

Repetitive Manufacturing Fourth Shift Release 8.00

Fourth Shift Help
Release 8.00

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Repetitive Manufacturing Module

The Repetitive Manufacturing Module extends the functionality of Fourth Shift by allowing the post-deduction of components related to a manufactured item or custom product based on operation completion or receipt of the parent item. This capability handles backflushing of component quantities related to:

- a manufactured parent item based on receipt of the parent
- a custom product based on the receipt of the custom product into a location
- a custom product shipped directly from work in process
- a sub-contracted item on a purchase order
- an operation based on units completed at that operation (control-point backflushing)

The backflushing capability handles components identified as:

- N = normal
- R = resource
- X = reference
- T = tool

Backflushing can be used together with the pick method already available in Fourth Shift. For example, some components may be issued using the pick method and bulk components can then be backflushed. Since backflushing is used in a variety of environments, four methods for specifying backflush (issue from) locations are provided:

- floor stock location
- component preferred location
- gateway work center
- bill of material location

Backflushing is accomplished by running a batch task. The BKFL (Backflushing) and BKSV (Backflush Server) tasks complete the following:

- deducts component quantities from inventory
- reduces allocations
- updates actual order costs
- prints a Backflush Issue Reconciliation Report identifying exception conditions related to an undefined location or insufficient component inventory
- creates corresponding financial transactions to be transferred to the general ledger

The BKFL task performs backflush processing for all transactions at one time. The BKSV task allows you to backflush continuously throughout the day based on a specified period of time between processing.

Module Prerequisites

The Repetitive Manufacturing Module has the following prerequisites:

- SYSM (System Control)
- INVM (Inventory Control)

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- BILM (Bill of Material)
- MOMM (Manufacturing Order Management)

Setting Up the Repetitive Manufacturing Module

Setting Up the Module provides an overview of how to implement the module. It covers:

- guidelines to consider before you implement the module
- how to prepare your data for loading
- suggested procedures for loading your data
- suggestions for using the module

Although this section provides key information about the Repetitive Manufacturing Module, it does not explain such manufacturing concepts as backflushing.

Before You Implement the Module

An implementation plan should be developed for this module. The following are some areas you should consider.

Backflushing Methods

Determine the backflushing method most appropriate for your operation. The four methods for specifying backflush locations are:

- floor stock location, which is independent of items or orders
- component preferred location, which is tied to the component item
- gateway work center, which is tied to the parent item or order
- bill of material location, which is tied to the product structure or order-dependent bill

Each method is described here, including suggestions as to when to use each method. For an example of how components are backflushed based on each method, see "Backflushing Process" in **Suggestions for Using the Module**.

Floor Stock Location

Units completed at the operation or receipt of the parent item deducts component quantities from the floor stock location. Use this method, for example, when components are:

- delivered for immediate consumption, such as in a just-in-time environment. For example, a purchased component is received into floor stock and delivered to the appropriate point of use.
- stored in bulk on the floor for use by many areas in the plant

Component Preferred Location

Units completed at the operation or receipt of the parent item deducts component quantities from the component's preferred location. Use this method, for example, when a component is always stocked in a specific location regardless of the parent being produced.

Gateway Work Center

Units completed at the operation or receipt of the parent item deducts component quantities from the parent item's normal work center or the work center identified on the manufacturing order. Use this method, for example, when:

- components are always stocked in the same location for a given parent assembly. The same gateway work center may be used to produce a given parent assembly and components are stocked at the work center.

- several work centers produce the same product and components are stocked at each of the work centers. The gateway work center on the order allows components to be backflushed from the work center associated with the order.

Bill of Material Location

Units completed at the operation or receipt of the parent item deducts component quantities from the predefined location specified on the bill of material. Use this method, for example, when a component is used in:

- several operations to make one parent assembly and is stocked at a different location at each operation
- several parent assemblies and may be required at different locations depending on the parent being produced

Resource and Backflushing Policies

Control-point backflushing requires **Resource Component** = 2 or 3 on the CNFG (System Installation Setup) screen.

Control-point backflushing can be controlled on an item-by-item basis for lot-traced items. Use **Backflush Policy** = Y, on the Item Lot Trace and Serialization Detail screen, to indicate the item can be backflushed as a component.

Inventory and Bills of Material

- Each inventory location should be identified and clearly labeled with a unique stockroom and bin number and assigned an inventory code. You can define one stockroom-bin location for storing all inventory balances or you can track inventory by specific bins in several stockrooms.
- Define inventory locations to be used for backflushing component quantities.
- Physical and procedural controls should be established for inventory move transactions. The IMTR (Inventory Move) screen is used to transfer inventory to different locations.
- Review your bills of material to ensure that they accurately reflect how your products are planned and built.

