

Willys Disc Brake Conversion

A Step-by Step Guide for installing part# **376895**, listed on pg 127:

In this comprehensive tutorial, Seth Hensler of *Red Eye Garage* provides the steps for completing a front disc brake kit installation on the Dana 25/27, demonstrating the process and providing important information to ensure a successful conversion.

The importance of a disc brake conversion in a Jeep, or any vehicle, is multifaceted, contributing significantly to its overall performance and safety. Here's how a disc brake conversion can enhance the performance of a vehicle, particularly a Jeep:

***Heat Dissipation:** Disc brakes are more effective at dissipating heat compared to drum brakes. This characteristic is particularly beneficial for off-road vehicles. For vehicles that often encounter intense driving conditions, preventing brake fade and ensuring optimal braking performance even during prolonged or heavy use is important.

***Reduced Brake Fade:** A common issue in vehicles with drum brakes, especially under heavy use or during prolonged braking.

***Maintenance and Repairs:** They often require less frequent adjustments and provide easier access for inspection and servicing.

***Water and Debris Resistance**

***Enhanced Durability**

***Upgrade Potential:** Many aftermarket options and performance-enhancing components are readily available for disc brake systems.

Step 1



1. Raise and secure the front of the Jeep.

Step 2



2. Remove front wheels.

Step 3



3. Remove the locking hub or drive flange.

Step 4



4. Remove the rubber flex line, hose shield, and steel S line from the wheel cylinder.

Step 5



5. Once spindle nuts are exposed remove the spindle lock nut, washer, nut, and thrust washer. Once all nuts and washers are removed, slide the drum and hub off the spindle.

**Have a rag over the hub to catch the front wheel bearing as you slide the hub off. This will expose the brake shoes and spindle.*

Step 6



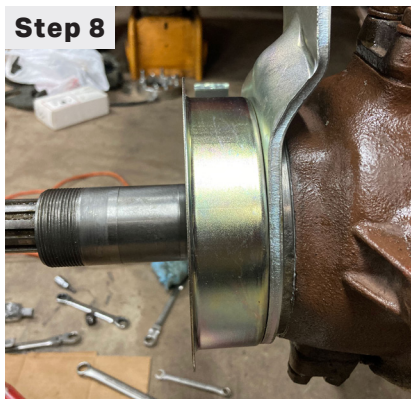
6. Remove the six 3/8 bolts holding the backing plate to the knuckle. Remove the spindle. The axle shaft may remain in the housing.

Step 7



7. Next, install the bracket and dust shield. Clean the spindle and knuckle sealing surface. I wipe a small amount of grey rtv on the knuckle and the threaded portion of the bolts.

Step 8



8. This is the correct order of how the parts are installed. Spindle/caliper bracket/dust shield.

Note: The bend in the caliper bracket goes back towards the knuckle. The ears where the caliper mounts face outward.

Recommended:

Use longer than stock bolts to hold the caliper bracket on. Use $\frac{3}{8}$ - 24 x 1.5" with lock washers.

This helps maintain full thread engagement after adding 1/4" thick caliper bracket.

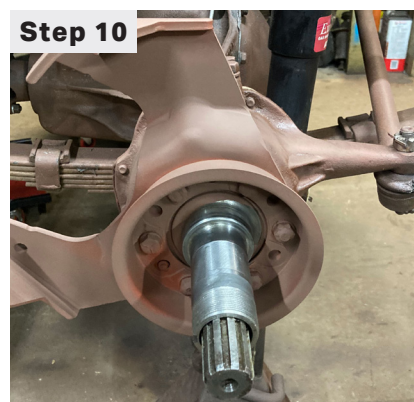
Step 9



9. For this step, some grinding is required. The caliper will not appear to contact the knuckle when the pads are new. As the pads begin to wear the caliper will move, contacting the knuckle in the area where the wiper seal bolts are located. A small trough should be made near the bolt in the photo. I also removed a little from the knuckle and a small amount from the caliper. Test fit and remove the desired amount.

Please Note: DO NOT let this step detour you from making this upgrade. It's nothing structural and once it's done and painted you won't ever give it another thought.

Step 10



10. Paint if desired.

Step 11



11. Prepare the new hub for bearings. New bearings and seals are included with the kit.

Step 12



12. Use a press or a hammer and a brass rod to install the bearings. They drive in easily. Make sure they are seated all the way.

Step 13



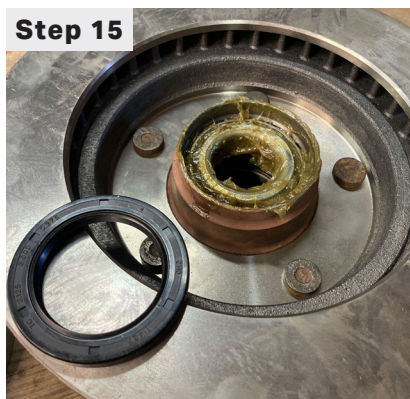
13. Prepare the rotor and new wheel studs. The hub goes on the outside of the rotor. Press or drive the studs through the back of the rotor.

Step 14



14. Prepare bearings and hub seal.

Step 15



15. Pack the rear bearing with grease and drop it in the back of the hub. The inner and outer bearings are interchangeable. Install the included hub seal (the side with the spring must face the grease/bearing).

Step 16



16. Pack the front bearing with grease. Clean and prepare the spindle for the hub and rotor.

*Recommended: Wipe a little grease on the hub seal surface.

