

# HDFFA-RNG9

APEXX Polaris Ranger 900 Front Forward Control Arm Kit

# HL

Parts Available For These Popular Brands and Others

**POLARIS**

*can-am*



**Kawasaki**



## HIGHLIFTER



sales@highlifter.com



800-699-0947 | 8:00am - 6:00pm CST



780 Professional Drive North, Shreveport, LA 71105



www.highlifter.com

## 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).

# HIGHLIFTER

## PARTS DIAGRAM



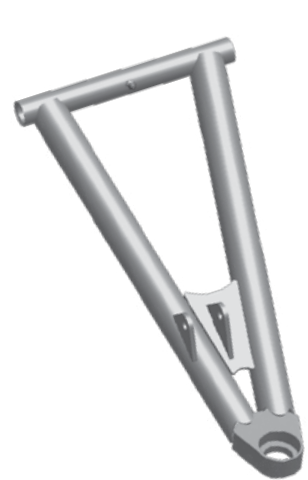
**106Q-L**  
Upper Left  
Control Arm  
(1ea)



**106J-L**  
Lower Left  
Control Arm  
(1ea)



**106J-R**  
Lower Right  
Control Arm  
(1ea)



**106Q-R**  
Upper Right  
Control Arm  
(1ea)



**10U**  
Steering Stop  
(2ea)



**FW12SAE**  
1/2 Flat  
Washer  
(2ea)



**86G**  
Short Cone  
(4ea)



**HC812314FZ**  
1/2" x 3-1/4"  
Gr 8 Bolt  
(2ea)



**18F**  
1/2" Hiem  
Joint  
(2ea)



**GF-1428-ST**  
Grease  
Fitting  
(2ea)



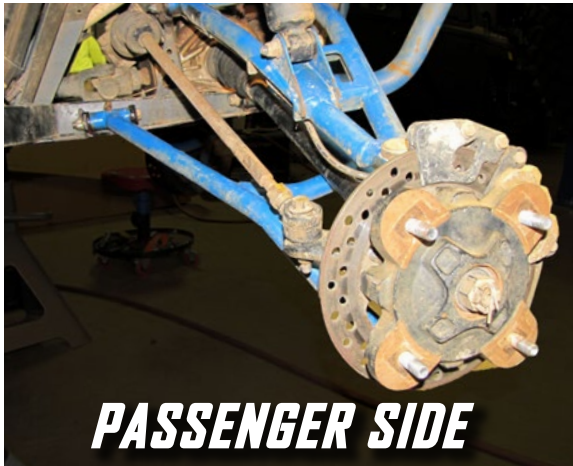
**NLN12F**  
1/2 Lock  
Nut  
(2ea)



**T50RB**  
Zip Ties  
(8ea)

1

**NOTE:** Procedures were performed from the **FRONT PASSENGER SIDE**. Once steps are completed, repeat them on the opposite side. **KEEP ALL FACTORY HARDWARE.** The bushings, sleeves, and ball joints will need to be removed to install in the new arms, unless it is a pre-installed kit.



Place a 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.

**Remove the front wheels and shocks.**

## BRAKE CALIPER

2



You will need to remove the **two clamps** that hold the brake lines to the arm, then remove the brake calipers.

