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PENTAGON 2000 SOFTWARE

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## Warranty Administration Module

Pentagon 2000 Software  
15 West 34<sup>th</sup> Street 5<sup>th</sup> Floor  
New York, NY 10001  
Phone 212.629.7521 • Fax 212.629.7513

<b>TITLE:</b>	Warranty Administration Module		
<b>PART:</b>	Material Management		
<b>MODULE:</b>	Warranty Administration Module	<b>BUILD</b>	9.0.1.17
<b>RESPONSIBILITY:</b>	Procedures Specialist, Pentagon 2000	<b>REVISION:</b>	00
<b>APPROVED BY:</b>	Vice President, Operations, Pentagon 2000	<b>EFFECTIVE DATE:</b>	06/13/2014

## Purpose

This module enables the management of warranties issued both by your organization (sales/overhaul/repairs) and by vendors (purchasing/vendor overhaul/vendor repair).

## Overview

This procedure outlines the steps for setup and use of the Warranty Administration Module.

## Required Modules/Features

- Pentagon 2000 Core
- Warranty Administration Module

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## Procedure

### 1. Setup

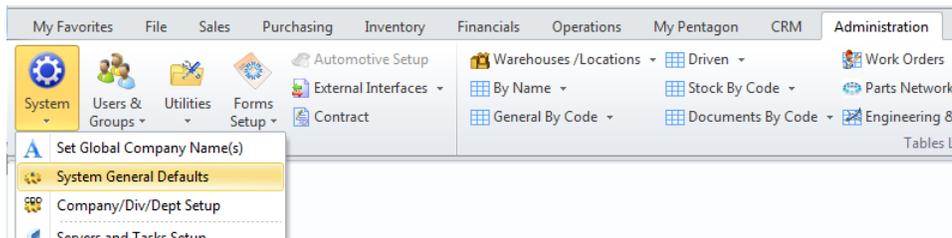
#### a. Company Warranties

The setup procedures in this paragraph apply to warranties provided by your organization to your organization's customers either as a result of sales transactions or overhaul/repair activities.

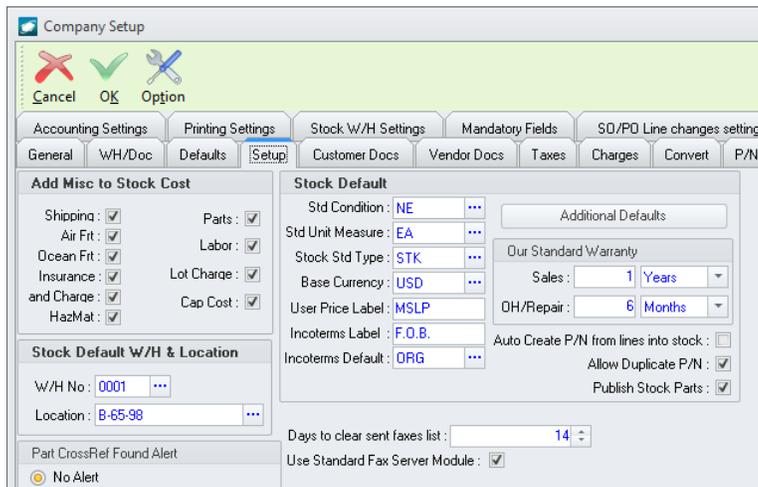
#### i. Standard Warranty Defaults

These are the lowest level defaults and will be used when no other relevant values are found for the part number being sold, overhauled or repaired.

1. From the ribbon, left-click **Administration**, left-click **System** and left-click **System General Defaults**.



2. The **Company Setup Window** will appear. Left-click the **Modules** tab, then left-click the Directories sub-tab (if not already selected).

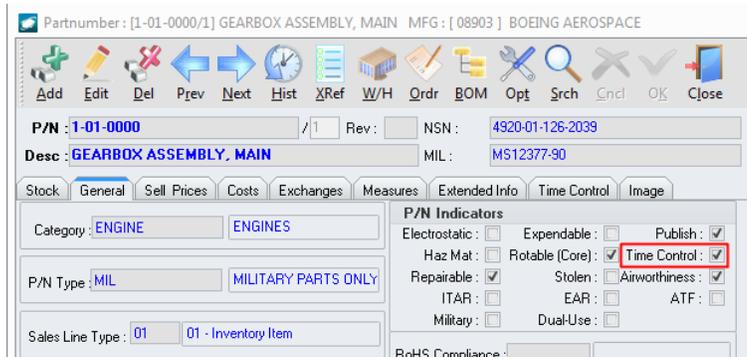


3. Default warranty duration may be identified in the **Our Standard Warranty** group box.
  - a. **Sales** field – Identify the default warranty duration to be used for sales transactions.
  - b. **OH/Repair** field – Identify the default warranty duration to be used for in-house overhaul and repair transactions.

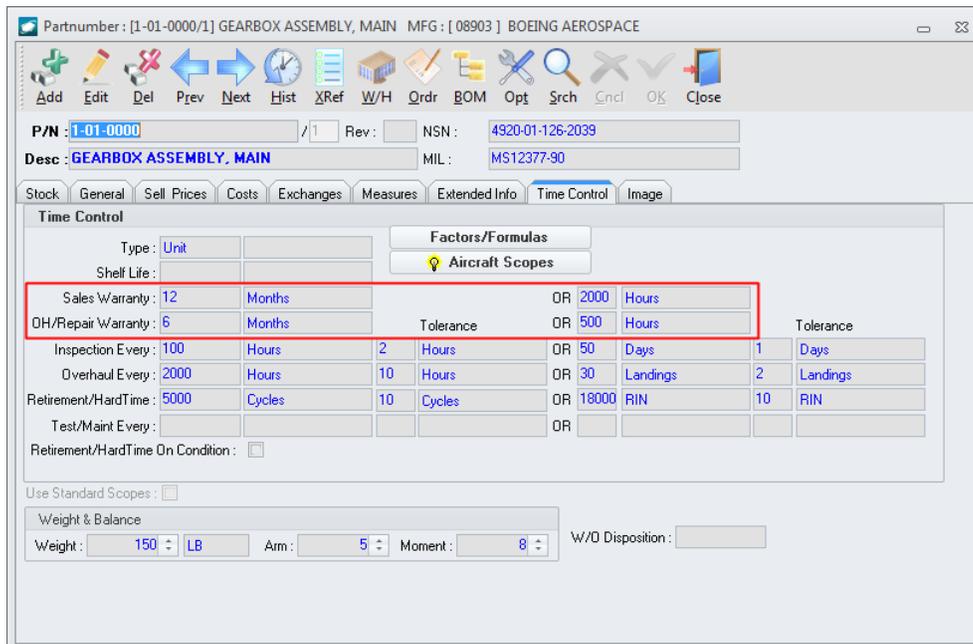
ii. Warranty by Part Number

When a warranty value is present within the parts master record for a particular part number, the part master warranty value will override the standard warranty default value, provided that no other relevant values are found for the part number being sold, overhauled or repaired.

