P U B L I C A T I O N T R A N S M I T T A L

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DATER Aug.23/00

V2500-A1/A5/D5 SERIES PROPULSION SYSTEMS SERVICE BULLETIN

This document transmits Revision 2 to Service Bulletin EV2500-75-0083

Document History

Service Bulletin Revision Status		Supplement Revision Status
Initial Issue	Nov.10/99	
Revision 1	Aug.7/00	

Bulletin Revision 2

Remove	Incorporate	Reason for change
All pages of the Service Bulletin	Pages 1 to 8 of the Service Bulletin	All pages re-issued to comply with latest system format

V2500-ENG-75-0083

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

LIST OF EFFECTIVE PAGES

The effective pages to this Service Bulletin following incorporation of Revision 2 are as follows:

Page		Revision Number	Revision Date
	Bulletin		
R	1	2	Aug.23/00
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AIR - HPC HANDLING BLEED VALVES - CLEANING DUNLOP BLEED VALVES FITTED TO 10TH AND 7TH HPC STAGES - NON-MODIFICATION SERVICE BULLETIN

1. Planning Information

A. Effectivity

(1) Airbus A319

V2522-A5, V2524-A5 Engines fitted with Dunlop bleed valves

(2) Airbus A319CJ

V2527M-A5 Engines fitted with Dunlop bleed valves

(3) Airbus A320

V2500-A1, V2527-A5, V2527E-A5 Engines fitted with Dunlop bleed valves

(4) Airbus A321

V2530-A5, V2533-A5 Engines fitted with Dunlop bleed valves

(5) Boeing Long Beach Division MD-90

V2525-D5, V2528-D5 Engines fitted with Dunlop bleed valves

(6) Part Numbers

Bleed valves having the following part numbers:

AC69922, AC69924, AC69254, AC69859, AC69514, AC69861

(7) ATA Location

75-32-00

75-33-00

B. Reason

(1) Problem

During operation the air passing through the bleed valves may contain contaminants that can stick to the inside of the bleed valve, triple seals, centre stem bush and ultimately prevent the bleed valve from opening or closing.

Subsequent engine starting may prove to be extremely difficult as the valve may have failed in the closed position.

(2) Background

The problem is not related to any known operational conditions or criteria. Many bleed valves have achieved a substantial number of flying hours without experiencing this problem while others fail after a small number of flying hours.

(3) Objective

This Non-Modification Service Bulletin gives guidance on the procedure to be used to release a failed bleed valve without disassembly of the unit.

C. Compliance

Category Code 8

Accomplish when required at operator discretion or as recommended in the Maintenance Management Plan (MMP).

This procedure can only be carried out with the valve unit removed from the engine.

D. Approval

The compliance statement and the procedures given in Section 2 of this Non-Modification Service Bulletin obey the Federal Aviation Regulations and are FAA-APPROVED for the Engine Models listed.

E. References

For removal and installation of the bleed valves refer to:

(1) Aircraft Maintenance Manual, 75-32-52 (V2500-A1 and A5, 7th Stage)

(2) Aircraft Maintenance Manual, 75-32-54 (V2500-A1 and A5, 10th Stage)

(3) Aircraft Maintenance Manual, 75-33-52 (V2500-D5, 7th Stage)

(4) Aircraft Maintenance Manual, 75-33-54 (V2500-D5, 10th Stage)

(5) Dunlop Component Maintenance Manual, 75-32-52 and 75-32-54

(6) Internal Reference No.

IAE Engineering Change Number 99VR887, 99VR887A

F. Other Publications Affected

None

2. Material Information

A. None

3. Accomplishment Instructions

A. Removal Instructions

Remove bleed valves in accordance with references 1.E.(1) to (4).

B. Cleaning Procedure

WARNING: PRESSURISED AIR CAN BE DANGEROUS. OBSERVE YOUR LOCAL SAFETY PRECAUTIONS WHEN WORKING WITH PRESSURISED AIR.

WARNING: THE BLEED VALVE PISTON MAY MOVE SUDDENLY DURING THESE PROCEDURES. MAKE SURE YOUR FINGERS ARE NOT TRAPPED BY MOVEMENT OF THE BLEED VALVE PISTON.

