

631496
POWER BRAKE BOOSTER
CONVERSION KIT
1964-1972 GM A-BODY, 1967-1969 GM F-BODY,
1968-1974 GM X-BODY
[DISC/DRUM]



INSTRUCTIONS

INSTRUCTIONS ARE GENERAL AND WORK FOR MANY BUILDS

UNBOXING YOUR KIT:

1. Remove new booster, bracket assembly and master cylinder from their boxes and inspect the parts. Depending on what booster conversion kit you may have purchased you will be using a similar booster bracket & clevis/rod like shown below.

Common Booster Brackets



Pedal Rods & Clevis



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.

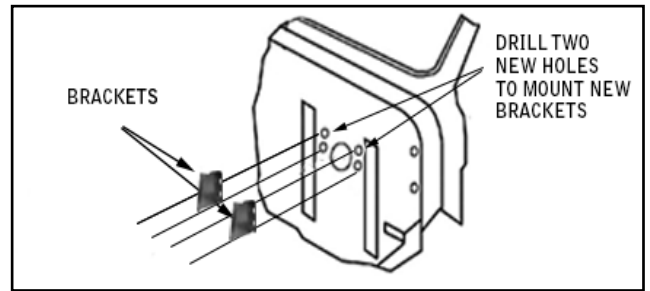


Piston Adapter

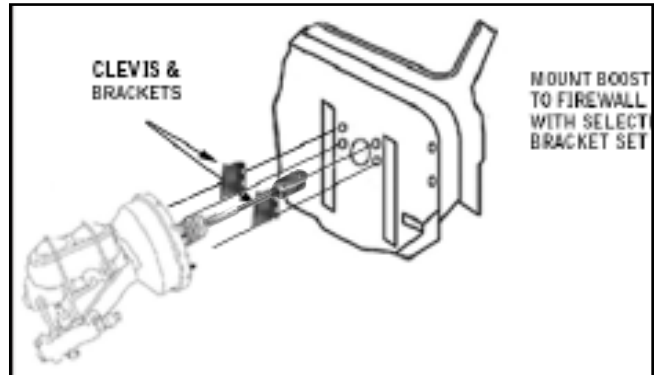
REMOVING AN OLD MASTER CYLINDER:

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.



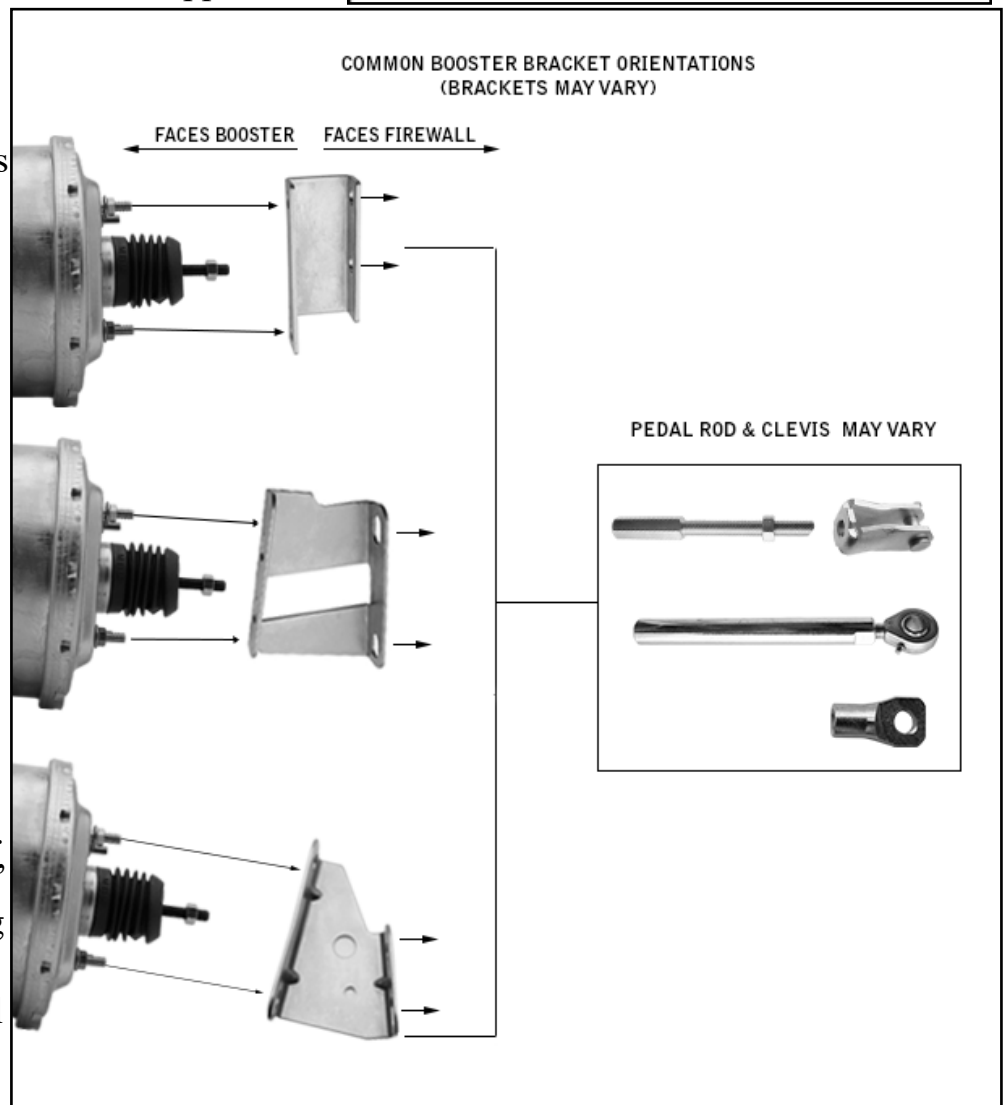
12. Clean the firewall where the master cylinder was mounted, and grind down any welded areas, re-paint if necessary. The bracket has to mount flush to the firewall.

