



**"FIVE AND SIX SPEED CONVERSION SPECIALISTS"**

## MD-910-1006 4.6L AL bell, 7:00 o'clock Mounted External Slave Cylinder Installation Instructions



### **[Read These Instructions Completely Before Beginning](#)**

These instructions are for an external hydraulic slave cylinder installation for a 3550/TKO series transmission for a Ford Mod motor using a pull/cable style clutch lever.

## 1.0 Tools and Notes

1.1 10mm, 1/2", 9/16", 5/8" & 15/16" wrenches and/or socket/ratchet.

1.2 Safety Equipment – Always wear ANSI approved safety goggles/glasses when working with metal and fluids. Wear proper gloves when working with hot surfaces and corrosive fluids.

1.3 The Slave cylinder mounts aft of the clutch lever, pushing the clutch lever forward. You do not need to change your clutch lever.

1.4 Our mock-up bell housing and transmission have certain items removed for clarity.

## 2.0 Disassembly

2.1 This step applies to a vehicle with either mechanical linkage or clutch cable. If your vehicle already has a hydraulic system (master cylinder) this step does not apply. Remove all clutch linkage from the pedal and bell housing. If the stock pedal is equipped with the clutch pedal spring, carefully remove the spring by loosening the pedal hanger bracket. Failure to remove the spring will cause the pedal to NOT return.

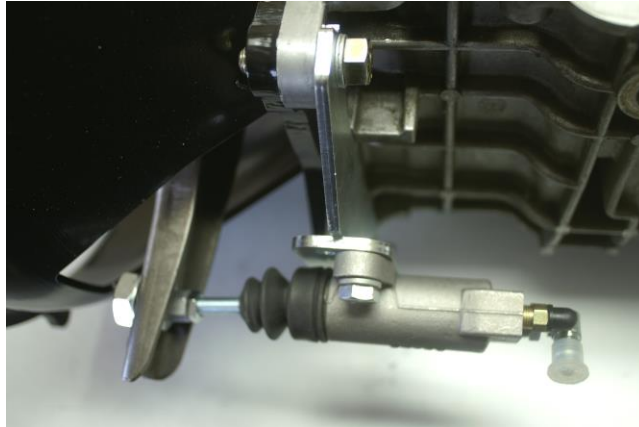
## 3.0 Installation

3.1 Always wear ANSI approved safety goggles/glasses when working with metal. Position the bracket onto the driver's side of the transmission and install (2) new longer bolts and self-locking washers. Caution: To loosen these bolts with the self-locking washers installed, is very difficult. Do not tighten these mounting bolts completely unless you are sure you are ready to install. Temporary use flat washers for mock-up purposes.



3.2 Install the socket on the aft side of the clutch lever in the inner hole and install the nut and lock washer on the front side and tighten using a 15/16" socket/wrench.

- 3.3 Install the push rod into the slave cylinder and install the slave cylinder on the mounting bracket **in the rear set of holes** and tighten 3/8" bolts and lock washers.



- 3.4 Set-Up: Open the bleed port. **Push the piston completely to the bottom of the piston bore AND make sure the throw-out bearing is in contact with the clutch pressure plate.** Adjust the convex nut on push rod to take out any slack/gap between the convex nut and socket (zero lash) then tighten the jam nut against the convex nut. **Caution: Do not leave a gap between the throw-out bearing and the clutch diaphragm** – that is old-school. Throw-out bearings designed today are made to have contact (not pressure) full-time. Leaving a gap will result in slave cylinder failure and the piston will pop out.
- 3.5 Attach steel braided line to the slave cylinder fitting and master cylinder fitting. Tighten hose end fittings. Make sure the steel braided line does not interfere with any moving parts and is at least 2" away from the exhaust. Rotate the 90-degree fittings on the master cylinder and slave cylinder as required to accomplish required clearances and tighten jam nuts on both master cylinder and slave cylinder.
- 3.6 Modern Driveline offers a hydraulic clutch system "bleeder kit". The bleeder kit comes standard in all Modern Driveline master cylinder kits, and is also available separately as a purchase item. The one-person bleeder kit is made **ONLY** for reservoirs with a round opening measuring between 1.30" & 1.55" in diameter. DOT 3 brake fluid only.
- 3.7 Important: Once your new hydraulic system is active, **the rod coming out of the slave cylinder should travel 1.2"**. Less than 1.2" may result in a clutch that does not release properly. The slave cylinder push rod should move immediately when the pedal is pressed. Lack of immediate movement or a spongy feeling clutch pedal indicates air is still in the system.
- 3.8 Periodic adjustment is required for this system. In the initial set-up above, the convex nut was adjusted for zero lash. When the clutch starts to release higher than it used to, repeat the process outlined in the set-up step above to obtain zero lash. This periodic adjustment will extend clutch life and throw-out bearing life by eliminating preload and premature wear. Once again, make sure the piston is bottomed out in the bore and the throw-out bearing is contacting the pressure plate when making any adjustments.
- 3.9 Further assistance and tech support is available by calling Modern Driveline at 208-453-9800 M-F 8-5 Mountain time. Email – [Tech@ModernDriveline.com](mailto:Tech@ModernDriveline.com) . Please contact us first for any issues.

3.10 Enjoy your new hydraulic system and Thank You for choosing Modern Driveline. We appreciate your business.

