INSTRUCTION TO SERVICE

ITS: 60452	DATE 6/22/2022
SECTION:	280C – Passenger Signal
WRITTEN BY:	Daniel Tice
SUBJECT:	Pull Cord Cover Rework and Adjustment
ISSUE:	Some current pull cord covers installed have minimal clearance causing the pullcord switch to stick
SUMMARY:	Rework switch by adding additional mounting spacers, add Loctite and torque mounting hardware.

ITS60452

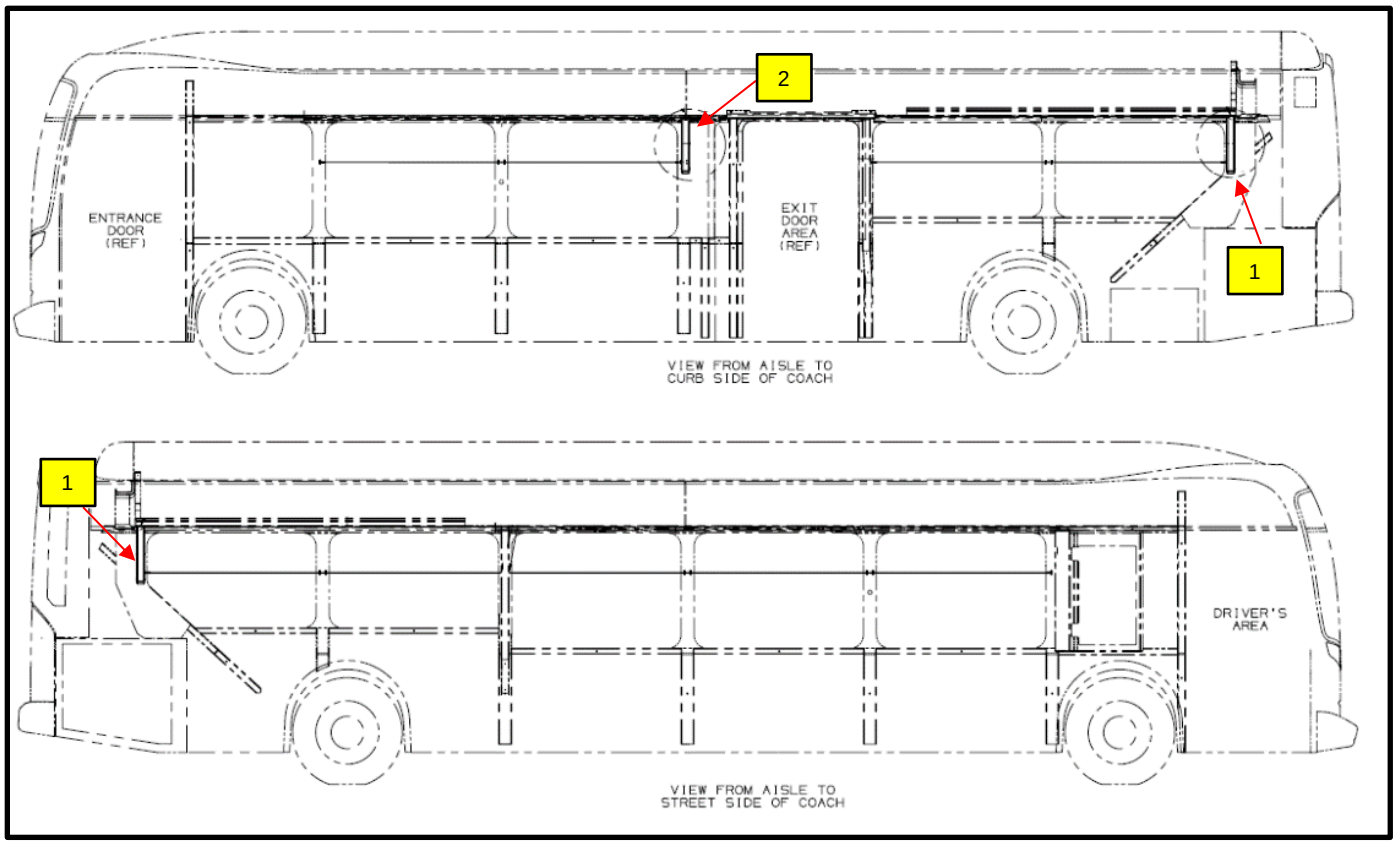
Ref. NHTSA Recall No.	Ref. Transport Canada Recall No.
Not Applicable	Not Applicable

