

Dorman CS650006

Dorman CS650006 Clutch Slave Cylinder Instruction Manual

Model: CS650006 | Brand: Dorman

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1. INTRODUCTION

This manual provides essential information for the Dorman CS650006 Clutch Slave Cylinder. This component is engineered as a direct replacement for the original clutch slave cylinder in specific Ford and Mazda vehicle models. It ensures reliable clutch operation by precisely matching original equipment design and utilizing durable materials compatible with standard brake fluid.

2. PRODUCT OVERVIEW AND COMPONENTS

The Dorman CS650006 Clutch Slave Cylinder is a critical hydraulic component in manual transmission systems. It typically consists of a cylinder body, piston, return spring, and a bleeder valve. The unit is designed to receive hydraulic pressure from the master cylinder and actuate the clutch release fork, disengaging the clutch.



Figure 2.1: Top-down view of the Dorman CS650006 Clutch Slave Cylinder, showing the main body, hydraulic line connection, and the release bearing interface.



Figure 2.2: Side view of the clutch slave cylinder, highlighting the corrugated rubber boot protecting the piston rod and the hydraulic line connection point.

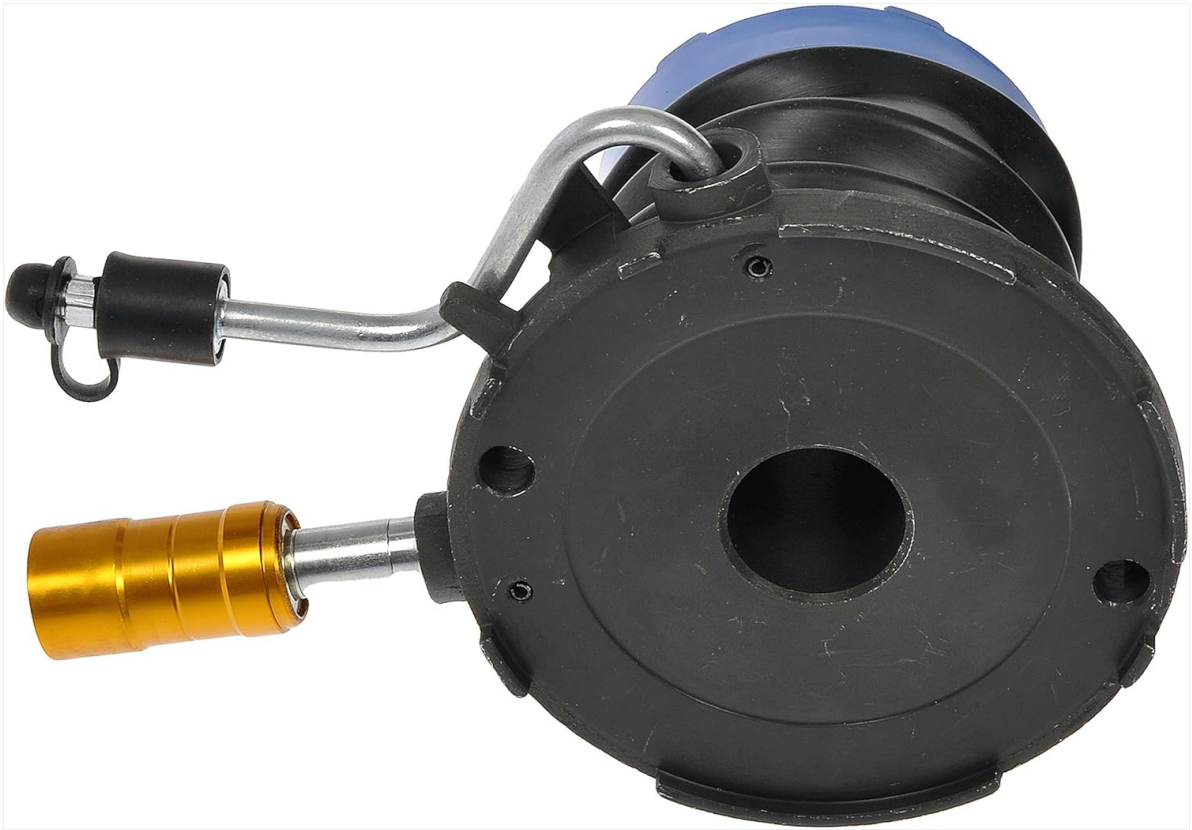


Figure 2.3: Bottom view of the clutch slave cylinder, showing the mounting points and the base of the unit.



Figure 2.4: Angled view of the clutch slave cylinder, providing a comprehensive look at its various connections and structural elements.



Figure 2.5: Another angled view of the clutch slave cylinder, emphasizing the overall assembly and its compact design.

3. VEHICLE COMPATIBILITY

This Dorman CS650006 Clutch Slave Cylinder is designed for direct replacement in the following vehicle models. Always verify fitment using your vehicle's make, model, and trim level before installation.

- **Ford Aerostar:** 1993-1997
- **Ford Bronco:** 1993-1996
- **Ford Explorer:** 1993-2003
- **Ford Explorer Sport:** 2001-2003
- **Ford Explorer Sport Trac:** 2001-2005
- **Ford F-150:** 1993-2009 (including F-150 Heritage 2004)
- **Ford F-250:** 1993-2000
- **Ford F-350:** 1993-1997
- **Ford Lobo:** 2000-2009
- **Ford Ranger:** 1993-2011

- **Mazda B2300:** 1994-1997, 2001-2004
- **Mazda B2500:** 1998-2001
- **Mazda B3000:** 1994-1997, 2000-2004
- **Mazda B4000:** 1994-2004
- **Mazda Navajo:** 1992-1994

4. INSTALLATION INSTRUCTIONS

Installation of a clutch slave cylinder typically requires specialized tools and automotive knowledge. If you are not experienced with automotive repairs, it is recommended to seek professional assistance. The following steps are general guidelines and may vary based on your specific vehicle model.

