

Service Bulletin

Service Manual Heading: Cooling System		
Models Affected: Enviro 500 EPA 07 Engine	Title: Radiator Replacement Upgrade	No: 827-2
Date: Aug 2011		
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This bulletin originally issued to advise customers that a radiator upgrade kit is available for the Enviro 500's fitted with the Cummins EPA07 Engine has been re-issued to include details of the spacer washers to be fitted under the anti vibration mounts.

The upgrade kit is listed under part numbers: 448131. Check with Alexander Dennis Parts for availability.

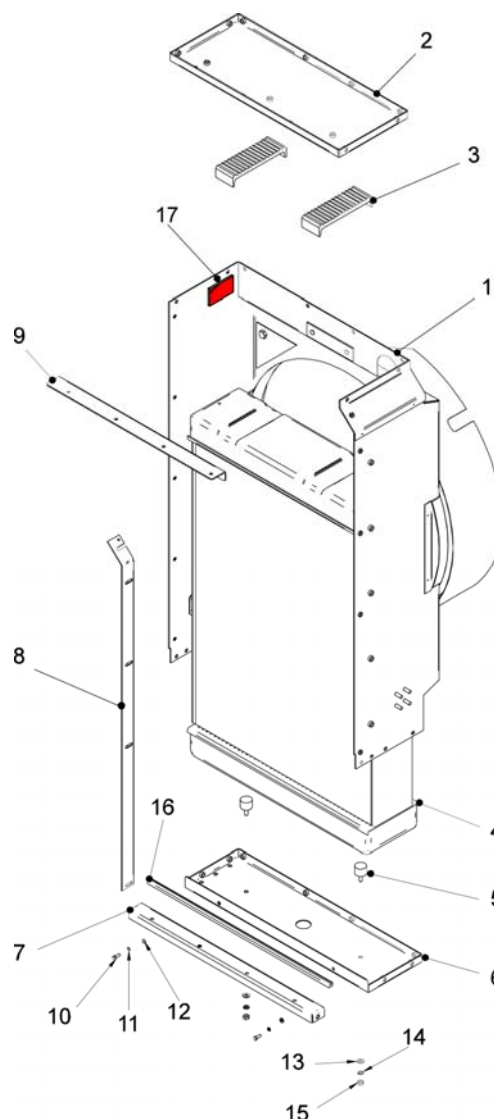
EPA 07 Engine Radiator Upgrade Kit (448131)

Note: Software upgrade to be supplied by ADL in Conjunction with initial fit. (see software details paragraph)

Item	Part Number	Qty	Description
1	441532-2	1	Fan Cowl (*See note below)
2	441532-3	1	Top Panel (*See note below)
3	448130-7	2	Radiator Rubber
4	448130-1	1	Radiator Insert
5	448130-2	2	Mount anti vibration lower
6	448130-3	1	Panel Lower Rear
7	448130-4	1	Panel Lower Front
8	448130-5	1	Sealing Plate RH
9	448130-6	1	Retaining Angle Top
10	MCS 106 16P	2	Setscrew
11	WMC 06SP	2	Washer - Spring
12	WMA 06SP	2	Washer - Plain
13	WMA 08SP	2	Washer - Plain
14	WMC 08SP	2	Washer - Spring
15	MCN 508P	2	Nut
16	443217-17	1	Bulb Seal (*See note below)
17	448130-8	4	Rubber Pad

