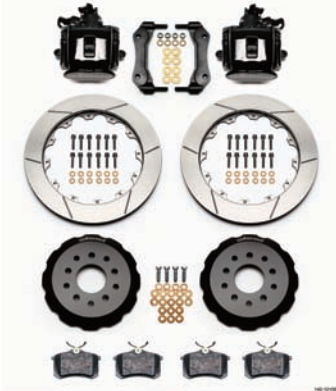


# THE BOSS IS BACK

A Wilwood Engineering brake upgrade for the Boss Mustang and its subordinates



This Mustang is being updated with the Wilwood Engineering part number 140-10158 rear disc brake kit that features the rotors, calipers, brake pads, caliper brackets and the hardware required to complete the installation.



This Mustang is being updated with the Wilwood Engineering part number 140-9110 front disc brake kit that features the rotors, calipers, brake pads, caliper brackets and the hardware required to complete the installation.

If you look throughout the Mustang's long history, there are a handful of pony cars that made history in a big way. All of the Shelby Mustangs were historical in many ways, but there were several muscle Mustangs that were fast, handled well and just looked bad to the bone. Most Mustang historians will go directly to the '69-'70 models because they had fantastic styling and were powered with engines that won NASCAR races, Drag races and Trans Am races. Everyone knows about the big Boss 429 Mustang that was powered by a twisted hemi engine that gave the Chrysler NASCAR team owners and drivers fits. The Cobra Jet was another engine that ran better than anyone expected and it was the leader in stock class drag racing. The nastiest looking, best handling and very impressive accelerating Mustang was the Boss 302 that shattered Trans Am racing records. The street version of the Boss 302 looked mean thanks to the Larry Shinoda graphics, the front and rear spoiler and the Magnum 500 wheels running Goodyear Polyglas tires.

When the designers at Ford wanted an updated Mustang body style they used retro styling that was based on the nicest looking Mustang of all time, the '69-'70 model. When the first concept Mustang was shown all over the country the

reaction was more than positive, people couldn't wait until the car was a reality. When the first production model was released, the design was very reminiscent of the early Mustangs, so much so, that many of the styling tricks used on the early cars could be translated to the new Mustang. In this story we are working on a 2007 Boss 281 Mustang that resembles the greatest Mustang of all time right down to the stripes, the '70 Boss 302. This car has a very powerful engine that runs as good, if not better than the original Boss engines. When this car accelerates it can put you in the seat and keep you there because it has a long torque curve and power range. The acceleration is fantastic, but slowing down is also important, so the owner of this Boss wanted to make a brake improvement. He is a Mustang fan and was aware of Wilwood Engineering's disc brake kits for '60s through '90s Mustangs and knows how well they work. He contacted his Wilwood dealer and they told him that there was a brake improvement kit for his new Mustang that would increase the Boss's stopping power and the brake would also look impressive behind the spokes of the large diameter wheels.

This 2007 Mustang is being equipped with Wilwood part number 140-9110 front brakes and part number 140-10158 rear brakes. It will also be updated with part number 220-9111 front flex lines and part number 220-9248 rear flex lines. Wilwood

recommends that someone experienced and competent in the installation and maintenance of disc brakes should only install the brake improvement kits. If you have the necessary mechanical ability and a wide assortment of tools and want to try to install the brakes at home you will need a floor jack and jack stands, an assortment of metric and SAE wrenches and line wrenches, Loctite 271 (red) thread locker, a socket wrench with an assortment of SAE and Metric sockets, an air powered impact gun, a rubber mallet, an inch pound torque wrench and a foot pound torque wrench.

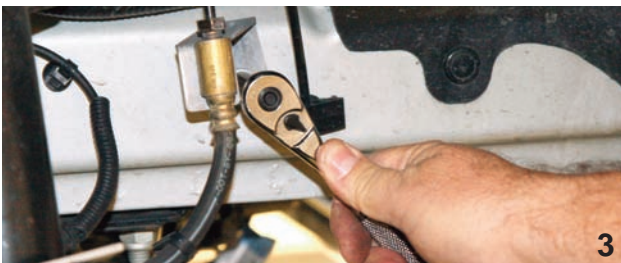
It is recommended that the brake installer should inspect the contents of the kits to determine if everything is there. Spread out the components and use the instruction sheet parts list to verify that you have everything. Make sure you have the correct kit to fit your exact make and model, and that the disc brake lug pattern will work with your wheels. Now you can follow along to see how this installation is done and decide for yourself if you have the mechanical ability to perform the installation, or if it would be better to have a professional do it for you.



