International Aero Engines

SERVICE BULLETIN

ENGINE - FUEL AND CONTROL - ENGINE - INSPECTION OF V2500-A1, A5 FUEL MANIFOLDS FOR TYPE OF BRAZE USED AT FERRULE/MANIFOLD JOINT - CATEGORY CODE 4 - MOD.ENG-73-0134

1. Planning Information

A. Effectivity

(1) Aircraft: Airbus A319, A320, A321

(2) Engine: V2500-A1 Engines before Serial No. V0362
V2522-A5 Engines before Serial No. V10435
V2524-A5 Engines before Serial No. V10435
V2527-A5 Engines before Serial No. V10435
V2527E-A5 Engines before Serial No. V10435
V2530-A5 Engines before Serial No. V10435
V2533-A5 Engines before Serial No. V10435

B. Reason

To provide traceability of Fuel Nozzles with Gold/Nickel Braze.

C. Compliance

Category 4

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

NOTE: This Inspection and Identification is to be preformed when the engine is in the shop.

D. Approval

The 'compliance' statement and the procedures described in paragraph F 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. References

(1) V2500 Standard Practices Manual (SPM) (SPP-V2500-1I-A) Chapter/Section 70-23-05.

F. Action

Use one of the following Inspection procedures to identify manifolds having Gold/Nickel braze.

NOTE: Applicable part numbers for pre Service Bulletin 73-0088 are 2A0504-01, 2A0508-01, 2A0509-01, 2A0510-01, and 2A0516-01.

NOTE: Applicable part numbers for post Service Bulletin 73-0088 are 2A3229-01, 2A3230-01, 2A3231-01, 2A3232-01, and 2A3236-01.

(1) Procedure for inspection by use of chemical stripping technique. See figure 1.

(a) Clean the braze area on the manifold at the flowdivider valve end. See figure 2,

1 Degrease per SPM 70-11-03.

2 Clean to remove varnish and carbon per SPM 70-11-13-203.

3 Scrub braze joint area with CoMat 05-126, scotchbrite.

(b) Prepare the following stripping solution in a suitable container:

WARNING: REFER TO THE MANUFACTURES/SUPPLIERS MATERIAL PARTS SHEET FOR INSTRUCTIONS ON HOW TO USE THIS MATERIAL SAFELY.

WARNING: ALWAYS WEAR PROTECTIVE CLOTHING WHEN WORKING WITH CHEMICALS

Gold-Nickel Braze Stripping Solution

Material	Make-Up	Preparation
Tap Water	50% by volume	1. Fill 50% of operating volume of container with tap water.
Nitric Acid CoMat 01-025 or Equivalent	50% by volume	2. Fill the remaining 50% of operating volume of container with nitric acid, slowly and cautiously. 3. Stir to mix.
Ferric Chloride CoMat 01-1003 or Equivalent	9.0 grams per US Gallon/(3.79 liter)	4. Add required amounts of ferric chloride and copper sulfate. 5. Stir to mix thoroughly.
Copper Sulfate Powder CoMat 01-362 or Equivalent	16.0 grams per US Gallon/(3.79 liter)	

(c) Use a cotton swab to wipe the braze, at the flowdivider valve end only, with the Gold/Nickel braze stripping solution. See figure 2.

(d) Allow the solution to remain on the surface for approximately 30 seconds, then remove the solution by thoroughly rinsing with clean water.

(e) Visually inspect the braze surface. Gold/Nickel braze will distinctively look gold in color, while Nickel braze will continue to have a silver color.

(f) Manifolds with Nickel braze must be removed from service.

(g) Incorporate Service Bulletin 73-0088 for Manifold Assemblies part number 2A0504-01, 2A0508-01, 2A0509-01, 2A0510-01, and 2A0516-01 having Gold/Nickel braze.

(h) Identify manifolds with Gold/Nickel braze by the procedure given in SPM 70-09-00 and Table 1, then return to service.

(2) Procedure for inspection by use of radiographic technique (x-ray).

(a) X-ray the braze area of the manifold.

NOTE: X-ray the Manifold at the flowdivider valve end only. There is no concern at the ends where the manifold connects to the fuel nozzles.

