

REFERENCE:	Nova Bus Manuals
SECTION:	18: Articulation Hinge
RS N°:	MQR 7621-398
EFFECTIVE IN PROD.:	L729 (2013MR)

APPLICATION DEADLINE: 2017DE31
CLAIM REFERENCE NUMBER: WB-3853

SUBJECT:	Energy Guidance System (EGS)
JUSTIFICATION:	Installation of a new and improved EGS.

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Replace the EGS	Nova Bus	Nova Bus	5h30
2	–	–	–	–

MATERIAL

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
1	N8901212	–	Guiding Profile	N45785
1	N8903785	–	Energy Guidance System	N40762 / N68020
LEVEL 2				
–	–	–	–	–

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.
	Yes	–	

REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2017NO21	Initial release	André Pelletier

CLIENT	ORDER	ROAD NUMBER		VIN (2NVY/4RKY...)		QTY
		FROM	TO	FROM	TO	
CT Transit - Connecticut	L554	1041	1065	S92U1A4000139	S92U0A4000164	25
CT Transit - Connecticut	L571	1101	1110	S92YXB4000144	S92Y4B4000169	10
Duke University - North Carolina	L651	—	—	S92Y1B4000145	S92Y3B4000146	2
Halifax - Nova Scotia	L558	717	731	S92UXA3000293	S92U6A3000307	15
Halifax - Nova Scotia	L613	732	741	S92UXB3000019	S92UXB3000028	10
St. John - New Brunswick	L272	—	—	S92U483000011	S92U483000011	1
St. John - New Brunswick	L273	—	—	S92U383000050	S92U383000050	1

**WARNING**

Follow your internal safety procedures.

**WARNING**

Before starting any work on the vehicle, make sure the vehicle is in a completely straight position and securely stationary. Disconnect the starting circuit on the control box at the rear of the vehicle and place the battery disconnect switches in the OFF position.

**NOTE**

Retain hardware removed during the procedure for later reinstallation.

PROCEDURE

- 1.1. Remove the ceiling cover from the articulation system.

