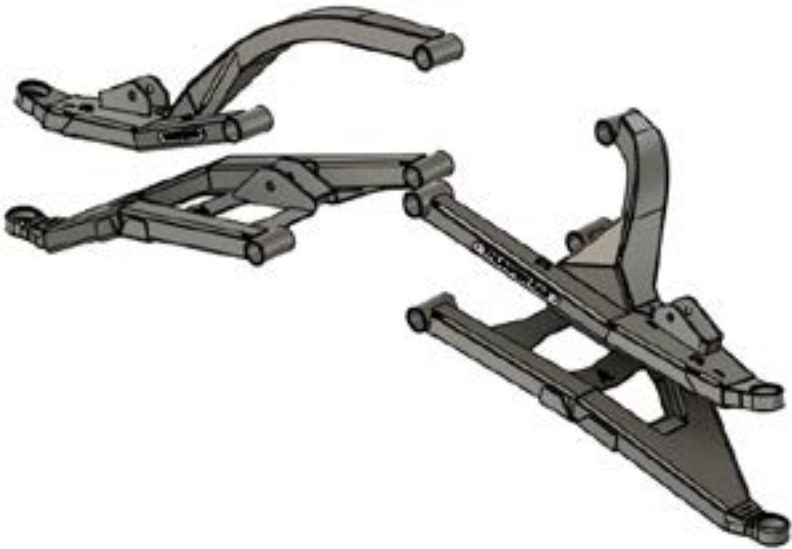


Ranger 1500XD
Forward Control Arms

SKU: TF231201



Thumper Fab
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Ranger 1500XD

Forward Control Arms

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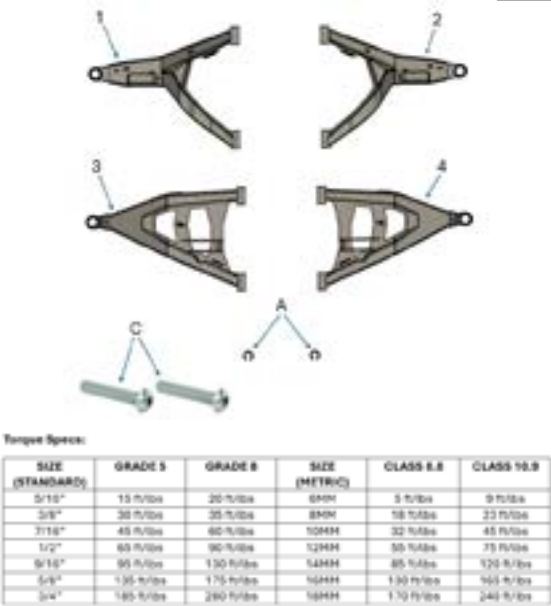


PARTS

REF	QTY	DESCRIPTION
1	1	Front Upper Control Arm - Driver
2	1	Front Upper Control Arm - Passenger
3	1	Front Lower Control Arm - Driver
4	1	Front Lower Control Arm - Passenger
HARDWARE KIT		
A	2	Steering Stops
B	10	Zip Ties
C	2	M12x65mm Button Head Screw

TOOLS

- T20 Torx
- 8mm Allen Wrench
- 8mm Socket
- 10mm Socket
- 15mm Socket and Wrench
- 18mm Socket and Wrench
- 30mm Socket
- Pencil Grinder
- Carbide Burr
- Snips
- Hammer
- Flathead Screwdriver

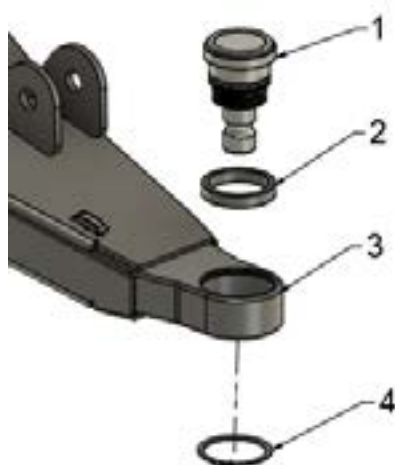


BEFORE YOU BEGIN

If you do not feel comfortable installing your Thumper Fab Forward Arms, please see your nearest Polaris® Dealer for installation.

INSTALLATION INSTRUCTIONS

OEM



PARTS LIST	
ITEM #	DESCRIPTION
1	OEM BALL JOINT
2	RING INSERT
3	CONTROL ARM / HOUSING
4	EXTERNAL RETAINING RING

1. Press RING INSERT into CONTROL ARM / HOUSING.
2. Press OEM BALL JOINT into RING INSERT & HOUSING.
3. Install EXTERNAL RETAINING RING.

