AIMS/ERP ™

Customer/Sales Orders Management

Specifications & Guide to Use

Table of Contents

NOTICE

Information contained in this manual are valuable trade secrets and are the proprietary information of AIMS Software, Inc. Readers must agree to preserve the confidential nature of this information, and to not disclose it to others except during normal use in their business, training, sales demonstration or other appropriate setting.

Order Header Entry/Maintenance - All Types

CHANGED 11/2/94
CHANGED 11/30/94
CHANGED 1/3/95
CHANGED 3/28/95
CHANGED 4/21/95

SCR # 707

Screen Data:

```
Order Num x------ x       Order Status xxxx*   Credit Status x----------x* Terms x-------x*
Sold to ID x-----x   Name x----------------------x*     Store Nickname x-----x Types xxxx*
PO No. x-------x          Order Date xx/xx/xx  Contact x---------x   Std Notes xx**        xxxx
Bill  To Address                          Ship To Address               xx      xxxx
x----------------------------------x*     x--------------------------------------x         xxxx
x----------------------------------x      x--------------------------------------x
x----------------------------------x      x--------------------------------------x
x----------------------------------x      x--------------------------------------x


Issue Call Tag(s)  x              Order Taxable? x**
Ship Info: (phone, contact, comments in 1 feld) x---------------------------------------x
  x--------------------------------------------------------------------------------x
  x--------------------------------------------------------------------------------x
  x--------------------------------------------------------------------------------x
```

If PROCUS record is a DLR, and has STORES; PROCUS search engine returns STORE list and forces selection.

** New field

Not used - Shift + F ? brings the Alternate Ship To Address popup (if a STORE, retrieves Store's Alt Addresses:

```
Add rType     St Add       City     State        ZIP
  x---x   x---------------x x--------x     XX XX XXXXX
  x---x   x---------------x x--------x     XX XX XXXXX
  x---x   x---------------x x--------x     XX XX XXXXX
Option:  add a new Alternate Address.
```

Not Used - Alt Phone Selection called with Shift + F? (calls popup gen 'd w/Phone engine)

```
 Type    Phone           Type    Desc
xxxx      x-----------x  xxxx   x-----------------x
xxxx      x-----------x  xxxx   x-----------------x
```

```
xxxx      x-----------x  xxxx   x-----------------x
Option:  Add a new Phone Number.
```

Not used - Contact Maint - called with Shift + F? (calls Contact Engine)

```
                    Contacts

F Name        MI  Last Name       Desc    Phone
x----x            x   x----------x   x-----x    x (calls Phone engine)
x----x            x   x----------x   x-----x    x
x----x            x   x----------x   x-----x    x
Option:  Add a new Contact
```

Removed 3/38/95:
Pre-Payment Window (appears automatically if Cust Type not = Dlr & Credit Status Not = Open Acct),
otherwise can be called with Shift + F? keys.

```
            Pre-Payments
Pay Method  x--------x
Credit Card No.  x----------------x
Exp Date xx/xx
```

Add New Customer Window - Displays with Shift F?

```
            New Customer Entry or Maintenance

Customer ID x-----------x   Type  xxx  (USR  only)*
First Name   z---------x    Last Name x------------x
Co Name   x-----------------------------------x
Street   x-------------------------------x
  x--------------------------------x
City x---------------------------x St xx   ZIP xxxxx-xxxx
Phones x--------------x (engine)            Contact x-------------x (engine)
```

Shift + F? - Label print - prints the Ship to Address shown in the Order Window, but allows entry of different address in the window that is displayed before printing the label.

Shift + F? - calls Unit History window to allow search for any serial number.

Shift + F? - calls Contact History window.

Functional Logic

3/28/95 Change Summary:
Added:

Logic for allowing appropriately controlled changes to Order with a status of other than New.
All new logic for handling Payment Terms selections.
Changes to the Cursor sequence.
End Change Summary.

4/21/95 Change Summary:
No Charge Payment Terms function is modified to:
• Eliminate updating of the Adjustment fields
• Replace with forced updating of the UNITPRICE fields to zero in the ORDERDTL records for the whole order. Original list price is still stored in the STDUPRICE field.
Add new field - Standard Notes. This field is used to store the record ID of an entry in the Standad Notes table. These are "boiler-plate" text that can be appended to an order for unit loans, consignment, exchange or other situations where legally approved wording is to be used that appears on the Invoice informing the customer of the nature of the agreement. The program updates this field via a popup showing Standard Notes entries.
End Change.

Overview

This program is called from more than one menu location. Depending on where it is called from, it is combined with a set of selected softkeys (and associated menu bar options) and the order type(s) that can be generated with it.

It provides generalized name and address search, retrieval, and the ability to add USR and PSP (prospect) type customers only. It also provides for the maintenance of alternate shipping addresses, phone numbers and contact lists directly into the PROCUS record. As each process is completed, the resulting data is also used to update the already built ORDERS header information stored in memory.

When the Order header information has been generated and an order type selected, the program creates the ORDERS record containing the order header information and calls one of several sub-programs that accepts entry of additional data that is stored in either ORDERDTL or ROTS record. These sub-programs contain the order-type specific logic, allowing the header data management to be relatively generic.

When an existing order number is entered, in order to make changes, the program calls the appropriate sub-program based on the already present Order Type in the ORDERS record. The order type cannot be changed, once created.

When the transition is made from this program to the sub-program that manages the order detail and/or repair order data, this program automatically saves the ORDERS record.

ADDED: If the subprogram for the order type specific detail does not create any
ORDERDTL records, i.e., the order data is not completed, it in turn deletes this
ORDER record.

Detailed Functions

This program functions upon selection from the menu by displaying the blank window
initially, with the cursor at Order Number. The default is NEW, or an existing order
number can be entered.

3/28/95 Change:

Allowing of changes to Order Header data and calling of appropriate detail program for
orders with a status of other than NEW:

Program allows access to entered Orders with a status of NEW, REL, or PC. It rejects
entry of Orders with a status of HOLD, CANC, SC or BC.

End 3/28/95 Change

If the NEW default is taken, the program proceeds to the Sold To ID. (No Order number
is generated until the window is saved by selecting an Order Type/Detail program). The
program calls/displays the PROCUS search engine and its window. Search data are
entered, the F9 key pressed to initiate the search, which returns either a popup containing
results of the search, or an exact match. If the Sold To ID is known, the search engine
can be exited via the Escape key to enter it. Pressing the F2 key recalls the search engine.

Existing Customer - When a customer ID is entered (via search or directly), pressing the
Enter key initates the order header generation process:

1.   Retrieves the PROCUS record. If there is only one address, i.e., the main address,
      the program copies this address into the Bill To and Ship To Address fields. If the
      customer has an open account, i.e., a DLR, REP, or Distributor, there will be a
      Financial Profile record. The program retrieves the Credit Status and Terms data
      from this record and copies it into the screen fields.

2.   Address Selection - the program processes PROCUS and related address data as
      follows, using the results to create the Header Data:

•   Store Selection - If the customer has STORES records, these are retrieved and
         displayed in a popup. The address data for the selected store is then added to the
         Ship To Address selection process that comes up later. If no Store is desired, the

popup can be exited via the Escape key.   If no STORES are present, the popup is not presented.

- Bill To Selection - Next the program displays the Bill to address options , including the Main PROCUS address and alternate Bill To addresses if there are any in the PROCUS record being retrieved. A selection is made from the popup and the program continues. If no Bill To Alternates are present, the program does not present the selectino popup.

- Ship To Selection - Next the program displays a popup containing possible Ship To addresses, including the Main PROCUS Address, PROCUS Alternate Ship To Addresses if they are present, and Store Main addresses and Store Alternates if a Store was selected earlier. A selection from one of these is made.

- Once address selection is made for all addresses, the program then proceeds to create the Header Data Bill To and Ship To Name and Address text blocks and the Ship Information block. Within this block the program retrieves the Contact and Phone Number from the PROCUS record or Store record's primary Contact and Phone data.

- Changes are not allowed to the Bill To Address in the Header Data if the Customer has a FINPROFILE record, i.e., is or could have an open account relationship.

- The resulting Ship Address text block can be modified directly for one time changes. Similarly, the Ship Information block can be added to or modified as needed directly. The F

- The resulting Ship Address text block can be modified directly for one time changes. Similarly, the Ship Information block can be added to or modified as needed directly. The F key changes the cursor type to allow text editing.

3. Contact - which is optional, and is the customer's contact from whom this Order is taken.

4. Customer PO - this field is optional, and serves as a references to the Customer's ordering document, if needed.

5. Ship Via - this field is mandatory, with a default shipping value.

4/21/95 Change.
6. New field is added for Standard Notes. The field is optional. The cursor moves to it after the Ship Via field. When the F2 key is pressed, it brings a popup containing Standard Notes that have a value of ORD in the Note Type field. The popup shows

the Note ID,and Summary text fields from the Standard Notes record. When one is selected, or a note ID number entered, this value is added to the M/V Standard Notes ID list (more than one standard note can be attached to the Order.)

- Once a Standard Note has been selected and is visible in the window, when the Shift + F? keys are pressed with the cursor on that Note ID number, the program retrieves the Text field from the Standard Note and displays it in a message window on the screen.

- This message window can be paged down if the message is too long to fit, and when the Escape key is pressed clears, returning the user to the Header window.

End 4/21/95 Change.

7. Call Tags - this field is optional, with a default of No. Indicates that a UPS Call Tag is to be prepared to pick up a customer's unit/product.

3/28/95 Change.

8. Terms - Revised handling of Payment Terms and associated data functions, including selection of variations associated with a given Terms selection. These are now processed via a separate subprogram, called at the appropriate point in the program's flow. The new process includes the following steps:

- The cursor sequence is changed:

  Terms is not accessed by pressing the Enter key from within the Header window. Previous Terms values are visible, but not accessible with the cursor. The user can press the Enter key and continue around the screen's fields indefinitely without getting to Terms.

  Selecting the Order Type Option with the Shift + F4 keys first revalidates the entries on the Header window made thus far, and if invalid, e.g., no Ship Via entered, rejecting the selection and returning the user to the Header window.

  Once the Order Type selection has been made, the program then accesses the Terms field from within the Terms Subprogram, constructing the valid Terms Codes from FINPROFILE data, or if absent, the TERMS table, then selecting those that have the selected Order Type.

  If the result is only a single Terms Code value, the program skips the Terms selection process and continues to the next steps. If these have only one or no variations, the program continues on through without requiring the user to enter additional data,

make additional selections, on through the Order record creation, and calling of the selected Order Detail subprogram.

- When the Payment Terms field is accessed, the following logic replaces existing logic for Payment Terms, PayMethod and Gift functions:

    - The program attempts retrieval of the customer's FINPROFILE record. If present, its Terms Codes list is retrieved, with each Terms Code being retrieved from the TERMS table.

    - If a FINPROFILE record is not present, the program retrieves all TERMS table records that do not have an OPENACCT Terms Type code, as the standard, global payment terms options available to order entry.

    - The resulting list of Terms Codes is then submitted to an order type matching process that eliminates those Terms Codes that do not contain the Order Type code that was previously selected.