The front of the Mustang was raised using the floor jack and then jack stands were placed under the car for safety. The wheels and tires were removed to access the original Mustang brakes. The Ford rotors and calipers are going to be removed in preparation for the new brakes.



The original rubber brake lines were removed in preparation of installing the Wilwood Flexlines. The bracket by the strut was disconnected and it will be modified to work with the Wilwood lines.



The original frame bracket, where the steel line mates to the rubber line, was disconnected so that it can be modified to work with the Wilwood braided steel Flexline.



The hole in the bracket was opened up so that this fitting could be installed. It will be held in place with a brake line clip.

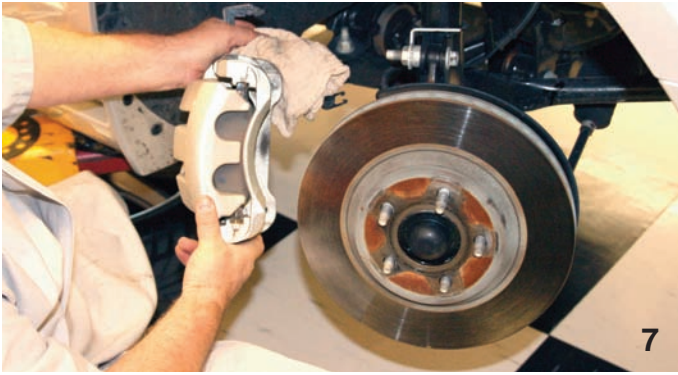


Here is the bracket with the steel line and fitting installed, and ready for the braided steel Wilwood Flex line. Here you can see the brake line clip that holds the fitting in place.



Using a socket wrench and the appropriate size socket, the two bolts and washers that fasten the caliper to the bracket were disconnected. This is a heavy cast iron caliper, so the Wilwood brake kit with aluminum calipers will lower the weight of the car.





After the bolts were disconnected, the heavy caliper could be lifted off of the bracket assembly.



After the removal of the caliper, the rotor was disconnected from the hub assembly to reveal the hub and upright. Sometimes you will have to tap the rotor with a rubber mallet to break it loose.



After the rotor was removed, the bolts that secure the dust shield to the spindle were disconnected using a small socket wrench.



The dust shield was removed from the car and it won't be reused. After the upright is removed it would be a good time to clean any dirt from the "hat locator" and lugs on the hub.



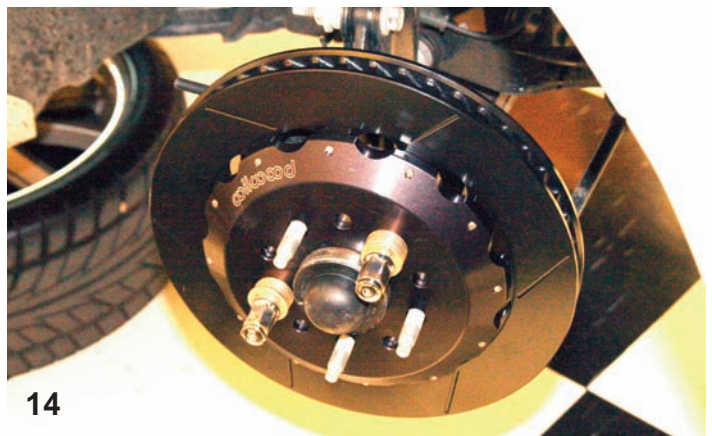
The rotor and the hat were bolted together using the 1/4-20 bolts and corresponding washers in the kit. The bolts were tightened to 85 in-lbs and then they were safety wired using standard 0.032-inch diameter stainless steel safety wire. The rotor, caliper, caliper brackets and pads were placed on a bench prior to installation for easy access.



The Wilwood caliper bracket was bolted to the original caliper mounting holes in preparation for getting the proper caliper to rotor spacing.