UNIBALL



PARTS LIST	
ITEM #	DESCRIPTION
1	LOCKNUT
2	MISALIGNMENT
3	INTERNAL RETAINING RING
4	UNIBALL
5	CONTROL ARM / HOUSING
6	UNIBALL PIN

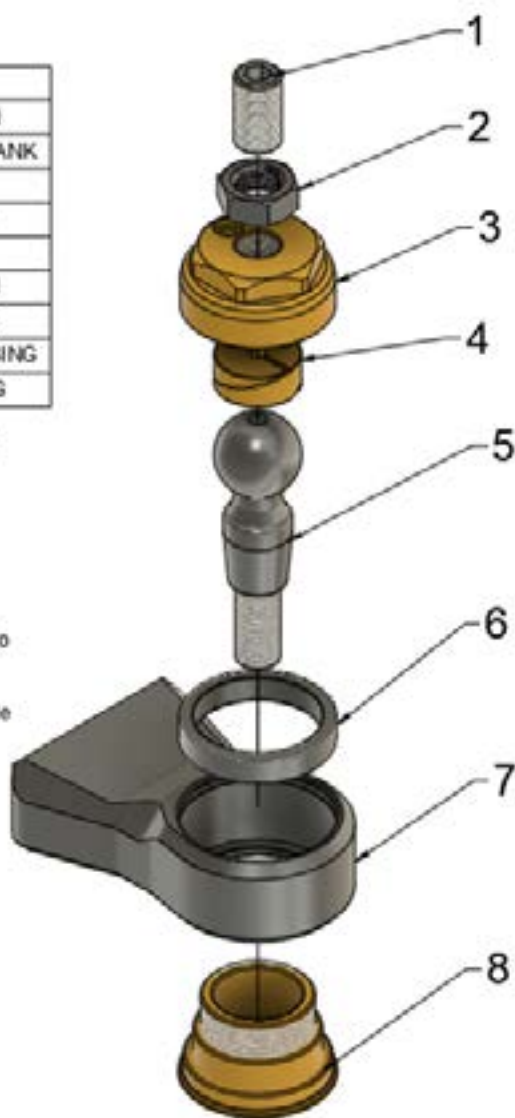
1. Press in UNIBALL into HOUSING.
2. Install INTERNAL RETAINING RING.
3. Insert UNIBALL PIN into UNIBALL.
4. Install MISALIGNMENT onto threaded end of UNIBALL PIN.
5. Thread and tighten LOCKNUT onto UNIBALL PIN.

INSTALLATION INSTRUCTIONS

TF ELITE

PARTS LIST	
ITEM #	DESCRIPTION
1	ADJUSTMENT SHANK
2	JAM NUT
3	UPPER CAP
4	TRUNION
5	TAPERED PIN
6	INSERT RING
7	BALL JOINT HOUSING
8	MAIN HOUSING

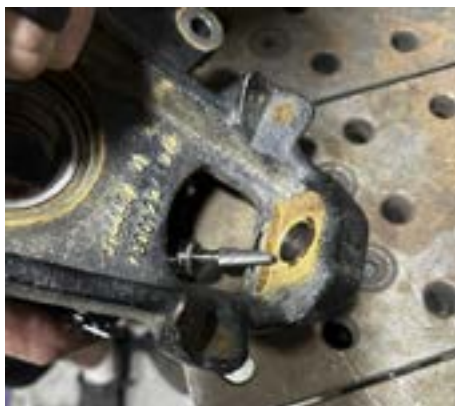
1. Press BALL JOINT RING INSERT into BALL JOINT HOUSING
2. Press MAIN HOUSING into BALL JOINT RING INSERT
3. Insert TAPERED PIN and TRUNION into the MAIN HOUSING
4. Thread UPPER CAP onto MAIN HOUSING
5. Thread ADJUSTMENT SHANK into UPPER CAP, lightly tighten
6. Thread JAM NUT onto ADJUSTMENT SHANK. Tighten while using an Allen Wrench to hold ADJUSTMENT SHANK in place
7. Install Boot



INSTALLATION INSTRUCTIONS

Installation Preparation

When using the Thumper Fab Elite Lower Ball Joint the knuckle will need to be clearanced to allow room for the boot at full droop. Use a pencil grinder with a carbide burr or similar tool to shave away the sharp edge of the knuckle as shown below. Be sure to check that the boot does not contact the knuckle through the travel as it could pinch the boot.