    - The remaining Terms Codes, applicable only to the Order Type selected are then presented in a popup for selected, and serve as a direct code value entry validation source. The the result is only a single Terms Code, this value is selected automatically and the program proceeds to call the selected Order Detail subprogram.

    - If there are 2 or more Paymethods for the selected Terms Code, these are presented in a popup from which the user must make a selection. If there is only one, no popup selection is required, with the single value being stored in the Paymethod field in the ORDERS record automatically.

    4/21/95 Change:
    - Modification to No Charge Terms Type Code -

        If the Terms Type Code is NOCHG (no charge), the program performs the following:
        Updates the PAYMETHOD field in ORDERS with the PayMethod selected during processing of the Payment Terms selection.
        Update the UNITPRICE field in the ORDERDTL records to zero (no price charge for these items).
        Adds the Paymethod selected to the Customer Notes field, so the no charge "flavor" selected will appear on the Invoice.
        Makes no changes to the Adjustment list. (existing updating logic for these fields is removed).

    End 4/21/95 Change

- If there are 2 or more Dept/GL lines in the selected Terms code, these are presented in a popup from which the user must make a selection. If there is only one, no popup selection is required, with the single value being stored in the DEPT and GLACCT fields automatically.

- There is no prompt for Authorized By, or other approval control method used in this version of the software.

- The program then continues with the process, generating a new ORDERS record and saving it, then calling the appropriate Order Detail program without requiring re-selection of the Order Detail Option, i.e., without rekeying the Shift + F4 keys.

End Change.

Other Options available from within the Order Header window:

New Customer Entry - If there is no existing PROCUS record, one is entered. When the user presses the Shift + F? keys and no PROCUS record has been retrieved and is displayed in the Order header data fields, the program will bring up the New Customer entry window. This window allows entry of First Name, last Name, Company name, street, city, state, zip. This process uses the ZIP code table and its accompanying city,state/province update logic. The window must have a complete address, and either a Company Name, or if Company name is blank, a first and last name to be saved. The window also allows calling of the Phone and Contact engines. The program will only create a PROCUS record with a type of USR (end user). The Type is displayed on the screen but cannot be altered.

When entry is complete, the window is saved with the F9 key, and the program creates a new PROCUS record, assigning the next ID, and then proceeding to build the Order header data as through the data had been retrieved from the table, as described above.

3/28/95 Change:

The New Customer window can also be used by entering an existing PROCUS ID directly to perform maintenance on PROCUS main addresses, bypassing the security system.

The program must be modified to not allow entry of an existing Customer Number, i.e., force it to only be a new PROCUS record creation window.

End Change.

Existing Customer Data Maintenance - Maintenance of data for existing customers is via the Shift + F? keys, which calls the PROCUS main window, from which all profile records may be accessed. If unauthorized modification of data is attempted, the program will reject these during the save process. Authorized users are those in the Credit security group.An additional option for maintaining customer data is to select the Maintain Existing customer data which calls the PROCUS main window, from which all profile records may be accessed. If unauthorized modification of data is attempted, the program will reject these during the save process. Authorized users are those in the Credit security group.

Contact History - Shift + F? keys calls the Contact History popup, which in turn calls the Contact History window. Existing Contact data can be reviewed, or a new record created.

Internal Notes - Shift + F? keys calls the Internal Notes window. These do not print on any customer document.

External Notes - Shift + F? keys calls the External Notes window. These print on Packing Lists and Invoices sent to the customer.

Order Entry Status Change Controls

If status is BC, HOLD or CANC, order may not be retrieved by O/E program (ORDHEAD). HOLD status must be changed to another status via the status change program only, which will check order detail data conditions and automatically select the appropriate status using the rules defined above. Orders can be changed, subject to rules below if the status is NEW, REL, PC or SC only.

NOTE: Not all change control logic defined below is currently functional in the software. In general, once a release has been processed against a given customer order, changes to the order items, quantities and dates, can be made only with field-specific screens. The change logic defined here is included partly as a guide to the overall logic upon which the design is based, and to guide future enhancement activities.

Status	NEW	REL	PC	SC	Comment
Data Field					
ORDERS record					
SHIPTOADDR	Y	Y	Y	N	Not if FINPROFILE ShipRule applies
BILLTOADDR	Y	Y	Y	Y	Never if FINPROFILE record is present
CUSTCONTACT	Y	Y	Y	N	
FINSTATUS	Y	Y	Y	N	only from FINPROFILE record data - to be deleted from ORDERS record
TERMS	Y	Y	Y	Y	0nly from FINPROFILE record data or TERMS table PREPAY/COD/NOCHG
PAYMETH	Y	Y	Y	N	Only from PAYMETHOD tabled - to be deleted from ORDERS record
CARDNUM	Y	Y	Y	NA	
EXPDATE	Y	Y	Y	NA	
SHIPCHARGE	Y	Y	Y	N	May not reduce if resulting ORDTOT will be less than total invoiced.
CUSTNOTES	Y	Y	Y	Y	
NOTES	Y	Y	Y	Y	
SALESPERSON	Y	Y	Y	N	
SALESREPID	Y	Y	N	N	Must be in PROCUS & have Cust Type of SLS. NEW FIELD not in use yet.
TERRITORY	Y	Y	Y	N	May only be re-retrieved from FINPROFILE record. NEW FIELD not in use yet.
ADJCODE	Y	Y	Y	Y	Only from ADJ popup/table

ADJAMT	Y	Y	Y	Y	May not add adjustment that would reduce ORDTOT to less than total invoiced; obtained by retrieving all INVOICES for this ORDER & adding Invoice Totals.
VIA	Y	Y	Y	NA	Only from SHIPVIA table.
ORDTOT	Y	Y	Y	N	If increased, status is reset to NEW or REL to release the additional qty's; if decreased, status may be (of conditions are met) set to PC, SC or BC. May not reduce to less than total invoiced; obtained by retrieving all INVOICES for this ORDER & adding Invoice Totals.
ORDERDTL data fields:					
ORDQTY	Y	Y	Y	N	If changed, status must be re-determined, using criteria defined above for each status. May not be reduced to less than the QTYSHIP. If QTYPICK is less than QTYSHIP, there are STAGED records that must be identified and flagged as not shippable by having their ORDER number deleted. If QTYRNP will become less than ORDQY, it is adjusted to equal new ORDQTY, and associated TOBEPICKED records are retrieved and their QTYRNP's also adjusted.
Added Line Items	Y	Y	Y	N	Resets status to NEW or REL; may be added only at end, not inserted if status is REL, PC, or SC. Inserts are allowed if status is NEW.
Delete line items	Y	N	N	N	May reduce ORDQTY to zero to effectively "delete" a line item's effect; see ORDQTY change rules.
Change PART	Y	N	N	N	Includes ability to change Services if the L/I Type is S, or warranty if L/I is EXWAR.
L/I Type	Y	N	N	N	Must be I (inventory item), S (service), X (extended warranty).
Unit Price	Y	N	N	N	Only by re-retrieving the Unit Price from order type linked Price Master table for the item.

Status Changes - Other Actions

Status is also controlled in other programs throughout the normal Order processing cycle. While there may be more than one program performing the processes defined below. each must check and control for status using the logic defined for that general process:

Credit Approval/Release Override Process:
    If status is CANC, BC, or HOLD, Order is not retrieved or displayed. (Order must be taken off HOLD status using the Status Change program prior to being released manually.

Automatic Order Releasing Process:
    If status is HOLD, CANC, PC, SC or BC, the order record is skipped. Retrieves and examines only NEW and REL orders. (Order must be taken off HOLD status using the Status Change program prior to being released manually.

Pick Orders -
    If status is HOLD, CANC, PC, SC or BC, the order record may not be retrieved, displayed or picked/issued. (Order must be taken off HOLD status using the Status Change program prior to being released manually.

Bulk Pick/Stage
    If status is HOLD, CANC, PC, SC or BC, the order record may not be retrieved, displayed or picked/issued.
    TOBEPICKED records for orders with HOLD status are not included in the quantities and part numbers to be bulk issued for staging. (Order must be taken off HOLD status using the Status Change program prior to being released manually.

Staging Processes
    STAGED records associated with an Order with a status of HOLD are not accessible by any process until the status is changed to REL or PC, returning the Order to an active, working state.
    Only the Return Staged Items To Inventory program can access STAGED records associated with an Order with a status of HOLD or CANC. This program will delete the STAGED records if all quantities are returned.;

Shipment Authorization and Confirmation - Order number is rejected if ORDER Status is HOLD, BC or CANC.

Order Change Program Logic Additions

ORDHEAD Window for Order Header Data:

- Change to allow access to REL, PC, or SC Order Status; continue no access to Order data is status is HOLD, CANC, or BC
  NOTE: This will reduce the need for OM1, which exists primarily to get around the status lockout.

- Add logic at field exit and PreSave validation to prevent changes to SHIPADDR and VIA if ORDSTAT is SC.

ORDDTL Window for Non-RO Type Orders:

- Add logic to insure that:
  Adjustment Amount may not drive ORDTOT negative.
  Ship Charge - may not drive ORDTOT negative.

- Add logic to trap changes to certain fields as shown in table below:

Change actions	**New field exit & validation logic:**
Add line item	Must be at end; set trigger if added and status not equal NEW
Delete line item - CTL + D keys	Not if Status not equal NEW
Change Ord Qty	New value may not be less than Qty Picked or Qty Shipped; set trigger if changed.
Re-retrieve Unit Price & recalc Ord Tot	None - add RePrice Hot Key to activate re-retrieval process.
Change Req Ship Date(s)	Reject Req' Ship Date field change attempt if Ord Qty = ShipQty for that date line (i.e., this shipment increment is complete)
Add add'l Req Ship Date (same L/I, new Orderdtl record).	Reject Ship Qty field entry if it drives that line's Qty Remaining negative. If req'd, add new Orderdtl for add'l ship dates.

Add these validations to PreSave process to insure enforcement. If fail, abort Save and return to window with message.

Post Processor - activated during Save if trigger is set; performs the following:
- Reduces Qty Released to not be greater than L/I's new ORDQTY in ORDERDTLs
- Reduces TOBEPICKED RELQTY to not be geater than L/I's QTYREL.
- Deletes TOBEPICKED if New QTYREL = QTYPICK
- Determines Order Status via the following steps by reviewing all ORDERDTL records for the order; status is:
  NEW - if all order detail records Quantity Released = zero

REL - if any order detail record has a Quantity Released greater than zero
PC - if all order detail records have Quantity Picked = Quantity Ordered
SC - if all order detail records have Quantity Shipped = Quantity Ordered

Return/Repair Order Detail Entry/Maintenance

SCR# 709

CHANGED 5/1/95

Screen Data:

Returned Units Entry Window (F9 saves & clears this window, retains Header window)

```
R/O No.   Ret'd Unit ID/SN    Product*   Owner ID  - Name               Rtn Reason (code/desc)
xxxxxx          x-------------x      xx          x-------x  x----------x* x----x  x--------x*
           Compl Codes     Desc.                  S/C Nickname     City      ST        S/C ID
           x-------x        x-------------x*           x----x          x-----x*   xx *     x-----x *
xx      x-------x        x-------------x        Adr: x----------------x* S/C Phone x--------x*

           Disp Code/Desc    Warr Status Code/ Desc  Quote Amt   NTE Amt.        Priority
           xx    x--------------x*      xx  x----------x*   $xxxx.xx       $xxx.xx        x
```

Shift + F? -=CSR Comment Window (display) - entry is a single line

```
C/Date*        C/Time*    CSR*         CSR/Comment
xx/xx/xx            xx:xx    xxxx     x---------------------------------------------------------x (1)
xx/xx/xx            xx:xx    xxxx     x---------------------------------------------------------x
xx/xx/xx            xx:xx    xxxx     x---------------------------------------------------------x
```

(1) CSR comments are a multi-value stack. Each update can add a line, but cannot alter previous lines,
which are display only.

