2020+ Defender 1000 XMR Big Lift (Standard & Max Cab)

H













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## **PRODUCT DISCLAIMER**

The installation of products sold or manufactured by High Lifter Products, Inc. including, but not limited to suspension components such as lift kits, gear reduction lifts, frame stiffener kits, snorkels, 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 High Lifter Products, Inc. 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 High Lifter Products, Inc. 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 High Lifter Products, Inc. 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 High Lifter Products, Inc., 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).



### HARDWARE & BRACKETS (XLK-C5-B5) 79-14999



### **TIE ROD & STEERING SET UP**

### (XLK-C5-B4) 79-14998





BRAKE LINE KIT (58R) 73-11931

(XLK-C5-B5) 79-14999

### (58R BRAKE LINE IS INCLUDED IN THE HARDWARE BOX)

BRAKE LINES	FITTING 1	LENGTH	FITTING 2
FRONT SUPPLY	70° DOWN BANJO	36"	45° SWIVEL
FRONT RIGHT	90° SIDE BANJO	42"	45° SWIVEL
FRONT LEFT	90° SIDE BANJO	42"	45° SWIVEL
REAR RIGHT	90° SIDE BANJO	36"	45° SWIVEL
REAR LEFT	90° SIDE BANJO	36"	SWIVEL NUT

**STANDARD CAB BRAKE LINE HARDWARE** 64P 73-12229 118" Rear Brake Line Supply (1ea) **3 Equal Flare Tee** M10 Copper w/ hole (2ea) Washer (12ea) **MAX CAB AXLES** 67X DHT-XL-C1DXMR-F **RCV-X-C1DXMR-F** 73-12312 64-10839 64-10978 146" Rear Brake FRONT Axle (2ea) FRONT Axle (2ea) Line Supply (1ea) DHT-XL-C1D-R RCV-X-C1D-R

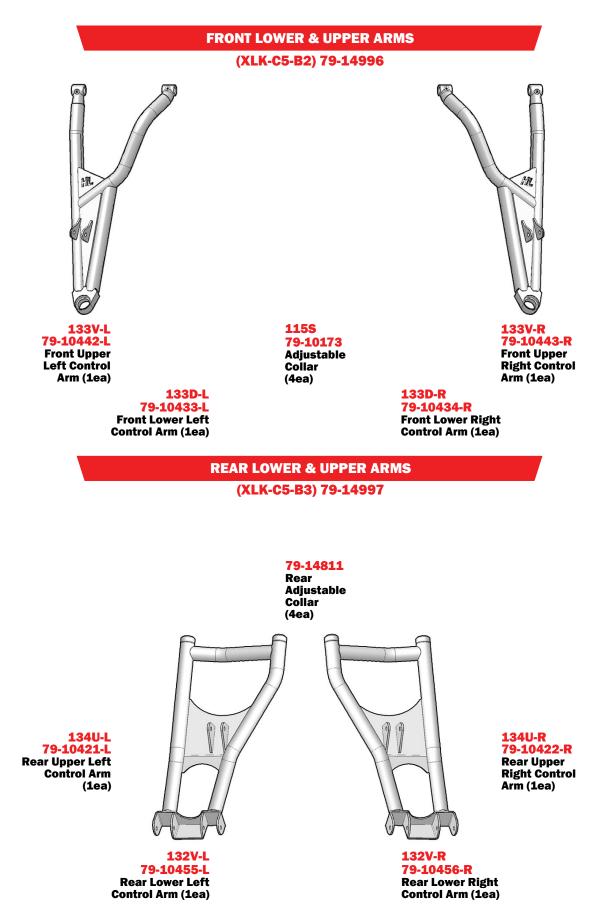
64-10838

REAR Axle (2ea)

64-10977

**REAR Axle (2ea)** 





### **FRONT WHEELS**

**Removal** 

Removal

### FRONT PASSENGER SIDE

**KEEP ALL FACTORY HARDWARE.** 

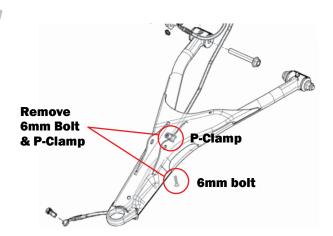
**Remove the FRONT wheels.** 

Place **jack** under the **FRONT center** of the UTV and lift until the weight is off the suspension. Ensure that the vehicle is properly secured, so that it is stable on the jack.

Make sure that the jack is tall enough to raise the UTV high enough to reinstall the tires after the lift is installed.ONCE LIFTED, USE JACK STANDS TO PROPERLY SECURE THE UNIT.



### **BRAKE CALIPER & BRAKE LINES**



Disconnect brake lines by removing clamps and hardware along the upper arm. **DO NOT DRAIN** FLUID YET.

