Infor Distribution FACTS 7.9 Using the ICC070 Costing Procedures

FACTS Technical Documentation

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Using the ICC070 Costing Procedures

Important Points:

1. ICC070 must be used regardless of whether or not the customer is using LIFO/FIFO costing.
2. As of 7.8, all customer systems must maintain either LIFO or FIFO layers – the layers do not have to be use for costing, but they must be maintained.
3. The disb_params$ (called different things in different places) is a string template that holds file channel information as well as things like warehouse, item, transaction types, quantities, costs, UMs, etc. This template is created by SMTMPL;dim_disbursement_params.
4. There are multiple important procedures in ICC070, including:
   a. INIT_ICC070, which is used to open channels in the disb_params$ string template.
   b. The main procedure (i.e. no line label), which is used to create and maintain both receipts and disbursements and must be called with the appropriate values set any time ICWHSE's on-hand or ICLOTS's committed or on-hand is updated.
   c. Multiple MAP_ procedures, which are used to set the transaction-specific values in both disb_params$ and icrdst$ for calling the main procedure. These procedures are used to improve consistency between the many places that utilize ICC070, but it is not required that they be used. In some cases, manually setting the variables may be necessary if the source data isn't already in the standard variables or string templates.
   d. DEALLOCATE, which is used when a line is being deleted entirely. It removes all appropriate ICRDST records, and restores any consumed cost layers. It should be used when the line being deleted is a disbursement of inventory, not a receipt of inventory.
   e. REMOVE_RECEIPT, which is used when a line is being deleted entirely. It removes all appropriate ICRCPT records. It should be used when the line being deleted is a receipt of inventory, not a disbursement of inventory.
   f. GET_COST, which is used to get the unit cost of the cost layers that would be consumed at that time but does not actually allocate the cost layers.
   g. PROCESS_ON_HAND_RECEIPTS. This routine is called automatically when a receipt is of goods is made available for use if the receipt is already complete. This is either by having a receipt flagged as Complete automatically, in the case of an Adjustment, or by reducing a quantity needed for a disbursement. This procedure should also be called when a receipt of inventory is marked as complete. This procedure looks for any existing over shipments and resolves them with the current receipt if possible.
   h. REMOVE_ALL, which is used when an ICWHSE record is being removed entirely. This procedure removes all cost layers and disbursements for the given warehouse and item.
   i. CONVERT_FROM_TO_UM_COST, which receives disb_params$ (which is only used for file channels – no other variable in disb_params$ are used) and converts

the given cost (value$) from the um_from$ to the um_to$ and returns the new cost in the ret_value$ variable.

j. COST_CONVERSION, This routine will convert the incoming DISB_PARAMS.QUANTITY$ and DISB_PARAMS.QTY_UM$ to smallest. It will also populate the DISB_PARAMS.QTY_MASK$ with the long cost mask. The DISB_PARAMS.COST$ and DISB_PARAMS.COST_UM$ will be converted to the specified output unit of measure. If the output unit of measure is blank or "C" or invalid output_um$, the cost and um are converted to current costing unit of measure for the specified item.

k. SET_ICWHSE_LAST_DISB_DATE, which is used to update the ICWHSE last_disb_date$ variable so that usage is recalculated properly the next time the R1 background procedure is run.

l. UPDATE_GL_DISBURSEMENT_COST, which is used by the cost discrepancy register to update the given disbursement's gl_cost$ and updates the source document's cost (e.g. SOPIND, SORSOL, ICADJH, ICTRNL, etc.).

m. UPDATE_INVOICE, which assigns the invoice number to the receipts and/or disbursements for a given sales order line and its components and respective serial or lot numbers when the invoice number is assigned during invoice print.

n. CLOSE_FILES, which is used to close all of the channels maintained in the disb_params$ string template. This procedure should be used anytime the INIT_ICC070 procedure is used to avoid leaving file channels opened.

The Main Procedure

This procedure is the primary one, and the most important one for you to understand. It is used for both receipts of inventory and disbursements of inventory, and it is used for some non-inventory transactions.

The main procedure is primarily used to update ICRCPT (receipts or cost layers) and ICRDST (disbursements against cost layers and usage transactions).

