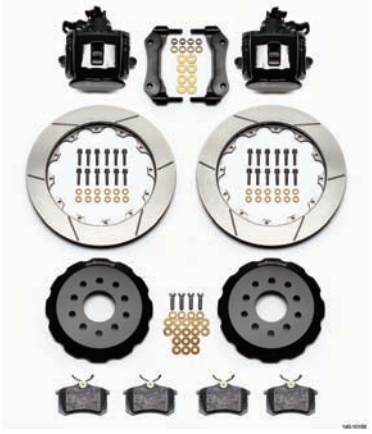
STOPPING A GALLOPING PONY

Installing Wilwood disc brakes on a strong running 2002 Mustang GT

The Wilwood part number 140-9107 front brake kit comes complete with the Superlite 6R calipers, caliper brackets, SRP rotors, BP-10 brake pads, and all of the hardware required to finish the brake installation.

The Wilwood part number 140-10159 rear brake kit comes complete with CPB calipers, caliper brackets, SRP rotors, BP-10 brake pads and all of the hardware required to finish the brake installation.

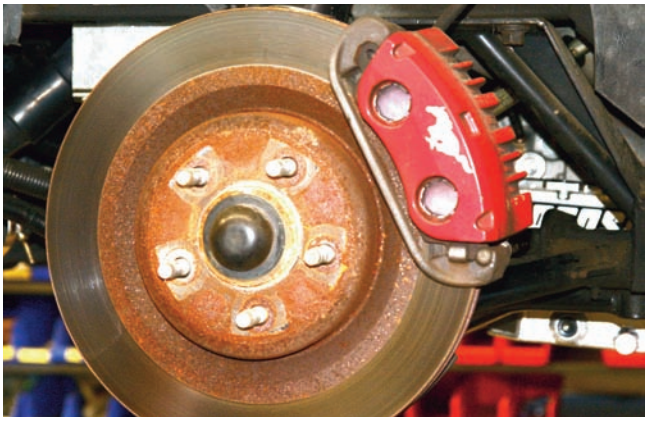


The Ford Mustang has gained legendary status over the 46 years it has been produced. There were good years, great years, bad years and eventually some really fast years and that included 2002 when this Mustang was built. The Mustang started in a new direction in 1982 when Ford introduced the Mustang GT with a strong running 5.0-liter engine. The Ford engineers were able to squeeze the most out of the little 302ci engine for street use and the aftermarket companies and racers squeezed out even more for drag racing. Chevy didn't even have something comparable and because of that Mustang sales skyrocketed. The management team at Ford was aware of the Mustang's success and why it was happening, so they invested in the car in terms of engine power and styling.

This 2002 Mustang is one of the nicest looking Mustangs to be released and it is powered by a strong running Modular engine. If you have ever had the opportunity to drive a 2002 Mustang you know that it featured tight, high-quality construction and it was available with all of the best options. That option list included many high performance features that make this Mustang excellent on the street and certainly track worthy. This particular Mustang has been upgraded for track use under the hood and in the suspension department, so it only made sense to upgrade the brakes. If you are going faster, you need high-performance brakes to slow you down.The owner of this Mustang wanted to improve the car with Wilwood part number 140-9107-R front brakes, part number 140-10158-R rear brakes and Wilwood part number 220-6458 front brake lines and 220-10417 rear brake lines. The front brakes feature Billet Superlite 6R calipers and they squeeze against GT-48 12.90-inch diameter rotors in the front and CPB rear calipers squeezing against SRP 12.88-inch diameter rear rotors.

