



PENTAGON 2000 SOFTWARE

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## **Aircraft Record Keeping:** *Managing Scopes*

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## Purpose

The Pentagon 2000 Aircraft Record Keeping Module enables the use of scopes to track when scheduled maintenance is to be performed on an aircraft (or one of its components), to provide relevant information to the user performing the maintenance and to provide documentation that the maintenance has been completed.

**NOTE:** *If your organization is using the Aircraft Standard Configuration Module, some of the instructions in this manual will be superseded by instructions contained within the Aircraft Standard Configuration Module manual. Each section within this manual which is affected by the utilization of the Aircraft Standard Configuration Module will contain a note in the header description for the section.*

## Overview

This procedure outlines the steps for:

- Linking scopes
- Basic scope setup
- Updating scopes

## Required Modules/Features

- Pentagon 2000 Core
- Aircraft Record Keeping
- Imaging-XL (for some functionality)

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## Procedure

### 1. Linking Scopes Methodology

When creating scopes, it is important to understand not only the requirements of the scope but how it is linked in the system to ensure that regulatory requirements are being complied with and that documentation is performed in the most efficient way possible.

**NOTE:** *The methodology outlined within this section is applicable to aircraft to which the Aircraft Standard Configuration Module is enabled; however, the procedure in which the methodology is applied will be different.*

#### Scope Classification

Aircraft scopes are linked directly to the aircraft and are managed within the aircraft file (when not utilizing the Aircraft Standard Configuration Module).

Scopes linked to components of the aircraft may be managed in two ways: (1) standard scopes or (2) component by component within the aircraft file.

Standard scopes are managed within the parts master. When a part is installed on the aircraft, the standard scopes will be copied (and be applicable) to the installed part on the aircraft (regardless of whether the part is installed as an engine/assembly, engine/assembly component, unit, required equipment item, MEL item, APU or APU component). Best practice is to maintain standard scopes for each part number within the parts master to the greatest extent possible in order to obtain the highest level of uniformity and efficiency.

General component scopes are managed within the aircraft file and should only be used when there are circumstances where the use of standard scopes is not most efficient. For example, scopes that apply only to a particular serial number or scopes that apply to the part only when installed on particular aircraft (note that the Aircraft Standard Configuration Module resolves a majority of these scenarios).

#### Determining the Level at which to Link the Scope

It is also important to note that there should be considerable thought given to the level at which a scope is linked on the aircraft.

Two considerations should be made: (1) where the history of performing the scope should be maintained and (2) what causes the scope to become due.

Historical record of the performance of the scope is important for a number of reasons, particularly in the case of quality audits. While the history will be tracked within the system regardless of the link created, it may be more difficult to report depending on the way scopes are linked.

*FOR EXAMPLE: If the requirement exists to inspect a component installed on all aircraft model 'XYZ' every 100 flight hours (regardless of the part number or serial number component installed) and that inspection originated from the aircraft manufacturer or regulatory agency, then it is more important to track history against the aircraft than it is to track the history against the widget.*

*However, if a requirement exists to inspect all components with part number '1234' (regardless of the aircraft on which it is installed), then it is more important to track history against the component than it is to track the history against the aircraft.*

Also vital to ensuring that scopes that are based upon operation (those based upon the number of hours/landings/starts/etc. regardless of the time period from installation) are tracked properly (and identified to be performed within the proper timeframe) is linking those scopes to the item that accurately tracks the operation.

*FOR EXAMPLE: If a scope is based upon component cycles, then the scope should be linked to the component.*

*However, if a scope is based upon aircraft hours (particularly if the component hours do not always equal aircraft hours, i.e. engines), then the scope should be linked to the aircraft.*

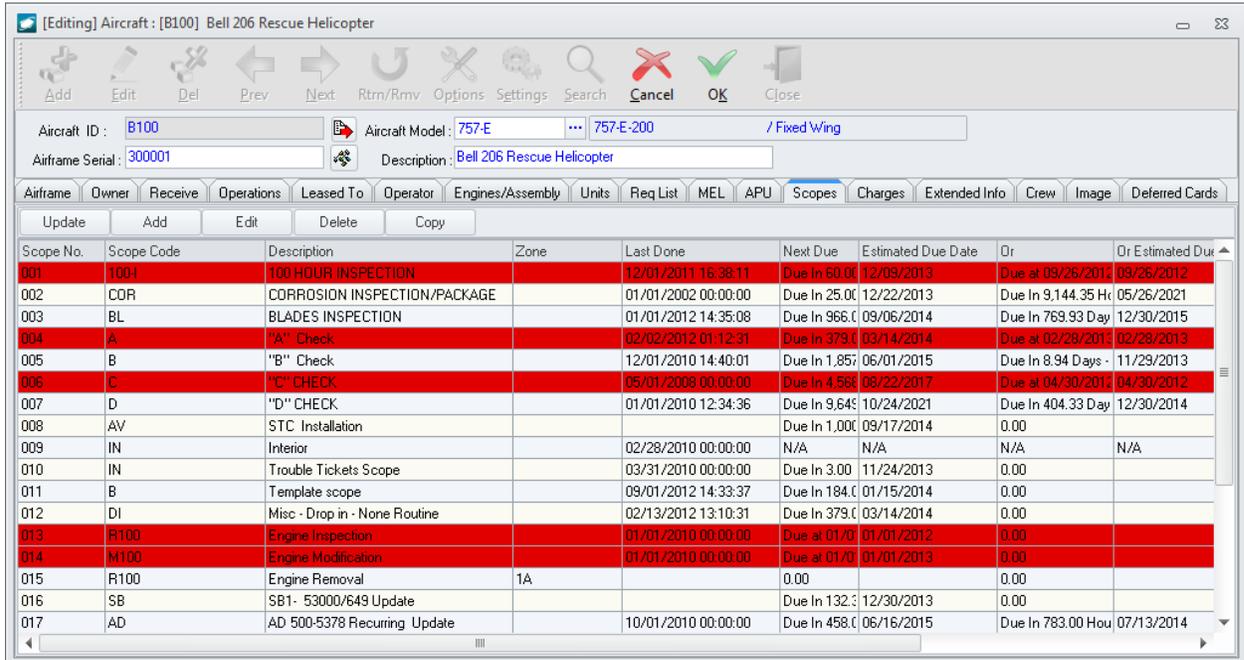
It may not be clear in every situation (particularly those with complex inspection due requirements) of where to link scopes, but it is important to consider the options.

END OF SECTION

## 2. Aircraft Scope

An aircraft scope may be created and linked to an aircraft within the aircraft file.

- a. From the aircraft file, left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



Scope No.	Scope Code	Description	Zone	Last Done	Next Due	Estimated Due Date	Or	Or Estimated Due
001	T001	100 HOUR INSPECTION		12/01/2011 16:38:11	Due In 60.00	12/09/2013	Due at 09/26/2012	09/26/2012
002	COR	CORROSION INSPECTION/PACKAGE		01/01/2002 00:00:00	Due In 25.00	12/22/2013	Due In 9,144.35 Hr	05/26/2021
003	BL	BLADES INSPECTION		01/01/2012 14:35:08	Due In 966.00	09/06/2014	Due In 769.93 Day	12/30/2015
004	A	"A" Check		02/02/2012 01:12:31	Due In 379.00	03/14/2014	Due at 02/28/2013	02/28/2013
005	B	"B" Check		12/01/2010 14:40:01	Due In 1,857.00	06/01/2015	Due In 8.94 Days	11/29/2013
006	C	"C" CHECK		05/01/2008 00:00:00	Due In 4,568.00	08/22/2017	Due at 04/30/2012	04/30/2012
007	D	"D" CHECK		01/01/2010 12:34:36	Due In 9,645.00	10/24/2021	Due In 404.33 Day	12/30/2014
008	AV	STC Installation			Due In 1,000.00	09/17/2014	0.00	
009	IN	Interior		02/28/2010 00:00:00	N/A	N/A	N/A	N/A
010	IN	Trouble Tickets Scope		03/31/2010 00:00:00	Due In 3.00	11/24/2013	0.00	
011	B	Template scope		09/01/2012 14:33:37	Due In 184.00	01/15/2014	0.00	
012	DI	Misc - Drop in - None Routine		02/13/2012 13:10:31	Due In 379.00	03/14/2014	0.00	
013	R100	Engine Inspection		01/01/2010 00:00:00	Due at 01/01/2012	01/01/2012	0.00	
014	M100	Engine Modification		01/01/2010 00:00:00	Due at 01/01/2013	01/01/2013	0.00	
015	R100	Engine Removal	1A		0.00		0.00	
016	SB	SB1- 53000/649 Update			Due In 132.00	12/30/2013	0.00	
017	AD	AD 500-5378 Recurring Update		10/01/2010 00:00:00	Due In 458.00	06/16/2015	Due In 783.00 Hou	07/13/2014

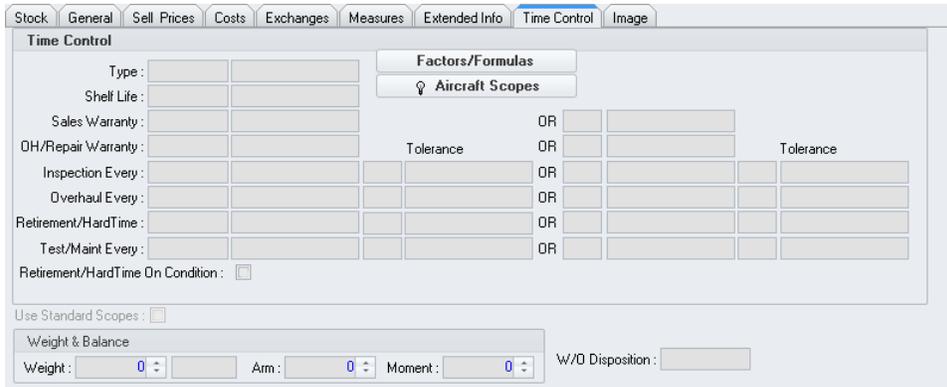
- b. Left-click the **Add** button on the **Scopes** tab toolbar
- c. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the aircraft.

