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V2500-A5 SERIES PROPULSION SYSTEM SERVICE BULLETIN

Printed in Great Britain

This document transmits Revision 1 to Service Bulletin EV2500-71-0276 and Revision 1 to the Supplement

Document History

Service Bulletin Revision Status
Initial Issue Mar.31/04

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Bulletin Revision 1

Remove	Incorporate	Reason for change
All pages of the	Pages 1 to 16 of the	To revise AMM references
Service Bulletin	Service Bulletin	and to correct part numbers.

Supplement Revision 1

Remove	Incorporate	Reason for change
All pages	Page 1	To revise AMM references
		and to correct part numbers.

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CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise Publication Services, Rolls-Royce plc, Derby, England
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LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 1 to the Bulletin and Revision 1 to the Supplement are as follows:

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Supplement		
R 1	1	May 11/04

Printed in Great Britain



ENGINE – ENGINE BUILD UNIT (EBU) – REWORK OF ELECTRICAL HARNESS AND BRACKET ASSEMBLY
TO ACCOMMODATE THE REROUTING OF THE OIL SCAVENGE TUBES

1. Planning Information

A. Effectivity

(1) Airbus A319

(a) V2522-A5, V2524-A5, V2527M-A5, Engines prior to Serial No.V11625 except V11627.

(2) Airbus A320

(a) V2527-A5, V2527E-A5, Engines prior to Serial No.V11625 except V11627.

(3) Airbus A321

(a) V2530-A5, V2533-A5, Engines prior to Serial No. V11625 except V11627.

B. Concurrent Requirements

The Service Bulletins below should be incorporated prior to or currently with this Service Bulletin.

(1) V2500-ENG-79-0088 – 'Oil – Scavenge Oil Tubes – Reroute of Number 4 Bearing Scavenge Pipe'.

(2) V2500-NAC-71-0273 – 'Replacement and rerouting of several EBU Systems to accommodate the rerouting of the Oil Scavenge Tubes'.

C. Reason

(1) Problem

The No.4 Compartment Oil Scavenge Tube is to be rerouted. Consequently, it has been found that the proposed new routing affects various EBU Systems at their current positions.

(2) Evidence

Re-routing of the No.4 Compartment Oil Scavenge Tube has led to the re-positioning of the Fire Detection Harness clipping points. This has necessitated an increase in the harness length to allow easier installation and to reduce tension in the harness assembly. The Overheat Detector Bracket has been found to be in close proximity to the TRU hold-open rod and hence requires modification/replacement to increase clearance.



(3) Substantiation

All hardware changes have been successfully installed and substantiated on the Rolls-Royce mock-up facility in Derby and has been the subject of satisfactory engineering analysis.

(4) Objectives

To reroute various EBU Systems and replace bracketry to accommodate changes introduced in Service Bulletin V2500-ENG-79-0088 and Service Bulletin V2500-NAC-71-0273.

(5) Effect of Bulletin on:

(a) Operation

Not affected

(b) Maintenance

Not affected

(c) Overhaul

Not affected

(d) Repair Scheme

Affected

(e) Interchangeability

Affected

(f) Fits and Clearances

Affected

D. Description

- (1) To ensure adequate clearance of the Bracket with the TRU hold-open rod, to ease the installation and reduce tension in the Fire Detection Harness. 'Part A and Part B' or 'Part A and Part C' of this Service Bulletin must be incorporated on the aircraft.

The changes introduced by this Service Bulletin are as follows:

Part A



(a) The 740-5290-501 Bracket assembly is reworked or replaced with a new 740-5290-503 Bracket to provide clearance with the Thrust Reverser hold open rod.

Part B

(a) The 745-5862-501 Fire Detection Harness (System B) is reworked to use the existing Connectors with new, longer cables to reduce tension in the electrical harness assembly.

(b) The backshell of Connector 4001WD2-A (assembled on 745-5862-501 Fire Detection Harness (System B)) is re-oriented to provide clearance with the No.4 Bearing Oil Drain Tube.

Part C

(a) The 745-5862-501 Fire Detection Harness (System B) is replaced with a new, longer 745-5862-503 Fire Detection Harness (System B) which includes new improved Connectors to reduce tension in the electrical harness assembly.

E. Compliance

Category 4

Accomplish at the first visit of an Engine to a maintenance base capable of compliance with the accomplishment instructions, regardless of the planned maintenance action, and before the end of October 2011.

