International Aero Engines

SERVICE BULLETIN

AIR - HP/LP TURBINE ACC SYSTEM - VALVE VANE REPLACEMENT AND ADDITION OF PLUG STORAGE PLATE TO HPT/LPT ACC AIR VALVE - CATEGORY CODE 4 - MOD.ENG-75-0021

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A320

(2) Engine: V2500-A1 Engines Prior to V0164 Except V0142, V0156, V0157, V0160 and V0162.

B. Reason

(1) Condition

(a) The existing double seal rings in the ACC valve vanes may come out of location causing the valve to jam or seize.

(b) Experience has shown HP turbine tip clearances can increase with time, resulting in higher EGT levels on take-off.

(2) Background

(a) Some engines experienced condition (a) in service requiring replacement of the ACC valve between 400 and 3000 hours. Service Bulletin No. V2500-ENG-75-0012 was issued to remove the seal rings to prevent condition (a) from occuring while a more durable sealing arrangement was developed.

(b) The HP turbine tip clearances of new engines or engines fitted with a refurbished HP turbine are designed to produce a light rub between the HP blades and outer air seals. HP turbine tip clearances increase with time, resulting in increased EGT levels during take-off. Applying additional cooling air flow to the HP turbine case can reduce HP turbine tip clearances, improve turbine efficiency and hence lower EGT levels on take-off.

Service Bulletin No.V2500-ENG-75-0018 introduced ACC valve 5W2216 for controlled service use to evaluate this principle. Development testing of the change showed 10 Degree C reduction in take-off EGT.

(3) Objective

(a) To prevent seizure of the HPT/LPT ACC Air Valve.

(b) To introduce a provision for supplying additional cooling air to the HP turbine case.

(4) Substantiation

Vendor in-house test and analytical substantiation were completed.

(5) Effects of Bulletin on the following shop functions:

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

C. Description

This Service Bulletin is divided into 3 parts;

Part 1 covers incorporation of a new valve configuration in existing engines.
Part 2 covers reconfiguration of the valve to provide additional cooling air flow to the HP turbine case.
Part 3 covers reconfiguration of the valve at engine shop visit.

(1) The changes introduced in Part 1 of Section 2 of this Service Bulletin are as follows:

(a) LPT valve vane and seal ring are changed from a double seal ring configuration to a single seal ring configuration.

(b) HPT valve vane and seal ring are changed from a double seal ring configuration to a single seal ring configuration. Four air holes with removable plugs are added to the valve vane. Removal of the plugs at the times specified in para E. Compliance, will result in a reduction in take-off EGT levels.

(c) A plug storage plate is added to the valve rod to ensure the removed plugs can be carried on the valve at all times. This provision allows simple reconfiguration of the valve without the need for additional parts.

(2) The changes introduced by Part 2 of Section 2 of this Service Bulletin are as follows:

(a) Plugs on the HPT valve vane are removed and installed to the plug storage valve.

(3) The changes introduced by Part 3 of Section 2 of this Service Bulletin are as follows:

(a) Plugs on the plug storage plate are removed and installed to the HPT valve vane.

D. 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 Model listed.

E. Compliance

Category Code 4.

(1) Accomplish Part 1 of this Service Bulletin, at the first visit of an engine to a maintenance base capable of compliance with the accomplishment instructions regardless of the planned maintenance action or the reason for engine removal.

(2) Accomplish Part 2 and 3 of this Service Bulletin in accordance with the following:

CAUTION: ACCOMPLISHMENT OF PART 2 OF THIS SERVICE BULLETIN PRIOR TO 2000 CYCLES SINCE NEW OR HPT REFURBISHMENT MAY PRODUCE HEAVY TIP RUBS IN THE HP TURBINE.

(a) When the time since new or HPT refurbishment has reached 2000 cycles - Accomplish Part 2.

(b) At next refurbishment of the HP turbine - Accomplish Part 3.

(c) Repeat (a) and (b) as appropriate of the lift of the engine.

