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SERVICE LETTER 217

Cessna 208 & 208B Exhaust Duct & Engine Cowling Repair

Aircraft Makes/Model(s):	Float Model(s):	Compliance: Mandatory	By: MAB
Textron Aviation 208 & 208B	8750	Part Number: 1011606	Approved: SDW
		Date: 7/21/2021	Revision: C

LOG OF REVISIONS

Revision	Description	Date
A	Initial release	9/23/2020
B	Updated title, effectivity, and aircraft models.	2/3/2021
C	Updated item 2 quantity from 6 to 12. Updated note under step 9.	7/21/2021

FAA approval has been obtained for technical data in this publication that affects STC or TSO design compliance.

EFFECTIVITY:

This service letter applies to Textron Aviation models 208 and 208B equipped with a straight secondary exhaust ejector (Cessna P/N 2654008-205 or 2654008-206) and Wipaire STC SA1311GL.

COMPLIANCE:

Mandatory Compliance

BACKGROUND:

Wear between the secondary exhaust duct and engine cowling has been reported. This service letter provides for visual inspection of the secondary exhaust duct and cowling. If wear or heat marks are noted during inspection the service letter provides a means of modification to improve clearance and provides for the installation of a heatshield.

COMPLIANCE METHOD:

Visually inspect cowling and exhaust for wear and proper clearance. Correct clearance and install heatshield per the work instruction section of this service letter if there is evidence of exhaust or cowling wear and/or heat marks within the cowling.

APPROXIMATE SHOP HOURS:

Inspection 0.25 hours; rework of secondary duct installation 3.0 hours.

WARRANTY INFORMATION:

This service letter does not include warranty for labor and parts.

TECHNICAL DATA:

Copies of this service letter, associated service kit (if applicable), float service manual, and float parts manual are available at www.wipaire.com.

1700 Henry Ave - Fleming Field (KSGS), South St. Paul, MN 55075

Phone: 651.451.1205 | Fax: 651.457.7858

www.wipaire.com

Order parts individually (not all parts will be used, see work instructions)

ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	1011603	Assembly, Bracket, Exhaust
2	12	1011604	Spacer, Exhaust Hanger
3	1	1011605	Heatshield
4	4	MS21042L3	Nut
5	4	90313A400	Oversize Washer, Bellmouth Attach
6	4	90618A124	Standard Washer, Bellmouth Attach
7	1	321050	Exhaust Wrap, 12" (Heatshield Products)
8	A/R	Locally Procured	Red RTV (Permatex)

Work Instructions

Inspection:

1. Using a flashlight visually inspect cowling and exhaust for wear; areas of reduced clearance are shown in Figure 1.

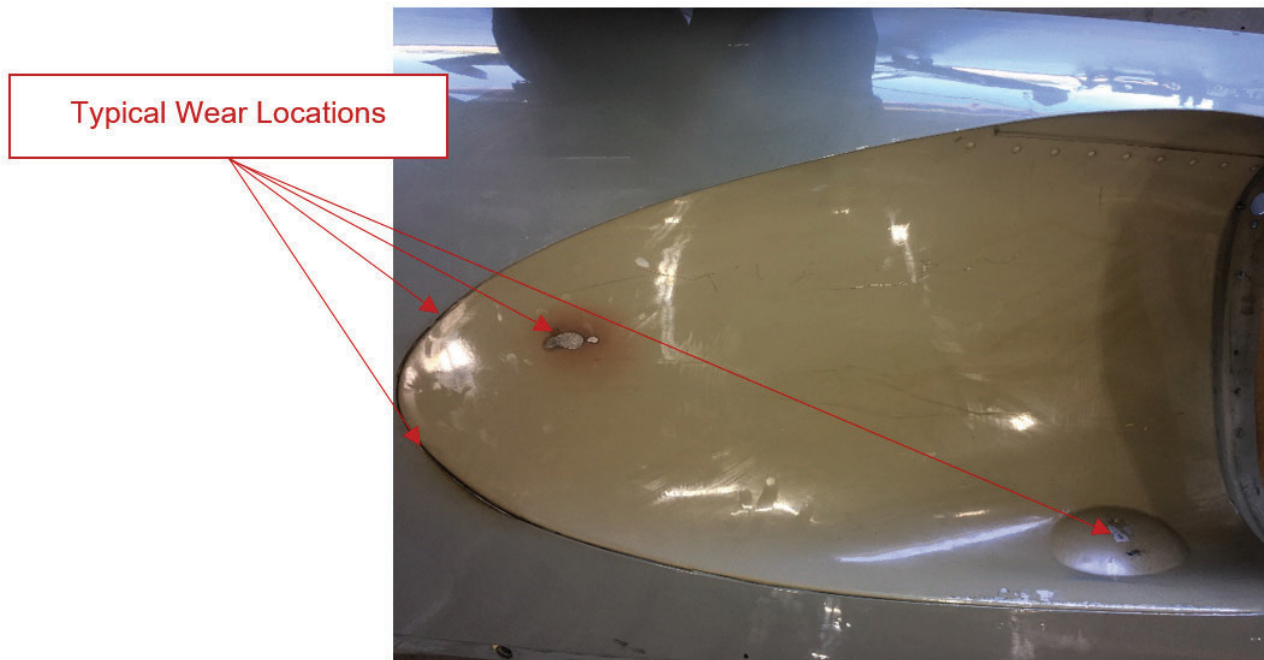


Figure 1 Lower Right Cowl - Exterior

2. Inspect exhaust and cowling to determine existing clearance. The desired exhaust to cowling clearance is .25 inches. The desired fly-wire to exhaust clearance is 0.31 inches.
3. Open right hand cowl door; inspect inner cowl panel for heat marks as shown in Figure 2.

