

# STOPPING THE ECLIPSE

## Installing Wilwood disc brakes on a Mitsubishi Eclipse



Mitsubishi was a well-known company in Japan, but it debuted in the American Market as a Dodge Colt in 1971. Eleven years later in 1982, Mitsubishi opened its own dealerships and at the time the company produced basic, and not particularly exciting passenger cars such as the Cordia coupe and Tredia sedan. In 1985 Mitsubishi formed a joint venture with Chrysler known as Diamond Star Motors and as such the duo came out with some exciting cars that were sold under the Mitsubishi, Dodge, Eagle and Plymouth brands.

In 1990 Mitsubishi released the small, nimble Eclipse that was fun to drive and was very affordable. The car was actually built in a plant in central Illinois. The first egg shaped Eclipse was almost identical to the Plymouth Laser and Eagle Talon. Over the years the Plymouth Laser and the Eagle Talon disappeared, but the Eclipse pressed on and improved mechanically with more powerful engines and in overall design features. As the car improved it still remained affordable and it became quite popular with younger American buyers because the car was nice looking and it was fun to drive, especially the GSX version that combined a powerful turbo engine with all-wheel-drive.

The second generation Eclipse became the car to own if you were a young car enthusiast. It had a very sleek body design, a strong running engine and it handled very well. The fellow who owns the Eclipse in this story drives his car on the street and on the track. After taking the car to the track a few times he realized that the brakes needed improvement so he contacted a Wilwood Engineering dealer and he ordered a Wilwood part number 140-8298 front disc brake kit that features DynaPro calipers and 12.19-inch drilled



The Wilwood part number 140-8292 front disc brake kit comes with DynaPro calipers, 12.19-inch drilled and slotted rotors with aluminum hats, caliper brackets, BP-10 Smart Pads and all of the hardware required to install the brakes.

and slotted rotors. This kit fits all second generation 1995 to 1999 Mitsubishi Eclipse coupes and roadsters.

Wilwood Engineering recommends that persons experienced in the installation and proper operation of disc brake systems should only perform the installation of this kit. It is a good idea to spread the kit parts out and make sure you have all of the parts listed in the instruction sheet. 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, metric wrenches and sockets, a rubber mallet, 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 Eclipse was raised with a floor jack and was placed on jack stands. The lug nuts were disconnected with an impact gun and an appropriately sized socket, and then the wheels and tires were removed from the car.



The caliper bolts were removed with a large breaker bar and then the caliper was disconnected. The rubber line from the caliper to the hard line should also be disconnected and the hard line should be capped until the new line is connected.



At this point the rotor can be removed from the hub assembly. Sometimes it is difficult to break it loose from the centering ring so it may need a few taps with a rubber mallet.



After the caliper was removed, you can see the two caliper mounting ears protruding past the dust shield.



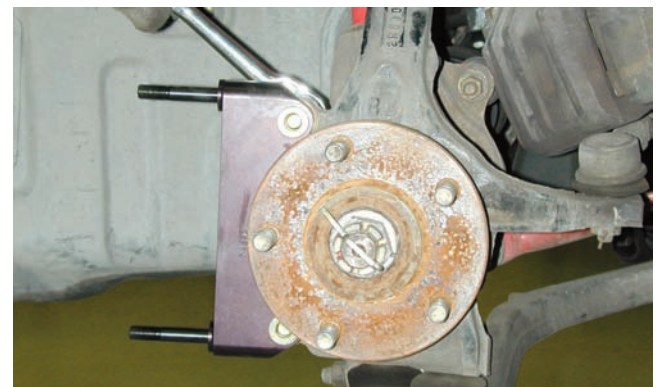
The two bolts that secure the dust shield to the hub were removed and since the dust shield will no longer be needed it was cut with hand shears to remove it from the assembly. The dust shield metal could also be cut with a three-inch cut-off wheel.



This small section of metal was cut away from the dust shield to remove it from the assembly rather than removing the hub assembly.