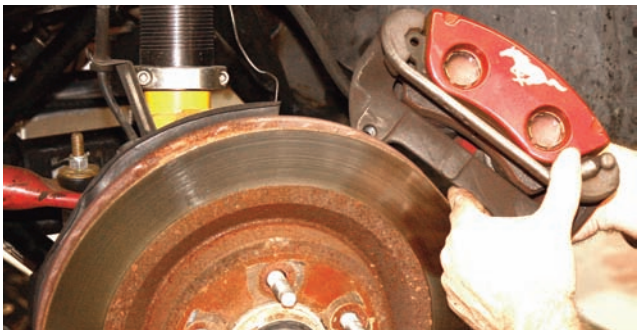
Wilwood recommends persons experienced in the installation and proper operation of disc brake systems should only perform the installation of this kit. A hobby builder can install this kit if he has good mechanical knowledge and ability, car building experience and a good assortment of tools. You will need a floor jack and jack stands, an impact gun, SAE and metric wrenches and sockets, an inch-pound torque wrench, and a foot-pound torque wrench. Other items that will come in handy include a bottle of Loctite 271, Teflon tape and Wilwood Hi-Temp 570 Racing Brake Fluid or Wilwood EXP 600 Plus Hi-Temp Racing Brake Fluid. We are going to show you how this installation is done so you can decide for yourself if you can perform this installation or if it would be better to have a professional do it for you.

The front of the Mustang was elevated on a floor jack supported by jack stands, and then the front wheels and tires were removed with an impact gun and the correct size socket.



After the wheels and tires were removed, you can see the original Mustang disc brake system.

Using an impact gun to break the bolts loose, the caliper bolts were disconnected. The impact gun certainly speeds things up when it can be used.



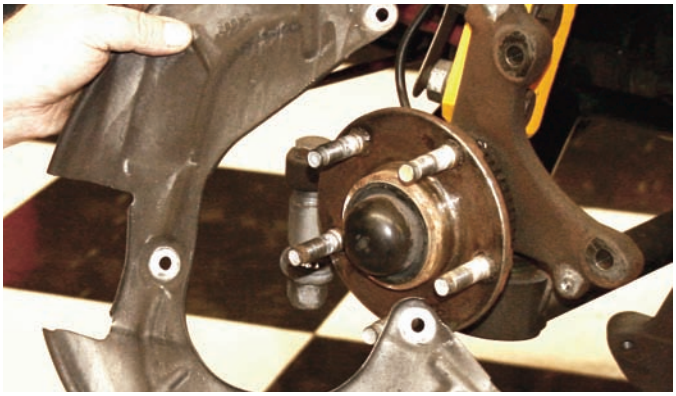
After the bolts were disconnected, the caliper could be removed from the caliper bracket. For now the caliper will be placed out of the way until the hose is removed. The bolts should be retained because they will be used to mount the Wilwood caliper bracket.

After the caliper was out of the way, the rotor was removed from the hub assembly. Sometimes the back of the rotor has to be tapped with a rubber mallet to break it loose from the centering ring.

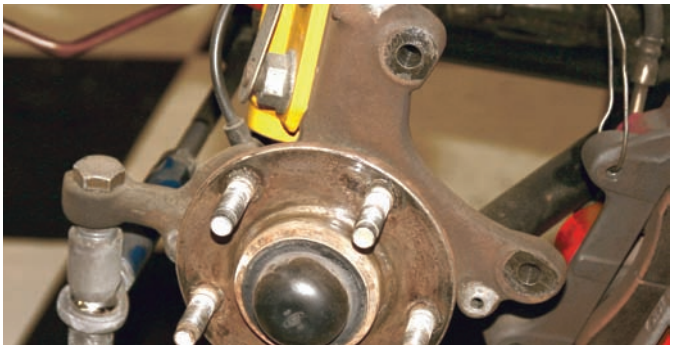
The hub assembly was cleaned with a wire brush to remove any grease or debris.

The dust shield must be removed from the hub assembly. Ford connects the dust shield with large pop rivets so the heads were drilled out.

After the heads are drilled, the center of the rivet was punched out using a center punch and a hammer.

