

# BEATING THE DRUMS

## Installing Wilwood four-wheel disc brakes on a '57 Chevy



The Wilwood '57 Chevy disc brake conversion kit comes with rotors, Forged Dynalite calipers, hubs assemblies, caliper brackets, aluminum adapter plates, BP-10 Smart Pads and all of the hardware required to complete the installation.

The Wilwood '57 Chevy rear disc brake conversion kit comes with rotors, Forged Dynalite calipers, internal parking brake and caliper bracket mechanisms, BP-10 Smart Pads and all of the hardware required to complete the installation.

In the early '50s, General Motors' management wanted the Chevrolet brand to become the low cost entry-level car that would get the attention of young buyers. They thought that if they could get them early, they would transition from the Chevy to the Pontiac or Olds and eventually work their way up to the Buick or Cadillac. It was a good marketing plan that did work for the company for many years. In an effort to entice young buyers, the Chevy stylists were coming up with an all-new design and to top it off, the engineering team was working on a new V8 engine that used the best features of all of the other GM engines as well as some unique ideas that none of the other engines had. The new Chevy was released in 1955 and it was an instant hit with buyers of all ages. Little did the Chevy engineers and stylists know that they were designing a timeless classic.

When it was released, the '55 Chevy set sales records so the stylists made some significant improvements for the '56 Model year. The '55 and '56 Chevy models were available with a 265ci engine that ran well, but many young buyers were asking for more horsepower. While some of the stylists were making upgrades on the car released in '55, GM Management started many of them working on a totally new and highly upgraded Chevy before the '55 was even released, that they hoped would appear in '57, but because of substantial delays it didn't appear until '58. GM was working on a two-

year model change cycle so the '57 Chevy became a highly revised and refined version of the '55 Chevy and the engine was upgraded to a 283ci engine. Today the '57 Chevy is the most desirable tri-year model because of the excellent styling and the hot 283ci engine. You could even order the '57 Chevy with the fuel injected Corvette engine so an original '57 Chevy convertible with a 283 fuel-injected engine is a collector's dream car today.

Wilwood Brakes has been working on a four-wheel disc brake package for the Tri-year Chevys and has just released this new system that will work with cars that are equipped with 14-inch wheels and tires. Today many '55 through '57 Chevys are being turned into modified street drivers and street machines and this disc brake kit part number 140-11491 for the front and 140-11348 for the rear is perfect for them. If you are building a Tri-year Chevy you really don't have to change the differential. If you plan to run a small-block Chevy engine up to 350 horsepower, the original differential will work fine providing you are not building a drag race only car. A rebuilt original differential will work even better for moderate performance use on the street when it is equipped with Positraction. If you are building a blown big-block or LS7 powered '55 through '57 Chevy it would be prudent to install a stronger 12-bolt or 9-inch Ford differential and Wilwood makes rear disc brake kits for those differentials as well.



This new Wilwood disc brake kit is designed for Tri-year Chevys that are still equipped with the original front and rear suspension components. This is a direct bolt-on kit and doesn't require any intricate machine work to complete. Wilwood Engineering 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 ability, car building experience and a good assortment of tools. In order to complete this installation you need a floor jack and jack stands, an assortment of standard wrenches

and line wrenches, a socket set and a ratchet wrench, an impact gun, a small grinder, a foot-pound and an inch-pound torque wrench. Before the installation starts it would be a good idea to spread all of the components out so you can make sure that all of the parts are included in the kit. Check the items in your kit with the parts list on the instruction sheet. We are going to show you the installation to give you a chance to decide whether you want to install the system on your car or have a professional do it for you. When you are finished, you will have a four-wheel disc brake system that will definitely beat the drums.



The Tri-year Chevys came with four-wheel drum brakes in manual form, or for a few dollars more you could get power brakes. If you have ever driven a '55 through '57 Chevy with original brakes they were marginal at best and when it was raining, the brakes would become magical, they would disappear.



The dust was removed to access the front spindle nut. This cap was removed with large channel lock pliers.