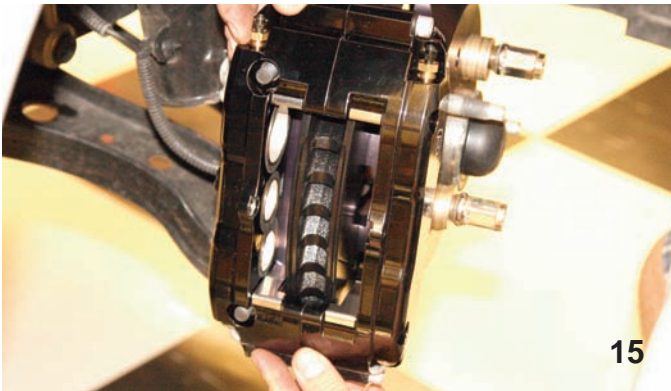


After the Wilwood caliper bracket was secured, the E-coated rotor was attached to the hub and spindle assembly.



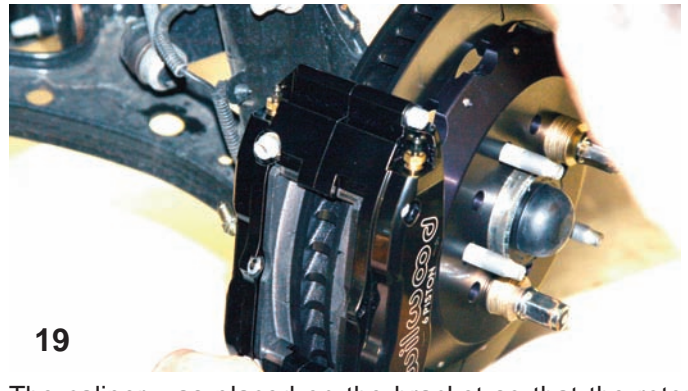
A couple of lug nuts were used to secure the rotor to the hub assembly so that the rotor to caliper centering could be studied. Since this is a top mounted caliper, the centering can be adjusted by placing shims between the caliper bracket and Ford bracket.





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The caliper was connected to the bracket to see if it was centered properly. Using the shims in the kit, the centering was adjusted and that number of shims and washers were used when the bracket was bolted on for the final time.



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The caliper was placed on the bracket so that the rotor centering can be checked one more time. The curve of the brake pads should also line up with the curved edge of the rotor, and as you can see here, they are perfectly lined up.



16

The rotor and caliper were removed so that the caliper bracket bolts could be accessed. Here the bolts were coated with Loctite 271 and were tightened with a torque wrench to 47 ft-lbs.



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After it was determined that the caliper was positioned correctly, the mounting nuts were tightened to 35 ft-lbs. The wheels and tires were reinstalled and the front of the car was lowered.



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The caliper bracket studs were coated with oil and then they were loaded with the appropriate washers and spacers before the caliper was installed.



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The Wilwood braided steel Flexline was routed between the bracket on the frame and the fitting on the caliper, making sure that it doesn't interfere with any moving parts.



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The pads were installed in the caliper and they were secured with the bridge bolts. This kit is using the BP-10 Smart Pads. Here you can also notice the brake line fitting in the caliper body that was installed with PTFE thread tape wrapped around the threads.



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The wheels were reinstalled and the front of the car was lowered. After the front of the car was on the ground, the rear of the car was raised and jack stands were installed under the differential. The wheels and tires were removed to reveal the rear brakes.

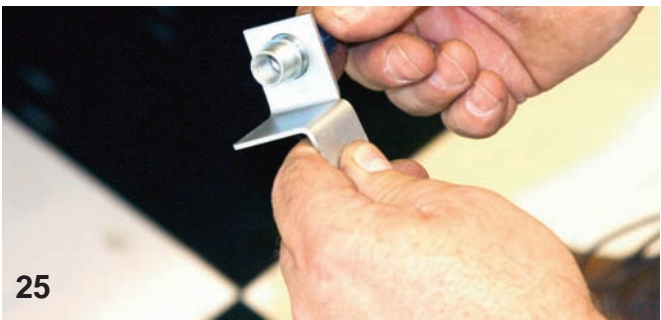




The rear rotors, caliper and caliper brackets were placed on a bench prior to installing the parts on the car. The rotors were assembled by connecting the hat to the rotor using the ¼-20 bolts in the kit. The bolts were coated with Loctite 271 and then they were tightened in an alternating sequence to 103 in-lbs. After the bolts are tight they were safety wired using standard 0.032-inch diameter stainless steel safety wire.



Disassembly of the rear brakes was started by disconnecting the steel line from the rubber line as seen here. After the lines were disconnected, the bracket was removed from the inner fender well.