1. From the parts master, left-click the **General** tab and ensure that the **Time Control** flag in the **P/N Indicators** group box is marked as “checked”.



2. Left-click the **Time Control** tab



3. The warranty defaults identified will apply to the active part number and will override the standard values set up on the **Setup** tab of the **General Settings** window.

- a. **Sales Warranty** fields

- i. Primary duration – Identify the warranty duration to be used for sales transactions.

**NOTE:** This value MUST be in terms of time (hours, days, weeks, months, years) as the system only performs warranty calculations using units of time. If warranties are issued in terms of any other unit of measure (i.e. operating hours, landings, miles), the warranty duration may be identified; however, the system has no input for customer use of the item sold to them. Therefore, the warranty period is for reference only and is not used in any calculations within the system.

- ii. Secondary duration (optional) – Identify a secondary warranty duration to be used for sales transactions.

**EXAMPLE:** Primary duration: 12 months; Secondary duration: 1000 hours. This example would be used when the warranty provided is 12 months or 1000 operating hours (whichever comes first) and would result in the system calculating the warranty period using the 12 month value and identifying the 1000 hours as a secondary value that would need to be verified prior to the part being accepted under a warranty repair.

- b. **OH/Repair Warranty** fields

- i. Primary duration – Identify the warranty duration to be used for in-house overhaul and repair transactions.

**NOTE:** This value MUST be in terms of time (hours, days, weeks, months, years) as the system only performs warranty calculations using units of time. If warranties are issued in terms of any other unit of measure (i.e. operating hours, landings, miles), the warranty duration may be identified; however, the system has no input for customer use of the item after overhaul or repair. Therefore, the warranty period is for reference only and is not used in any calculations within the system.

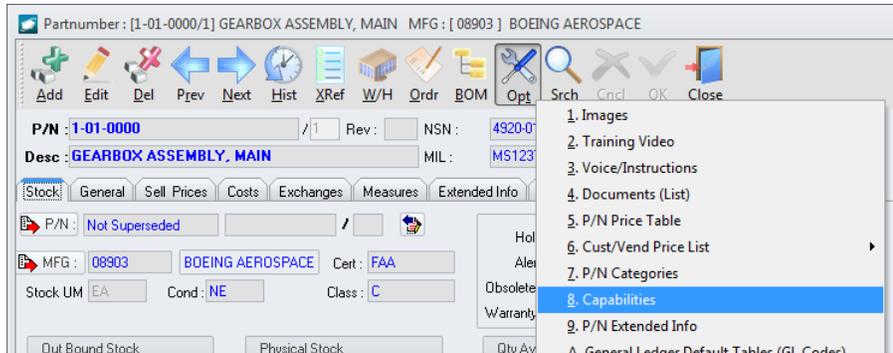
- ii. Secondary duration (optional) – Identify a secondary warranty duration to be used for in-house overhaul and repair transactions.

**EXAMPLE:** Primary duration: 6 months; Secondary duration: 75 landings. This example would be used when the warranty provided is 6 months or 75 landings (whichever comes first) and would result in the system calculating the warranty period using the 6 month value and identifying the 75 landings as a secondary value that would need to be verified prior to the part being accepted under a warranty repair.

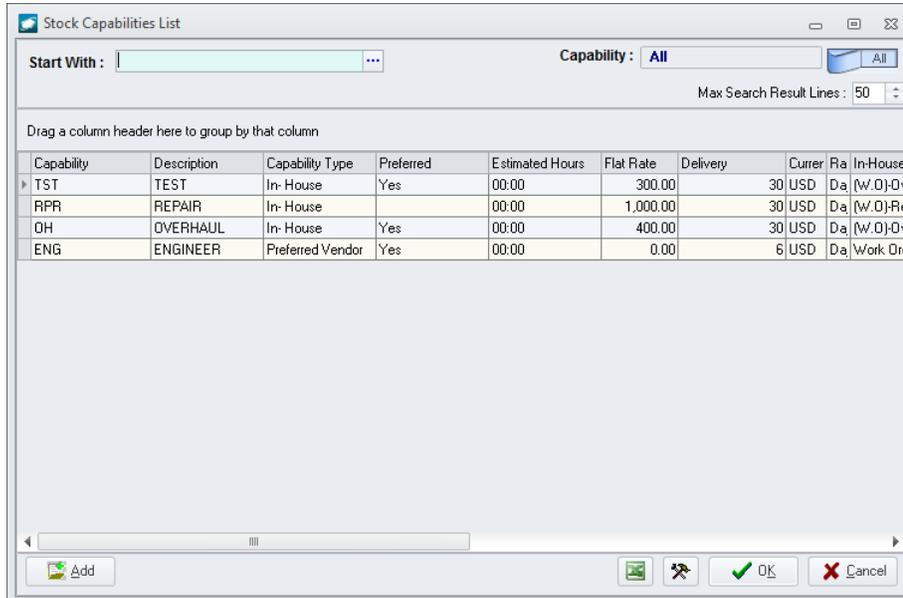
### iii. Warranty by Capability

When a warranty value is present within the stock capability for a particular part number and capability code, the stock capability warranty value will override the part master warranty value when the part is overhauled or repaired on a component work order using the relevant capability code.

1. From the parts master, left-click the **Opt** (Options) button on the **Partnumber** window toolbar and left-click **8. Capabilities**.

