



• MANUFACTURERS OF WIPLINE FLOATS & SKIS  
• SPECIALISTS IN AIRCRAFT MODIFICATION

1700 Henry Avenue - Fleming Field  
South St. Paul, MN 55075  
651-451-1205

Rev  
B

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Prepared by Ellen Parker	Aircraft Make / Model Cessna Caravan 208	Float / Ski Model 8000 Amphibious or Seaplane	Page 1 8
FAA Reviewed <input checked="" type="checkbox"/>	Title C-208 Firewall Modification		

**ALL INFORMATION IN THIS SERVICE DOCUMENT BASED ON FAA APPROVED DATA**

DATE: March 24, 2000  
REVISED: June 1, 2007 \*

SERVICE KIT: #25

MODEL: Cessna 208 Caravan

<u>Item</u>	<u>Quantity</u>	<u>Part No.</u>	<u>Description</u>
1.	1	8A16429-001 (6A3-2303-1)	Reinforcement (Left)
2.	1	8A16429-002 (6D3-2303-2)	Reinforcement (Right)
3.	1	8A16429-003 (6D3-2303-3)	Splice
4.	1	8A16429-004 (6D3-2303-4)	Filler Block
5.	1	8A16466-007 (6D1-2304-7)	Bracket
6.	1	8A16466-008 (6D1-2304-8)	Bracket
7.	1	8A16008-115	Bracket
8.	4	NAS1149DN816H	Washer
9.	20	NAS1149F0332P	Washer
10.	5	NAS1149F0363P	Washer
11.	4	4002-16S	Stud, Camloc, Stainless
12.	1	8A16000-020 (6D1-2304-14)	Bracket Assy – EPA Can
13.	1	8A16000-021 (6D1-2304-15)	Bracket Assy – EPA Can
14.	1	8A16000-022 (6D1-2304-16)	Bracket Assy
15.	1	8A16000-023 (6D1-2304-17)	Bracket Assy
16.	1	8A16596-001 (6D1-2304-18)	Spacer
17.	1	8A16596-002 (6D1-2304-19)	Spacer
18.	1	8A16466-004 (6D1-2304-24)	Support Fuel Filter
19.	1	8A16179-007 (6D1-2304-25)	Spacer Support
20.	1	8A16179-008 (6D1-2304-26)	Latch Socket Spacer
21.	1	8A16008-168	Support Guide LH
22.	1	8A02100-003 (6C3-2306)	Fitting-Brace Wires
23.	2	NAS6606-16	Bolt
24.	2	NAS6606-22	Bolt
25.	8	AN365-624	Nut
26.	4	AN4-H3A	Bolt
27.	4	AN525832R7	Screw
28.	20	AN525-10R6	Screw
29.	100	AN960-10	Washer
30.	20	AN960-10L	Washer

31.	12	AN960-8L	Washer
32.	12	AN960PD8L	Washer
33.	10	AN960-516	Washer
34.	18	AN960-616	Washer
35.	10	AN3-3A	Bolt
36.	14	AN3-12A	Bolt
37.	6	AN3-13A	Bolt
38.	4	AN3-14A	Bolt
39.	2	AN3-17A	Bolt
40.	2	AN3-20A	Bolt
41.	2	AN3-30A	Bolt
42.	12	AN365-832	NUT
43.	2	AN3-10	Bolt
44.	6	MS21042-6	Nut
45.	4	40S5-14S	Stud
46.	4	40S5-15S	Stud
47.	50	HL18PB6-5	Pin
48.	40	HL18PB6-6	Pin
49.	20	HL18PB6-7	Pin
50.	20	HL18PB6-8	Pin
51.	10	HL18PB6-9	Pin
52.	2	AN3-11A	Bolt
53.	15	CR3523-4-4	Rivet – Monel
54.	15	CR3523-4-5	Rivet – Monel
55.	15	CR3523-4-6	Rivet – Monel
56.	15	CR3523-4-7	Rivet – Monel
57.	15	CR3553-4-5	Rivet – Monel
58.	15	CR3553-4-6	Rivet – Monel
59.	15	CR3553-4-7	Rivet – Monel
60.	140	HL70-6	Collar
61.	7	MS21086C3	Nut, Anchor
62.	10	CR3523-4-3	Rivet - Monel
63.	50	MS20615-4M4	Rivet - Monel
64.	50	MS20615 – 4M5	Rivet - Monel
65.	25	MS20615-4M7	Rivet – Monel
66.	25	MS20615-4M8	Rivet – Monel
67.	50	MS20427M4-7	Rivet – Monel
68.	50	MS20427M4-8	Rivet – Monel
69.	50	MS20427M4-9	Rivet – Monel
70.	50	MS20427M4-10	Rivet – Monel
71.	1	#44	Service Letter

