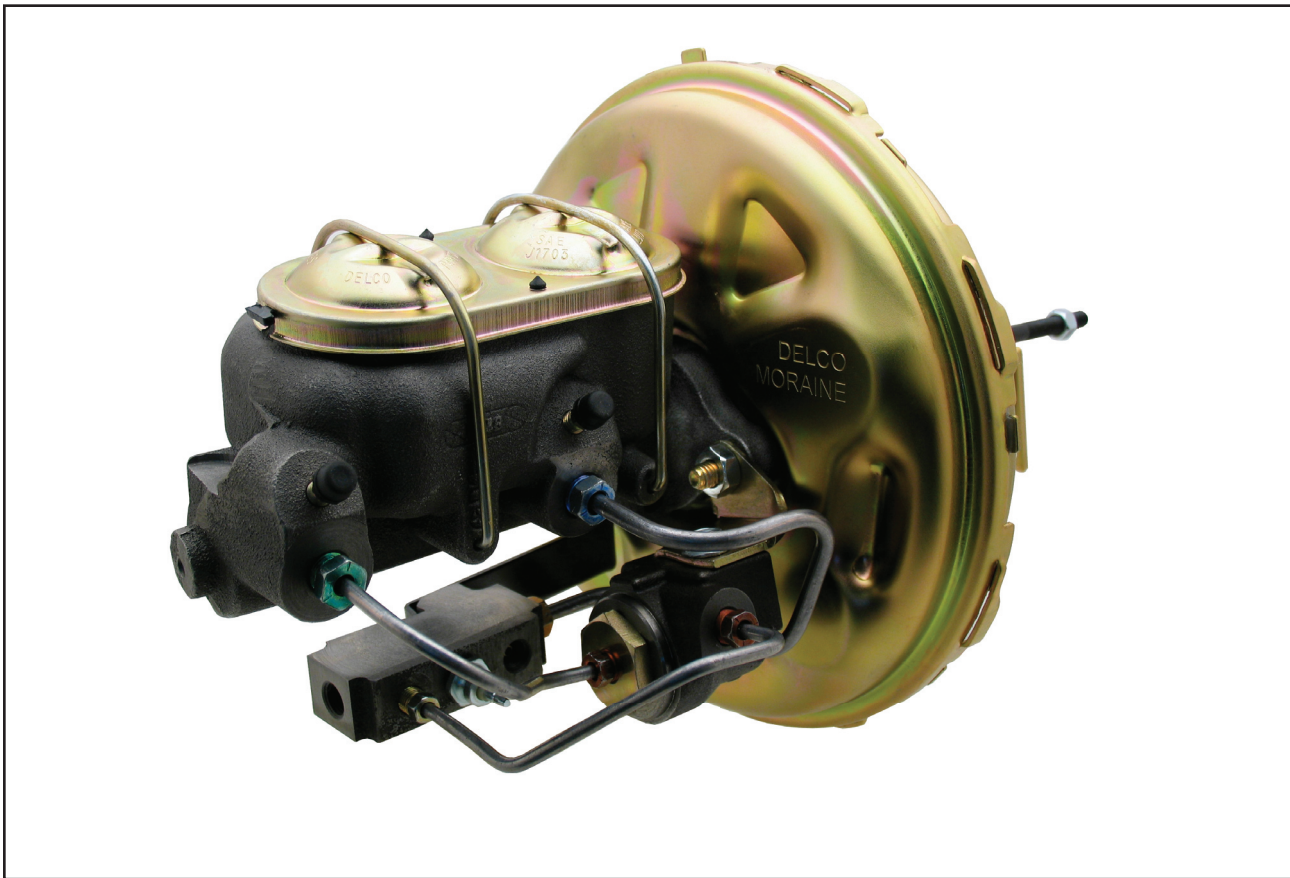




555-631150

DELCO-MORAINE ORIGINAL LOOK BOOSTER CONVERSION KIT



INSTALLATION INSTRUCTIONS

NOTE: ALWAYS REFER TO THE VEHICLE OWNER'S MANUAL FOR CORRECT TORQUE SPECIFICATIONS WHEN INSTALLING KIT.

