

5th Generation Cascadia Feature Brief

TSB-00-045-FTL

Creation Date: 2026-01-23

Engine or Vehicle Affected:

► 5th Generation Cascadia

This is an informational bulletin only. The described condition is a product improvement and is not warrantable.

Described Condition

The 5th Generation Cascadia is the latest Cascadia model, featuring CEEAce architecture, updated safety features, a Max Aero Bumper, front wheel well closeouts, updated hood styling, and A-pillar deflectors. This bulletin outlines the following key updates:

- Links to different sources for further information.
- A list of all the new features available in this truck and key service information.

Cascadia Generations

For Cascadia Generations, see **Technical Service Bulletin 00-046**.

Links to Technical Service Site

Table 1, Links to Technical Service Site

Source	Description
Workshop Manual	Contains service and repair information for all systems and components of the 5th Generation Freightliner Cascadia (2024 through Present). For visual guidance on the removal and installation process, refer to the related videos. <div style="border: 1px solid red; padding: 5px; margin-top: 10px;">⚠ Caution: The videos are created using a 3D digital model and are intended to illustrate the parts involved in the replacement. They do not depict the exact procedures for removal and installation.</div>
Technical Service Bulletins	Contains bulletins with known issues, related symptoms, and repair instructions
Driver's Manual	Provides essential operating instructions and safety guidelines.

Source	Description
Maintenance Manual	Contains routine maintenance procedures and intervals for vehicle components and systems.
CEEAce Troubleshooting Guide	Provides diagnostic procedures to determine the root cause of fault codes and symptoms in vehicle components and systems, including multiplexed systems.
Field Service and Recall Campaigns	Field service campaigns are concerned with non-safety-related service work or replacement of parts and Recall campaigns cover situations that involve service work or replacement of parts in connection with a recall notice.
Excelerator, Parts	eCommerce site for Daimler parts.
Freightliner Marketing	Highlights Daimler vehicle models, services, community resources, and brand content.
Driver Training Materials	Training videos and support materials available for drivers to optimize the performance of Freightliner vehicle.
Detroit Assurance: New Features Detroit	Provides comprehensive information on Daimler vehicle safety systems.
Checklist – Connecting to 5th Generation Cascadia With DiagnosticLink®	Step-by-step guide to connect 5th Generation Cascadia trucks with DiagnosticLink®.

Table 1, Links to Technical Service Site

Training Courses Available on 5th Generation Cascadia, Aftermarket Resource Center

Training Source	Training Courses Available
Aftermarket Resource Center, training courses available on 5th Generation Cascadia vehicle.	Braking System in Fifth Generation Cascadia (STA-BRKE-W115)
	Introduction to CEEAce and its Key Components (STA-ELEC-W170)
	Introduction to Detroit Assurance with ABA 6.0 (STA-DTAS-W120)
	Introduction to MirrorCam System (STA-ELEC-W175)

New Features in 5th Generation Cascadia

Mirror Camera System

Description: The 5th Generation Cascadia features a Mirror Cam System that enhances the traditional side mirrors with cameras and in-cab displays and improving visibility. See Fig 1. The system includes a 12.3 inch internal driver display, a 15 inch passenger display, and a lookdown display mounted in the center of the cabin. For more information, see **Group 60: 12, Mirror Camera** in the *5th Generation Cascadia Workshop Manual*.



Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
The cameras are integrated into the front fascia, positioned on either side of the A-pillar.	No	Yes	No	Yes, see General Information, Mirror Camera Calibration .	N/A

Multi Purpose Camera (MPC3)

Description: The 5th Generation Cascadia is equipped with the Multi Purpose Camera 3 (MPC3), a new forward-facing camera housed in a dedicated camera pod. See Fig 2. The MPC3 supports advanced driver assistance systems, including lane departure warning (LDW), Attention Assist (AA), Object Detection (OD) for Active Brake Assist/Adaptive Cruise Control (ABA/ACC), Traffic Sign Display (TSD), Active Speed Intervention (ASI), Video Capture (VC), and intelligent high beam control (IHC), see [Removal of the Multi Purpose Camera 3 \(MPC3\)](#) and installation of MPC3, see [Installation of the Multi Purpose Camera 3 \(MPC3\)](#).



Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Mounted behind the windshield, near the top center of the cab, typically integrated into a camera pod attached to the upper area of the windshield, just behind the rearview mirror.	No	Yes	Yes	Yes	N/A

Video Radar Decision Unit (VRDU3)

Description: The 5th Generation Cascadia is equipped with the Video Radar Decision Unit 3 (VRDU3), an electronic control unit that processes data from the front radar and forward-facing camera (MPC3). It supports advanced driver assistance systems such as adaptive cruise control, active brake assist, lane departure warning, and collision mitigation. For information on removal of VRDU3, see [Removal of the Visual Radar Decision Unit Electronic Control Unit](#) and installation of VRDU3, see [Installation of the Visual Radar Decision Unit Electronic Control Unit](#).

