International Aero Engines

SERVICE BULLETIN

AIR - HP COMPRESSOR STAGE 7 AND STAGE 10 BLEED VALVES - INTRODUCTION OF AN IMPROVED CENTER BUSH - 4 - MOD.ENG-75-0040

1. Planning Information

A. Effectivity

(1) Aircraft: (a) Airbus A320
(b) Airbus A321
(c) McDonnell Douglas MD-90

(2) Engine: (a) V2500-A1 Engines V0261 to V0355
(b) V2500-A5 Engines prior to V10080
(c) V2500-D5 Engines prior to V20009

(3) Units: Bleed Valve - HP Compressor Stage 7 AC69254

: Bleed Valve - HP Compressor Stage 10 AC69514

B. Concurrent Requirements

This Service Bulletin supersedes V2500-ENG-75-0038.

C. Reason

(1) Condition

The current bleed valve center bush material is affected by water producing a sticky deposit which may cause the bleed valves to seize, resulting in starting difficulties.

(2) Background

This condition was identified during flight development testing and in service.

(3) Objective

Incorporate of the changes introduced by this Service Bulletin are designed to improve unit reliability.

(4) Substantiation

The changes introduced by this Service Bulletin have been substantiated by extensive rig testing.

(5) Effect of Bulletin on Workshop Procedures:

Removal/Installation	Not affected
Disassembly/Assembly	Not affected
Cleaning	Not affected
Inspection/Check	Not affected
Repair	Not affected
Testing	Not affected

(6) Supplemental Information

None

D. Description

(1) This Service Bulletin covers the fitment to engines of HP compressor stage 7 and stage 10 bleed valves incorporating Dunlop Service Bulletin 75-28.

(2) This Service Bulletin introduces HPC stage 7 and stage 10 bleed valves which have an improved material center bush.

(3) Units incorporating this Service Bulletin will be identified as follows:

For HPC 10 bleed valve AC69861
For HPC 7 bleed valve AC69859

E. Approval

The part number changes and/or part modifications described in Section 2 and 3 of this Service Bulletin have been shown to comply with the applicable Federal Aviation regulations and are FAA approved for the engine models listed.

F. Compliance

Category Code 4

Accomplish at the first visit of an engine or module to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action or the reason for engine removal.

G. Manpower

Estimated manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
Part 1	
(1) In service	
(a) Remove 4 off Bleed Valves	0 hours 20 minutes

(b) Install new Bleed Valves 4 off		0 hours 30 minutes
(c) Function test Bleed Valves 4 off		0 hours 16 minutes
	Total :	1 hour 6 minutes

(2) In shop

(a) Remove 4 off Bleed Valves		0 hours 20 minutes
(b) Install new Bleed Valves 4 off		0 hours 30 minutes
(c) Function test Bleed Valves 4 off		0 hours 16 minutes
	Total :	1 hour 6 minutes

Part 2

(1) In service	Refer to Dunlop Service Bulletin 75-28
(2) In shop	Refer to Dunlop Service Bulletin 75-28

H. Material

(1) Modification Kit not required.

(2) See 'Material Information' section for prices and availability of future spares.

I. Tooling - Prices and Availability

Special tools are not required.

J. Weight and balance

(1) Weight change	None
(2) Moment arm	No effect
(3) Datum	Engine front mount centerline (Power Plant Station (PPS) 100)

K. Electrical Load Data

This Service Bulletin has no effect on the aircraft electrical load.

L. References

(1) Internal Reference No.

EC93VR093

(2) Other References

Airbus A320 Aircraft Maintenance Manual

Airbus A320/A321 Aircraft Maintenance Manual

McDonnell Douglas MD-90 Aircraft Maintenance Manual

Dunlop Service Bulletin 75-28

M. Other Publications Affected

(1) S-V2500-1IA Illustrated Parts Catalog Chapter/Section 75-32-52 and 75-32-54.

(2) S-V2500-2IA Illustrated Parts Catalog Chapter/Section 75-32-52 and 75-32-54.

(3) S-V2500-3IA Illustrated Parts Catalog Chapter/Section 75-32-52 and 75-32-54.

