

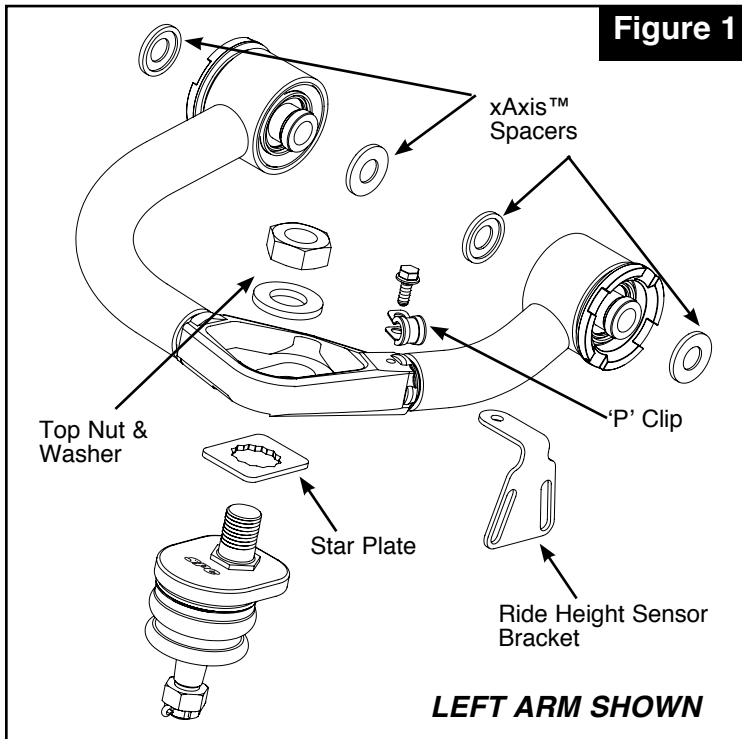


This part should only be installed by personnel who have the necessary skill, training and tools to do the job correctly and safely. Incorrect installation can result in personal injury, vehicle damage and / or loss of vehicle control.

Plan Ahead - Read All Instructions BEFORE installing part.

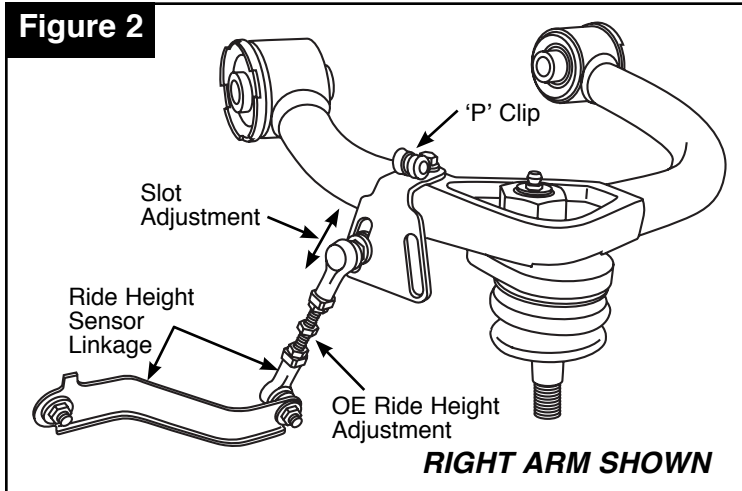
Check for loose or worn parts, proper tire pressure, and odd tire wear patterns before beginning alignment.

1. If vehicle is equipped with ride height sensors, measure and record front ride height from ground to fender lip on a level surface.
 2. Take initial alignment readings and determine caster change needed.
 3. Raise front of vehicle and securely support by frame.
 4. Remove front tire and wheel assembly.
 5. Loosen OE upper control arm mounting bolts. Remove OE ABS wiring bolt and ride height sensor (if equipped) from OE upper arm.
 6. Remove cotter pin and nut holding OE ball joint to knuckle and discard both. Break taper between OE ball joint stud and knuckle and remove OE ball joint from knuckle.
- NOTE: Support knuckle to avoid strain to ABS wiring or brake lines.**
7. Remove OE upper control arm mounting bolts and remove OE control arm.
 8. Pre-assemble supplied xAxis™ spacers over each end of xAxis™ joints (4 per arm) as shown in **Figure 1**.



TECH TIP: Apply small dab of grease to spacer recess before placing it on xAxis™ joint to help retain them during install.

9. Install SPC control arm into frame pockets using OE mounting bolts. Verify all supplied spacers are positioned correctly. Loosely tighten bolts with OE cams in neutral position.
10. Install supplied star plate over hex on SPC ball joint, per chart below, to achieve desired caster change determined in Step 2 above.
NOTE: For most trucks with 2-3" of lift, setting "D" should return caster to manufacturer's specifications, but it may be necessary to use different positions on each side to achieve desired cross caster settings.
11. Insert SPC ball joint up through bottom of arm, indexing star plate in machined slot, and then install supplied top washer and nut, see **Figure 1**. Position ball joint approximately in middle of slot and snugly tighten nut.
12. Install SPC ball joint stud into knuckle, install supplied castle nut, and torque to 45 ft-lb [61 Nm]. Tighten further, but only until cotter pin can be installed. Install supplied cotter pin.
13. Remove original ABS bracket from ABS wire by prying it open with screwdriver. Use supplied insulated P-clip and M6 bolt to secure ABS wiring to SPC arm.
NOTE: If vehicle is equipped with ride height sensors, sandwich included height sensor bracket between P-clip and SPC control arm and bolt bracket to arm. Connect sensor linkage to vertical slot in arm bracket, center in slot of bracket and loosely fasten, see Figure 2.
14. Reinstall tire and wheel assembly and lower vehicle.
NOTE: On vehicles with ride height sensors, adjust sensor linkage in bracket slots to achieve front ride height as measured in step 1.
15. Take alignment readings. Verify caster change. If additional adjustment is necessary, loosen top nut and reposition star plate to rotate ball joint relative to arm. Adjust camber with SPC arm by loosening top-nut and sliding ball joint in control arm slot.
NOTE: It will be necessary to raise vehicle to make camber/caster adjustments with SPC arm.
16. With full vehicle weight on suspension, fine-tune alignment using OE cams.
NOTE: With SPC arm installed, forward OE cam primarily adjusts caster, while rear OE cam primarily adjusts camber.
17. When final camber/caster settings are achieved, torque top ball joint nut to 200 ft-lb [271 Nm]. Torque OE cam bolts to manufacturer's specification.
NOTE: Unlike OE rubber bushings, xAxis™ bushings pivot freely, and may be fully torqued without full vehicle weight on suspension. It may be necessary to raise vehicle slightly to have better access to OE cam bolts. If doing so, take care to preserve alignment settings.
18. Adjust toe and road test vehicle.



Maintenance:

This ball joint is fully sealed and features a lifetime grease. No maintenance is required after installation.

Always check for proper clearance between suspension components and other components of the vehicle.

Note: With flat face of ball joint facing away from the tire (Position D) this arm will give +1° additional caster. Using the star plate, caster change can be adjusted from -1.0° to +3.0°.

LEFT FRONT CASTER CHANGE							FRONT OF VEHICLE
A	B	C	D	E	F	G	
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	
+3.0° +2.75° +2.0° +1.0° 0.0° -.75° -1.0°							Total Arm + Ball Joint Caster Change
RIGHT FRONT CASTER CHANGE							FRONT OF VEHICLE
A	B	C	D	E	F	G	
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	
+3.0° +2.75° +2.0° +1.0° 0.0° -.75° -1.0°							Total Arm + Ball Joint Caster Change