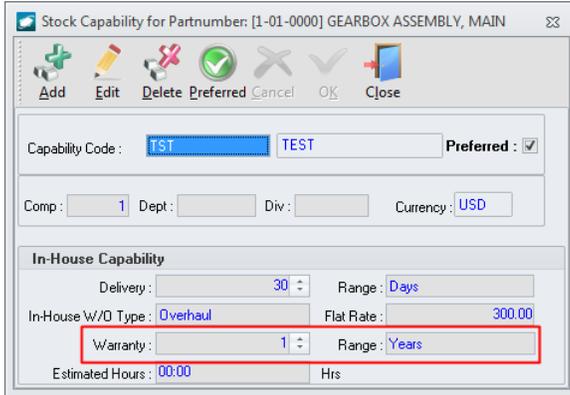


2. The **Stock Capabilities List** search window will appear. Stock capabilities may be added; however, for this example, we will assume stock capabilities have been set up previously.



3. Select the capability (left-click the line within the search screen and left-click **OK**; or double-click the line within the search screen).

4. The **Stock Capability** window will appear.



Stock Capability for Partnumber: [1-01-0000] GEARBOX ASSEMBLY, MAIN

Capability Code:  TEST Preferred:

Comp:  Dept:  Div:  Currency:

**In-House Capability**

Delivery:  Range:

In-House W/D Type:  Flat Rate:

Warranty:  Range:

Estimated Hours:  Hrs

5. The warranty default identified will apply to the active capability and part number and will override the part number values set up on the **Time Control** tab in the parts master.
- Warranty** field – Identify the numeric value of the warranty default value.
  - Range** field - Identify the unit of measure for the warranty default value.

**NOTE:** This value MUST be in terms of time (hours, days, weeks, months, years) as the system only performs warranty calculations using units of time. If warranties are issued in terms of any other unit of measure (i.e. operating hours, landings, miles), the warranty duration may be identified; however, the system has no input for customer use of the item after overhaul or repair. Therefore, the warranty period is for reference only and is not used in any calculations within the system.

*CONTINUE TO NEXT PAGE*

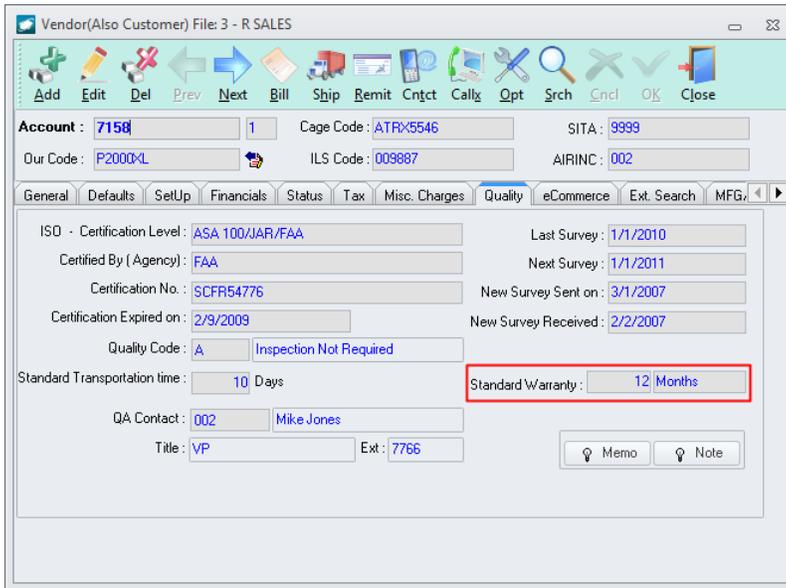
b. Vendor Warranties

The setup procedures in this paragraph apply to warranties provided by your organization's vendors and will be used when no other relevant values are found for the part number being purchased from or overhauled/repaired by the vendor.

i. Warranty by Vendor

These are the lowest level defaults for vendor warranties; there is no system warranty default value.

1. From the vendor file, left-click the **Quality** tab



Vendor(Also Customer) File: 3 - R SALES

Account : 7158 1 Cage Code : ATRX5546 SITA : 9999  
 Our Code : P2000KL ILS Code : 009887 AIRINC : 002

General Defaults SetUp Financials Status Tax Misc. Charges **Quality** eCommerce Ext. Search MFG

ISO - Certification Level: ASA 100/JAR/FAA Last Survey: 1/1/2010  
 Certified By ( Agency): FAA Next Survey: 1/1/2011  
 Certification No.: SCFR54776 New Survey Sent on: 3/1/2007  
 Certification Expired on: 2/9/2009 New Survey Received: 2/2/2007  
 Quality Code: A Inspection Not Required  
 Standard Transportation time: 10 Days Standard Warranty: 12 Months  
 QA Contact: 002 Mike Jones  
 Title: VP Ext: 7766

Memo Note

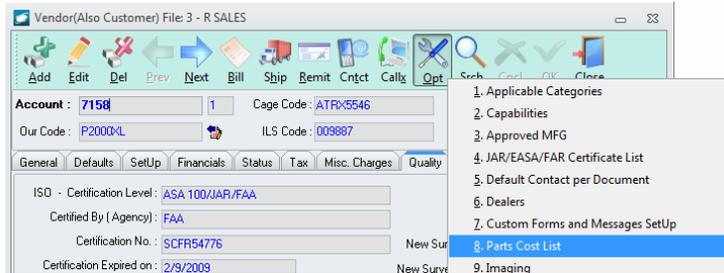
2. **Standard Warranty** field – Identify the default warranty duration to be used for all parts received from the vendor regardless of line type.

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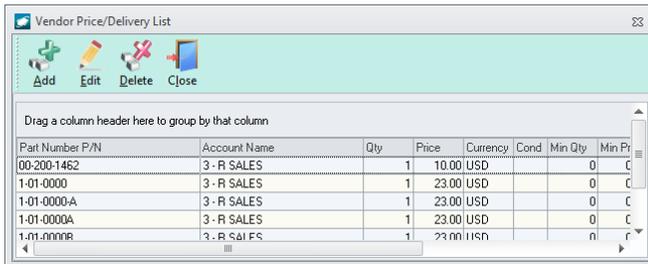
ii. Warranty by Part Number

When a warranty value is present within the vendor's price list for a particular part number, the vendor part list warranty value will override the vendor standard warranty default value when the part number is purchased from the vendor.

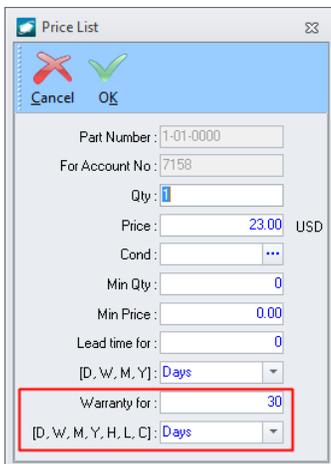
1. From the vendor file, left-click the **Opt** (Options) button on the **Vendor File** window toolbar and left-click **8. Parts Cost List**.