2. Accomplishment Instructions

A. Accomplishment of this Service Bulletin is divided into 2 parts as follows:

PART 1: Covers replacement of HP 7 bleed valves AC69254 with HP7 bleed valves AC69859 and replacement of HP 10 bleed valve AC69514 with HP 10 bleed valve AC69861.

PART 2: Covers reworking of HP 7 bleed valve AC69254 to produce AC69859 and reworking of HP 10 bleed valve AC69514 to procedure AC69861.

(1) Part 1

(a) Remove the HP compressor bleed valves (3 off - stage 7, 1 off - stage, 10) AC69254, AC69514 as instructed in the Aircraft Maintenance Manual, Chapter/Section 75-32-52 and 75-32-54.

(b) Install the HP compressor bleed valves AC69859 (3 off) and AC69861 (1 off) as instructed in the Aircraft Maintenance Manual, Chapter/Section 75-32-52 and 75-32-54.

(c) Functionally test the HP compressor bleed valves as instructed in the Aircraft Maintenance Manual, Chapter/Section 75-32-52 and 75-32-54.

(2) Part 2

(a) Rework the HP 7 and HP 10 bleed valves, AC69254 and AC69514, to produce HP 7 bleed valves AC69859 and HP 10 bleed valve AC69861 in accordance with the procedure described in reference (4) - Dunlop Service Bulletin 75-28.

B. Recording Instructions

(1) A record of accomplishment is necessary.

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:

PART NO.	QTY
AC047057	4

B. Parts affected by this Bulletin:

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
AC69859 75-32-52	3		Bleed valve - HP 7	AC69254 (01-100)	(A)(B)(1D) (S1)
AC69861 75-32-54	1		Bleed valve - HP 10	AC69514 (01-400)	(A)(B)(1D) (S1)

C. Instructions/Disposition Code Statements:

(A) New part is currently available for sale

(B) Old part will be discontinued

(1D) Old part may be reworked and reidentified to the new part number.

(S1) Old and new parts are fully interchangeable

NOTE: The estimated 1993 unit prices are provided for planning purposes only and do not constitute a firm quotation. Consult the IAE Price Catalog or contact IAE's Spare Parts Sales Department for information concerning firm prices.

Dunlop Limited Aviation Division

QL 73

IAE SB@Rev.1

SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

1. **Planning Information**

A. Effectivity

(1) Engines affected — Refer to IAE covering S.B.V2500-ENG-75-0040

(2) Units affected — Dunlop HP 7 Bleed Valve AC69254
Dunlop HP 10 Bleed Valve AC69514

this data entered at initial issue

B. Reason

(1) Problem

Reports have been received from some operators that the HP7 and/or HP10 Bleed valves are sticking in service.

The reason for the problem is the presence of water affecting the existing carbon bush material.

(2) Objective

The modification recommended in this Service Bulletin is intended to restore the operating capabilities of a sticking bleed valve.

C. Description

(1) The procedures introduced by this Service Bulletin are as follows:-
Disassembly of HP7 & HP10 Bleed Valves
Re-work of valve stem ACO45615
Replacement of Triple Seal Assembly DAS2485-1256
Replacement of Triple Seal Assembly DAS2505-1225
Introduction of modified Bush ACO47056 in lieu of ACO45618
Replacement of Nut AS20625
Replacement of Rivet AS46791-411 (HP10 Bleed Valve only)
Assembly of modified Bleed Valves
Re-identification of Bleed Valves

