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V2500-D5 SERIES PROPULSION SYSTEMS NON-MODIFICATION SERVICE BULLETIN

Printed in Great Britain

This document transmits the Initial Issue of Non-Modification Service Bulletin
V2500-ENG-72-0577

Non-Modification Service Bulletin Initial Issue

Remove	Incorporate	Reason for change
	Pages 1 to 10 of the Service Bulletin	Initial Issue

V2500-ENG-72-0577
Transmittal - Page 1 of 1

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NON-MODIFICATION SERVICE BULLETIN – HP COMPRESSOR – EVALUATION OF CHROMIUM NITRITE
COATING EFFECTIVENESS ON HP COMPRESSOR STAGE 6 STATOR VANES

1. Planning Information

A. Effectivity

- (1) V2528-D5 engines operated by Saudi Arabian Airlines (SVA) and which have SB-V2500-ENG-72-0551 standard incorporated.

The next 10 affected engines, after the publication of this Non-Modification Service Bulletin, scheduled for shop visit and planned to run for at least 3800 cycles until next shop visit.

B. Concurrent Requirements

SB-V2500-ENG-72-0533 NON-MODIFICATION SERVICE BULLETIN – ENGINE – HIGH PRESSURE (HP) COMPRESSOR ROTOR BLADES AND STATOR VANES – REPLACEMENT OF BLADES AND VANES FOR SAND EROSION.

C. Reason

(1) Condition

Sand erosion is known to be the cause of increased deterioration of HP compressor stage 6 stator vanes resulting in events on a number of D5 engines.

In order to address the problem, Service Bulletin V2500-ENG-72-0551 has been issued, introducing new chromium nitrite coated stator vanes for HP compressor stage 6 and stage 7. This coating increases the resistance to erosion and will provide better reliability in desert operation.

To validate these expectations, coated HPC stage 6 stator vanes have been specially measured during manufacture. The incorporation has to be controlled regarding positioning during initial installation until removal at next shop visit.

(2) Objective

This Non-Modification Service Bulletin controls the installation and removal of HP compressor stage 6 stator vanes in order to validate the effectiveness of the chromium nitrite coating during operation in desert environment.

D. Description

This Non-Modification Service Bulletin describes the positions and recording of special vanes and their disposition during subsequent shop visit.

NOTE: The special vanes are not different from 6B1186, but are marked below the platform with a three digit number starting with 001 to 110 and a additional letter "M" (measured). They are referred to as marked vanes in this Non-Modification Service Bulletin.

The Accomplishment Instructions of this Service Bulletin is divided into two PARTs as follows:

PART 1: Details the installation of the specially marked vanes and the removal of the existing uncoated vanes from the engines.

PART 2: Details removal of the special marked vanes from the engines.

E. Compliance

Category Code 5

Accomplish when the engine is disassembled sufficiently to afford access to the affected subassembly (i.e. modules, accessories, components, built groups) and to all affected spare subassemblies.

PART 1: Installation of marked parts and removal of uncoated parts.

The procedure described in section 3.D.1) shall be accomplished when the above mentioned engines have a shop visit and incorporate

SB-V2500-ENG-72-0533 NON-MODIFICATION SERVICE BULLETIN – HIGH PRESSURE (HP) COMPRESSOR ROTOR BLADES AND STATOR VANES – REPLACEMENT OF BLADES AND VANES FOR SAND EROSION.

After accomplishment Non-Modification Service Bulletin V2500-ENG-72-0577 PART 1 has to be added to the engine log book. This section deals with the installation of the marked vanes and removal of the uncoated vanes and return for investigation.

PART 2: Removal of marked parts

The procedure stated in Section 3.D.2) applies when an engine returns for overhaul which incorporates Service Bulletin V2500-ENG-72-0551. This part summarizes the action to remove all vanes from the engines and return for investigation.

F. Approval

The compliance statement at 1.E. and the procedures in Section 3. of this Non-Modification Service Bulletin comply with the Federal Aviation Regulations and are FAA-approved for the engine model listed.

