



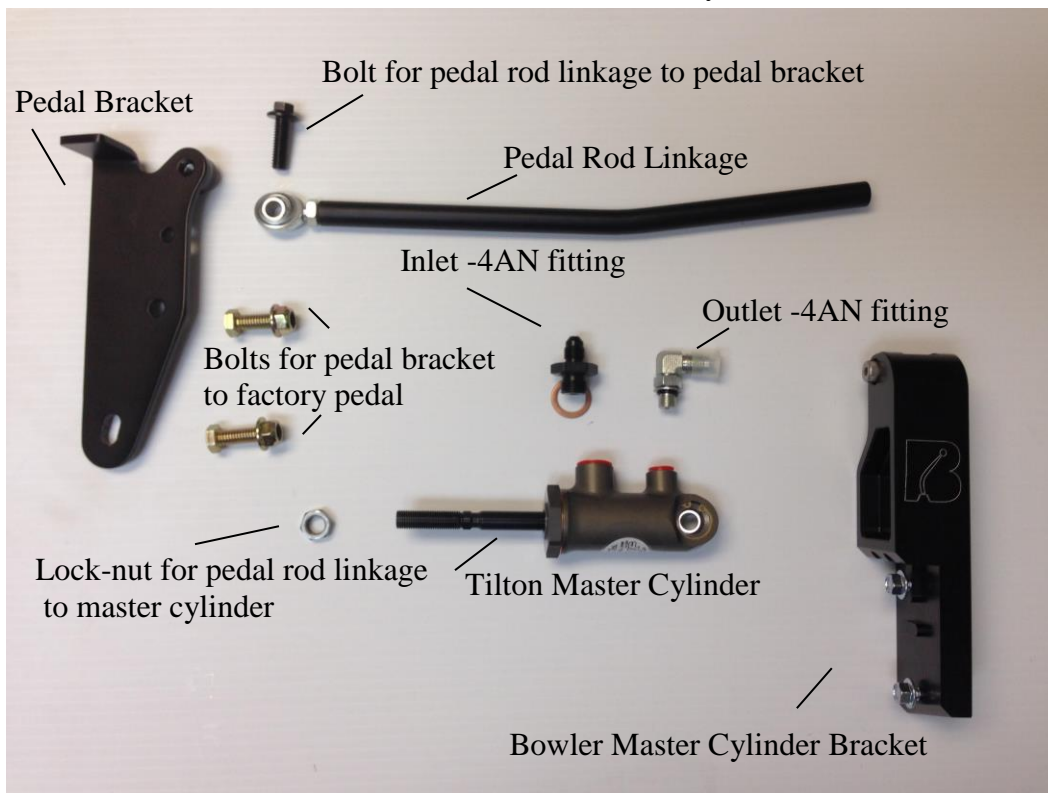
'63-66 Corvette C2

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.

Note: Picture shown is similar like your kit.



**If Equipped with Power Brakes
use the included Banjo fitting
in place of the
- 4 Inlet fitting**



**C2 63-66-2 includes
plastic reservoir**



**C2 63-66-3 includes
billet reservoir & 12"**

1.0 Tools and Notes

1.1 3/8", 7/16", 1/2", 9/16", 13/16" wrenches and/or socket/ratchet and a 5/32" allen wrench / socket.

1.2 This Hydraulic Master Cylinder Kit utilizes the original cross shaft bracket on the factory frame rail (if you are installing this on an aftermarket chassis or an original automatic frame you will need to purchase the factory cross shaft bracket #CL-205 * see Fig. 1 and weld into place) from Ecklers Corvettes 800-284-3906.

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 car, some disassembly steps do not apply.

2.1 Remove factory clutch linkage, spring & pedal linkage.

2.2 Do not remove the clutch pedal.

3.0 Assembly

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

3.2 Pre-assemble the Master Cylinder, pedal rod linkage and Bowler master cylinder bracket. See Fig 2. You may install the fittings now or after you've installed the master cylinder to the frame bracket.

Caution: If you have a factory power brake car, you will use the included banjo fittings for better clearance

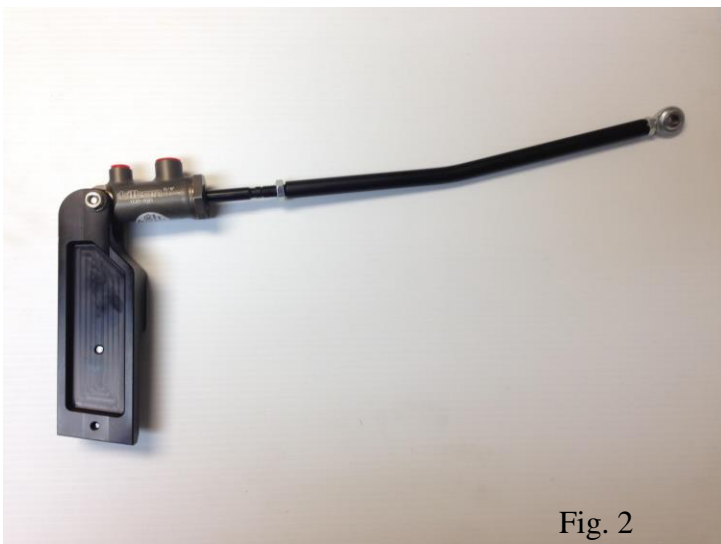


Fig. 2



Fig. 1

- 3.3 Feed the pedal rod linkage through the factory clutch rod linkage firewall opening, then install the master cylinder bracket on frame bracket with the included bolts. See Fig 3.