Shift + F? - Label print - prints the Ship to Address shown in the Order Window, but allows entry of
different address in the window that is displayed before printing the label.

Shift + F? - calls Unit History window to allow search for any serial number. From within the Unit
History window, the Warranty Status inquiry may be called, or the Warranty Modify function, which
requires entry of an authorization code.

Shift + F? - calls the Receiving Notice entry/change window.

Functional Logic

5/1/95 Change Summary:

Revised to provide for control over changes, depending on Order Status, both at the
ORDERS record level, and at the ROTS record level. Change controls in this
program complements change controls in the ORDHEAD program, which calls
this program. If the ROSTATUS is EXPD, CLSD or VOID, the RO may not be
retrieved by this program, but may be viewed with the Inquiry window.

Changes are allowed to RO data as follows:

- If the ROTS status is NEW, any data may be changed.
- If the ROTS status is OPEN, DONE, or RVWD, Receiving Notice, Returned Unit ID, Owner ID, Return Reason, Complaint Codes and Service Center referral data may not be changed, but all other data may be changed.
- If the ROTS status is DONE or RVWD, in addition to the fields that may not be changed as previously defined, Owner, Disposition Code, Estimated Cost, NTE Cost and Priority may not be changed. If available, the Estimate Window may be accessed, but may not be changed if the status is DONE or RVWD.
- Comments may be entered any time.

Expiration Function added - ROEXPDATE is added to ROTS dictionary. Expiration Date is added to Entry window. Expiration date is calcualted after last field is entered, depending on whether a value is present in the Service Center field. The result is displayed in the Expiration Date field in the window, and saved in the new field.

End Change Summary

Overview

This program is called by the Multi-type Order Header entry/Maintenance program and provides detailed data entry, validation, updates for Repair Orders. Once called, the program displays the Repair Order window, with the cursor at Repair Order Number. Either an existing R/O number can be entered, retrieved and updated, or a new one created.

Detailed Functions

When called from the Multi-Type Order Header Entry/Maintenance (Order Header program), the order header data is saved to the ORDERS record for the Order Number. This program then retrieves the latest list of Repair Orders from the Relational Index in ORDERS, and positions the cursor at the R/O (Repair Order) Number field. The calculated default is the next incremental R/O Number. Pressing the Enter key accepts the default R/O Number and starts the entry process to create a new R/O. Entering an existing R/O number causes the program to bring up that R/O record. An existing R/O cannot be retrieved if its status is CLSD (closed/shipped) or EXP (expired).

NOTE: The R/O Number is calculated as the ORDER Number with an added digit suffix. For example, if the Order number is 1234, the first R/O Number is 12341, the second 12342 and so on. This number becomes the Repair Order record ID, and is the unit specific number that is used to receive, track and otherwise manage the repair process for that unit.

NOTE: Procedurally, either the Order number can be given out to the customer for a
family of R/O's, or the individual R/O Number can be given out for each specific
unit ID.   In either case, the unit is still received to the R/O number, tracked, etc.
Each number is the equivalent of the current RA number and is unit/serial number
specific. Procedurally it goes on the carton returning the unit, constitutes the
return authorization for that unit, is used to received and otherwise used as an
internal repair work order number internally.

Return Reason Code - next the cursor moves to the Rtn Reason field. This code indicates
why the unit is being returned, which may or may not have anything to do with
something wrong with it. This is a new code which contains its options in the Return
Reason popup window data.   Pressing the Enter key accepts the default of Return
for Repair. Some Return Reasons are:

- Unit Malfunctioning - for repair
- Dealer Return for Credit
- Unit Upgrade
- Non-Repair Servicing
- Other

5/1/95 Change - The Return Reason Code field may not be changed if the ROSTATUS is
OPEN, DONE, or RVWD.

Dealer/Customer Flag - next the user must indicate whether the unit being returned is
owned by the Sold To customer, indicated by a "C" value, or by a Dealer, Distributor, or
Rep, in which case a "D" value is acceptable. The Default value is C. These values
control the Unit Ownership data validation:
        If a "C" RO, then the unit must be owned by the Sold TO
        If a "D" RO, then the unit ownership is not checked.

5/1/95 Change - May not be changed if the ROSTATUS is OPEN, DONE, or RVWD.

Part - If the product being returned does not have a Unit ID, then a valid Part Number
may be entered here. If one is entered, the program skips the Unit ID field and its
associated functions.

5/1/95 Change - May not be changed if the ROSTATUS is OPEN, DONE, or RVWD.

Returned Unit ID/SN - The program has two ways of handling validation of the Returned
Unit ID/Serial Number:

- The Dealer/Customer flag is "C" - The unit must have a Unit History record and
must be registered to this customer ID. The program attempts to validate this and if
it succeeds the Product (first 2 positions of the Unit ID/SN is copied into the Product

field, and the Owner ID is updated, which will be the same as the Customer ID on the Order header data.

If there is no Unit History record, the program responds with a message that the unit is not a known serial number and provides the option to create a new Unit History record. If this option is taken, the program brings up the Unit History window so it can be entered, carrying forward the SN that was already entered in the Returned Unit ID field, and completing the Owner field as the current Customer ID in the Order header data. When the Unit History window is saved with the F9 key, the program creates the new unit history record and returns to the Returned Units Entry window, completing the fields as through the unit's data had been retrieved from the Unit History table.

- The Dealer/Customer flag is "D" - The unit must have a Unit History record, but does not have to be registered to the Order's SOLDTO ID. The program attempts to validate this and if it succeeds the Product (first 2 positions of the Unit ID/SN is copied into the Product field, and the Owner ID is updated from the Unit History, which will or may be different from the Customer ID on the Order header data.

  If the Unit History record does not exist, the program responds with a message that the unit is not a known serial number and advises the user to check his typing carefully, and allows the option to return to the Unit ID entry field, or accept the entry by aknowledging Yes, and the program will create the new Unit History record from within the window, without bringing up the Unit History window.

  The Owner field is not updated with the current Order header Customer ID (which is the Dealer's). If the Dealer wants to register this unit as belonging to a particular customer, the Unit History screen is accessed via the Shift + F? keys. From within this window, in the Owner field, pressing the F2 key will bring the PROCUS search engine. A new USR customer type may be entered from this point by pressing the Shift + F? keys, which brings the same New Customer Entry window which creates only a new USR type PROCUS record.

  When the entry of the Owner's name and address data is completed, the New Customer Entry window is saved with the F9 key and the PROCUS record saved for the unit owner customer. The program also updates the Owner field in the Unit History window with the new PROCUS ID assigned.

  Once and RO is created, its Unit ID may not be changed with the entry program. The Change RO Unit ID program must be used for this purpose.

Warranty Status Determination - when the Unit ID has been entered and validated, the program calls the WARSTAT subprogram, which retrieves and examines the UNITHIST record for the unit and returns a data string that is displayed in protected

mode, containing the three categories of warranty status; Parts (Y/N), Labor (Y/N), and Special (Y/N). This string is stored in the ROTS record.

- If a Owner ID is present, the Name is retrieved from the PROCUS record and displayed next to the ID number.

Service Center Referral - If the unit is to be handled by referral to an Authorized Service Center, then a valid service center must be selected. This causes other functions to be altered if it is entered, such as on-site Receiving, which is not allowed. With the cursor in this field, pressing the F2 key brings the Service Center popup window, containg PROCUS records with a Customer Type of SVC. The popup is sorted by State, then City, to speed selection of one close to the customer. Or, the Service Center Nickname can be entered, causing the program to retrieve this service center's PROCUS ID and associated city and state. The street address for the service center and its main phone number are also displayed, but not stored in the R/O record. This is simply allow the CSR to direct the customer to the Service Center. Other rules associated with presence of a Service Center referral:

- The customer type must contain USR.
- The Return Reason may not be Dealer Return for Credit.
- All related Repair Orders, i.e., belonging to the same Order number, must all be referred to the same Service Center.

5/1/95 Change - May not be changed if the ROSTATUS is OPEN, DONE, or RVWD.

Disposition Code - There must be a Disposition Code, although this may be changed at any time while the R/O status is NEW or OPEN. These must be in the Disposition Code Popup window data, and include:

RPRU   Repair the Unit.
RSTK   Return to Stock (inventory)
RCUS   Return to the customer unrepaired
RPUS   Replace with a used unit
RPEQ   Replace with a new equivalent unit
RPNW   Replace with a new unit, new model than the customer's.

If the Disposition Code is RSTK, and the transaction has already been performed returning the unit to inventory, the Disposition Code may not be changed, regardless of R/O status.

5/1/95 Change - May not be changed if the ROSTATUS is DONE, or RVWD.

Complaint Codes - If the unit is being returned for repair, (its not working correctly, according to the customer), then one or more Complaint Codes must be entered. These

are contained in the Product Code record that is retrieved using the Product Code that is in the Serial Number. The codes are either entered or selected from the F2 popup. Accompanying descriptions are displayed.

5/1/95 Change - May not be changed if the ROSTATUS is OPEN, DONE, or RVWD.

Quote and NTE Amounts - these fields may be blank, but if entered must not be negative amounts.

5/1/95 Change - May not be changed if the ROSTATUS is DONE, or RVWD.

Priority - This field may be blank. If entered, must be between 1 and 5.

5/1/95 Change - May not be changed if the ROSTATUS is DONE, or RVWD.

When the Priority field is exited, the Expiration Date is calculated and displayed via one of two methods:

- If the SVCCTR field is blank, the program retrieves the Standard RO Expiration Period Global Default record, then adds the value in this recod to the current date to obtain the Expiration Date value.

- If the SVCTR field is not blank, the program retrieves the Svc Ctr RO Expiration Period Global Default record, then adds the value in this record to the current date to obtain the Expiration Date value.

Receiving Notice - this function is accessed by softkey, and enters or changes a text block that is appears on the Receiving screen, and is printed on the RO Form for internal use in repairing the unit.

5/1/95 Change - May not be changed if the ROSTATUS is OPEN, DONE, or RVWD.

CSR Comment Lines - The Comment Entry window can be called via softkey at any time during entry. Entered Comments can be displayed at any time via a different softkey. The function is designed to allow multiple CSR's over a period of time to enter comments and/or customer directions regarding his unit and keep source of each comment and its associated date and time distinct. Comment line entries adhere to the following rules:

- One saved, already entered lines may not be altered, but of course may be succeeded by additional lines.

- Each new Comment line is saved with the User-ID from the system logon data, the system date and system time. The F3 key may be used to enlarge the field for more

lengthy entries. These data will appear on R/O inquiry screens, and will be printed on the Repair Order whenever it is printed or reprinted.

