



# INSTALLATION INSTRUCTIONS



**COMPONENT: LOWER CONTROL ARMS  
2022-CURRENT TOYOTA LAND CRUISER 300 SERIES**

**PART #: 89555-E**

PART #	DESCRIPTION	QUANTITY
89553-R	LC300 STOCK LENGTH LOWER CONTROL ARM - RIGHT	1
89553-L	LC300 STOCK LENGTH LOWER CONTROL ARM - LEFT	1
*FK-WSSX16T-1	1" UNIBALL (STAINLESS) W/ PTFE LINER	2
*30604	SNAP RING / 1" UNIBALL	2
60893	URETHANE BUSHING - LONG	2
60892	URETHANE BUSHING - SHORT	6
69704	INNER SLEEVE - LONG	2
69722	INNER SLEEVE - SHORT	2
10342	BOLT - 3/4"-16 X 4.25"	2
10034-C	HI-MISALIGNMENT SPACER: 1 3/4"	2
10034-TUN	HI-MISALIGNMENT SPACER / TAPERED ADAPTER	2
12304	WASHER: 3/4" SAE (GOLD ZINC)	2
11302	NUT: 3/4"-16 C-LOCK (ZINC)	2
10005	ZERK FITTING: 1/4"-28 90 DEGREE	5
<b>*THESE PARTS ARE PRE-INSTALLED IN THE UNIBALL ADAPTER.</b>		

## REQUIRED TOOLS

- 19mm wrench
- 22mm wrench
- Hammer
- Dead blow hammer
- Needle nose pliers
- Grease gun
- Super Lube Synthetic Grease PN: 41150
- Anti-Sieze

## IMPORTANT

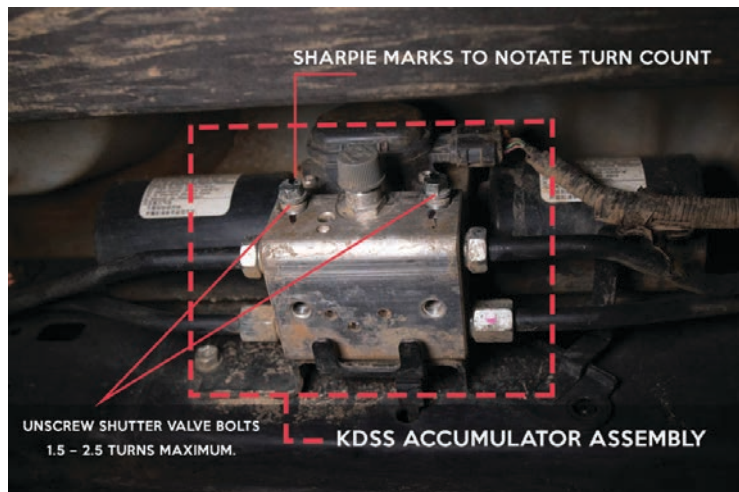
- Before starting install, make sure the vehicle is supported securely on jack stands.
- The following procedure is shown with a KDSS sway bar. The process is the exact same for vehicles without KDSS.
- The uniballs will be tight at first and require a break-in period to loosen up. This break-in period may last up to 5,000 miles so do not be alarmed if steering feels stiff or is slow to return to center. Periodically apply a dry PTFE-based lubricant such as Tri-Flow Superior Dry Lube.

## **FOR KDSS EQUIPPED VEHICLES ONLY:**

Before the removal of the lower control arms, locate the KDSS Accumulator Assembly on the inside middle of the driver side frame rail. Use a 10mm to open the front and rear valves 1.5 - 2.5 turns MAX (do not remove bolts). Once the valves are open, the sway bar ram should be free to move when disassembling and reassembling the suspension system. Upon completion of the lower arm install, tighten the two 10mm bolts back up with the vehicle at ride height.

## **STEP 1**

Loosen and remove the bolts that connect the sway bar link to the sway bar and chassis as well as the sway bar link itself.





