

# 4<sup>th</sup> Gen F-Body Clutch Master Cylinder 319-200 Installation Instructions



Thank you for choosing to use the Holley<sup>™</sup> clutch master cylinder as part of your performance vehicle project. Please read thoroughly and understand these instructions before attempting installation.

### PRE-INSTALLATION CONSIDERATIONS:

This hydraulic clutch master cylinder is designed to be a direct replacement for 1998-02 Camaro/Firebird that is equipped with a T-56 transmission. If used in any application other than 1998-02 Camaro/Firebird equipped with a T-56 transmission, the fitment and function cannot be guarenteed.

Use only GM recommended brake fluids for this application. <u>DO NOT use DOT 5 brake fluid</u> as it will not only cause master cylinder failure, but also damage to the clutch slave cylinder.

This kit <u>does not</u> include the GM hydraulic clutch line disconnect tool (J-36221). It should be purchased separately before attempting to begin installation.

Kit 319-200 is the clutch master cylinder replacement kit only and does not include any hydraulic lines. For additional related kits and components please see the Holley<sup>™</sup> website.

#### **BEFORE BEGINNING...**

Check that the package contains the following hardware:

Qty.	Description
1	Clutch Master Cylinder Assembly
1	1/8" x 5/8" Spring Pin
1	Quad Ring High Pressure Seal
1	M8 x 1.25 U-Bolt
2	M8 x 1.25 Flange Lock Nuts

#### **INSTALLATION:**

- Disconnect battery ground.
- 2. Disconnect the quick disconnect fitting at the transmission using GM tool (J36221). This fitting is located at the bellhousing on the transmission on the driver's side of vehicle.
- 3. On the top side of vehicle, remove the under dash knee bolster panel by removing the two push clips located on either side of the panel.

- 4. Remove the factory pedal retention clip from the clutch pedal pin. Remove the clutch master rod end from the clutch pedal pin.
- 5. Remove the two M8 nuts from the factory U-bolt that retain the original equipment plastic master cylinder to the firewall. Also, remove the push on plastic retainers from the U-bolt that help hold the assembly in place.
- 6. Remove the U-bolt from the engine bay side of the firewall. This is located under the brake booster.
- 7. Remove the plastic retaining push pin from the clutch master reservoir. This pin retains the reservoir on its metal mounting bracket.
- 8. Pull the master cylinder assembly through the firewall and remove the enitre assembly (master, reservoir, braided transmission line) from the car.
- 9. Prior to installation of the Holley<sup>TM</sup> master cylinder, it is a good idea to preassemble all the lines as it is difficult to do in the car. Remove factory braided line by driving out 1/8" spring pin with a small punch. Install the braided line in the new master cylinder using the included new high pressure seal and spring pin. Also, remove the reservoir feed line from the old master and reinstall on the new assembly. Secure this line with a plastic zip-tie to ensure it does not come loose during installation.
- 10. At this point, it is advisable to bench bleed the master assembly before installation. This will dramatically increase the speed of the bleeding procedure in the car later on.
- 11. Get all components in place in the engine bay. Route the braided line down to the transmission. Also, position the reservoir above the brake booster with the feed line routed the same as it was before removal.
- 12. Insert the rod end/turnbuckle through the firewall hole and reinsert the new (or reuse old) U-bolt through the master cylinder flange and firewall holes. Under the dash, reinstall the plastic retention washers that were removed earlier back on the U-bolt.
- 13. Install the new (or reuse old) flange nuts. Torque to 15 ft./lbs.
- 14. Install the spherical rod end on the clutch pedal pin. Reinstall the pedal retention clip removed earlier.
- 15. Reinstall the knee bolster under dash.
- 16. Reinstall the plastic fluid reservoir on the metal mounting bracket. Reinsert the plastic push pin to retain the reservoir assembly.
- 17. Route the transmission line under car. Reconnect the quick disconnect fitting to the slave cylinder fitting in bellhousing. <u>DO NOT</u> rely on an audible click or visual inspection of the connection. Always pull on the fitting, as if disconnecting, to verify that the connection is solid.
- 18. Reconnect the battery ground.
- 19. Bleed the newly installed hydraulic system and check for leaks. See bleeding procedure.
- 20. After the system is properly bled, make sure (with the engine running) that the transmission can be put into gear. If not, there may still be air trapped in the system or a component/line may be installed improperly or may be leaking.
- 21. If the car fails to start, ensure that the adjustable turnbuckle on the rod that connects the master to the pedal is adjusted so that the pedal engages the clutch switch under the dash. If the pedal is adjusted too high, the switch cannot be engaged and a no start situation will result.

## **BLEEDING PROCEDURE:**

The Holley<sup>™</sup> clutch master cylinder does not arrive bench bled like a factory master would. This means that the clutch hydraulic system may take a little longer to properly bleed than a factory master would. It is recommended to bench bleed the master/braided line assembly prior to installation in the car.

- Fill the fluid reservoir with DOT 3 brake fluid to the fill line.
- 2. Press clutch pedal to the floor and hold.
- 3. Have an assistant open the bleed valve that extends from the bellhousing just above the quick disconnect fitting. Opening this bleed fitting should allow the air to purge from system.
- 4. Close bleed valve and then release clutch pedal.
- 5. Repeat steps 2-4 until all air is evacuated from the clutch hydraulic system.
  - a. Refill reservoir to fill line as fluid is consumed.
  - b. After each bleeding cycle, pump the pedal several times, and if pedal is unsatisfactory repeat the process.
- 6. If previous procedure is unsuccessful:
  - a. Pump the clutch pedal vigerously for 30 seconds.
  - b. Stop pumping and let the air escape into the reservoir.
  - c. Repeat the pumping procedure as necessary.
  - d. Also, vacuum applied to the reservoir will aid in the bleeding process.

### **LIMITATION OF LIABLILITY – DISCLAIMER:**

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In this connection, the retail purchaser, the buyer, the ultimate consumer assumes the burden of the entire cost of any and all necessary service, alterations, or repair.

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