(3) Engines which have CSU valve 5W2216 installed should have new valves to Part 1 of this Service Bulletin installed at first engine shop visit.

F. Manpower

Estimated Manhours to incorporate the full intent of this Bulletin:

Venue	Estimated Manhours
Part 1 of Section 2	
(1) In service	TOTAL 2 hours 22 minutes
(a) To gain access	

(i) Install warning notices .. .. .. 5 minutes

(ii) Open the fan cowls .. 7 minutes

(iii) Open the thrust reverser .. .. .. 9 minutes

(iv) Remove the ACC air valve .. .. .. 40 minutes

TOTAL 1 hour 1 minutes

(b) To embody

(i) Rework 5W2083, 5W2162, 5W2184 or 5W2185 ACC air valve .. .. .. Refer to Parker Hannifin SB5860016-75-59

(c) To return to flyable status

(i) Install ACC air valve .. .. .. 48 minutes

(ii) Close the thrust reverser .. .. .. 12 minutes

(iii) Close the fan cowls .. 8 minutes

(iv) Remove the warning notices .. .. .. 5 minutes

TOTAL 1 hour 13 minutes

(2) At Overhaul

(a) To gain access .. .. Not applicable (Parts are accessible at overhaul)

(b) To embody

(i) Rework 5W2083, 5W2162, 5W2184 or 5W2185 ACC air valve .. .. .. Refer to Parker Hannifin SB5860016-75-59

Part 2 of Section 2

(1) In Service TOTAL 2 hours 22 minutes

(a) To gain access

(i) Install warning notices .. .. .. 5 minutes

(ii) Open the fan cowls .. 7 minutes

(iii) Open the thrust reverser .. .. .. 9 minutes

(iv) Remove the ACC air valve .. .. .. 40 minutes

TOTAL 1 hour 1 minutes

(b) To embody

(i) Rework 5W2226 or 5W2227 ACC air valve .. .. Refer to Parker Hannifin SB5860016-75-59

(c) To return engine to flyable status

(i) Install ACC air valve .. .. .. 48 minutes

(ii) Close the thrust reverser .. .. .. 9 minutes

(iii) Close the fan cowls .. 8 minutes

(iv) Remove the warning notices .. .. .. 5 minutes

TOTAL 1 hour 13 minutes

(2) At overhaul

(a) To gain access .. .. Not applicable (Parts are accessible at overhaul)

(b) To embody

(i) Rework 5W2226 or 5W2227 ACC air valve .. .. .. Refer to Parker Hannifin SB5860016-75-59

Part 3 of Section 2

(1) In service TOTAL 2 hours 22 minutes

(a) To gain access

(i) Install warning notices .. .. .. 5 minutes

(ii) Open the fan cowls .. 7 minutes

(iii) Open the thrust reverser .. .. .. 9 minutes

(iv) Remove the ACC air valve .. .. .. 40 minutes

TOTAL 1 hour 1 minute

(b) To embody

(i) Rework 5W2228, 5W2229 or 5W2216 ACC air valve .. .. .. Refer to Parker Hannifin SB5860016-75-59

(c) To return engine to flyable status

(i) Install ACC air valve .. .. .. 48 minutes

(ii) Close the thrust reverser .. .. .. 12 minutes

(iii) Close the fan cowls .. 8 minutes

(iv) Remove the warning notices .. .. .. 5 minutes

TOTAL 1 hour 13 minutes

(2) At overhaul

(a) To gain access .. .. Not applicable (Parts are accessible at overhaul

(b) To embody

(i) Rework 5W2228 or 5W2229 ACC air valve .. .. .. Refer to Parker Hannifin SB5860016-75-59

G. Material - Price and Availability

(1) Modification Kit not required.

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

H. Tooling - Price and Availability

Tool No.	Qty	Description	Function	Avail.
New tools required:				
IAE1J13504	1	Puller	Remove Bushes	(1)

(1) Indicates that the Tool Design Aperture Card is available from IAE.

