

# AVIAT AIRCRAFT, INC.

## SERVICE BULLETIN SERVICE BULLETIN No.25

### PITTS SPECIAL

DATE: 3 April, 1996

REVISED: 12<sup>th</sup> November 1996

REVISED: 11<sup>th</sup> November, 1997

REVISED: 11<sup>th</sup> February, 2005

SUBJECT : Rear Lower Fuselage Wing Fittings  
P.N. 76090, 2-2107-1 or 1-210-102

#### 1. EFFECTIVITY

All Pitts S-1 and S-2 Series Airplanes except S-2B SN 5337 and higher and S-2C SN 6000 and higher

#### 2. PURPOSE

To inspect the rear lower fuselage wing fittings for cracks. Fittings found to be cracked Must be replaced or repaired as per this Service Bulletin.

#### 3. BACKGROUND

There have been a few instances of cracking in the lower rear fuselage wing fittings on Pitts S-2 series airplanes in service. The same fitting is also used on the Pitts S-1 series The current production fittings have a larger bend radius.

#### 4. COMPLIANCE

Mandatory.

A. Inspection - The initial inspection shall be accomplished within the next 25 hours of operation or 1 month, whichever occurs first. Subsequent inspections shall be performed at intervals of 50 hours TIS as per the Maintenance Manual. Those airplanes repaired in accordance with paragraph 6C are not required to have any subsequent special inspections.

B. Repair - Cracked fittings shall be replaced or repaired before further flight. The technical aspects of repair described by paragraph 6C has been shown to comply with the applicable Federal Aviation Regulations and is FAA approved.

#### 5. MATERIAL AVAILABILITY

<u>Part No.</u>	<u>Description</u>	<u>Availability</u>
2-2107-2/3	Doublers	Aviat Aircraft Inc.

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## 6. ACCOMPLISHMENT INSTRUCTIONS

### A. Initial Inspection

- (1) This inspection is to be performed at the same time as the routine check of wing spar attachments as specified in the Owner's and Maintenance Manual for the 50-hour inspection.
- (2) For S-2B SN 5336 and earlier, and all other models, remove the paint and primer in the area around the wing rear lower fuselage attach fittings with a chemical stripper then check for cracks using a dye penetrant method. Refer to Figure 1 for typical location of cracks.
- (3) If any cracks are found repair the fitting as per C below.
- (4) If no cracks are found, prime and paint the stripped area.

### B. Repetitive Inspections

- (1) This inspection is to be performed at the same time as the routine check of wing spar attachments as specified in the Owner's and Maintenance Manual for the 50-hour inspection.
- (2) Inspect the rear lower fuselage attach fittings using a 10X magnifying glass.
- (3) If any cracks are found repair the fitting as per C below.

### C. Repair

- (1) For the cracked fitting only: disconnect pitot-static lines and electrical wires if installed on that wing.
- (2) Disconnect aileron interconnect tube assembly from wing to fuselage and remove aileron slave tube on the wing with the cracked fitting.
- (3) Slacken off all wing flying and landing wires and detach wires from the wing to be removed. Record number of turns of wires.
- (4) Remove wing. Record number of washers at interplane struts.
- (5) Existing cracks in the fitting may be stop drilled and welded. (Completely weld cracks and stop drilled holes before proceeding). Locate doubler plates as shown in figure 2 (Pitts S-2 series) (See page 4 of 5 for S-1 series) and secure temporarily with AN4 bolt and nut. Temporarily clamp edges of doubler to the fitting. When properly fit and positioned, tack weld in several places before performing the actual welding. Remove clamps and complete installation by welding as illustrated in Figure 2, in accordance with AC 43.13-1A, Section 2 (Now AC 43.13B, Chapter 4, Section 5, paragraph 4-87). Use weld rod filler material as shown below:

Oxyacetylene gas welding-AWS R60 or R65  
TIG welding- AWS ER70S-2

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- (6) Remove temporary bolt and nut then discard/
- (7) Prime and paint per Maintenance Manual.
- (8) Install wing as per Owner's and Maintenance Manual. Install new AN4-17A bolt in rear fitting. Torque fuselage attachment bolts only sufficient to remove axial play in bolts using an AN960 or -4L washer as a shim between the wing spar and the fitting if required.
- (9) Install interplane struts with number of washers as previously recorded.
- (10) Tighten flying and landing wires the number of turns previously recorded.
- (11) Check rigging of all wings as per Owner's and Maintenance Manual.

