



INSTRUCTION TO SERVICE

ITS: 6683	
SECTION:	422 Interior
WRITTEN BY:	Troy Stutsky
SUBJECT:	Install new artic joint panel caps

ITS6683

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PROCEDURE:

1. Turn the main battery disconnect switch to the “OFF” position.
2. In the artic joint area inside of the bus, remove and retain the artic joint stanchions and hardware that are fixed to the artic joint panels and ceiling (if applicable). See Figure 1.



Figure 1: Remove Stanchions

3. Remove and retain the caps and hardware off the top and bottom of the artic joint lights (if applicable). See Figure 2.

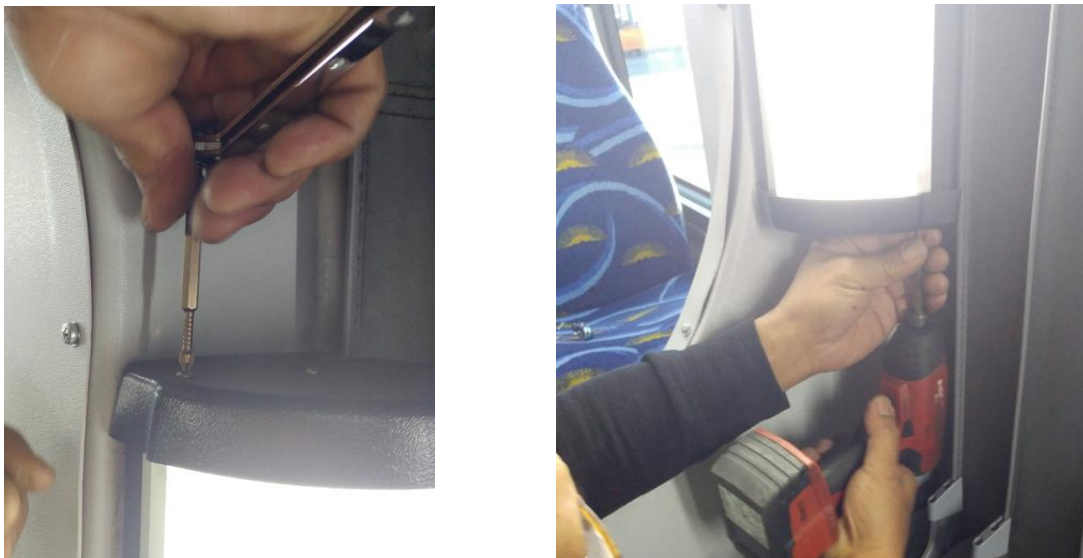


Figure 2: Remove Light Caps



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4. Remove and retain the artic joint lights hardware, disconnect the harness and remove the light (if applicable). See Figure 3.