## HUB

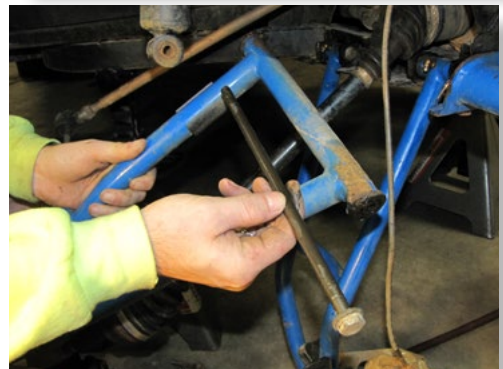
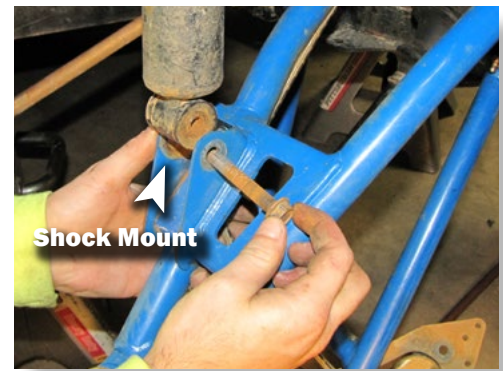
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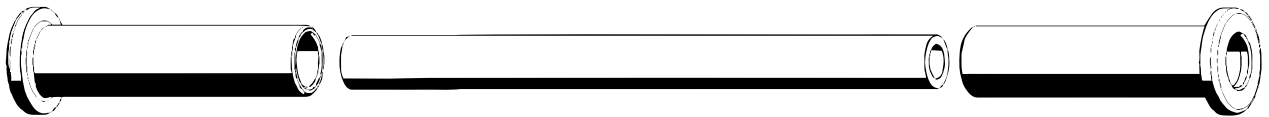
Disconnect the Knuckle assembly from the arms by removing the cotter pin and axle nut. You will reuse the factory hardware to reconnect the new control arms to the frame, so **DO NOT** misplace factory hardware.

4

4

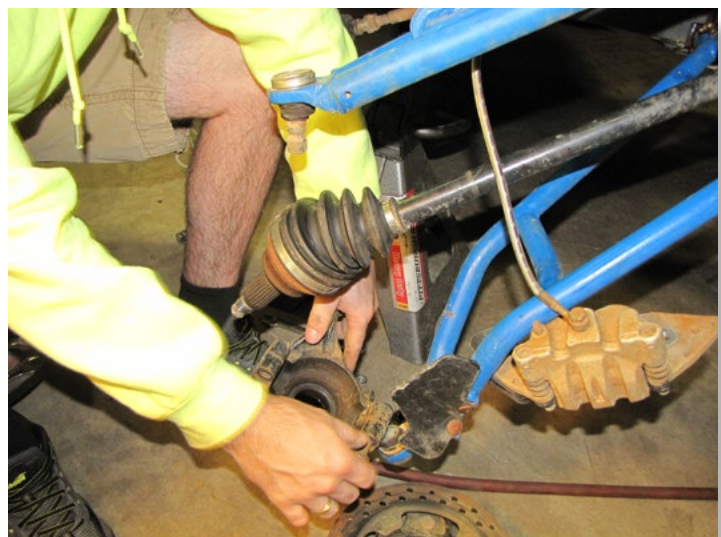


Disconnect the upper arm **FIRST** by removing the bolts from the shock, upper pinch bolt, and frame. **KEEP ALL FACTORY HARDWARE.** Remove bushings and sleeve.



5

Disconnect the Lower arm by removing the bolts from the lower pinch bolt, and frame. **KEEP ALL FACTORY HARDWARE.**



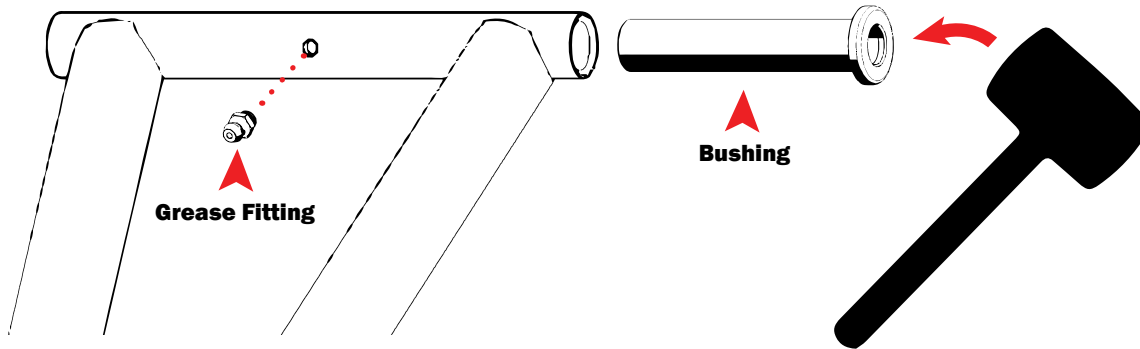
## 6 UPPER ARM

Use a mallet or press to push the bushings into the arm.

