



WIPLINE FLOATS • SKIS • MODIFICATIONS • AIRCRAFT SALES
AVIONICS • INTERIOR • MAINTENANCE • PAINT REFINISHING

SERVICE LETTER 171

8750A MAIN GEAR OIL BATH WHEEL SYSTEM

Aircraft Makes/Model(s):	Float Model(s):	Compliance: Optional	By: MAB
Cessna 208 Cessna 208B	8750A	Part Number: 1008943	Approved: SDW
		Date: 5/5/2021	Revision: L

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

EFFECTIVITY:

This service letter applies to Cessna 208 and Cessna 208B with Wipline 8750 Amphibious Floats S/N 87221A/87222A and prior, but excludes floats 87187A/87188A installed per STC SA1311GL.

COMPLIANCE:

Optional compliance.

BACKGROUND:

A new main gear oil bath wheel bearing system has been designed to replace the old main gear grease wheel system. This new system will allow the wheel bearings to be continuously lubricated, which will increase the life of the wheel bearings.

COMPLIANCE METHOD:

Install main gear oil bath wheel system per Work Instruction section of this service letter.

If no revision of this service letter has been complied with and the floats have the grease system currently installed, perform method A.

If revision A, B, C, or D of this service letter has been complied with, or the floats came with the oil wheel bath system installed but the serial numbers are prior to those listed in EFFECTIVITY, perform method B.

Note: Brake line routing may differ in this service letter compared to what is shown. It is highly recommended to perform work in Service Letter 200 in conjunction with this service letter.

APPROXIMATE SHOP HOURS:

Installing the main gear oil bath wheel system will take approximately:

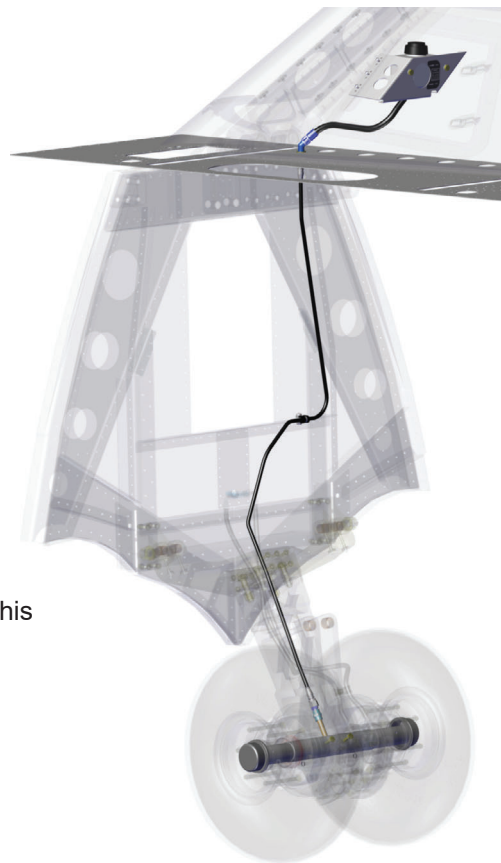
- Method A: 25 hours
- Method B: 10 hours

WARRANTY INFORMATION:

Parts and labor not included for this modification. Contact Wipaire customer service to purchase the kit.

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



WIPLINE FLOATS • SKIS • MODIFICATIONS • AIRCRAFT SALES
AVIONICS • INTERIOR • MAINTENANCE • PAINT REFINISHING

LOG OF REVISIONS

Revision	Description	Date
A	Initial release	10/24/2016
B	Changed serial effectivity from 87190 and prior to 87176 and prior. Changed AN3-4 to AN3-5 in reservoir installation. Changed approximate shop hours. Changed NAS1149D0763P to NAS1149D0763J and NAS1149F0363P to NAS1149D0363J. Added note allowing installation of drain cap on inboard or outboard side. Added "or equivalent" to new grease seal. Added instruction to apply Tef-Gel and Loctite to certain hardware in instruction. Changed AN526-832R5 to AN526C832R8 and AN526-832R4 to AN526C832R6. Placards 1009112, 1009113 modified. Added "one kit per float set" to Table 1. Added weight and balance specifications. Corrected new molded grease seal to 154-08200 or equivalent. Changed BOM Part Number 1008995 to 1008995-01 Kit.	7/17/2017
C	Drilled axle now provided with service kit. Added parent kit part number to bill of materials.	11/2/2017
D	Corrected 1008980 axle quantity in 1008943-01 kit from 1 to 2. Corrected trunion bolt from AN10-40A to AN10-40.	1/23/2018
E	Corrected drill size for reservoir bracket install to size 19 from 29. Updated Bill of Materials in kits 1008943-01 and 1008943-02. Changed seal PN from 154-08200 to 1001996. Split service letter into Method A and Method B. Added axle plugs.	4/25/2019
F	Added Fill Sytem, Axle, Main Gear, Oil Bath Wheel part number 1009931 to kit 1008943-02.	8/5/2019
G	Added note in compliance method. Updated image for 1009930 Main Gear Axle Plug to remove a hole.	1/20/2020
H	Updated serial number effectivity. Added note to work instruction # 35.	3/20/2020
J	Changed Seal 1001996 to 473232 in BOM and image. Updated drawing for wheel assembly reinstallation.	5/29/2020
K	Changed Stat-O-Seal Washer p/n 600-0030-1/4 to NAS1523-4Y in kits, images, and work instructions.	6/11/2020
L	Updated wheel reassembly image.	5/5/2021

CONTENTS

WORK INSTRUCTION - METHOD A	4
WHEEL ASSEMBLY REMOVAL.....	5
WHEEL DISASSEMBLY	5
WHEEL REASSEMBLY	6
AXLE REMOVAL	7
DRAG LINK REASSEMBLY	7
HOSE ROUTING AND DRAG LINK REINSTALLATION	9
WHEEL ASSEMBLY REINSTALLATION	16
RESERVOIR INSTALLATION	17
FILLING THE RESERVOIR.....	20
RETURNING AIRCRAFT TO SERVICE	20
WEIGHT AND BALANCE INFORMATION (METHOD A)	20
WORK INSTRUCTION - METHOD B.....	21
WEIGHT AND BALANCE INFORMATION (METHOD B).....	22

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

Phone: 651.451.1205 | Fax: 651.457.7858

www.wipaire.com

METHOD A: ITEMS PROVIDED IN SERVICE KIT 1008943-01 (ONE KIT PER FLOAT SET)

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1008995-01	KIT, OIL BATH WHEEL RESERVOIR INSTALLATION ASSEMBLY
2	1	1009155	LH OIL RECEPTACLE BRACKET ASSEMBLY
3	1	1009156	RH OIL RECEPTACLE BRACKET ASSEMBLY
4	2	1009152	HOSE ASSEMBLY
5	2	MS21919WDG5	CLAMP
6	2	AN526C1032R10	MACHINE SCREW
7	4	NAS1149D0363J	WASHER
8	2	MS21044N3	NUT
9	4	NAS1149D0763J	WASHER
10	1	PR-1422-B-2-654	SEALANT SEM KIT 6 OZ.
11	2	AN837-4D	ELBOW FLARED TUBE
12	2	AN924-4D	JAM NUT
13	2	AN929-4	CAP
14	4	NAS1523-4Y	STAT-O-SEAL WASHER
15	4	750-0030-1/4	THREDSEAL WASHER
16	2	AN816-4D	FLARED TUBE AND PIPE THREAD ADAPTER
17	2	AN910-1D	COUPLING
18	4	1008977	OIL BATH INNER WHEEL RETAINER
19	8	AS568A-139	O-RING
20	2	1008984	HUB CAP ASSEMBLY WITH DRAIN HOLE
21	2	1008985	HUB CAP ASSEMBLY WITHOUT DRAIN HOLE
22	4	473232	SEAL, NATIONAL OIL (2.623 OD X 1.625 ID X .312 W)
23	2	PLT3S-M0	CABLE TIE
24	4	MS21044N4	NUT
25	4	AN526C832R6	SCREW
26	6	AN526C832R8	SCREW
27	2	MS21044N12	NUT
28	4	MS24665-349	COTTER PIN
29	4	MS24665-376	COTTER PIN
30	1	1009164	OIL BATH WHEEL FILLER ASSEMBLY
31	2	1008980	AXLE, MAIN GEAR, OIL BATH WHEEL
32	2	1009930	PLUG, AXLE
33	4	AS568-121	O-RING
34	2	1009931	FILL SYSTEM, AXLE, MAIN GEAR, OIL BATH WHEEL

METHOD B: ITEMS PROVIDED IN SERVICE KIT 1008943-02 (ONE KIT PER FLOAT SET)

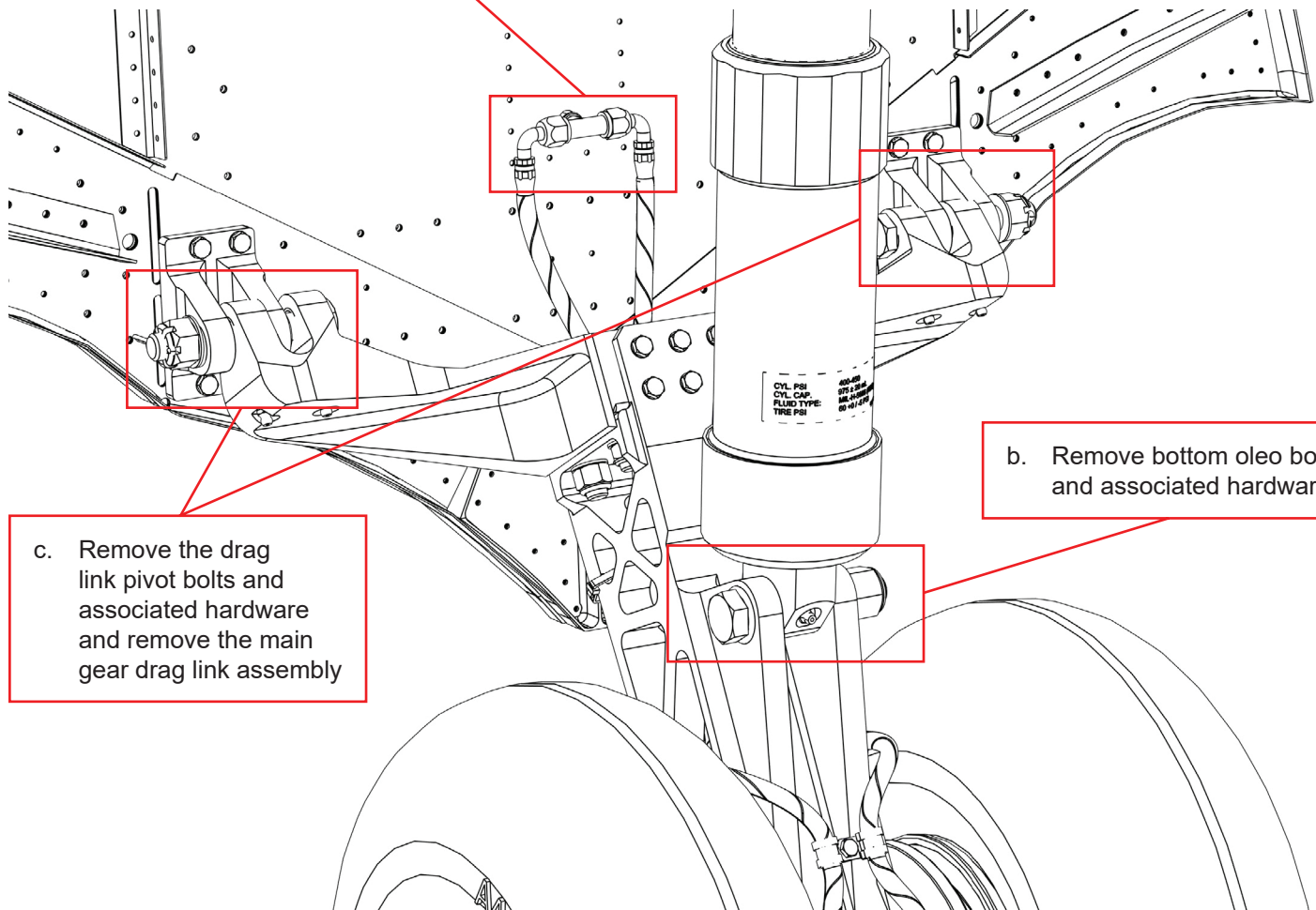
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	1009930	PLUG, AXLE
2	4	AS568-121	O-RING
3	4	MS24665-349	COTTER PIN
4	4	AS568A-229	O-RING
5	4	MS21044N4	NUT
6	4	NAS1523-4Y	STAT-O-SEAL WASHER
7	4	750-0030-1/4	THREDSEAL WASHER
8	2	1009931	FILL SYSTEM, AXLE, MAIN GEAR, OIL BATH WHEEL