Figure 3: Remove Artic Joint Lights

5. Remove and discard all the screws on the outer artic joint panels. See Figure 4.

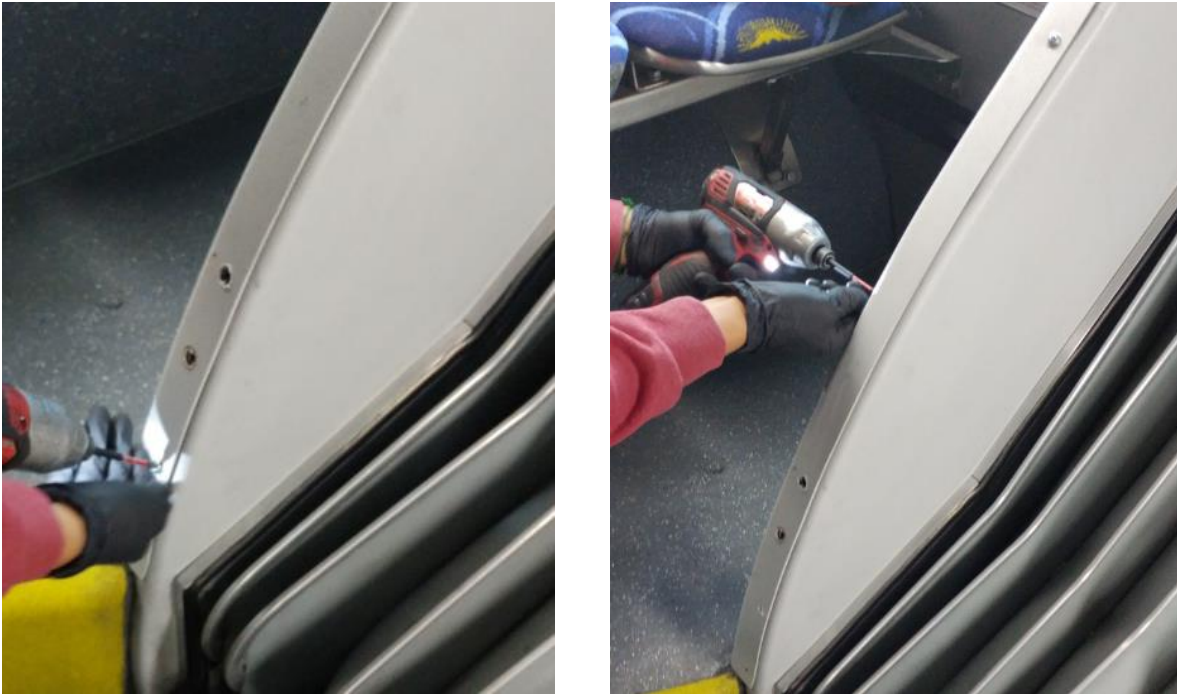


Figure 4: Remove Artic Joint Panel Screws

6. Remove and retain the lower bellows hip boot rubber locking strip. See Figure 5.



Figure 5: Remove Lower Bellows Hip Boot Rubber Locking Strip



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7. Loosen and take apart the first three ribs on the lower bellows to gain access to the hip boot brackets. See Figure 6.



Figure 6: Loosen Lower Bellows Ribs to Expose Bracket

8. Drill out the rivets in the lower bellows bracket. See Figure 7. Make sure to remove the rivet bodies from the holes.



Figure 7: Drill out Rivets

9. Loosen and take apart the first three ribs on the upper bellows to gain access to the rivet that fastens the panel in place and drill out the rivet. See Figure 8. Make sure to remove the rivet body from the hole.



Figure 8: Loosen Bellows and Drill out Rivet

10. Remove and discard the black edging strip on the outer joint panels. See Figure 9. Do not remove the edging strip on the upper panels.



Figure 9: Remove Edging Strip

11. Install a new edging strip (NF PN 112146) on the four new outer panel caps. Cut the edging strip to length required. See Figure 10.



Figure 10: Install New Trim Strip

NOTE: Use the map in Appendix A to identify the panel cap part numbers and locations of those parts.

12. Dry fit the new outer panel caps and the new inner panel caps in place by tucking the panel inside of the existing upper closeout panels and in front of the harness cover along the lower part of the wall (if applicable). See Figure 11. You may need to maneuver the panel caps to get it to fit in behind existing closeouts.



Figure 11: Dry Fit the Panels

13. Once in place, try to achieve as little of gap as possible between the inner edge of the existing panels and the new panel caps. Remove the black edging strip and trim panel caps to fit as required. See Figure 12.



Figure 11: Achieve Smallest Gap Possible by Trimming Panel Caps if Required

14. Once the panel caps are trimmed (if required) and fit in place well, install the grey H-Channel trim (NF PN 535810) on the front outer panel caps and (NF PN 535819) on rear outer panel caps. See Figure 12.



Figure 12: Install H-Channel

15. Once the H-Channel is installed on the outer panel caps, place the inner panel caps in place and feed the wire harness for the lights through hole in the panel cap (if applicable). Fit the panel cap into the H-Channel as well. You may need to maneuver the panels and H-Channel to get it installed correctly. It may also help to lightly clamp the panels in place once you have the H-Channel installed.
16. Drill 0.161" pilot holes in all of the hole locations on the outer and the inner panel caps through the structure under the caps except in the four locations on the inner panel caps shown in Figure 13. Drill these four holes through the existing panels to 0.250".

