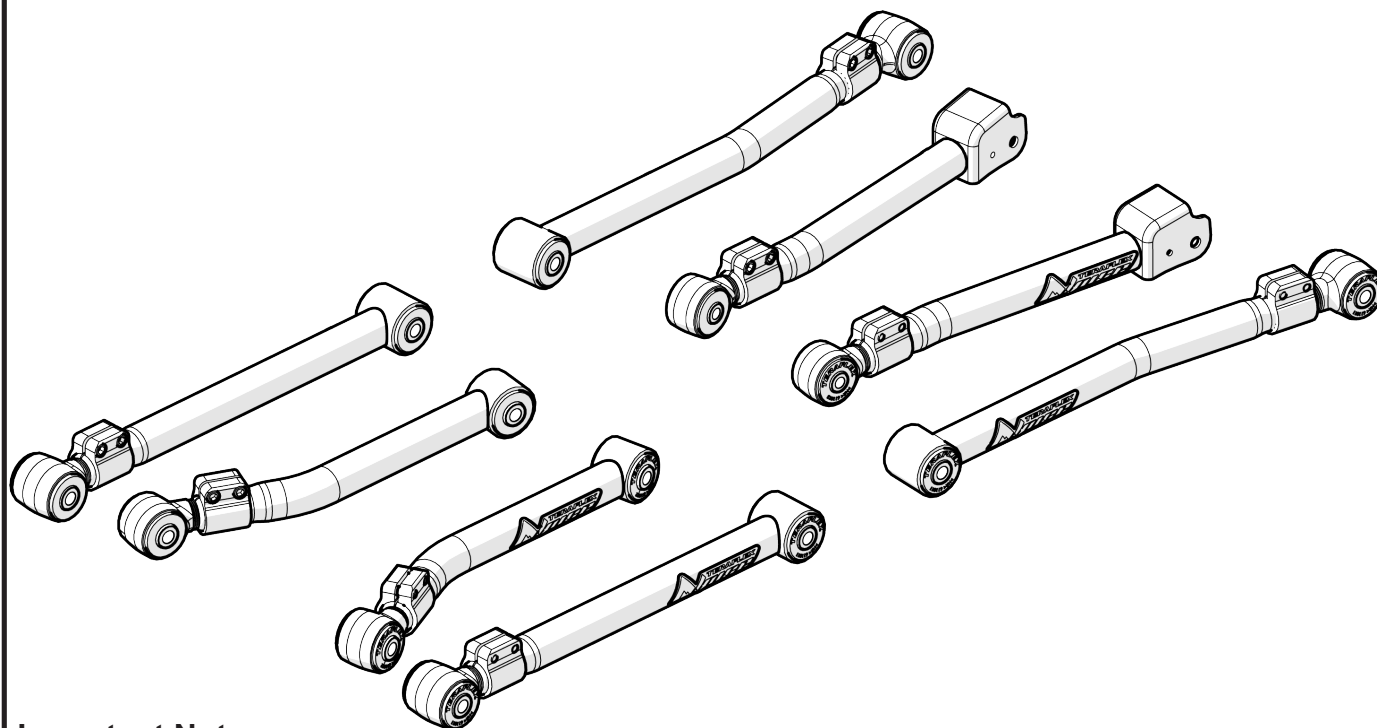




# JL ALPINE SHORT CONTROL ARMS

# 1416610



## Important Notes:

Prior to beginning this install, or any installation, read the instructions thoroughly to familiarize yourself with the required steps. Evaluate if you are experienced and capable to personally perform these modifications. A factory service manual should be used in conjunction with these installation instructions.

This product will change the highway handling characteristics of your vehicle, exercise caution. After altering the suspension it is always advisable to have an alignment done by a competent 4 wheel drive shop or by an alignment shop that is experienced with lifted 4 wheel drive vehicles.

Refer to the parts list to ensure that all necessary components and hardware has been included. If any parts are missing please contact your local TeraFlex dealer for assistance.

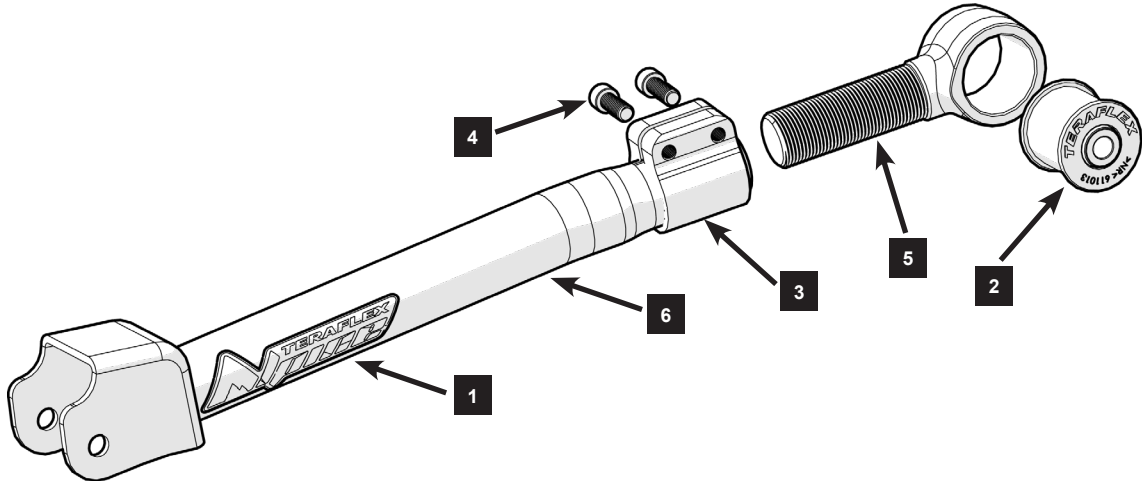
**When reinstalling OEM hardware, refer to the torque specs given in the Factory Service Manual.**

