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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DATE: May 18/10

V2500-A5 SERIES PROPULSION SYSTEMS NON-MODIFICATION SERVICE BULLETIN

This document transmits the Initial Issue of Non-Modification Service Bulletin V2500-ENG-72-0604.

Non-Modification Service Bulletin

Remove	Incorporate	Reason for change
	Pages 1 to 19 of the Non-Modification Service Bulletin.	Initial Issue.
	Page 1 of the Appendix.	Initial Issue.

V2500-ENG-72-0604
Transmittal - Page 1 of 1

CHECK THAT ALL PREVIOUS TRANSMITTALS HAVE BEEN INCORPORATED
If any have not been received please advise IAE International Aero Engines AG

NON-MODIFICATION SERVICE BULLETIN - INSPECTION OF THE INNER AND OUTER COMBUSTION CHAMBER LINER ASSEMBLIES FOR DEFECTS

1. Planning Information

A. Effectivity Data

(1) Airbus A319

(a) V2522-A5, V2524-A5, V2527M-A5

Engine Serial No. - All engines that have a suspect inner and/or outer combustion chamber assembly identified in Table 1.

(2) Airbus A320

(a) V2527-A5, V2527E-A5

Engine Serial No. - All engines that have a suspect inner and/or outer combustion chamber assembly identified in Table 1.

(3) Airbus A321

(a) V2530-A5, V2533-A5

Engine Serial No. - All engines that have a suspect inner and/or outer combustion chamber assembly identified in Table 1.

Table 1 - Suspect Serial Numbers of Inner and Outer Combustion Chamber Assemblies

Engine Serial No.	Outer Combustion Chamber Assembly, PN 2A3442-01 Serial No.	Inner Combustion Chamber Assembly, PN 2A3344-01 Serial No.
V12292	PJNBAJ1236	
V12336		PJNBAJ0963
V12339	PJNBAJ1599	
V12340		PJNBAJ0960
V12341	PJNBAJ1598	PJNBAJ0957
V12343		PJNBAJ0962
V12344		PJNBAJ0954
V12346	PJNBAJ1596	PJNBAJ0955
V12348	PJNBAJ1588	

V12349		PJNBAJ0956
V12350	PJNBAJ1594	
V12351		PJNBAJ0959
V12355	PJNBAJ1593	
V12359		PJNBAJ0961
V12360		PJNBAJ0958
V12361	PJNBAJ1597	
V12365	PJNBAJ1589	
V12372	PJNBAJ1592	
V12373		PJNBAJ0995
V12375		PJNBAJ0991
V12376		PJNBAJ0992
V12377		PJNBAJ0986
V12378		PJNBAJ0987
V12379	PJNBAJ1629	PJNBAJ0993
V12380		PJNBAJ0990
V12381	PJNBAJ1631	
V12382	PJNBAJ1630	PJNBAJ0989
V12383	PJNBAJ1646	PJNBAJ0868
V12384	PJNBAJ1638	PJNBAJ0988
V12386		PJNBAJ0994
V12394	PJNBAJ1636	
V12402		PJNBAJ1031
V12405		PJNBAJ1023
V12406	PJNBAJ1669	

V12409		PJNBAJ1024
V12415		PJNBAJ1866
V12417		PJNBAJ1030
V12421		PJNBAJ1026
V12422		PJNBAJ1878
V12423		PJNBAJ1879
V12424		PJNBAJ1877
V12426		PJNBAJ1032
V12432	PJNBAJ1637	
V12435		PJNBAJ1029
V12436	PJNBAJ1698	PJNBAJ1034
V12442		PJNBAJ1868
V12450	PJNBAJ1695	
V12458		PJNBAJ1027
V12459		PJNBAJ1921
V12461	PJNBAJ1740	
V12463	PJNBAJ1739	PJNBAJ1915
V12464		PJNBAJ1919
V12465	PJNBAJ1743	
V12466		PJNBAJ1916
V12467	PJNBAJ1741	
V12468		PJNBAJ1922
V12470		PJNBAJ1918
V12472	PJNBAJ1742	
V12478		PJNBAJ1025

