



Ford 8", 9" Small Bearing

Installation Instructions Rear Disc Conversion



This kit is for Ford 9" rear axles with the small (2.835") style bearing and Ford 8" rear ends. This kit is designed to work with axles with either GM 5 x 4.75 Bolt Pattern and 7/16" wheel studs or Ford 5 x 4.5 Bolt Pattern and 1/2" wheel studs. Rotor center measures 2.78".

NOTE: This kit will push your wheels out an additional .125" per side, longer wheel studs may be required after installation of this kit

Rotor Measurements:

Rotor Center = 2 3/4" - Rotor Hat Section Inside Diameter = 6 5/16"
You will need to modify your axles if they will not fit inside the rotor hat and you will need to modify the rotor if the center hole is too small for your axles.

Attention: Before modifying, painting, or powder coating any part of this kit, please trial fit all components and check rim clearance. We recommend you run 15” or larger wheels with this kit. We do not support the use of 14” wheels on this kit.

Modified, Painted, and Powder Coated parts are not returnable!

***Note:** The emergency brake cables provided in the kit are generic length cables. They are of a generic length.

If you ordered a non-ebrake kit your kit will not contain emergency brake cables.

Disclaimer:

Uwo o kTceki values your safety above all things. For this reason, we recommend all brake systems and components be installed by professionals. The installer of the brake parts is responsible for ensuring fitment and suitability of the parts for the vehicle it is being installed on. Brakes should be tested in a controlled open area with success before driving on the road. If you are unsure or uncomfortable with any part of your kit, please call for further instructions from our tech staff before driving.

Installation Instructions:

1. Prepare the car

Begin by securely supporting the car on jack stands. Chock the front wheels to be sure vehicle does not roll. Always work on a flat, even surface. Remove the wheels to gain access to the factory drum brakes.

2. Remove the old drum brakes

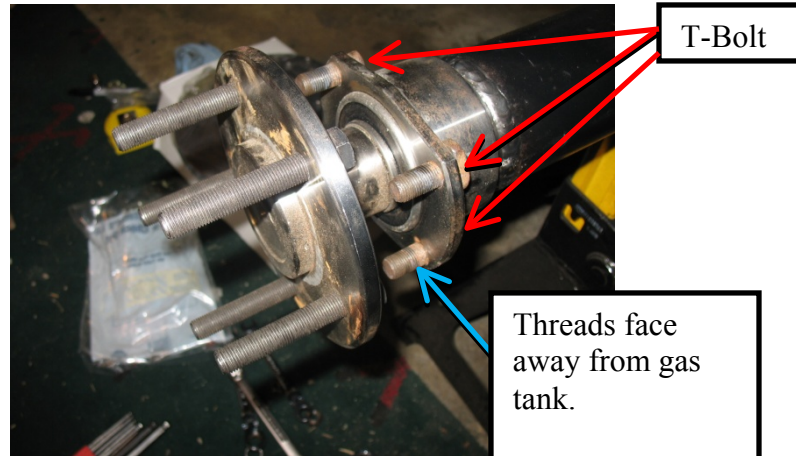
Remove the original axles from the vehicle. *Keep your original T-bolts as you will need them to install the new brackets.* After the axles are out, you can unbolt the drum brakes and remove them as a complete assembly. There is no need to remove the drum shoes and hardware before removing the backing plate. Dress the front and back of the axle flange with some steel wool or a wire brush to prepare it for the new caliper brackets. You may need to remove the factory bearing retaining plate that is between the wheel stud flange and the pressed on bearing. The axle flange plate that is included in this kit (bracket #1) replaces the plate that is on your axle. If you do need to remove the plate it will need to be cut off of the axle because it is between the pressed on axle bearing and the wheel stud flange. If you do not want to cut it off you will need to remove your pressed on bearing, remove the plate, then repress your bearing onto the axle.

3. Re-install the axles

Reinstall the axles into the rear end housing. When you are finished removing all of the drum hardware and reinstalling the axles you should be ready to install the new caliper mounting brackets.