The cotter key was removed from the castle nut. Using the same large channel lock pliers the spindle nut was disconnected followed by the large flat washer.



The drum was removed from the front spindle and was placed out of the way. If the drum is difficult to remove you may have to back off the brake shoes for more shoe to drum clearance.





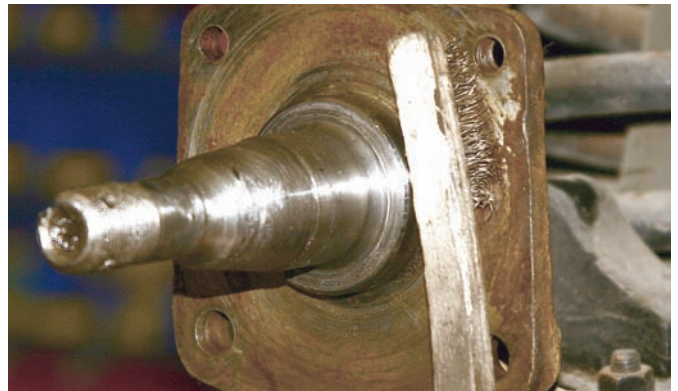
Using an impact gun and an open-end wrench, the two lower bolts were removed from the spindle to brake backing plate connection. After the bolts were loose they were pulled out of the connection.



After the two lower bolts were disconnected and removed, the two upper bolts could be disconnected. Using an impact gun and an open-end wrench, the bolts were removed.



The backing plate may be stuck to the centering ring so it will have to be moved side to side to break it loose.



The spindle was cleaned off with a wire brush and then it was wiped down with lacquer thinner in preparation of installing the caliper bracket and rotor.



The spindle requires a small modification to get the caliper bracket to bolt on. Following the clearance line that was drawn on the spindle, a small radius was ground into the spindle base as seen here. This can be done with a small electric grinder and a hard disc.



The grinding leaves rough edges so they were filed smooth before the bracket was bolted on.

This is actually a two-piece caliper bracket so it was bolted together and the bracket was secured to the spindle with the two bolts included in the kit.







A large Allen head bolt connects the upper portion of the bracket to the spindle. Before it was installed, it was coated with Loctite 271.



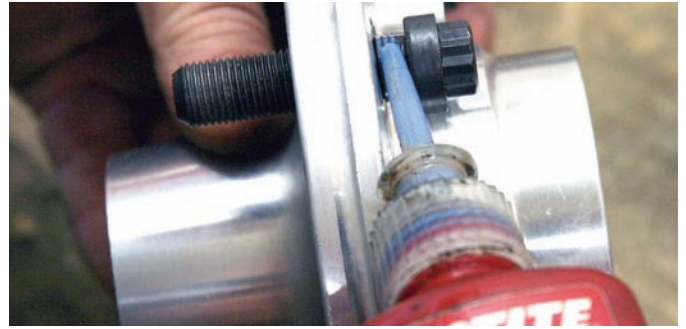
The bracket was lined up with the large spindle hole and then the bolt was installed with a ratchet wrench and an Allen head socket.



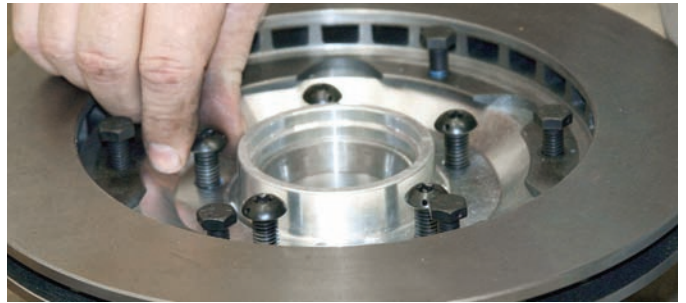
The two lower bracket bolts were connected with an impact gun and an open-end wrench.



The upper Allen bolt was tightened to 77 ft-lbs using a foot-pound torque wrench and an Allen head socket.