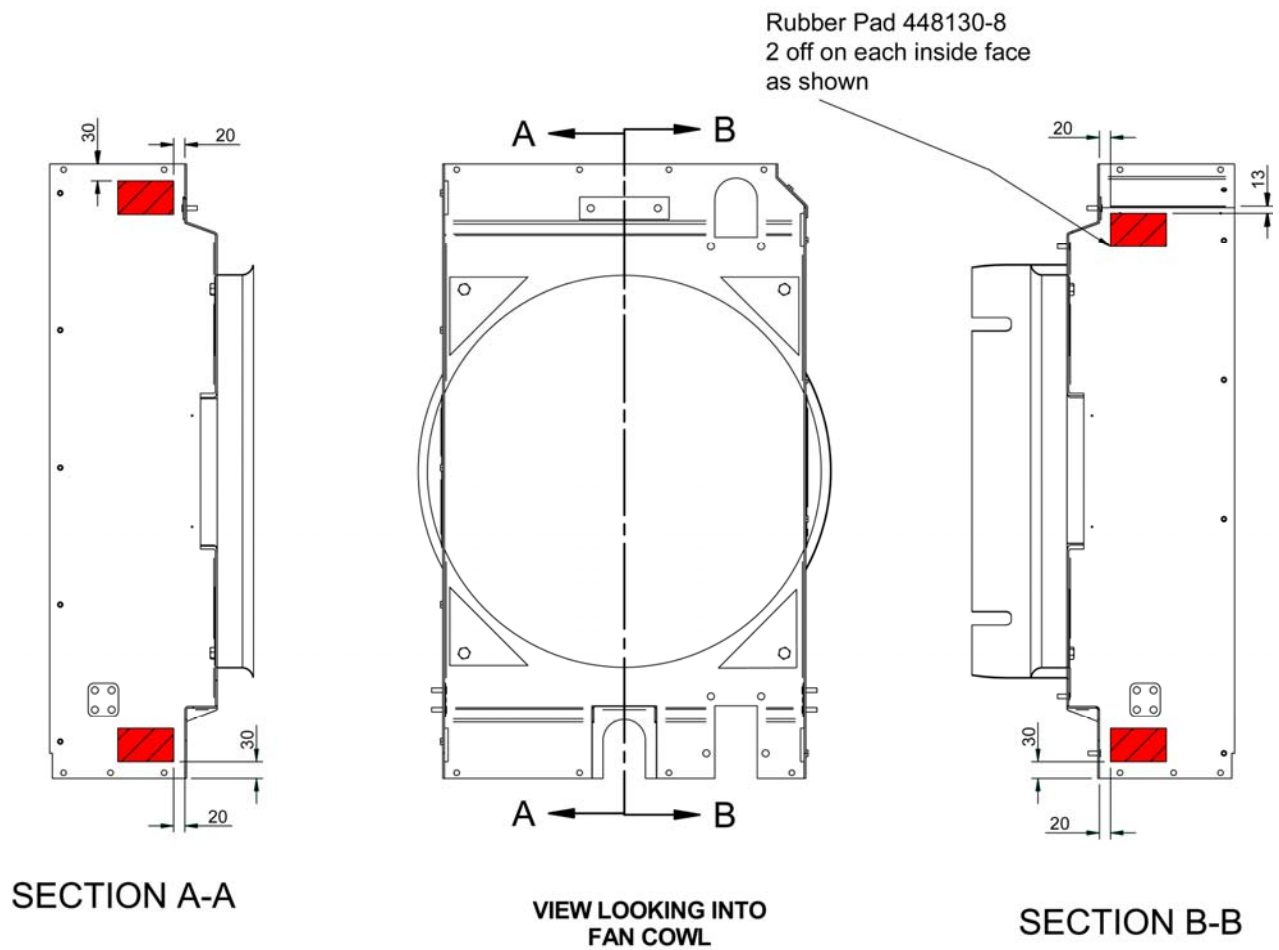
***Note:** Item 1,2 & 16 – shown for reference only
They are not included in kit. Adhesive rubber pads (17) are to be fitted on inside of cowl, two on each side.

If replacement radiator is required, after upgrade has been carried out, radiator insert 448130-1 should be used.



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Position rubber pads as shown in diagram below:



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Fitting

To ensure the radiator is fitted correctly in the frame; rubbers are supplied with each unit, which must be located in the correct positions around the frame. When re-fitting the cassette radiator you must ensure that all the rubbers are put back in the correct position to avoid any vibration/rubbing issues.

Note:

Due to manufacturing tolerances each radiator can have slightly different dimensions.

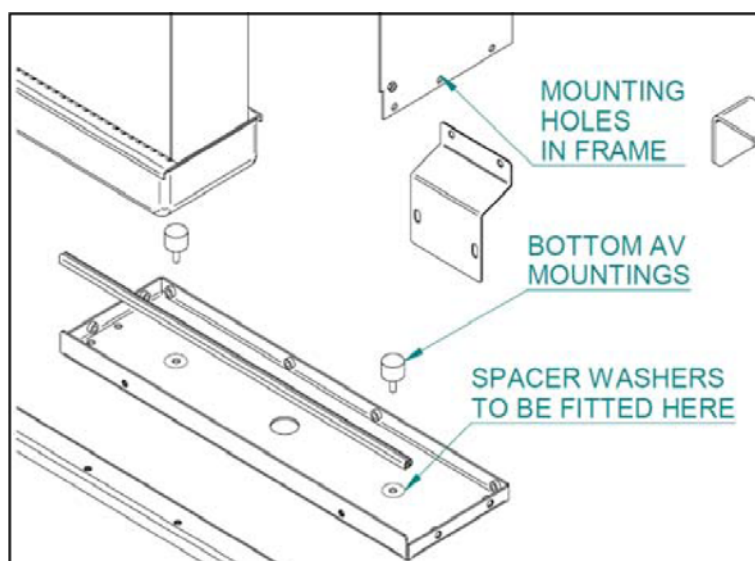
Please make sure that the radiator is securely mounted into the frame so all rubbers supplied are holding the radiator firmly in place.

If the radiator is loose; spacer washers need to be fitted under the AV mounts. This will allow the top rubbers to be in contact with the radiator when the bottom tray is in position.

If all rubbers are not in contact with the radiator, the radiator will become loose in the frame and allow too much movement in all directions. This will result in rubbing on the side of the radiator tanks.

Should any movement be observed the following action will need to be carried out:

Spacer washers are to be positioned underneath the radiator AV mounts as required, they will locate the radiator into the top rubbers. On the EPA07 cooling pack the bottom tray is assembly into fixed holes. (See example drawing.) The expectation is no more than 3 spacer washers will be required per side (6 in total).



Spacer Washers Fitted Under Bottom AV Mounts

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Software Details

New software required to lower fan idle speed.