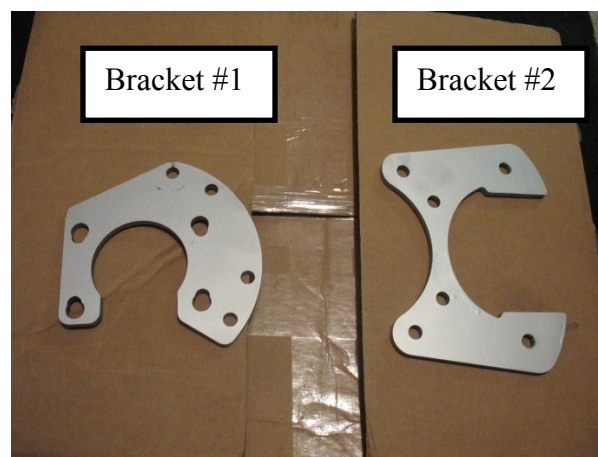
4. Install the axle flange bolts

The new caliper brackets mount to the front (outboard) side of the axle flange. Take four of the 1/2in T-bolts and place them in the holes of the bracket the axle tube is on the car (shown below). The threads of the T-bolts should be facing towards the outside of the car away from the gas tank (shown below).



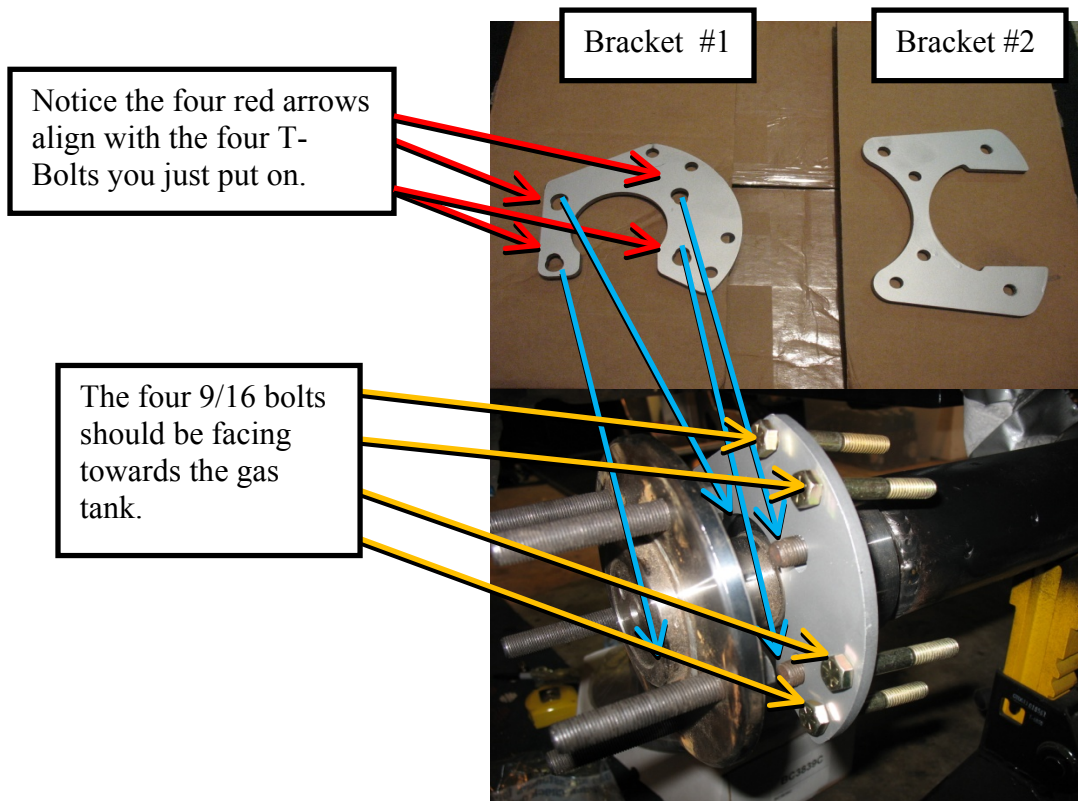
5. Install the new axle flange brackets

Separate out the 4 brackets that are in the kit (shown below).



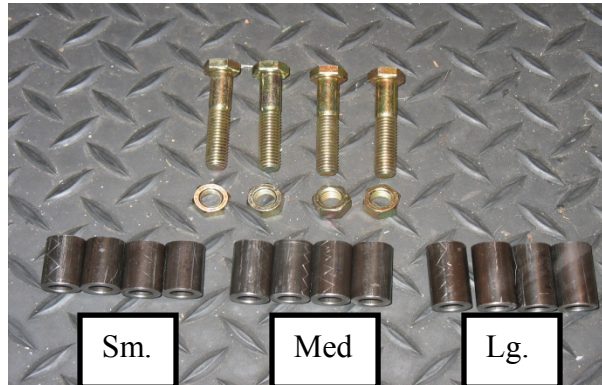
Take bracket #1 (shown below) and align it with the T-bolts you just installed. The curved part of the bracket #1 can point towards the front or rear of the car. This will determine if your caliper is going to be front mounted or rear mounted. As a general rule of thumb, you mount the caliper on the opposite side of the axle than the shock is on. Caliper clearance is the issue here. If your caliper will clear the shock it is ok to mount