I. Weight and Balance

(1) Weight change .. .. .. None

(2) Moment arm .. .. No effect

(3) Datum .. .. Engine front mount centreline (Power Plant Station (PPS) 100)

J. Electrical Load Data

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

K. References

(1) Internal Reference No.

90VJ005B

92VJ066

(2) Other References

Parker Hannifin Corporation Service Bulletin No.5860016-75-59.

Airbus Industrie A320 Aircraft Maintenance Manual, 71-13-00, Maintenance Practices, 75-24-51, Removal/Installation and 78-32-00, Maintenance Practices.

V2500 Engine Manual; 72-00-40, Removal and Installation.

L. Other Publications Affected

(1) V2500 Engine Illustrated Parts Catalog, 75-24-51.

(2) V2500 Power Plant Illustrated Parts Catalog, 75-24-51.

(3) Airbus Industrie A320 Aircraft Maintenance Manual.

2. Accomplishment Instructions

NOTE: For accomplishment of Part 1, Part 2 and/or Part 3 of this Section refer to Section 1.E. Compliance of this Service Bulletin.

Part 1: Incorporation of a new HPT/LPT ACC valve.

A. Prerequisite Instructions

(1) Open the Fan Cowls by the approved procedure in Reference (2), Chapter/Section 71-13-00, Maintenance Practices.

(2) Open the Thrust Reverser Halves by the approved procedure in Reference (2), Chapter/Section 78-32-00, Maintenance Practices.

(3) Remove 5W2083, 5W2162, 5W2184 or 5W2185 HPT/LPT ACC Air Valve by the approved procedure in Reference (2), Chapter/Section 75-24-51, Removal/Installation.

B. Rework Instructions

(1) Send removed 5W2083, 5W2162, 5W2184 or 5W2185 HPT/LPT ACC Air Valve to the Vendor shown below to modify into the new confifuration, 5W2226 or 5W2227, refer to the Reference (1), Parker Hannifin Corporation Service Bulletin 5860016-75-59.

PARKER HANNIFIN CORPORATION
Customer Support Operations
16666 Von Karman Avenue
Irvine, California 92714
USA

C. Fitment Instructions

(1) Install 5W2226 or 5W2227 HPT/LPT ACC Air Valve by the approved procedure in Reference (2), Chapter/Section 75-24-51, Removal/Installation.

D. Postrequisite Instructions

(1) Close the Thrust Reverser Halves by the approved procedure in Reference (2), Chapter/Section 78-32-00, Maintenance Practices.

(2) Close the Fan Cowls by the approved procedure in Reference (2), Chapter/Section 71-13-00, Maintenance Practices.

E. Recording Instructions

(1) A record of accomplishment is necessary.

Part 2: Removal of plugs from HPT valve vane

A. Prererquisite Instructions

(1) Open the Fan Cowls by the approved procedure in Reference (2), Chapter/Section 71-13-00, Maintenance Practices.

(2) Open the Thrust Reverser Halves by the approved procedure in Reference (2), Chapter/Section 78-32-00, Maintenance Practices.

(3) Remove 5W2226 or 5W2227 HPT/LPT ACC Air Valve by the approved procedure in Reference (2), Chapter/Section 75-24-51, Removal/Installation.

B. Rework Instructions

(1) For 5W2226 HPT/LPT ACC Air Valve

Remove the four plugs from HPT valve vane and install the plugs to the plug storage plate and reidentify as 5W2228, by the approved procedure in Reference (1), Parker Hannifin Corporation Service Bulletin No.5860016-75-59.

(2) For 5W2227 HPT/LPT ACC Air Valve

Remove the four plugs from HPT valve vane and install the plugs to the plug storage plate and reidentify as 5W2229, by the approved procedure in Reference (1), Parker Hannifin Corporation Service Bulletin No.5860016-75-59.

C. Fitment Instructions

(1) Install 5W2228 or 5W2229 HPT/LPT ACC Air Valve by the approved procedure in Reference (2), Chapter/Section 75-24-51, Removal/Installation.

