NOVA BUS **SERVICE BULLETIN** **BS3667ER1**

REFERENCE:	Nova Bus Manuals
SECTION:	01: Structure
RS Nº:	MQR 7621-1030
EFFECTIVE IN PROD.:	L961 (2016MA)

APPLICATION DEADLINE: 2018MR31
CLAIM REFERENCE NUMBER: WB-3667

SUBJECT:	Right wall structure with 1:6 ramp
JUSTIFICATION:	Vertical beam might crack above front door, second post capping.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Weld stiffening plates.	Nova Bus	Nova Bus	8h
2	–	–	–	–

MATERIAL

QTY	PART Nº	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
1	N24104	–	BOLT M6 X 20 SS	–
1	N71118	–	PLATE FRONT DOOR (90°) ST STL UNS304 ASTM A240 3/16" (4.8mm) THK	–
1	N71119	–	PLATE FRONT DOOR ST STL UNS304 ASTM A240 3/16" (4.8mm) THK	–
1	N71120	–	BRACKET BETWEEN TUBES ST STL UNS304 ASTM A240 12GA (2.8mm) THK.	–
2	N30702	–	POP RIVET 3/16 X 0.440 X 0.125	–
LEVEL 2				
–	–	–	–	–

Materials will be available within 14 days. To order, please contact Prevost Parts by phone at 1-800-771-6682, by fax at 1-888-668-2555 or by email at prevostparts.commandes@volvo.com. Specify document number, quantity of parts required and shipping address.

DISPOSAL OF PARTS

REMOVED PARTS ARE:	DISCARDED *	RETAINED	* Dispose of the unused parts and the defective parts in accordance with local environmental standards in effect.
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REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2016MA12	Initial release	André Pelletier
R1	2017MR07	Procedure modified. Material added.	André Pelletier

APPROVED BY: Daniel Theriault

Digitally signed by Daniel Theriault
DN: cn=Daniel Theriault, o=Nova Bus, ou, email=daniel.theriault@volvo.com, c=CA
Date: 2017.03.13 17:01:22 -04'00'

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
New York City Transit - New York	L608	8000	8014	L82U6B4000047	L82U0B4000061	15
New York City Transit - New York	L620	8015	8074	L82U2B4000062	L82U7B4000123	60
New York City Transit - New York	L621	8075	8089	L82U9B4000124	L82U9B4000138	15

PROCEDURE

WARNING

Follow your internal safety procedures. Before performing any welding operation on the vehicle, sensitive electronic components must be disconnected. Ask a qualified electrician to place the main battery cut-off switch in the off position and disconnect the affected components per maintenance manual section *01: Structure*.

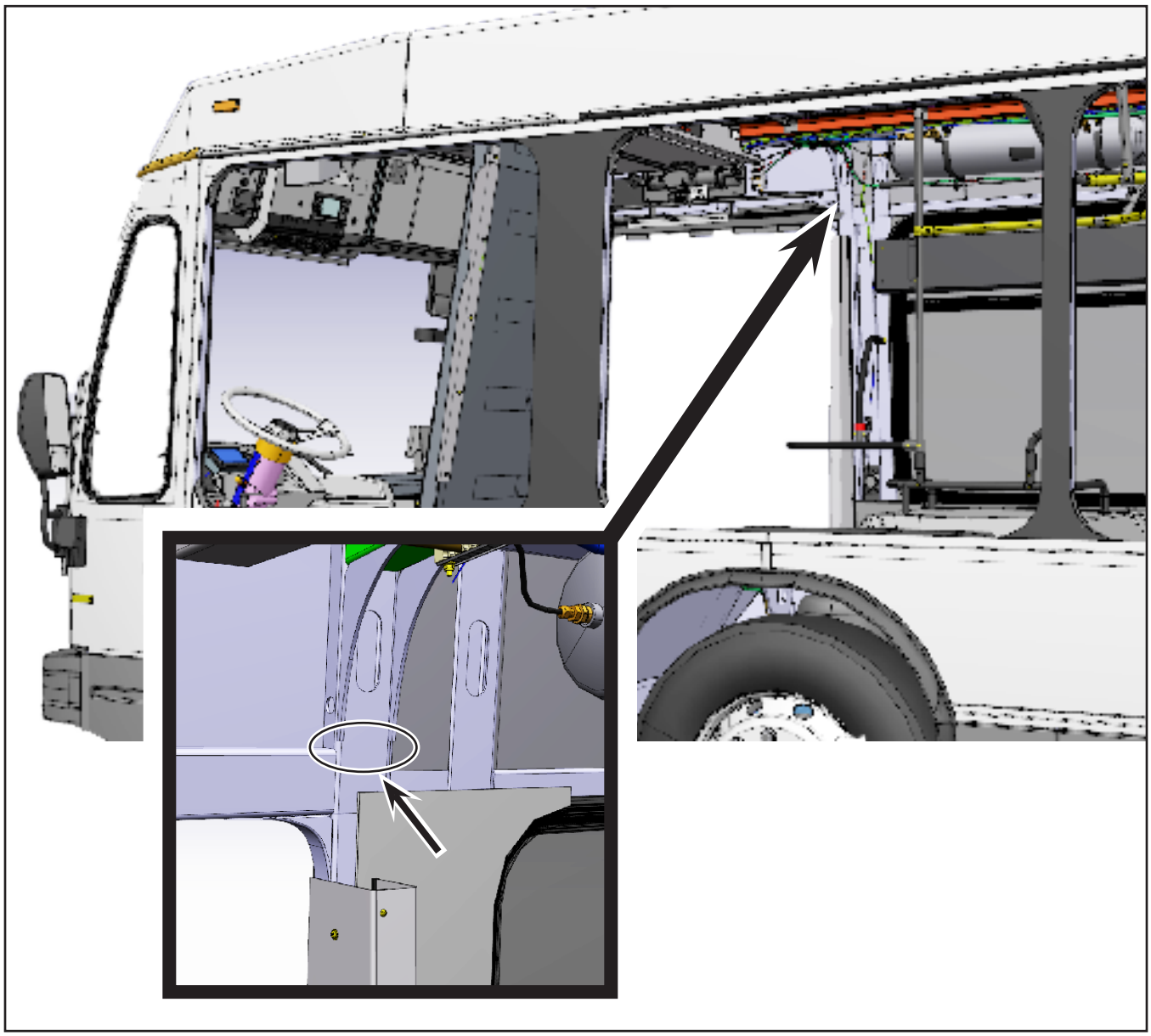

Figure 1 - Possible Crack Location

NOTE

Retain hardware removed during the procedure for later reinstallation.