CAUTION: DO NOT USE LUBRICANTS, FREEING OIL OR CLEANING SOLVENTS ON THE ASSEMBLED BLEED VALVE. CLEANING SOLVENTS CAN COMBINE WITH SMALL AMOUNTS OF MOISTURE TO MAKE HYDROCHLORIC ACID AND CAUSE CORROSION AND SEVERE DAMAGE TO INTERNAL COMPONENTS.

NOTE: 1. These procedures do not replace the requirement for an operator to fully overhaul bleed valves at periods based upon his operating conditions and unit experience.

2. These procedures may not release a failed bleed valve. A bleed valve that cannot be released must be subjected to a full overhaul in accordance with reference 1.E.(5).

3. As a failed bleed valve released by these procedures has not been dismantled it may be reinstalled on an engine without further testing. Because the condition of the triple seals and centre bush cannot be determined with the unit assembled, there is a possibility that they have been damaged by the contamination and the bleed valve may fail again.

(1) HP10 Bleed Valves

To avoid trapping contamination between the body and the shroud, refer to CMM 75-32-54, Page Block 301 and remove the two rivets securing the shroud to the body.

(2) HP7 and HP10 Bleed Valves

Before doing the following steps confirm the bleed valve is stuck by using your hands to apply a force on the piston to move the piston up and down the body bore. The piston should move against its spring load with an applied load of 3 to 10 lbs.

(3) Refer to Figure 1 and using a soft faced hammer carefully tap around the outside circumference of the valve body to release contamination.

(4) Connect an air line to the servo chamber union on the bleed valve and apply bursts of dry, clean air into the servo chamber of the unit to blow any freed contamination out past the triple seals. Start with a low pressure (nominally 10 psi) and work up to a maximum of 125 psi for the HP7 bleed valve and 315 psi for the HP10 bleed valve. Spin the piston between applications of air bursts to ensure that contamination trapped within the seal grooves is dislodged. Ensure that there is no evidence of contamination between the piston outside diameter and valve body.

(5) Repeat step 3 and step 4 approximately 6 times or until the valve becomes free and no more contamination can be released.

(6) Disconnect the air pressure from the servo chamber union.

(7) Direct bursts of dry, clean air (nominally 10 psi) into the central area of the unit to blow any freed contamination out from the spring and bearing stem area.

(8) Use a vacuum probe to remove any loose contamination from inside the unit.

(9) If the valve has become free, use your hands to apply a force on the piston to move the piston repeatedly up and down the body bore until the piston moves freely. Repeat step 7 to remove any loose contamination.

(10) If the valve is still failed in the open position, refer to Figure 2 and use your hands or a light mechanical lever press to apply an increasing force on the piston until the valve closes. Figure 3 shows a typical light mechanical lever press. Apply the load equally on the shoulders of the webs of the piston. If you use a light mechanical lever press you will need a suitable tube as a distance piece to avoid loading the central nut and bolt instead of the piston.

(11) Repeat steps 3 through 9 approximately 6 times or until the valve becomes free. If the valve does not become free it must be fully disassembled and subjected to a full overhaul in accordance with reference 1.E.(5).

(12) Wipe clean all exposed sliding surfaces with a lint free cloth. The valve will need to be in the closed position to reach some areas e.g. valve body internal face, centre stem and piston external face.

(13) If the valve is moving freely, check the leakage past the internal seals as follows:

(a) Using your hands, apply a force on the piston to move the piston against its spring load and close the bleed valve.

(b) The piston should start to move with an applied load of approximately 3 lbs and be held fully closed against its spring with a load of approximately 10 lbs.

(c) Place a finger over the servo chamber inlet and release the piston.

(d) The piston should slowly return to the fully open position in not less than 2 seconds. If the piston returns suddenly in less than 2 seconds the internal seals are defective and the bleed valve must be disassembled and subjected to a full overhaul in accordance with reference 1.E.(5).

(14) Clean the shroud with a lint free cloth until all evidence of debris is removed.