(2) Refer to figure 1 for pre and post mod configuration of the bleed valves

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

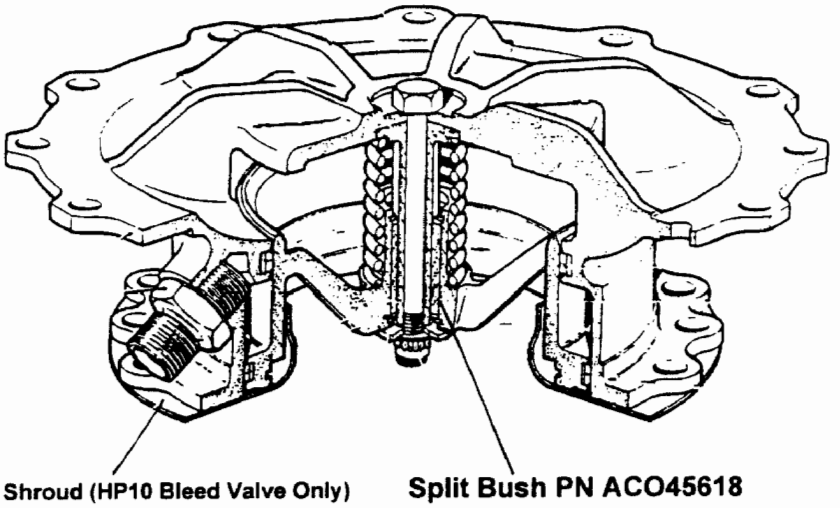
SERVICE BULLETIN

SB Number 75-28

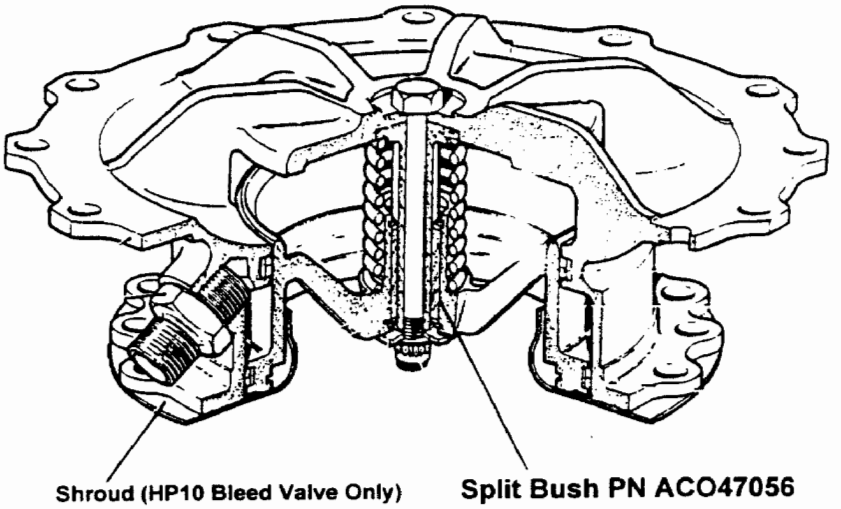
Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)



HP7 Bleed Valve Pre Mod E586
HP 10 Bleed Valve Pre Mod E587



HP7 Bleed Valve Post Mod E586
HP 10 Bleed Valve Post Mod E587

Figure 1 Pre and Post Mod Configuration

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

D. Approval

This Service Bulletin No. AC69514 / AC69254 SB 75-28 (IAE SB V2500-ENG-75-0040) was technically approved by IAE on 3 February 1994. The part number changes and / or part modifications described in this bulletin have been shown to comply with the appropriate Federal Aviation Regulations and are FAA approved for those units Listed in this bulletin.

E Compliance

Refer to IAE Service Bulletin V2500 - ENG - 75 - 0040

F. Manpower

Modification & Rework 0.75 man hours

G. Materials - Price and Availability

Dunlop will supply a common modification kit PN ACO47057 for HP7 and HP10 Bleed Valves to permit accomplishment of this Service Bulletin. Price of the modification kit is FOC to those operators who are affected.

Further information on the availability of the modification kit can be obtained on request to:-

The Customer Service Manager
Dunlop Equipment Division.
Holbrook Lane, Foleshill, Coventry CV6 4AA. England
Tel. (0203) 668781 Fax.(0203) 668776 Telex 31677 Sita.CVTDLCR

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

H. Tooling - Price and Availability

The following tools are required to accomplish this Service Bulletin.

Tool No	Qty	Description	Function
Acratork Model A	One	Torque Spanner $^3/_8$ in square drive range 4 to 20 Nm	To torque load nut AS20625
Britool AB312	One	Torque Socket $^3/_8$ in square drive	Use with Torque Spanner
Britool AB437	One	Torque Socket $^3/_8$ in square drive	To hold Bolt A10419E
Britool A70	One	'T' handle $^3/_8$ in square drive	For use with Torque Sockets

Note: 1 Equivalent alternatives may be used for listed items.

Note: 2 Tooling is commercially available.

I. Weight and Balance

No change.

J. Electrical Load Data

Not affected.

