



Upper Assembly

1. Remove the old master cylinder assembly

Remove the master cylinder brake lines being careful not to get fluid on any painted surfaces. Remove the eyelet from the pedal rod under the dash. If your original system was power, you should be able to remove the booster mounting nuts from the firewall and remove the booster/master assembly. If your original system was not power, simply remove the master cylinder mounting nuts from the firewall and remove the master cylinder.

2. Mount the new master cylinder and booster assembly

- a. Bolt your power booster to the four studs on the firewall
- b. Place the master cylinder onto the front of the booster and bolt it in place with the locknuts provided with your kit
- c. Supply vacuum to the booster check valve

Note: After you remove your original booster or master cylinder and bolt on the new booster you may be left with a hole in your firewall. We have a plate that we can send you in this circumstance. Please call our tech line for further assistance.



3. Install and adjust the pedal rod

Hold the brake pedal approximately 1/8" down from the stop. Adjust the pedal rod so that when connected the pedal will be at this location 1/8" down from the stop. After you have adjusted the pedal rod connect the eyelet to the pedal. Be sure to tighten all jam nuts on the pedal rod to lock it in place after all your adjustments are made.

4. Install the Adjustable Proportioning Valve

This valve controls the pressure to the rear brakes. This valve will need to be spliced into your front to rear brake line. This would be the line that runs from the distribution block on your frame under the master to the flex hose in the rear of your car.

After you have bled the brake system in the following step adjust the valve using the following procedure. You simply open it all the way up by turning it as far counter clockwise as it will go. Then do a couple of test panic stops with your car in a safe area like an empty parking lot. If the rear brakes **do not** lock up while doing this then you are all set, you do not need to further adjust the valve. If your rear brakes **do** lock up during the panic stop test then you need to adjust the valve. To do this turn the valve clockwise to reduce the pressure to the rear brakes, then do another panic stop test. Continue this procedure until the rear brakes no longer lock up during a panic stop.

5. Bleeding the system

Working your way forward from the wheel farthest from the master cylinder will help insure a good bleed and a firm pedal. It is important to bleed the system in the following order:

1. Right Rear
2. Left Rear
3. Right Front
4. Left Front

If you have a spongy pedal, be sure the bleeder screws are pointed up and try re-bleeding the system.

Solutions Guide

to commonly asked questions.

Why is my brake pedal soft?

1) In most cases, Air is trapped in the lines or calipers. Try re-bleeding the system. Do not force new fluid into new brake lines. It may foam and be very difficult to bleed. **Make sure that the bleeder screws on the calipers are facing upward!**

2) If all the air is out of the system, the pushrod from the booster may need adjustment, under the dash, to make it longer. Do not extend it too long or it will not allow the fluid to return, causing brakes to drag. Your pushrod may not be adjustable. If the pushrod can be made longer, try ¼ turn adjustments at a time. Summit stocks adjustable pushrods for many vehicles. In addition, the pushrod between the Booster and the Master Cylinder may need adjustment. Not all Booster to Master pushrods are adjustable.

3) You may have a bad Master Cylinder. Before you determine this, you should make sure that all the air is out of the system. When installing a new Master Cylinder, always bench bleed first. If you did not, take off the Master Cylinder and bench bleed it. (See Bench Bleeding Instructions below)

Why does the car pull to one side?

The side that the car is pulling to is the caliper that is working. Re-bleed the opposite side and try carefully stopping again.

Why does it feel like there is no Power Assist?

The Booster may not be getting enough vacuum to operate. On some high lift cams, the engine does not develop enough vacuum. The Booster needs at least 16" of vacuum to operate correctly at idle. If you do not have at least 16 inches of vacuum at idle, you may have to add a vacuum pump to your system.

Check for vacuum leaks. There may be leaks in the intake manifold or hoses that would cause low vacuum. The Booster may be bad. Do a vacuum test. If the Booster can retain a vacuum for three (3) minutes after the vehicle is shut off, it is not a bad Booster (refer to steps 1 & 2). All Master Cylinders must be bench bled in a vise before being installed on the vehicle.

How do you bench bleed a Master Cylinder?

