

TITLE

EQUIPMENT/FURNISHINGS - CREW SEAT FRAME INSPECTION AND WELD REPAIR

EFFECTIVITY**Group A: Airplanes that were delivered with possible suspect crew seat frames.**

MODEL	SERIAL NUMBERS
208	20800571 thru 20800594, 20800601 thru 20800619, 20800651 thru 20800664
208B	208B5208 thru 208B5366, 208B5401 thru 208B5575

Group B: Model 208 and 208B Airplanes that have replaced a crew seat frame that was purchased after September 8, 2014.**SPARES: Also affected are any crew seat frame assemblies that are in spares stock and were purchased after September 8, 2014.****REASON**

Reports have been received that weld cracks have been found in the aluminum seat frame leg to frame welds.

DESCRIPTION

This service document provides parts and instructions to do an inspection and a weld repair if necessary.

COMPLIANCE

RECOMMENDED. This service document should be accomplished in the next 800-hours or 24-months, from date of receipt, whichever occurs first.

A service document published by Textron Aviation may be recorded as *completed* in an aircraft log only when the following requirements are satisfied:

- 1) The mechanic must complete all of the instructions in the service document, including the intent therein.
- 2) The mechanic must correctly use and install all applicable parts supplied with the service document kit. Only with written authorization from Textron Aviation can substitute parts or rebuilt parts be used to replace new parts.
- 3) The mechanic or airplane owner must use the technical data in the service document only as approved and published.
- 4) The mechanic or airplane owner must apply the information in the service document only to aircraft serial numbers identified in the *Effectivity* section of the document.
- 5) The mechanic or airplane owner must use maintenance practices that are identified as acceptable standard practices in the aviation industry and governmental regulations.

No individual or corporate organization other than Textron Aviation is authorized to make or apply any changes to a Textron Aviation-issued service document or flight manual supplement without prior written consent from Textron Aviation.

Textron Aviation is not responsible for the quality of maintenance performed to comply with this document, unless the maintenance is accomplished at a Textron Aviation-owned Service Center.

October 2, 2020

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 Textron Aviation Customer Service, P.O. Box 7706, Wichita, KS 67277, U.S.A. 1-316-517-5800

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CONSUMABLE MATERIAL

You must use the consumable materials that follow, or their equivalent, to complete this service document.

NAME	NUMBER	MANUFACTURER	USE
Adhesive	Vangrip 14-30	Mid-West Industrial Chemical Co. 1509 Sublette Ave. St. Louis, MO 63110	To bond seat cushion to frame.
Aluminum oxide paper or cloth (high purity) - 80, 180, 240, and 320 grit		Commercially Available	To prepare surface in preparation for welding and painting.
Corrosion Resistant Primer	K000574 (2oz Kit)	Textron Aviation Parts Distribution	Preferred corrosion resistant epoxy primer.
Color Chemical Film Treatment	1445846 (Alodine 1132 Touch n Prep Pen)	Textron Aviation Parts Distribution	To prepare aluminum surface before primer.
Isopropyl Alcohol		Commercially Available	Type I Cleaning Solvent for surface cleaning.
Flat Black Paint	Commercially Available	Commercially Available	To paint upper seat frame assembly after repair.

TOOLING

You must use the tooling that follow, or their equivalent, to complete this service document.

NAME	NUMBER	MANUFACTURER	USE
10X Magnifying Lens		Commercially available	To visually inspect leg and frame for cracks.
Fine blade hacksaw		Commercially available	To cut weld when removing leg from frame.

REFERENCES

Cessna Model 208/208B Maintenance Manual
 Cessna Model 208 Series Structural Repair Manual
 American Welding Society Specifications (AWS) D17.1
 ASTM E1417

PUBLICATIONS AFFECTED

None

ACCOMPLISHMENT INSTRUCTIONS

1. Prepare the airplane for maintenance.
 - A. Make sure that the airplane is electrically grounded.
 - B. Make sure that all switches are in the OFF/NORM position.
 - C. Disconnect electrical power from the airplane.
 - (1) Disconnect external electrical power.
 - (2) Disconnect the airplane battery.