1.1. Remove the access panel above the first curbside window. See Figure 2.

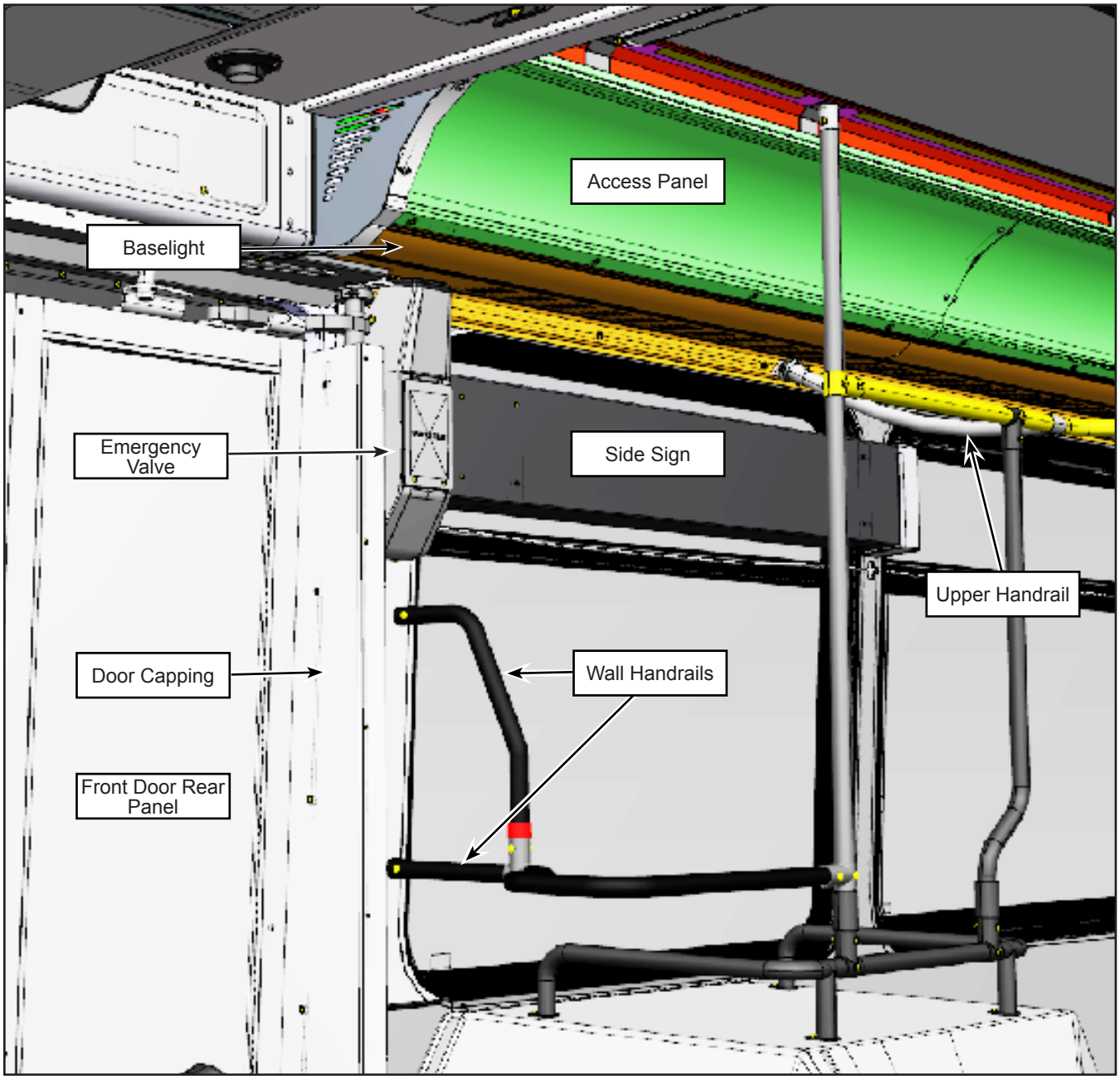

Figure 2 - Parts Identification

1.2. Remove the front door, rear panel only.
1.3. Remove the upper handrail and wall hand rails.
1.4. Mark the height position of the door second capping for later reinstallation. Remove door capping (2 pieces).
1.5. Remove the door operator connecting rod on top of the door shaft.
1.6. To remove the door shaft, remove the three bolts under the operator support plate. See Figure 3.

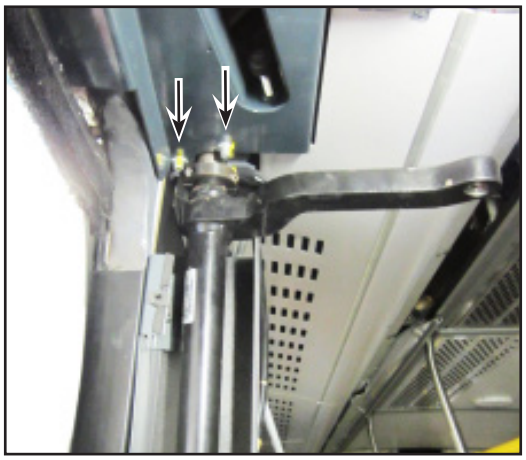

Figure 3 - Remove Door Shaft

1.7. Remove the emergency valve capping.
1.8. Disconnect the two chime cord wires and remove chime cord assembly. See Figure 4.