Recommended: Consult Willys shop manual for exact procedure for steps 17-19 (below). The second washer and nut are to lock everything in place. It can be much tighter. I do not bend over the locking washer but that is up to the discretion of the owner.

Step 17



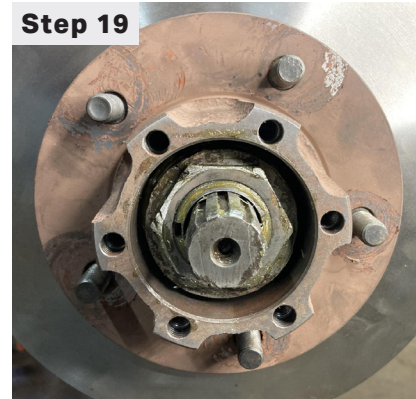
17. Slide the new hub and rotor on the spindle. Install front bearings and spindle nuts/washers.

Step 18

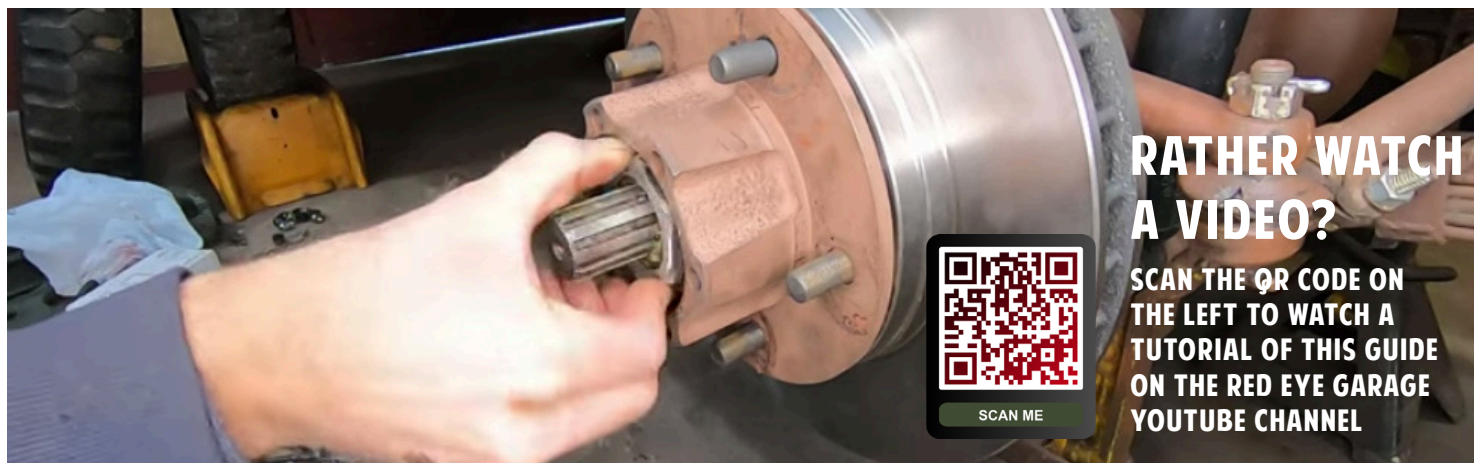


18. Once the hub is on the spindle, the correct order is as follows: Bearing/small washer/nut/large washer/nut.

Step 19



19. Tighten the first nut until you feel the correct amount of drag. I make new bearings a little tighter than used bearings. The second and final nut is the lock nut.



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20. Locate the correct caliper. They are marked with L or R on the back side of the caliper. Remove the slide pins. (3/8 Allen wrench) Ensure the pads are installed correctly and set the caliper on over the rotor and reinstall slide pins as shown.



21. Bend the stock steel brake line on the axle back to the stock location and prepare the included rubber flex hoses.



22. Locate the Banjo bolt and washers. This view shows why it is necessary to grind the knuckle. Notice clearance between the caliper and knuckle.



23. There are many ways you could mount the hose. I prefer to use the stock location on the axle. This method requires no modifications.



24. Reinstall your hub or drive flange. Follow your normal bleeding procedure to remove the air from the system.



25. Reinstall your wheels, Lower the vehicle and you are done!

By upgrading to disc brakes, Jeep owners can enjoy better stopping power, reduced maintenance requirements, and increased durability, ultimately enhancing the vehicle's performance both on and off the road. Overall a disc brake provides better and more consistent braking performance, especially in various driving conditions, including off-road terrain and steep inclines.

"Have you been thinking about upgrading to disc brakes? Kaiser Willys offers convenient bolt-on disc brake conversion kits. These kits include everything you need to improve braking safety, performance & ease of maintenance." ~ Seth Hensler

Seth Hensler aka "Red Eye Garage" is well known in the Jeep community for his unique Willys engine conversions and entertaining videos. His latest projects include a twin rotor wankel powered GPW and a Volkswagen TDI powered CJ-3A. Seth has a diverse background in education and manufacturing. Through an unexpected chain of events, and a few viral videos, Seth is now able to work full time under *Red Eye Garage*. He has 267,000 combined followers on Instagram, TikTok and YouTube. Seth has several published technical articles, has been a guest speaker on a podcast and done multiple video interviews on various Youtube channels. He also works with several sponsors and collaborators filming Willys based media content and product testing. If you've been to any Willys Jeep shows on the East Coast, you've probably seen Seth volunteering in some capacity.

For more on Seth Hensler and Red Eye Garage:
See our creator spotlight on pages 35-37.