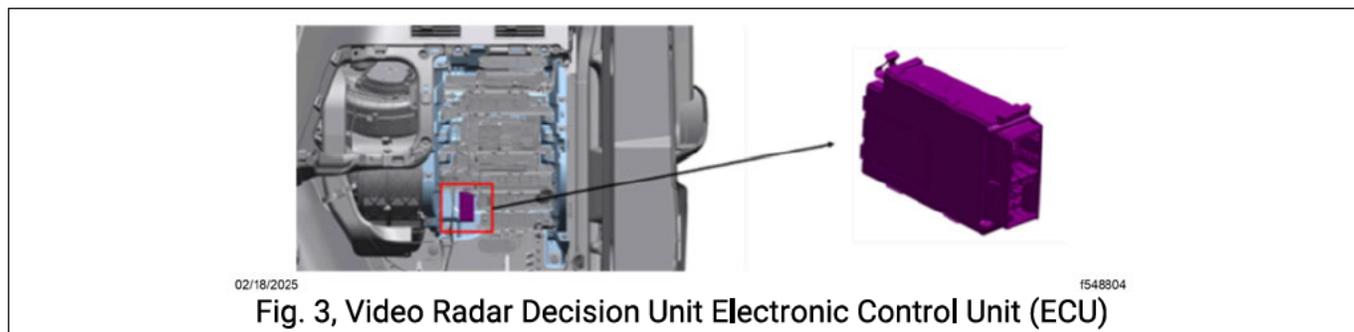


Fig. 3, Video Radar Decision Unit Electronic Control Unit (ECU)

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Electronics bay on the passenger side of the vehicle.	No	Yes	Yes	Yes, calibrated along with SRRR	N/A

Radar Data Front (RDF3)

Description: The 5th Generation Cascadia uses the RDF3 sensor to collect radar data for the Detroit Assurance safety systems and supporting features such as adaptive cruise control and collision mitigation. For information on removal of the RDF, see [Removal of the Radar Data Front \(RDF\)](#) and installation of the RDF, see [Installation of the Radar Data Front \(RDF\)](#).

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
The front-facing radar sensors are mounted behind a cover on the front bumper of the vehicle.	No	Yes	Yes	Yes	N/A

Active Side Guard Assist 2 (ASGA2)

Description: ASGA2 provides lane change assistance with active steering intervention on both sides at speeds greater than 37 mph (60 km/h). Optical or audible warnings are available on both sides. ASGA2 consists of sensors mounted along the sides of the 5th Generation Cascadia, from the cab to the end of the trailer.

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Along the sides of the vehicle, extending from the cab to the end of the trailer	No	Yes	Yes	Yes, calibrated along with SRRR	N/A

Short Range Radar (SRR2)

Description: SRR2 provides turn assist with brake intervention on both sides, as well as front object detection for cross traffic. Chassis fairings have been modified to allow mounting of the new SRR2 sensors on the left and right sides of the vehicle. For information on removal of the Front SRR2, see [Removal of the Front Short Range Radar \(SRR22\)](#), installation of the front SRR2, see [Installation of the Front Short Range Radar \(SRR22\)](#), removal of the rear SRR2, see [Removal of the Rear Short Range Radar \(SRR22\)](#), and installation of the rear SRR2, see [Installation of the Rear Short Range Radar \(SRR22\)](#).

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
There are four SRR2 sensors: one in each headlight and one on each side of the vehicle below the doors in the chassis fairings.	Yes	Yes	Yes	Yes	N/A

Hood

Description: The 5th Generation Cascadia features a redesigned hood with a new floating grille and rear-loaded headlamps. See Fig 4. For information on removal, installation and alignment, see [Hood and Grille](#).



Fig. 4, Hood

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Front of the vehicle.	No	Yes	Yes	Yes	N/A

Front Underrun Protective Device (FUPD) Bumper

Description: The 5th Generation Cascadia is equipped with a polished, welded aluminum FUPD integrated into the front bumper. See Fig. 5. For removal and installation instructions, see [Removal and Installation of the Front Underrun Protective Device \(FUPD\) Bumper](#).



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Fig. 5, FUPD Bumper

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Integrated into the front bumper.	No	N/A	N/A	N/A	N/A

Wheel Well Close-Outs

Description: Wheel well close-outs are installed within the front wheel wells of the 5th Generation Cascadia to enhance aerodynamics. See Fig. 6. When servicing or removing wheels, these panels may need to be temporarily removed or repositioned. Refer to the workshop manual for specific removal and installation procedures. For service information, see [Group 40 Wheels and Tires](#).