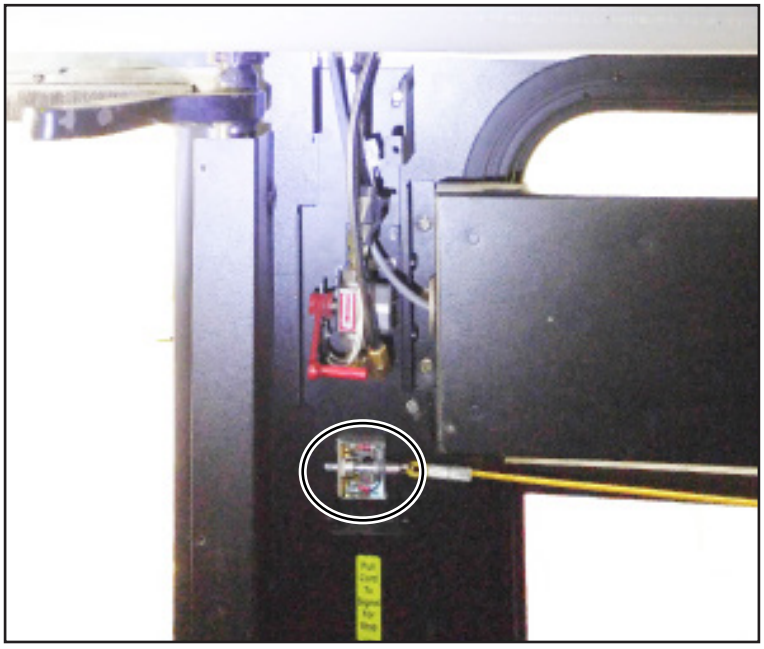

Figure 4 - Remove Chime Cord Assembly

1.9. Purge the air system, then disconnect the two pneumatic hoses and the connector at the emergency valve.

1.10. Remove the emergency valve assembly.

1.11. Disconnect the harness and remove the side sign with the help of an assistant.

1.12. Remove the window frame screws from the upper horizontal and the front vertical frame portions in order to facilitate the baselight and melamine removal.

1.13. To remove the first baselight, start by drilling out the two rivets at the joint of the second baselight. See Figure 5.

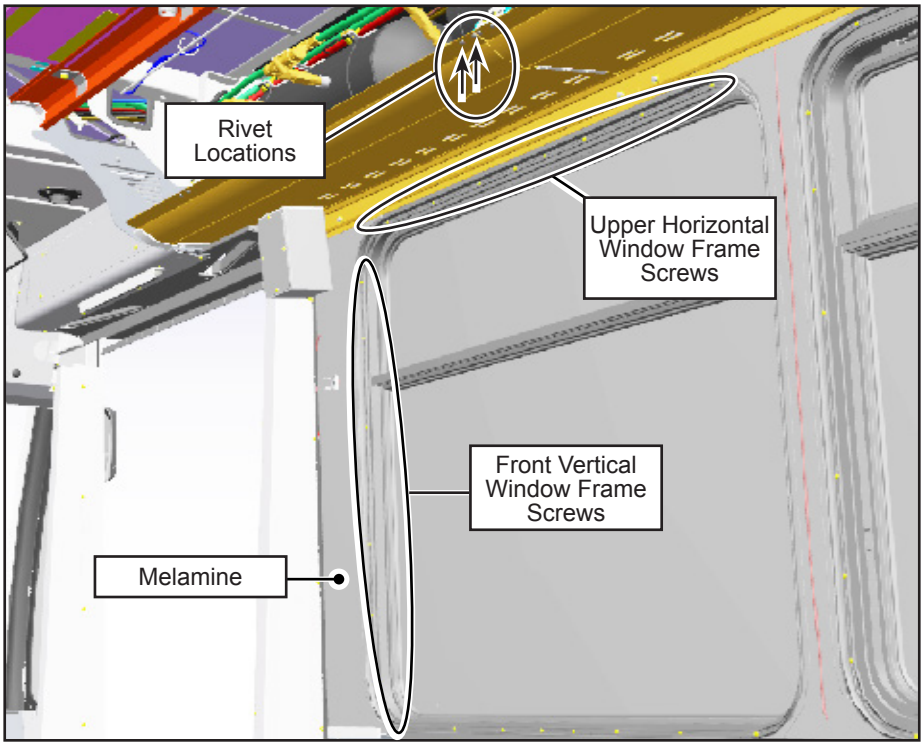

Figure 5 - Drill Out the Two Rivets and Remove Window Frame Screws

1.14. Disconnect the harness and remove the baselight.

1.15. Remove the melamine using a utility knife to cut the double face tape between the wall and the melamine. The melamine will be reinstalled after the repair, be careful to not damage it. See Figure 6.

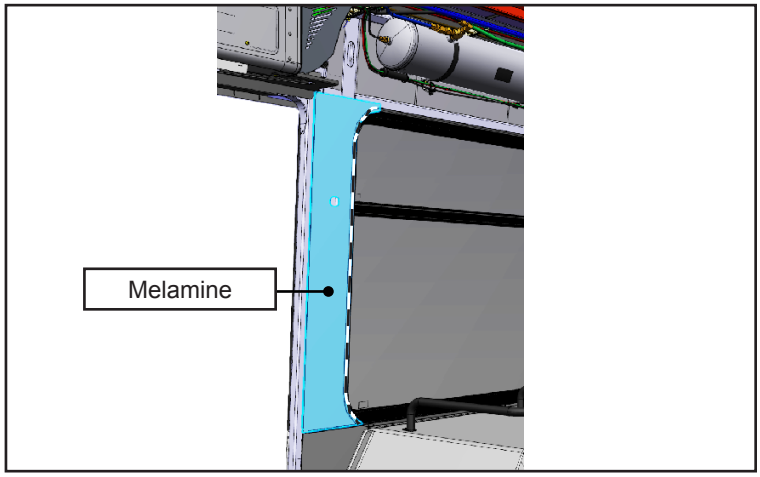

Figure 6 - Remove Melamine

1.16. Remove the wires and the pneumatic hoses from the wall structure, including the pneumatic drain hose into the vertical tube (see Figure 7) and attach them temporarily away from the area to be reworked. Remove and keep the u-channel edge protector.