INSTALLATION INSTRUCTIONS

Installation Preparation

Begin by lifting the vehicle and removing the front tires, front bumper, and winch. Remove the brake caliper using a 15mm socket and disconnect the brake lines from the upper control arms using a T20 Torx (**FIG 1**).



FIG 1 - Disconnect Brake Caliper from Knuckle

Disconnect the tie rod from the knuckle using an 18mm socket (**FIG 2**).



FIG 2 - Disconnect Tie Rod from Knuckle

INSTALLATION INSTRUCTIONS

Installation Preparation

Remove the axle nut using a 30mm socket (**FIG 3**).



FIG 3 - Remove Axle nut

Slide the hub and rotor off the knuckle and set aside (**FIG 4**).



FIG 4 - Remove Hub and Rotor

INSTALLATION INSTRUCTIONS

Installation Preparation

Disconnect the shock from the upper control arm using a 15mm socket and wrench (**FIG 5**).



FIG 5 - Disconnect Shock from the Upper Control Arm

Disconnect the upper ball joint from the knuckle using a 15mm socket and wrench (**FIG 6**).



FIG 6 - Disconnect Upper Ball Joint from Knuckle

INSTALLATION INSTRUCTIONS

Installation Preparation

Unfasten the lower ball joint from the knuckle using an 18mm socket (**FIG 7**).



FIG 7 - Disconnect Lower Ball Joint from the Knuckle

Remove the knuckle and set aside (**FIG 8**).

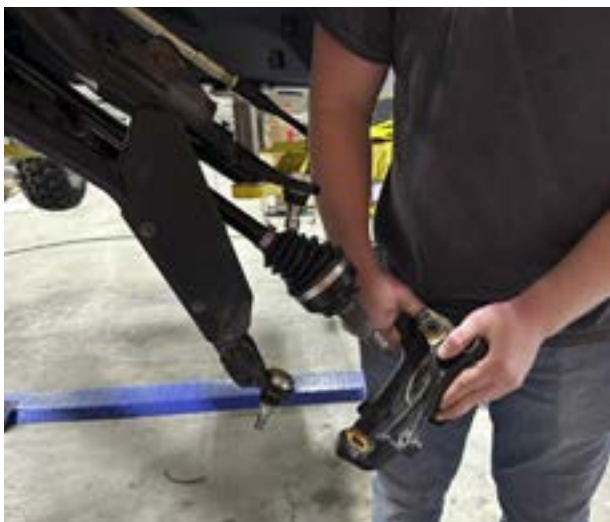


FIG 8 - Remove the Knuckle

INSTALLATION INSTRUCTIONS

Installation Preparation

Remove the upper control arm by unfastening frame mounting hardware using an 18mm socket and wrench (**FIG 9**).



FIG 9 - Remove Upper Control Arm

Remove the lower control arm using an 18mm socket and wrench (**FIG 10**).

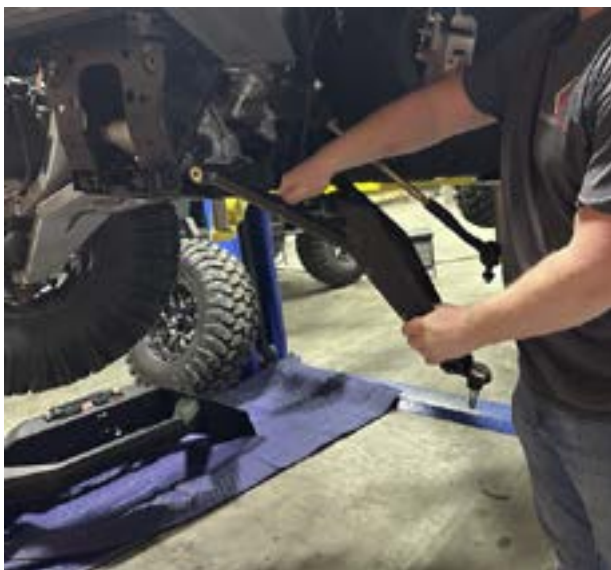


FIG 10 - Remove Lower Control Arm

INSTALLATION INSTRUCTIONS

Installation

Fasten the sway bar link to the lower control arm using the OEM Hardware. Tighten using an 18mm socket and wrench (**FIG 11**).



FIG 11 - Remove Upper Control Arm

Fasten the Thumper Fab lower arm to the vehicle frame using the stock hardware. Loosley tighten using an 18mm socket and 18mm wrench. Fasten the sway bar end link to the sway bar using 2 x M12 x 6mm button head screws (with the head of the screw facing the outside of the vehicle. Tighten using an 8mm allen wrench and an 18mm socket (**FIG 12 & FIG 13**).