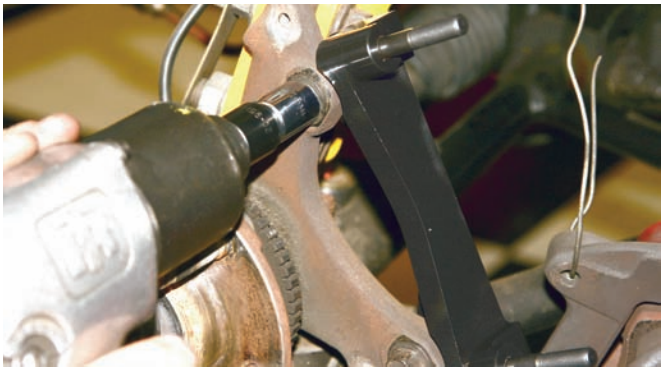


After the three rivets were disconnected, the dust shield was removed from the hub assembly. This shield will no longer be required.

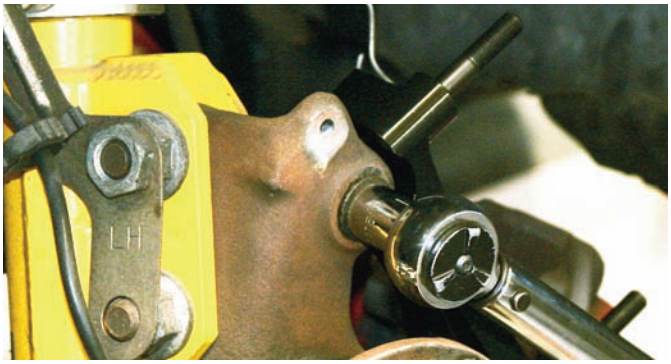


Looking at the hub assembly with the dust shield removed, you can see the two mounting ears that will be used to mount the Wilwood caliper bracket.

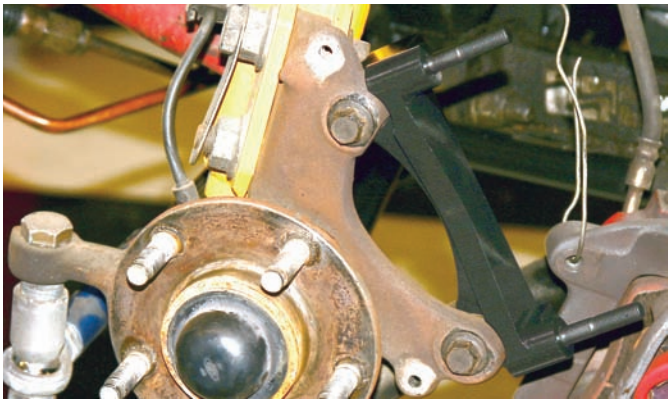
The original Mustang caliper mounting bolts will be used to mount the Wilwood caliper bracket. Here the bolts are installed and they are being loaded with a 0.033-inch thick washer.



Starting by hand, the caliper bolts were threaded into the caliper bracket. After the bolts were started they were connected with the impact gun.



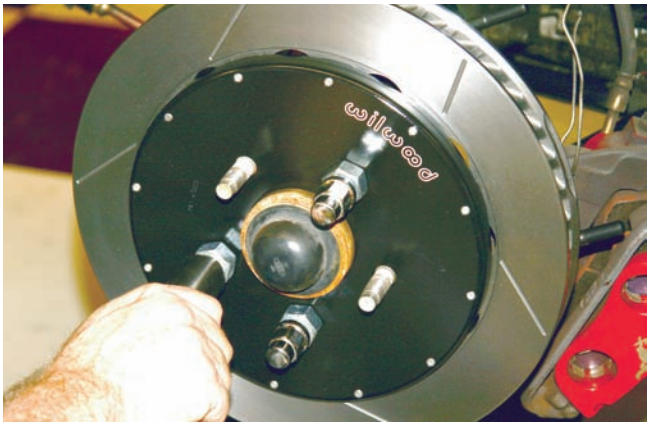
After the caliper to rotor centering was correct, the original Ford bolts were tightened to 65 ft-lbs using a foot-pound torque wrench.