### **HUB ASSEMBLY**

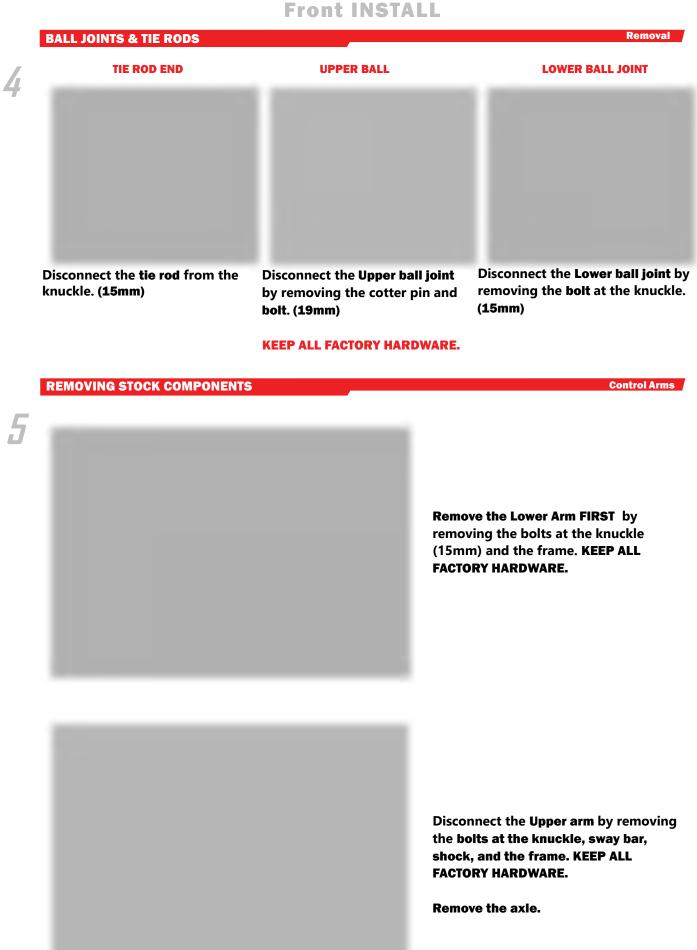
Remove Bolts Remove Bolts

Remove the **brake caliper mounting** bolts (15mm) Set caliper aside.

Remove **the cotter pin, axle nut, and washers** from the hub assembly, then remove the hub. (30mm)

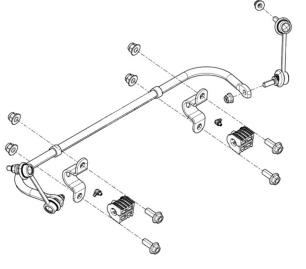
**REPEAT STEPS ON OPPOSITE SIDE** 

3



### SWAY-BAR

**COMPLETELY REMOVE THE FRONT SWAY-BAR. IT** WILL NOT BE USED IN CONJUNCTION WITH THIS KIT.

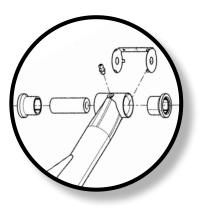


### **BUSHINGS & COLLAR**



# **UPPER ARM**

IF YOU ORDERED ARMS WITH PRE-INSTALLED BUSHINGS SKIP THIS STEP. THE BUSHING REMOVAL PROCESS IS THE SAME FOR ALL ARMS.



### REMOVAL

Slide the sleeve out of the arm. Use a flat head screw driver to remove the bushings from the control arm; be careful not to damage them. Inspect them for wear. **Replace as needed.** 

Removal & Install

**Removal** 

# COLLAR

THE INSTALLATION PROCESS IS THE SAME FOR BOTH THE FRONT AND REAR COLLARS.



### INSTALL

Once the bushings are inserted, slide the sleeve in, then clip on the wear plate.

Applying grease to the bushings and sleeves will make the installation easier.

### **BALL JOINTS**

Install

### IF YOU HAVE PRE-INSTALLED BALL JOINTS SKIP THIS STEP.

**NOTE: FOR DEMONSTRATIVE PURPOSES WE USED THE LOWER CONTROL ARM, BUT THE PROCESS IS SIMILAR FOR BOTH.** A press or a vise is suggested for removing and replacing the ball joints.

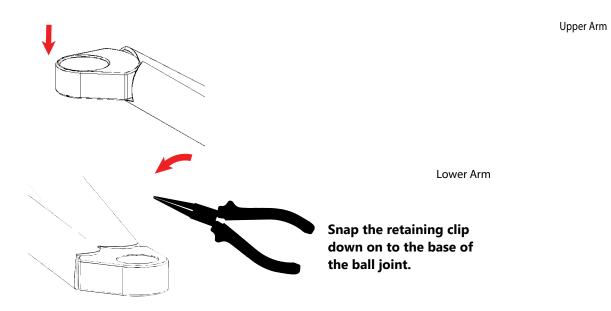


Back the ball joint with a large **36mm socket** or something sturdy of similar diameter, then using a **press or vice**, **press the ball joint out** of the arm.

### **BALL JOINTS**

Flip the control arm over, and using the same process, press the ball joint in using a vice or press. If you press in the ball joint crooked, **DO NOT TRY TO FORCE IT IN!** If you try to force it straight you can "egg" the opening. Press the ball joint out and reinsert it into the opening, pressing it in with a vise. Verify that the clip snaps into place after installing the ball joints into the new Control Arm. You should always double check the ball joint snap ring for proper fit. Even if you use snap ring pliers, it may not seat. You can use a flathead screwdriver and a hammer to tap the snap ring to ensure that it is seated into the groove.

### **BALL JOINT ORIENTATION**



### **REPEAT STEPS ON OPPOSITE SIDE**

### **STEERING STOP**

Install steering

stops to the pinion

shafts on each side.