The bill of material can be used to reference backflush locations printed on the picklist. You can use the **Backflush Location** field on the Bill of Material Detail screen to reference the location. The location entered on the Bill of Material Detail screen is carried over to the Picklist Detail screen when the order-dependent bill of material is created. You can also reference backflush locations on the picklist using the **Pt Use** (point of use) field on the BILL (Single Level Bill) screen.

See "Delivery of Components to Backflush Locations" for more information on using these bill of material suggestions on a picklist.

The bill of material is also used to indicate if scrap should be included in the backflushing operation. The selection is carried over to the Picklist Detail screen when the order-dependent bill of material is created.

Control-point backflushing uses an operation's **Seqn** number and all prior **Seqn** numbers to determine which component quantities to backflush. Verify that **Seqn** numbers in bills of material support this feature if you plan on using control-point backflushing. See "Control Point Reporting" for a sequence number example.

Preparing Your Data for Loading

Backflush Locations

Backflush locations are defined on the LMMT (Location Master) screen,

- Enter a stock, bin and description for each location.
- Enter WC in the **Stk** field for each work center location if you are using the gateway work center method.

Specify a location for each parent item, component item or bill of material structure, based on your backflushing method. These locations are summarized as follows:

Backflushing Method	Location Related to	Field	Screen
Floor Stock Location	N/A	Parameters	BKFL/BKSV
Component Preferred Location	Component	Preferred Loc	Item Master Planning Detail
Gateway Work Center	Parent Order	Gateway WC Gateway WC	Item Master Planning Detail MOMT/MOAN/ MSMT
Bill of Material Location	Parent/Comp Order/Comp	Backflush Location Backflush Location	Bill of Material Detail Picklist Detail

For the floor stock location method:

Identify the backflush location as a parameter when you set up the BKFL or BKSV task.

For the component preferred location method:

Specify the backflush location for each component item. Use the item's Item Master Planning Detail screen to identify the **Stk** and **Bin** in the **Preferred Loc** field.

For the gateway work center method:

Specify the normal work center for each parent item. Use the item's Item Master Planning Detail screen to identify the work center in the **Gateway WC** field. The entry for the **Gateway WC** field must be the value of the work center's **Bin** field on the LMMT screen.

Use the MOMT (Manufacturing Order) screen to clear the **Gateway WC** field on the Default-Order. Orders that do not specify a gateway work center allow the parent's **Gateway WC** to be used to backflush component quantities. The **Gateway WC** can be overridden when an order is created for the parent on the MOMT, MOAN (Planner Action) or MSMT (Master Scheduling Maintenance) screen.

For the bill of material location method:

Use the Bill of Material Detail screen to specify a **Backflush Location** and the **Backflush Scrap** indicator for each component in a single-level bill of material. The **Backflush Location** and **Backflush Scrap** can be overridden for the order-dependent bill of material on the Picklist Detail screen.

Note: A warning message appears if you try to change the backflush location to a location that does not exist on the LMMT (Location Master) screen.

Backflushing Options

Determine how you want to operate backflushing. The task options are:

Task	Configuration Required
BKFL	available for any configuration; processes all transactions since the last time the BKFL task was run
BKSV	client/server configuration; processes transactions continuously during the day by having a dedicated workstation running the BKSV task

Loading Your Data

Once your data has been prepared for entry, use this section to load your data into the Repetitive Manufacturing module. For all backflushing methods, you identify backflush locations, move inventory to these locations and include the BKFL (Backflushing) or BKSV (Backflushing Server) task in your daily batch process.

A **validation tool** is identified for each screen or task listed in this section. Use the validation tool to double-check the accuracy of the data you have entered. Validation tools include:

- **Screen reports.** Create these reports by choosing **Print** from the **File** menu. For more information, see "Screen Reports" in the Fourth Shift Basics manual.
- **Print screens.** When other report options are not available, you can capture an image of your screen and use it to validate your data entry. For more information, see "Using the Print Screen Key" in the Fourth Shift Basics manual.

Other validation tools, such as batch processes and data extracts, may also be listed.

1. Review Policies

Screen/Task	Module	Description	Validation Tool
CNFG	SYSM	Verification: Resource Component = 2 or 3.	print screen
Item Lot Trace and Serialization Detail	INVM	lot-traced items with backflush enabled using Backflush Policy field	print screen

2. Identify Backflush Locations

Screen/Task	Module	Description	Validation Tool
LMMT	INVM	location for each parent item, component item or bill of material structure, based on backflushing method	Screen report

3. Move Inventory into Locations

Screen/Task	Module	Description	Validation Tool
IMTR	INVM	inventory move into backflush locations	SSII or SSIL

4. Set Up the Backflushing Task

Screen/Task	Module	Description	Validation Tool
BKFL or BKSV	RPTM	batch process: backflushing	Screen report from BSET

Suggestions for Using the Module

The ways in which the Repetitive Manufacturing Module is used vary from company to company. The following guidelines may be helpful for using the Repetitive Manufacturing Module in your company.

