

HUM-DINGER

Installing Wilwood four-wheel disc brakes on a 2004 Hummer



The Wilwood front disc brake kit for the Hummer H2 is part number 140-8996 and it includes the 16-inch vented rotors, the TC 6R calipers, brake pads, brackets, and all of the hardware required to complete the installation.



In the mid-'70s the Army was looking for a new multi-purpose vehicle that could accommodate a broad range of configurations. AM General Corporation was awarded the government contract to build HMMWV vehicles that are now known as the HUMVEE. Today the Army uses AM General HUMVEE personnel carriers extensively and they became famous in the televised news coverage of the Desert Storm war in 1991. The Humvee is one of the toughest vehicles on the planet, and with the powerful diesel engine, four-wheel drive and a high ground clearance the vehicle can go almost anywhere. When off-road enthusiasts saw the HUMVEE and what the vehicles could do, many of them wanted one of their own. American General received many requests from private individuals, so in 1992 AM General decided to offer customized vehicles now called Hummers to private parties for a substantial price.

In 1999 AM General and General Motors Corporation finalized an agreement to jointly pursue product marketing and distribution opportunities for Hummer. GM acquired the exclusive ownership of the Hummer brand name worldwide and the original was called the Hummer H1. In 2002 AM General began assembling the Hummer H2, a new generation sport utility vehicle designed by GM and the more affordable vehicle became a hit with many off-road enthusiasts. General Motors also released the smaller Hummer the H3 vehicle for enthusiasts who love the rugged looks of the bigger H2 vehicles but wanted better economy. AM General retained the HUMVEE

name and is still manufacturing vehicles for the Army and Marines.

The H2 Hummer was more practical for everyday transportation with a gas-powered engine, automatic transmission and a full complement of luxury features. The designers at General Motors retained the rugged appearance of the military version and kept the price at an affordable level so the sales were brisk for many years. The undercarriage and suspension parts were changed considerably from the Army versions and were basically very similar to a General Motors four-wheel-drive truck.

Wilwood Engineering manufactures brakes for the AM General military HUMVEE vehicles so they were familiar with the company and the vehicle. When the General Motors Hummer started to become popular, Wilwood Engineering decided to make a powerful brake upgrade kit for the big brute. The customized Hummer in this story is being upgraded with Wilwood 16-inch vented rotors and strong TC 6R calipers in a part number 140-8996 kit. The installation also required part number 220-8998 front brake lines.

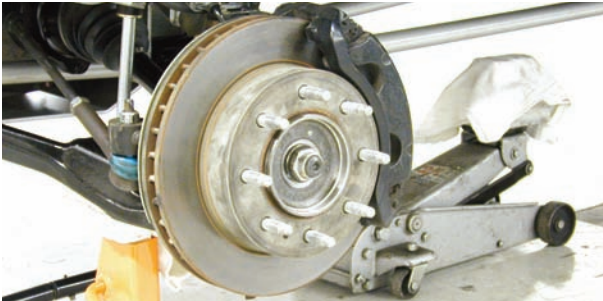
Wilwood specifies that the installation of the kits should only be performed by persons experienced in the installation and proper operation of disc brake systems. The tools required to perform this brake installation include a floor jack and jack stands, a variety of wrenches and line wrenches, a ratchet wrench and sockets, Loctite 271, an inch-pound and a foot-pound torque wrench. The

installation could be speeded up with the use of an air-powered impact gun and an air-powered ratchet wrench. Before the installation begins, make sure this is the correct kit to match the make and model of your vehicle. Make sure the hat stud pattern in the kit matches the bolt pattern of your wheels. Inspect the content of the

parts included in the kit with the parts list on the instruction sheet. When you are sure that everything is correct, jack the vehicle up and install jack stands under the vehicle for safety. This installation is straightforward and it should be able to be completed in one day by a competent mechanic.



Using an impact gun and the proper size socket, the eight lug nuts were disconnected followed by the removal of the custom wheels and large tires.