## Tools Needed:

- Metric Sockets and Open End Wrenches
- Torque Wrench
- Factory Service Manual
- General Mechanics Tools

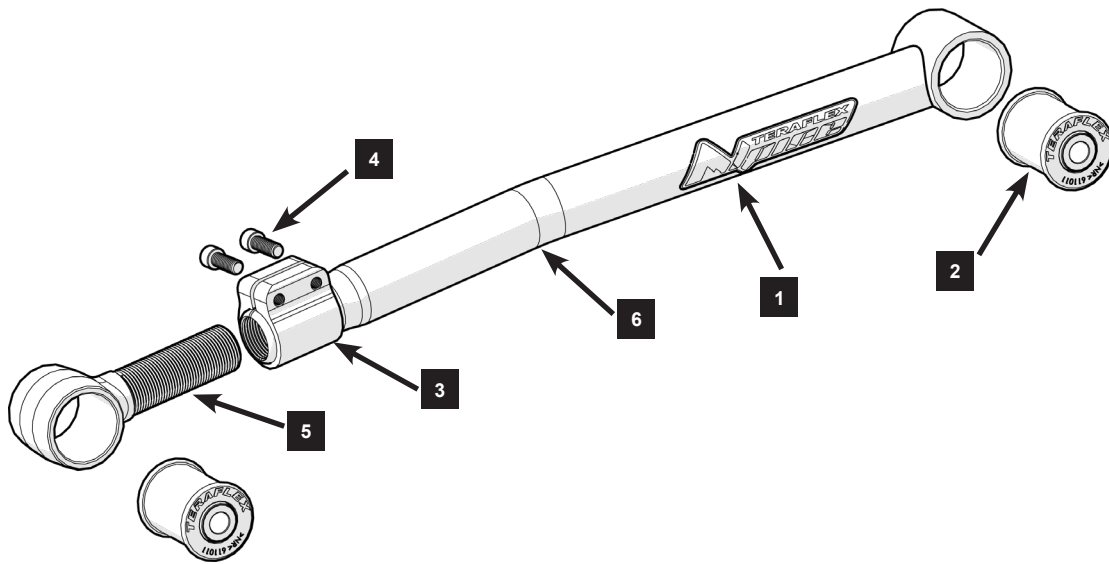
## Maintenance Note:

After the first 300 miles and every 3,000 miles after that, re-torque all the suspension components and bolts.



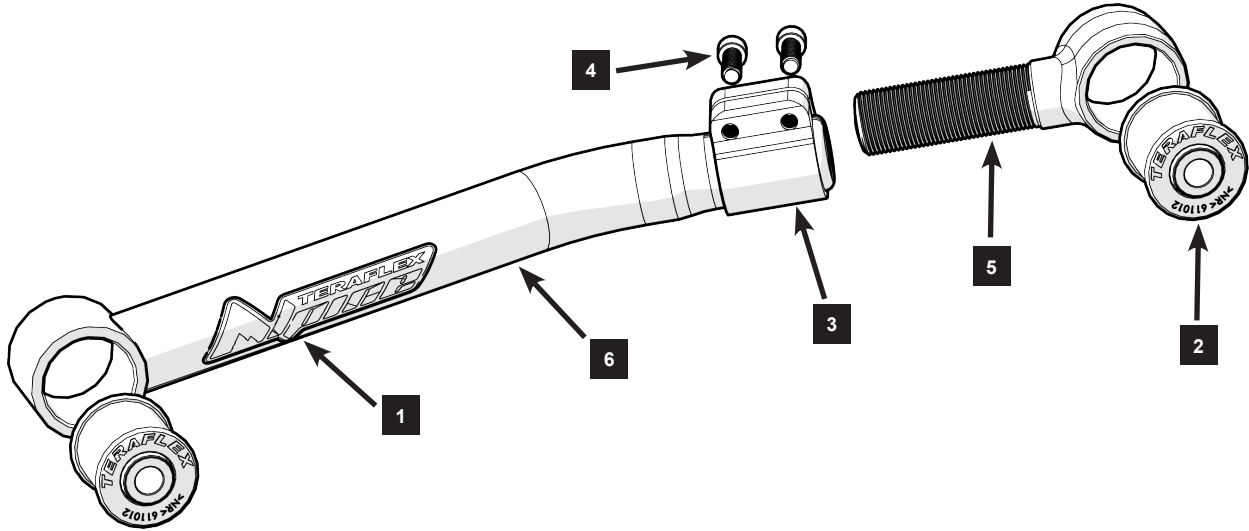
Parts List - 1416520 Front Upper HD Adjustable Control Arms