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PROCEDURE:

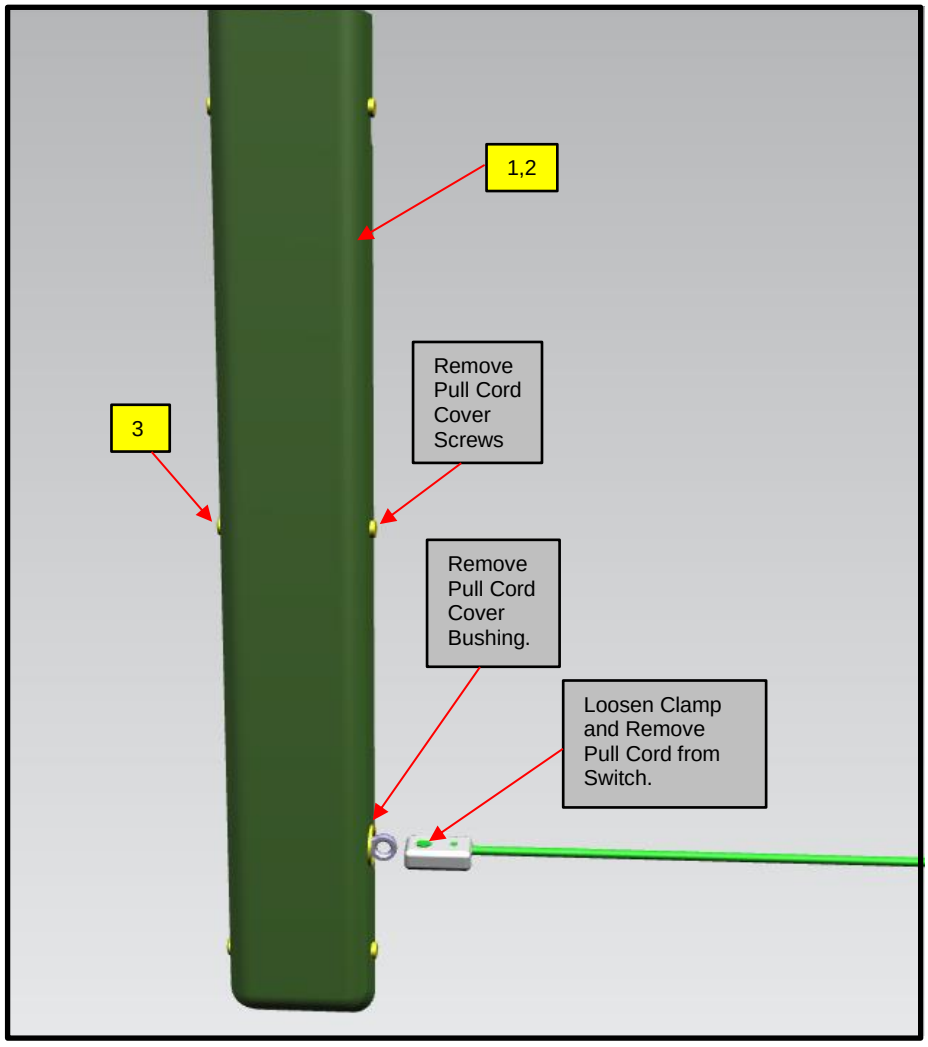
1. Turn the main battery disconnect switch to the “OFF” position.
2. Locate items #1 and #2 pull cord covers.