V12479	PJNBAJ1744	
V12497		PJNBAJ1920
V12496	PJNBAJ1661	
V12498	PJNBAJ1671	
V12508		PJNBAJ1917
V12531	PJNBAJ1697	
V12532	PJNBAJ1702	
V12540		PJNBAJ1033
V12553	PJNBAJ1699	
V12555	PJNBAJ1696	
V12557	PJNBAJ1666	
V12560	PJNBAJ1703	
V12565	PJNBAJ1672	
V12567	PJNBAJ1643	
V12575	PJNBAJ1670	
V12595		PJNBAJ2025
V12597	PJNBAK8736	PJNBAJ2036
V12598	PJNBAK8729	
V12599	PJNBAK8744	PJNBAJ2041
V12600	PJNBAK8734	
V12602	PJNBAK8733	
V12603		PJNBAJ2027
V12604	PJNBAK8745	PJNBAJ2026
V12606		PJNBAJ2033
V12619	PJNBAK8726	

B. Concurrent Requirements

There are no concurrent requirements.

C. Reason

(1) Problem:

An overhaul shop reported machining defects on two areas of a first-run outer combustion chamber liner assembly. One area, approximately 3.66 in. (92,99 mm) long, was missing 24 cooling holes in one of two rows of cooling holes. The second area, approximately 3.03 in. (77,01 mm) long, had 24 double-drilled cooling holes in one of the two rows. Upon further investigation, it is suspected that similar machining defects could have occurred on other inner and outer combustion chamber liner assemblies.

(2) Background:

The condition was caused during initial manufacturing. The suspect quantity has been identified as one outer combustion chamber liner assembly and either six outer or six inner combustion chamber liner assemblies produced between 2006 and 2007. The six additional liner assemblies were available for installation in a range of 84 engines. Inspection per this Non-Modification Service Bulletin is necessary to determine exactly which of the 84 engines are affected.

(3) Objective:

It is recommended that the maintenance shops do a visual inspection of the suspect inner and outer combustion chamber liner assemblies identified in Table 1 for machining defects. All holes on all five rows of the suspect outer and inner combustor liner shells must be inspected under white light at the detail level to make sure that there are no machining defects such as missing cooling holes or double-drilled cooling holes. For all effected engines, complete the attached Inspection Feedback Forms and send them to your local IAE representative. Defective inner and outer combustion chamber liner assemblies must be repaired or replaced. Contact IAE Technical Services for further disposition instructions.

(4) Effects of Bulletin on:

(a) Removal/Installation:

Not affected.

(b) Disassembly/Assembly:

Not affected.

(c) Cleaning:

Not affected.

(d) Inspection/Check:

Not affected.

(e) Repair:

Not affected.

(f) Testing:

Not affected.

(5) Supplemental Information

None.

D. Description

This Non-Modification Service Bulletin instructs an inspection of the inner and outer combustion chamber liner assemblies.

E. Compliance

Category 5

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

F. Approval Data

The compliance statement and the procedures described in this Non-Modification Service Bulletin have been shown to comply with the applicable Federal Aviation Regulations and are FAA-APPROVED for the Engine Model listed.

G. Manpower

(1) In Service: Not applicable.

(2) At Overhaul

NOTE: The parts affected by this Non-Modification Service Bulletin are accessible at overhaul.

(a) To disassemble and gain access to inner and outer combustion chamber liner assemblies: 3.39 hours

(b) To inspect inner combustion chamber liner assembly: 0.5 hours

(c) To disassemble and replace inner combustion chamber liner assembly: 1.2 hours

(d) To inspect outer combustion chamber liner assembly: 0.5 hours

(e) To disassemble and replace outer combustion chamber liner assembly: 0.5 hours

(f) To install outer combustion chamber assembly, stage 1 turbine nozzle assembly and HP turbine assembly: 6.83 hours

(g) Total necessary man-hours: 12.92 hours

H. Weight and Balance

(1) Weight Change

None.

(2) Moment Arm

No effect.

(3) Datum

Engine Front Mount Centerline (Power Plant Station (PPS) 100).

I. Electrical Load Data

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

J. Software Accomplishment Summary

Not applicable.

K. References

(1) V2500 Engine Illustrated Parts Catalogs S-V2500-2IA, S-V2500-2IB, S-V2500-5IA, S-V2500-5IB, S-V2500-6IA, S-V2500-6IB, S-V2500-7IA and S-V2500-7IB), Chapter/Section 72-42-61 and 72-44-30.