When completed, each Repair Unit screen is saved with the F9 key. This causes the program to revalidate all entries as defined above, and to create or update the Repair Order (ROTS) record. Updates to the ORDERS record, the STORE or PROCUS record for payment, address, phone or contact data should hvae occured when windows updating these data are saved with the F9 key to complete and exit them. When the process is completed, the program returns to the R/O No. field, with this portion of the window cleared, with the Order header data still retained, ready for the next Returned Unit entry process for the same Order Number. Pressing the Escape key clears Repair Order entry screen, returning the user to the the header window.

Spare Parts & Merchandise Order Type Detail Entry

CHANGED 11/30/94
CHANGED 3/28/95
CHANGED 4/21/95

SCR # 710

Screen Data:

```
                        Spare Parts (or Merchandise) Entry
Order Number x-------x
                                  Qty
L/I*   Unit/Prod(1)    P/No.     Desc *   Ordered   U/Price* S/*    Ext.*     Ship        M *
                                                             Tax?   Price     Date

xx    x--------x      x-----x   x------x  x---x    XXX.XX X   x    XXX.XX   xx/xx/xx    x
xx    x--------x      x-----x   x------x  x---x    XXX.XX X   x    XXX.XX   xx/xx/xx    x
xx    x--------x      x-----x   x------x  x---x    XXX.XX X   x    XXX.XX   xx/xx/xx    x


Subtotal Order Amt   $xxx.xx*  Total Sales Tax Amt. $xxx.xx*  Total Order Amt $xxx.xx *
Shipping Charge $xxx.xx Adj Code/Desc. x--------x  Adj Amt $xxx.xx
```

PN field - F2 Description oriented popup window:(1)

```
Description Part Number        U/Price*
x-----------x x------------x    $xxx,xxx.xx
x-----------x x------------x    $xxx,xxx.xx
x-----------x x------------x    $xxx,xxx.xx
```

P/N field - F2 Product oriented option Popup window: - omitted at this time.

```
P/N*            Desc*          U/Price*
x--------x   x------------x    $xxx,xxx.xx
x--------x   x------------x    $xxx,xxx.xx
x--------x   x------------x    $xxx,xxx.xx
```

Qty Field F2 popup Window

```
Inventory Status Popup

On-Hand      x----x*
Allocated    x----x*
Available    x----x*
```

hift + F1 - calls Shipping Schedule Window

```
L/I No.  xx*   Part Number x--------x*  Desc x---------x*
Ord Qty x------x*      Total  L/I Qty Shipped  to Date x--------x*


Requested Ship Date  Sched Qty       Qty Shipped*     Remaining*
xx/xx/xx                    x--------x         x--------x          x-------x
xx/xx/xx                    x--------x         x--------x          x-------x
xx/xx/xx                    x--------x         x--------x          x-------x
```

4/21/95 Change - added:

Shift + F? - calls Unit Price Change Window

```
            Unit Price Change
L/I No.  xx*   Part Number x--------x*  Desc x---------x*
Standard Unit Price        $xxx.xx *
Discount %                 xx.xx
Discount Amt               $xxx.xx
Net Unit Price             $xxx.xx


F9 to save Net Unit Price.
```

Shift + F? - Calls L/I Comment Window.

```
            Line Item Comment Window

L/I No.  xx*   Part Number x--------x*  Desc x---------x*
Comment x----------------------------------------x
```

End 4/21/95 Changes.

*Display only field

(1) Not included in the MER Order Type window & its functions.

Shift + F? - brings the Unit History window to allow entry of unregistered units.

Shift + F? = calls the Orders Inquiry

Alt 1 - calls the global inquiry popup menu

Functional Logic

11/30/94 Change Summary:

The F2 search process is limited to a simple Description string search and return. (No Product related or Unit ID related Search Engine at this time).

Part Number entry validation rules are limited to - must be in Spare Parts Master table.

End of 11/30/94 Change Summary.

3/28/95 Change Summary:

Adds several program changes to allow access orders with a status of REL or PC and controlled change of order detail data under these circumstances. Some of these changes set a trigger, that when set causes the Save program to call an additional post processor program to perform additional supplementary functions on records that are not included in the update process, and to redetermine order status if needed. Allowed are these changes:

- Add a new line item
- Delete a line item
- Change Order Quantity
- Re-retrieve Unit Price & recalc Order Total
- Change Requested Ship Dates
- Add Additional Requested Ship Date to an existing L/I.

End Change Summary.

4/21/95 Change Summary

- ORDERDTL dictionary is modified to add a Standard Unit Price (STDUPRICE) field, and a price change audit list of who updated the unit price field; fields for Standard Unit Price Modified By STMODBY and MODBYDATE.

    Note: Not included in the program functions at this point, but possible to add at the entry point of this window is the Signature Password function.

- Program is modified for price retrieval to store retrieved unit price in this field & use this value as the default for the existing UNITPRICE field.
- Additional function added, softkey driven window to display both price fields, allow change to default price, return new value to UNITPRICE in array, and displayed in window. Window shows Std Unit Price, discount $, discount $ Amt, Net Unit Price.
- Additional function to automatically change and force UNITPRICE values to zero for No Charge Payment Terms type.
- Adjustment logic is changed to use read, use new field for adjustment amount billed, disallow alteration of adjustment amount to be less than either that already billed, or a value that would result in a negative Order Total.

A new callable window is added to provide a Line Item Comment capability. When the
Shift + F? keys are pressed with the cursor on a line item, the program calls the
Comment window for that Line Item. It displays the L/I Comment Entry window
which displays any comment data previously entered, or if blank, the blank comment
field. The user enters a comment as desired, or changes a previously existing entry
and presses the F9 key to save the data. The Escape key exists the window without
updating.

When the Order Detail Window is saved, the program attaches the Comment text to
all Order Detail records having that Line Item number.

End 4/21/95 Change Summary.

Overview

This program is called by the ORDHEAD program (multi-type order header
enter/maintenance program), and either an existing PRTS or MER order type has been
retrieved, or this type has been selected to be generated.

The Spare Parts catalog is built from the Spare Parts Price master table. This enables only
parts that have been entered in this table and therefore have a price to be sold. The same
logic applies to the MERPRICE table & its use.

The same program also provides the MER Order type, but without the Unit ID/Product
data field & its associated functions. It uses the MERPRICE table in place of the
PRTSPRICE table for item pricing. Otherwise the program works the same as for the
PRTS Order Type. In reading this specification, all references to PRTSPRICE should be
interpreted to mean MERPRICE when analyzing program functions for the MER order
type.

Detailed Functions

When called, the program displays the Spare Parts Entry screen in the lower portion of the
screen, leaving the ORDHEAD name and address data still visible, but not accessible
while the user is in this window. Initially, the cursor is at the Part Number field for the
MER order type and the Unit/Prod field for the PRTS order type. Line Item Number
(L/I) is incremented automatically by the program.

3/28/95 Change:

Added to program - Order Change logic:
Control + D keys; (line item deletion) - not allowed if STATUS is not equal to NEW.
Deleted line number simply disappears from the sequence. There could be TOBEPICKED
records for this line item with other status conditions.

Added Line Items - if STATUS is not equal to NEW, and a line is added (either at the end or via insertion) incrementing the L/I number, the Post Processor Trigger is set. (This will cause the Order status to be re-determined).

End Change.

Unit/Prod Entry (PRTS order type only) - entry in this field is optional. The program screens the entry and processes the entry as one of two alternatives.

- Product Code - If a combination of characters that does not resemble a Unit ID (a two character product code followed by a string of numbers), the program will validate the entry against the PRODUCTS table.

- Unit ID - If the entry does resemble a Unit ID character pattern, the program will validate the entry against the UNITHIST table.

Part Number Entry - Each Part Number must be in the Order Type related Price Table (PRTS order type is in the PRTSPRICE table, MER is in the MERPRICE table, etc.)

Description - the Description for each part number is retrieved from the Part Master record for this part number.

3/28/95 Change:
Added - Change logic:
Upon field exit of the Order Quantity for the Line Item, the following is performed:

- Detects if the New value of Order Quantity is different from the previous value.
- Order Quantity may not be less than total L/I QTYPICK or QTYSHIP for all Requested Ship date lines. If it is, the entry is rejected and the user returned to the field for correction.
- If the new value of Order Quantity is different from the previous value and is less than the QTYPICK or QTYSHIP, it is accepted and the Post Process Trigger set.
- The difference between the New and Previous value sof Order Quantity added to or subtracted from the ORDERDTL record's ORDQTY for that line item with the latest Requested Ship Date.
- This same validation is performed again as part of the PreSave Validation routine.

End Change.

If a quantity is entered that will cause the Available quantity to become negative, a warning message is displayed that this will result in a backorder when the Enter key is pressed. The message may be overridden by pressing the Enter key again. The program then computes and displays the Sales tax, Extended Unit Price, and updates the Subtotal Order Amount, Total Sales Tax Amount, and Total Order Amount.

3/29/95 Change:

Total Order Amount (ORDTOT) calculation is changed to include the sum of ADJAMT values so that the ORDTOT equals the expected billable revenue from the order.

End Change.

Pricing Logic - performed when part number is entered or selected, to retrieve Unit Price from the appropriate Price Table. Unit Prices are selected from the appropriate Price Table by matching the Customer Types in the PROCUS record for the SOLDTO customer in the ORDERS record for this order number with the Customer Types in the Price Table. This will give the list of prices that apply to this customer. From this list, the lowest price is returned to the Entry Window's line item Unit Price field.

4/17/95 Change:

The in-memory working order detail data array used by the program is changed to add a new column,Standad Unit Price (STDUPRICE in the ORDERDTL data dictionary). Related program functions are modified to update and use this new column as defined below.

Retrieval logic from the pricing algorithm is unchanged. Unit Price field on the screen remains a display only field. The retrieved Unit Price (from the Price table and/or process) value now becomes the (Default) value for Unit Price, with the field being automatically updated as a display only field. If the user does not access the Unit Price Change window, the screen works as it does now; the retrieved price populates the Unit Price field on the window and the cursor moves to the Order Quanitity field. To change a Unit Price, the user must specifically choose to do so by calling the Unit Price Change Window, otherwise the retrieved price is always used automatically.

This retrieved (default) value, when the window is saved, is always stored in the STDUPRICE field for the line item. If there is no change to the Unit Price, then the two price fields carry the same value.

Added function - Unit Price Change Window:

A Softkey is added to allow change of Unit Price for a line item. Pressing the Shift + F? with the cursor on a line item (must be on a line item) brings up the Unit Price Change Window (format shown above), containing the data for that Line Item, shown in display only mode.   The retrieved Unit Price value from the pricing algorithm is displayed in the Standard Unit Price field, in display only mode.