2. The **Vendor Price/Delivery List** window will appear. Vendor price records may be added; however, for this example, we will assume the price list has been set up previously.



3. Left-click the line in the grid corresponding to the part number for which a non-standard warranty duration applies and left-click the **Edit** button on the **Vendor Price/Delivery List** window toolbar. The **Price List** window will appear.

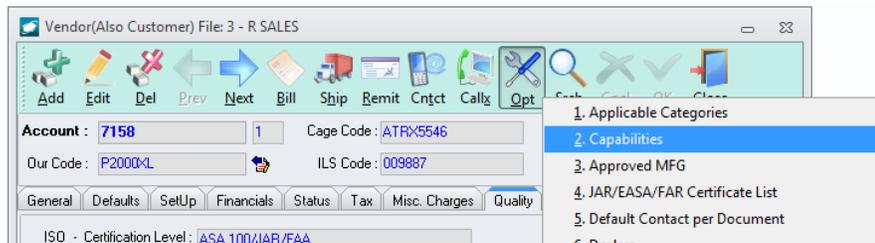


4. The warranty defaults for the part number will apply to the active vendor when the part is purchased from the vendor and will override the standard values set up on the **Quality** tab of the **Vendor File** window.
  - a. **Warranty for** field – Identify the numeric value of the warranty default value.
  - b. **(D, W, M, Y, L, C)** field - Identify the unit of measure for the warranty default value.

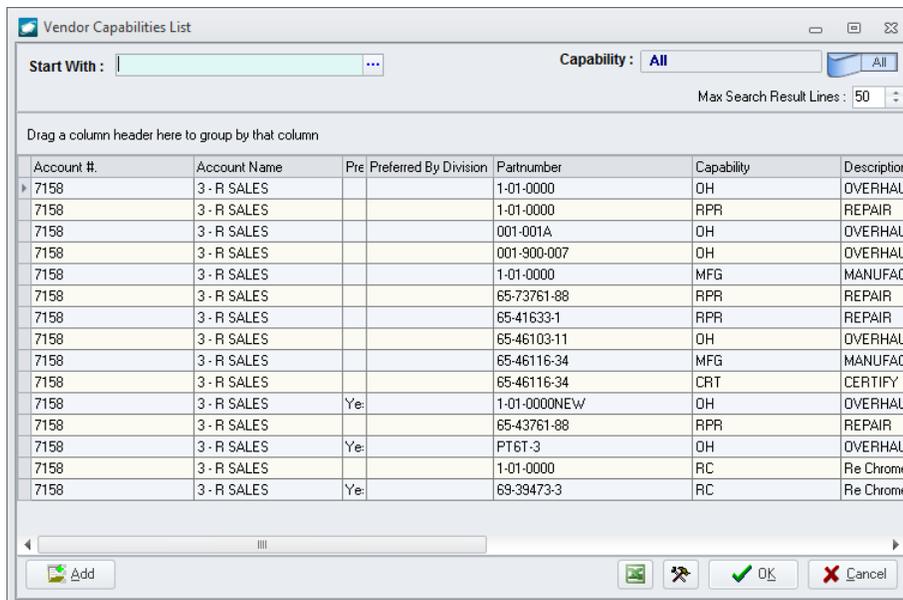
iii. Warranty by Capability

When a warranty value is present within the vendor stock capability for a particular part number and capability code, the stock capability warranty value will override the vendor standard warranty value when the part is overhauled or repaired on a repair purchase order to the vendor.

1. From the vendor file window, left-click the **Opt** (Options) button on the **Vendor File** window toolbar and left-click **2. Capabilities**.



2. The **Vendor Capabilities List** search window will appear. Vendor capabilities may be added; however, for this example, we will assume stock capabilities have been set up previously.



3. Select the capability (left-click the line within the search screen and left-click **OK**; or double-click the line within the search screen).
4. The **Vendor Capability** window will appear.



Vendor Capability

Add Edit Delete Cancel OK Close

Capability: RPR REPAIR P.o.Type: Repair/Outside Service

Delivery: 20 Days

Warranty: 120 Days

Part Number: 1-01-0000 GEARBOX ASSEMBLY, MAIN

Time and Material:

Flat Rate: 900.00 Currency: USD

Estimated Hours: 00:00 Hrs

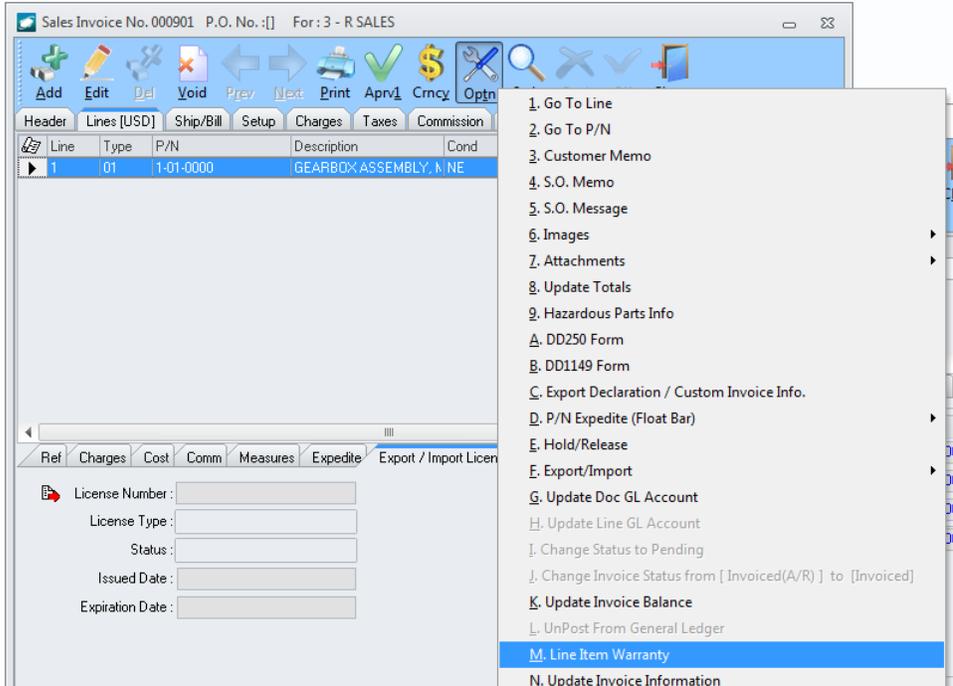
5. The warranty default identified will apply to the active capability and part number and will override the vendor standard warranty values set up on the **Quality** tab of the **Vendor File** window.
  - a. **Warranty** field – Identify the numeric value of the warranty default value.
  - b. **UM** field - Identify the unit of measure for the warranty default value.