Item	Part Number	Description
1	544140-1016	Cover Chime Switch, Steel Grey
2	544142-1016	Cover Chime Switch, Steel Grey

Figure 1: Pull cord cover location reference.

3. Loosen the two retaining screws in the Tiller line clamp (NF PN 444322) releasing the cable from the pull cord switch. Set the clamp and pull cord aside for re-installation. See Figure 2.
4. Remove the pull cord cover mounting screws item #3 from the cover and set aside for re-installation. See Figure 2.
5. Place the removed cover aside for re-installation.

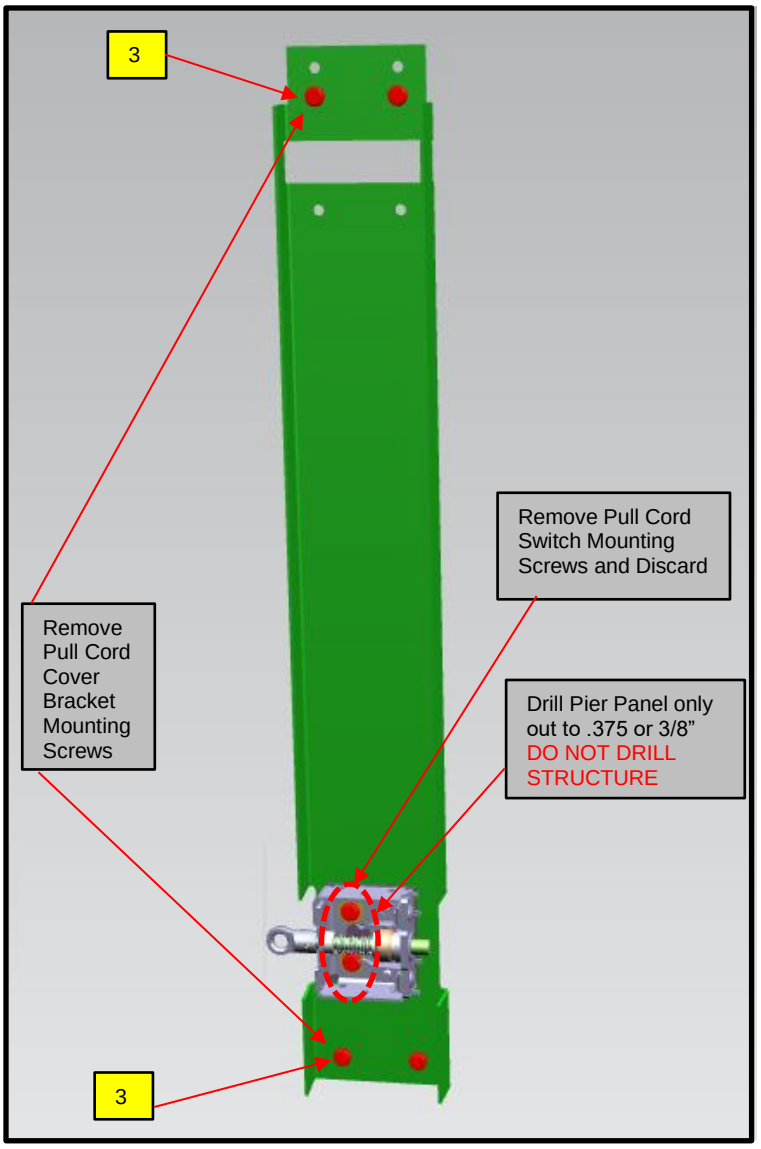


Item	Part Number	Description
1	544140-1016	Cover Chime Switch, Steel Grey
2	544142-1016	Cover Chime Switch, Steel Grey
3	852504	Screw Torx TR 10-24 .75 Thd Lock

Figure 2: Pull cord cover removal location reference.