D. Postrequisite Instructions

(1) Close the Thrust Reverser Halves by the approved procedure in reference (2), Chapter/Section 78-32-00, Maintenance Practices.

(2) Close the Fan Cowls by the approved procedure in Reference (2), Chapter/Section 71-13-00, Maintenance Practices.

E. Recording Instructions

(1) A record of accomplishment is necessary.

Part 3: Reinstallation of plugs to HPT valve vane

A. Prerequisite Instructions

(1) Engine in shop, valve accessible.

(2) Remove 5W2228, 5W2229 or 5W2216 HPT/LPT ACC Air Valve by the approved procedure in Reference (3), Chapter/Section 72-00-40 Removal.

B. Rework Instructions

(1) For 5W2228 HPT/LPT ACC Air Valve

Remove the four plugs from the plug storage plate and install the plugs to the HPT valve vane, and reidentify as 5W2226, by the approved procedure in Reference (1), Parker Hannifin Corporation Service Bulletin No.5860016-75-59.

(2) For 5W2229 HPT/LPT ACC Air Valve

Remove the four plugs from the plug storage plate and install the plugs to the HPT valve vane and reidentify as 5W2227, by the approved procedure in Reference (1), Parker Hannifin Corporation Service Bulletin No.5860016-75-59.

(3) For 5W2216 HPT/LPT ACC Air Valve

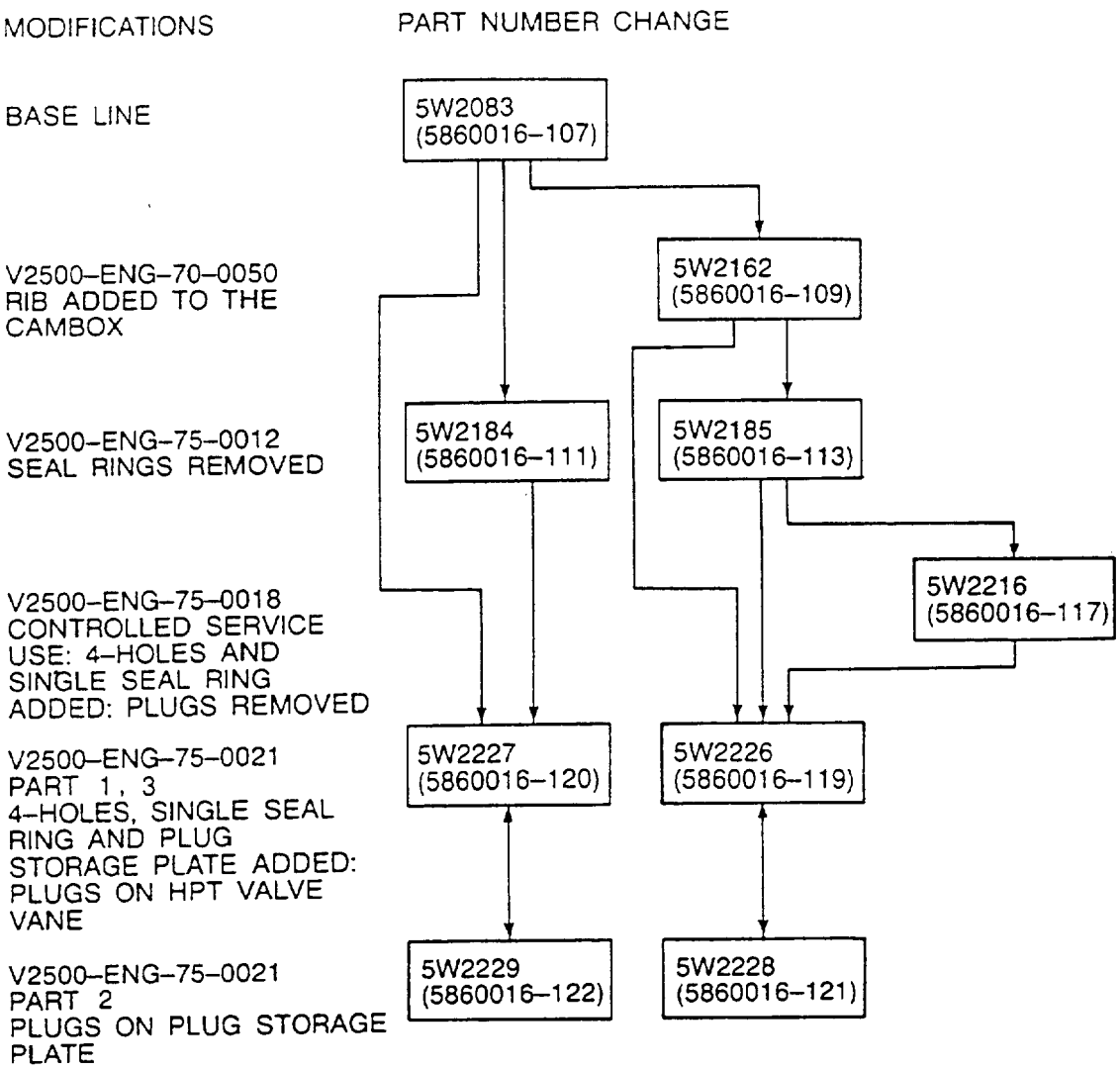
The CSU Valve configuration did not feature a plug storage plate. Return valve assembly to Parker Hannifin for incorporation of Service Bulletin V2500-ENG-75-0021.