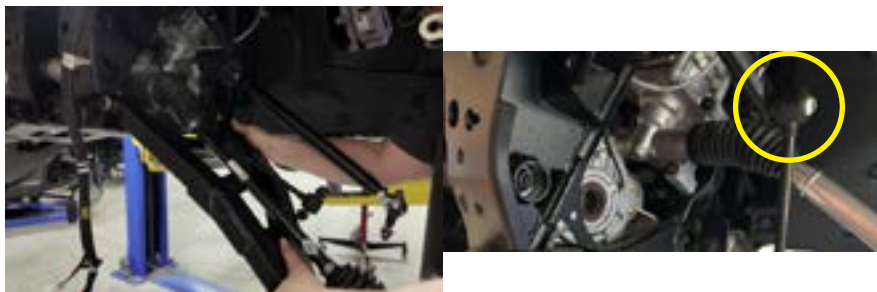


FIG 12 & FIG 13 - Install Thumper Fab Lower Control Arm and replace Sway Bar Upper Bolt

INSTALLATION INSTRUCTIONS

Installation

Fasten the lower ball joint to the knuckle using an 18mm socket (**FIG 14**).



FIG 14 - Mount Lower Ball Joint to Knuckle

Fasten the upper ball joint to the knuckle using the OEM cross bolt. Tighten using a 15mm socket and wrench (**FIG 15**).



FIG 15 - Fasten the Upper Ball Joint to the Knuckle

INSTALLATION INSTRUCTIONS

Installation

Reinstall the hub using a 30mm socket and the OEM axle nut and washer. Once tight, install cotter pin to prevent loosening of axle nut (**FIG 16**).

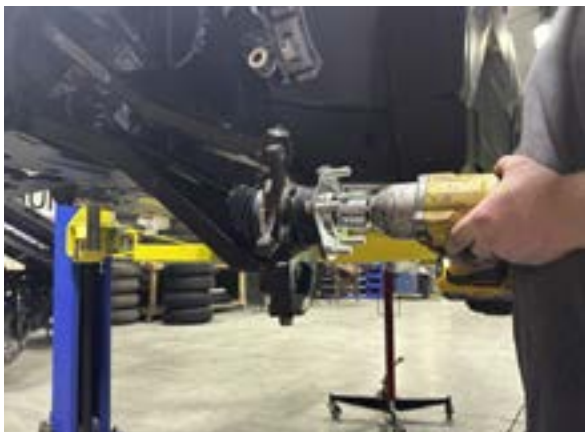


FIG 16 - Mount Hub to Knuckle

Slide the rotor onto the wheel studs of the hub (**FIG 17**).



FIG 17 - Slide the Rotor onto the Hub

INSTALLATION INSTRUCTIONS

Installation

Fasten the shock to the upper control arm using the stock bolt and nut. Tighten using an 18mm socket and wrench (**FIG 18**).



FIG 18 - Mount Shock to Upper Control Arm

Mount the tie rod to the knuckle using an 18mm socket (**FIG 19**).



FIG 19 - Mount the Tie Rod to the Hub

INSTALLATION INSTRUCTIONS

Installation

Fasten the brake caliper to the knuckle and mark the rock gaurd for ball joint clearance (if using TF Elite Ball Joints). You can remove the rock gaurd if you chose to do so (**FIG 20**).



FIG 20 - Mark Rock Gaurd for clearancing (If using TF Elite)

Remove the rock gaurd using an 8mm socket and clearance using a pencil grinder with carbide burr (**FIG 21 & FIG 22**).

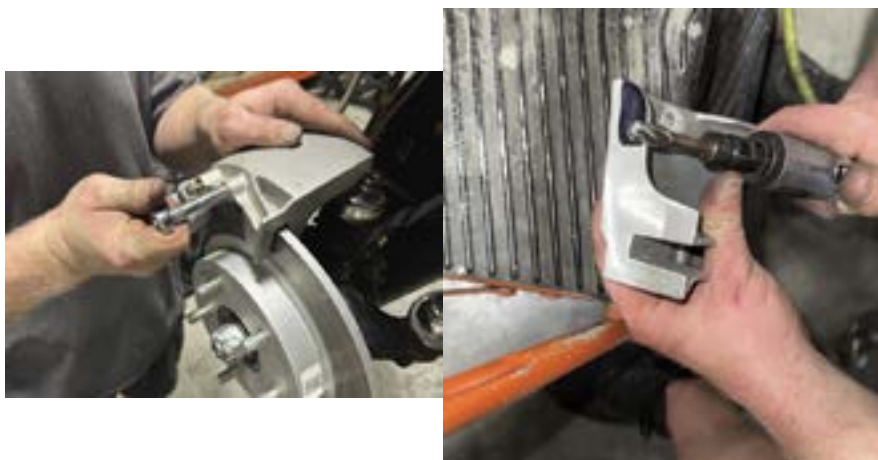


FIG 21 & FIG 22 - Remove and clearance Rock Gaurd (If Applicable)

INSTALLATION INSTRUCTIONS

Installation

Reinstall rock gaurd using an 8mm socket (**FIG 23**).