(2) V2500 Engine Manual (E-V2500-1IA), Chapter/Section 72-40-00.

(3) Internal Reference No. - IEN 09VC227B.

(4) ATA Locator - 72-42-61 and 72-44-30.

L. Other Publications Affected

None.

M. Interchangeability of Parts

Not affected.

N. Information in the Appendix

Alternate Accomplish instructions (No)

Progression Charts (No)

Added Data (Yes)

Revision to Table of Limits (No)

Inspection Procedures (No)

2. Material Information

A. Material - Price and Availability

There is no kit provided to do this Non-Modification Service Bulletin.

B. Industry Support Program

Not applicable.

C. The material data that follows is for each engine.

Not applicable.

D. Instructions/Disposition Code Statements:

Parts Modification Conditions

Not applicable.

Spare Parts Availability

Not applicable.

Cleaning, Inspection and Repair Information

Not applicable.

E. Tooling - Price and Availability

Special tools are not required to accomplish this Non-Modification Service Bulletin.

F. Reidentified Parts

Not applicable.

G. Other Material Information Data

Not applicable.

3. Accomplishment Instructions

(1) Do the steps that follow to disassemble the High Pressure (HP) system module, examine the inner and outer combustion chamber liner assemblies, replace or repair defective inner or outer combustion chamber liner assemblies and return the module to service.

(a) Remove the HP turbine assembly by one of the procedures that follow:

(i) Remove the HP turbine assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-030-001-A00, Disassembly-01.

OR

(ii) Remove the HP turbine assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-030-001-B00, Disassembly-01.

(b) Remove the stage 1 turbine nozzle assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-030-002, Disassembly-02.

(c) Remove the Outer Combustion Chamber Assembly, PN 2A3442-01 by the procedure in Reference 2, Engine Manual, Task 72-40-00-030-003, Disassembly-03. See Figure 1, Sheet 1 for the location of the assembly.

(d) Do the procedures that follow for the stage 1 turbine nozzle assembly:

(i) Do an inspection of the Inner Combustion Chamber Liner Assembly, PN 2A2718-01. Use a white light to look at all holes on all the five rows of the inner combustion chamber liner assembly.

If there is no machining defect like missing cooling holes or double-drilled cooling holes, then the inner combustion chamber liner assembly is acceptable. See Figure 2, Sheet 2 and Figure 3.

If there is a machining defect like missing cooling holes or double-drilled cooling holes, then the inner combustion chamber liner assembly is not acceptable and you must do the following steps:

(1) Disassemble the stage 1 turbine nozzle assembly by the procedure in Reference 2, Engine Manual, Task 72-44-00-040-001, Disassembly.

(2) Disassemble the Inner Combustion Chamber Assembly, PN 2A3344-01 by the procedure in Reference 2, Engine Manual, Task 72-44-30-040-001, Disassembly. See Figure 2, Sheet 1 for the location of the assembly.

(3) Repair the defective Inner Combustion Chamber Liner Assembly, PN 2A2718-01 by the procedure in Reference 2, Engine Manual, Task 72-44-30-300-005, Repair 005, VRS3174

OR

(4) Replace the defective Inner Combustion Chamber Liner Assembly, PN 2A2718-01 with a new Inner Combustion Chamber Liner Assembly, PN 2A2718-01.

(5) Assemble the inner combustion chamber assembly by the procedure in Reference 2, Engine Manual, Task 72-44-30-440-001, Assembly.

(6) Assemble the stage 1 turbine nozzle assembly by the applicable procedure that follows:

A Reference 2, Engine Manual, TASK 72-44-00-440-001-A01, Assembly (for pre SB 72-0339 and SB 72-0341 engines).

OR

B Reference 2, Engine Manual, Task 72-44-00-440-001-A02, Assembly.

OR

C Reference 2, Engine Manual, Task 72-44-00-440-001-B00, Assembly.

(e) Do the procedures that follow for the outer combustion chamber assembly:

(i) Do an inspection of the Outer Combustion Chamber Liner Assembly, PN 2A2711-01. Use a white light to look at all holes on all the five rows of the outer combustion chamber liner assembly.

If there is no machining defect like missing cooling holes or double-drilled cooling holes, then the outer combustion chamber liner assembly is acceptable. See Figure 1, Sheet 2 and Figure 3.