C. Fitment Instructions

(1) Install 5W2226 or 5W2227 HPT/LPT ACC Air Valve by the approved procedure in Reference (3), Chapter/Section 72-00-40 Installation.

D. Recording Instructions

(1) A record of accomplishment is necessary.



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Family Tree – HPT/LPT ACC Air Valve Ref. Catalog Sequence No.75–24–51, Fig 01, Item 100

Fig.1

3. Material Information

Applicability: For each V2500 Engine to incorporate this Bulletin.

A. Kits associated with this Bulletin:

None

B. Parts affected by this Bulletin:

New Part No. (ATA No.)	Qty	Est'd Unit Price ($)	Keyword	Old Part No. (IPC No.)	Instructions Disposition
Affected by Part 1 of Section 2 of this Service Bulletin:					
5W2226 (75-24-51)	1	-	.Valve, HPT/LPT ACC Air	5W2162 or 5W2185 or 5W2216 (01-100)	(1D)
5W2227 (75-24-51)	1	-	.Valve, HPT/LPT ACC Air	5W2083 or 5W2184 (01-100)	(1D)
5903264-101 (75-24-51)	4	-	..Bush	- (01-170)	(A)
5903265-101 (75-24-51)	4	-	..Washer	- (01-172)	(A)
NAS679C06 (75-24-51)	4	-	..Nut	- (01-175)	(A)
MS16995-18 (75-24-51)	4	-	..Screw	- (01-177)	(A)
Affected by Part 2 of Section 2 of this Service Bulletin:					
5W2228 (75-24-51)	1	-	.Valve, HPT/LPT ACC Air	5W2226 (01-100)	(1D)
5W2229 (75-24-51)	1	-	.Valve, HPT/LPT ACC Air	5W2227 (01-100)	(1D)
Affected by Part 3 of Section 2 of this service Bulletin:					
5W2226 (75-24-51)	1	-	.Valve, HPT/LPT ACC air	5W2228 (01-100)	(1D)
5W2227 (75-24-51)	1	-	.Valve, HPT/LPT ACC air	5W2229 (01-100)	(1D)

C. Instruction/Disposition Code Statements:

(1D) A modification can be done to the Old Part and it can then be reidentified as the New part number.
(A) New detail part will be available for sale.

D. Expendable parts required to incorporate this bulletin

MS24665-151	3	0.18	Pin, Cotter

NOTE: The estimated 1991 unit prices shown 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.

Parker

Customer Support Operations

SERVICE BULLETIN

AIR - V2500 - HPT/LPT ACC AIR VALVE ASSEMBLY, PART NUMBERS 5860016-107 THROUGH 5860016-113 and 5860016-117. UPGRADE TO 5860016-119/-120 AND 5860016-121/-122.

