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Five & Six Speed Conversion Specialists!

MD-910-0062 Ford 55-57 Fairlane/Full Size 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 car 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, 5/16" & 7/16" drill bits, Sharpie marker, 12mm, 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 55-57 Fairlane a new location was chosen to eliminate interference with multiple brake configurations that are available in both stock and aftermarket applications.
- 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.
- 1.4 A ground strap from the engine to the body, and body to frame, must be used.
Failure to install a ground strap from the engine to the body and frame will result in braided line failure. The braided line cannot be used as a ground strap.

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

2.1 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.

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.

2.2 Remove pin from clutch pedal and open hole up to 7/16”.



3.0 Assembly

- 3.1 Note: our mock-up vehicle has certain items removed for clarity. Locate master cylinder on firewall as shown below. Note: '55/'56 and '57 firewalls are slightly different. It is okay to drill the '57 m/c mounting holes at a slight angle for better fit of the fasteners.
- 3.2 Master cylinder should be in horizontal alignment of the clutch pedal hole (drilled) with pedal half-way thru the stroke of the pedal. Mark and drill 5/16" master cylinder mounting holes and 1-3/8" thru hole. De-burr holes.



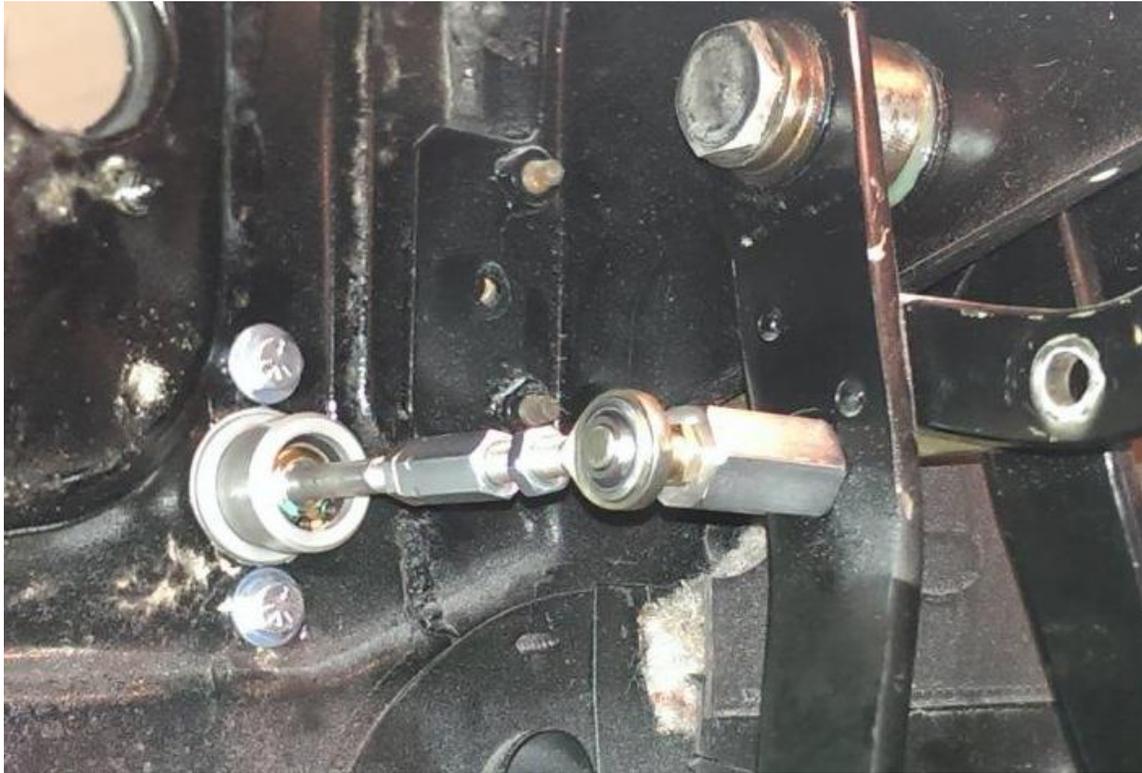
'55/'56 shown from under dash.



'57 shown from engine compartment.

Okay to drill/mount at an angle (shown straight up/down)

- 3.3 Clean surfaces of firewall and clutch master cylinder. Apply a thin layer of silicone sealant around edges of clutch master cylinder. Install clutch master cylinder using 5/16 x 1" bolts with washers, and lock nuts. Tighten fasteners 12-15ft/lbs (wrist tight).
- 3.4 Install the rod-end, jamb nut, and coupling nut onto clutch master cylinder rod with 5-threads minimum on each side of the coupling nut. Do not tighten jam nuts at this time.
- 3.5 Install the 3/4" hex spacer on outboard side of clutch pedal using 7/16"-20 bolt and lock washer. Tighten 7/16"-20 fastener to 40 ft/lbs.
- 3.6 Raise the clutch pedal against the up-stop and adjust rod-end for fore-aft alignment, maintaining 5-threads minimum engagement. Attach rod-end with 5/16" x 1-1/4" bolt and washers to 3/4" hex spacer. Use washers as spacers to gain proper inboard/outboard alignment. Apply loc-tite to 5/16" bolt threads going into 3/4" hex spacer and tighten bolt 12-15 ft/lbs (wrist tight). **Do not preload the clutch master cylinder rod. If you preload the actuation system it will not bleed properly.**



Studded rod-end shown – revised kit uses washers and bolt at this location.
Installation shown with pedal against the up-stop, jamb nuts loose, boot removed for clarity.