F. Approval

The part number transaction shown under the 'MATERIAL INFORMATION' portion of this Bulletin has been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

G. Manpower

Estimated man-hours to incorporate the intent of this Service Bulletin on each Engine:

(1) In Service

4.00 M/Hr

(2) At overhaul

Not Applicable

H. Material Cost and Availability

Modification kit not required; parts supplied as single line items.



I. Tooling – Cost and Availability

None.

J. Industry Support Information

Not Applicable.

K. Weight and Balance

(1) Weight change

None

(2) Moment arm

None

(3) Datum

Nacelle Front Mount Centreline (Powerplant Station PPS 100.00)

L. Electrical Load Data

Not Affected.

M. Software Accomplishment Summary

Not applicable.

N. References

R

- (1) A320/V2500-A1 A319/A320/A321/V2500-A5 Aircraft Maintenance Manual (M-V2500-1IA) Chapter/Sections, 26-00-00, 70-00-00, 71-13-00, 71-50-00, 78-30-00 and 78-32-00.
- (2) A320/V2500-A1 A319/A320/A321/V2500-A5 Engine Manual (E-V2500-1IA) Chapter/Sections 71-52-42 and 72-00-40.
- (3) Standard Practices/Processes Manual (SPP-V2500-1IA), Chapter/Sections 70-09-00 and 70-41-02.
- (4) Overhaul Processes And Consumable Index (IAE PCI-V2500-1IA) Section II.
- (5) Service Bulletins , V2500-NAC-71-0273 and V2500-ENG-79-0088.
- (6) IAE engineering change EC 03VN754A.
- (7) Bombardier Shorts modification D1082.
- (8) ATA Locators - 71-52-42, 75-22-49.

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0. Other Publications Affected

- (1) A320/V2500-A1/A5 Engine Illustrated Parts Catalog, Chapter/Sections 71-52-41 and 75-22-49 will be revised.
- (2) A320/V2500 A1 Powerplant Build-Up Manual (PPB-V2500-1IA) will be revised.

P. Interchangeability of Parts

- (1) The parts introduced by this Service Bulletin must be fitted as a set.



2. Material information

A. Part Prices

Part Number	Qty	Est. Unit Price US Dollars
RTS 71445	2	
745-5862-503	1	See Supplement to this bulletin
740-5290-503	1	See Supplement to this bulletin

B. Kits associated with this Bulletin:

None.

C. Parts affected by this Bulletin:

For each V2500-A5 Engine prior to Serial No. V11626 to incorporate this Bulletin.

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
(For Part A and Part B rework Instructions)					
75-22-49					
10-062	740-5290-503	1	.Bracket	740-5290-501	(S1)(A)
71-52-42					
01-005 05-005	745-5862-901	1	.Fire Detection Harness	745-5862-501	(S1)



FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	OLD PART NO.	INSTR DISP
(For Part A and Part C installation Instructions)					
75-22-49					
10-062	740-5290-503	1	.Bracket	740-5290-501	(S1)(A)
71-52-42					
01-005 05-005	745-5862-503	1	.Fire Detection Harness	745-5862-501	(S1)(A)

D. Instructions/Dispositions Code Statements

(A) Parts are currently available.

(S1) New parts coded (S1) must replace old parts coded (S1) as a complete set.

NOTE: The estimated 2004 unit price shown is provided for planning purposes only and does not constitute a firm quotation. Contact the Goodrich Spares Parts Sales Department for information concerning firm prices in this Service Bulletin.

Operators with units listed in Paragraph 1.A. who wish to install the new parts introduced by this service bulletin should submit a charge purchase order for those parts. The purchase order must specify this service bulletin number and only the new part numbers listed herein. Upon receipt of purchase order, Goodrich shall provide a delivery schedule for new parts ordered.

Direct Purchase Order to:

Goodrich Aerostructures

850 Lagoon Drive

Chula Vista, CA 91910-2098

U.S.A.

Attn.: Regional Support Manager - MZ 107A (Ref: Service Bulletin No. V2500-ENG-71-0276)

NOTE: Please do not submit orders for service bulletin parts via the Spec 2000 ordering system.

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E. Materials required to incorporate this Bulletin.

CoMat 10-039 or 10-040 - Engine Oil

NOTE: To identify the consumable materials, refer to the Overhaul Processes and Consumable Index PCI-V2500-1IA.