If there is a machining defect like missing cooling holes or double-drilled cooling holes, then the outer combustion chamber liner assembly is not acceptable and you must do one of the following steps:

(1) Disassemble the outer combustion chamber assembly by the procedure in Reference 2, Engine Manual, Task 72-42-60-040-001, Disassembly.

(2) Repair the defective Outer Combustion Chamber Liner Assembly, PN 2A2711-01 by the procedure in Reference 2, Engine manual, Task 72-42-61-300-003, Repair 003, VRS3091.

OR

(3) Replace the defective Outer Combustion Chamber Liner Assembly, PN 2A2711-01 with a new Outer Combustion Chamber Liner Assembly, PN 2A2711-01.

(4) Assemble the outer combustion chamber assembly by the procedure in Reference 2, Engine Manual, Task 72-42-60-440-001, Assembly.

(f) Install the outer combustion chamber assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-430-004, Assembly-04.

(g) Install the stage 1 turbine nozzle assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-430-005, Assembly-05.

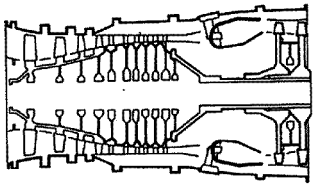
(h) Install the HP turbine assembly by one of the procedures that follow:

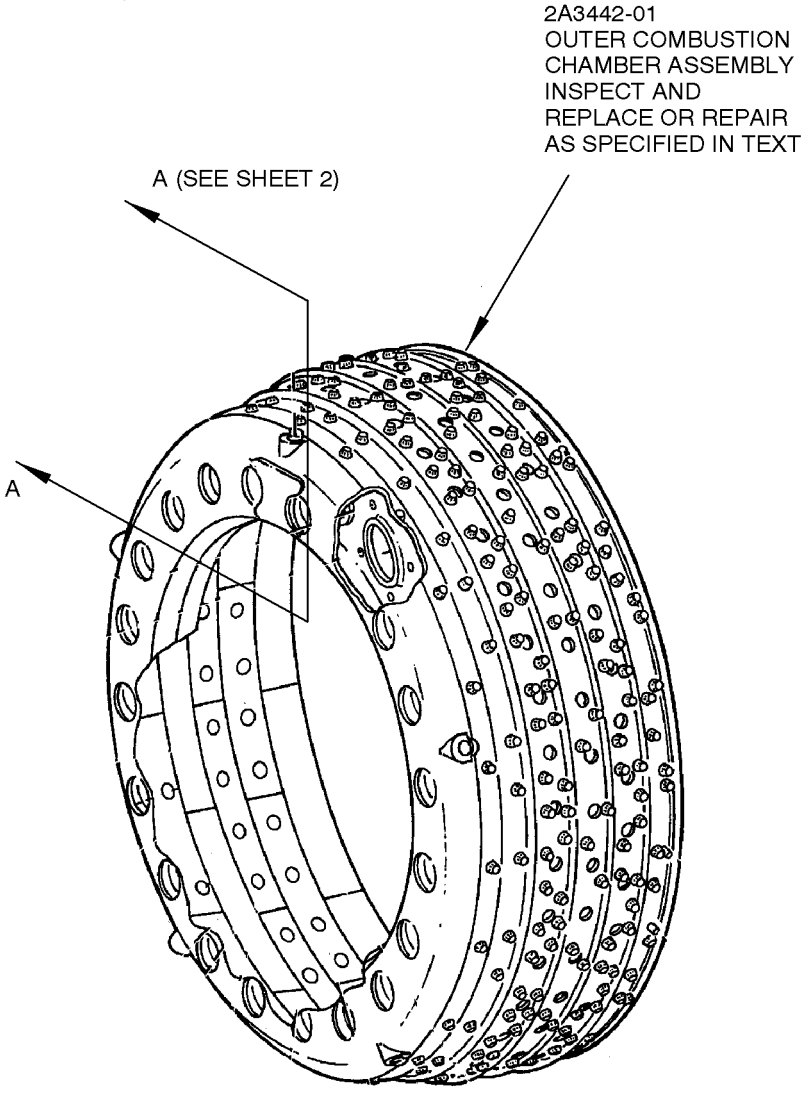
(i) Install the HP turbine assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-430-006-A00, Assembly-06.