*END OF SECTION*

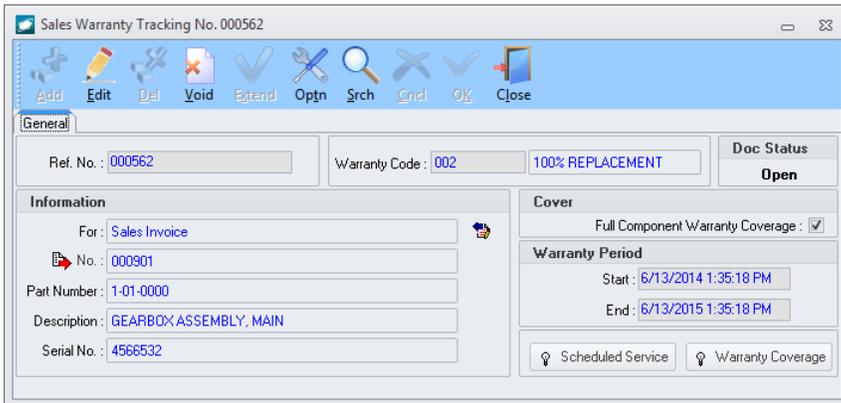
## 2. Customer Warranties

### a. Sales Warranties

- i. The warranty period for parts sold to a customer is calculated when the part is invoiced.
- ii. From the sales invoice (while NOT in “Edit” mode), left-click the **Optn** (Options) button on the **Sales Invoice** window toolbar and left-click **M. Line Item Warranty**.



- iii. The **Sales Warranty Tracking** window will appear.

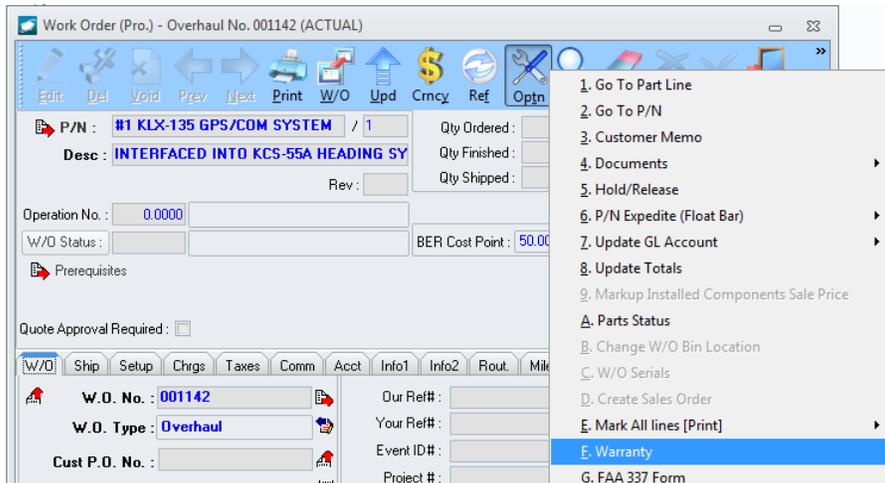


#### 1. Header Group box

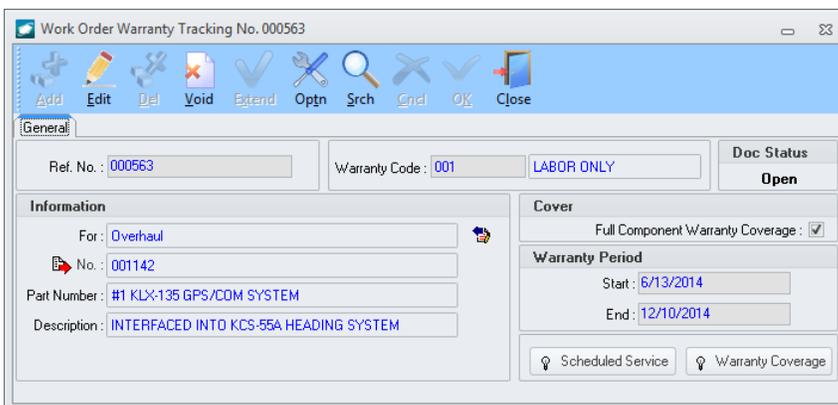
- a. **Ref. No.** field – Displays the warranty reference number. This number will be automatically populated by a counter, but may be modified.
- b. **Warranty Code** field – Select the type of warranty that is provided for the part.
2. **Information** group box
  - a. **For** field – Displays the originating document type for the warranty.
  - b. **No.** field – Displays the originating document number for the warranty.
  - c. **Part Number** field – Displays the part number that is covered by the warranty.
  - d. **Description** field – Displays the description of the part that is covered by the warranty.
  - e. **Serial No.** field – Displays the serial number of the part that is covered by the warranty.
3. **Cover** group box
  - a. **Full Component Warranty Coverage** flag – Mark this flag as “checked” if the item meets your organization’s qualifications for “Full Component Warranty”. This field is for reference and reporting purposes only; it does not affect the logic within the system.
4. **Warranty Period** group box
  - a. **Start** field – Displays the start date of the warranty. This date automatically corresponds to the sales invoice date but may be modified if necessary.
  - b. **End** field – Displays the end date of the warranty. This date is calculating using the following logic:
    - i. If there exists a value in the **Sales Warranty** primary value field, the warranty duration will be pulled from the part number (End Date = Invoice Date + Part Number Sales Warranty Duration); otherwise,
    - ii. The standard sales warranty default duration will be pulled from the **General Settings** (End Date = Invoice Date + Standard Sales Warranty Duration).
    - iii. The end date may be modified if necessary.
5. **Scheduled Service** memo button – Enter any information regarding service that is required to maintain warranty eligibility.
6. **Warranty Coverage** memo button – Enter any details related to the warranty.

b. Overhaul/Repair Warranties

- i. The warranty period for parts sold to a customer is calculated when the overhaul/repair component work order is closed.
- ii. From the component work order (while NOT in “Edit” mode), left-click the **Optn** (Options) button on the **Work Order** window toolbar and left-click **F. Warranty**.