Prior to calling the main procedure, the proper mapping must be completed based on the document type. This involves setting variables in the disb_params$ and icrdst$ string templates, and yes, the icrdst$ variables must be set even when doing a receipt of inventory.

The basic starting point for the procedure is identifying the type of document being processed and the specific identifying parts of that document. The valid types of documents and the values that identify the specific line are:

Type	Description	Document #	Invoice #	Receipt #	Line #	Component Line #	Serial/Lot #
SO	Sales Order	SO Doc #	Invoice #	n/a	SORSOL Line #	SOBOMS Comp Line #	SOLOTS or SOBLOT Serial/Lot #
MC	BOM Finished Item Production	Production Ticket #	n/a	n/a	n/a	n/a	MCBLOT Serial/Lot # (line # 000)

Type	Description	Document #	Invoice #	Receipt #	Line #	Component Line #	Serial/Lot #
	(MCBPDH)						
MC	BOM Component Items (MCBPDL)	Production Ticket #	n/a	n/a	Comp Line #	n/a	MCBLOT Serial/Lot #
PC	BOM Production Credit Component Items (negative production)	Production Ticket #	n/a	n/a	Line #	n/a	n/a
MF	Formulation Finished Item Production (MCFPDH)	Production Ticket #	n/a	n/a	n/a	n/a	MCFLOT Serial/Lot # (line # 000)
MI	Formulation Ingredient (MCFPDI)	Production Ticket #	n/a	n/a	Line #	n/a	MCFLOT Serial/Lot #
MP	Formulation Packaging (MCFPDP)	Production Ticket #	n/a	n/a	Line #	Pkg Line # 2	MCFLOT Serial/Lot #
FC	Formulation Credit Component Items(negative production)	Production Ticket #	n/a	n/a	Line #	Pkg Line #2	n/a
TR	Warehouse Transfer	Ticket #	n/a	Shipment #	Line #	n/a	ICTRNS Serial/Lot #
SR	Service Order	Doc #	n/a	n/a	SRWPTS SO Line #	SRWPTS Parts Line #	Serial/Lot #
AD	Adjustment	Adjustment GUID	n/a	n/a	n/a	n/a	ICADJH Serial/Lot #
WH	Warehouse Balancing	GUID	n/a	n/a	n/a	n/a	Serial/Lot #
PO	Purchase	PO Doc #	n/a	Receipt #	PORPOL	n/a	POLOTS

Type	Description	Document #	Invoice #	Receipt #	Line #	Component Line #	Serial/Lot #
	Order				Line #		Serial/Lot #
LS	Lost Sale	SOLOSL GUID	n/a	n/a	n/a	n/a	n/a
US	Usage Only Transaction	n/a	n/a	n/a	n/a	n/a	n/a
CR	SO/CM Usage Credit	SO Doc #	Invoice #	n/a	SORSOL Line #	SOBOMS Line #	n/a

Beyond identifying the document and line, there are many document/line –specific variables that must be set/mapped, and we will review each of these in the mapping section below.

When calling the main procedure, it is not necessary to represent the **change** in the line values from previous calls. The procedure accepts the quantities provided as the current state of the line and will update the cost layers and/or disbursements as needed. For example, if the line is being changed from 10 EA to 4 EA, you only need to send in 4 EA – if the line was already consuming 10 EA of cost layers, the extra 6 EA cost layers will be released.

The main procedure recognizes the document type and quantities to determine whether the line is a receipt or a disbursement – there is no need, in most cases, for you to tell ICC070 whether to do a receipt of a disbursement, except in the following case:

Since there is not a separate type for a BOM finished item and a BOM component item, the action$ variable is used to indicate what is taking place. "R" means a receipt of inventory (for the finished item) and "C" is a disbursement of inventory (for the component items).

Typically the call to ICC070's main procedure takes place just before or just after the update to ICWHSE. In the case of serial / lot numbers, the call to ICC070 will be during serial / lot entry for the shipped quantities. Prior to FACTS version 7.8.5, the committed serial / lot quantity was written to the cost layers during assignment. For version 7.8.5 and later, the committed quantities are not written to the layers, and the call to ICC070 is made when the quantity required is shipped. .