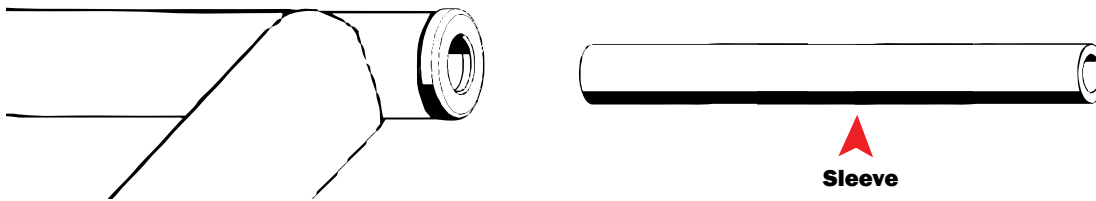
Repeat process for the **UPPER** arms.

**TIP:** It helps to place grease on the bushings.

Install the **grease fittings**, making sure **NOT** to over tighten them.

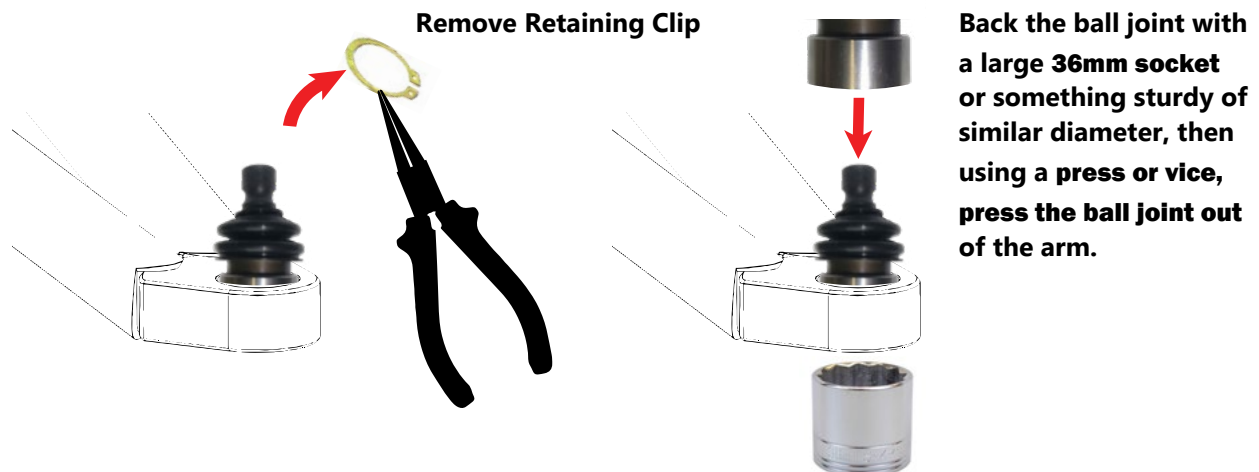


Install the sleeve.