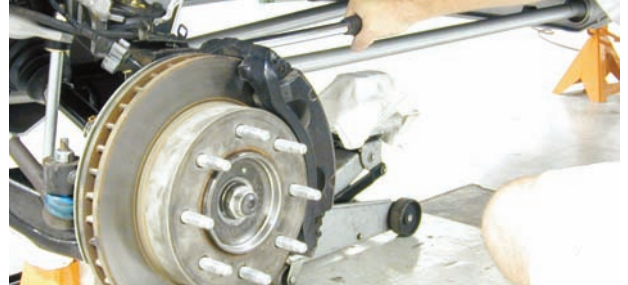
After the wheels and tires were removed, the original brakes were exposed. The rotor sits on the hub assembly and is held in place by the studs.



The original brake hose exits the rotor with a steel line that connects to a rubber line that wraps around the top of the spindle. This will be replaced with a Wilwood Flexline.



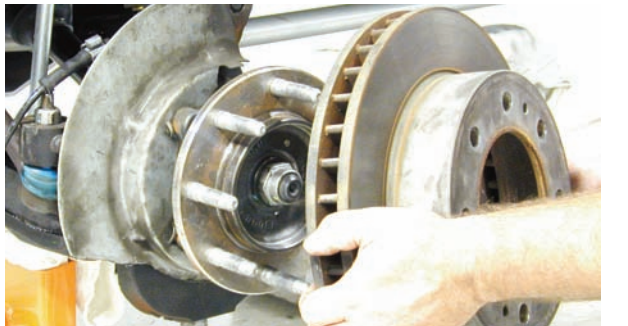
In order to remove the caliper, the hose bracket at the top of the spindle was removed with an open-end wrench.



Using the correct size socket and a breaker bar, the caliper bolts were loosened and then they were disconnected.



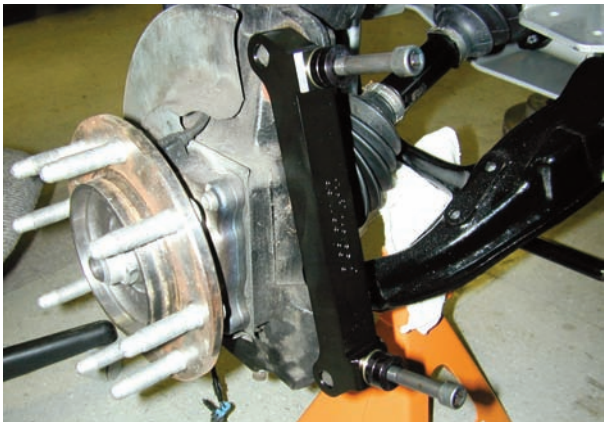
After the caliper bolts were disconnected, the heavy cast iron caliper was lifted away from the bracket and rotor assembly.



After the caliper was removed, the rotor was lifted off of the hub assembly. A few taps with a rubber mallet broke the connection loose.



The caliper bracket will attach to the original caliper mounting position. Here a bolt is being installed along with the required washer.



The caliper bracket was bolted to the hub assembly and was tightened down in preparation for the caliper to rotor centering to be checked. If there is a problem, shims can be installed between the bracket and the mounting holes. After the centering is perfect the bolts should be coated with Loctite 271 and then they should be tightened to 77 ft-lbs. If you look close at the two mounting bolts you will see the washer and two spacers that are required to mount the caliper.



The aluminum hat was connected to the rotor using the mounting bolts and washers in the kit. The bolts were coated with Loctite 271 and they were tightened to 120-144 in-lbs using an inch-pound torque wrench. Using standard 0.032-inch diameter stainless steel safety wire, the bolts were wired together following the safety wire diagram on the instruction sheet. After the rotors were completed they were installed on the original hub assembly.



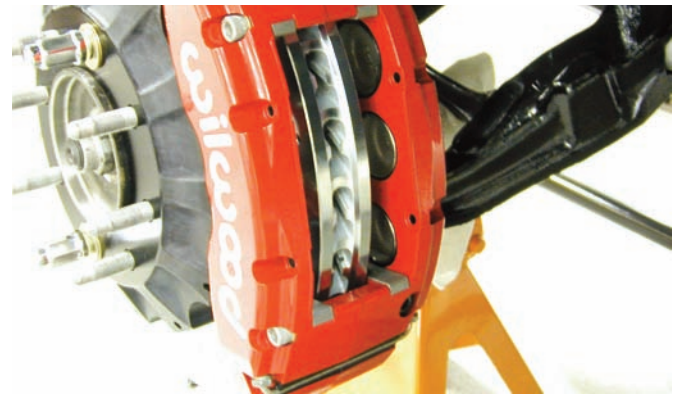
Using the original lug nuts, the rotor was secured to the hub assembly on opposite sides of the rotor.