Installation Instructions

WARNING Proper operation of your brakes is essential for your safety and the safety of others. Any brake service should be performed **ONLY** by persons experienced in the installation and proper operation of brake systems. It is the responsibility of the person installing any brake component or kit to determine the suitability of the component or kit for the particular application. After installation, and before operating your vehicle, be sure to test the function of the brakes under controlled conditions. **DO NOT DRIVE WITH UNTESTED BRAKES!**

IMPORTANT Take time to read all the literature that came with this kit. Before beginning installation check the provided list of parts against what you received to ensure that all parts are present. While this kit was designed to make the process of changing brake parts as simple as possible, **NOTE: WITH SOME KITS IT MAY BE NECESSARY TO MAKE MINOR CHANGES TO YOUR CAR! READ ALL WARRANTY DISCLAIMERS AND RETURN POLICIES INCLUDED IN THIS KIT PRIOR TO INSTALLATION!**

NOTE Always utilize safety restraints when operating the vehicle. The installation of disc brakes will require the use of 15" wheels. Any attempt to install disc brake with a 14" wheel will be the customer's responsibility.

NOTE This kit is an aftermarket solution. It is not intended to be a direct installation or OEM replacement. Due to changes in production in certain years, your car may require modifications beyond these instructions for this kit to install properly.

PARTS INCLUDED WITH THIS KIT:		
PART #	DESCRIPTION	QUANTITY
PB11001	Delco Moraine 11" Single Diaphragm Booster	1
MC309	GM Restoration Cast Iron Master. 1" bore. 9/16" and 1/2" ports	1
PV5	Distribution Block	1
PV68	Hold Off Valve with bracket	1
BCK5005 Line Set	Line kit (4 lines)	1



Installation Instructions

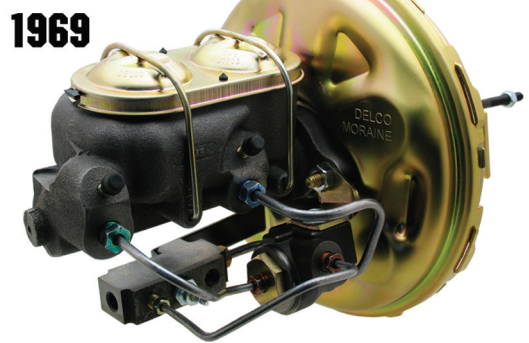
MOUNTING BOOSTER

1. Mount booster. If manual originally, drill power pattern on Firewall, IF OE was power this is a direct bolt in.
2. Connect booster shaft to the brake pedal swing arm. If originally manual attach to 1" lower hole on swing arm.
3. Bench bleed and mount master cylinder using built in bleeder screws. Tighten screws when done.

PROPORTIONING VALVE SUB-ASSEMBLY

The next steps involve installing the hold off and distribution valves to the master cylinder ports and mounting them to the booster studs shared with the master.

1. On your workbench, place the PV5 on the left with the flat side down so the bracket points up. The electrical connector should be facing towards you right.
2. Now set the PV68 on the right of the PV5 with the large hex nut facing you
3. Next take the shortest brake line 1/2-20 and 3/8-24 and screw the 3/8-24 fitting into the large hex nut on the end of the PV68. Hand tighten this only and position the line to come above the PV5(id fittings)
4. Now there are three lines left, take the two that are very similar and set them aside.
5. You should then be left with a line that has 4 bends in it and then beginning and end fittings are close together.
6. Put this line in your right hand with the opening facing the left.
7. In a right to left motion position this line around the PV68 and screw the fitting into the end port of the PV5.
8. *Now one of the remaining two lines will NOT be used.*
9. So if you have a 1967- 1968 model car, you will use the shorter line. In a right to left motion, position the line so that it would attach to the PV68 and the end of the PV5. Hand tighten these fittings. -OR-
10. If your car is a 1969, you will use the longest line. So in a right to left motion, position the line so that it attaches to the PV68 and the fitting next to the electrical connector on the PV5.



ATTACHING SUB-ASSEMBLY TO MC

1. Now that the subassembly of valves and lines is complete, remove the nuts securing the master cylinder.
2. Connect the brake line from the subassembly to the mc
3. Secure subassem. on the brake booster studs and attach lines
4. You may now bleed your brakes.