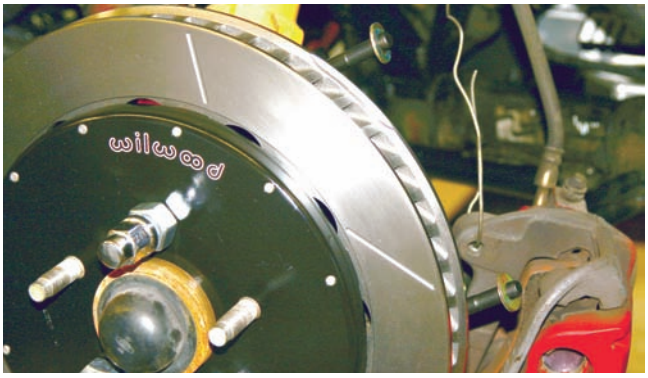
Here is the caliper bracket after it is mounted. This mount can be adjusted for rotor centering by adding or subtracting shims between the bracket and the mounting ears.

Before the installation can proceed, the rotor and hat have to be joined together. The small ¼-inch bolts were coated with Loctite 271 prior to installation.

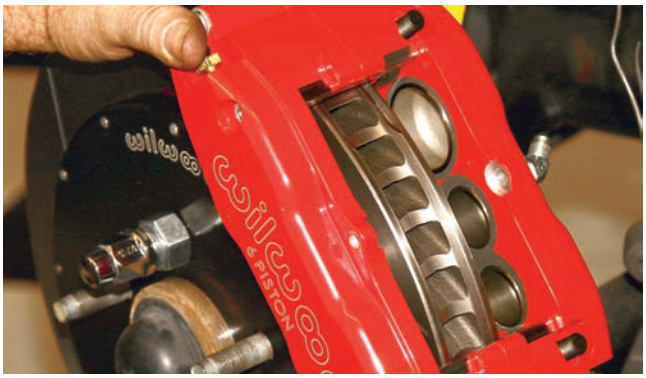
The rotor was bolted to the hat assembly and the bolts were tightened in an alternating sequence to 85 in-lbs using an inch-pound torque wrench. After the bolts are tight, they should be secured with safety wire following the safety wire instructions on the instruction sheet.



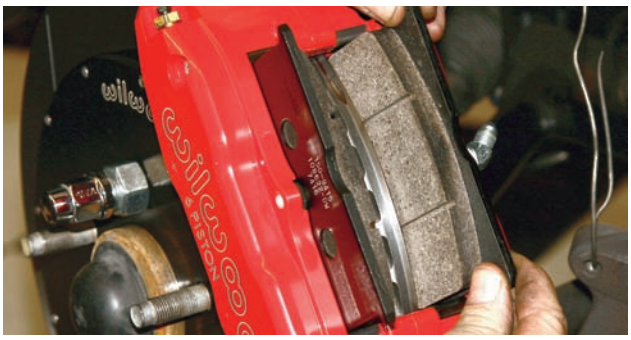
The rotor was installed on the hub assembly and it was secured with a few lug nuts so the caliper to rotor centering can be checked.



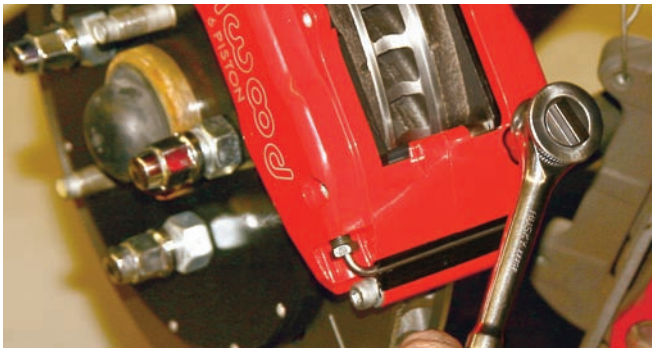
Looking at the caliper mounting studs you can see the washers being loaded on. One 0.035-inch thick washer should be used per stud.