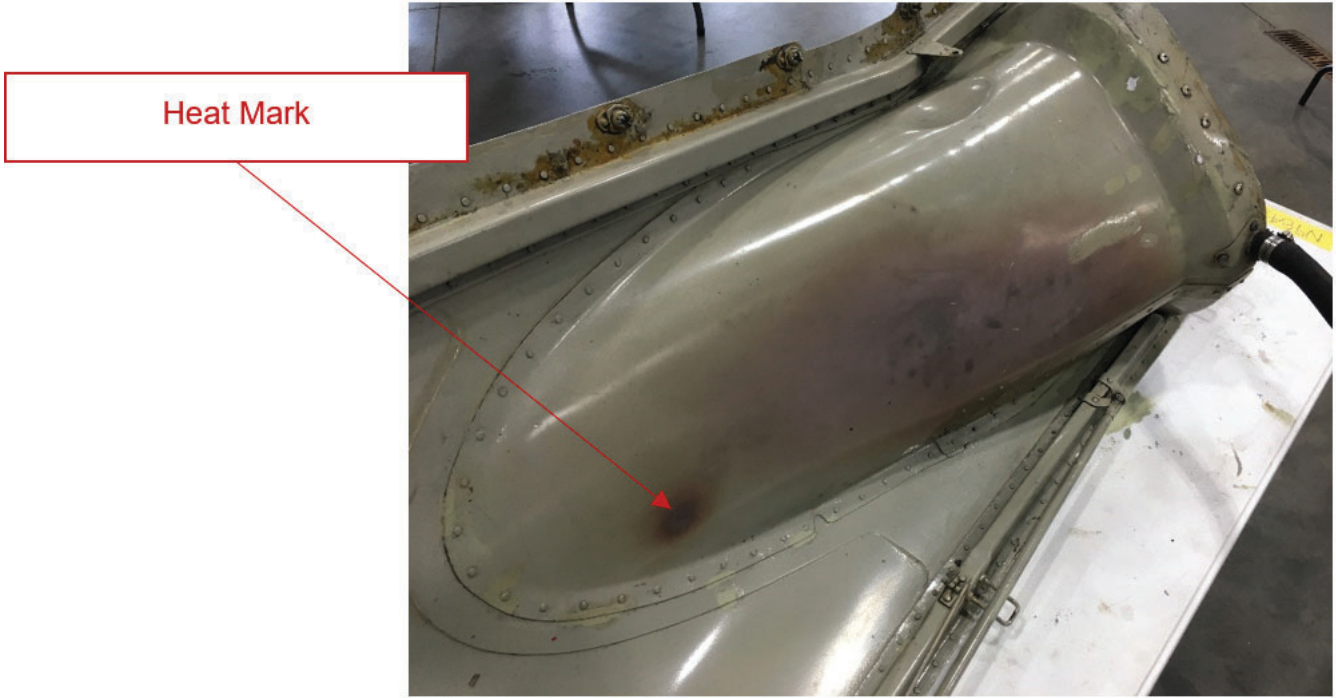


Figure 2 - Lower Right Cowl - Interior

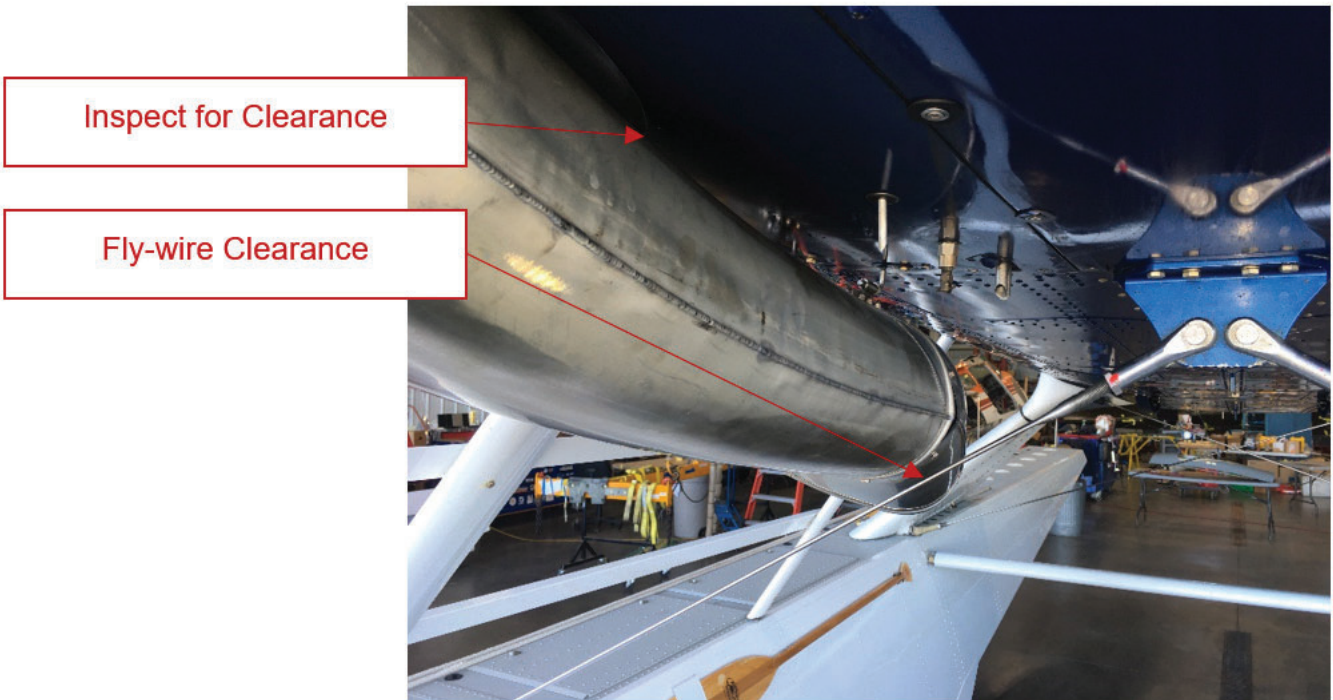


Figure 3 - Fly-wire Clearance

Installation of heatshield and rework of duct installation: (if wear or heat marks are present)

1. Remove lower right cowl per Cessna AMM.
2. Remove oil breather attach neck from cowl (3 bolts).
3. Remove secondary exhaust from cowl (8 screws).
4. Observe any areas of wear. Trim the cowling skin to match the inner panel from the rear of the cowling to a point 36.0 inches forward as needed for clearance (blend smoothly with forward opening); the skin may also be chamfered.
5. Clean exterior surface of inner cowl panel.
6. Apply epoxy primer to areas of bare aluminum.
7. Apply 1011605 self-adhesive heatshield to exterior of cowling (aft portion of inner cowl panel).