Fig. 3

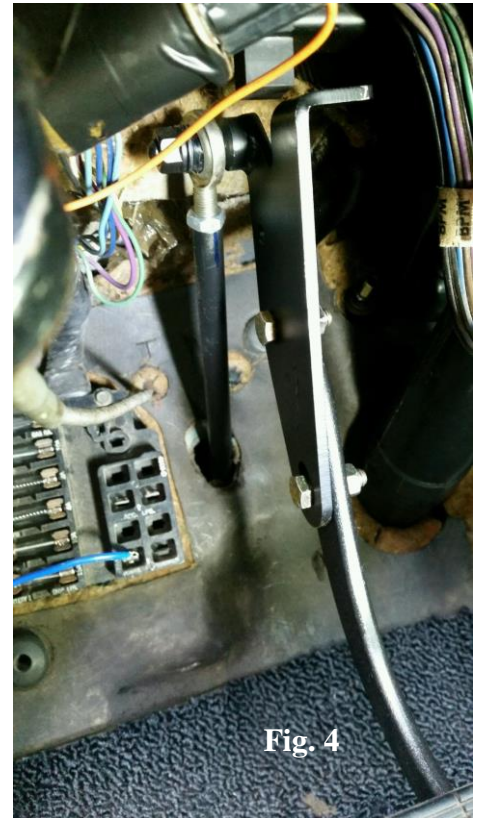


Fig. 4

- 3.4 Attach the clutch pedal bracket to the factory pedal with the included 5/16 bolts & lock nuts. See Fig. 4
- 3.5 Install the pedal rod linkage to the clutch pedal bracket with the included 5/16 bolt. See Fig. 4
- 3.6 The rod-end and pedal rod linkage will need to be adjusted to have the correct pedal height that you desire
- 3.7 Now you can measure for your reservoir line and your feed line for your slave cylinder. You can order your lines from us or pick up at any speed shop or hydraulic supply house.
- 3.8 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. 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.
- 3.9 Locate and mount a reservoir anywhere above the master cylinder. We have universal plastic reservoir and billet reservoir options available.

- 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 to exhaust system and will not interfere with any moving parts.
- 3.11 Close the bleed screw on the slave cylinder or hydraulic throw out bearing. Remove the bladder & fill reservoir with DOT 3 brake fluid. Do not install bladder at this time. Install cap tightly.
- 3.12 **Caution: Always wear ANSI approved goggles/glasses when working with fluids. Wear proper gloves when working with corrosive fluids.** Purging the system – Pressure bleeding is the only way to remove all the air from the system. Loosen the bleed screw on the slave cylinder or hydraulic throw-out bearing. Allow gravity to fill the system until fluid comes out the bleed screw then close. Top-off reservoir and re-install cap. Using a second person, open the bleed screw and apply 5-10 psi thru the vent hole in the reservoir cap using a rubber tipped air nozzle. **Air pressure must be regulated to 5-10 psi or you could damage components.** Since the reservoir is small, the bleed screw should only be open for about 5 seconds. You will see a solid stream of fluid come out, followed by air bubbles, followed by another solid stream of fluid. Immediately close the bleed screw when you see the second solid stream of fluid to prevent draining the reservoir. Top off fluid to the step line in the reservoir and install bladder and cap. Do not overfill or brake fluid will spill over.
- 3.13 Do not start car at this time. With system full of fluid, test by actuating pedal a few times. You should have clutch *feel* but it will not be a *heavy clutch*. Repeat the above process if necessary.
- 3.14 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.
- 3.15 Remove jack stands and test drive. Upon return, verify steel braided line clearance and support. The line should never come in contact with the exhaust.
- 3.16 If the clutch feels spongy or releases too close to the floor, repeat step 3.12. FYI – micro bubbles may be present in the system due to actuation, accumulation on rubber parts, and machining marks within the system. Repeating step 3.14 is recommended, before or after test driving.
- 3.17 Further assistance and tech support is available by calling Bowler Performance at 618-943-4856 M-F 8-4 Central standard time.
- 3.18 Enjoy your new hydraulic system and Thank You for choosing. Bowler Performance we appreciate your trust in our company.