# NOTICE: DO NOT remove the steering assembly. The images featured are for DEMONSTRATIVE PURPOSES ONLY.

#### **BOOT REMOVAL**

The **rubber boots** on the rack and pinion are held on by zip ties. You will need to cut the zip tie that secures the boot to the inside of the rack and pinion.

#### **START WITH THE DRIVER'S SIDE**

This side has the least amount of room. Once you install the spacer on the passenger side you will have less play on the driver's side. DO NOT REMOVE THE FACTORY SPACER ALREADY IN PLACE. Turn the steering wheel all the way to the RIGHT.

#### **PASSENGER SIDE**

Turn the steering wheel all the way to the left. Place the **steering stop (47S)** between the **inner tie rod joint** and the **rack and pinion.** It is a tight fit, so you may have to force it on, this is to ensure that the spacer stays in place.

### **RE-SECURING BOOT**

You will need to turn the steering wheel closer to the center to allow play in the boot. Slide the boot back down and secure it with an **11**" **zip tie**.



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Lightly apply blue loctite to the inner tie rod, where it connects to the rack and pinion.

SECURE TIE ROD TO INNER TIE ROD END

INNER TIE ROD (HL-TRE-002) (LEFT HAND THREADED)

#### LEFT HAND THREADED

Install the boot over the (HL-TRE-002) inner tie rod, thread on the left hand jam nut, then thread on the (79-14876) tie rod to the inner tie rod end. HEIM JOINT (18D) (RIGHT HAND THREADED)

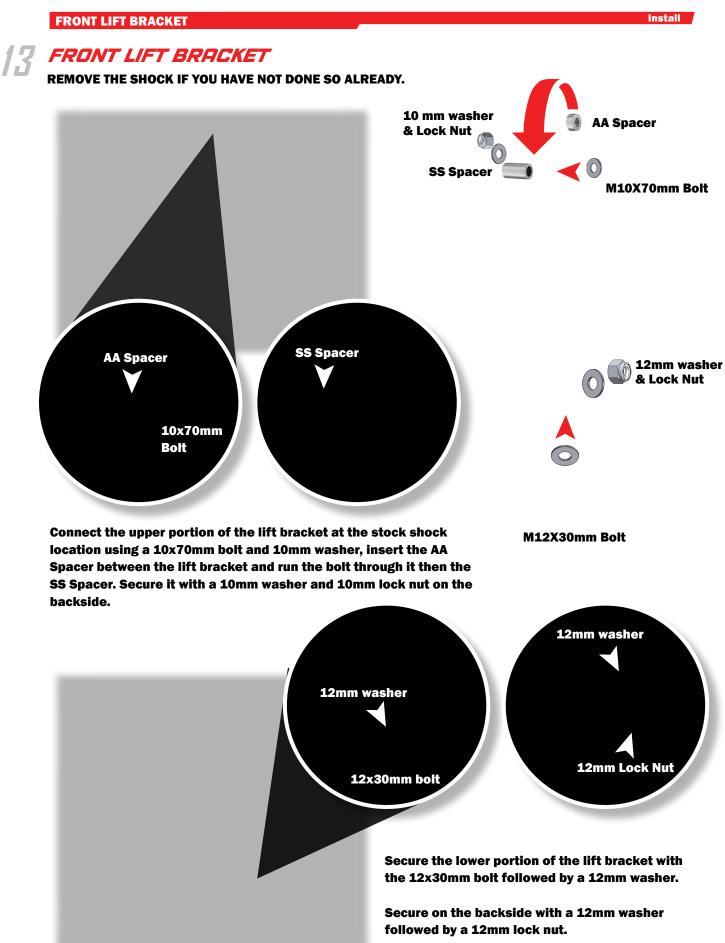
#### **RIGHT HAND THREADED**

Install the heim joint (18D) and right hand jam nut to the opposite end. This will likely need to be adjusted later.

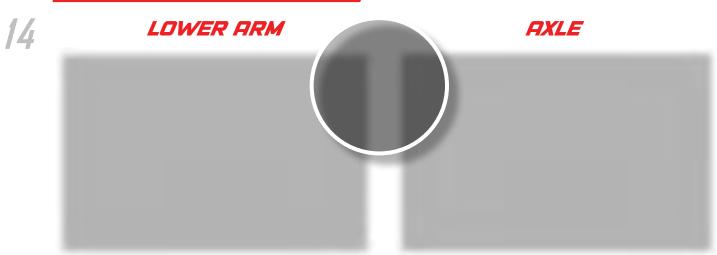
### **SECURE BOOT WITH 11" ZIP TIE**

You will need to turn the steering wheel closer to the center to allow play in the boot. Slide the boot back down and secure it with an **11**" **zip tie**.

### **REPEAT STEPS ON OPPOSITE SIDE**



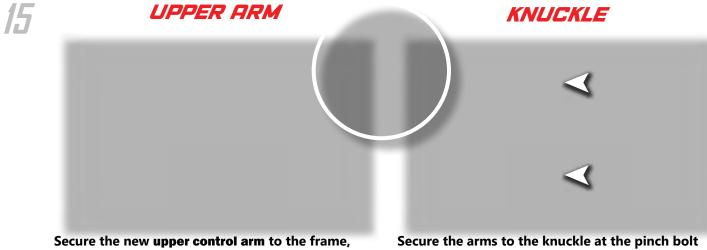
### FRONT CONTROL ARMS, AXLES, & HUB



Install the new **lower control arm** to the frame, using the factory hardware.