Item #	Part No.	Description	QTY
1	95-01-003-001	Sticker, Teraflex, Alpine Arm, Polycarbonate	1
2	611014	Front Upper JL Control Arm Bushing Factory Replacement	1
3	107105	Alpine Control Arm Aluminum Clamp	1
4	414	3/8"-16x1" Socket Head Cap Screw	2
5	116110	JL Front Upper Forged Bushing Eyelet	1
6	07-01-001-005	Control Arm, Alpine / Jeep JL, Front / Upper / Left Assembly	1
	07-01-001-006	Control Arm, Alpine / Jeep JL, Front / Upper / Right Assembly	

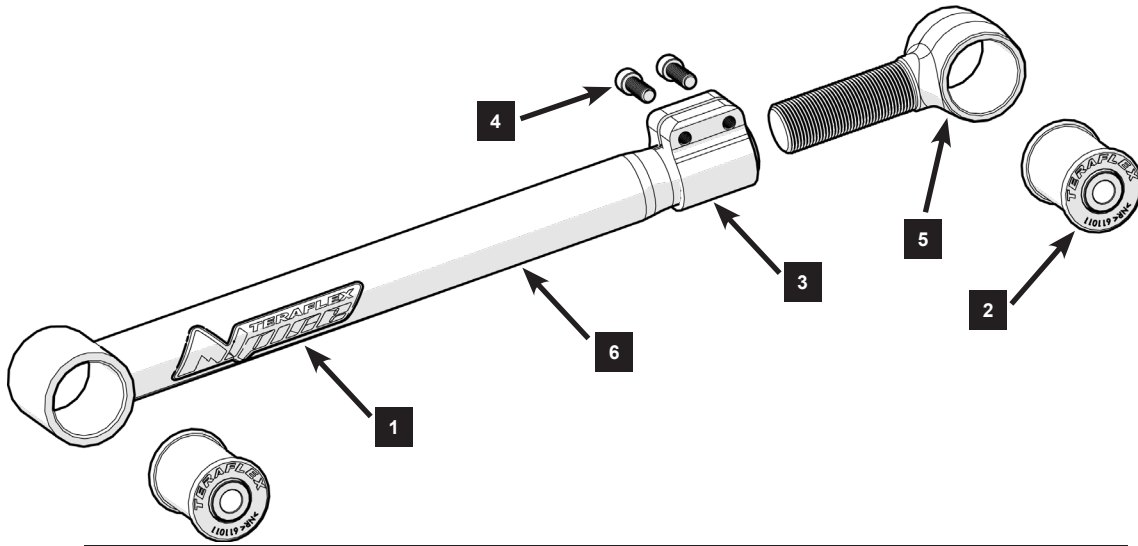


Parts List - 1416500 Front Lower HD Adjustable Control Arms

Item #	Part No.	Description	QTY
1	95-01-003-001	Sticker, Teraflex, Alpine Arm, Polycarbonate	1
2	09-01-201-001	Front Lower JL Control Arm Bushing Factory Replacement	2
3	107105	Alpine Control Arm Aluminum Clamp	1
4	414	3/8"-16x1" Socket Head Cap Screw	2
5	116110	JL Front Upper Forged Bushing Eyelet	1
6	07-01-001-001	Control Arm, Alpine / Jeep JL, Front / Lower / Left Assembly	1
	07-01-001-002	Control Arm, Alpine / Jeep JL, Front / Lower / Right Assembly	



Parts List - 1416560 Rear Upper HD Adjustable Control Arms			
Item #	Part No.	Description	QTY
1	95-01-003-001	Sticker, Teraflex, Alpine Arm, Polycarbonate	1
2	611012	Rear Upper JL Control Arm Bushing	2
3	107105	Alpine Control Arm Aluminum Clamp	1
4	414	3/8"-16x1" Socket Head Cap Screw	2
5	116130	JL Front Upper Forged Bushing Eyelet	1
6	07-01-001-011	Control Arm, Alpine / Jeep JL , Rear / Upper / Left Assembly	1
	07-01-001-012	Control Arm, Alpine / Jeep JL, Rear / Upper / Right Assembly	



Parts List - 1415540 Rear Lower HD Adjustable Control Arms			
Item #	Part No.	Description	QTY
1	95-01-003-001	Sticker, Teraflex, Alpine Arm, Polycarbonate	1
2	611011	JL / JK Lower Control Arm Bushing	2
3	107105	Alpine Control Arm Aluminum Clamp	1
4	414	3/8"-16x1" Socket Head Cap Screw	2
5	116110	JL / JK Rear Lower Forged Bushing Eyelet	1
6	141542	Alpine JL / JK Rear Lower Driver HD Adjustable Control Arm	1
	141552	Alpine JL / JK Rear Lower Passenger HD Adjustable Control Arm	

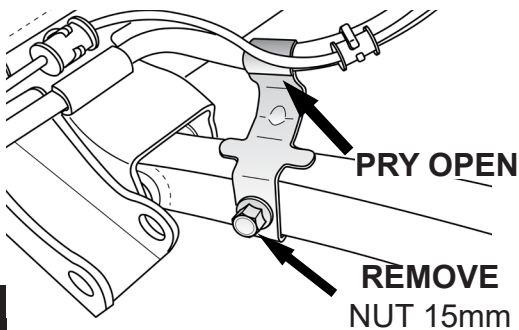
INSTALLATION OF THE CONTROL ARMS IS BEST DONE WITH ALL 4 TIRES OF THE JEEP ON THE GROUND. IF YOU PREFER TO RAISE THE JEEP FOR INSTALLATION REFER TO YOUR FACTORY SERVICE MANUAL FOR SAFE LIFTING LOCATIONS AND PROCEDURES.