1. PLANNING INFORMATION

A. Effectivity

This service bulletin is applicable to all Parker Hannifin Corporation HPT/LPT ACC Air Valve Assemblies (hereafter referred to as the Valve) Part Numbers 5860016-107 through 5860016-113 and 5860016-117, used on the IAE V2500 engines.

B. Reason

This service bulletin is being issued to advise all Model V2500 operators of an upgrade to the valve that changes the HPT and LPT valve to a single seal design, adds four holes with plugs to the HPT vane, and adds an external plug storage plate.

C. Description

This service bulletin provides accomplishment instructions and reidentification information for upgrading the valves by incorporation of two options.

Option 1: Replacement of the valve vanes and the addition of an external plug storage plate. Configuration will change to 5860016-119 (5W2226) and 5860016-120 (5W2227).

Option 2: Removal of the vane plugs from the HPT valve vane and installation of the vane plugs in the external plug storage plate. Configurations will change from 5860016-119 (5W2226) and 5860016-120 (5W2227) to 5860016-121 (5W2228) and 5860016-122 (5W2229), respectively. For incorporation conditions of Option 2, refer to the IAE Service Bulletin No. V2500-ENG-75-0021.

Option 3: Removal of the vane plugs from the external plug storage plate and the installation of the vane plugs into the HPT valve vane. Configurations will change from 5860016-121 (5W2228) and 5860016-122 (5W2229) to 5860016-119 (5W226) and 5860016-120 (5W2227), respectively. For incorporation conditions of Option 3, refer to IAE Service Bulletin No. V2500-ENG-75-0021.

D. Compliance

The intent of this service bulletin is classified as a Life Extension element. The compliance recommendation, therefore, falls into the non-quantified time category, as defined by the ATA Implementation Guideline Manual (IGM 1) of April 1976.

E. Approval

(1) This service bulletin has been approved by International Aero Engines (IAE).

(2) This service bulletin has been reviewed by the Federal Aviation Administration (FAA) and the repairs and modifications herein comply with the applicable Federal Aviation Regulations (FAR's) and are FAA APPROVED for installation on the IAE V2500 engine.

F. Manpower

(1) Option 1:

Man hour estimates for Option 1 in this service bulletin are not applicable to airline operators.

(2) Option 2:

	TASK	MAN HOURS
(a)	Removal of plugs from vane.	0.25
(b)	Installation of plugs into the external plug storage plate.	0.25
(c)	Reidentification.	0.50
	TOTAL	1.00

(3) Option 3:

(a)	Removal of plugs from external plug storage plate.	0.25
(b)	Installation of plugs into the vane.	0.25
(c)	Reidentification.	0.50
	TOTAL	1.00

G. Material - Cost and Availability

(1) Option 1:

(a) Accomplishment of Option 1 in this service bulletin is to be completed by Parker Hannifin Corporation. Operators are instructed to forward the valve to:

PARKER HANNIFIN CORPORATION
Customer Support Operations
16666 Von Karman Avenue
Irvine, California 92714
USA

(b) Accomplishment of Option 1 in this service bulletin will be completed at no cost to the operator with a turnaround time of 30 days after receipt of the valve, beginning 90 days after issuance of this service bulletin.

(c) The no charge provisions of this service bulletin shall be valid for 36 months from the date of issuance of this service bulletin. Subsequent to this date, refer to the Airline Spare Parts Catalog or request a quotation from Parker Hannifin Corporation, Customer Support Operations.

(2) Option 2:

(a) Accomplishment of Option 2 in this service bulletin will be completed by operators in the field. (See Section 2 in this service bulletin.)

(b) A kit is not required to accomplish Option 2 in this service bulletin.

(3) Option 3:

(a) Accomplishment of Option 3 in this service bulletin will be completed by operators in the field. (See Section 2 in this service bulletin.)

(b) A kit is not required to accomplish Option 3 in this service bulletin.