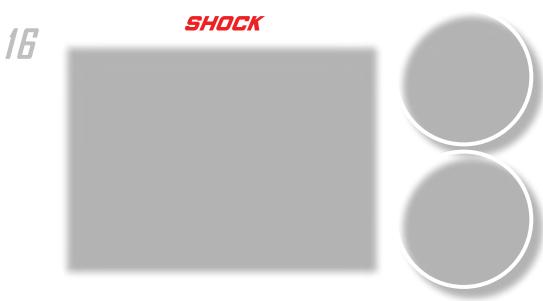
Install the new front axles into the differential.

Install



Secure the new **upper control arm** to the frame, using the factory hardware.

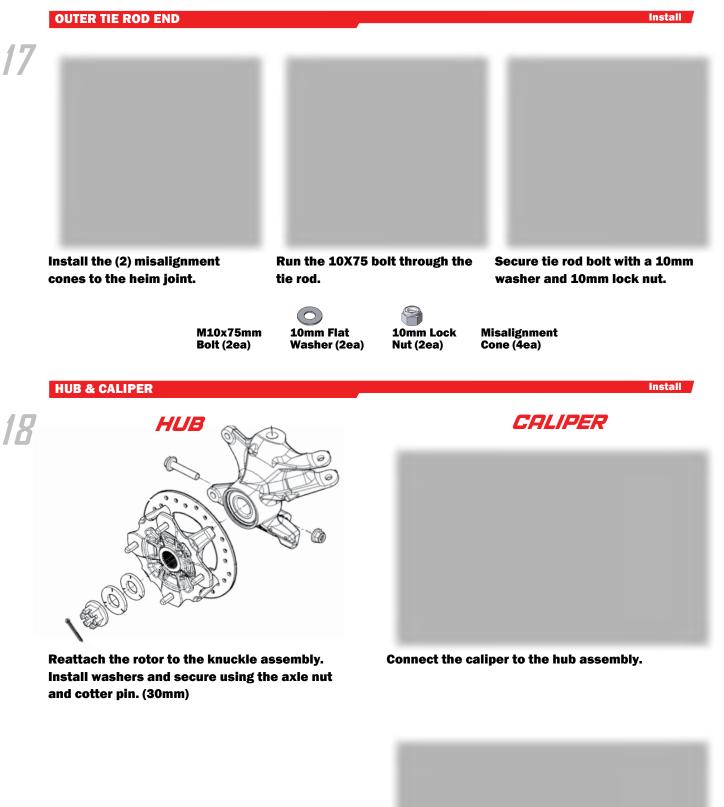
Secure the arms to the knuckle at the pinch bolt and the lock nut on the upper portion of the knuckle. Install cotter pin.



Use a 10X55 bolt followed by a 10mm washer to secure the UPPER shock to the lift bracket. Secure bolt with 10mm washer and 10mm lock nut.

Use a 10X55 bolt followed by a 10mm washer to secure the LOWER shock to the lift bracket. Secure bolt with 10mm washer and 10mm lock nut.

### **REPEAT STEPS ON OPPOSITE SIDE**



THE BRAKE LINE ROUTING INSTRUCTIONS FOR BOTH FRONT AND REAR ARE INCLUDED ON PAGES 21-23.



### **REAR LIFT**

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Removal

# REAR PASSENGER SIDE

**KEEP ALL FACTORY HARDWARE.** 

Place **jack** under the **REAR center** of the UTV and lift until the weight is off the suspension. Ensure that the vehicle is properly secured, so that it is stable on the jack.

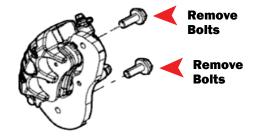
Make sure that the jack is tall enough to raise the UTV high enough to reinstall the tires after the lift is installed.

**Remove the REAR wheels.** 

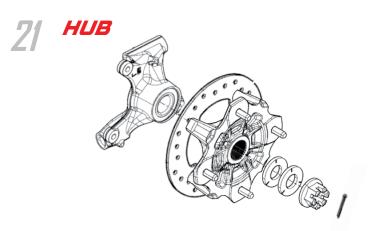


**CALIPER & HUB** 





**Remove the brake caliper mounting bolts** from the hub assembly. (15mm) Set caliper aside.



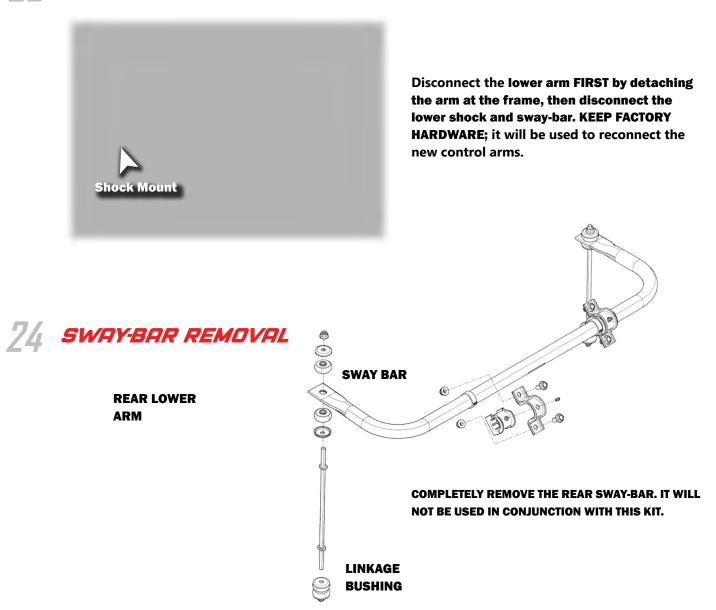
Remove the cotter pin and castle nut (30mm) on the rear axles, then remove the brake rotor assembly.

