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SB-GA200-2013-09

Issue 1

OPTIONAL

Service Bulletin

Subject:

Upgrade of the GA200 fuel filler cap.

Applicability:

All GA200 aircraft.

Amendments:

Nil: Initial issue.

Background:

The flush fuel filler cap modification allows the replacement of the current fuel filler cap with a flush fuel filler cap. The new cap is typically used on other aircrafts and will improve airflow over the wing and reduce drag resulting in better fuel efficiency. This service bulletin provides instructions for the installation of the flush fuel filler cap.

Compliance:

OPTIONAL – This Service Bulletin can be incorporated at the owner's discretion.

Applicable Documents:

GA200 or GA200C Service Manual as applicable
GA200 Illustrated Parts Catalogue
NAS523 – National Aerospace Standards Fastener Code
AC43.13-1B
Material Safety Data Sheet for Sealants

Weight and Balance:

Negligible effect on weight and balance.

Approval:

This modification has been approved pursuant to CASR 21.095 (1998).

Labour:

Incorporation of this service bulletin would require approximately 24 man hours.

Warranty:

Not applicable.

Parts List:

The following parts will be required for the incorporation of this Service Bulletin available as a kit from GippsAero. Kit no. SB-GA200-2013-09-1

Flush Fuel Cap Wing Upgrade				
Item No.	Part No.	Description	Qty Port Wing	Qty Starboard Wing
21	GA200-955701-021	FILLER DOUBLER PORT WING	1	
22	GA200-955701-022	FILLER DOUBLER STARBOARD WING		1
101	AN525-832R6	STRUCTURAL SCREW	1	1
111	AN960-8	WASHER	1	1
115	AN960-10L	THIN WASHER	4	4
121	MS20470AD4-3	RIVET	1	1
125	MS20470AD4-5	RIVET	13	13
131	MS21042-08	REDUCE HEX NUT	1	1
141	MS24694S50	C/S STRUCTURAL SCREW	8	8
151	NAS1097AD3-3.5	C/S RIVET	16	16
161	NAS1473A3	CAPPED ANCHOR NUT	8	8
201	CR3213-4-3	CHERRYMAX RIVET	2	2
211	164G00001	SEALANT, AMS-S-8802, TYP I, CL A-2	1	1
213	164G00002	SEALANT, AMS-S-8802, TYP I, CL B-2	1	1
221	499G00040	CAP ASSEMBLY, FUEL FILLER	1	1

Procedure:

Follow the specified method below with reference to Service Manual Chapters 7 and 28

1. Read through the entire service bulletin to ensure that the necessary tools and all parts/hardware required for the modification are available prior to carrying out the modification procedure, refer to the parts list.
2. Isolate the electrical system and ensure the aircraft is grounded.
3. Drain the fuel tanks of their contents and remove fuel tank access panels to gain access to the interior of the tanks. Guidelines on draining fuel can be found in the service manual chapter 28.

WARNING

ELECTRICAL POWER TOOLS SHOULD NOT BE USED WHEN CARRYING OUT THE WORK INSTRUCTIONS OF THIS SERVICE BULLETIN. REFER TO SERVICE MANUAL CHAPTER 28 FOR GENERAL PRECAUTIONS

NOTE

It is recommended that an appropriate period of time is allowed for the fuel fumes to dissipate before working in close contact within the fuel tanks

4. Stabilise/shore the aircraft in accordance with the service manual chapter 7.
5. Remove and discard existing fuel cap. Cap the fuel tank outlet and vent tube with suitable commercially available plastic blanking caps to prevent any swarf and foreign material from entering the fuel system.
6. Remove and discard existing hardware to release the fuel filler neck doubler's spring on Rib No. 5
7. Remove fasteners that retain the existing fuel filler neck doubler assembly. Remove and discard the fuel filler neck, filler neck packer, filler neck doubler assembly.

CAUTION

ENSURE WHEN REMOVING THE FUEL FILLER NECK DOUBLER ASSEMBLY THAT THE SEAL BETWEEN THE TOP SKIN AND RIB FLANGES IS NOT BROKEN AND REMAINS 'FUEL TIGHT'

8. Clean and remove existing sealant around the position of the new filler doubler ensuring the fuel tank remains 'fuel tight', and, from the inside of the fuel tank at the positions of the access panels. Refer to Figure 3 and service manual chapter 28.

9. Position new filler doubler, item 21 for port wing or item 22 for starboard wing, for best fit with existing fastener locations and drill off. To ensure a close fit, the top outboard and inboard edge of the plate may require radiusing. If necessary, it is permissible to vary the overall length of the doubler plate, remove minimum amount of material while maintaining two diameter minimum edge distances from centre of fastener holes.