Files Required: 11044724_S0107_P0107.lhx, 11044724_S0107_D0007.P1D

Instructions For Uploading Software

Step 1:

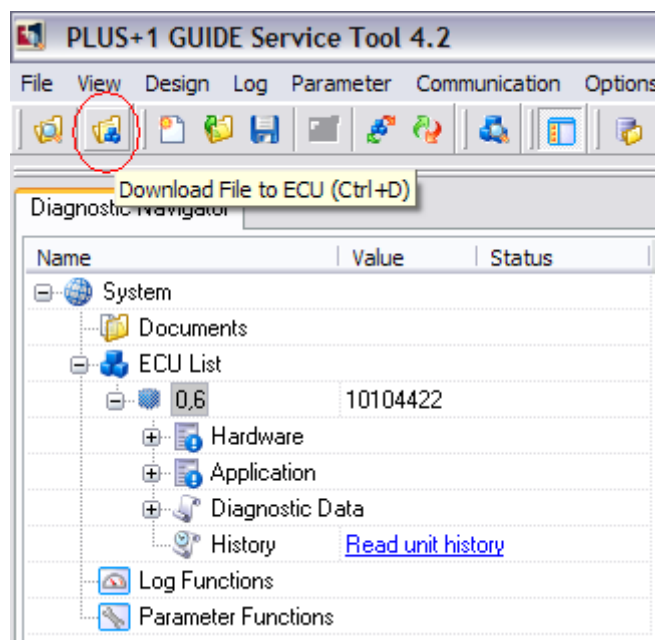
When connected to the unit, open the PLUS+1 Service Tool program from the Desktop icon OR locate and double click the file **11044724_S0107_D0007.P1D**.

Step 2:

Wait until the system is scanned automatically and you are connected (green Connected at the bottom of the Service Screen as below).



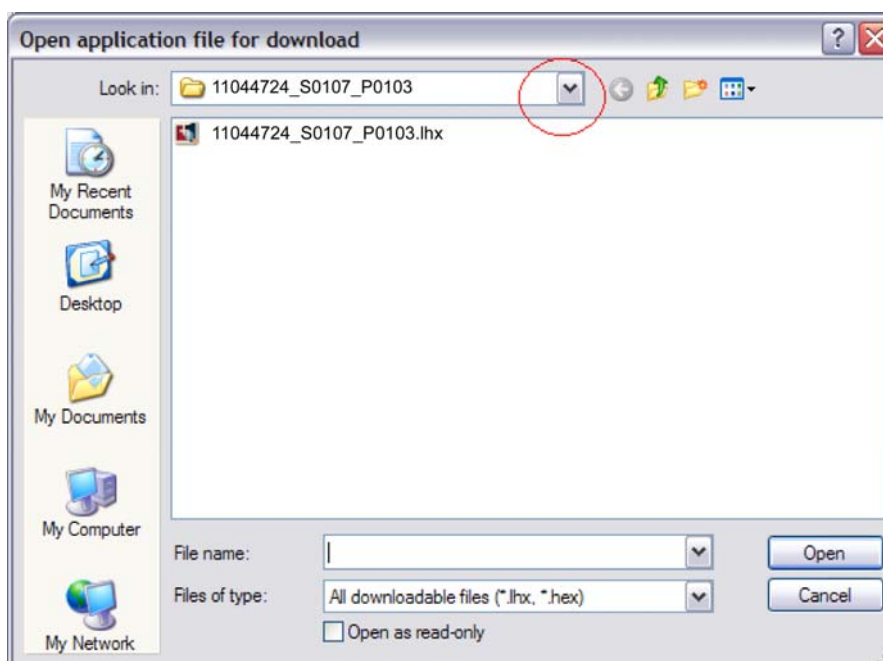
Next, either click the 'Download File to ECU' button on the top toolbar as below:



(continued)

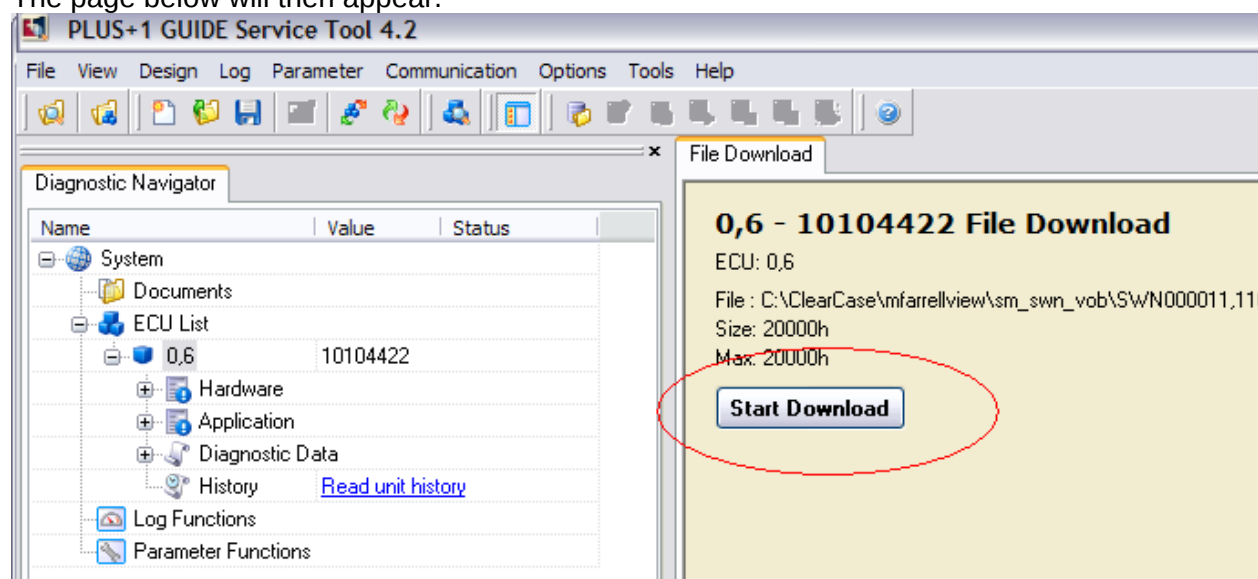
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The standard Windows dialogue box below will open. Locate using the browse facility the location on your laptop of the software (11044724_S0107_P0103.lhx) and then double click this file or select 'Open'.



