

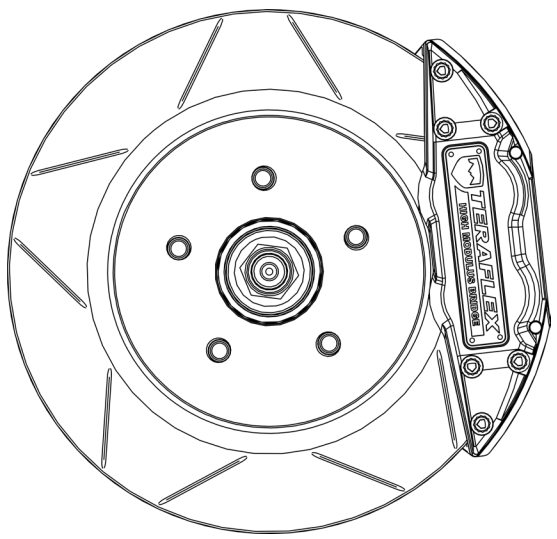


JL, JK, & JT DELTA BRAKE KIT INSTRUCTIONS

www.TERAFLEX.com

4403450 Front & Rear - 5 Lug Rotors
4403480 Front & Rear - 8 Lug Rotors

4403451 Front Only - 5 Lug Rotors
4403481 Front Only - 8 Lug Rotors



Important Notes:

Prior to beginning this install, 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 braking characteristics of your vehicle. The brake pedal may feel softer, but the braking force will be increased.

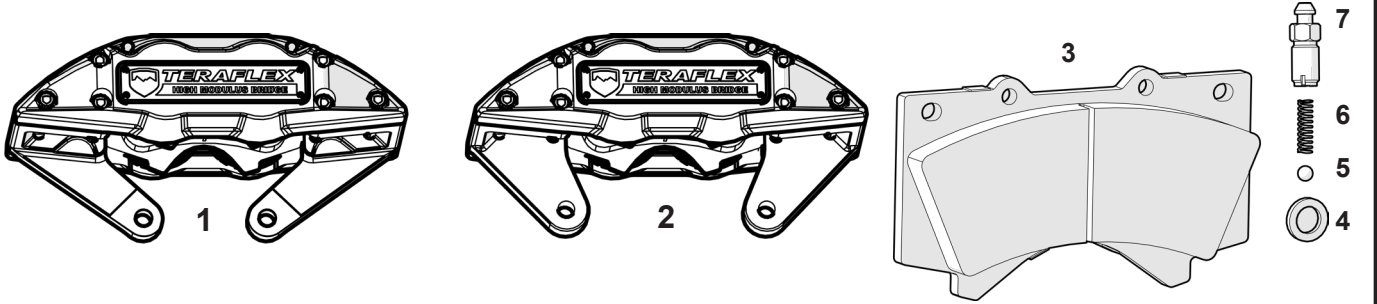
Refer to the parts list to ensure that all necessary components and hardware has been included. If any parts are missing please contact your local TeraFlex dealer for assistance.

BEFORE INSTALLING BRAKES, VERIFY CALIPER CLEARANCE USING THE WHEEL FITMENT TEMPLATE AT THE BACK OF THESE INSTRUCTIONS.

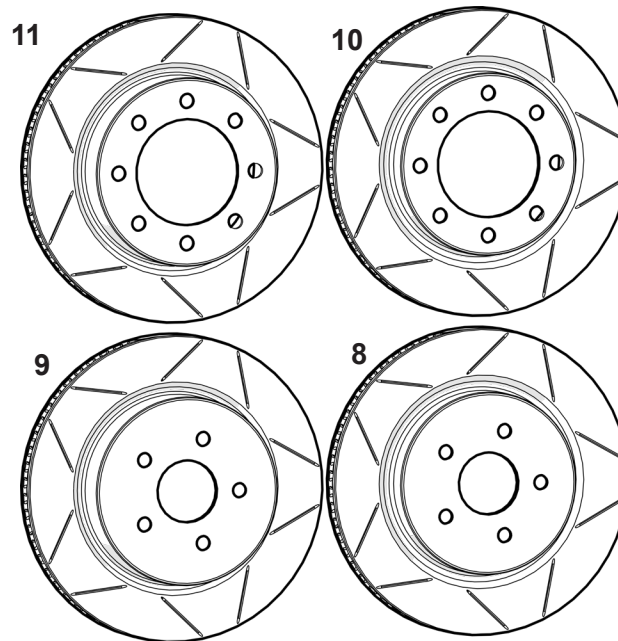
INSTALLING THIS KIT WILL REQUIRE YOU TO BLEED THE BRAKE SYSTEM. WHEN DOING SO, IT IS VITAL THAT YOU DO NOT ALLOW THE MASTER BRAKE CYLINDER TO EMPTY. MINIMIZE FLUID LOSS AND DON'T LEAVE THE BRAKE LINES DISCONNECTED. HAVE EXTRA BRAKE FLUID ON HAND AND REFILL THE MASTER CYLINDER BEFORE AND DURING THE BLEEDING PROCESS.