END OF SECTION

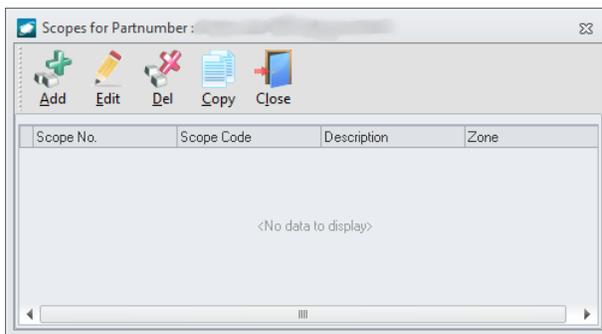
### 3. Standard Scopes

Standard scopes are linked to the part number in the parts master. When a part is installed on the aircraft, the standard scopes will be copied (and be applicable) to the installed part on the aircraft (regardless of whether the part is installed as an engine/assembly, engine/assembly component, unit, required equipment item, MEL item, APU or APU component).

- a. From the **Partnumber** window, left-click the **Time Control** tab



- b. Left-click the **Aircraft Scopes** button.
- c. The **Scopes for Partnumber** window will appear.



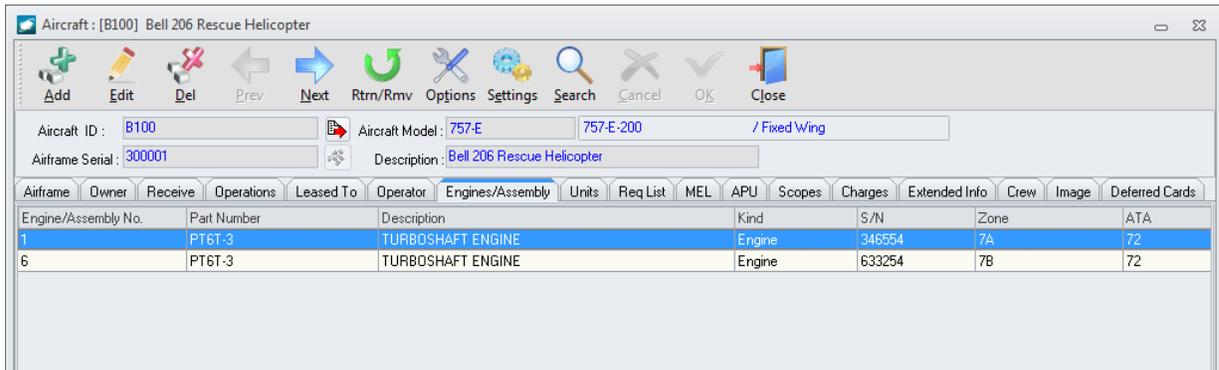
- d. Left-click the **Add** button on the **Scopes for Partnumber** window toolbar.
- e. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the part master.

END OF SECTION

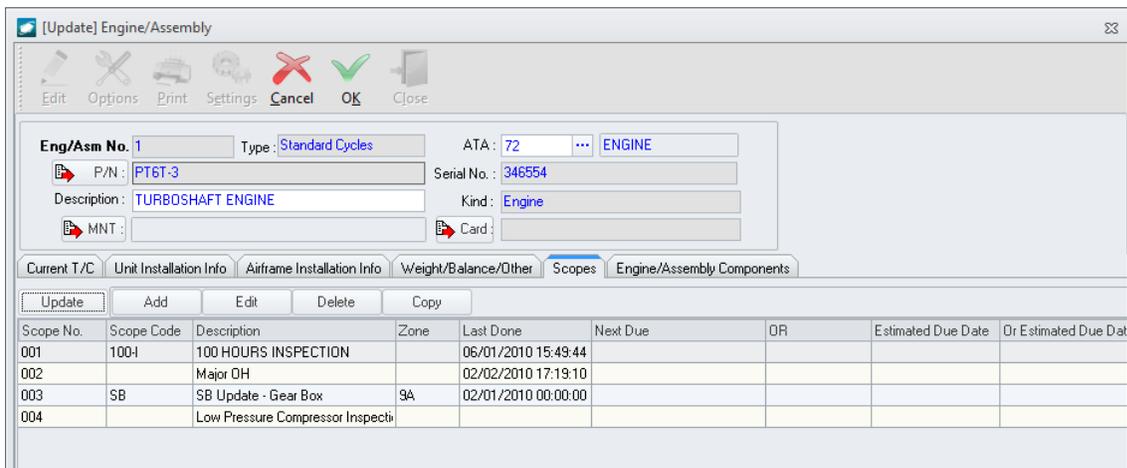
#### 4. Engine/Assembly Scope

A general component scope may be created and linked to an engine/assembly within the aircraft file.

- a. From the aircraft file, left-click the **Engines/Assembly** tab.



- b. Double-click the engine/assembly for which a general component scope should be created.
- c. The **Engine/Assembly** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



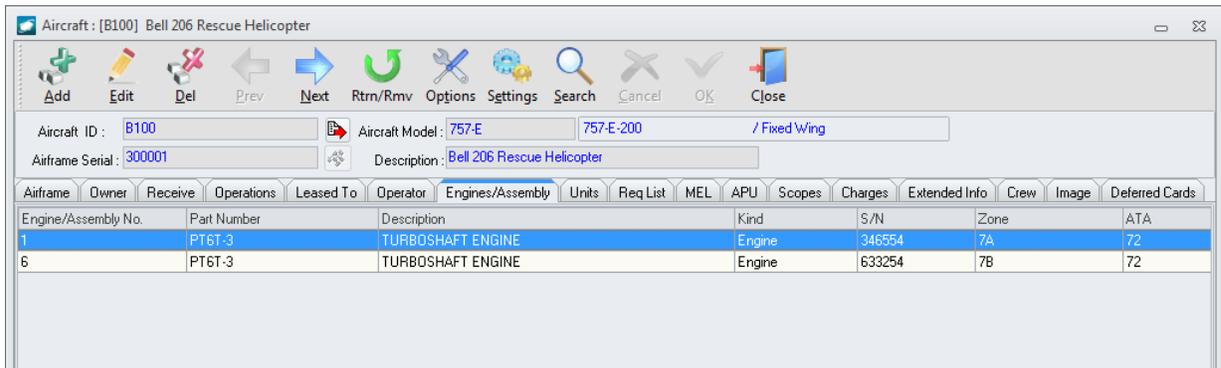
- d. Left-click the **Add** button on the **Scopes** tab toolbar
- e. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the engine/assembly.

END OF SECTION

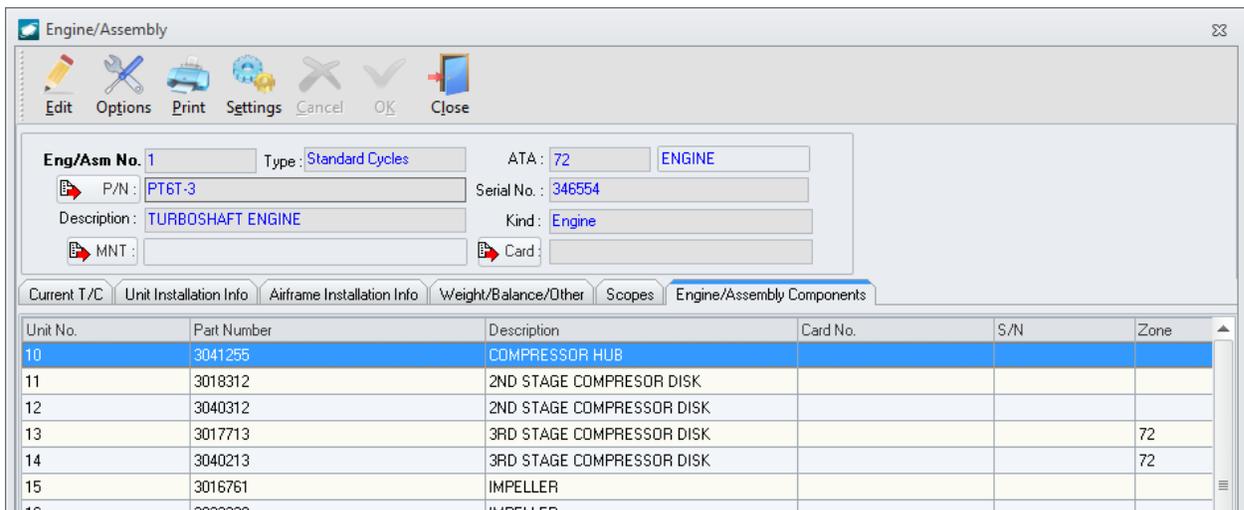
## 5. Engine/Assembly Component Scope

A general component scope may be created and linked to an engine/assembly component within the aircraft file.

- a. From the aircraft file, left-click the **Engines/Assembly** tab.



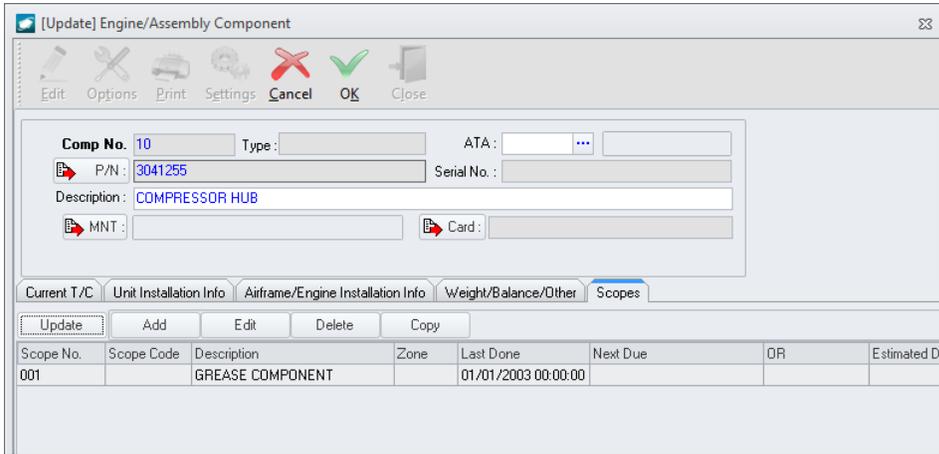
- b. Double-click the engine/assembly on which the component is installed.
- c. The **Engine/Assembly** window will appear. Left-click the **Engine/Assembly Components** tab.



- d. Double-click the engine/assembly component for which a general component scope should be created.

