

0423 4303

# 24V Stop Solenoid 04234303 37DZS1E2 User Manual

**Brand:** Generic

**Model:** 0423 4303

## 1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the 24V Stop Solenoid, Part Number 04234303 (Ref. No. 37DZS1E2). This solenoid is designed to control fuel flow in compatible diesel engines, specifically for models such as D3L91403, D4L91404, D5L91406, and D6L91406, ensuring reliable engine shutdown. Please read this manual thoroughly before installation or operation to ensure safety and optimal performance.

## 2. PRODUCT DESCRIPTION

The 24V Stop Solenoid is a critical component in diesel engine systems, responsible for controlling the fuel supply to the engine's injection pump. When de-energized, it typically blocks fuel flow, causing the engine to stop. When energized with 24 volts, it allows fuel to flow, enabling engine operation. This specific solenoid, Part No. 0423 4303 (also known as 04234303) and Ref. No. 37DZS1E2 (or 37DZ/S/1/E/2, 0423 3841, 04233841), is constructed from durable metal and features two ports for connection within the fuel system.



Figure 2.1: Front view of the 24V Stop Solenoid, highlighting its compact design and electrical connections.

### 3. SPECIFICATIONS

Attribute	Value
Part Number	0423 4303 / 04234303
Reference Number	37DZS1E2 / 37DZ/S/1/E/2 / 0423 3841 / 04233841
Voltage	24V
Material	Metal
Number of Ports	2
Valve Type	Solenoid Valve
Application	D3L91403, D4L91404, D5L91406, D6L91406 engines

## 4. INSTALLATION AND SETUP

Installation of the 24V Stop Solenoid should be performed by a qualified technician to ensure correct wiring and proper function. Incorrect installation can lead to engine malfunction or damage.

### 4.1. Safety Precautions

- Always disconnect the vehicle's or equipment's battery before beginning any electrical work.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Ensure the engine is cool before handling components.
- Refer to the engine manufacturer's service manual for specific instructions related to your equipment.

### 4.2. Installation Steps (General)

1. **Preparation:** Locate the existing stop solenoid on your engine. Ensure the new solenoid matches the specifications and physical dimensions of the original part.
2. **Removal of Old Solenoid:** Carefully disconnect the electrical wiring from the old solenoid. Then, unbolt or unmount the old solenoid from its position. Be prepared for potential fuel leakage and have rags ready.
3. **Installation of New Solenoid:**



*Figure 4.1: Side view of the solenoid, illustrating the mounting bracket for secure installation.*

- Mount the new 04234303 solenoid securely in the same location as the old one, using appropriate fasteners.
  - Connect the electrical wires to the new solenoid. Ensure correct polarity if specified (though most solenoids are not polarity sensitive for basic operation, always check engine wiring diagrams).
  - Ensure all connections are tight and secure to prevent vibration-induced disconnections.
4. **Testing:** Reconnect the battery. Turn the ignition key to the "ON" position (without starting the engine) and listen for the solenoid to actuate (a click sound). Then, attempt to start and stop the engine to confirm proper function.



*Figure 4.2: Detailed view of the solenoid's top section, including the plunger and wire connection.*

## 5. OPERATING PRINCIPLES

The 24V Stop Solenoid operates on an electromagnetic principle. When electrical current (24V DC) is supplied to its coil, it generates a magnetic field. This magnetic field pulls a plunger (armature) inward, which in turn moves a valve or lever connected to the fuel injection pump. In most applications, energizing the solenoid opens the fuel path, allowing the engine to run. When the electrical supply is cut (e.g., by turning off the ignition), the magnetic field collapses, and a spring returns the plunger to its original position, blocking the fuel path and causing the engine to shut down.

## 6. MAINTENANCE

The 24V Stop Solenoid is designed for durability and typically requires minimal maintenance. However, regular inspection can

help prevent issues and prolong its lifespan.

- **Visual Inspection:** Periodically check the solenoid for any signs of physical damage, corrosion, or loose connections. Ensure the wiring insulation is intact.
- **Connection Check:** Verify that the electrical connectors are clean, tight, and free from corrosion. A poor connection can lead to intermittent operation or failure.
- **Cleanliness:** Keep the area around the solenoid clean and free from excessive dirt, debris, or fuel leaks, which can impede its operation or cause premature wear.

## 7. TROUBLESHOOTING

If you experience issues with engine shutdown or starting, the stop solenoid may be a contributing factor. Here are some common troubleshooting steps:

Symptom	Possible Cause	Solution
Engine does not shut off when ignition is turned off.	Solenoid stuck open, faulty wiring, no power to solenoid (if "energize to run" type), or internal solenoid failure.	Check wiring for shorts or breaks. Verify 24V power supply. Test solenoid for proper actuation (listen for click). Replace solenoid if faulty.
Engine does not start.	Solenoid stuck closed, no power to solenoid (if "energize to run" type), or internal solenoid failure.	Check wiring and connections. Verify 24V power supply to solenoid when ignition is on. Test solenoid for proper actuation. Replace solenoid if faulty.
Intermittent engine shutdown/start issues.	Loose or corroded electrical connections, intermittent power supply, or solenoid nearing end of life.	Clean and secure all electrical connections. Check battery voltage and charging system. Consider replacing solenoid if issues persist.

If troubleshooting steps do not resolve the issue, it is recommended to consult a professional mechanic or engine specialist.

## 8. SAFETY INFORMATION

Always prioritize safety when working with electrical and mechanical components. Failure to follow safety guidelines can result in serious injury or damage to equipment.

- Ensure the engine is completely off and cooled down before performing any work.
- Disconnect the battery to prevent accidental engine start or electrical shock.
- Use only tools appropriate for the task.
- Do not modify the solenoid or its wiring.
- Keep children and unauthorized personnel away from the work area.
- Dispose of old parts and fluids responsibly according to local regulations.

