



## ***STOP! READ THIS FIRST!***

### **Installation Instructions for Bug Wide 5 Front Disc Brake Kits with spindles**

NOTE: This kit will only work with wheels that are 15" or larger!

Thank you for purchasing an AC Industries Disc Brake Kit. All of our kits are designed with components that are easy to install and with regular maintenance should last the rest of your car's life. **BUT** if you lack the knowledge and/or the proper tools to do this installation... **DO NOT** attempt to install this kit yourself, have it installed by a qualified mechanic. These step-by-step instructions should be read **COMPLETELY** before you start to do any work, and you should be able to understand it completely before you start! Failure to install this kit correctly and completely can result in damage to your car, injury to yourself and others and even death. **BEFORE** disassembling your vehicle, remove all parts from their boxes, inspect your kit completely, because over the years many parts on cars have been interchanged, make sure that you have the correct parts for **YOUR** car. It is the **INSTALLERS** responsibility to **VERIFY** that the kit is correct **BEFORE** starting to do the work! Once the kit has been installed, modified or painted, the parts **CANNOT** be returned.

The AC Industries kit that you have purchased is specifically made for the year car interchange shown on the label of the master box. There is **NEVER** a reason to machine or grind on these components. If you are experiencing a fitment or caliper to rotor alignment issue and you chose to modify the components of this kit in any way you will void the warranty. AC Industries will not replace any modified components.

**NOTE:** Heavy Duty Wheel Bearing Grease and Brake Fluid are not supplied in the kit. You will need to purchase these items before installing this kit.

#### **These instructions cover the following kits for Standard Beetle, Ghia and Thing:**

498640 '67-'77 5 x 205mm, w/ standard spindles

498740 '67-'77 5 x 205mm, w/ lowered spindles

**NOTE:** When using these kits on '67-'68 cars you will need to use '69 and later outer tie rod ends. This kit can be installed on a '66, but you will need to confirm that the brake hoses are long enough.

#### **This kit includes the following components:**

- 2 pcs Front rotors
- 1 pair Left & right spindles
- 2 pcs Front calipers with premium brake pads
- 2 pcs Inner wheel bearings and races
- 2 pcs Outer wheel bearings and races
- 2 pcs Wheel bearing grease seals
- 2 pcs Front brake hoses
- 4 pcs Bolts, caliper to spindle
- 4 pcs Serrated lock washers for above bolts

#### **Some of the tools required for the installation:**

- 7mm Allen wrench
- 11mm Line wrench
- 13, 15, 17 & 19mm wrench
- 15, 17 & 19mm socket
- 3/8" Drive ratchet
- Lug nut wrench
- Torque Wrench (ft./lbs.)
- Bearing race install tool

#### **Additional items needed for the installation:**

- Heavy duty wheel bearing grease (pt #000614)
- Brake fluid, DOT 3 is preferred (pt #000412)
- Master Cyl, w/ front disc (pt #113 611 015BD)
- Master Cyl, w/ 4 whl disc (pt #113 611 020BDD)
- Brake fluid reservoir (pt #251 611 301V)
- Tie rod end, left outer (pt #311 415 811C)
- Tie rod end, right outer (pt #311 415 812C)

**STEP 1** - To start, place the car on a level, hard surface, block the rear wheels and set the emergency brake.

**STEP 2** - Raise the complete Front Suspension off the ground and use suitable jack stands to support the

weight of the car. (Do not use the jack alone to support the car. Jacks can lose pressure and allow the car to drop.)

**STEP 3** - Remove both front wheels. Only remove parts from one side of the car at a time. We recommend to start with the driver's side.

**STEP 4** - Loosen and remove the rubber brake hose from the metal line at the pan. Remove retaining clip.

**STEP 5** - Remove the front brake drum (Set the grease cap, pinch nut, thrust washer and speedo clip aside, you will reuse these parts) Pull the speedo cable out from the back of the spindle. Start with the tie rod end first. The tie rod and the ball joints have tapered shafts that wedge themselves tight. If you chose to use a wedge fork tool, careful not to tear the boot. Next, remove ball joint nuts and separate the ball joints from the spindle and the spindle will be free from the car

**STEP 6** - Install the new spindle. Start by tightening the lower ball joint nut. Install the top ball joint with the thick washer and nut. Lastly, install the tie rod end into the spindle arm. On '66-'68 spindles you will have to change to later '69 and later ends.

**STEP 7** - Install the wheel bearing races in the new rotor with a bearing race install tool. Be careful not to damage the rotor when you install the bearing races during this procedure. The races **MUST** be installed straight or it can crack the rotor!! Pack the wheel bearings with a suitable SAE heavy duty wheel bearing grease (not supplied in kit). Install greased wheel bearings and inner grease seal into the new rotor.

**STEP 8** - Install the new rotor with greased wheel bearings and grease seal onto the new disc brake spindle using the original thrust washer and adjuster pinch nut. Adjust the wheel bearing preload to factory specifications. (Be careful not to over tighten the adjuster nut. This will cause overheating of the bearings, resulting in damage to the spindle, bearings and rotor.) Tighten pinch bolt to 7-10 ft./lbs. Reinstall the grease cap and speedometer cable with clip. (**NOTE** You must clean the rotor faces with a suitable cleaner to remove any oil and/or rust inhibitor before installing the caliper)

**STEP 9** - Install the brake caliper on to the spindle using the supplied hardware and torque to 29 ft./lbs.

**STEP 10** Install the brake hose at the caliper first and tighten to 11-14 ft./lbs. Install the metal brake line to the opposite end of the brake hose remembering to feed the end of the brake hose thru the bracket mounted to the pan first. Tighten the brake hose to the brake line and install the retainer clip securing the hose to the bracket.

**STEP 11**- Repeat steps 4 through 10 on the passenger (right) side of the car.

**STEP 12** - With both sides completely installed, it's time to bleed the air from the entire braking system. Fill the brake fluid reservoir with new DOT 3 brake fluid. (Never use brake fluid from a container that has been standing open after the use. Brake fluid is hygroscopic and contaminates within days of exposure to ambient air.)

**STEP 13** - Bleed the complete system. Start with the passenger (right) side rear, then the driver (left) side rear, then the passenger (right) side front and finally the driver (left) side front. Finally top off the brake fluid reservoir with new DOT 3 brake fluid. **NOTE:** Allowing the reservoir to run empty at any time during the bleeding process will reintroduce air to the system and the process will have to start all over again.

**STEP 14** - Install the front wheels and remove vehicle from jack stands.

**STEP 15** - With the vehicle on the ground & brake fluid reservoir topped off, sit in the driver seat and depress the brake pedal. Pedal should be firm without sponginess. Sponginess indicates air is in the hydraulic system and the bleeding process must be redone.

**STEP 16** - The front end of the car will need to be re-aligned. We recommend taking your car to a competent alignment shop to have this work done. Failing to do this will promote poor handling and premature tire wear.

**STEP 17** - Confirm all previous steps are complete by rechecking your work. When satisfied take the car out for a test drive and make several test stops to seat the new brake pads with the new brake rotors. Once the disc brakes are seated, you will notice increased stopping performance.

**STEP 18** - Enjoy your new found stopping power.