WORK INSTRUCTION - METHOD A

1. Per Wipaire maintenance manual, jack aircraft to relieve load on the main gear
2. Pull gear pump circuit breakers
3. Pull parking brake valve in cockpit
4. Remove the main gear drag link assembly from the float in the order shown below:

Set aside all removed hardware to use during re-installation unless noted to discard in the instruction or replace hardware as needed

- a. Disconnect brake lines at bulkhead 10 and cap and plug lines at both ends



- b. Remove bottom oleo bolt and associated hardware

- c. Remove the drag link pivot bolts and associated hardware and remove the main gear drag link assembly

MAIN GEAR DRAG LINK ASSEMBLY REMOVAL

WHEEL ASSEMBLY REMOVAL

5. Cut safety wire on caliper backplate assembly bolts and remove brake back plate assemblies
6. Remove and discard cotter pin and remove axle nut and main wheel axle spacer
7. Slide each main wheel assembly off main wheel axle
8. Remove brake calipers, keeping the brake line assemblies still attached to the calipers

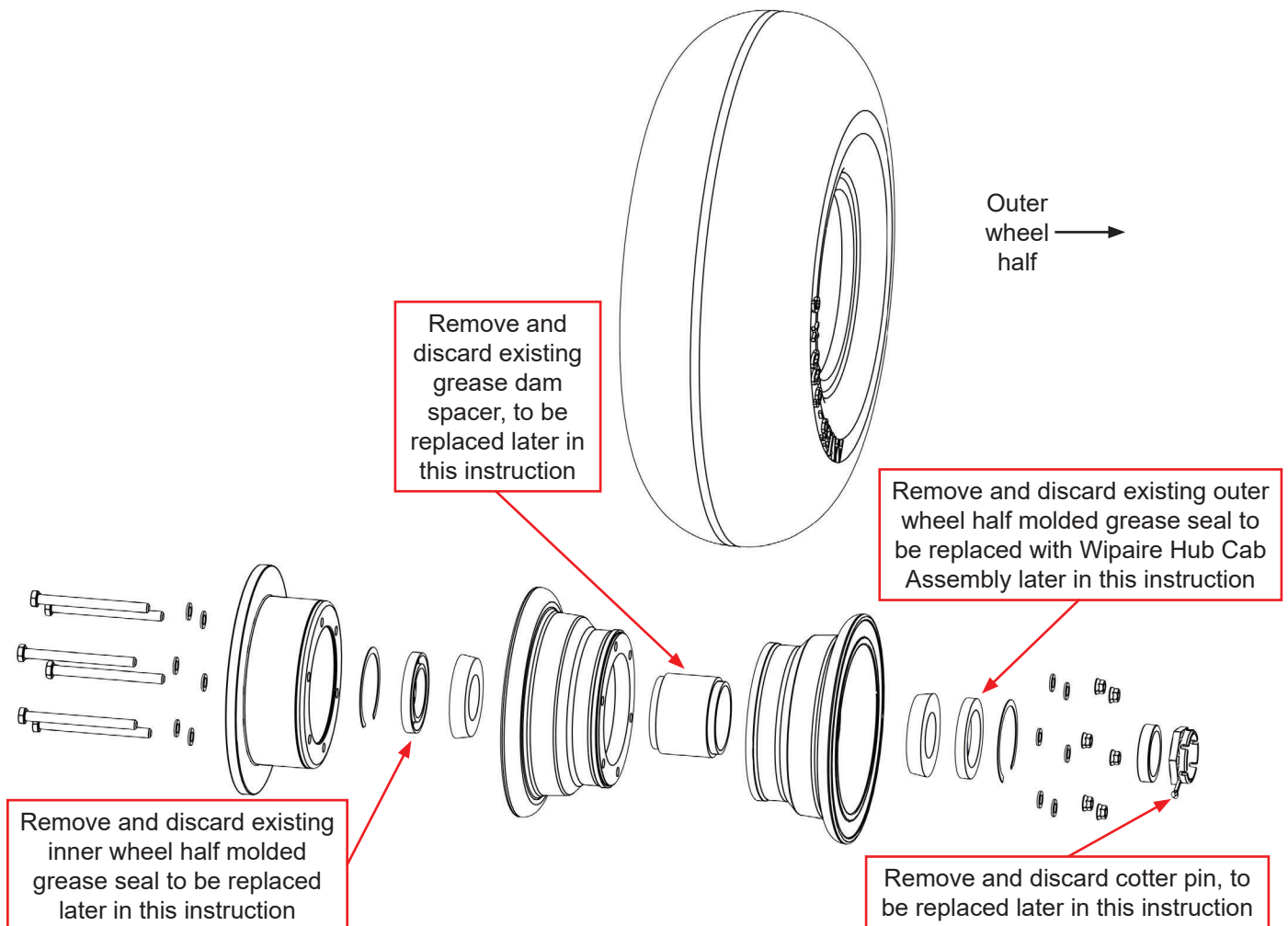
WHEEL DISASSEMBLY

9. Remove air from tire and break loose tire beads

WARNING!

Serious injury can result from attempting to separate wheel halves while tire and tube are still inflated.

10. Remove (6) AN bolts and associated washers and nuts that hold the wheel halves and brake disc together
11. Split wheel halves and remove tire assembly
12. Remove snap ring, bearing seals, and bearing cone from each wheel half
13. Remove the following components from the current wheel assembly:



CURRENT WHEEL ASSEMBLY

14. Clean existing grease from wheel and bearing cavities

Note: Grease does not need to be completely cleaned out as it will not affect the oil bath wheel system bearing lubrication

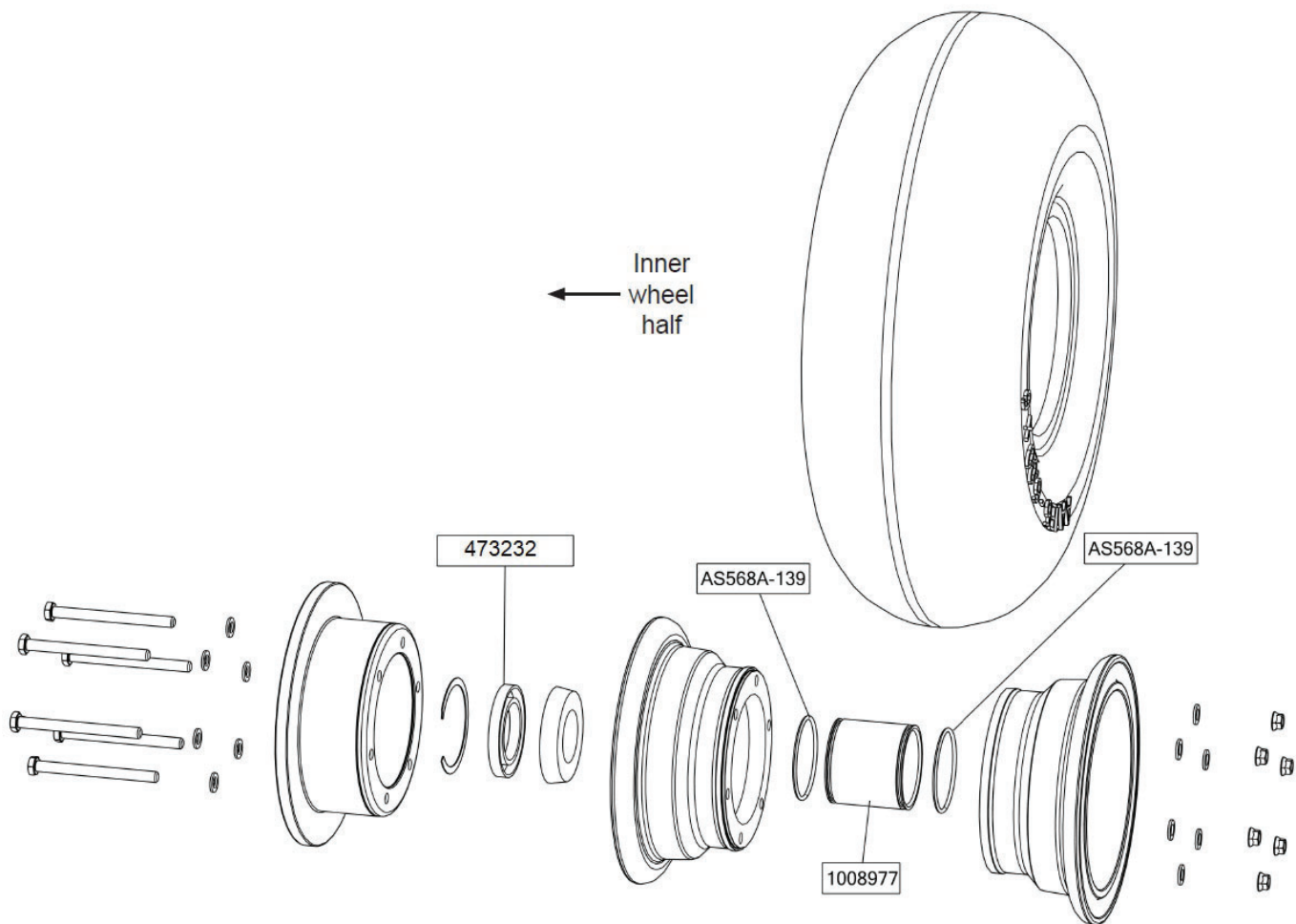
15. Inspect wheel assemblies and replace any worn components if needed

WHEEL REASSEMBLY

16. Verify the index marking on tire aligns with the air valve on tube
17. Place inner wheel half into tire
18. Install (2) new AS568A-139 O-rings in grooves of 1008977 oil bath inner wheel retainer
19. Place outer wheel half into other side of tire with assembled 1008977 oil bath inner wheel retainer and attached O-rings between wheel halves
20. Insert thru-bolts, brake disc, and associated washers and nuts and torque to specifications provided by wheel manufacturer.

