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# Diesel Exhaust Fluid Supply Pipe Contamination



Check for crystallized Diesel Exhaust Fluid (DEF) at the supply pipe connector.



Convertible Top Water Leak

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### Diesel Exhaust Fluid Supply Pipe Contamination

Some 2020-2024 Silverado 1500, Silverado 2500HD/3500HD, Sierra 1500, Sierra 2500HD/3500HD; 2021-2024 Tahoe, Suburban, Yukon and Escalade models equipped with the 3.0L diesel engine (RPO LZO, LM2) or 6.6L diesel engine (RPO L5P) may have an illuminated Check Engine MIL, a Service Emissions System message displayed on the Driver Information Center and DTCs P249C (Excessive Time To Enter Closed Loop Reductant Injection Control) and/or P20E8 (Reductant Low Pressure) set in the Engine Control Module. These conditions may be caused by a disconnected or damaged Emission Reduction Fluid (Diesel Exhaust Fluid) Exhaust Front Pipe Injector Supply Pipe.



Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe connector (#1)

**TIP:** If DTCs P249C and/or P20E8 have set after the installation of a new Emission Reduction Fluid Pump/Tank, refer to Emission Reduction Fluid Pump Priming in the appropriate Service Information.

If DTCs P249C and/or P20E8 are set, it may be necessary to perform a cleaning procedure and check for crystallized Diesel Exhaust Fluid (DEF) at the supply pipe connector.

First, perform a Reductant System Leak Test. If there is a leak at the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe or at the connection to the Reductant Fluid Injector or the Emission Reduction Fluid Pump Outlet Port, check for any damage to the supply pipe or connector.

If the supply pipe or connector is damaged, replace the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe and perform a Reductant System Tamper Service Bay Test.

If there is not any damage, a connector cleaning procedure should be performed. Crystallized DEF may have formed, which may not allow the pipe to properly seat on the injector and lead to a possible leak.

#### **CLEANING PROCEDURE**

If the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe is contaminated with crystallized DEF in or around the connector, perform the cleaning procedure before attempting to reconnect the supply pipe to the Reductant Fluid Injector or the Emission Reduction Fluid Pump Outlet Port.



**TIP:** The cleaning procedure cannot be performed if the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe connector is contaminated with other forms of contaminants, such as frame wax or dirt inside the connector. If these types of contaminants are present, the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe will need to be replaced.

The cleaning procedure will help remove any DEF crystallization contamination within the connector interface of the supply pipe. To disconnect the supply pipe connector, depress the tab while pushing the female side towards the male connector.





DEF pipe with crystallized DEF.



Replace the DEF pipe if frame wax, dirt or other contaminants are present.

The cleaning procedure includes disconnecting the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe connector from the Reductant Fluid Injector or the Emission Reduction Fluid Pump Outlet Port (detach any clips or liners as needed for access), wiping off any dust or dirt present on the outside of the connector, and then submerging the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe connector end into



a container filled with clean water. With the open end of the connector facing up, the connector should be submerged in the water for 1 minute and then swished around in the water for another minute to help dislodge any crystals embedded inside the connector. Refer to Bulletin #24-NA-020 for complete cleaning instructions.



Submerge the connector in water to clean it.

If the Reductant Fluid Injector side of the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe is disconnected, also command the Reductant Pump at 50% duty cycle with the connector in the container to clean any contamination within the connector interface.

Inspect the Emission Reduction Fluid Exhaust Front Pipe Injector Supply Pipe connector end for any remaining crystallization and repeat the cleaning steps if needed.

When reinstalling the connector, there may be a locking tab that pops up. Activate the locking tab by pressing down on the tab and applying pressure towards the male connector. Once latched, check for a secure connection by pulling outward on the female connector.

Refer to Bulletin #24-NA-020 for additional information.

 Thanks to Dave MacGills, Kevin Minor and Mike Wasczcenko

## **Transmission Whine Sound**

There may be a whine sound heard under light acceleration or when coasting on some 2023-2024 Colorado and Canyon models equipped with the 8L45 or 8L80 8-speed automatic transmission (RPO N8R, MFC). The sound, usually heard around 25-50 mph (40-80 km/h), may be caused by cable isolation in 4th and 5th gear at approximately 42 mph (68 km/h) under moderate acceleration.

To help verify the source of the sound, follow the service procedure outlined in Bulletin #24-NA-002. The procedure covers driving the vehicle in 4th gear, at approximately 2000-2800 rpm, and observing if a gear whine sound is heard under light throttle or coasting. The intensity of the whine sound should change along with changes in the throttle position.

Once the noise is noticed, vehicle speed should be increased to shift the transmission to 5th gear. A similar noise should still be audible in the 2000-2800 engine rpm range while in 5th gear.

During the test drive, there should not be any gear whine sound with the transmission in gears 1-2 or 6-8, or at engine speeds greater than 2800 rpm.