H. Tooling - Price and Availability

Not applicable.

I. Weight and Balance

Not affected.

J. Electrical Load Data

Not affected.

K. References

(1) Parker Hannifin Corporation Component Maintenance Manual, CMM 75-24-51, Revision 1, dated Nov 1/88.

(2) Parker Hannifin Corporation Service Bulletin 5860016-75-50, Revision 2, dated 23 May 1990.

(3) Parker Hannifin Corporation Service Bulletin 5860016-75-56, Revision 0, dated _(TBD)_ 1990

(4) International Aero Engines Service Bulletin No. V2500-ENG-75-0021.

L. Other Publications Affected

This service bulletin information will be incorporated into Parker Hannifin Corporation Component Maintenance Manual, CMM 75-24-51, at the next scheduled revision.

M. Family Tree Chart

NOTE: For purposes of identifying specific traceability of Family Tree applicability, refer to the following. Check the cam box ribs of each valve and the dash number noted on the nameplate.

NO RIBS ON CAM BOX	SPECIFIC CHANGES	RIBS ON CAM BOX
5860016-107 (5W2083)	Double seals.	5860016-109 (5W2162)
⇩		⇩
5860016-111 (5W2184)	Removal of pins and double seals.	5860016-113 (5W2185)
⇩		⇩
5860016-120 (5W2227)	Single seals, HPT vane holes with plugs and plug storage plate.	5860016-119 (5W2226)
⇩		⇩
5860016-122 (5W2229)	Removal of vane plugs to plug storage plate.	5860016-121 (5W2228)

NOTE: The 5860016-115 (5W2187) and 5860016-117 (5W2216) configurations are special allocations for controlled service use only. Separate control from the ordinary configuration history will be maintained. The 5860016-115 (5W2187) configuration is recognized on paper only and the 5860016-117 (5W2216) configuration has been supplied to operators as a Controlled Service Use unit. (See Parker Hannifin Corporation Service Bulletin 5860016-75-60.)

2. ACCOMPLISHMENT INSTRUCTIONS

A. Option 1:

(1) Accomplishment instructions for Option 1 are not applicable to airline operators.

(2) All valves shall be returned to Parker Hannifin Corporation for accomplishment of Option 1 in this service bulletin.

(3) All valves returned from Parker Hannifin Corporation after incorporation of Option 1 in this service bulletin shall be reidentified as part number 5860016-119 (5W2226) or 5860016-120 (5W2227), as follows:

(a) All 5860016-109 (5W2162), 5860016-113 (5W2185) and 5860016-117 (5W2216) valves that are returned to Parker Hannifin Corporation for the accomplishment of Option 1 in this service bulletin will be reidentified as shown below:

P/N 5860016-[119] REV [R]
P/L 5891016-[107] REV [E]
ACD NO 424JM BLD STD [35]
IAE P/N [5W2226]

(b) All 5860016-107 (5W2083) and 5860016-111 (5W2184) valves that are returned to Parker Hannifin Corporation for the accomplishment of this service bulletin will be reidentified as shown below:

P/N 5860016-[120] REV [R]
P/L 5861016-[113] REV [N]
ACD NO 424JM BLD STD [36]
IAE P/N [5W2227]

B. Option 2: Removal of the vane plugs from the HPT valve vane and installation into the external plug storage plate.

CAUTION: BEFORE BEGINNING OPTION 2 IN THIS SERVICE BULLETIN, OPERATORS ARE ADVISED TO REFER TO FIGURE 1 IN THIS SERVICE BULLETIN AND CHECK THEIR VALVE AS NOTED.

NOTE: Operators who have incorporated Option 1 in this service bulletin may accomplish Option 2. For conditions and procedures of incorporation, refer to IAE Service Bulletin No. V2500-ENG-75-0021.

(1) Use standard hand tools and remove each of four self locking nuts, Part Number NAS679C06, screws, Part Number MS16995-18, washers, Part Number 5903265-101, and bushings, Part Number 5903264-101, from the HPT vane.