The hub assembly and the caliper mounting ears were cleaned with a wire brush prior to mounting the Wilwood caliper bracket.

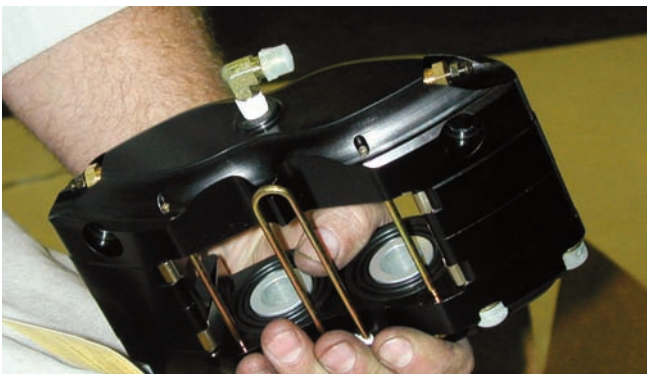


The Wilwood caliper bracket was bolted to the original caliper mounting ears. The bolts were outfitted with a 0.063-inch washer on the outside and a 0.020-inch shim between the caliper bracket and the mounting ears.





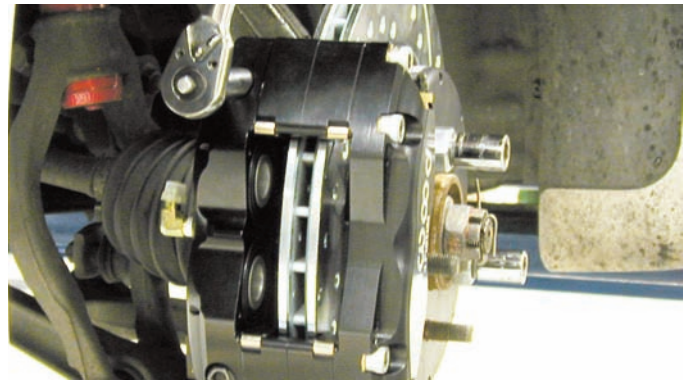
Using the bolts included in the kit, the caliper was mounted to the hat. The bolts were coated with Loctite 271 and then the hat was joined to the rotor by tightening the bolts. After all of the bolts are finger tight, they should be tightened in an alternating sequence to 144 in-lbs using an inch-pound torque wrench. After the caliper was assembled it was installed on the Eclipse hub assembly.



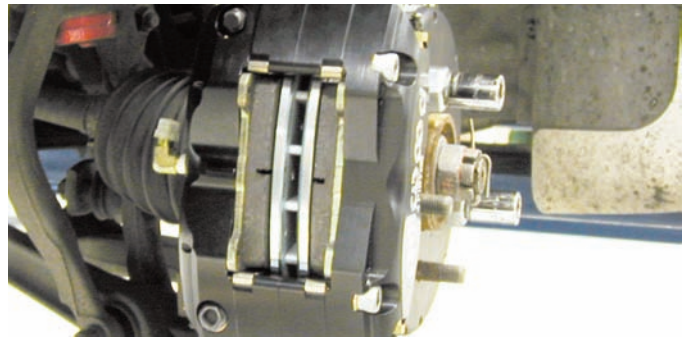
The DynaPro caliper inlet fitting threads were coated with Teflon tape and then the fitting was screwed into the caliper as seen here.



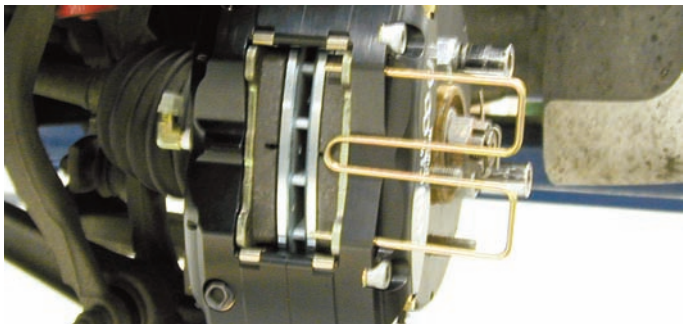
Two lug nuts were used to tighten the rotor to the hub assembly, then the caliper was installed on the bracket using the 5/4-inch thick washer and the spacer on each stud. The caliper was then mounted and the small flat washer and self-locking hex nut were installed.



