

AIMS/ERPtm

Shipping Management

Specifications & Guide to Use

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Shipping Management

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Picking & Issuing Functions

AIMS/ERP Pick, Staging, and Shipping Overview

AIMS/ERP Release/Pick/Pack/Stage and Shipping flow is built around several key concepts:

Partial Order Release - only the items that are scheduled to be shipped in the current activity period are selected from the customer's order, analyzed for credit limit clearance, and placed in a separate table for processing.

Staging Function - AIMS/ERP supports picking orders, and moving repaired units into a staging area. This supports a standard process regardless of payment method for the Order, i.e., prepayment required versus open account. It also prevents the inadvertent shipment of items before payment has been processed, allowing payment processing of the correct amount, taking backordered items into consideration. It also allows the use of complex staging methods without requiring alteration of the standard flow of events within AIMS/ERP.

Controlled Shipping - all shipments are from a Staged area, and include financial processes where appropriate. Function is designed to allow simple addition of consigned item handling, handling of serial numbered items and other functions without major modification of the current software.

The actual functions currently in AIMS/ERP in this area include the following steps and functions as summarized below:

- Order Release - Places the order's items and quantities in the TOBEPICKED table. Rejects items for open account customers and orders that would exceed credit limits. Picklists and picking report data are taken from this table's data.
- Pick to Order - Items are picked per the pick list and issued from perpetual on-hand inventory balance and staged to the Order, added to the STAGED table. A cross reference list in the Inventory record for each part number is maintained, showing order numbers and quantities staged for that order number. The system prints a carton ID label, allowing the picked items to be packed into shipping cartons and moved to the Shipping staging area. Name and address labels are not printed at this point for most order types to allow processing of the correct amount for credit card purchases once the items have been picked, and to prevent inadvertent shipping of items where payment or open account status is not verified.
- Return from Staging to Inventory (when needed) - this transaction is simply the reverse of the Pick to Order transaction, removing item(s) from an order and the STAGED table, adding them back into perpetual inventory.
- Prepayment processing - Staging
- Ship Staged Orders - shipping function removes items from STAGED table, creates SHIPMENTS record for items shipped, prints shipping labels and documents,

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including COD tags if needed, updates ORDERS and ORDERDTL data for items and quantities shipped. For Prepaid and COD payment terms, shipping function also creates INVOICES record and CUSBAL transaction. Open account shipments are invoiced by the Invoice Generation program, which can invoice multiple shipments to the same order and customer together.

- Ship Repair Orders - this shipping function is similar to the shipping of items picked for sale, but returns the customer's unit and associated property, also generating INVOICES and CUSBAL transactions for prepaid or COD payment terms orders for repair services and parts and in all cases, a SHIPMENT records. Shipping documents are generated as well. Associated Repair Order, Order, Order Detail and Unit History data are updated also.

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Pick/Issue Order To Staging

CHANGED 2/6/95
 CHANGED 1/11/95
 CHANGED 4/6/95

Screen Data:

Pick/Issue/Ship Window:

Order No. x-----x Customer Name x-----x

L/I	Part No.*	Desc<*	To Be Pick Qty<*	W/H No.	Pick From Loc'n	Qty Picked & Shipped
*						
x	x-----x	x-----x	x-----x	x--x	xx-xx-xx	x-----x
x	x-----x	x-----x	x-----x	x--x	xx-xx-xx	x-----x
x	x-----x	x-----x	x-----x	x--x	xx-xx-xx	x-----x
x	x-----x	x-----x	x-----x	x--x	xx-xx-xx	x-----x
x	x-----x	x-----x	x-----x	x--x	xx-xx-xx	x-----x

Number of Cartons & labels to print xxx

Internal Notes x-----x
 x-----x

*Display only fields

Functional Logic

2/3/95 Change Summary

Added Pending Prepayments Table (PREPMTS) updated process and revised calculation method for STAGEDAMT. Removes stored STAGEDAMT in ORDERS record, using the PREPMTS record instead if a prepayment is needed.

End Change Summary

1/11/95 Change Summary

Changed: Inventory table update consists of incrementing the STAGEQTY for each part number by the quantity picked and moved to the STAGED records for this order. (No M/V list).

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Changed: Inventory Transaction History Transaction Code is changed from COIS to CSTG, as COIS is already in use and has a different meaning.

Changed: STAGED record update process is altered. One record is generated for each item picked & staged, i.e., the STAGEQTY will always be 1. The number of records for a Part Number & Qty picked is therefore the number that was Picked. So, if a Pick Qty is 4 for an item, there will be four individual STAGED records.

End Change Summary

4/6/95 Change Summary

Added - logic for No Charge Terms Type. If the Terms Type is NOCHG, no PREPAYMENTS record is generated; the related process is skipped.

End Change Summary

NOTE: This program performs the initial portion of the combined pick, issue, ship, invoice generation that the current PICKORD program does. Otherwise, it works the same in the screen handling, updating of the Order, Order Detail, Inventory and Inventory Transaction History records. In developing it, the existing code should be used, modified to update the STAGED table instead of performing the shipment & invoicing processes. These will be performed using the data added to the STAGED table instead, which will allow inserting of the pre-payment process between pick/issue and the ship/invoice steps. As such, this program has no functions involved with invoicing or payments.

NOTE: Use of a previously printed pick list is optional with this program.

This program has two modes of operation, selectable by either entering an Order Number in the field on the window, or by pressing the F2 key which initiates the Order selection/automatic retrieval process. The modes are:

1. Entry of a specific, known order number that is to be picked and shipped. This allows a shipping sequence other than first in, first out, or sequential.
2. Sequential, which uses the TOBEPICKED record ID, which is in the sequence that the items were released for picking to select the order numbers to be picked.

In either case, this screen allows a one-step display of the items to be picked, entry of the exact quantity picked/issued, and when all items on the order have been entered (including zero quantities, if none are available), to generate in one step the updating of the TOBEPICKED table, as well as the ORDERS, ORDERDTL, INVENTORY, SHIPMENTS, and CUSBAL tables for this order.

The subsequent steps in the process are the same. Each item displayed on the screen a Pick From Location and a Qty Picked & Shipped must be entered. When all records for this order number in the TOBEPICKED table have had some quantity value entered, the

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F9 key initiates the save process, which updates all related data records and generates the printed carton identification label, using the format shown below. This label is used to identify each carton picked/issued and reported as staged with this program. Carton ID numbers are also assigned and appear on the label to differentiate each carton on the same order. Detailed steps are described below.

Entry - For each line item on the Pick list (if used), the Issue From location must be entered. Pressing the F2 key brings a popup window containing the current inventory record data for the Part Number, including location and quantity at that location. Entry or selection from the popup is allowed. The quantity issued for this Order and line item cannot be greater than the quantity remaining to be picked in the TOBEPICKED record for this line item and order, and may not be a negative quantity, but may be zero, to indicate a backorder.

Entry of all line items is required before the screen can be saved and processed.

When entry is complete, the F9 key is pressed, and the program initiates the Save process, which includes:

- Revalidates the customer order number and warehouse number.
- Revalidates the quantity validations for the Quantity Picked & Shipped.
- For each line item performs the following processes to update all related records for this order:

Inventory Update - for each TOBEPICKED record belonging to this Order number and processed on this window, the program performs the following:

- The Inventory Update process is skipped if the Line Item Type Code = "W", extended Warranty type sale.
- If the Quantity Picked & Issued is greater than zero, retrieves the Inventory record for that part number and subtracts the Quantity Picked & Shipped from the Location entered for that line item/part number, using the Warehouse Number entered on the initial entry screen.

1/6/95 Change

- Scans the Staged M/V List, Staged Order number (STGORD), and associated Staged Quantity (STGQTY) in the INVENTORY record to attempt to locate an already present line for this Order Number. If present, adds the Quantity of this Part Number being issued to staging to the previous value of Staged Quantity. If there is no line, one is added.
- Creates an Inventory Transaction History record for the issue transaction, containing the issue from warehouse and location, part number, and Quantity Picked/Shipped as the transaction quantity. The before and after update balances

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are retrieved and posted to the transaction history record. Transaction Type Code is COSG(Customer Order Stage).

End 1/6/95 Change

Order Update - this process involves updates to records in all three tables that are related to the Order number. Some apply to each line item, and some to the order as a whole. They include:

- For each TOBEPICKED record belonging to this Order number and processed on this window, the program performs the following:
 - Adds the Quantity Picked & Shipped to the previous value in the Pick Quantity (PICKQTY) field of the TOBEPICKED record. If the PICKQTY = the RNPQTY for this Order Number (ORDNUM), the record is deleted from the table at the end of this process.
 - Retrieves the ORDDTL record for the line item and adds the Quantity Picked & Shipped to Quantity Picked (QTYPICK), and Quantity Shipped (QTYSHIP) fields for that line item, using the oldest Ship Date record first. If there are multiple ORDERDTL records for the same Line Item No. and PART, and the Quantity Picked/Issued with this screen will cause the QTYPICKED for any given ORDERDTL record to exceed its associated ORDQTY, then the excess is posted to the next ORDERDTL record's QTYPICKED, subject to the same test. If the Quantity Picked/Issued for any given line item number is greater than the quantity remaining as unpicked for all ORDERDTL records for that line item number, then the process is aborted, as there is a software problem elsewhere in the system that has allowed a TOBEPICKED record's QTYRNP to be greater than it should be.
- For the ORDER record, the status is updated by checking to see if all ORDDTL records for this order have been flagged as completed. If they have, then the STATUS in the ORDER record is changed to PC (Picked Complete). If not, the status remains REL, released for picking and shipping.

4/6/95 Change:

If the TERMS Type in the ORDERS record is a NOCHG type, then the calculation of the STAGEDAMT and PREPAYMENTS record generation process is skipped. The program proceeds directly to the generation of the STAGED records for the order. No PREPMTS record is written, and no search for CUSBAL PAY type records is performed.