3. Accomplishment Instructions

A. Pre-requisite Instructions

WARNING:

DO NOT TOUCH THE ENGINE COMPONENTS FOR A SHORT TIME AFTER THE ENGINE IS SHUT DOWN. THE COMPONENTS STAY HOT AND CAN CAUSE INJURY.

- (1) Open, safety and tag the applicable Circuit Breakers as instructed in the Aircraft Maintenance Manual, Task 26-00-00-001.
- (2) Obey the Standard Practices as instructed in the Aircraft Maintenance Manual, Task 70-00-00-001.
- R (3) Obey the Electrical Harness precautions as instructed in the Aircraft
R Maintenance Manual, Task 71-50-00-001.
- (4) Deactivate the Thrust Reverser Hydraulic Control Unit 4101KS as instructed in the Aircraft Maintenance Manual, Task 78-30-00-040-012.
- (5) Open the Fan Cowl Doors as instructed in the Aircraft Maintenance Manual, Task 71-13-00-010-010.
- (6) Open the Thrust Reverser Halves as instructed in the Aircraft Maintenance Manual, Task 78-32-00-010-010.

B. Rework Instructions

The instructions that follow are applicable to the rework or replacement of the 740-5290-501 Bracket and the 745-5862-501 Fire Detection Harness (System B). Do the steps that follow on both the left engine and the right engine. Do the rework instructions shown in either:

Part A and Part B to rework or replace the 740-5290-501 Bracket and rework the existing 745-5862-501 Fire Detection Harness (System B) which will re-use the existing Connectors with new, longer, cables.

(OR)

Part A and Part C to rework or replace the 740-5290-501 Bracket and replace the existing 745-5862-501 Fire Detection Harness (System B) with a new, longer, Fire Detection Harness (System B) which includes new improved Connectors.

Part A



- (1) Find the 740-5290-501 Bracket which attaches to the 745-5862-501 Fire Detection Harness (System B) on the underside of the engine. Refer to Figure 1, Sheet 1 of 3.
- (2) Remove the 740-5290-501 Bracket from the aircraft using the steps that follow:

PROCEDURE

RELATED DATA

- | | |
|--|---|
| (a) Clipping Point CP6118: Remove the upper, aft AS20624 Nut and AS21411 Bolt which attach the 740-5290-501 Bracket to the J-Blade (ref) and Pipe (ref). | Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 2 of 3. |
| (b) Clipping Point CP6118: Remove the lower, aft AS20624 Nut, SP155-D Washer, two AN960C10 Washers and AS21418 Bolt which attach the 740-5290-501 Bracket to the J-Blade (ref) and Pipe (ref). | Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 2 of 3. |
| (c) Clipping Point CP6120: Remove the upper, forward AS20624 Nut, P-Clip (ref) and AS21412 Bolt which attach the 740-5290-501 Bracket to the J-Blade (ref) and Pipe (ref). | Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 2 of 3. |
| (d) Clipping Point CP6120: Remove the lower, forward AS20624 Nut, SP155-D Washer, two AN960C10 Washers and AS21418 Bolt which attach the 740-5290-501 Bracket to the J-Blade (ref) and Pipe (ref). | Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 2 of 3. |
| (e) Remove the four AS8623A Nuts, four SP155-A Washers and four A117-1-A Bolts to detach the 740-5290-501 Bracket from the Overheat Detector (ref). | Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 2 of 3. |



- (3) Rework the existing 740-5290-501 Bracket using the steps that follow:

PROCEDURE

RELATED DATA

- (a) Use indelible ink pen to mark off the area of the 740-5290-501 Bracket to be reworked. Refer to Figure 1, Sheet 2 of 3.
- (b) Carefully remove the area marked-off in the step above. Refer to Figure 1, Sheet 2 of 3.
- (c) Use vibro-etching to re-identify the Bracket from '740-5290-501' to '740-5290-503'. Refer to Figure 1, Sheet 2 of 3. Re-identify parts as instructed in the Standard Practices/Processes Manual, Task 70-09-00-400-501.

- (4) Install the new or reworked 740-5290-503 Bracket to the aircraft using the steps that follow:

PROCEDURE

RELATED DATA

- (a) Clipping Point CP6118: Install the upper, aft AS20624 Nut and AS21411 Bolt to attach the 740-5290-503 Bracket to the J-Blade (ref) and Pipe (ref). Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 3 of 3. Lubricate the Bolts with Engine Oil CoMat 10-039 or CoMat 10-040 prior to installation.

