



# **SUM-760199**

## **1957-1972 FORD MERCURY**

### **POWER BRAKE UNIT**



## UNBOXING YOUR KIT:

1. Remove new booster, bracket assembly and master cylinder from their boxes and inspect the parts.
2. New boosters come with a protective plastic or rubber boot over the front pin area for shipping purposes. Remove this before the installation.
3. This kit features a universal booster that has the short pin in the front of the booster. The new cylinder may have a **piston adapter** to convert it from deep to shallow hole. Install the piston adapter. Use a shallow pocket master cylinder on a power brake booster with the short pin.



Piston Adapter

## REMOVING AN OLD MASTER CYLINDER:

4. Perform brake work on a level surface. Chock the wheels, set the emergency brake and put the transmission in Park.
5. Protect painted surfaces from brake fluid and place absorbent materials such as rags under the master cylinder. Since brake fluid is caustic to paint, use a fender cover mat.
6. Spray the master cylinder nuts and fittings with penetrating spray.
7. Mark which lines connect to which port on the master cylinder and which supplies fluid to the front and rear wheels respectively. (If you have the ability to take a digital picture for reference before disassembling the lines from the valve this would be a good time to do so.)
8. Make a note of the brake pedal ride height inside the cab of the vehicle. Use a wooden block to rest the pedal on so you will have a reference when you set it back up. (If you have the ability to take a digital picture for reference before disassembling the lines from the valve this would be a good time to do so.)
9. Use flare nut wrenches to loosen the master cylinder nuts. On stubborn fittings, sometimes attempting to tighten them before loosening them helps break them free. Be careful with the tube nut hex heads and tubes themselves if you are re-using them.
10. Again, to protect important painted surfaces you might cover the master cylinder with a plastic trash bag and or wrap it with shop rags or towels. Consider removing all of the old brake fluid from master cylinder first.
11. Inside the car, disconnect the master cylinder rod's clevis from the brake pedal swing arm and note which hole it was connected to.

## PREP & INSTALL PEDAL

12. Clean the firewall where the master cylinder was mounted, and grind down any welded areas, repaint if necessary. The bracket has to mount flush to the firewall.
13. Place the new bracket assembly on to the firewall and guide its' pedal rod arm through the hole. Re-use the master cylinder mounting studs and fasten the nuts and cinch the bracket up to the firewall. Hand tighten these for now.
14. With the bracket secured to the firewall, mark the location on the wall for the two upper support holes. You may need to drill two new upper holes or your car may already have bolt holes in these locations. You do not need to tighten the upper two bolts at this time.
15. Inside the cabin area of the car, locate the brake pedal swing arm and connect it to the bracket's pedal rod arm from step 13.
16. Using a wooden block or similar object, position the foot pad at the desired ride height versus the floor pan.
17. Next position the brake booster on to the pedal bracket assembly. You will then see that the all threaded rod from the rear of the booster may need to be shortened to mount it. In your kit are 4 black spacers if you need to space the booster away from the bracket. ( Shown Below Fig 1, 2, 3)
18. Mark the threaded rod where you intend to cut it. **\*\*TIP** Screw the jam nut all the way to the felt. If, necessary, you may remove the black rubber dust boot to do so. Cut the rod with either a hack saw or cut off wheel. File the cut surfaces smooth so a nut can start on the threads. Replace the rubber dust boot. Remove nut from threaded rod to verify you made a smooth cut. Jam nut will be replaced with clevis.



Fig. 1.



Fig. 2.



Fig. 3.

19. Remove the pedal bracket unit from the swing arm and firewall and place on the work bench.
20. Using pliers, relax the cotton pin and remove the yellow zinc clevis from the bracket. Place the washers and cotter pins aside.
21. Screw the yellow zinc clevis onto the newly cut all thread rod on the rear of the booster (Again, you may need to file the edges of the rod where you cut it so the clevis can thread on).



Fig. 4.

NOTE\*\*Clevis will need to be removed off swing pedal arm assembly. Be sure not to loose any of the washers or pins as you will need them later to re-assemble.



Fig. 5.



Fig. 6.