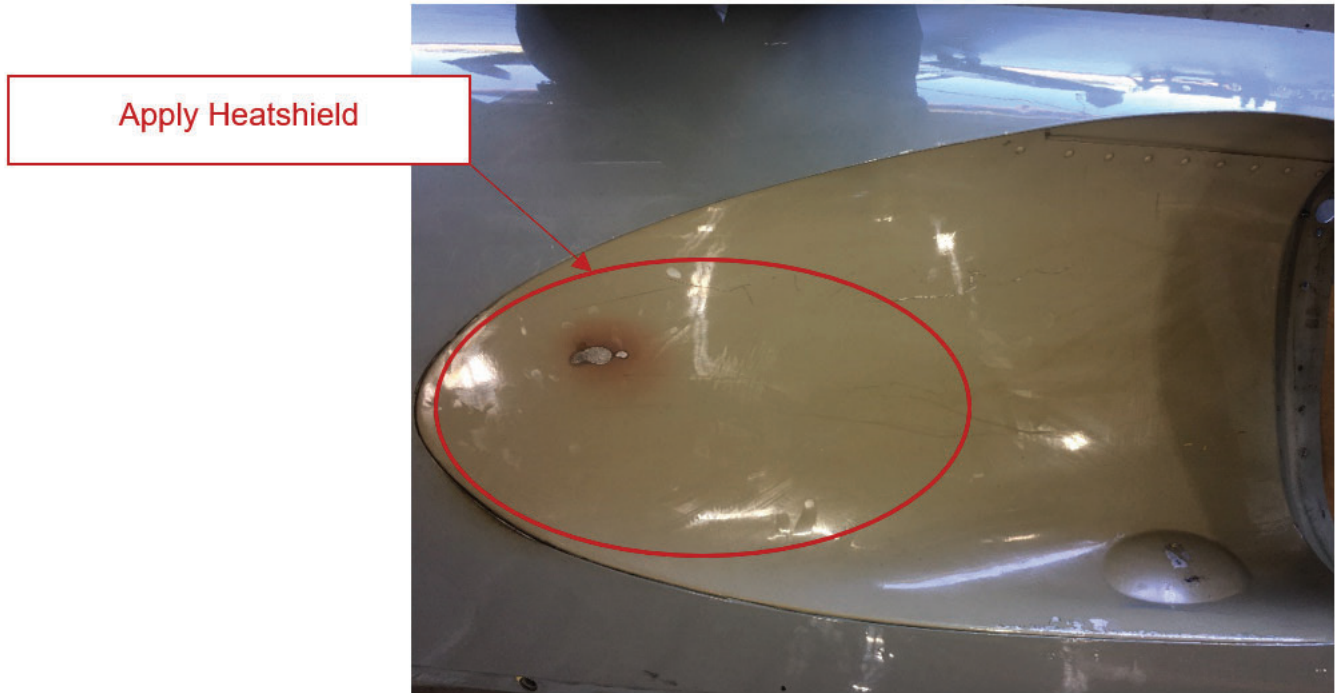


Figure 4 - Heatshield Area

8. Fabricate optional rub strips from supplied length of exhaust wrap. Apply to exterior of cowling at locations noted in step 4 with 81160 (Permatex) red RTV or equivalent product. The recommended length for the rub strip is 3.0 inches.
9. Place secondary exhaust in lower cowl; allow rear brackets to remain free of exhaust hangers. Place secondary exhaust 0.25 inches lower (away from the cowling) and 0.38 inches outboard of the original position. If clearance is improved proceed with step 10; if clearance is not improved keep the original brackets and continue with step 18.

NOTE: 1011604 spacers may also be installed (up to six at each hanger). The spacers will reduce fly-wire clearance (0.31 inches should be maintained). To install spacers: remove hanger, place spacer between hanger and cowl, install with original hardware (a longer MS35207 screw may be required).