- iii. The **Work Order Warranty Tracking** window will appear.



1. Header Group box

- a. **Ref. No.** field – Displays the warranty reference number. This number will be automatically populated by a counter, but may be modified.
- b. **Warranty Code** field – Select the type of warranty that is provided for the part.

2. **Information** group box

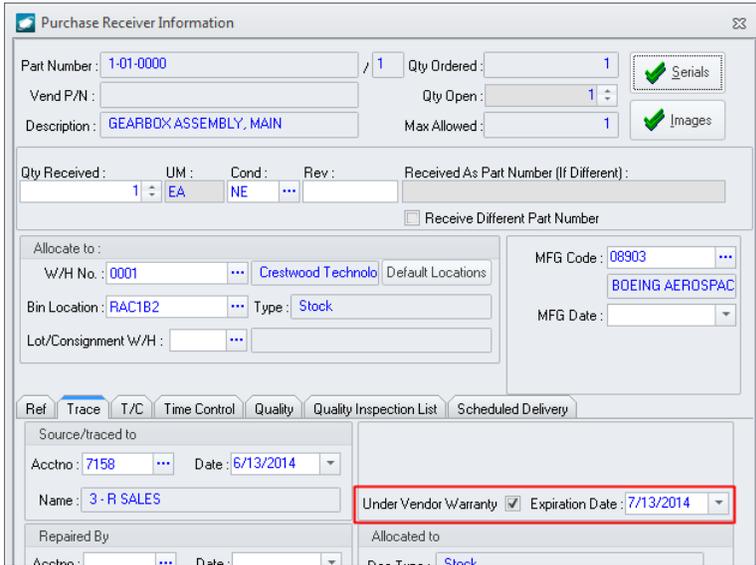
- a. **For** field – Displays the originating document type for the warranty.

- b. **No.** field – Displays the originating document number for the warranty.
  - c. **Part Number** field – Displays the part number that is covered by the warranty.
  - d. **Description** field – Displays the description of the part that is covered by the warranty.
  - e. **Serial No.** field – Displays the serial number of the part that is covered by the warranty.
3. **Cover** group box
- a. **Full Component Warranty Coverage** flag – Mark this flag as “checked” if the item meets your organization’s qualifications for “Full Component Warranty”. This field is for reference and reporting purposes only; it does not affect the logic within the system.
4. **Warranty Period** group box
- a. **Start** field – Displays the start date of the warranty. This date automatically corresponds to the closing date of the component work order but may be modified if necessary.
  - b. **End** field – Displays the end date of the warranty. This date is calculating using the following logic:
    - i. If there exists an applicable stock capability, the warranty duration will be pulled from the stock capability (End Date = Invoice Date + Stock Capability Warranty Duration); otherwise,
    - ii. If there exists a value in the **OH/Repair Warranty** primary value field, the warranty duration will be pulled from the part number (End Date = Invoice Date + Part Number OH/Repair Warranty Duration); otherwise,
    - iii. The standard overhaul/repair warranty default duration will be pulled from the **General Settings** (End Date = Invoice Date + Standard OH/Repair Warranty Duration).
    - iv. The end date may be modified if necessary.
5. **Scheduled Service** memo button – Enter any information regarding service that is required to maintain warranty eligibility.
6. **Warranty Coverage** memo button – Enter any details related to the warranty.

*END OF SECTION*

### 3. Vendor Warranties

- a. The warranty expiration for parts received from a vendor is determined during the receiving process.
- b. From the **Purchase Receiver Information** window, left-click the **Trace** tab.



The screenshot shows the 'Purchase Receiver Information' window with the 'Trace' tab selected. The 'Under Vendor Warranty' checkbox is checked, and the 'Expiration Date' is set to 7/13/2014. Other fields include Part Number: 1-01-0000, Qty Ordered: 1, Description: GEARBOX ASSEMBLY, MAIN, and MFG Code: 08903.

- c. The system will identify whether the part is under warranty and calculate the expiration date using the following logic:
  - i. If the part is being received from a purchase order and there exists a vendor price list record related to the vendor and part number, the warranty duration will be pulled from the vendor price list (End Date = Receiver Date + Vendor Price List Warranty Duration); otherwise,
  - ii. If the part is being received from a repair order and there exists a vendor capability record related to the vendor, part number, and capability, the warranty duration will be pulled from the vendor capability (End Date = Receiver Date + Vendor Capability Warranty Duration); otherwise,
  - iii. The vendor standard warranty default duration will be pulled from the **Vendor File** (End Date = Receiver Date + Standard Sales Warranty Duration).
- d. The **Expiration Date** field should be verified by the paperwork that was included with the part and may be adjusted if necessary.

- e. When the receiver is closed, the warranty expiration date will appear in the warehouse location.

Locations For P/N: 1-01-0000 Desc: GEARBOX ASSEMBLY, MAIN

Search For: UID

W/H No.	Bin Location	Qty	UM	Serial No.	Reserved	Booked	In house/QA	Trans
0001	RAC1B2	1	EA	844151	0	0	0	0
0001	RAC1B2	1	EA	6585	1	0	0	0
0001	WD	0	EA	5443	0	0	0	0
0001	HANGAR	0	EA	5443	0	0	0	0
294.00					160.00	20.00	31.00	

W/H Ref First Cost Cost Trace Quality Time Control Components Quality Inspection List

Physical W/H: 0001 Bin: RAC1B2 In Stock: 1 Cond: NE  
 W/H Name: Crestwood Technology Group Stock Available: 1 Rev:  
 Received: 6/13/2014 3:30:18 F  
 Vendor Warranty Expiration: 7/13/2014  
 S/N: 844151