**\*NOTE: DO NOT REMOVE MORE THAN TWO CONTROL ARMS AT A TIME\***

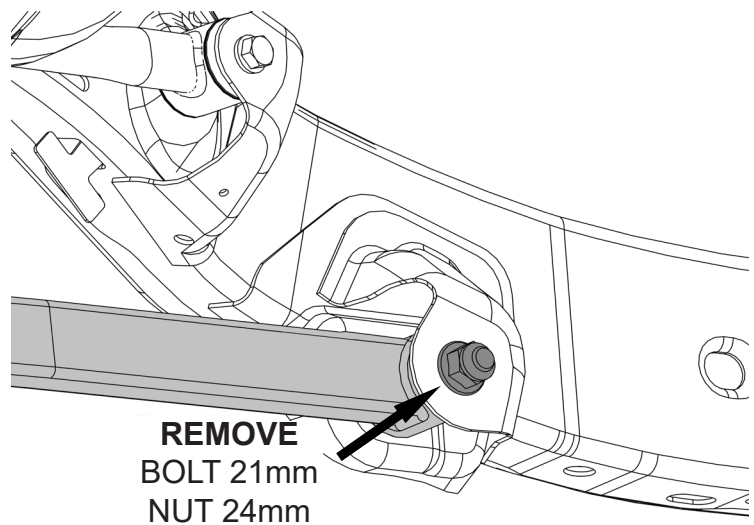
## FRONT LOWER CONTROL ARMS

### REMOVE THE FRAME SIDE LOWER CONTROL ARM BOLT

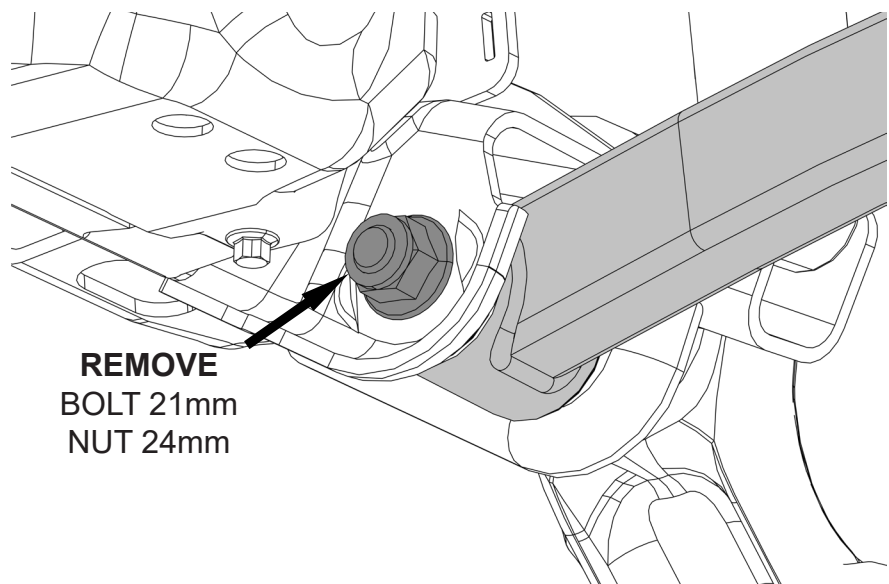
REMOVE AND DISCARD THE BRAKE LINE BRACKETS FROM THE CONTROL ARMS AND BRAKE LINES



