

# SPC

## PERFORMANCE®

*This part should only be installed by personnel who have the necessary skill, training and tools to do the job correctly and safely. Incorrect installation can result in personal injury, vehicle damage and / or loss of vehicle control.*

Plan Ahead - Read All Instructions **BEFORE** installing part.



**Before beginning, Record the alignment readings, determine the amount of caster and/or camber change needed. Installing the control arm alone should provide  $\pm 4.0^\circ$  of caster change and  $-4.0^\circ$  to  $+2.0^\circ$  camber change.**

**If more positive camber change is needed install the hub shim kit which will provide an additional  $2.0^\circ$  of positive camber.**

Check for loose or worn parts, proper tire pressure, and odd tire wear patterns before beginning alignment.

### CONTROL ARM INSTALLATION

1. Raise and support vehicle by frame. Remove front tire and wheel assembly.
2. Remove cotter pin and nut from the upper ball joint. Break ball joint taper, using SPC P/N 8370 or equivalent. Save ball joint-to-knuckle adapter for reuse later. Support knuckle.
3. Remove bushing bolts holding the upper control arm to body. Remove upper control arm.

**NOTE: In some cases it may be necessary to remove strut assembly or compress spring to access control arm bolts if a spring compressor is available.**

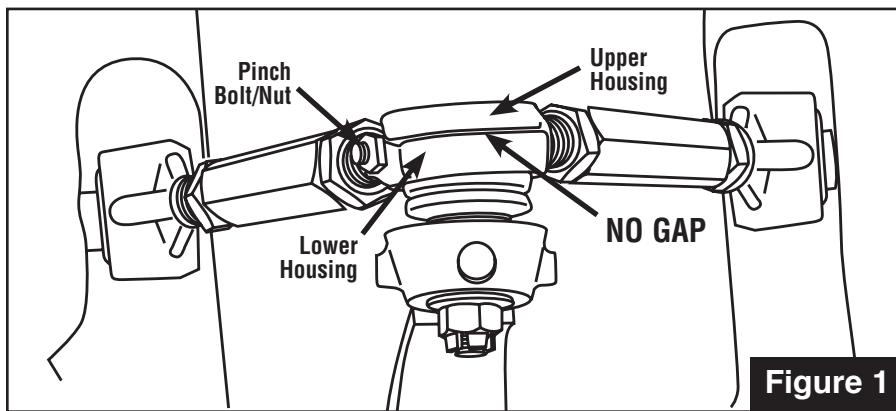


Figure 1

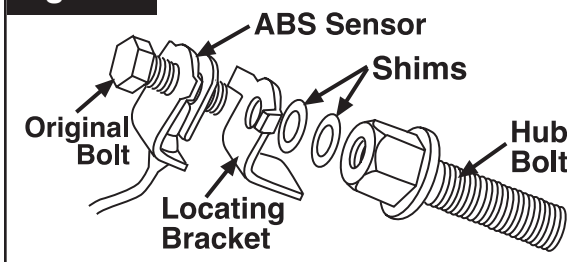
4. Lay adjustable control arm over factory control arm, lining up bushings. Turn hex adjusters until ball joints are lined up and arms have approximately same geometry.  
**NOTE: Ensure there is equal thread showing on each side of hex adjuster(s). Longer hex adjuster should be in forward position relative to vehicle.**
5. Install adjustable control arm into vehicle, making sure inboard forgings are aligned square to bushing pockets.
6. Lightly tighten hex adjuster jam nuts to keep inboard forgings from twisting.
7. Torque upper control arm to bushing bolts to manufacturer's specification.
8. Install ball joint stud adapter into knuckle, then ball joint into adapter. Re-install OE castle nut and lightly tighten.
9. Verify there is no gap between upper and lower ball joint housings.  
**NOTE: Use pry bar between lower ball joint and knuckle to push lower housing up until there is no gap between two halves. Use care to not damage rubber boot.**
10. Torque ball joint nut to 40-46 lb-ft. (54-63 Nm), tighten more as necessary to install new cotter pin.

11. Reinstall tire and wheel assembly. Lower vehicle.
12. Finish alignment using provided adjusters.
13. After alignment make sure all jam nuts are tightened.
14. **IMPORTANT: Ensure pinch bolt is arranged with nut facing outward. Again verify no gap between upper and lower ball joint housings, then torque M8 pinch bolt to 27 lb-ft (36 Nm). Figure #1 Note: Under-tightening or over-tightening pinch bolt may result in damage to control arm!**
15. If shim kit is required follow *Hub Shim Kit Installation* instructions below.
16. Test drive vehicle.

### HUB SHIM KIT INSTALLATION

1. Remove brake caliper and support it out of the way so there is no strain on the brake line then remove brake rotor.
2. Remove the ABS sensor on the back of the hub.
3. Remove the 4 bolts holding the bearing hub and remove the hub from the knuckle along with the brake shield. Use caution not to damage the back of the bearing hub that supplies the ABS signal.
4. Install the hub spacer so the thickest part of the shim is up and all 4 bolt holes line up properly.
5. Install the plastic dust shield so the ABS sensor opening is pointed straight up towards the very top hub retaining bolt hole. Now install the bearing hub and brake shield. The bolt with the threaded 8mm hole is installed at the top of the hub directly above the opening in the plastic dust shield (#A - Figure #3). Use the two longer supplied bolts on the middle two hub holes (#B - Figure #3). Use the stock bolt on the lower hole (#C - Figure #3). Tighten bolts to 58-72 ft-lb (78-98Nm).
6. Using the stock ABS bracket bolt install the ABS sensor onto the top hub retaining bolt using the two supplied shims and the locating bracket as illustrated in Figure #2. Tighten the bolt making sure the ABS sensor does not touch the rotating bearing hub. Figure #3
7. The ABS sensor gap must be checked. Using a non-magnetic feeler gauge check the gap between the sensor

Figure 2



and back of the bearing hub. There should be an .010 to .020 gap and the nose of the sensor should be square with the hub. Add or remove shims to achieve proper air gap Figure #2.

**The sensor must not touch the back of the hub.**

8. Reinstall brake rotor.
9. Install the caliper spacer between the caliper mount and caliper with the thickest part up. Tighten caliper bolts to 112 lb-ft (150Nm). Make sure brake rotor turns freely.
10. Confirm that the Anti-Lock Brake and Traction Control systems are working properly.
11. If hub shim kit is installed and the ABS or Traction Control light is illuminated the air gap will need to be adjusted per Step 7.

Right Side  
FRONT

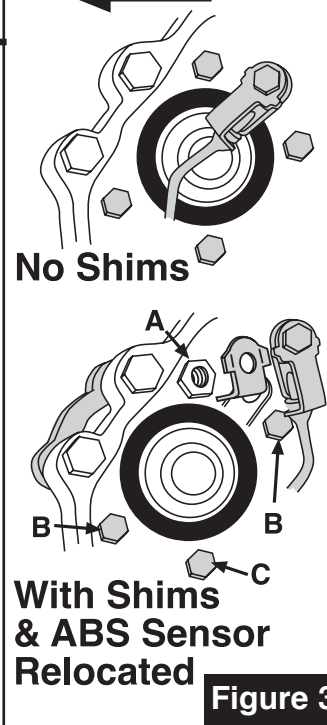


Figure 3



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