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

This document transmits the Initial Issue of IAE Service Bulletin V2500-ENG-75-0116 and the Initial Issue of HS Marston Service Bulletin D1876-75-1.

Service Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 7 of the IAE Service Bulletin V2500-ENG-75-0116.	Initial Issue.
	Page 1 of the Supplement to IAE Service Bulletin V2500-ENG-75-0116.	Initial Issue.
	HS Marston Service Bulletin D1876-75-1.	Initial Issue.

V2500-ENG-75-0116

Transmittal - Page 1 of 1

ENGINE – AIR COOLED AIR COOLER – INTRODUCTION OF A MODIFIED AIR COOLED AIR COOLER
(ACAC)

1. Planning Information

A. Effectivity

(1) Airbus A319

- (a) V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V13187 (A5 Standard and A5 SelectOne™ Retrofit Standard).

V2522-A5, V2524-A5, V2527M-A5 Engines prior to Serial No. V15275 (A5 SelectOne™ Production Standard).

- (i) Air Cooled Air Cooler (ACAC), P/N D1876-1000A.

(2) Airbus A320

- (a) ALL V2500-A1 Engines

- (i) Air Cooled Air Cooler (ACAC), P/N D1876-1000A.

- (b) V2524-A5, V2527-A5, V2527E-A5 Engines prior to Serial No. V13187 (A5 Standard and A5 SelectOne™ Retrofit Standard).

V2524-A5, V2527-A5, V2527E-A5 Engines prior to Serial No. V15275 (A5 SelectOne™ Production Standard).

- (i) Air Cooled Air Cooler (ACAC), P/N D1876-1000A.

(3) Airbus A321

- (a) V2530-A5, V2533-A5 Engines prior to Serial No. V13187 (A5 Standard and A5 SelectOne™ Retrofit Standard).

V2530-A5, V2533-A5 Engines prior to Serial No. V15275 (A5 SelectOne™ Production Standard).

- (i) Air Cooled Air Cooler (ACAC), P/N D1876-1000A.

(4) Boeing MD-90

- (a) ALL V2525-D5, V2528-D5 Engines.

- (i) Air Cooled Air Cooler (ACAC), P/N D1876-1000A.

B. Concurrent Requirements

None.

C. Reason**(1) Condition**

To introduce a modified Air Cooled Air Cooler (ACAC) with a more robust construction, to improve life.

(2) Background

The function of the ACAC is to cool the buffer air for the No. 4 bearing compartment. The current ACAC can crack during In-Service use. This requires early removal of the unit, sometimes before the first engine overhaul.

(3) Objective

Introduction of this Service Bulletin is designed to improve reliability.

(4) Substantiation

The changes introduced by this Service Bulletin were the subject of satisfactory engineering analysis and testing. This Service Bulletin complies with the applicable engine certification basis.

(5) Effect of Bulletin on:**(a) Operation**

Not affected.

(b) Maintenance

Not affected.

(c) Overhaul

Not affected.

(d) Repair Schemes

Not affected.

(e) Interchangeability

Not affected.

(f) Fits and Clearances

Not affected.

D. Description

This Service Bulletin introduces a new Air Cooled Air Cooler (ACAC).

The changes are as follows:

- (1) The tube sheet skirt length is increased, with a less angular profile to the unit.
- (2) The baffle plate material is changed, with an increase in thickness and larger holes for the tubes.
- (3) Single piece, pressed flanges replace the welded construction, with an increased flange thickness.

E. Compliance

Category Code 7

Accomplish when supply of superseded parts has been depleted.

F. Approval

The part number changes and/or part modifications described in sections 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(s) listed.

G. Manpower

- (1) In Service

1 hour.

- (2) At Overhaul

Applicable (Hours not affected).

H. Material Price and Availability

Modification kit is not required; part supplied as single line items.

I. Tooling – Price and Availability

Special tools are not required.

J. Industry Support Information

Not applicable.

K. Weight and Balance**(1) Weight Change**

Plus 0.5 lb (0,23 kg).

(2) Moment Arm

46.1 in. (1171 mm) rearward of datum.

(3) Datum

Engine Front Mount Centreline (Power Plant Station - (PPS) 100).

