

PATENT NO. US 7,513,514 B1

**FORD LOWERED 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.*

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



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.

**WARNING:** This kit is designed for Ford F-150 ('04-'20), which have been lowered up to 3" [7.62 cm]. For stock ride height or lifted applications, please use P/N 25680.

1. Record alignment readings. Note the camber and/or caster changes desired.



**TECH TIP:** Use magnetic adjustable camber gauge (SPC P/N 81139) or similar, to help you take measurements without having the tire and wheel assembly installed. Snug two lug nuts to keep rotor from shifting.

2. Ensure OE lower control arm cams are centered in mounting slots. Use **SPC P/N 86250** or **86252** for easy adjustment.

3. Raise vehicle and support by frame. Remove front tire and wheel assembly. Mount 81139 to brake rotor and zero gauge.

4. Remove OE front upper control arm per manufacturer's procedure. To assist in breaking the ball joint taper, **SPC P/N 8370** or equivalent can be used.

5. Install SPC control arm into frame pockets. Reinstall upper control arm mounting hardware and torque to manufacturer's specification.

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

6. Install star plate over hex on ball joint per chart below to achieve desired caster change. Insert 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 snugly. **See Figure #1.**

**NOTE:** For most trucks with 2"-3" of drop, setting "E" should return caster to OE specifications, but it may be necessary to use different positions on each side to achieve desired cross caster settings.

7. Install ball joint stud into knuckle with provided castle nut. Tighten castle nut to 45 lb-ft [61 Nm], then tighten further only until supplied cotter pin can be installed.

8. Reinstall any components previously removed per the manufacturer's procedure.

**NOTE:** Tightening fasteners with vehicle in raised position may cause premature bushing failure.

9. To adjust camber/caster ensure vehicle is still raised in order to take the load off upper ball joint. Adjust camber by sliding upper ball joint in control arm slot. Adjust caster by rotating ball joint on star plate. If using a camber gauge, use the original alignment readings to make the bulk adjustments now using the 81139 gauge.

10. Install wheels and lower vehicle, fine tune camber, caster, and wheel position using lower control arm adjustment with **SPC P/N 86250** or **86252**.

11. Ensure that the ball joint does not over articulate anywhere between full compression and rebound.

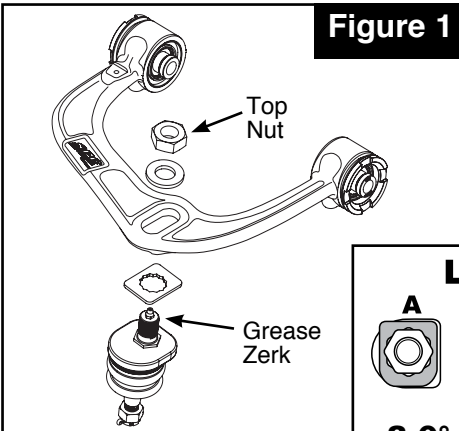
12. When finished adjusting, torque top ball joint nut to 150 lb-ft [203 Nm]. Torque OE fasteners to manufacturer's specification.

13. 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.

14. Complete alignment and road test vehicle.

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



**Figure 1**

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



**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.

**Note:** With SPC logo 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							FRONT OF VEHICLE
+2.0°	+1.8°	+1.25°	+.50°	-.25°	-.80°	-1.0°	Total Arm + Ball Joint Caster Change

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RIGHT FRONT CASTER CHANGE							FRONT OF VEHICLE
+2.0°	+1.8°	+1.25°	+.50°	-.25°	-.80°	-1.0°	Total Arm + Ball Joint Caster Change



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