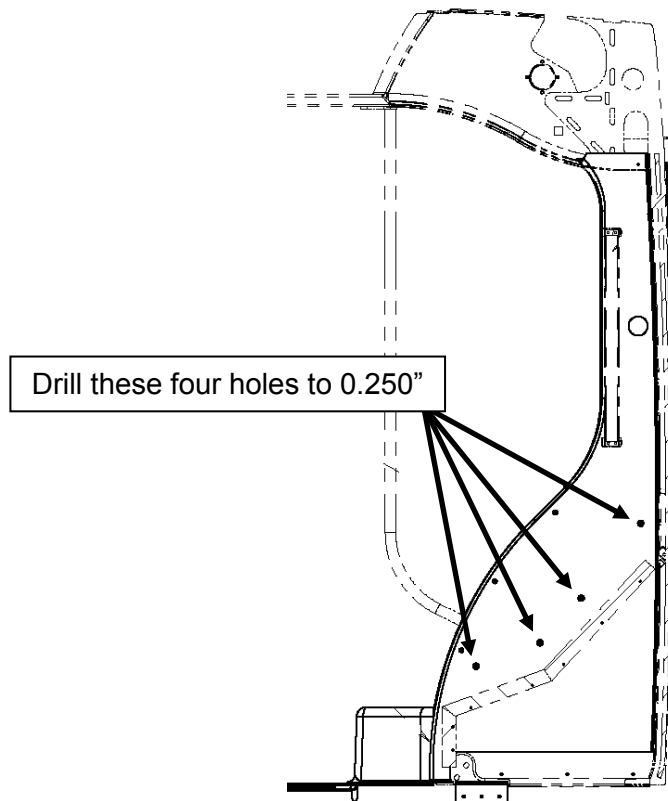


Figure 13: Drill Holes Through Panels Only

17. Secure the outer and inner panel caps in place using #10 screws (NF PN 34S00012) with #10 flat washers (NF PN 10W00000). Apply Loctite 248 (NF PN 002459) to the threads of the screws and torque hardware just enough to secure the panel caps. Ensure that the panel caps show no deformation or bending in the screw locations. See Figure 14.



Figure 14: Secure Panel Caps in Place

18. Connect the light harnesses and re-install the lights using the existing hardware (if applicable). Apply Loctite 248 (NF PN 002459) to the threads of the screws and torque hardware just enough to secure the lights. Ensure that the panel caps show no deformation or bending in the screw locations. Some trimming of the slots in the panel cap may be required to expose the existing light mounting holes (if applicable). See Figure 15.



Figure 15: Re-install Lights

19. Install the new push pin clips (NF PN 702240) in the four 0.250 holes shown in Figure 13.
20. Secure the stanchions back to the ceiling. Apply Loctite 248 (NF PN 002459) to the threads of the screws and torque hardware to 4 - 5 Ft/Lbs. Place the bottom end of the stanchion on the new panel caps. Use the stanchion as a template and mark the hole locations (if applicable). See Figure 16.



Figure 16: Mark Stanchion Holes

21. Use a hole cutting bit and drill out a 0.625" hole through the panel caps and the H-Channel in the locations marked (if applicable). See Figure 17.



Figure 17: Drill Two 0.625" Holes

22. If the new stanchion mounting holes line up with the existing holes, fasten the stanchion in place using the existing hardware and new spacers (NF PN 701301). Apply Loctite 248 (NF PN 002459) to the threads of the screws and torque hardware to 4 - 5 Ft/Lbs. Use as many spacers as required to ensure the stanchion mounts securely without deforming or bending the panels. Stack spacers as required and glue them in place using 1-2 drops of Loctite 404 (NF PN 002459) on the face of each spacer (if applicable). See Figure 18.



Figure 18: Fasten the Stanchion with no Deflection in the Panel Cap



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23. If the new stanchion holes do not line up with the existing holes, drill two 0.391" holes through the existing panel and the structure. Install two ¼ x 20 nutserts (NF PN 102134) flush with the tube structure. Fasten the stanchion in place using the existing hardware and new spacers (NF PN 701301). Apply Loctite 248 (NF PN 002459) to the threads of the screws and torque hardware to 4 - 5 Ft/Lbs. Use as many spacers as required to ensure the stanchion mounts securely without deforming or bending the panels. Stack spacers as required and glue them in place using 1-2 drops of Loctite 404 (NF PN 002459) on the face of each spacer (if applicable).