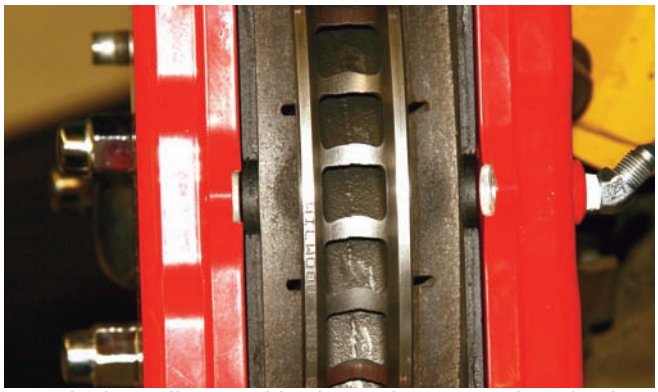
The caliper was mounted on the studs and the rotor to caliper centering was perfect. Here you can see the inside of the impressive six-piston caliper.



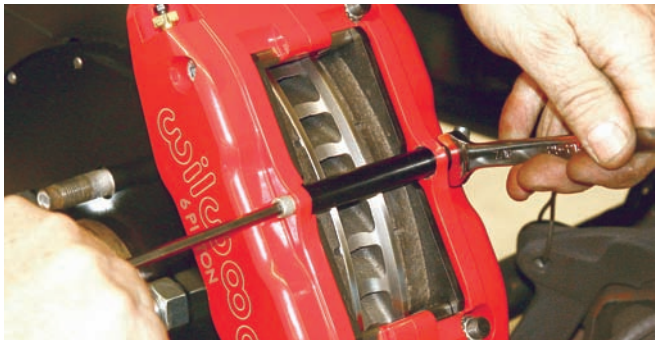
The BP-10 Smart Pads were installed from the top and they will be held in place with the center bridge bolt.



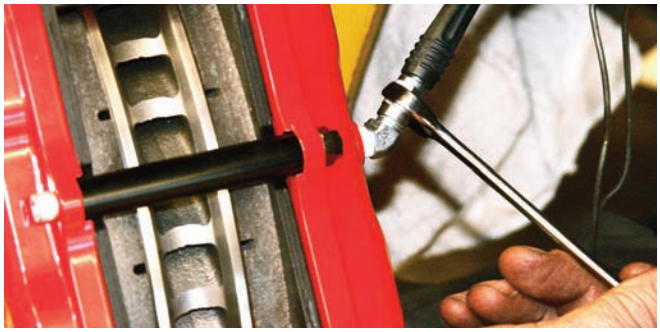
The rotor was centered perfectly in the caliper so the caliper bolts were tightened to 35 ft-lbs using a foot-pound torque wrench.



Here is the caliper and brake pads centered perfectly over the rotor assembly. The radius of the caliper should also be aligned with the radius of the brake pads.

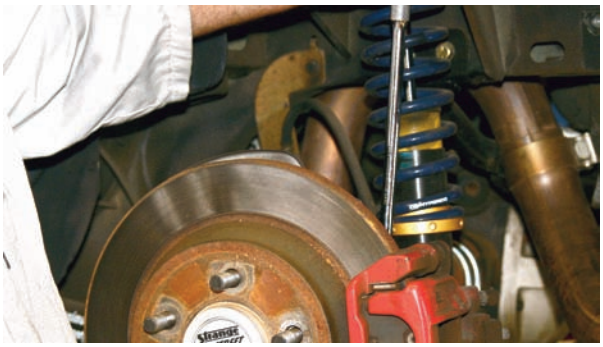


Now the center bridge bolt can be installed using an Allen wrench and an open-end wrench. Make sure the connection is tight.