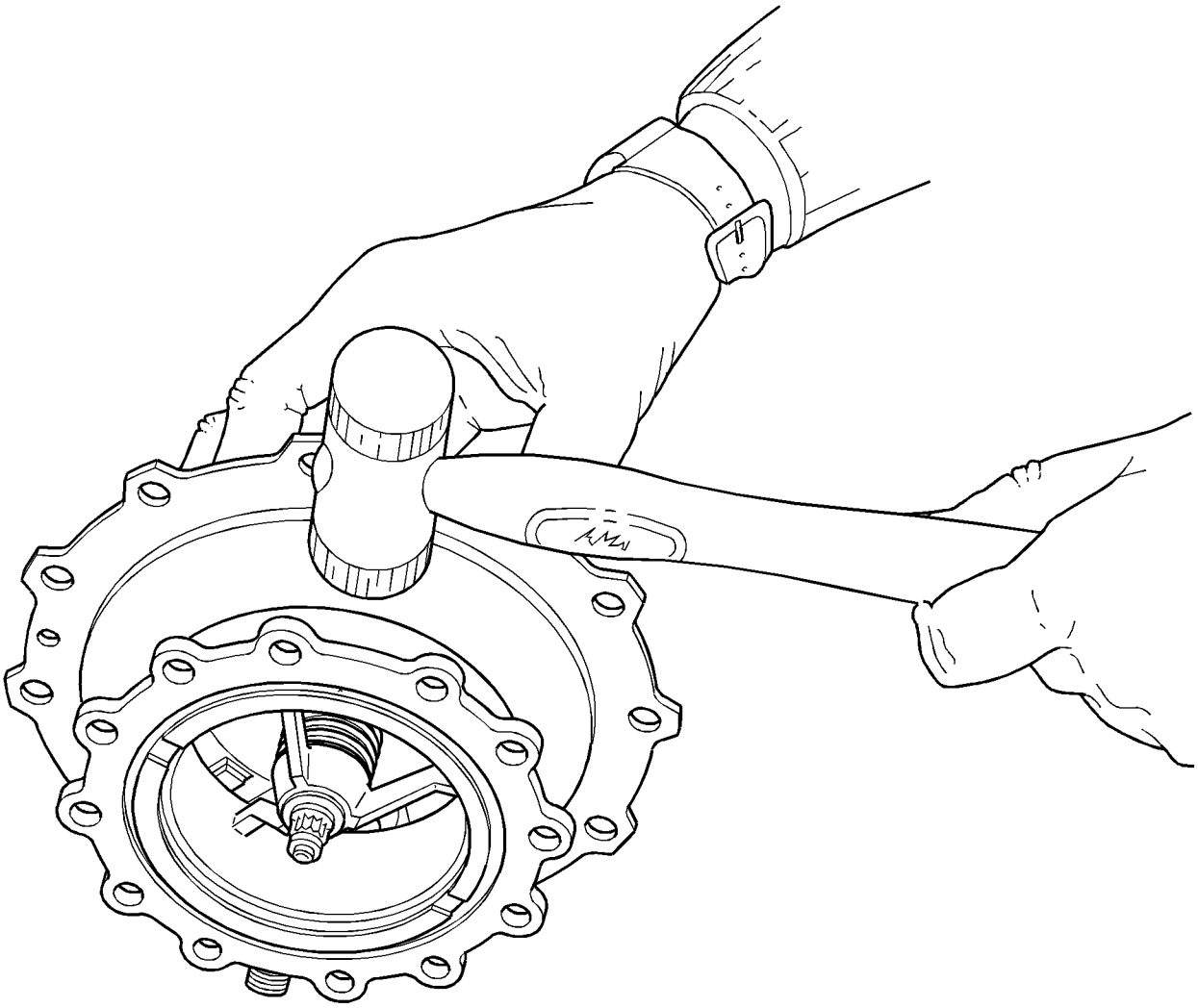
(15) If the procedures have been successful, refer to CMM 75-32-54, Page Block 701 and use a suitable pop blind rivet power setting tool to rivet the shroud on the HP10 bleed valve body.

C. Installation Instructions

Refit the bleed valve in accordance with references 1.E.(1) to (4).