1



### REMOVE THE AXLE SIDE LOWER CONTROL ARM BOLT

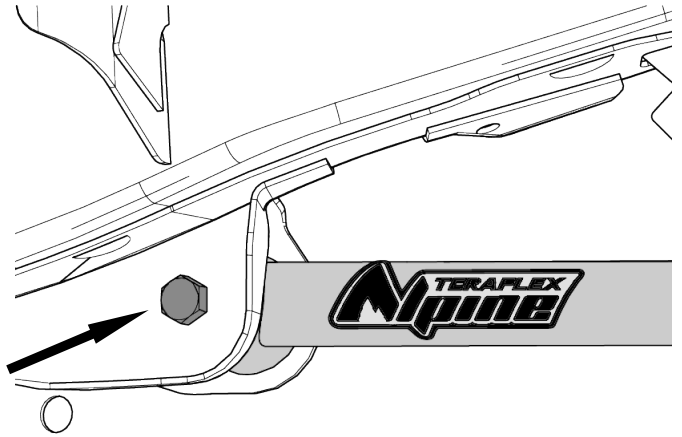


2

**INSTALL THE FIXED END OF THE ALPINE CONTROL ARM TO THE FRAME WITH THE STICKER FACING OUT. LEAVE FINGER TIGHT.**

**DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.**

**TORQUE**  
BOLT 21mm  
NUT 24mm  
103 Ft Lbs + 145°



**3**

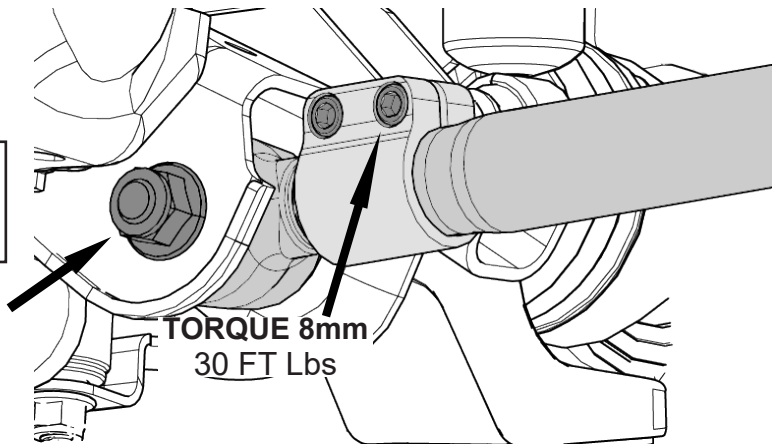
**LOOSEN THE CLAMP AND EXTEND THE CONTROL ARM TO THE RECOMMENDED LENGTH. INSTALL THE CONTROL ARM INTO THE AXLE MOUNT.**