the calipers on the same side of the axle. * The rear axle bearing sticks out of the axle housing 1/16" to 1/8". This is normal. When you install the axle flange bracket (Bracket #1) there will be a 1/16" to 1/8" gap between the flange bracket and axle flange. **Use the supplied 1/16" spacers to fill the gap between Bracket #1 and your axle flange, you may need to use stack two of the spacers to fill the gap.** This will provide enough support so that the bracket does not bend when you tighten the bracket to the axle flange. Attach the four T-bolt nuts to the T-bolts and tighten them in a star pattern using a 3/4 wrench or socket. Torque the axle flange brackets to 55 ft/lb. Take the four bolts supplied and put them through the other four holes in bracket #1 and have them facing towards the gas tank.

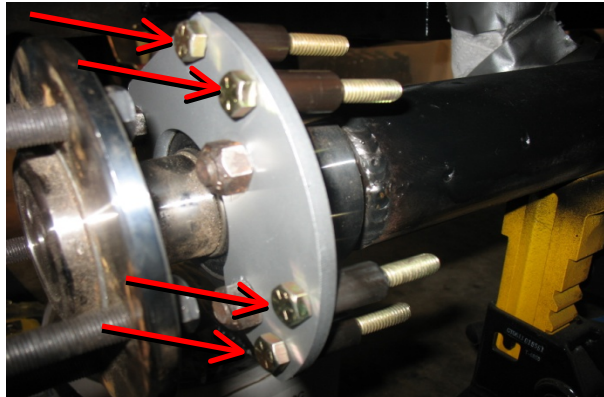


6. Install the caliper bracket spacers

We have supplied 3 sizes of spacers to be used on your application. The rotor spacing on rear ends can vary, so we have supplied 3 different sizes for trial and error.

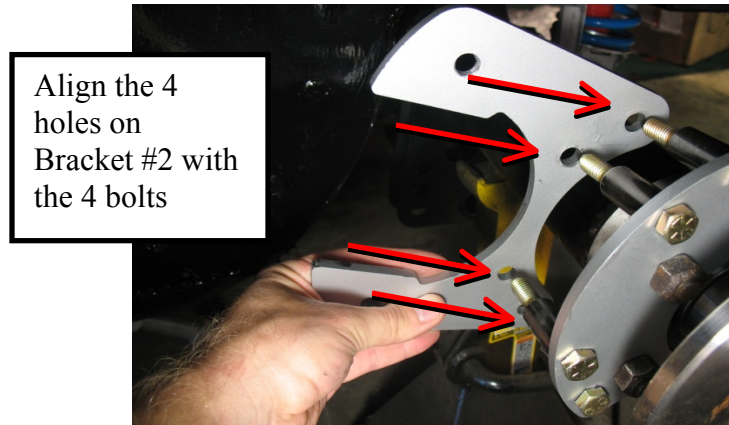


Start with the medium sized spacer and place them on the four bolts you just put on. (Shown below).

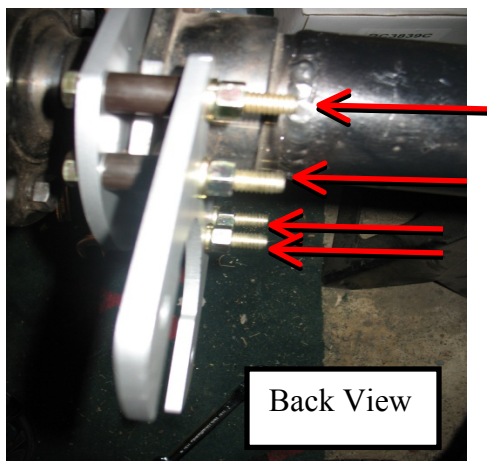


7. Install the caliper mounting brackets

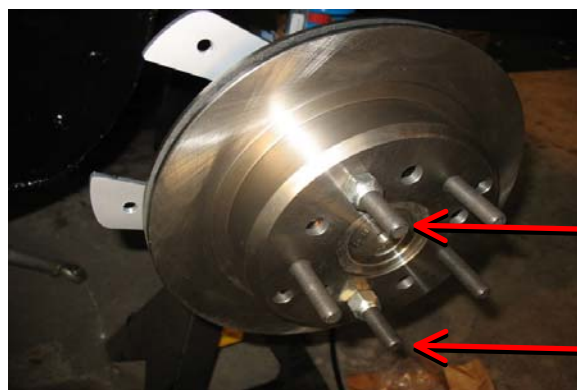
Take bracket #2 and align it so the four holes on bracket #2 match the bolts that are in bracket #1. (Shown Below)