**STEP 2**

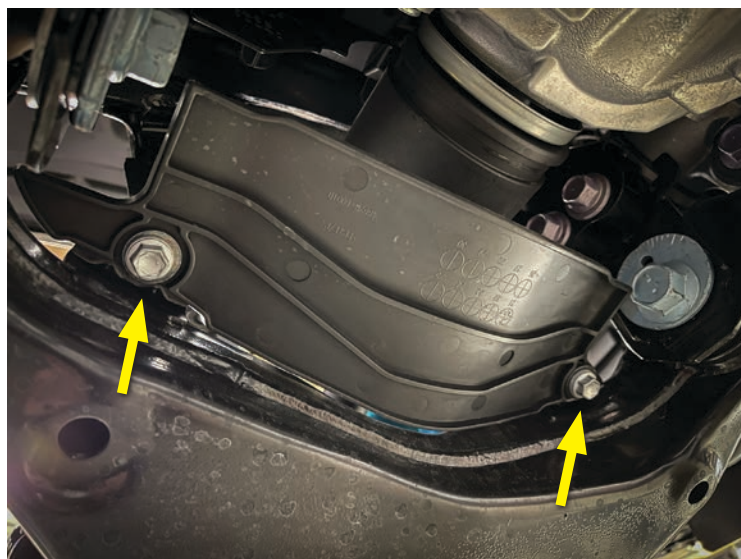
Using a 22mm socket or wrench, loosen and remove the lower shock bolt.

**STEP 3**

Using a 22mm wrench or socket loosen and remove the two ball joint cradle bolts that connect the ball joint cradle to the steering knuckle.

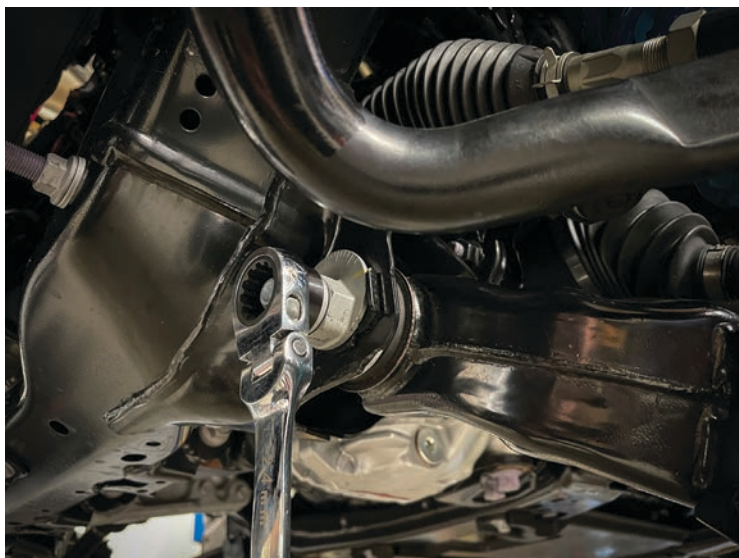
**STEP 4**

Use a 12mm socket to remove the plastic brush guard from the OEM Lower control arm. It may give you slightly better access to the bolts in the following step.



## STEP 5

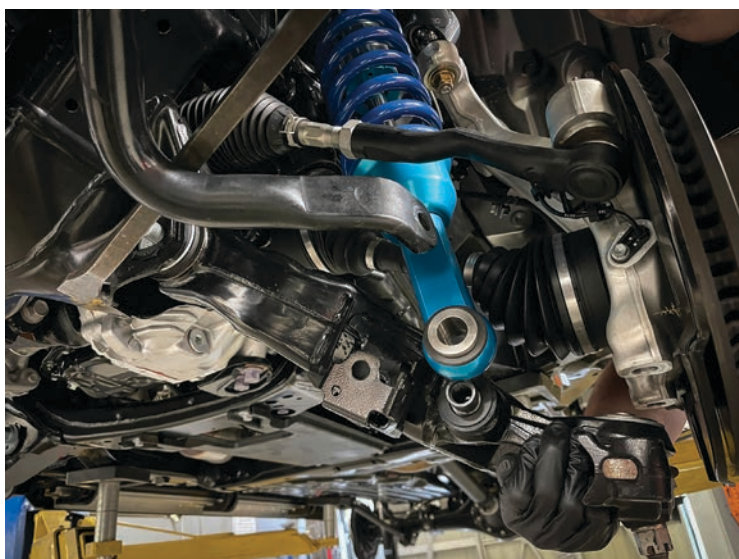
Use a 24mm socket or wrench to loosen the lower control alignment cam bolts. Only remove the nut and cam from the nut side of the cam bolt assembly.



## STEP 6

With the sway bar link, ball joint cradle, brush guard, and shock bolt removed, pull the lower shock rod end off of the post while supporting the LCA and swing the LCA down to let it hang from the cam bolts.

While holding the LCA, remove the cam bolts and remove the LCA from the vehicle.