**REFER TO PAGE 10 FOR RECOMMENDED CONTROL ARM LENGTHS.**

**DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.**

**TORQUE**  
BOLT 21mm  
NUT 24mm  
103 Ft Lbs + 145°

**TORQUE 8mm**  
30 FT Lbs

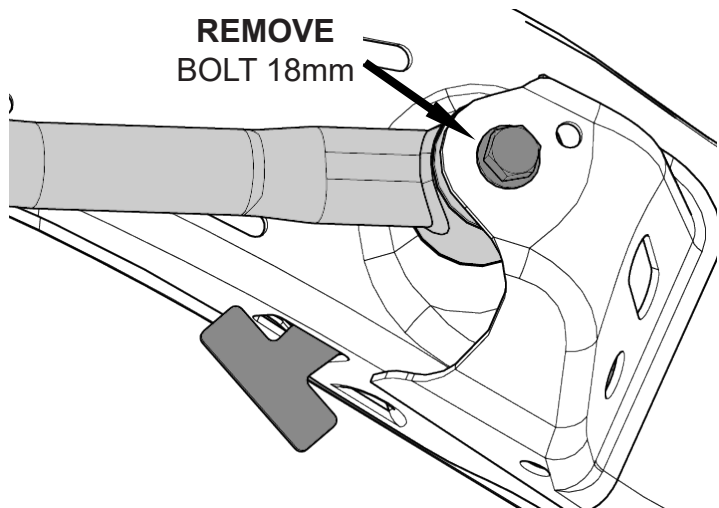


**4**

### **FRONT UPPER CONTROL ARMS**

**REMOVE THE FRAME SIDE UPPER CONTROL ARM HEAT SHEILD AND BOLT**

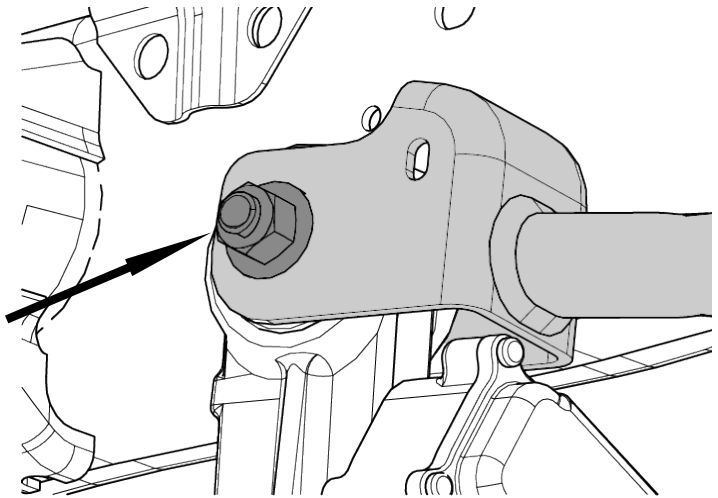
**REMOVE**  
BOLT 18mm



**5**

**REMOVE THE AXLE SIDE UPPER CONTROL ARM BOLT**

**REMOVE  
BOLT 18mm  
NUT 18mm**

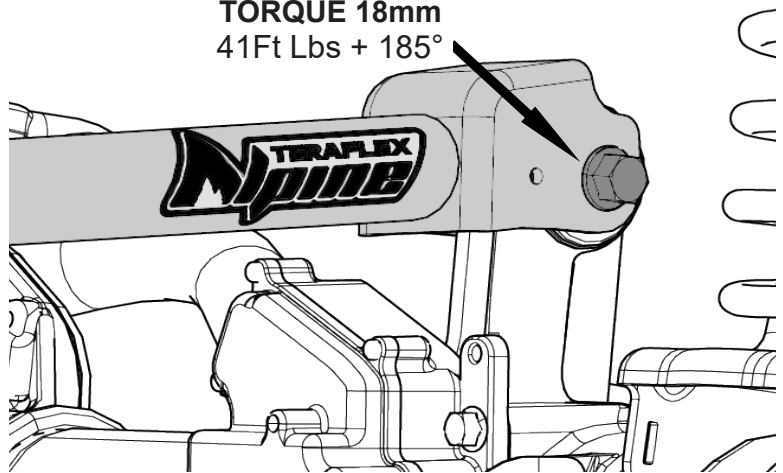


**6**

**INSTALL THE FIXED END OF THE ALPINE CONTROL ARM TO THE AXLE WITH THE STICKER FACING OUT. LEAVE FINGER TIGHT.**

**DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.**

**TORQUE 18mm  
41Ft Lbs + 185°**



**7**

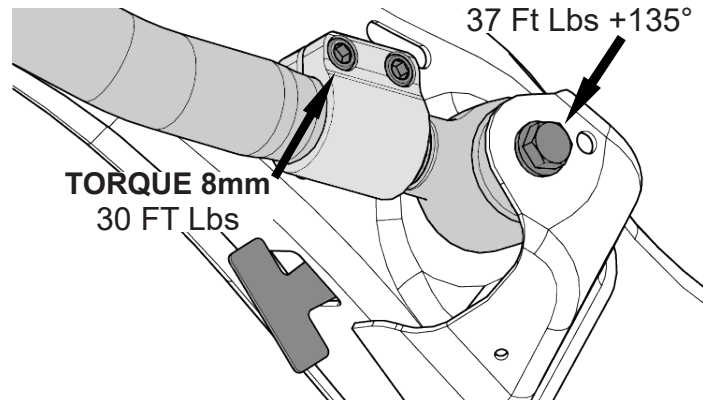
**LOOSEN THE CLAMP AND EXTEND THE CONTROL ARM TO THE RECOMMENDED LENGTH. INSTALL THE CONTROL ARM INTO THE FRAME MOUNT WITH THE HEAT SHIELD.**

**REFER TO PAGE 10 FOR RECOMMENDED CONTROL ARM LENGTHS.**

**DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.**

**TORQUE 18mm  
37 Ft Lbs +135°**

**TORQUE 8mm  
30 FT Lbs**



**8**

## REAR LOWER CONTROL ARMS

### REMOVE THE FRAME SIDE LOWER CONTROL ARM BOLT

9

REMOVE  
BOLT 21mm  
NUT 21mm



### REMOVE THE AXLE SIDE LOWER CONTROL ARM BOLT

10

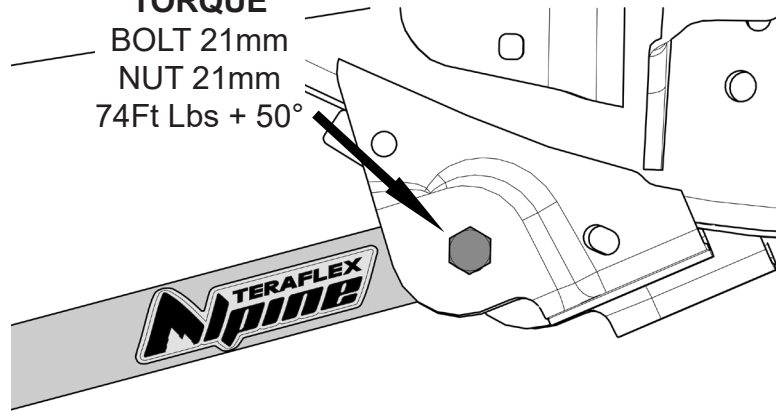
REMOVE  
BOLT 21mm  
NUT 21mm



INSTALL THE FIXED END OF THE ALPINE CONTROL ARM TO THE FRAME WITH THE STICKER FACING OUT. LEAVE FINGER TIGHT.

DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.

TORQUE  
BOLT 21mm  
NUT 21mm  
74Ft Lbs + 50°

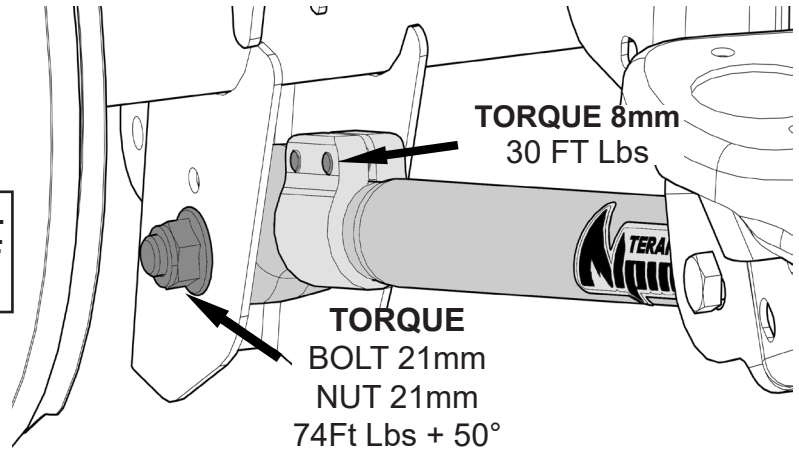


11

LOOSEN THE CLAMP AND EXTEND THE CONTROL ARM TO THE RECOMMENDED LENGTH. INSTALL THE CONTROL ARM INTO THE AXLE MOUNT.

