

AIMS/ERPtm

Customers & Sales Maintenance

Specifications & Guide to Use

AIMS Software, Inc.
5699 Kanan Road, Suite 113
Agoura Hills, CA 91301
(818) 706-0160
FAX (818) 991-5468

Table of Contents

<u>Function</u>	<u>Page</u>
Customer Identification & Data Management.....	3
Sales Part Master Data Maintenance	5
Merchandise Price Maintenance	9
Spare Parts Price Table Maintenance	11
Spare Parts Catalog Build & Price Calculation	13
Codes & PopUp Window Data Maintenance.....	17
Services Master Maintenance.....	20
Merge Customer Data	23
Signature Password Initiation.....	32

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Customer Identification & Data Management

This section is to document & supplement existing PROCUS maintenance windows and ancillary profile window update logic, and to provide a position statement as to how customer & prospect data is to be controlled in the Customer Interface Module.

Customer Type is the controlling variable to all update/maintenance rules. The ability add or change specific data in all cases will link back to the customer type. Since Customers can have multiple types as part of their attributes, a major issue will be reconciling. Adding a customer type in CIM requires adding it to various lists that control functions in several programs, to insure that the system adequately controls data for this type, and keeps it linked to system security functions.

Customer Types can be grouped into two major groups:

1. Credit Relationships - These are customers with whom the company has or will have a credit relationship, are primary product customers, and with whom the normal mode of business is dependent on a mutually agreed to contract, i.e., not simply a PO. These customer types have the following restrictions & associated control assumptions:
 - Only an authorized person may add or change:
 - Customer Type codes of DLR, DST, SVC, REP
 - Main address in the PROCUS record.
 - Alternate Billing addresses
 - All enterable financial data, such as credit status, terms, etc.
 - Any Rules that may pertain to billing, mailing, or any other function that might impact the credit/financial relationship with the customer.
 - All other users of these data, i.e., capabilities associated with an order entry window, may see these data, and programs using them will present previously entered data as options for these users to select from, but will not allow changes. These users may update the following data in the customer & profile record data set, typically via special windows callable from within the Order Header program, the "root" order entry program that manages customer name and address data for each order:
 - PROCUS - Alternate Shipping Addresses
 - PROCUS - Phone Numbers
 - PROCUS - Contacts
 - STORES - Alternate Shipping Addresses
 - STORES - Phone Numbers

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Customers & Sales Maintenance

- STORES - Contacts
 - USERPROFILE - all data
-
- An authorized person will normally be a responsible person in the Credit or Finance Departments who is assigned the responsibility for insuring that these and other credit and financial data is up to date and correct.
-
2. Non-Credit Relationships - These customers are either end users and the ultimate customers in the sense that they own product, but they did not purchase it directly from the company.

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Sales Part Master Data Maintenance

CHANGED 8/18/94
 CHANGED 11/8/94
 CHANGED 1/6/95

Screen Data:

Part Number x-----x	Sell Group
Description x-----x*	xxxx
U/M xx*	Configurable PN? Y/N x xxxx
P/M x* Part Group xxxx* Part Class xxxx	xxxx
Configurable Product Price Rule x	

Configuration List:

Item*	Part	Description*	Mandatory?	Configuration
Number	Number			Quantity
xx	x-----x	x-----x	x	xxxx
xx	x-----x	x-----x	x	xxxx
xx	x-----x	x-----x	x	xxxx

Minimum Ship Qty xxxxxTrack Unit ID's? x (/N)

*Display only

Functional Logic

CHANGE SUMMARY 8/18/94:

Display Group is replaced by Sell Group
 Price, Price List, Price Process are now AMV fields with Sell Group.
 Part Number F2 access is modified for more efficient search, using Part Master Search Sub-program.
 End 8/18/94 Change.

CHANGE 11/8/94 SUMMARY:

Price, Price List and Price Process is removed from screen.
 Fields and logic is added to support Configurable Products Option:

End of Change Summary 11/8/94.

CHANGE SUMMARY 1/6/95

AIMS/ERP - Specifications & Guide to Use Customers & Sales Maintenance

ADDED - field to indicate that this P/N is to have its Unit ID entered during issue from inventory or during the staging process, prior to being shipped, so the Shipments & Invoices data will include the specific Unit ID's sold.

End Change Summary

This screen provides data maintenance capability for part number specific data relating to the sales, pricing and shipping of product. Upon selection from the menu, the program displays the window, with the cursor at Part Number. When a part number is entered, it is retrieved from the Part Master table. If the attempt fails, an error message is displayed.

The screen allows changes to the following fields:

- Part Class - must be in the Part Class lookup table. May be blank.
- Sell Group - must be in the Sell Group lookup table (new table). May be blank; multivalued entries allowed.
- Minimum Ship Qty - defaults to 1; null is also assumed in other programs to be equivalent to 1. May be blank.

Removed 11/8/94:

- Price - may be blank/null; if entered, must be greater than zero, and not negative. This is the "standard" price to be used for an item, which may be used as is, or as part of a calculation process to arrive at a different price. may be blank.
- Price List - refers to a price list based pricing method, contained in the Price List master table. May be blank.
- Price Process - contains the name of the price process to be used to calculate the price of this part number when selling it. May be blank.

When entry or changes are completed, the screen's data is saved with the F9 key. The Presave process re-performs all validations as defined above.