- D. Attach maintenance warning tags to the battery and external power receptacle that have "**DO NOT CONNECT ELECTRICAL POWER - MAINTENANCE IN PROGRESS**" written on them.
2. Remove the Pilot and Copilot crew seats. (Refer to the Model 208/208B Maintenance Manual, Chapter 25, Flight Compartment - Maintenance Practices.)
3. Remove and keep the hardware that attaches the upper seat frame assembly to the bottom seat frame assembly and remove the upper seat frame assembly from the bottom seat frame assembly. (For illustration of the seat assembly and part stack-up, refer to the Model 208/208B Illustrated Parts Catalog, Chapter 25, Seat Assembly - Pilot and Copilot with Armrest.)
4. Carefully remove the seat material far enough to allow a complete detailed visual inspection of the weld where the legs attach to the frame assembly.
 - A. Make sure the seat frame of any adhesive, foam, dirt, grime or contaminants where the legs attach to the frame assembly.
5. (Refer to Figure 1, Sheets 1 and 2.) Use a 10X magnifier and do a detailed visual inspection at the inboard, outboard, forward, and aft side of each of the legs where the legs are welded to the upper seat frame assemblies.
 - A. If there are no signs of cracks, reassemble the seat assembly, go to Step 16.
 - B. If there are cracks, repair the seat frame, go to Step 6.
6. Carefully remove the seat cushions from the upper seat frame assembly.

NOTE: The foam for the seat cushion is attached to the seat frame assembly with adhesive, use care to slowly peel the foam from the frame as to not damage the foam cushion.
7. Remove each leg that has a cracked weld as follows:
 - A. Carefully cut through the welds with a fine blade saw to remove any leg with a cracked weld.

NOTE: Use care to only cut through weld and not the leg or frame assembly.
 - B. Remove the old weld material from the frame and legs with a hand file or 80 grit sandpaper.
 - C. Smooth the cut surfaces with incrementally finer sandpaper up to a finish smoothed with 250 grit or finer.
 - D. Measure each removed leg length from the center of the attach hole to the top of the leg.
 - (1) If the length is 2.35-inch or longer, the leg is acceptable for reuse, go to Step 7.E.
 - (2) If the length is less than 2.35-inch, the leg must be replaced, go to Step 8.
 - E. Measure the wall thickness of each leg, at the areas where the welds were removed.
 - (1) If the wall thickness is 0.073-inch or thicker, the leg is acceptable for reuse, go to Step 8.
 - (2) If the wall thickness is less than 0.073-inch, the leg must be replaced and the new leg must be test fit with Step 8.
8. Test fit each removed (or new 0514021-21/-41) leg by placing the leg into the upper seat frame assembly.
 - A. Align the leg so there is 2.45-Inch from bottom of frame to the center of the attach hole.
 - B. Use a permanent marker and make a mark on the leg at the bottom of the frame.
 - C. Remove the leg.
 - D. Measure from the mark to the top of the leg to make sure there is 0.90-inch or more of engagement between the leg and the frame.
 - (1) If there is less than 0.90-inch engagement, the leg must be replaced and the new leg must be test fit with Step 8.
9. Prepare the parts for welding as follows:

CAUTION: The weld repair area must be completely clean and free of all contamination, such as grease, dirt, paint, primer, chemical film, etc. Any contamination in the weld area will cause porosity of the weld.

- A. Remove the finish around the repair area a distance of 0.50-inch on either side with fine Scotchbrite pad or 250 grit or finer sandpaper.
- B. Use clean dry air to blow off dust.
- C. Use a clean cloth wet with isopropyl alcohol to clean the surface.

NOTE: Freshly sanded, clean, and dry surfaces are necessary to produce acceptable welds.

10. Insert the leg into the upper seat frame assembly until there is 2.45-Inch from bottom of frame to the center of the attach hole.

NOTE: For the weld repair, the welder must be certified to American Welding Society Specifications (AWS) D17.1 or equivalent. Welding must be performed per AWS B2.1 using welding rod ER4043 per AWS A5.10.

11. (Refer to Figure 3.) Weld the legs to the upper seat frame assembly making sure the legs are oriented correctly and remain perpendicular to the frame.
12. Do a penetrant inspection of the weld in accordance with ASTM E1417.

NOTE: Use a Type I penetrant removable by any method and a sensitivity level of 2 or higher. Select a developer compatible with the penetrant removal process.

NOTE: No cracks allowed, maximum pore size 0.019, spacing between pores 0.160" minimum, no pores aligned vertically or horizontally.

