



## **Tick Performance Adjustable Clutch Master Cylinder** Installation Guide for 04-06 Pontiac GTO – Page One

1. Disconnect the factory master cylinder from the clutch pedal assembly.
2. Remove all four 13mm nuts that hold the factory brake booster to the firewall. These can be easily removed with a ¼" drive air ratchet and deep socket.
3. Remove the driver's side fuel rail cover.
4. Remove horn using T30 torx bit.
5. Remove the 13mm bolt that supports the end of the brake master cylinder and position the entire master/booster assembly toward the engine. This will allow better access to the clutch master. The booster will only move slightly, and that will be sufficient. Do not disconnect brake lines!
6. Remove both 13mm nuts that hold the factory clutch master cylinder to the firewall. You can discard these nuts as they will not be reused.
7. From under the car, disconnect the clutch master's rubber hose from the hard line going into the bellhousing by pulling the wire clip outward.
8. Unsnap the hard line from the white clip on the body of the car.
9. The line from the master cylinder to the slave cylinder is two pieces and separates with a fitting like the connection at the slave that you previously disconnected. This is somewhat difficult to access since it is under the brake booster. Disconnect the line here and then remove the factory master cylinder and half the line together. The other half of the line can be removed from under the car.
10. Install the new aluminum adapter bracket with supplied 13mm (8x1.25mm) nuts.
11. Install our master cylinder into the bracket, over the studs. Leave the unit loose for now.
12. Install the supplied -4 clutch line on our master cylinder and tighten it with a 9/16" wrench. It may be necessary to pull the front of the master cylinder toward the engine to gain clearance to start the line.
13. Tighten the cylinder to the bracket using the supplied gold nuts and a ½" wrench and/or socket.
14. Inside the car, install the jam nut and clutch clevis that attaches the unit to the pedal. Install the clevis onto the pedal with the pedal positioned near the middle of it's travel (further adjustment will be done later, as necessary.)
15. Under the car, install the supplied custom fitting.
16. Route the braided line away from sharp edges, moving parts and headers. Tighten it to the fitting you just installed.

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17. Reinstall the brake booster nuts on the inside of the car and reinstall the support bolt removed in Step 5.
18. Install the white plastic adapter to the master with the supplied gold clamp positioning the inlet as necessary.
19. Remove the reservoir from the original master cylinder and install the supplied hose with the supplied clamp on the reservoir side. Fasten it to the master cylinder with one of the supplied zip ties. Cut the hose for best fitment.
20. **Your install is complete.** Now the clutch can be bled using the slave cylinder's bleeder (located just above where the slave's line enters the bellhousing.) An 11mm or 7/16" socket works here. To bleed the system, use this procedure:
  1. Loosen bleeder
  2. Have an assistant press pedal to the floor
  3. Tighten bleeder

Doing this 5-6 times should totally bleed the system, but be sure to keep the reservoir full during the process. To make bleeding even easier, our Remote SPEEDbleeder Line is a must-install during your next clutch job.

21. Once the system is bled completely and the pedal is firm, start the car in neutral and attempt to shift it into first gear. If it doesn't slip in easily, lengthen the rod by removing it from the pedal and turning the aluminum piece counterclockwise. Do this in small increments, putting it back on the pedal and retesting until you're able to slip the shifter easily into first gear (a sign that complete disengagement is achieved.) As you're turning the aluminum piece, make sure the threaded rod that goes into the master cylinder isn't turning too! By lengthening the rod, you raise the height of the pedal, which increases the amount of fluid your hydraulic system flows. Ideally, you want to flow just enough fluid to fully disengage your clutch – not too much, not too little.  
Final adjustments can now be made by aggressively driving the car. If it is tough to shift in the upper RPMs, lengthen the rod a small amount more and try again. **USE CAUTION:** lengthening the rod too much could damage your pressure plate, so please be careful and take your time during this procedure.
22. Once final adjustment is complete, you'll enjoy quicker shifts, a better feel for the clutch, and you can breathe easy knowing that you've extended the life of both your transmission and your clutch. You'll notice a slightly shorter pedal height and ~15% increase in pedal firmness – these are normal.

Thank you for your business and enjoy your Tick Performance Adjustable Master Cylinder!



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