K. References

Dunlop Component Maintenance Manual (CMM)
CMM 75-32-52 (HP7 Bleed Valve)
CMM 75-32-54.(HP10 Bleed Valve)
IAE Service Bulletin V2500 - ENG - 75 - 0040

L. Publications Affected

Dunlop Component Maintenance Manual (CMM) 75-32-52 and 75-32-54 to be revised.

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

2. Accomplishment Instructions

A. Modification Instructions (Refer to Figure 2)

Modification **E586** applicable to PN **AC69254** HP7 Bleed Valve
Modification **E587** applicable to PN **AC69514** HP10 Bleed Valve

(1) Modify and Re-work the PN **AC69254** HP7 Bleed Valve and PN **AC69514** HP10 Bleed Valve as follows

PN **AC69514** HP10 Bleed Valve **only**

(a) Remove the two PN AS46791-411 Rivets from the PN AC69359 Shroud and remove the Shroud from the Bleed Valve Body.

PN **AC69254** HP7 Bleed Valve and PN **AC69514** HP10 Bleed Valve

(b) Using the Britool A70, AB312 and AB437 Tools remove the PN AS20625 Nut, the PN ACO45619 Washer and the PN A10419E Bolt. Discard the PN AS20625 Nut.

(c) Remove the PN AC69328 Piston, the PN ACO45615 Valve Stem and PN ACO45616 Spring.

(d) Remove the PN DAS2485-1256 Triple Seal Assembly from the Piston.
Discard the PN DAS2485-1256 triple Seal Assembly

(e) Remove the (two off) PN MR59S Retainers, the (two off) PN ACO45621 Washers and the PN ACO45618 Bush from the Piston. Discard the PN MR59S Retainers, PN ACO45621 Washers and the PN ACO45618 Bush.

(f) Remove the PN DAS2505-1225 Triple Seal Assembly from the Bleed Valve Body.
Discard the PN DAS2505-1225 Triple Seal Assembly

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

(g) Visually examine the PN ACO45615 Valve Stem and all other metal components for surface corrosion, damage, distortion and surface deposits

(h) Polish out light surface corrosion, damage or surface deposits with a smooth hone or grade 00 carborundum cloth.
Reject a metal component with corrosion or damage that is not removed by polishing.

B Fitment Instructions (Refer to Figure 2)

CAUTION TRICHLOROETHANE CAN CAUSE CORROSION ON METAL COMPONENTS IN CONTACT WITH CARBON SEALING RINGS. AFTER CLEANING THE METAL COMPONENTS DRY THEM AT A CONTROLLED TEMPERATURE OF 80 to 85 deg C (185 to 194 deg. F) TO REMOVE ALL SIGNS OF TRICHLOROETHANE.

CAUTION TRICHLOROETHANE CAN CAUSE SEVERE DAMAGE TO CARBON SEALING RINGS. MAKE SURE THAT THE CARBON SEALING RINGS DO NOT COME INTO CONTACT WITH TRICHLOROETHANE

CAUTION CARBON SEALING RINGS ARE EASILY DAMAGED.
BE CAREFUL WHEN HANDLING AND INSTALLING CARBON SEALING RINGS

(1) Before reassembly clean the metal components with Trichloroethane BS4487 (O.T.620) in accordance with the data given in IAE Standard Practices Manual SPP-V2500-11A.

(a) Re-assemble the PN **AC69254** HP7 and PN **AC69514** HP10 Bleed Valves as follows:

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

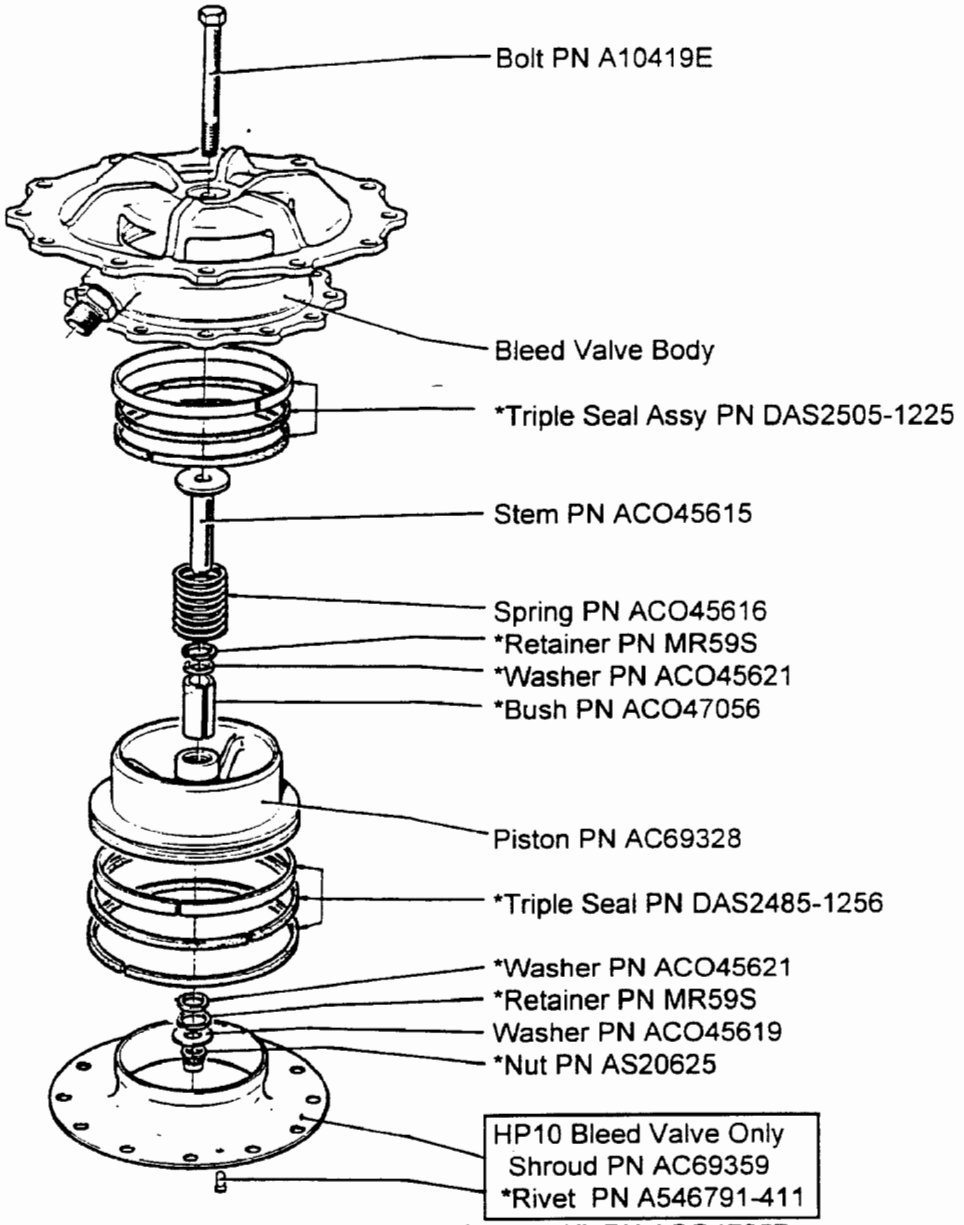
SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)



* Denotes Items contained in Mod/Rework Kit PN ACO47057

Figure 2 Exploded View of Bleed Valve showing Mod/Rework Kit Items

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28
Power Plant Air Compressor Control
Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves
DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

(b) Install a new PN DAS2505-1225 Triple Seal Assembly in the Bleed Valve Body. Make sure the ring gaps are equispaced around the circumference.

(c) Install one of the new PN MR59S Retainers, one of the new PN ACO45621 Washers and the MODIFIED PN ACO47056 BUSH in the Piston.

(d) Install a second new PN MR59S Retainer and a second new PN ACO45621 Washer in the Piston.

(e) Install a new PN DAS2485-1256 Triple Seal Assembly on the PN AC69328 Piston. Make sure the ring gaps are equispaced around the circumference.

(f) Install the PN A10419E Bolt through the Body. Install the PN ACO45615 Valve Stem over the Bolt and locate the Valve Stem flange in the recess in the Body

(g) Install the PN ACO45616 Spring on the Valve Stem.