Tools Needed:

- Metric Sockets and Open End Wrenches
- Torque Wrench
- Cut Off Wheel / Tin Snips
- Factory Service Manual
- General Mechanics Tools

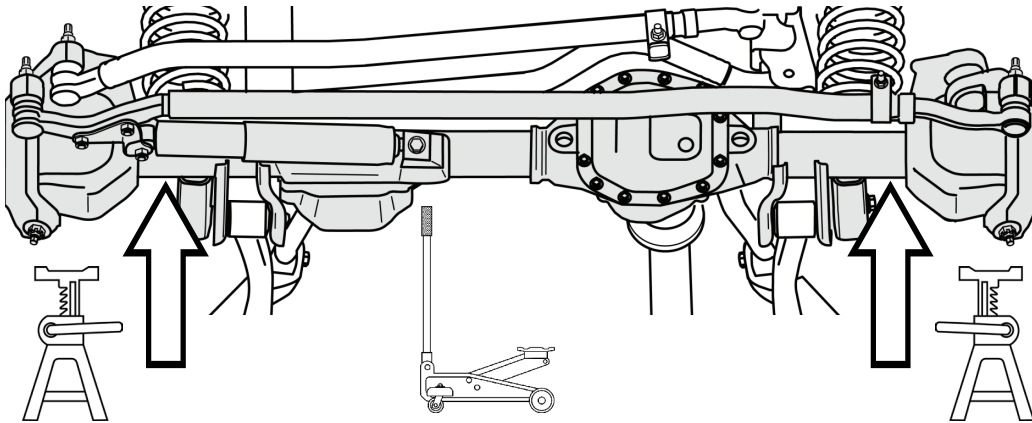


Item #	Part No.	Description	F & R	FRONT
1	4403401	Front High Modulus Brake Caliper - Kit (Delta)	1	1
2	4403402	Rear High Modulus Brake Caliper - Kit (Delta)	1	-
3	13-1-03-001	Brake Pads, Kit, Front/Rear, 5.65" Wide/High Friction	2	1
4	86291	3/8" Copper Banjo Bolt Washer	8	4
5	09-1-01-002	Check Valve, 5/16" Ball Bearing	4	2
6	09-3-01-001	Check Valve Spring	4	2
7	09-1-01-001	Check Valve, M10 X 1.0	4	2



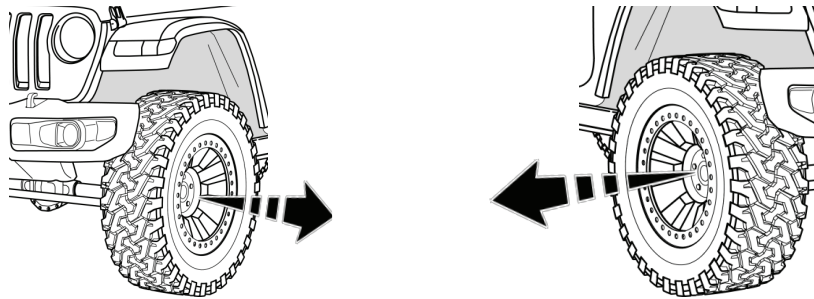
Item #	Part No.	Description	QTY
	4403450	JL / JK Delta Brake Kit (Front / Rear) w/ 5 Bolt Rotors	
8	4403455	JL / JK Front 14" Diameter 1.25" Thick 5 Bolt Pattern Rotors (Pair)	1
9	4403456	JL / JK Rear 14" Diameter 1.25" Thick 5 Bolt Pattern Rotors (Pair)	1
	4403480	JL / JK Brake Kit (Front / Rear) w/ 8 Bolt Rotors	
10	4403485	JL / JK Front 14" Diameter 1.25" Thick 8 Bolt Pattern Rotors (Pair)	1
11	4403486	JL / JK Rear 14" Diameter 1.25" Thick 8 Bolt Pattern Rotors (Pair)	1
	4403451	JL / JK Delta Brake Kit (Front Only) w/ 5 Bolt Rotors	
8	4403455	JL / JK Front 14" Diameter 1.25" Thick 5 Bolt Pattern Rotors (Pair)	1
	4403481	JL / JK Brake Kit (Front Only) w/ 8 Bolt Rotors	
10	4403485	JL / JK Front 14" Diameter 1.25" Thick 8 Bolt Pattern Rotors (Pair)	1