6. Remove the pull cord cover bracket mounting screws item #3 from the cover and set aside for re-installation. See Figure 3.
7. Remove the existing pull cord switch mounting screws and washers. Set cover bracket, switch square spacer and washers aside for re-installation. Discard mounting screws. See Figure 3.
8. Secure pull cord switch and wiring out of the way and enlarge the two holes in the Pier Panel only to .375” at the two switch mounting screw locations only in preparation to install spacers under the switch. See Figure 3.

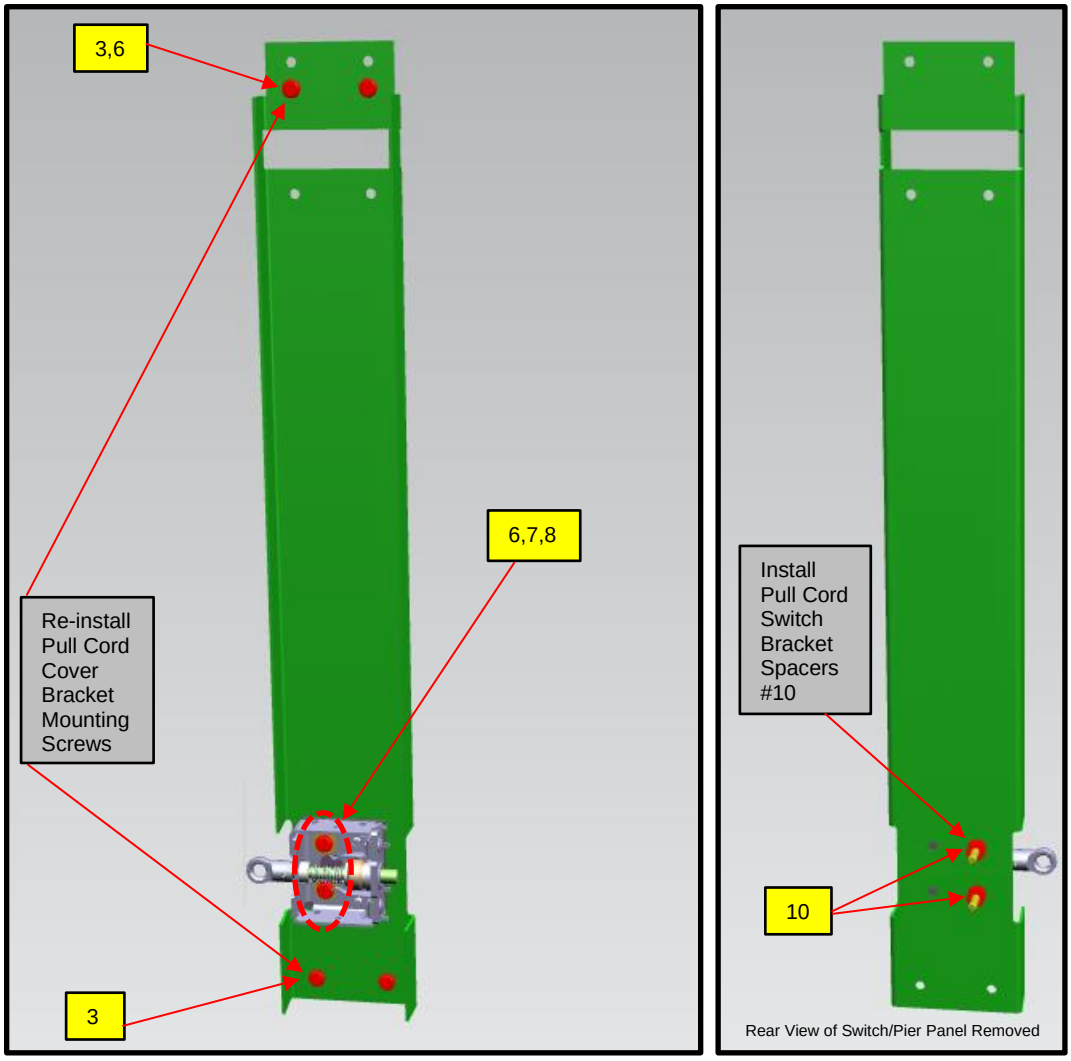
   Note: Only drill the Pier panel, do not drill the structure.



