"FIVE AND SIX SPEED CONVERSION SPECIALISTS"

MD-910-0162 Chevy Truck 60-72
Hydraulic Clutch Master Cylinder Installation Instructions

Read These Instructions Completely Before Beginning

These instructions are for hydraulic master cylinder installations using an external slave cylinder or a hydraulic throw-out bearing. If your vehicle has been modified from a stock configuration, certain steps may not apply. Existing alterations to your vehicle are your responsibility.

1.0 Tools and Notes

1.1 Drill motor, 21/64" drill bit, Sharpie marker, 7/16" 1/2" 5/8" 3/4" wrenches and/or socket/ratchet, 1 3/8" hole saw, silicone sealant, loc-tite, a second person.

1.2 This Hydraulic Master Cylinder Kit does not utilize the stock clutch push-rod hole location in the firewall. For the 60-72 Chevy Truck a new location was chosen to eliminate interference with multiple brake configurations that are available in both stock and aftermarket applications. This Kit may require you to re-locate your horn relay.

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

2.0 Disassembly - If your vehicle is already disassembled, skip to the Assembly Instructions. If you are converting an automatic vehicle, some disassembly steps do not apply.

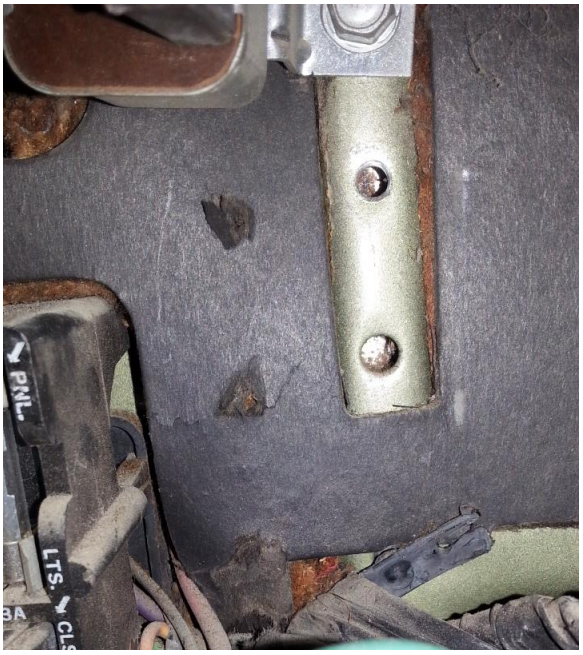
2.1 Remove brake master cylinder and brake booster as required. Remove carpeting and insulation as req'd.

2.2 Remove the plate with the clutch pedal stop for more clear access.

2.3 Remove all clutch linkage or automatic linkage from engine, transmission, frame and clutch pedal. The clutch pedal will be removed for modification and re-installed.

2.4 Warning: If equipped, clutch pedal spring is under pressure. Use caution when removing. Remove the clutch pedal spring and all associated hardware. Do not remove the clutch pedal stop. The spring and spring attaching hardware will not be reinstalled.

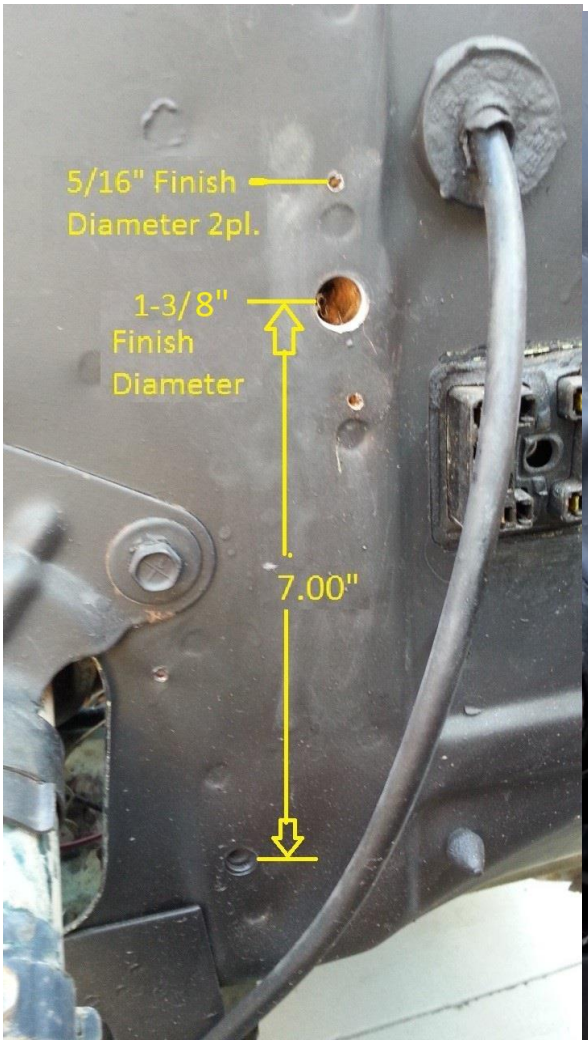
2.5 If equipped, remove the lower relay, next to the fuse box, before drilling any holes. ('72 Model year truck shown).