OR

(ii) Install the HP turbine assembly by the procedure in Reference 2, Engine Manual, Task 72-40-00-430-006-B00, Assembly-06.

(2) Provide the Inspection Feedback Forms to your local IAE representative. See Figures 4 and 5 for the Inspection Feedback Forms.





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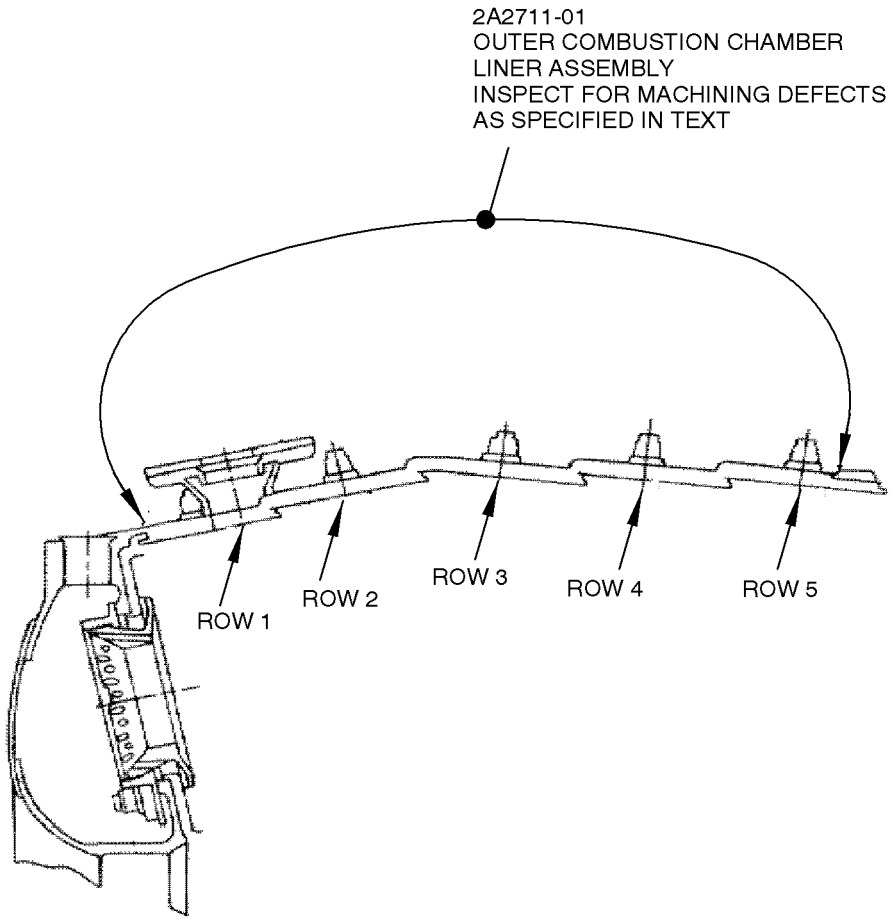
LOCATION AND INSPECTION OF THE OUTER COMBUSTION CHAMBER ASSEMBLY
72-42-61
FIGURE 1, SHEET 1