13. Clean parts with a clean cloth wet with isopropyl alcohol to remove the penetrant.
14. Apply Color Chemical Film Treatment and Corrosion Resistant Primer to the upper seat frame assembly as follows:
 - A. Use a clean cloth wet with isopropyl alcohol to clean the surface.
 - B. Apply Color Chemical Film Treatment to the bare aluminum surface.
 - C. Apply Corrosion Resistant Primer following the manufacture directions for application and dry time. (Refer to the Model 208/208B Maintenance Manual, Chapter 21, Interior and Exterior Finish - Cleaning/Painting.)
15. Paint the reworked areas with flat black paint.
16. Attach the seat material and, if the seat cushion was removed, install the seat cushions to the upper seat frame assembly with Vangrip 14–30 Adhesive.
17. Attach the upper seat assembly to the bottom seat frame and with the kept hardware from Step 3. (For illustration of the seat assembly and part stack-up, refer to the Model 208/208B Illustrated Parts Catalog, Chapter 25, Seat Assembly - Pilot and Copilot with Armrest.)
18. Install the Pilot and Copilot crew seats. (Refer to the Model 208/208B Maintenance Manual, Chapter 25, Flight Compartment - Maintenance Practices.)
19. Remove the maintenance warning tags and connect the airplane battery.

20. Make an entry in the airplane logbook that states compliance and method of compliance with this service document.

NOTE: Textron Aviation recommends that compliance with all service documents is reported to a maintenance tracking system provider.

- Complete a record of compliance. (Maintenance Transaction Report, Log Book Entry, or other record of compliance.)
- Put a copy of the completed record of compliance in the airplane logbook.
- Send a copy of the completed record of compliance to the maintenance tracking system provider used.

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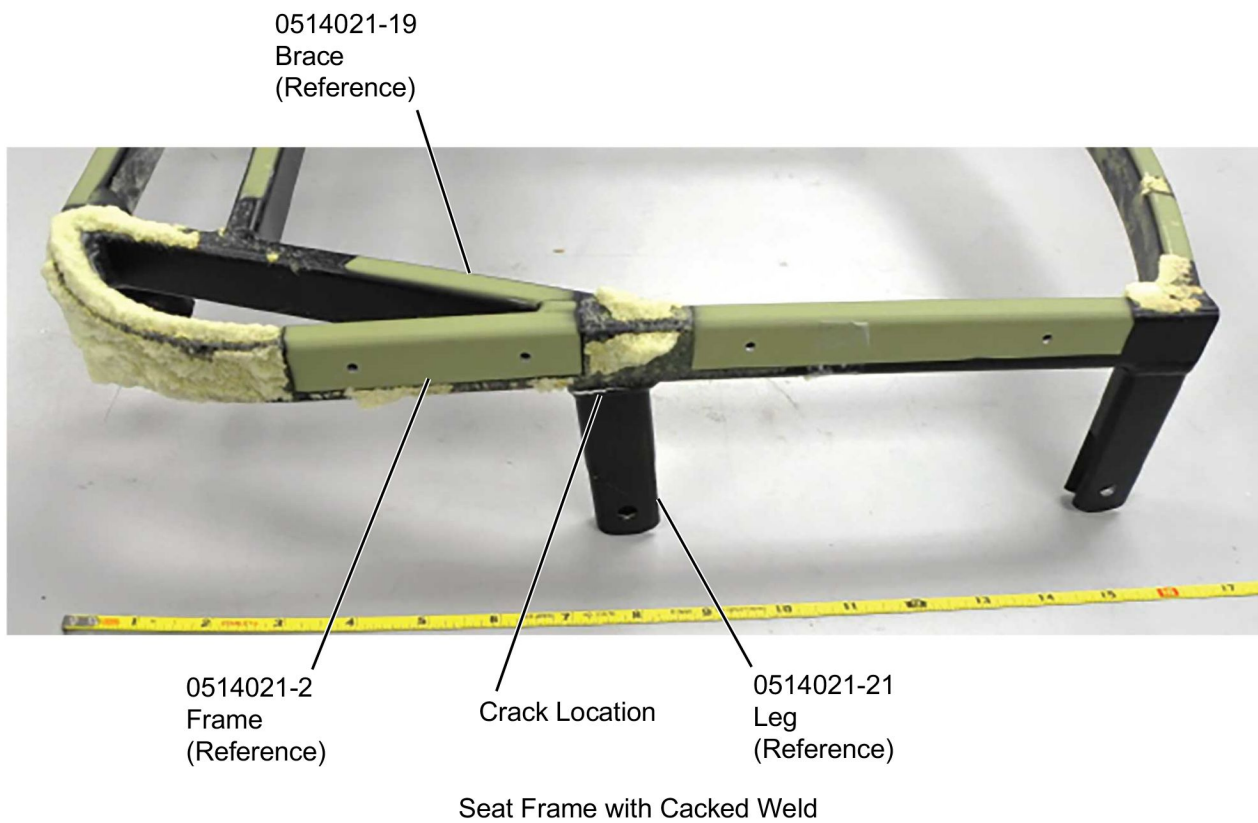


Figure 1. Seat Frame Crack and Weld (Sheet 1)