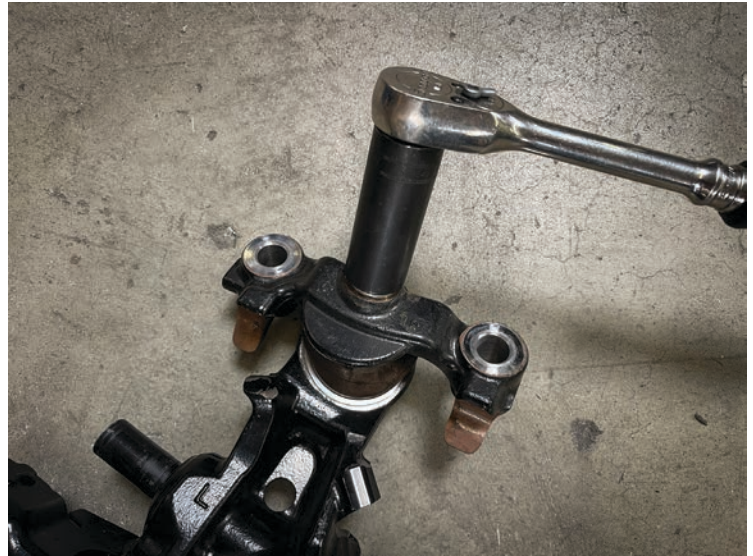
## STEP 7

With the LCA off of the vehicle remove the Cotter pin and 27mm nut that hold the ball joint cradle to the LCA.





## **STEP 7 (CONTINUED)**



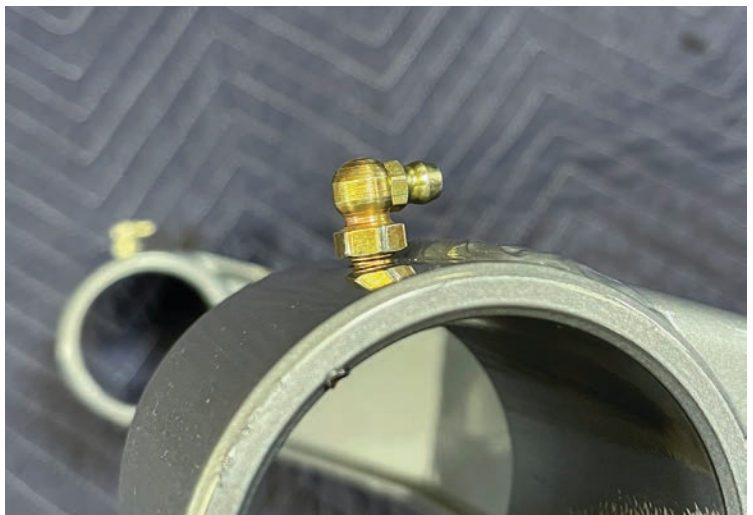
## **STEP 8**

Using either a hammer to strike the ball joint cradle or a pickle fork to wedge between the cradle and ball joint, remove the cradle from the LCA.



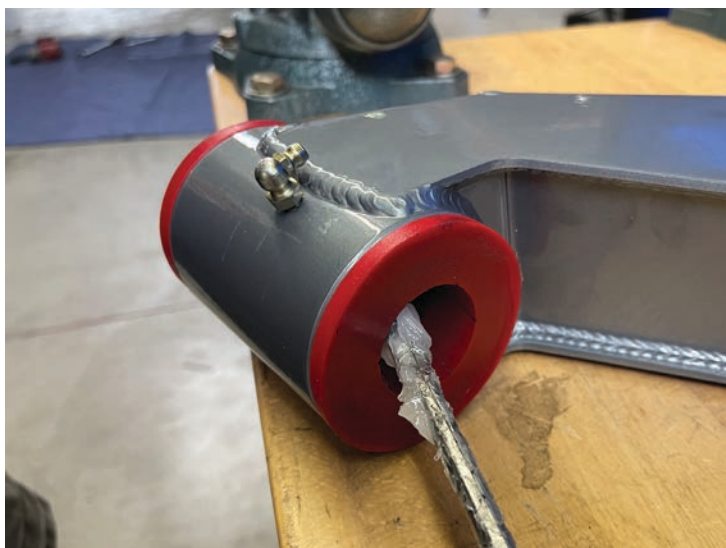
## **STEP 9**

When installing the zerk fittings, it may be necessary to use a knife or sharp object to clean out the top of the threaded hole so the 1/4"-28 NTP threads will catch. When tightening the zerk, DO NOT try and tighten the zerk to the bottom of the thread. It is only necessary to turn the zerk until it gets snug. Then rotate as far as necessary to make the fitting accessible for a grease gun.



**STEP 10 (CONTINUED ON NEXT PAGE)**

Grease and install the new bushings and inner sleeves.