D. Record of Accomplishment

None



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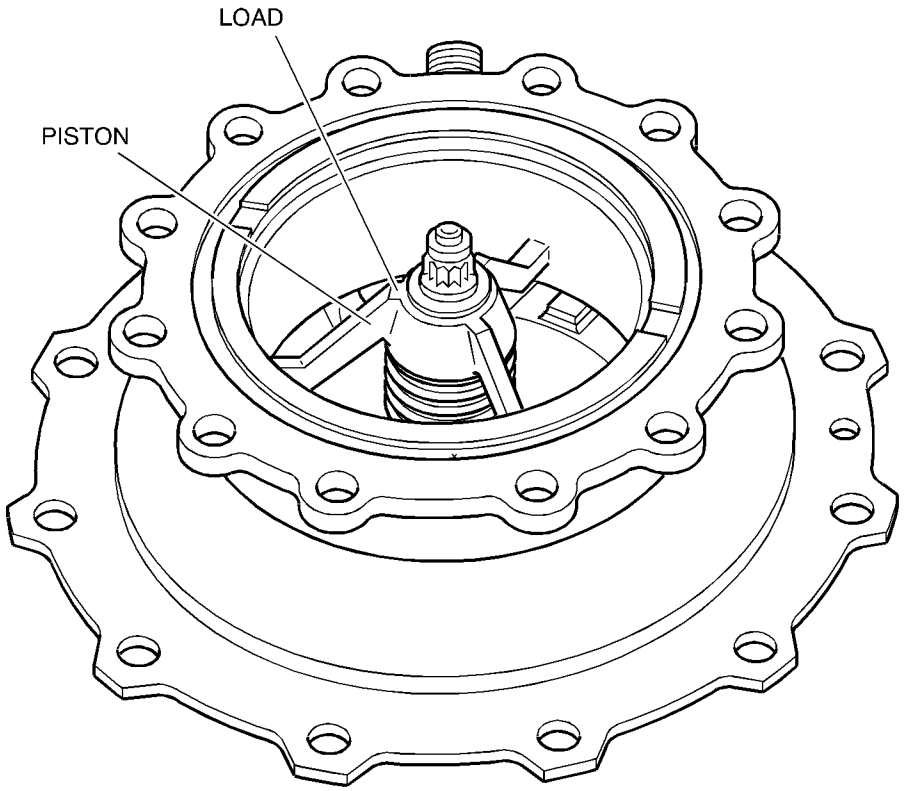
Releasing contamination
Figure 1



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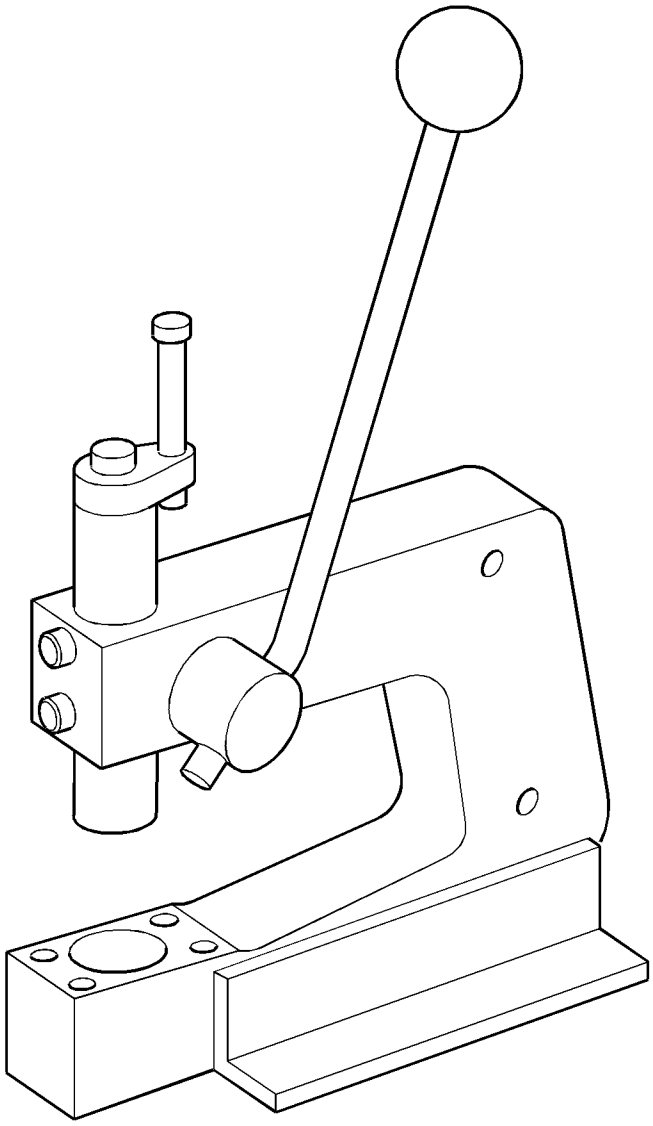
Piston web loading
Figure 2



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Typical lever press
Figure 3