CONTINUE TO NEXT PAGE

- e. The **Engine/Assembly Component** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



Scope No.	Scope Code	Description	Zone	Last Done	Next Due	OR	Estimated D
001		GREASE COMPONENT		01/01/2003 00:00:00			

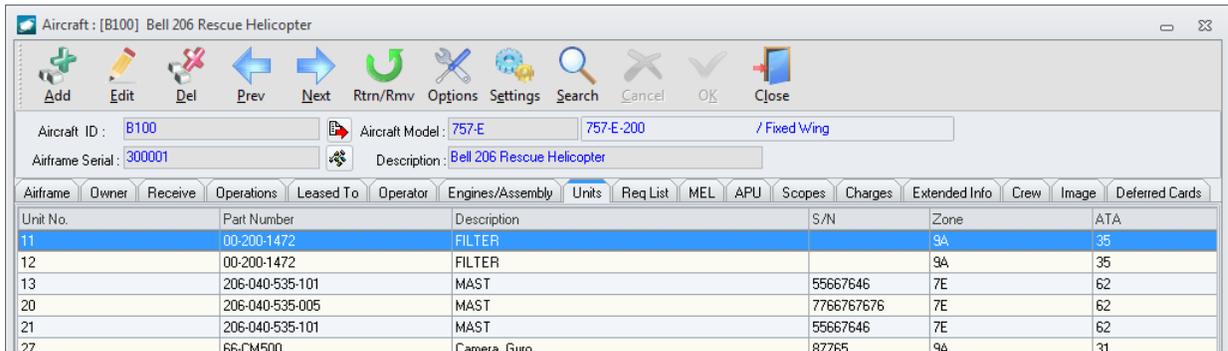
- f. Left-click the **Add** button on the **Scopes** tab toolbar
- g. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the engine/assembly component.

*END OF SECTION*

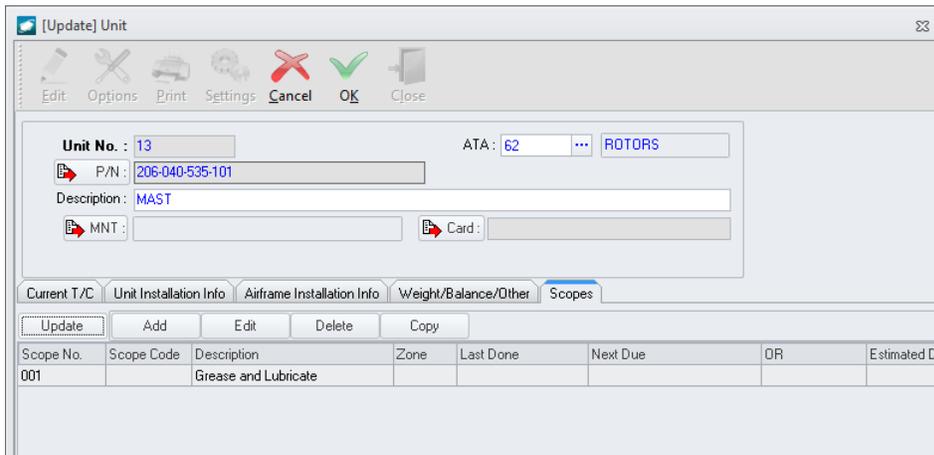
## 6. Unit Scope

A general component scope may be created and linked to a unit within the aircraft file.

- a. From the aircraft file, left-click the **Units** tab.



- b. Double-click the unit for which a general component scope should be created.
- c. The **Unit** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



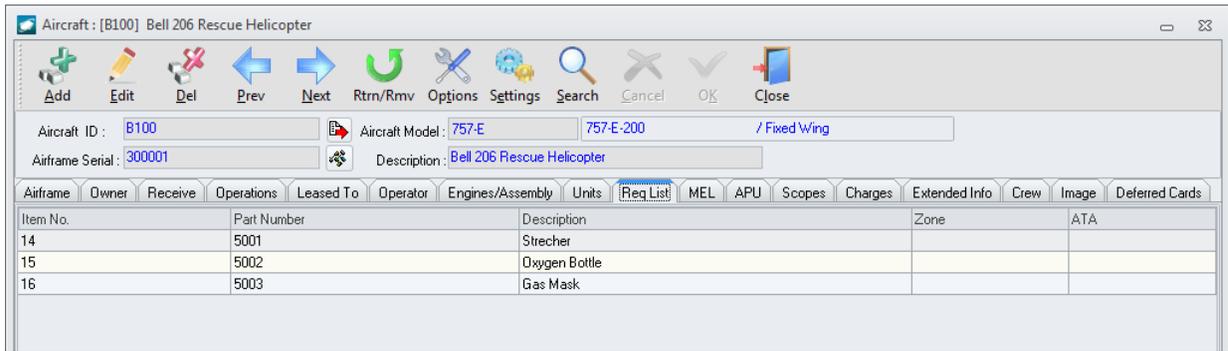
- d. Left-click the **Add** button on the **Scopes** tab toolbar
- e. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the unit.

END OF SECTION

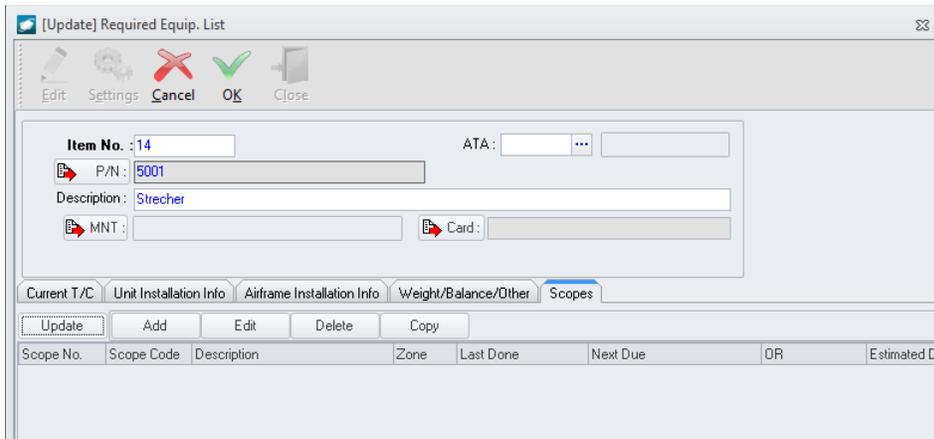
## 7. Required Equipment Items Scope

A general component scope may be created and linked to a required equipment items within the aircraft file.

- a. From the aircraft file, left-click the **Req List** tab.



- b. Double-click the item for which a general component scope should be created.
- c. The **Required Equip. List** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



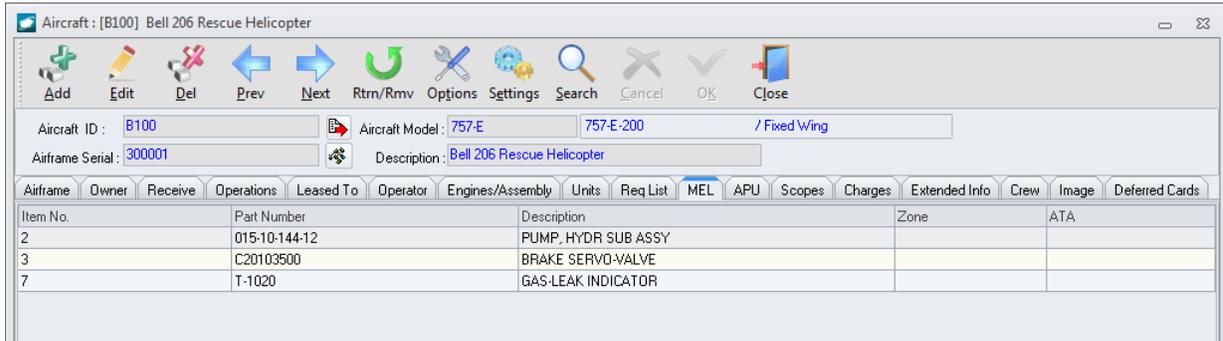
- d. Left-click the **Add** button on the **Scopes** tab toolbar
- e. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the required equipment item.

END OF SECTION

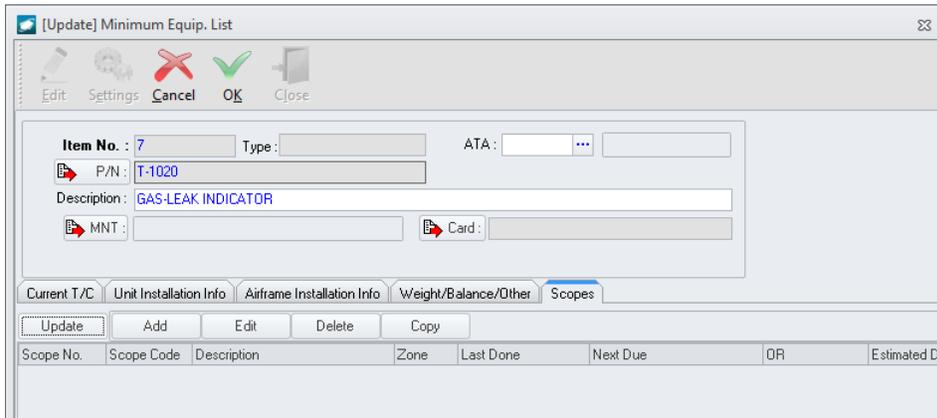
## 8. Minimum Equipment List (MEL) Item Scope

A general component scope may be created and linked to an MEL items within the aircraft file.

- a. From the aircraft file, left-click the **MEL** tab.



- b. Double-click the item for which a general component scope should be created.
- c. The **Minimum Equip. List** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



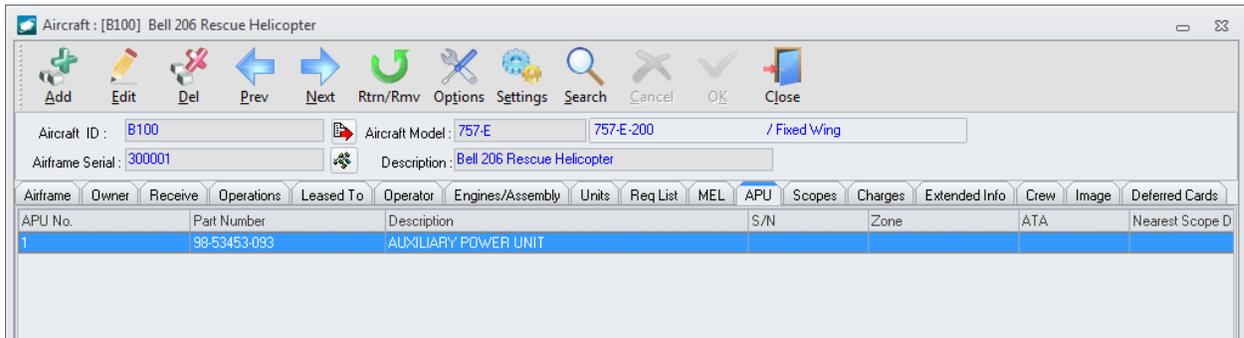
- d. Left-click the **Add** button on the **Scopes** tab toolbar
- e. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the MEL item.