INSTRUCTIONS: INSTALL ABOVE PARTS ACCORDING TO INSTALLATION DRAWING 6D1-2304, AND THE FOLLOWING INSTALLATION INSTRUCTIONS.

## **INSTALLATION INSTRUCTIONS - FIREWALL MODIFICATIONS**

UNLESS INDICATED OTHERWISE BELOW, ALL REPAIRS AND MODEFICATIONS TO THE AIRCRAFT ARE TO COMFORM WITH WIPAIRE S/K #25, THE CESSNA MODEL 208 MAINTENANCE MANUAL AND FAA ADVISORY CIRCULAR AC-43.13. THESE REPAIRS ARE AUTHORIZED FOR ALL CESSNA MODEL 208 AIRCRAFT THAT DON'T HAVE THIS FIREWALL MODIFICATION ALREADY INSTALLED FROM FACTORY.

1. Support and level the aircraft for major repairs to the forward fuselage and firewall area. Remove the engine cowling, engine assembly, engine mount, and any systems or brackets located on the firewall assembly. Remove and replace any deformed or damaged airframe components, including the firewall sheet and flange ring. When removing fasteners, note the size and type for later installation of new components using same type fasteners as removed.
2. Obtain from Cessna, replacements for the damaged components, including a new firewall sheet P/N 2653040-3 and Flange Ring P/N 2653042-1, -2, as required,
3. After replacing all damaged components aft of the firewall sheet, align and install the Firewall sheet, firewall improvement components and Flange Ring as depicted on the Cessna E.O. 208-0958 drawing sheet 2 of 2.
4. Install new firewall reinforcement, spacers and brackets as shown on drawing 6D1-2304, using fasteners called out or substitute as required. Shimming maybe necessary in order to maintain proper fit up, and oversized fasteners may be used as permitted in the Model 208 Maintenance Manual, if required for fastener hole cleanup.
5. Reinstall the systems, engine mount, engine and engine cowling. Contour cowling as required in order to accommodate system drains. Per the Aircraft Maintenance Manual, re-rig and perform functional test on all systems disturbed during repairs.
6. Record this repair in the Aircraft Maintenance Records. Reference this S/K and retain a copy in the Airframe Logbook.
7. Note: previously installed firewall modifications, Installation 6D1-2024, and or Installation 6D1-2295 are optional, but maybe left in, when installing this kit #25.