Delivery of Components to Backflush Locations

You can produce a picklist for each parent item to assist in the efficient delivery of components to backflush locations. By using the Picklist Detail screen, you can enter a text message for each component indicating its backflush location. If you have used the Bill of Material Detail screen to enter text for a component, this text message is displayed on the Picklist Detail screen based on the order-dependent bill, but can be overridden. The text message is printed for each component on the picklist.

Parent Item Receipt

Parent	To Location	Screen	Receiving/Issue Type
Manufactured	stock	MO Receipt/ Reverse	E
Custom product	stock	CO Receipt/ Reverse	E
Custom product	staged	PICK	E
Custom product	mode of transport (shipped from WIP) Stk-Bin = none	PICK	E
Sub-contract (Ln# Typ = S)	stock	PORV	E

Parent Item Reverse Receipt

Note: Reverse backflush transactions can be completed only when the on-line history for the original backflush transaction is available. On-line history is not available after the AUDP (Item History Purge) task has deleted the history.

Reverse issue transactions (**Issue Type** = X) on the PICK (Picklist) screen do not reverse backflush component quantities.

Parent	From Location	Screen	Receiving Type
Manufactured	stock	MO Receipt/ Reverse	Y
Custom product	stock	CO Receipt/ Reverse	Y
Custom product	staged	CO Receipt/ Reverse	Y
Custom product	mode of transport	CO Receipt/ Reverse	Y
Sub-contract (Ln# Typ = S)	stock	PORV	Y

Control Point Reporting

Receipt

Use the Picklist Detail screen to report completed units at the operation (component type = R) and optionally flag the operation for post-deducting components.

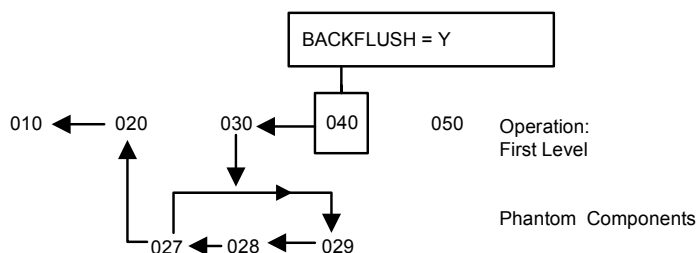
- Use **Backflush** = N and enter the **Equiv Qty** to report production status only.
- Use **Backflush** = Y and enter the **Equiv Qty** to report production status and flag the operation for post-deducting components.

Backflush = Y changes to **Backflush** = N after the BKFL task is run.

The **Equiv Qty** is the total number of parent units which can be produced from the units completed at the operation to date. For example, if four wheel assemblies are required for one lawnmower and 100 wheel assemblies are completed to date, the **Equiv Qty** = 25. The **Equiv Qty** is then used as the basis for post-deducting components.

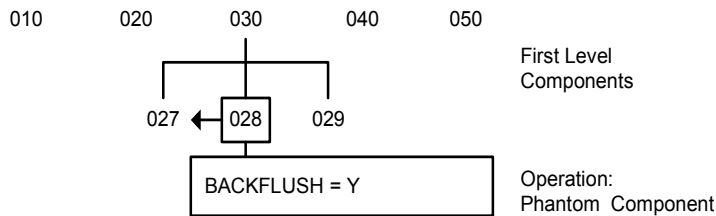
Control-point backflushing can occur at any level in an order-dependent bill of material. You can flag a first-level operation or an operation that is a component of a phantom.

- Flagging a first-level operation post-deducts all the components at the operation's sequence number and all prior sequence numbers, including any phantom components.



- Flagging an operation that is a phantom component post-deducts all the components at the operation's sequence number and all prior sequence numbers at the component level.

Control-point backflushing does not go up a level and backflush other components or phantoms.



Control-point backflushing is independent of the issue or reverse issue quantity that can be entered manually for operations or components.

1. Go to the PICK screen, scroll to the operation for which you want to report production status and go to the Picklist Detail screen.
2. Use the **Backflush** and **Equiv Qty** fields to report production status and optionally flag the operation for control-point backflushing.

Reverse Receipt

To reverse receive a control-point backflush transaction, use the Picklist Detail screen to reduce the **Equiv Qty** to the correct value. Then, indicate that backflushing transactions are required using **Backflush = Y**.

Backflushing Process

Component quantities are backflushed and reverse backflushed based on the parent's order-dependent bill of material. Receipt transactions generate backflush transactions based on receipt quantity and the quantity of the component required for each parent. For example, backflush quantities for a receipt of 100 parents would look similar to the following:

Receipt Quantity	Component Quantity Required	Quantity Backflushed
100	1	100
100	.5	50

Remaining required component quantities are backflushed based on issues or backflush transactions to date.