13. Place the bracket up 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. Re-use the master cylinder mounting studs and fasten the nuts and cinch the bracket up to the firewall. Hand tighten the bracket on the firewall. Do not tighten the upper two bolts at this time.

14. With the new bracket assembly on the firewall, install the booster and guide its' pedal rod arm through the hole.

15. Using a wooden block or similar object, position the foot pad at the desired ride height versus the floor pan.

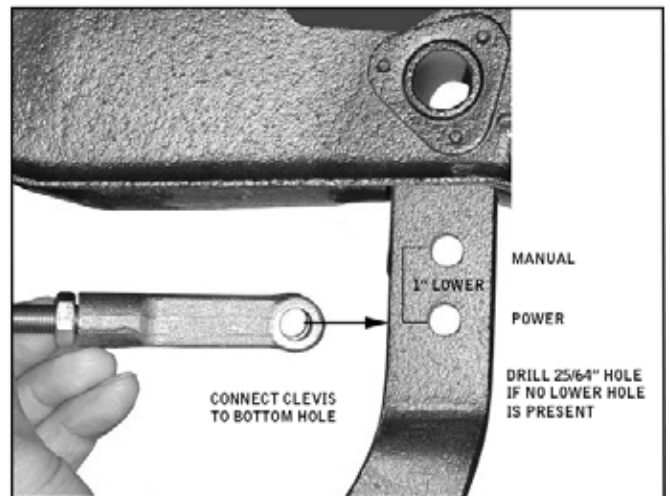
16. Connect the brake pedal 1" lower to to the pedal swing arm inside the cabin area of the car. Secure the pedal attachment using its' original nut and bolt remove



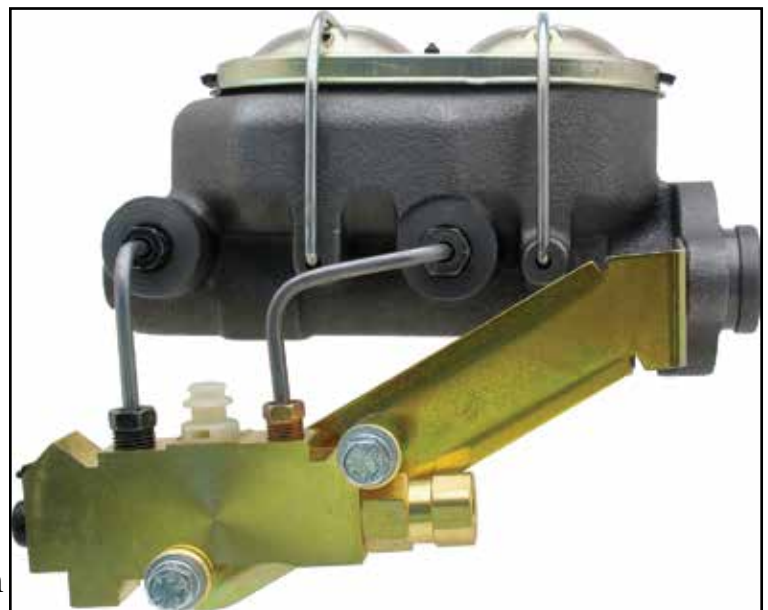
the wooden block and test the range of travel of the pedal. Adjust the clevis as necessary to your preferred pedal ride height.

17. Perform a final tightening of all four nuts that hold the bracket to the firewall.
18. Proceed to bench bleeding and installing the master cylinder onto the brake booster or installing proportioning valve kit if purchased.
19. If using a left mount kit steps 20-33.
If using a bottom mount kit steps 34-53.

**INSTALLING PROPORTIONING VALVE KIT
(LEFT MOUNT AS SHOWN)**



20. Verify that you have the following: 1 valve, 2 lines, 1 bracket, 1 harness connector, 1 bag that contains 2 bolts, 4 washers and 2 nuts (bottom mount only)
21. Place the valve on your work bench and position the valve as shown with the large hex nut end towards your right.
22. Position the bracket behind the valve and line up the bolt holes.
23. Next locate the small bag with the bolts and washers
24. Pick up both bolts and place a lock washer and then a flat washer onto each.
25. Insert the bolt through the valve into the bracket. Hand tighten it.
26. Install and hand tighten the second bolt with its' washers into the valve and bracket.
27. Next hand tighten the brake lines as shown.
28. The next step can be done with the master cylinder either on or off of the brake booster or firewall.