NOTE: Ensure tube and oil bath inner wheel retainer is not pinched between wheel halves prior to torquing hardware

21. Place the wheel and tire in an inflation cage and inflate tire to seat tire beads, then inflate or deflate to specifications provided by the wheel manufacturer
22. Assemble bearing cone, new grease seal, and snap ring into the inner wheel half



WHEEL REASSEMBLY

AXLE REMOVAL

23. Remove the torque plates from the main gear drag link by removing (6) MS16997-77 and (6) MS16997-96 screws, and (4) 30A04523-002 torque plate bushings

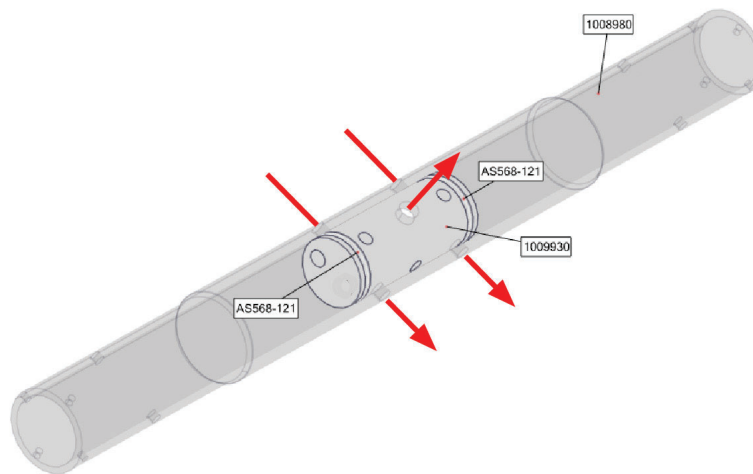
NOTE: The above step may be skipped if determined the axle will not need to be pressed out for removal

24. Remove (2) AN4-33A bolts and associated washers and nuts that secure the axle to the main gear drag link and remove axle out of main gear drag link

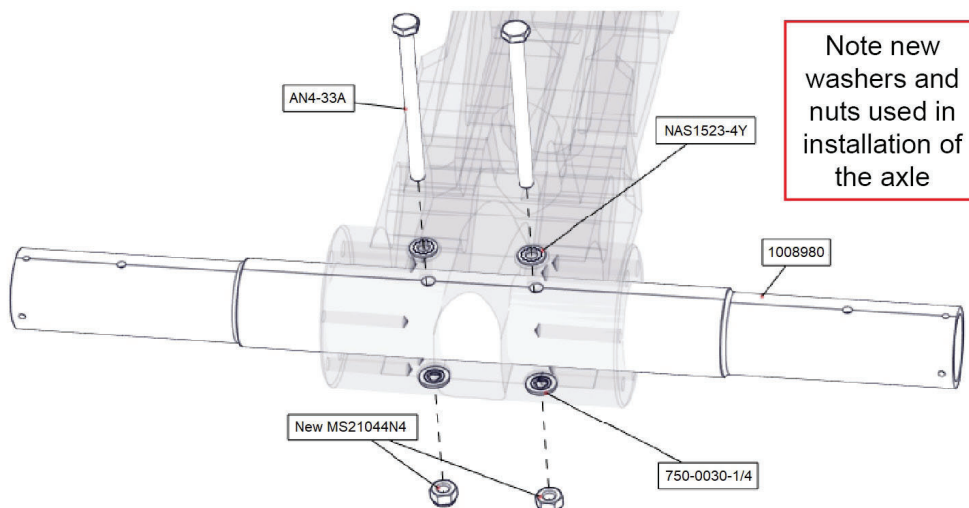
DRAG LINK REASSEMBLY

25. Apply a coating of light coating of 15W-50 oil or equivalent to (2) new AS568-121 O-rings and install into each groove of 1009930 main gear axle plug
26. Check for burrs on inside of 1008980 main gear axle. Hone axle if any burrs are present
27. Install 1009930 main gear axle plug and (2) installed AS568-121 O-rings into 1008980 main gear axle

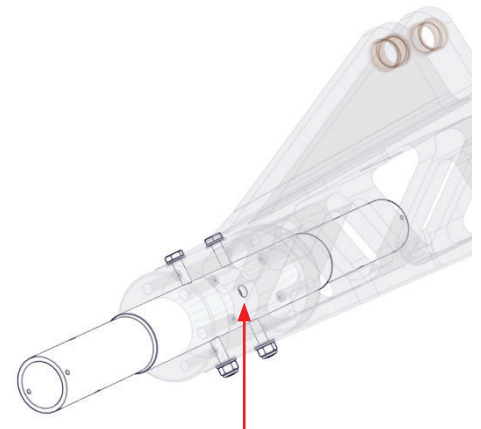
NOTE: Make sure to align the through bolt holes and threaded insert hole on 1009930 main gear axle plug with existing holes in 1008980 main gear axle as indicated by arrows



28. Install new 1008980 main gear axle with installed 1009930 main gear axle plug and (2) AS568-121 O-rings into drag link, making sure to align the through bolt holes and threaded insert hole as shown
29. Reinstall (2) AN4-33A bolts with new NAS1523-4Y and 750-0030-1/4 stat-o-seal washers, and (2) new MS21044N4 nuts that secure the axle to the main gear drag link



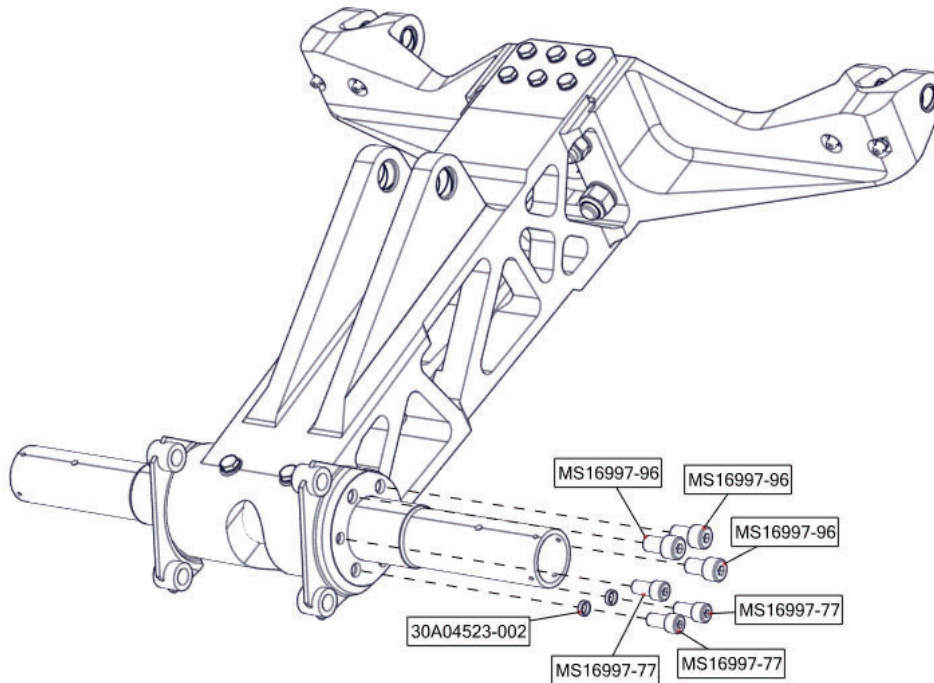
Note new washers and nuts used in installation of the axle



Drilled hole facing upward, line will run through main gear drag link

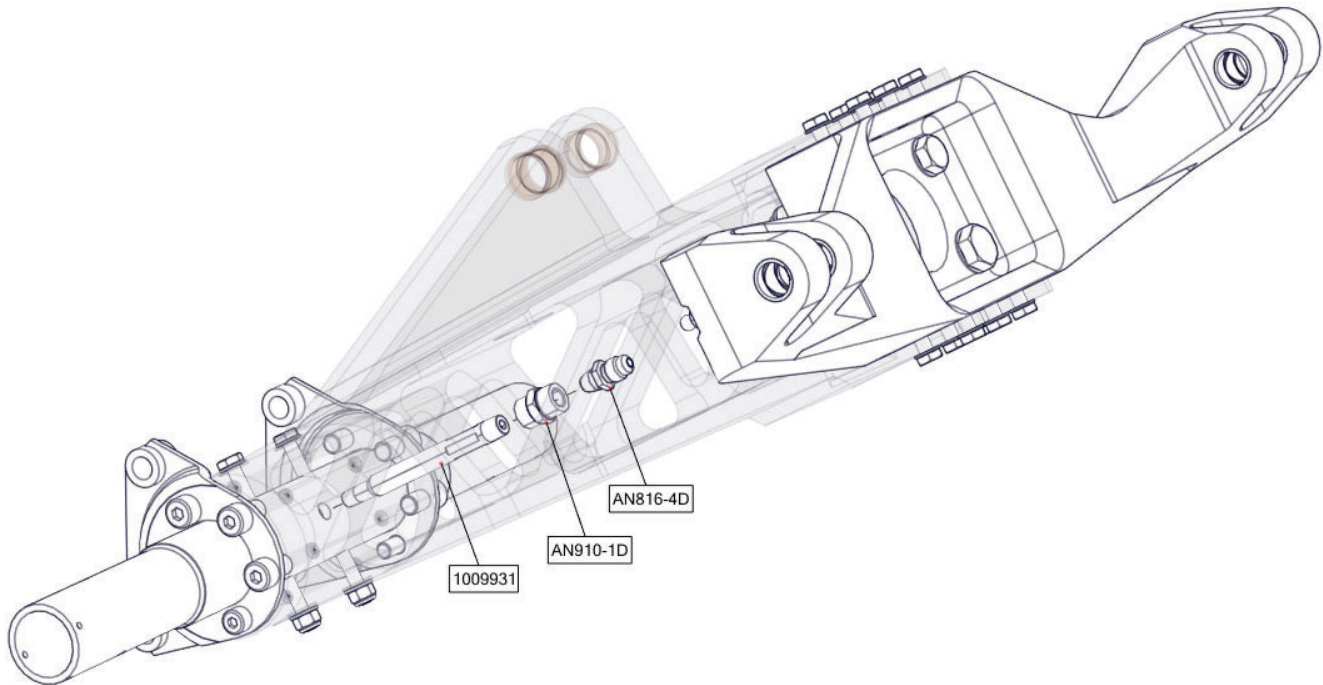
AXLE REINSTALLATION

30. If previously removed, reinstall torque plates using (6) MS16997-77 (with Tefgel applied), (6) MS16997-96 screws (with Loctite applied), and (4) 30A04523-002 torque plate bushings