**Forward Firewall Fittings Installation**  
**C208**

Install aircraft tail stand.  
Shut off fuel and drain collector cell assy  
Close fuel firewall shutoff  
Remove main battery and tray assembly  
Remove cowlings / exhaust  
Disconnect contactor box wiring from external plug,  
Disconnect CB panel connectors from back of contactor box  
Disconnect main line leads on and to contactor box  
Disconnect hydraulic line at firewall and cap and plug  
Remove electrical contactor box  
Remove contactor box backing insulation  
Remove cockpit seats  
Remove pilot and copilot fwd floor panels, control column covers.  
Remove four rudder pedals with brake master cylinders  
Remove cockpit fwd sidekick panels  
Remove all cockpit floor access panels.  
Roll up insulation and remove applicable blanket material.  
Remove all items from fwd firewall to engine or engine components, ie. cable, wiring and fuel lines.  
Disconnect all engine items staying with engine but that are connected to truss assy  
Disconnect engine drain line assy at firewall with lines, keep secured together.  
Disconnect and remove inertial separator arm assy from firewall and from engine lower aft.  
Disconnect and remove standby alternator, bracket and drive assy. Retain drive spline coupler.  
Remove propeller if unable to store removed engine at correct height.  
Remove engine with collar assy. Inspect removed hardware.  
Disconnect cabin heat shut-off valve box, from firewall  
Disconnect engine control cables from heat box plenum.  
Disconnect truss ground straps.  
Remove steering bungee  
Remove nose gear assy  
Install jack pad and place an aircraft jack for fwd stability of aircraft.  
Disconnect engine truss assy.  
Inspect truss mount hardware.  
Retain barrel nuts.  
Remove rudder trim hook up from steering bungee slide.  
Remove rudder cables from torque tubes  
Remove tie raps from engine control cables.  
Remove lower heat box divider and scat hoses/cabin heat valve assembly, lg heater duct.  
Remove scat hoses from aircraft  
Remove hydraulic lines and hoses, cap and plug.  
Remove all cockpit floor panels that access lower aft side of firewall, unrivet floor panel at fwd attach, and unrivet at extreme ends to stiffeners and to floor stiffeners.

To remove main fwd cockpit floor, cut at right of area where engine control cables pass over, then later, add a splice plate riveted to left and structural screws with nut plates to right side. This is to ease floor installation.

Remove rudder torque tubes and main fwd floor panel. Mark torque tube blocks to keep together and for their respective places.

(If replacing firewall assy, remove both pilots instrument panels and center avionics panel with as many trays as possible and leaving avionics connectors behind.) Disconnect engine cables at firewall and pull through to aft of firewall, retain connection hardware and mark location of each cable.

Release upper wire bundles and remove attachments and defroster assemblies.

Remove battery mount brackets and retain hardware.

Remove firewall mounted drain can assemblies.

Remove two forward nut plates for attachment of parking brake valves assembly, AN3-14A bolts to be used upon installation valve assembly.

Remove firewall mounted main fuel filter assembly. Remove brackets and hardware. Remove fuel ejector bulkhead fitting at firewall and retain hardware.

Remove and retain any other items involved with disassembly of firewall components.

Make a complete inspection of firewall assembly for hidden damages, structural airworthiness, structure configurations and patterns. Take photos if possible.

Inspect lower and sidewall areas at firewall attach surrounding structure for rivet configurations and patterns.

Inspect surrounding structure for conformity with any applicable service information's.

REFER to Cessna Illustrated Parts Manual P688-4-12, to the following;

53-10-00 Figure 01 Pg 0 thru 7.

Pg. 0 – remove all items #6

Pg. 2, #88 - remove

Pg. 2, #99 - remove

Pg. 2, #108, #75 - remove

Pg. 6, #246 - remove

Pg. 6, #238 - remove

Pg. 4, #178 - remove

Pg. 0, #27 - remove

Items to be removed which require drilling should use a #30 cobalt bit at a medium to slow speed with the head to be drilled off only and tail to be tapped out and surrounding structure backed up.

Upon completion of drilling per panel, carefully remove as most riveted panels are sealed on the backside. The use of a puddy knife is acceptable, Snap-on # PK53 works very well. Do not apply much pressure, as firewall is thin and will mar or scratch, even puncture if not worked carefully.

Clean firewall of old sealants where applicable

Remove both upper-forward, left and right flange rings and lower left and right flange rings being careful not to damage rivet structure. Drill heads, tap rivet tails through and back up metal structure upon tail removal. Flange rings to be removed are:

Pg 0, #18 and #24, lower left and right.

Pg 0, #16 and #17, upper left and right

Remove all camloc retainers with lower flange rings.

Carefully drill heads of Hi-Loc bolts at lower battery post bracket and punch out rivet tails and remove pintle assy.

Lay new castings up to firewall and generally outline area onto firewall with a sharpie marker. Drill all applicable Hi-Loc fasteners with-in outline area. Remove any protrusion with-in the outline area as marked. (Rivets, nutplates, hardware, etc.)

Remove, if applicable, air conditioning cover plate from lower left side. (Looking aft)

Remove items #36, #35, #33, Pg 0, fig 01, 53-10-00, illustrated parts.