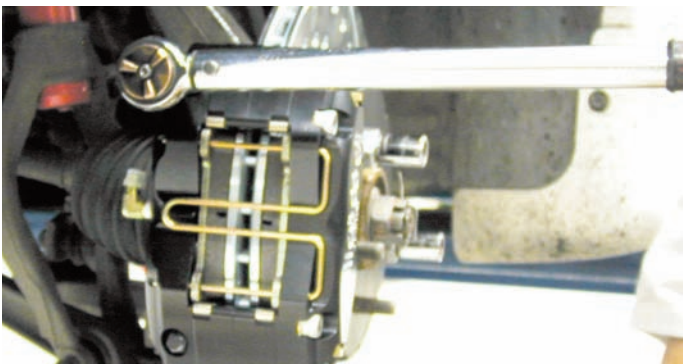
The caliper was mounted to the caliper bracket and in the process the centering procedure was done. If the caliper isn't centered, shims can be added or subtracted from the caliper bracket to mounting ears connection to get a perfect fit.



The BP-10 Smart Pads were installed in the caliper and here you can see the rotor is centered perfectly between the pads.



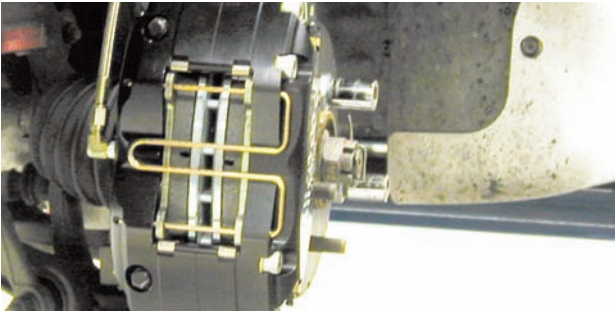
After the pads were in place they were secured with the quick-clip pad retainer.



After checking the pad to rotor centering with the pads installed, the caliper was tightened to 35 ft-lbs using a foot-pound torque wrench. The caliper bracket bolts were also tightened to 75 ft-lbs using a foot-pound torque wrench.



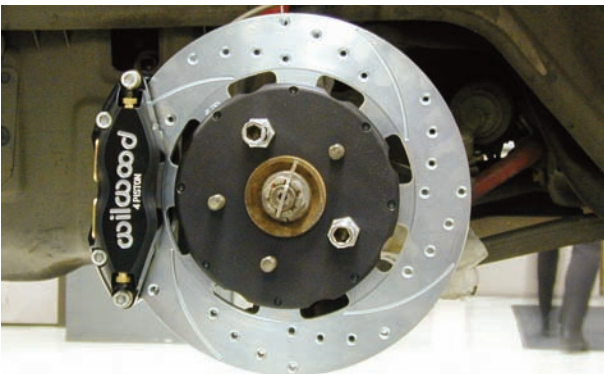
In order to connect the Wilwood part number 220-8293 braided steel hose to the original hard line this fitting must be used. Here the hose and fitting are being connected.



Using a line wrench, the flexline was connected to the caliper inlet fitting. We made sure this connection was very tight.



The fitting that was used was connected to the inner fender bracket with a brake line clip. Here the Wilwood braided steel line is being connected to the fitting.



Here is the finished brake assembly featuring the DynaPro caliper and the slotted and drilled rotor. At this point the brakes will need bleeding and the pads to rotor should be bedded in following the directions on the instruction sheet.

## **Wilwood Engineering**

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