Secure one of the ears in a vise so that you can take a large screwdriver and push the piston in. Fill the reservoir with clean fluid. Take a dummy line or our M/C bleeding kit and hook it up to the two ports. Front line to front and rear line to rear reservoirs. Slowly stroke the master and let it return slowly. You should see many air bubbles in the fluid. Repeat this step until you do not see any more air bubbles. Summit recommends ten (10) slow pumping strokes after you see no more air bubbles. This will insure a good hard pedal. (See Summit master cylinder bleeder kit instruction Sheet)

What is the best pad for my vehicle?

Your choice of pads should be determined by how and where you drive the vehicle. If you drive in heavy stop and go traffic you would need a different pad than someone who is road racing. Contact Summit for the correct application.

How often should brake fluid be changed? (street application only, not racing)

When brake fluid turns brown, it is time to change the fluid. The brown color indicates that the fluid has absorbed water and dirt. D.O.T. #3 & #4 fluids absorb water. Silicone brake fluid is not for track racing.

How can I tell which reservoir is the front or rear of the Master Cylinder?

The front reservoir is usually larger than the rear. In some cases, they are the same size. As a rule, for GM cars & trucks, the rear reservoir is for the rear brakes. On Ford cars & trucks, the front reservoir is for the rear brakes. On front wheel drive vehicles, the brakes are split diagonally. Each bowl of the master cylinder services one front wheel and one rear wheel. This will be important if you are installing a distribution block, proportioning valve, or residual valve. Hint: The larger bowl will feed the disc brakes.

Where is the best place to install a proportioning valve?

The best place to install a proportioning valve is after the distribution block. **Do Not install it between the Distribution Block and the Master Cylinder.** You will not be able to get a hard pedal. Anywhere after the Distribution Block and before the rear flex hose is acceptable for installation.

Why should the flex hoses be replaced? They look O.K. from the outside.

Flex hoses should be replaced every time the calipers are serviced. They flex up and down, just like a shock absorber. They are also under high pressure internally. Flex hoses have a rubber liner that will collapse over time. If it does collapse, it will act as a check valve and not allow fluid to return to the Master Cylinder.

Will my pedal get harder by replacing the flex hoses?

No. When the flex hoses are replaced, re-bleed the brake system. Normally what happens is that bleeding causes a harder brake pedal. A better bleeding job and taking your time will result in the same situation.

Are the rubber flex hoses expanding causing a soft pedal?

Not likely. A soft pedal is usually a sign of air in the system due to poor bleeding. Flex hoses have nylon webbing that is molded into the internal rubber. It is very strong and will hold up to 3,000 P.S.I. Installing braided stainless steel hoses is not necessary; it only improves appearance.

How much brake pressure does it take to stop my vehicle?

Most vehicles, power or non power brake, develop 1,200 P.S.I. When you panic stop or jump on the brakes hard, a surge of 1,400 P.S.I. can be achieved. If a factory proportioning valve installed on the vehicle, the rear brakes are only developing 600 – 700 P.S.I. Drum brakes require lower pressure because they grab more quickly. When rear disc brakes are installed, the rear brake pressure may be increased to 800 – 1,000 P.S.I. or more. A good way to check the pressures and to see if the system is working correctly, use a pressure gauge screwed into the bleeder port. A vehicle with less than 600 P.S.I. will not stop!

How tight should the wheel bearings be?

The front bearings should always be torqued. Not just hand tightened. Bearings usually require 12-15 Ft./Lbs. of torque. Then you will probably need to back off a little to align the cotter pin hole. Do Not over tighten; the bearing life will be shortened. This procedure only applies to rear wheel drive vehicles with separate bearings and races. On vehicles with one piece sealed bearing assemblies or hub assemblies, refer to a service manual.

What type of differential fluid should I use in my rear axle?

If you have positraction, use a Hypoid or Limited Slip additive that is designed for your particular rear end. If you do not have positraction, any type of 80 –90 weight gear lube is acceptable. Fluid should be changed often if you are trailering or any type of extreme usage. This fluid does brake down with time and usage.

Technical Support

We want your conversion project to go smoothly. Double check that you have followed these instructions correctly and those included with any upgrade components you may have purchased. If you need additional help getting your new disc brakes to function properly, we're here for you. Please feel free to give us a call at 552/852/2462

Thank You for Your Business!



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