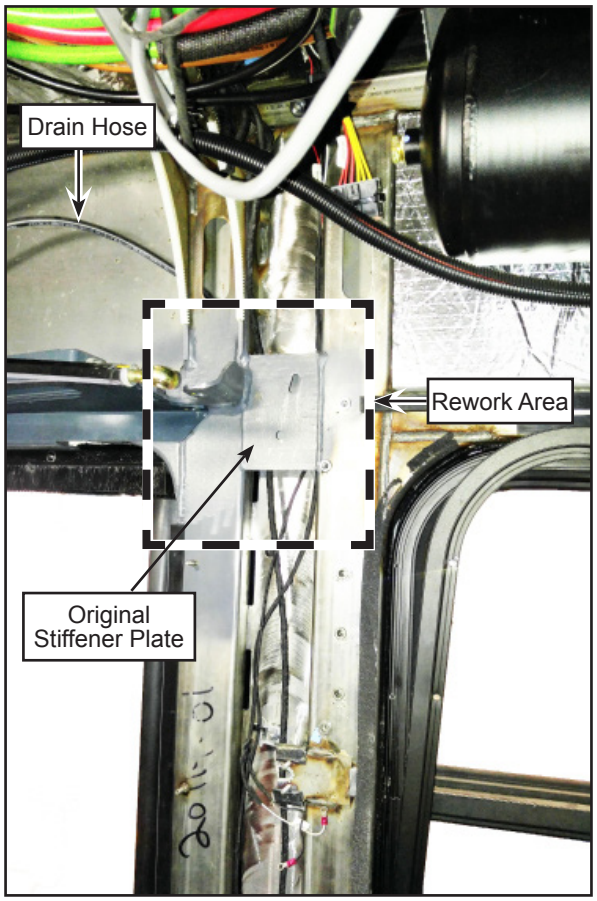

Figure 7 - Secure All Hoses and Wires Away From the Rework Area

1.17. Inspect the area shown in Figure 1. If a crack is found, make 1/8 in. stop holes at one or both ends if possible.

NOTE

All components and surfaces must be protected from cutting or grinding during the repair process.

1.18. With a cut-off wheel, remove the original stiffener plate between the two vertical tubes, see Figure 7. This plate will be replaced by N71120, see Figure 8.

1.19. Surface preparation is very important. Grind as required to get smooth flat surfaces without wobbles. Remove existing welding spatters. The area to prepare has to be approximetly 2 in. wider than the area covered by the new stiffening plates. See shaded area in Figure 8 for preparation area to be covered.

