

# 4X4 AND 4X2 TOYOTA FRONT ADJUSTABLE CAMBER/CASTER UPPER ARMS

## Instruction Sheet

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.***

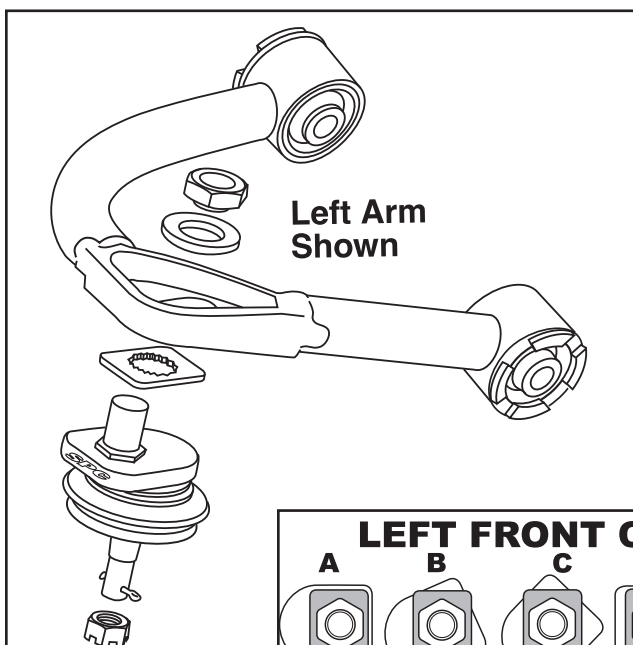
1. Always check for loose or worn parts, tire pressure and tire wear.
2. Before beginning, Record the alignment readings, determine the amount of caster change needed and raise the vehicle.
3. Loosen the upper arm pivot bolt nut and disconnect ABS wiring from upper arm.
4. Raise vehicle by frame and support with jack stands. Remove front tire and wheel assembly.
5. Remove the cotter pin and nut from the upper ball joint. Break the taper between the ball joint and the spindle and remove the ball joint from the spindle. Support spindle so no strain is applied to ABS wiring or brake line.
6. Remove the nut and washer on the long thru-bolt retaining the upper control arm to the body. Remove the bolt and upper control arm.

**Note. Removal of other components in the engine compartment may be necessary to remove the upper control arm retaining bolt. In certain applications it may be easier to cut off the head of the bolt and remove it in the opposite direction. This would require purchasing a new bolt from Toyota.**

7. Install the new adjustable control arm into the vehicle. Install the stock long bolt with the washer through the arm and frame bracket. Install washer and nut but do not tighten fully at this time. Reinstall the ABS wiring.

**Note: This arm provides 2° of positive caster change over the stock control arm with the ball joint in the 0° (#D in chart) position. This means the range of caster adjustment will be 0° to 4° of positive caster.**

8. Install the ball joint in the desired position using the chart below. Place the lock plate over the hex of the ball joint, install the ball joint on the arm up through the bottom of the slot then install the round washer and nut. Note - the logo on the ball joint will face towards the tire when set to read +2° (#D in chart) with your alignment machine.
9. Install the ball joint to the spindle, using provided castle nut, then torque the spindle nut to at least 45 lb-ft, then tighten more to line up nearest slot to pin line and install the new cotter pin.



10. Reinstall the tire and wheel assembly. Remove the vehicle from the jack stands, and lower the car to load the suspension. Tighten the upper control arm bolt to manufacturer's specifications.
  11. Record the alignment readings, determine the amount of camber change needed and verify caster reading, then raise the vehicle far enough to have access to the camber adjusting nut.
  12. To adjust camber, loosen the adjusting nut and move the adjustable ball joint in or out in the control arm slot to obtain the desired camber reading then torque the adjusting nut to 150 lb-ft. (162Nm).
- Always check for proper clearance between suspension components and other components of the vehicle.**
13. Recheck alignment readings, adjust toe, and road test vehicle.

**Note: With logo facing the tire (Position D) this arm will give +2° additional caster. Using the star plate, caster change can be adjusted from +0.0° to +4.0°.**

LEFT FRONT CASTER CHANGE							FRONT OF VEHICLE
A	B	C	D	E	F	G	
							Ball Joint Setting
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	
<b>+4.0° +3.75° +3.0° +2.0° +1.0° +.25° 0.0°</b>							<b>Total Arm + Ball Joint Caster Change</b>
RIGHT FRONT CASTER CHANGE							FRONT OF VEHICLE
A	B	C	D	E	F	G	
							Ball Joint Setting
+2.0°	+1.75°	+1.0°	0°	-1.0°	-1.75°	-2.0°	
<b>+4.0° +3.75° +3.0° +2.0° +1.0° +.25° 0.0°</b>							<b>Total Arm + Ball Joint Caster Change</b>