NOTE: Make sure you install the head of the AS21411 Bolt to the right hand side of the 740-5290-503 Bracket.

Torque the Nuts as instructed in the Standard Practices/Processes Manual, Task 70-41-02-400-501.

Distribute the slack in the Harness to prevent stress loads on the Harness Connectors.

- (b) Install the lower, aft AS20624 Nut, SP155-D Washer, two AN960C10 Washers and AS48022 Bolt to attach the 740-5290-503 Bracket to the J-Blade (ref) and Pipe (ref).

Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 3 of 3.

Lubricate the Bolts with Engine Oil CoMat 10-039 or CoMat 10-040 prior to installation.

Torque the Nuts as instructed in the Standard Practices/Processes Manual, Task 70-41-02-400-501.

Distribute the slack in the Harness to prevent stress loads on the Harness Connectors.

NOTE: Make sure you install the AS20624 Nut and SP155-D Washer to the right hand side of the 740-5290-503 Bracket.



- (c) Clipping Point CP6120: Install the upper, forward AS20624 Nut, P-Clip (ref) and AS21412 Bolt to attach the 740-5290-503 Bracket to the J-Blade (ref) and Pipe (ref).

NOTE: Make sure you install the head of the AS21412 Bolt and P-Clip (ref) to the right hand side of the 740-5290-503 Bracket.

Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 3 of 3.
Lubricate the Bolts with Engine Oil CoMat 10-039 or CoMat 10-040 prior to installation.
Torque the Nuts as instructed in the Standard Practices/Processes Manual, Task 70-41-02-400-501.
Distribute the slack in the Harness to prevent stress loads on the Harness Connectors.

- (d) Install the lower, forward AS20624 Nut, SP155-D Washer, two AN960C10 Washers and AS48022 Bolt to attach the 740-5290-503 Bracket to the J-Blade (ref) and Pipe (ref).

NOTE: Make sure you install the AS20624 Nut and SP155-D Washer to the right hand side of the 740-5290-503 Bracket.

Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 3 of 3.
Lubricate the Bolts with Engine Oil CoMat 10-039 or CoMat 10-040 prior to installation.
Torque the Nuts as instructed in the Standard Practices/Processes Manual, Task 70-41-02-400-501.
Distribute the slack in the Harness to prevent stress loads on the Harness Connectors.

- (e) Install the four AS8623A Nuts, four SP155-A Washers and four A117-1-A Bolts to attach the 740-5290-503 Bracket to the Overheat Detector (ref).

NOTE: Make sure you install the four AS8623A Nuts and four SP155-A Washers to the aft side of the 740-5290-503 Bracket.

Refer to Figure 1, Sheet 1 of 3 and Figure 1, Sheet 3 of 3.
Lubricate the Bolts with Engine Oil CoMat 10-039 or CoMat 10-040 prior to installation.
Torque the Nuts as instructed in the Standard Practices/Processes Manual, Task 70-41-02-400-501.
Distribute the slack in the Harness to prevent stress loads on the Harness Connectors.

Part B

- (1) Replace the cables of the 745-5862-501 Fire Detection Harness (System B) with new longer cables of the same type (RTS 71445). Refer to the instructions in the Component Maintenance Manual, Task 71-52-42-300-001.

NOTE: Make sure you verify that the new longer cables are 138.75 in. (3524,25 mm) in length between the front face of the Connector 454VC-A (ref) and the front face of the Connector 4001WD2-A (ref).

NOTE: Make sure the backshell of Connector 4001WD2-A is orientated to provide clearance with the No.4 bearing oil drain tube.

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- (2) Use a permanent marking pen to re-identify the reworked Fire Detection Harness (System B) from '745-5862-501' to '745-5862-901'.

Part C

- (1) Replace the 745-5862-501 Fire Detection Harness (System B) with a new 745-5862-503 Fire Detection Harness (System B). Refer to the instructions in the Engine Manual, Task 72-00-40-420-006.