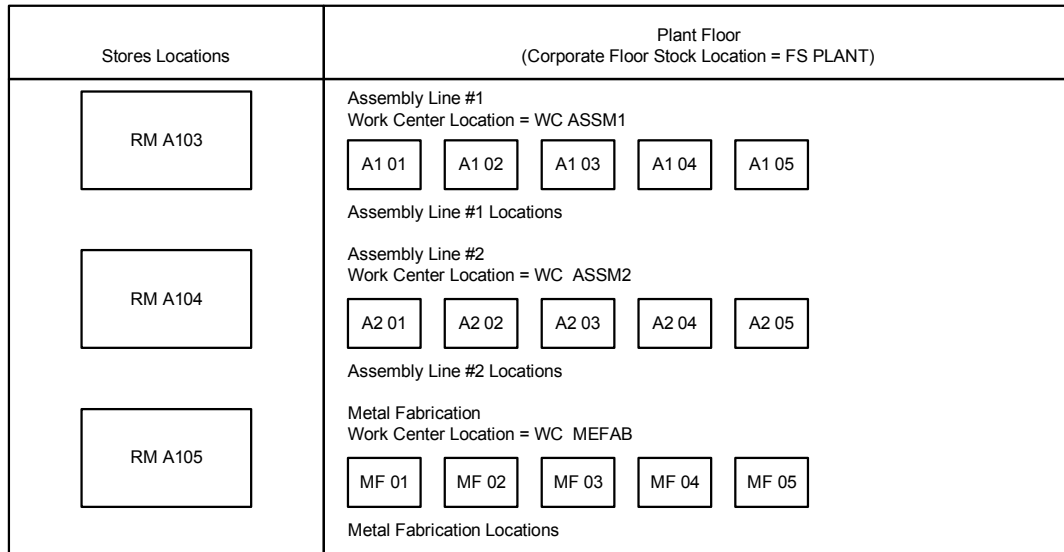
The BKFL and BKSX tasks verify that lot-traced items can be backflushed (**Backflush Policy = Y**). The component quantity is then compared to the lot-related quantities for the item.

- When one lot exists, the item is backflushed from the lot. The lot-related quantity can be greater than or equal to the component quantity.
- When multiple lots exist, the total quantity of all lots for the item in the specified location must be less than or equal to the component quantity. In this way, it can be determined that all the lots that exist for the item can be backflushed.

If the total quantity of all lots for the item in the specified location is greater than the component quantity, the specific lots from which to backflush cannot be determined and no items are backflushed. In this case, move lots that you do not want to backflush to another location, using the IMTR (Inventory Move) screen, before running the BKFL task. You can also manually issue component quantities and specify the lots on a component-by-component basis.

Results can be viewed on-line using the SSIL (Stock Status Inquiry by Location) screen for each location or the SSII (Stock Status Inquiry by Item) screen for each component.

For example, suppose the location layout of a plant is as follows:



Item 51-55 is one of the components for item 18-LM, the 18" lawnmower. Locations have been identified as follows:

Backflushing Method	Item	Field	Value
Floor Stock Location	N/A	Parameters	FS PLANT
Component Preferred Location	51-55	Preferred Loc	RM A103
Gateway Work Center	18-LM	Gateway WC	WC ASSM2
Bill of Material Location	51-55	Backflush Location	A2 05

An order for ten 18-LMs has been released to the floor, creating an allocation for ten 51-55 components. The current inventory quantities and allocations for item 51-55 are shown below.

Stk Bin	IC	Quantity	Value
A2 05	O	100	190.00
FS PLANT	O	100	190.00
RM A103	O	100	190.00
WC ASSM2	O	100	190.00

The order for ten 18-LMs has been completed. After receiving the lawnmowers using **Receiving Type** = E on the MORV screen, the BKFL task issues ten units of item 51-55 from locations according to the backflushing method.

Backflushing Method	Issue Location
(F) Floor Stock Location	FS PLANT
(P) Component Preferred Location	RM A103
(W) Gateway Work Center	WC ASSM2
(B) Bill of Material Location	A2 05

For example, using the floor stock method, the inventory and allocations for item 51-55 show the following reductions:

Stk Bin	IC	Quantity	Value
A2 05	O	100	190.00
FS PLANT	O	90	171.00
RM A103	O	100	190.00
WC ASSM2	O	100	190.00

Using the component preferred location method, the inventory and allocations for item 51-55 show the following reductions:

Stk Bin	IC	Quantity	Value
A2 05	O	100	190.00
FS PLANT	O	100	190.00
RM A103	O	90	171.00
WC ASSM2	O	100	190.00

