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Service Bulletin

Subject:

Repair to Tailcone Side Skin

Applicability:

Serial Number GA8-05-088 and GA8-01-008

Amendments:

1. Initial Issue
2. GA8-01-008 added to applicability. Procedure revised. See GAE11#1436

Background:

This Service Bulletin documents the procedure for the repair of the tailcone side skin of the affected aircraft after damage. The damage to the tailcone structure is typically incurred following the horizontal stabiliser impacting an external object. This repair is only applicable if the damage is within the limits described and is confined to the tailcone side skin immediately forward of the Horizontal Stabiliser brackets. For Aircraft GA8-01-008 the following observations of damage have been noted.



This Service Bulletin doesn't provide acceptable damage limits or repair procedures for the horizontal stabiliser (including attachment fittings) or elevator.

Compliance:

For applicable aircraft incorporation of this Service Bulletin is optional. This service bulletin documents a repair acceptable to the manufacturer.

Weight and Balance:

Negligible effect on weight and balance.

Approval:

The technical aspects of this Service Bulletin have been approved pursuant to Regulation 21.095 of CASR(1998).

Parts:

All parts to be supplied by the repairer.

Warranty:

Not Applicable.

Labour:

6 hours should be allocated to the incorporation of this Service Bulletin.

Instructions:

1. Remove fin and horizontal stabiliser in accordance with Section 55-30-00 and 55-10-00 of the GA8 Service Manual respectively.
2. Remove Wear Strip, location is shown in red on Figure 1.

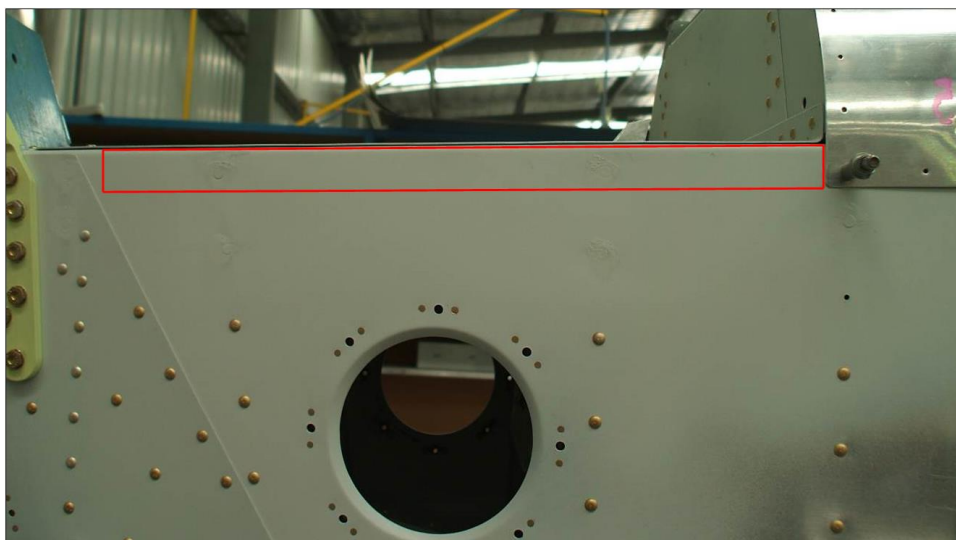


Figure 1

3. Inspect the damaged area and verify that damage is limited to the RHS tailcone side skin only. No creases or wrinkles to the side skin is permissible. This SB assumes a shallow deformation to the skin that has not caused permanent deformation. Deformation can be a maximum of 0.075" prior to rework.
4. Using 10x magnification visually inspect the side skin and adjacent components for any cracks or other damage. This inspection is specifically to include the internal doublers and stiffener, upper tailcone skin (horizontal deck), stiffeners, rear bulkhead and horizontal stabiliser attachment fittings. No further damage is permissible, contact GippsAero if any further damage is found. The inspection of the horizontal stabiliser attachment fittings should pay particular attention to the bolt holes and bushing. A fluorescent dye penetrant inspection of the attachment fittings (LHS and RHS) is recommended.
5. Damage that is outside the limitations above may be rectified by replacement of the affected component if replacement of that component is within the approval scope of the organisation

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conducting the repair and is conducted in accordance with the GA8 Service Manual and FAA AC43.13-1B. All components, fasteners and consumables are to be replaced with identical materials. For further information regarding repair by replacement contact GippsAero.

