Ayres Corporation service bulletin **No. SB-AG-36**

P.O. BOX 3090 ONE AYRES WAY ALBANY, GEORGIA 31706-3090 PHONE 229/883-1440 FAX 229/439-9790

Main Landing Gear Shock Strut Modification

MODELS AFFECTED:	MODEL	SERIAL NUMBERS
All models listed, including any serial number listed ending in D.C. (dual cockpit)	S2R	1416R thru 2583R 5000R thru 5100R
	S2R-R3S	R3S-001 thru R3S-011
	S2R-R1340	R1340-001 thru R1340-020
	S2R-R1820	R0820-001 thru R1820-034
	S2R-T11	T11-001 thru T11-005
	S2R-T15/27	T15/27-001 thru T15/27-029, -031
	S2R-T34/41	T34/41-001 thru T34/41-200 T34-6000 thru T34–6049
	S2R-T45	T45-002 thru T45-004
	S2R-T65	T65-001 thru T65-010
	S2RHG-T65	HGT65-002 thru HGT65-009
	S2R-G6	G6-101 thru G6-113
	S2R-G5	G5-101 thru G5-102
	S2R-G10	G10-101 thru G10-104

BACKGROUND:

After two shock strut failures at the upper attach point during 1992, Ayres Corporation issued SB-AG-31 to strengthen the upper tube assy P/N 50116-13. At that time, there were no reported difficulties with the lower tube assy P/N 50116-12.

After SB-AG-31 was issued, one operator reported a lower strut tube assy failure. The other aircraft in his operation were inspected and cracks were found in two other lower tube assemblies. As a result of other assemblies beginning to crack, the lower shock strut assy was redesigned with a much thicker wall tube for production.

A second design, to strengthen the existing lower tube assemblies was also incorporated. This strengthened tube P/N 50116-12F1 is available to be purchased.

Operators who desire to modify their tube assembly P/N 50116-12 into the –12F1 configuration may purchase P/N 50116-100 tube insert, and the 90056-9 plug or manufacture them per these service bulletin instructions.

COMPLIANCE: No later then next annual inspection or scheduled strut removal.

BY WHOM WORK WILL BE ACCOMPLISHED: A & P mechanic or equivalent

APPROVAL: FAA approved

ESTIMATED MANHOURS FOR COMPLIANCE: 8 manhours (most time consuming, Option 5)

MODIFICATION METHOD:

Option	Method
(1)	Replace the shock strut assy with new shock strut assy P/N 50116-29, which also satisfies SB-AG-31.
(2)	Replace the shock strut assy with factory reworked shock strut assy P/N 50116-28F1. (Also satisfies SB-AG-31).
(3)	Replace the lower tube assy P/N 50116-12 with factory modified lower tube assy P/N 50116-12F1.
(4)	Replace the lower tube assy P/N 50116-12 with new design P/N 50116-30.
(5)	Modify the existing lower tube assy P/N 50116-12 into the 50116-12F, per this service bulletin.

If the operator elects to comply with this service bulletin by option (5), proceed as follows.

MODIFICATION INSTRUCTION: Disassemble the shock strut assembly and thoroughly clean the lower tube assembly. Saw off or grind off the 90056-9 plug and the top ¼ inch of the tube.

Extract the remains of the inner insert/tube. This part is a steel tube 1" O.D. x .120 wall x 1 3/8 long.

Measure down 1" from the center of the .500 dia bolt hole, and 45° clockwise as seen looking down, mark and drill a 3/8" dia hole (for rosette welds) thru the tube. Measure down 1 5/8" from the holes just drilled, and drill thru the tube, 90° to the first holes. This adds four new 3/8 holes for rosettes. The upper pair is 45° to the bolt hole. The lower pair is 90° to the upper pair of holes. Debur the tube interior.

Install the new, thicker wall insert/tube P/N 50116-100 into the bore of the open lower tube assembly opening. Push the –100 tube in until t is even with the top of the second ¼" grease escape hole, counting down from the top.

> Note: The dimensions of the –100 insert are 1.0" O.D. x .312 (5/16) wall x 4.25 long 4130 N. tube.
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> The dimensions of the 90056-9 plug are 1.0" dia x .063 4130 N.

Weld the –100 insert into the lower tube at the four rosette holes. Also, weld all around at the top, inside the tube wall where the .100 meets the wall. Weld the 90059-9 plug all around, to seal off the tube. Drill the .100 insert/tube to match the .500 bolt hole and the ¼" grease escape holes.

RECORD COMPLIANCE: Make appropriate entry in the aircraft maintenance records.

RECORD EXAMPLE: Ayres Corporation Service Bulletin Number SB-AG-36 complied with on ____(DATE)_____ by option _____, as described in the Modification Method in that bulletin.

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Signature Title Date