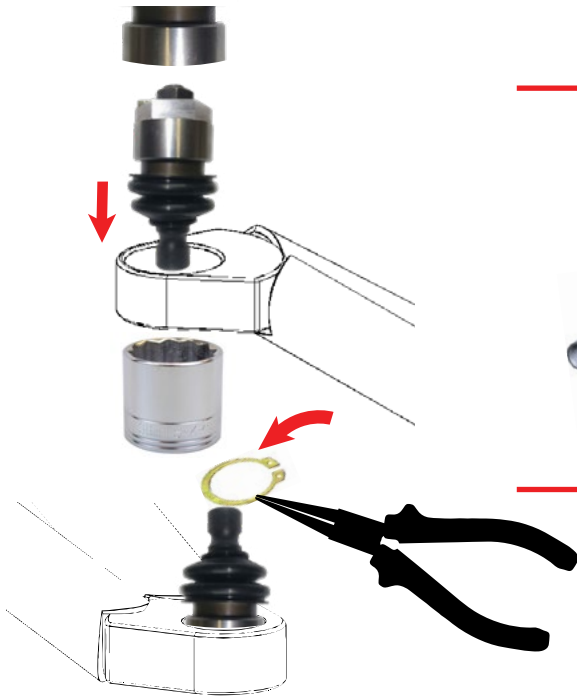
## 7 IF YOU HAVE PRE-INSTALLED BALL JOINTS SKIP TO STEP 9

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

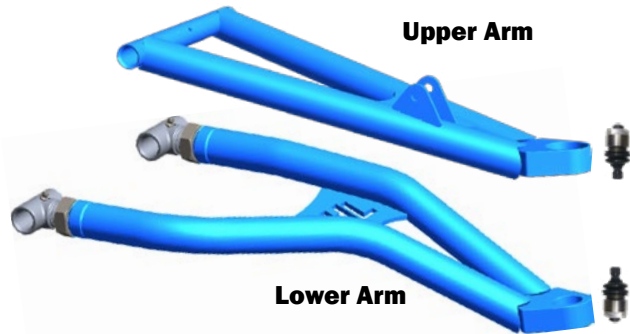


8

Flip the control arm over, and using the same process, press the ball joint in using a vice or press.



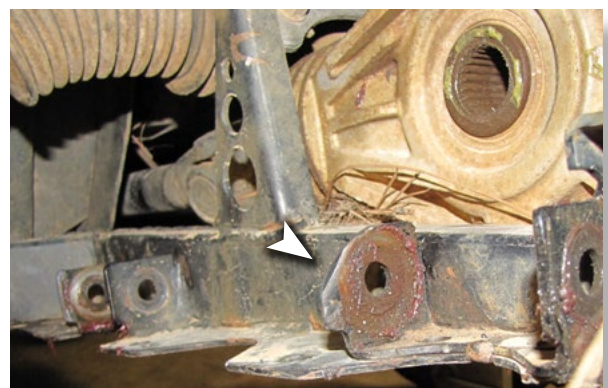
BALL JOINT ORIENTATION



Snap the retaining clip down on to the base of the ball joint.

LOWER CONTROL ARM

9



Using a grinder, shave down the **LEFT** tab on the **RIGHT** side of the **LOWER** arm, where the arm connects to the frame, just below the axle. You will need to remove the axle to proceed.

Connect the new lower arm to the frame using the factory hardware.



10



Connect the new upper arm to the frame and shock using the factory hardware.

11



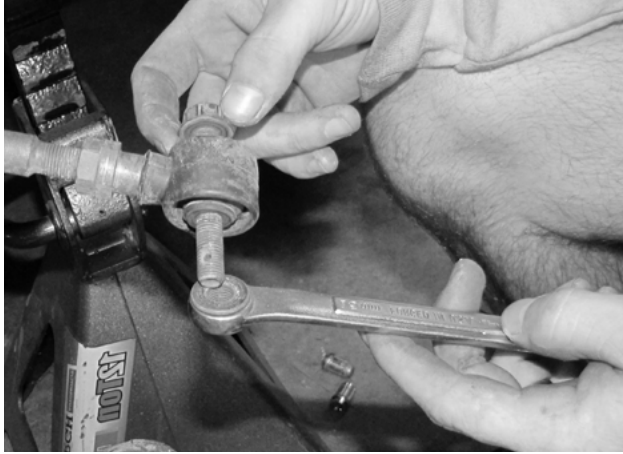
Reinstall the Axle and attach the arms to the knuckle assembly using factory hardware.