The lug nuts were installed in the hub assembly. The hub has two sets of holes for Chevy and Ford spacing, so be sure to use the one that fits your wheels. We are using the Chevy pattern so the last portion of the lug bolts were coated with Loctite 271 and then they were tightened to 77 ft-lbs.



The aluminum adapter was bolted to the hub assembly using the Allen bolts in the kit and then the rotor was bolted to the adapter plate using the hex head bolts in the kit.



All of the rotor assembly bolts were coated with Loctite 271 and the hub to rotor bolts were tightened to 180 in-lbs using an inch-pound torque wrench. The rotor-to-adapter bolts were tightened to 35 ft-lbs using a foot-pound torque wrench.



All of the bearings were packed with high temperature disc brake bearing grease. The large bearings were installed in the rear of the hub and then the grease seal was installed.





After the rear bearing was installed, the rotor was installed on the spindle. The small inner bearing race was coated with grease prior to installation.



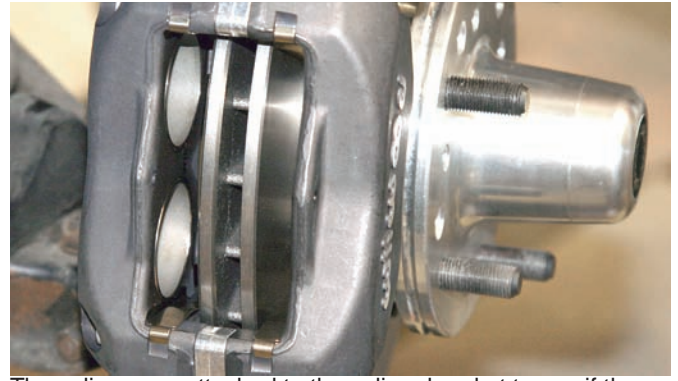
The rotor was placed onto the spindle making sure the small bearing was installed. The rotor was pushed back until the rotor was seated at the rear.



The large flat washer was installed and then the spindle nut was screwed into place. The nut was tightened until it was snug, but not overly tight. If the nut is too tight it will cause premature bearing failure.



After the nut was snug, the castle portion of the nut was lined up with the hole in the spindle and then a cotter key was installed. The ends of the cotter key were bent to a point where they will not interfere with the dust cap installation.



The caliper was attached to the caliper bracket to see if the rotor is centered. Installing or removing shims between the caliper and caliper bracket are used to make the adjustments necessary to get the rotor centered.



After the caliper was centered, the mounting bolts were coated with Loctite 271 and then they were reinstalled. Notice the bolt is used with a thick flat washer.



Here the caliper bolts are being tightened to 35 ft-lbs using a foot-pound torque wrench.



The caliper inlet fitting threads were coated with Teflon tape and then it was screwed into the caliper.





Here is the finished brake assembly with the Caliper mounted and ready to go. Before that is done the brake line was hooked up.



The braided steel brake line was connected to the caliper inlet fitting. The connection should be made with a line wrench so that it can be tightly connected.



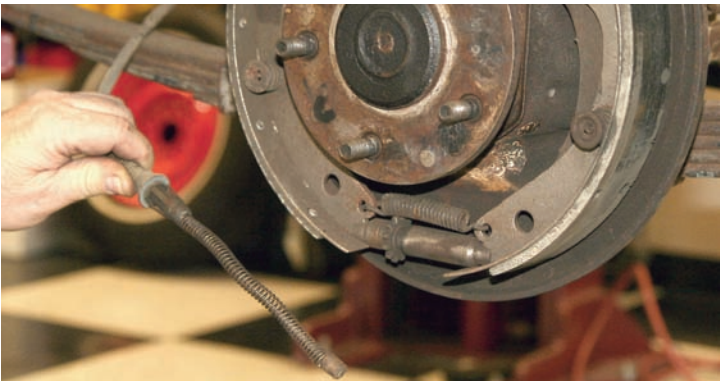
The other end of the braided steel line should be run to the frame bracket where it mates with the car's hard line.