### **REAR CONTROL ARMS & AXLES**

# 22 KNUCKLE

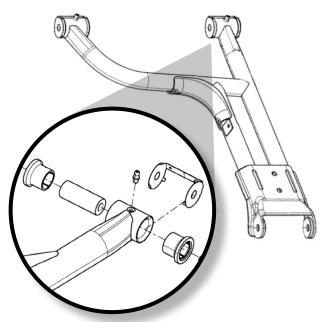
Remove the bolts (15mm) and nuts that attach the rear knuckle to the upper & lower A-arms. KEEP FACTORY HARDWARE.

# 23 LOWER ARM



### **REAR LIFT BRACKET**





Remove the upper control arm at the frame. Then remove stock axles at this time. KEEP FACTORY HARDWARE.

Install

SET ARMS ASIDE FOR BUSHING REMOVAL.

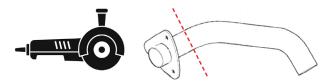
IF YOU HAVE PRE-INSTALLED BUSHINGS YOU WILL NOT REUSE THE FACTORY BUSHINGS.

Remove the bushings, sleeve, and wear plate from the collar.

# C EXHAUST MODIFICATION

BEFORE INSTALLING THE REAR LIFT BRACKET YOU MUST CUT THE EXHAUST. DO NOT REMOVE THE EXHAUST IF NOT NECESSARY. THESE BOLTS ARE PRONE TO STRIPPING.

Use a grinder to remove the exhaust tip at the line shown below.







Once the exhaust is removed, install the U-bolt over the new exhaust at the larger end and secure it with the provided lock nuts.



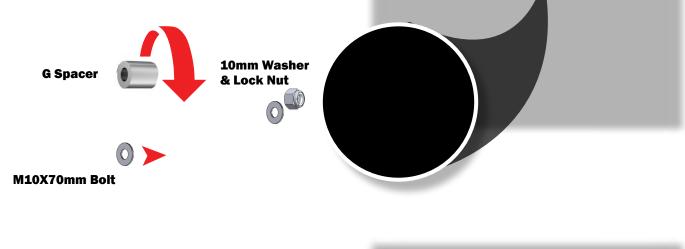
## **Rear INSTALL**

### **REAR LIFT BRACKET**

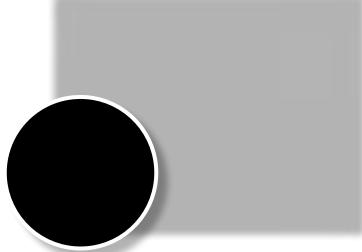
# 7 REAR LIFT BRACKET

Connect the upper portion of the lift bracket at the stock shock location using a 10x70mm bolt and 10mm washer, insert the G Spacer between the lift bracket and run the bolt through it. Secure it with a 10mm washer and 10mm lock nut on the backside.

M12X30mm Bolt





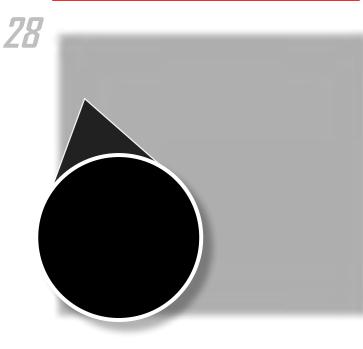


Secure the lower portion of the lift bracket with the 12x30mm bolt followed by a 12mm washer.

Secure on the backside with the square washer followed by a 12mm lock nut.

# **Rear INSTALL**

### **REAR LOWER CONTROL ARM**





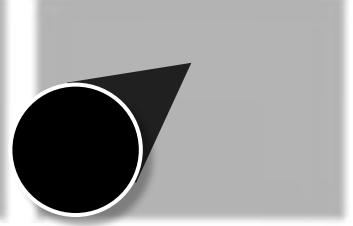
Install the new axles. Connect the new lower arm (132V) at the frame using the factory hardware.

### **REAR UPPER CONTROL ARM**

Install

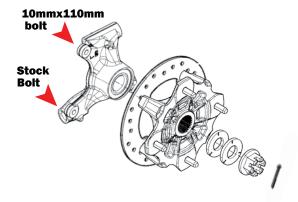


Connect the new upper arm (134U) at the frame using the factory hardware.



Connect the **arms** to the **knuckle by** using the **10mmx110mm bolt** at the **TOP** of the knuckle. Secure with a 10mm washer and 10mm lock nut. Secure the **BOTTOM** portion with stock hardware.