End 4/6/95 Change.

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2/5/95 Change:

If the TERMS type in the ORDERS record is a Prepayment type, then the STAGEDAMT is calculated and a PREPMTS record generated or updated. If the TERMS type is a COD or Open Account type, this process is not performed. The generation of PREPMTS table record replaces the previous stored STAGEDAMT in Orders record and involves these steps:

1. Calculate proforma invoice (amount that would be the the invoice total as calculated by the Invoice Generation routines in either Ship a Staged Order, or INVGEN:

STAGEQTY for each PARTNO in STAGED records
X UNITPRICE in ORDERDTL for that PARTNO.
= Extended Part/Line No. Subtotal
+ Calculated Sales Tax (if applicable, based on Shipping Address using TAXRATE in ORDERS)
= Extended Part/Line Invoice Subtotal

Summed for all PARTNO's in STAGED records for this ORDERNO (regardless of whether placed there by this update process, or that were added to a previous update process).

If INVTOT in related ORDERS record is zero (no previous invoices have been generated), then add the following to the Extended Part/Line No. Invoice Amount from the ORDERS record:

SHIPCHARGE
Sum of ADJAMTs
= ProForma Invoice Total and Staged Amount (STAGEDAMT)

This process delivers the amount of a prepayment that will be needed to clear the staged items on the order for shipment by Ship Staged Orders process.

2. Attempt to retrieve PAY records for the Order Number from the CUSBAL table. If the attempt fails, the process continues with the update or create PRPMTS record process (there are no previous payment records on file for this Order).

If the attempt succeeds, the REMAMT value for each is summed. If the result is greater than or equal to the STAGEDAMT just calculated above, the order already has available prepayment funds to clear the order for shipment and no PREPMTS record is generated. If the result is negative, an additional payment is needed and the PAY record data is carried forward into the PREPMTS record.

3. Update or create a new PREPMTS record via the following steps:

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Attempt to retrieve an existing PREPMTS record for this ORDER.

If this attempt succeeds, previous data for Payment Form, Card Number, Expiration Date and Stage Amount are replaced with current data from the ORDERS record.

If the attempt fails, current data for these fields are created from ORDERS record data.

In either case, the STAGEDAMT just calculated above is the new value of STAGEDAMT in the PREPMT record when it is written.

If PAY record data was retrieved in the preceding step, the IDs of these transactions are the PAYIDS in the PREPMTS record, and the REMAMTS are the associated REMAMT values of each pay record.

The PREPMTS record is written to the table for the Order.

End 2/5/95 Change:

Staged table Update - this table is a new table and is to be built. This program adds and/or updates existing records using the reference table below. Included is the Carton ID number generation & assignment process. This uses an incrementally assigned number taken from a (newly created record) Carton ID Number Global Default Parameter record, which is read, locked, incremented, re-written, and unlocked during the process.

1/11/95 & 11/19 Changes - One record is generated for each Order, Part Number & Staged Warehouse Number picked and staged. All Carton ID's generated are simply written in the first STAGED record, with subsequent records having no Carton ID data. Upon retrieval, the BULKFLAG will be examined to determine whether the Carton ID's are associated or not. Unit ID's, if entered, are associated with a specific PARTNO. Table data below has been modified to reflect this change.

STAGED Data Reference table:

Field Name	S/M	Data Source	Comments
STAGEID	S	Program	Incremental, non-significant record ID; one record for each individual unit issued. normally a STAGEQTY will always = 1.

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BULKFLAG	S	= No	No indicates that the items were picked/issued to a specific Order for shipment as an already assembled grouping. (Yes indicates a bulk issue)
STAGEWH	S	Staged W/H No.	Must be in WH table.
PARTNO	S	ORDERDTL	PART field from each ORDERDTL picked.
STAGEQTY	S	= "1"	Multiple STAGED records accommodate total quantity picked & staged.
UNITID	M	Left Blank	
CARTONID	M	Carton ID Global Parameter Record + 1 for each number.	Enter Carton ID's generated in succession, unassociated with PARTNO in the number of STAGED records needed to store all Carton ID's created. Bulk Flag = N indicates that there is no association.
PALLETID	S	Left Blank	
CONTAINERID	S	Left Blank	
ORDERNO	S	ORDERS record	
ORDLNO	S	ORDERDTL	Line Item number for this PARTNO in associated ORDERDTL record.
ORDTYP	S	ORDERS	
AUDNAME	M	System Logon User-ID	
AUDDATE	M	System Date	
AUDTIME	M	System Time	
ISSUEORDNO	S	Left blank	

2/3/95 Change:

Added Pending Prepayment table update process:
Data Reference Table:

Field Name	S/M	Data Source	Comments
ORDERNO	S	Current Order No	Record ID of the PREPMTS record
PAYFORM	S	Payment Form from PAYMETHODS for the PAYMETHOD for the ORDERS record	Translates PAYMETHOD in the order, into PAYFORM for CUSBAL
CARDNUM	S	ORDERS record	
EXPDATE	S	ORDERS record	

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STAGEDAMT	S	Calculated in program	
AUDTIME	M	System Time	Add line at the end of previous audit lines
AUDDATE	M	System Date	"
AUDNAME	M	System Logon User ID	"
PAYIDS	M	PAY records for this Orders Number in CUSBAL	Retrieved by program from CUSBAL
REMAMTS	M	REMAMT for the associated PAYID	The amount remaining available for this PAY record in CUSBAL for this Order number.
PMTREQD	S	Calculated from: STAGEDAMT minus sum of REMAMTS	Net new prepayment required to clear the order. Accounts for one or more prepayments already entered

End 2/5/95 Change.

Label Format:

Order No. xxxxxxxx	
Cust Name x-----x	
Carton ID x-----x	

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Return From Staging to Inventory

Screen Data

Staged Order Return to Inventory

Staged Cust. Order Number x-----x Status xxx*
Returned Part Number x-----x
Description x-----x* U/M xx*
Staged W/H No. x----x
Return to Warehouse xxxx Location x-----x
Quantity Returned x---x

Transaction Comments x-----x

User ID x-----x* Transaction Date xx/xx/xx* Trans Time xx:xx*

*Display only

Functional Logic

This program accomplishes the reverse of the Pick Orders to Staging process, updating all the records and fields that each line of the Pick Orders process does, but in reverse, allowing an "Unstaging" of part or all of an Order. Unlike the Pick Orders process, however, this program processes only one part number at a time. When it is completed, the part and quantity, with its associated Orders and Order Detail information is returned to the TOBEPICKED table as though the Issue to Stage process had not occurred.

Carton ID's generated with the Pick Orders process are not handled explicitly in this process. The logic of the process will attempt to leave the Carton ID's that were created during the Pick Ordes proces remaining as associated with at least one STAGED record. If the last STAGED record associated with this Order number is returned with this program, the Carton ID's are simply discarded. If there are extra carton IDs, and the remaining (still staged) quantities are shipped, the Ship Orders program will allow discarding of the unused Carton IDs.

Upon selection from the menu, the program displays the window, with the cursor at Order Number. Entry of the order is accepted, and must be associated with at least one record in the STAGED table, that has a BULK flag equal to No/null, indicating that it was created by the Pick Orders program. If there is no such Order number in the STAGED table, the entry is rejected with a message informing the user of this. The Orders table is not checked. Pressing the F2 key brings a popup containing Order Numbers in the STAGED table that have BULK flag values of No/null (orders that are eligible to have

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items returned from Staging with this program). One of these can be selected with the Enter key and brought into the window.

Next the Part Number to be returned from staging to inventory is entered, and must be in the STAGED table associated with the previously entered Order Number. Pressing the F2 key brings a popup containing the Part Numbers in the STAGED table associated with this Order number. One of these can be selected with the Enter key and brought into the window.

Next is the Staged W/H Number field. If all records in the STAGED table with this Order and Part Number have the same Warehouse Number value, this value is entered on the screen automatically, and the cursor moves to the Return To Warehouse Number field, with the default being the same value. Pressing the Enter key accepts the default and moves the cursor to the Location field, which must be a valid location in this warehouse for this part number in the Warehouse/Location table. Any entry in this field must be valid for the Order Type/Warehouse combination in the Order Type Control table, in any case. Normally, this will force the default value to be the only acceptable value.

Next, the quantity to be returned from staging is entered, which may not be negative or greater than the quantity staged for that Order and Part Number, i.e., in the STAGED record. Transaction Comments are an optional entry, and will appear in the Inventory Transaction History record.

Pressing the F9 key initiated the save process, which starts by revalidating all screen entries as defined above. If any fail, the save process is aborted and the program returns the user to the screen with an error messaging explaining the rejected field. Otherwise the updating process continues as follows:

1. All major steps of the updating process are displayed as added lines to a screen message informing the user of the update process.
2. All records involved in the update are retrieved and locked prior to data being written, including obtaining the next Inventory Transaction History record ID and locking it.
3. Attempts to locate a TOBEPICKED record for this Order and Part Number. If one exists, its RNPQTY is incremented by the Quantity Returned. If not present, one is created.
4. The Inventory record for this Part Number is retrieved, and the Staged M/V list updated to reflect the Quantity Returned from the Staged Order Number. If the resulting STGQTY is zero, the line is deleted from the MV list, otherwise it remains.

