

1.25 Uniball Performance Upper Arm Instructions

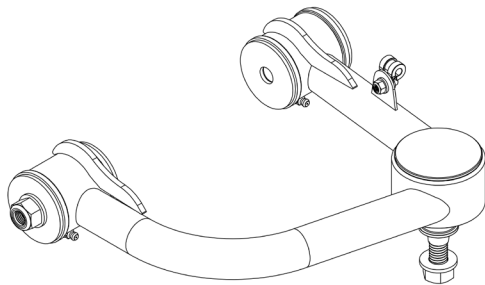
Toyota Prado 120/150 '03-21

P/N CAM-310238

PARTS SUPPLIED

QTY	Description	ID
8	Polyurethane Pivot Bushings	2
8	Large Flat Washers (plated)	5
4	7/8" OD x 9/16" ID x 2.335" L Sleeves	3
4	90 deg. Zerk Grease Fittings (self tapping)	14
2	M14 x 1.50 Nyloc Nuts	12
2	M14 Round Washers	13
2	9/16" Upper Domed Uniball Spacers	6
2	9/16" Tapered Uniball Spindle Adapters	7
2	9/16-18 x 4" 12pt bolts	8
2	9/16" SAE Grade 8 Round Washers	9
2	9/16-18 Stover Lock Nuts	10
2	Uniball Cover Caps	15
2	Uniball Cover Cap O-rings	21
1	#30 x 10" Fishing Line (for cap install only)	
2	10-32 x 3/4" SHCS Allen Bolts	18
4	10-32 Stainless Round Washers	19
2	10-32 Nyloc Nuts	20
2	Stainless Rubber Insulated Clamps	17
4	Bushing Grease Packets	
4	Camburg 8.5" Stickers	

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



Thanks for purchasing a set of our Camburg 1.25 uniball performance 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
 2-3 lb. Mini Sledge Hammer | Rubber Mallet | 19mm Socket & Wrench
 22mm Socket | 9/16" 12pt Socket | 7/8" Socket | 5/32" Allen Wrench
 3/8" Wrench | 1/4" Wrench | Torque Wrench | Air Saw | Brake Cleaner
 Anti-seize | Red Loctite

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

Using a 1/4" wrench install the self-tapping 90-degree zerk fittings into the Camburg arms. Do not bottom out the fittings into the arms. The zerk fitting is two parts that thread together, you may need to remove the nipple when installing. Position them pointing outward for grease gun access. Now press the polyurethane bushings into the arms. Using the supplied bushing grease, apply grease onto the OD of the inner pivot sleeves and press into the bushings. Wipe excess grease onto outer bushing faces and apply additional grease if needed. 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. 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 original M14 bolt with four of the supplied zinc-plated washers on either side of the polyurethane bushings. To insure you're installing the correct arm, the zerk fittings will be pointed downward, pivot gussets are on top and the longer a-arm tube towards the front of the vehicle. With the bolt pushed all the way through, clean the threads with brake cleaner and once dry apply a little red Loctite to the nut area. Using a 19mm wrench and 22mm socket torque the supplied M14 nyloc nut to 85 ft/lbs. Cycle the arm up and down to make sure there are no clearance issues. See diagram for reference.

Prior to installing the tapered uniball adaptor spacer into the spindle, make sure the spindle taper is clean and free of debris. Apply anti-seize to the uniball spacers and 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. Wipe off excess anti-seize and 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 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. Do not over-tighten or use an impact gun. See diagram for reference.

Using the supplied 10-32 hardware and rubber clamps, attach the speed sensor wire to the backside of the upper arm using a 5/32" allen and 3/8" wrench. Get this hand tight only and do not over-tighten. Make sure to route the wire so that it has proper clearances and slack.

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Lastly install the uniball cap by first installing the supplied o-ring into the caps groove. Then apply a small amount of grease to the inside of the top of the uniball cup. Use the supplied 30# fishing line and insert 2" of it into the upper arm cup. This will be used to release the trapped air as the cap is pressed on. 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, pull the fishing line out and 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. 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.

