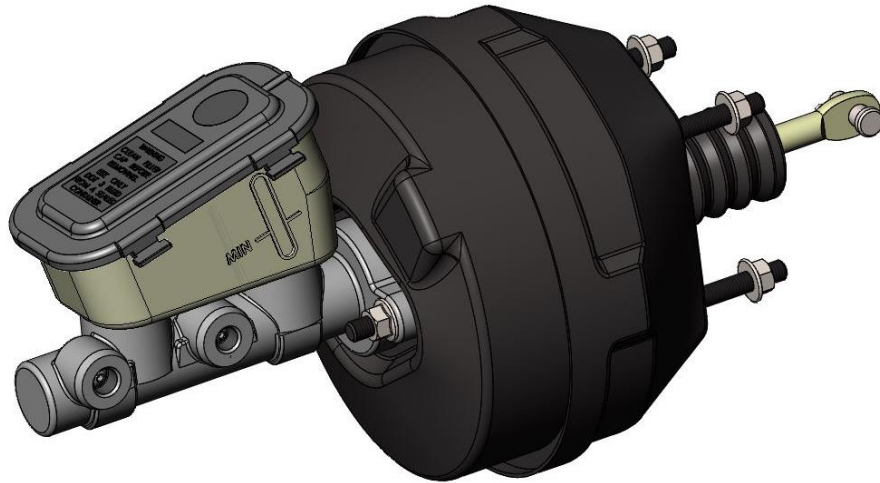




Master Power Brakes Power Brake Booster Conversion Kit 1985-1987 Buick Regal & Grand National P/N: BM18745-1



Thank you for your purchase of our Power Brake Booster Conversion Kit for the 1985-1987 Buick Regal and Grand National applications. This system is designed as a direct bolt-in replacement for the stock Powermaster unit.

Installation Notes:

- Please read all instructions before attempting the installation.
- Proper operation of your brakes is essential for your safety and the safety of others. Any brake service should be performed by a professional technician experienced in the installation of brake systems.
- Any installation requiring you to remove a wheel or gain access under the vehicle requires use of jack stands or a lift appropriate to the weight of the vehicle. In all cases, recommended ratings for jack stands should be at least 2-tons. If using a floor jack, be sure to use the appropriate wheel chocks.
- All installations require proper safety procedures and protective eyewear.
- A selection of hand tools sufficient to engage in the installation of these products is assumed and is the responsibility of the installer to have in his/her possession prior to beginning this installation. All installations, which require removal of hydraulic hoses and/or bleeding of the brakes, require appropriate fitting/line wrenches, as well as a safety catch can and protective eyewear. Other than these items, if unique or special tools are required, they are listed in the section for that step.
- **ALWAYS CONFIRM WHEEL FITMENT PRIOR TO BEGINNING THE INSTALLATION OF ANY BRAKE SYSTEM!!** Returns will not be accepted for ANY installed part or assembly. Use great care to prevent cosmetic damage when performing wheel fit check!
- Before starting the installation, verify that all parts are included with the brake kit. If items are missing, notify Master Power Brakes immediately.
- Master Power Brakes recommends the use of a high-quality DOT 3 or DOT 4 brake fluid. **ALL WARRANTY IS VOID IF DOT 5 FLUID IS USED.**

If you have any questions regarding installation, feel free to contact Master Power Brakes at (888) 351-8781 or through our website at www.mpbrakes.com.