Item	Part Number	Description
3	852504	Screw Torx TR 10-24 .75 Thd Lock

Figure 3: Pull cord switch cover bracket removal location reference.

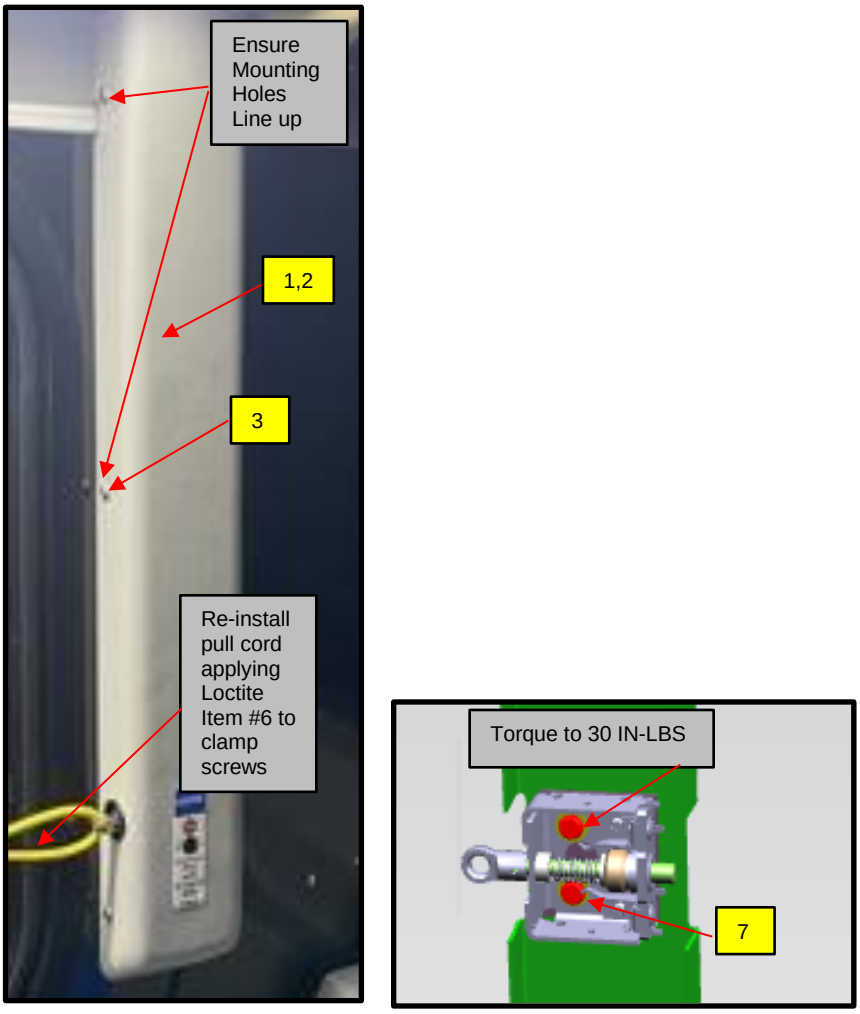
9. Place item #10 pull cord switch spacers in the .375” holes in the pier panel. See Figure 4.
10. Install the pull cord cover bracket over the spacers reinstalling the square pull cord switch spacer and switch with the existing washer’s item #8, new item #7 Screws applying one or two drops of Loctite item #6 to their threads. Do not fully tighten screws. Screws to be secured in following steps. See Figure 4.
11. Re-install switch cover bracket screws item #3 Screws applying one or two drops of Loctite item 6 to their threads. See Figure 4.



