

PATENT NO. US 7,513,514 B1

TOYOTA/LEXUS ADJUSTABLE CAMBER/CASTER UPPER ARMS (With SpecRide™ Bushings)

Toyota Landcruiser 100 • Lexus LX470

Check out how to install this part at:
<http://www.spc-tv.com>



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.

Before beginning alignment check for loose or worn parts, proper tire pressures, and odd tire wear patterns. Replace any loose or worn parts.

Plan Ahead - Read All Instructions BEFORE installing part.

1. If your vehicle is equipped with ride height sensors first measure front ride height from the ground to the fender lip on a level surface.
2. Raise vehicle by frame and support with jack stands. Remove front tire and wheel assemblies.
3. Loosen nut on the upper arm-to-frame mounting bolts and remove bolt holding ABS wiring to upper arm. Remove ride height sensor link from arm if equipped.
4. Remove cotter pin and nut holding OEM ball joint to spindle. Break the taper between the ball joint stud and spindle and remove the ball joint from the spindle. Support the spindle so no strain is applied to ABS wiring, brake lines, or CV boot.
5. Remove nuts from arm mounting bolts and remove bolts and arm.
6. Using supplied grease only, liberally coat the inside of all four SpecRide control arm bushings, making sure all small voids are filled with grease. Press a pivot sleeve (#B-Figure 1) into each bushing until it is flush with outside of bushing. This will push some grease out, which is normal. Use this grease to lightly coat outboard ends of SpecRide™ bushings where they will contact included large washers. (#A-Figure 1).
7. Install SPC control arm to vehicle. Note washer arrangement in illustration – place one large washer on outboard side of each bushing, but inside the frame mounting brackets. Install factory cam bolts. Center cams, and torque to manufacturer's specifications.

NOTE: Unlike OEM rubber bushings, SpecRide bushings pivot freely and can be torqued without applying vehicle weight.

8. Install star plate over hex on ball joint per chart below to achieve desired caster change relative to the stock arm. (For most trucks with 2-3" of lift, setting "D" should return caster to factory specifications.) Insert ball joint up through the bottom of arm, indexing star plate in the machined slot, and then install top washer and nut. Position balljoint in middle of slot and hand tighten nut for initial alignment readings.
9. Insert ball joint stud into spindle, install supplied castle nut and torque to 45 ft-lb [61nm]. Tighten further until supplied cotter can be installed.
10. Remove original ABS bracket from ABS wire by prying it open with a screwdriver. Use supplied insulated P-clip and M6 bolt to secure ABS wiring to SPC arm.

NOTE: If equipped with ride height sensors, sandwich included height sensor bracket between P-clip and SPC control arm. Connect sensor to vertical slot in arm bracket, centered in slot.

11. Re-install tire and wheel assembly. Lower the vehicle.

NOTE: On vehicles with ride height sensors, adjust sensor arm in slot to achieve correct front ride height.

12. Take alignment readings. Adjust caster by loosening top nut and repositioning star plate to rotate ball joint relative to arm for large changes per the chart below. For small caster changes, use OEM cams. Once caster is set properly, adjust camber by loosening top nut and sliding ball joint in control arm slot. (It will be easier to make camber adjustments if vehicle is raised slightly.)

13. When final caster/camber settings are achieved, torque top ball joint nut to 150 ft-lb [203nm]. Adjust toe, road test vehicle.

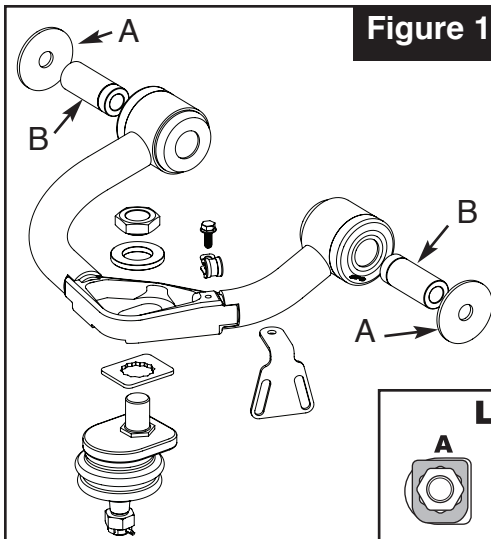


Figure 1

Note: With SPC logo 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							
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	Ball Joint Setting
+3.0°	+2.75°	+2.0°	+1.0°	0.0°	-.75°	-1.0°	Total Arm + Ball Joint Caster Change
RIGHT FRONT CASTER CHANGE							
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	Ball Joint Setting
+3.0°	+2.75°	+2.0°	+1.0°	0.0°	-.75°	-1.0°	Total Arm + Ball Joint Caster Change



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ECN#1504