END OF SECTION

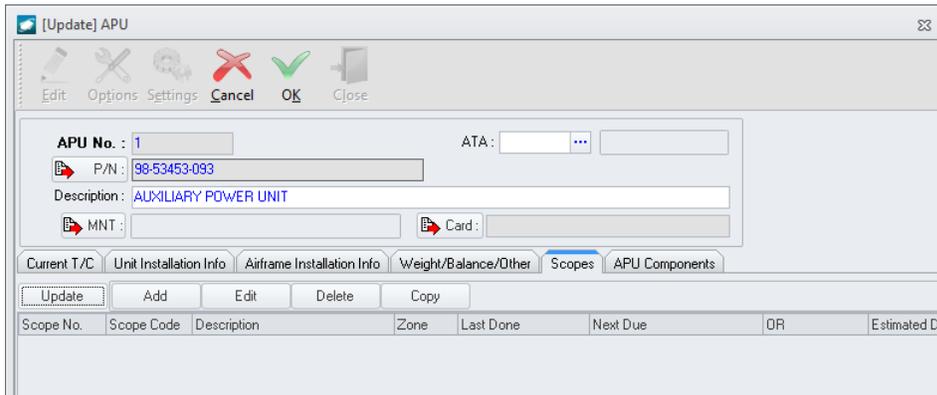
## 9. Auxiliary Power Unit (APU) Scope

A general component scope may be created and linked to an APU within the aircraft file.

- a. From the aircraft file, left-click the **APU** tab.



- b. Double-click the APU for which a general component scope should be created.
- c. The **APU** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



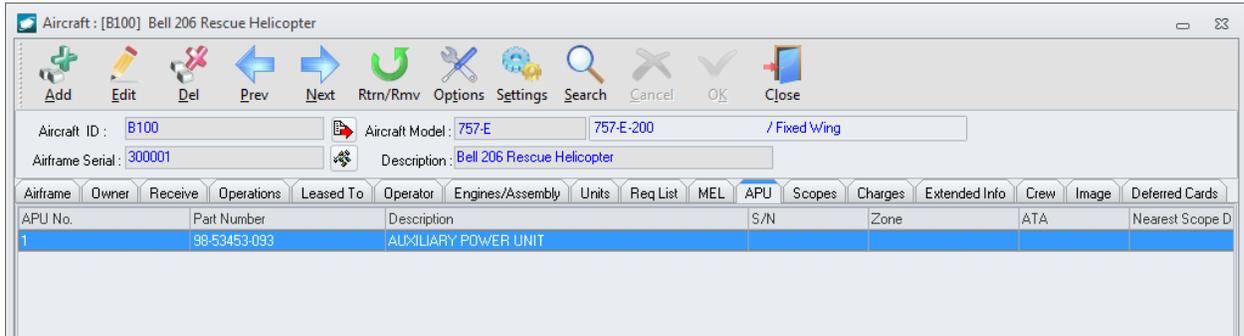
- d. Left-click the **Add** button on the **Scopes** tab toolbar
- e. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the APU.

END OF SECTION

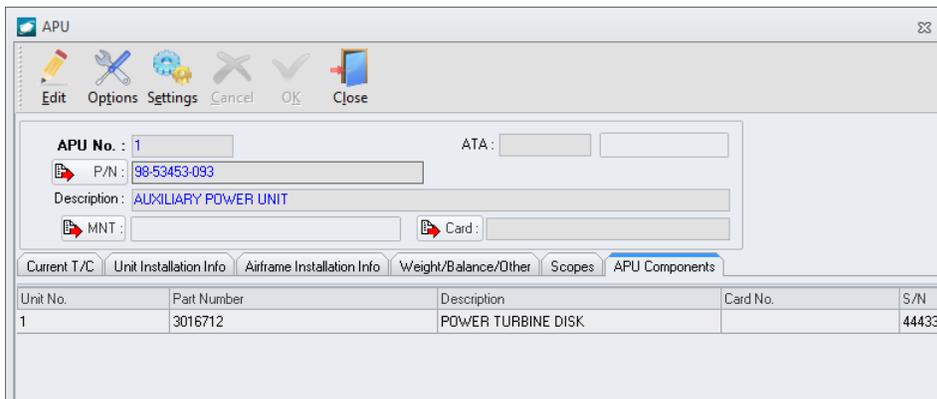
## 10. APU Component Scope

A general component scope may be created and linked to an APU component within the aircraft file.

- a. From the aircraft file, left-click the **APU** tab.



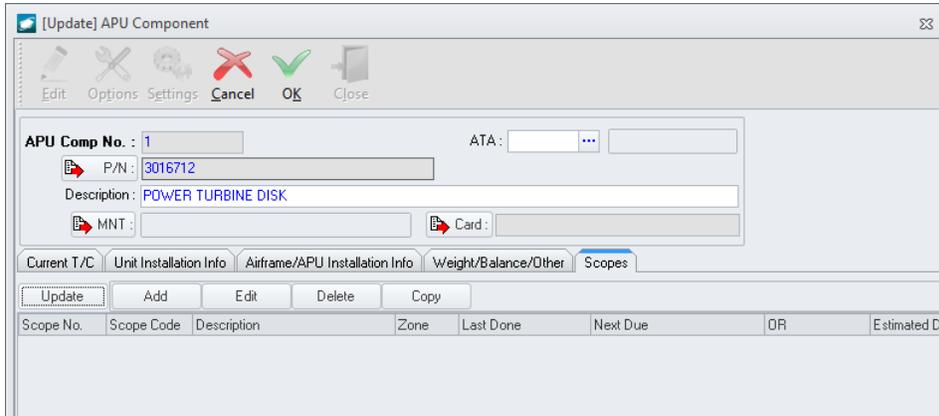
- b. Double-click the APU on which the component is installed.
- c. The **APU** window will appear. Left-click the **APU Components** tab.



- d. Double-click the APU component for which a general component scope should be created.

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- e. The **APU Component** window will appear. Left-click the **Edit** button on the window toolbar and left-click the **Scopes** tab.



- f. Left-click the **Add** button on the **Scopes** tab toolbar
- g. Continue to the *Scope Setup* section of this procedure to complete creation of the scope and link to the APU component.

*END OF SECTION*

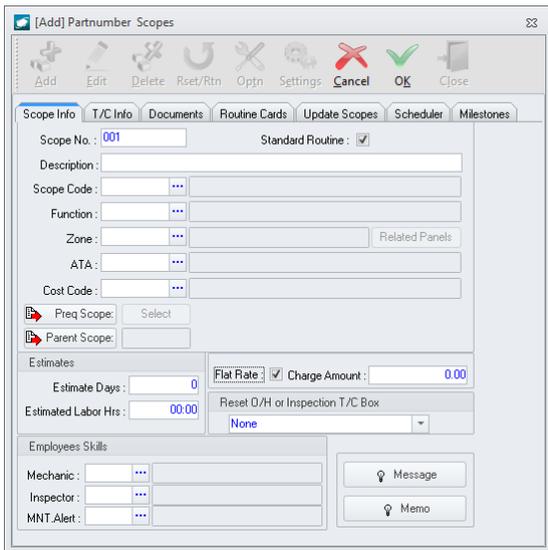
## 11. Scope Setup

Scopes are used to identify a set of maintenance activities that are required to be performed on a particular aircraft or installed component (engine/assembly, engine/assembly component, unit, required equipment item, MEL item, APU, or APU component).

This section outlines the creation of scopes in general. The process for updating scopes will be outlined in a subsequent section.

**NOTE:** Some fields used within the scope setup require setup of administrative tables. Refer to the Aircraft Record Keeping: Module Setup procedure manual for a list of applicable tables and instruction on setting up those tables.

- a. There are multiple ways to open the **Scopes** window (see sections 2-10 of this procedure). In each case the window title will display where the scope is being created and linked. In the example below, the scope is being created in the parts master (standard scope).
- b. The **Scopes** window will appear.



### i. Scope Info tab

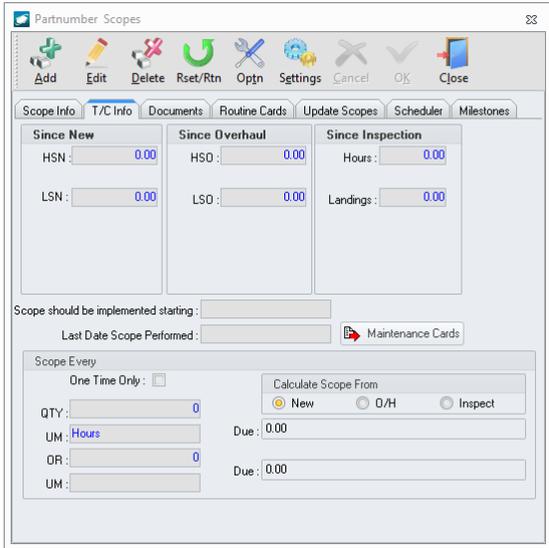
1. **Scope No** field [REQUIRED] – This field is automatically populated but may be overwritten. [20-character maximum]
2. **Standard Routine** flag – Mark this flag as “checked” to identify that the maintenance activity under the scope must be performed on a particular schedule.
3. **Description** field – Enter a short description of the scope.