The user may enter either the Discount %, Discount Dollar Amount, or the preferred Net Unit Price to be charged on this Line Item of the Order. The Discount % and Discount Dollar Amount are not stored in the Order Detail records, but are used in the window to simplify the Unit Price Change process for the user. They can be recalculated at any time. These values are handled as follows:

Discount % - entered as a 2 position decimal value (0.00 format). This value is the portion of the Standard Unit Price that is to be subtracted from it. A negative Discount % may be entered to increase the Net Unit Price over the Standard. When the Enter key is pressed, the program calculates the Discount Amount and Net Unit Price as follows:

> The entered value is applied to the Standard Unit Price by multiplying by the STDUPRICE, to obtain the Discount Amount, then subtracting the Discount Amount from the STDUPRICE to obtain the Net Unit Price. If the result is a negative Net Unit Price value, the entry is rejected. If the result is equal or greater than zero, the entry is accepted and the cursor moves to the Discount Amount field.

Discount Amount - if the previously calculated value is acceptable, the user simply presses the Enter key to move to the Net Unit Price field. If the Discount Amount is entered, when the Enter key is pressed, the program recalculates the Discount % and the Net Unit Price, using the logic defined above. If the result is a negative Net Unit Price value, the entry is rejected. If the result is equal or greater than zero, the entry is accepted and the cursor moves to the Net Unit Price field. A negative Discount Amount may, be entered to increase the Net Unit Price, if desired.

Net Unit Price - if the previously calculated value is acceptable, the user may then press the F9 key to save window and return to the main screen. Or, a different Net Unit Price value may be entered directly. Pressing the Enter key causes the program to recalculate the Discount % and Discount Amount, using the logic defined above. Any set of entries that results in a negative Net Unit Price value is rejected.

The F9 key may be pressed at any point in the Unit Price Change window process. The window save process revalidates that the Net Unit Price is not negative, updates the in-memory working array column for Unit Price (UNITPRICE in the ORDERDTL Dictionary), and displays the new Unit Price value in the field on the window, returning the user to the main window. No update of the ORDERDTL records occurs until the entire Order Detail entry/change window is saved with the F9 key. At that time the STDMODBY and MODBYDATE fields are also updated with the system logon user ID and system date values. The AUDNAME list is also updated in the appropriate ORDERDTL records.

NOTE: after saving the window and the Order Detail records are updated, the new Unit
       Price becomes the price that is charged for subsequent invoices.

End 4/17/95 Change

Quantity Ordered - may be entered or the F2 key pressed to view the Inventory data for
the part number. This popup displays the On-Hand available using the Order Type linked
W/H in the ORDERTYPE table. Only quantities in this Warhouse Number are considered
as available for sale for purposes of the Order Type. Also shown is the allocated quantity,
from the Inventory record, which is the sum of all quantities of this part number sold but
not yet issued, and the calculated net available quantity.

Ship Date - This field is designed to allow entry of a single Requested Shipment Date for
each line item, where the Ship Quantity for that date is the entire Quantity Ordered for the
Line Item.   The default is the current system date plus the value in the Standard Order
Turnaround Days Global Default record.   If there are more than one Shipment Date
(multiple ORDERDTL records for the Line Item number), an asterisk is displayed in the
M column to the right of the Shipment Date field.

NOTE: This arrangement allows the window to conveniently enter the same shipment
       date for a series of line items efficiently, without having to access the Shipping
       Schedule Window, yet retain the ability to add a multiple date shipment schedule
       to the line item.

Multi-Delivery Shipment Schedule Window Functions

If multiple shipping dates and quantities are desired, pressing the Shift + F1 keys with the
cursor in the Ship Date field brings the Multi-Delivery Shipment Schedule Window. This
window displays & accepts entry or changes to the Requested Ship Dates for the quantity
of the line item ordered on the main screen. It is accessed only to handle multiple
Requested Ship dates for a single Line Item, the single Requested Ship Date on the main
entry screen handling a single date schedule for the entire line item.

Displayed at the top of the window is the L/I Number, Part Number, Description,
Quantity Ordered and the Total L/I Quantity Shipped to Date (the sum of the Quantity
Shipped for all ORDERDTL records for this Line Item on the Order on the main entry
window.

The first line is the date that is displayed in the Ship Date field on the main window, with
the associated quantity being the Order Quantity.   Below are the Requested Ship Date
lines, each having an associated Scheduled Quantity and in display only mode, the
accumulated Shipped Quantity (updated by shipments of this line item), and a calculated
Remaining Quantity.

3/28/95 Change:

Change Logic Modifications - The screen functions according to the following rules, which have been revised to incorporate change control logic that is sensitive to Order Status. Some of these already exist in the program for Ship Schedule Window and some of are new.

- For each shipment line, the Quantity Remaining is calculated for each line as the remainder of the Quantity Scheduled for that shipment date minus the Quantity Shipped.

- The screen is used to allocate a total line item quantity to multiple shipment dates, but may not change the total line item quantity ordered (on the main entry window).

- If a Requested Ship Date line has a Remaining Quantity of zero, the program protects or skips that line's Requested Ship Date and Scheduled Quantity fields, preventing changes to already completed delivery/shipment increments.

Requested Ship Date - When this field is exited, the program performs the following:

- Requires that the date entered is in chronological sequence with other dates, later than the preceding line's date and earlier than the succeeding line's date.

- Checks to see if the date now in the field is different than that previously present. If it is not, a date in the past can remain unchanged. If it is different, the new Date may not be earlier than the current system date.

- Each Requested Ship Date must have a valid associated Scheduled Quantity. The default Ship Quantity is calculated and presented as:

  L/I Order Quantity (total ordered)
  minus sum of previously entered or exited Schedule Quantity fields
  = Default Ship Quantity

Scheduled Quantity - When this field is exited, the program performs the following:

- The Scheduled Quantity may not be blank and must be greater than zero and not be less than the Shipped Quantity for that Requested Ship Date line, regardless of any previous value, i.e., the Remaining Quantity may not be driven negative.

- For each shipment line, the Quantity Remaining is calculated for each line as the remainder of the Quantity Scheduled for that shipment date minus the Quantity Shipped.

- Each Requested Ship Date line must have an associated Scheduled Quantity, which must be greater than zero and not negative.

- The default Ship Quantity for each line is the remainder of the Order Quantity minus previous lines Scheduled Quantities.

- If there are already multiple Requested Ship Dates, or the user wishes to add/subtract lines, these changes are controlled within the Ship Schedule Window using the above validation rules.

- If a shipment line has a Quantity Shipped value of zero, its Requested Ship date line may be deleted using the Control + D keys and the quantity combined with another date's Scheduled Quantity.

REFERENCE NOTE: Shipment quantities posted elsewhere in the system are posted as follows. Quantities shipped to date for this line item are added to the Quantity Shipped field in each shipment (ORDERDTL) record, up to the quantity scheduled for that shipment date. Excess quantities are posted to the successive shipment date record, until all of each quantity shipped is fully posted.

When Shipment Schedule entry is completed, the window is saved with the F9 key. To be saved, all date and quantity validation rules defined above are rechecked, and if not valid, the save is aborted and the user returned to the window to allow corrections. If successful, the resulting changes are applied to the Order Detail array in memory and the user is returned to the entry screen, with the cursor at the next line item.

The process can be repeated for each successive line item, with the program automatically incrementing the Line Item Number.

When all line items have been entered, pressing the Enter key again moves the cursor to the Shipping Charge field, the entry of which is optional. There is no default or calculated Ship Charge at this time in the system.

Pressing the appropriate Softkey key brings the Adjustment Code Popup window up to allow selection of Adjustment Code(s) and entry of the associated adjustment amount. When the Adjustment window is saved with the F9 key, its total (sum of all adjustment lines) is displayed in the Adj Amount field.

The Entry screen can be saved at this point by pressing the F9 key, which initiates the Save process which includes the following:

- Revalidation of all entry validation rules defined above. If any fields fail revalidation, the Save process is stopped and the program returns the user to the window with an appropriate error message.

- Writing of all ORDERDTL records to table with new/updated data.
- Update of ORDERS data to table; Status is written as it was originally retrieved. The Post Processor will redetermine the correct status.
- If a Unit ID was entered for a line item, the program retrieves the corresponding UNITHIST record and adds an event line with an event code of PRTS, and the Order Number as the reference.
- Calling of the Order Post Processor if the trigger was set by any data field validation process. All ORDERS and ORDERDTL records remain locked until the Order Post Processor has completed.

When the Save process is completed, the program exits the Spare Parts Entry window, returning to the ORDHEAD window. If the Spare Parts Entry is again selected, it recalls the same window, treating it as a change to the already saved order. Otherwise the user clears the screen by either saving the header data with the F9 key, or pressing the Esc key to initate a new order process.

3/28/95 Change:

Added - Order Post Processor program - this program is called by the Save program if the Post Processor Trigger is set; performs the following:

- All Orders and ORDERDTL records should still be locked from the Save Process.

- Retrieve the ORDERS record and all ORDERDTL records for the Order. These may be accessed from data still in memory to speed processing.

- Released Quantity Adjustment - insures that Quantities Released in the ORDERDTL records is in synch with the related values in the TOBEPICKED records that may be present for these line items. This is accomplished via the following steps:

  - For all ORDERDTL records for the same L/I and PART, add all ORDQTY and RELQTY for all records to obtain ORDTOTAL and RELTOTAL.
  - Obtain Release Adjustment from:
        ORDTOTAL
        minus RELTOTAL
        = RELADJ
  - If RELADJ is positive, skip any further processing for this L/I & PART number. (the regular Order Release process will release the excess properly).
  - If RELADJ is negative (which results if the new Order Quantity is smaller than what was previously released), then the program applies the adjustment as follows to "unrelease" the excess quantity:
    - In each ORDERDTL record in the L/I & PART group, set the QTYREL to equal the ORDQTY, eliminating the excess released quantity from the Order Detail records.

- Retrieve the related TOBEPICKED record for this L/I & PART number.
- Subtract the RELADJ (add the negatively signed value) to the RNPQTY (Released Quantity) in the TOBEPICKED record.
- If the result of RNPQTY minus PICKQTY (or the sumbolic RELNPIKQTY value) is negative or zero, the TOBEPICKED record is deleted.
  - The program continues processing all L/I & PART number groupings for the order until all ORDERDTL records have been checked and adjusted where needed for Order Quantity and Released Quantity variations.

- Detemine Order Status - this process evaluates ORDERDTL records may be performed using updated data in memory) and determines the current STATUS value for the Order. It is done after any adjustments have been made to the QTYREL for each ORDERDTL, and requires the following steps:

If ORDERDTL record condition is:	Then STATUS is:
All order detail records QTYREL = zero	NEW
Any order detail record has a QTYREL greater than zero	REL
All order detail records have QTYPICK = ORDQTY	PC
All order detail records have QTYSHIP = ORDQTY	SC

- Verify Billing vs Shipping Condition - If the new STATUS is determined to be SC as a result of the Determine Order Status process above, then the program must ascertain whether all SHIPMENTS have been already Invoiced. In this case, the status is BC. (This condition will result if part of an order has been already shipped and invoiced, and the order change process reduced remaining quantities (future dated shipments, for example). This is done by:

  - Retrieve all SHIPMENTS records for the Order, using the Relational Index SHIPMENTS field in the ORDERS record.

  - If all SHIPMENTS records for this ORDER have a POSTED field value that is not null, then the new STATUS for the Order is BC.

  - If not, then the status remains as SC.

When all processing is completed, the program determines whether additional updating to ORDERS and ORDERDTL records are required (these were previously written during the normal Save process that preceeds the Post Processor).