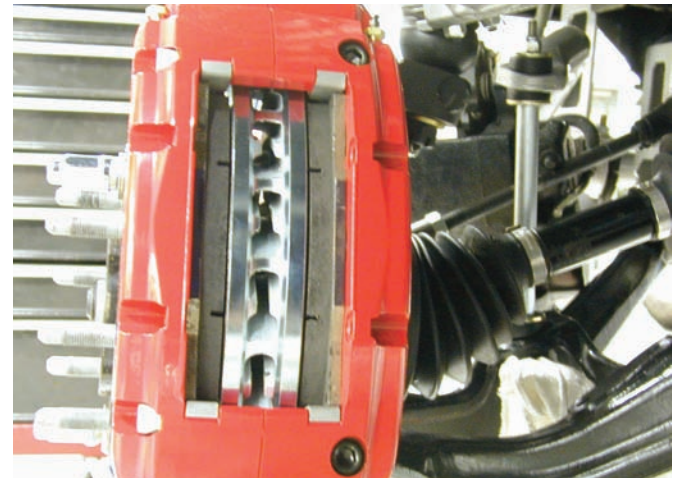
The brake fluid inlet fitting threads were coated with Teflon tape and then it was screwed onto the rotor.



The caliper was going to be installed on the bracket so the bolts were outfitted with a washer and two spacers as shown in the instructions.



The large TC 6R caliper was installed on the bracket so the caliper to rotor centering can be done.



After the centering was complete, the pads were installed in the rotors and here you can see that they are correctly centered.

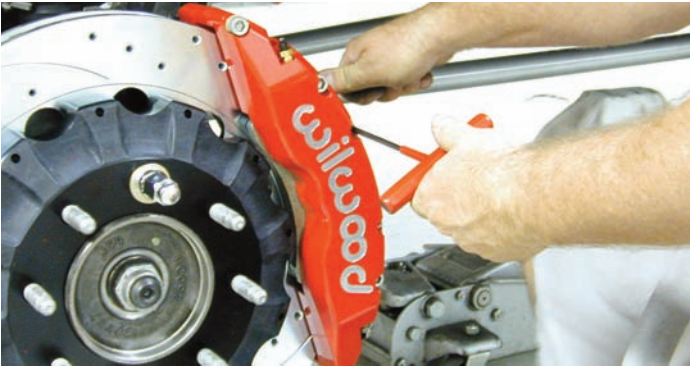
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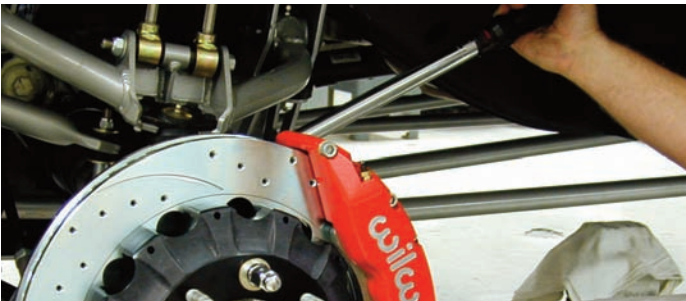
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After the calipers were installed to the brackets and the pads were centered, the Allen head mounting bolts were tightened to 47 ft-lbs.



The small upper Allen bolt was reinstalled and tightened using an Allen T-handle.



The caliper bracket bolts should be coated with Loctite 271 and after everything is perfect they should be tightened. At this point the Wilwood part number 220-8998 Flexlines can be connected to the rotors and original steel brake lines.



The wheels and tires were reinstalled on the front and rear brakes and now it is time to bleed the brakes followed by the bedding process. The bleeding and bedding procedures can be found in the instruction sheet. Follow the instructions closely for best results.