

FRONT SPINDLE & SPACER KIT INSTALLATION INSTRUCTIONS

Fits: Triumph 2 – 6

The objective of the kit is to install the spacer and shims so that the outer nut can be tightened very tight, there will be no play in the hub bearings, and the hub will still spin with the desired amount of bearing preload. With the spacer between the bearings and the spindle nut torqued, the spindle becomes much stiffer to resist flexing that causes brake knockback.

- 1) Remove the old spindle. The best way is to remove the vertical link from the car and press the spindle out with a large press. To remove the spindle with the vertical link on the car, turn the steering wheel to lock and loosen the inner nut until it is flush with the end of the threads. Slip the end of a long, heavy pipe over the outer end of the spindle and hold it securely up against the vertical link while hitting the inner end of the spindle with a sledge hammer. It won't give up with the first hit or maybe even the tenth but eventually it will loosen. Alternatively, you can remove the bolts that hold the upper ball joint in place and the tie rod end from the steering arm. Then swing the vertical link down and onto a short piece of pipe that is placed over the spindle and resting on a concrete floor. Loosen the inner nut until it is flush with the end of the threads, and hit the end of the stub axle with a sledge hammer. This should dislodge the spindle from the vertical link.
- 2) Install the new stub axle, washer, and $\frac{5}{8}$ " 18 Nylock nut and torque to 80 ft/lb.
- 3) Remove the felt seal, the steel washer that it rides on and the inner bearing from the hub. Wipe the grease off of the faces of the inner and outer bearing so that you get an accurate reading of the tightness in the shimming step.
- 4) Install the inner cone bearing and spacer onto the spindle then slide the hub or without the seal. Next carefully slide a 0.015" shim over the spindle and up against the spacer, making sure the spacer is pushed fully in against the inner bearing. While holding the hub in place, install the outer bearing, D washer and castellated nut. Slowly tighten the nut making sure that the hub can still spin freely. Do not continue tightening if the hub stops spinning freely. If it continues to spin freely, torque the nut to 80 ft/lb. Grab the brake rotor and wiggle it side-to-side and top-to-bottom. With the .015" shim in place, there should be some wobble. Decrease the thickness of the shims until there is no play and the rotor and hub spin with the desired bearing preload when the nut is tightened to 80 ft lb. Opinions vary as to how much preload is correct. Personally, I believe the OE cast iron hubs should have about 2 in/lb of preload. Aluminum alloy hubs can be set to 3 to 5 inch/lbs. Preload can be checked by hanging a weight on a wheel stud that is turned at 3:00 or 9:00 position. With the standard 4.5" bolt circle a wheel stud is 2.25" from center so a 1 lb weight would generate 2.25 inch/lb of torque. With the proper preload a 1 lb weight should turn the hub from 3:00 position to about 4:00 or 4:30. For alloy hubs use a 2 lb weight.

5) After the desired preload is achieved, remove hub, bearings, shims and spacer from the spindle and begin final assembly. Put the shim(s) aside and grease the bearings, ready for assembly. Slide the spacer into the hub from the rear, install the inner bearing then the seal washer then the felt seal. Carefully slide the hub over the spindle, push the spacer fully in against the inner bearing and slide the shim(s) on against the spacer. Install the outer bearing, D washer and castellated nut. Torque to 80 ft/ lbs, and install the cotter key and dust cap.

NOTICE: This is not a set-it-and-forget-it part. It requires checking from time to time. In particular, the thinnest shims tend to deteriorate and need replacing if the car is used for frequent racing. Therefore, use a combination of shims that gives the proper clearance with the combination of thickest shims. We have seen no deterioration in 0.015", 0.010", and 0.005" shims. The shims that deteriorate are usually the 0.002" and 0.001".

Included shims: 4 x 0.001", 4 x 0.002", 4 x 0.005", 2 x 0.007", 2 x 0.010", 2 x 0.015"

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