Disc Brake Kit Installation Instructions

Please Read First

These instructions are for a variety of EMPI Front disc brake conversion kits. Please read this entire set of instructions before proceeding with the installation. Any instructions that are Safety related are listed in ***Bold Italic*** typeface and must be strictly adhered to. These step by step instructions should be read before you start to do any work and you should be able to understand them completely. If you do not have the resources to do this installation then have it performed by a qualified mechanic. ***Failure to follow these directions could result in damage to your vehicle or possible bodily injury.***

Your EMPI disc brake kit is designed to be used in combination with drum brakes. If you are going to install 4-Wheel Disc Brakes, a Dual Circuit Master Cylinder will be necessary. EMPI Part # 16-9554, Dual Circuit - 20mm master Cylinder, for all Beetles and Part # 17-2808 for Super Beetles are available at your EMPI dealer. Kit # 22-2926 also requires the use of '69 and later outer tie rod ends. Part # 99-4513 (Left Side) and 99-4514 (Right Side) these are available at your EMPI dealer.

Step 1: To start, secure the car on a level, hard surface . Block the rear wheels and set the emergency brake. Loosen the front lug nuts while the front wheels are still on the ground, but do not remove yet.

Step 2: Elevate the complete front suspension off of the ground and ***use approved jack stands to support the weight of the car. (Do not use the jack only to support the car).***

Step 3: Remove both front wheels.

Step 4: Remove the front brake drum on the driver's or left side, making sure you remove the inner wheel bearing and old grease seal.

Step 5: Loosen and remove the rubber brake hoses from metal brake line at the pan.

Step 6: To make spindle removal easier remove the 3 bolts that hold the drum brake backing plate to the spindle. Remove the complete backing plate with hose.

Step 7: You must replace your spindles with the new spindles furnished in the kit. Inspect your link and king pin bushings or your ball joints. If they are in need of replacement you can purchase these parts at your EMPI dealer.

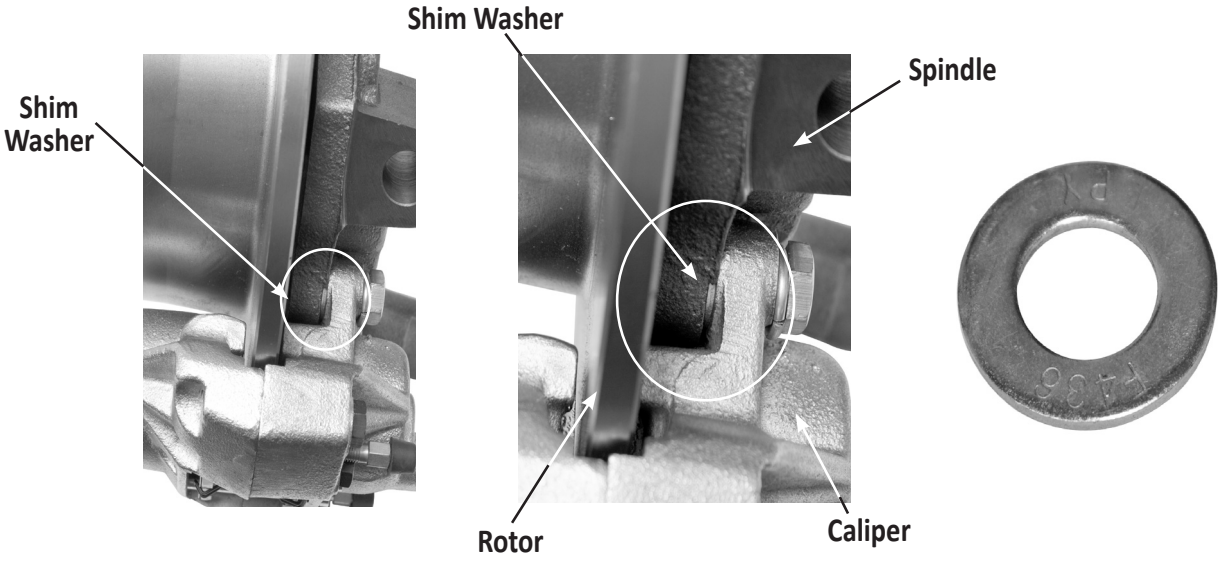
STEP 8: Install the new wheel bearing races in the new rotors. ***(Be careful not to damage the rotor or the races by binding them, we suggest that the bearing races be pressed in).***

Step 9: Pack the bearings with suitable hi-temp wheel bearing grease.

Step 10: Install the greased wheel bearings and the inner seal in the new rotors.

Step 11: Install the new rotor on the spindle using the new thrust washer and adjuster nuts. Adjust to factory specifications. ***(Be careful not to over tighten adjuster nut. This will cause overheating of the bearings, resulting in damage to spindle, bearings and rotor.)*** Install the grease cap and speedometer cap.

Step 12: Remove the plastic separator from between the brake pads in the caliper and install the caliper onto the bracket, the bleeder valve must go up. Hardened caliper shim washers are provided to accommodate for the machining variances between the rotor, caliper and spindle. If necessary, use the hardened shim washers on the caliper mounting bolts, between the caliper and spindle. There are eight (8) washers supplied in this kit, four (4) are .036 thick, four (4) are .055 thick. If necessary use a combination of washers to acheive the acceptable clearance between rotor and caliper. If shims are used, the same combination must be used on the top and bottom mounting bolts of individual caliper to ensure it is parallel with the rotor. Use a thread locker sealer and torque to 35ft lbs.



Step 13: IInstall the new hose at the caliper first, tighten. Tighten, now attach to the metal brake line at the pan, tighten. Install the clip into hose, securing it to the bracket. ***Once installed turn the steering right and left, lock to lock to ensure that the new brake hose does not interfere with any moving parts and that the line is long enough to acheive lock to lock turns.***

Step 14: You are now ready to repeat the procedure on the passenger side . Once completed, you will be ready to bleed the system.

Step 15: To bleed the complete hydraulic system. Fill the brake fluid reservoir with fresh dot 3 disc brake fluid.

Step 16: Start at the master cylinder loosening metal each metal brake line to bleed air there first, recheck the fluid level.

Step 17: Bleed the passenger side caliper first and then driver's side, remembering to not allow the reservoir to run dry!

Step 18: Do the final system bleed . Start with the passenger side rear then driver side rear. Move to the front and bleed the passenger side front, and finally the driver front. Do the final fill of the brake fluid

Step 19: Rinse any spilled brake fluid off with water (brake fluid is water-soluble), be careful not to let brake fluid get on any painted surfaces .

Step 20: Re-install the front tires and wheels, remove from the jack stands and lower the car to the ground. Give the lug nuts a final tightening.

Note

When test driving, be sure to make a few slow short stops first to familiarize yourself with the vehicles new braking power and making sure that everything is functioning properly.

Since Spindles (and possibly the outer tie rod ends) have been changed the front end geometry has also changed. A front end alignement will also need to be performed.