ADDED: Configurable product option:

This capability allows a new type of part number to be created which may not be inventoried, but is, in effect, a list of other part numbers which are inventoried, have standard costs, and are either purchased or manufactured. The Configurable Part Number itself may be either Manufactured or Purchased, and may represent an item that serves as the Base P/N, to which the configuration list is added, or only to identify the resulting configured list.

This capability is used only in the Customer Order process, with the resulting selected list's P/N's being stored as a list in the ORDERDTL record associated with the order. The Configuration Part Number is carried in the PART field, with the selected part numbers

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being carried in the CONFIGLIST field (new field), and the associated quantity in the CONFIGQTY field. If optional selections are allowed in a particular list, those items that were not selected are not stored in the CONFIGLIST.

The resulting collection of Line Item Type code of "C", the CONFIGLIST and associated quantities is used to drive the Order Picking process, is stored in the SHIPMENTS and INVOCIES records, and is used to drive cost of sales. Sales values depend on the pricing logic used, but in any event are carried in the UNITPRICE field and associated with the PART field's P/N which is the configurable part number.

Pricing Rules for Configurable Part Numbers are one of the following:

1. Use the fixed price in the FG Price Master table, using the Configurable Part Number as the identifier, selecting the lowest price for the Customer Type from the Price Master's price list data.
2. Use the selected items in the Configuration List, retrieving each item from the FG Price Master table, selecting their prices using Customer Type matching and selection logic, then adding them up to obtain the total price for the Configured Part Number.

This screen is used to maintain Part Master data for Configure/Assemble to Order data. With the appropriate Order Typed Order Detail Program, a different line item type is used, (C, for Configurable Line Item). These fields and their functions are described below and include:

- Configured P/N? Flag - if this flag = Y, then order processing will prompt for the configuration list if there are options, otherwise will treat it, from an order entry viewpoint, like any other part number. Causes the Cust Ord L/I Type to indicate that the L/I is a configured part, to trigger other processes.
- Configuration List - this is a list that controls the product configuration options and includes several fields which work together. These form a multi-value stack identifying the item number in the configuration list, the part number that belongs to that line item, and a code indicating whether the item is a mandatory selection or only optional.
 - Item Number - this is a sequential number that identifies each category of mandatory or optional items that comprises the completed configuration. Duplicate Item Numbers are allowed if the Mandatory or Optional Flag indicates that all lines with the same Item number are optional.
 - Part Number - this is a part number in the Part Master that is part of this configuration list. Only Part Numbers that themselves do not have their Configured P/N? Flag set to Y can be part of a configuration list. Other purchased or manufactured part numbers can be in a list.

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- Configuration Quantity - this is the quantity of the part number that is used in this configuration if it is mandatory. If the item is optional, the configuration quantity is a default value to be used along with the selection process.
- Mandatory? - this is a flag that, if = Yes, indicates that this line item number, which can have only one occurrence, is required as a part of this configuration list. If = No, it indicates that this line item is an optional part of the configuration list and must be selected during order entry in order to be included in the resulting configuration.

The window allows Configurable P/N field to be either Y, N or null. Null means the same as No. If N or blank is entered, then there must be no Configuration List data in the record when it is saved. If Y is entered, then there must be at least 2 lines in the Configuration List fields on this window when it is saved, and there must be a valid Configurable Product Price Rule entered. The Configuration List fields are entered as follows:

Item Number - Sequential number, default of the next incremental number is assigned by the program. Numbers must be in sequence. If there are duplicates, they must be together (i.e., all Item Number "3's" must be together). If the Mandatory? flag = Y, there may be only one occurrence of the Item Number in the list. If the Mandatory? flag = N, there may be two or more occurrences of Item Number. When an Item Number is entered, there must be an associated valid Part Number, Configuration Quantity and Mandatory? flag value.

Part Number - Must be in the Part Master table and must not itself be identified as a Configurable Part Number. If Price Rule 2 is in effect, it must also be in the FG Price Master table. When entered and validated, the Description is retrieved and displayed from the Part Master table.

Mandatory? - Must be either Y or N.

Configuration Quantity - Must be greater than zero and not negative. Required if the Mandatory? flag = Y

Merchandise Price Maintenance

Screen Data:

Part Number x-----x
Description x-----x (display only)
Part Group x---x (display only)
Product Class x-----x (display only)

Customer	List 1
Type	Price
RTL	\$xxx.xx
EMP	\$xxx.xx
DLR	\$xxx.xx

Functional Logic

This screen adds and maintains Merchandise Price list table data. It establishes a default structure built around three basic customer types, as carried in the PROCUS table. These are RTL (all others), EMP (employee), DLR (dealer).

Upon selection from the menu, the program displays the screen, cursor at Part Number. Only Part Numbers with the Sell Group Code = MER can be entered and maintained with this window. Pressing the F2 key brings a popup containing existing records in this table, and contains Part Number and Description, retrieved from the associated Part Master table record for each Part Number.

If the part number entered is in the Merchandise Price list table, the record is retrieved and displayed. If it is not, and is in the part master table, but is not coded with an Engineering Status Code of "MER", then an error message is displayed, informing the user that the part number does not have the correct Engineering Status code. If the part number is not in the part master table, the program displays an error message informing the user that the record is not in the part master table.

Description, Part Group, Product Class are retrieved from the Part Master record for this part number, and are display only. The cursor moves to the Customer Type field.

