

FLA COE
FLB COE
FLD Conventional
Business Class
FLC 112 Conventional

Century Class Conventional
Argosy
Cargo
Columbia
122SD and Coronado

Business Class M2
> Cascadia
108SD/114SD
New Cascadia

**Freightliner
Service Bulletin**

General Information

On Cascadia vehicles built with wiper motors installed before 2/2/2017, the wiper park brush that rides against the brush plate may wear, which may result in a diminished wiper park signal.

The wiper park ground signal from the wiper motor is required for the SAM Cab to park the wipers. A diminished signal can cause unintended wiper sweep, or wipers not parking correctly. Dielectric grease and improved brush and brush plate material is now incorporated in the new wiper motor (p/n TRI F91498 495), reducing unintended wiper sweeps and wipers not parking correctly.

If these conditions are occurring, or if fault code **SA 33 FMI 52209 SPN 2 - Wiper Park –Data Erratic, Intermittent or Incorrect** displays, verify whether or not the updated wiper motor (p/n TRI F91498 495) is installed. If the updated wiper motor is not installed, use the instructions in this bulletin to replace the wiper motor.

If wiper motor TRI F91498 495 is installed and fault code SA 33 FMI 52209 SPN 2 is present, then follow the normal troubleshooting for this code as documented in the *Cascadia Troubleshooting Manual*. For all other conditions pertaining to an erratic wiper park issue, validate that the Park signal wire 315P from the wiper motor to the SAM Cab is good (no shorts or opens) as a ground signal on the 315P park wire is required for the SAM Cab to properly park the wiper motor.

Wiper Motor Inspection and Replacement

1. Park the vehicle, apply the parking brakes, and shut down the engine. Chock the tires.
2. Open the hood.
3. Inspect the wiper motor label for the Trico part number. See [Fig. 1](#). For vehicles that have the updated wiper motor (p/n TRI F91498 495), no further action is necessary. For vehicles with wiper motor part number TRI F91498 288, continue with the next step to replace the wiper motor.



Fig. 1, Wiper Motor

4. Disconnect the batteries.
5. Remove the center section of the rain tray by removing the fasteners that attach it to the windshield support and to the left-side and right-side sections of the rain tray; see [Fig. 2](#).

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6. Disconnect the wiper motor electrical connector.

⚠ WARNING

Disconnect the wiper motor electrical connector before working on the wiper linkage. This will prevent the windshield wiper motor from cycling. The motor could cycle if the wiper linkage driveshaft is forced out of the parked position, which could result in personal injury.

7. Remove the nut that attaches the motor lever to the motor shaft; see [Fig. 3](#).
8. Remove the three screws that attach the motor to the mounting bracket. Remove the motor.

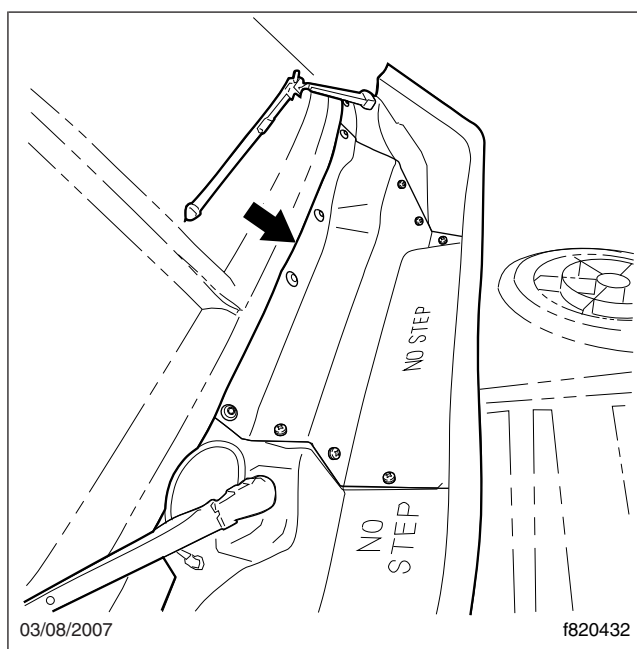


Fig. 2, Rain Tray, Center Section

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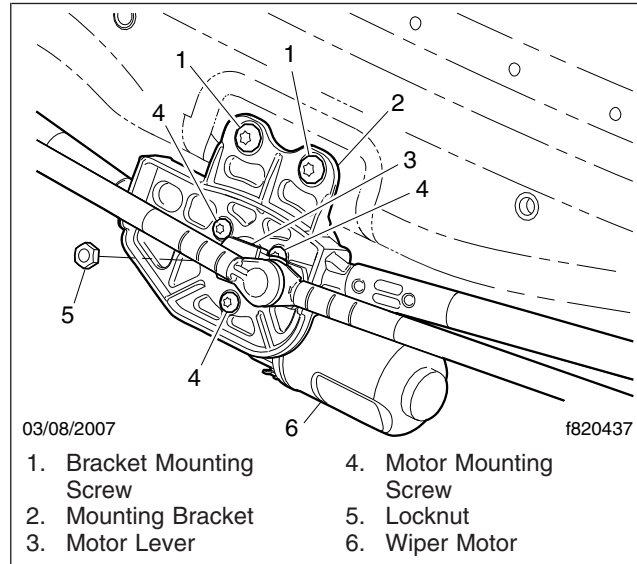


Fig. 3, Wiper Motor Installation

9. Attach the new motor (p/n TRI F91498 495) to the mounting bracket with three screws. Tighten the screws 8 to 11 lbf-ft (11 to 15 N-m).
10. With the linkage in park position, as shown in **Fig. 3**, install the nut that attaches the motor lever to the motor shaft. Tighten the nut 15 to 18 lbf-ft (20 to 24 N-m).
11. Connect the wiper motor electrical connector.