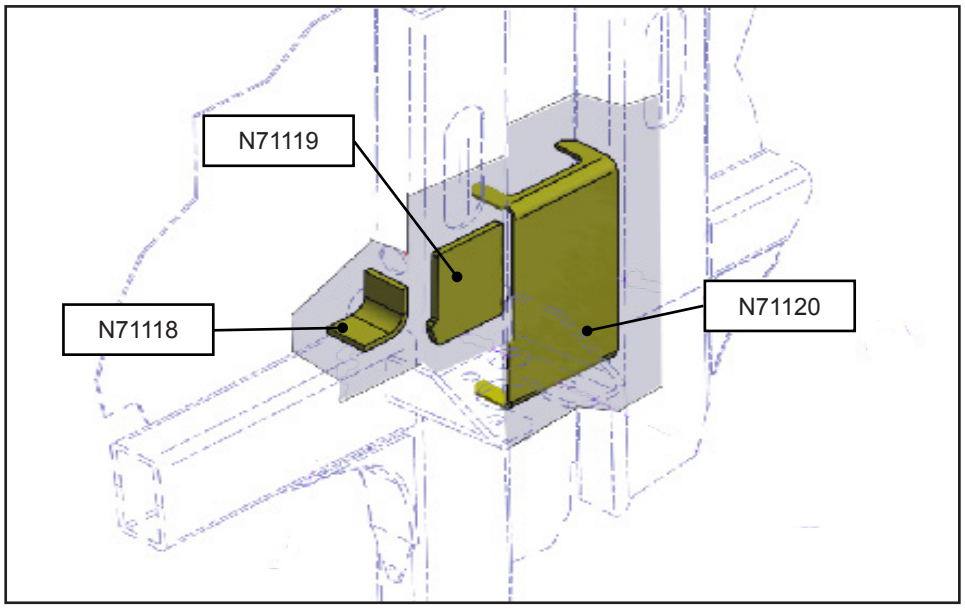

Figure 8 - Surface Preparation Area

1.20. If there is a ground stud in the area, cut it. See Figure 9.

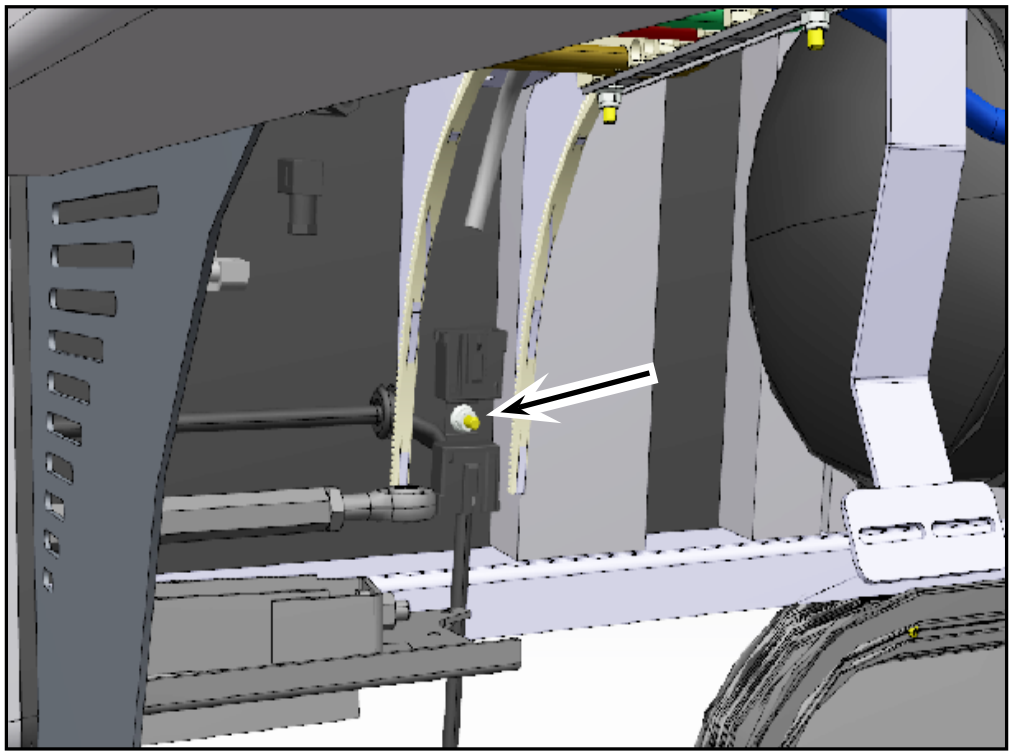

Figure 9 - Cut the Stud

1.21. If there are existing protruding bumps greater than 1/16 in. from the existing weld beads, grind them flush with the weld bead. The weld on the existing structure should not be more than 1/2 inch, if it is, it should be ground down to insure that the maximum of 1/2 inch is respected. The minimum weld size to respect shall remain equivalent to the thickness of the plate being welded and respecting a maximum weld size of a 1/4 inch. See Figures 10 and 11

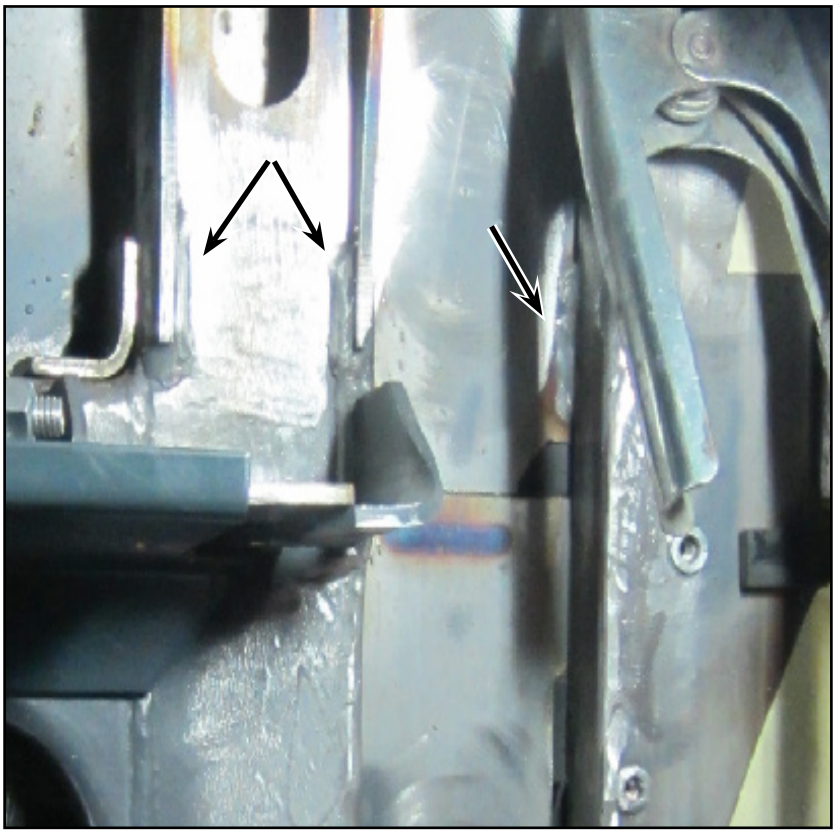

Figure 10 - Examples of Weld Beads that May Need to be Ground (Not Limited to These)

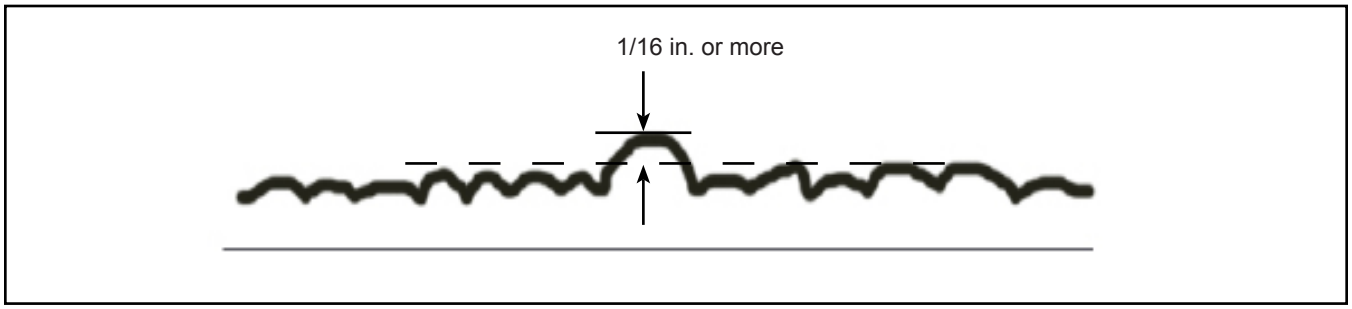

Figure 11 - Grind Protruding Bumps of More Than 1/16 in.