Using the gateway work center method, the inventory and allocations for item 51-55 show the following reductions:

Stk Bin	IC	Quantity	Value
A2 05	O	100	190.00
FS PLANT	O	100	190.00
RM A103	O	100	190.00
WC ASSM2	O	90	171.00

Using the bill of material location method, the inventory and allocations for item 51-55 show the following reductions:

Stk Bin	IC	Quantity	Value
A2 05	O	90	171.00
FS PLANT	O	100	190.00
RM A103	O	100	190.00
WC ASSM2	O	100	190.00

Backflushing Scrapped Quantities

Scrapped quantities can be backflushed automatically or can be entered manually. Scrap quantities are backflushed based on the **Backflush Scrap** field on the Bill of Material Detail screen. Scrap quantities are calculated for the order-dependent bill requirements based on the **Scr Pct** field regardless of the value specified in the **Backflush Scrap** field.

- **Backflush Scrap** = Y. Scrap quantities are automatically included in the component quantities backflushed.
- **Backflush Scrap** = N. Scrap quantities are not included in the component quantities backflushed.

The **Backflush Scrap** field can be modified on the Picklist Detail screen on a line-by-line basis.

For example, if a component requirement for a parent item is 20 and **Scr Pct** = 10, the following information is backflushed:

Backflush Scrap	Component Items Required	Scrap Quantity	Quantity Backflushed
Y (yes)	20	2	22
N (no)	20	2	20

Any necessary scrap quantities must be issued manually when **Backflush Scrap** = N. Backflush transactions must be processed before you issue the scrap quantities manually. The following steps are required to issue the scrap quantities.

The order line item must be **Ln# Sta** = 4 in order to issue scrapped component quantities. If the autoclose capability is used in your system, use the following to change the **Ln# Sta**.

- Change **Ln# Sta** = 4 on the MOMT (Manufacturing Order) screen if you need to issue scrapped component quantities for a manufacturing order and **Autoclose Manufacturing Orders** = Y on the CNFG (System Installation Setup) screen.
 - Change **Ln# Sta** = 4 on the COMT (Customer Order) screen if you need to issue scrapped component quantities for a shipped custom product order and **Activate Autoclose Capability** = Y on the SHCF (Shipping Configuration) screen.
1. Receive the parent quantity using the MO Receipt/Reverse, CO Receipt/Reverse or PORV screen.
 2. Backflush the component quantities for the receipt using the BKFL or BKSX task. The backflush tasks accumulate transaction information and then process the cumulative impact.

3. Use the PICK (Picklist) screen to issue the scrapped component quantities. Scrap quantities are calculated based on the component quantity * **Scr Pct** for the order and are already reflected as a component requirement on the PICK screen.

Over and Under Issues

When the actual issue quantity of components does not equal the order-dependent bill of material quantity backflushed, inventory quantities need to be adjusted accordingly. You can use the PICK screen to reflect an over or under issue of components. Use the PICK screen:

- after the parent has been received complete
- after running the BKFL or BKSX task
- before running the OVAR (Close Order Analysis/Order Variance) task
- before running the CSTU (Actual Cost Update) task in update mode (average actual costing systems only)

For an over issue, use **Issue Type** = I to issue the additional component quantities to the order.

For an under issue, use **Issue Type** = X to reverse issue the necessary component quantities from the order.

We recommend that you use specific tolerance limits with the OVAR task when run on a daily basis. See "OVAR" in the *Management Reports* manual for more information.

Module Communication

Financial transactions are created as a result of backflushing component quantities. These financial transactions are placed in a communication file for transfer to the general ledger using the GLMQ (G/L Module Communication) task in the General Ledger Module.

A **Trans Code** identifies each transaction. Both the BKFL and BKSX tasks use the following **Trans Codes**.

Trans Code	Description
BKFLCI	CO Issue
BKFLCX	CO Reverse Issue
BKFLMI	MO Issue
BKFLMX	MO Reverse Issue
BKFLPI	PO Issue
BKFLPX	PO Reverse Issue

See "Financial Transaction Detail" in the *System Administration* manual for more information.

System Administration

The System Administration manual outlines the tasks involved in maintaining Fourth Shift . The Repetitive Manufacturing Module includes special considerations in the area of system recovery.

The BKSX (Backflushing Server) task processes transactions continuously throughout the day. These transactions are also recorded in the ARCHIVE.FIL file throughout the day. Backflush transactions created by the BKSX task are automatically recovered using the PICK (Picklist) screen when the RCVR (System Recovery) task is executed.

Transactions produced by the BKFL task are also recovered automatically using the PICK screen during system recovery. The BKFL task does not need to be rerun manually.