HOSE ROUTING AND DRAG LINK REINSTALLATION

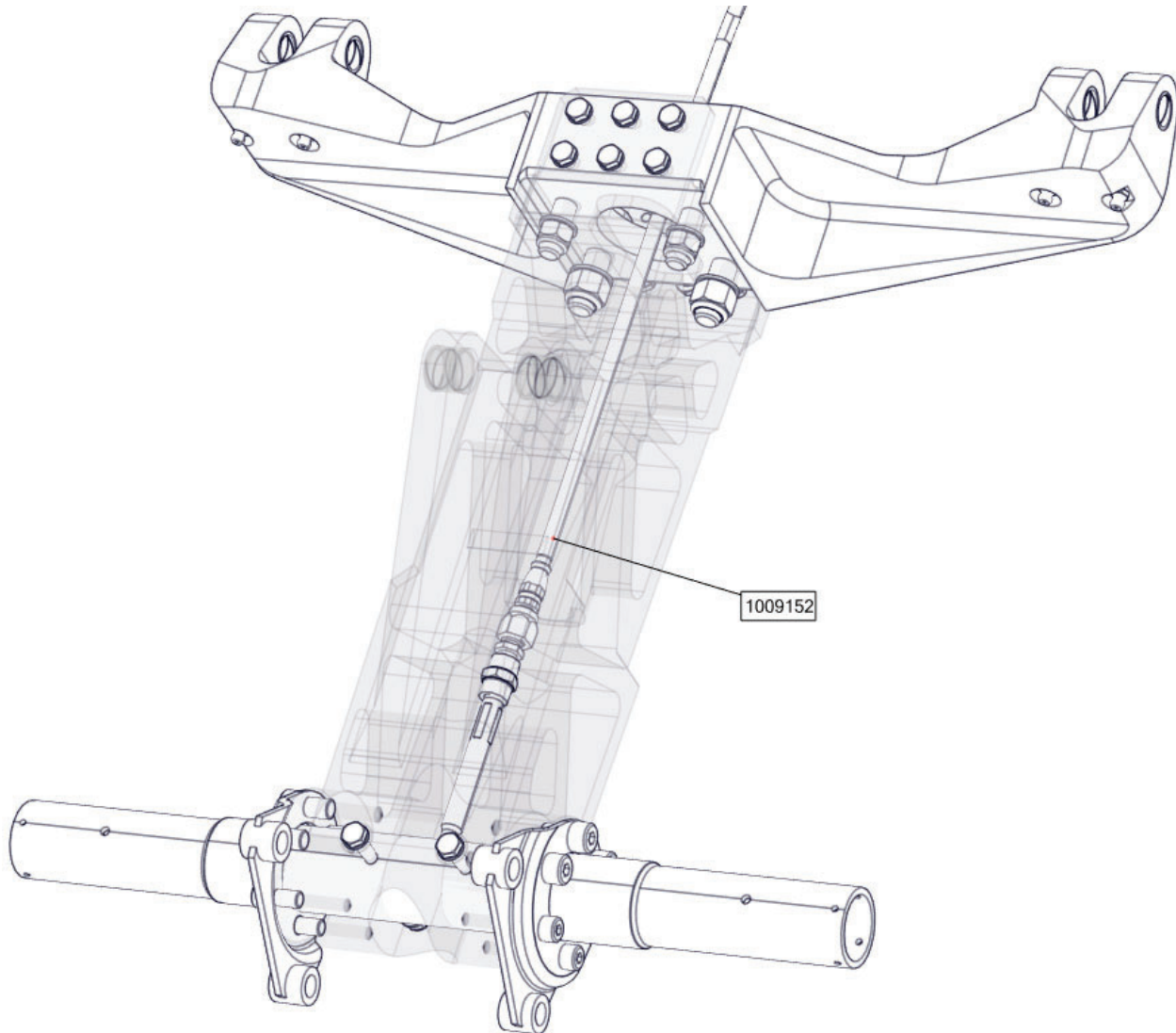
31. Apply 1422 sealant or equivalent on threads of 1009931 threaded fitting, AN910-1D coupling, and AN816-4D flared tube and pipe thread adapter and install into axle as shown



32. Thoroughly apply sealant around threaded fitting where the axle meets the fitting
33. Corrosion treat all exposed hardware with Dinitrol AV30 or equivalent

AXLE HOSE LINE CONNECTOR INSTALLATION

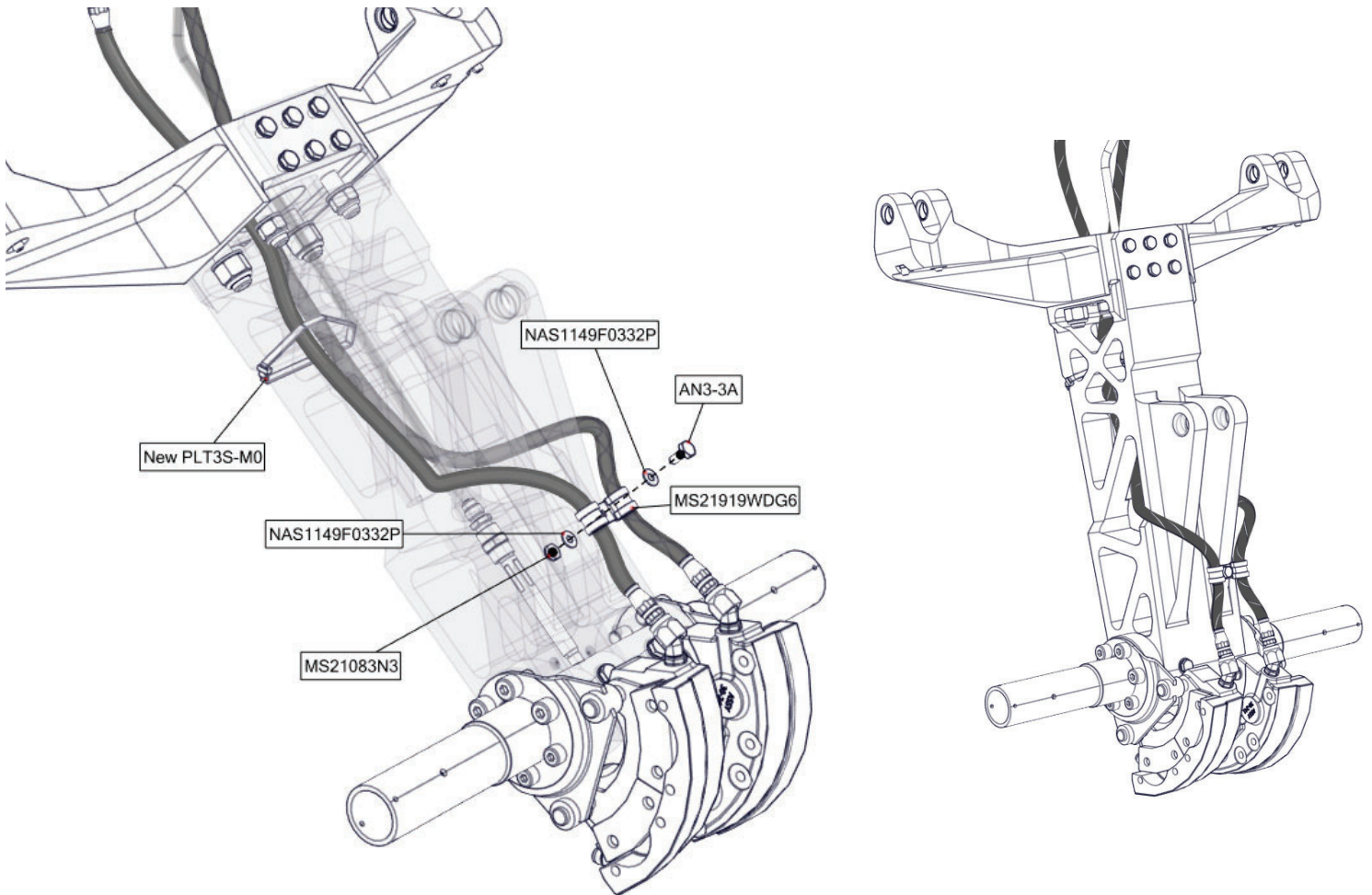
34. Route the 1009152 hose assembly through the center of the main gear drag link and attach to the AN816-4D flared tube and pipe thread adapter on the main wheel axle