NOTE

On GA200 B model wings, it is permissible to remove a minimum amount of material from the inboard forward area of the filler doubler's flange for clearance of the airspace vent pipe assembly

10. Drill one extra fastener hole on Rib No. 5 outboard flange between the existing rivet positions, aft of the doubler plate. Refer to Figure 3.
11. Modify top skin fuel filler hole to match the doubler's hole diameter and back drill anchor nut holes into top skin. Refer to balloon 121 in Figure 3.
12. Remove the doubler plate and deburr all holes and edges. Remove all swarf and foreign material from within the fuel tank and work area. Clean all the parts prior to installation on the aircraft.
13. Ensure that the modification procedure has been completed to the fuel tank and components. Trial fit components to ensure correct alignment and fitment before final assembly. This includes all drilling, deburring, trimming, cleaning etc.
14. Install fasteners, items 101, 111 and 131 in the existing hole that fastened the removed doubler spring on Rib No. 5 as shown in Figure 1.

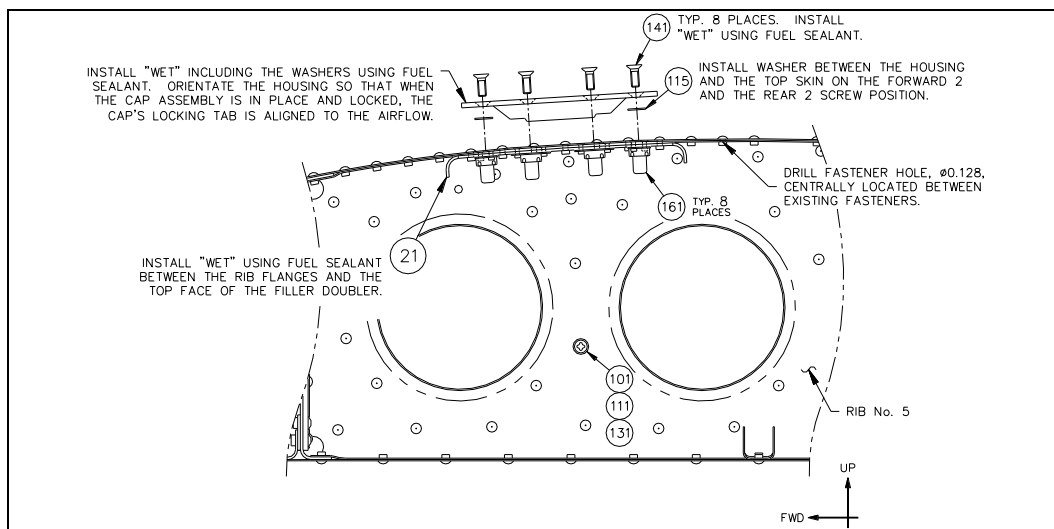


Figure 1: Fuel filler housing installation – Port wing shown

15. Install filler doubler with fuel sealant, item 213, between the rib flanges and the top face of the filler doubler. Refer to Figure 2 for wet out area of fuel sealant. Install fasteners, items 125 and 201 wet using fuel sealant between fastener heads and fuel tank skin. Install extra fastener, item 121, using sealant, item 211, on Rib No. 5 outboard fastener run. Fillet seal the tail of all installed rivets within the fuel tank using either fuel sealant, items 211 or 213. Refer to Figure 3.

WARNING

REFER TO APPLICABLE MATERIAL SAFETY DATA SHEETS WHEN USING FUEL SEALANTS. REFER TO SERVICE MANUAL CHAPTER 28 FOR MIXING PROCEDURE, APPLICATION AND CURING TIMES

NOTE

On the GA200 B model wings, should there be interference between the inboard forward rivet installation process and the airspace pipe assembly, install a cherry rivet, item 201 in lieu of the indicated solid type rivet. Refer to Figure 3