NOTE: Steps 20 to 23 may need to be repeated if there are more than one attaching point for the stanchions to the artic joint tube structure.

24. Re-install the lower bellows hip boot brackets. Start with the small vertical bracket and place it in line with the center of the lower bolt and just above the edge of the panel cap. Use the bracket as a template and mark the holes. Drill two 0.203" holes through the panels into the structure. Fasten in place with two 3/16" rivets (NF PN 490273). See Figure 19.

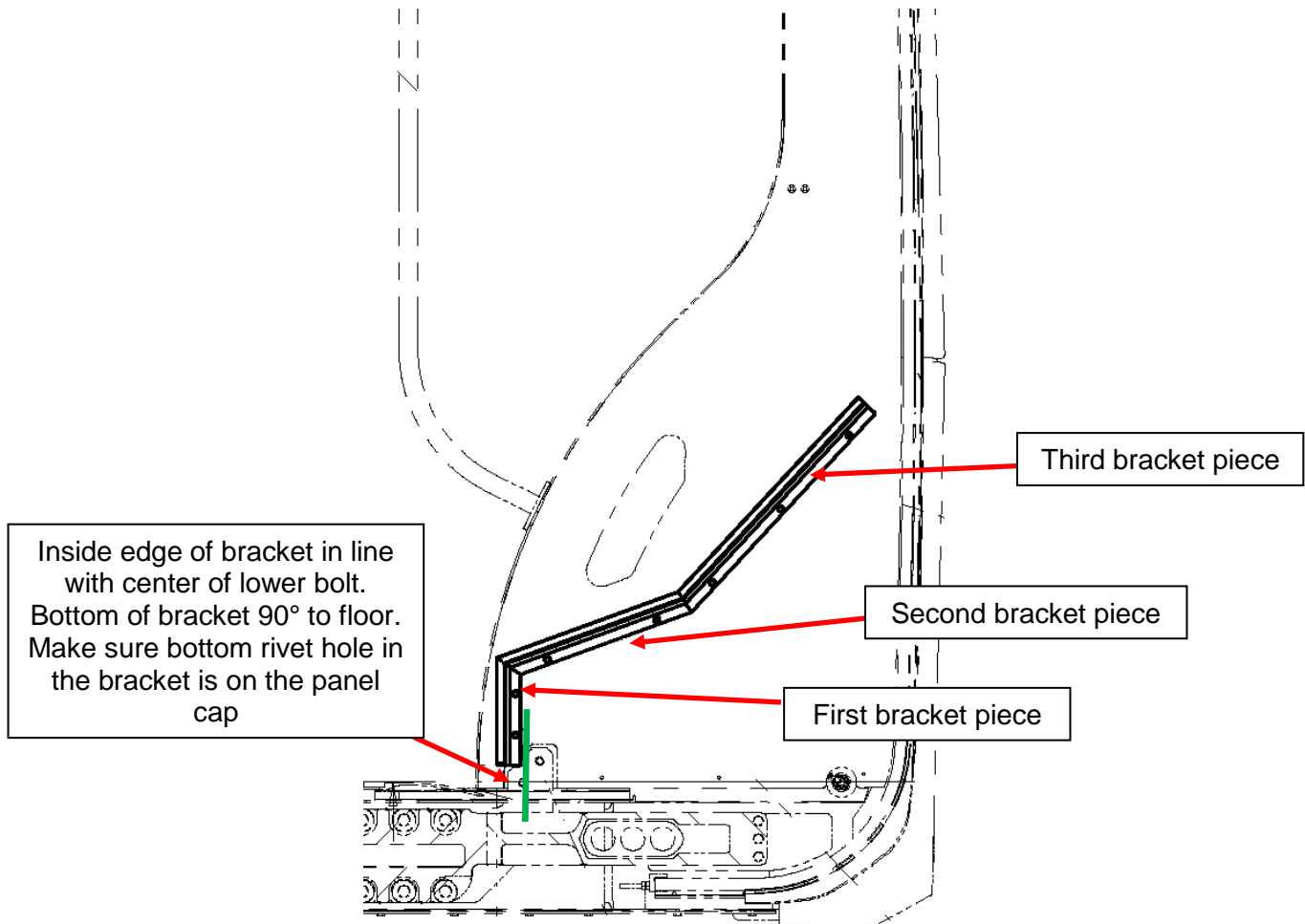


Figure 19: Lower Bellows Hip Boot Bracket Location



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25. Align the second piece of the bracket to match up with the previously installed bracket as shown in Figure 19. Use the bracket as a template and mark the two holes. Drill two 0.203" holes through the panels into the structure. Fasten in place with two 3/16" rivets (NF PN 490273).
26. Align the third piece of the bracket to match up with the previously installed bracket as shown in Figure 19. Use the bracket as a template and mark the three holes. Drill three 0.203" holes through the panels into the structure. Fasten in place with three 3/16" rivets (NF PN 490273).
27. Clean up all tools and debris that may have fallen into the lower bellows area.
28. Install the three lower bellows ribs back in place tighten the existing screws back up.
29. Fit the lower bellows hip boot back in the brackets and install the existing rubber locking strip. See Figure 20.



Figure 20: Re-install Lower Bellows Hip Boot

30. On the upper part of the inner panel cap, drill a 0.203" through the exiting panel and the structure. Install a new large head 3/16" rivet (NF PN 416840). See Figure 21.



Figure 21: Install New Large Head Rivet

31. Install the three upper bellows ribs back in place tighten the existing screws back up.
32. Clean up all tools and debris in the working area. Wipe down panels with a mild cleaning product such as foaming glass cleaner.
33. Mask off the bottom section of the panel caps where they meet the floor with masking tape. Leave room for a bead floor sealant to be applied. Seal the gap between the panel caps and the floor with the floor sealant (PN located in parts section below). Tool the sealant to a smooth finish. Remove and discard the masking tape. Clean up any excess sealant immediately.
34. Repeat the above steps on all four corners in the artic joint area.
35. If necessary, raise coach in accordance with the New Flyer Service Manual.
36. Remove all tools and debris and return the bus to service condition.
37. Turn the main battery disconnect switch to the “ON” position.