Install the rotor & hub assembly to the knuckle. Secure with washers, axle nut, and the cotter pin

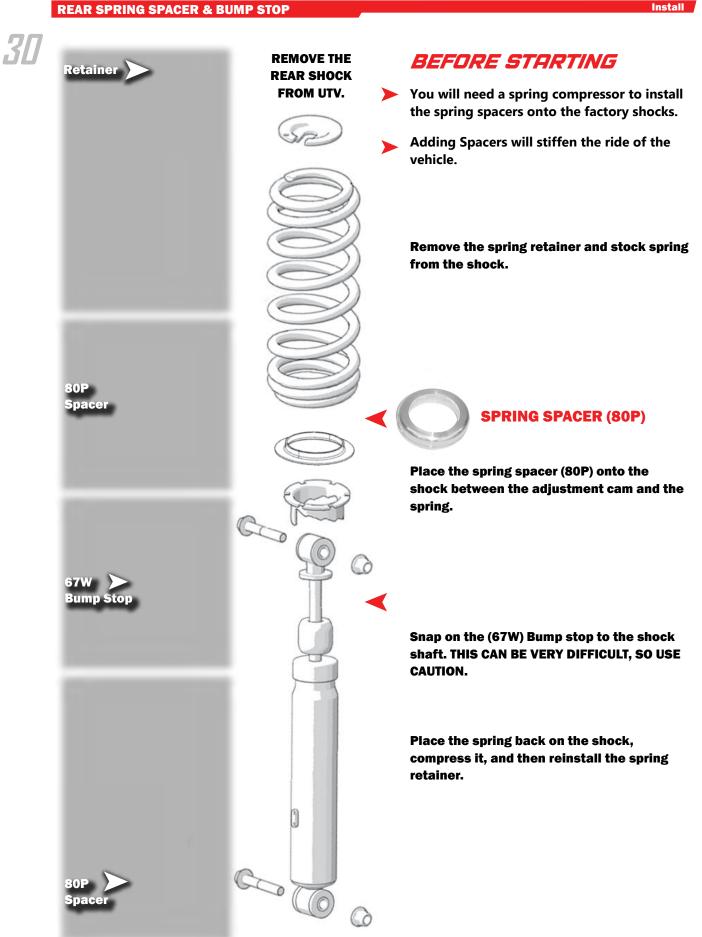


**REPEAT STEPS ON OPPOSITE SIDE** 

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## **Rear INSTALL**

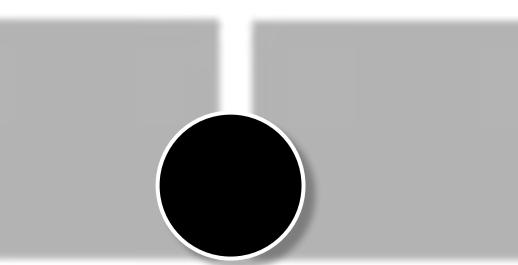
#### Install



### SHOCK

31

# LOWER SHOCK

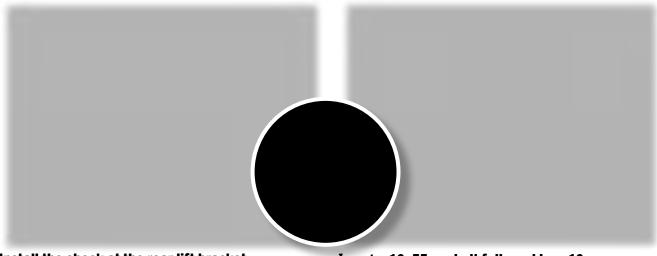


Install the shock to the lower arm shock tab.

Insert a 10x55mm bolt followed by a 10mm washer through the shock tab; secure it with a 10mm washer and 10mm lock nut.

Install

# UPPER SHOCK



Install the shock at the rear lift bracket.

Insert a **10x55mm bolt followed by a 10mm** washer through the shock tab; secure it with a **10mm washer** and **10mm lock nut**.

## **FRONT BRAKE LINES**

### **FRONT BRAKE LINES**

32

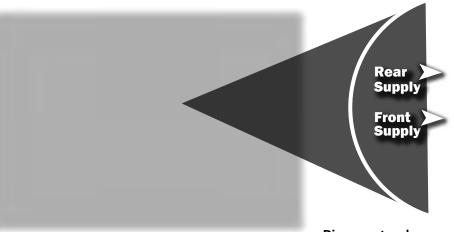
Remove Banjo Bolt

Disconnect the **stock brake line from the caliper**, if you have not done so already.

Have a container ready to collect fluid.

### **REPEAT STEP ON OPPOSITE SIDE**

# 33 LEFT DRIVER SIDE



Remove the panel from the fender well on the (DR) side to access the master cylinder.

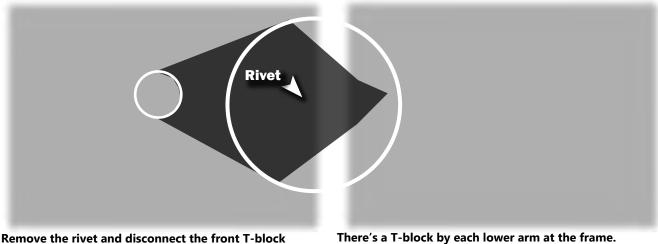
Disconnect and remove the **factory FRONT SUPPLY LINE.** Have a container ready to collect fluid.