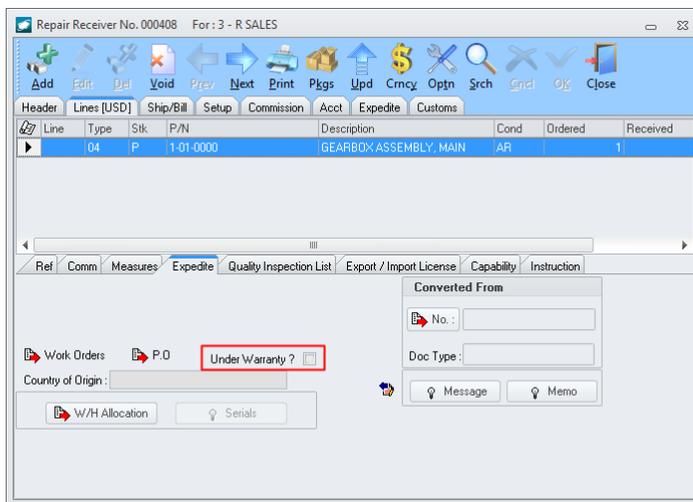
MFG Code: 08903 BOEING AEROSPACE  
 MFG Date: Color Index

END OF SECTION

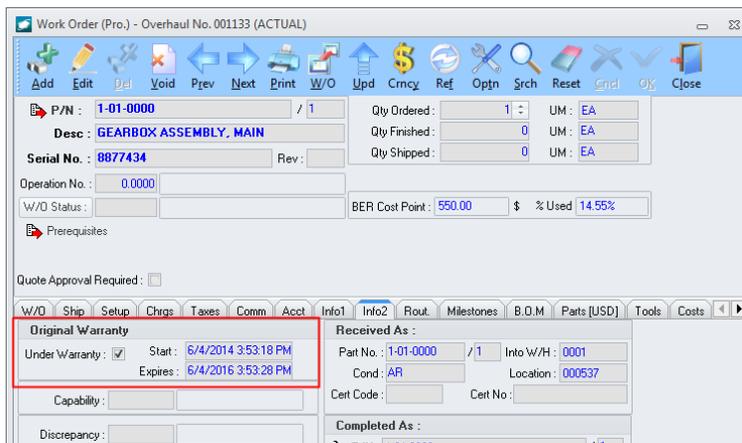
#### 4. Warranty Claims

##### a. Parts Received from Customer for Warranty Repair

- i. When a part is received for repair, the system will search for the part number/serial number combination in the customer warranty records to determine whether the part is under warranty. If there exists multiple records applicable to the part number/serial number combination, the record with the largest end date will be used.
- ii. If the part is found, the system will compare the warranty end date to the current date. If the current date is prior to the warranty end date, the system will mark the part as “Under Warranty” on the **Expedite** tab on the **Lines** tab of the repair receiver.



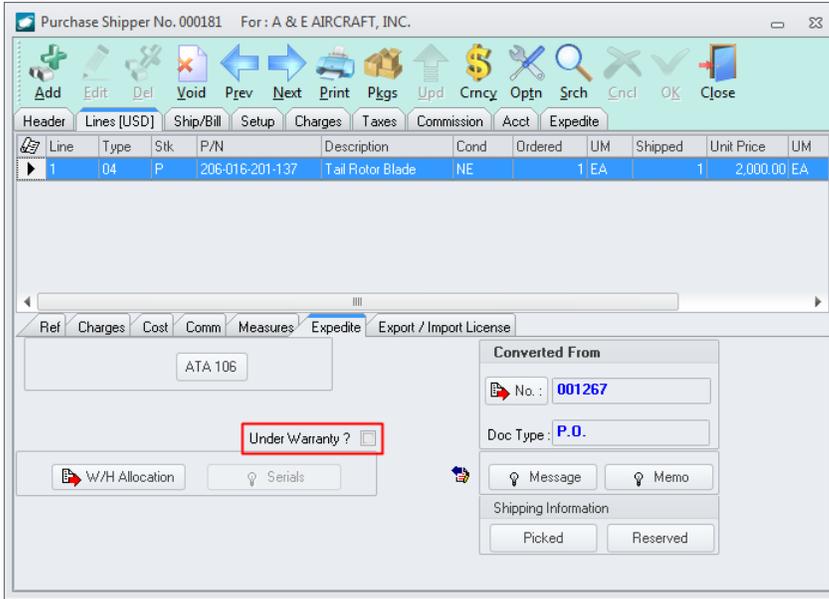
- iii. When a component work order is created for the received part (which is identified as under warranty), the warranty information will be displayed on the **Info2** tab of the component work order.



- iv. The **Under Warranty** flags being marked as “checked” will result in a zero price sales order and work order.

b. Parts Shipped to Vendor for Warranty Repair

- i. When a part is picked for repair, the system check the Vendor Warranty Expiration field in the warehouse location to determine if the part is still under warranty.
- ii. If the part warranty has not expired and the Repaired By vendor from the part's original receiver matches the vendor to which the repair order was created, the system will mark the part as "Under Warranty" on the **Expedite** tab on the **Lines** tab of the repair order.



Purchase Shipper No. 000181 For: A & E AIRCRAFT, INC.

Line	Type	Stk	P/N	Description	Cond	Ordered	UM	Shipped	Unit Price	UM
1	04	P	206-016-201-137	Tail Rotor Blade	NE	1	EA	1	2,000.00	EA

ATA 106

Under Warranty ?

No.: 001267

Doc Type: P.O.

Shipping Information

END OF SECTION

## 5. Warranty Tracking

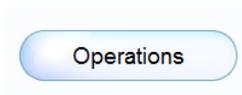
All warranty records can be accessed from the main menu.

- a. From the ribbon, left-click the **Operations** tab and left-click **Warranty Tracking**. OR