1.22. Verify the plates position prior to welding. See Figure 12. It may be required to grind or modify the parts.

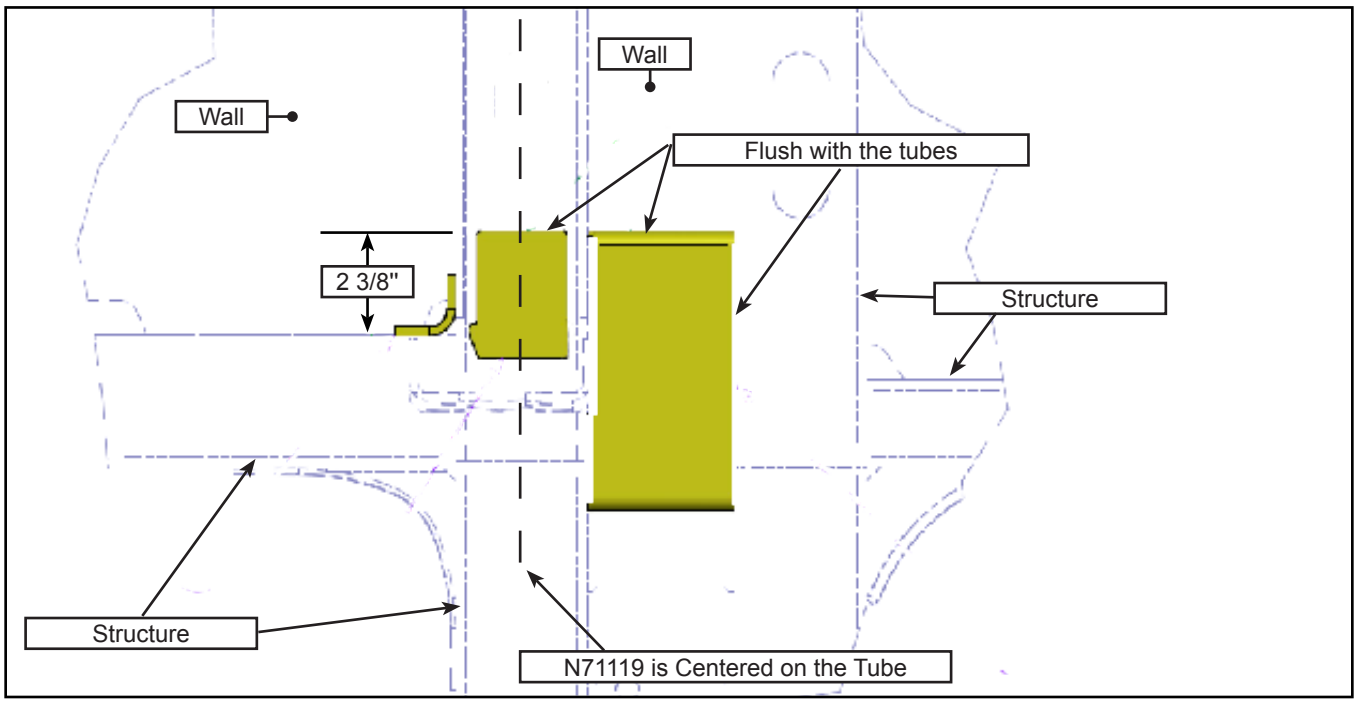

Figure 12 - Plates position

1.23. A 1/8 in. gap is required between N71119 and the existing weld on the structure, grind if necessary. Press fit is not acceptable. See Figures 10 and 13.

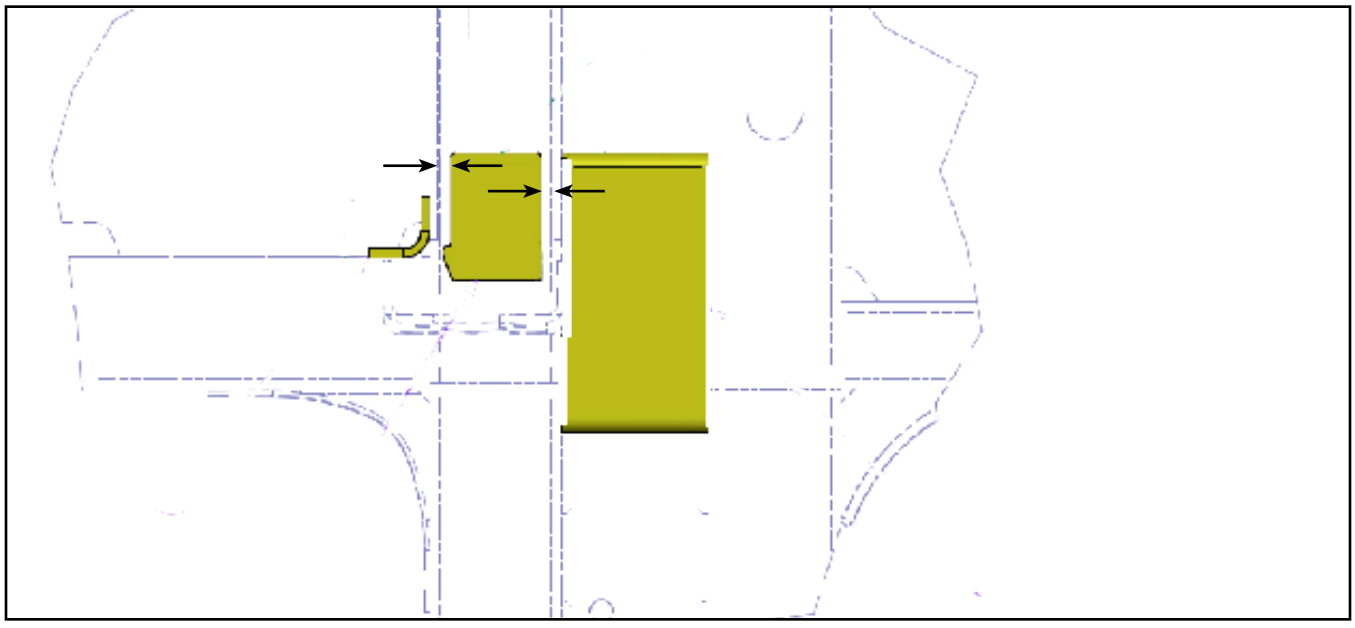

Figure 13 - 1/8 in. Gap Required on Each Side of N71119

CAUTION

All components must be protected from heat, spatter and flame during the welding process. Refer to maintenance manual section *01: Structure* for welding procedure. Given the heat transfer to the wall, take care not to damage the parts in the surrounding area, such as the outside fiberglass panel.