Inspect castings, left and right for discrepancies, note that a radius has been cut on fwd and aft lower corners of castings, and that when new lower flange rings are mated to castings, that casting back side under cut is enough for flange ring, if not, cut down flange ring to accommodate.

\*Lay right hand casting up to firewall and lightly clamp to surrounding skin with two clamps. (SP6 long reach vise grips), at topside and near truss mount holes. Do not include lower left and right flange rings at this time.

\*Look at casting general fit to surrounding skin and using a soft mallet, tap to as close of an alignment as possible, matching truss mount holes including the 8 screw holes in that area.

Note: Once bullet can be installed, drill the 8 #30 hole and then enlarge to 3/16<sup>th</sup> being careful not to go to deep. Use template provided.

\*Continue to clamp, adding another clamp above the truss holes and then continuing clamping further down. Check alignment to holes upon adding another clamp, and tapping or keeping in position. Watch the lower skin as you continue clamping and try to keep any gaps to a minimum that are between the casting and lower skins.

\*Upon the completion of securing 7 to 8 clamps and with the hole pattern perfectly aligned, install a bullet in the jig hole provided in casting and aircraft structure.

\*Now install 8-AN525-6R7 screws into the applicable holes provided and carefully secure. The casting will pull aft and you might want to tap the casting aft upon initial installation of all screws before securing.

\*Complete the same as above for the left side casting.

\*Take note of any discrepancies with fit or obstructions involving castings. They may fit a little differently for each side depending upon aircraft age and usage. Review general fits and clearances.

\*Without center spacer or center bracket in place, (which ties to two castings together) check with a 6" rule for alignment consistency across the face and flanges of both castings.

\*Look at how the rivet pattern is as viewed from the aft side of firewall compared to the drawing. Look at where some of the existing rivet holes are with concern for the casting stiffeners and raised structure. Many will have to be marked and plugged before final install of castings.

\*First thing to notice is the location of rivet pattern securing nose gear guide assembly to aft side of firewall. Notice that the pilot side of rivet pattern would interfere with forward casting vertical stiffener. Refer to illustrated parts 32-50-00, Fig 01, pg 0, Item 38A.

\*This side angle bracket will have to be changed which incorporates a wider flange area.

\*Tentatively put in place, the engine cable/steering bungee fwd firewall doubler plate and check for interference of fit to firewall/casting.

\*This bracket will probably be cut at the bend and a new angle riveted on to match casting radius.

\*Apply all new bracket and spacers to their applicable positions to check for general fit and possible discrepancies. Remove castings.

\*Hammer upper flange ring rivet holes to flush and de-burr. Trial fit new lower flange rings.

- \*Install castings with flange rings mated to castings and clamp and fit to check for interference of surrounding structure. Use **NEW** lower flange rings. Install bullet and secure at screw holes.
- \*Make sure before you start marking castings from aft side that castings are clamped and secured with bullets and screws installed, lower flange rings in and mostly flush against the firewall. One casting at a time can be done if you wish.
- \***Do not** tack-drill or spot-drill any hole in castings, which are to be plugged due to non-usage in casting attachment.
- \*Spot drill with drill from the back, one line of holes to be used on hat channels, hit a variety of others to make a general covering for initial securing of castings to firewall. Drill to #30. (Skip over any hole, which has been allowed to become larger than initial size, by a half size). **DO NOT** drill any side or bottom skin hole at this time!
- \*Depending upon condition of pieces removed, make a template on .032 or thicker material of items,  
53-10-00, fig 01, Pg 0, #32 and 27.
- \*Be careful to eliminate holes, which will interfere with casting stiffeners.
- \*Remove castings and de-burr, check places where castings were spotted for rivets and check your template to correct placement of the same. Be sure spotted areas when drilled will not interfere with casting stiffeners on front side and that they will have proper edge distance. Any rivet hole not allowing for proper edge distance—Eliminate!
- \*Drill to #30, spotted areas in accordance with your template. **Do Not** drill in area of castings where center splice plate is to be placed.
- \*Drill to #30, all other holes which were spotted outside the template and that do not interfere as said before.
- \*Install castings and secure as previous, inspect and pickup holes drilled with clecos.
- \***Note:** Always fine tune casting into place and use bullets and secure the eight screws and clamp before installing clecos and or making final markings and drilling.
- \*Check for spacing between installed castings and firewall. Check consistency between left and right castings for being flush with each other at this point.
- \*Check fit of Center Splice Plate as centered between castings with castings secured.
- \*Check rivet edge distance of castings just outside of center splice plate.
- \*Refer to drawing and check template for a rivet pattern concurrent with or as close to drawing a possible.
- \*Drill to #30 only four to six new holes on front face of splice plate only.
- \*Spot the rest of the existing useable holes from the back side of castings and carefully spot the previously enlarged holes to be drilled.
- \*Mark castings for new hole placements.
- \*Remove entire assembly.
- \*Review the rivet pattern against the drawing and against the firewall for accuracy with existing holes.
- \*De-burr castings and splice plate and lower flange rings and firewall.
- \*Re-install castings, flange rings, and center splice plate.
- \*Drill for new hole placements. Fwd facing placement only.
- \*Pick up any existing needed holes and drill center splice plate per drawing and or previously configured hole pattern.
- \*Check, drill and cleco, inertia separator arm lower angle brackets. Note: attach arm when picking up last angle bracket hole pattern.