Price information in the record is a multi-value list, keyed by Customer Type Code. For each customer type code line, there can, in addition, be multiple prices. The screen currently displays one, which is the price information used by the Merchandise Order Entry program. Additional price list fields can be easily added. Only three Customer Type codes are valid, RTL, EMP and DLR.

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Customers & Sales Maintenance

The List1 Price field must be zero or a positive value and may not be negative. There must be at least one price line. If it is only one, it must be RTL as the customer type code. Additional prices for the EMP and DLR types may be entered. No other types are valid at this time.

When entry is complete, the screen is saved with the F9 key. The Save process revalidates the entries and saves the record to the MERPRICE table.

Spare Parts Price Table Maintenance

CHANGED 11/8/94

Screen data:

Part Number x-----x
Description x-----x (display only)
Part Group x---x (display only)
Product Class x-----x (display only)

Customer	List 1
Type	Price
xxx	\$xxx.xx
xxx	\$xxx.xx
xxx	\$xxx.xx

Functional Logic

CHANGE SUMMARY 11/8/94:

- Remove hardcoded Customer Types list.
- Replace with Customer Types selected from CUSTYPES table with PRTS? = Y.
- Use resulting list to populate and require entry to the Customer/Price MV List.
- Logic pertaining to Engineering Status Code is removed.
- All price lines must be populated, keying off of the Customer Types that are flagged for the PRTS Order Type in the CUSTYPES table.

NOTE: This program is identical to the Merchandise Price List maintenance window and uses the same dictionary structure, but with a different table name; PRTSPRICE. The window displayed also carries the separate name "Part Price Maintenance".

This screen adds and maintains Parts Price list table data. It establishes a default structure built around three basic customer types, as carried in the PROCUS table. These are RTL (all others), EMP (employee), DLR (dealer).

Upon selection from the menu, the program displays the screen, cursor at Part Number. Only Part Numbers with the Sell Group Code = PRTS can be entered and maintained with this window. Pressing the F2 key brings a popup containing existing records in this table, and contains Part Number and Description, retrieved from the associated Part Master table record for each Part Number.

If the part number entered is in the PRTS Price list table, the record is retrieved and displayed. If it is not, and is in the part master table, but is not coded with an Engineering Status Code of "PRTS", then an error message is displayed, informing the user that the

AIMS/ERP - Specifications & Guide to Use **Customers & Sales Maintenance**

part number does not have the correct Sell Group code. If the part number is not in the part master table, the program displays an error message informing the user that the record is not in the part master table.

Description, Part Group, Product Class are retrieved from the Part Master record for this part number, and are display only. The cursor moves to the Customer Type field.

Price information in the record is a multi-value list, keyed by Customer Type Code. For each customer type code line, there can, in addition, be multiple prices. The screen currently displays one, which is the price information used by the Spare Parts Order Entry program. Additional price list fields can be easily added. Only three Customer Type codes are valid, RTL, EMP and DLR.

The List1 Price field must be zero or a positive value and may not be negative. There must be at least one price line. If it is only one, it must be RTL as the customer type code. Additional prices for the EMP and DLR types may be entered. No other types are valid at this time.

When entry is complete, the screen is saved with the F9 key. The Save process revalidates the entries and saves the record to the PRTSPRICE table.

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Spare Parts Catalog Build & Price Calculation

CHANGED 2/24/95

SCR # 728

Screen Data

Spare Parts Catalog Build & Price Calculation

Enter Price Calculation Variables:

- | | | | | |
|-----|--|-------------------------|--------------------------|-------|
| 1. | Adjust for Purch Part | x---x (default is 1.12) | | ADDED |
| 2. | Adjust for low Std Cost (calculate Base Cost): | | Variable (not displayed) | |
| | If Cost is < \$1.00, multiply by ___ (default is 5) | | A | |
| | If Cost is < \$5.00, multiply by ___ (default is 4) | | B | |
| | If Cost is < \$10.00, multiply by ___ (default is 3) | | C | |
| | If Cost is < \$20.00, multiply by ___ (default is 2) | | D | |
| 3. | EMP Price Calc: | | | |
| | Multiply total std cost by _____ | | E | |
| 4. | USR Price Calc: | | | |
| | Multiply Base Cost by _____ | | F | |
| 5. | SVC Price Calc: | | | |
| | Multiply Base Cost by _____ | | G | |
| 6. | DLR Price Calc | | | |
| | Multiply base Cost by _____ | | I | ADDED |
| 7. | DIS Price Calc: | | | |
| | Multiply base Cost by _____ | | J | ADDED |
| 8. | REP Price Calc: | | | |
| | Multiply base Cost by _____ | | H | ADDED |
| 9. | WWN Price Calc: | | | |
| | Multiply base Cost by _____ | | K | ADDED |
| 10. | SDO Price Calc | | | |
| | Multiply base Cost by _____ | | L | ADDED |

Update Options - Enter Selection No. x (default is 2)

1. Overwrite all existing prices?
2. Overwrite only blank or zero prices?
3. Overwrite only x---x Cust Type Prices (enter Cust Types)
 x---x

Press F9 to start updating price data.

Functional Logic

2/24/95 CHANGE SUMMARY:

Entry window is modified to add:

- Additional adjustment factor for part numbers that have a P/M Code of P in the Part Master table, with a default value of 1.12.
- Breaks out the combined pricing for DLR, DIS and REP Customer Type codes into separate lines, that can have different markup percentages.
- Default values are removed, requiring conscious entry of all variables.