29. As a unit position the valve and bracket assembly up to the ports of the master cylinder.
30. Hand tighten each line (Do Not Use Teflon tape) as you place the brackets on to their mounting studs which are in front of the master cylinder mounting ears.
31. Use a flare nut or box end wrench to tighten the tube nuts on the brake lines.
32. Place the mounting nut onto the studs which the proportioning valve mounts. Tighten it down.
33. Connect the dash warning light connector to the factory harness.

INSTALLING PROPORTIONING VALVE KIT (BOTTOM MOUNT AS SHOWN)

Verify that you have the following: 1 valve, 2 lines, 1 bracket, 1 harness connector, 1 bag that contains 2 bolts, 4 washers and 2 nuts (bottom mount only)

34. Place the valve on its' edge with the white switch facing you on your work bench and position the valve as shown with the large hex nut end towards your right.

35. Place the bracket and valve in the position shown.

36. Position the bracket on top of the valve and line up the bolt holes.

37. Next locate the small bag with the bolts and washers, and empty the parts onto the work bench.

38. Pick up both bolts and place a lock washer and then a flat washer onto each.

39. Be sure to have the bracket and valve in a position that allows you to insert the bolts through the valve and through the bracket.

40. Push each bolt through the valve and bracket and secure the hex nuts. Hand tighten.

41. Locate the brake lines.

42. Identify which line will connect to which port on your master cylinder.

43. If you have a dual bail wire master cylinder, the lines will mount side by side.

44. If you have a single bail wire master cylinder, they cross in an X pattern.

45. Next hand tighten the brake lines as shown onto the valve.

46. The next step can be done with the master cylinder either on or off of the brake booster or firewall.

47. As a unit position the valve and bracket assembly up to the ports of the master cylinder.

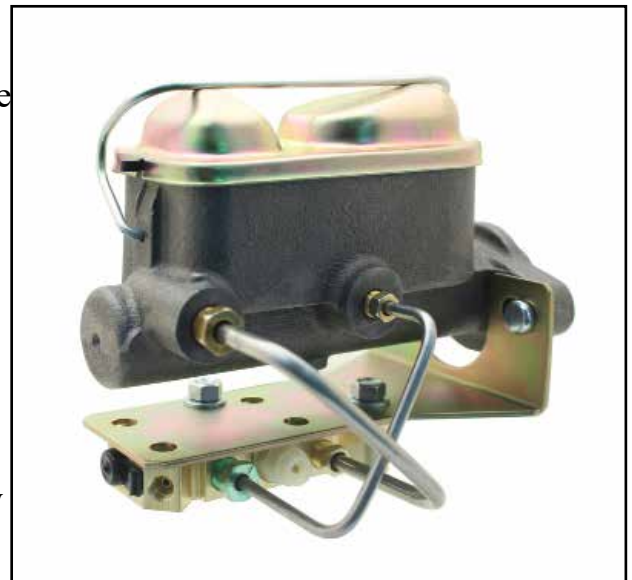
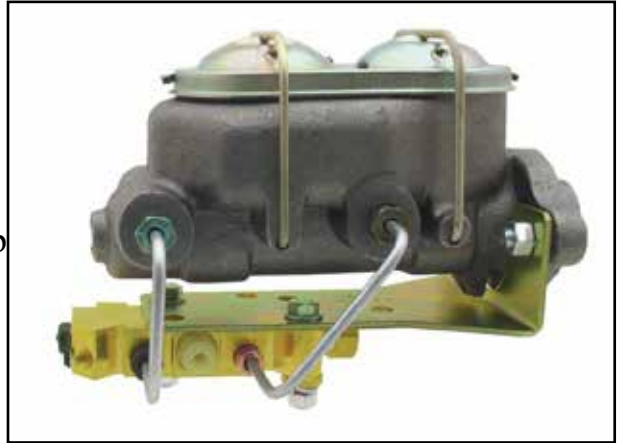
48. Hand tighten each line (Do Not Use Teflon tape) as you place the brackets on to their mounting studs which are in front of the master cylinder mounting ears.

49. Use a flare nut or box end wrench to tighten the tube nuts on the brake lines.

50. Once satisfied with the brake line positions, finish tightening the valve's brackets bolts and nuts.

51. Place the mounting nuts onto the studs which the proportioning valve bracket mounts. Tighten it down.

52. Connect the dash warning light connector to the factory harness.



BLEEDING MASTER CYLINDER

53. 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.**

54. 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.

55. Remove the bleeder kit. Install the lid. Wipe off any excess brake fluid.

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

57. 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.

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

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

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

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

61. 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.

62. 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!

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

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

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

66. 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.

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

68. 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.

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

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

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

72. 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 15 mph stop, a 30 mph stop & a 50 mph stop.

Drive safely and responsibly.

73. Stop the car & check brake fluid level.

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