TEN REASONS FOR A POOR BRAKE PEDAL

CAUSE	REASON
Bleeder screws on calipers not on top.	The bleeder screws on calipers must be at the 12:00 position on the caliper to allow all the air to escape during bleeding. A very common mistake installers will make is to reverse the side the caliper goes on giving you a situation where the caliper bleeder screw is facing down. It's also common to use the wrong caliper on a bolt on disc kit giving a situation where the bleeder hole is shifted from the 12:00 position producing a pocket of air at the top of the caliper bore which can not be dislodged. Check your bleeder hole orientation.
A defective master cylinder which does not hold pressure.	If brake fluid bypasses a pressure seal on a master cylinder you will get a pedal that fades. To test for this obtain two inverted flare plugs at an auto parts store and plug both master cylinder outlets. Try your pedal. If the pedal is high and firm the master is good. If the pedal fades the master is bad. Replace master as necessary.
No residual pressure valve to rear drums.	Drum brakes require the use of a 10 Ib residual pressure valve in the line. This residual pressure counter balances the drum brake spring tension keeping the shoes close to the drums. This results in a higher firmer pedal. You can test this by clamping off the rear hose removing the rear drums from the system. Now test your pedal. If the pedal gets better you will need to splice a 10 Ib residual pressure valve into the rear line.
Hard line that loops up.	Hard brake line that loops up and then back down will tend to trap air. It doesn't take much air to cause problems so check your lines carefully.
Incorrect master cylinder.	If the bore size of the master cylinder is too small for the fluid requirements of the system you will get a very poor pedal. This will happen most frequently with four piston calipers and with four wheel disc brakes. The only solution for this is to install a larger bore master cylinder or a true four wheel disc master.
Incorrectly bled or adjusted rear calipers.	Rear calipers that have an internal parking brake with a lever can be troublesome. These calipers must be adjusted so that the piston is moved out and the pads are close to the rotor. If this initial adjustment is not made the pistons will travel outward during activation but no squeezing of the rotor will occur. This can be checked by clamping off the rear hoses and checking if the pedal gets better. Adjust as necessary.
Incorrect booster pin length.	The booster pin that pushes on the master cylinder must almost be touching the master cylinder piston face. A gap larger than 1/32" will begin to introduce a spongy pedal. Adjust as necessary.
Silicone brake fluid.	While silicone fluid is great because it does not attack paint it also aerates very easily and can give a spongy pedal.
Rear wheel cylinders too large.	Rear drum wheel cylinders that are too large will give a poor pedal. Check as in step six above.
Loose front wheel bearings.	Loose front wheel bearings will cause rotor wobble. This will cause the caliper pistons to retract too far into the caliper giving a spongy pedal every time you hit the brakes. Check and adjust as necessary.

UNIVERSAL FRONT DISC BRAKE CHECKLIST

Spindle properly secured to ball joints and tie rods with castle nut and cotter pin.
All mounting bolts properly tightened.
Wheel bearings properly packed with grease.
Inner bearing must be installed before grease seal.
Rotor I bearings slide onto spindle with ease.
Washer, castle nut properly torqued and cotter pin installed.
Calipers installed and properly torqued.
Spin rotor and check for any interference. (If any interference is found, resolve problem before driving vehicle.)
Flex lines are properly installed with no interference.
Power booster (if applicable) installed properly.
Master cylinder bench bled according to the instructions.
All brake lines are properly tightened and free of leaks.
Turn wheels lock to lock and check for any interference.
Place wheel onto vehicle and spin the wheel to make sure there is no interference between the brakes and wheel.

UNIVERSAL REAR DISC BRAKE CHECKLIST

All bolts on base bracket properly tightened.
All caliper mounting bolts properly tightened.
Rotor slides onto axle with ease.
No interference with rotor and any other parts (splash shield, brackets, etc.).
Caliper is centered over the rotor (because of difference in axle lengths, you may have to shim caliper in or out).
No interference with caliper and rotor.
All brake lines are tight with no leaks.
Parking brake is properly adjusted and not dragging, with vehicle on ground.
Adjustable proportioning valve installed (if applicable).
Distribution block modification made (if applicable).
Brake system properly bled.

IMPORTANT WITH EVERY NEW SET OF ROTORS AND PADS, YOU SHOULD GIVE YOUR VEHICLE 200 - 250 MILES OF EASY DRIVING TO PROPERLY SEAT THE PADS TO THE ROTORS. DO NOT TAKE THE VEHICLE UP TO 60 MPH AND JAM ON THE BRAKES BEFORE THE FIRST 200 - 250 MILE BREAK IN PERIOD IS OVER, OR YOU WILL GLAZE THE PADS AND ROTORS.