Item	Part Number	Description
3	852504	Screw Trox TR 10-24 .75 Thd Lock
6	081034	Loctite
7	14S00016	Screw PH 10-24 x 1.00
8	50W00000	Washer SST Flat #10
10	968305	Spacer - .192 ID x .375 OD x .25 LG

Figure 4: Pull cord switch spacer location reference.

12. Place the pull cord cover item #1 or #2 on the pull cord cover bracket and ensure the mounting screw holes line up. See Figure 5.
13. Adjust the pull cord switch as needed to center the plunger in the cover opening and torque the switch mounting screws item #7 to 30 IN-LBS. See Figure 5.
14. Install the original pull cord cover screws item #3. See Figure 5.
15. Re-install the pull cord with the original tiller line clamp (NP PN 444322) applying one or two drops of Loctite item #6. See Figure 5.



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2	544142-1016	Cover Chime Switch, Steel Grey
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6	081034	Loctite
7	14S00016	Screw PH 10-24 x 1.00

Figure 5: Pull cord switch function location reference.

16. Function the pull cord checking the plunger for sticking or rubbing on the pull cord cover bushing.

Note: Light contact to the edge of the cover bushing while the cord is pulled is acceptable permitting it does not cause the switch from operating properly or sticking.

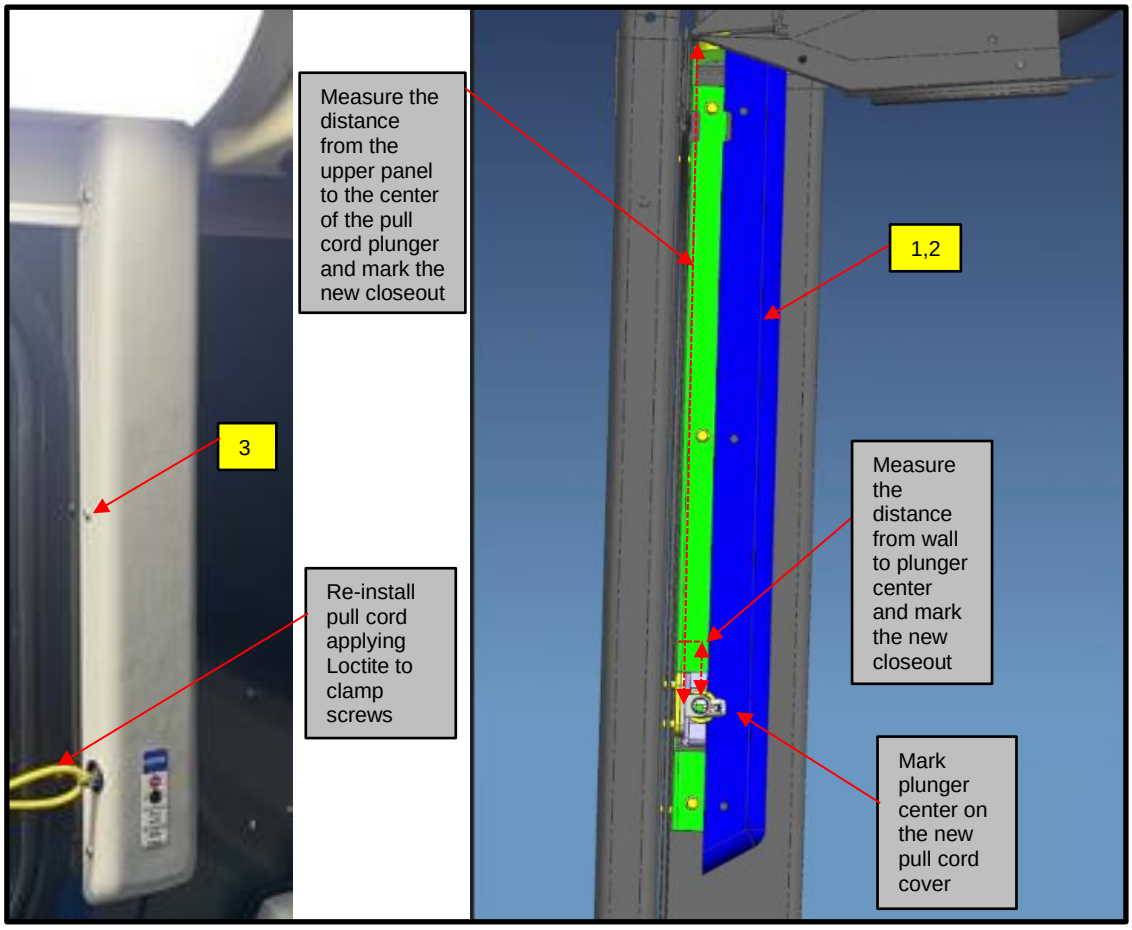
17. For buses that have had this rework completed on all switches and function properly remove all tools and ensure the area is clean.
18. Turn the main battery disconnect switch to the “ON” position and return the bus to service.

