PART NO. 35685 **Instruction Sheet**

PATENT NO. US 7,513,514 B1

FORD F-150 ADJUSTABLE UPPER ARMS

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.

How to install this part at:

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 changes 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. Remove OE front upper control arm per manufacturer's procedure. This may require removal of damper assembly for access to inboard mounting hardware. If vehicle is equipped with ride height sensor, ensure linkage is detached from OE upper arm before removal.

   NOTE: Support knuckle so no strain is applied to ABS wiring or brake lines.
6. Install SPC control arm into frame pockets using OE mounting hardware. Bolts may be reinstalled in reverse orientation than OE for future ease of service. Torque to manufacturer's specifications. If vehicle is equipped with a ride height position sensor, reinstall sensor linkage per manufacturer's procedure using provided adapter bracket.

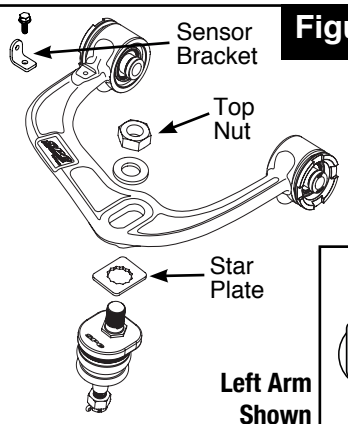
   NOTE: Unlike OE rubber bushings, xAxis™ bushing pivot freely and may be fully torqued without placing weight on suspension.
7. Install star plate over hex on SPC ball joint per chart below to achieve desired caster change determined in step 1.
8. Insert SPC ball joint up through bottom of SPC control arm, indexing star plate in machined slot and then install supplied top washer and nut. Position ball joint in middle of slot and snugly tighten.

   NOTE: For most trucks with 2"-3" of lift, setting "D" should return caster to OE specifications, but it may be necessary to use different positions on each side to achieve desired cross caster settings.
9. Insert SPC ball joint stud into 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.
10. Re-install tire and wheel assembly. Lower vehicle.
11. 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.
12. With vehicle weight on suspension, fine tune alignment using OE lower control arm bolts.
13. Ensure that the ball joint does not over articulate anywhere between full compression and rebound.
14. When final camber/caster settings are achieved, torque top ball joint but to **200 ft-lb [271Nm].** Torque lower cams to manufacturer's specifications.
15. Adjust toe and road test vehicle.

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

Figure 1

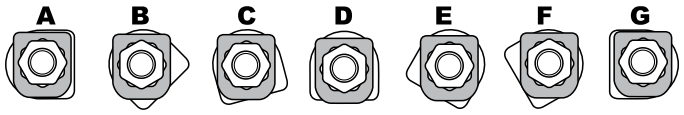


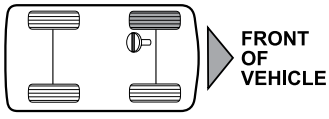
Maintenance:

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

Note: With flat face of ball joint facing away from the tire (Position D) this arm will give +.5° additional caster. Using the star plate, caster change can be adjusted from -1.0° to +2.0°.

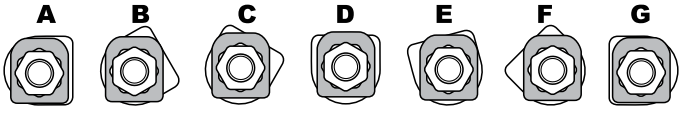
LEFT FRONT CASTER CHANGE

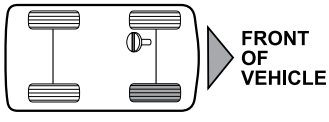




+2.0°	+1.8°	+1.25°	+.50°	-.25°	-.80°	-1.0°	Total Arm + Ball Joint Caster Change

RIGHT FRONT CASTER CHANGE





+2.0°	+1.8°	+1.25°	+.50°	-.25°	-.80°	-1.0°	Total Arm + Ball Joint Caster Change

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