# OLDER MODELS

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REMOVE ANY ADDITIONAL FASTENERS OR TIES PREVENTING REMOVAL OF THE FACTORY FRONT BRAKE LINES.



Remove the rivet and disconnect the front T-block from the frame (above the front differential). You may need to use an angle grinder to remove this rivet. There's a T-block by each lower arm at the frame. Remove these blocks by drilling off the rivets. Disconnect and remove all front brake lines.

### **FRONT BRAKE LINES**

linn

UPPER CONTROL ARM

FRAME



(58R) Connect the new 36" front supply line to the master cylinder and back to the supplied T-block. Install the new 42" front left (driver side) and 42" front right (pass side) brake lines from the T-block to the calipers.

### FRAME

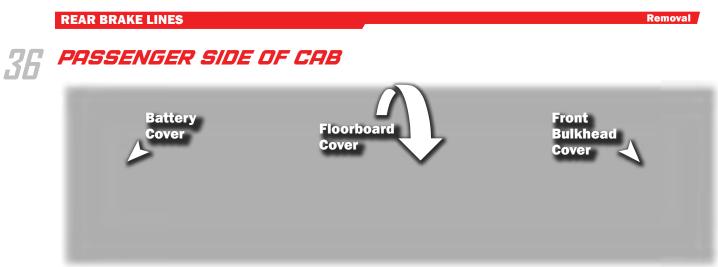
Secure the T-block to the frame by using the supplied 5mmX20mm bolt followed by a 5mm washer and 5mm lock nut. Mount it to the frame in the same location as older models. (just above the differential)

Install



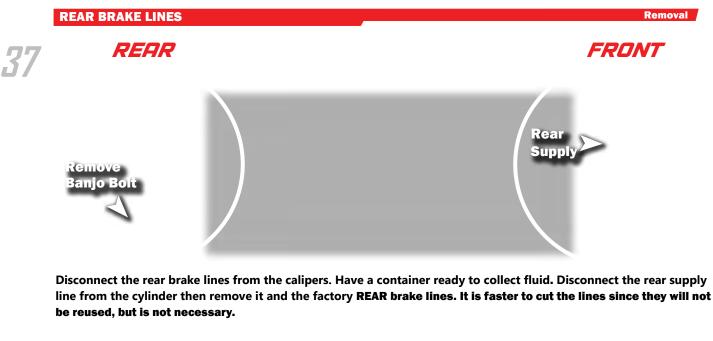
Secure the 42" front brake line to the FRONT UPPER arm by using the supplied 133B brake line clamps. Route the line under the FRONT UPPER ARM. You do not have to route the lines exactly as shown, as long as they do not become pinched or bound.

### **Rear INSTALL**

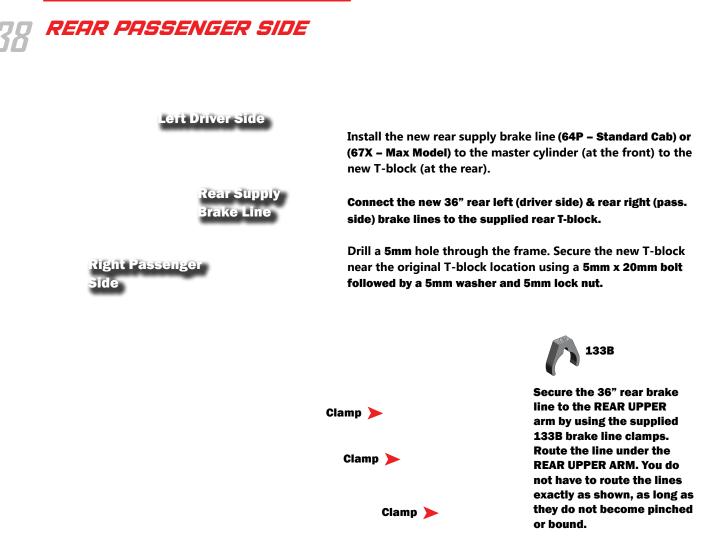


Remove the battery cover, front bulkhead cover, and floorboard cover from the cab to access the brake lines.

## **REAR BRAKE LINES**



### **REAR BRAKE LINES**



Routing

### IF YOU HAVE ADJUSTBLE CONTROL ARMS, YOU MUST ADJUST THE CAMBER FIRST BEFORE PROCEEDING. DO NOT INSTALL WHEELS ONTO UTV UNTIL PROPER ALIGNMENT HAS BEEN ACHIEVED.

- Straighten steering wheel
- Make sure that the brake rotors are straight to sight or level.
- Using a tape measure, measure from inside to inside on the front and back ends of the rotors.



### INCORRECT TOE

If the toe alignment is incorrect, measure the distance between vehicle center and the back of the rotors. This will indicate which tie rod needs adjustment.

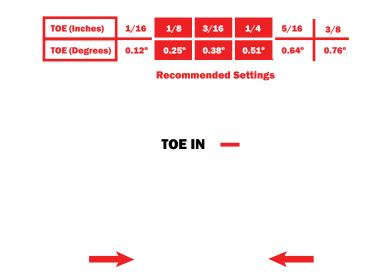
### ADJUSTING TOE

Adjust tie rods until BOTH measurements are the SAME, then adjust toe tolerance.

The recommended vehicle toe tolerance is 1/8" to 1/4" (3.175-6.35mm) toe out. This means the FRONT MEASUREMENT IS WIDER THAN THE REAR MEASUREMENT.