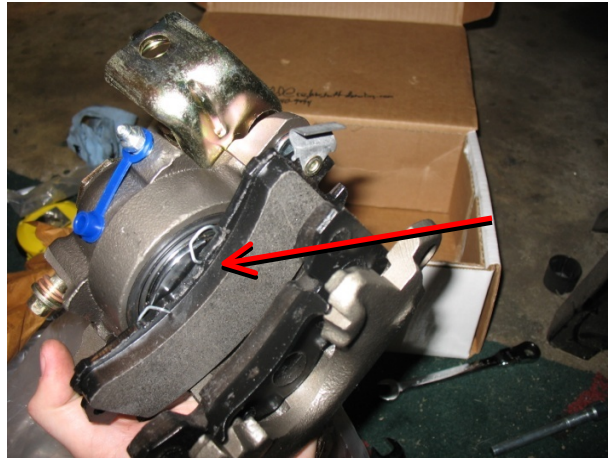
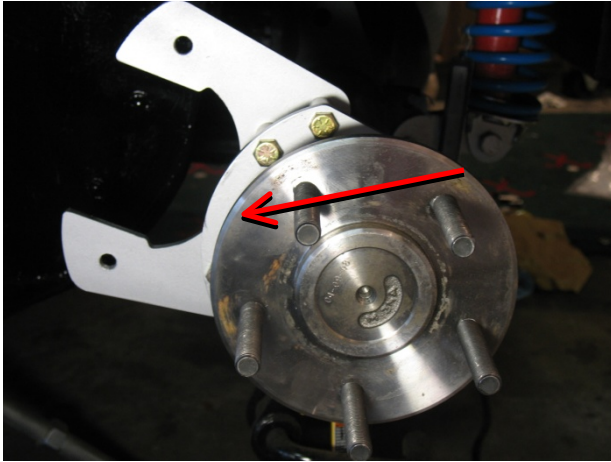
Take four of the eight nuts and lock washers and tighten down bracket #2 to bracket #1.



Slide the rotor onto the studs. The rotors are drilled for both Ford and Chevy bolt pattern. Hand thread two lug nuts to seat the rotor in place for test fitting.

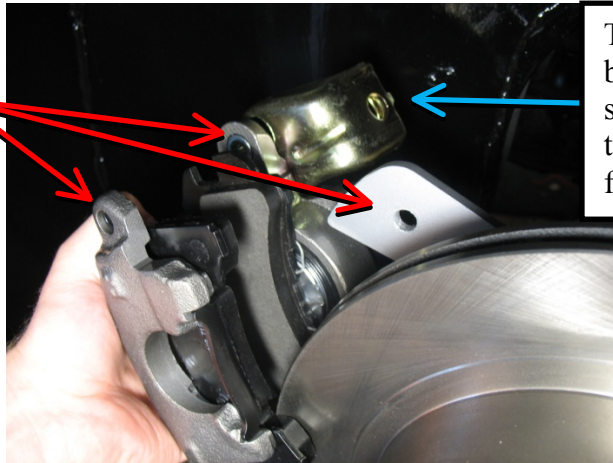


Take out the caliper and notice how Bracket #2 and the contour of this caliper shown below fit.



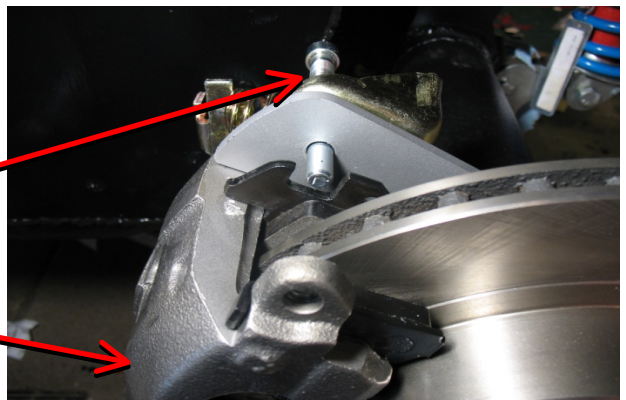
Slide the caliper into position, have the brake pads go on each side of the rotor and the two mounting holes on the caliper will match up with the two holes in Bracket #2.

You can see the two mounting holes on the caliper and the mounting holes Bracket #2.