1. **Safety First:** Ensure the vehicle is securely supported on jack stands or a lift. Disconnect the battery.
2. **Locate the Old Slave Cylinder:** The slave cylinder is usually mounted on the transmission bell housing, near the clutch release fork.
3. **Drain Hydraulic Fluid:** Place a drain pan beneath the slave cylinder. Carefully disconnect the hydraulic line and allow the fluid to drain. Dispose of old fluid responsibly.
4. **Remove Old Slave Cylinder:** Unbolt the old slave cylinder from its mounting points. Detach it from the clutch release fork.
5. **Install New Slave Cylinder:** Position the new Dorman CS650006 slave cylinder. Ensure it properly engages with the clutch release fork. Secure it with the appropriate bolts, tightening to manufacturer specifications.
6. **Connect Hydraulic Line:** Reconnect the hydraulic line to the new slave cylinder. Ensure a secure, leak-free connection.
7. **Bleed the System:** This is a critical step. The clutch hydraulic system must be properly bled to remove all air. Follow your vehicle's service manual for the specific bleeding procedure. This typically involves opening the bleeder valve while a helper depresses the clutch pedal, then closing the valve before the pedal is released. Repeat until no air bubbles are visible in the fluid.
8. **Refill Reservoir:** Top off the clutch master cylinder reservoir with new, clean brake fluid (DOT 3 or DOT 4 as specified by your vehicle manufacturer).
9. **Test Operation:** With the vehicle still safely supported, test the clutch pedal for proper feel and engagement. Check for any leaks.
10. **Final Assembly:** Reinstall any components removed during the process and lower the vehicle.

Note: This slave cylinder includes high-grade rubber components for compatibility with standard brake fluid. Always use the type of brake fluid specified by your vehicle manufacturer.

5. OPERATION

The clutch slave cylinder functions as part of the hydraulic clutch system. When the driver depresses the clutch pedal, hydraulic fluid is pushed from the master cylinder to the slave cylinder. This pressure causes the slave cylinder's piston to extend, moving the clutch release fork. The release fork then disengages the clutch from the flywheel, allowing for gear changes. When the clutch pedal is released, the pressure is relieved, and the slave cylinder retracts, re-engaging the clutch.

6. MAINTENANCE

Proper maintenance of your clutch hydraulic system, including the slave cylinder, is crucial for longevity and reliable performance.

- **Fluid Level Check:** Regularly check the clutch fluid level in the master cylinder reservoir. Ensure it is between the minimum and maximum marks.
- **Fluid Condition:** Inspect the clutch fluid for discoloration or contamination. Over time, brake fluid can absorb moisture, reducing its effectiveness.
- **Fluid Replacement:** Consult your vehicle's service manual for recommended clutch fluid replacement intervals. Typically, hydraulic fluid should be flushed and replaced every 2-3 years.
- **Leak Inspection:** Periodically inspect the slave cylinder and hydraulic lines for any signs of fluid leaks. Early detection of leaks can prevent complete system failure.
- **Component Integrity:** Check the rubber boot on the slave cylinder for cracks or damage, which could allow contaminants to enter the system.

7. TROUBLESHOOTING COMMON ISSUES

Symptom	Possible Cause	Solution
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Symptom	Possible Cause	Solution
Clutch pedal goes to floor / No clutch engagement	Low hydraulic fluid, air in system, slave cylinder leak/failure	Check fluid level, bleed clutch system, inspect for leaks and replace slave cylinder if faulty.
Difficulty shifting gears	Incomplete clutch disengagement (air in system, worn slave cylinder)	Bleed clutch system, inspect slave cylinder for proper function.
Fluid leak around transmission bell housing	Failed slave cylinder seal	Replace the clutch slave cylinder.
Spongy or soft clutch pedal	Air in the hydraulic system	Bleed the clutch hydraulic system thoroughly.

8. PRODUCT SPECIFICATIONS

Model: CS650006

Brand: Dorman

Item Weight: 1.2 pounds

Product Dimensions: 12.3 x 4.7 x 6.4 inches

Manufacturer Part Number: CS650006

OEM Part Numbers: 072-9411; 12592; 138.65010; 138.65014; 138.65019; 139.65010; 18F148; 24-42010; 360016; 386-398; 386-400; 386-470; 900001; 900006; CS2248; CS2321; CS2327; F126893; F140317; F141867; F142714; LSC003; N1763SA; PFCS01; S-85010; S0710; S0710NB; S0723; S0723NB; SC126893; SC140317; SC141867; SC142714; SC360016; SC360172; SC551990; SH6024; SH6024WB; SH6161; W909175; 1F20-16-540; 1F80-16-540; 1L2Z-7A508-AA; 4L5Z-7A508-AB; 5L5Z-7A508-A; 6L5Z-7A508-AA; F2TZ-7A564-A; F75Z-7A508-AA; F87Z-7A508-AA; F87Z-7A508-AC; YL5Z-7A508-AA; ZZP0-16-222; ZZP0-16-222A

What's in the Box: Dorman - CLUTCH SLAVE

9. WARRANTY AND SUPPORT

For specific warranty information regarding the Dorman CS650006 Clutch Slave Cylinder, please refer to the official Dorman product warranty documentation provided with your purchase or visit the official Dorman website. For technical support or further inquiries, please contact Dorman customer service or visit their official brand store.

Dorman Brand Store: [Visit the Dorman Store on Amazon](#)