G. Manpower

Estimate of man-hours necessary to embody this Non-Modification Service Bulletin in full:

(1) In Service

Not affected.

(2) At Overhaul

0.5 hour.

H. Material Price and Availability

Not applicable.

I. Tooling Price and Availability

Not applicable.

J. References

(1) V2500 Engine Manual (E-V2500-3IA), Chapter 72-41-30.

(2) V2500 Service Bulletin:

V2500-ENG-72-0551 - ENGINE - HIGH PRESSURE (HP) COMPRESSOR - INTRODUCTION OF STAGES 6 AND 7 STATOR VANES WITH EROSION RESISTANT COATING.

(3) V2500 Service Bulletin:

SB-V2500-ENG-72-0533 - NON-MODIFICATION SERVICE BULLETIN - ENGINE - HIGH PRESSURE (HP) COMPRESSOR ROTOR BLADES AND STATOR VANES - REPLACEMENT OF BLADES AND VANES FOR SAND EROSION.

(4) Internal Reference No.

Engineering Change No. 08VR787.

(5) ATA Locator - 72-41-22.

2. Material Information

None.

3. Accomplishment Instructions

A. Inspection instructions

None.

B. Rework Instructions

None.

C. Repair Instructions

None.

D. Disassembly/Assembly Instructions

(1) PART 1:

Installation of HP compressor stage 6 marked stator vanes

(a) Deinstallation of old hardware

- (i) Before removal of the uncoated stage 6 stator vanes from the HP compressor they are to be marked according to Figure 1. Figure 1 shows the position of installation of the marked parts from bottom reference.
- (ii) The HP compressor stage 6 stator vanes are to be removed and installed from the positions 20, 21, 32, 33, 52, 53, 65, 66, 83 and 84 as given in Figure 1. The uncoated removed vanes at these given locations have to be collected for assessment.
- (iii) After disassembly these uncoated removed parts have to be packed and sent to IAE Tech Services at Rolls-Royce Deutschland (Refer to 3.E. and 3.F.).

(b) Installation of new hardware

Install the marked coated HP compressor stage 6 stator vanes on the HP compressor front cases (Refer to Engine Manual, Chapter 72-41-30 and Figure 1).

NOTE: The marked HP compressor stage 6 stator vanes have to be installed into the HP compressor front cases in accordance with the installation instruction (Pos. 20, 21, 32, 33, 52, 53, 65, 66, 83 and 84) given in Figure 1. The positions within the circumference are the gray marked vane locations. Before installation the marking number needs to be filled into the Record Form. The Record Form has to be sent to IAE Tech Services at Rolls-Royce Deutschland (Refer to 3.E.).

NOTE: To identify the marked vanes refer to Figure 2.

(2) PART 2:

Deinstallation of HP compressor stage 6 marked stator vanes

(a) Deinstallation of old hardware

Remove the marked HP compressor stage 6 stator vanes from the HP compressor front cases (Refer to Engine Manual, Chapter 72-41-30).

All marked coated vanes need to be collected and sent to IAE Tech Services at Rolls-Royce Deutschland (Refer to 3.F.).

NOTE: To identify the marked vanes refer to Figure 2.

E. Recording Instructions

A record of accomplishment is required and additionally for PART 1 and PART 2 of this Service Bulletin.

(1) PART 1:

- (a) Before removal of HP compressor stage 6 stator vanes from the upper and lower half of HP compressor frontcase mark the vanes at desired locations with Engine S/N and the position numbers given in Figure 1.
- (b) Put the marked uncoated HP compressor stage 6 stator vanes in a shipping box.
- (c) Put the measured HP compressor stage 6 stator vanes in the desired positions.
- (d) Fill the three digit numbers given below the HP compressor stage 6 stator vane platform into the Record Form.