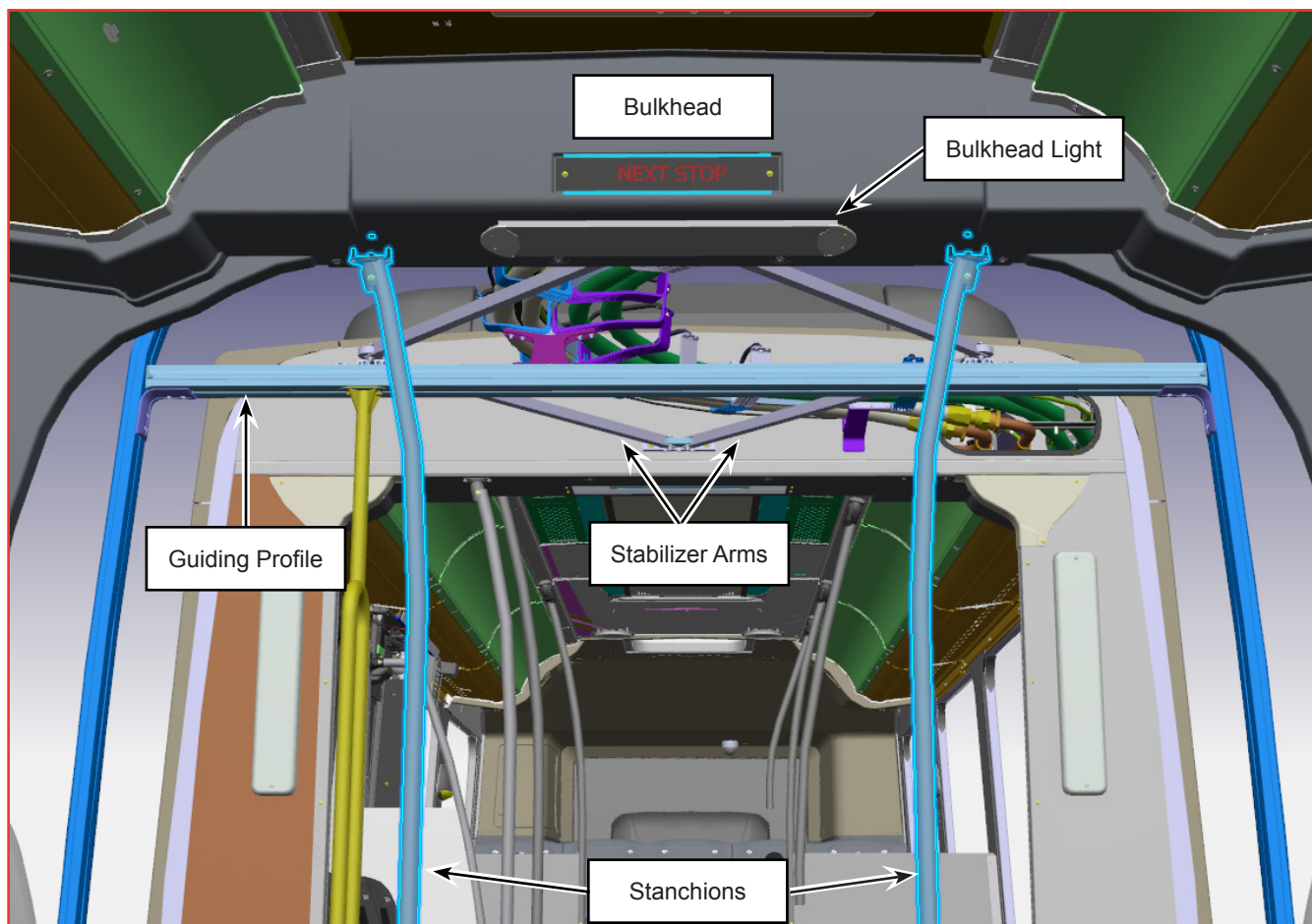


Figure 1 - Parts Location



Figure 2 - Remove the Bulkhead Light



NOTE

To facilitate the work, the rear bulkhead can be removed by following the same steps as for the front bulkhead. But it is possible to do the work without having to remove it.

- 1.2. Remove and disconnect the lights from the rear and the front bulkheads. See Figures 1 and 2.
- 1.3. Remove the stanchions from the front bulkhead. See Figure 1.
- 1.4. Remove the front bulkhead.
- 1.5. Detach the stabilizer arms from the front and rear sections of the vehicle, fold them and attach them to the guiding profile. See Figure 1.
- 1.6. Remove the Energy Guidance System (EGS):
 - 1.6.1. Cut the cable ties retaining the spacing tubes that extend across the top of the hoses and cables. Discard them. See Figure 3.
 - 1.6.2. Unbolt the EGS from the front and the rear section of the vehicle. See Figure 3.
 - 1.6.3. Remove the EGS while lifting the cables and hoses. See Figures 4 and 5.