Now it's time to handle the rear brakes. The brake linings should be backed off just a little to make it easy to remove the brake drum.



After the linings were backed off just a little, the brake drums were removed to access the brake assembly and backing plate.



The backing plate and brake shoes will be removed as a unit but, before that can be done, the emergency brake cables were disconnected and removed from the assembly.



Using a line wrench, the brake line was removed from the wheel cylinder assembly. The brake lines and wheel cylinders look like original equipment.

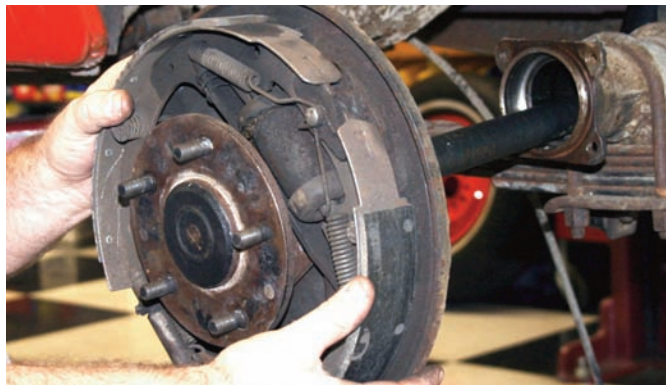




The four bolts that secure the backing plate to the axle flange were disconnected. The same bolts also secure the axle retainers, so at this point the axles can be removed.



The axle wasn't going to come out without assistance so a slide hammer style puller was hooked up to release the bearing from the housing. The same procedure was also done on the other side of the differential.



The axle and brake backing plate were removed from the assembly. This would be a good time to replace the axle bearings if they are original equipment or just worn out.



The special square-shaped axle bolts were removed and they should be cleaned up before they are reused. Save the nuts and washers because they will also be reused.



After the axle and backing plate were removed, the axle flange was cleaned off with a wire brush. It would also be good to clean the axle flange and bearing cup with a strong cleaner such as lacquer thinner or acetone.



The '57 Chevy rear axle housing is a little different than the '55 and '56 Chevy housings. Because of that this spacer ring has to be used.



The spacer ring should be placed inside of the axle-bearing cup. It was pushed back until it is seated.

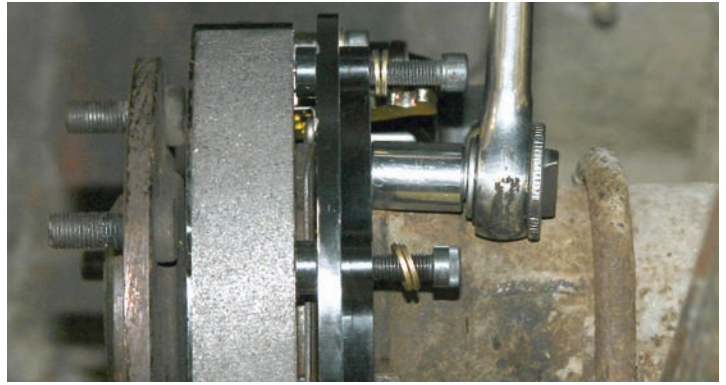


Another reminder, when the axles are out of the car it would be a good time to change the axle bearings if they have been in the car for a several years. If they have been changed recently you don't have to worry about it.





The brake system being installed has small inner parking brakes that have shoes similar to the original drum brakes. Here the holes in the bearing retainer are being lined up with the holes in the parking brake mechanism. The original square-head bolts were cleaned up and are being reused.



All of the nuts were installed on the bolts and then they were tightened with a ratchet wrench. The bolts should be as tight as possible.