Parts List	
Quantity	Description
1	9" Dual Diaphragm Brake Booster w/ Pushrod Installed
1	1" Bore Master Cylinder
1	Plastic Vacuum Tee
1	Aluminum Vacuum Block with Mounting Gasket & Hardware
4	3/8"-16 Flanged Hex Nuts
1	7/16" OD x 1.00" Long Clevis Pin
1	1/8" OD x 1.00" Long Cotter Pin
1	Vacuum Hose Kit (Includes Syringe Bleeder, 3/8"-NPT Fitting and Vacuum Hose)

1. Remove the existing Powermaster unit from the vehicle.
 - a. Depressurize the Powermaster unit, with the engine off, by stepping on the brake pedal approximately 20 times.
 - b. Remove the brake lines from the Powermaster unit, along with the electrical harness that go from the Powermaster unit to the vehicle.
 - c. Under the dash, remove the Powermaster unit pushrod from the brake pedal.
 - d. While under the dash also remove the 4 nuts that attach the Powermaster unit to the firewall.

2. With the Original Powermaster unit removed, the brake pedal must be removed from the car to drill a hole for the new pushrod. Remove the brake pedal by removing the brake pedal pivot bolt at the top of the brake pedal arm. With the pedal removed it is necessary to drill a 7/16" diameter hole 1.500" lower than the original pushrod mounting stud. Refer to Figure 1 below for reference.

