

TOYOTA/LEXUS ADJUSTABLE CAMBER/CASTER UPPER ARMS

PATENT NO. US 7,513,514 B1

Toyota Landcruiser 100 • Lexus LX470

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.

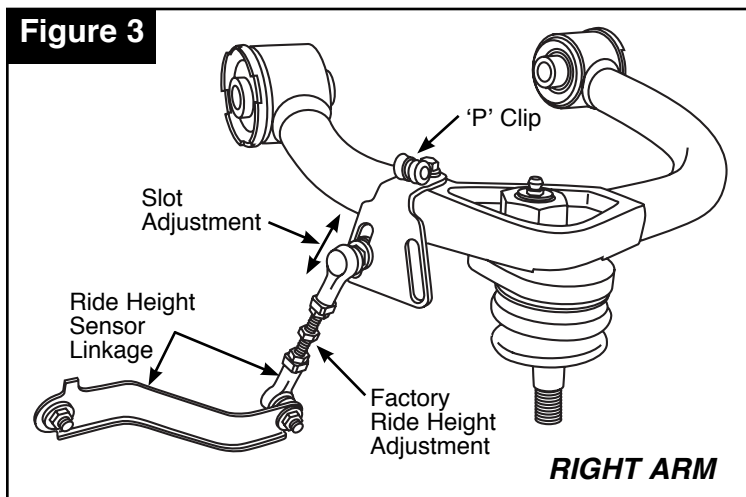
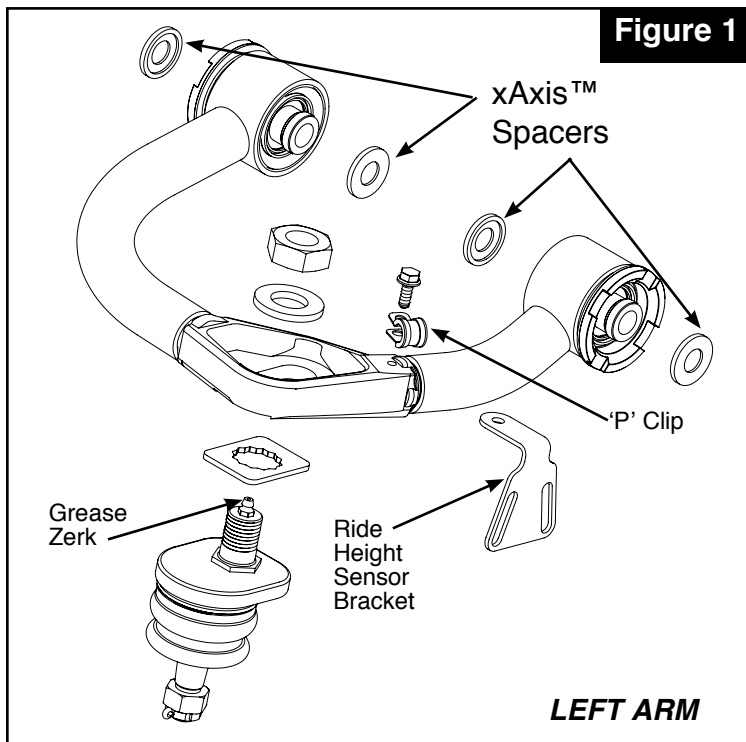
Plan Ahead - Read All Instructions BEFORE installing part.

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. Raise vehicle and support by frame. Remove front tire and wheel assembly.
3. Loosen upper arm mounting bolts and remove ABS wiring bolt and ride height sensor (if equipped) from upper arm.
4. Remove cotter pin and nut holding OE ball joint to knuckle. Break taper between ball joint stud and knuckle and remove ball joint from knuckle. Support knuckle so not to strain ABS wiring or brake lines.
5. Remove arm mounting bolts, and remove OE control arm.
6. Install 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.



