04.11.22

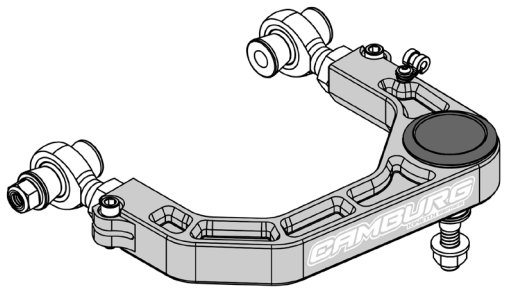
BILLET Performance Upper Arm Instructions

Toyota Prado 120/150 '03-21

PARTS SUPPLIED

QTY	Description	ID
4	FK 7/8 x 3/4 RHT Heim Joints	19
4	7/8-14 RHT Jam Nuts	1
4	3/8-24 x 1.25" SHCS (zinc)	8
8	3/8 AN960 Washers	10
4	3/8-24 MS21042 Nuts	11
8	Heim Spacers	16
2	9/16" tapered uniball spindle adaptors	15
2	9/16" upper domed uniball spacers	14
2	9/16-18 x 4.0" 12pt bolts	12
2	9/16" SAE grade 8 round washers	3
2	9/16-18 stover lock nuts	2
2	Uniball cover caps (press-on)	18
4	Uniball cover cap o-rings	13
2	Rubber stainless insulated clamps	7
4	10-32 stainless washers	4
2	10-32 x 3/8" BHCS (zinc)	9
2	M14 x 1.50 nyloc nuts	5
2	M14 flat washers	6
4	Camburg 8.5" Stickers	

** REFER TO EXPLODED CAD DRAWING ON **
** OTHER SIDE FOR PARTS REFERENCE NUMBERS **



Thanks for purchasing a set of our KINETIK series billet upper a-arms for your vehicle. Please follow all instructions. If you are not installing these yourself have a qualified shop do so. These arms are designed for 1-3" of lift from coilovers and to be used with stock OEM spindles or Camburg performance spindles. These are NOT designed to be used with cheap spacer type lifts. Make sure to check the parts list to make sure you have every component prior to starting. Camburg Engineering has made every attempt to insure you receive the highest quality components in the most complete manner. This is a guide to help you through the process with recommended torque specs. It's your responsibility to ensure parts are being installed correctly using the correct tools and procedures. We recommend reviewing a service manual for more details and torque specs.

Tools & Supplies Required

Eye Protection | Jack | Jack Stands | Needle Nose Pliers
Deburring Tool | Hammer | 2-3 lb. Mini Sledge Hammer | Rubber Mallet
19mm Socket & Wrench | 22mm Socket | 7/16" Socket
9/16" 12pt Socket | 7/8" Socket | 1-1/4" Open-end Wrench
5/16" Allen Driver | Torque Wrench | Brake Cleaner | Anti-seize
Grease | Red Loctite | Blue Painters Tape

1.0 Setup

Park the vehicle on level ground and set the parking brake and chock both rear wheels. Jack up the front end from the chassis until the front tires are off the ground. Place jack stands under the front frame rails and set down. Make sure the vehicle is supported correctly and the front tires are still off the ground. Place the jack under the driver side lower arm and raise the tire 1/2", then remove the wheel while keeping jack under lower a-arm to support the suspension. Read these instructions start to finish before moving forward and review diagrams.

2.0 Removal

Remove the ABS speed sensor wire from the sheet metal bracket on the stock upper arm, being very careful not to damage the wire. Using needle nose pliers, remove the cotter pin from the upper ball-joint at the spindle. Using a 19mm socket, loosen the castle nut but do not fully remove. With a mini sledge hammer strike the top of the spindle numerous times to release the ball-joint tapered stud. This can be a little difficult since it's a press fit, heating up the spindle to get it to expand will help if need be. Once the ball joint releases from the spindle, then remove the castle nut. Disconnect the arm from the spindle. Make sure to position & support the spindle so that it doesn't pull on the brake line and on 4wd models that it doesn't pull out the inner CV or strain the CV boots and axles. Using a 19mm socket & wrench, loosen and remove the OEM upper a-arm bolt. Due to the length of the bolt it can be difficult to remove, especially on the 2016+ models. You may need to bend or trim the sheet metal lip for more clearance. Worst case, you'll need to cut the bolt in half and replace with new OEM bolts. Upon installation we change the orientation of the bolt so it's no longer a problem removing/installing in the future. Remove the stock upper arm. You will not re-use the original large washers or nut.