End Change Summary.

The purpose of this program is to programatically create or update the Spare Parts Catalog and its price data. Price calculation variables are entered for each run. The default values are those currently used by the FoxBase RA system.

Update options are provided to selectively overwrite all or only some price data.

The program performs the following steps:

1. Displays the entry/selection screen. The cursor must be, at a minimum, moved through each Price Calculation Variable field to select the defaults. Other values may be entered, including zero, but not negative or null values. One of the displayed Update Options must be selected. If Update Option 3 is selected, one or more Customer Type Codes may be entered, each of which must be in the Customer Type Popup Window data.

NOTE: The entered price calculation variables are identified above by Variable name/letters. These are for reference purposes within this specification only, and are not displayed on the screen.

2. Selects all Part Master table records having a SELLGRP of PRTS. These are part numbers that are to be included in the Spare Parts Price master table, and represent all parts that have been designated as being available for sale as a Spare Part.
3. For each part number, retrieves the Current Total Standard Unit Cost for each part number from the Part Master.
4. Calculates Prices in memory for each part number. Prices are calculated as follows:

ADDED 2/24/95:

AIMS/ERP - Specifications & Guide to Use
Customers & Sales Maintenance

- Adjust for Purchased Part as follows:
If the retrieved Part Number has a Purch/Mfg code of M, this step is skipped.
If the retrieved Part Number has a P/Mfg code of P, then multiply the retrieved Standard Cost for the Part Number by the entered variable. This value is then fed to the next step in the calculation process as the Revised Standard Cost.
- Adjust for low *Revised* Standard Cost by selecting std Cost range to obtain Adjusted Std Cost (Base Cost):

End Change.

If Std Cost is < 1.00, multiply by variable A

If Std Cost is > or = 1.00 and less than 5.00, multiply by variable B

If Std Cost is > or = 5.00 and less than 10.00, multiply by variable C

If Std Cost is > or = 10.00 and less than 20.00, multiply by variable D

If Std Cost is > or = 20.00, Std Cost = Adj Std Cost (Base Cost).

Revised 2/24/95:

- Calculate Prices:

Adj Std Cost (Base Cost) X Variable E = EMP Price

Adj Std Cost (Base Cost) X Variable F = USR Price

Adj Std Cost (Base Cost) X Variable G = SVC Price

Adj Std Cost (Base Cost) X Variable H = DLR Price

Adj Std Cost (Base Cost) X Variable I = DIS Price

Adj Std Cost (Base Cost) X Variable J = REP Price

Adj Std Cost (Base Cost) X Variable K = WWN Price

Adj Std Cost (Base Cost) X Variable L = SDO Price

End Change.

5. Update of Spare Parts Price master depends on which Selection Option was taken on the entry. These are:

Option 1 - (Overwrite all existing Prices) - all Part Numbers are processed from Part Master selection into Spare Parts Master without testing for the presence of a record

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Customers & Sales Maintenance

in the Spare Parts Master prior to writing/updating. Previous data is simply overwritten and part numbers that were not in the Spare Parts Master are added.

Option 2 - (Overwrite only blank/zero prices) - Prior to updating, the program attempts to read the Spare Parts master for the Part Number being processed, with two possible outcomes:

- Part Number is not in the Spare Parts Master - in this case, the program adds the new record with all Prices as calculated above.
- Part Number is in the Spare Parts Master - in this case, the program examines each Price field in the retrieved record. Only those that either have no M/V line for that customer type code (implicit zero price), which have a M/V line for the customer type, but the price is zero/blank/null, are updated from the Prices calculated in memory. Other customer type prices are not updated from the newly calculated Prices into the Spare Parts Master record.

Option 3 - (Overwrite only an entered Customer Type) - Prior to updating, the program attempts to read the Spare Parts master for the Part Number being processed, with two possible outcomes:

- Part Number is not in the Spare Parts Master - in this case, the program adds the new record with all Prices as calculated above.
- Part Number is in the Spare Parts Master - in this case, the program examines each Customer Type/Price line in the retrieved record. If there is no match between a line in the the newly calculated Customer Type/Price list in memory and those already present in the record, the program adds the new Customer Type/Price M/V line to the list in the Spare Parts Master record.

If there is a match on Customer Type between the value entered, and a M/V line in the Customer Type/Price list in the retrieved record, this Price is updated with the newly calculated Price from memory.

If there is no match on Customer Type between the value entered, and a M/V line in the Customer Type/Price list in the retrieved record, this Price is NOT updated.

6. The selected Part Master records are processed until all are driven into the Spare Parts Price Master table, except for those skipped due to Update Option logic

Codes & PopUp Window Data Maintenance

SCR #659

Screen Data:

PopUp Window Name x-----x Description x-----x

Code Value	Description
x-----x	x-----s-x
x-----x	x-----s-x
x-----x	x-----s-x
x-----x	x-----s-x

Press Shift + F1 to print a list of these codes.

Report Format:

Company (Co Name record)

xx/xx/xx xx:xx

Page xxx

Codes for (Popup record name & associated description)*

Code Value	Description
x---x	x-----x
x---x	x-----x
x---x	x-----x
x---x	x-----x
x---x	x-----x

*Retrieved from the POPCODES table and shown on the screen.