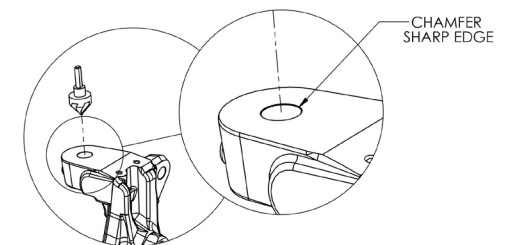
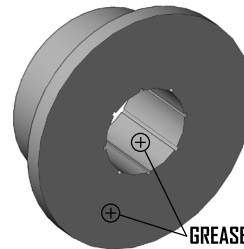
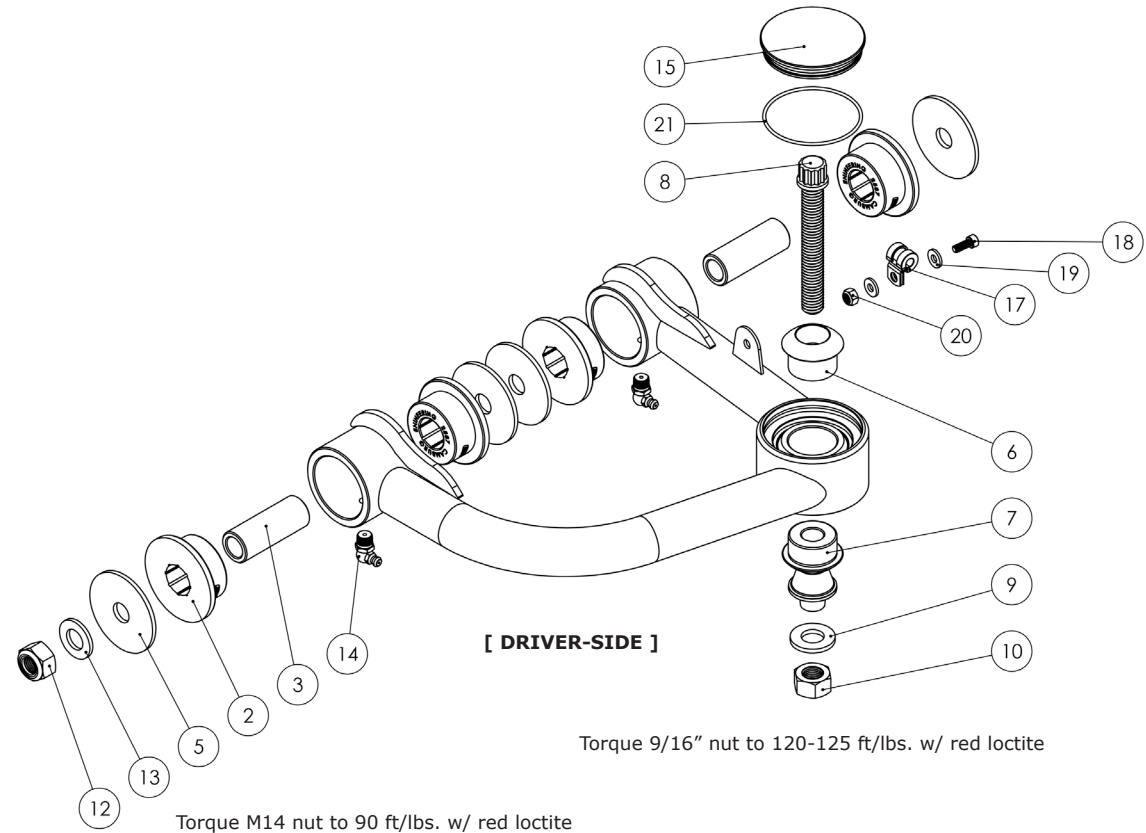
6.0 Maintenance & Care

Uniballs are precision parts with tight tolerances which can lead to occasional noise when they become dirty. Occasionally wipe off the top 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 Super Lube can minimize any noise from stiction. Do not use harsh chemicals or grease/oil that attracts dirt to clean & lubricate the uniball as it will damage and wear the PTFE liner that is bonded internally. Over time the pivot bushings will also need to be cleaned and lubricated. Use grease that's designed specifically for polyurethane bushings. Not using the correct grease can cause the bushings to squeak abnormally and wear faster. The best method to grease the bushings is to remove the arms from the vehicle, disassemble, clean and lubricate. When using a grease gun, do so slowly, loosen the upper arm bolts so you're able to pull the washers slightly away from the outer bushings to relieve pressure prior to greasing them slowly. Most grease guns operate at 1500+ psi. and can damage the bushings applying too much pressure. Neglecting care and upkeep will wear parts out faster.

We recommend greasing the polyurethane bushings 2-3 times a year or every 5-8k miles depending on use with a high temp., waterproof teflon (PTFE) based grease like Super Lube. Higher frequency lubing may be required when used off-road and/or in wet/snow/mud conditions. Inspect and re-torque all hardware and components after the first 500 miles, inspect at your scheduled maintenance intervals and whenever using the vehicle off-road.

Notes

Recommended tire size: 285/75/16 | 285/70/17
 Recommended wheel size: 16-17" (10-23: 17")
 Maximum/Recommended wheel backspacing = 4.75"
 Stock wheels and tires will fit "as is"



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