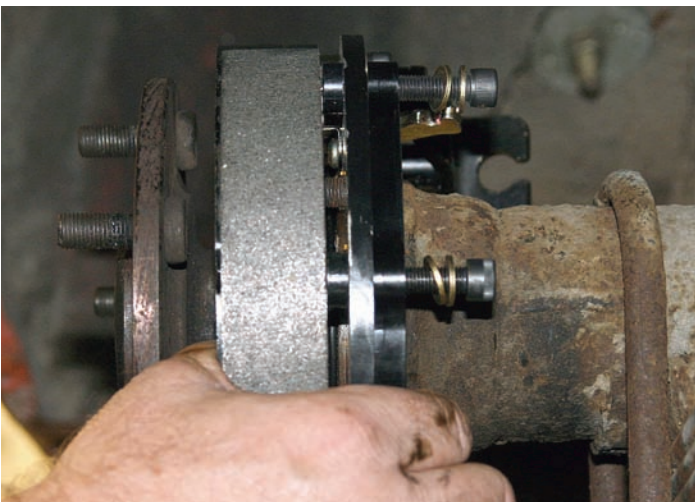
Here is the rear of the brake assembly with the bolts protruding through. The bolts will have to be lined up with the holes in the axle flange. Notice the caliper bracket is part of the parking brake assembly.



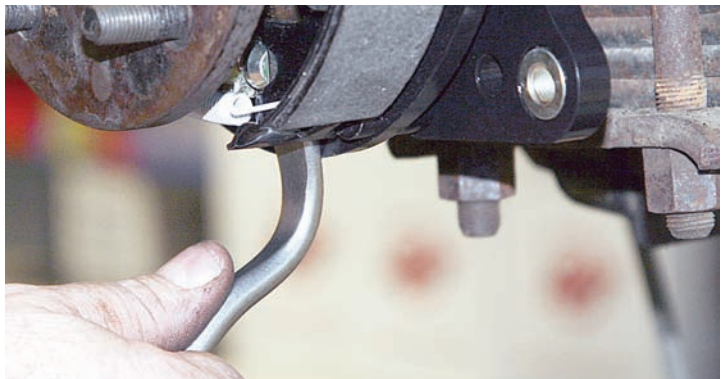
This installation requires another spacer ring that will allow this rotor to be seated on the Chevy axle.



The spacer is loaded over the original centering ring as seen here. This small spacer needed to align the rotor. This is only used for alignment because the wheels and lug nuts will keep the rotor in place.

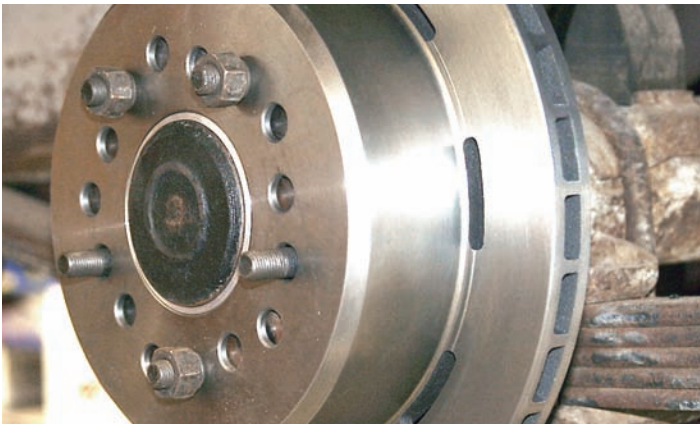


The axle was installed in the housing tube and the parking brake assembly and bearing retainer were moved toward the axle flange. First the axle splines were lined up with the carrier allowing the axle to move forward until the bearing can be loaded into the bearing cup. Line up the bolts with the holes in the flange and try to get them started. After they are started you can tap the end of the axle to get the bearing to seat and when it does the bolts threads should be protruding through.



Using a brake spoon, the spanner ring should be turned until the little brake shoes are in close proximity to the rotor drum.