Similar to the way the front bracket was modified, this one was opened up so that it would accept the fitting shown here. After that was finished the bracket was bolted back into the original location with one side of the fitting connected to the steel line.



Using a ratchet wrench and the appropriate size socket, the caliper bolts and washers were removed.



After the caliper bolts were removed, the heavy cast iron caliper was lifted up and was removed away from the car.



The rotor was removed from the rear axle flange as seen here. Some light tapping with a rubber mallet will help loosen the connection.



Using a small ratchet wrench and the appropriate size socket, the dust shield bolts were removed.



After all of the bolts were disconnected, the dust shield was removed and it will not be reused.





After all of the bolts were disconnected, the dust shield was removed and it will not be reused.



This original caliper bracket bolt was removed because it will be used to connect the Wilwood intermediate caliper bracket.



The intermediate caliper bracket was installed first as seen here.



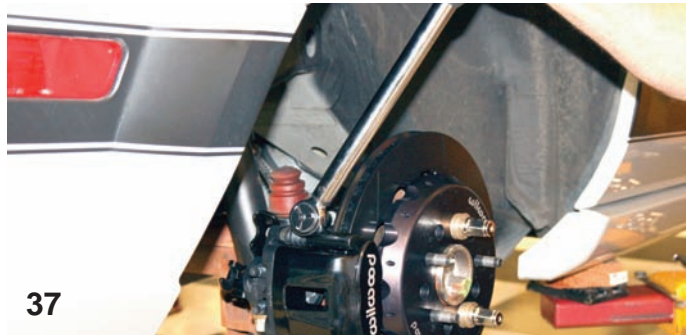
After the intermediate caliper bracket was installed, the main caliper bracket was bolted to the intermediate bracket.



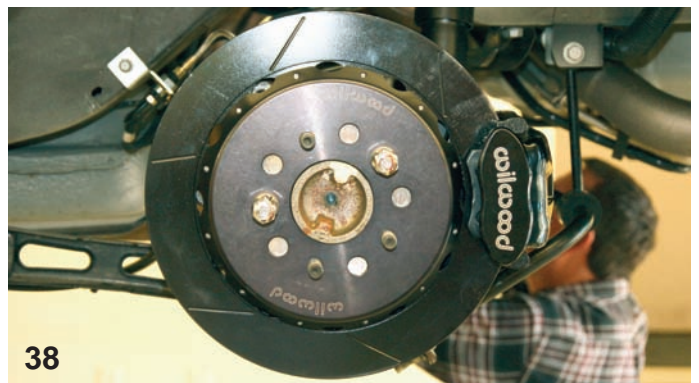
The rotor was installed and it was secured with two lug nuts. This was done to check the rotor to caliper centering.



The rotor to caliper centering was checked to make sure it was lined up properly. The shims included in the kit can be used to make small adjustments.



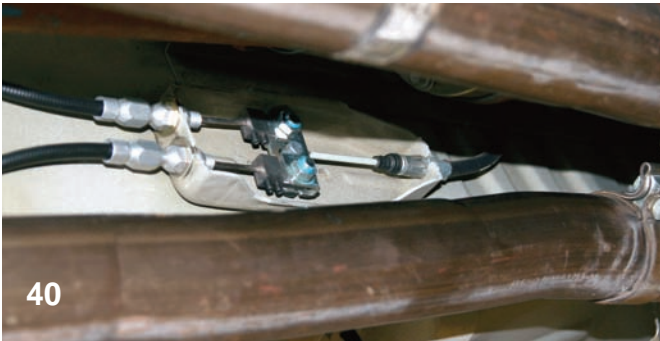
The correct amount of shims and washers were installed to get the caliper centered over the rotor. Here the caliper mounting nuts were coated with Loctite 271 and were tightened to 30 ft-lbs.



Here is the finished disc brake installation that mounted the caliper on the backside of the rotor. The brakes should work terrific and they will also be an attractive addition to the appearance of this Mustang.



This CPB caliper is a combination unit that uses hydraulics for the brake pressure and an internal mechanical lock for the parking brakes. The parking brake cable was connected to the lever on the side.



The parking brakes for the Mustang were connected using the Wilwood Parking Brake Cable Kit. This system will use a combination of original parts in conjunction with the Wilwood part number 330-9371 universal kit.



Here is the Boss after all of the brakes have been installed. The brakes will need bleeding followed by bedding in the pads. Information on both processes can be found in the instruction sheet.

### **Wilwood Disc Brakes**

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