4. **Scope Code** field – Select the applicable scope code.
5. **Function** field – Select the appropriate function code.
6. **Zone** field – Select the appropriate aircraft zone.
7. **Related Panels** button – Left-click to view the panels associate with the selected zone.
8. **ATA** field – Select the appropriate ATA code.
9. **Cost Code** field [REQUIRED] – Select the cost code with which this scope will most usually be associated.
10. **Preq Scope** field – Left-click the **Select** button to identify a unit scope that must be performed before the scope may be completed.
11. **Parent Scope** field – IGNORE
12. **Estimates** group box
  - a. **Estimate Days** field – Enter the number of days required to complete the maintenance activity under this scope.
  - b. **Estimated Labor Hrs** field – Enter the number of labor hours required to complete the maintenance activity under this scope.
13. Flat rate group box
  - a. **Flat Rate** flag – Mark this flag as “checked” to identify that the charge to perform the maintenance activity under the scope is a flat charge. By marking this flag, the maintenance work order created from the scope will be marked as flat rate and will override all other charges setting on the work order, cards and tasks.
  - b. **Charge Amount** field – (only visible when the **Flat Rate** flag is marked as “checked”) – Enter the amount of the flat charge that should be assigned to maintenance work orders created from the scope.
14. **Reset O/H or Inspection T/C Box** field
  - a. “None” is the default value
  - b. “Reset Major Inspection” option will reset the **Inspection** group box numbers for the unit when a work order is created based upon the scope.
  - c. “Reset Major O/H” option will reset the **O/H** group box numbers for the unit when a work order is created based upon the scope.

15. **Employees Skills** group box
  - a. **Mechanic** field (reference only) – This field may be used to identify a particular skill that all mechanics must possess to perform the maintenance activity under the scope, or a reference to a skill for any purpose you determine.
  - b. **Inspector** field (reference only) – This field may be used to identify a particular skill that the inspector must possess to sign as inspector on work orders associated with the scope, or a reference to a skill for any purpose you determine.
  - c. **MNT Alert** field – You may identify a user to receive an internal email notification when the **Create Maintenance** option is selected from the **Scope** window associated with an aircraft, unit, assembly or component.
16. **Message** button – Left-click to open the memo editor; enter any information relevant to the scope that may be shared external to your organization.
17. **Memo** button – Left-click to open the memo editor; enter any information relevant to the scope that should be kept internal to your organization.

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ii. **T/C Info** tab

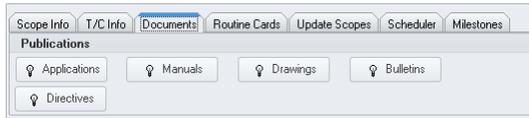


1. **Since New, Since Overhaul, and Since Inspection** group boxes
  - a. For standard scopes - The fields contained within these group boxes should be left at the value of zero.
  - b. For aircraft scopes and general component scopes - These fields will identify the number of hours, landings, cycles, or RIN that were accumulated against this scope prior to applying additional hours, landings, cycles, or RIN from the Flight Operations Module.
2. **Scope should be implemented starting** field – If this particular scope is not required to be performed until after some particular future date, enter the date. Otherwise, you may leave the field null.
3. **Last Date Scope Performed** field
  - a. For standard scopes - The value of this field should be left at null.
  - b. For aircraft scopes and general component scopes – Enter the date on which the scope was last performed.
4. **Scope Every** group box
  - a. **One Time Only** flag – Mark the flag as “checked” if the scope is not a recurring scope.
  - b. **QTY** and **UM** fields – Identify the interval at which the scope must be performed. For one time only scopes, identify when the scope must be performed.

- c. **OR** and **UM** fields – If there is more than one interval applicable to the performance of the scope (i.e. 300 hours OR 6 months), it may be identified.
- d. **Calculate Scope From** group box – Identifies what value on the engine/assembly, engine/assembly component, or unit will be used to calculate when the scope is due.
  - i. **New** radio button – When selected, the scope due values will use the HSN of the engine/assembly, engine/assembly component, or unit.
  - ii. **O/H** radio button – When selected, the scope due values will use the HSO of the engine/assembly, engine/assembly component, or unit.
  - iii. **Inspect** radio button – When selected, the scope due values will use the HSI of the engine/assembly, engine/assembly component, or unit.
- e. **Due** fields – These fields will be populated if the intervals are populated; however, you may ignore the values. Within the aircraft records, these values will be populated using the HSN/HSO/HSI of the engine/assembly, engine/assembly component, or unit; the HSN/HSO/HSI of the scope; and the flight information applicable to the engine/assembly, engine/assembly component, or unit from flight operations since the Last Date Scope Performed date.

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iii. **Documents tab**



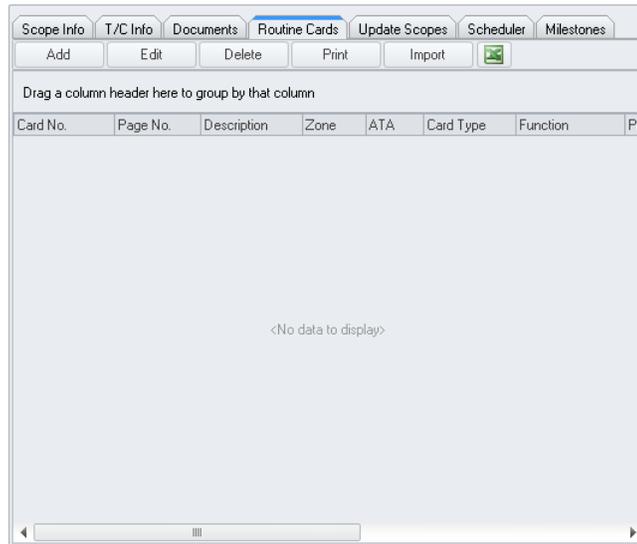
Link publications using the instructions outlined in the procedure “Publications (Core System)” within the General System section of this manual.

**NOTE:** *If the Publication Management module is being used, links to all publications are made from the Publications Management module. This procedure describes the steps for linking publications without the Publications Management module. Instructions for linking items to publications from the Publications Management module may be found in the procedure "Publication Management Module" within the General System section of this manual.*

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iv. **Routine Cards** tab

Routine cards are created to be automatically added to maintenance work orders associated with the scope. Refer to the procedure “*Routine Cards Setup*” within the Quality section of this manual for detailed instructions.

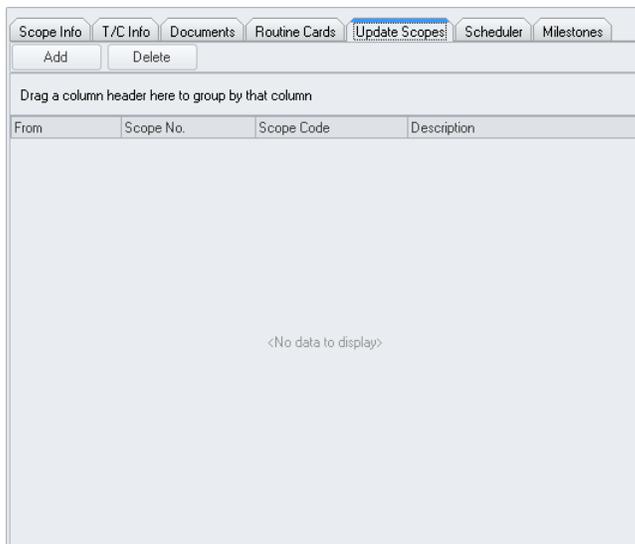


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v. **Update Scopes** tab

Other scopes associated with the part number, aircraft, unit, assembly or component may be added to the **Update Scopes** tab if the maintenance performed on those scopes is completed during the performance of the higher level scope.

For example, if you have a requirement for an annual inspection that also includes and fulfills the requirements of your 30-day and 90-day inspections, then you may add your 30-day and 90-day inspection scopes to the **Update Scopes** tab associated with the annual inspection. When the annual inspection is signed off, the system will update the annual inspection as well as the 30-day and 90-day inspection with the same information (Last Date Scope Performed) which will effectively update when each of those scopes are now due.



Scope Info | T/C Info | Documents | Routine Cards | **Update Scopes** | Scheduler | Milestones

Add | Delete

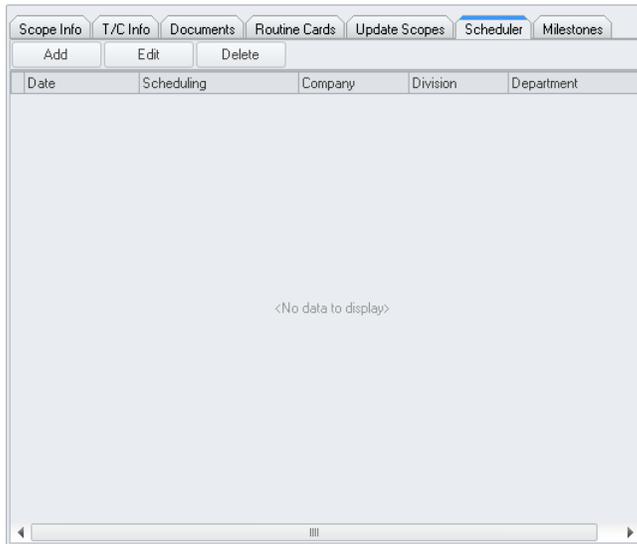
Drag a column header here to group by that column

From	Scope No.	Scope Code	Description
<No data to display>			

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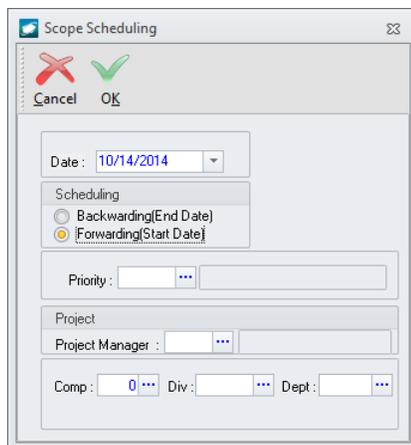
vi. **Scheduler** tab

This tab is used to schedule the dates on which the scope is to be performed by company, department, and division. This tab is associated with the Resource Planning Module which is still in development and may be ignored or used for reference only at this time.



1. Add a Scope Schedule

- a. While the **Scope** window is in edit mode, left-click the **Add** button on the **Scheduler** tab toolbar.
- b. The **Scope Scheduling** window will appear.