6. Remove rivets adjacent to the damaged side skin.
7. Without causing further damage, flatten the damaged area of the side skin to original profile. Do not bend or over-work the material. No creases or wrinkles are permitted. If it is not possible to return the side skin to it's original profile contact GippsAero for further instructions. All other damaged components which cannot be straightened with minor re-work must be replaced.
8. Remove and use as a template the external doubler (P/N GA8-538021-308), manufacture a new external doubler for the right hand side as shown in Figure 2. Material is to be 2024-T3 Alclad sheet per QQ-A-250/5, 0.040" thick. When removing the doubler, note type of fasteners (MS20470AD/MS20426AD), as the same type are to be used to install the replacement doubler in Step 11. Ensure that the deformed skin in the tailcone is encapsulated (at least rivet row beyond) by this replacement doubler. Ensure a smooth radius for the contour around the inspection hole.

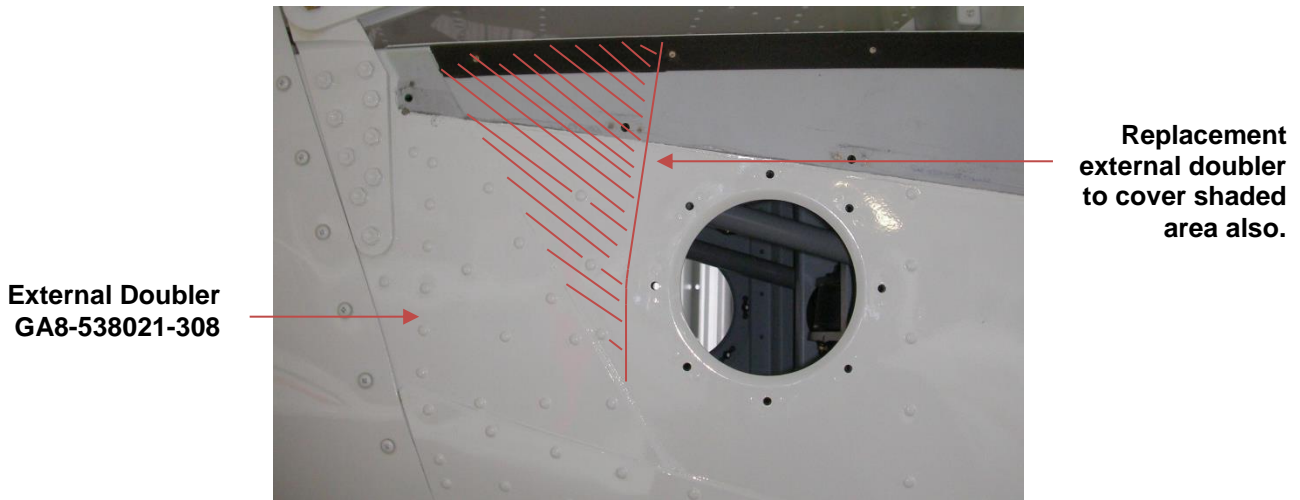


Figure 2

NOTE:

This external doubler replaces existing part GA8-538021-308 remove and use as template.

9. Debur and prime using a suitable aircraft epoxy primer.
10. Remove the Aft Inspection Hole Stiffener in this area shown in Figure 3. Inspect for condition and retain for reinstallation if found serviceable.

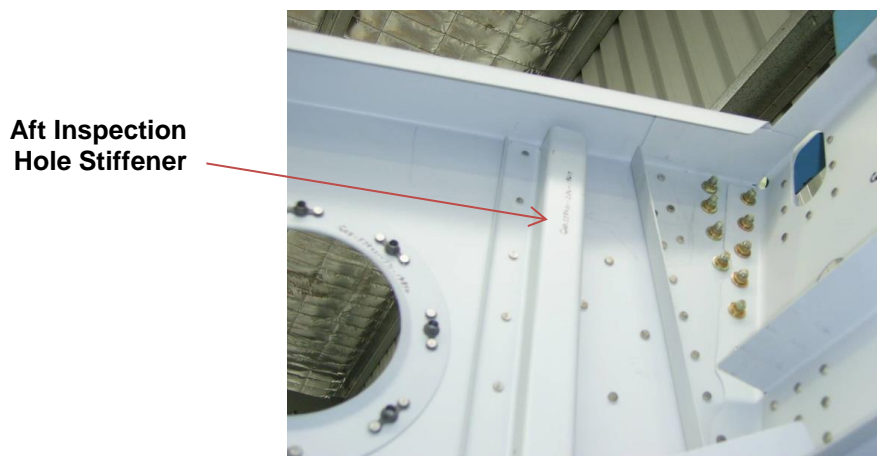


Figure 3

11. Prepare a doubler channel approximately 10 inches long from 0.025" thick 2024-T3 Alclad sheet per QQ-A-250/5 as shown in Figure 4.

