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Genuine Cummins Part for Automotive Fuel Systems

1. PRODUCT OVERVIEW

The Cummins 2888173 Doser Injector is a critical component designed for use in automotive fuel systems. This genuine Cummins part ensures precise dosing of fuel or Diesel Exhaust Fluid (DEF) into the exhaust stream, contributing to efficient engine operation and emissions control. Constructed from durable metal with a stainless steel exterior finish, this injector is built for reliability and longevity in demanding automotive environments.

Proper installation and maintenance are essential for the optimal performance and lifespan of the doser injector. This manual provides guidance on setup, operation, maintenance, and troubleshooting to assist qualified technicians.

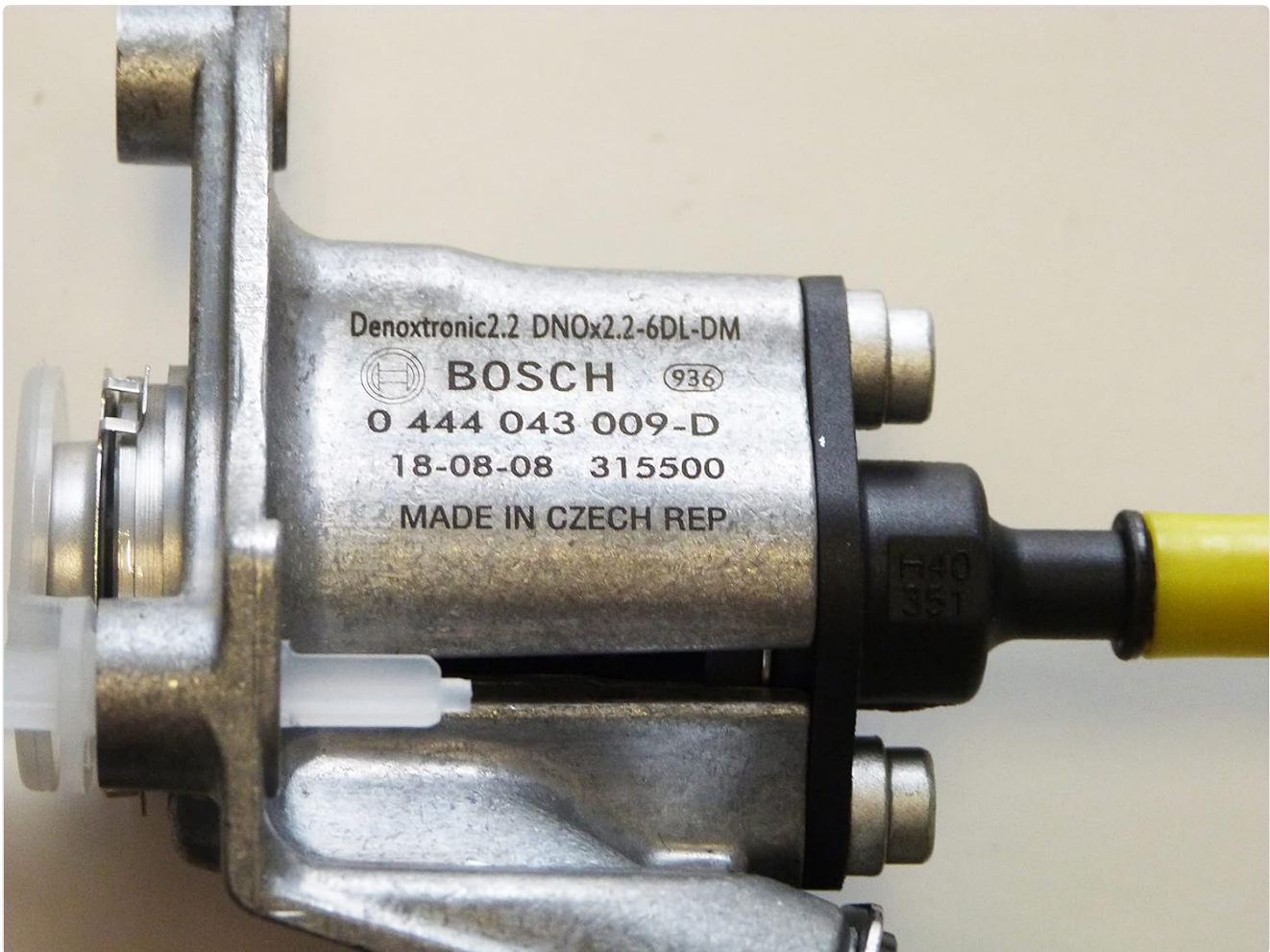


Figure 1: Close-up view of the Cummins 2888173 Doser Injector, displaying the part number (2888173) and other manufacturing information on its metal body.

2. SAFETY INFORMATION

Always prioritize safety when working with automotive components, especially those related to fuel systems. Failure to follow safety precautions can result in serious injury or damage to the vehicle.

- **Professional Installation Recommended:** Installation and service of the doser injector should only be performed by trained and certified automotive technicians.
- **Personal Protective Equipment (PPE):** Always wear appropriate PPE, including safety glasses, gloves, and protective clothing, when handling fuel system components.
- **Fuel System Pressure:** Be aware that fuel systems can remain pressurized even after the engine is turned off. Follow vehicle manufacturer's procedures for depressurizing the fuel system before beginning any work.
- **Flammable Materials:** Fuel and DEF are flammable. Work in a well-ventilated area away from open flames, sparks, or other ignition sources. Have a fire extinguisher readily available.
- **Chemical Exposure:** Avoid prolonged skin contact with fuel or DEF. In case of contact, wash thoroughly with soap and water. Consult a medical professional if irritation persists.
- **Proper Disposal:** Dispose of any drained fluids, old parts, and contaminated materials according to local environmental regulations.