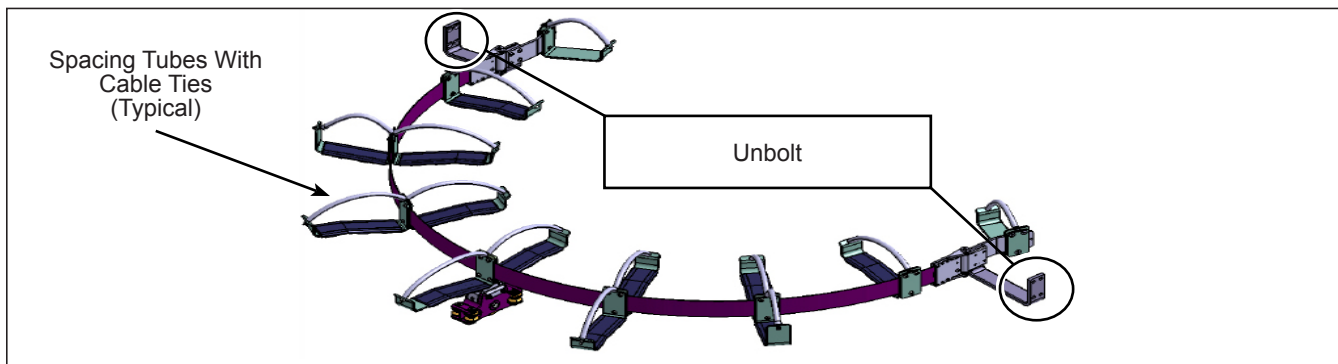


Figure 3 - Remove the Spacing Tubes and Unbolt the EGS

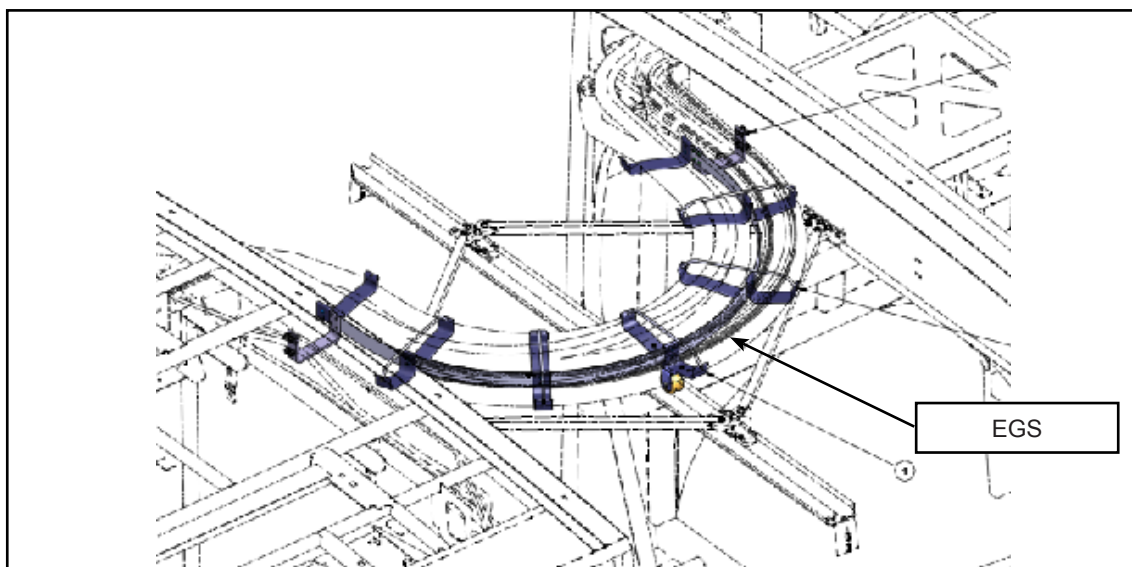


Figure 4 - Remove the EGS



Figure 5 - Remove the EGS While Lifting the Cables and Hoses (New EGS Shown)

- 1.7. Install the new EGS over the guiding profile while lifting the cables and hoses. The position for the hoses and cables stays the same.
- 1.8. Once the EGS is in place, install a brace such as a wood piece under the EGS to support the components. It will be held in place at each end by the stabilizer arm's brackets. See Figure 6.
- 1.9. Bolt the EGS and apply a torque of 15.5 lb-ft (21 N•m). Apply anti-tamper seal. See Figure 7.