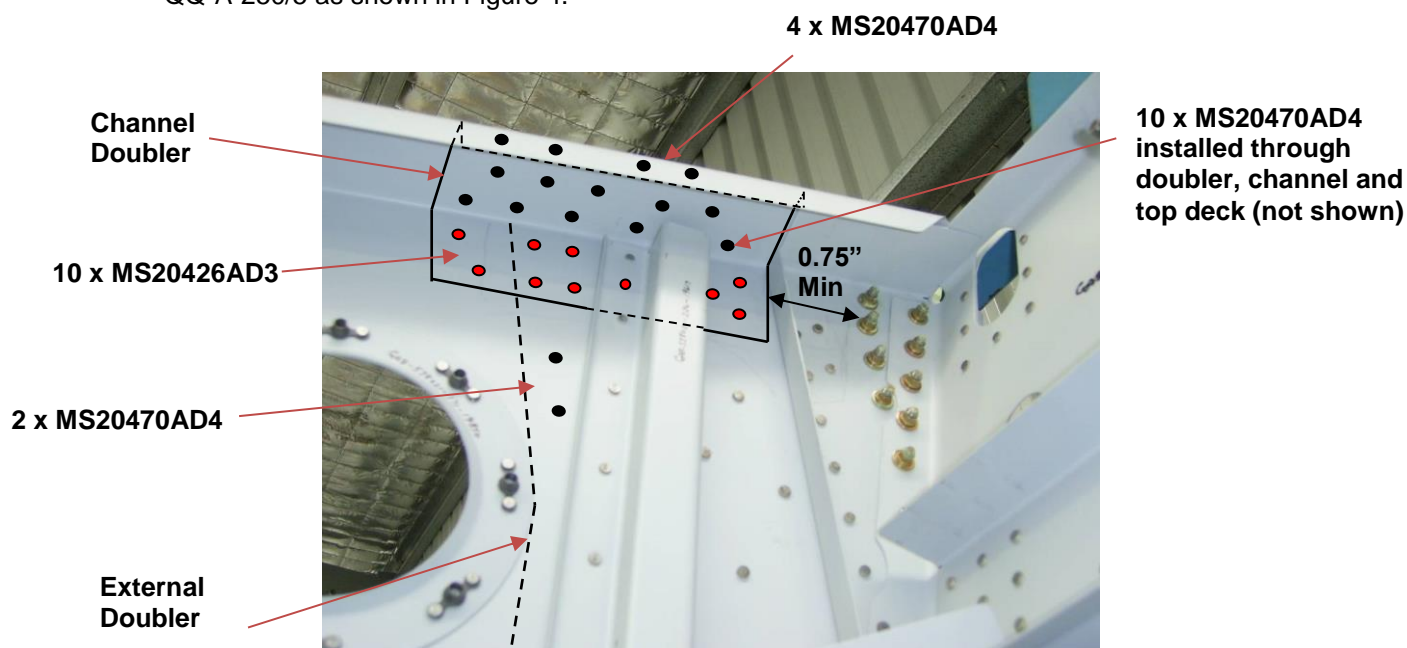


Figure 4

12. De-burr and prime using a suitable aircraft epoxy primer.
13. The starboard Wear Strip is to be shortened to finish at the forward edge of new external doubler. Fasten the wear strips back in place as per Service Bulletin SB-GA8-2008-47.
14. Place channel doubler between the tailcone skin and the Aft Inspection Hole Stiffener, as shown in Figure 4. Place the external doubler in position. Install external doubler using fasteners with same type as existing (MS20470AD and MS20426AD rivets). Install channel doubler using additional MS20470AD4 and MS20426AD3 rivets as shown in Figure 4. Install Aft Inspection Hole Stiffener in remaining holes using same fasteners as were removed. Ensure 2D edge distance is maintained on all rivets, minimum 4D spacing between rivet, and the aft edge of the channel is at least 0.75" forward of the rear pickup bolts. (To prevent the skin cracking at the bolt head).
15. When reinstalling horizontal stabiliser attachment fittings, replace bolts, nuts and washers with new, same types as original. Prior to installation verify condition of attachment holes (fittings and tailcone), no cracking, elongation or working (bearing failure) permissible.
16. Mount the Horizontal Stabiliser to the Tailcone fittings and ensure the alignment of forward pickups to the Screw Jack Rod end bearing does not apply side load to the Screw jack assy. If any side load is found, contact GippsAero for further instruction. Symmetrical alignment of the horizontal stabiliser is to be maintained. It is not permissible to force the attachment fittings apart when installing horizontal stabiliser.
17. Reinstall horizontal stabiliser, elevators, fin and rudder in accordance with GA8 Service Manual, Sections 55-10-00 and 55-30-00. Rigging of the control surfaces is to be in accordance with Chapter 27 of the GA8 Service Manual.

Documentation:

Update aircraft log book to reflect incorporation of this Service Bulletin.

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Instructions for Continued Airworthiness:

There are no additional continuing airworthiness requirements as part of the implementation of this Service Bulletin. Periodic inspection as per standard process outlined in the GA8 Service Manual - Chapter 5 are to be followed.

Compliance Notice:

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