- 3.7 Tighten 12mm jamb nut on m/c rod and 1/2" nut on rod-end to 12-15 ft/lbs (wrist tight).
- 3.8 Re-install brake master cylinder, booster, brake lines and distribution block as required.
- 3.9 Reset your insulation and carpeting, trimming to clear the new clutch master cylinder location as required.
- 3.10 Verify actuation **BY HAND** – 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. If the pedal stops before hitting the carpeting, adjust male rod end to lower the clutch pedal. Adjust pedal stop as necessary and know the pedals may not be at the same height. Verify no binding of rod-end and clutch pedal. Verify parallel alignment of all the components. Actuation should be smooth. Verify the master cylinder rod travels the full stroke of 1.3-1.4" for proper clutch release.
- 3.11 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 to 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.**

3.12 Tighten all braided line ends to their respective fittings. Support must be provided for all fitting connections, Failure to do so may result in damage to components. Torque to 20-25 ft/lbs.

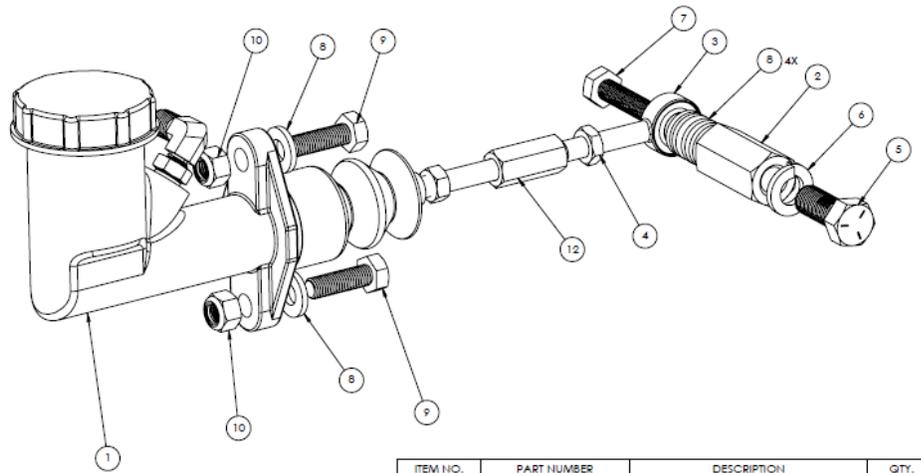
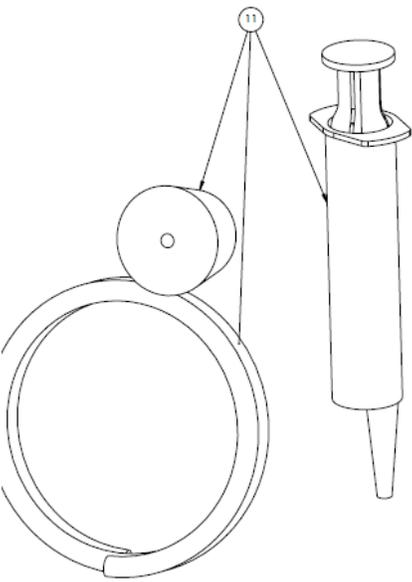


4.0 The Bleed Procedure

4.1 In the master cylinder kit is a Bleeder Kit. Follow the *bleeder kit* instructions. If you have lost the bleeder kit instructions, they can be found on our web site modern driveline.com.

5.0 Driveway Test and Test Drive

- 5.1 Position rear wheels on jack stands (free to rotate). With transmission in neutral, start vehicle. Push in clutch pedal and apply brake pressure. 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). It is okay if the clutch pedal releases close to the floor while on jack stands. It will release higher when the vehicle is on the ground. 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.
- 5.2 Remove jack stands and test drive. Upon return, verify steel braided line clearance and support. The hydraulic lines must be kept away from the exhaust and rotating clutch assembly.
- 5.3 Apply loc-tite to stud-side of rod-end. Tighten using a 7/16" wrench 12-15 ft/lbs. (wrist tight).
- 5.4 If the clutch feels spongy or releases too close to the floor, repeat the bleed procedure. FYI – micro bubbles may be present in the system due to actuation, accumulation on rubber parts, and machining marks within the system.
- 5.5 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@modern driveline.com
- 5.6 Enjoy your new hydraulic system and Thank You for "Making it Modern" We appreciate your business.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	991-0012	Hyd. Type 2 Master sub-Kit, Integral, LF Series	1
2	950-5001	Spacer, steel, 3/4" hex x 1.5" long	1
3	M5M-5	Rod end, male, 5/16"-24, 3/8" ID	1
4	1191	Nut, Jam, 5/16"-24	1
5	65246	Hex bolt, 7/16"-20 x 1.0" lg	1
6	A531	Lock washer 7/16"	1
7	65218	Bolt, hex, 5/16"-24 x 1.25	1
8	88436	5/16" flat washer	6
9	65217	Bolt, Hex, 5/16"-24 x 1"	2
10	312	Lock Nut-5/16-24 nylock	2
11	MDL Bleeder Kit	MDL Bleeder Kit	1
12	90977A160	Coupling Nut, Steel 5/16-24 x 1.125 lg	1