(h) Install the Piston over the Valve Stem. Make sure the Triple Seal Assemblies are not damaged during assembly.

(i) Install the PN ACO45619 Washer on the Bolt.

(j) Lubricate the threads of the Bolt with a minimum amount of "Threadgard" and install a new PN AS20625 Nut on the Bolt.

(k) Using the Acratork Model A, Britool AB312 and AB437 Tools torque tighten the PN AS20625 Nut to 8,5/9,0 Nm (75/80 lbf in.) plus the torque required to overcome the lock properties of the Nut.

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

PN **AC69254** HP7 Bleed Valve **only**

(l) Use the vibro-etch tool to renumber the HP7 Bleed Valve adjacent to the existing part number and mod number on the Bleed Valve body

Existing PN	Renumber	
AC69254	**AC69859**	**Mod 1**

PN **AC69514** HP10 Bleed Valve **only**

(m) Use two new PN AS46791-411 Rivets to install the PN AC69359 Shroud to the Bleed Valve Body. Make sure the Piston can move freely in the Body and is not caught by the shroud.

(n) Use a vibro-etch tool to renumber the HP10 Bleed Valve adjacent to the existing part number and mod number on the Bleed Valve body

Existing PN	Renumber	
AC69514	**AC69861**	**Mod 1**

C Recording Instructions

(1) A record of Accomplishment is required

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28
Power Plant Air Compressor Control
Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves
DUNLOP MODIFICATION E586 AND E587

3. Material Information

A Modification Items associated with this Bulletin

The following modification / Rework Kit is required to accomplish this modification.

MODIFICATION / REWORK KIT PN **ACO47057**

For HP7 Bleed Valve PN AC69254 and HP10 Bleed Valve PN AC69514

Mod/Rework Kit ACO47057		
Kit Item Part Number	Qty per Kit	Keyword
AS20625	One	NUT
ACO47056	One	BUSH Split
ACO45621	Two	WASHER
DAS2485-1256	One	SEAL Assembly Triple
DAS2505-1225	One	SEAL Assembly Triple
MR59S (DSR51677-1004)	Two	RING Retaining
AS46791-411	Two	RIVET

Note: HP7 Bleed Valve mod/rework does not require kit item AS46791-411 Rivet (2 off). After modifying and reworking a HP7 Bleed Valve, the rivets contained in the mod kit may be discarded.

B Parts Affected by this Bulletin

New PN (ATA No)	**Quantity Per Unit**	**Keyword**	**Old PN** (IPC No)	**Instructions / Dispositions**
AC69859 (75-32-52)	RF	Valve Assy Bleed HP7	**AC69254** (1A)	Rework Old Part Number and Re-identify to the New Part Number
ACO47056 (75-32-52)	1	Bush Split	ACO45618 (110)	Old Part is to be Discarded
AC69861 (75-32-54)	RF	Valve Assy Bleed HP10	**AC69514** (1A)	Rework Old Part Number and Re-identify to the New Part Number
ACO47056 (75-32-54)	1	Bush Split	ACO45618 (130)	Old Part is to be Discarded

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc

SERVICE BULLETIN

SB Number 75-28

Power Plant Air Compressor Control

Introduction of Improved Material Bush on HP7 and HP10 Bleed Valves

DUNLOP MODIFICATION E586 (HP7 Bleed Valve) and E587(HP10 Bleed Valve)

4. **Additional Information for Operators**

A Operators incorporating modification E586 & E587 must use all mod/rework kit items in the HP7 and HP10 Bleed Valves affected by this bulletin. Any partial replacement of items will require full testing of the Bleed valves in accordance with the testing procedures given in Dunlop component maintenance Manual 75-32-52 (HP7 Bleed Valve) and Dunlop component maintenance Manual 75-32-54 (HP10 Bleed Valve).

B Operators who wish to have HP7 and HP10 Bleed Valves unaffected by this Service Bulletin modified to the new standard can return the Bleed Valves to Dunlop (Coventry) for upgrading to post mod E586 / E587 configuration. With the exception of the new bush all replacement items and associated labour costs will be chargeable to the operator at normal commercial levels.

Printed in England
Registered in England No. 995293. Registered Office, Silvertown House, Vincent Square, London SW1P 2PL. A Subsidiary of BTR plc