## **STEP 10 (CONTINUED)**



## **STEP 11**

With the bushings and inner sleeves greased and installed in the new Total Chaos LCA, grease the inside of the frame pockets where the bushings will touch.



## **STEP 12**

To make the installation of the new LCA easier, use a large crescent wrench or rubber mallet to open up the frame pockets where the LCA will mount.

**CAUTION:** Only a small adjustment may be necessary. Be careful not bend it too far.





### **STEP 13**

Slide the LCA into the frame pockets and insert the factory cam bolts remembering that the rear cam bolt has the cam facing downward and the front has the cam facing up.

Put the nut side cam hardware and nut back on the cam bolt, center the cams, and snug the nuts so the arm will hold it self up when it is pivoted up.



### **STEP 14**

With the arm pivoted up, insert the  $\frac{3}{4}$ " tapered head allen head bolt through the short misalignment spacer, then through the uni-ball.

Next, from the bottom, slide the tall lower misalignment spacer/tapered adapter onto the bolt and into the uni-ball.



### **STEP 15**

Slide the two-bolt flange onto the bolt, then the  $\frac{3}{4}$ " SAE washer and  $\frac{3}{4}$ " c-Lock nut onto the  $\frac{3}{4}$ " bolt.

Make sure there is anti-seize on the threads of the bolt, then making sure that all the uni-ball spacers are seated properly tighten the nut side of the fastener to 180 ft/lb.



**STEP 16**

Swing the lower control arm up enough to slide the shock rod end onto the shock mount stud and thread in the factory lower shock mount bolt.





## **STEP 17**

Since the LCA is now being held by the shock, CAREFULLY align the holes and start the two ball joint cradle bolts into the steering knuckle BY HAND.

The steering knuckle is aluminum and if cross threaded, the knuckle will gall. If the internal threads are damaged enough, the steering knuckle could be catastrophically damaged and require replacement. Take your time!

Torque the ball joint cradle bolts to 125 ft/lb.



## **STEP 18**

To reinstall the sway bar links, it is easiest to wait until the vehicle is on its wheels and at ride height. The reason for this is because the sway bar link joints are made with vulcanized rubber so when the suspension is drooped out the rubber links are at an angle which makes it very difficult to start the threads straight. when the vehicle is at ride height there is little to no angle on the sway bar links and threading the bolts straight is very easy.



## **CONGRATS! YOUR LCA'S ARE READY TO GO!**

- An alignment will be required after installation is complete.
- Re-torque all hardware after the first 500 miles.
- Re-greasing is required every 3,000-5,000 miles to maximize bushing life and keep noise down.
- The uniballs will be tight at first and require a break-in period to loosen up. This break-in period may last up to 5,000 miles so do not be alarmed if steering feels stiff or is slow to return to center. Periodically apply a dry PTFE-based lubricant such as Tri-Flow Superior Dry Lube.



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

Call 951.737.9682 or email [info@chaosfab.com](mailto:info@chaosfab.com)



## LOWER CONTROL ARM INSTALL TIPS

The following tips are intended to make installation of your TOTAL CHAOS Fabrication lower control arms smoother. We try to answer some of the frequently asked questions that we get during an LCA installation.

### **PIVOT POCKET ADJUSTMENT**

If the LCA pivots are not aligning you may need to use a large crescent wrench or rubber mallet to open up the frame pockets where the lower control arm will mount.

CAUTION: Only a small adjustment may be necessary. You will not need to bend it very much.



### **GREASE THE PIVOT POCKETS**

Greasing the control arm pockets where the bushings pivot on the frame will help when installing the LCA. This will also provide a layer of grease on the flat shoulder side of the bushing.



## **GREASE THE PIVOT POCKETS CONTINUED**



## **BUSHING PREP AND INSTALLATION**

Apply generous amounts of grease to the inside of the lower control arm pivots. Then install the bushings using a dead blow hammer.