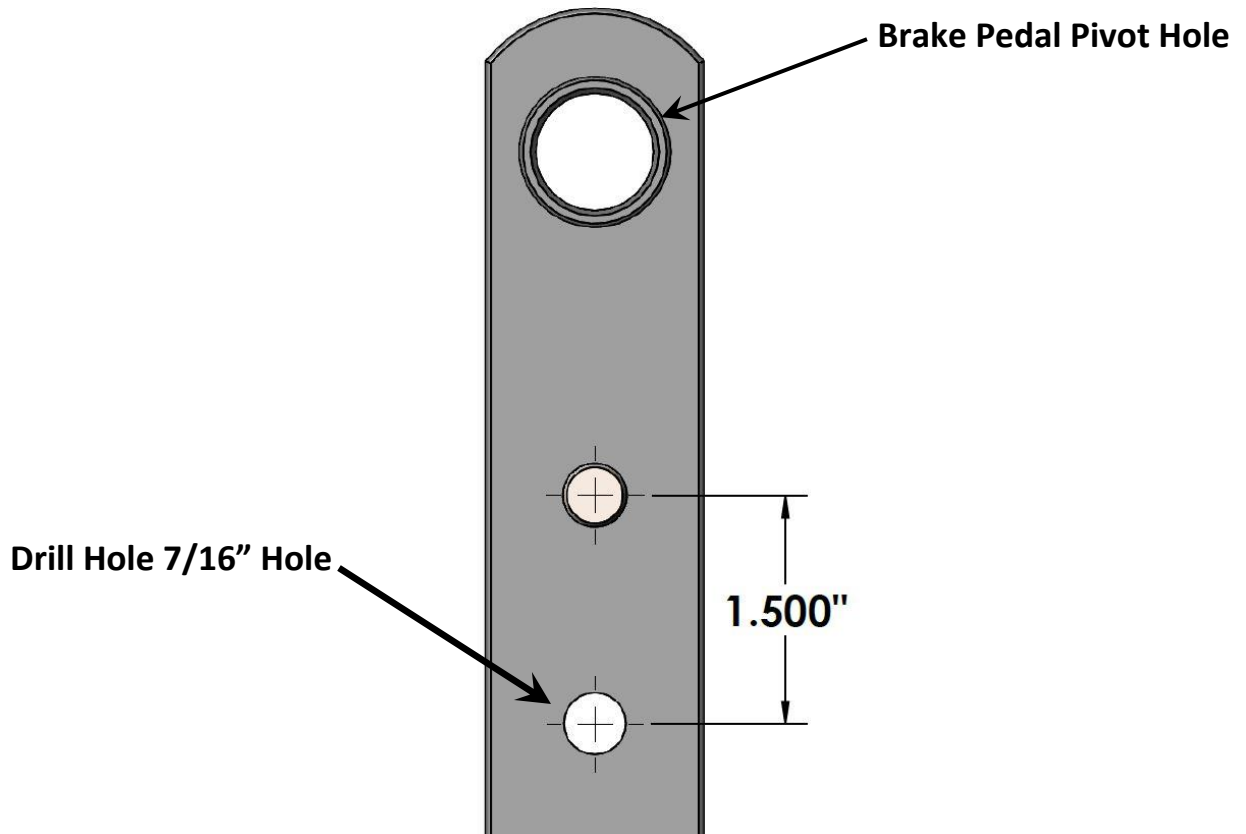


Figure 1 – OE Manual Brake Car Pedal Modification

3. Reinstall the brake pedal back into the car.
4. Test fit the booster assembly to the firewall to verify proper clearance between the engine along with any support braces or other accessories within the engine compartment. **NOTE:** Due to manufacturing inconsistencies along with various options for product placement, minor modifications or relocating of components may be necessary.
5. After test fitting, remove the assembly from the vehicle and separate the master cylinder from the booster for bench bleeding. There are two methods that can be used for bench bleeding the master cylinder. They are listed below:

Syringe Bleeding (Tools provided in system)

1. Position the master cylinder in a vise clamped by a mounting ear.
2. Pour brake fluid into each chamber of the master cylinder to between $\frac{1}{4}$ and $\frac{1}{2}$ full.
3. Using the syringe with the rubber tip attached, fill the syringe using the fluid in the master cylinder chamber. Fill the syringe to about half full.
4. Press the rubber tip to the port on the master cylinder. Holding the syringe firm against the master cylinder, inject the fluid into the master cylinder. The fluid as it flows into the master cylinder will turn from bubbles in the chamber to a steady stream of fluid.
5. When pulling the syringe away from the master cylinder, fluid will drip from the port so have a damp towel handy to wipe off the master cylinder especially if you have painted it.
6. Plug the port with the provided plastic plugs from the Vacuum Hose Kit included with the system.
7. Once a steady stream has been detected, empty the syringe of fluid and then repeat steps 3 through 6 from above for the remaining port.

Hose Bleeding (Tools not provided in system)

1. Position the master cylinder in a vise clamped by a mounting ear.
 2. Pour brake fluid into each chamber of the master cylinder to between $\frac{1}{4}$ and $\frac{1}{2}$ full.
 3. Thread the plastic fittings into each port on the master cylinder and attach the hoses to the fittings. Route the hoses into the chambers on the master cylinder and secure. Make sure the hoses are submerged into the fluid.
 4. Using a large Phillips screwdriver inserted into the end of the master cylinder piston, press the piston slowly into the master cylinder and release. Repeat until there is no air coming from the hoses.
 5. Remove the hoses and fittings from the master cylinder. When removing the fittings from the master cylinder, fluid will drip from the port so have a damp towel handy to wipe off the master cylinder especially if you have painted it.
 6. Plug each port with the provided plugs from the Vacuum Hose Kit included with the system.
6. Reinstall the master cylinder back onto the brake booster and install the unit to the firewall. Using the provided Flanged Hex Nuts, tighten the hardware.
 7. Re-position the booster assembly back on the firewall and attach using the provided 3/8"-16 Flanged Hex Nuts. Place the pushrod on the brake pedal and install the provided 7/16" clevis pin through the pushrod and the newly drilled hole in the brake pedal and insert a cotter pin for retention. Some adjustment may still be necessary for proper brake lamp switch operation and pedal position. **REMEMBER:** If pedal adjustment is still necessary, be sure to leave adequate free play at the top of the pedal to avoid any unnecessary application of the brakes.