Figure 6 - Wood Piece Installation

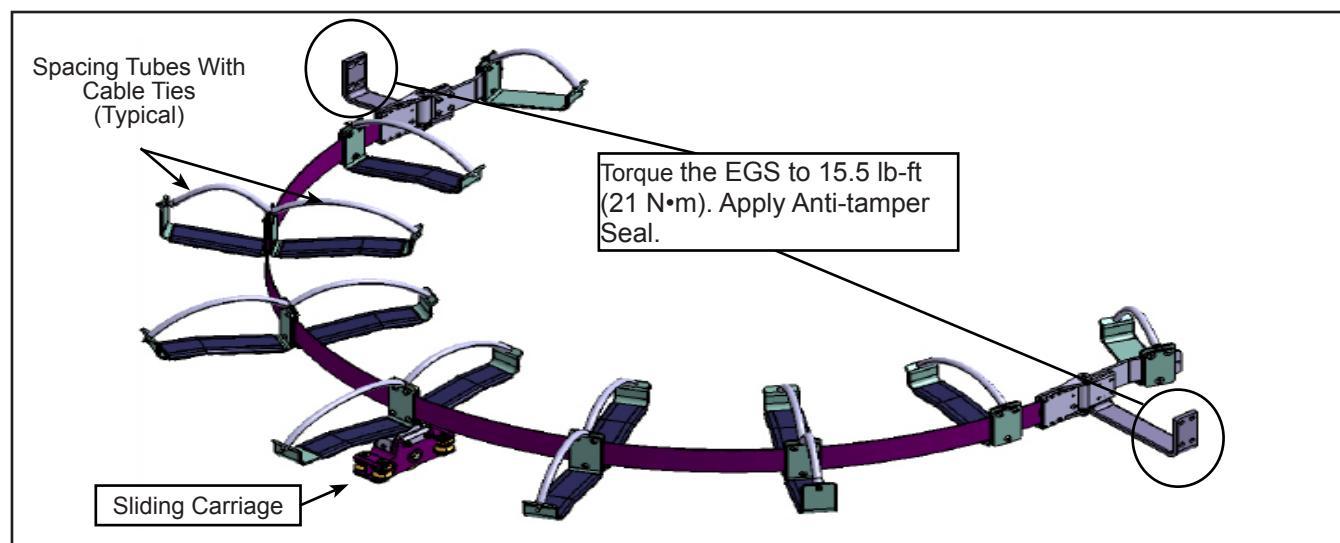


Figure 7 - Install the New EGS

- 1.10. Install the front bulkhead with the original hardware.
- 1.11. Install the previously removed stanchions. See Figure 1.
- 1.12. Install the spacing tubes and cables ties for each tray. Do not install the center cable tie or spacing tubes because the hoses and cables will need to be lifted for access to the center sliding carriage hardware. See Figures 7 and 8.



Figure 8 - Spacing Tubes Installation

- 1.13. Unbolt each handrail from the guiding profile. See Figure 9.

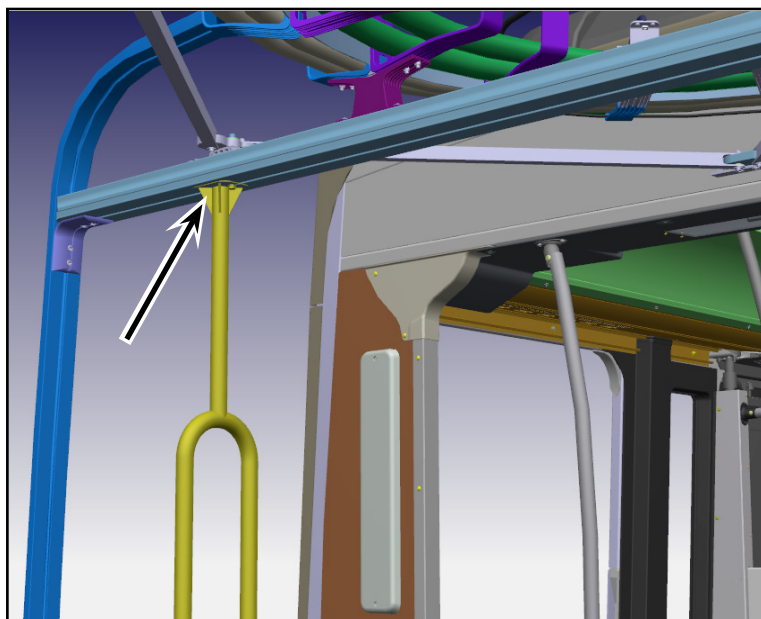


Figure 9 - Unbolt Each Handrail From the Guiding Profile

- 1.14. Guiding profile removal, see Figures 10 and 11:
- 1.14.1. Before removing the original guiding profile, position it at 1,986 mm between the floor and the bottom of the guide. If necessary, move the 90-degree brackets. Make a mark to facilitate the installation of the new guide in the correct position.
 - 1.14.2. Remove the 2 bolts holding each end of the guiding profile. Remove the assembly and stabilizer arms. It is possible, but more difficult, to do so by leaving one or two of the 90 degree brackets in place. See Figures 10 and 11.