FIG 23 - Reinstall Rock Gaurd

Fasten the brake line to the provided brake line tabs on the upper control arms using zip ties. Snip of the excess for a finished look (**FIG 24 & FIG 25**).



FIG 24 & FIG 25 - Fasten Brake Line to Upper Control Arm

INSTALLATION INSTRUCTIONS

Installation

Use a flathead screwdriver and a hammer to break the clamp loose that holds the steering boot to the steering rack (**FIG 26**).



FIG 26 - Remove clamp holding Steering Boot to Steering Rack

Slide the steering boot back to gain access to the worm gear. Slide steering stop over worm gear before reinstalling the steering boot onto the steering rack and fastening with a zip tie (**FIG 27**).



FIG 27 - Slide steering boot back and install Steering Stop

INSTALLATION INSTRUCTIONS

Installation

Reinstall the tires and set the vehicle on the ground. Adjust the Toe as needed and enjoy your new Thumper Fab Forward Arms! (**FIG 28**).



INSTALLATION INSTRUCTIONS

PRODUCT DISCLAIMER

The installation of products sold or manufactured by Thumper Fabrication, LLC (Thumper Fab) including, but not limited to suspension components such as lift kits, audio roofs, roll cages, frame stiffener kits, and tires that exceed the original specifications for the vehicle, may change the vehicle's center of gravity and handling characteristics both on- and off-road. You are aware that the installation of tires that are larger than original vehicle specifications may reduce the effectiveness of the braking system. Use of these products may place added stress to the original factory vehicle components which could cause them to weaken or possibly fail.

Products sold or manufactured by Thumper Fab are intended for off-road use only. Operation of a vehicle modified with these products on a road could result in serious bodily injury or death, and such operation may violate the laws of your state or municipality. You agree to operate your vehicle exclusively in the manner intended by the vehicle manufacturer. You agree that failure to safely and reasonably operate your vehicle could result in serious bodily injury or death, and that, as a result of installation of this product(s) to your vehicle, extreme care must be taken to prevent vehicle rollover or loss of control, which may be more likely to occur as a result of said modifications. You will avoid unsafe maneuvers, including sudden sharp turns or other abrupt maneuvers, which could make a vehicular accident more likely. You understand that Thumper Fab is not responsible or liable for any damages or any injuries to yourself or your passengers that could occur upon possible accidents due to driver error, incorrect installations, bad judgment, incompatibility with other aftermarket accessories or natural disasters to the fullest extent allowable by law. You will have all vehicle occupants fasten seatbelts, if equipped, and wear proper safety equipment, such as DOT approved helmet and eye protection prior to operating the vehicle. You understand and acknowledge that failure to wear proper safety equipment may increase the risk of serious bodily injury or death to yourself and any passengers.

Proper installation of products sold or manufactured by Thumper Fab requires knowledge of the factory recommended procedures for removal and installation of original equipment components. Installation of these products without proper knowledge and experience may affect the performance of these components and the safety of the vehicle and cause serious bodily injury or death. It is strongly recommended that a certified mechanic familiar with the installation of similar components perform the product(s) installation.

Prior to installing any products sold or manufactured by Thumper Fab, you will perform or cause to be performed an inspection of their vehicle to confirm its condition is suitable for the installation of these products. A proper inspection of the vehicle includes confirmation that the vehicle has not been in a collision and is free of corrosion. If the vehicle is suspected to have been in a collision or misused, or is otherwise unsuitable for modification, you will not install the product(s). You will continue to inspect the vehicle prior to each use to confirm its condition is suitable for its intended use, and you acknowledge that the failure to do so may result in serious bodily injury or death, as well as damage to the vehicle itself.

You will install any warning labels provided with the product so it may be prominently seen by yourself and all passengers. You will notify all passengers of the modifications performed to your vehicle prior to operation.

Insurance companies may handle coverage of a modified vehicle differently. Please check with your insurance carrier prior to modifying the vehicle to ensure your coverage remains sufficient. Installation of this product(s) may void your vehicle warranty. If this is a concern, please check with the manufacturer or dealer before purchase or installation of this product(s).



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