HOSE TO AXLE INSTALLATION

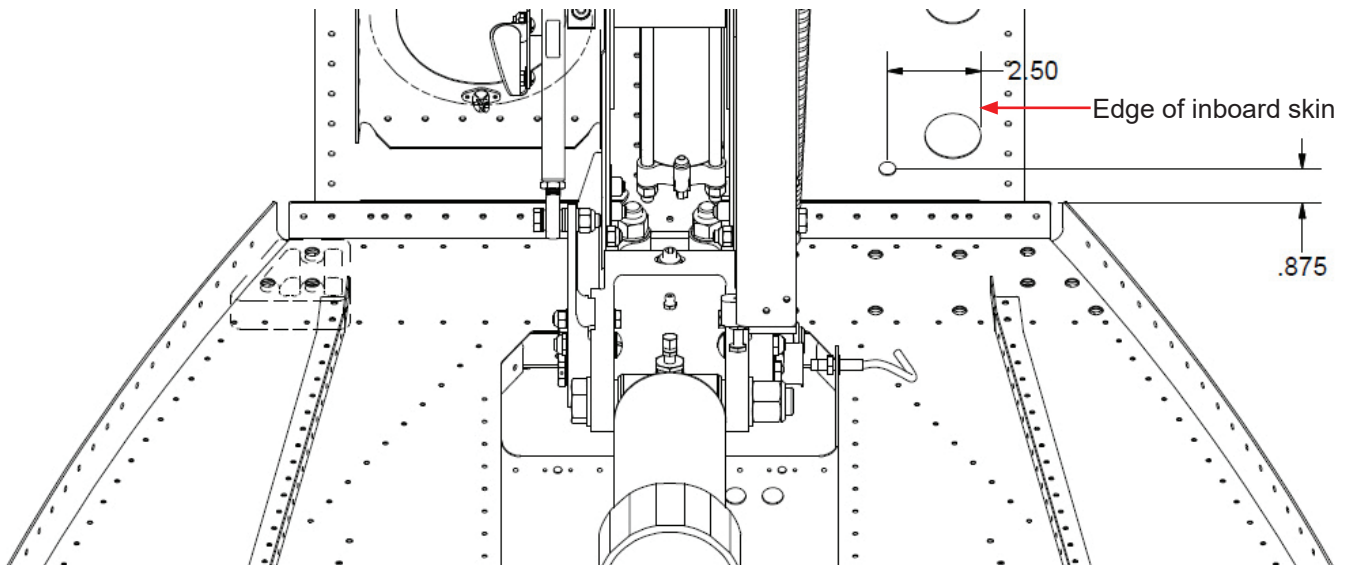
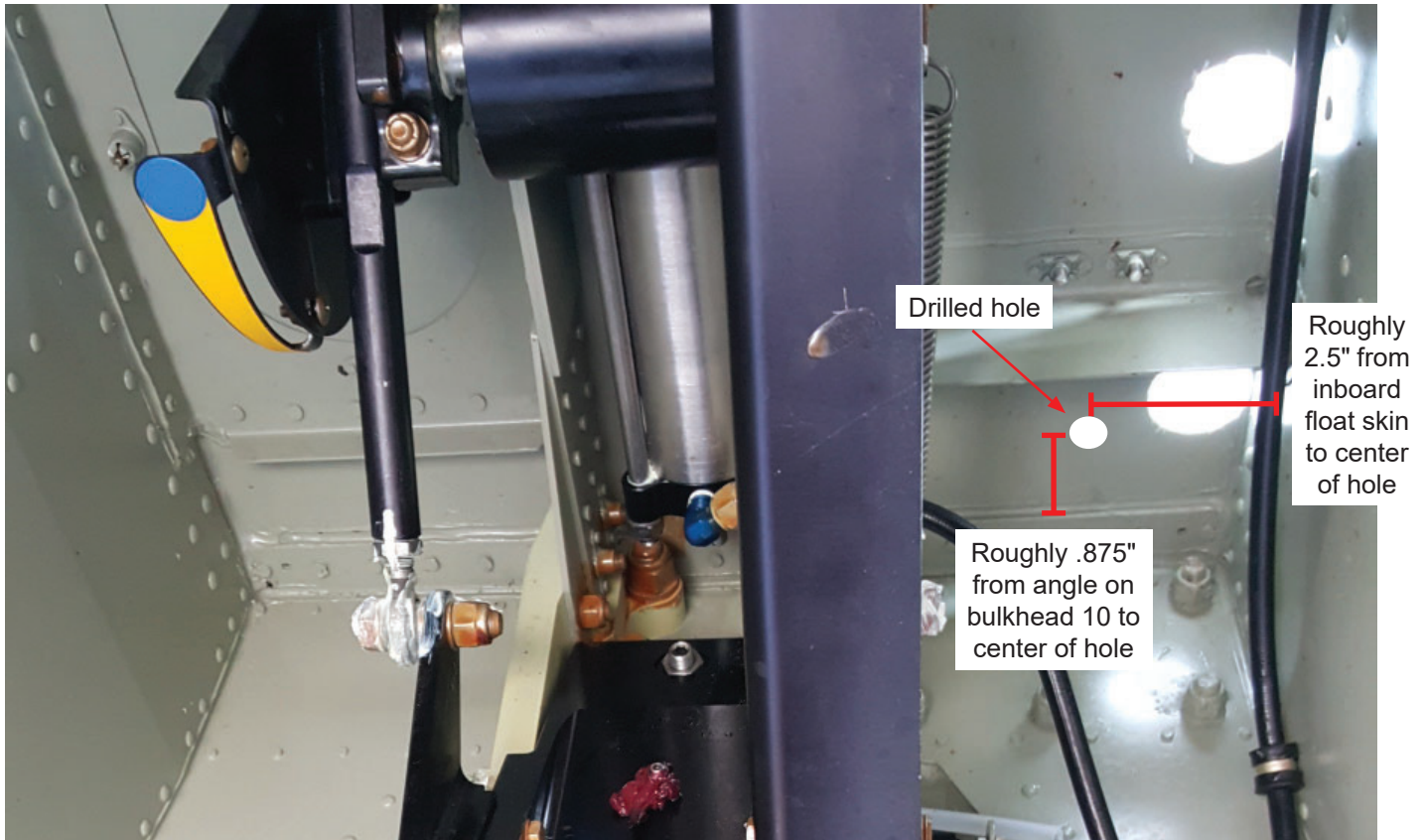
35. Route the brake lines and calipers. Secure brake lines to main gear drag link as shown

Note: Brake line routing may differ in this service letter compared to what is shown. It is highly recommended to perform work in Service Letter 200 in conjunction with this service letter.



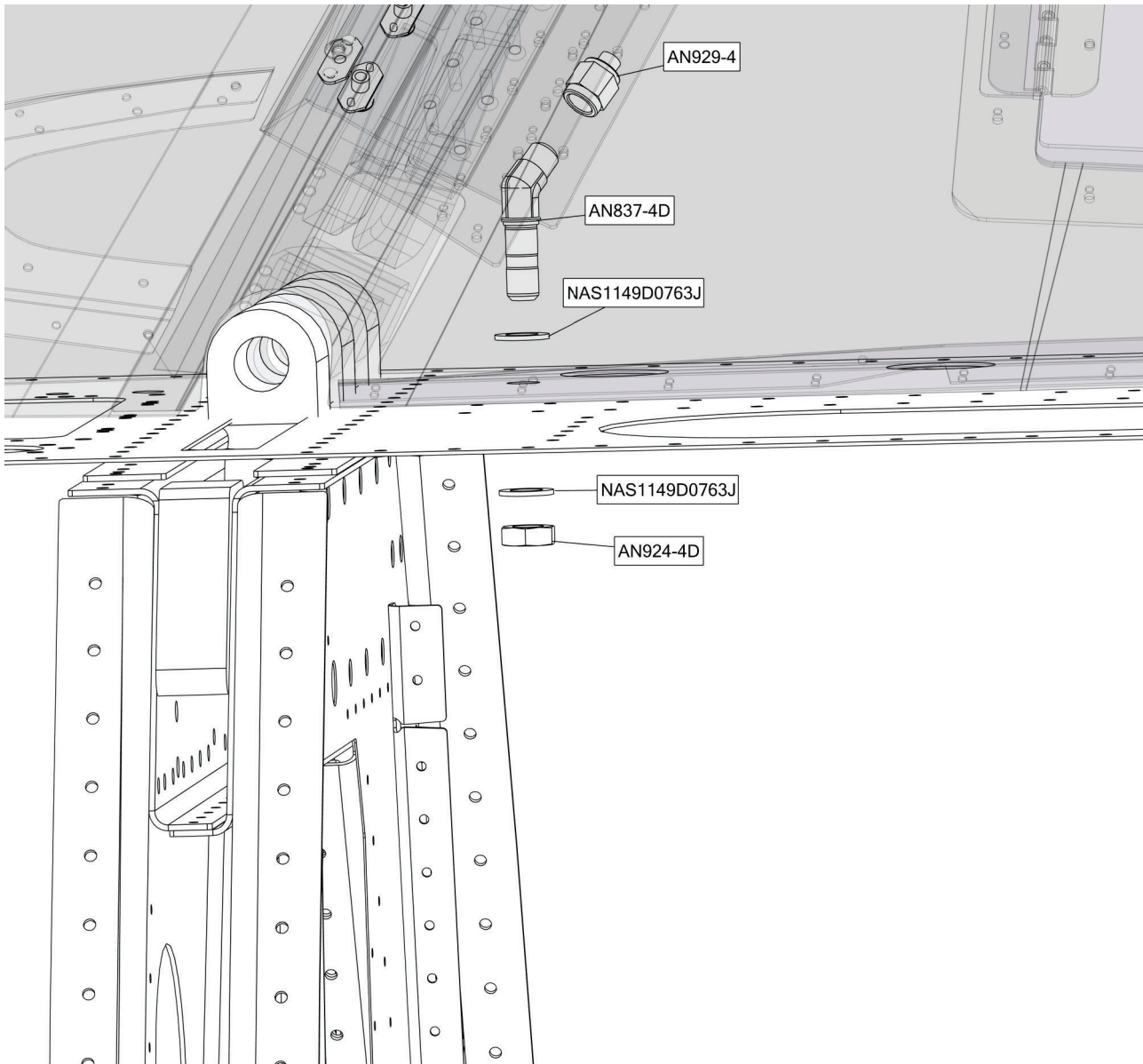
BRAKE LINE ROUTING

36. Carefully drill a $\varnothing.45$ hole into the top deck using a 29/64 drill bit where shown



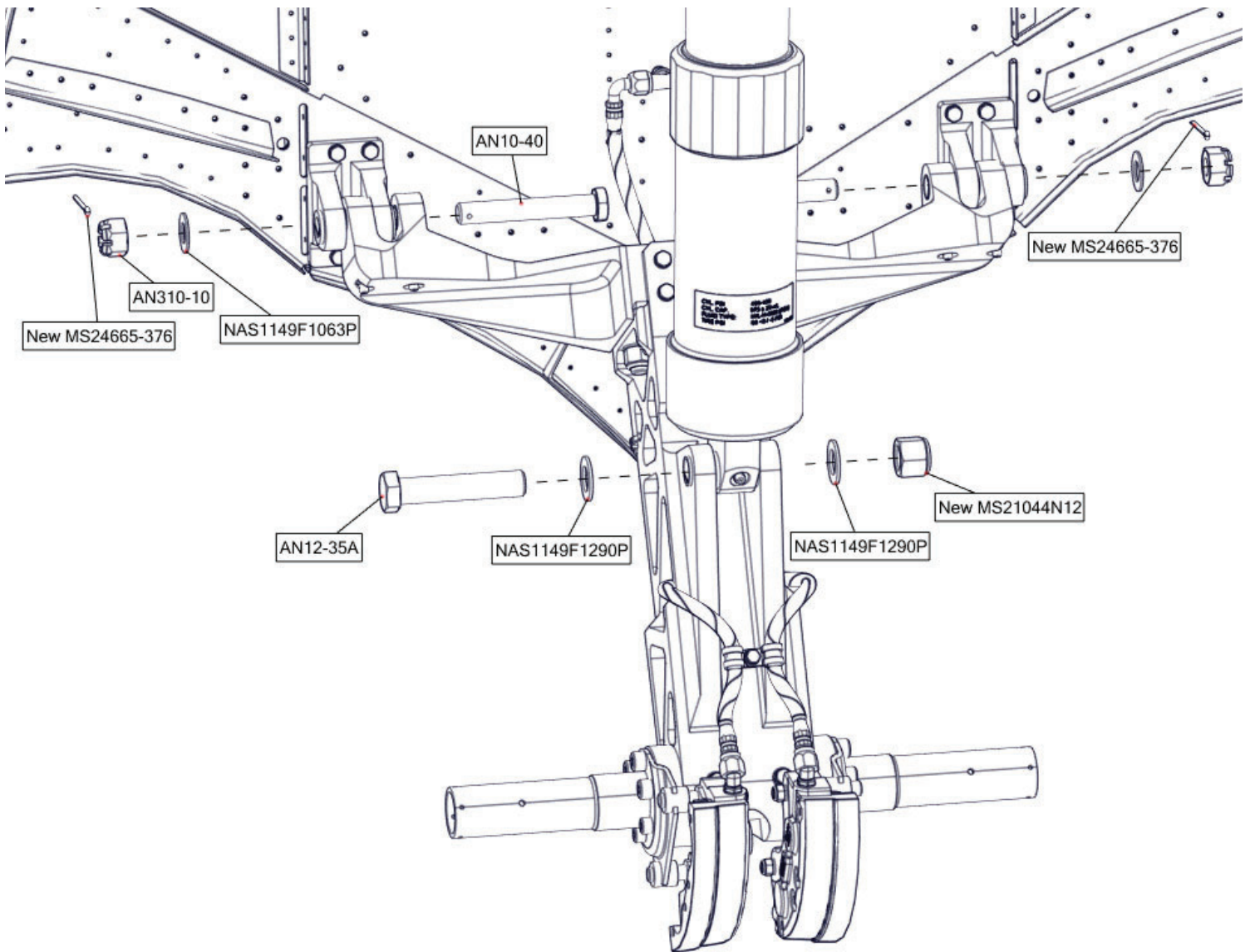
TOP DECK HOLE LOCATION

37. Install AN837-4D elbow flared tube, (2) NAS1149D0763J washers (with Tef-Gel applied), AN924-4D jam nut, and 63-190600-4 hose fitting as shown into previously drilled hole. Cap the top of fitting AN837-4D with AN929-4 cap until the hose is ready to be attached