Functional Logic

This program is used to maintain a wide range of code data that is carried within a popup record. Popup window records (in the POPUPS table) are accessible with this program when the name of the table is added to the POPCODES (master popup code access table), via A/Rev editor. This control table in turn is used to locate and retrieve the named popup records. The program can be used only to maintain only the code data that is carried within the popup window record. No other change to the popup window functions or other properties can be made within this program. An option to print a list of the codes for the popup shown on the screen is available by pressing the Shift + F1 keys.

The use of popup windows in place of code tables allows several system benefits, including faster operation (less disk I/O), less LAN traffic, and faster program load time. Only popups that contain only a series of codes and associated descriptions are suitable for

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this approach. Other more complex tables must be maintained with a separate window in a specifically designated table with its own dictionary.

The program functions upon selection from the menu by displaying the window, with the cursor at Popup Window Name. The name of the popup window to be maintained may be entered, or selected from the F2 popup, which contains the contents of the POPCODES table. The program then uses this window name to access the popup window record with that name.

When retrieved, the popup window record's code data, contained in Field ___?___ in the Popup record, is displayed as a scrollable list in the window. The list can be maintained by inserting new lines and/or changing data in the list. An option to print a listing of the codes on the screen is available by pressing the Shift + F1 keys.

When updating is completed, the screen is saved with the F9 key. The Presave process insures that there are no blank lines, and that both a code value and its associated description are present in each line before updating the Popup record. After the popup record is saved, the screen is cleared and the process restarted.

Additional Window - Maintain POPCODES

POPCODES Meta table dictionary:

ID = Popup Window Name

DESC = Code Data description

USERS = Restricted Users

This window is a bound window to the POPCODES table. The ID must be a record in the POPUPS table. Description must not be blank.

Initial Entries in this table include the following popup windows:

ACCESSORIES_CODES
ALTADDRESS
BIZTYPES_CODES
CONSUB
CUSTYPES
DLRTYPE_CODES
LANG1_CODES
MUSICIAN_CODES
ORDERADJ_CODES
ORDERSTATUS_CODES
ORDERTYPE_CODES

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Customers & Sales Maintenance

PHONETYPE_CODES

SELLGRP_CODES

SHIP or SHIPMENT - not sure which popup is used where.

TODO

UNITEVENTS

VIP_CODES

The CUSTYPES popup currently calls the custypes table. Alter the popup to not call this table, but instead display the codes now in the table from within the popup. Once converted, delete the CUSTYPES table. Review CIM functions that validate for CUSTYPE with Curt Putnam to make sure there are no calls in programs that will attempt to validated against the CUSTYPES table instead of the popup.

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Services Master Maintenance

SCR # 721

Screen Data:

Services Master Maintenance

Service No. x-----x	Desc x-----x	Products
Cust	Std Parts Desc*	xx
Type Price List 1	x-----x x-----x	xx
xxxx \$xxx,xxx.xx	x-----x x-----x	xx
xxxx \$xxx,xxx.xx	x-----x x-----x	
xxxx \$xxx,xxx.xx		

Warranty Reimb. Base Amt \$xxx,xxx.xx	Std Hrs. xx.xx	Std Hrly Rate \$xxx.xx
Turnaround Premium	Updated	
Days Amt	Name* Date*	Time*
xx \$xxx.xx	x----x xx/xx/xx	xx:xx
xx \$xxx.xx	x----x xx/xx/xx	xx:xx
xx \$xxx.xx	x----x xx/xx/xx	xx:xx

*Display only

Functional Logic

This program allows entry and maintenance of Services Master data. These records are used in the Repair Order - Prepare Charges & Complete program. This program retrieves Services Master data and inserts it into the ORDERDTL records for the Customer Order record to which the R/O is linked. If Standard Parts are included in the Services master record, the program also creates ORDERDTL records for these also.

All pricing is linked to Customer Type. The price to be charged for the Service Number is retrieved by the Prepare Charges program and the price for the appropriate customer type selected. Standard Parts used for this Service Number are priced using similar logic from the Spare Parts Price Master.

The program functions upon selection from the menu by displaying the window, with the cursor at Service Number. An existing Service Number may be entered, or one selected from the F2 popup, which contains the Service Master records, sorted by Description. A new record is created by entering a Service Number that is not in the table. The Description is for this Service Number, and will display on various reports and windows. Other fields are entered or maintained as follows:

Customer Type - these must be in the CUSTTYPES popup window data. This field forms the "key" to the M/Value price list. Each price is associated with a customer type

AIMS/ERP - Specifications & Guide to Use

Customers & Sales Maintenance

code. At least one price line must be present in the Services Master record to save it.

Price List 1 - this is the price to be charged to the associated Customer Type, and must not be negative and may be zero, but not blank/null. If a Customer Type is entered on a Price List line, there must be a price value of zero or greater.

Standard Parts - These are part numbers that are normally used in the process of performing the standard service. These part numbers must be in the Spare Parts Price table prior to being entered in this window. Pressing the F2 key brings the Spare Parts popup, sorted by Product Code. When a valid part number is entered, its Description is retrieved from the Part Master table record for that Part Number. The field may be blank.

Products - These are Product Codes to indicate the Products that this Service is performed for, and if entered, must be in the Products table, or left blank. A Service Number may apply to multiple Products.

Warranty Reimbursement Base Amount - This is the normal reimbursement value to a Service Center for performing this standard service under a product warranty, either the Standard or Extended Warranty. It may be left blank. Turnaround Premium amounts are added to this base amount as an incentive to repair the customer's unit promptly. There is only one Reimbursement amount.

