



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 and securely support by frame so suspension hangs free.
3. Remove front tire and wheel assembly.
4. Set lower control arm cam bolts to center, neutral position and lightly tighten.
5. Loosen nut on long, upper arm-to-frame mounting bolt. Remove bolt holding ABS wiring to OE control arm.
6. Remove cotter pin and nut holding OE ball joint to steering knuckle and discard both. Break taper between ball joint stud and knuckle. Support steering knuckle to avoid strain to brake lines or ABS wires.
7. Remove nut and OE washer from long arm-to-frame mounting bolt and remove bolt from vehicle.  
**NOTE: To provide clearance, additional components in engine compartment may need to be removed.**
8. Remove second OE washer from head of long arm-to-frame mounting bolt and discard both OE washers. Replace it with a supplied offset washer. When installed, offset washer flange should be away from bushing flange, see **Figure 2**.
9. Install SPC control arm, using OE long arm-to-frame bolt. Place second supplied offset washer over protruding end of bolt. Again, be sure that offset washer flanges are installed away from bushing flange, see **Figure 2**.
10. Torque long arm-to-frame bolt to manufacturer's specification.  
**NOTE: Unlike OE rubber bushings, xAxis™ bushings pivot freely, and may be fully torqued without placing any weight on suspension.**
11. Install star plate over hex on SPC ball joint per chart below to achieve desired caster change determined in Step 1 above.

12. Insert SPC ball joint up through bottom of arm, indexing start plate in machined slot, and then install supplied top washer and nut. Position ball joint approximately in middle of slot and snugly tighten nut.
13. 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.
14. Re-attach OE ABS wiring bracket to SPC arm using OE bolt. Torque to manufacturer's specifications.
15. 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.

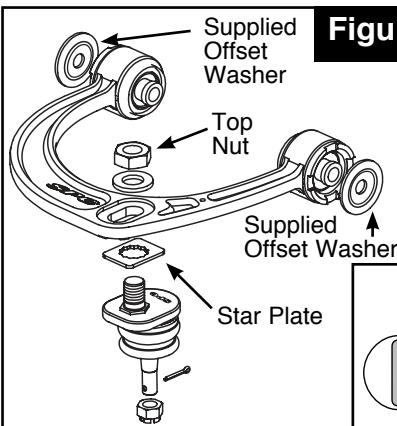
**NOTE: It will be necessary to raise vehicle to make camber/caster adjustments with SPC arm.**

16. With full vehicle weight on suspension, fine-tune alignment using lower control arm cam bolts.

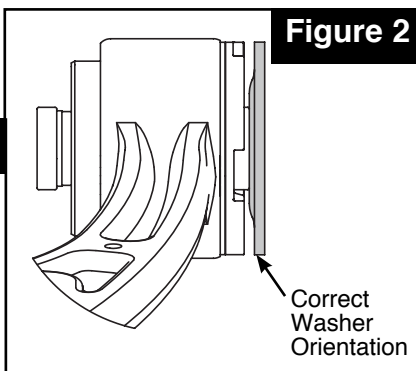
**NOTE: Camber and caster can be set with SPC upper control arm, as well as lower control arm cam bolts. In most cases, it is recommended that lower cam bolts be set to their neutral position. This way they can be used to fine-tune caster setting. Alternately, if caster is set to max positive with lower 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. This typically requires using ball joint position "E".**

17. 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.

**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.**



**Figure 1**



**Figure 2**

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

Check out how to move tire forward in wheel well:



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

**Note: With flat face of joint facing the tire (Position D) this arm will give +2° additional caster. Using the star plate, caster change can be adjusted from +0.0° to +4.0°.**

LEFT FRONT CASTER CHANGE							
A	B	C	D	E	F	G	FRONT OF VEHICLE
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	Ball Joint Setting
<b>+4.0° +3.75° +3.0° +2.0° +1.0° +.25° 0.0°</b>							<b>Total Arm + Ball Joint Caster Change</b>
RIGHT FRONT CASTER CHANGE							
A	B	C	D	E	F	G	FRONT OF VEHICLE
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	Ball Joint Setting
<b>+4.0° +3.75° +3.0° +2.0° +1.0° +.25° 0.0°</b>							<b>Total Arm + Ball Joint Caster Change</b>



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