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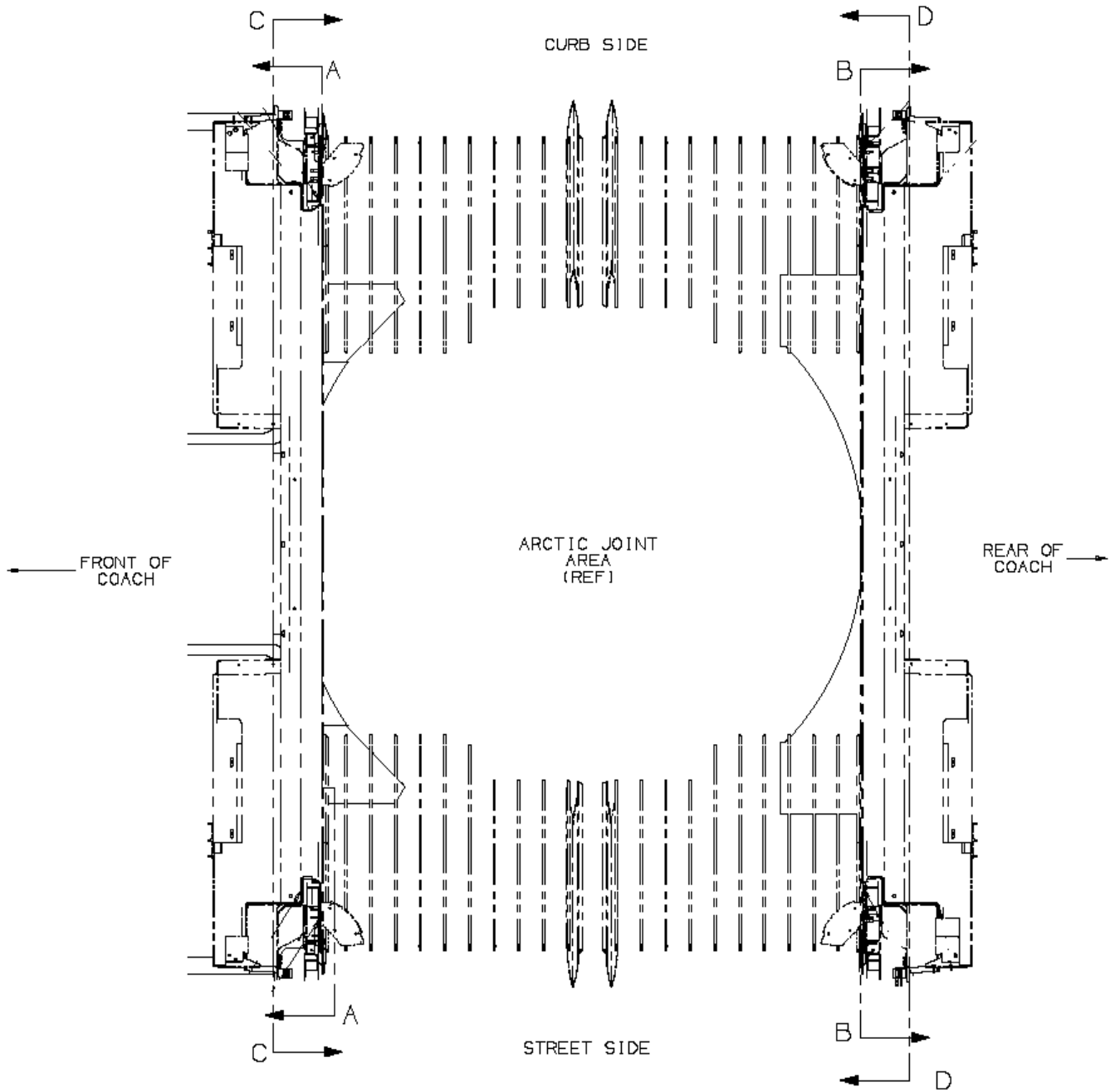
LABOUR ESTIMATE

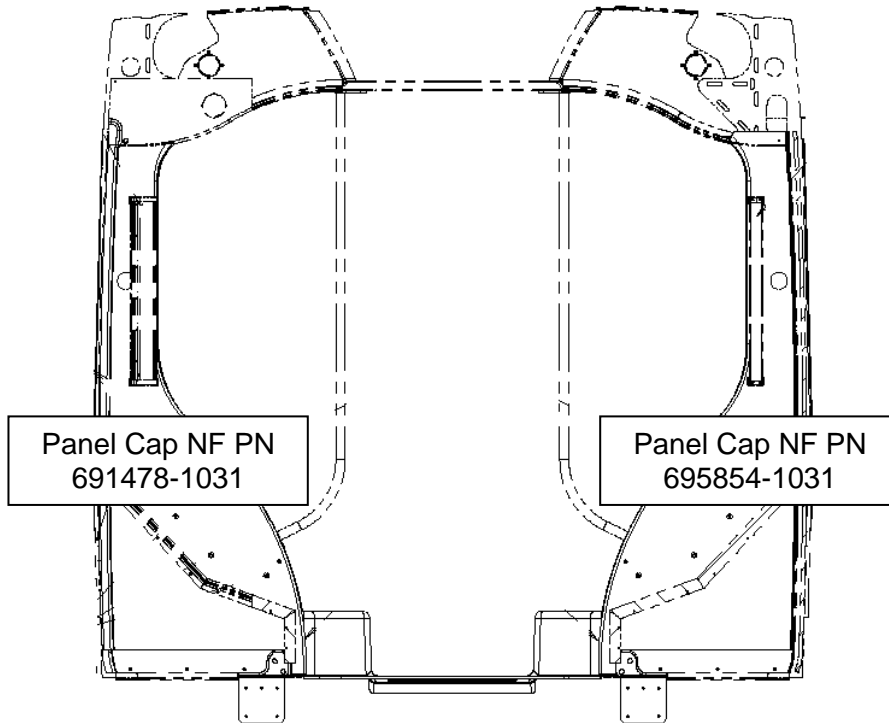
	Operation	Men	Hours	Labour Time M X HR
1	Install panel caps	1	6.0	6.0