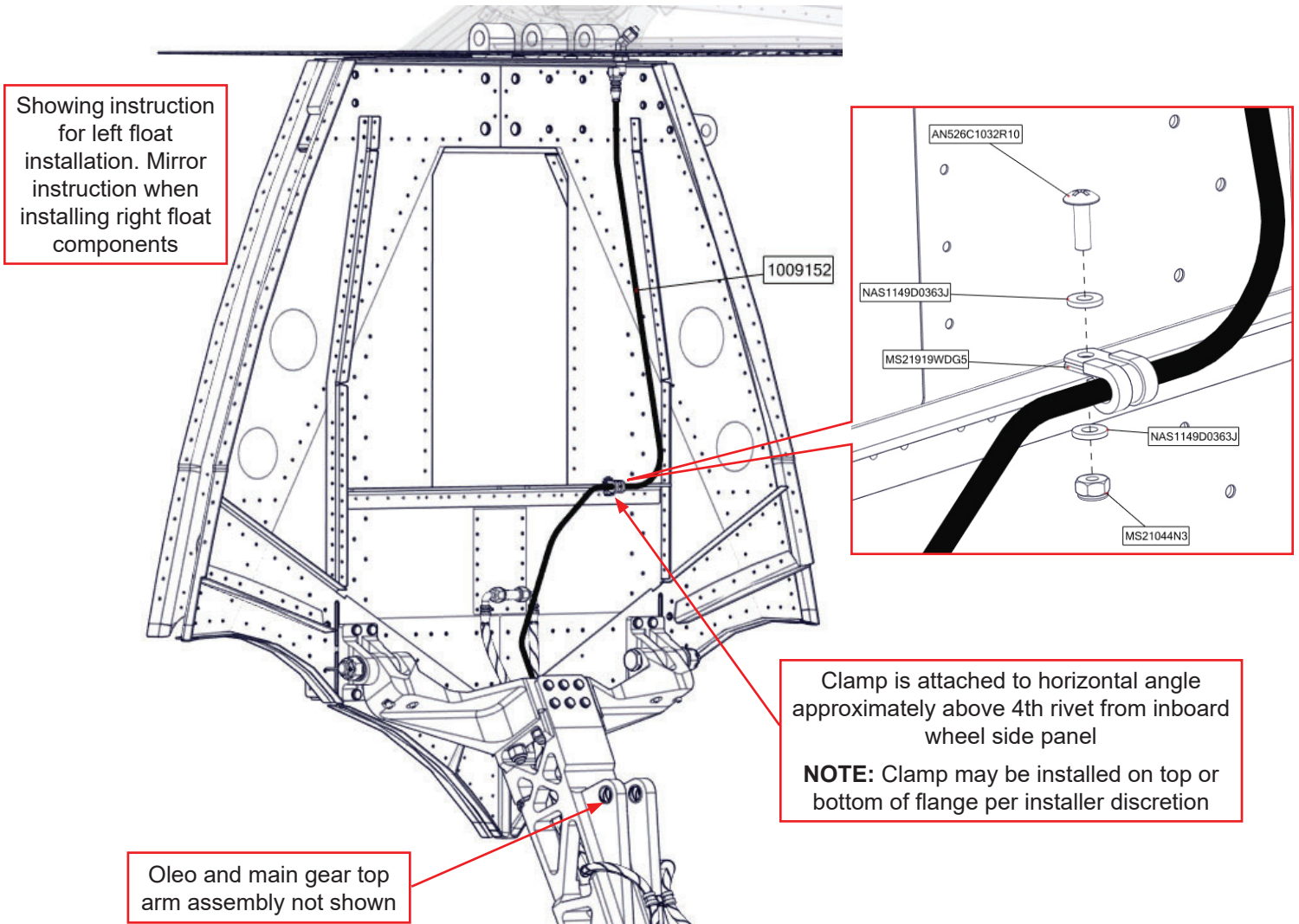
TOP DECK HOSE FITTING ASSEMBLY

38. Install the main gear drag link assembly and brake lines as shown below



39. Grease the main gear zerks per service manual

40. Connect 1009152 hose assembly to the top deck hose fitting and secure to bulkhead 10 assembly using AN526C1032R10 screw, (2) NAS1149D0363J washers, MS21919WDG5 clamp, and MS21044N3 nut as needed such that it does not interfere with landing gear retraction



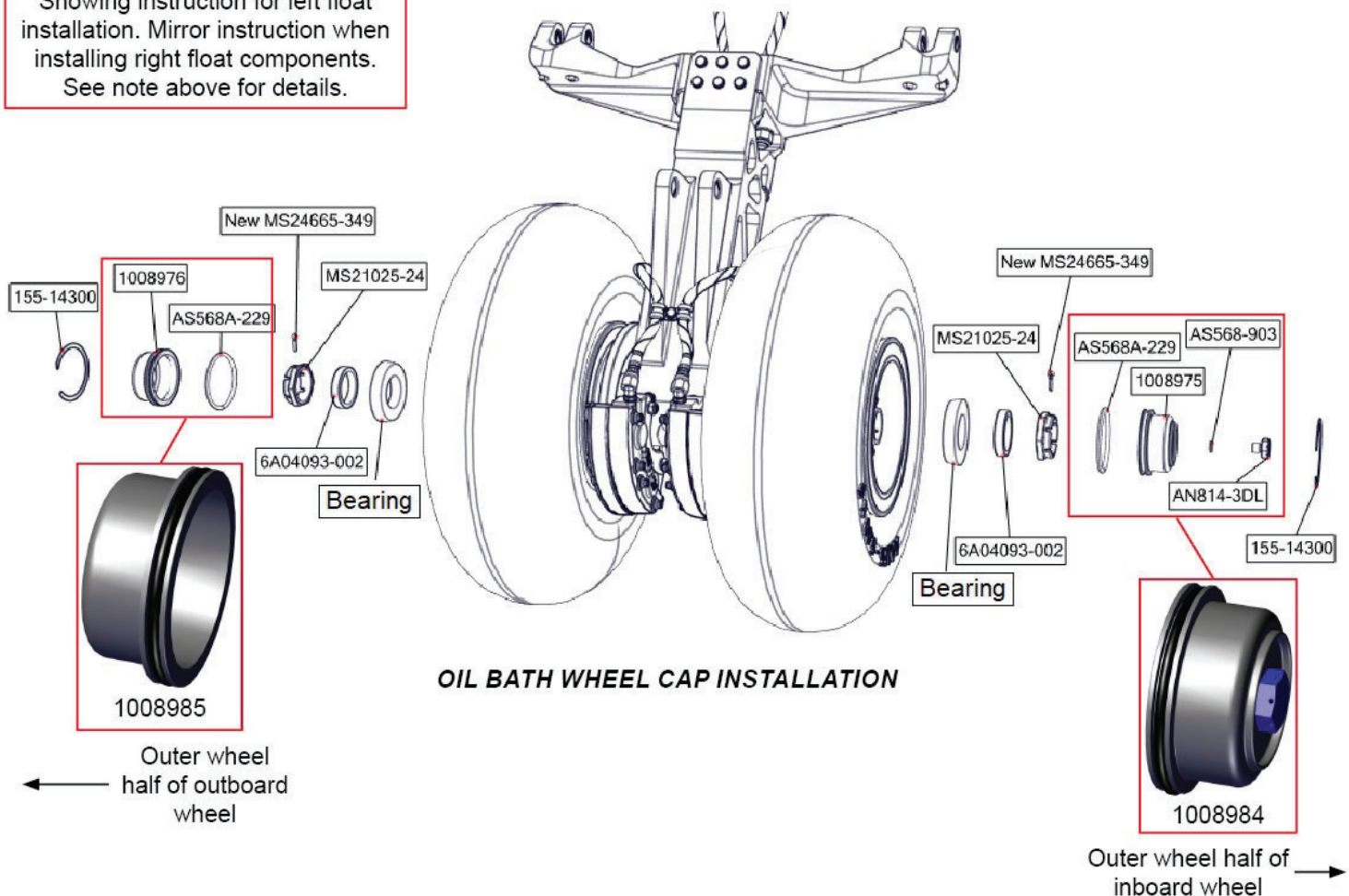
HOSE LINE ROUTING TO BULKHEAD 10

WHEEL ASSEMBLY REINSTALLATION

NOTE: 1008984 hub cap assembly with drain hole can be located per the installer's discretion on either the outer wheel half of the inboard or outboard tire per main gear assembly. There must be (1) 1008985 hub cap without drain hole assembly and (1) 1008984 hub cap with drain hole assembly per (1) main gear assembly. **The following instruction shows a left float main gear installation with the 1008984 hub cap assembly with drain hole being installed on the outer wheel half of the inboard wheel.**

41. Slide main wheel assemblies onto main wheel axle
42. Install bearing cone, main wheel axle spacer, and axle nut until a slight bearing drag is obvious when wheel is rotated. Back the nut off to the nearest castellation and insert new cotter pin in a manner that the head will not interfere with the inner hub cap surface
43. Reinstall the back plate assemblies and torque to specifications provided by brake manufacturer
44. Attach safety wire to caliper backplate assembly bolts
45. Install 1008985 hub cap without drain hole assembly (see figure below) to outer wheel half of outboard wheel using 155-14300 snap ring
46. Install 1008984 hub cap with drain hole assembly (see figure below) to outer wheel half of inboard wheel using 155-14300 snap ring