3.0 Pre-installation

We recommend putting blue painters tape on the billet arms for protection during installation. Thread the 7/8" jam nuts onto the heims then apply anti-seize compound on the exposed threads. Thread the heims into the upper arm so the heim is vertical and the jam nut makes contact with the arm and you have 3 threads exposed past the nut. Install the 3/8" allen heim pinch bolts into the arm. With a drop of red Loctite on the nut, tighten and torque to 20-22 ft/lbs. Use a 1-1/4" open-end wrench to fully tighten the jam nut using another wrench to hold the heim vertical (perpendicular to the arm) so it doesn't rotate. Now install the heim pivot spacers into the heims, first coating the surface that slips into the heim with anti-seize. See diagram for reference.

Using a countersink bit or deburring scraper tool, slightly chamfer the top-hole edge of the ball-joint taper in the spindle/knuckle. This will allow the spacer to fully seat when tightened and eliminate possible stress risers. Then inspect and clean the tapered hole. See diagram for reference.

4.0 Installation

Install the driver side Camburg upper arm to the frame using the existing or new OEM M14 bolt. Install the bolt opposite from the factory orientation so the bolt head will be at the back of the arm and the nut at the front of the arm. To insure you're installing the correct arm, the longer a-arm leg is towards the front of the vehicle along with the Camburg logo. With the bolt pushed all the way through clean the threads using brake cleaner and install the supplied M14 washer and M14 nyloc nut with red loctite. Using a 19mm wrench and 22mm socket torque to 85 ft/lbs. Cycle the arm up and down to make sure there are no clearance issues. See diagram for reference.

Inspect and clean the tapered hole in the spindle/knuckle. Apply anti-seize to the uniball spacer surfaces shaded gray in the diagram. Insert the tapered lower uniball spacer into the uniball. Then install the upper spacer into the top of the uniball making sure both spacers are fully seated. If not damage will occur in the following steps. Install the 9/16" 12pt bolt through the spacers and uniball and attach the upper arm to the spindle by swinging it down to the spindle with some finesse. You may need to jack up the lower arm and move the uniball joint. The tapered spacer should sit almost flush with the top of the spindle/knuckle before tightening. Make sure the lower spacer did not pull out slightly from the uniball or damage will occur as the spacer can get caught on the bearing race. Install the 9/16" washer and stover lock nut with a small amount of red Loctite onto clean threads. Using a 9/16" 12pt socket and 7/8" socket, torque to 120-125 ft/lbs. Don't not over-tighten or use an impact gun. See diagram for reference.

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4.0 Installation Continued ....

Using the supplied 10-32 hardware and rubber clamps, attach the ABS speed sensor wire to the backside of the upper arm using a 5/32" allen wrench and a drop of blue loctite. Get this hand tight only and do not over-tighten. Make sure to route the wire so that is has proper clearances and slack.

Lastly install the uniball cap by first installing one of the supplied o-rings into the caps lower groove. Then apply a small amount of grease to the inside of the top of the uniball cup. Position and center the cap over the uniball cup with the Camburg logo in your desired position. Cover the cap with a rag to protect the finish and use a rubber mallet to tap the cover in if not by hand. Make sure to apply even pressure so that it presses in straight. When the cap is fully seated and you hear the air escape, make sure the cap is tight to the cup. Twist the cap a few degrees to the right and left to help seat the cap and o-ring. Then install another o-ring between the cap and the arm. This will allow you to easily remove the cap by removing the o-ring and having a recess to grasp by hand or with a small plastic tool. Periodically check the caps to make sure they are fully seated after off-road use.

Repeat steps 1 through 4 to install passenger side arm

5.0 Alignment

You will need to have your vehicle aligned by a qualified shop. Additional caster is built into the Camburg arms to correct alignment issues that are inherent with lifting the vehicle. Have your alignment shop increase/maxout positive caster, then set camber and toe to factory OEM specifications. Having an increase in caster helps with straight line stability and cornering precision for performance driving on and off-road.