12





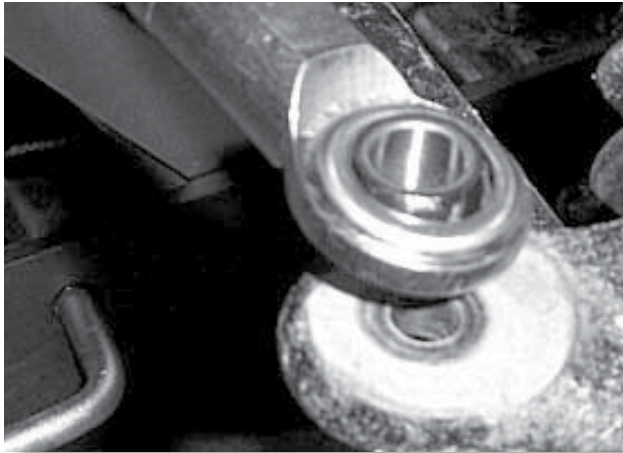
13



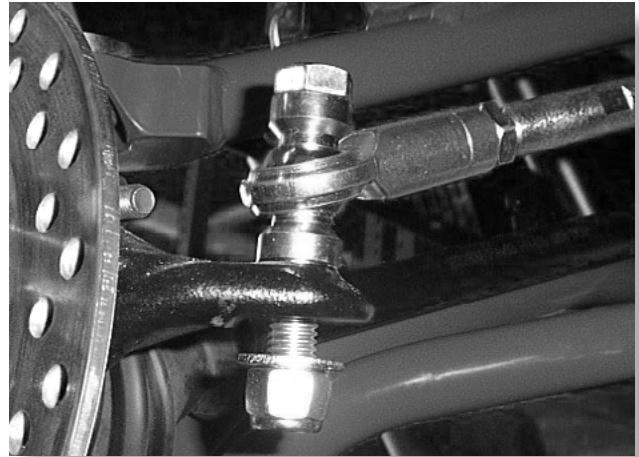
Disconnect the stock tie rod ends from the knuckle.



Using a  $\frac{1}{2}$ " drill bit, drill a larger hole where the tie rod connects to the knuckle.



Line up the new heim joint provided.



Use the  $\frac{1}{2}$  x  $3\frac{1}{4}$ " hex bolt and the two high alignment bushings, connect the heim joint to the knuckle, then place the  $\frac{1}{2}$ " washer and  $\frac{1}{2}$ " lock nut on the bolt and torque it tight.

14



Using the zip ties provided secure the brake lines to the upper control arm.



**REPEAT STEPS ON OPPOSITE SIDE OF VEHICLE**

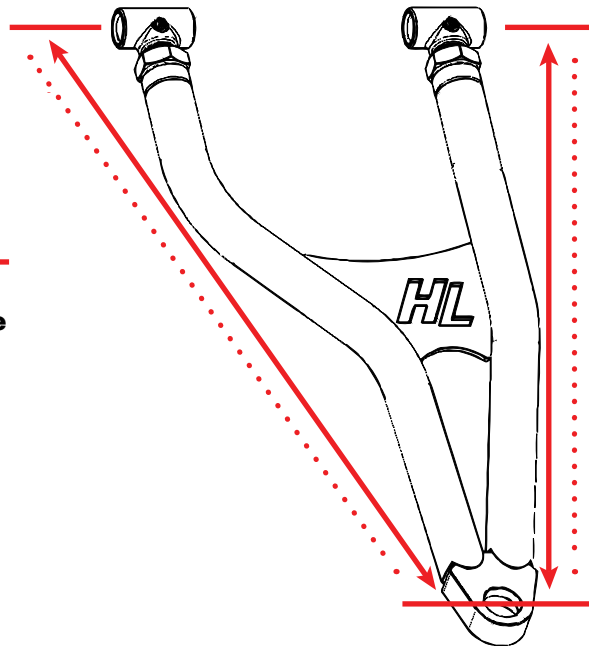
### 15 BEFORE STARTING

- 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 to check 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 positive camber.