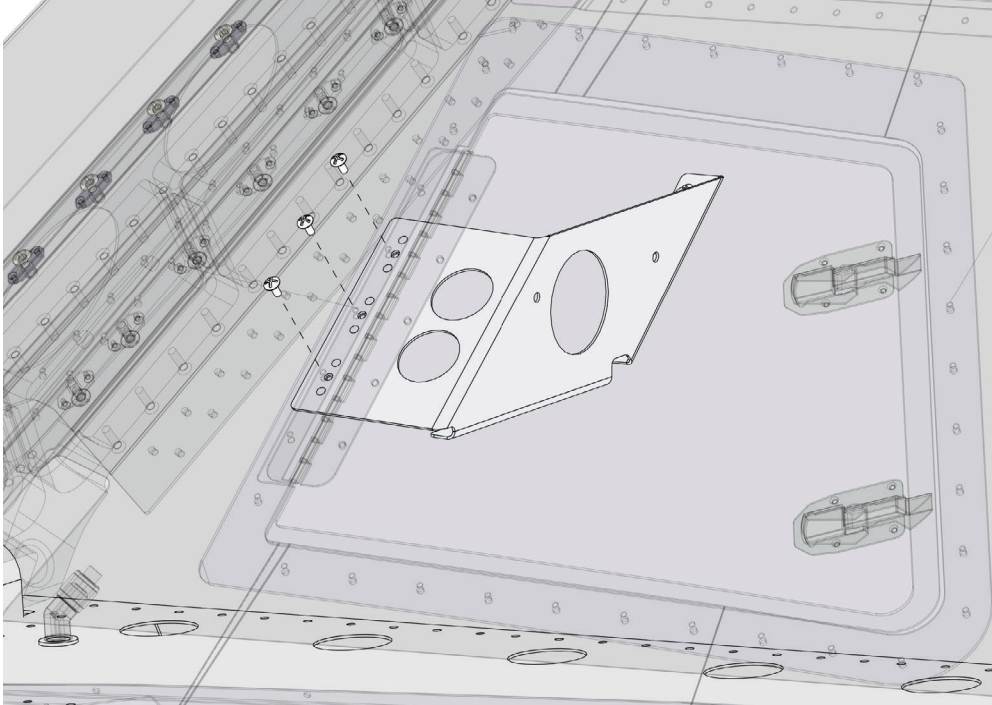
Showing instruction for left float installation. Mirror instruction when installing right float components. See note above for details.



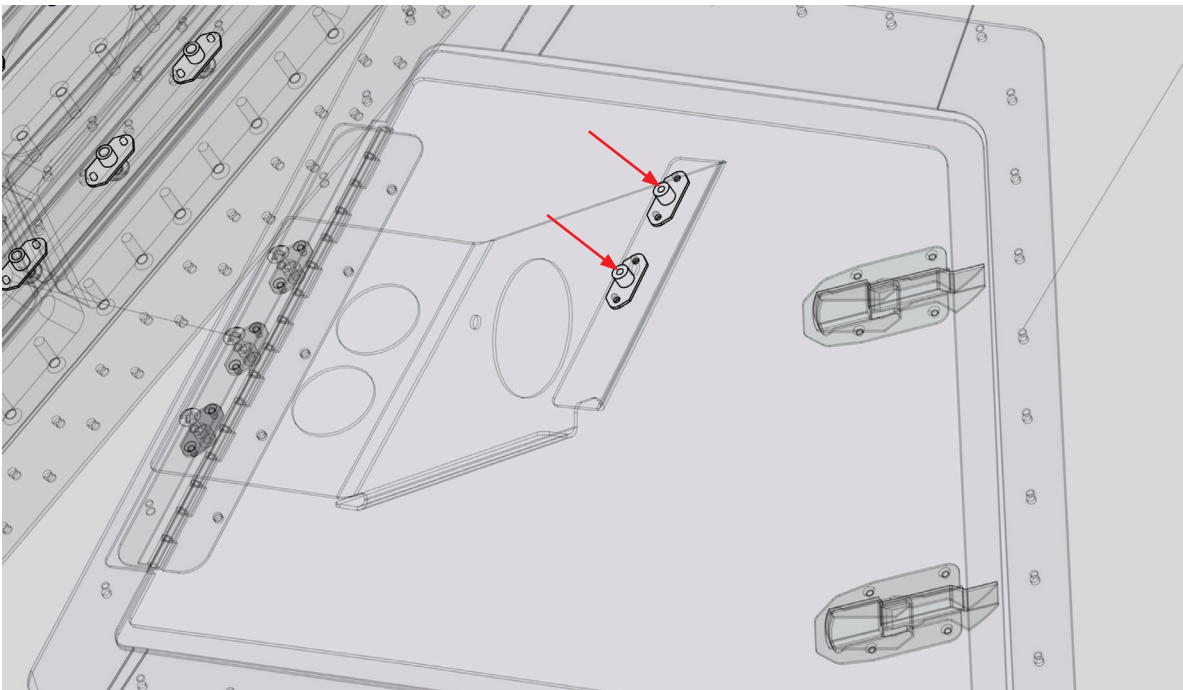
RESERVOIR INSTALLATION

47. Remove the 3 middle rivets from the pylon door hinge and use a #19 drill bit to upsize the 3 holes
48. Attach 1009155 reservoir bracket assembly (1009156 for right pylon) and attach bracket with (3) AN526C832R8 screws

Showing
instruction for left
float installation.
Mirror instruction
when installing
right float
components

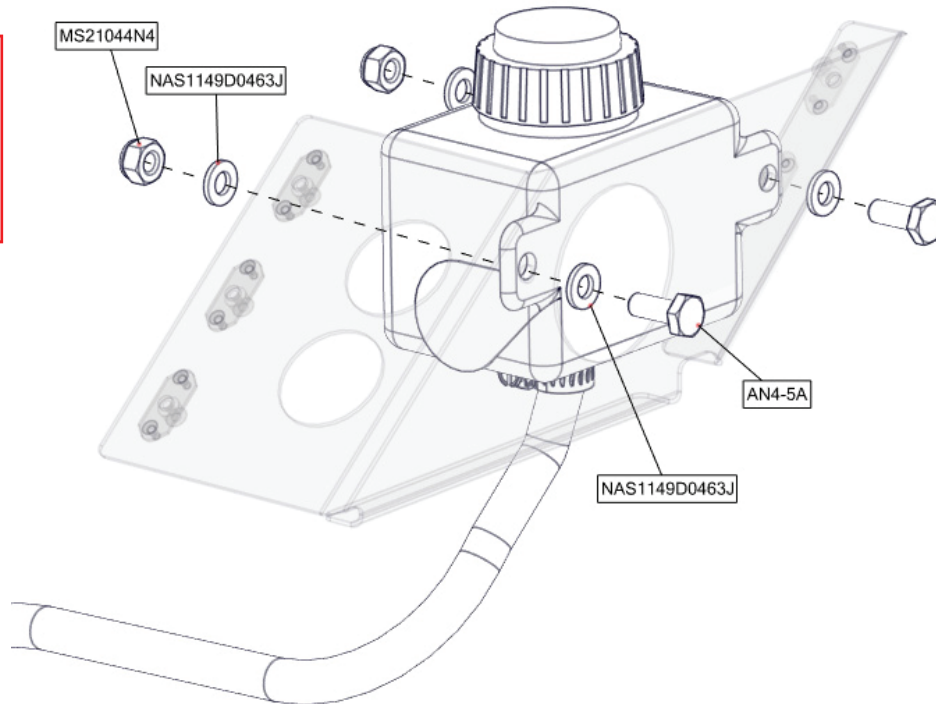


49. Mark inboard pylon skin through the center hole of each nutplate

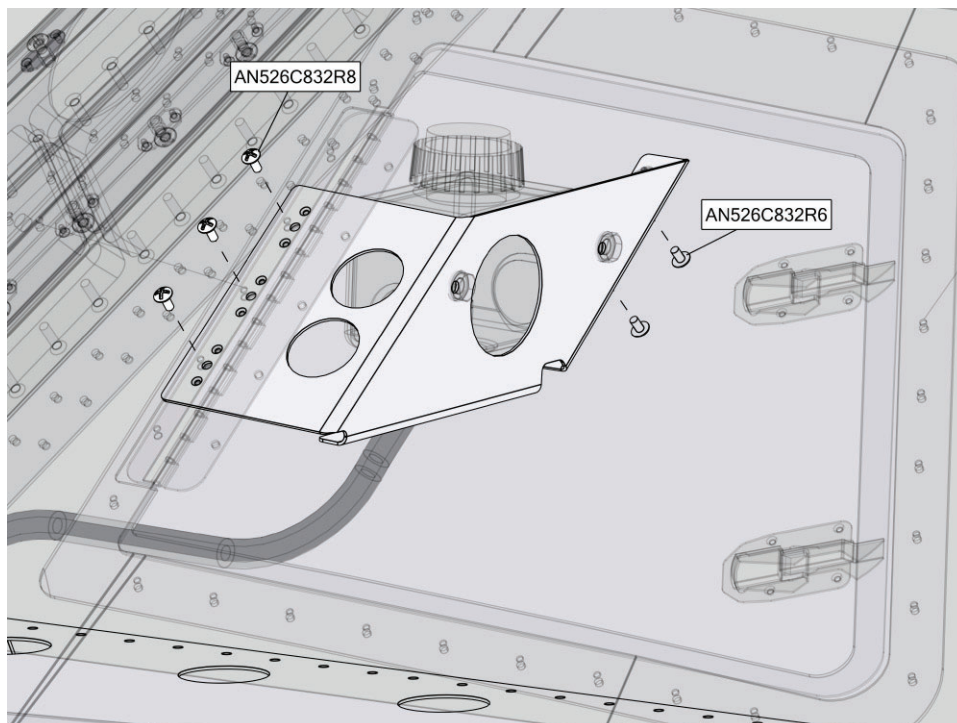


50. Remove reservoir bracket and drill the marked holes with a #19 drill bit
51. Deburr drilled holes
52. Attach the 1008992 oil bath wheel reservoir assembly to the bracket with (2) MS21044N4 nuts, (4) NAS1149D0463J washers, and (2) AN4-5A bolts

Showing instruction
for left float
installation. Mirror
instruction when
installing right float
components