8. Next route the vacuum lines to the booster assembly. Routing of the vacuum lines vary depending on if the car is equipped with a turbocharger or not. They are listed below:

Turbo Equipped Regals

1. With the engine cooled down, remove the vacuum lines from the original vacuum block on the throttle body. **NOTE:** If the vacuum lines were damaged during removal or are showing signs of dry rotting or cracking, replace the vacuum lines. Use only vacuum hose, not fuel line.
2. Once the vacuum lines have been removed, remove the original vacuum block. Be sure to clean the mating surface of the throttle body so that there is no old gasket material left on there.
3. Install the vacuum lines onto the provided Aluminum Vacuum Block. Once all 5 of the vacuum hoses are connected install the Aluminum Vacuum Block to the throttle body, making sure to install the provided gasket between the throttle body and vacuum block.
4. Route the provided 11/32" Vacuum Hose from the brake booster to the single large hose barb fitting on the side of the vacuum block.

Non-Turbo Equipped Regals

1. Cut the vacuum hose that is coming from the P.C.V valve (Positive Crankcase Ventilation) and install in the provided Plastic Vacuum Tee.
2. Route the provided 11/32" Vacuum Hose from the brake booster to the hose barb fitting that is left on the Plastic Vacuum Tee.

IMPORTANT: For proper operation of the brake booster, the engine must produce 18" of vacuum. Anything under 18" vacuum will produce a firm pedal.

9. Route the brake lines from the master cylinder to whatever valve is being used in the system. Refer to Figure 2 below for proper orientation of the brake lines to the master cylinder. If installing with a Master Power Brakes Combination Valve and bracket, refer to those instructions on proper plumbing of the valve.

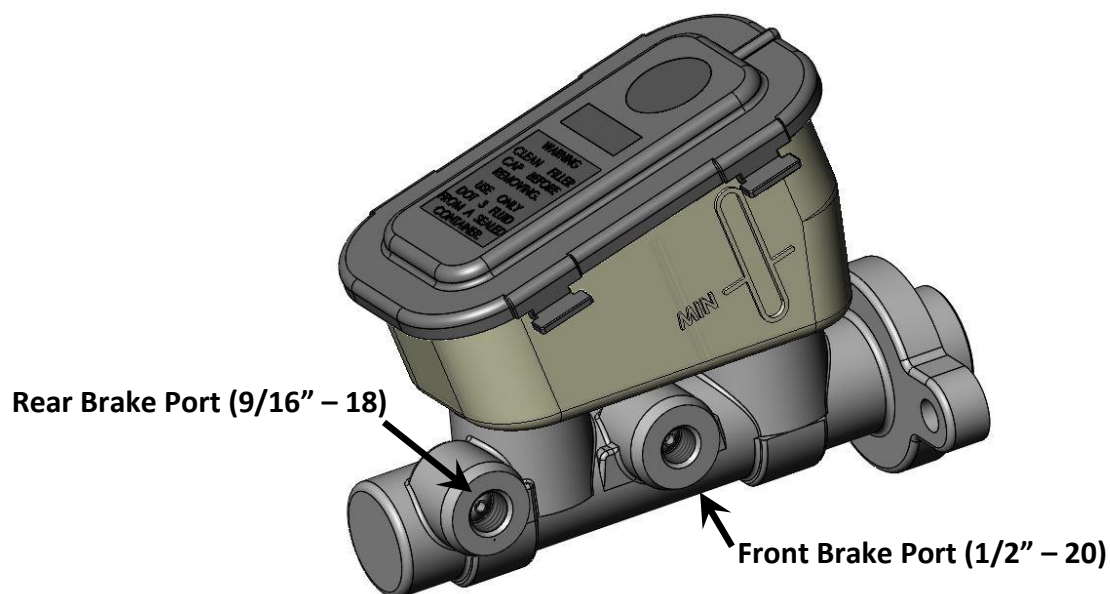


Figure 2 - Brake Line Orientation

10. Bleed the remaining portion of the brakes system. **REMEMBER:** Use only DOT 3 or DOT 4 fluid in your brakes system. Anything else will void the warranty of the master cylinder.
11. The installation of the Power Brake Booster Conversion Kit is now complete.

If you have any questions or comments, please call Master Power at (888) 351-8781.