If an ORDERDTL record was changed by the Post Processor, it is re-written with the new values.

If the ORDER STATUS was changed from that originally present by the Post processor, it is rewritten with the new status.

When the Post Processor's table updates are completed, the program unlocks all Order, Order Detail and TOBEPICKED records, clears the Order Detail Entry window returning the user to the Header Window.

Change Notes:

3/28/95 Change - Replaced by 4/17/95 Change:

Added - Line Item sensitive soft key to re-retrieve Unit Price data from appropriate Price Table depending on order type. Functions include:

- Pressing Shift + F? Key causes program to determine L/I's Part Number and re-retrieve the current unit value from the appropriate price table, using the Customer Type Code comparision process to return the lowest value for the available Codes.
- The result is compared to the existing UNITPRICE value for the line item.
- If there is no change, a message is displayed to this effect.
- If there is, the newly retrieved Unit Price is displayed in a message asking the user if he wants to use the new price of $_____ in place of the Unit Price, with a Y/N option. The Default is No. A Yes response causes the program to substitute the new value for the previous UNITPRICE, on the screen and when all ORDERDTL records for this line item number are updated during the Save process.
- No additional change processing is required, i.e., once the new price is OK'd by the user, it becomes the unit price, with no comparison or downstream processing required. Previous Invoices against the order are not changed, and new ones will use the new unit price data.

End Change.

Change Customer Order Status

SCR# 812

CHANGED 3/29/95

Screen Data

Order Number x----------x Order Type xxxx *
Sold to ID x------x*   Name x------------------------------x*

Current Status: xxxx*
Allowable Change To Status Options (select one)
xxxx   x-----------------------x*
xxxx   x-----------------------x*

Functional Logic

3/29/95 Change Summary:
- Logic is added to allow CANC status for orders that have been partly completed, and to set the quantity released to equal what has been shipped to date.
- Logic is added to accommodate RO Type Orders.

End Change Summary

This program allows overriding of the natural status change process built into the normal processes and life cycle of a customer order. Order change logic may also reset the status flow to a previous status if, for example, the order is increased, thereby reopening it. The status changes here are associated with problems either with a customer or with an order, and thereby constitute a deviation from the normal sequence. These status conditions are:

HOLD - temporary customer or company initiated flagging of an order to remove it from the active flow. When a HOLD status order is returned to the live status, it will get the same status as it had before.

CANC - permanent flagging of an order, initiated either by the customer or the company. Applies only to an order that has not had any shipments against it. This status is NOT reversable. When Order Change logic has been implemented, an indirect way to "cancel" the remaining quantities for an order will be to simply reduce the Order Quantity for all remaining line items to zero, which will cause the status determineation program to set the status to SC (shipped complete), or BC (billed complete) if all shipped items have been billed.

3/29/95 Change:

Additional Logic for RO Order Types:

In place of reviewing ORDERDTL records to determine status, the program retrieves all ROTS records associated with the ORDER. ORDERDTL records are not reviewed for an RO Order Type. All Order Status determination is based on the status of the associated ROTS records, since the ORDERDTL records exist solely to to drive charges for the order.

To be eligible for CANC as a To Status, all ROTS records must have a status of NEW. Otherwise units are in mid-process and must be completed first. If this is not the case, a To Status of CANC is not allowed.

If the From Status is HOLD, for an RO Order type, the conditions for determining the correct To Status are:

If any associated ROTS records have a a status of OPEN, DONE, RVWD, or RELD, the To Status is REL.

If all associated ROTS records have a status of NEW, then the To Status is NEW.

End Change.

When selected from the menu, the program displays the selection window, with the cursor at the Order number. Pressing the F2 key brings the Orders Search Engine, from which an Order may be selected. Or, an Order number may be entered. To be retrievable by this program, an Order may not have a status of SC (Shipped Complete), BC (Billed Complete), or CANC (cancelled). No "edit" of Status is allowed.

The program displays the retrieved order data on the screen, and using the table below, displays the To Status Option(s):

- If existing status is NEW, REL, or PC, then the To Status may be HOLD, or CANC. There is no "Un-cancel", i.e., no status change from CANC to any other status.

- If the existing status is HOLD, then the To Status is either CANC, which is selected as an option or the automatically determined To Status via the Order Status determination logic defined below, i.e., NEW, REL, or PC:

If all ORDERDTL records for the order have their QTYPICKED & QTYRNP's are zero, the To Status is NEW.

　　NOTE: This indicates that there has been no action on this order. There are no TOBEPICKED records, no STAGED and no shipments or invoices.

If any ORDERDTL record for the order has a QTYRNP (ORDQTY minus QTYREL) greater than zero, greater than zero, then the To Status is REL.

Note: This indicates that at least a partial release has been performed, meaning that there is at least one TOPBEPICKED record. There may also be, in addition QTYPICKED, QTYSHIPPED values greater than zero, but until all ORDERDTL records have QTYPICKED equal to ORDQTY, the order will stay in a REL status.

If all ORDERDTL records for the order have a QTYPICKED equal to ORDQTY, then the To Status is PC.

Note: This indicates that all quantities ordered on the order have been picked, but may or may not be still in Staging, awaiting release for shipment, which is refused when the Order Status is HOLD. There may also be, in addition QTYSHIP values greater than zero but less than the associated ORDQTY.

NOTE: The conditions that define each status must exist, with the status being an outcome or reflection of these conditions. For these conditions to be true, all programs that affect these data, i.e., releasing, picking, staging, shipping functions must also update ORDERDTL data fields correctly.

When an option of CANC is selected, the program prompts for acknowledgement with an "Are you sure you wish to cancel this order? The process is not reversible. Y/N." The default to this is No, to force the user to confirm the Yes choice.

When the screen entry process is completed, the screen is saved with the F9 key. The program first revalidates the entered items, the updates the order's records as defined below:

ORDERS record is updated with the new status code.

3/29/95 Change:
Modified - upate of ORDERDTL record data for CANC status change:

New logic:

If the To Status is CANC, all TOBEPICKED records are deleted for this ORDER number.

All ORDERDTL records are reviewed and the QTYREL is set to equal QTYSHIP.

No update is made of ORDQTY or QTYPICK. QTYPICK will be greater than QTYSHIP if there are STAGED records for the order. When these are returned to inventory with the Stage to Inventory program, these Order Detail records will be updated, decreasing the QTYPICK to equal the QTYSHIP at that time.

Removed:

- If the To Status is CANC all TOBEPICKED records are deleted for this Order Number, and associated QTYRNP values set to zero.

End Change.

- If the To Status is HOLD, NEW, REL or PC only the ORDERS record is updated with the new status value, as determined by the program during the entry/validation process.

Automatic Customer Order Release

SCR# 717

CHANGED 4/6/95

Screen Data

Customer Order Release Parameter Update Window

Ship=Through Days xx (current date + this value = the calculated
        Ship-Through-Date)
Automatic Release Order Types   xxxx (or ALL)
                                           xxxx

Press F9 to update the Customer Order Release Parameter
Global Parameter record.

Releae Progam is run from the Process/Job Server

Functional Logic

4/5/95 CHANGE Summary
Added - logic to support NOCHRG Terms Type.
End Change

Overview

This program scans Order records and selects either portions or all of each Order's
quantities for releasing, based on pre-established criteria. These are:

- Ship-through Date selection; all Order Detail records with a Requested Ship Date
  earlier than or equal to the entered Ship-Through Date
Change 4/5/95:
- Presence of a Payment Terms value that is a Prepayment, COD, or No Charge Terms
  type, as defined in the Terms table.
End Change.
- Order Status equal to NEW or REL only.
- If Order Payment Terms value is a Open Account Type, the sum of the extended
  prices for all items and quantities to be released will not drive the customer's Available
  Credit value negative, i.e., exceed his credit limit.
- The determination of the quantity to release uses either the automatic, date driven
  process, or if present, the Quantity Allocated. The Quantity Allocated data can be the

---

result of a variety of allocation processes, that are performed independently prior to the Automatic Release process. These can be a manual entry screen process, a completely algorithm, program performed process, or a mixture. Once present, this quantity simply replaces the default calculation process, highly desirable when limited availablity of long-lead time product is the case.

The result of this review for each Orders record selected is a list of ORDERDTL record ID's, associated Part numbers, quantities and extended Prices that constitute the Release for this Order.

Depending on the the result of the Credit checking for open account orders, one of two steps is taken:

Passes - Release process is performed, including TOBEPICKED table update and change of order status to REL (may have previously been REL). Includes incrementing the cumulative Released Total value in ORDERS record.

Not passed - Unreleased List in ORDERS record is updated with ORDERDTL record ID's, Unrel'd Qty, and associated Extended Amounts. The Sum of all Extended Amounts is the calculated Total Unreleaed Amount.

Functional Details

Customer Order Release Parameter Update Window

The first window is acessible from the Menu and is called and displays the Customer Order Global Parameter table record. These data are used as inputs to the Automatic Release program, which is run only from the Job Server, using the Process Manager screen to schedule its running. Selecting this window from the menu causes the window to be displayed, with the current value for the global parameter record. Changing the Ship-Through Days value is allowed, but may not be negative or greater than 99. This value is in Calendar Days, and so will produce some variability in resulting working days that the Ship-Through Date includes. The selectable Automatic Release Order Types values must be in the Order Type popup window's data.

Automatic Release Process Steps

This process uses several new fields in the ORDERS record to store the results of the release process for orders that have releasable amounts. These fields are built during the release process, and used to calculate the total value of the release (TOTUNRELAMT), but only those orders that fail the credit checking portion of the release process are actually written to the ORDERS record, with the normal process being that these data are used to perform the credit checking process and to update the TOBEPICKED table records. This list is termed the Unreleased List and uses these data fields when stored:

UNRELIDS (Unreleased Order Detail record ID's)
PART (Part Number from Order Detail record associated with Line Item No.)
RELQTY (Quantity for this Order Detail that is to be released with this run)
TOTLIRELAMT - Obtained from:

> RELQTY X UNITPRICE
> = Extended Released Amount
>
> Extended Released Amount
> X TAXRATE (from ORDERS record)
> = Released Tax Amount
>
> Extended Released Amount + Released Tax Amount
> = Total Line Item Released Amount (TOTLIRELAMT)

TOTUNRELAMT - Calculated sum of TOTLIRELAMT for all M/V lines in list

The Automatic Release process includes the following steps:

1. Retrieves the Customer Order Release Parameter record to establish the Order Types to be processed and calculates the Ship Through Date, which is the current system date + the value of Ship Through Days in the parameter record.

2. Selects ORDERS records with STATUS = NEW or REL and ORDTYPE equal to the values present in the Parameter record.

3. For each resulting ORDERS record, selects associated ORDERDTL records with a REQSHIPDATE less than or equal to the Ship Through Date. If no ORDERDTL records are selected no further processing is applied to this ORDERS record and the program restarts with the next Order Number record. Otherwise, the process continues. Any existing data in the Unreleased Data fields (defined above) are cleared at this point.