NOTE: These parts make up four vane plugs.

(2) Install the four vane plugs in each of the four holes located in the external plug storage plate. Torque the four self locking nuts, Part Number NAS679C06 at 10.0 to 11.5 lb.in. (1,13 to 1,30 Nm).

(3) Reidentify the valve by using a deburring tool or equivalent to remove the existing numbers in the specific areas on the nameplate and scribing in the information, as shown in the following:

(a) For the 5860016-119 (IAE 5W2226) valve:

P/N 5860016-[121] REV [R]
P/L 5891016-[108] REV [E]
ACD NO 424JM BLD STD [37]
IAE P/N [5W2228]

(b) For the 5860016-120 (IAE 5W2227) valve:

P/N 5860016-[122] REV [R]
P/L 5861016-[114] REV [N]
ACD NO 424JM BLD STD [38]
IAE P/N [5W2229]

C. Option 3: Removal of the plugs from the storage plate and reinstallation in the HPT valve.

(1) Use standard hand tools and remove each of four self locking nuts, Part Number NAS679C06, screws, Part Number MS16995-18, washers, Part Number 5903265-101, and bushings, Part Number 5903264-101, from the external plug storage plate.

(2) Install the four vane plugs in each of the four holes located in the HPT vane. Torque the four self locking nuts, Part Number NAS679C06 at 10.0 to 11.5 lb.in. (1,13 to 1,30 Nm).

(3) Reidentify the valve by using a deburring tool or equivalent to remove the existing numbers in the specific areas on the nameplate and scribing in the information, as shown below:

(a) For the 5860016-121 (IAE 5W2228) valve:

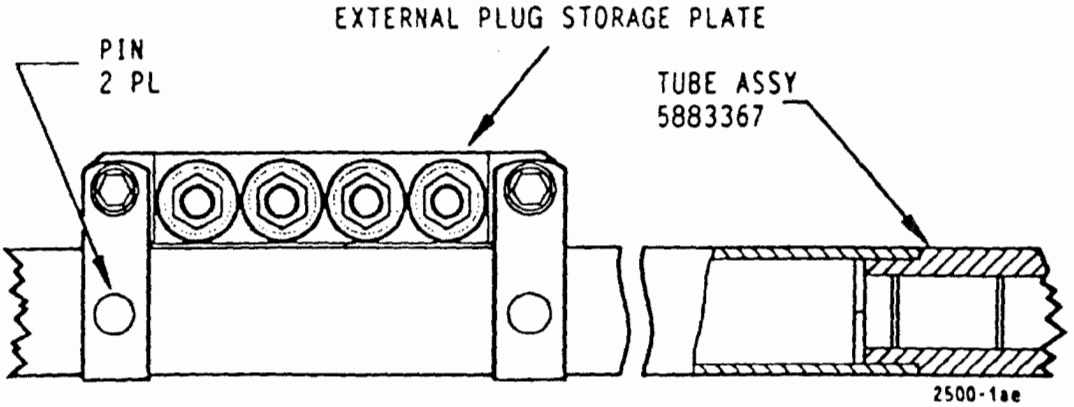
P/N 5860016-[119] REV [R]
P/L 5891016-[107] REV [E]
ACD NO 424JM BLD STD [35]
IAE P/N [5W2226]

(b) For the 5860016-122 (IAE 5W2229) valve:

P/N 5860016-[120] REV [R]
P/L 5861016-[113] REV [N]
ACD NO 424JM BLD STD [36]
IAE P/N [5W2227]

3. MATERIAL INFORMATION

Not applicable.



NOTE: The external plug storage plate is used to visually identify the specific location of the HPT vane plugs. Check and verify that either of the following is applicable:

1. If the vane plugs are contained in the external plug storage plate, it shall be concluded that they are no longer in the valve HPT vane.

2. If the vane plugs are not visibly contained in the external plug storage plate and the four holes are visibly empty, it shall be concluded that the HPT vane contains the four vane plugs.

External Plug Storage Plate Reference
Figure 1