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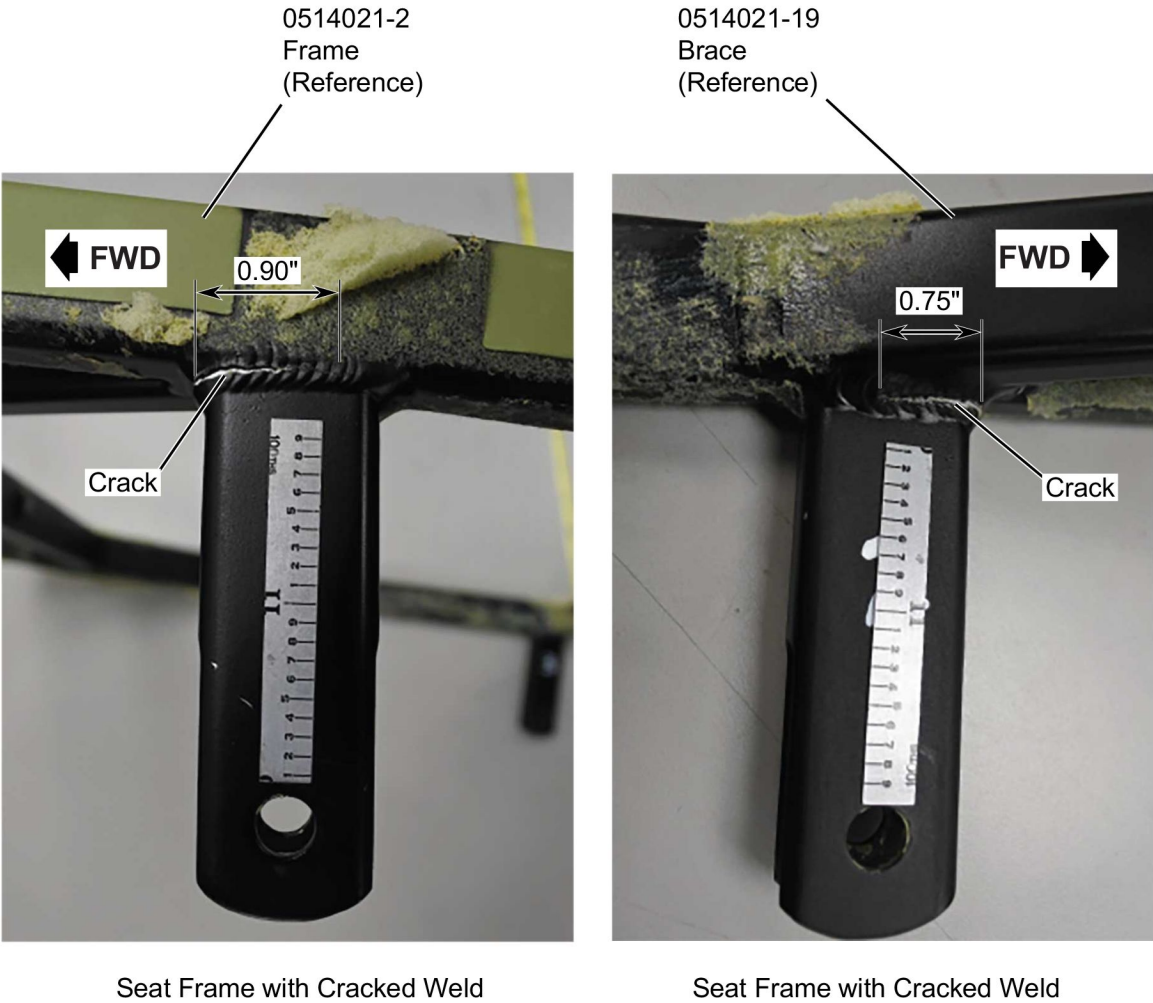
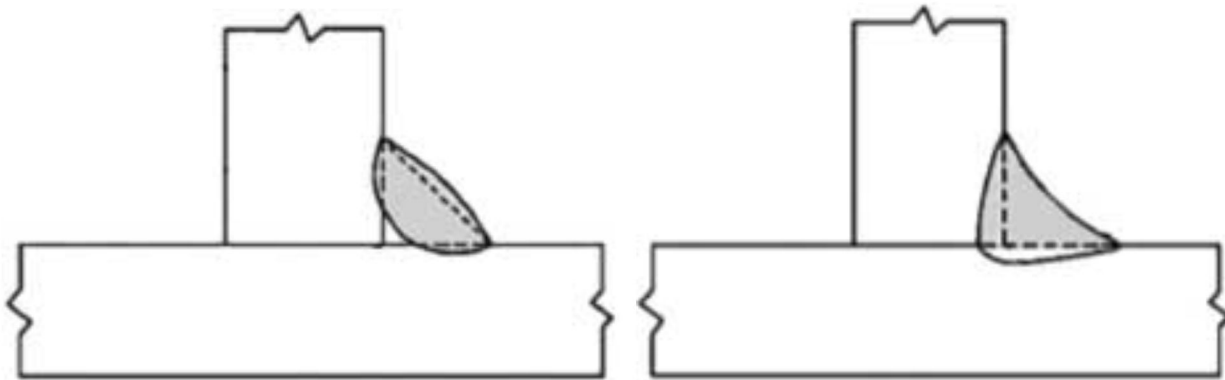