In addition to documents that update ICWHSE on-hand or ICLOTS committed or on-hand values, there are cases where ICC070's main procedure should be called when no warehouse quantities are impacted, for example:

- Direct ship sales order lines call this procedure because these lines may in fact generate usage and hits, and direct ship disbursements get matched up with direct ship purchase order lines.
- Direct ship purchase order lines and direct ship sales order lines call this procedure.
- Lost Sales are recorded by the ICC070 main procedure because they represent potential usage.
- Usage-only transactions, like a credit memo line that credits usage to a specific warehouse and date, use this procedure.

Note: If disb_params.action$ is set to "A", the main procedure acts the same as the GET_COST procedure and only returns the current cost as it would be *if* the disbursement were processed, but no cost layers are impacted. This is a feature that will be eliminated, so it should not be used.

The main procedure returns the unit cost, being the weighted average of the consumed cost layers. Note: The variable returned is always returned with a 16-character mask. If your program needs it in a smaller mask, you should do that after the call is complete.

MAP Procedures

There are many mapping procedures in ICC070 that are used to set the variables in disb_params$ and icrdst$ before using the main procedure and other procedures. Each of these procedures assumes that the values of the document/line being updated are already in specific variables, usually a string template.

For example, MAP_SO_TO_ICRDST receives SORSOL$ and SORSOH$ and sets the proper disb_params$ and icrdst$ values. In order for this to work, the values in the string templates passed in must accurately reflect what should be updated. In the order entry programs, the values are in SLFILE$ when the pre_write or post_write procedures are run, but other times, the values are often in other variables.

Throughout FACTS you will find places where the MAP procedure is used to set most of the values, but after performing the MAP procedure and before the call to ICC070, some values may be changed. The critical thing is that the proper variables in disb_param$ and icrdst$ are set to the proper values prior to calling ICC070.

DEALLOCATE and REMOVE_RECEIPT

The DEALLOCATE and REMOVE_RECEIPT procedures are used when lines from various document types are removed. Both procedures receive two string templates both of which are DIM'd with the disb_params$ string template. The variables used are mapped similarly to those used for the main procedure, but the specifics are as follows:

The first template is used primarily for access to the file channels, but specific variables must be set:

- Item_num$
- Qty_mask$
- Quantity$
- Receipt_num$
- Serial_lot_num$
- Type$
- Warehouse$
- Force_complete

The second template requires the following variables be set:

- Catalog_item$
- Comp_line$
- Disb_doc$

- Disb_invoice$
- Disb_line_num$
- Receipt_num$
- Serial_lot_num$
- Temporary_item$
- Type$

DEALLOCATE also requires the variable qty$ be sent in as a separate value on the call/enter list.

GET_COST

The GET_COST procedure should only be used for items that are in the ICWHSE file. You should not call this procedure for catalog, temporary, or uninventoried items. It requires the following be set:

- Disb_params$ mapped as follows:
    - File channels
    - Cost_um$
    - Qty_um$
    - Serial_lot_num$
- Action$ - not used
- Qty$ - the quantity in the disb_params.qty_um$
- Ret_cost$ - set to the default cost to be used (typically last cost) in disb_params.cost_um$ This is the only value returned by this procedure.
- Item$ - the item number
- Whse$ - the disbursement warehouse
- Cost_mask$ - set to the proper cost mask for the disb_params.cost_um$
- Qty_mask$ - set to the proper quantity mask for the disb_params.qty_um$

UPDATE_INVOICE

The UPDATE_INVOICE procedure receives two disb_params$ string templates and the variable LINE$.

The first string template is used for the file channels only.

The second string template should be mapped as follows:

- Disb_doc$ set to the Sales Order Document #
- Disb_invoice$ set to the invoice #
- Type$ set to "SO"

LINE$ should be set to either a specific SORSOL line number or to "{ALL}" to update all lines on the given sales order.

SET_ICWHSE_LAST_DISB_DATE

Using the SET_ICWHSE_LAST_DISB_DATE procedure requires the following values be passed in:

- Icwhse – the channel the ICWHSE file is opened on (if 0, the file will be opened and closed)
- Icwhse$ - the variable dimensioned to the ICWHSE string template (if not DIM'd the procedure will get the string template)
- Warehouse$ - the warehouse
- Item$ - the item number
- Last_disb_date$ - the date to set the field to if the current value is not an older date