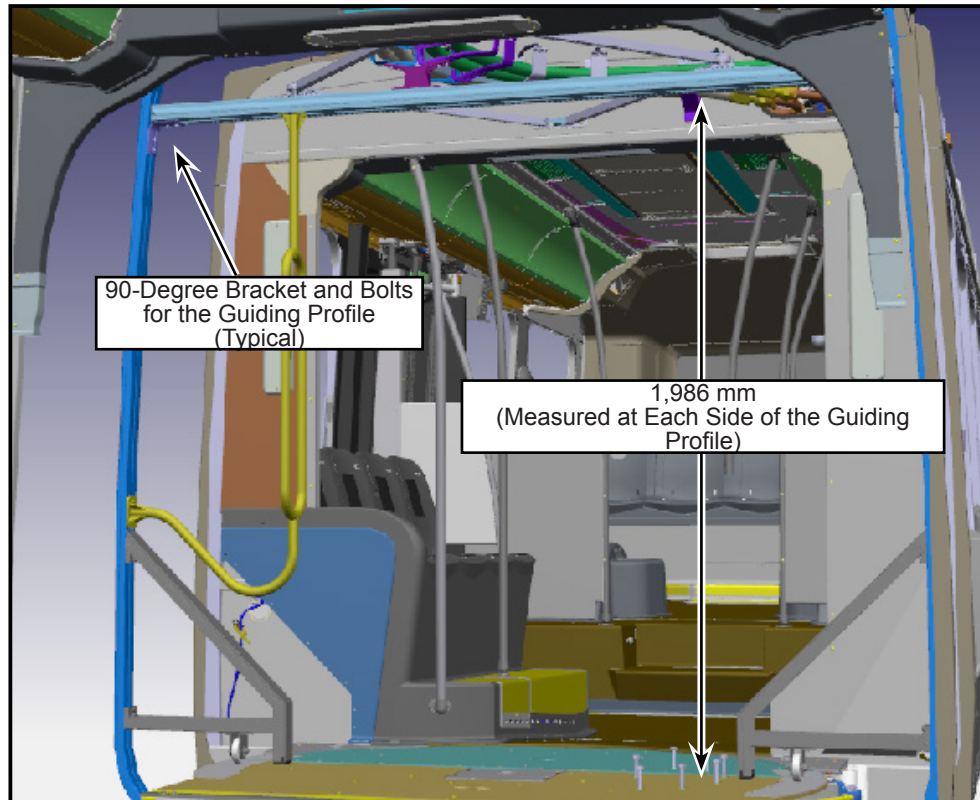


Figure 10 - Position the Guiding Profile



Figure 11 - Remove the Stabilizer Arms and Guiding Profile Assembly

- 1.15. Prepare and install the new guiding profile, see Figure 12 and 13:
- 1.15.1. Transfer the four original M8 N40770 tenon blocks into the new profile guide.
 - 1.15.2. Insert the new sliding carriage into the guiding profile. Check that the carriage does not have a lateral clearance of more than 1 mm (0.3937 in.).
 - 1.15.3. Insert the stabilizer arms into the new guiding profile and secure the arms to the profile with cable ties.