Step 4:

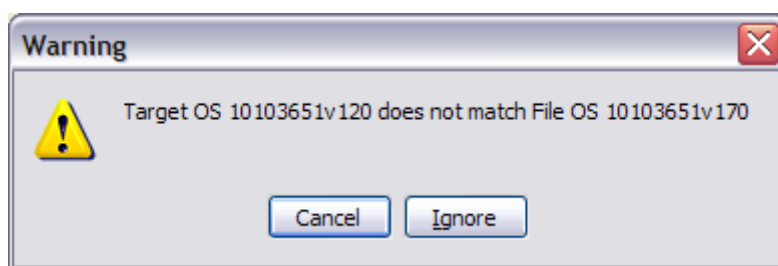
The page below will then appear.



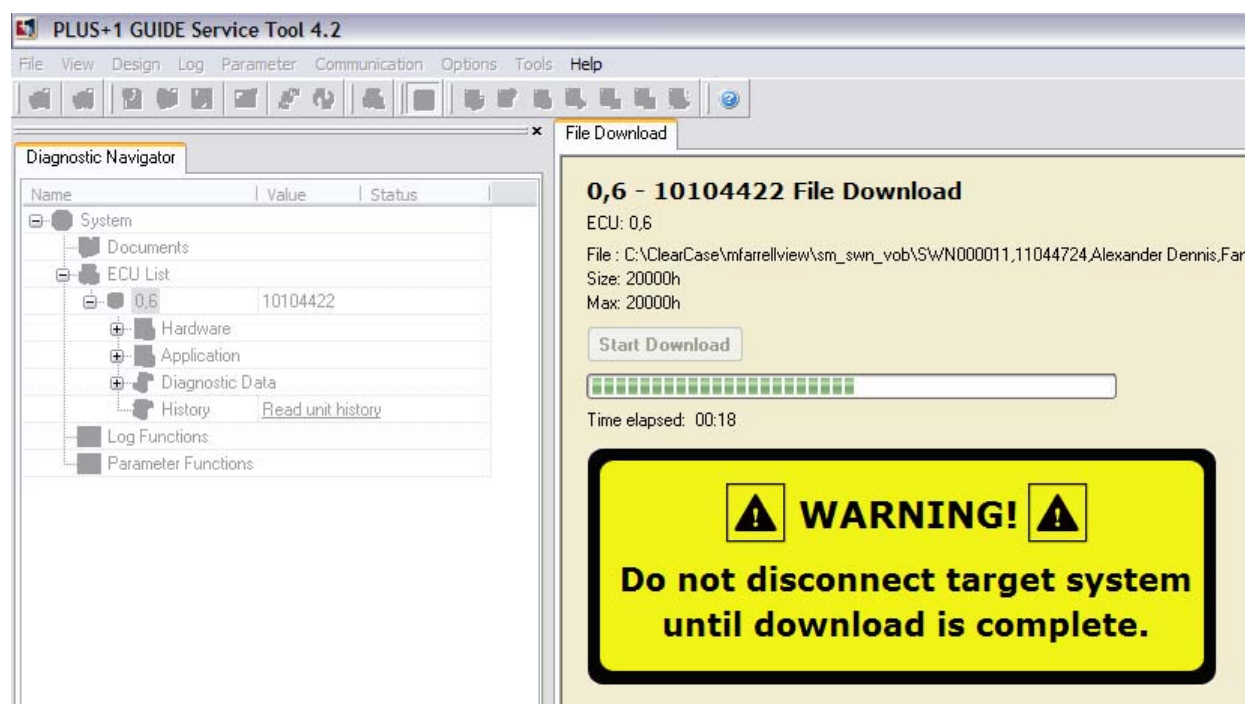
(continued)

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Hit 'Start Download'. You MAY see the message below (indicates that the Operating System inside the controller is different from the Operating System used to create the file that you are about to download):



Always hit 'Ignore'. Once 'Ignore' is pressed the screen will change to the below whilst the file is downloading:



The system will again be automatically scanned after the download is complete. Process is the complete.