6.0 Maintenance & Care

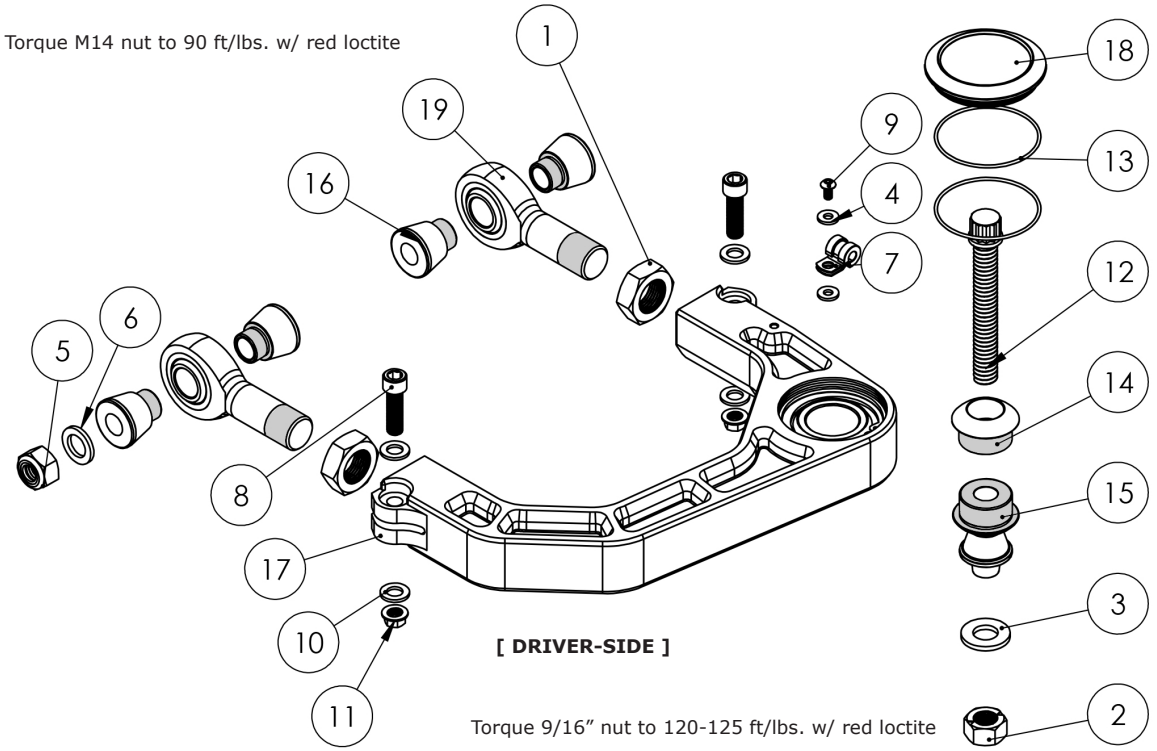
Use mild soap and water to clean the anodized aluminum surfaces, using chemicals can stain/dis-color the finish. Uniballs and heims are precision parts with tight tolerances which can lead to occasional noise when they become dirty. Occasionally wipe off the heims and underside of the uniball with a clean rag to remove road grime and dirt. Cleaning and lubricating them with WD-40 or a PTFE dry film lube like "Tri-Flow" can minimize any noise from stiction. Do not use harsh chemicals or grease/oils that attract dirt to clean & lube as it will damage and wear the internal PTFE liner. You will also need to occasionally remove the uniball cover to clean the top-side of the uniball. Neglecting care and upkeep will wear parts out faster.

Inspect and re-torque all hardware and components after 500 miles and whenever using the truck off-road.

Notes

Recommended tire size: 285/75/16 | 285/70/17
Recommended wheel size: 16-17" x 8-9"
Maximum wheel backspacing = 4.75"

Torque M14 nut to 90 ft/lbs. w/ red loctite



[DRIVER-SIDE]

Torque 9/16" nut to 120-125 ft/lbs. w/ red loctite