PARTS REQUIRED

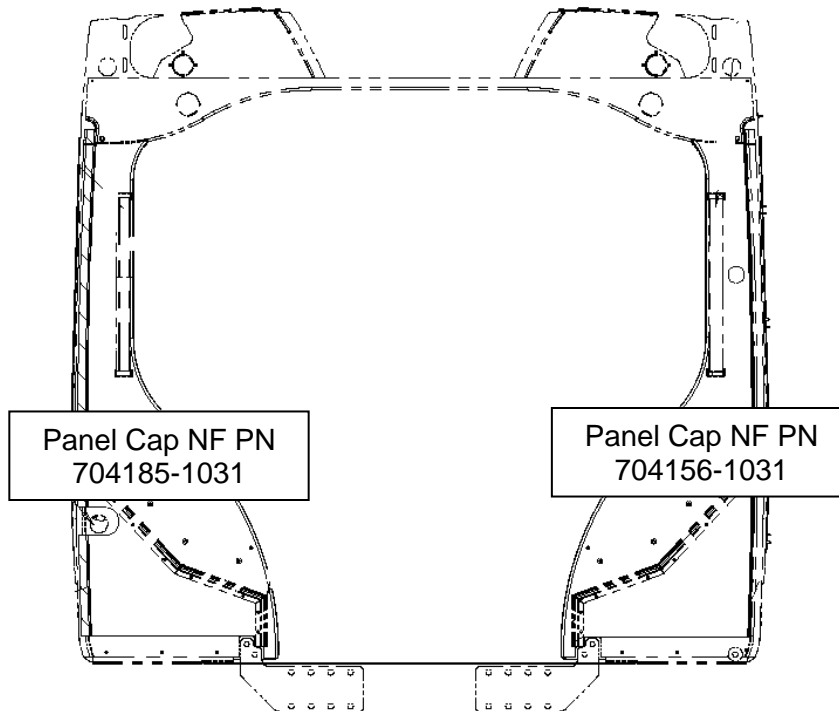
Item	Part Number	Description	Qty. per Coach	Units	Notes
1	695854-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
2	704185-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
3	695438-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
4	695441-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
5	695852-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
6	704156-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
7	691478-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
8	691472-1031	PANEL-ARTIC BARRIER CLOSEOUT	1	EA	
9	061095	SEALANT-DOLPHIN BLACK	0.01	EA	
10	112146	CHANNEL-COVER	22	FT	
11	701301	SPACER-.25ID X .625OD X .25L	32	EA	
12	416840	RIVET-3/16 SST 0.75 GRP	4	EA	
13	702240	CLIP-PINE TREE CLIP, GREY	16	EA	
14	677181	LOCTITE-248 MEDIUM,19G STICK	0.01	EA	
15	002459	LOCTITE 404- GLUE	0.01	EA	
16	535819	TRIM-ARTIC C/O JOINER	2	EA	
17	535810	TRIM-ARTIC C/O JOINER	2	EA	
18	10W00000	WASHER-FLAT #10 NOM	56	EA	
19	34S00012	SCREW-NO 10-24 X 0.75	56	EA	
20	490273	RIVET-3/16 SST 0.75 GRP	28	EA	
21	102134	INSERT STEEL 1/4" 20 UNC X .027" .165"	8	EA	