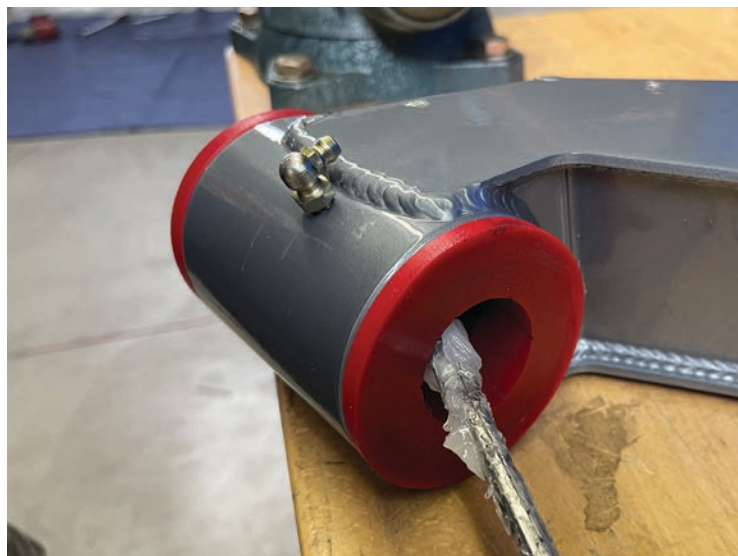
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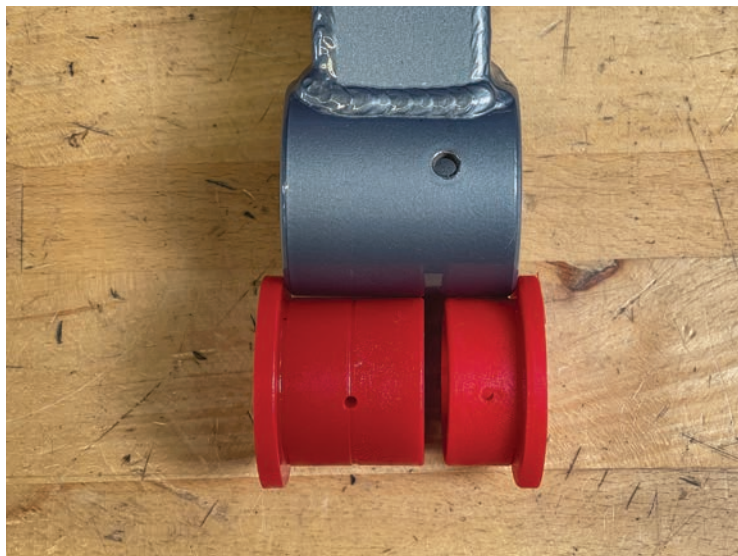
### **BUSHING PREP AND INSTALLATION**

Apply grease to the inner bushing and insert the inner sleeve. It will be a tight fit so a deadblow hammer will be necessary.



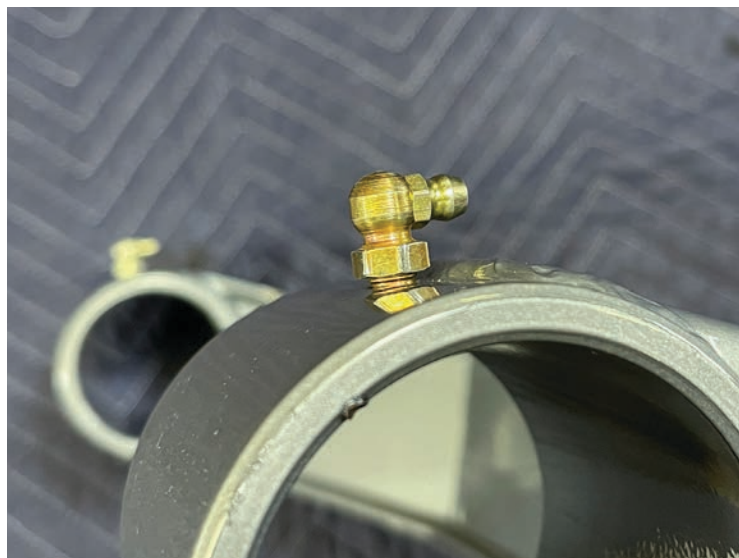
### **BUSHING ALIGNMENT**

Some lower control arm pivots have an offset zerk fitting hole. Be sure to install the bushings in the correct orientation where the gap lines up with the zerk hole.



### **ZERK FITTINGS**

Powder coat can build up in the threaded holes – run a ¼”-28 tap through it to chase it when needed. When tightening the zerk, **DO NOT** tighten the zerk to the bottom of the thread. Stop when it gets snug. Then rotate as needed to make the fitting accessible for a grease gun.



### **UNIBALLS**

Brand new uniballs are designed to be much tighter to rotate than a ball joint. Rotating the uniball will not be as easy as the ball joint you just removed. You may also notice this when driving the vehicle, especially at low speeds – a heavier steering wheel feel and it may not return to center as fast. If you are replacing a set of worn out ball joints, a new uniball might feel tighter than you were anticipating. There is a break in period associated with these new parts. They will begin to loosen up as break in occurs. Mileage of break in can vary.



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