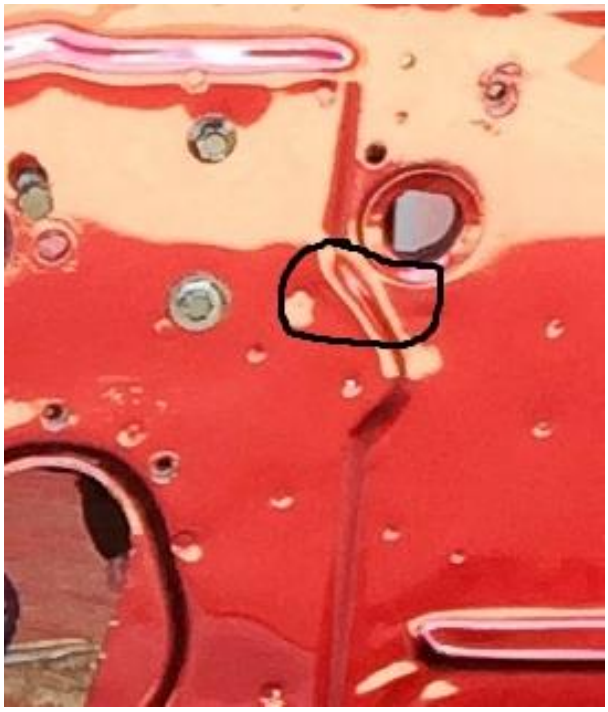
3.0 Assembly

3.1 Note: our mock-up vehicle has certain items removed for clarity.

3.2 Locate and drill holes along the center-line of the spot-welds. The center of the 1-3/8" Clutch Master Cylinder hole is 7" from the lower inner fender bolt hole location, next to the steering column. Mark and drill upper/lower master cylinder 5/16" mounting holes and 1 3/8" thru hole. De-burr holes.



L/H picture shows two pilot holes and center ½” hole drilled 7” from inner fender mounting bolt.
R/H picture shows 7” dimension with mock-up clutch master cylinder installed.



Some year trucks have the above shown bump-out that will require part of the spacer block to be sanded/trimmed off. See black-out area of spacer block above (shown for reference).

3.3 Clean surfaces of fire wall, clutch master cylinder and supplied spacer block. Apply a thin layer of silicone sealant on firewall side of spacer. Install spacer block using 5/16” x 3/4” bolts and lock washers. Apply a thin layer of silicone sealant on clutch master cylinder side of spacer. Install clutch master cylinder on 5/16-24 studs and install (2) lock nuts.

3.4 Re-install brake master cylinder, booster, brake lines and distribution block as required.

3.5 Reset your insulation and carpeting, trimming to clear the new clutch master cylinder location as required. Re-attach relay as req'd.

3.6 From the return-spring hole on the clutch pedal measure down 4-13/16" and drill 7/16" diameter hole. Deburr hole & re-install clutch pedal. If your clutch pedal already has a hole open the diameter to 7/16".

Shown above is the pedal requiring a hole to be drilled.

Shown above is the pedal requiring the hole to be opened up to 7/16"

3.7 Attach the 3/4" hex spacer to the clutch pedal using 7/16" bolt and lock-washer. Re-install the plate with clutch pedal up-stop.

3.8 Attach the 1/2" hex-bar to the master cylinder rod and rod-end with jam nut. Thread the 1/2" hex spacer onto the master cylinder at least 7 full turns. Thread the rod-end into the 1/2" hex spacer at least 7 full turns. Adjust overall length to allow the clutch pedal to bump up against the up-stop, aligning the hole in the rod-end to the 3/4" hex spacer and not preloading the clutch master cylinder. Use the washers to get the best alignment (inboard/outboard) with the master cylinder placement. Tighten the bolt (and washers) holding the rod-end to the 3/4" hex spacer, and tighten both jam nuts.

Shown is the 3/4" hex spacer attached to pedal, rod-end, washers & bolt, with 1/2" hex-bar and jamb nut on rod-end.