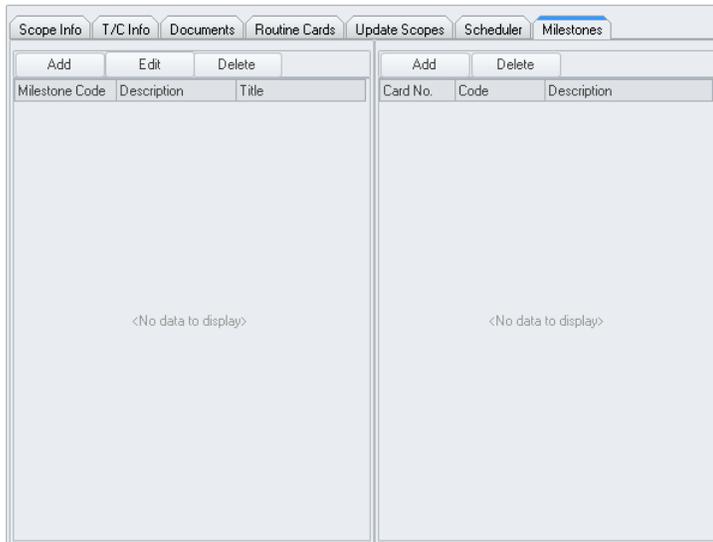
- i. **Date** field – Identify the date that is relevant to the scope.
- ii. Scheduling group box

1. **Backwarding (End Date)** radio button – Select this radio button if the scope must be completed by the date identified.
2. **Forwarding (Start Date)** radio button – Select this radio button if the scope must be started by the date identified.
- iii. **Priority** field – Select the priority associated with the scope and this particular schedule.
- iv. **Project Manager** field – Select the user who is responsible for the performance of the scope and this particular schedule.
- v. **Comp** field – Select the company for which this schedule applies.
- vi. **Div** field – Select the division for which this schedule applies. If no division is selected, the schedule will apply to all divisions and departments within the selected company.
- vii. **Dept** field – Select the department for which this schedule applies. If no department is selected, the schedule will apply to all departments within the selected division.
- c. Left-click the **OK** button on the **Scope Scheduling** window toolbar to save the record and close the window.
- d. The schedule will appear in the grid.
2. Edit an Existing Scope Schedule
  - a. While the **Scope** window is in edit mode, left-click the line that you would like to edit within the grid and left-click the **Edit** button on the **Scheduler** tab toolbar.
  - b. The **Scope Scheduling** window will appear.
  - c. Modify the details as necessary.
  - d. Left-click the **OK** button on the **Scope Scheduling** window toolbar to save the record and close the window.
3. Delete an Existing Scope Schedule
  - a. While the **Scope** window is in edit mode, left-click the line that you would like to edit within the grid and left-click the **Delete** button on the **Scheduler** tab toolbar.
  - b. The schedule will be deleted from the grid.

*CONTINUE TO NEXT PAGE*

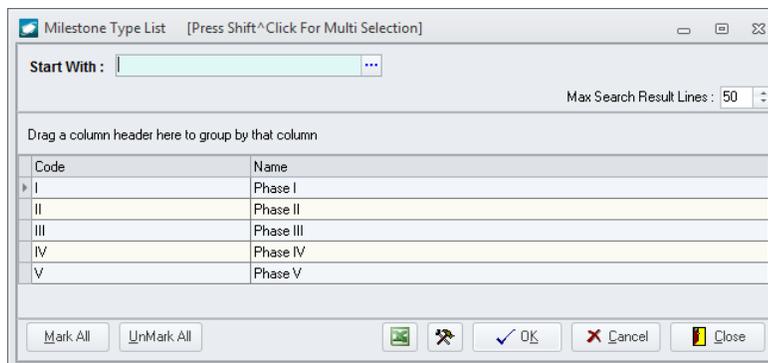
vii. **Milestones** tab

Milestones may be used to group cards. Applicable cards may be linked to the milestone. When all cards have been completed, the milestone can be considered as completed.



1. Add a Milestone

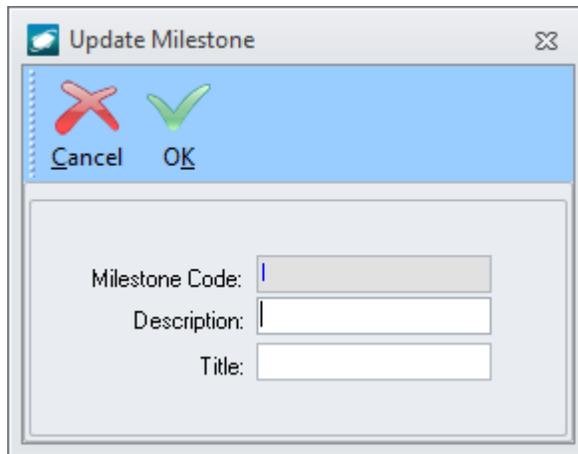
- a. While the **Scope** window is in edit mode, left-click the **Add** button on the left side of the **Milestones** tab toolbar.
- b. The **Milestone Type List** search window will appear.



- c. Select the appropriate milestone(s) (left-click the line(s) within the search window and left-click **OK**).
- d. The milestone will appear in the grid on the left side of the window.

## 2. Edit an Existing Milestone

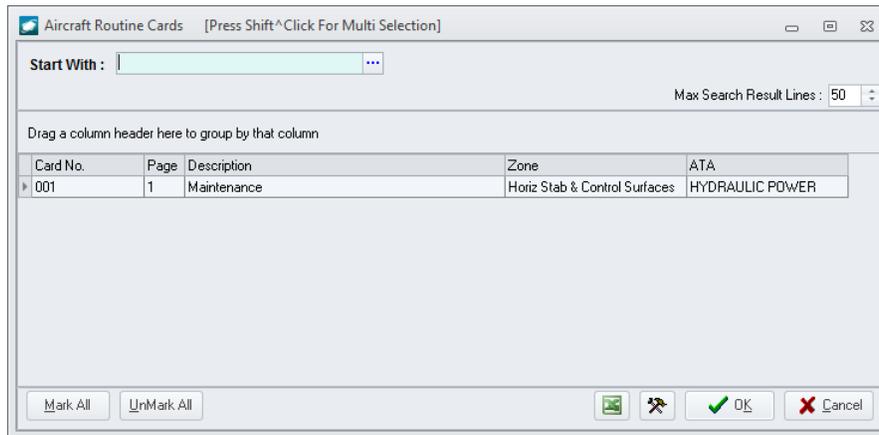
- a. While the **Scope** window is in edit mode, left-click the milestone that you would like to edit within the grid on the left side of the window and left-click the **Edit** button on the left side of the **Milestones** tab toolbar.
- b. The **Update Milestone** window will appear.



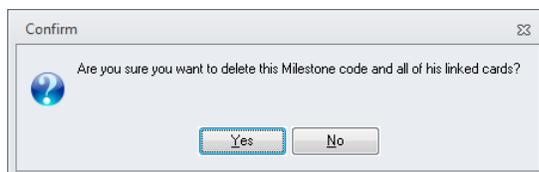
- i. **Milestone Code** field – This field is automatically populated from the **Milestone Type** table.
  - ii. **Description** field – Enter a description for the milestone.
  - iii. **Title** field – Enter a title for the milestone.
- c. Left-click the **OK** button on the **Update Milestone** window toolbar to save the record and close the window.
- ## 3. **Link Cards to Milestones**
- a. While the **Scope** window is in edit mode, left-click the milestone within the grid on the left side of the window with which you would like to link cards and left-click the **Edit** button on the right side of the **Milestones** tab toolbar.

*CONTINUE TO NEXT PAGE*

- b. The **Aircraft Routine Cards** search window will appear.



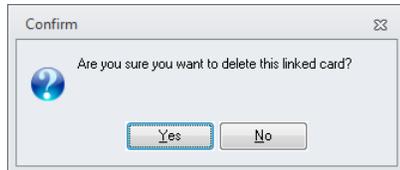
- c. Select the appropriate card(s) (left-click the line(s) within the search window and left-click **OK**).
- d. The card(s) will appear in the grid on the right side of the window when the milestone is selected on the left side of the window.
4. Delete an Existing Milestone
- a. While the **Scope** window is in edit mode, left-click the milestone that you would like to delete within the grid on the left side of the window and left-click the **Delete** button on the left side of the **Milestones** tab toolbar.
- b. A **Confirm** dialog box will appear with the following message:



- c. Left-click the **Yes** button.
- d. The milestone will be removed from the scope.

5. Remove a Card from a Milestone

- a. While the **Scope** window is in edit mode, left-click the card that you would like to remove from the milestone within the grid on the right side of the window and left-click the **Delete** button on the right side of the **Milestones** tab toolbar.
- b. A **Confirm** dialog box will appear with the following message:



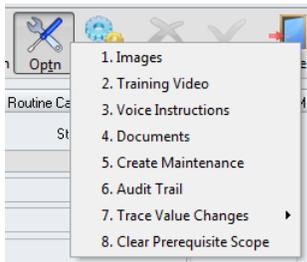
- c. Left-click the **Yes** button.
  - d. The card will be removed from the milestone.
- c. Left-click the **OK** button from the **Scopes** toolbar to save the scope data.

*END OF SECTION*

## 12. Scopes Window Toolbar



- a. **Add** button – Left-click to add a scope.
- b. **Edit** button – Left-click to edit the scope that is being displayed.
- c. **Delete** button – Left-click to delete the scope that is being displayed.
- d. **Rset/Rtn** button – Left-click to update the scopes listed on the **Update Scopes** tab in accordance with the information on the current scope.
- e. **Optn** (Options) button



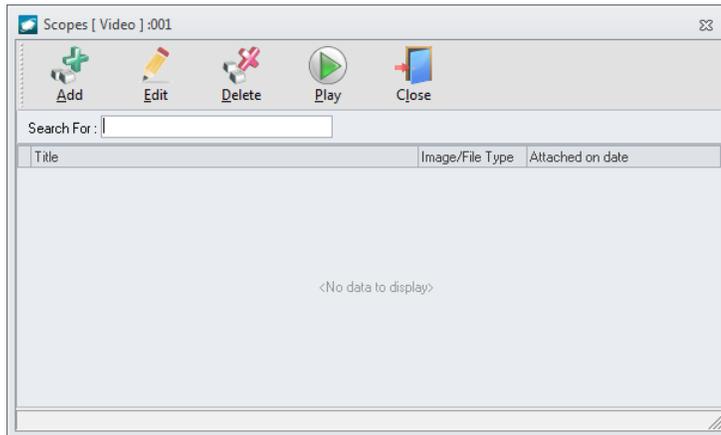
- i. **1. Images** option – Left-click to add images to the scope for reference purposes.

**NOTE:** The Imaging-XL module is required to enable this functionality. Please see the Imaging-XL comprehensive procedures manual for detailed instructions.