BKFL – Backflushing

The BKFL (Backflushing) task deducts component quantities from inventory, reduces allocations, updates actual order costs, prints a Backflush Issue Reconciliation Report identifying exception conditions related to an undefined location or insufficient component inventory and creates corresponding financial transactions to be transferred to the general ledger.

Run the BKFL task after you have received parent items or reported units completed at an operation.

As an option, you can use the BKSX (Backflushing Server) task to provide on-going backflush transactions during normal daily operations. The BKFL and BKSX tasks perform the same transactions.

Reports

Backflush Issue Reconciliation Report

Identifies exception conditions related to an undefined location or insufficient component inventory.

Access Method

To generate the report, execute the task as part of a batch process on the BEXE screen. For more information on reporting in general, see "Printing and Reporting" in the Fourth Shift Basics manual.

Report Template

This report is not a template-based report.

Task Reference

Parameters

To request Backflushing, enter the BKFL task as one of the sequenced tasks in a batch process. See "Batch Processing" in the System Administration manual for the task prerequisites and processing frequency.

The BKFL task has the following parameters:

Task Parameter	Format	Entry Is...
1: Backflush Location	P, B, W or F	Required
2: Floor Stock Location	SXX-XXXXXX	Required if Parameter 1 = F
3: Backflush Component Types	R T	Optional (default = no backflushing of resource or tool components)
4: Backflush Posting	N, E or A	Optional (default = all backflush postings)

Parameter 1: Backflush Location

Based on the method used for backflushing, specify the source location of the items to be backflushed—component preferred location (P), bill of material location (B), parent gateway workcenter (W) or floor stock location (F).

Parameter 2: Floor Stock Location

If you choose floor stock as your source location method in Parameter 1, you must identify the specific stock-bin of the item.

Parameter 3: Backflush Component Types

Choose to include resource (R) and/or tool (T) components in the backflushing process. If you do not specify R or T, the process will skip these component types and they will not be backflushed.

Parameter 4: Backflush Posting

Choose to include only new postings, existing postings with exceptions or all backflush postings. If you do not specify any format, all backflush postings are included.

Example

For example, to request Backflushing as the first task in the process using the floor stock location of FS-PLANT, the **Seq Num**, **Task** and **Parameters** fields in the task line are entered like this:

```
01 BKFL F SFS-PLANT A
```

Entry Field	Example Value	Description
Seq Num	01	First task in process
Task	BKFL	Backflushing
Parameter 1	F	Floor stock method
Parameter 2	SFS-PLANT	Stk-Bin identifier of floor stock location
Parameter 4	A	All postings

After you have received parent items or reported completed units at the operation, run the BKFL task. To run the BKFL task, use the BEXE (Batch Process Execution) screen to execute the process in which the BKFL task is entered. Check the LOG file produced if the BKFL task does not execute successfully.

The Backflush Issue Reconciliation Report is printed as part of the BKFL process. See "Backflush Issue Reconciliation Report Error Messages" under Overview in the help for the BKFL task for detail on specific messages.

Component quantities are backflushed based on the parent's order-dependent bill of material. Remaining required component quantities are backflushed based on issues or backflush transactions to date.

The BKFL task verifies that lot-traced items can be backflushed (**Backflush Policy** = Y). The component quantity is then compared to the lot-related quantities for the item.

- When one lot exists, the item is backflushed from the lot. The lot-related quantity can be greater than or equal to the component quantity.
- When multiple lots exist, the total quantity of all lots for the item in the specified location must be less than or equal to the component quantity. In this way, it can be determined that all the lots that exist for the item can be backflushed.

If the total quantity of all lots for the item in the specified location is greater than the component quantity, the specific lots from which to backflush cannot be determined and no items are backflushed. In this case, move lots that you do not want to backflush to another location, using the IMTR (Inventory Move) screen, before running the BKFL task. You can also manually issue component quantities and specify the lots on a component-by-component basis.

Results can be viewed on-line using the SSIL (Stock Status Inquiry by Location) screen for each location or the SSII (Stock Status Inquiry by Item) screen for each component.

Backflush Issue Reconciliation Report Error Messages

The Backflush Issue Reconciliation Report lists error messages related to undefined locations or insufficient component inventory. Error message formats depend on the backflushing method used.

BACKFLUSH TERMINATED DUE TO MULTI-USER CONTENTION, PLEASE TRY AGAIN

A multi-user lock was found on database information which was required to complete the backflush transaction. Verify that no other users are accessing the information and retry the backflush process. If this error was encountered while the BKSv (Backflushing Server) task was running, the BKSv task retries this backflush transaction during the next processing cycle.

INSUFFICIENT STOCK: IN LOCATION

Component quantities found in the specified location are less than the issue quantity required. Use the IMTR (Inventory Move) screen to transfer inventory to the location and run the BKFL (Backflushing) or BKSv (Backflushing Server) task again or use the PICK (Picklist) screen to manually issue component quantities that were not picked.