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5. Locates the Returned to Warehouse & Location line, and if present, adds the Quantity Returned to the previous on hand quantity. If none is present, it is added, with the on hand Quantity being equal to the Returned Quantity.
6. Retrieves the ORDERDTL(s) record that were associated with the Staged Quantity, and subtracts the Returned Quantity from the QTY PICK value. If multiple ORDERDTL records are involved, the Returned Quantity is allocated to the record with the most recent Requested Ship Date value first, proceeding to the next most recent and so on. At no time may the resulting value of the QTY PICK field become less than zero.
7. Retrieves the ORDERS record and sets the STATUS to REL if it is not already in this status. (a previous status could have been PC).
8. The STAGED record for the Order, Part, and Warehouse Number is updated by subtracting the Returned Quantity from the STAGEQTY. If the resulting value is zero, the STAGED record is deleted. Prior to deleting, if the record contains CARTONID data, it is handled as follows:
 - An attempt is made to locate another STAGED record for this Order number.
 - If it is successful, the CARTONID values are written to this record.
 - If there are no other STAGED records for this Order Number, no action is taken, and the carton data is simply deleted with the last STAGED record for the order number.
9. The Inventory Transaction History record is written, containing the previous total on hand balance value, and the new value, reflecting the quantity returned to inventory. The Transaction Type Code is COSI (Customer Order Stage to Inventory).

When the updating process is completed, a message is displayed notifying the user of its successful completion, and displaying the Inventory Transaction History Record ID that was generated for acknowledgement. When the message is acknowledged, the program clears the screen ready for the next transaction.

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Staged Unit ID/SN to Carton ID Entry

Screen Data:

Staged Unit ID/Serial Number Entry
Order No. x-----x
Multiple Units/Carton? Y/N (Default = N)
Carton ID x-----x
Unit ID/Serial No. X-----x

Staged Orders Popup - Fields:

Order Number
Part Number
Staged Quantity
Customer Name

Carton ID Popup - Fields:

Carton ID
Unit ID/Serial Numbers

Functional Logic

Overview - This window associates already picked items in the STAGED table with Carton ID's and Unit ID (Serial Numbers) of specific units in the cartons. It is designed to be used with a wedge-type bar-code scanner. In normal use, all data is available as scannable data from labels affixed to the units and on the Carton ID labels generated during the pick-stage process by AIMS/ERP. The program associates one or more unit ID/Serial Numbers with a given Carton ID, so the packing list can show which serial numbers are in which Carton ID's. Unit ID's are not associated with a specific part number or order line item, nor are the Carton ID's. A single carton ID may contain multiple part numbers, a portion or all of a given shipment. On the Invoice, only Unit ID's are listed, not associated with Carton ID's.

Detailed Steps - When selected from the menu, the program displays the displays the window, with the cursor at Order Number. Steps are:

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- Prompts for entry/scan of Order Number. F2 key calls the Staged Orders popup window from which one may be selected. Order number must be in the STAGED table. If a scanner is used, it must generate a field exit (Enter key) when the value is scanned.
- Multiple Units/Carton? - this field controls the prompt sequencing of the window to allow the scanner to scan a single order number, then a carton ID, then only Unit ID/Serial Numbers one after the other. The 2 modes are:
 - Yes (multiple Units/carton) - Cursor then moves to Carton ID, which is scanned/entered, then to Unit ID/Serial Number. After each successive Unit ID entry, the prompt remains at the Unit ID field to allow entry/scanning of each Unit ID associated with that Carton.
 - No (one Unit/Carton) - Cursor then moves to Carton ID, then Unit ID/Serial Number, returning to Order Number
- Carton ID - Pressing the F2 key brings a list of Carton ID's associated with the Order Number entered. A carton ID is scanned, entered, or selected from the popup.
- Unit ID/Serial Number - No F2 option is available. Each Unit ID associated with a Carton ID is appended, text-style to any preceding Unit ID that has been already entered, separated by a comma or semi-colon. Cursor movement depends on the Multiple Units/Carton question response, either remaining at the Unit ID field or returning to the Order Number field.

When entry for a given Carton ID is completed, the F9 key is pressed, updating the STAGED record data for the entered Carton ID. The screen is cleared and the cursor returns to the Order Number field, ready for entry/scanning of the next Order Number and the next Carton ID.

STAGED record fields updated are:

UNITID - one or more Unit ID's entered and associated with the selected Carton ID in the multi-value list. The program inserts value marks if required to maintain correct association if Carton ID's are selected out of sequence, or if some Carton ID's have no serial numbered contents.

Audit/Update M/V list - key to stack is AUDNAME, entries are added to end of list:

AUDNAME - Current logon User-ID

AUDDATE - Current system date

AUDTIME - Current system time

Shipment Control & Authorization Functions

Ship Staged Orders

CHANGED 12/5/97

Change Summary:

- Added logic to update SHIPMENTS record with Unit ID's associated with Carton IDs from STAGED records used for a given shipment.
- Added logic to update INVOICES record, if one is generated, with UNITID's from SHIPMENTS record.
- Modifications to Packing List and Combination Pack/Invoice print formats to print list of Carton ID's and associated Serial Numbers in body of the format after all line item entries have been printed.
- Call to external subprogram which will retrieve Unit ID's from a generated SHIPMENTS record and create UNITHIST records for each UNITID in the SHIPMENTS record.
- Removal of "UPS" from the Tracker number field label.
- Addition of Document Company Name & Address record to GLOBAL_DEFAULTS that is retrieved and printed on packing list, combination pack list/invoice, and invoice documents. If a preprinted form is to be used, i.e., with company name and address printed on it, this record is simply left blank/null.

End Summary

Screen Data

Ship Staged Orders	
Order No. x-----x	
Carton ID	UPS Tracker No.
x-----x	x-----x
x-----x	x-----x
x-----x	x-----x
Press F9 to generate Packing List/Invoice?	

Report Format - Prepaid Orders:

Co Name & Address

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Packing List /Invoice

Payment Terms x-----x

Invoice No. xxxx
 Invoice Date xx/xx/xx

Billed To:

Shipped To:

x-----x
 x-----x
 x-----x
 x-----x

x-----x
 x-----x
 x-----x
 x-----x

Order No. x-----x Ship Date xx/xx/xx Ordered by: x-----x
 Date Ordered xx/xx/xx Shipped Via x-----x Sales Person x-----x
 Special Shipping Instructions x-----x

L/I	Part No.	Desc.	Unit Price	Tx	Qty Ord	Qty Prev Ship	Quantity Shipped & Billed	Quantity Back-ordered	Ext. Amt
x	x----x	x----x	\$xxx.xx	x	x--x	x--x	x----x	x----x	\$xxx.xx
x	x----x	x----x	\$xxx.xx	x	x--x	x--x	x----x	x----x	\$xxx.xx
x	x----x	x----x	\$xxx.xx	x	x--x	x--x	x----x	x----x	\$xxx.xx
x	x----x	x----x	\$xxx.xx	x	x--x	x--x	x----x	x----x	\$xxx.xx

Carton Ids Unit ID/Serial Numbers
 x-----x x-----x, x-----x, x-----x, x-----x
 x-----x x-----x, x-----x, x-----x, x-----x
 x-----x x-----x, x-----x, x-----x, x-----x

Notes: (customer notes) x-----x

Adjustments*	
Reason	Adj Amt
x---x	\$xxx.xx
x---x	\$xxx.xx

Invoiced Subtotal	\$xxx.xx
SalesTax	\$xxx.xx
Shipping Charge	\$xxx.xx
Adjustment Amt	<\$xxx.xx>
Net TOTAL	\$xxx.xx
Payment Charged	\$xxx.xx

No.	Pmt Amt	Invoices	Inv. Amt	Date	Amt Remaining
x--x	\$xxx.xx	xxx	\$xxx.xx	xx/xx/xx	\$xxx.xx
		xxx	\$xxx.xx	xx/xx/xx	

Report Format - Open Account Orders:

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Co Name & Address

Page xx

Packing List

Shipper No. x-----x

Shipment Date xx/xx/xx

Billed To:

Shipped To:

x-----x
 x-----x
 x-----x
 x-----x

x-----x
 x-----x
 x-----x
 x-----x

Order No. x-----x Ship Date xx/xx/xx Ordered by: x-----x
 Date Ordered xx/xx/xx Shipped Via x-----x Sales Person x-----x
 Special Shipping Instructions x-----x
 Special Shipping Instructions x-----x
 Carton ID's: x-----x,x-----x,x-----x
 Tracker No's x-----x, x-----x, x-----x

L/I	Part No.	Desc.	Unit Price	Tx	Qty Ord	Qty Prev Ship	Quantity Shipped & Billed	Quantity Back-ordered
x	x-----x	x-----x	\$xxx.xx	x	x--x	x--x	x-----x	x-----x
x	x-----x	x-----x	\$xxx.xx	x	x--x	x--x	x-----x	x-----x
x	x-----x	x-----x	\$xxx.xx	x	x--x	x--x	x-----x	x-----x
x	x-----x	x-----x	\$xxx.xx	x	x--x	x--x	x-----x	x-----x

Carton Ids Unit ID/Serial Numbers
 x-----x x-----x, x-----x, x-----x, x-----x
 x-----x x-----x, x-----x, x-----x, x-----x
 x-----x x-----x, x-----x, x-----x, x-----x

Notes: (customer notes) x-----x

Linked Notes:
 x-----x
 x-----x

NOTE: Invoice to follow.

Shipping Label Format:

Label Data Source
 x-----x Order Number
 x-----x Ship To address block from ORDERS record
 x-----x
 x-----x

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x-----x

Functional Logic

Overview

This program accepts entry of a scanned bar-coded Order Number from the label for each carton generated by the Pick Orders program, or by the staging process that results in the same data. UPS Tracker Numbers are input, and then the program performs a financial approval process before generating the Shipments, Invoices & Customer Balance records.

It requires a dedicated, specially equipped workstation which includes a laser printer for printing the various formats for packing lists and/or invoices, and an additional printer for printing shipping name & address labels.

It is designed to be fully automatic, and to not allow shipment of orders that do not meet the criteria (no payment if a prepaid order, or flagged Order or Customer status as on HOLD), and to automatically print shipping documentation, with the formats linked to the Order Types and to payment Terms. COD Orders are processed similarly to Prepaid Terms orders, with an invoice generated at shipment time, but without the checking for the presence of a pre-pay record, but with checking of Financial Status, to stop COD shipment to a troubled account.