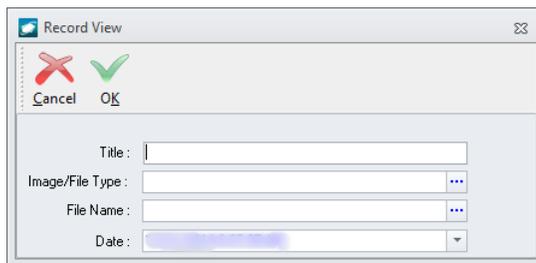
CONTINUE TO NEXT PAGE

ii. **2. Training Video** option – Left-click to add links to video files that demonstrate the performance of the scope tasks.

1. The **Scopes [Video]** window will appear. Left-click the **Add** button from the **Scopes [Video]** window toolbar.



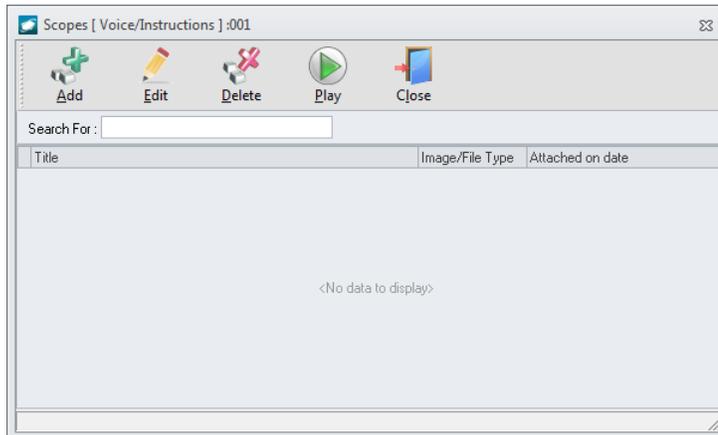
2. The **Record View** window will appear.



- a. **Title** field – Input a title for the video file.
  - b. **Image/File Type** field – Left-click the ellipsis in the right side of the field to select from the **Image/File Type List** or a custom type may be input instead of selecting from the list.
  - c. **File Name** field – Left-click the ellipsis in the right side of the field to select the file to link to the scope or the path may be input instead of selecting using the Windows interface.
  - d. **Date** field – This field will be automatically populated with the date and time that the record was created. The date may be changed to reflect any applicable date and time.
  - e. Left-click the **OK** button on the **Record View** window toolbar. The window will close and the record will appear in the grid on the **Scopes [Video]** window toolbar.
3. Left-click the **Close** button on the **Scopes [Video]** window toolbar.

iii. **3. Voice Instructions** option – Left-click to add links to audio files that describe the scope tasks.

1. The **Scopes [Voice/Instructions]** window will appear. Left-click the **Add** button from the **Scopes [Voice/Instructions]** window toolbar.



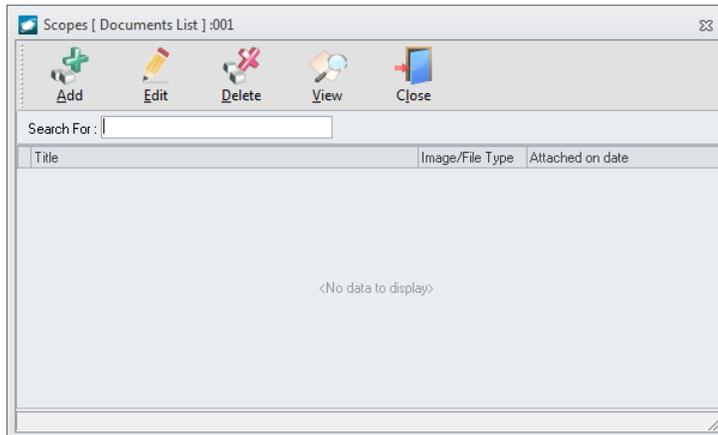
2. The **Record View** window will appear.



- a. **Title** field – Input a title for the audio file.
  - b. **Image/File Type** field – Left-click the ellipsis in the right side of the field to select from the **Image/File Type List** or a custom type may be input instead of selecting from the list.
  - c. **File Name** field – Left-click the ellipsis in the right side of the field to select the file to link to the scope or the path may be input instead of selecting using the Windows interface.
  - d. **Date** field – This field will be automatically populated with the date and time that the record was created. The date may be changed to reflect any applicable date and time.
  - e. Left-click the **OK** button on the **Record View** window toolbar. The window will close and the record will appear in the grid on the **Scopes [Voice/Instructions]** window toolbar.
3. Left-click the **Close** button on the **Scopes [Voice/Instructions]** window toolbar.

iv. **4. Documents** option – Left-click to add links to document files that are associated with the scope.

1. The **Scopes [Documents List]** window will appear. Left-click the **Add** button from the **Scopes [Documents List]** window toolbar.



2. The **Record View** window will appear.



- a. **Title** field – Input a title for the document file.
  - b. **Image/File Type** field – Left-click the ellipsis in the right side of the field to select from the **Image/File Type List** or a custom type may be input instead of selecting from the list.
  - c. **File Name** field – Left-click the ellipsis in the right side of the field to select the file to link to the scope or the path may be input instead of selecting using the Windows interface.
  - d. **Date** field – This field will be automatically populated with the date and time that the record was created. The date may be changed to reflect any applicable date and time.
  - e. Left-click the **OK** button on the **Record View** window toolbar. The window will close and the record will appear in the grid on the **Scopes [Documents List]** window toolbar.
3. Left-click the **Close** button on the **Scopes [Documents List]** window toolbar.

- v. **5. Create Maintenance** option – [not applicable to standard scopes in the parts master] Left-click to create a maintenance work order for the aircraft, engine/assembly, engine/assembly component, unit, required item, MEL, APU or APU component to which the scope is associated.
- vi. **6. Audit Trail** option – [not applicable to standard scopes in the parts master] Left-click to view a version history for the scope including the user who modified the scope, the date on which the scope was modified and the most recent date on which each version of the scope was associated with a maintenance work order.
- vii. **7. Trace Value Changes** options – [not applicable to standard scopes in the parts master] Left-click to view a history of field value changes.

**NOTE:** *This option is only applicable when the Mandatory Fields and Audit Trail Module is licensed and fields are marked to track changes.*

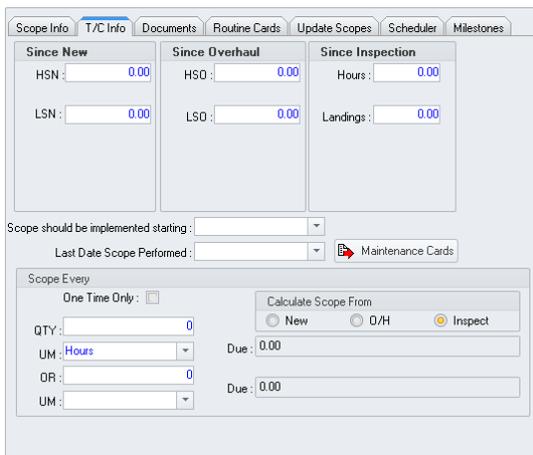
- 1. **Current Document** option – Left-click to view history for the current document only.
  - 2. **Similar Documents** option – Left-click to view history for the current document and all scope documents that were created from the current document.
- viii. **8. Clear Prerequisite Scope** option – Left click to clear the prerequisite scope associated to the scope on the **Scope Info** tab
- f. **Settings** button – Left-click to save or clear the window sizing, window position, grid column sizing and grid column order settings.
  - g. **Cancel** button – [Active only in edit mode] Left-click to cancel changes that have been made since the **Edit** button on the **Scopes** window toolbar was selected.
  - h. **OK** button – [Active only in edit mode] Left-click to accept changes that have been made since the Edit button on the **Scopes** window toolbar was selected.
  - i. **Close** button – Left-click to close the **Scopes** window.

### 13. Initial Input

After a scope is associated with an aircraft, engine/assembly, engine/assembly component, unit, required equipment item, MEL item, APU or APU component, the time control information for that scope must be updated as it applies to the specific aircraft or component.

**NOTE:** In this example we will describe all inputs to aircraft hours; however, the procedure may be applied to time, landings, cycles, and RIN.

- a. Determine the time control values on which the scope will be based.



**NOTE:** These fields resemble the time control numbers identified for the aircraft or component. At times the values of the time control numbers related to the aircraft or component may match the time control numbers related to the scope. However, the sets of numbers will not necessarily be the same.

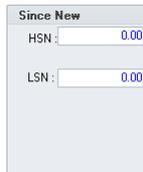
From a logic perspective, there is no difference between selecting since new values, since overhaul values or since inspection as long as input is consistent. There are three choices available for documentation purposes only.

The since new, since overhaul, and since inspection values on the aircraft or components will accumulate hours from the Flight Operations module identically.

CONTINUE TO NEXT PAGE

i. Since New values

1. The **Since New** group box on the **T/C Info** tab of the **Scope** window will be relevant to scope tracking; the **Since Overhaul** and **Since Inspection** can be ignored.

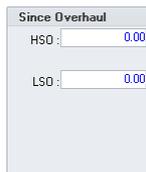


2. The **New** radio button in the **Calculate Scope From** group box inside the **Scope Every** group box at the bottom of the window should be selected.



ii. Since Overhaul values

1. The **Since Overhaul** group box on the **T/C Info** tab of the **Scope** window will be relevant to scope tracking; the **Since New** and **Since Inspection** can be ignored.

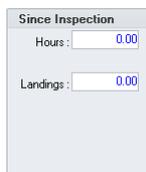


2. The **O/H** radio button in the **Calculate Scope From** group box inside the **Scope Every** group box at the bottom of the window should be selected.

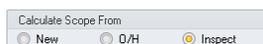


iii. Since Inspection values

1. The **Since Inspection** group box on the **T/C Info** tab of the **Scope** window will be relevant to scope tracking; the **Since New** and **Since Overhaul** can be ignored.



2. The **Inspect** radio button in the **Calculate Scope From** group box inside the **Scope Every** group box at the bottom of the window should be selected.



b. Input time control values for flights not tracked within Pentagon 2000.

**NOTE:** The scope due information (when scopes are based on anything except calendar days) is calculated by using the time control values entered into the **Since New**, **Since Overhaul**, and **Since Inspection** group boxes and adding hours (and landings, cycles, RIN, etc.) from the **Cycle Count** tab in the **Flight Log** window according to the factors and formulas identified on the aircraft or component.