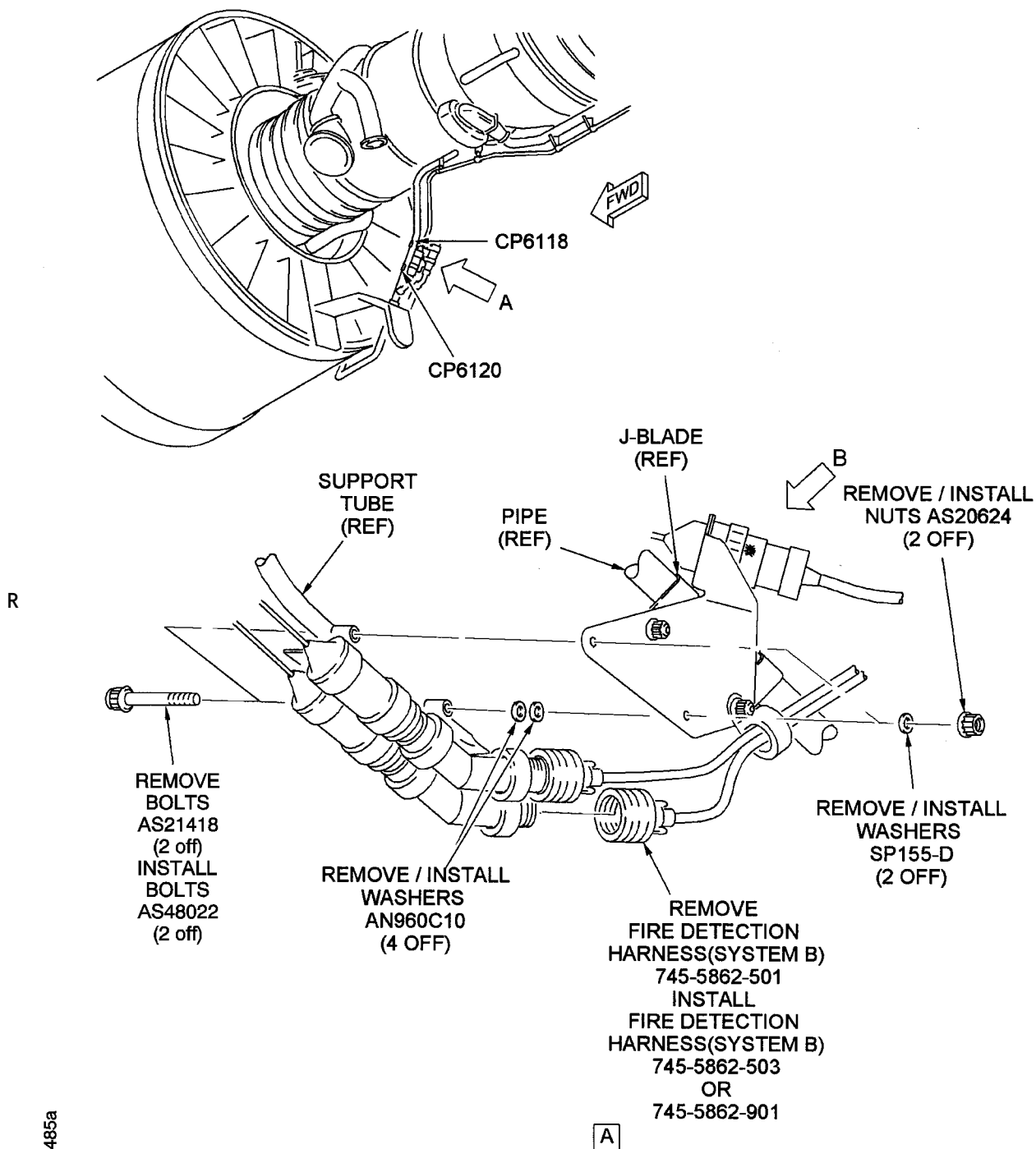
C. Post-requisite Instructions

- (1) Close the Thrust Reverser Halves as instructed in the Aircraft Maintenance Manual, Task 78-32-00-410-010.
- (2) Close the Fan Cowl Doors as instructed in the Aircraft Maintenance Manual, Task 71-13-00-410-010.
- (3) Activate the Thrust Reverser Hydraulic Control Unit 4101K as instructed in the Aircraft Maintenance Manual, Task 78-30-00-440-012.
- (4) Remove the tags and close the applicable Circuit Breakers as instructed in the Aircraft Maintenance Manual, Task 26-00-00-001.

- R (5) Do an inspection/check of the Electrical Harness as instructed in the
R Aircraft Maintenance Manual, Task 71-50-00-601.