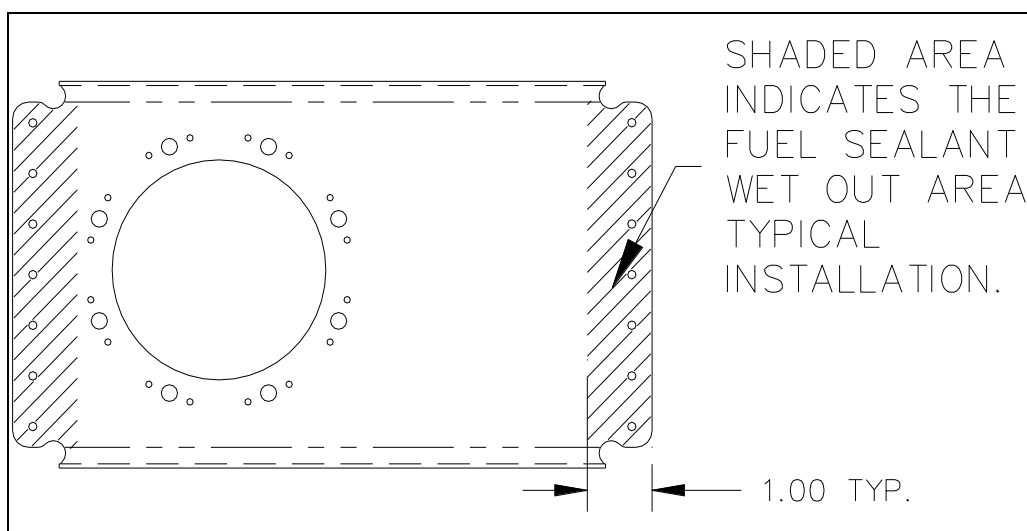


Figure 2: Sealant wet area – Port wing shown

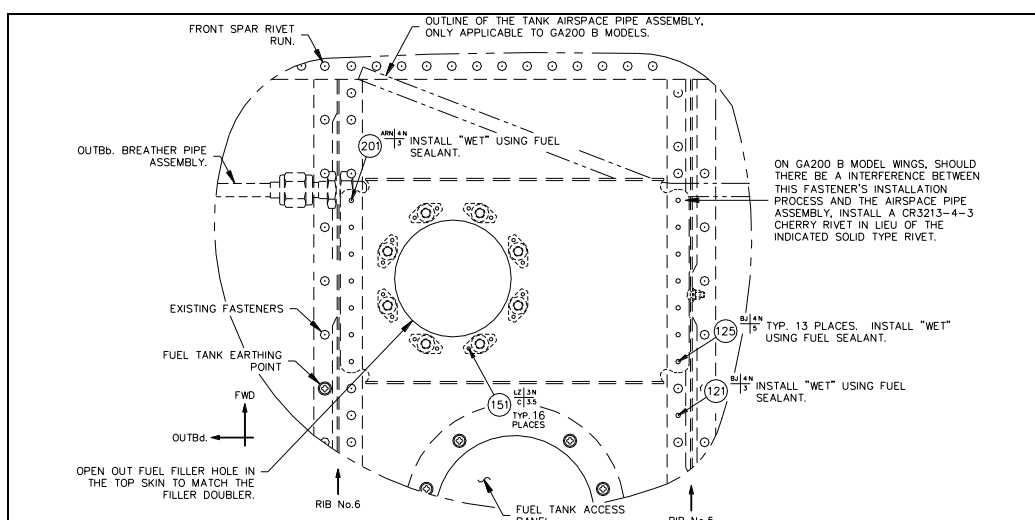


Figure 3: Filler doubler installation – Port wing shown

16. Install anchor nuts, item 161 onto the filler doubler on the inside of the tank using countersunk fasteners, item 151. There is no requirement to install anchor nuts and fasteners with fuel sealant. Refer to Figures 1 and 3.
17. Install fuel filler adapter flange, part of item 221, wet using fuel sealant, item 213 between the housing lower face and fuel tank top skin. Using fuel sealant item 211, install countersunk structural screws, item 141 and thin washers, item 115 on the forward 2 and rear 2 fastener positions between the flange and the top skin of the fuel tank. Orientate the flange so that when the cap assembly is in place and locked, the cap's locking tab is aligned to the airflow. Either remove or smooth finish any excess squeeze out of the sealant. Trial fit fuel cap, part of item 221 to ensure that the cap's locking tab aligns to the airflow, before fuel sealant curing.

NOTE

The thin washers should be installed between the fuel cap adaptor flange and the top skin in the forward 2 and rear 2 screw positions only

18. Ensure that the fuel tank is free of any swarf and foreign material and remove the blanking caps from the fuel tank's finger filter and the tank's vent system.
19. Carry out an independent inspection of the modified fuel tank ensuring all caps have been removed and that the fuel system is free of any swarf and/or foreign material.
20. Clean the fuel tank access panel and re-install the panels into the same positions as previously installed, using fuel sealant item 211. Either remove or smooth finish any excess squeeze out of the sealant. Refer to service manual chapter 28.

WARNING

ENSURE NOT TO STICK ACCESS PANELS WITH EXCESS SEALANT

21. Carry out fuel tank pressure test in accordance with service manual chapter 28.
22. Remove aircraft shoring.
23. Refuel both the wings and check for leaks.
24. Reconnect the aircraft electrical system and ensure that the aircraft is serviceable.
25. Complete appropriate documentation.

Documentation:

If this Service Bulletin is incorporated, the maintenance log of the affected aircraft is to be updated

Continuing Airworthiness:

There are no additional continuing airworthiness requirements as part of the implementation of this Service Bulletin

Compliance Notice:

Complete the Document Compliance Notice and return to GippsAero by mail, fax or email

DOCUMENT COMPLIANCE NOTICE



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Document:

SB-GA200-2013-09
OPTIONAL
Issue 1

Aircraft Serial Number: _____

Aircraft Registration: _____

Incorporation Date: _____

Incorporated by: _____

I certify that SB-GA200-2013-09 Issue 1 has been incorporated in the aircraft specified in this Document Compliance Notice

Signed

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