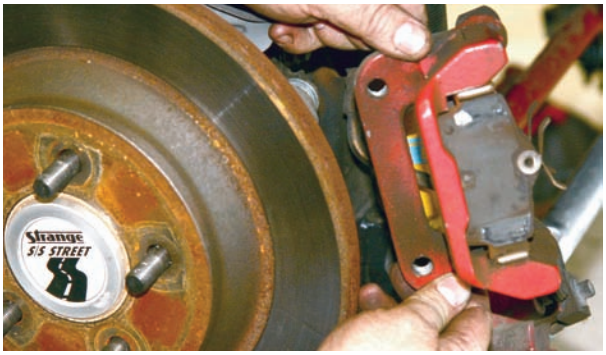


The hose inlet fitting threads were covered with Teflon tape and then the fitting was screwed into the caliper. Here the Wilwood part number 220-6458 hose is being connected to the fitting. The other side connects to the hard line bracket in the wheel well.

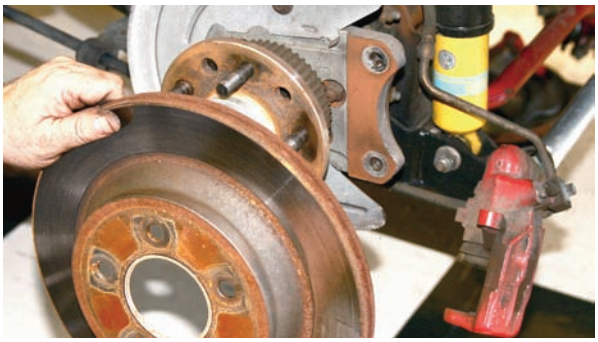
The front of the car was lowered and the rear was raised so that the differential can be outfitted with the new brake system. The rear wheels and tires were removed using an impact gun and the correct size socket to remove the lug nuts.



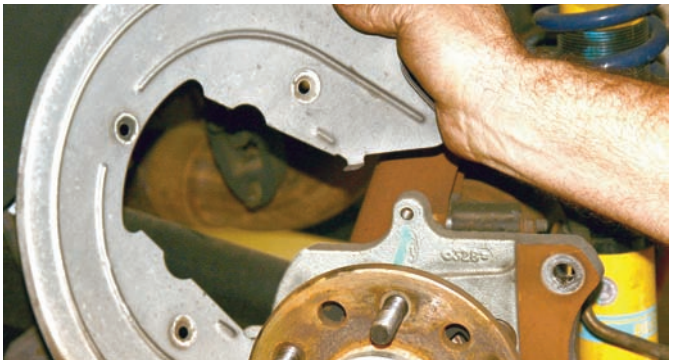
The caliper bolts were disconnected with a breaker bar and some muscle power and then they were removed from the assembly.



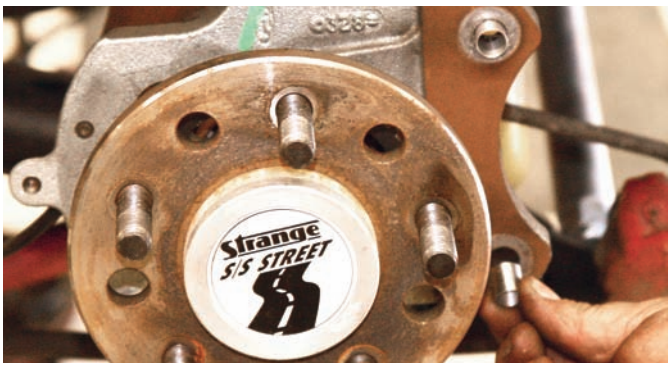
After the bolts were removed, the caliper was lifted away from the mounting ears.



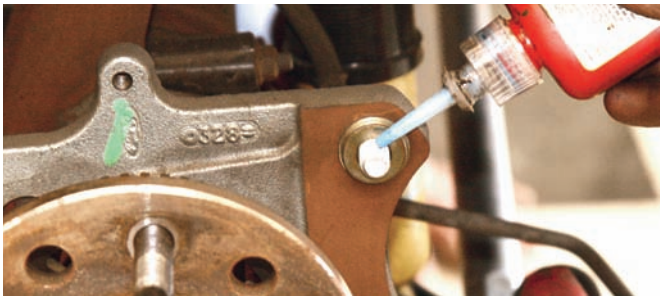
The rotor was removed from the rear hub assembly. You may have to tap the rotor with a rubber mallet to break it loose from the centering ring. This view provides a good look at the original caliper mounting ears.