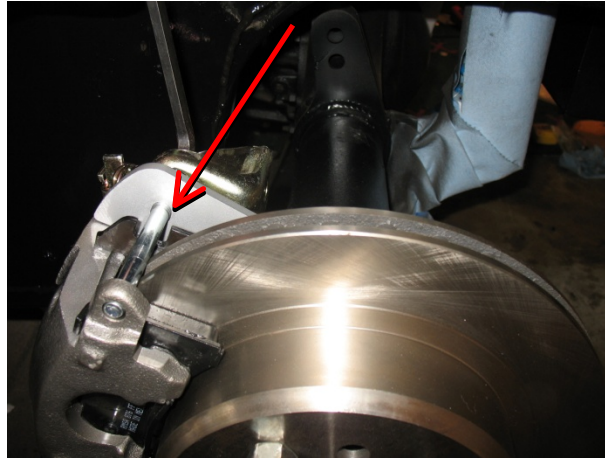


The zinc plated bracket with spring attached to it needs to face upwards.

With the caliper on the rotor and in Bracket #2 we can use the two caliper bolts to secure the caliper in place using a 3/8" allen wrench and torque to factory specs.



You now have the caliper in its final location. We need to check how tight the brake pad is against the rotor. If you can't move the brake pad with your fingers go down a spacer size. If the brake pad is really loose go up a spacer size. You are looking for just a little bit of movement between the pad and the rotor on both sides of the rotor. If there is too much or too little movement please go back to step 6 and try either the smaller or larger spacers to correct your caliper/rotor spacing issue.



8. Attach the flex hoses

Remove the banjo bolt and copper washers from the caliper. Place a copper washer on top of the flex hose and insert the banjo bolt. Place the second copper washer over the banjo bolt on the bottom of the flex hose and bolt the hose onto the caliper with the specifications provided in the assembly manual.

9. Install the emergency brake cables and adjust the calipers

You rear disc conversion comes with new rear emergency brake cables. You'll use the existing intermediate and front cables on your car. Run the cable up thru the center of the spring and insert the metal bung on the end of the cable securely into the notch on the emergency brake lever. Attach the other end to your existing intermediate cable using the included hardware. Some rare instances require shortening of the intermediate cable.



After the cables are installed, you need to adjust the system. Engage and release the emergency brake lever several times to activate the self-adjustment mechanism built into the calipers. You'll know you've got it when emergency brake is fully engaged and the rear wheels will no longer turn by hand. If your rear caliper pistons do not ratchet out by use of the e-brake arm on the caliper follow this procedure to get the piston to extend the brake pads to the rotor surface. Remove the spring and the e-brake arm from the caliper. Turn the threaded bolt extending from the body of the caliper by hand or with the aid of a wrench. Continue to turn the bolt until the brake pads come in contact with the rotor. After the desired adjustment is achieved reattach the e-brake arm and the spring onto the caliper. Continue with the bleeding procedure.

Note: It is important that you regularly use the emergency brake to keep them properly adjusted.

10. Install the flex house mounting tabs

Install the flex hose mounting tabs pictured below that are included in your kit. Before installing these tabs you either need to shorten your existing rear axle lines or purchase a pre-shortened rear axle line set. The shortening of the rear axle line is necessary to compensate for the flex hose coming off of the caliper. As a general rule of thumb your lines will be about 6" – 8" shorter than the factory lines. Mount these tabs where your hard lines end. They will need to be tack welded to your rear axle housing. It is ok to tack weld the tabs after your rear end has been assembled. After they have been welded to your axle housing, insert your flex hose into the bracket and secure with the flex hose clip provided. After you have secured your hose into the bracket, screw your axle line into the end of the flex hose and tighten it with a wrench.



11. Bleed the system

If you are concerned with the damaging effects of DOT 3 brake fluid, Uwo o k'Tceki suggests synthetic DOT 5. Uwo o k'Tceki "is not liable for damage caused by system fluids.

Make sure the emergency brakes have been adjusted properly as discussed in step eight before bleeding the brakes. 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

Attention:

The bleeder screws must be positioned horizontally. If the bleeders are pointed down, the calipers will trap air and the system will not bleed properly. You can remove the caliper mounting pins and rotate the caliper to re-position the bleeder. Remember to keep the pads over the rotor when rotating the caliper. This is to ensure the pads do not close too much to be able to get them back over the rotors once the bleeding process is finished.

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.

Thank You for Your Business!



The information contained in this document is based on information we believe to be true and reliable, however the accuracy or completeness thereof is not guaranteed.