3. SETUP AND INSTALLATION

The installation of the Cummins 2888173 Doser Injector requires specialized knowledge and tools. Refer to the vehicle manufacturer's service manual for specific procedures, torque specifications, and diagnostic information relevant to your vehicle model.

General Installation Steps:

1. **Preparation:** Ensure the engine is cool and the vehicle's battery is disconnected. Depressurize the fuel system as per the vehicle manufacturer's guidelines.
2. **Access:** Locate the existing doser injector. This may require removing other components to gain access.
3. **Removal of Old Injector:** Carefully disconnect electrical connectors, fluid lines, and mounting hardware from the old injector. Be prepared for residual fluid leakage.
4. **Inspection:** Inspect the mounting area and fluid lines for any damage, corrosion, or debris. Clean the area thoroughly before installing the new injector.
5. **New Injector Installation:** Install the new Cummins 2888173 Doser Injector. Ensure all seals and O-rings are correctly seated and lubricated (if specified). Connect fluid lines and electrical connectors securely.
6. **Torque Specifications:** Tighten all mounting hardware to the vehicle manufacturer's specified torque values. Overtightening or undertightening can lead to leaks or damage.
7. **System Re-pressurization:** Reconnect the battery and follow the vehicle manufacturer's procedure for re-pressurizing the fuel system and checking for leaks.
8. **Diagnostic Check:** Perform a diagnostic scan to clear any fault codes and verify proper system operation.



Figure 2: Angled view of the Cummins 2888173 Doser Injector, showing the various connection points, which are protected by yellow caps prior to installation.

4. OPERATING PRINCIPLES

The Cummins 2888173 Doser Injector operates under the control of the vehicle's Engine Control Module (ECM). Its primary function is to precisely inject a measured amount of fuel or DEF into the exhaust system at specific times, typically to facilitate regeneration of the Diesel Particulate Filter (DPF) or to aid in Selective Catalytic Reduction (SCR) systems for NO_x reduction.