Appendix A

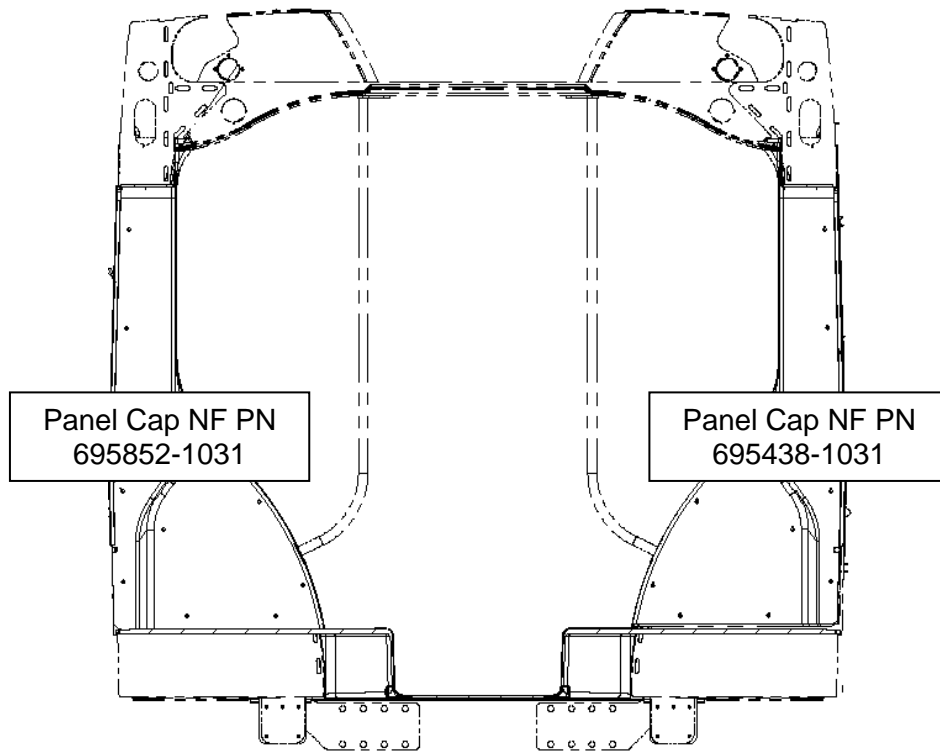




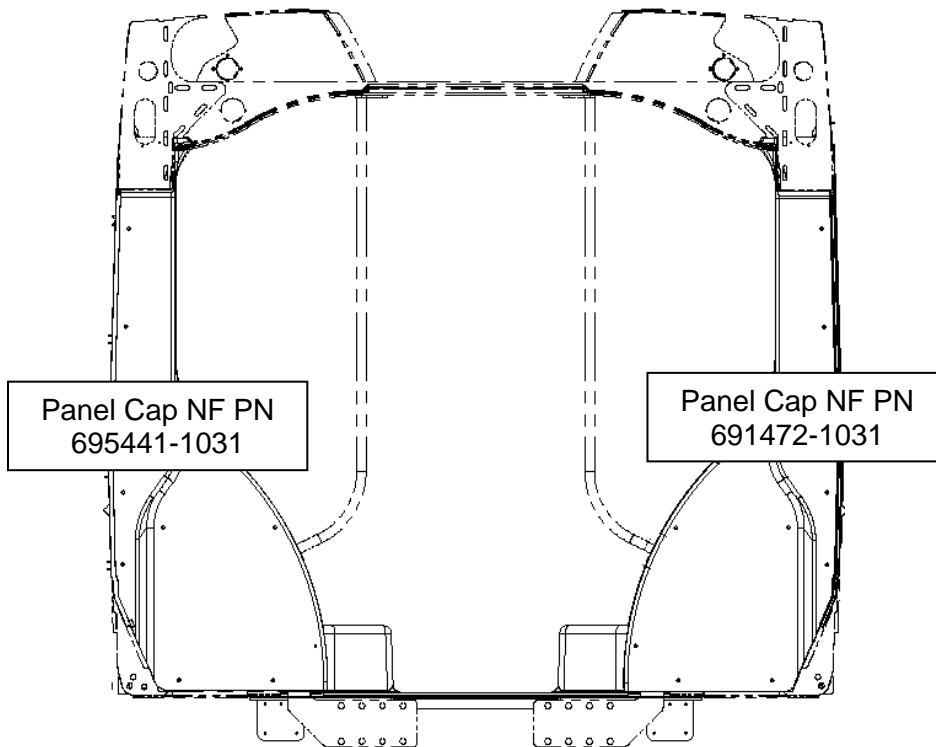
SECTION A-A
SCALE 1:12



SECTION B-B
SCALE 1:12



SECTION C - C
SCALE 1:12



SECTION D - D
SCALE 1:12