Once the sound has been verified under these conditions, install a transmission cable weight to help eliminate cable isolation and the gear whine sound while under moderate acceleration in 4th and 5th gear.

For additional details, including parts information, refer to Bulletin #24-NA-002.

Thanks to Marty Leach



Test drive the vehicle in 4th gear, at approximately 2000-2800 rpm, and observe if there is a gear whine sound under light throttle or coasting.



Install a transmission cable weight to help eliminate the potential for the gear whine sound.

## **Convertible Top Water Leak**

Some 2020-2024 Corvette convertible models may have a water leak around the side glass. The leak, which is found at approximately the middle rear of the side glass area, may be noticed when the vehicle is exposed to a high-pressure car wash.



A water leak may be found around the side glass.

The side glass leak may be due to slight variations in sealing between the roof panel seals. To correct this condition, a piece of semi-closed EPDM foam should be installed at the edge of the top panel.



Remove the weatherstrip and weatherstrip retainer

Partially retract the top to access both ends of the top panel and remove the front-side window weatherstrip as well as the three T-25 bolts securing the front-side window weatherstrip retainer.

Install a piece of semi-closed EPDM foam just inward of the rolled outboard edge of the top, but not on the edge itself so that the foam is less visible when the top is closed. Place the foam's narrow edge just forward of the trailing edge of the top panel. Reposition the existing narrow foam strip slightly inboard to accommodate the size of the added foam.

After installing the foam, reinstall the front-side window weatherstrip retainer. The retainer should cover a portion of the new foam piece to help retain it.



Install a piece of semi-closed EPDM foam.

Next, reinstall the weatherstrip. Weatherstrip installation is sensitive to position, so be sure to properly install the weatherstrip to prevent any additional leaks. Refer to Bulletin #24-NA-026 for a helpful video showing correct weatherstrip installation.



Properly install the weatherstrip.

If there is a leak on both sides of the vehicle, repeat the foam installation procedure on the other side. If not, it may not be worth disturbing the performance of the existing weatherstrip.

## **Power Tonneau Cover Tips**

The GM Accessory Power Tonneau Cover (part number 86575628 or 86595165) is available on 2022-2024 HUMMER EV Pickups. If the hard power-retractable tonneau cover is not operating properly, check out Bulletin #24-NA-028, which has a number of diagnostic tips and adjustment procedures to help with repairs.



Power tonneau cover

#### **INSTALLATION ASSISTANCE**

There are several installation videos available in Service Information for the HUMMER EV. To view helpful tonneau cover installation procedures, go to the Pick Box Cover Package Installation (Power Tonneau Cover) in the Accessories Manual.

During installation, be sure to avoid poor wiring issues that can lead to shorts in the system, such as exposed or unsealed wires after splicing, and make sure all connectors are securely locked in place.

Installation of the seals also require careful attention. A folded seal may bind, causing the system to go into an unwanted antipinch mode during operation. Use tape to hold the top lip seal of



Installation videos are available in Service Information.

the side rail during installation of the side rail to the canister.

In addition, verify the width of the side rails before beginning installation of the tonneau cover. Wide rails prevent the cover from contacting the limit switches during calibration and may cause a fault. To address concerns with wide rails, refer to the Pick Box Cover Package Installation (Power Tonneau Cover) document in Service Information.

#### **COVER ADJUSTMENTS**

There also are procedures covered in the bulletin that can be performed if the tonneau cover binds or is excessively noisy. These include using the clutch button on the motor to move the cover manually to inspect for any binding and applying silicon spray to the drum springs and tracks.

#### **POWER SYSTEM**

If there is a drop below 9 volts in the 12V battery, the tonneau cover will need to be recalibrated. Always recalibrate the cover

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Once all repairs are complete, verify that the leak is corrected. If the leak persists, try adjusting the weatherstrip position again as shown in the video.

**TIP:** Remind customers about the recommended car wash guidelines covered in the Owner's Manual. Avoid using high-pressure washers closer than 12 inches (30 cm) to the surface of the vehicle. Using power washers exceeding 8,274 kPa (1,200 psi)

can result in damage or removal of paint and decals. Automatic car washes should not be used, as they can cause damage to the vehicle, wheels, ground effects and convertible top.

For more details, including parts information, refer to Bulletin #24-NA-026.

Thanks to Lane Rezek



if the vehicle's 12V battery is disconnected for service. The cover also should be recalibrated if the motor clutch button has been disengaged.



Inspect the 4 wires connected to the main body wire harness.

Also check for power and ground at the X1 connector located at the power tonneau cover control module, including inspecting the 4 wires connected to the main body wire harness under the left-rear wheel well.

For more details, including additional resources that can be found on gmc.com and in Service Information, refer to Bulletin #23-NA-028.

Thanks to Mark Shearer

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