The program is intended to ship orders that were picked/issued to the Staging area via the Pick Orders process, in which all items on the order were picked at the same time, and via the Bulk Issue process. The Bulk Issue process uses an series of bar-coded entry processes to associate serial numbers to part numbers, then serial numbers to carton IDs, then carton IDs to the Order Number, which is then ready to be shipped.

STAGED records are normalized at the unit, meaning that only one Unit ID/SN can be assigned to a single STAGED record. For a given order, therefore, there will be one STAGED record for each unit, or Minimum Ship Quantity, if this function is in use.

The program will process the order the same way regardless of how the Staging process was performed, i.e., by retrieving all STAGED records for the Order Number to be shipped, using a B-Tree extract process. Downstream processes including updating of the Order data, shipment record generation, and if a prepaid order, Invoice generation is performed the same way.

Unit History table updating is performed from the posted SHIPMENTS records generated by this program in a process that is called after the SHIPMENTS records are generated. This subprogram runs while the documents are being printed.

Repair Order units are shipped with a separate program.

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NOTE: From a programming point of view, this program includes separate, called subprograms to perform these functions:

Packing List Printing - prints from the SHIPMENTS record
Invoice/Pack List Printing - prints from the INVOICES record

This method involves generating all data to a permanent table, then calling the printing routine that reads this data and prints it out, merely organizing and controlling the format. Reprinting a Packing List or Invoice/Pack List will therefore always result in the same data as the original one.

Detailed Functions

Upon selection from the menu, the program displays the entry screen with the cursor at Order No. The Order Number is entered, either from a wedge-type bar-code scanner, or from the keyboard. The program then performs the following to determine if the Order is shippable. If it is, the program then prompts for entry of the Carton IDs & associated UPS Tracker Numbers applicable to the shipment.

1. Retrieves the STAGED record(s) with the entered ORDERNO. If there are no STAGED records with this ORDERNO, the program beeps the user and displays a rejection message informing the user that the Order is not Staged for Shipment, clearing the Order Number field for the next entry after the message is acknowledged with the Enter key. If the retrieval is successful, the program continues.
2. Retrieves the ORDERS record. If the Order STATUS is HOLD, or CANC, the program beeps the user and displays a rejection message informing the user that the Order may not be shipped because the Order Status is (either) Hold or Cancelled), clearing the Orders Number field for the next entry after the message is acknowledged with the Enter key. If the Order STATUS is not HOLD or CANC, the program continues.
3. If the ORDERS record has a TERMS (Payment Terms) value that is a Prepayment Terms type, as defined in the TERMS table, then the program skips the Open Account financial status checking and instead attempt to retrieve a PAY record type carrying this ORDERNO from the CUSBAL table. If this attempt fails, the program beeps the user and displays a rejection message informing the user that the Order may not be shipped because it is a prepaid order and there is no payment record on file, clearing the Orders Number field for the next entry after the message is acknowledged with the Enter key. If the PAY record is present, and the total REMAMT is greater than or equal to the STAGEDAMT in the ORDERS record, the program continues by performing both the Shipment Process and the Bill Process as defined in steps below.

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4. If the ORDERS record has a TERMS value that is a COD or NOCHG Terms Type, as defined in the TERMS table, then the program attempts retrieval of the FINPROFILE record with this SOLDTO Customer ID. If it is not present, the program continues. If it is present, and the FINSTATUS is HOLD or TERMINATED, the program beeps the user and displays a rejection message informing the user that the Customer's Credit Status does not allow shipping orders, clearing the Orders Number field for the next entry after the message is acknowledged with the Enter key. If it not HOLD or TERMINATED, the program continues by performing both the Shipment Process and the Billing Process, as defined below.
5. For an Open Account TERMS order, using the SOLDTO customer ID in the ORDERS record, the program retrieves the FINPROFILE record with that ID. If the FINSTATUS in this record is HOLD or TERMINATED, the program beeps the user and displays a rejection message informing the user that the Customer's Credit Status does not allow shipping orders, clearing the Orders Number field for the next Order Number entry after the message is acknowledged with the Enter key. If the FINSTATUS is not HOLD or TERMINATED, the program continues by performing the Shipment process below, but not the Billing steps.
6. Shipment Process - includes the following steps:
 - Read all records to be updated and obtain successful record locks, including ORDERS, ORDERDTL, and STAGED records.
 - Obtain and lock new SHIPMENTS record ID.
 - Generate the SHIPMENTS records, as shown in the field source reference table below.
 - Print the Open Account Orders report format (calling the printing subprogram), the Packing List, and Shipping Labels, using the number of labels shown on the screen. Refer to the report field reference table below. While the printer is generating the packing list, the Order data update process is completed, minimizing the user wait time.

If the Order is a Prepayment or COD Terms type, the printed output is not printed from the Shipments table, but from the INVOICES record, so the report is not sent to the printer until the INVOICES record is written.

- ORDERTDTL records are updated, incrementing the QTYSHIP value by the quantity of the item staged and that is being shipped as follows:
 - Retrieves the ORDERDTL records for the PARTNO and updates them, using the oldest REQSHIPDATE first.
 - Adds the Quantity Shipped to the previous value in the QTYSHIP value for the first ORDERDTL record. If there are multiple ORDERDTL records for the same Line Item number and PARTNO, and the Quantity Shipped will cause the

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QTYSHIP to exceed its associated ORDQTY, then the excess is posted to the next ODERDTL record's QTYSHIP, subject to the same test. If the Quantity Shipped for any given line item number is greater than the Quantity Remaining as unshipped for all ORDERDTL records for that line item number, then the process is aborted, as there is a software problem elsewhere in the system that has allowed a STAGED quantity to be greater than it should be.

- The ORDERS record, the status is updated by checking to see if all ORDERDTL records for this order have been flagged as being completely shipped, i.e., QTYSHIP = ORDQTY for each. If they have, then the STATUS in the ORDERS record is changed. If the Shipment is for an order with payment terms that are prepaid, the completed status is BC, (billed complete); if the Shipment is for an Open Account Payment Terms order, the completed status is SC (Shipped Complete). (The Invoice Generation program will change the status, if appropriate to BC [Billed Complete].)
- The Shipment is priced, using the Invoice generation logic, with the total value of the Shipment being added to the previous value of SHIPTOT in the ORDERS record.
- The STAGED records belonging to this ORDERS record, and which are the data source for the Shipment being processed, are deleted from the STAGED table after the Shipments and Order data is written to the table.
- The STAGED data line in the INVENTORY table for each Part Number is deleted, updating the inventory data for this Part Number.

12/7/97 Change

- Calls UHSHIP (Unit History Shipment) subprogram, which performs retrieves the SHIPMENTS record just created and for each value in the SERIALS column and creates a new UNITHIST record with data as shown in the reference table below:

Field Name	S/M	Source	Comment	C?
ID	S	From SERIALS value in the SHIPMENTS record	Identifies unit	*
SERIAL	S	From SERIALS value in the SHIPMENTS record	Identifies unit.	*
EVENT	M	Program, = "SHIP"	indicates an event of shipment of the unit	*
EDATE	M	SHIPMENTS record	Last value in AUDDATE field	*
ETIME	M	SHIPMENTS record	Last value in AUDTIME field	*
ORDERNUM	M	ORDNUM in SHIPMENTS record		*
TOCLASS`	M	ORDNUM in SHIPMENTS record	For display in Unit History window	*

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ECOM	M	Program, = "SHIPPER xxxx" where "xxx" equals the SHIPMENTS record ID	shows which shipper the unit shipped on	*
EUSER	M	SHIPMENTS record	last value in AUDNAME field	*
AUDNAME	M	SHIPMENTS record	last value in AUDNAME field	*
AUDDATE	M	SHIPMENTS record	last value in AUDDATE field	*
AUDTIME	M	SHIPMENTS record	last value in AUDTIME field	*

End 12/7/97 Change.

7. Billing Process - Performed only for Orders with Payment Terms that are NOCHG, Prepayment or COD Type, as shown in the TERMS table. In addition to the steps defined in the Shipment Process, also performs the following:

- Obtain and lock new INVOICES and CUSBAL record ID's.
- Generates the INVOICES record, as shown in the field source reference table below.
- Generates the CUSBAL record for the Invoice, as shown in the field source reference table below. If the Terms Type is NOCHG, the APPLDATE in the CUSBAL INV Type record is also updated with the current system date to indicate that this Invoice is not an open item for payment processing purposes.
- Applies the CUSBAL PAY type record to the Invoice, as defined in the payment application process below. If the Terms are a COD or NOCHG type, the payment retrieval and application process is skipped.
- Prints the Prepaid Orders Packing List/Invoice format, (calling the printing subprogram) as shown in the format above, using the data field reference table below. While the printer is generating the packing list, the Order data update process is completed, minimizing the user wait time.
- Performs the ORDERS and ORDERDTL data update process as defined above.
- Deletes the STAGED records belonging to this ORDERS record, and which are the data source for the Shipment being processed after the Order Data is written.
- The STAGED data line in the INVENTORY table for each Part Number is deleted, updating the inventory data for this Part Number.
- The Total for the INVOICE generated is added to the previous value of INVTOT in the ORDERS record.

When all records are updated, the program clears the screen, ready for the next Order Number entry.

Field Data Source Reference table - SHIPMENTS record

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* in the C? Column indicates that it is associated with most recent program change.