Turnaround Premium Days - the number of days between the day received and the day shipped; This list forms a range that a turnaround number of days will fall into by being less than or equal to that value. Each number of days in the M/V list has an associated Amount. The list may be left blank, but if a value is entered in the Premium Days column, there must be an associated Amount.

Turnaround Premium Amount - This is the amount that is to be added to the Warranty Reimbursement Base Amount if a Service Center R/O is turned around within the associated number of days. If a Turnaround Premium Days value is present in the M/V list line, then there must be an associated Amount.

Standard Hours - This is the time, in hours with 2 decimals that a qualified technician should take to perform this task. It is used as a basis to measure Technician productivity, and to provide a documented basis for Warranty Reimbursements. It may be left blank, but if entered, must not be negative, and must be greater than zero.

Standard Hourly Rate - This is the Hourly Rate that is to be charged for a technician's time; it is to document the basis for the base Service Price, i.e., a standard number of hours to perform the service, at a standard hourly rate. It may also be used as a

<i>AIMS/ERP</i> - Specifications & Guide to Use Customers & Sales Maintenance
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reference for the hourly rate to be charged for a time and material service. It may be left blank, but if entered, must not be negative and must be greater than zero.

Updated Name, Date and Time - These values are a list updated by the program whenever the record is saved, and is updated from system Log-on User ID, system date and system time. A new line is created (oldest at the top), each time the record is saved. They are display only on the screen.

When entry or changes to data is complete, the screen is saved with the F9 key, which initiates the Save process. This first revalidates all entries as defined above, then updates or adds a new Services Master record.

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Customers & Sales Maintenance

CHANGE 11/28/94 Summary:

These changes are a result of modifications in the Contact data, and addition of new PROCUS types, including FOA (friends of AIMS) and SLS (sales people)

Removed - Contact data lines updating in PROCUS record is removed.

Removed - SALESPEOPLE table updating is removed.

Added - Updating of the LINK M/V list, consisting of LINK, STORE, and WHYLINK data fields.

End Change Summary

CHANGE 3/23/95 Summary:

Removed: all references to RATS table update logic.

Remove checking logic to abort for presence of Orders or CUSBAL records.

Added:

ORDERS record update logic - selects for PRTS, RO, MER type orders only

NOTE: Order Type selection will insure that future Order Types are incorporated into the MERGE process only after being reviewed for correctness. If other order types are encountered, the program will stop without updating any records.

ROTS record update logic

INVOICES record update logic

CUSBAL record update logic

End Change Summary

This program eliminates redundant (duplicate) customer ID's by allowing entry of a "From" and "To" customer ID's. These values are used to retrieve all related data stored under the From ID. The Customer ID in these records is then changed to the To Customer ID. Before beginning the process, the program displays both the From and To primary name and address data. The From data is in display only mode, but changes are allowed to the To name and address data to correct spelling and/or address errors. The merge process is initiated and all associated data updated to the new customer ID. At the completion, the remaining From Customer ID record data, including profile data, is written to a new table, Archived Customers. A backup "copy" having been made in this table, the PROCUS and associated Profile records are then deleted.

3/23/95 Change:

Removed:

The program will update a limited number of RATS table records and related PROCUS and Profile records. However, if there are Orders, Customer Balance records, or more than 25 RATS records, it will not update anything, but will submit a record to the

AIMS/ERP - Specifications & Guide to Use Customers & Sales Maintenance

DEDUPEQ table. Records in this table will be processed in batch mode by a different program when all users are out of the data base.

End Change

The program functions by displaying the screen when selected from the menu, with the cursor at the From Customer ID field. Pressing the F2 key calls the PROCUS search engine, which returns a popup if there a multiple records generated, or the single PROCUS record that meets the search criteria. If the Customer ID is known, is can be simply entered. Pressing the Enter key then retrieves that PROCUS record's data and display it, moving the cursor to the To Customer ID. The search, retrieval and display process is repeated for the TO Customer ID.

When both the From and To sets of PROCUS record data are retrieved, the merge process is initiated by pressing the F9 key. When pressed, the program displays an "are you sure you want to merge these customers?" message. The Escape key returns the user to the entry screen, while pressing the Enter key initiates the merge process. During processing, the program displays a message "Merging Customer Data". This message window is updated with specific sub-messages as the merge process runs.

The merge process includes the following steps. As each set of records is accessed and being updated, the program displays a message identifying that it is now updating the _____ data, where the _____ is the name of the table being updated.

First, the program determines if the requested Merge process can be performed by this program, by performing the following steps:

3/23/95 Change:

Remove RATS record check.

Remove CUSBAL & ORDERS check and end logic.

Remove DEDUPQ logic - (there will be no job server program).

- Retrieve the RATS records having the From Customer ID, using either the Relational Index field in the PROCUS record, or B-Tree Index on the RATS file. If the number of RATS records is 25 or greater, the process is not executed any further and skips to the Load DEDUPQ table process. If less than 25 RATS records, the process continues.
- Retrieve the CUSBAL records having the From Customer ID. If any CUSBAL record is present with the From Customer ID, the process is halted and skips to the Load DEDUPQ table process, otherwise continuing.

AIMS/ERP - Specifications & Guide to Use
Customers & Sales Maintenance

- Retrieve the ORDERS records having the From Customer ID. If any ORDERS record is present with the From Customer ID, the process is halted and skips to the Load DEDUPQ table process, otherwise continuing.