Do not enter the hours (or landings, cycles, RIN, etc.) for the aircraft or component unless required. The values that should be input are related to the SCOPE, not the aircraft or component.

FOR EXAMPLE: An aircraft has an HSN of 4,298.2 and the scope is required every 1,500 hours. The scope was last performed on 07/14/2010 and your organization begins using Pentagon2000 on 10/01/2010. During the period 07/14/2010 and 10/01/2010, the aircraft flew 436.4 hours and you do not intend to log those flights into the Flight Operations module. You have chosen to use the Since New values to track the scope due. Therefore, the value of 436.4 should be input into the **HSN** field. However, if you log in all flights since 08/01/2010, a total of 386.7 hours, then you would input 49.7 (436.4 - 386.7) into the **HSN** field.

In both cases, the system would calculate the same value to be used in the scope due calculation.

If today is 10/01/2010:

No Flights entered: 436.4 (HSN) PLUS 0 (hours logged for the aircraft related to the scope) = 436.4 hours

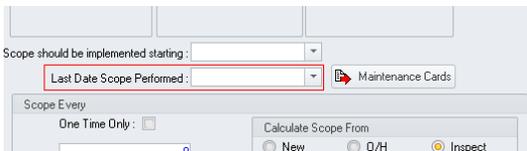
Flights entered for 08/01 thru 10/01: 49.7 (HSN) PLUS 386.7 (hours logged for the aircraft related to the scope) = 436.4 hours

**NOTE:** A similar methodology also applies to scopes related to parts that are contingent upon the component time control values and moved from one aircraft to another.

FOR EXAMPLE: A component has a required scope every 1,000 hours is removed from Aircraft A. The scope was completed 219.5 hours ago and it is either not economically feasible or there is not enough time to perform the scope before the component is installed on Aircraft B. When the component is installed on Aircraft B, the value of 219.5 should be input into the HSN field.

- i. From the **Scopes** window, left-click the **T/C Info** tab.
- ii. **Since New** group box (**HSN**, **TSN**, **LSN**, **CSN**, and **RINSN** fields)
  1. If your scope is based upon the aircraft or component since new values, complete all the applicable fields. For example, enter the number of hours that have been accumulated since the last time the scope was performed (or since the aircraft or component was new if the scope has never been performed). Do NOT include hours that were accumulated and allocated to the aircraft or component in the Flight Operations module.

2. If your scope is not based upon the aircraft or component since new value, leave all these fields blank.
- iii. **Since Overhaul** group box (**HSO, TSO, LSO, CSO,** and **RINSO** fields)
    1. If your scope is based upon the aircraft or component since overhaul values, complete all the applicable fields. For example, enter the number of hours that have been accumulated since the last time the scope was performed (or since the aircraft or component was overhauled if the scope has never been performed). **DO NOT** include hours that were accumulated and allocated to the aircraft or component in the Flight Operations module.
    2. If your scope is not based upon the aircraft or component since overhaul value, leave all these fields blank.
  - iv. **Since Inspection** group box (**Hours, Time, Landings, Cycles,** and **RIN** fields)
    1. If your scope is based upon the aircraft or component since inspection values, complete all the applicable fields. For example, enter the number of hours that have been accumulated since the last time the scope was performed (or since the aircraft or component was inspected if the scope has never been performed). **DO NOT** include hours that were accumulated and allocated to the aircraft or component in the Flight Operations module.
    2. If your scope is not based upon the aircraft or component since overhaul value, leave all these fields blank.
- c. Identify the date on which the scope was last performed or completed.
- i. From the **Scopes** window, left-click the **T/C Info** tab.
  - ii. Select the date and time on which the scope was last performed or completed in the **Last Date Scope Performed** field.



**NOTE:** The date and time in the **Last Date Scope Performed** field is important for calculating ALL scope due values.

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1. For scopes based upon hours (or landings, cycles, RIN, etc.), the date and time identifies the range of flights to consider in the calculation.

**FOR EXAMPLE:** A scope related to an aircraft has an interval of 45 hours and was last performed on 10/13/2010 at 08:30 AM. The aircraft related to the scope completed a flight of 2.3 hours on 10/13/2010 at 07:30 AM, completed another flight of 5.2 hours at 07:03PM, and flew another 15.4 hours during the next 5 days. If the scope due information is viewed for the scope on 10/19/2010 before any flight time is logged, then it would display that the scope is due in 24.4 hours (45 hours (scope interval) MINUS 20.6 hours (cumulative hours flown since the scope was last performed)). The 2.3 hours flown on 10/13 prior to the last scope performed date/time is NOT included.

2. In addition, for scopes based upon hours (or landings, cycles, RIN, etc.), a forecasted date due will appear based upon the operational tempo values entered in the **Forecasting** group box on the **Operations** tab of the **Aircraft** window.

**FOR EXAMPLE:** The scope mentioned in the previous example is due in 24.4 hours. The operational tempo for the aircraft is identified as 4 hours per day. If the scope due information is viewed for the scope on 10/19/2010 before any flight time is logged, then it would display that the scope is due on 10/26/2010 (24.4 hours (hours remaining until scope due) DIVIDED BY 4 (operational tempo hours value)) = 6.1; therefore, the aircraft may fly a full six (6) days but the scope will come due on the 7<sup>th</sup> day after today). Since the scope due date (for scopes based on hours (or landings, cycles, RIN, etc.)) is a function of the operational tempo value and the date on which the information is viewed, the scope due date is considered an estimate only; therefore, if the aircraft does not fly and the scope due information is viewed on 11/02/2010, then the scope due date would be 11/09/2010.

3. For scopes based upon calendar dates, the date and time identifies the starting point for the scope due date calculation.

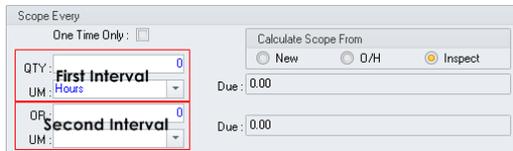
**FOR EXAMPLE:** A scope related to an aircraft has an interval of 30 days and was last performed on 10/13/2010 at 08:30 AM. The scope due information would display that the scope is due on 10/12/2010 (10/13 (date that the scope was last performed) PLUS 30 days (scope interval)) regardless of the date on which the scope due information is viewed.

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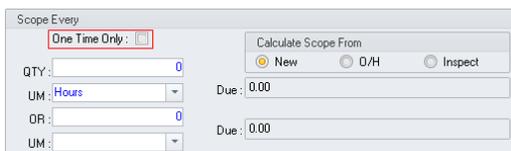
- d. Identify the interval at which the scope is required to be performed.

**NOTE:** Up to two (2) intervals may be identified for each scope. These two intervals are treated as an OR situation. In other words, the system will assume that the scope is due when one of the conditions is met OR the other condition is met (i.e. 45 hours OR 30 days); not when both are met.

- i. From the **Scopes** window, left-click the **T/C Info** tab.



- ii. In the **Scope Every** group box, identify the interval for the scope in the **QTY** field and **UM** field (just below the **QTY** field). The **Due** field (to the right of the top **UM** field) will display the scope due information for the first interval.
- iii. If a second interval applies, identify the second interval for the scope in the **OR** field and **UM** field (just below the **OR** field). The **Due** field (to the right of the bottom **UM** field) will display the scope due information for the second interval.
- e. Identify if the scope is to be performed only once – If the scope is not a recurring scope, but is to be performed only once, mark the **One Time Only** flag as “checked”.



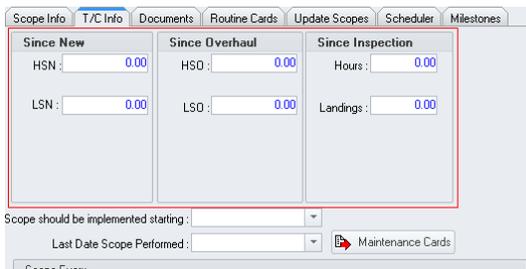
**NOTE:** If the **One Time Only** flag is marked as “checked” AND there is a date in the **Last Date Scope Performed** field, then the system will assume that the scope has been completed the necessary one time and will not include the scope due information in forecasting reports.

END OF SECTION

## 14. Updating Scope

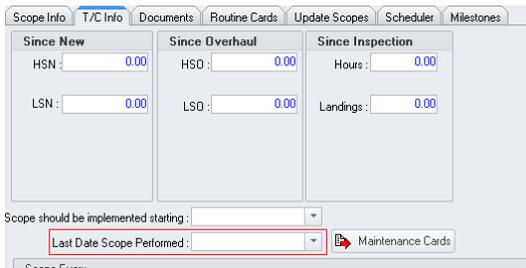
Once Pentagon 2000 has been implemented, scope information must be updated after the scope is performed or completed.

- After a scope is completed, go to the **T/C Info** tab of the **Scopes** tab.
- Clear all values in the **Since New**, **Since Overhaul**, and **Since Inspection** group boxes (EXCEPT in cases that a scope has a number of hours already expended, see the NOTE for Para 13.b. above.)



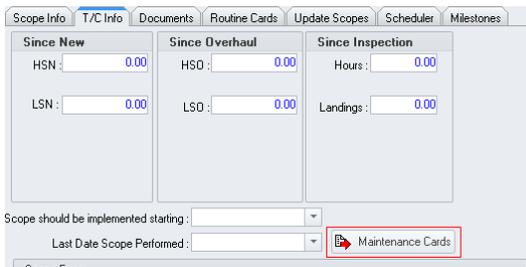
The screenshot shows the 'T/C Info' tab with three columns: 'Since New', 'Since Overhaul', and 'Since Inspection'. Each column has input fields for HSN, LSN, HSO, LSO, Hours, and Landings, all set to 0.00. Below these columns are two dropdown menus: 'Scope should be implemented starting:' and 'Last Date Scope Performed:'. The 'Last Date Scope Performed' dropdown is highlighted with a red box. To the right of this dropdown is a 'Maintenance Cards' button.

- Select the date on which the scope was performed or completed in the **Last Date Scope Performed**.



This screenshot is identical to the previous one, but the 'Last Date Scope Performed' dropdown menu is now highlighted with a red box, indicating that a date has been selected.

- You may link the card(s) on which the scope was last performed by left-clicking the **Maintenance Cards** button (to the left of the **Last Date Scope Performed** field).



This screenshot is identical to the previous one, but the 'Maintenance Cards' button is now highlighted with a red box, indicating it has been clicked.

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