Field Name	S/M	Source	Comment	C?
ID	S	Program	Non-significant, unique incremental record ID	
MANIFEST NAME	M	Left Blank		
ORDNUM	S	Name from ORDERS	Ship to Name	
ADDR	S	ORDNO from entry screen & STAGED record		
CITY	S	SHIPADDR from ORDERS record - street portion		
STATE	S	SHIPADDAR from ORDERS record		
ZIP	S	State portion of SHIPADDR from OREDERS record		
COUNTRY	S	ZIP portion of SHIPADDR from ORDERS record		
CONFDATE	S	= US		
CONFTIME	S	Program	current system date	
AUDNAME	M	Program	current system time	
AUDDATE	M	Program	Logon User-ID	
AUDTIME	M	Program	current system date	
CONFTIME	S	Program	current system time	
CHGAMT	S	SHIPCHARGE from ORDERS record		
PALLETS	S	left blank		
CARTONS	S	Total number of CARTONID's		
WEIGHT	S	left blank		
PART	M	PART from STAGED record		
PARTQTY	M	STAGEQTY from STAGED record		
LISALEUSAMT	M	Qty Picked & Shipped from screen X UNITPRICE from ORDDTL for this LINENUM		

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CARTONIDS	M	CARTONIDS in STAGED records	May be an associated MV list to PART & PART QTY, or simply an unassociated list, depending on STAGED data.	*
CARTONUNITS	M	UNITIDS in STAGED records	Associated text-style string to CARTONIDS; if data is present in STAGED record.	*
VIA	S	VIA in ORDERS record		
TRACKERNOs	M	UPS Tracker Numbers	May be associated with CARTONIDS	
LINKEDNOTES	M	Linked Standard Notes records	Not associated: Used to print standard text on Packing List and/or invoice	
SERIALS	M	UNITIDS in STAGED records for shipment	Not associated with Carton ID	*

Invoice Table (INVOICES) - Data Reference table

* in the C? Column indicates that it is associated with most recent program change.

Field Name	S/M	Source	Comment	C?
INVNUM	S	Program	Next incremental record ID	
ORDNUM	S	ORDNO in STAGED		
SOLDTO	S	CUSTNAME in ORDERS		
BILLTOADDR	M	Bill to Address in ORDERS		
SHIPTOADDR	M	Ship to Address in ORDERS		
TERMSLIST	S	Left Blank		
PRICELIST	S	Left Blank		
TAXPROC	S	ORDERS		
TERMS	S	TERMS in ORDERS		
INVDATE	S	Program	Current System Date	
TOTSHIP	S	Ship Charge from ORDERS		
TOTTAX	S	Total Tax From ORDERDTL's TAX for items billed/shipped		
ITYPE	M	ITYPE from ORDTL for PART	One occurrence for each ITYPE billed	

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OURLINE	M	LINENUM from ORDERDTL for this PART	Key to AMV stack;
POLINE	M	blank	
PART	M	PARTNO from STAGED	
PARTDESC	M	PARTDESC from ORDERDTL for this PART; if blank, use PART_MASTER	
QTY	M	Qty shipped this Shipment & Invoicing process	
UNITPRICE	M	UNITPRICE from ORDERDTL for this PART	for PART & LINENUM
TAX	M	TAX from ORDERDTL for this PART for quantity shipped this process	
SERIALS	M		
BTYBO	M	Remainder of ORDQTY minus QTY	
ORDQTY	M	ORDQTY from ORDERDTL for this PART & LINENUM	
PRDCODE	M	left blank	
SHIPPERS	M	SHIPMENTS record ID for items shipped, Invoiced this process	
CUSTNOTES	S	CUSTNOTES in ORDERS record	
AUDNAME	S	User-ID of person running program	System Logon value
AUDDATE	S	Date invoice record generated	System date
AUDTIME	S	Time Invoice record generated	System Time
ADJCODE	S	ADJCODE in ORDERS record	
ADJAMT	S	ADJAMT in ORDERS record	
PAYIDS	M	Transaction ID(s) of PAY type records in CUSBAL with this ORDERNO	CUSBAL data applicable to this invoice. Blank if not prepaid.
PAYAMT	M	TRANAMT of this PAYID	
OURNOS	M	OURNO list in this PAYID	

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APPLAMTS	M	APPLAMT belonging with associated OURNO for this TRANID	
REMAMT	M	Amount Remaining for this PAYID	
LINKEDNOTES	M	Linked Standard Notes records	Used to print standard text on Packing List and/or invoice
STDMTLCST	M	Standard Material Cost	Std Costs from Part Master
STDLABCST	M	Standard Labor Cost	If I/Type is Services, retrieves Std HRS & Std Rate from SERVICES to calc Std Labor Cost; otherwise from Part Master
STDOMCST	M	Standard O/Mfg Cost	Part Master
STDOVCST	M	Standard Overhead Cost	Part Master
STDBURCST	M	Standard Burden Cost	Part Master
STDFRTCST	M	Standard Freight Cost	Part Master
SERIALS	M	SERIALS in SHIPMENTS record used to create this INVOICES record	Unassociated list of Unit ID's *

Field Data Source Reference table - CUSBAL table Invoice record:

Field Name	S/M	Data Source	Comments
ID	S	Program	Incremental, non-significant ID;
TRANTYP	S	Program = INV	
PROCUSID	S	SOLDTO in ORDERS record	
OURNO	S	Depends on TRANTY: if an INV type, then is INVNUM in INVOICES record; if a PAY then associates with APPLAMT	Used in PAY type records to show payment application to specific invoices, with associated APPLAMT's

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APPLAMT	M	Amount applied to either a Payment type record, or to an Invoices type record	Association depends on type: If PAY type, then associates with OURNO to list invoices paid; if INV type, then associated with THEIRNO to list payments used to pay this invoice.
TRANAMT	S	Program: sum of TOTITYPE lines + TOTAX + TOTSHIP in INVOICES record	
AUDNAME	S	Program	Logon User-ID
AUDDATE	S	Program	current system date
AUDTIME	S	Program	current system time
THEIRNO	M	Credit Card No. or Check No. - minus last 4 digits if PAYMETHOD = a credit card type	
COMMENTS	S	NOTES from ORDERS record	
ORDERNO	S	Order Number from INVOICES record	
ORDERTYPE	S	ORDERTYPE from ORDERS record with this ORDERNO	
APPLDATE	S	Program	If Terms Type is NOCHG, update with current system date

Print Open Account Order Packing List Subprogram - The Pack List is printed, containing the actual quantities shipped. Sources of data are:

* in the C? Column indicates that it is associated with most recent program change.

Field Name	S/M	Data Source	Comments	C?
Billed To	S	BILLTO address in ORDERS	This ORDNUM	
Shipped To	S	SHIPTO address in SHIPMENTS	This ORDNUM	
Order No.	S	ORDNUM in SHIPMENTS	This ORDNUM	
Ship Date	S	1st AUDDATE in SHIPMENTS record		

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Ordered by	S	CUSTCONTACT in ORDERS	This ORDNUM	
Date Ordered	S	ORDDATE in ORDERS	This ORDNUM	
Shipped Via	S	VIA in SHIPMENT record		
Shipper No.	S	SHIPMENT record ID assigned by program		
L/Item	M	OURLINE in SHIPMENTS record	New data field	
Item No.	M	PART in SHIPMENTS		
Description	M	DESC for PART in SHIPMENTS		
Quantity Shipped	M	PARTQTY in SHIPMENTS record		
Notes	S	Linked Notes ID in SHIPMENTS		
Carton ID's	M	CARTONID's in SHIPMENTS record	Key to AMV stack	*
Unit ID/Serial Numbers	M	CARTONUNITS in SHIPMENTS record	String of one or more Unit ID's, separated by commas, associated with a given Carton ID	*

Print Prepaid Order Invoice/Packing List Subprogram- The Invoice/Pack List is printed, containing the actual quantities shipped, with any difference between the RNP Quantity and the Quantity Shipped being shown in the backorder column for the line item. Sources of data for the Invoice/Packing list are:

* in the C? Column indicates that it is associated with most recent program change.

Field Name	S/M	Data Source	Comments	C?
Billed To	S	BILLTO address in INVOICES	This ORDNUM	
Shipped To	S	SHIPTO address in INVOICES	This ORDNUM	
Order No.	S	ORDNUM in INVOICES	This ORDNUM	
Ship Date	S	1st AUDDATE in SHIPMENTS record	Uses SHIPPERS in INVOICE to locate	
Ordered by	S	CUSTCONTACT in ORDERS	This ORDNUM	
Date Ordered	S	ORDDATE in ORDERS	This ORDNUM	

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Payment By	S	PAYMETH in ORDERS, + CARDNUM & EXPMMYY	If Check Number, includes check no.: If Credit Card No, last for digits of CC number are "XXXX"
Shipped Via	S	VIA in SHIPMENT record	
Shipper No.	S	SHIPPER in INVOICES record	
Invoice Number	S	INVNUM in INVOICES record	
Invoice Date	S	AUDDATE in INVOICES record	
L/Item	M	OURLINE in INVOICES record	
Item No.	M	PART in INVOICES	
Description	M	PARTDESC for PART	
Unit Price	M	UNITPRICE in INVOICES	
TX?	M	TOTAX in INVOICES	
Qty Ordered	M	ORDQTY in INVOICES	
Quantity Shipped	M	PARTQTY in SHIPMENTS record	
Quantity Backordered	M	QTYBO in INVOICES	
Ext. Amt.	M	QTY x UNITPRICE for PART	
Sub-total	S	Sum of all Ext. Amt. values	
Tax	S	TAX in INVOICES	
Shipping Charge	S	TOTSHIP in INVOICES	
TOTAL	S	Sum of Subtotal, Tax, & Shipping Charge	
Payment	S	= TOTAL	Changed to retrieve PAY record for this ORDERNO from CUSBAL, use REMAMT to show unapplied amount
Balance Due/Owed	S	= zero	Changed to be calculated from TOTAL minus PAYMENT
Carton ID's	M	CARTONID's in SHIPMENTS record	Key to AMV stack *

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Unit ID/Serial Numbers	M	CARTONUNITS in SHIPMENTS record	String of one or more Unit ID's, separated by commas, associated with a given Carton ID	*
------------------------	---	---------------------------------	---	---

Payment Application Logic

After INVOICES record is generated, and associated CUSBAL record is added, perform Payment Application as follows:

1. Retrieve all CUSBAL records for this ORDERNUM with a TRANTYPE of PAY, and an REMAMT less than zero. This will retrieve all unapplied payments that are prepayments for this order.
2. For each PAY record, select the smaller of Invoice Amount or Amount Remaining on the PAY record. Use the result as APPLAMT for this Invoice in the M/V line in the PAY record and add an applied line to it where:

OURNO = Invoice Number just generated and written.
 APPLAMT = As selected above.