REFER TO PAGE 10 FOR RECOMENDED CONTROL ARM LENGTHS.

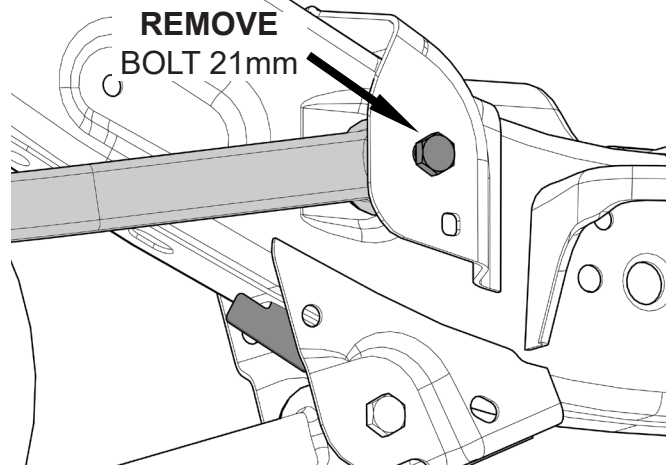
DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.



12

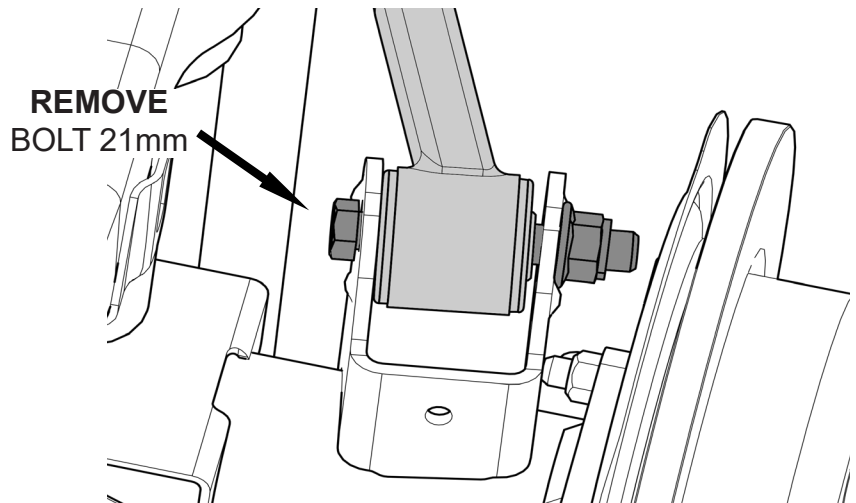
### REAR UPPER CONTROL ARMS

REMOVE THE FRAME SIDE UPPER CONTROL ARM BOLT



13

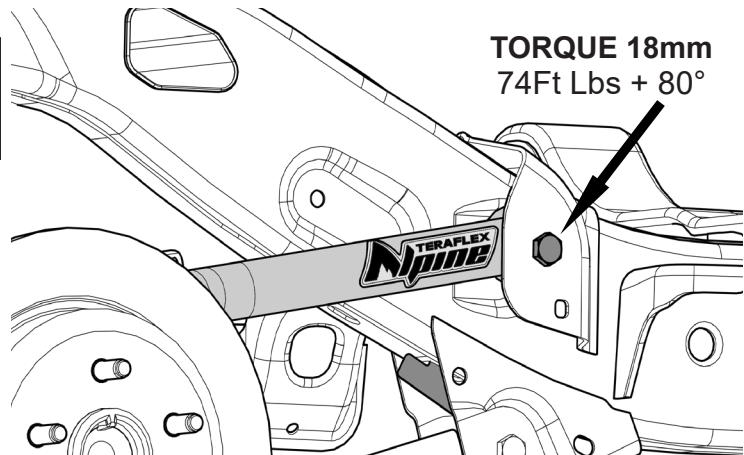
REMOVE THE AXLE SIDE UPPER CONTROL ARM BOLT



14

INSTALL THE FIXED END OF THE ALPINE CONTROL ARM TO THE FRAME WITH THE STICKER FACING OUT. LEAVE FINGER TIGHT.

DO NOT TORQUE THE CONTROL ARMS TIGHT UNTIL THE END OF THE INSTALLATION.