19. For plungers sticking on covers return to the previous steps and re-adjust the pull cord switch until the plunger is in the center and re-assemble.

Note: If proper adjustment can’t be obtained to prevent sticking the pull cord cover will require replacement under normal warranty process.

Chime Switch Cover Replacement:

20. Using the previous steps in this ITS for more detailed instruction remove the pull cord and existing pull cord cover. Set hardware and cable clamp aside for re-installation.
21. Measure down from the upper panel to the center of the plunger and from the wall to the center of the plunger and mark these locations on the new closeout item #1 or #2.
22. Using a stepper bit drill a .75” hole at the marked location.
23. Remove the pull cord cover bushing (NF PN 5963833) from the old cover and re-install in the new cover.
24. Install the new cover with the original screws item #3.
25. Re-install the pull cord with the original tiller line clamp (NP PN 444322) applying one or two drops of Loctite item #6.
26. Replace the pull cord decal item #9 when cover is replaced using previous installed location for reference.
27. Remove all tools and ensure the area is clean.
28. Turn the main battery disconnect switch to the “ON” position and return the bus to service.



Item	Part Number	Description
1	544140-1016	Cover Chime Switch, Steel Grey
2	544142-1016	Cover Chime Switch, Steel Grey
3	852504	Screw Torx TR 10-24 .75 Thd Lock
9	910385	Decal Pull Cord

Figure 6: Pull cord cover install location reference.

LABOUR ESTIMATE				
	Operation	Number of Technician(s)	Hours	Labor Time T X HR
1	Rework switch by adding additional mounting spacers, add Loctite and torque mounting hardware.	1	1.5	1.5

PARTS REQUIRED					
Item	Part Number	Description	Qty. per Coach	Units	Notes
1	544140-1016	Cover Chime Switch, Steel Grey	2	EA	Order As Required
2	544142-1016	Cover Chime Switch, Steel Grey	1	EA	Order As Required
3	852504	Screw Torx TR 10-24 .75 Thd Lock	18	EA	Order As Required
4	444322	Tiller line clamp	3	EA	Order As Required
5	5963833	Bushing	3	EA	Order As Required
6	081034	Loctite	0.010	EA	Order As Required
7	14S00016	Screw PH 10-24 x 1.00	6	EA	
8	50W00000	Washer SST Flat #10	6	EA	Order As Required
9	910385	Decal Pull Cord	3	EA	Order As Required
10	968305	Spacer - .192 ID x .375 OD x .25 LG	6	EA	

SPECIAL TOOLS REQUIRED					
Item	Part Number	Description	Qty.	Units	Notes
1		NO SPECIAL TOOLS REQUIRED			