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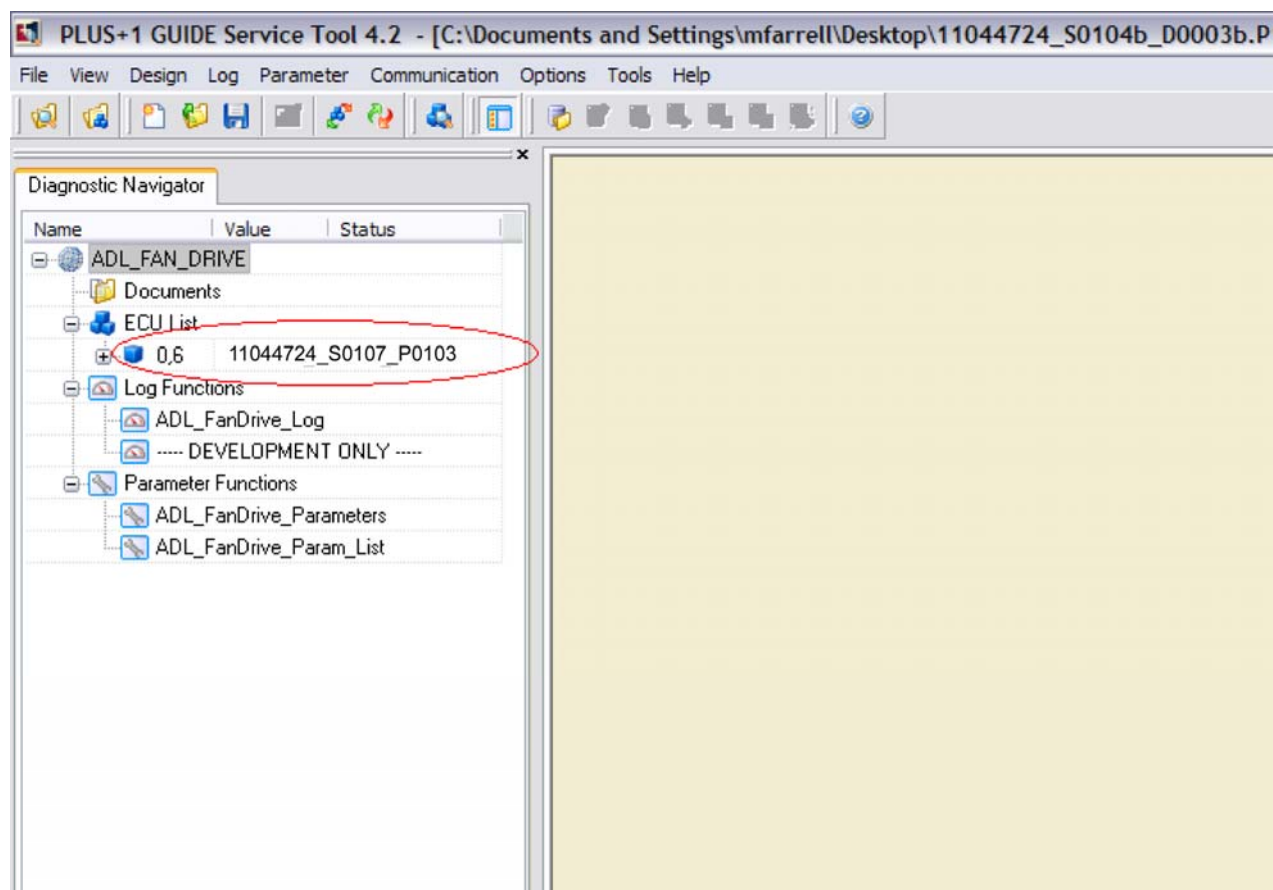
Diagnostic File

Step 1:

Locate and double click the file **11044724_S0107_D0007.P1D** or if you have the Service Tool open, go to 'File – Open' and locate the file **11044724_S0107_D0007.P1D** using the Browse facility.

This will automatically launch the Service Tool and then open the diagnostic file interface automatically. You will see the screen below.

Note: Check the software version is correct (highlighted below):



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Models Affected:

Enviro 500
EPA 07 Engine

Title:

**Radiator Replacement
Upgrade**

No:

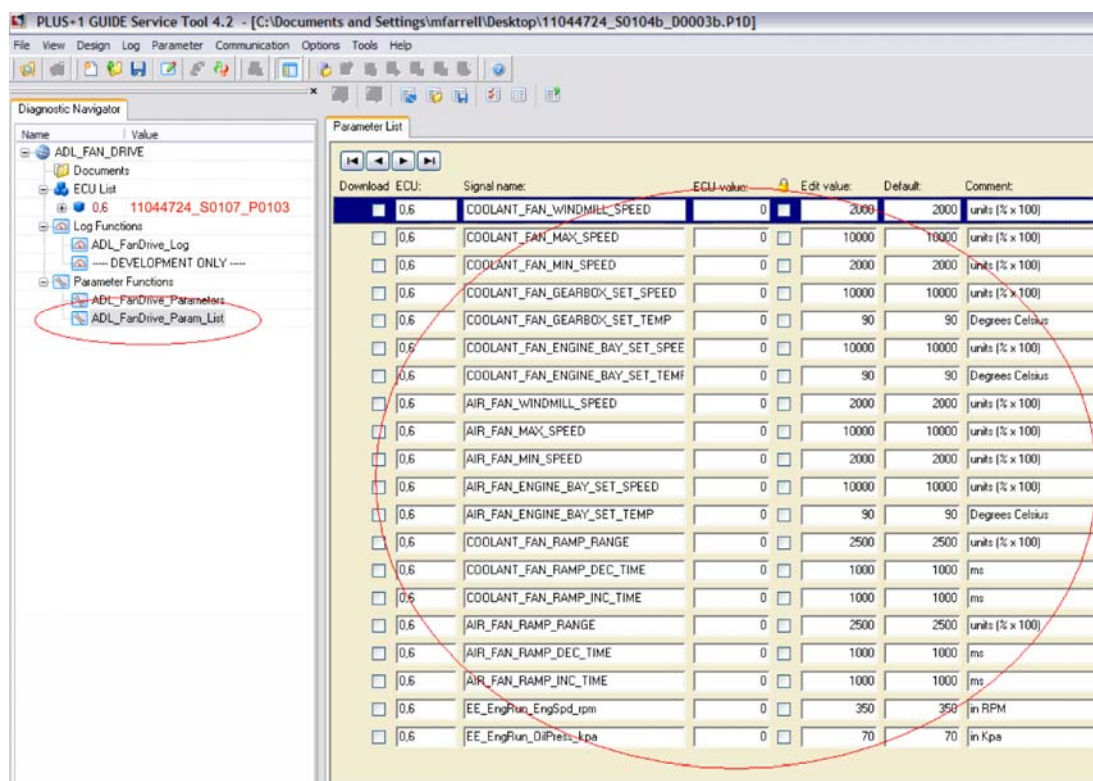
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Step 2:

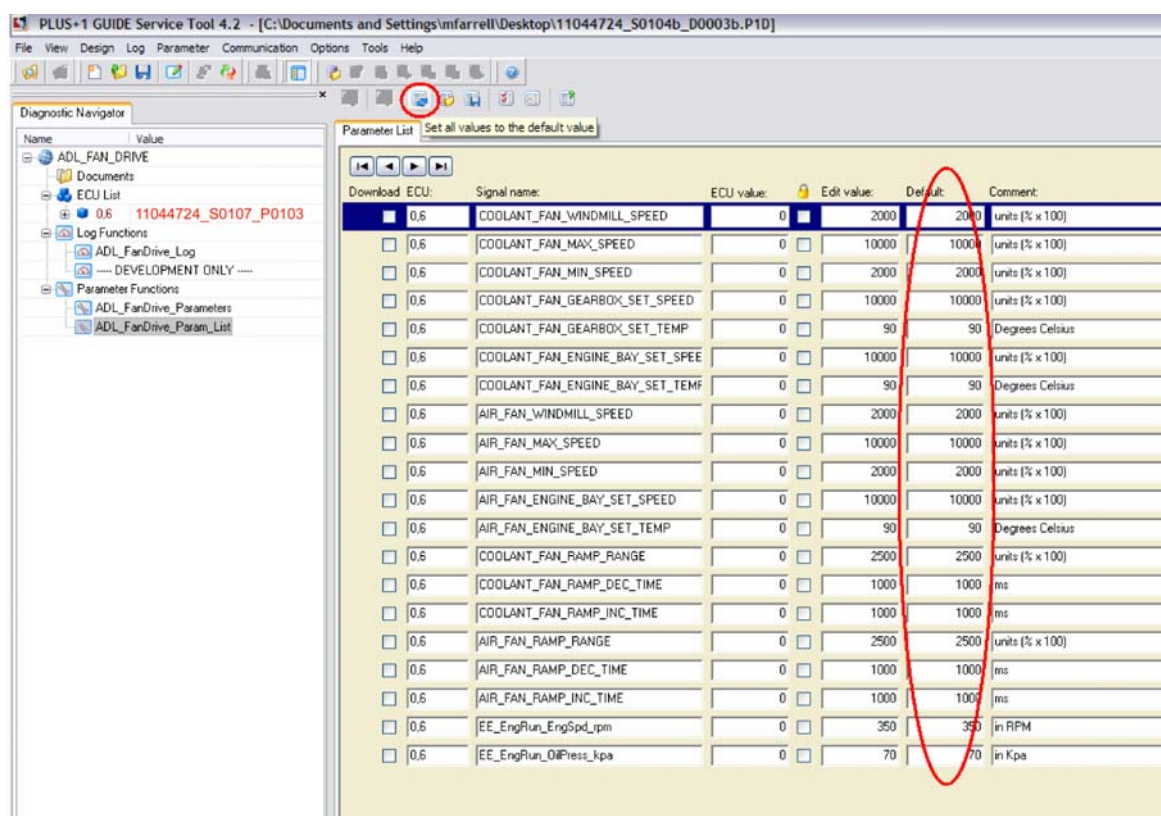
Highlight the parameter function '**ADL_FanDrive_Param_List**' in the left hand window (as highlighted below). The parameter list (contains all adjustable values in software application) will appear in the right hand window (as highlighted below).