4. The Release Qty for each ORDERDTL record selected for the order is calculated from one of two methods for each Line Item Number:

    A. Allocation Quantity (QTYALLOC) is present in one or more ORDERDTL records carrying the same LINENUM value. In this case the QTYALLOC is summed for all ORDERDTL records carrying the same LINENUM value, and is used as the RELQTY.

    B. QTYALLOC is zero for all ORDERDTL records carrying the same LINENUM value:

ORDQTY
minus QTYREL
= Release Qty (Quantity not yet released) (RELQTY)

This process is repeated for all ORDERDTL records carrying the same LINENUM value that were selected to obtain the total RELQTY for all Requested Shipment Dates for the same Line Number, with each pass adding to the previous value of the Release Qty until it is the total for the PART value to be released at this time.

The process is continued for each ORDERDTL belonging to this ORDERS record, building the Unreleased List, i.e., the RELQTY for each PART is calculated.

4/5/95 CHANGE:
Modified to add No Charge Payment Terms type:

5. The Order's TERMS is checked and one of two branches taken, depending on whether it is a PREPMT, COD or NOCHG Terms Type, or an Open Account Terms Type, as indicated in the TERMS table record for the order's specific TERMS code.

6. If it is a PREPMT, COD or NOCHG Terms Type, the credit checking steps that follow are skipped and the process performs the release steps next, starting at Step 11.
End Change.

7. If the Terms Type is an Open Account Type, calculates the customer's current Available Creidt Amount (CRDAVAIL) via the following process:

- Retrieve the customer's FINPROFILE record, retrieving CRDLIM value (credit limit).

- Call subprogram PENBAL, which retrieves all open CUSBAL records and returns them to an array in memory and calculates the Net Balance Owed. This is the algebraic sum of all open positive and negative amounts, so both amounts owed and unapplied payments/credits are included. Of the PENBAL data returned, this program will use only the Net Balance Owed.

- Call subprogram ORDSUM, which retrieves all orders for the customer with a status of REL, PC, or SC, using the SOLDTO ID in the Order records. NEW status order values are not used in this computation because they have not been released. This program returns several total dollar values for the order, including dollar amounts for:

  Order Total
  Released
  Picked
  Shipped

Invoiced (a posted data field in the ORDERS record)

Calculated from these data are:

Release, not Shipped Total (RNSTOT) =
    Released Amount
    minus Shipped Amount

Shipped, not Invoiced Total (SNINVTOT) =
    Shipped Amount
    minus Invoiced Amount (INVTOT from the ORDERS record

NOTE: The values for Released and Shipped Amounts are not necessarily the exact values that will be calculated by the Invoice Generation proces because shipping charges and adjustment amounts are not included. For purposes of the Release process, however, this is not a difficulty.

The current Available Credit Amount (CRDBAVAIL) value is calculated from:

Credit Limit (CRDLIM)
minus Net Balance Owed (from PENBAL)
minus RNSTOT
minus SNIINVTOT
= Available Credit Amount (CRDAVAIL)

8. The TOTUNRELAMT is subtracted from the CRDAVAIL to determine the impact on the customer's credit limit of releasing the already planned unreleased items & associated amount.

9. If the resulting value is negative, the planned release is not performed, and the UNRELIDS, PART, RELQTY, EXTAMT & TOTUNRELAMT data fields written to the ORDERS record. This will store the rejected release process's data for quick retrieval and processing by the Credit Override Approval of Order Releases.   These can also be listed on a report.

10. If the resulting value is positive, the program proceeds to perform the release process as defined in subsequent steps below.

11. TOBEPICKED table update - Using the UNRELIDS and associated data, the program updates the TOBEPICKED table as follows:

Field Source Reference table - TOBEPICKED

A new record is added for each PART in most cases; however, multiple releases for the same order & line item can occur, which must add the newly released quantity to the previously released (and still unpicked) quantity. In any case, the total release quantity is always reflected in the ORDERDTL records for each line item as the sum of the RNPQTY (released but not yet picked) and the QTYPICKED (released and picked).

Field Name	S/M	Source	Comment
ID	S	Program/Dictionary	Incremented to next integer
PART	S	Unreleased PART	
ORDNUM	S	Order Number being processed	
LINENUM	S	Line Item Number associated with PART	
RNPQTY	S	RELQTY added to previous qty; or = RNPQTY if new record added	
PICKQTY	S	Not updated	
AUDNAME	M	System logon-User ID	Add new M/V line at end if existing entries.
AUDDATE	M	System Date	
AUDTIME	M	System Time	
DTLID	M	Program - writes the record ID's of the ORDERDTL records that are related to this TOBEPICKED record	Written so that the ID's are stored in the same sequence as the REQSHIPDATE in the records.

12. <u>ORDERDTL table update</u> - ORDERDTL records are updated by retrieving the related records selected in the first step and stored in the UNRELIDS list, and adding the RELQTY to the previous QTYREL for each. Since more than one ORDERDTL record can be selected for the same PART and corresponding TOBEPICKED record, the total released quantity is applied to more than one ORDERDTL record using the following steps:

A. Add the RELQTY to the previous QTYREL for the first (earliest REQSHIPDATE) ORDERDTL record for the PART value, giving QTYREL1.

B. Subtract the ORDQTY from the QTYREL1 giving the Remaining Release Quantity.

C. If the Remaining Release Quantity is zero or negative, the application of the RELQTY to the related ORDERDTL records is complete. This ORDERDTL record is written, using ORDQTY as the new QTYREL value.

D. If the Remaining Release Quantity is positive, the ORDERDTL record is updated with the QTYREL1 as the QTYREL1 as the new QTYREL value, and the Remaining Release Qty is carried forward to the next ORDERDTL in the Requested Ship Date sequence and the process restarted with this record at step A above. This process is iterated until the Remaining Release Quantity becomes zero or negative.

13. The QTYALLOC fields are set to zero/null.

14. <u>ORDERS table update</u> - The ORDERS record's RELTOT field is updated as follows:

A. If the previous RELTOT value is zero or null (not previously updated, indicating that this is the first Release for this order), the SHIPCHARGE and the sum of the ADJAMT m/v list is added to the RELTOT.

B. In all cases, the TOTUNRELAMT is added to the previous value of RELTOT, (whether it is the first release or not).

C. If the available credit process failed, as described in Step 9 above, the ORDERS record update process will include the UNRELIDS, PART, EXTAMT & TOTUNRELAMT data fields in the update process.

The process continues until all ORDERS records in the selection process have been released or passed over.

Credit Override Approval of Unreleased Customer Orders

Screen Data

```
Selection Option Window

Enter Signature Password x-------x*
Enter Sold-To Cust ID x-------x or (ALL)

Press Shift + F1 to change previous Signature Password
Press F9 to retrieve Unreleased Order(s) for review
```

```
Signature Password Change Window

Enter Previous Signature Password  x------x*
Enter New Signature Password  x------x*
Confirm New Signature Password  x-------x*

NOTE: Remember your new Signature Password!!!!!

Press F9 to save the New Signature Password
```

*(*** displayed instead of characters entered)

Popup Window:

```
    Customers With Unreleased Orders

Customer ID        Name                   Total Unreleased Amount
x-------x          x----------------x        $xxx,xxx.xx
x-------x          x----------------x        $xxx,xxx.xx
x-------x          x----------------x        $xxx,xxx.xx
x-------x          x----------------x        $xxx,xxx.xx

Select a customer with the Enter key and press F9 to approve individual orders.
```

```
Credit Override Review & Approval Window


Review Customer Orders for:
Customer ID x-----------x*  Name x--------------x*
Credit Limit $xxx,xxx.xx*
Open Invoices $xxx,xxx.xx*
Released Orders $xxx,xxx.xx*
Shipped Not Inc'd  $xxx,xxx.xx*
Available Credit $xxx,xxx*


Press Esc to return to the Customer selection window, or F9
to Release approved Orders.
```

Order	Unreleased	OK to	Projected
No.*	Amount*	Rel?	Avail Credit (+/-)*
x---x	$xxx,xxx.xx	x	$xxx,xxx.xx +/-
x---x	$xxx,xxx.xx	x	$xxx,xxx.xx +/-
x---x	$xxx,xxx.xx	x	$xxx,xxx.xx +/-
x---x	$xxx,xxx.xx	x	$xxx,xxx.xx +/-
x---x	$xxx,xxx.xx	x	$xxx,xxx.xx +/-

*Display only field

Shift + F1 brings up that Order's Unreleased List from ORDERS record (as a message window)

```
 Unreleased  Order Detail
```

L/I	Part No.	Desc	Qty Rel'd	Ext. Amount
xx	x------x	x-----------x	x------x	$xxx,xxx.xx
xx	x------x	x-----------x	x------x	$xxx,xxx.xx
xx	x------x	x-----------x	x------x	$xxx,xxx.xx

```
Total Unrel Amt  $xxx,xxx.xx
```

Shift + F2 brings up the Financial Inquiry window for the customer where the cursor is located:

```
                    Customer Financial Inquiry

Customer ID x-------x  Name x--------------------x        CustType        xxxx
                                                                         xxxx
Financial  Status xxxx  x------------------x              Floor Co ID x--------x
Current Terms       x------------------x                  x--------------------x(1)
                    x------------------x                  Sales Rep ID x--------x
                                                          S/R Name x-----------x
Credit Limit            $xxx,xxx.xx                       Agreement ?  xxx
    Aging  Days     xxx*   $xxx,xxx.xx*                   Credit App?  xxx
                   xxx*   $xxx,xxx.xx*                    Acct Open Date xx/xx/xx*
                   xxx*   $xxx,xxx.xx*                    High Balance $xxx,xxx.xx
Total Open Invoices $xxx,xxx.xx*              High Bal. Date   xx/xx/xx
Unapplied  Cr. Total $xxx,xxx.xx*
```

```
Current Balance      $xxx,xxx.xx*                              Pay Dollar/Days  xxx*
  Available Credit   $xxx,xxx.xx*

Open Orders:
Unreleased  Total              $xxx,xxx.xx*              Billed MTD $xxx,xxx.xx*
Released, Not Shipped Total  $xxx,xxx.xx*      Billed YTD  $xxx,xxx.xx*
Shipped Not Invoiced Total   $xxx,xxx.xx         *

Financial Status Notes x-------------------------------------------------------x

Other Notes x----------------------------------------------------------------x

Linked to ID/Names:
x-----x       x---------------------------------------x
x-----x       x---------------------------------------x
```

All other windows that are linked to the Financial Inquiry window are called from within it.

Functional Logic

Overview

The purpose of this program is to provide a Credit Management capability to override the normal, automatic order releasing logic for open account type customers & orders. The result will drive the customer's Available Credit into a negative value, but only with explicit, traceable approval for each release to an order that does so. The program is designed to process only unreleased portions of an Order, to minimize unnecessary manual releases of orders. Key features include:

- Uses previously calculated Releases against an Order that failed the automatic release process. Releases are not calculated within this program
- Use of a Signature Password - special password that is separate from the Logon password, and which is stored in encrypted form in the data base.
- Update of an Override Audit list including who performed an override approval, the associated amount, and date performed.
- Builds a list of customers with Unreleased Orders, from which a detailed order by order review and approval display is generated.
- Real-time retrieval & calculation of credit status data, including available credit.
- On-screen projection of the new Available Credit value as a result of the override process.