- **ECM Control:** The ECM monitors various engine and exhaust parameters and sends electrical signals to the doser injector to open and close, controlling the timing and volume of the injected fluid.
- **Atomization:** The injector atomizes the fluid into a fine mist, ensuring efficient mixing and reaction within the exhaust system.
- **Continuous Monitoring:** The ECM continuously monitors the performance of the doser injector and related systems. Any deviations from expected operation may trigger diagnostic trouble codes (DTCs).

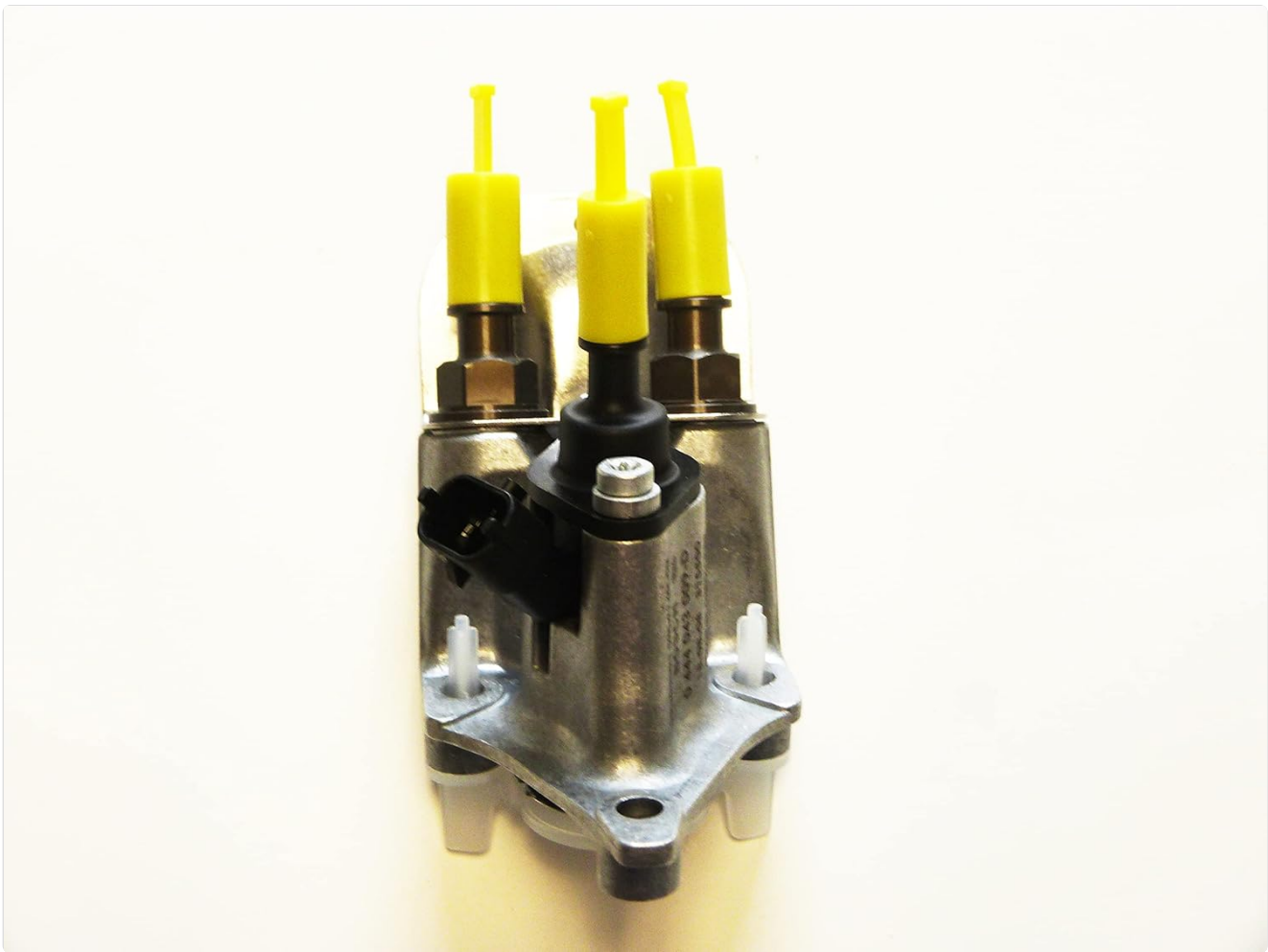


Figure 3: Top-down view of the Cummins 2888173 Doser Injector, illustrating its complete assembly and the various fluid and electrical connection points, each protected by a yellow cap.

