-Report all Production Detail. The system will use Planned Quantity to populate Complete Quantity.
- Use the **F2 Key** to remove all reported transactions.

Every Production Detail must be reported before leaving this screen or the reporting will be aborted.

A change in Production Detail while reporting is considered an exception. Although anyone can handle this exception, an exception record will be created for future reference.

```
BOMP Work Order Production - [Elliott Demonstration Company]                    _□×
 Maintenance  Inquiry  Processing  Reports  Util-setup  eXit
 X □ ▣ ▣ ▦ ▣ □ ▦ ▲ ▦ Q ▣ A ▦ ⚡ ⚡ ∞ f() ▣ ▶? 08x15 Fixedsys
Batc ▣ Production Detail for   Open Production 000000074 Batch of 0002 Trx   ▣
 Pro  A. Order No        200058 Rev 00
 Wor     Item No         DRIVE-SHAFT      Universal Joint Drive Shaft
                                                                            y--
 Dir     Qty Ordered     10.00            Exact Bal Qty 10.00
 Sh      Qty Complete     0.00
 Mac  B. Operation        30  (Last)      Package for Local Shipping
 ===     Type/ID         Production PKGL                                    ===
 Ord     Work Center/Dept SHP    GEN      Shipping Work Center              ---
 No   C. Qty-Planned      10.00                                            ped
*20(
*20(

          ========================= Transaction Report =========================
          1. QTY Complete     10.00       (Plan     10.00      )
             QTY Scrapped                 (Maximum  0.00       )
          2. Order Complete
 Ope                                                                         00
 Pac

 Enter=Report,Ins=Add,Del=Remove,F1=Auto-Report,F2=Reset-Report
 NETcellent System, Inc.              029 SUPERVISOR TS2CHK      BMWOPROD
```
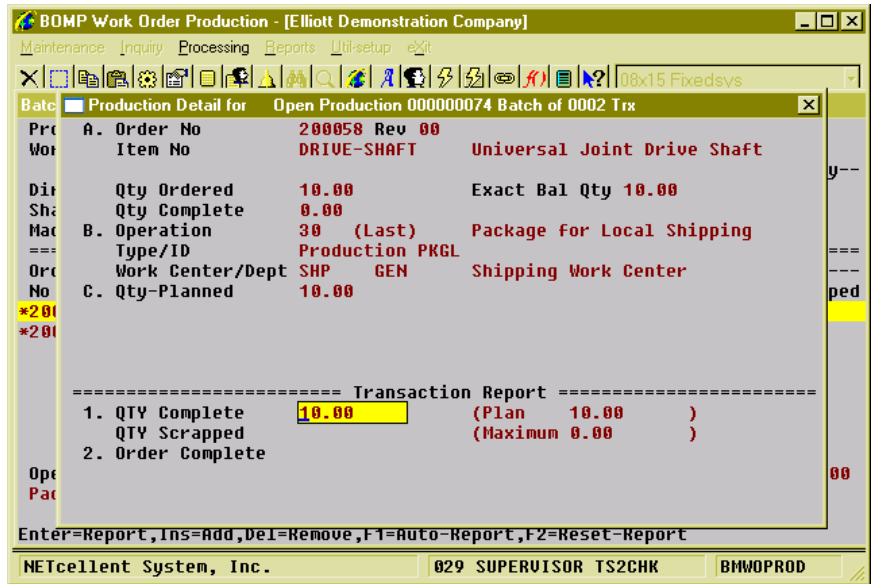
(Figure 50) Report for one Production Detail

```
BOMP Work Order Production - [Elliott Demonstration Company]                    _□×
 Maintenance  Inquiry  Processing  Reports  Util-setup  eXit
 X □ ▣ ▣ ▦ ▣ □ ▦ ▲ ▦ Q ▣ A ▦ ⚡ ⚡ ∞ f() ▣ ▶? 08x15 Fixedsys
Batch Production Report
 Production  74        Open         Batch of 2    Trx
 Work Center SHP       Shipping Work Center       Department GEN
             Planned      Current      Variance    Var% ---Total Quantity--
 Direct Labor   5.00        0.88         N/A       N/A  Plan    20.00
 Shared Labor   0.00        0.00         N/A       N/A  Complt  20.00
 Machine Hrs    5.00        0.88         N/A       N/A
 ============================= Production Detail =============================
 Order            ------Operation-------  ----------Quantity-----------
 No    Item-No       No Type      ID      Plan   Complete   Scrapped
 200058 DRIVE-SHAFT     30 Production  PKGL   10.00    10.00
 200059 DRIVE-SHAFT LTD 50 Production  PKGL   10.00    10.00




 Operation Description        Item Decription             Order     10.00
 Package for Local Shipping   Universal Joint Drive Shaft Complt    10.00
 Enter=Report,Ins=Add,Del=Remove,F1=Auto-Report,F2=Reset-Report
 NETcellent System, Inc.              029 SUPERVISOR TS2CHK      BMWOPROD
```