INVALID BILL LOCATION

INVALID LOCATION TO REVERSE BACKFLUSH

INVALID PREFERRED LOCATION

INVALID WORK CENTER LOC FOR ITEM

INVALID WORK CENTER LOC ON ORDER

These messages are produced when a **Stk-Bin** identifier specified is not found on the Location Master. Use the LMMT (Location Master) screen to identify the location and run the BKFL or BKSv task again.

MISSING BACKFLUSH HISTORY

You have tried to reverse backflush components and the original backflush transaction information has been purged by the AUDP (Item History Purge) task. Use the PICK (Picklist) screen to reverse pick the components.

MULTI-USER CONTENTION GETTING ORDER, PLEASE TRY AGAIN

MULTI-USER CONTENTION, TRY AGAIN

A multi-user lock was found on database information which was required to complete the backflush transaction. Verify that no other users are accessing the information and retry the backflush process. If this error was encountered while the BKSv (Backflushing Server) task was running, the BKSv task retries this backflush transaction during the next processing cycle.

MULT. LOTS EXCEEDING REQUIRED QTY

You are trying to backflush a lot-traced item. The total quantity of all lots for the item in the specified location is greater than the component quantity. The specific lots from which to backflush cannot be determined and no items are backflushed. Move lots that you do not want to backflush to another location, using the IMTR (Inventory Move) screen, before running the BKFL or BKSv task again. You can also manually issue component quantities using the PICK (Picklist) screen and specify the lots on a component-by-component basis.

NON-LOT INVENTORY EXIST IN LOCATION

Inventory was found at the specified location that is not attached to a lot number. Use the IMTR (Inventory Move) screen to either move the inventory to a different location or to attach the inventory to a lot number.

NO QTY IN WORK CENTER LOC FOR ITEM

NO QTY IN WORK CENTER LOC ON ORDER
NO QUANTITY IN BILL LOCATION
NO QUANTITY IN CORP STOCK LOCATION

These messages are produced when component quantities are not found in the specified location. Use the IMTR (Inventory Move) screen to transfer inventory to the appropriate locations and run the BKFL (Backflushing) or BKSv (Backflushing Server) task again.

NO QUANTITY IN PREFERRED LOCATION

This message is produced when the order-dependent bill of material includes a phantom. Use the AUDT (Item History Audit) screen to locate on-hand balances and determine what happened to the inventory. Use the MOMT (Manufacturing Order) screen to create an order to make the phantom part and receive it into stock using the Manufacturing Order Receipt/Reverse screen. Use the PICK (Picklist) screen, as an alternate, to pick the lower components.

ORDER IS POSTED FOR DEFERRED PROCESSING—RUN DEFERRED UPDATE (DEUP)

You are exploding and rescheduling orders in a batch mode using the DEUP (Deferred Update) task and the order being received needs review. Run the DEUP task to explode or reschedule the order before running the BKFL or BKSv task again.

Troubleshooting

The following suggestions might be helpful when components are not backflushing.

Check the Backflush Issue Reconciliation Report and resolve any messages.

Type = E

Determine if the receipt/issue transaction was performed using **Receiving Type = E** or **Issue Type = E**. Use the AUDT (Item History Audit) screen for the parent item to verify the MORV, CORV, PORV or SHIP transaction. If **Receiving Type = R** or **Issue Type = I**, perform a reverse transaction for the parent and then a transaction using **Receiving Type = E** or **Issue Type = E**.

Receipt/Issue Quantity

If some, but not all, of a component's required quantity is backflushing, check the receipt/issue quantity. Use the AUDT screen to verify the transaction. Record the quantity. Use the PICK screen to verify the component required quantity. The quantity backflushed is based on the parent receipt/issue quantity and any previous component issues.

Component Addition

If a component is added to the order-dependent bill of material (using the PICK screen) after a receipt/issue is made, the component does not backflush. Use the AUDT screen to display the PICK transaction for the component. Note the date and time of the transaction. Then use the AUDT screen for the parent to display the receipt/issue transaction. Compare the date and time. If the PICK transaction is after the receipt/issue transaction, the component was not posted for backflushing. Use the PICK screen to manually issue the component.

Order Quantity Change

Be certain the order quantity for the parent is not zero. If the order quantity was ever changed to zero, the component required quantity was changed to zero. Changing the order quantity back to greater than zero does not automatically change the component required quantity. The component required quantity must be changed manually using the PICK screen. If the component required quantity is currently zero, no units are backflushed.

Perform a reverse receipt/issue of the parent and then close the line. Open a new line with the correct order quantity and receive/issue the parent again. The components are now posted for backflushing.