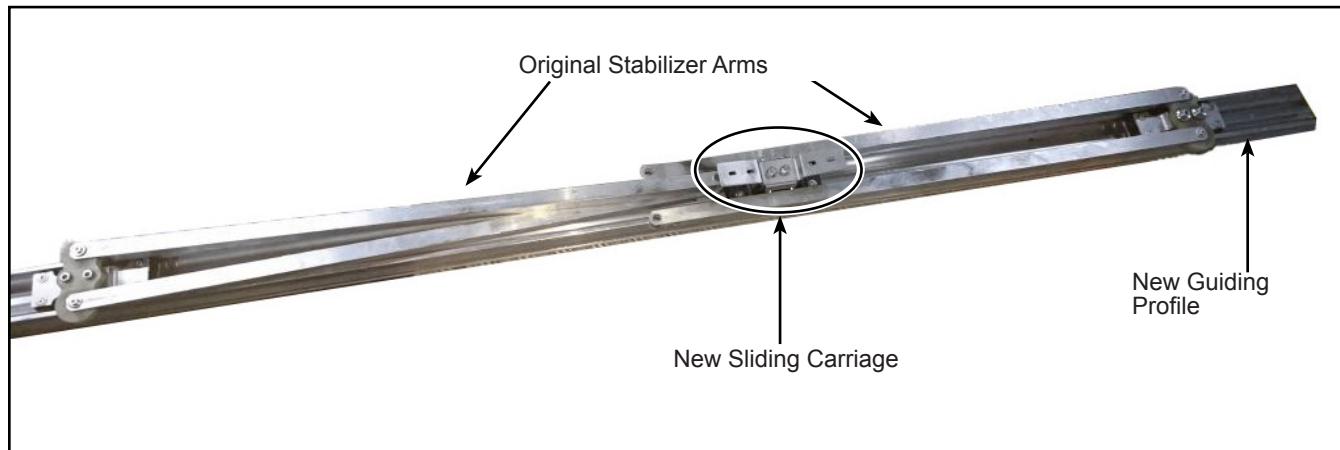


Figure 12 - Prepare the New Guiding Profile



Figure 13 - Secure the Stabilizer Arms

- 1.15.4. Bolt the new guiding profile assembly in place on the 90 degree brackets. See Figure 14.
- 1.15.5. Adjust as required to obtain the height of $1,986 \pm 5$ mm at each end. See Figure 10.
- 1.15.6. Apply 15.5 lb-ft (21 N•m) of torque to the eight bolts (four on each side).



Figure 14 - Install the New Guiding Profile

- 1.16. Bolt the stanchions under the guiding profile. See Figure 9. It might be required to adjust the height of the stanchions.
- 1.17. Bolt and torque to 15.5 lb-ft (21 N•m).
- 1.18. Sliding carriage installation, see Figure 15:
 - 1.18.1. Install the four countersunk screws connecting the carriage to the EGS. Hoses and cables must be lifted to access the screws.
 - 1.18.2. Torque to 4.6 lb-ft (6.3 N•m). Apply anti-tamper seal.

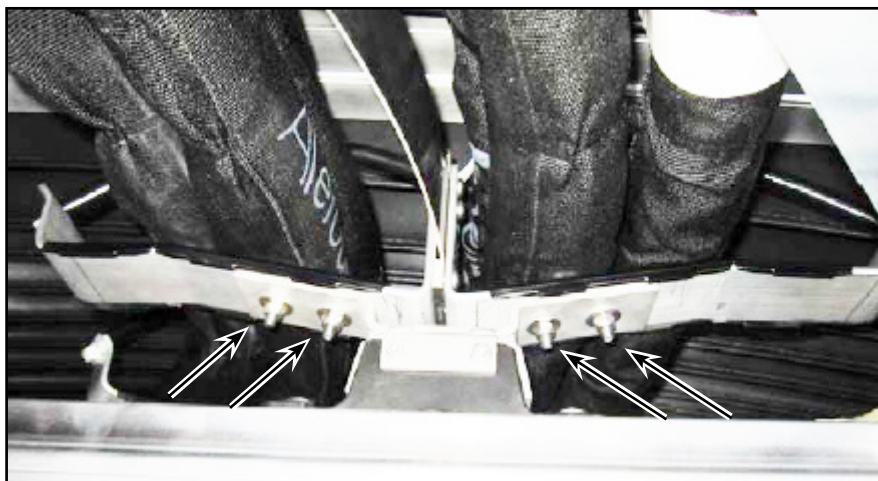


Figure 15 - Bolt the New Sliding Carriage

- 1.19. Install the last spacing tubes with cable ties above the sliding carriage for the center trays.
- 1.20. Bolt the stabilizer arms on their respective brackets in the front and rear sections of the vehicle. See Figure 16. The bolt head must be on the top and the nut on the bottom. Apply 6.6 lb-ft (9 N·m) of torque. Apply anti-tamper seal. Reinstall the protective caps on the head of the bolts.