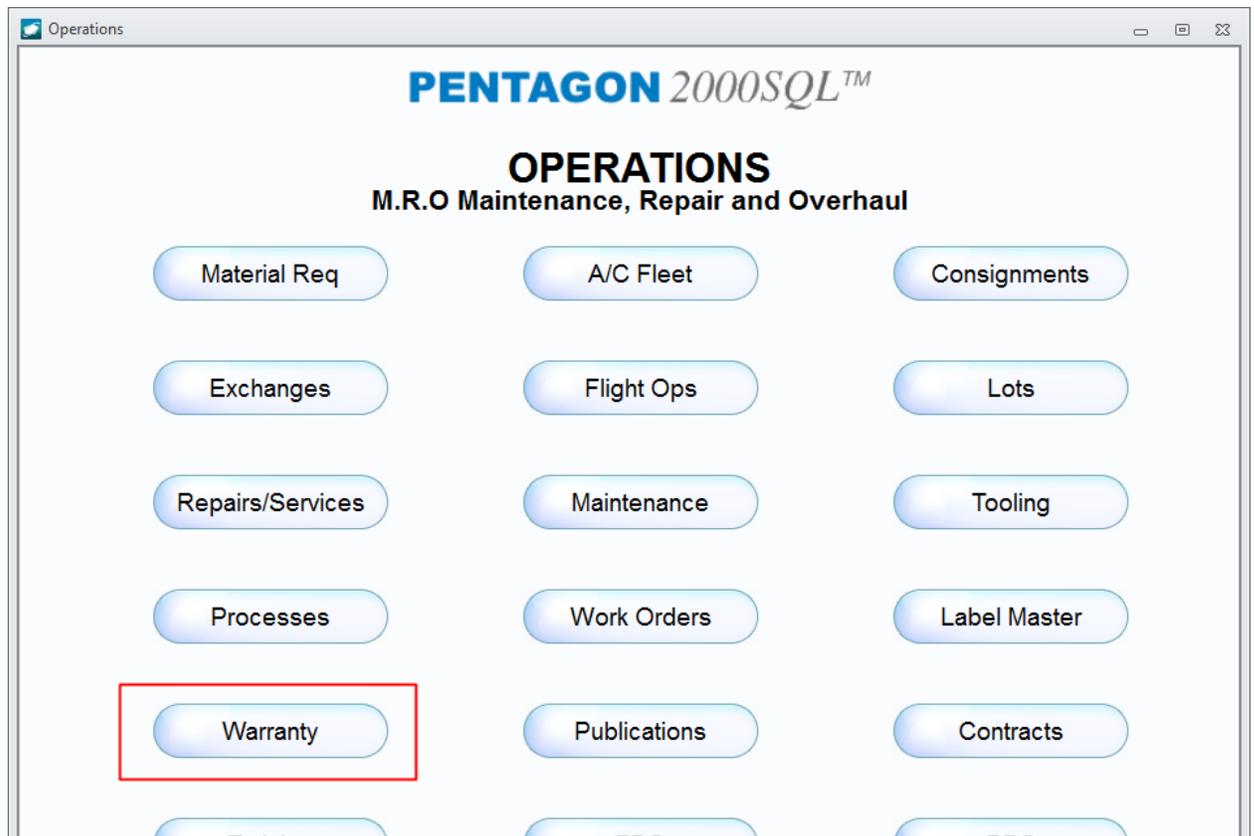


- b. From the Main Menu

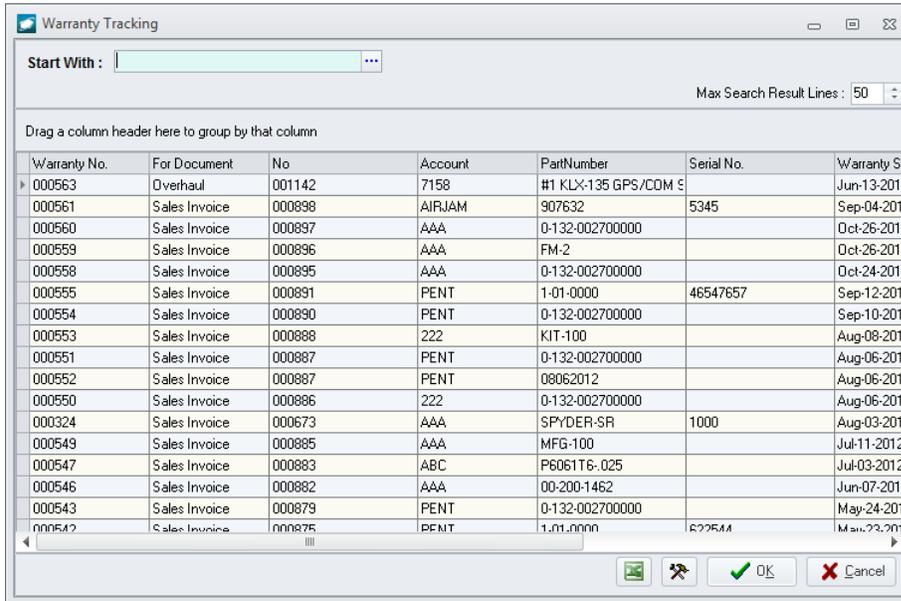
- i. Left-click the **Operations** button.



- ii. The **Operations** window will appear. Left-click the Warranty button.



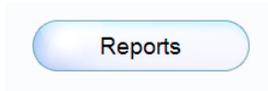
c. The **Warranty Tracking** search window will appear.



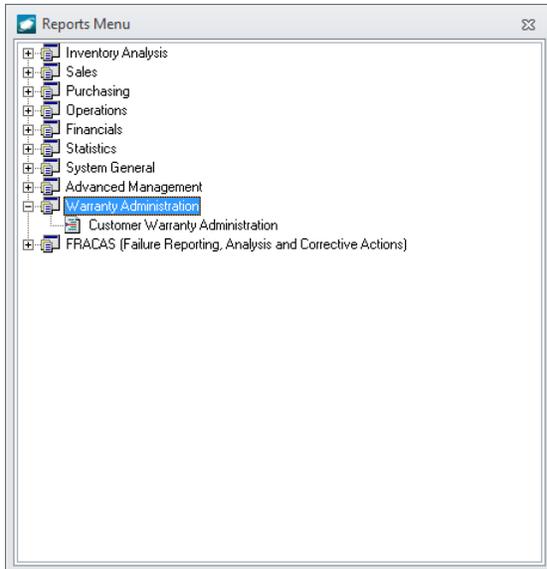
*END OF SECTION*

## 6. Reports

- a. From the Main Menu, left-click the **Reports** button.



- b. Left-click **Warranty Administration** to expand the tree.



- c. Customer Warranty Administration

Reports a list of customer warranties based upon the filters provided.

- i. Filters

1. **Transaction Type** filter – enables filtering by sales and/or work order warranties
2. **Customer No** filter – enables filtering by customer
3. **Part Number** filter – enables filtering by part number
4. **Expiration Date** filter – enables filtering by expiration date (range or variance filter available)
5. **Warranty Type** filter – enables filtering by **Warranty Code**
6. **Company** filter – enables filtering by **Company, Department, and/or Division**

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