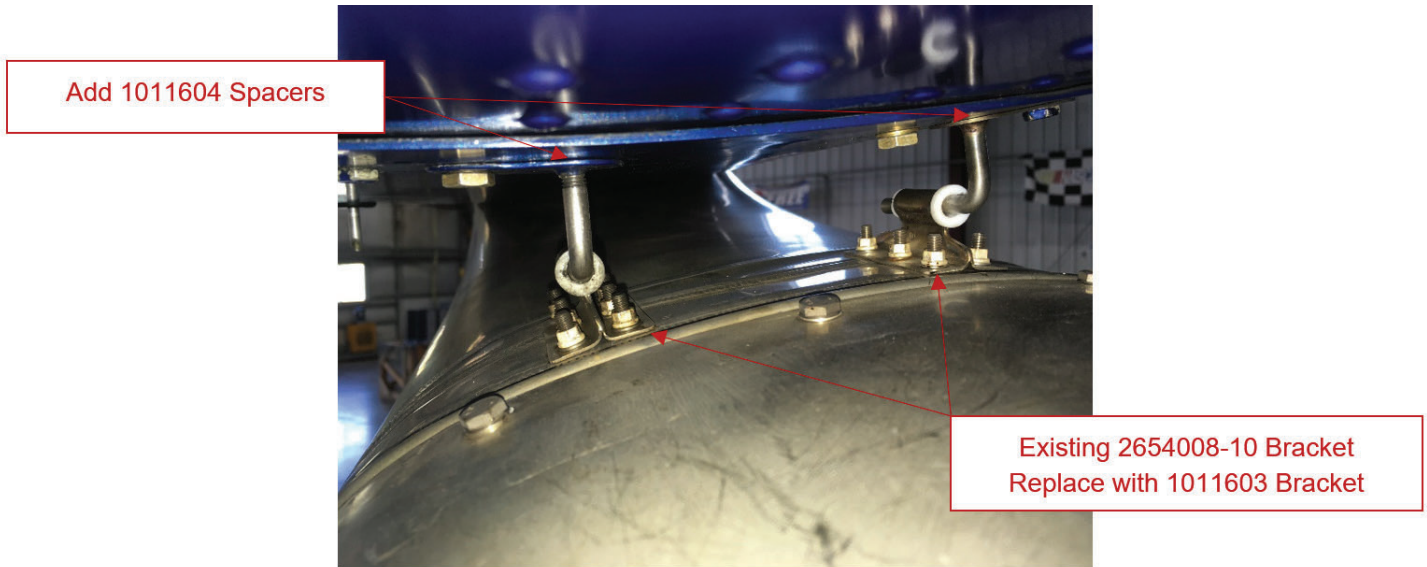


Figure 5 - Exhaust Hanger Brackets

10. Remove 2654008-10 brackets from secondary exhaust (12 bolts).
 11. Remove 2654008-14 bushings from 2654008-10 bracket and install bushings in replacement 1011603 brackets.
 12. Position 1011603 brackets on exhaust hangers.
- NOTE:** Position exhaust bracket with short leg aft.
13. Position 1011603 brackets (12 bolts) with secondary exhaust (bolts should be loose enough to allow bracket to move in relation to the exhaust; the bolts will be tightened in step 20).
 14. Seat secondary exhaust duct into cowling and clamp at bellmouth; observe if clearance between cowling and exhaust remains as expected; adjust position of exhaust as necessary to maintain best available hole alignment. Existing bellmouth holes will be misaligned; the hole centers should remain within 0.13 inches of the original center (up to 0.190 is acceptable if an oversize washer is used). Mark any hole locations that are not in alignment with Sharpie.
 15. Remove secondary exhaust from cowl and note any marked location that measures over 0.13 inches from the original hole; a 90313A400 washer will be required at these locations. Observe that 0.19 inches of material will remain between edge of new hole and edge of secondary exhaust.
 16. Remove nutplates from secondary exhaust if currently installed (8 rivets), flatten rivet dimples.
 17. Punch or drill secondary exhaust 0.194 at locations marked in step 14, deburr holes.
 18. Install secondary exhaust in cowling with original hardware (8 screws). If nutplates were removed in step 16 install original screws with MS21042L3 nuts and 90618A124 washers. At locations identified in step 15, replace washer with 90313400 washer.
 19. Reinstall breather tube with original hardware.
 20. Tighten exhaust bracket bolts (12 bolts).
 21. Conduct a primary and secondary exhaust duct general visual inspection (alignment check) per Cessna AMM.
 22. Install lower right cowl per Cessna AMM.
 23. Verify 0.31 inches of clearance is present between the fly-wire and exhaust. Rework installation as necessary to provide best clearance (it may not be possible to meet all listed clearances).

Aircraft Closing & Return to Service

1. Upon completion of inspection, enter information in Aircraft Logbook for completion of Wipaire Service Letter 217.