- \*Check fit, drill and cleco upper fuel filter angle brackets.

- \*Check fit, drill and cleco fuel drain can angle brackets.
- \*Open up holes for drain line bracket attachments, battery drain attach brackets, heater valve shut off cable, air conditioning cover plate attach, engine truss bonding strap attachment, battery hose clamp attachment, parking brake valve assembly.
- \*Check fit of battery bracket attachments to firewall and look of any interference with castings or bolts mountings.
- \*Remove center splice plate and install casting spacer. Trim to fit.
- \*Mark center splice plate to pick up two to three attaching rivets, drill and countersink firewall to accommodate rivet tail.
- \*Rivet center splice plate to casting spacer.
- \*Drill engine cable bracket to top of casting.
- \*Drill airframe side skins to accommodate rivets and camloc retainers.
- \*With top flange rings installed, cut bottom of flange ring ends to fit at lower battery pintle and to make access for Hi-Loc fasteners near tops of castings.
- \*Remove casting assemblies and de-burr and clean.
- \*Double check rivet pattern against the drawing and existing firewall, Prime and paint as required.
- \*Install castings assembly and enlarge all needed holes to just undersize of required diameter.
- \*Install lower fly wire bracket and drill castings for new attaches configuration.
- \*Drill center splice bracket for fly wire bracket attach
- \*Pick up any loose ends as needed.
- \*Remove castings assembly and de-burr and clean
- \*Dimple and plug all applicable holes in firewall, install all applicable nutplates and make any necessary adjustments required before final assembly.
- \*Apply a thin layer of PR1422-B6 to aft side of castings utilizing a 1" roller and to aft and bottom side of flange rings, install to firewall and secure.
- \*Slide center splice plate into place-tentatively for casting symmetry.
- \*Rivet castings starting with the top line of the hat section, center to top and center to bottom. Proceed to outward of casting.
- \*Rivet right hand casting complete, then left casting complete.
- \*Apply PR1422-B2 to center splice plate and spacer, install and complete fastener installation to castings and firewall.
- \*Fasten top of lower flange rings, left and right with 6 each, AN525-8R7 screws and 365 nuts. Drill to #19.
- \*Parking brake block, retain with AN3-17A and MS21042-3 nuts, refer to illustrated parts 53-10-00 fig 01, pg 2, #79. Nutplates are eliminated.
- \*Install all bracket assemblies and install all spacers and holder assemblies.
- \*Install hardware and attach components to check final fit.
- \*Install camloc retainers and rivet side skins complete.
- \*Finalize any oversize fasteners.
- \*Mount cowlings to aircraft and trim to fit firewall mounted components.
- \*Fasten cowls and check for correct camloc fasteners.
- \*Re-install engine truss assembly, and install engine complete.
- \*Complete cockpit installations.
- \*Complete ground run and leak checks.