1.24. Plate N71119 must be centered with the vertical tube. N71118 and N71120 must be flush with the inside face of the tubes. Make a full weld on every edge, represented by the dashed lines in Figure 14. Weld to the structure tubes only, not to the wall.

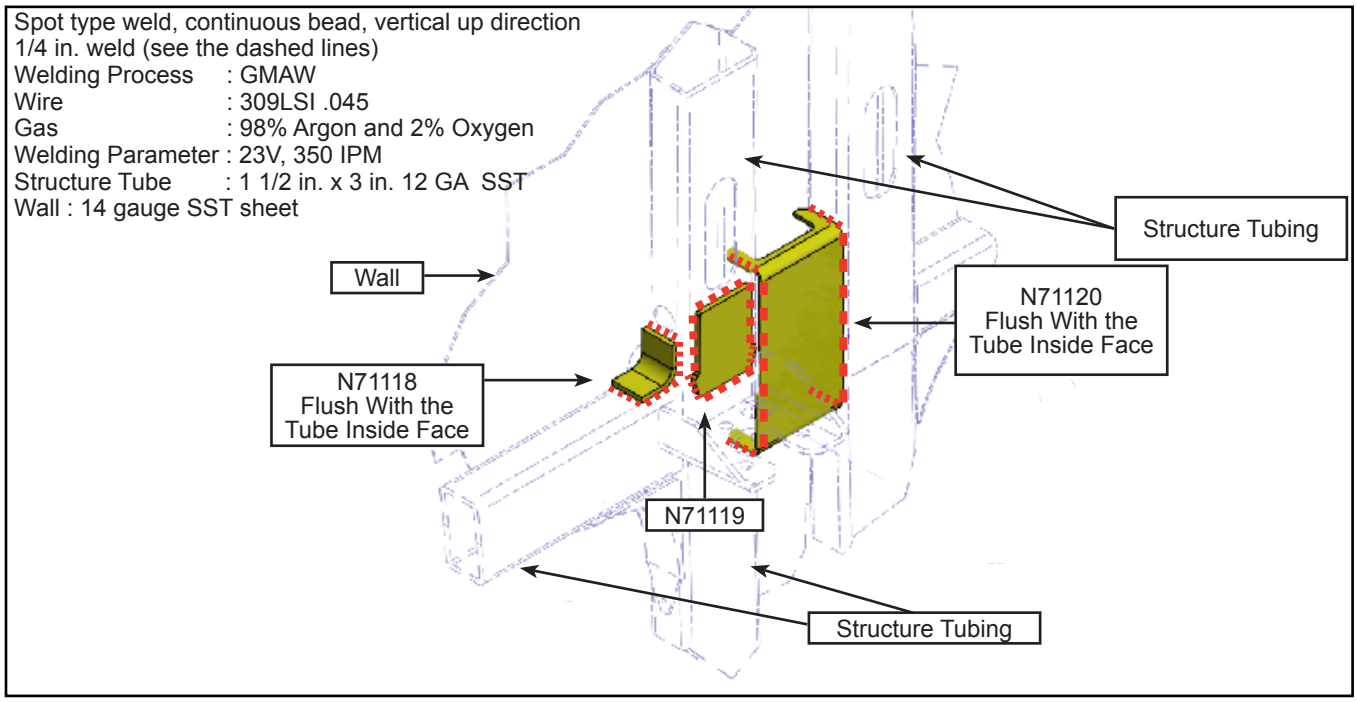

Figure 14 - Weld the Parts in Place

1.25. Fill the corner gap between the structure and N71118. See Figure 15.

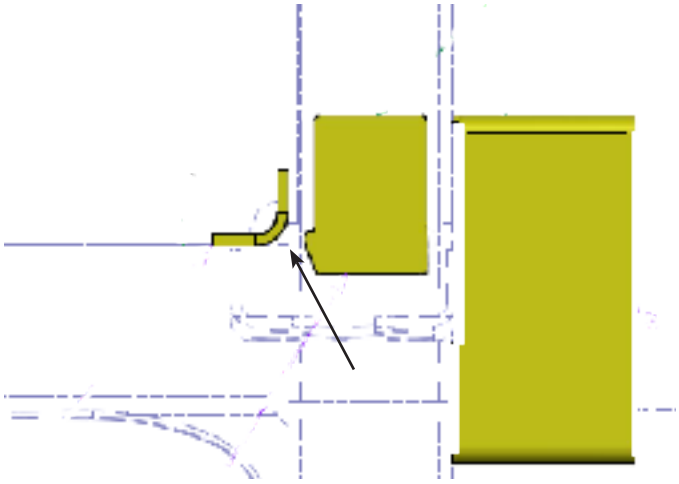

Figure 15 - Fill the Gap for N71118

1.26. Make tack welds on the head of bolt N24104 to replace the previously cut ground stud. See Figures 16 and 17. The position shall be approximetly 1 in. above the plate N71119 and centered on the tube. The tack welds should be on alternate corners of head bolt. This gives a total of 3 tack welds. During the tack weld operation the dimension from opposite corners should not be reduced by more than 20%.

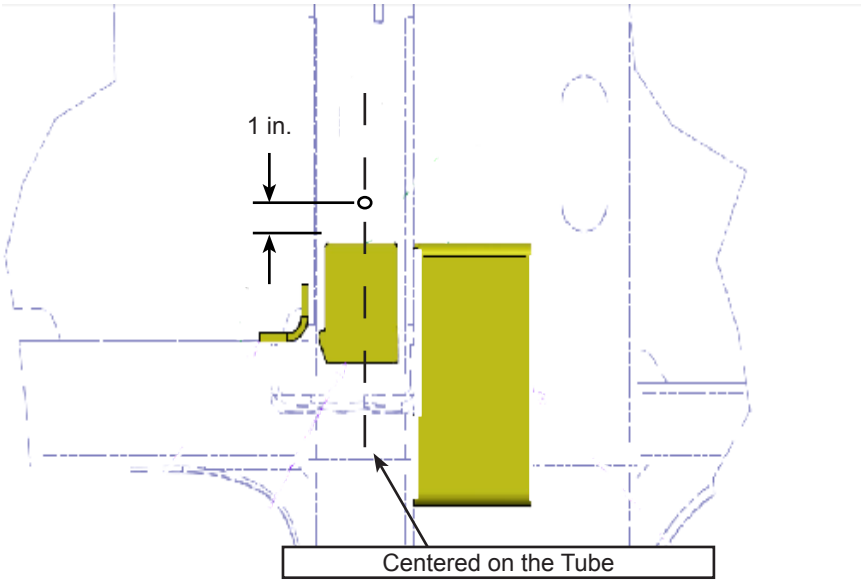

Figure 16 - New Ground Location

1.27. If the tack welds are higher than the head of the bolt, grind them flush to allow for a proper ground contact. See Figure 17.