3. Update the associated INV record in the CUSBAL table (where OURNO just updated is the OURNO in the INV type record), with the applied amount:

THEIRNO = THEIRNO from the PAY type record just updated.
 APPLAMT = APPLAMT from the previous process (lesser of Invoice Amount or Amount Remaining from the PAY type record).

NOTE: Before the application process is performed, the records in question would have the following data as an example:

TRANTYP	TRANAMT	ORDERNO	OURNO	APPLAMT	THEIRNO	REMAMT
PAY	<\$100.00> payment amount	1234	blank	blank	888 Customer's check no.	<\$100.00>
INV	\$60.00 Amt Invoiced	1234	65 Invoice number	blank	blank	\$60.00

When the application process is completed, these records would look like this:

TRANTYP	TRANAMT	ORDERNO	OURNO	APPLAMT	THEIRNO	REMAMT
PAY	<\$100.00> payment amount	1234	65	60.00	888 Customer's check no.	<\$40.00>
INV	\$60.00	1234	65	60.00	888	\$0.00

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Amt Invoiced	Invoice number
--------------	----------------

When a second shipment is made against the prepaid order, the pre-application data would look like this:

TRANTYP	TRANAMT	ORDERNO	OURNO	APPLAMT	THEIRNO	REMAMT
PAY	<\$100.00> payment amount	1234	65	60.00	888 Customer's check no.	<\$40.00>
INV	\$60.00 Amt Invoiced	1234	65 Invoice number	60.00	888	\$0.00
INV	\$40.0 Amt Invoice	1234	79 New Invoice Number	blank	blank	\$40.00

When this order's Invoice is "paid for" with the prepayment, the data update would look like this:

TRANTYP	TRANAMT	ORDERNO	OURNO	APPLAMT	THEIRNO	REMAMT
PAY	<\$100.00> payment amount	1234	65	60.00	888 Customer's check no.	\$0.00
			79	40.00		
INV	\$60.00 Amt Invoiced	1234	65 Invoice number	60.00	888	\$0.00
INV	\$40.0 Amt Invoice	1234	79 New Invoice Number	-40.00	888	\$0.00

- If the INV record still has a REMAMT that is greater than zero (i.e., not fully paid for), the process is repeated using a second (or third) PAY record for this ORDERNO until the INV has a zero REMAMT.
- If there are insufficient payments available to drive the INV record's REMAMT to zero, when the update process is completed, display a message, acknowledged with the Enter key, that the Order is not completely paid for.

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Ship Repair Order Units

SCR # 718

CHANGED 4/6/95

Screen Data:

```

Ship Repaired Unit

R/O No. x-----x  Unit ID x-----x
Customer ID x-----x Name x-----x
Order No. x-----x

Multiple Shipment Option: (goes to popup & selection)
Enter Unit ID's to be shipped:
x-----x Pwr Sup. x--x  Acc. Rec'd w/Unit xxx,xxx,xxx
x-----x Pwr Sup. x--x  Acc. Rec'd w/Unit xxx,xxx,xxx
x-----x Pwr Sup. x--x  Acc. Rec'd w/Unit xxx,xxx,xxx

Confirm rec'd items checked x

No. of Carton ID/Shipping Labels to generate  xxx
Enter UPS Tracker Numbers
x-----x
x-----x

Press F9 to generate carton/shipping labels & shipping documents
  
```

Report Format - Prepaid & COD Orders:

Co Name Record

Page xx

Repaired Unit Packing List /Invoice

Invoice No. xxxxx

Invoice Date xx/xx/xx

Billed To:

Shipped To:

x-----x
x-----x
x-----x
x-----x

x-----x
x-----x
x-----x
x-----x

```

Order No. x-----  Ship Date xx/xx/xx  Returned by: x-----x
Rtn Auth Datexx/xx/x  Shipped Via x-----x  Cust Service Rep x-----x
Special Shipping Instructions x-----x
UPS Tracker No's x-----x, x-----x, x-----x
  
```

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RA No.	Repaired Product & Service/ Part No.	SN Desc.	Unit Price	Tx	Quantity Billed	Ext. Amt	Unit Total
xxx-x	xx	x-----x	x-----x				\$xxx.xx
x	x----x	x-----x	\$xxx.xx	x	x----x	\$xxx.xx	
x	x----x	x-----x	\$xxx.xx	x	x----x	\$xxx.xx	
x	x----x	x-----x	\$xxx.xx	x	x----x	\$xxx.xx	
xxx-x	xx	x-----x	x-----x				\$xxx.xx
x	x----x	x-----x	\$xxx.xx	x	x----x	\$xxx.xx	
x	x----x	x-----x	\$xxx.xx	x	x----x	\$xxx.xx	

Notes: (customer notes) x-----x

Linked Notes:

x-----x

x-----x

Adjustments*	
Reason	Adj Amt
x---x	\$xxx.xx
x---x	\$xxx.xx
COD Chg	\$xxx.xx

Invoiced Subtotal	\$xxx.xx
SalesTax	\$xxx.xx
Shipping Charge	\$xxx.xx
Adjustment Amt	<\$xxx.xx>
Net TOTAL	\$xxx.xx
Payment Charged	\$xxx.xx

Payment Data:

No.	Pmt Amt	Invoices	Inv. Amt	Date	Amt Remaining
x--x	\$xxx.xx	xxx	\$xxx.xx	xx/xx/xx	\$xxx.xx
		xxx	\$xxx.xx	xx/xx/xx	

Report Format - Open Account Orders:

Co Name record

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Repaired UnitPacking List

Shipper No. x----x

Shipment Date xx/xx/xx

Billed To:

Shipped To:

x-----x

x-----x

x-----x

x-----x

x-----x

x-----x

x-----x

x-----x

Order No. x-----x	Ship Date xx/xx/xx
Returned by: x-----x	Rtn Auth Datexx/xx/xx
Shipped Via x-----x	Cust Service Rep x-----x
Special Shipping Instructions x-----x	
UPS Tracker No's x-----x, x-----x,	
x-----x, x-----x	

RA No.	Repaired Product	Desc.	Quantity Shipped	Unit ID
--------	------------------	-------	------------------	---------

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x	xx	x-----x	1	x-----x
x	xx	x-----x	1	x-----x
x	xx	x-----x	1	x-----x
x	xx	x-----x	1	x-----x

Notes: (customer notes) x-----x

Linked Notes:

x-----x

x-----x

NOTE: Invoice to follow.

Added:

Shipping Label Format:

Label	Data Source
x-----x	RO Number & Unit ID
x-----x	Ship To address block from ORDERS record
x-----x	
x-----x	
x-----x	

Functional Logic

4/6/95 Change Summary

Modified to add logic for NOCHG Terms Type; essentially the same as for a COD Terms Type. Invoices and CUSBAL records are generated, with CUSBAL INV record's APPLDATE updated, & combination Packing List/Invoice is printed.

End Change Summary

Overview

This program serves a similar function to Ship Staged Orders, in that it checks financial status for open account customers, or for the presences of a prepayment record in order to perform the shipment process. It updates not only Order data, but the Repair Order's data as well, requiring additional and in some cases, different logic as well as variations on the printed packing list & invoice formats.

If a R/O is entered that has "relatives", i.e., other R/O's on the same Order Number, it will prompt for a choice of Shipment Options, which include:

- Ship multiple R/O'd Units on the same Order together, with a single Shipment & related Invoice.

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- Ship multiple R/O'd Unit separately, each having its own Shipment record.

Each unit must have been reported as completed, charges entered, and moved to Shipping in order to be eligible for shipment.

The program performs the following:

- Updates Order Status to either SC (shipped complete) or BC (Billed and Shipped Complete), or if multiple Repair Orders belong to the same order, to a status that is appropriate, i.e., it may remain as REL, if other units on the Order have not shipped yet.
- Updates Repair Order Status to CLSD (Shipped & Closed).
- Creates a Shipment record for the Order and unit(s) shipped together. If multiple unit Repair Orders are in use, multiple units shipped on the same order at the same time are reflected in the same Shipment record.
- If the order was prepaid or COD, an Invoice record and a Customer Balance record is generated at this point, otherwise only a Shipment record is generated.

Detailed Functions

Upon selection from the menu, the program displays the Ship Repaired Unit screen, with the cursor at the R/O Number field. Either the R/O number or Unit ID/Serial Number may be entered. The program will then retrieve the appropriate ROTS record for the unit. It then performs the following checks before displaying the retrieved record's data on the screen and allowing the shipment process to proceed:

ROTS record:

- ROSTAT must be equal to RVWD. If it is not, the Shipment attempt is rejected with an error message explaining what the RO status currently is:
 - If NEW, unit has not been reported received.
 - If OPEN, unit's repairs have not been reported as completed.
 - If DONE, the R/O has not been reviewed and OK'd for shipment.
 - If CLSD, the R/O has been reported as completed.
- There must be an EVENT line reporting the movement of the unit to the Shipping area. If not, it is rejected with an error message informing the user that the unit has not been reported as being moved to the Shipping area.

ORDERS record:

- Using the ORDERNUM value in the ROTS record, retrieves the related ORDERS record and checks its status, which must be equal to REL.
- If it is NEW, SC, or BC, the program rejects the shipment attempt with an error message informing the user that there is a data integrity problem and to contact the

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system administrator before proceeding. (If the Orders record has one of these status values, the ROTS record status should have a corresponding status and trap the user earlier in the program; if this does not occur, there is a relational data integrity problem).

- If it is HOLD or CANC, the program rejects the shipment attempt with an error message informing the user that this unit's Order has been placed on Hold or Cancelled.