End Change.

- Reads each of the following tables, selecting those records having the From Customer ID and attempts to lock all selected records:
 - PROCUS
 - DLEPROFILE
 - STORES
 - SALESPEOPLE - table removed; no updating required
 - CONTACTHIST
 - FINPROFILE
 - USRPROFILE
 - WWNPROFILE
 - SVCPROFILE
 - SDOPROFILE (added)
 - REPPROFILE (added)
 - RATS Removed
 - UNITHIST

Added:

- ORDERS • SHIPMENTS
 - INVOICES
 - CUSBAL
 - ROTS
- If the lock attempt on any of these records fails, the process is stopped and program run is ended by displaying a message for acknowledgement to the user that the _____ record could not be locked and to try the process again later. When the message is acknowledged, the program ends and returns the user to the menu.

Otherwise the program continues. A selection on any of these tables that fails to return any records having the From Customer ID allows processing to continue.

The search path for order-related records is as follows:

1. Attempt to retrieve the ORDERS record for the FROM Customer ID. Select only records with ORDTYPE = RO, PRTS, MER. If any other ORDTYPE values are encountered, the program stops processing, displaying a message that "this customer has unrecognized order types" for acknowledgement. When acknowledged, the program ends and returns the user to the menu.

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Customers & Sales Maintenance

2. If it fails, there are no ORDERS, SHIPMENTS, INVOICES, ROTS or CUSBAL records for this Customer ID. (Other order-related records do not contain a reference to customer ID.)
3. If it succeeds, the ORDERS record is locked, and the Relational Index fields for SHIPMENTS, INVOICES, ROTS and CUSBAL records are used to directly retrieve and lock these related records.

The program may now proceed to perform the Merge process if it has passed all of the preceding conditions. This includes the following steps:

- Each record locked during the preceding process is copied to the Archive tables to capture its before update image. Archive tables are in the ARCHIVE Directory, separate from AIMSDATA. Each file is named with the convention of FILENAME_ARCHIVE. The Dictionary for both files is the same. These tables include:

PROCUS
DLRPROFILE
FINPROFILE
USRPROFILE
WWNPROFILE
SVCPROFILE
REPPROFILE (added)
SDOPROFILE (added)
ORDERS (added)
ROTS (added)
SHIPMENTS (added)
INVOICES (added)
CUSBAL (added)

- Next, in the live table, each of the locked records is updated, with each table's record(s) being updated according the following validation rules:

PROCUS record updates:

Customer Type Codes, Business Type, Nickname, Comment line, Language, and VIP codes present in the From record are added to the To Customer ID if not already present.

If the Country codes are different in the From and To records, the To record value is retained.

- Phone data lines present in the From record are compared to Phone data in the To record. If a phone data line is duplicated, it is skipped; otherwise it is added to the Phone data list in the To record.

CHANGE 11/28/94:

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Customers & Sales Maintenance

Removed - Contact data line updating:

- Contact data lines present in the From record are compared to Contact data lines in the To record. If a contact data line is duplicated, it is skipped; otherwise it is added to the Contact data list in the To record. Contact Phones lists are subject to the same duplication check; if not duplicated, from contact phone data lines are added to the To record contact data phone lines.

ADDED:

- Link data lines present in the FROM record are compared to LINK data lines in the TO record. If a LINK data line is duplicated, it is skipped; otherwise it is added to the LINK list in the TO record. The LINK data line includes LINK, STORE, and WHYLINK fields in the PROCUS records.

End of 11/28/94 Change.

Dealer Profile record updates:

- If the To customer ID does not have a Dealer Profile record, and the From ID does, its data is copied to a new Dealer Profile record carrying the To Customer ID.
- If the To Customer ID does have a Dealer Profile record, and the From ID also has one, data fields that are blank in the To profile record are completed with data, if present, from the From ID Profile record. If data is present in both, the To record data is not overwritten.

Store record updates - Attempt to retrieve STORE records that contain the From Customer ID. If there are STORE records containing the From Customer ID, retrieve them and change their Dealer ID's (PROCUS ID) to the To Customer ID.

11/28/94 Change:

Removed

Sales People record updates - Attempt to retrieve SALESPEOPLE records that contain the From Customer ID. If there are SALESPEOPLE records containing the From Customer ID, retrieve them and change their Dealer ID's (PROCUS ID) to the To Customer ID.

End Change

Contact History record updates- Attempt to retrieve CONTACTS records that contain the From Customer ID. If there are CONTACTS records containing the From Customer ID, retrieve them and change their Dealer ID's (PROCUS ID) to the To Customer ID

Financial Profile record updates - same logic as the Dealer Profile record updates.

End User Profile record updates - same logic as the Dealer Profile record updates.

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Customers & Sales Maintenance

World Wide Network profile record updates. - same logic as the Dealer Profile records.

Service Center profile record updates. - same logic as the Dealer Profile records.

Change:

Studio Profile record updates - same logic as the Dealer Profile records.

Rep Profile record updates - same logic as the Dealer Profile records.

End Change

3/23/95 Change:

Remove RATS record update.

RATS record updates:

- RATS records are retrieved for the From Customer ID.
- The From ID is overwritten with the To Customer ID value and saved for each RATS record.

End Change.

