PART NO. 35450 **Instruction Sheet**

LEXUS LX600 UPPER CONTROL ARM

PATENT NO. US 7,513,514 B1

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 front of vehicle by frame and securely support.
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 upper arm-to-frame bolt and remove bolt holding ABS bracket to upper arm, taking care not to distort bracket.
6. Disconnect ride height sensor linkage from OE control arm.
7. Remove cotter pin and nut holding OE ball joint to knuckle and discard. Break taper between OE ball joint stud and knuckle and remove ball joint. Ensure that steel insert within OE knuckle remains in place.

   NOTE: Support knuckle so no strain is applied to ABS wiring or brake lines.
8. Remove nut and washer from arm-to-frame mounting bolt and remove bolt and arm. It may be required to remove additional components from vehicle in order to complete arm-to-frame bolt removal. Discard both OE washers. Place one supplied offset washer onto head of arm-to-frame bolt. When installed, offset washer flange should be facing away from bushing flange, see **Figure 2.**
9. Install SPC upper control arm using OE arm-to-frame bolt with previously situated offset washer. Place second provided offset washer on threaded end of arm-to-frame bolt and using OE nut, torque arm-to-frame bolt to manufacturer's specifications.

   NOTE: Unlike OE rubber bushings, xAxis™ bushings pivot freely, and may be fully torqued without placing any weight on suspension.
10. Install star plate over hex on SPC ball joint per chart below to achieve desired caster change determined in Step 1.

    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 into machined slot. Install supplied top washer and nut. Position ball joint in middle of slot and snugly tighten.
12. Insert SPC ball joint stud into knuckle. Install supplied castle nut and torque nut to **45 ft-lb [61Nm].** Tighten further but only until cotter pin can be installed. Install supplied cotter pin.
13. Install supplied threaded stud into arm and torque to **11 ft-lb [15Nm].** Thread locker may be added to threaded stud for added security. Install OE ABS bracket over threaded stud, ensuring alignment tab of bracket seats correctly into appropriate alignment slot of arm. Using provided lock nut, secure ABS bracket to arm. Torque nut to **20 ft-lb [27 Nm].**
14. Install provided ride height linkage bracket to SPC control arm using provided hardware. When installing bracket, largest flat side shall be facing front of vehicle. Torque screws to **72 in-lb [8 Nm].** Thread locker may be applied to screws for added security. Attach ride height sensor linkage to bracket using OE hardware.

    NOTE: Ride height sensor bracket is designed to place linkage within factory range, however, re-calibration of system may be required and must be completed by an authorized technician.
15. Reinstall wheel and tire assembly, lower vehicle and take alignment readings. If additional caster adjustment is necessary, loosen ball joint top nut and reposition star plate to rotate ball joint relative to arm. Adjust camber 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 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 settings. Alternatively, if caster is set to max position with lower cam bolts, and final alignment is achieved with SPC upper ball joint settings, 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".
17. When final camber/caster settings are achieved, torque top ball joint nut to **200 ft-lb [271 Nm].** Torque lower adjustment cams to manufacturer's specifications.
18. Adjust toe and road test vehicle.

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

Figure 1

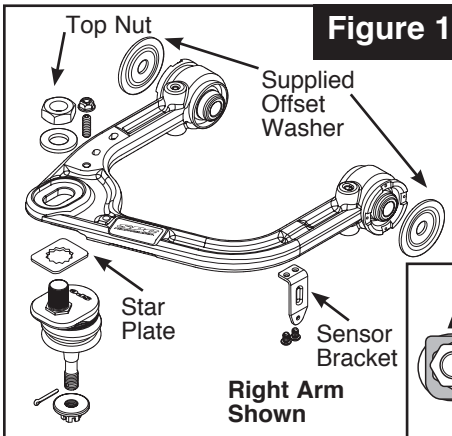
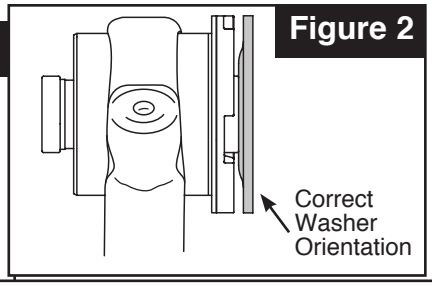


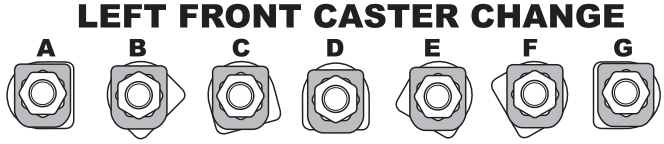
Figure 2

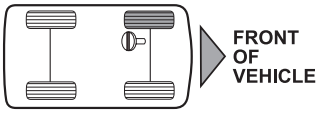


Check out how to move tire forward in wheel well:

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

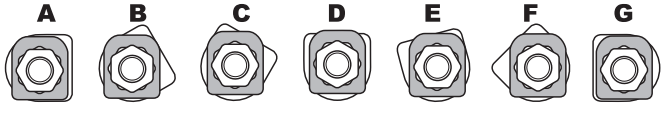
LEFT FRONT CASTER CHANGE

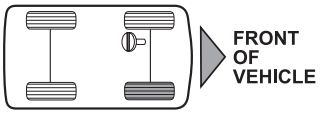




+3.60°	+3.35°	+2.60°	+1.60°	+.60°	-.15°	-.40°	Total Arm + Ball Joint Caster Change

RIGHT FRONT CASTER CHANGE





+3.60°	+3.35°	+2.60°	+1.60°	+.60°	-.15°	-.40°	Total Arm + Ball Joint Caster Change

Note: With flat face of joint facing the tire (Position D) this arm will give +1.60° additional caster. Using the star plate, caster change can be adjusted from -.40° to +3.60°.

Specialty Products Company®

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