SECTION A - A

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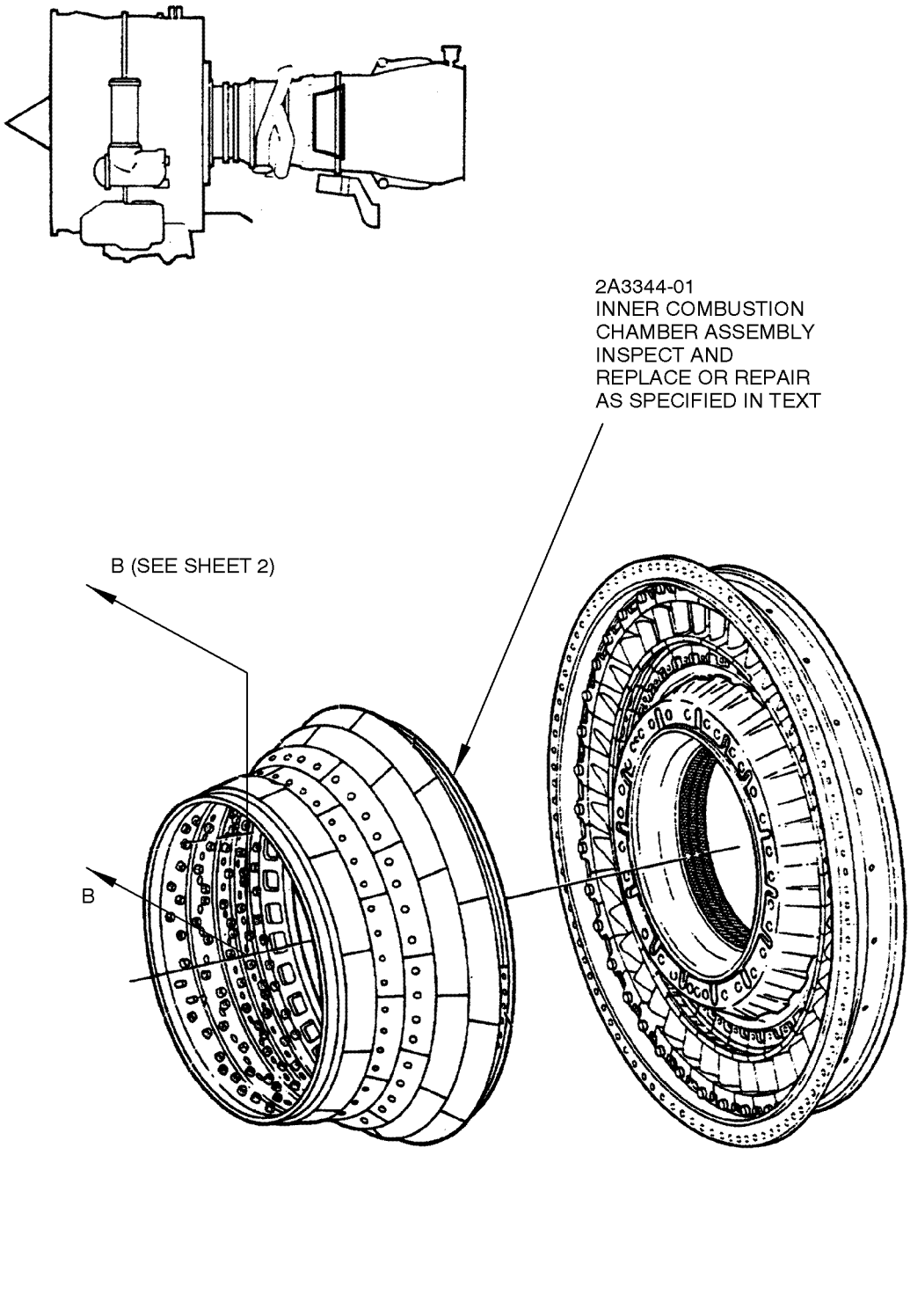
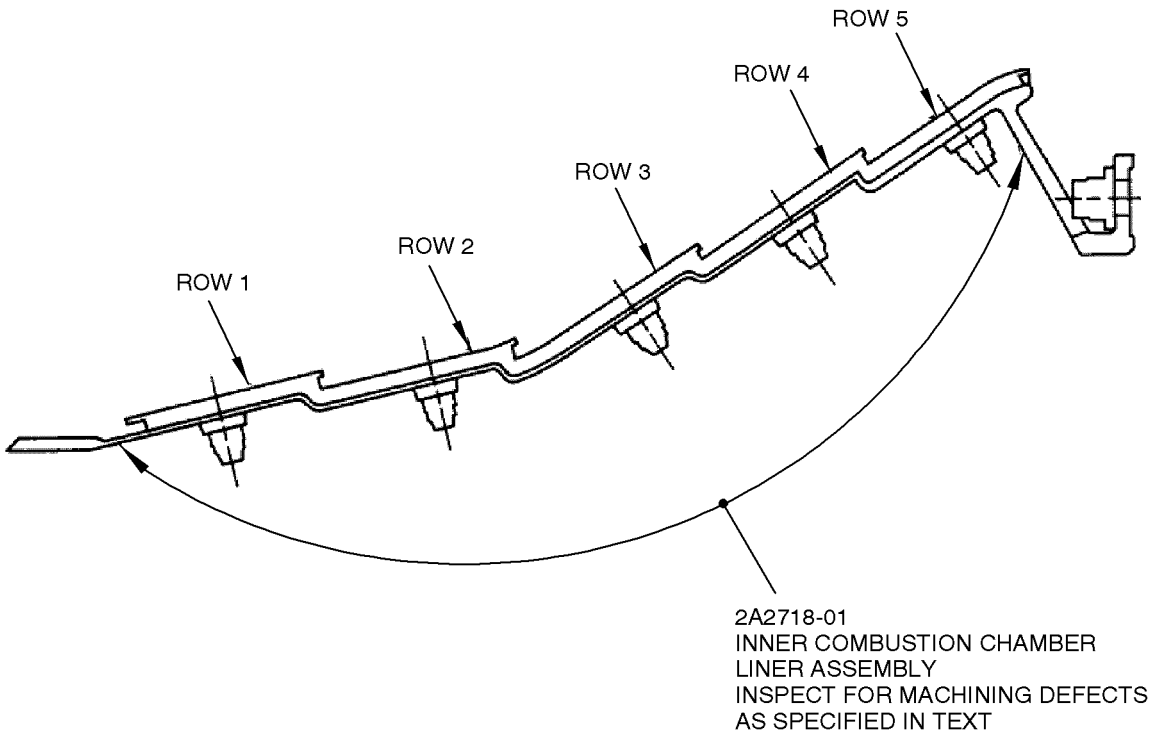
LOCATION AND INSPECTION OF THE OUTER COMBUSTION CHAMBER ASSEMBLY
72-42-61
FIGURE 1, SHEET 2