22. With the clevis on the booster rod, bring the pedal assembly close to the booster so you can insert the dowel through the clevis and place the washers and secure the cotter pin. At this point, the booster and clevis should be attached to the swivel section of the pedal bracket. ( Fig 5.)
23. Now swing one half of the pedal's mounting brackets on to the rear face of the booster. (Fig 6.) Attach the nuts. Swing the second half of the pedal's mounting brackets on to the rear face of the booster. Attach the nuts. At this point the booster is attached to the pedal assembly. (Fig 7.)
24. Place the thin metal dust plate and rubber boot on the pedal bracket's connecting arm where it contacts the firewall. Another adjustment can be made with the additional flat rod included in the kit



Fig. 7.



Fig. 8.

25. Mount the pedal and booster assembly on to the firewall and hand tighten the mounting nuts.
26. Connect the brake pedal to the pedal swing arm inside the cabin area of the car. Secure the pedal attachment using its' original nut and bolt remove the wooden block and test the range of travel of the pedal. Adjust the clevis from Fig. 4. as necessary to your preferred pedal ride height.
27. Perform a final tightening of all four nuts that hold the bracket to the firewall.
28. Proceed to bench bleeding and installing the master cylinder onto the brake booster.

## BLEEDING MASTER CYLINDER

29. Use the plastic clip to secure the hoses that return into the reservoir so that the hose ends are below the fluid line.

**\*\*The hose tips must be submerged under the fluid level.**

30. Using a blunt tool or punch, push the pistons  $\frac{3}{4}$ "-1" in with a series of steady strokes to expel air bubbles. This may take several cycles to expel all of the bubbles. Do this until it cannot be compressed more than  $\frac{1}{8}$ ", & no air bubbles are visible.

31. Remove the bleeder kit. Install the lid.

32. Wipe off any excess brake fluid

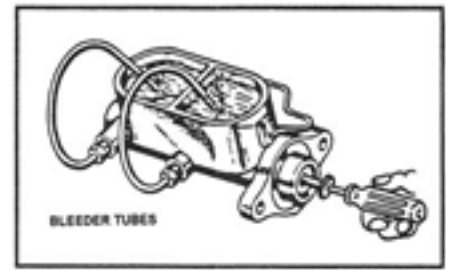
33. Position & place clean shop rags or towels in the engine compartment of the car to protect painted surfaces.

34. If mounting the master on a power brake unit with a short pin, install the piston adapter to make the shallow hole. If using a long pin, no adapter.

35. If you have yet to do so, remove the protective cover from the front of the booster to expose the front pin.

36. Mount the master cylinder on to the booster. Don't drop the adapter.

37. Torque the hex nuts to 20-25ft. lbs.



### INSTALL THE PROPORTIONING VALVE AND BRACKET (PROPORTIONING VALVE KITS SOLD SEPARATELY)

38. Be sure to install the correct brake valve for your application. Due to a wide range of applications, a brake proportioning valve is not included in the booster conversion kit.

39. If you already have the kit, attach brake line tube nuts to the master cylinder. Don't use Teflon tape.

### BLEEDING ON THE VEHICLE... NEVER USE OLD BRAKE FLUID!

40. Use a brake screw bleeder wrench to open and close the bleeder screws.

41. Bleed the wheels in this order. Right rear, left rear, right front, left front. (Bleed from farthest from the master cylinder to the closest).

42. Have an assistant pump the pedal 3-5 times and hold the pedal.

43. As you open the bleeder screw, the assistant follows/pushes the brake pedal all the way to the floor. When they reach the floor, you tighten the bleeder screw and the cycle repeats.

44. Bleed each wheel until no air comes out and there is only fluid. Wipe fluid.

45. Be sure to check the fluid level in the master cylinder frequently. Keep the reservoir full of fluid and the lid installed in the process. Remember to protect painted surfaces with rags.

46. You should notice the pedal requiring more effort to depress it as you progress towards the front left wheel.

47. Repeat the bleeding process until the brake pedal is firm and holds.

48. When done, remove the wheel chocks and release the emergency brake.

49. Test brakes slowly in a safe area away from other cars or objects by making a series of stops. Try a 5 mph stop, a 15mph stop, a 30mph stop & a 50 mph stop. Drive safely and responsibly.

50. Stop the car & check brake fluid level.

**51. Drive safely to get a "feel" for the braking action of your car.**