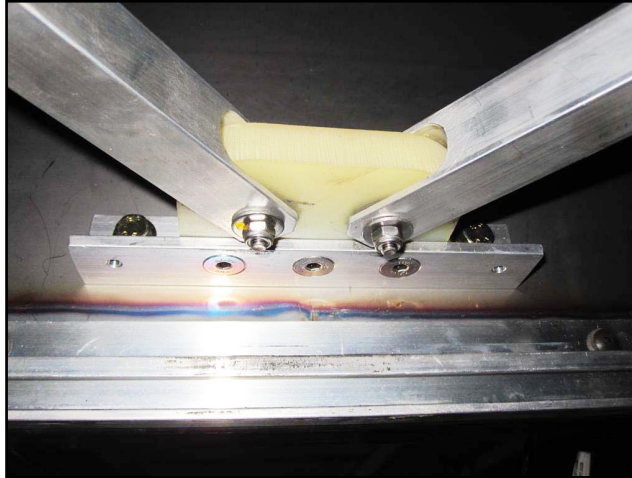


Figure 16 - Bolt the Stabilizer Arms



NOTE

Cooling hoses should be evaluated to ensure they have the correct length and position. The aim being to eliminate any additional stresses that would be applied to the articulated support. A minimum distance of 1/2 in. (13 mm) is required between the cooling hoses and the blade of the EGS. See Figure 17. If the distance is not encountered, it may be possible to obtain more clearance by detaching and moving the hoses that are further upstream or downstream of the EGS. If the minimum distance is still not met, the hose(s) must be replaced.