L. Electrical Load Data

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

M. Software Accomplishment Summary

Not applicable.

N. References

(1) Airbus A319/A320/A321 Aircraft Maintenance Manual, Chapter 75-22-41 Removal/Installation of the No. 4 Bearing Compartment Air Cooled Air Cooler (ACAC).

(2) Boeing MD 90 Aircraft Maintenance Manual, Chapter 75-22-41 Removal/Installation of the No. 4 Bearing Compartment Air Cooled Air Cooler (ACAC).

(3) IAE V2500-A1/A5/D5 Engine Manual (E-V2500-1IA, E-V2500-3IA), Chapter/Section 72-00-50, Removal/Installation of the No. 4 Bearing Compartment Air Cooler (ACAC).

(4) HS Marston Service Bulletin D1876-75-1 dated Jul.27/09.

(5) Internal Reference No.:

Engineering Change No. 07VI003.

(6) ATA Locator - 75-22-41.

O. Other Publications Affected

(1) IAE V2500 Engine Illustrated Parts Catalogs (S-V2500-1IA, S-V2500-2IA, S-V2500-2IB, S-V2500-3IA, S-V2500-3IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA, and S-V2500-7IB), Chapters/Sections 75-22-41 to add the new part number.

- (2) IAE V2500 SelectOne™ Engine Illustrated Parts Catalogs (S-V2500-2SA, S-V2500-2SB, S-V2500-5SA, S-V2500-5SB, S-V2500-6SA, S-V2500-6SB, S-V2500-7SA, and S-V2500-7SB), Chapters/Sections 75-22-41 to add the new part number.

P. Interchangeability of Parts

Not affected.

2. Material Information

A. The kit required consists of the following parts:

None.

B. Parts to be reworked:

None.

C. New production parts:

Applicability: For all V2500-A1/A5/D5 Engines

FIG ITEM NO.	NEW PART NO.	QTY	PART TITLE	MAT	OLD PART NO.	INSTR DISP
75-22-41						
01-100	D1876- 5000A	1	.No. 4 bearing compartment - Air Cooled Air Cooler (ACAC)		D1876- 1000A	(S1)

D. Redundant parts:

None.

E. Instructions disposition codes:

(S1) The old and new parts are fully interchangeable.

3. Accomplishment Instructions

A. Rework Instructions

None.

B. Assembly Instructions

- (1) For the correct Removal/Installation procedures of the No. 4 Bearing Compartment Air Cooled Air Cooler (ACAC), refer to one of the manuals that follow:
 - (a) A319/320/321 Aircraft Maintenance Manual, Chapter/Section 75-22-41, Removal/Installation.
 - (b) MD90 Aircraft Maintenance Manual, Chapter/Section 75-22-41, Removal/Installation.
 - (c) IAE V2500-A1/A5/D5 Engine Manual, Chapter/Section 72-00-50, Removal/Installation.
- (2) For further information, refer to the attached HS Marston Aerospace Ltd Service Bulletin D1876-75-1.

C. Recording Instructions

- (1) A record of accomplishment is required.

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(ACAC)

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. New Production Parts:

Part No.	Description	Unit Price US Dollars
D1876-5000A	.No. 4 bearing compartment Air Cooled Air Cooler (ACAC)	P.O.A.

P.O.A. – Price On Application.

3. Tools

None.

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SERVICE BULLETIN

AIR COOLED AIR COOLER

INTRODUCTION OF NEW STANDARD OF AIR COOLED AIR COOLER

1. Summary

- A. This service bulletin is issued to inform operators that a new standard of Air Cooled Air Cooler (ACAC) HS Marston Part No. D1876-1000A (Mod349) is available. Changes to tubesheet, air flanges, casting thicknesses, baffle plates and cooler profile have been introduced to the ACAC to improve service life and reduce maintenance costs.

2. Planning Information

A. Effectivity

- (1) HS Marston Part No. D1876-1000A.

NOTE: This ACAC is used on the V2500 engine installed on the following aircraft:-
Airbus A319, A320, A321 and Boeing MD-90.

B. Concurrent Requirements

- (1) Not applicable.

C. Reason

- (1) To increase the service life of the ACAC and reduce maintenance costs..