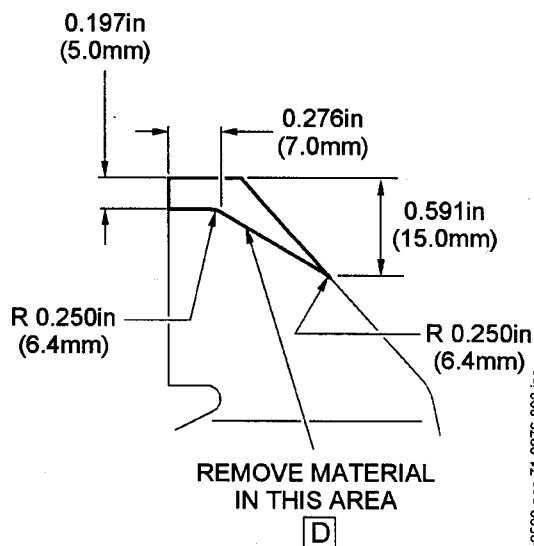
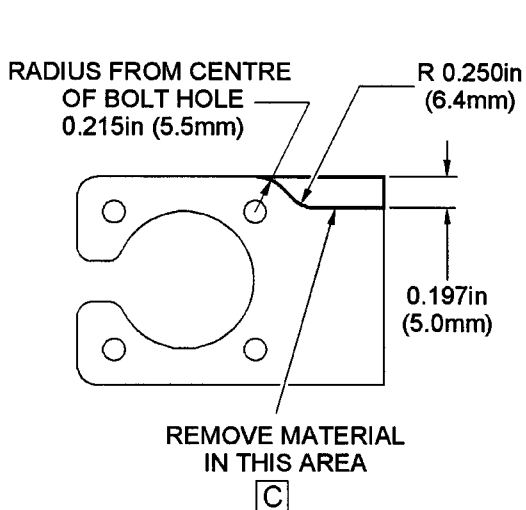
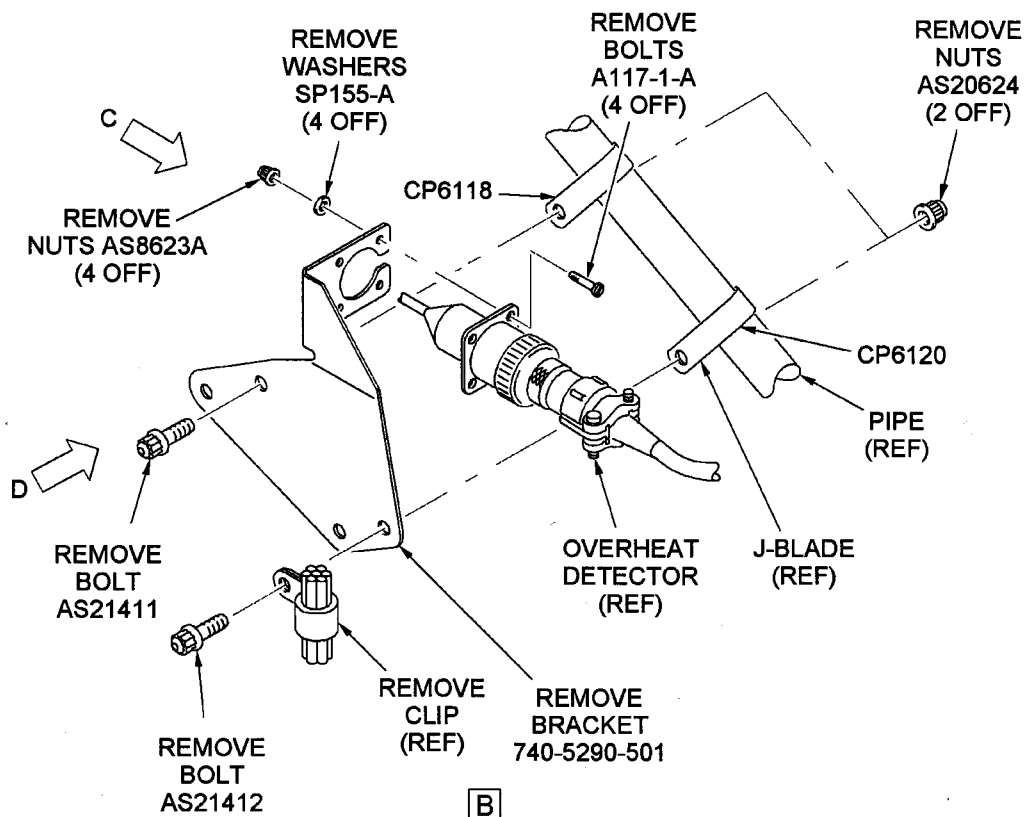
D. Recording Instructions

- (1) A record of accomplishment is necessary. Write in the Aircraft Log Book that Service Bulletin V2500-ENG-71-0276 has been incorporated.