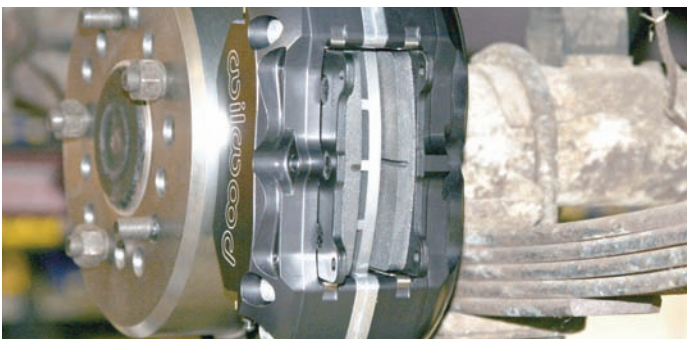
After the rotor was placed onto the axle flange centering ring it was secured with three lug nuts. There are three sets of holes in this rotor so make sure to use the proper set. A small mark by one of the holes will make it easy to figure out which one to use for your application.



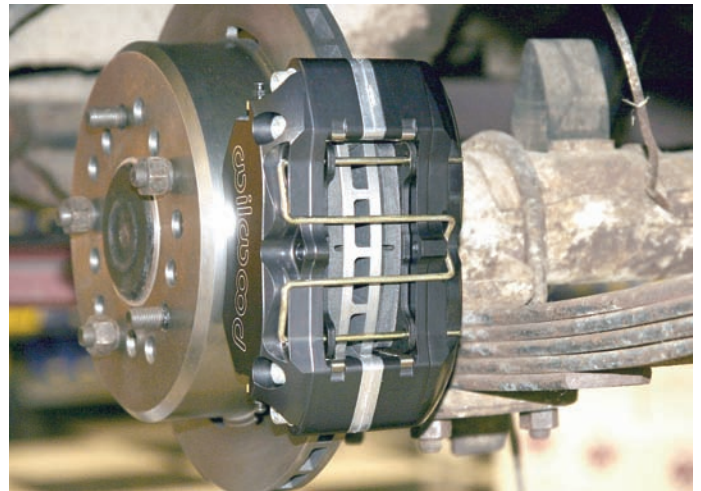
At this point the caliper can be mounted to the bracket assembly. Here one of the bolts is in the caliper and it was loaded with two shim washers.



The caliper was placed over the rotor and the bolts were installed. Here one of the bolts is being tightened with a ratchet wrench. At this point the axle to rotor centering can be done before the bolts are secured. After the caliper is centered over the rotor the two mounting bolts can be tightened to 35 ft-lbs.

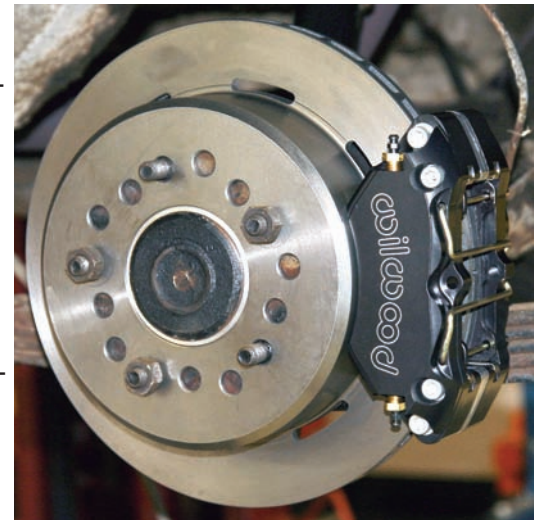


After the caliper is centered over the rotor, the BP-10 Smart Pads can be installed. Here they are being installed from the top of the Caliper. This design makes future pad changes very easy.



After the BP-10 Smart pads were loaded into the caliper, they were held in place with the quick-clip retainer. It is also important that the radius of the rotor matches the radius of the brake pads as seen here.

Here is the finished rear brake assembly. After the rear brake line is attached to the caliper the brakes were bled and the brakes were bedded in before the car was returned to daily use.



The front disc brake conversion kit that was installed on this Chevy was the standard kit but it can be upgraded with red or black powder coated Dynalite calipers and drilled and slotted rotors for a show car appearance.





The rear disc brake conversion kit that was installed on the '57 Chevy was the standard kit but it can be upgraded with red or black powder coated Dynalite calipers and drilled and slotted rotors for a show car appearance.

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