3.9 Verify actuation – the clutch pedal should bottom out on the carpeting at the same time the master cylinder bottoms out. If you have no carpeting or insulation under the clutch pedal, a stop block is recommended so the master cylinder will not be damaged. If the pedal bottoms out on the carpeting without bottoming out the master cylinder no further adjustments are necessary until the hydraulic system is activated with the clutch. Verify no binding of rod-end, lever and clutch pedal hex spacer. Verify parallel alignment of all the components. Actuation should be smooth. Verify the master cylinder rod travels the full stroke of 1.35” to 1.4” for proper clutch release.

3.10 Do not over tighten fittings – this will cause damage to the seat of the hose end and fittings. Attach the steel braided line to the 90-degree elbow on the master cylinder and slave cylinder or hydraulic throw out bearing making sure line has clearance away from the exhaust system and will not interfere with any moving parts. Once steel braided line is positioned for routing and clearance, tighten jam nut on the 90-degree fitting in the master cylinder. Note: There is an o-ring under the jam nut. **Do not adjust 90-degree elbow more than ½ turn in either direction.**

3.11 Perform bleeding of the system using the enclosed one-person MDL Bleeder Kit. Resume following this set of instructions once bleeding is complete.

3.12 With the engine **NOT** running and system full of fluid, cycle the clutch pedal a few times. You should have clutch *feel* but it will not be a *heavy clutch*. If the slave cylinder does not move at the beginning of the clutch pedal movement, there is still air in the system. Repeat the bleeding process as necessary.

3.13 Position rear wheels on jack stands (free to rotate). With transmission in neutral, start car. Push in clutch pedal. Transmission should go into 1st gear easily. Slowly release clutch pedal. Pedal should start to engage the clutch at a comfortable level of the pedal travel (about 1.0”-1.5” from floor). Adjust slave cylinder first, master cylinder second, to change clutch engage/release point. A new or rebuilt transmission should have all the gears run thru (in the driveway, partially releasing clutch) before road testing the new hydraulic clutch.

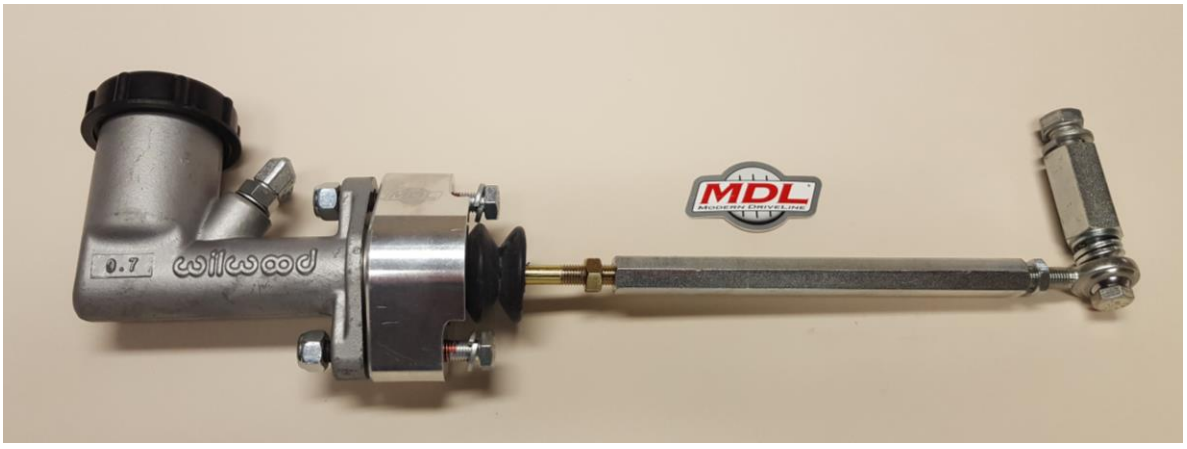
3.14 Remove jack stands and test drive. Upon return, verify steel braided line clearance and support. The hydraulic lines should keep away from the exhaust and clutch assembly.

3.15 If the clutch feels spongy or releases too close to the floor, repeat bleeder kit operations as necessary. FYI – micro bubbles may be present in the system due to actuation, accumulation on rubber parts, and machining marks within the system.

3.16 Further assistance and tech support is available by calling Modern Driveline at 208-453-9800 M-F 8-5 Mountain time or E-mail Tech@moderndriveline.com

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

Modern DriveLine offers a complete line of **Vehicle Specific** Hydraulic Kits and we’re adding more all the time.



All components lightly assembled.


MDL
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