

Service Bulletin No. SB-AG-28
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UNAPPROVED WINGTIP MODIFICATIONS

MODELS AFFECTED: All Models, All S/N's

CONFIGURATION AFFECTED: All wings with a span that exceeds 47.5 feet

REASON FOR PUBLICATION: This service bulletin details inspection and repair procedures for wings that are equipped with unapproved wing tip extensions that increase the wing span beyond 47.5 feet.

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

ESTIMATED MAN HOURS: 10 hours

APPROVAL: FAA Approved

BACKGROUND: A fatal accident has occurred involving an Ayres Turbo Thrush in South Africa. A portion of the wing separated from the aircraft in flight. The wing was equipped with two separate wing extensions. The first extension was an STC modification that increased the wing span from 44.5 feet to 47.5 feet. This first extension was properly FAA certificated.

The second extension further increased the wing span from 47.5 feet to 49.5 feet. It is a fiberglass assembly that includes a tip

that droops down 3.5 inches at the trailing edge. The field modification that adds this second extension has no engineering substantiation according to our investigation.

Any wing tip extension that exceeds the wing span of the Thrush beyond 47.5 feet should be removed immediately unless it has been properly FAA certificated and the modification has included beefup of the basic wing structure inboard of the wing tip. An FAA Form 337 without FAA engineering approval is insufficient FAA approved data.

ACCOMPLISHMENT
INSTRUCTIONS:

After removal of an unapproved wing extension, the wing structure should be inspected for visible damage and strengthened to cover hidden damage to the aluminum huck bolts in the outboard 30 inches of the steel spar cap.

Inspect the forward and aft face of the front spar from the tie down fitting at W.S. 193 3/8 inboard to W.S. 166 7/8. Remove the landing light and through its hole, inspect the aft face of the front spar for cracks in all metal parts. Cut a standard (screw on cover) inspection hole in the lower leading edge just forward of the landing light opening in order to inspect the front face of the spar in this same area. Check for possible sheared huck bolts through the spar cap by trying to turn each fastener with pliers or a small vice grips.

If any damage appears in this area, or if sheared huck bolts are found, contact the Ayres Corporation Product Support Department.

To preclude the possibility of fatigued or partially failed huck bolts, replace the last outboard 13 vertical rows of aluminum huck bolts with NAS 1103 (steel) bolts. (The area to be replaced includes all huck bolts that appear in patterns of two starting inboard at W.S. 166 7/8 rib and ending at the end of the spar cap, last row at W.S. 190 3/8.

This requires:

6 rows of NAS 1103-5's	24 bolts
<u>7 rows of NAS 1103-6's</u>	<u>28 bolts</u>
Total Per Wing	52 bolts
Total Per Aircraft	104 bolts

Use An 960C washers and MS 21042 nuts or equivalent. Hardware is available at Ayres Corporation Spares Department. Care should be exercised in the removal of the huck bolts to prevent damage to the holes in the spar web and the spar cap. It is important to maintain a tight fit for the replacement bolts.

RECORD ENTRY:

Make logbook entry. "Ayres Service Bulletin No. SB-AG-28 accomplished on _____ (Date) _____ by _____."