- (e) Fill all requested information into the Record Form and send the sheet and uncoated HP compressor stage 6 stator vanes to IAE Tech Services at Rolls-Royce Deutschland (Refer to 3.F.).
 - (f) Record Non-Modification Service Bulletin SB-V2500-ENG-72-0577 PART 1 into the engine logbook.
- (2) PART 2:
- (a) Put all coated HP compressor stage 6 stator vanes in a box and return hardware to IAE Tech Services at Rolls-Royce Deutschland (Refer to 3.F.).
 - (b) Record Non-Modification Service Bulletin SB-V2500-ENG-72-0577 PART 2 into the engine logbook.

F. Shipment Address

Rolls-Royce Deutschland Ltd. & Co KG

Receiving Stores – SPIN (to be requested by Operator/ Overhaul Base)

FA0: IAE Tech Services

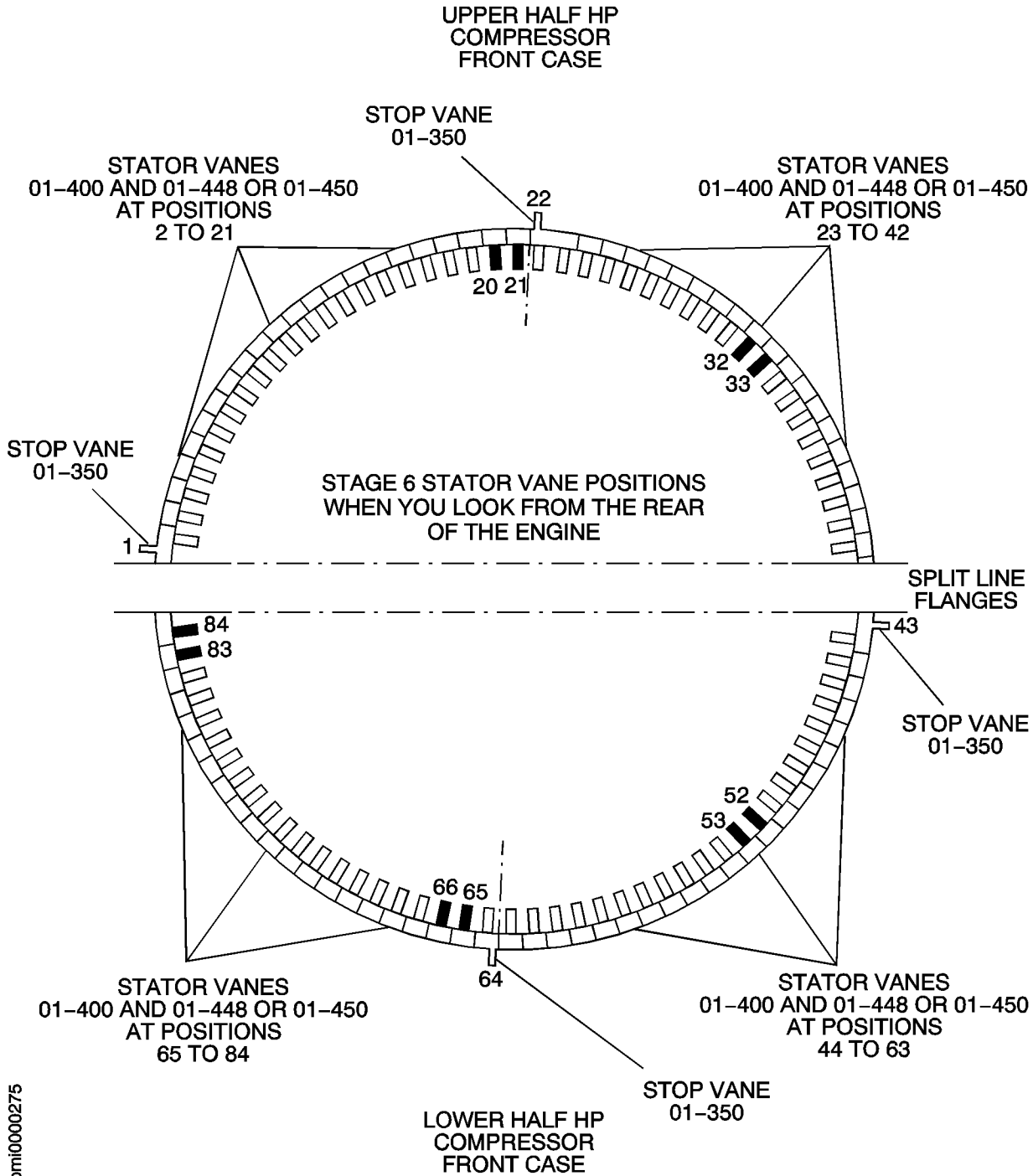
Eschenweg 11, Dahlewitz

15827 Blankenfelde-Mahlow

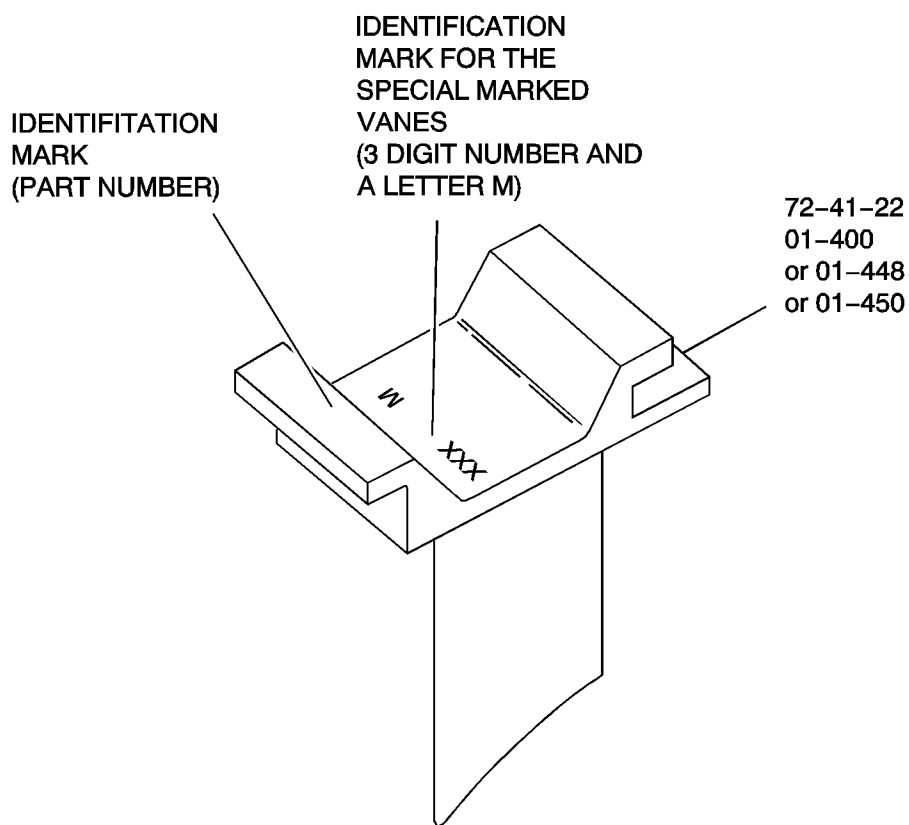
Germany

The SPIN number has to be requested from IAE Tech Services accordingly.

All IPC Fig/Item numbers are 72-41-22 unless identified differently



Installation and removal position for HP compressor stage 6 stator vanes
Figure 1



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Marking on measured HP compressor stage 6 stator vanes
Figure 2

Record Form for NMSB ENG – 72–0577 PART 1

Date : _____
 Fitter : _____
 Engine S/N : _____
 HPC Module S/N : _____
 Cycles Since Last Shop Visit : _____
 Hours Since Last Shop Visit : _____

Removed uncoated
 Vane positions:

Pos	Vane mark Nr. (3 digits)
20	
21	
32	
33	
52	
53	
65	
66	
83	
84	

Installed coated
 Vane positions:

Pos	Vane mark Nr. (3 digits)
20	
21	
32	
33	
52	
53	
65	
66	
83	
84	

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Record Form