5. MAINTENANCE

The Cummins 2888173 Doser Injector is designed for durability, but regular inspection of the overall fuel/DEF system is crucial for maintaining optimal performance and preventing premature wear.

- **Regular Inspection:** Periodically inspect the doser injector and its connections for signs of leaks, corrosion, or physical damage. Check electrical connectors for secure fit and corrosion.
- **Fluid Quality:** Ensure that only high-quality, clean fuel or DEF is used in the vehicle's system. Contaminants can clog or damage the injector.
- **Filter Replacement:** Adhere to the vehicle manufacturer's recommended intervals for replacing fuel and DEF filters. Clogged filters can lead to injector issues.
- **Cleaning:** Do not attempt to clean the internal components of the doser injector unless specifically instructed by Cummins service procedures. Improper cleaning can cause damage.
- **Professional Service:** Any suspected issues with the doser injector should be diagnosed and addressed by a qualified technician.

6. TROUBLESHOOTING

If you suspect an issue with the doser injector, it is recommended to consult a qualified automotive technician for

proper diagnosis and repair. Common symptoms of a malfunctioning doser injector may include:

- **Check Engine Light / Malfunction Indicator Lamp (MIL):** Illumination of the MIL, often accompanied by specific diagnostic trouble codes (DTCs) related to the fuel or exhaust system.
- **Reduced Engine Performance:** Decreased power, poor acceleration, or rough idling.
- **Increased Emissions:** Visible smoke from the exhaust or failure of emissions tests.
- **Excessive Fuel/DEF Consumption:** Unusually high consumption rates of fuel or DEF.
- **Regeneration Issues:** Problems with DPF regeneration cycles, leading to DPF clogging.

Diagnostic Steps (for Qualified Technicians):

1. **Retrieve DTCs:** Use a diagnostic scanner to retrieve any stored fault codes from the ECM.
2. **Visual Inspection:** Check the injector and its connections for physical damage, leaks, or loose wiring.
3. **Electrical Tests:** Perform electrical tests on the injector circuit, including resistance and voltage checks, as per the vehicle service manual.
4. **System Pressure Check:** Verify fuel or DEF system pressure is within specifications.
5. **Flow Test:** If possible, perform an injector flow test to check for proper spray pattern and volume.

7. SPECIFICATIONS

Attribute	Value
Brand	Cummins
Model Number	2888173
Material	Metal
Exterior Finish	Stainless Steel
Inlet Connection Type	National Pipe Tapered (NPT)
Outlet Connection Type	NPT
Number of Ports	2
Outlet Connection Size	0.13 Inches
Thread Size	1/8" NPT
Thread Type	NPT
Valve Type	Needle Valve
Unit Count	1.0 Count
Manufacturer	CUMMINS

8. WARRANTY INFORMATION

This Genuine Cummins 2888173 Doser Injector is covered by Cummins' standard manufacturer's warranty.

Warranty terms and conditions may vary based on region and purchase location. For detailed information regarding warranty coverage, duration, and claims procedures, please refer to the official Cummins warranty documentation provided with your purchase or visit the official Cummins website. Keep your proof of purchase for warranty purposes.

9. SUPPORT

For technical assistance, service, or further inquiries regarding the Cummins 2888173 Doser Injector, please contact Cummins customer support or an authorized Cummins service center. When contacting support, please have your product model number (2888173) and any relevant vehicle information readily available.

Cummins Official Website: www.cummins.com

Note: This manual provides general guidance. Always refer to the specific vehicle service manual for detailed, model-specific instructions.