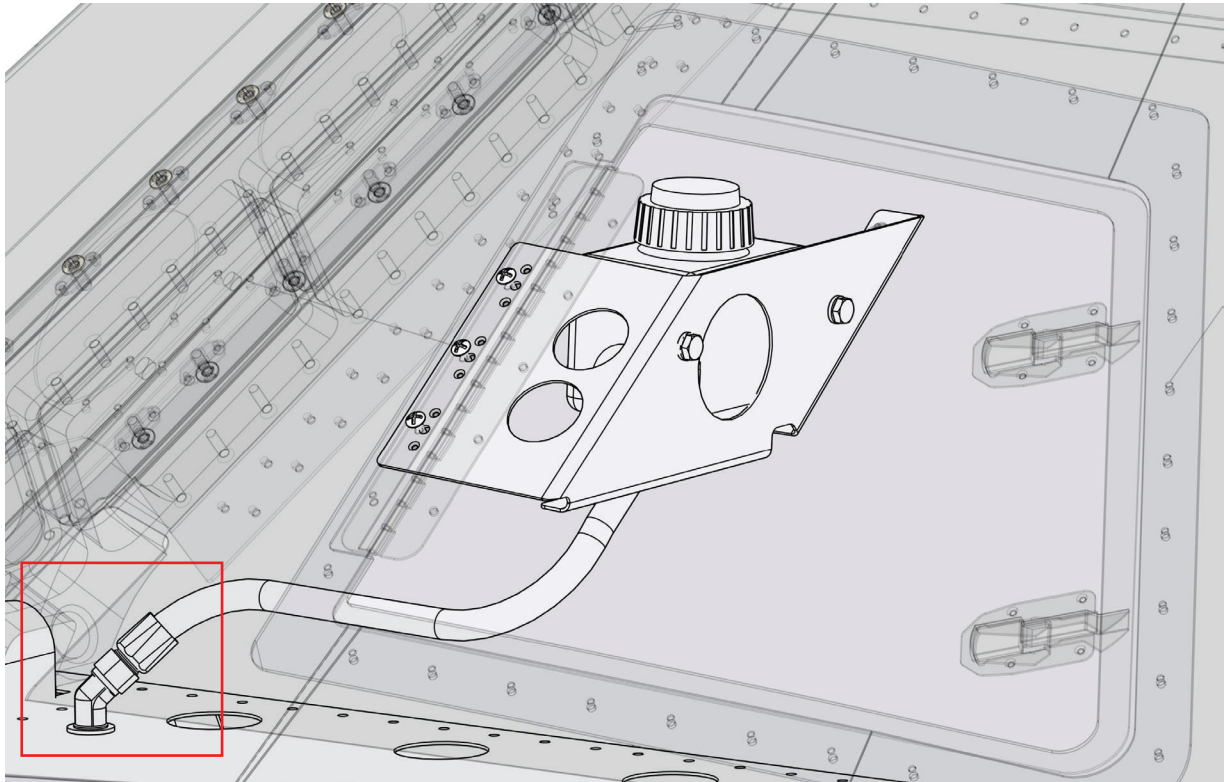


53. Install reservoir bracket with reservoir assembly attached in pylon using (3) AN526C832R8 screws on the outboard skin and (2) AN526C832R6 screws on the inboard skin

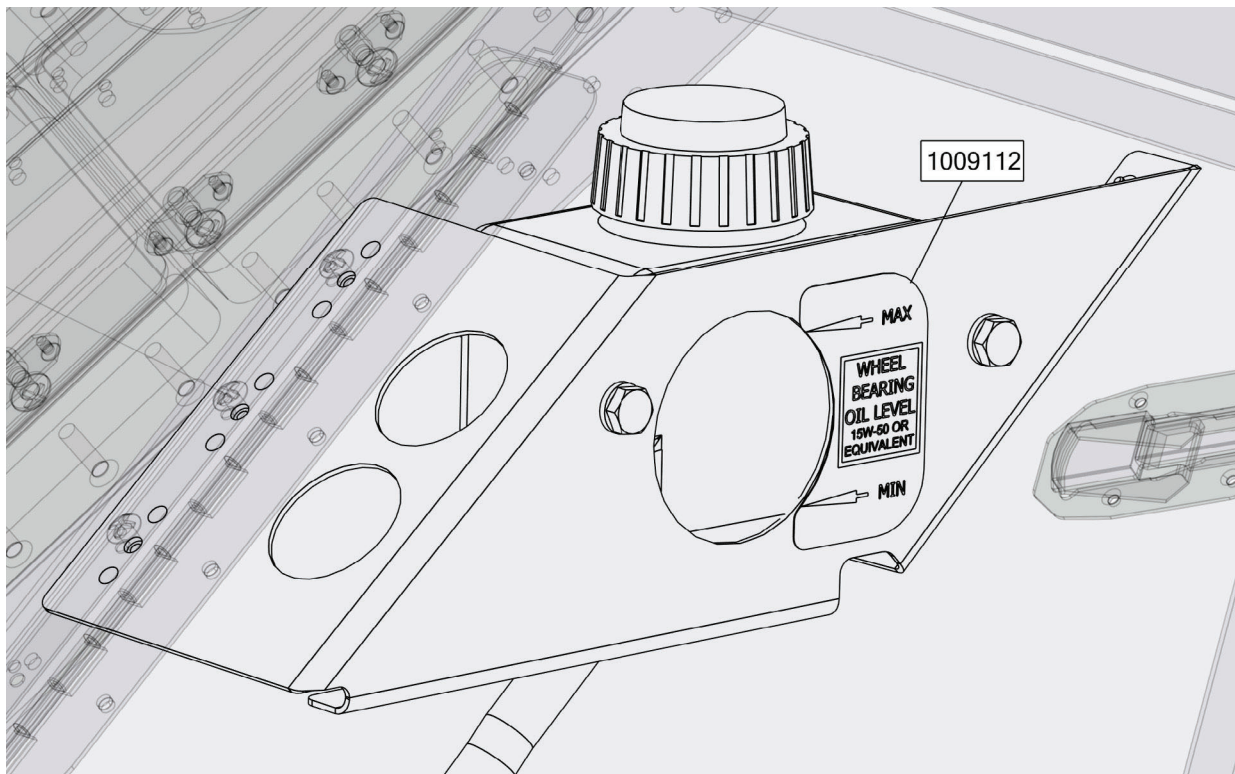


54. Connect the hose to the AN837-4D top deck fitting after removing the AN929-4 cap

Showing
instruction for left
float installation.
Mirror instruction
when installing
right float
components



55. Install 1009112 placard (1009113 for right pylon) as shown with the minimum/maximum arrows level to the ground



FILLING THE RESERVOIR

56. Fill the oil bath wheel assembly by 1 of the following methods:

Option 1 - Recommended method, requires pump not provided

- Remove plug on hub cap with drain hole assembly 1008984 and install 1009164 oil bath wheel filler assembly
- Using a manual or electric type fluid pump, fill with 15W-50 engine oil or equivalent from the union installed in the hub cap with drain hole assembly until reservoir is full as indicated by placard on reservoir bracket
- Remove 1009164 oil bath wheel filler assembly and reinstall plug on hub cap with drain hole assembly 1008984
- Ensure the fluid in the reservoir remained in the correct range

Option 2

- Remove plug on hub cap with drain hole assembly 1008984
- Fill reservoir with 15W-50 engine oil or equivalent until oil comes out where axle plug was removed
- Reinstall plug on hub cap with drain hole assembly 1008984
- Fill the reservoir in the pylon to level indication by placard on reservoir bracket

NOTE: Some air will remain in the system and will not affect the functionality of the oil bath wheel system

- Install .020" safety wire to hub cap with hole assembly
- Check axle assembly to verify no leaks are present

RETURNING AIRCRAFT TO SERVICE

- Release parking brake
- Bleed brakes (if Method B performed, not required unless the brake piston was leaking fluid)
- Push gear pump circuit breakers in
- Cycle gear and verify new oil bath wheel hose is clear of obstruction
- Verify gear is down and lock position
- Service air in tires to specification provided in service manual
- Remove jack stands
- Upon completion of inspection, enter information in Aircraft Logbook for completion of this Wipaire service letter
- Visit www.wipaire.com and update your aircraft service letter/kit record using the link found on the Customer Support dropdown menu under "Update Service Letter & Kit Compliance Status"

WEIGHT AND BALANCE INFORMATION (METHOD A)

	Added Weight (from previous grease system)	Arm
208B	4.0 lbs.	216.00 inches
208	4.0 lbs.	196.00 inches

WORK INSTRUCTION - METHOD B

Axle may be removed if desired. Showing instruction for installing the axle plugs while axle remains in the drag strut.

1. Per Wipaire maintenance manual, jack aircraft to relieve load on the main gear
2. Pull gear pump circuit breakers
3. Pull parking brake valve in cockpit
4. Drain the oil bath wheel system per the 8750 service manual

NOTE: An alternate method to draining the system is to place piece of tape over the reservoir vent. The oil should remain in the hose assembly line and the can be plugged if needed

5. Remove 1009152 hose assembly running through the center of the main gear drag link from AN816-4D flared tube and pipe thread adapter
6. Remove snap ring and cap assembly from each wheel

NOTE: To remove cap, it is recommended to clean cap free of oil, apply grip tape around the cap, and use a cannon plug pliers or equivalent and remove cap

7. Cut safety wire on caliper backplate assembly bolts and remove brake back plate assemblies
8. Remove and discard cotter pin and remove axle nut and main wheel axle spacer
9. Slide each main wheel assembly off main wheel axle

NOTE: See [Wheel Assembly Reinstallation section](#) for figure reference

10. Remove brake calipers, keeping the brake line assemblies still attached to the calipers
11. Remove (2) AN4-33A bolts and associated washers and nuts that secure the axle to the main gear drag link

NOTE: Have towel or equivalent ready to catch the oil that drains from the axle

12. Apply a light coating of 15W-50 oil or equivalent to (2) new AS568-121 O-rings and install into each groove of 1009930 main gear axle plug
13. Check for burrs on inside of 1008980 main gear axle. Hone axle if any burrs are present
14. Install 1009930 main gear axle plug and (2) installed AS568-121 O-rings into 1008980 main gear axle

NOTE: Make sure to align the through bolt holes and threaded insert hole on 1009930 main gear axle plug with existing holes in 1008980 main gear axle

15. Reinstall (2) AN4-33A bolts with new NAS1523-4Y and 750-0030-1/4 stat-o-seal washers, and (2) new MS21044N4 nuts that secure the axle to the main gear drag link

NOTE: See [Drag Link Reassembly section](#) for figure reference

16. Apply 1422 sealant or equivalent on threads of 1009931 threaded fitting, AN910-1D coupling, and AN816-4D flared tube and pipe thread adapter and install into axle
17. Thoroughly apply sealant around threaded fitting where the axle meets the fitting
18. Corrosion treat all exposed hardware with Dinitrol AV30 or equivalent

NOTE: See [Hose Routing and Drag Link Reinstallation section](#) for figure reference

19. Reinstall main wheel assemblies per [Wheel Assembly Reinstallation section](#) of this manual

NOTE: Replace O-rings located on each cap assembly

NOTE: If a piece of tape was placed over the reservoir vent, verify tape is removed

20. Fill reservoir per [Filling the Reservoir section](#) of this manual
21. Return aircraft to service per [Returning Aircraft to Service section](#) of this manual

WEIGHT AND BALANCE INFORMATION (METHOD B)

	Added Weight (if Method A of this service letter had previously been accomplished)	Arm
208B	0.4 lbs.	216.00 inches
208	0.4 lbs.	196.00 inches