LOCATION AND INSPECTION OF THE INNER COMBUSTION CHAMBER ASSEMBLY
72-44-30
FIGURE 2, SHEET 1



SECTION B - B

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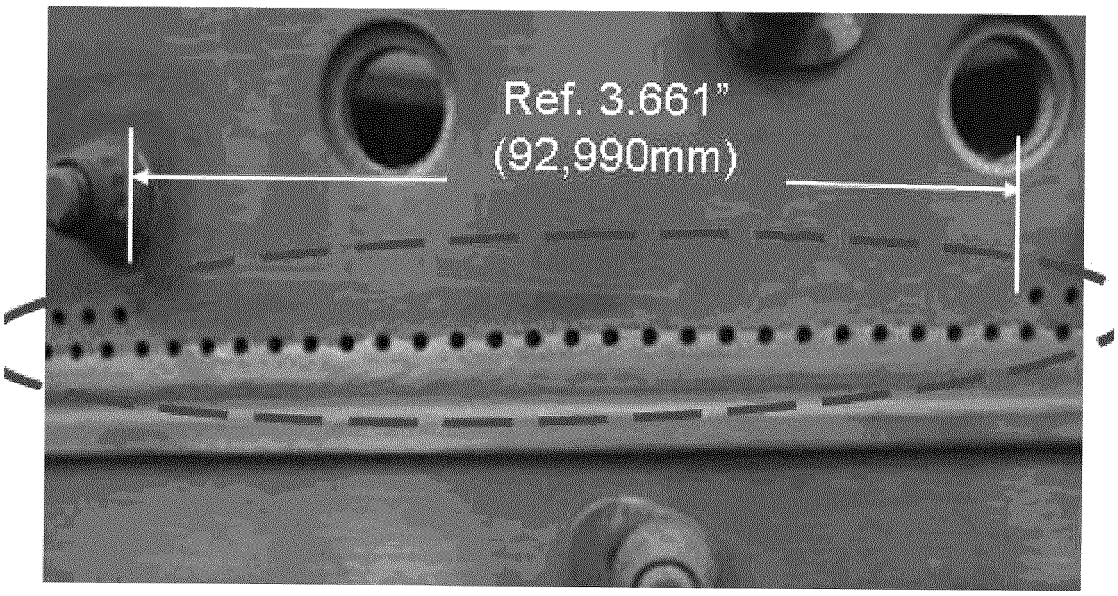
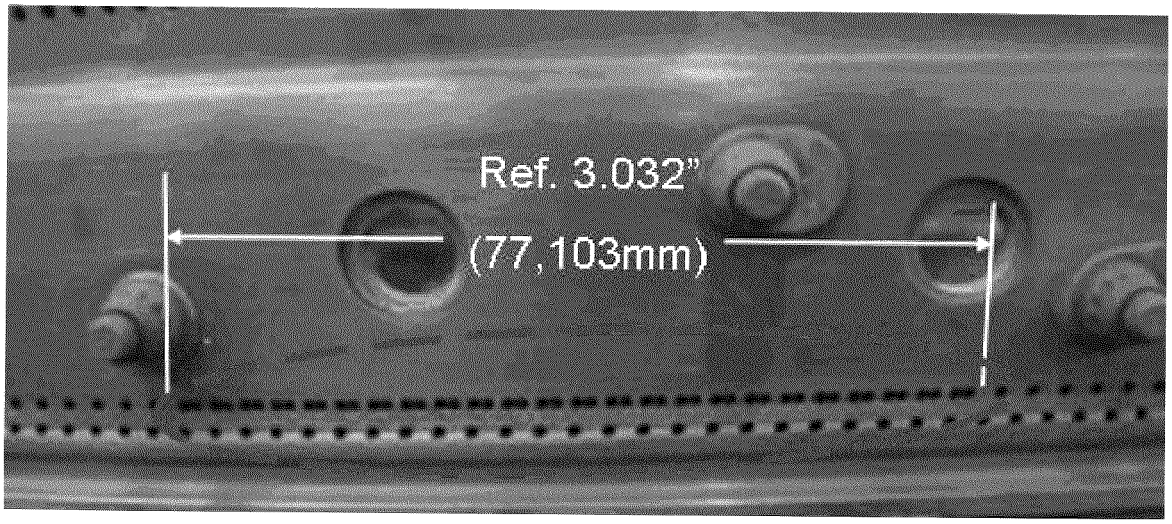
LOCATION AND INSPECTION OF THE INNER COMBUSTION CHAMBER ASSEMBLY
72-44-30
FIGURE 2, SHEET 2