(b) Inspect the radiograph,

1 A Gold/Nickel braze fitting, which has a higher density than the tube material, will have two rings of braze material (shown as white rings), visible on the radiograph.

2 A Nickel Braze fitting is all the same density and there are no distinguishable rings visible on the radiograph.

(c) Manifolds with Nickel braze must be removed from service.

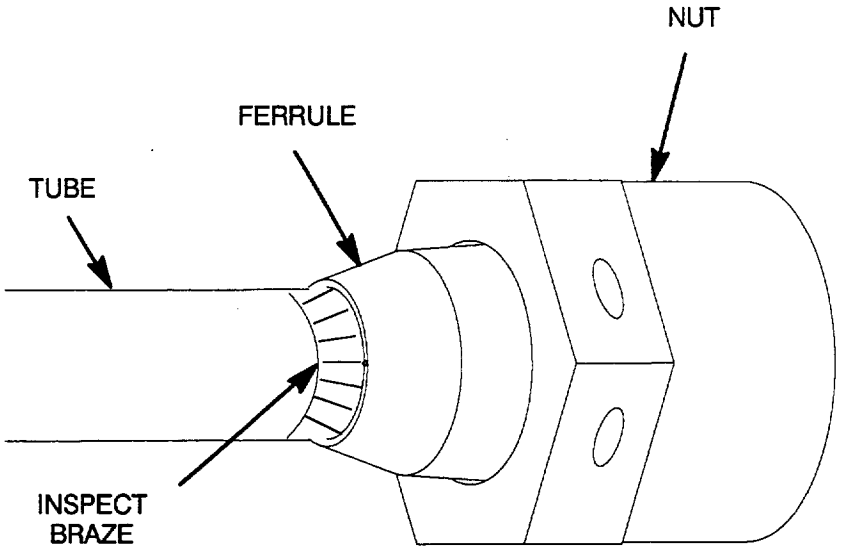
(d) Incorporate Service Bulletin 73-0088 for Manifold Assemblies part number 2A0504-01, 2A0508-01, 2A0509-01, 2A0510-01, and 2A0516-01 having Gold/Nickel braze.

(e) Identify manifolds with Gold/Nickel braze by the procedure given in SPM 70-09-00 and Table 1, then return to service.

G. Identify Manifolds that have Gold/Nickel braze and return to service.

Old Part Number	New Part Number
2A3229-01	2A3229-001
2A3230-01	2A3230-001
2A3231-01	2A3231-001
2A3232-01	2A3232-001
2A3236-01	2A3236-001

Manifold Assemblies with Gold/Nickel Braze
Table 1



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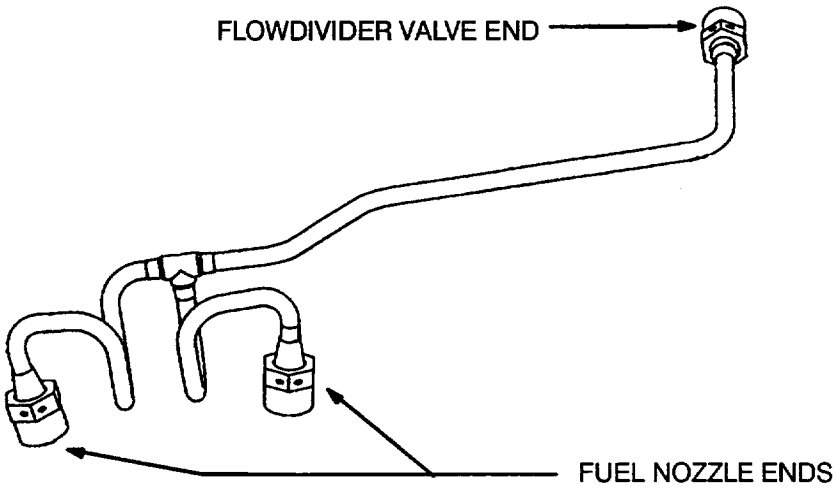
TYPICAL VIEW OF FUEL NOZZLE SUPPLY MANIFOLD ASSEMBLY
AT FLOWDIVIDER VALVE END

Inspection of the Fuel Nozzle Supply Manifold Assembly
Fig.1



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Printed in Great Britain

Typical Manifold Assembly
Fig.2

Printed in Great Britain