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Models Affected:Enviro 500
EPA 07 Engine**Title:****Radiator Replacement
Upgrade****No:****827-2****Date:** Aug 2011**Page:** 10 of 13**Step 3:**

Click the '**Set All values to the Default value**' button on the toolbar. This loads the list with the default values which will appear in the Default values column. (highlighted below):



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Models Affected:

Enviro 500
EPA 07 Engine

Title:

**Radiator Replacement
Upgrade**

No:

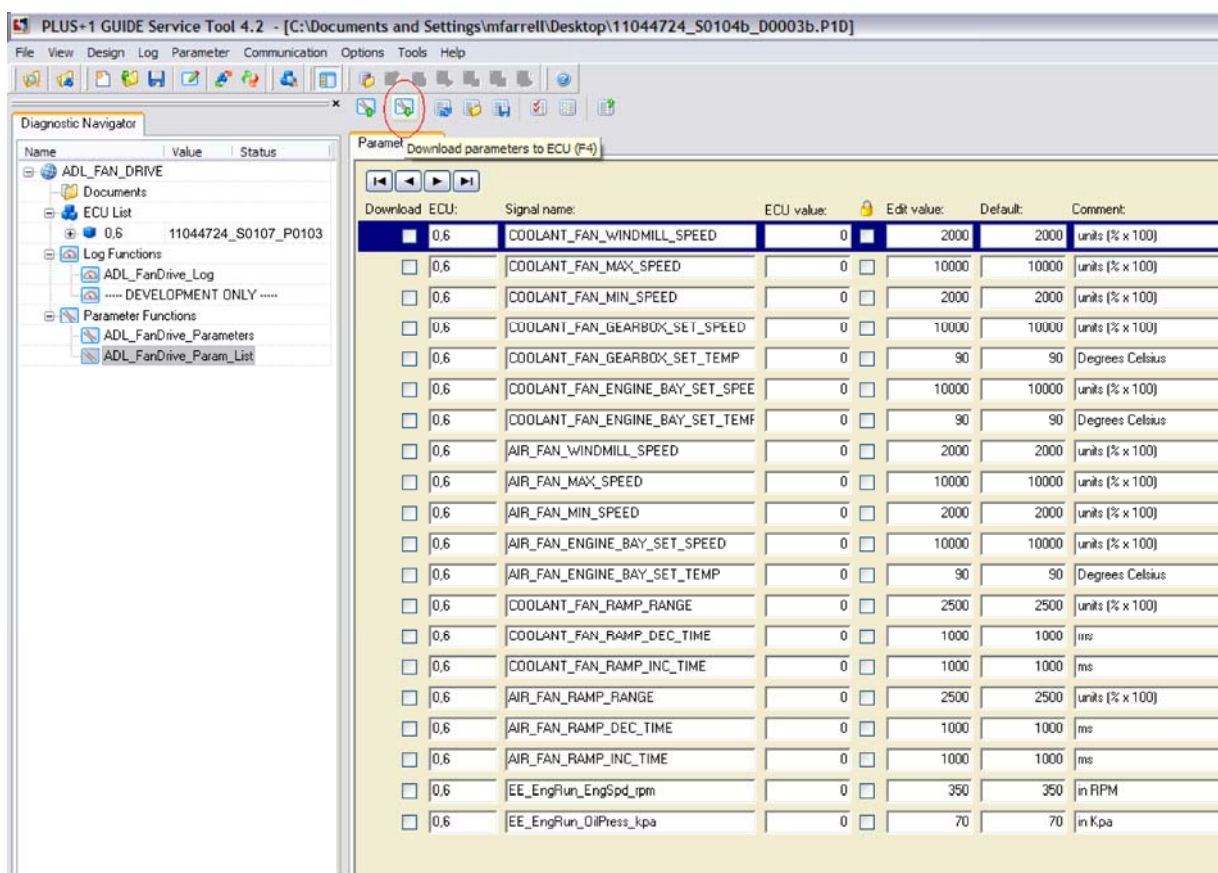
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Step 4:

Click the '**Download**' button on the toolbar (highlighted below).



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EPA 07 Engine**Title:**Radiator Replacement
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Once this has been pressed, you should notice that the values in the '**ECU Value**' column now match the values in the '**Default**' column as below:

PLUS+1 GUIDE Service Tool 4.2 - [C:\Documents and Settings\mfarrell\Desktop\11044724_S0104b_D0003b.P1D]

File View Design Log Parameter Communication Options Tools Help

Diagnostic Navigator

Name Value Status

- ADL_FAN_DRIVE
 - Documents
 - ECU List
 - 0.6 11044724_S0107_P0103
 - Log Functions
 - ADL_FanDrive_Log
 - DEVELOPMENT ONLY -----
 - Parameter Functions
 - ADL_FanDrive_Parameters
 - ADL_FanDrive_Param_List