NOTE: Replace the foam tape if damaged during removal of the rain tray.

12. Install the center section of the rain tray by attaching it with the fasteners to the windshield support and to the left-side and right-side sections of the rain tray; see **Fig. 2**. Tighten the screws that attach the rain tray to the windshield support 8 to 12 lbf-ft (11 to 16 N-m). Ensure that the tray seals evenly with the cab, with no gaps.
13. Inspect the hood seal before installation and replace if the sealing bulb is worn through. Make sure that the hood seal is fully pressed down onto the edge of the rain tray along its entire length.
14. Connect the batteries.
15. Test the wiper motor and washers. Operate the wipers at low speed and check that the blades do not slap against the mask around the edge of the windshield, and that the wipers park as shown in **Fig. 4**. In the parked position, the end of the right-hand wiper blade should be 2-1/16 inches (53 mm) above the bottom edge of the windshield, and the end of the left-hand wiper blade should be 1-15/16 inches (49 mm) above the bottom edge of the windshield.
16. Close the hood.
17. Remove the chocks.

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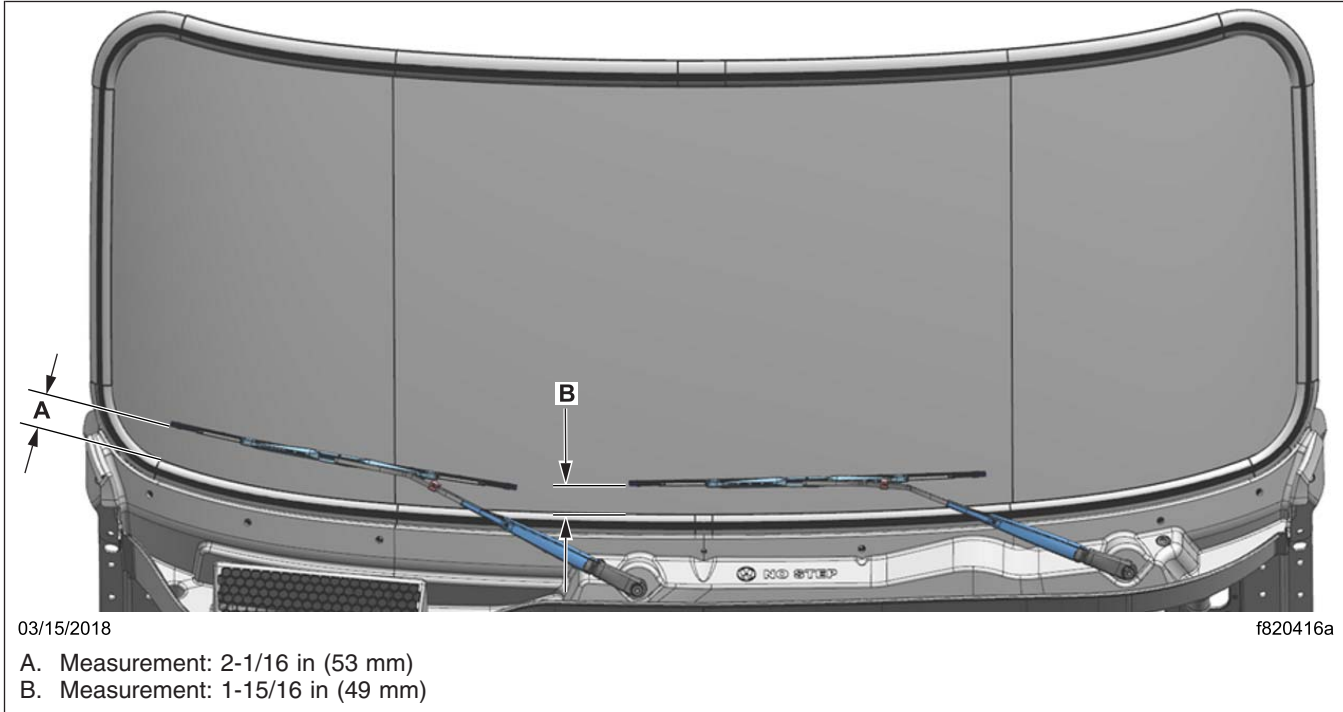


Fig. 4, Windshield Wiper Park Position

Warranty

This procedure is warrantable only if the described condition exists and the repair is performed within the applicable base or extended coverage warranty period. If a failure is not found, this procedure is considered preventive and warranty does not apply.

Normal warranty applies. See [Table 1](#) for OWL VMRS codes and labor allowance information. Enter this service bulletin number in the *Service Bulletin #* field.

OWL VMRS Codes and Labor Allowance					
Primary Failed Part	Component Code	Cause Code	SRT Code	Description	Time: Hours
Motor, Windshield Wiper	002-035-001	03	660-5021A	Motor, Windshield Wiper R/R	0.7

Table 1, OWL VMRS Codes and Labor Allowance

NOTE: Add the digital photo instructions only if requested by Warranty in their approval routing. Otherwise, delete the content for approval routing. Attach digital photos directly to the claim on the Attachments tab.