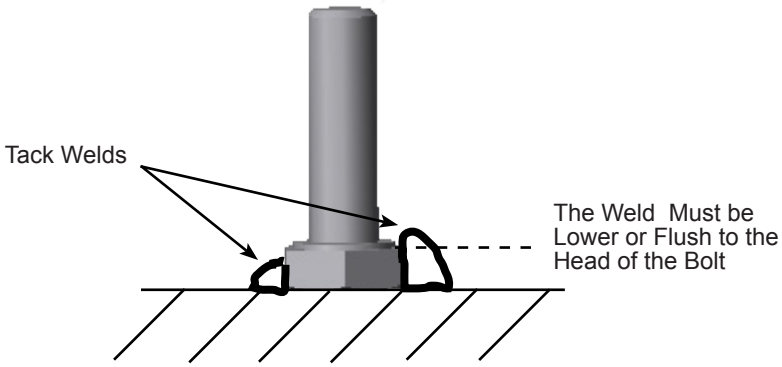

Figure 17 - Tack Weld the Bolt

1.28. Install the door shaft and apply a torque of 4.4 lb-ft to the three bolts. Use thread locker 9985283 or equivalent and anti-tamper seal. See Figure 18.

1.29. Install the door mechanism rod to the top of the shaft, torque to 13.3 lb-ft and apply thread locker 9985283 or equivalent and anti-tamper seal. We recommend applying grease N24412 or equivalent to the pivot, if needed. See Figure 9.

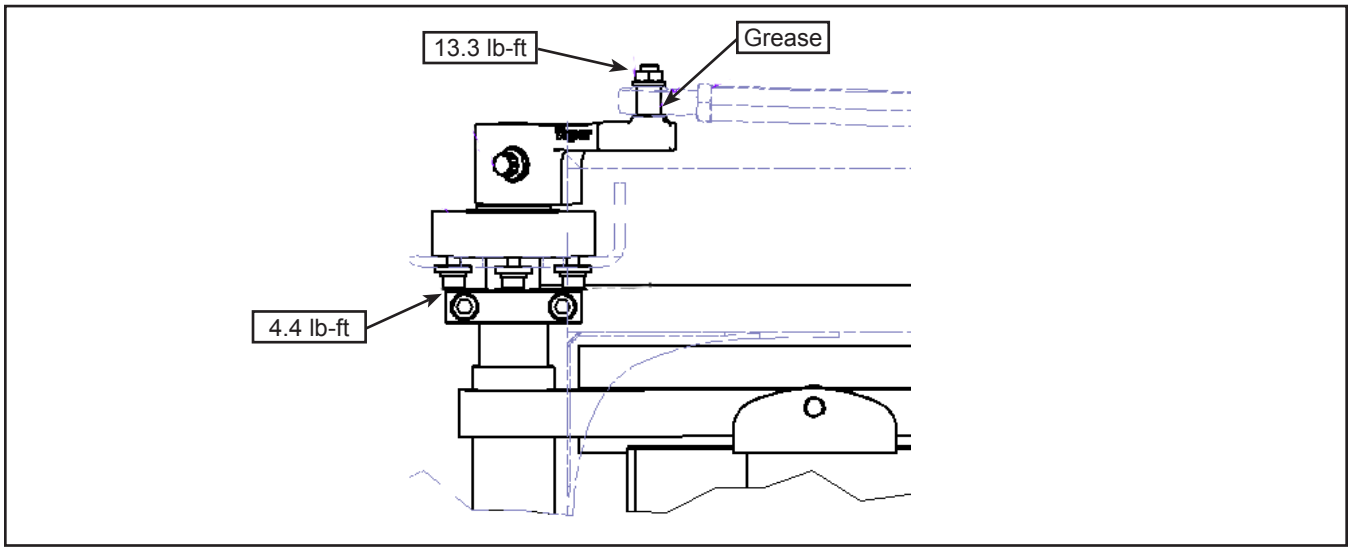

Figure 18 - Torque Door Shaft

1.30. Check that there is enough space between the new plate N71119 and the door mecanism. Grind the plate if necessary.

1.31. Put the drain hose back in place in the vertical tube and the wires on the structure like they were before.

1.32. Install the original U-channel edge protector on plate N71120.

1.33. Install the melamine and route the chime wires throug the hole.

1.34. Install the door shaft capping at its original height.

1.35. Install the baselight and two new N30702 rivets. Connect the baselight harness.

1.36. Install the window frame screws.

1.37. With an assistant, connect and install the side sign. Torque the six bolts to 6.3 lb-ft.

1.38. Install the emergency handle assembly. Connect the hoses and harness.

1.39. Install the chime cord assembly. Connect the two wires.

1.40. Install the emergency handle capping.

1.41. Install the wall and upper hand rails.

1.42. Install the acess panel.

1.43. Ask a qualified electrician to connect the components that were disconnected as per maintenance manual section *01: Structure.* Place the main battery cut-off switch in the ON position.

1.44. Prior to returning the vehicle to service, validate the proper functionning of:

1.44.1. The door

1.44.2. Chime cord

1.44.3. Destination sign

1.44.4. The baselight

1.44.5. The emergency valve ❖