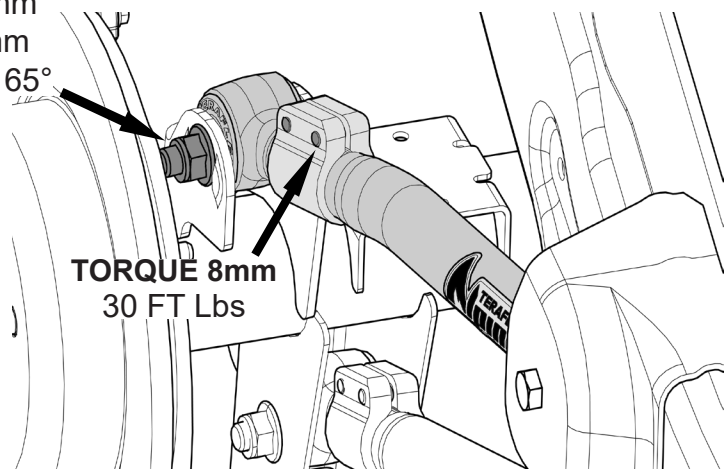
15

LOOSEN THE CLAMP AND EXTEND THE CONTROL ARM TO THE RECOMMENDED LENGTH. INSTALL THE CONTROL ARM INTO THE AXLE MOUNT.

TORQUE  
BOLT 21mm  
NUT 21mm  
74Ft Lbs + 65°

REFER TO PAGE 10 FOR  
RECOMMENDED CONTROL  
ARM LENGTHS.

DO NOT TORQUE THE CONTROL  
ARMS TIGHT UNTIL THE END OF  
THE INSTALLATION.



16

## RECOMMENDED CONTROL ARM STARTING LENGTHS

**NOTE: THESE ARE ONLY RECOMMENDED STARTING LENGTHS!! EACH JEEP IS DIFFERENT AND MAY NEED TO HAVE THE CONTROL ARM LENGTHS CHANGED FOR PROPER FUNCTION AND SAFE DRIVING.**

		Lift Height					
		2.5" Lift		3.5" Lift		4.5" Lift	
		All 8 Arms	Single Pair	All 8 Arms	Single Pair	All 8 Arms	Single Pair
Control Arms	Front Lower	24 1/8"	24 1/4"	24 5/16"	24 7/16"	24 1/2"	24 5/8"
	Front Upper	20"	20 1/8"	20 3/16"	20 1/8"	20 3/8"	20 1/8"
	Rear Lower	20 1/4"	19 5/8"	20 7/16"	19 13/16"	20 5/8"	20"
	Rear Upper	17 5/8"	17 3/8"	17 13/16"	17 3/8"	18"	17 3/8"

**NOTE:**

- \* IF USING FRONT DROP BRACKETS (PN# 1938125), USE THE FACTORY ARM MEASUREMENT AS A STARTING LENGTH FOR THE FRONT LOWER ARMS.
- \* IF INSTALLING A SINGLE PAIR OF ARMS TO CORRECT CASTER AND PINION ANGLE, WE RECOMMEND REPLACING THE LOWER ARMS.

# TERAFLEX

## PRODUCT INFORMATION

### MAINTENANCE INFORMATION:

It is the buyer's responsibility to have all suspension, drivetrain, steering, and other components checked for proper tightness and torque after the first 100 miles and every 3000 miles after that.

### NOTICE TO INSTALLER:

The enclosed "Warning to Driver" sticker must be installed in the vehicle in driver's view. This sticker is to act as a constant safety reminder when operating the vehicle. It is your responsibility as the equipment installer to install the provided sticker and to forward the product instructions to the vehicle's owner for review. If a "Warning to Driver" sticker or product installation guide were not included in the kit, FREE replacement stickers and instructions are available by request. It is the installer's duty to ensure a safe and controllable vehicle after the modifications have been performed.

### WARNING:

Neither the seller nor the manufacturer will be liable for any loss, damage, or injury directly or indirectly arising from the use of or inability to determine the use of these products. Before using, the user shall determine the suitability of the products for its intended use, and the user shall assume all responsibility and risk in connection therewith.

### WARNING TO DRIVER:

This vehicle has been modified to enhance off road performance and has unique handling characteristics. Use in harsh environments can cause extreme stress on the components. Vehicle should be inspected after being off road to make sure that all the components are in working order and safe to travel on the highway. All fasteners should be checked so that they are at the correct torque specifications as the vibration and stresses from off roading may cause critical fasteners to work loose. Extra care should be taken to inspect the critical components, steering, and brake systems. During each oil change components such as arms, tie rod ends, etc should be greased and checked for excessive wear. Any worn components should be replaced. When returning to the pavement always set or restore tire air pressure to the factory recommendation and connect or engage any disabled sway bar mechanisms. Because of the higher center of gravity and larger tires, this vehicle handles and reacts differently than many passenger cars, both on and off road. You must drive it safely! Extreme care should be taken to prevent vehicle rollover or loss of control, which can result in serious injury or death. Avoid sudden sharp turns or abrupt maneuvers. Generally, braking performance and capabilities are decreased when significantly larger/heavier tires are used, especially when used in combination with transfer case low-range reduction kits. Take this into consideration while driving. Do not add, alter or fabricate any factory or aftermarket parts to increase vehicle height over the intended height of the TeraFlex product purchased. Mixing component brand is not recommended. TeraFlex Inc. will not be responsible for any altered product or any improper installation or use of our products. We will be happy to answer any questions concerning the design, function, and correct use of our products. It is ultimately the buyer's responsibility to have all bolts/nuts checked for tightness after the first 100 miles and then every 3000 miles. Wheel alignment, steering system, suspension and drive line systems must be inspected by a qualified professional mechanic at least every 3000 miles.

**TERAFLEX**