



# INSTALLATION INSTRUCTIONS



**COMPONENT: LOWER UNIBALL CONVERSION  
(FOR VEHICLES WITH TC HEIM STEER UPGRADE)**

**1996-2004 TOYOTA TACOMA  
1996-2002 TOYOTA 4RUNNER  
2000-2003 TOYOTA TUNDRA**

**PART #: 96140-H**

PART #	DESCRIPTION	QUANTITY
696140-R-H	LOWER UNIBALL ADAPTER W/ HEIM STEER DOUBLE SHEAR TAB - RIGHT	1
696140-L-H	LOWER UNIBALL ADAPTER W/ HEIM STEER DOUBLE SHEAR TAB - LEFT	1
*FK-WSSX16T-1	1" UNIBALL (STAINLESS) W/ PTFE LINER	2
*30604	SNAP RING / 1" UNIBALL	2
10058-C	5/8" CUSTOM HI-MISALIGNMENT SPACER	2
10058-TAC	05 TACOMA HI-MISALIGNMENT/TAPERED LOWER SPACER	2
10143-C	BOLT - CUSTOM MACHINED HEAD 5/8"-18 X 4" 12 POINT	2
11102	NUT - 5/8-18 C-LOCK	2
12104	WASHER - 5/8" SAE WASHER	2
10630	BOLT - 10MM 1.25 X 30MM GRADE 10.9	4
10635	BOLT - 10MM 1.25 X 35MM GRADE 10.9	4
*69658	5/8" TAPERED SLEEVE	2
<b>*THESE PARTS ARE PRE-INSTALLED IN THE UNIBALL ADAPTER.</b>		

## REQUIRED TOOLS

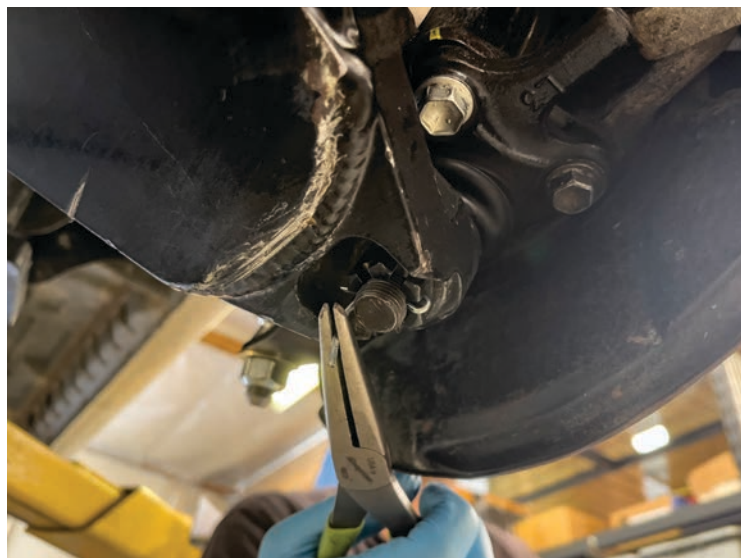
- 14mm wrench or socket
- 22mm/24mm/27mm socket for lower ball joint. Size may vary depending on the ball joint manufacturer.
- 5/8" 12-point wrench or socket
- 15/16" socket
- Hammer
- Pliers
- Blue Loctite
- Anti-Sieze

## IMPORTANT

- Before starting install, make sure the vehicle is supported securely on jack stands.
- When this component was designed, we slightly changed the steering arm location to optimize the steering geometry. Because of this, you will need an alignment after installing these parts.
- If already using TC heim steering (stock width or Long travel) no additional parts are needed.
- Outer tie rod must use a 7/8" heim joint with 2.125" tall misalignment spacers.
- Outer heim tie rod bolt is a 5/8"-18 x 4" grade 8 with a locking nut (c-lock or nylock).
- On any variation of the 96140, extreme care must be taken when lowering the steering knuckle onto the uniball conversion to not damage the dust seal that is on the outer CV joint. Make sure when lowering the steering knuckle onto the uniball conversion the shock has already been installed in the lower control arm and is holding the suspension at full droop, not extending past its limit. Also note that if the seal is not perfectly round contact may occur between the 5/8" machined bolt head, and the dust seal. It may be necessary to purchase a new dust seal from Toyota (Part number 9008030028 ).

**STEP 1**

Remove the cotter pin from the ball joint and tie rod end.

**STEP 2**

Use a 24mm to loosen (do not remove) the castle nut.

**STEP 3**

Loosen and remove the 5/8" outer tie rod bolt.





**STEP 4**

Remove the 14mm head bolts holding the ball joint to the steering knuckle.

**STEP 5**

Use a tie-down strap routed under the hub to raise the steering knuckle and brake assembly up and out of the way. This will make removing the lower ball joint much easier.

**STEP 6**

Remove the lower ball joint castle nut.



## STEP 7

Either by striking the lower control arm or by using a ball joint press, separate the lower control arm from the factory ball joint.



## STEP 8 (CONTINUED ON NEXT PAGE)

The first step to installing the new parts is to put the supplied misalignment spacers into the uniball bore. Apply a dab of anti-sieze to the outside of the spacers to ensure they don't get stuck in the uniball.





**STEP 8 CONTINUED**

The short misalignment spacer goes on top of the uniball.



The tall misalignment spacer with a built in tapered adapter goes in the bottom of the uniball.



**STEP 9**

Set the new uniball adapter with the tapered adapter onto the lower control arm with the tapered adapter going through the lower control arm.

**STEP 10**

Use the supplied custom 12-point head 5/8" bolt through both misalignment spacers and the lower control arm.

Note: Remember to use anti-seize to aid the c-lock nut going onto the bolt.





**STEP 11**

Slide on the supplied 5/8" SAE washer and then thread on the supplied c-lock nut.

**STEP 12**

Torquing this nut is difficult because the 12 point head is so short. It is much easier with two people; one to hold a wrench or socket square on the head of the bolt and the other to torque the nut side to 125ft/lb.

**STEP 13**

With the 5/8" bolt torqued and the uniball adapter in a roughly level position, slowly lower the steering knuckle down onto the adapter. Further adjustment may be necessary to get the four bolt holes to correctly line up (see next page).

Be careful not to damage the two built-in dowel pins on the uniball adapter. Make sure they line up with the corresponding holes in the steering knuckle before lowering all the way.





### **STEP 13 CONTINUED**

To adjust the position of the adapter as you lower the spindle down, use a ratchet extension or something similar through the heim holes to move the adapter into place.

Note: You'll notice that the center of the new adapter registers into the bottom of your steering knuckle. This helps take the shear load off the 10mm bolts that hold the adapter to the steering knuckle.



### **STEP 14**

Be sure the correct length bolts go in the proper place when attaching the uniball adapter to the spindle. The tall bolts go in the holes with the dowel pins (closest to the brake rotor) and the shorter two bolts go on the inboard side.



**STEP 15**

Before installing the four bolts, Total Chaos recommends using red Loctite on the threads to ensure they do not come loose over time.

Thread in the supplied 10mm 10.9 flange head bolts and torque to 45ft/lb.

**STEP 16**

Lastly hook up your heim outer tie rod to the new steering arm and torque the 5/8" Grade 8 bolt to 125ft/lb.



# **IMPORTANT!**

- When this component was designed, we slightly changed the steering arm location to optimize the steering geometry. Because of this, you will need an alignment after installing these parts.
- Re-torque all hardware after the first 500 miles.



**FOR INSTALL QUESTIONS OR CUSTOMER SERVICE INQUIRIES:**

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