TERMS variations:

- Depending on the value present in the TERMS field, performs one of the following actions:
 - Open Account Type - If it is an Open Account TERMS type, uses the SOLDTO ID in the ORDERS record (which must be the same as the PROCUSID in the ROTS record), to retrieve the customer's FINPROFILE record.
 - If the FINPROFILE record's FINSTATUS field has a value of HOLD or TERMINATED, the shipment attempt is rejected, with an error message informing the user that the Customer's Credit Account does not allow shipment and to contact the Credit Department. Otherwise, the program continues, as defined below under Open Account Shipment Processes.
 - Prepayment Type - If the TERMS field in the ORDERS record is a prepayment type, the program first uses the SOLDTO ID to attempt to retrieve a PAY type record having this ORDERNUM/ORDNUM value from the CUSBAL table that has a Remaining Amount that is less than or equal to the STATGEDAMT value in the ORDERS record.

NOTE: This is the amount needed to ship this and any other associated RO units belonging to this ORDERNUM.

If it is not, the shipment attempt is rejected, with an error message informing the user that this unit's prepayment is either not on file, or is insufficient to cover the repair charges.

If STAGEDAMT equals zero, no PAY record is required, as there are no charges due for the repair of this unit, i.e., warranty covered all repairs.

If there is a PAY type CUSBAL record, and the amount is equal or greater than the STAGEDAMT, the program continues, as defined below under Prepayment/COD Shipment & Billing Processes.

Change 4/6/95:

Modified to include NOCHG Terms Type logic.

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- COD or NOCHG Type - If the ORDERS record has a TERMS value that is a COD or NOCHG Terms Type, as defined in the TERMS table, then the program attempts retrieval of the FINPROFILE record with this SOLDTO Customer ID. If it is not present, the program continues. If it is present, and the FINSTATUS is HOLD or TERMINATED, the shipment attempt is rejected with a rejection message informing the user that the Customer's Credit Status does not allow shipping orders. If not HOLD or TERMINATED, the program continues by performing the Prepayment/COD Shipment & Billing processes as defined below.

End Change.

Multiple Shipment Option - Once the ROTS, ORDERS, FINPROFILE and TERMS variations have been processed and passed, the program checks the number of entries in the ROTS field, checking the STATUS of each related ROTS record. If there are multiple R/O's, indicated by more than one ROTS value, and one or more of the others have a status of RVWD, the program displays a popup containing other RO Numbers & Unit ID's for associated ROTS records with a STATUS of RVWD. The user may Escape out of the window, bypassing the option entirely, or select one or more of the displayed RO number lines with the Enter key, pressing F9 to continue. If one or more associated RO's are selected with this process, (indicating that these units are to be shipped together, the program's functions are altered as explained below under Multiple Unit Shipments.

Single R/O Option - If only one R/O number is to be shipped, the process continues by requiring scanning or entry of the Unit ID, after which the associated Power Supply and Accessories Received data for that unit are displayed for confirmation that they have been checked. Next the program accepts entry of the number of Carton ID/Shipping Labels to print, and depending on this response, accept (optional) entry of UPS Tracker Numbers labels. These may be entered with a bar-code scanner.

Multiple Unit Shipments - If there are multiple units and one or more were selected in the popup, the program will perform the same Unit ID entry, display of that unit's associated Power Supply & Accessory data and require confirmation of each as a multi-line list, essentially iterating the Single R/O option sequence for each unit selected for shipment before moving onto the number of carton labels field and allowing entry of the UPS Tracker Numbers. All Units are processed at the same time when the F9 key is pressed, with the same update process applied to each R/O and related Shipment, Invoice, Order and Order Detail records. Other variations depending on Payment Terms Type apply uniformly to all units being shipped together on a single Shipment record. All units must have the same shipment method.

As each UPS Tracker Number is entered, the program verifies that it is the required Shipping Method as shown in the VIA field for the ORDERS record, comparing the number in the middle of the tag, converting to the associated ship method, and comparing

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to the value for the Order. If it is different, the scanned entry is rejected with an error message informing the user that this UPS tag is not for the shipment method requested by the customer.

Common Shipment Processes - These process apply to all TERMS types:

- Reads all records to be updated and obtains successful record locks, including ROTS, ORDERS, ORDERDTL.
- Obtains and locks new SHIPMENTS record ID.
- Generates the SHIPMENTS record, as shown in the field data source reference table below.
- Generates the shipping documents for each TERMS type, as defined below.
- Updates the ORDERS and ORDERDTL records as shown in the field data source reference tables below.
- Updates the ROTS records, changing the STATUS of each R/O shipped to CLSD.

Open Account Shipment Processes - In addition to the common processes, prints the Repaired Unit Shipment Packing List, format shown above, from a called printing subprogram, and the number of Carton ID/Shipping Labels as entered on the screen.

4/6/95 Change:
Modified for NOCHG Terms Type logic.

Prepayment, NOCHG & COD Shipment & Billing Processes - In addition to the common processes, performs the following:

- Obtains and locks new INVOICES record ID.
- Generates the INVOICES record as shown in the field data source reference table below.
- Prints the Repaired Unit Shipment Packing List/Invoice, format shown above, from a called printing subprogram, and the number of Carton ID/Shipping Labels as entered on the screen.

Field Data Source Reference table - SHIPMENTS record

Summary - The shipment record for R/O's contains one line for each unit shipped, with associated product description and Unit ID. Order Detail data is not the source of the Shipments data, the unit(s) being shipped are.

Field Name	S/M	Source	Comment
ID	S	Program	Non-significant, unique incremental record ID

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MANIFEST	M	Left Blank	
NAME	S	Name from ORDERS	Ship to Name
ORDNUM	S	ORDNUM from ROTS record & ORDNUM from ORDERS	
TRACKERNOs	M	UPS Tracker Numbers	
SHIPTOADDR	S	SHIPADDR from ORDERS	
CONFDATE	S	Left blank	
CONFTIME	S	Left blank	
AUDNAME	M	Program	Logon User-ID
AUDDATE	M	Program	current system date
AUDTIME	M	Program	current system time
CONFTIME	S	Left blank	
CHGAMT	S	SHIPCHARGE from ORDERS record	
PALLETS	S	left blank	
CARTONS	S	Total number of Carton/shipping labels printed	
WEIGHT	S	left blank	
PART	M	PRODUCT from ROTS record (or Unit ID)	One Line for each Unit shipped; multiples if multiple RO's are shipped together. Services & Parts sold are not shown as line on Shipment record.Can have multiples of same Product associated with PART lines
DESC (new field)	M	Description for product from PRODUCTS table	
PARTQTY	M	= 1	Associated with Unit ID
LISALEUSAMT	M	SUM of all ORDERDTL Line Numbers with this Unit ID number; Qty X Unit Price	Total Cost to repair this unit, Services & Parts sold; associated with Product
CARTONIDS	M	Program - generated by incrementing Global Parameters Carton ID No.	One for each Shipping Label/Carton ID generated
CARTONUNITS	M	UNITID for RO	This is the ID for each Unit being shipped
VIA	S	VIA in ORDERS record	Shipping method, also used to confirm UPS Tracker No. tag type

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LINKEDNOTES (new field in Orders & Shipments)	M	Linked Standard Notes records - if present in ORDERS record	Not associated: Used to print standard text on Packing List and/or invoice
BILLTOID	S	BILLTO ID from ORDERS, or if blank, SOLDTO	carried forward to speed processing
SOLDTOID	S	SOLDTO from ORDERS	to speed processing

Invoice Table (INVOICES) - Data Reference table

Summary - The Invoice record contains extra lines to structure and associate the Order Detail charges for each Unit being billed on this Invoice. As such, it is not driven from the Shipments record directly, unlike product/parts shipments. Invoicing is also for Services performed in repairing the unit, which are also Order Detail lines.

Field Name	S/M	Source	Comment
INVNUM	S	Program	Next incremental record ID
ORDNUM	S	ORDNUM from ROTS record & ORDNUM from ORDERS	
SOLDTO	S	CUSTNAME in ORDERS	
BILLTOADDR	M	Bill to Address in ORDERS	
SHIPTOADDR	M	Ship to Address in ORDERS	
TERMSLIST	S	Left Blank	
PRICELIST	S	Left Blank	
TAXPROC	S	ORDERS	
TERMS	S	TERMS in ORDERS	
INVDATA	S	Program	Current System Date
TOTSHIP	S	Ship Charge from ORDERS	Applied only to first Invoice on this Order Number.
TOTTAX	S	Total Tax From ORDERDTL's TAX for items billed	
ITYPE	M	ITYPE from ORDTL for PART Extra Line for Product, Description & Unit ID, followed by OrderDtl charge lines, without OURLINE data; refer to printed Invoice format also.	One occurrence for each ITYPE billed Serves as a "heading" identifying the Unit repaired, so following charge lines are associated with the appropriate unit ID.