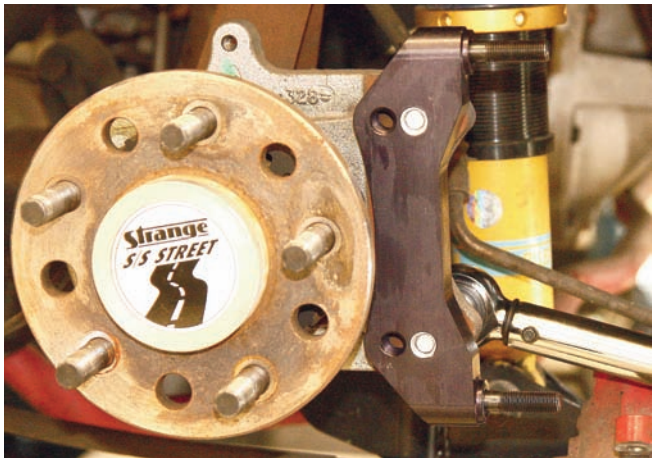
Using the same method performed on the front brakes the rear dust shield was disconnected and removed. This will not be used on the new installation.



The original mounting ear holes will have to be sleeved down to the size of the Wilwood caliper bracket bolts.



The Wilwood caliper bracket bolts were installed in the holes and then they were loaded with a 0.030-inch thick washer and a 0.016-inch thick washer. Here the bolts are being coated with Loctite 271.



The caliper bracket was secured to the mounting studs as seen here and then the bolts were tightened to 35 ft-lbs using a foot-pound torque wrench.

Similar to the front rotor assembly, the rear rotor was bolted to the hat with the 1/4-inch bolts in the kit. The bolts were coated with Loctite 271 and then they were tightened to 103 in-lbs in an alternating sequence. Here the rotor is being mounted to the hub assembly

Before the caliper was attached to the caliper bracket mounting studs, they were loaded with a 0.035-inch thick washer.

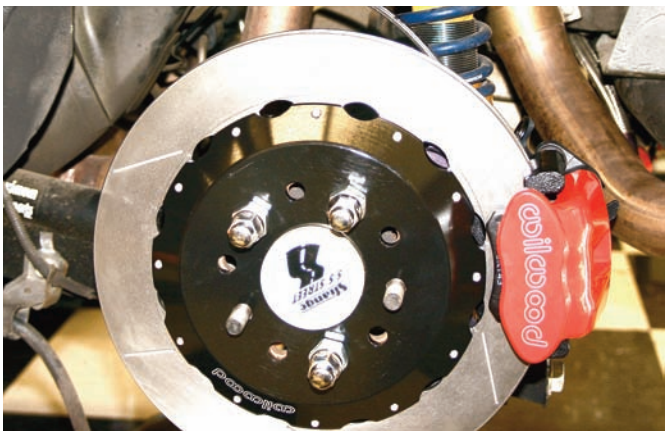
The caliper to rotor centering was checked and when it was perfect the caliper bolts were tightened to 30 ft-lbs using a foot-pound torque wrench.

The rear hose requires this small bracket and hose adapter. The fitting is secured to the bracket with a standard brake clip.

The mustang brake hose connection was removed and at this point the old caliper could also be removed from the assembly.

The new bracket was located several inches forward of the old bracket. The Mustang hard line will have to be modified to fit. Here a hole is being made for the bracket.

The new bracket was mounted to the body using the same bolt that secured the old bracket. Here the Wilwood part number 220-10417 Flexline is being routed from the frame bracket to the caliper.



Here is the finished rear brake assembly ready for bleeding and bedding in the rotors. The original parking brake cables will have to be modified to work with the rear calipers or you can purchase new universal cables from Wilwood.

Wilwood Engineering
4700 Calle Bolero
Camarillo, CA 93012
(805) 388-1188
www.wilwood.com
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