BKSV – Backflushing Server

The BKSV (Backflushing Server) task deducts component quantities from inventory, reduces allocations and updates actual order costs. Corresponding financial transactions are created to be transferred to the general ledger. A Backflush Issue Reconciliation Report identifies exception conditions related to an undefined location or insufficient component inventory.

The BKSV task provides on-line backflushing for all manufacturing and custom product orders posted for either backflushing or reverse backflushing. You can use the BKFL (Backflushing) task to perform the same transactions periodically rather than perpetually.

The BKSV task also performs the order explosion, order rescheduling and operation rescheduling normally completed by the DEUP (Deferred Update) task when **Deferred Update** = Y on the CNFG (System Installation Setup) screen. The DEUP task is not a prerequisite to using the BKSV task, like it is for the BKFL task, because the deferred update processing is completed automatically by the BKSV task.

Exception conditions detected while the BKSV task is running are evaluated only once. Transactions identified as exceptions are not reevaluated until the BKSV task is halted and started again.

See the "BKFL (Backflushing)" online help for detail on specific messages and troubleshooting tips.

Parameters

To request the Backflushing Server process, you enter the BKSV task as one of the sequenced tasks in a batch process. See "Batch Processing" in the System Administration manual for the task prerequisites and processing frequency.

Note: A dedicated workstation is required to use the BKSV task. Transactions are processed continuously during the day by this dedicated workstation.

The BKSV task has the following parameters:

Task Parameter	Format	Entry Is...
1: Backflush Location	P, B, W or F	Required
2: Floor Stock Location	SXX-XXXXXX	Required if Parameter 1 = F
3: Backflush Component Types	R T	Optional (default = no backflushing of resource or tool components)
4: Wait Period	M99	Required

Parameter 1: Backflush Location

Based on the method used for backflushing, specify the source location of the items to be backflushed—component preferred location (P), bill of material location (B), parent gateway workcenter (W) or floor stock location (F).

Parameter 2: Floor Stock Location

If you choose floor stock as your source location method in Parameter 1, you must identify the specific stock-bin of the item.

Parameter 3: Backflush Component Types

Choose to include resource (R) and/or tool (T) components in the backflushing process. If you do not specify R or T, the process will skip these component types and they will not be backflushed.

Parameter 4: Wait Period

Specify the waiting time, in minutes, before checking for any new backflush or deferred update transactions. Valid waiting periods include 1-99 minutes. The BKSv process runs continuously and processes the transactions available each time the wait period cycle is completed. Parameter 4 is required.

Example

For example, to request Backflushing Server as the first task in the process using the floor stock location of FS-PLANT and a wait period of 15 minutes, the **Seq Num**, **Task** and **Parameters** fields in the task line are entered like this:

```
01  BKSv  F  SFS-PLANT  M15
```

Entry Field	Example Value	Description
Seq Num	01	First task in process
Task	BKSv	Backflushing Server
Parameter 1	F	Floor stock method
Parameter 2	SFS-PLANT	Stk-Bin identifier of floor stock location
Parameter 4	M15	Waiting period

To run the BKSv task, use the BEXE (Batch Process Execution) screen to execute the process in which the BKSv task is entered. Check the LOG file produced if the BKSv task does not execute successfully.

The BKSv task runs continuously until you press ESC to halt processing. The Backflush Issue Reconciliation Report prints periodically while the BKSv task is running but does not complete printing until after the BKSv process is halted. See "Backflush Issue Reconciliation Report Error Messages" in the BKFL (Backflushing) online help for detail on specific messages.

Component quantities are backflushed based on the parent's order-dependent bill of material. Remaining required component quantities are backflushed based on issues or backflush transactions to date.

The BKSv task verifies that lot-traced items can be backflushed (**Backflush Policy** = Y). The component quantity is then compared to the lot-related quantities for the item.

- When one lot exists, the item is backflushed from the lot. The lot-related quantity can be greater than or equal to the component quantity.
- When multiple lots exist, the total quantity of all lots for the item in the specified location must be less than or equal to the component quantity. In this way, it can be determined that all the lots that exist for the item can be backflushed.

If the total quantity of all lots for the item in the specified location is greater than the component quantity, the specific lots from which to backflush cannot be determined and no items are backflushed. In this case, move lots that you do not want to backflush to another location, using the IMTR (Inventory Move) screen, before running the BKSv task. You can also manually issue component quantities and specify the lots on a component-by-component basis.

Results can be viewed on-line using the SSIL (Stock Status Inquiry by Location) screen for each location or the SSII (Stock Status Inquiry by Item) screen for each component.

Reports

Backflush Issue Reconciliation Report

Identifies exception conditions related to an undefined location or insufficient component inventory.

Access Method

To generate the report, execute the task as part of a batch process on the BEXE screen. For more information on reporting in general, see "Printing and Reporting" in the Fourth Shift Basics manual.

Report Template

This report is not a template-based report.