D. Description

This Service Bulletin introduces a new standard of unit incorporating:-

- (1) Increased tubesheet thickness with a more rounded profile to reduce stress and improve service life.
- (2) Pressed fan air flanges to form a single construction, removing the welded corners thus reducing the possibility of cracking. The material thickness has also been increased.
- (3) Change of baffle plate material from stainless steel to Incoloy alloy 800. Material thicknesses have also been increased for the support and end baffle plates.
- (4) Increase in HP casting material thickness.
- (5) Introduction of a more rounded sideplate to remove sharp bends and help improve service life.

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E. Compliance

- (1) On attrition.
- (2) An exchange program is also being offered to operators. Further details may be discussed with the OEM, details in para 3.B.(3) below.

F. Approval

- (1) The part number modifications described in this Service Bulletin have been shown to comply with the applicable Aviation Regulations and are approved for the ACAC.
- (2) The repairs or modifications herein have been reviewed by the appropriate governmental authority and comply with applicable Aviation Regulations and are approved for installation on V2500 engines.
- (3) This Service Bulletin has been reviewed and accepted by the Design Approval Designee (DAD) at International Aero Engines (IAE).

G. Manpower

- (1) Approximately 1 man-hour is necessary to complete the removal and installation of the ACAC per this Service Bulletin for each ACAC.

H. Weight and Balance

- (1) Plus (+) 0.50 lb (0,23 kg) (approximate) giving a Maximum Weight of 9.00 lb (4,08 kg).

I. Electrical Load Data

- (1) Not changed.

J. Software Accomplishment Summary

- (1) None.

K. References

- (1) HS Marston Component Maintenance Manual 75-22-41.
- (2) Airbus A319/A320/A321/V2500-A5 Illustrated Parts Catalogue.
- (3) Boeing MD90 Illustrated Parts Catalogue.

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L. Other Publications Affected

- (1) Airbus A319/A320/A321/V2500-A5 Aircraft Maintenance Manuals.
- (2) Boeing MD90 Aircraft Maintenance Manuals.

M. Interchangeability or Intermixability of Parts

- (1) Not affected by this Service Bulletin.

3. Material

A. Material - Price and Availability

- (1) New unit procurable from Hamilton Sundstrand Corporation.
- (2) The new unit is scheduled to be available from 1st September 2009.

B. Industry Support Information

- (1) Contact Hamilton Sundstrand Corporation to confirm availability of a replacement unit.
- (2) Parts can be obtained from:

Hamilton Sundstrand Corporation
4747 Harrison Ave.
P.O. Box 7002
Rockford, Illinois 61125-7002
USA

Attention:

David Clinite, Manager Commercial Spares Administration

Tel: 800 622 03199 / 815 226 6481

Fax: 815 226 2624 / 860660 7557

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- (3) Further information on the new ACAC and associated Exchange Program can be obtained from.

Customer Support
HS Marston Aerospace Limited
Wobaston Road
Fordhouses
Wolverhampton WV10 6QJ
England

Attention:

Peter Law, Customer Support & Proposals Manager

Tel: 44-(0)1902-572700

Fax: 44-(0)1902-572946

C. Material Necessary for Each Component

(1) Material to be Purchased

- (a) The quantity of materials listed below in this section is on a per engine basis.

<u>New P/N</u>	<u>Nomenclature</u>	<u>Old P/N</u>	<u>Qty</u>	<u>Initial. Unit List Price (\$US,2009)</u>	<u>Initial. Unit Exchange Program Price (\$US,2009)</u>	<u>Special Instructions Disposition</u>
D1876-5000A	Air Cooled Air Cooler	D1876-1000A	1	\$18,560	\$11,000	(A) (B) (C)

- (A) The new part is available on, or after 1st September, 2009.
- (B) The old part will no longer be available on, or after 30th September 2009.
- (C) New and old parts are interchangeable.

(2) Material Supplied by the Operator

- (a) None.

D. Material Necessary for Each Spare

(1) Material to be Purchased

- (a) None.

(2) Material Supplied by the Operator

- (a) None.

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E. Re-identified Parts

(1) None.

F. Tooling - Price and Availability

(1) Not applicable.

4. Accomplishment Instructions

(1) Not applicable.

5. Appendix

(1) Not applicable.