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Fig. 6, Wheel Well Close-Outs

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Around the wheel arches on either side.	No	N/A	N/A	N/A	N/A

E-Park

Description: The 5th Generation Cascadia features an electronic parking brake (E-Park) system that replaces traditional pneumatic park brake dash valves with two electrical switches—one for the tractor and one for the trailer. The parking brake is applied and released electronically with these switches. For information on removal and installation, see [Removal of the Electronic Park Brake](#).



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1. Trailer Brake Hand Valve

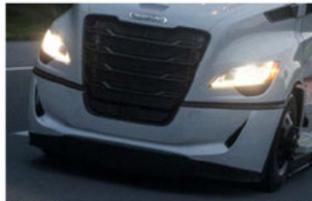
2. Trailer Park Brake

Fig. 7, E-Park

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Driver console within the cab.	No	N/A	N/A	N/A	N/A

Headlamps

Description: The 5th Generation Cascadia is equipped with a rear-loading LED headlamp integrated into the hood, featuring standard deicing with no option for a non-heated lamp. See Fig. 8. Intelligent High Beam Control (IHBC) uses the MPC3 camera to interface with the headlamp control module. See [Lighting](#) for headlamp removal and installation instructions.



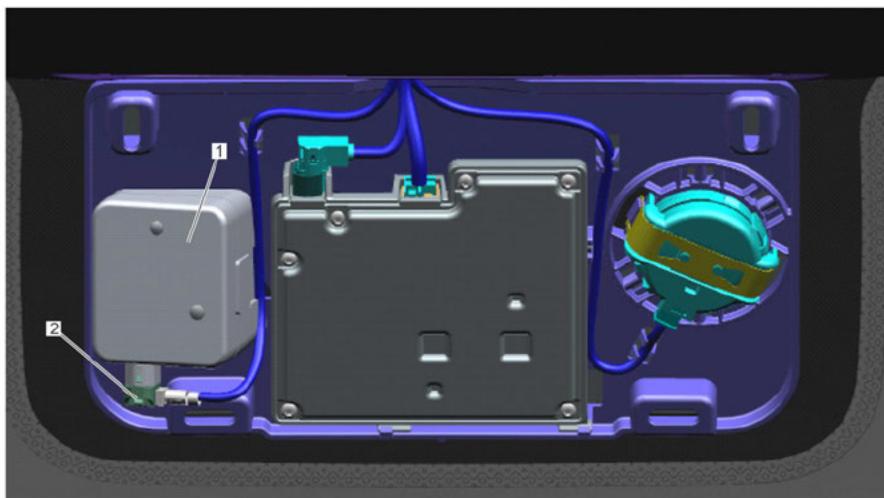
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Fig. 8, Headlamps

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Integrated into the front fascia, positioned on either side of the grille.	No	N/A	N/A	N/A	N/A

Driver Facing Camera (DFC)

Description: The 5th Generation Cascadia is equipped with a Driver Facing Camera (DFC) that monitors driver activity and supports safety systems. See Fig. 9. For information on removal and installation, see [Removal of the Driver-Facing Camera \(DFC\)](#), and [Installation of the Driver-Facing Camera \(DFC\)](#).



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1. Driver-Facing Camera

2. DFC Electrical Connector

Fig. 9, Driver Facing Camera

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
Mounted on the interior of the windshield, near the rearview mirror, facing the driver.	No	N/A	N/A	N/A	N/A

Scaleable Brake System Platform (sBSP)

Description: The sBSP is a common global air brake control system with an integrated ECU and Electronic Stability Control (ESC). Two variants are available:

- **Standard:** Pneumatically controlled front axle valve package with electronically controlled rear axle valve package.
- **Advanced:** Electronically controlled front and rear axle valve packages.

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
N/A	N/A	Yes	Yes	ESC and Brake Signal Transmitter (BST)	N/A

Scalable Air Treatment Platform (sATP)

Description: The sATP performs the following functions:

- Air Treatment - Removal of oil and moisture.
- Central Air - Separates the air system into 4-7 air circuits in one unit.
- Air Management - Sends circuit pressures/diagnostics.
- Controls compressor and air dryer regeneration.

The sATP enables the following:

- electronic park brake control;
- moisture elimination;
- air diagnostic.

The sATP emits purge noises at vehicle stop or shutdown.

Location	Special Tools Needed	After Replacing, Need for			Diagnostic Procedure
		Parameterization	Flashing	Calibration	
N/A	N/A	Yes	Yes	Air dryer cartridge replacement.	N/A

Warranty

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Note:

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