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OURLINE	M	LINENUM from ORDERDTL for this PART or ROTS record ID for corresponding Unit ID	RO No. is associated with Unit ID; L/I with PART lines for charges to the unit.
POLINE	M	blank	
PART	M	PART from ORDERDTL	Key to AMV stack; also contains Product for unit repaired. Can be a Service; can be duplicated for multiple Units, once for each unit.
PARTDESC	M	PARTDESC from ORDERDTL for this PART; if blank, use PART_MASTER	If ITYPE is Services, and Desc is blank, retrieve from Services Master
QTY	M	Qty sold from ORDERDTL for this Unit	
UNITPRICE	M	UNITPRICE from ORDERDTL for this PART	for PART & LINENUM
TAX	M	TAX from ORDERDTL for this PART	
SERIALS	M	Unit ID for each group of charge lines	
BTYBO	M	Left blank	
ORDQTY	M	Left blank	
PRDCODE	M	Product Code (from Unit ID)	
SHIPPERS	M	SHIPMENTS record ID for repaired units shipped, Invoiced this process	
CUSTNOTES	S	CUSTNOTES in ORDERS record	
AUDNAME	S	User-ID of person running program	System Logon value
AUDDATE	S	Date invoice record generated	System date
AUDTIME	S	Time Invoice record generated	System Time
ADJCODE	S	ADJCODE in ORDERS record	Applied only to first Invoice on this Order Number.
ADJAMT	S	ADJAMT in ORDERS record	Applied only to first Invoice on this Order Number.
PAYIDS	M	Transaction ID(s) of PAY type records in CUSBAL with this ORDERNO	CUSBAL data applicable to this invoice. Blank if not prepaid.
PAYAMT	M	TRANAMT of this PAYID	

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OURNOS	M	OURNO list in this PAYID	
APPLAMTS	M	APPLAMT belonging with associated OURNO for this TRANID	
INVDATES	M	The first AUDDATE of this OURNOS line in CUSBAL	New field, stores the INVOICE date for the rerenced applied line
REMAMT	M	Amount Remaining for this PAYID	Amount Remaining on this PAY line at the time this INVOICE record is generated; if the customer is still owed money/items, this will be positive.
LINKEDNOTES (new field in ORDERS & invoices)	M	Linked Standard Notes records	Used to print standard text on Packing List and/or invoice
		Current Unit Standard Cost data for repeatable cost of sales reporting. Associated line data with PART lines; blank for product identifying unit repaired.	Normally from Part Master, for items billed, or from Service Master
STDMTLCST	M	Standard Material Cost	Std Costs from Part Master
STDLABCST	M	Standard Labor Cost	If I/Type is Services, retrieves Std HRS & Std Rate from SERVICES to calc Std Labor Cost; otherwise from Part Master
STDOMCST	M	Standard O/Mfg Cost	Part Master
STDOVCST	M	Standard Overhead Cost	Part Master
STDBURCST	M	Standard Burden Cost	Part Master
STDFRTCST	M	Standard Freight Cost	Part Master

Field Data Source Reference table - CUSBAL table Invoice record:

Field Name	S/M	Data Source	Comments
ID	S	Program	Incremental, non-significant ID;
TRANTYP	S	Program = INV	

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PROCUSID	S	SOLDTO in ORDERS record	
OURNO	S	Depends on TRANTY: if an INV type, then is INVNUM in INVOICES record; if a PAY then associates with APPLAMT	Used in PAY type records to show payment application to specific invoices, with associated APPLAMT's
APPLAMT	M	Amount applied to either a Payment type record, or to an Invoices type record	Association depends on type: If PAY type, then associates with OURNO to list invoices paid; if INV type, then associated with THEIRNO to list payments used to pay this invoice.
TRANAMT	S	Program: sum of TOTITYPE lines + total ADJAMT + TOTAX + TOTSHIP in INVOICES record	
AUDNAME	S	Program	Logon User-ID
AUDDATE	S	Program	current system date
AUDTIME	S	Program	current system time
THEIRNO	M	Credit Card No. or Check No. - minus last 4 digits if PAYMETHOD = a credit card type	
COMMENTS	S	NOTES from ORDERS record	
ORDERNO	S	Order Number from INVOICES record	
ORDERTYPE	S	ORDERTYPE from ORDERS record with this ORDERNO	
APPLDATE	S	Program	If Terms Type is NOCHG, update with current system date

See Ship Staged Orders for Payment Application Logic explanation details.

ORDERDTL data updates:

QTYSHIP is set to ORDQTY for each line item that has the Unit ID that is being shipped and is either being billed now or will be by INVGEN.

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Print Open Account R/O Packing List Subprogram - The Pack List is printed, containing the actual quantities shipped. Sources of data are:

Field Name	S/M	Data Source	Comments
Shipper No.	S	SHIPMENT record ID assigned by program	
Shipment Date	S	First AUDDATE line date	Creation Date of the record
Billed To	S	BILLTO address in ORDERS	
Shipped To	S	SHIPTOADDR in SHIPMENTS	
Order No.	S	ORDNUM in SHIPMENTS	
Returned by	S	CUSTCONTACT in ORDERS	
Return Auth Date	S	ORDDATE in ORDERS	
Shipped Via	S	VIA in SHIPMENT record	
Cust Svc Rep	S	SALESPERSON in ORDERS	
L/Item	M	OURLINE in SHIPMENTS record	New data field
Repaired Product Description	M	PART in SHIPMENTS	
	M	DESC for PART in SHIPMENTS	
Quantity Shipped	M	PARTQTY in SHIPMENTS record	
Unit ID	M	SERIALS in SHIPMENTS	
Notes	S	Customer Notes in ORDERS	
Linked Notes	S	Linked Notes ID in SHIPMENTS	New field in ORDERS & SHIPMENTS

Print Prepaid R/O Invoice/Packing List Subprogram- The Repaired Unit Packing List/Invoice is printed, showing the units shipped, shipment information, along with all billing lines and amounts for each unit shipped & billed. Sources of data for the Invoice/Packing list are:

Field Name	S/M	Data Source	Comments
Invoice No.	S	Record ID of new INVOICES record	
Invoice Date	S	First AUDDATE line date	Creation Date of the record
Billed To	S	BILLTO address in INVOICES	This ORDNUM
Shipped To	S	SHIPTO address in INVOICES	This ORDNUM

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Order No.	S	ORDNUM in INVOICES	This ORDNUM
Ship Date	S	1st AUDDATE in SHIPMENTS record	Uses SHIPPERS in INVOICE to locate
Returned by	S	CUSTCONTACT in ORDERS	This ORDNUM
Return Auth Date	S	ORDDATE in ORDERS	This ORDNUM
Shipped Via	S	VIA in SHIPMENT record	
Cus Service Rep	S	SALESPERSON in ORDERS record	
RA No .L/I	M	OURLINE in INVOICES record	R/O No. heading & Part line detail structure should be in the INVOICES record.
Repaired Product & Service/Part No.	M	PART in INVOICES	Is either the Product Code for the repaired unit, or the PART line data for the charges.
Description	M	PARTDESC for PART line	
Serial No.	M	Unit ID for Repaired Unit; associated SERIALS value for OURLINE & PART	Printed in same column as Unit Price, but not same data line source in INVOICES.
Unit Price	M	UNITPRICE in INVOICES	
TX?	M	TOTAX in INVOICES	
Quantity Billed	M	QTY in INVOICES record	
Ext. Amt.	M	QTY x UNITPRICE for PART line	
Invoiced Sub-total	S	Sum of all Ext. Amt. values	Not including TAX
Sales Tax	S	TAX in INVOICES	
Shipping Charge	S	TOTSHIP in INVOICES	
Adjustment Amt	S	Sum of ADJAMT's in INVOICES	
Net TOTAL	S	Sum of Subtotal, Tax, & Shipping Charge	
Payment Charged	S	Amount applied from PAY record for this Invoice; should equal Net Total	
Adjustments: Reason	M	ADJCODE in INVOICES	Adjustments box shows detail of Adjustment Amount line; COD charges show here associated with reason
Adj Amt Prepayment data	M	ADJAMT in INVOICES	

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No.	M	Obtained by using PAYIDS in INVOICES to obtain the TRANID in CUSBAL, then the associated THEIRNO value	This shows CC No. (stored minus last 4 digits in CUSBAL) or check no of customer's prepayment
Pmt Amt	M	TRANAMT for associated PAY record/TRANID	Shows gross amount of payment, i.e, amount of check or that his credit card was charged.
Invoices	M	OURNOS in INVOICES for this PAYIDInvoices to which this payment (TRANID) was applied	Shows application of prepayment to previous invoices as well as this one.
Inv Amt	M	APPLAMTS line value for the associated OURNOS line	Amount of this payment applied to the Invoice no.- usually the total invoice amount.
Date	M	INVDATES in INVOICES	
Amt Remaining	M	REMAMT in INVOICES	Amount remaining on the cust's payment as of this invoice.

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COD Tag Print Subprogram

Screen Data:

None - called from other programs

Print Format: (refer to COD Tag for exact alignment):

FROM Address Block:	COD Amt(4)	COD AMT(4)
x-----x		
x-----x	\$xxx,xxx.xx	\$xxx,xxx.xx
x-----x		
x-----x(1)	x-----x(5)	x-----x(1)
x-----x(2)	xx/xx/xx(3)	xx/xx/xx(3)
TO: Address Block:		
X-----X		
X-----X		
X-----X		

Functional Logic

This program is called from either Shipping document program, including the Ship Staged Orders and Ship RO Units program, or a tag reprinting program window. The calling program supplies one or more Order Numbers that this program is to generate tags for. Printing is on an attached printer, loaded with pin-fed continuous form UPS COD tags.

Company Name & Address is taken from a Global Default record, named COADD. It contains in print format, the exact name and address data.

Other data fields are identified by number in the format:

1. Order Number = ORDERNO as entered
2. Terms Description = TERMS in ORDERS records, with associated DESCRIPTION from TERMS table for that Terms Code
3. Date = Current System Date
4. COD Amount = Invoice Total from INVOICE record for this shipment
5. Invoice Number for this shipment.

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Shipment Reversal Transaction

Screen Data:

Shipment Number x-----x
Order Number x-----x*
Invoice Number x-----x*
Shipment Date x-----x*

* Display Only

Fuctional Logic

This program prompts for entry of a Shipment Number, retrieves its associated data for confirmation to the user that the correct shipper is about to be reversed, then performs the reversal processing.

The program updates a new table, CREDITS, which serves to identify products that have been returned in the form of refused shipments. This is distinct from the Return/Repair Order.

Actions include:

Marking the Shippments record as reversed.

Determines if an INVOICES and associated CUSBAL record have been generated, and if so, creates a CUSBAL CM (Credit Memo) record to clear the invoice data

Copying all data in the reversed INVOICES record to the CREDITS table, which is a dictionary field-level copy of the INVOICES table.

Data Reference Tables:

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