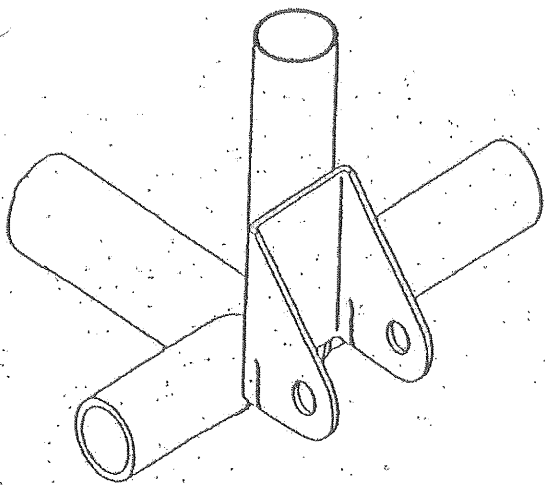


Figure 1  
Typical Location of Cracks

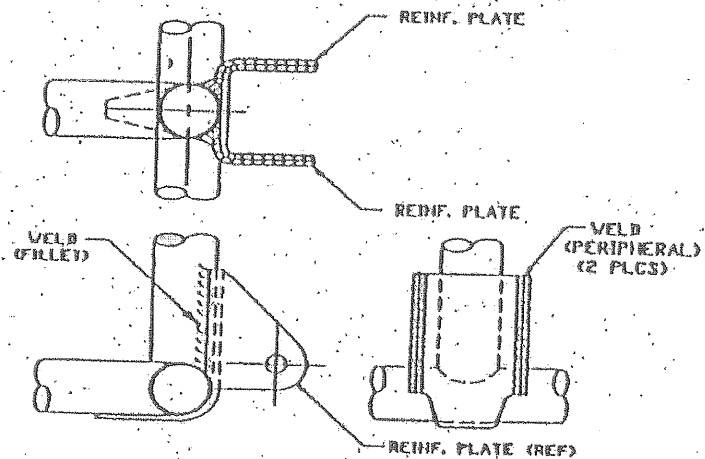
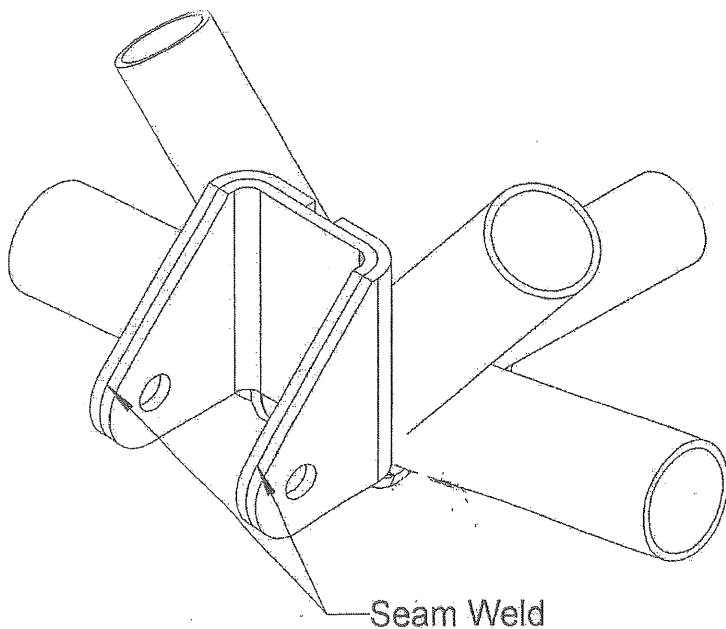


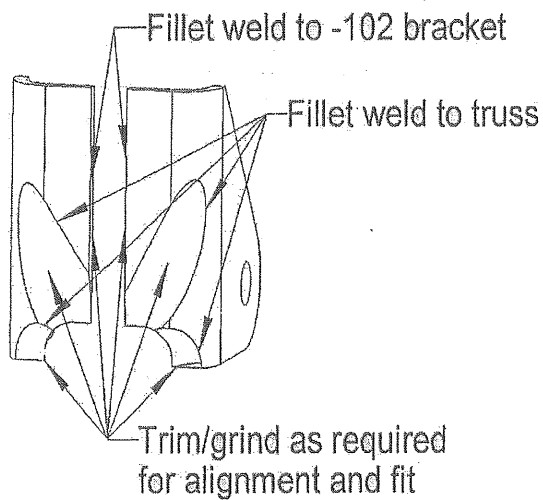
Figure 2

## DOUBLER INSTALLATION - S2 SERIES

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Doubler Plate Installation



2-2107-2/3 Doubler Plates

**DOUBLER INSTALLATION- S-1 SERIES**

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COMPLIANCE LETTER

This is to certify that I have inspected the rear lower fuselage wing fittings, P.N. 76090, 2-2107-1 or 1-210-102, of Pitts\_\_\_\_, Serial Number\_\_\_\_, Registration\_\_\_\_\_ in accordance with Service Bulletin No.25 with the following results.

1. Cracks found in LH Fitting YES\_\_\_\_ NO\_\_\_\_  
RH Fitting YES\_\_\_\_ NO\_\_\_\_

Please indicate if cracks had previously been found and had been repaired.

2. Aircraft Total Time\_\_\_\_\_ hours when cracks were found.

Signed \_\_\_\_\_

Dated \_\_\_\_\_

Return compliance letter to: Aviat Aircraft, Inc.  
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