(Figure 51) All Production Details are reported
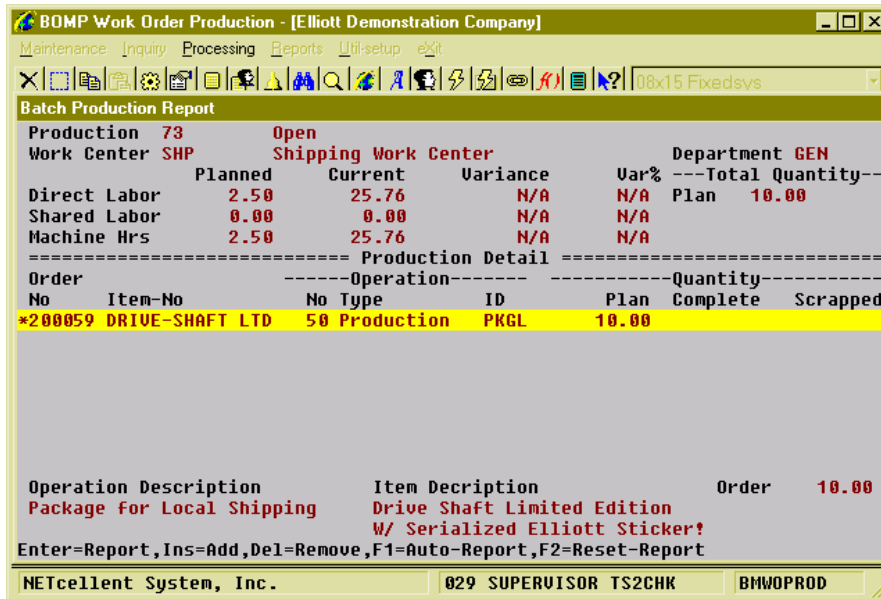
Change to Batch Production

Every work order production can be changed into a Batch Production. You can think of a work order production as a Batch Production with only one work order, so they are always interchangeable.

There are several methods to change a single order production into a Batch Production.

When reporting Complete Qty for the current production in Work Order Production, press the **F5 Key** to bring up Detail Reporting. If the production is for a single work order, the cursor should be on the Qty Complete field (Figure 51). An option will appear, "**F1=Batch Mode**". Press the **F1 Key** and the screen will change into the Batch Production Reporting screen. You can add other work orders to this Batch Production.
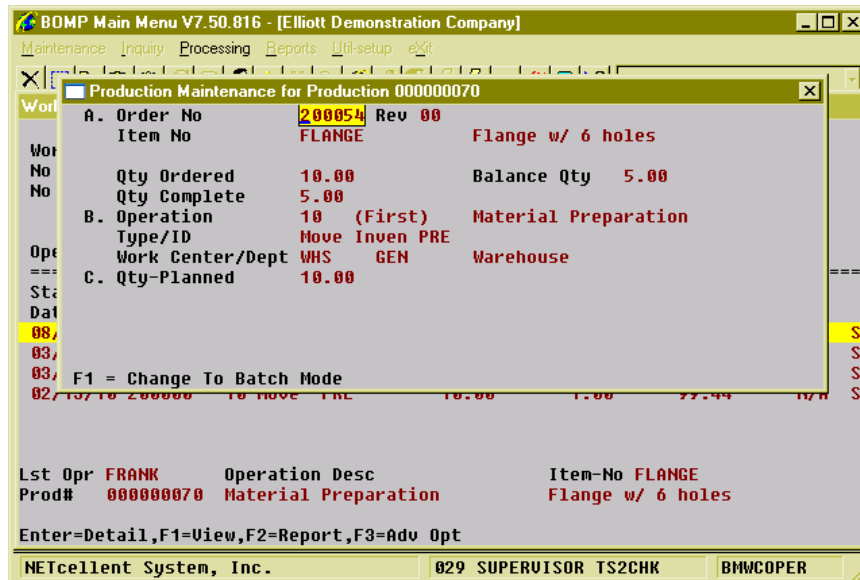

(Figure 52) Detail Reporting for single order production.

(Figure 53) Change into Batch Mode.

In the **Work Center Operation** interface, which is described in another section, you can select Started Production List or Completed Production List and use Advanced Operation to maintain one production. If the production is started but not yet finished, it can be changed into a Batch Production as well. Also, the **F1 Key** can be pressed in the Order Number field to change the screen into Batch Mode.

If a Batch Production has only one work order, it will become a single order production and the reporting screen will be different.

(Figure 54) Maintaining a Started Production in Work Center Operation