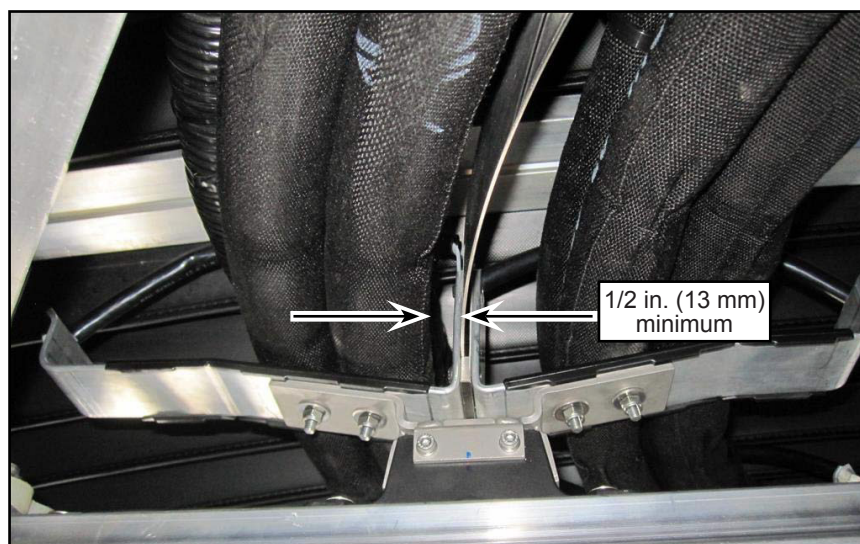


Figure 17 - Position the Cooling Hoses 1/2 in. (13 mm) From the EGS Blade

1.21. For the new positions of the cable ties, see Figures 18 and 19. Remove the original cable ties facing the trays.

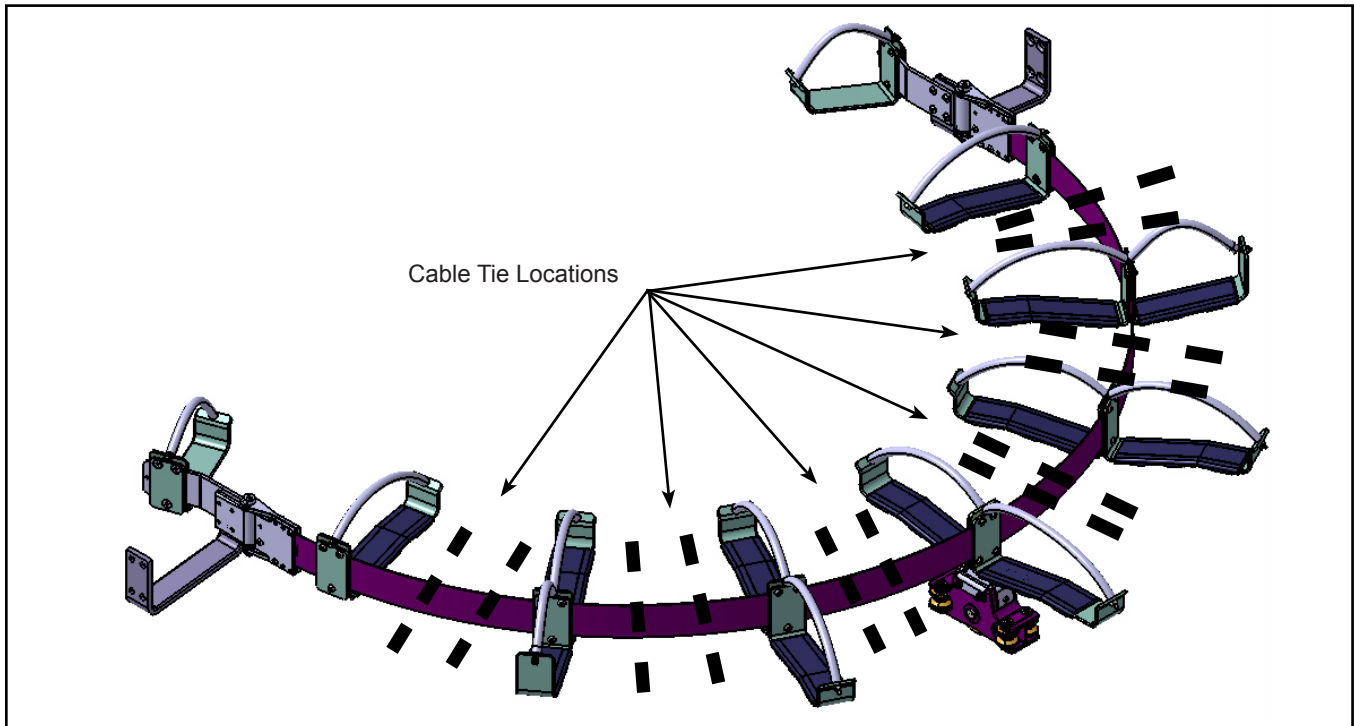


Figure 18 - Cable Tie Locations

**NOTE**

The position of the components remains the same as they were before.

- 1.22. Position the locking mechanism of the cable ties to avoid chafing. They must be facing away from any hose, cable or tray. See Figures 18 and 19.

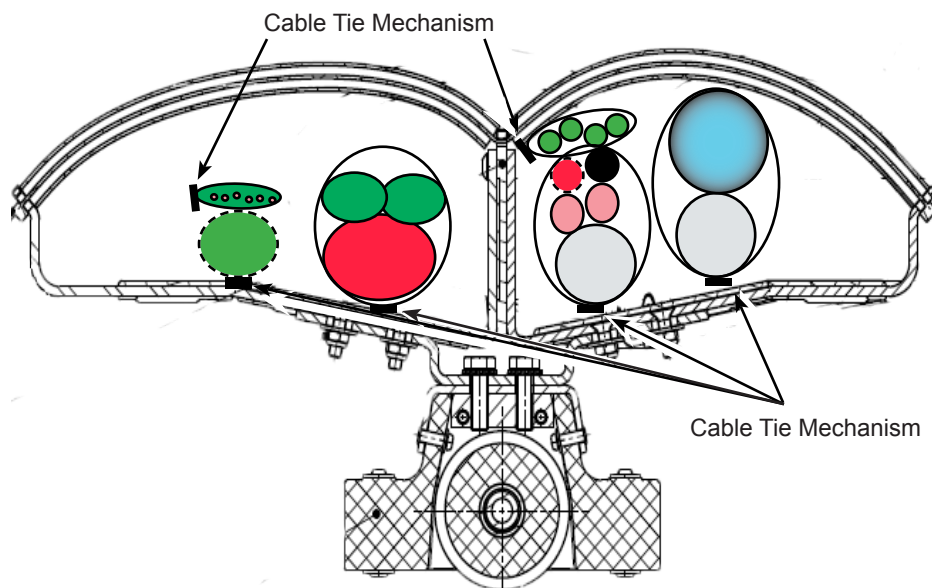


Figure 19 - Cable Tie Mechanism Positions

- 1.23. Install the removed parts to complete the Service Bulletin.
- 1.24. Reconnect the starting circuit on the control box at the rear of the vehicle and place the battery disconnect switches in the ON position.
- 1.25. Clean up the vehicle.
- 1.26. Return the vehicle in service. ❖