Figure 1. Seat Frame Crack and Weld (Sheet 2)

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Incorrect Weld with Poor Weld Penetration

Correct Weld

Figure 1. Seat Frame Crack and Weld (Sheet 3)

MATERIAL INFORMATION

The parts below may be necessary to complete this service document.

NEW P/N	QUANTITY	KEY WORD	OLD P/N	INSTRUCTIONS/ DISPOSITION
0514021-21	A/R	Leg, Aft	Same	Discard old Install new
0514021-41	A/R	Leg, Forward	Same	Discard old Install new
0514021-43	A/R	Frame Assembly	Same	Discard old Install new

NOTE: The 0514021-43 Frame Assembly is a complete upper seat frame assembly with legs.

* Please contact Textron Aviation Parts Distribution for current cost and availability of parts listed in this service document. Phone at 1-800-835-4000 (Domestic) or 1-316-517-5603 (International). Send email to: parts@txtav.com.

Based on availability and lead times, parts may require advanced scheduling.

TITLE

EQUIPMENT/FURNISHINGS - CREW SEAT FRAME INSPECTION AND WELD REPAIR

TO:

Cessna Model 208 and 208B Aircraft Owner

REASON

Reports have been received that weld cracks have been found in the aluminum seat frame leg to frame welds.

COMPLIANCE

RECOMMENDED. This service document should be accomplished in the next 800-hours or 24-months, from date of receipt, whichever occurs first.

LABOR HOURS

WORK PHASE	LABOR-HOURS
Seat Disassembly/Assembly	1.0 per seat
Leg Replacement (weld repair)	0.3 per leg

MATERIAL AVAILABILITY

PART NUMBER	AVAILABILITY	COST
0514021-21	*	*
0514021-41	*	*
0514021-43	*	*

* Please contact Textron Aviation Parts Distribution for current cost and availability of parts listed in this service document. Phone at 1-800-835-4000 (Domestic) or 1-316-517-5603 (International). Send email to: parts@txtav.com.

WARRANTY

This service document is *recommended*. Eligible airplanes may qualify for parts and labor coverage to the extent noted in the *Labor Hours* and *Material Availability* sections of this document.

October 2, 2020

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Eligibility: Airplanes identified within the serial number effectivity of this service document must have active Airframe warranty coverage on the original issue date of this document and the coverage must be active on the day the work is accomplished.

Parts Coverage: Textron Aviation-owned and Textron Aviation-authorized Service Facilities, operators, or other maintenance facilities may submit a claim for the parts required to accomplish this service document as defined in the *Material Availability* section of this document.

Labor Coverage: Textron Aviation-owned and Textron Aviation-authorized Service Facilities rated to perform maintenance on the specific model of Cessna Aircraft may submit a claim for the labor necessary to accomplish this service document as defined in the *Labor Hours* section of this document.

Credit Application: After this service document has been accomplished, a claim must be submitted to Textron Aviation within 30 days of the service document completion. Claims for compliance of this service document are to be filed as a W4 type claim.

Please submit your claim form online at ww2.txtav.com/Parts or email the completed Textron Aviation Claim Form to warranty@txtav.com. If submitted on-line a Return Authorization will be provided. If a paper claim is submitted your claim will be entered into the system and a Return Authorization will be sent to you.

The Return Authorization must accompany any required return parts (see *Material Availability*), to the point of purchase.

Parts to be returned to Textron Aviation Parts Distribution should be forwarded to:

Textron Aviation Parts Distribution
Warranty Administration
285 South Greenwich Road
Bldg B89, Docks 1-4
Wichita, KS 67206
USA

Expiration: October 2, 2022 (after this date the owner/operator assumes the responsibility for compliance costs)

Textron Aviation reserves the right to void continued airplane warranty coverage for the parts affected by this service document until the service document is accomplished.

NOTE: As a convenience, service documents are now available online to all our customers through a simple, free-of-charge registration process. If you would like to sign up, please visit the Customer Access link at www.txtavsupport.com to register.