Unit History record updates:

- Retrieve all Unit History records having the From Customer ID as the Owner (Belongs to).
- For each Unit History record retrieved, add a MERG (Merge customer ID's) line (new event type) to the Unit History's event list. The To Customer ID is in the To Customer column, and the From Customer ID is in the From Customer column. Change the Owner (belongs To) value to the To Customer ID.
- Updated Unit History records are then saved.

Added: 11/28/94:

Write a Contact History record containing the following:

ID (customer ID) = To PROCUS ID

CONDATE = system date

CONTIME = system time

SUBJECT = MERGE

REP = System User-ID - retrieve name from Security_users

CONNNOTE = "Merged Data from Customer No. x-----x (Full Name)"

SUBJCODE = 9999

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Customers & Sales Maintenance

Customer Number is the FROM Customer ID.

Full Name is the From Customer Company Name. If Company Name is null use
First Name + MI + Last Name (PERSONNAME symbolic)

End Change

CHANGE 3/25/95:

ORDERS records update:

BILLTO - if equals the From Customer ID, is replaced with the To Customer ID,
otherwise left unchanged.

SOLDTO - if equals the From Customer ID, is replaced with the To Customer
ID, otherwise left unchanged.

NOTES - append comment to the end of any text present in the field: "Merged
xx/xx/xx xx:xx (current system date/time); From Customer ID x-----x (From
Customer ID value)."

ROTS records update:

PROCUSID - if equals the From Customer ID, is replaced with the To Customer
ID, otherwise left unchanged.

SHIPMENTS records update:

BILLTO - if equals the From Customer ID, is replaced with the To Customer ID,
otherwise left unchanged.

SOLDTOID - if equals the From Customer ID, is replaced with the To Customer
ID, otherwise left unchanged.

INVOICES records update:

SOLDTO - if equals the From Customer ID, is replaced with the To Customer ID,
otherwise left unchanged.

BILLTO - if equals the From Customer ID, is replaced with the To Customer ID,
otherwise left unchanged.

CUSBAL records update:

PROCUSID - if equals the From Customer ID, is replaced with the To Customer
ID, otherwise left unchanged.

COMMENTS - - append comment to the end of any text present in the field:
"Merged xx/xx/xx xx:xx (current system date/time); From Customer ID x-----x
(From Customer ID value)."

When all updates of From Customer ID to To Customer ID data has been successfully
performed, the From Customer ID records that were locked and archived at the start are
now deleted from their respective tables.

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Customers & Sales Maintenance

If any of the update attempts fails, such as physical read failure, unable to update a record that was previously locked, then a record is written to the error log including the record that caused the failure and the update process stopped. The program then skips to the Restore process.

The Restore process consists of reading the Archive table's records back to each record's original state, i.e. prior to the start of the update process. This will reverse any changes in records that have occurred at that point.

When the merge process is completed, a message is displayed informing the user that the Merge was successfully completed.

3/23/95 Change:
Remove DEDUPQ process logic.

The Load DEDUPQ process consists of writing a record to the DEDUPQ table. Its data dictionary includes these fields:

Field Name	Description	S/M	Comment
ID	Record ID	S	Sequential number
FROMID	From Customer (PROCUS) ID	S	
TOID	To Customer ID	S	
AUDDATE	Date record written	S	System Date
AUDNAME	User-ID of person running Merge program	S	System Log-on ID
AUDTIME	Time record written	S	System time

Signature Password Initiation

Screen Data

User-ID x-----x
Name x-----x *
Mgt Control Group Code x----x Description x-----x*
Signature Password "NEW"

Press Shift + F1 to delete Signature Password for this User-ID

Press F9 to initiate a Signature Password for this User-ID

*Display only)

Mgt Control Group Popup

Code	Description
x----x	x-----x
x----x	x-----x
x----x	x-----x

Functional Logic

This window accesses the User_Security records that establish all system users and which controls their menu and program access. This data is examined by OBJECT_SECURITY and by PERMIT to control who can access what in the system.

The Signature Password capability is built on the basic security system in that a user must first be a user with security capabilities in the system. To increase the level of control and provide for an "electronic signature" capability, the Signature Password is required by certain programs, once access to them has been allowed by OBJECT_SECURITY or PERMIT. Within the screen, the program will prompt for the Signature Password which is maintained in encrypted form, and is completely private to the user. A null value present means to these programs that this user does not have a Signature Password capability.

This screen initiates or deletes this capability, but does not enter a password that is actually used. The Management Control group is an additional data field for Users to identify those that are part of a management grouping, for limiting whose name can be used as Authorizing something.

When accessed from the menu, this window is displayed, with the cursor at the User-ID field. Pressing the F2 key brings a popup containing the User-ID's, and Names of

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Customers & Sales Maintenance

USER_SECURITY records. Selecting one or entering the User-ID will retrieve and display the current Name and, if present, the Management Control Code data for this user.

Pressing the Shift + F1 keys will delete any existing Signature Password value for the user, eliminating his/her ability to perform Signature Password tasks. The program will also perform a Save function, updating the USER_SECURITY record with a null in the Signature Password field and clearing the screen and returning to the menu. The window does not remain up after an update, but must be re-selected after each update to minimize the risk of unauthorized personnel entering Signature Passwords.

Pressing the F9 key causes the program to enter the word "NEW" in the Signature Password field. The next time this record is called by a program requiring a Signature Password, it will detect this and require that the user enter a private Signature Password. That program will then encrypt the stored password, using a simple encryption algorithm. The word NEW is not stored in encrypted form.