



2005-13 Corvette C6 & Z06 Adjustable Clutch Master Cylinder Instructions

Very important: Please read all instructions before beginning your install!

1. Raise the front of the vehicle and support with jack stands.
2. Remove the driver side front wheel and tire.
3. Remove the access panel from the fender well by removing the push clips and screws. *Refer to picture 1 for base model C6 and pictures 2 and 3 for Z06.*
4. From the inside of the car, remove the black plastic panel to gain access to the clutch pedal to clutch master cylinder attachment point.
5. Pop the interior light bulb out of the plastic panel and remove the panel from the car.
6. Disconnect the clutch master from the pedal by removing the retaining clip.
7. Remove the large return spring from the clutch pedal assembly and discard. It will not be reused. *See Picture 7.*
8. Disconnect the clutch master from the slave line at the large quick disconnect fitting near the master. The line itself is part of the slave cylinder when purchased from GM. The fitting disconnects by pulling the metal retaining clip out, then separating the line. A small screwdriver or pick will be needed to remove the metal clip. You may find it easier to access this connection from the top or from the access panel area removed previously. *See Picture 4 for the master side of this connection.*
9. With the line separated, reinstall the clip into the fitting.
10. Unclip the master's reservoir from the metal bracket near the brake master cylinder. It will slide upward off the bracket.
11. Remove the factory clutch master assembly by twisting the body of the cylinder CLOCKWISE to disengage from the firewall/pedal assembly.
12. With the master now removed from the car, remove the black plastic portion of the quick disconnect from the master line by removing another clip. NOTE: There is a spring and valve inside the disconnect that can fall out once the fitting is separated from the hard line exiting the master, *see picture 5.* Don't lose them!
13. Re-install the wire clip into the black fitting.
14. Plug our line/fitting into the black OEM quick disconnect fitting. It will snap into place when fully seated. *See Picture 6.*
15. Remove the reservoir and hose from the stock clutch master. Clean it with brake cleaner while it's apart.
16. Back inside the car, remove the black plastic "dead pedal" by using a 10mm socket/ratchet or nut driver. Be careful not to break it!



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17. Remove the clutch pedal lower switch by sliding it upward out of its slot on the pedal assembly. There is a small metal clip on the backside that may fall out when doing this. It will give you some resistance as this is what holds the switch into place. Be sure that it goes back in once re-installed! There is no need to disconnect the wiring to the switch.
18. Remove the upper clutch position switch to prevent it from being damaged.
19. Remove three nuts using a 13mm wrench (preferably a "ratcheting wrench") that attach the clutch pedal assembly into the car. *See Picture 8.*
20. With nuts removed, the clutch pedal assembly can be removed from the car.
21. With the pedal assembly removed and on a work surface, drill a 3/8" hole approximately 7/8" above the factory mounting point. This distance is measured from the center of the factory mounting point. *See Picture 9.*
22. Install the supplied bolt and gold jam nut with the threads of the bolt to the inside of the pedal. *See Pictures 10 & 15.* Tighten the bolt and nut **WITH HAND TOOLS ONLY**. The remaining nylon lock nut will be used to hold the adjustment rod in place during a later step.
23. Reinstall the pedal assembly into the car. Loosely install the three 13mm nuts and without the plastic "dead pedal" installed, snug up the 10mm nut previously removed that holds the dead pedal and pedal box to the firewall. The pedal box will still move around a bit, as there is play in the 3 mounting studs. With one hand, push the pedal box forward and upward to get the box as close to the firewall as possible. With the box held, tighten the three 13mm nuts. Now you can re-install the clutch position switches and dead pedal.
24. Your new clutch master cylinder bracket has been shipped with the retaining nut already installed on the main bracket to keep the threads from being damaged during shipping. The threads have also been coated with a small amount of anti seize to prevent them from being marred. **THERE IS NO WARRANTY ON THE BRACKET ITSELF FOR DAMAGED THREADS, SO BE CAREFUL AND TAKE YOUR TIME WHEN INSTALLING THE MAIN BRACKET.**
25. Remove the large nut from the main bracket and place to the side. With a utility knife or sharp blade, trim the factory rubber firewall seal to fit around the 2" diameter portion of the new bracket.
26. Install the firewall grommet into the firewall.
27. Install the new bracket into the firewall/grommet. There is a dot machined into one of the threaded lugs of the main bracket. *See Pictures 11 & 12.* This is the timing mark for installing the bracket into the car. Make sure you have this lined up correctly as you install the bracket!
28. With the grommet holding the bracket in place, from inside the car, use one hand to start the large retaining nut onto the main bracket. **TAKE YOUR TIME AND MAKE SURE YOU DON'T CROSS THE THREADS.**
29. Once you have the nut finger tight, use a 1 1/2" socket (or our optional billet socket) to tighten the bracket into place.

30. From outside the car, install the Tilton cylinder into the bracket with the fluid port facing up. *See Picture 13.* Loosely start the bottom nut onto the stud, then install the upper nut and tighten both into place. TIP: We recommend the use of a stubby wrench to make this a bit easier.
31. During step 14, you prepped your new master line by installing a portion of the OEM disconnect fitting onto it. Leave this line accessible for bleeding during a later step.
32. Re-install the fluid reservoir and attach the factory hose to the white nipple of the new cylinder. Trimming of this hose may be required for best fit.
33. Inside the car, install the billet adjustment rod all the way onto the gold threaded rod protruding from the master cylinder.
34. Now slip the 3/8" rod end over the 3/8" bolt that you installed into the pedal during Step 22. Using the 3/8" nylon lock nut from Step 22, tighten the rod end into place. *See picture 14.*
35. Adjust the rod's length to between half and full travel by turning the billet aluminum portion while making sure that the gold threaded rod isn't spinning. If the gold rod spins, your adjustment will only screw out on the rod end side.
36. Fill the reservoir with brake hydraulic fluid. With the cap off, slowly pump the pedal several times. Top the fluid level off if it has gone down, being sure not to let it get empty.
37. With an assistant working the pedal **BY HAND**, push the valve in on the quick disconnect fitting at the end of our line using a screwdriver.
38. Have your assistant push the pedal down, then release the valve and have your assistant lift the pedal back to the top of the travel. Repeat this 5-6 times making sure the fluid level is never empty.
39. The master cylinder should be fully bled at this time. Connect the master line to the factory disconnect fitting by routing the line back under the cylinder and over the frame rail to the OEM location. This connection may be difficult to make, but the line will snap into place when fully seated.
40. At this point, your new master cylinder is completely installed. Pump the pedal to make sure all the air has been worked from the system. The pedal should have minimal free play and have a nice firm feel.
41. Once bled completely, adjustment can begin. On flat ground with the transmission in neutral, start the car. Attempt to engage first or reverse. If it's difficult to go into gear, don't force it. Adjust the pedal higher for more travel/fluid displacement. Make small adjustments, ensuring the gold rod doesn't spin and repeat until the transmission goes into 1st and reverse gears smoothly with the engine running. Final adjustments can be made to improve high RPM shifting during a road or track test.
42. Once the adjustment is satisfactory, tighten the jam nuts down using two 1/2" wrenches and one 9/16" wrench.

43. Reinstall the plastic panel under the dash, the access panel in the fender well, and the front wheel and tire.
44. Enjoy your new Tick Performance Adjustable Clutch Master Cylinder Kit!