### Correct Camber

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



### Negative Camber

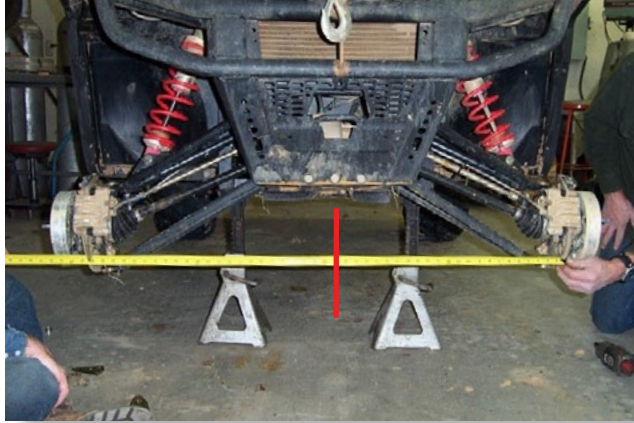
If you have a negative camber you will need to adjust the collar **INWARD** or shorten the control arm. The maximum amount inward is zero threads exposed and could give over 3° of negative camber.



**FRONT WHEEL ALIGNMENT**

**IF YOU HAVE ADJUSTABLE 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.
- Take a tape measure and 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 each wheel. 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 ADJUSTMENT CHART**

<b>TOE (Inches)</b>	<b>1/16</b>	<b>1/8</b>	<b>3/16</b>	<b>1/4</b>	<b>5/16</b>	<b>3/8</b>
<b>TOE (Degrees)</b>	<b>0.12°</b>	<b>0.25°</b>	<b>0.38°</b>	<b>0.51°</b>	<b>0.64°</b>	<b>0.76°</b>

**Recommended Settings**



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 **REDUCE the length of the tie rod.**

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]

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**IF THE STEERING IS ALREADY CENTERED THEN YOU DO NOT HAVE TO FOLLOW THESE NEXT STEPS.**

Factory steering for some makes and models may **NOT** be centered. This can cause the tie rod ends to have more engagement on one end than the other. This also causes the steering wheel to be off center.



**A)** When the steering is zeroed, check the steering wheel to make sure that it is properly positioned.



**(B)** If the steering wheel is not centered, you will need to remove the center cap with a flat head screwdriver to gain access to the steering wheel nut.



**(C)** Using a ratchet, turn the steering nut counter clockwise or left. Continue this until the steering wheel locks at full turn, then loosen the nut. **DO NOT** remove the nut yet.



Once the nut is broke, back it off just enough leaving a few threads. Use a hammer to tap on the nut while pulling up on the steering wheel until it breaks loose. But **DO NOT** hammer too hard, it could damage the nut or threads. Now remove the nut and steering wheel.

**NOTE:** A puller may be needed to remove the steering wheel if it can't be broken free.

Now will be the time to adjust the steering wheel accordingly. Re-place the wheel and make sure the wheels are turned back straight. The steering wheel should be straight up and down.

**NOTE:** Rolling vehicle back and forth may help straighten the wheels.

Once the wheel is straight, thread the nut back on and turn the nut clockwise until the steering wheel locks at full turn, then tighten the nut. Reinstall the steering wheel cap.

**NOTE:** Loctite may be needed for the steering nut.

# HIGHLIFTER



## 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 [warranty@highlifter.com](mailto:warranty@highlifter.com) and include the following in the e-mail:

- Your 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 780 Professional Dr N Shreveport, LA 71105**

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.

**THANK YOU FOR CHOOSING**  
**HIGHLIFTER**