TOE OUT

### TOE ADJUSTMENT CHART



If the FRONT OF THE WHEELS are facing OUT, adjust the tie rods OUT or INCREASE the length of the tie rod.

Measurement at the **front of the tires** will be **GREATER** than the rear, if the **TOE IS OUT.** 

If the FRONT OF THE WHEELS are facing IN, adjust the tie rods IN or <u>REDUCE the length of the tie rod.</u>

Measurement at the **front of the tires** will be **LESS** than the rear, if the **TOE IS IN**.

IMPORTANT NOTE: When tightening the tie rod jam nuts, the tie rod ends must be held parallel to prevent rod end damage and premature wear. Damage may not be immediately apparent if done incorrectly.

After alignment is complete, tighten & torque tie rod end jam nuts to specifications. [12-14 ft lbs]

# ADJUSTING WHEEL CAMBER

# BEFORE STARTING

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- Tires must be off the ground
- Tires must have equal air pressure
- Suspension components must be completely assembled

The new High Lifter lower control arms will come pre-adjusted to factory length, which is .937"

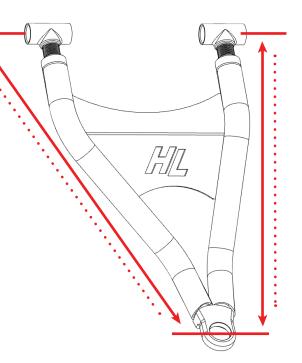
If you need to re-adjust the collars, place the factory arm and new control arm on a flat surface. Measure from eyelet to center mount on the factory arm, and then adjust the new arms to those lengths.

**NOTE:** When re-adjusting, leave the jam nuts loose. Do not fasten tight until installed on UTV, after all final adjustments have been made.



Make all adjustments in small increments.

Do this by disconnecting control arms at the frame and adjusting collars. Once small adjustments have been made. Take the UTV off the jack and roll it back and forth several times before checking the camber. Repeat steps as needed. After alignment is complete, tighten jam nuts to 80 ft-lbs and secure it with blue loctite.













# Positive Camber

If you have a positive camber you will need to adjust the collar OUTWARD or lengthen the control arm. The maximum amount outward is "1.250" which could give up to 3° of negative camber.

# Correct Camber

For this application, we recommend a camber setting of 0°. Collars are preset to .937"

.937

# Negative Camber

If you have a negative camber you will need to adjust the collar INWARD or shorten the control arm. The maximum amount inward is zero threads exposed and could give over 3° of positive camber.





### HIGH LIFTER LIMITED LIFETIME WARRANTY

High Lifter offers a Limited Lifetime Warranty to the original purchaser that our product shall be free from defects in material and workmanship for the life of the product if utilized in accordance with the manufacturer's instructions for installation and operation of said products.

### LIMITED LIFETIME WARRANTY EXTENDS TO THE FOLLOWING PRODUCT LINES:

- Lift Kits (Signature, Standard and Big Lifts)
- Control Arms
- Trailing Arms
- Radiator Relocation Kits

- Portal Gear Lifts
- Wheel Spacers
- Tow Hooks
- **Control Arm Link Kits**

Damages to vehicle or any other object during the installation, use, or removal of High Lifter products are not covered under this warranty. Normal wear items included with any of the products covered under this Limited Lifetime Warranty are excluded from coverage. These items include, but are not limited to heim joints, tie rods, bearings, bushings, seals, gaskets, zinc plating, painted and powder coated finishes. Other exclusions of coverage under this warranty include, but are not limited to: damage or product failure due to improper installation, lack of maintenance, product modification, abuse, collision or use on vehicles for which product was not designed, repairs performed by anyone other than approved High Lifter personnel or made using non-High Lifter components. This warranty is valid for the original purchaser only and is non-transferable. High Lifter reserves the right to inspect any product before determining if the claim is valid and covered under this warranty. Claims determined to be caused by reasons other than a manufacturer defect will be rejected and an estimate for repair or cost of a replacement product if a repair is not possible, will be provided.

This warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether express or implied, except the warranty of title.

### WARRANTY PROCESSING

If you suspect your product is defective, **DO NOT** disassemble the product to determine the cause without prior approval as it may void your warranty status. This is especially true with our Portal Gear Lift. To begin the claim process, please e-mail our warranty team at warrantycare@highlifter.com and include the following in the e-mail:

- **Vour full name, address and contact phone number.**
- The year, make and model of your vehicle
- The part number of the product
- Photos of the product installed, and vehicle product is installed on
- Proof of Purchase (Required for all warranty claims and you must be the original purchaser)

Once a claim is created, you will receive a return authorization number (RMA). Write this number on the outside of the box containing your defective product and include it along with your name and contact information inside the box. Product must be returned in the original box or a box of equal strength and packaging. Product sent without an RMA number visible on the outside of the box or sent COD will be refused. Ship your product to the following address:

### High Lifter Products, Inc. Attn: Returns 7455 Atkinson Dr, Shreveport, LA 71129

Once your product is received, we often have your replacement or repaired product shipped back to you within 3-business days of receiving it. Please note that High Lifter is not responsible for shipping charges on product returned for warranty or repair, including duties and fees required by those residing outside the United States.