AREA MISSING 24 COOLING HOLES



AREA WITH 24 DOUBLE-DRILLED COOLING HOLES

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EXAMPLE OF MACHINING DEFECT (MISSING COOLING HOLES AND/OR DOUBLE-DRILLED COOLING HOLES)
FIGURE 3

OUTER COMBUSTOR LINER SHELL INSPECTION FEEDBACK FORM

ENGINE DETAIL INFORMATION

ENGINE SERIAL NUMBER: _____

TIME SINCE NEW: _____

CYCLES SINCE NEW: _____

OUTER COMBUSTOR ASSEMBLY PN: 2A3442-01

OUER COMBUSTOR ASSEMBLY SN: _____

OVERHAUL SHOP: _____

INSPECTED BY: _____

INSPECTION DATE: _____

INSPECTION RESULTS AND FINDINGS

(INDICATE PASS (P) OR REJECT (R).
IF REJECTED, PROVIDE DESCRIPTION AND PHOTO OF REJECTED LOCATION)

ROW 1: _____

ROW 2: _____

ROW 3: _____

ROW 4: _____

ROW 5: _____

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INSPECTION FEEDBACK FORM FOR OUTER COMBUSTION CHAMBER LINER ASSEMBLY
FIGURE 4

INNER COMBUSTOR LINER SHELL INSPECTION FEEDBACK FORM

ENGINE DETAIL INFORMATION

ENGINE SERIAL NUMBER: _____

TIME SINCE NEW: _____

CYCLES SINCE NEW: _____

INNER COMBUSTOR ASSEMBLY PN: 2A3344-01

INNER COMBUSTOR ASSEMBLY SN: _____

OVERHAUL SHOP: _____

INSPECTED BY: _____

INSPECTION DATE: _____

INSPECTION RESULTS AND FINDINGS

(INDICATE PASS (P) OR REJECT (R).
IF REJECTED, PROVIDE DESCRIPTION AND PHOTO OF REJECTED LOCATION)

ROW 1: _____

ROW 2: _____

ROW 3: _____

ROW 4: _____

ROW 5: _____

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INSPECTION FEEDBACK FORM FOR INNER COMBUSTION CHAMBER LINER ASSEMBLY
FIGURE 5

APPENDIX

Added Data

Internal Reference Information

Revision No.	Reference Document	Origination
Original	EA09VC227B	RG/JDH

Number values shown in parentheses adjacent to U.S. values are International System of units (SI) equivalents.