

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. Take initial alignment readings and determine caster change needed.
 2. Raise vehicle by lower control arm and securely support.
 3. Remove front tire and wheel assembly.
 4. If installed, set lower control arm cam bolts to center, neutral position and lightly tighten.
 5. Remove cotter pin and nut holding OE ball joint to steering knuckle and discard both. Break taper between ball joint stud and knuckle.
- NOTE: Support steering knuckle to avoid strain to brake lines or ABS wires.**
6. Loosen and remove OE upper control arm-to-frame mounting bolts. Remove OE control arm.

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.

10. Insert SPC ball joint up through bottom of arm, indexing star plate in machined slot, and then install supplied top washer and nut. Position ball joint approximately in middle of slot and snugly tighten nut.

NOTE: Swing arm down to check that ball joint boot clears spring tower by about 1/4" [6mm], see Figure 2. On some vehicles, it may be necessary to slightly modify the flange of the tower to insure clearance of ball joint boot.

11. Insert SPC ball joint into steering knuckle, install supplied castle nut and torque to 45 ft-lb [61Nm]. Tighten further, but only until cotter pin can be installed. Install supplied cotter pin.
12. Re-install tire and wheel assembly. Lower vehicle and take alignment readings. Verify caster readings. 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.
13. With full vehicle weight on suspension, fine-tune alignment using lower control arm cam bolts, if installed.

NOTE: Camber and caster can be set with SPC upper control arm, as well as lower control arm cam bolts. In most cases, it is recommended that lower cam bolts be set to their neutral position. This way they can be used to fine-tune caster setting. Alternately, if caster is set to max positive with lower cam bolts, and final alignment is achieved with SPC upper ball joint setting, more tire clearance may be obtained at rear of wheel opening. To do this, push rear lower adjuster outward, towards tire, and pull front lower adjuster inward, towards center of vehicle. The lower control arm adjusters are far more efficient at creating clearance. This typically requires using ball joint position "E".

14. When final camber/ caster settings are achieved, torque top ball joint nut to 200 ft-lb [271Nm]. Torque lower cams to manufacturer's specifications. Adjust toe and road test vehicle.

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

Maintenance:

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

TECH TIP: To remove rear bolt on driver's side, it is easiest to remove nut, slide bolt forward slightly, and cut off head of bolt. Bolt can then be removed from the rear. A replacement bolt and nut have been included in kit. Alternatively, partially separate steering shaft from steering rack and tilt inward to gain clearance for removing OE bolt. Use caution to not to change alignment of splined shafts if using this method.

7. Install SPC control arm into frame pockets using OE and provided bolts. SPC control arms are identical. Install left arm (Driver's side) with "L" on ball joint plate facing up and right arm with "R" facing up.

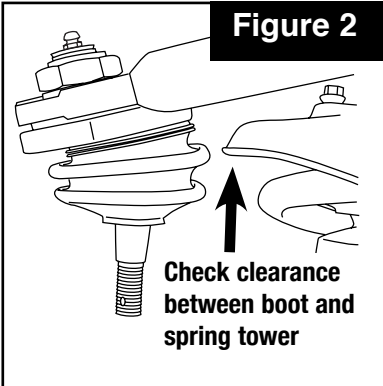
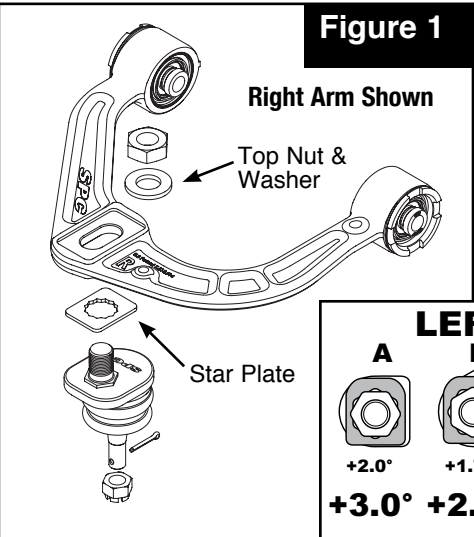
NOTE: Install driver's side rear bolt from rear.

NOTE: 2015+ model years are known to have an issue with reduced factory clearance in the Driver's side front UCA frame pocket. The holes on this bracket may need to be slotted outward (use SPC #74920 or equivalent) to accommodate SPC control arm. Confirm end ring of SPC arm does not contact bracket.

8. Torque all mounting bolts to manufacturer's specification.

NOTE: Unlike OE rubber bushings, xAxis™ bushings pivot freely, and may be fully torqued without placing any weight on suspension.

9. Install star plate over hex on SPC ball joint per chart below to achieve desired caster change determined in Step 1 above.



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° -.75° -1.0°							<p>Ball Joint Setting Total Arm + Ball Joint Caster Change</p>
RIGHT FRONT CASTER CHANGE							
A	B	C	D	E	F	G	<p>Ball Joint Setting Total Arm + Ball Joint Caster Change</p>
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	
+3.0° +2.75° +2.0° +1.0° 0° -.75° -1.0°							



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