7. Install SPC control arm into frame pockets. Loosely install OE arm mounting bolts with cams centered.
8. Install star plate over hex on ball joint housing per **Figure 2** to achieve desired caster change.
NOTE: For most trucks with 2-3" of lift, setting "D" should return caster to manufacturer's specifications.
9. Install ball joint up through bottom of arm, indexing star plate in machined slot, and then install washer and nut. Slide ball joint to midpoint of travel in arm slot and tighten nut for initial alignment readings.
10. Install ball joint stud into knuckle with provided castle nut. Tighten castle nut to 45 ft-lb [61 Nm], then tighten more only as necessary to install cotter pin.
11. 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 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 (**Figure 3**).

12. Grease ball joint with NLGi #2, Grade LB with 3%-5% Molybdenum Disulfide grease. 5 to 10 pumps of grease are sufficient at each lubrication.

WARNING: FAILURE TO GREASE AND MAINTAIN THIS BALL JOINT WILL RESULT IN PREMATURE FAILURE AND VOID WARRANTY.



TECH TIP: Use a magnetic adjustable camber gauge (SPC P/N 81139) to rough in camber change without needing to reinstall tire and wheel assembly.

13. 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 (**Figure 3**).
14. Adjust camber by sliding upper ball joint in slot. Adjust caster by rotating ball joint in star plate. (It will be necessary to raise vehicle to make these adjustments.) Fine tune camber and caster using OE cams.
NOTE: With SPC arm installed, forward OE cam primarily adjusts caster, while rear OE cam primarily adjusts camber.
15. When finished adjusting, torque top ball joint nut to 150 ft-lb [203 Nm]. Torque OE cam bolts to manufacturer's specification.

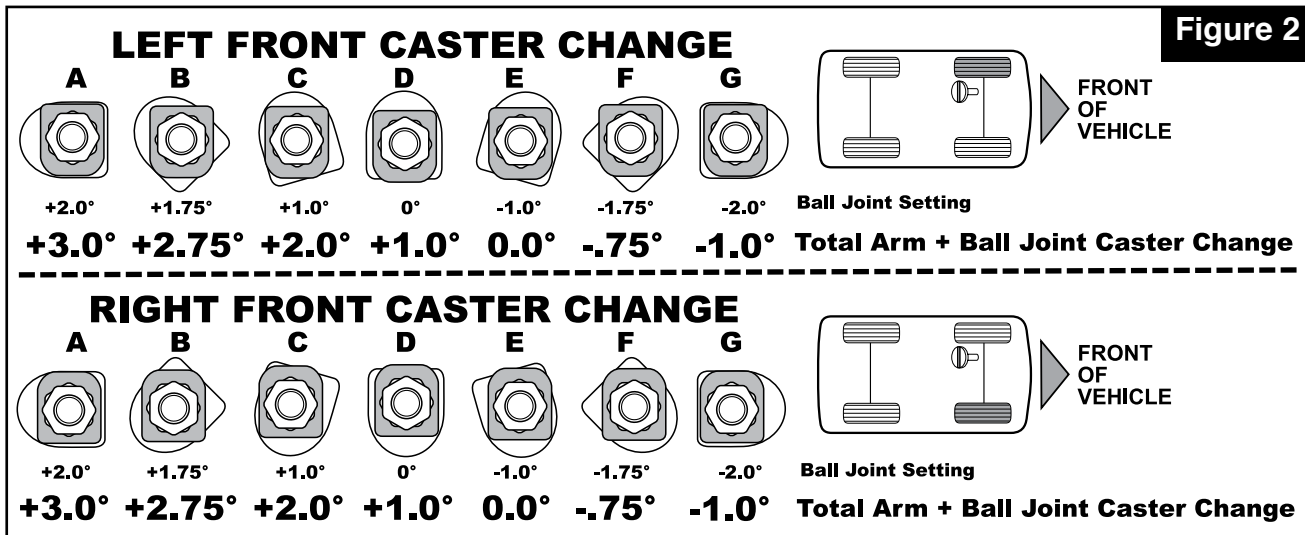
NOTE: Unlike OE rubber bushings, xAxis™ bushings pivot freely, and may be fully torqued without placing any weight on suspension.

Maintenance:

Lubrication Interval - SPC recommends adding 5 to 10 pumps of grease to ball joint at each oil change, or after operating vehicle in wet or dusty conditions.

16. Complete alignment and road test vehicle.
Always check for proper clearance between suspension components and other components of the vehicle.

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°.



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