Detailed Functions

Upon selection from the menu, the program first presents the Selection Option Window. This window requires entry of the user's Signature Pass first, then allows these options:

- Entry of a specific Customer (Sold-To) ID that the is to have, perhaps on an expedited basis, his/her unreleased order(s).
- Selection of ALL rejected Releases for presentation & review on the main window.
- Private update of the Signature Password at any time by pressing the Shift + F1 keys, which calls the Signature Password Change Window.

The Signature Password Change window and process is initated by a separate program, available only to the System Administrator that will place the Default Signature of "NEW" in non-encrypted form in the Signature Password field for the User.

If this program detects that the password is NEW, it will automatically call the Signature Password Change Window and require that the user enter a new, privately entered password before proceeding. Entry of the word NEW is not required, since the change window is called automatically. Once entered, confirmed and saved in encrypted form, the program then allows the user to proceed normally.

If called, the Signature Password Change Window functions as follows:

1. Enters the current/previous Signature Password. The program accepts the entry, displaying asterisks instead of the characters typed, then de-encrypts the entry and validates against the Signature Password contained in the User_Security record for that user. If it fails, the program allows three unsuccessful trys before displaying a message informing the user to contact the System Administrator for assistance. When this message is acknowledged, the program proceeds by ending and logging the user off the system completely.

2. Enters the desired New Signature Password, displaying asterisks instead of the characters typed.

3. Confirms by entering the desired New Signature Password again, displaying asterisks instead of the characters typed. If the entry exactly matches the original entry of the new value, the ability to save the window and update the Signature Password is allowed. If the confirmation entry fails, one additional try is allowed. If it succeeds, the save capability is enabled, otherwise the program returns to the Enter New Signature Password field and the process is restarted.

4. When confirmation is successful, pressing F9 is required to update the Signature Password data. The program then saves it to the USER_SECURITY record using the encryption algorithm (documented separately).

Regardless of whether the signature was changed, the window returns the user to the initial Enter Signature Password field on the Selection Option Window which must be successfully entered.

The Selection Option Window processes the entered Signature Password as follows:

- The value entered is processed by the encryption algorithm, then compared to the already encrypted value in the USER_SECURITY records Signature Password field.

- If it matches, the program accepts the entry and proceeds as defined below.

- If it does not match, the program requires re-entry of the Signature Password, displaying a message informing the user that the password entry attempt failed and to re-enter it.

- The program allows three unsuccessful trys before displaying a message informing the user to contact the System Administrator for assistance. When this message is acknowledged, the program proceeds by ending and logging the user off the system completely.

Successful Signature Password entry allows the user to enter either a specific Sold-To Customer ID, or ALL as the default. Pressing the F2 key will call the Procus Search Engine to enter/select a customer ID.   Pressing F9 initiates the retrieval process and calls the Credit Override Review & Approval Window. A message is displayed informing the user that the Unreleased Order process is being run and to please be patient.

The program retrieves either all ORDERS records for the entered Customer ID, or all Orders without selecting for customer ID. Only those that have Unreleased List data are selected. The resulting orders are sorted by Sold-To Customer ID and the Total Unreleased Amount for each Customer ID. When this process is completed, the program builds and maintains the Customers With Unreleased Orders popup window. This window remains active, in that when the Override Review & Approval Window is exited, it returns to this popup to select the next customer.

As each customer is selected from the popup window, and the F9 key pressed, the program calls the FINSTAT (Customer Open Financial Data Update) Subprogram to retrieve and calculate the customer's current credit data. The result is displayed on the top of the Credit Override Review & Approval Window, together with that customer's unreleased Orders.

From anywhere within the window, Shift + F2 brings up the Financial Inquiry window, and from within it, all detailed "drill-down" windows are available as they would be from any other access point to the Financial Inquiry.

The Shift + F1 keys bring up the Unreleased List data for that Order line where the cursor is, displayed as a message window.

The program allows only a Y/N response to the OK to Release? column, with the default value being No.   The program actions for each response are:

No response - the program calculates and displays the same Projected Available Credit value that the previous line displayed (or for the first line, the Available Credit value retrieved by the FINSTAT program), carrying the value down and showing that the No response did not effect the Available Credit number.

Yes response - the program subtracts the Unreleased Amount for that Order number line from the previous line's Projected Available Credit, either reducing a previous positive value, or (more likely) driving it further negative and displays the new Projected Available Credit value that shows what it will be if this Order is Overridden/released.

When the F9 key is pressed, the program will perform the released process for those Orders that have a Yes in the OK to Release column. If the F9 key is pressed with one or more orders that the user has not indicated a Yes for, a No response is assumed. No process is performed for Orders with a No response, either entered or implicitly. For those with a Yes response, the following steps are performed to complete the Release process for each order:

1. <u>TOBEPICKED table update</u> - Using the UNRELIDS and associated data, the program updates the TOBEPICKED table as follows:

Field Source Reference table - TOBEPICKED

A new record is added for each PART in most cases; however, multiple releases for the same order & line item can occur, which must add the newly released quantity to the previously released (and still unpicked) quantity. In any case, the total release quantity is always reflected in the ORDERDTL records for each line item as the sum of the RNPQTY (released but not yet picked) and the QTYPICKED (released and picked).

Field Name	S/M	Source	Comment
ID	S	Program/Dictionary	Incremented to next integer
PART	S	Unreleased PART	
ORDNUM	S	Order Number being processed	
LINENUM	S	Line Item Number associated with PART	

RNPQTY	S	RELQTY added to previous qty; or = RNPQTY if new record added	
PICKQTY	S	Not updated	
AUDNAME	M	System logon-User ID	Add new M/V line at end if existing entries.
AUDDATE	M	System Date	
AUDTIME	M	System Time	

2. <u>ORDERDTL table update</u> - ORDERDTL records are updated by retrieving the related records selected in the first step and stored in the UNRELIDS list, and adding the RELQTY to the previous QTYREL for each. Since more than one ORDERDTL record can be selected for the same PART and corresponding TOBEPICKED record, the total released quantity is applied to more than one ORDERDTL record using the following steps:

A. Add the RELQTY to the previous QTYREL for the first (earliest REQSHIPDATE) ORDERDTL record for the PART value, giving QTYREL1.

B. Subtract the ORDQTY from the QTYREL1 giving the Remaining Release Quantity.

C. If the Remaining Release Quantity is zero or negative, the application of the RELQTY to the related ORDERDTL records is complete. This ORDERDTL record is written, using ORDQTY as the new QTYREL value.

D. If the Remaining Release Quantity is positive, the ORDERDTL record is updated with the QTYREL1 as the QTYREL1 as the new QTYREL value, and the Remaining Releaes Qty is carried forward to the next ORDERDTL in the Requested Ship Date sequence and the process restarted with this record at step A above. This process is iterated until the Remaining Release Quantity becomes zero or negative.

3. The QTYALLOC fields are set to zero/null.

4.   <u>ORDERS table update</u> - The ORDERS record's RELTOT field is updated as follows:

A. If the previous RELTOT value is zero or null (not previously updated, indicating that this is the first Release for this order), the SHIPCHARGE and the sum of the ADJAMT m/v list is added to the RELTOT.

B. In all cases, the TOTUNRELAMT is added to the previous value of RELTOT, (whether it is the first release or not).

C. The Override History M/V list (new fields) in the ORDERS record is updated by adding a line (previous lines are not altered) including:

ORDERS record field	Source
OKNAME	System Logon User-ID
OKDATE	System Date
OKAMT	TOTUNRELAMT

When the Release Process for each Customer is completed, the program returns to the Customer selection popup, to allow selection of the next customer. Pressing the Escape key clears the popup and returns to the Option Selection screen. From here, a specific customer ID can be entered, or by pressing the Escape key again, exit to the menu. Once exited, the Signature Password entry process must be repeated to restart the program.

Reverse an Order Release

Screen Data

                    Reverse An Order Release

Order No.x----x Sold to Cust ID x--------x* Name x-----------------x*

L/I*	Part No.*	Desc.*	U/M*	Rel Not *	Qty To
No.				Picked Qty	Unrelease
xx	x-----x	x-----x	xx	x----x	x----x
xx	x-----x	x-----x	xx	x----x	x----x

*display only fields

Functional Logic

This program allows entry of an order number, then retrieves and displays items in the
TOBEPICKED table that were placed there by the Release process. Any quantity that
remains in the Released Not Picked state can be selected for all or part for reversal, on a
one part number at a time basis as part of the Order. This provides the capability to
reverse the effect of any portion of an automatic release. Reasons could include need to
reschedule shipment dates due to lack of available product, change in the customer's order
after the release was performed, or other similar factors. When completed, the resulting
effect is to return the quantities Unreleased back to the Order Detail records and
quantities, to, in effect, reposition them for future release again.

The program functions upon selection from the menu by displaying the entry window,
with the cursor at Order Number. An Order Number may be entered, or selected from the
F2 keyed popup, which contains Order Numbers of items in the TOBEPICKED table.
Other order numbers may be valid Orders, but will be rejected by this screen, since they
are not in the TOBEPICKED table, with a message informing the user that there are no
Released Quantities for this Order Number.

When a valid Order number is entered, the program then retrieves and displays all Part
Number lines for this Order Number from the TOBEPICKED table, retrieving the
Description & and Unit of Measure from the Part Master table for each Part Number, and
displaying the current RNPQTY value.   Customer ID and Name are the SOLDTO value
in the ORDERS record & associated Name.

Entry is required for each line in the display. Entries must be between zero, which will
cause no unrelease/reversal action, and the RNPQTY as a maximum.   The Default is zero.

When entries are completed for all Part Numbers in the display for that Order Number, the F9 key is pressed to begin the Unrelease process for those item that have a positive Qty to Unrelease.

First, the program revalidates all screen entries as described above. Then for each item it performs the Unrelease process, consisting of these steps:

ORDERDTL table update:

- Using the DTLID values for each TOBEPICKED record that involves an Quantity to Unrelease (Qty Unrel), retrieve the associated ORDERDTL records.
- Subtract the Qty Unrel from the QTYREL value of the ORDERDTL record with the most recent REQSHIPDATE first. If the result is negative, calculate the excess value (less than zero portion), and carry it to the next ORDERDTL record, (next most recent), and repeats the process. When completed, ORDERDTL records's QTYREL have been reduced by the Qty Unrel in total, and none of the ORDERDTL record's QTYREL have been left as negative values.

TOBEPICKED table update:
- Subtract the Qty Unrel from each associated TOBEPICKED record's RNPQTY.
- If the resulting RNPQTY is zero, delete the TOBEPICKED record.

Update Order Status - ORDERS record STATUS is determined by retrieving all related ORDERDTL records and reviewing to determine correct status for the ORDER:
- If all ORDERDTL records have a QTYREL of zero after the Unrelease process, then STATUS of the Order is set to NEW.
    NOTE: If this is the case, all Order Detail records should also have zero QTYPICK and QTYSHIP values. If they don't, there is a serious software integrity problem.
- If any ORDERDTL record has a QTYREL of greater than zero after the Unrelase process, then the STATUS of the Order is set to REL.

- When updating of the Qty to Unrelease is completed for the Order, the program clears the screen, ready for the next entry.