Rework of the Bracket and Fire Detection Harness (System B)
Figure 1, sheet 1 of 3

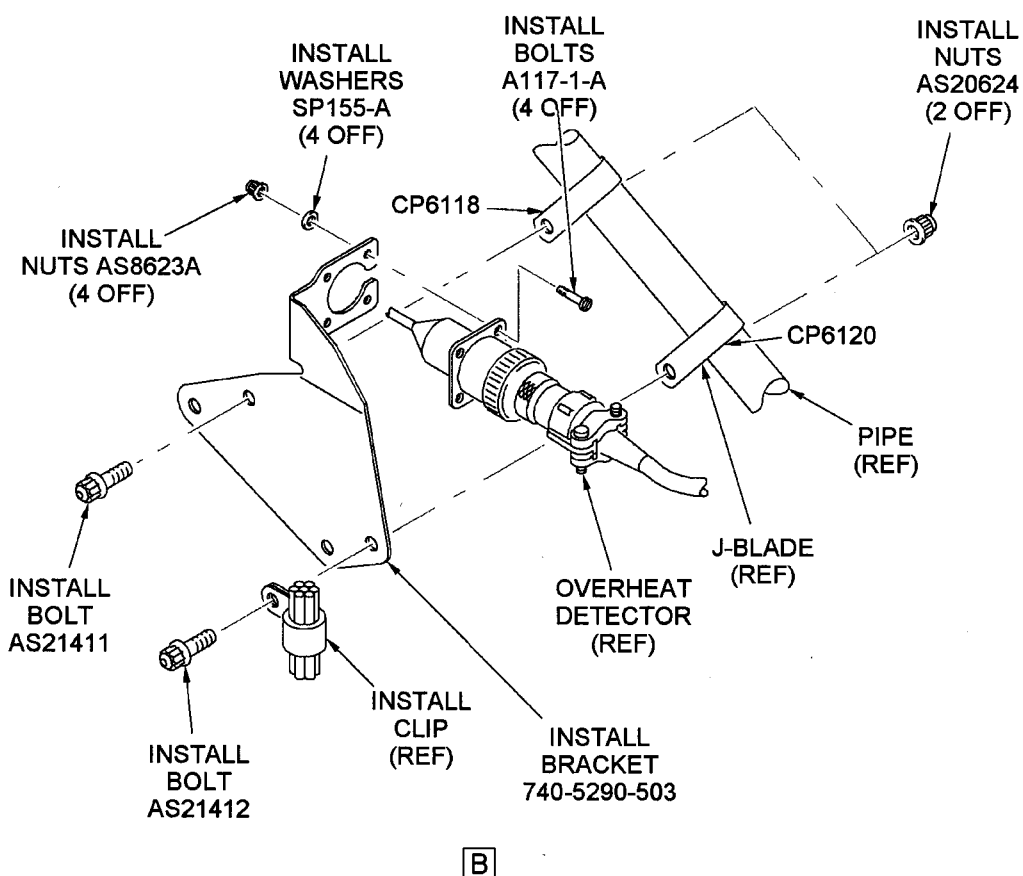
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Rework of the Bracket and Fire Detection Harness (System B)
Figure 1, sheet 2 of 3



Rework of the Bracket and Fire Detection Harness (System B)
Figure 1, sheet 3 of 3



ENGINE – ENGINE BUILD UNIT (EBU) – REWORK OF ELECTRICAL HARNESS AND BRACKET ASSEMBLY
TO ACCOMMODATE THE REROUTING OF THE OIL SCAVENGE TUBES

SUPPLEMENT – PRICES AND AVAILABILITY

The prices (if shown) are for estimating purposes only and as such are given in good faith, without commercial liability for advanced planning purposes only. Refer to IAE Spares and/or current price catalogue for current prices.

1. Modification Kit:

Not applicable.

2. Parts affected:

Part No.	Description	Unit Price US Dollars
740-5290-503	Bracket	156.00
745-5862-503	Fire Detection Harness	7783.00