Parameter List

Download	ECU:	Signal name:	ECU value:	Edit value:	Default:	Comment:
☐	0.6	COOLANT_FAN_WINDMILL_SPEED	2000	☐	2000	2000 units (% x 100)
☐	0.6	COOLANT_FAN_MAX_SPEED	10000	☐	10000	10000 units (% x 100)
☐	0.6	COOLANT_FAN_MIN_SPEED	2000	☐	2000	2000 units (% x 100)
☐	0.6	COOLANT_FAN_GEARBOX_SET_SPEED	10000	☐	10000	10000 units (% x 100)
☐	0.6	COOLANT_FAN_GEARBOX_SET_TEMP	90	☐	90	90 Degrees Celsius
☐	0.6	COOLANT_FAN_ENGINE_BAY_SET_SPEED	10000	☐	10000	10000 units (% x 100)
☐	0.6	COOLANT_FAN_ENGINE_BAY_SET_TEMP	90	☐	90	90 Degrees Celsius
☐	0.6	AIR_FAN_WINDMILL_SPEED	2000	☐	2000	2000 units (% x 100)
☐	0.6	AIR_FAN_MAX_SPEED	10000	☐	10000	10000 units (% x 100)
☐	0.6	AIR_FAN_MIN_SPEED	2000	☐	2000	2000 units (% x 100)
☐	0.6	AIR_FAN_ENGINE_BAY_SET_SPEED	10000	☐	10000	10000 units (% x 100)
☐	0.6	AIR_FAN_ENGINE_BAY_SET_TEMP	90	☐	90	90 Degrees Celsius
☐	0.6	COOLANT_FAN_RAMP_RANGE	2500	☐	2500	2500 units (% x 100)
☐	0.6	COOLANT_FAN_RAMP_DEC_TIME	1000	☐	1000	1000 ms
☐	0.6	COOLANT_FAN_RAMP_INC_TIME	1000	☐	1000	1000 ms
☐	0.6	AIR_FAN_RAMP_RANGE	2500	☐	2500	2500 units (% x 100)
☐	0.6	AIR_FAN_RAMP_DEC_TIME	1000	☐	1000	1000 ms
☐	0.6	AIR_FAN_RAMP_INC_TIME	1000	☐	1000	1000 ms
☐	0.6	EE_EngRun_EngSpd_rpm	350	☐	350	350 in RPM
☐	0.6	EE_EngRun_OilPress_kpa	70	☐	70	70 in Kpa

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Step 5:

The next step should not be necessary but as a verification the **'Upload'** button can be pressed to read back from the controllers the values in memory (highlighted below). You can again double check that the two columns match.

The screenshot displays the PLUS+1 GUIDE Service Tool 4.2 interface. The title bar indicates the file path: [C:\Documents and Settings\mfarrrell\Desktop\11044724_S0104b_D0003b.P1D]. The menu bar includes File, View, Design, Log, Parameter, Communication, Options, Tools, and Help. The toolbar contains various icons, with the 'Upload parameters from ECU (F2)' button highlighted by a red circle. The Diagnostic Navigator on the left shows a tree structure with 'ADL_FAN_DRIVE' selected, containing 'Documents', 'ECU List', 'Log Functions', and 'Parameter Functions'. The 'ECU List' shows a selected ECU '0.6' with ID '11044724_S0107_P0103'. The main window displays a table of parameters for ECU 0.6, with columns for 'Download ECU', 'Signal name', 'ECU value', 'Edit value', 'Default', and 'Comment'. The table lists various fan and engine parameters, with the first row 'COOLANT_FAN_WINDMILL_SPEED' highlighted in blue.

Download ECU	Signal name	ECU value	Edit value	Default	Comment
0.6	COOLANT_FAN_WINDMILL_SPEED	2000	2000	2000	units (% x 100)
0.6	COOLANT_FAN_MAX_SPEED	10000	10000	10000	units (% x 100)
0.6	COOLANT_FAN_MIN_SPEED	2000	2000	2000	units (% x 100)
0.6	COOLANT_FAN_GEARBOX_SET_SPEED	10000	10000	10000	units (% x 100)
0.6	COOLANT_FAN_GEARBOX_SET_TEMP	90	90	90	Degrees Celsius
0.6	COOLANT_FAN_ENGINE_BAY_SET_SPEE	10000	10000	10000	units (% x 100)
0.6	COOLANT_FAN_ENGINE_BAY_SET_TEMP	90	90	90	Degrees Celsius
0.6	AIR_FAN_WINDMILL_SPEED	2000	2000	2000	units (% x 100)
0.6	AIR_FAN_MAX_SPEED	10000	10000	10000	units (% x 100)
0.6	AIR_FAN_MIN_SPEED	2000	2000	2000	units (% x 100)
0.6	AIR_FAN_ENGINE_BAY_SET_SPEED	10000	10000	10000	units (% x 100)
0.6	AIR_FAN_ENGINE_BAY_SET_TEMP	90	90	90	Degrees Celsius
0.6	COOLANT_FAN_RAMP_RANGE	2500	2500	2500	units (% x 100)
0.6	COOLANT_FAN_RAMP_DEC_TIME	1000	1000	1000	ms
0.6	COOLANT_FAN_RAMP_INC_TIME	1000	1000	1000	ms
0.6	AIR_FAN_RAMP_RANGE	2500	2500	2500	units (% x 100)
0.6	AIR_FAN_RAMP_DEC_TIME	1000	1000	1000	ms
0.6	AIR_FAN_RAMP_INC_TIME	1000	1000	1000	ms
0.6	EE_EngRun_EngSpd_rpm	350	350	350	in RPM
0.6	EE_EngRun_OilPress_kpa	70	70	70	in Kpa