FRONT INSTALLATION SUPPORT FRONT AXLE



1

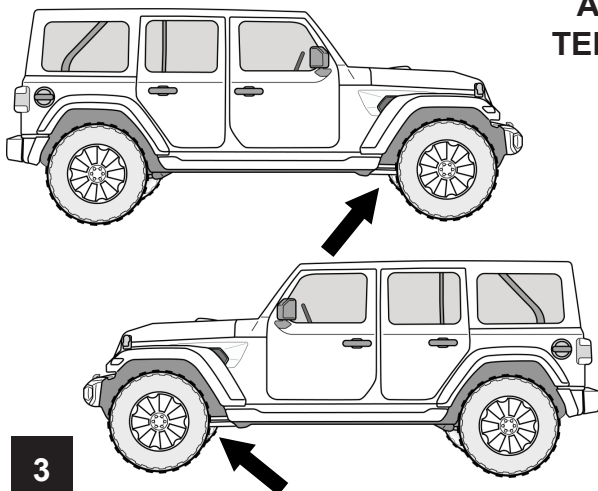
REMOVE FRONT TIRES



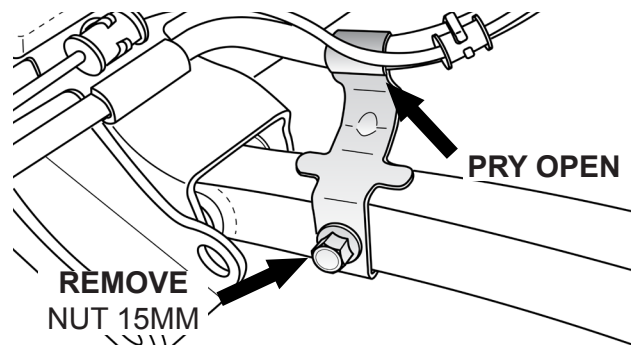
2

REMOVE AND DISCARD BRAKE LINE BRACKETS FROM LOWER CONTROL ARMS

NOTE: IF INSTALLING ON JEEP WITH 3"+ LIFT, YOU MAY NEED TO ALSO REMOVE THE BRAKE LINE ANCHOR FROM THE SPRING MOUNT AND USE TERAFLEX BRAKE LINE ANCHORS (PN # 1101255)

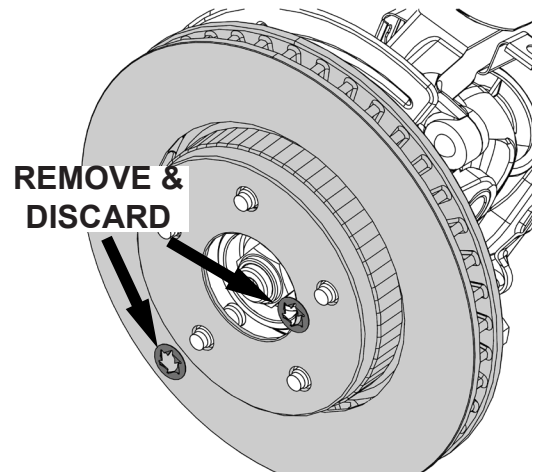
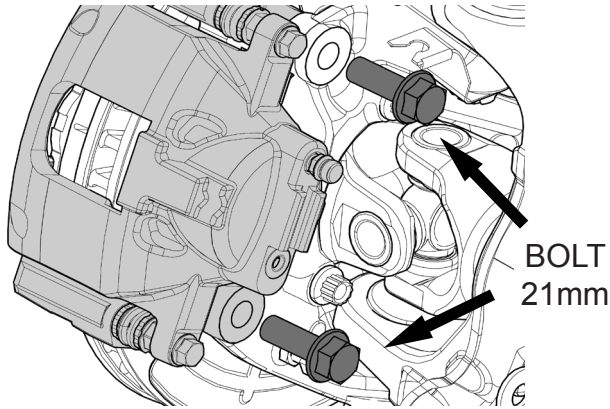


3



REMOVE THE FRONT CALIPERS AND ROTORS FROM THE FRONT AXLE

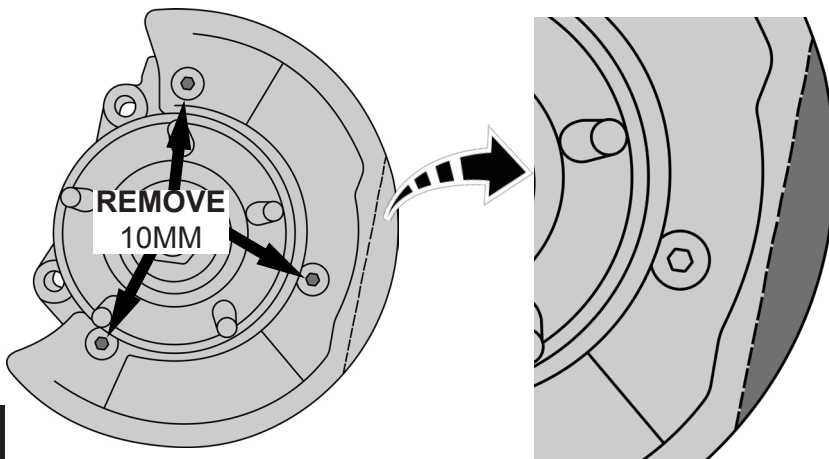
DO NOT HANG THE CALIPER BY THE BRAKE LINE



NOTE: JL MODELS USE T30 SCREWS IN PLACE OF ROTOR CLIPS

4

(JL MODEL ONLY) REMOVE THE BACKING PLATE TO ADJUST AND REINSTALL



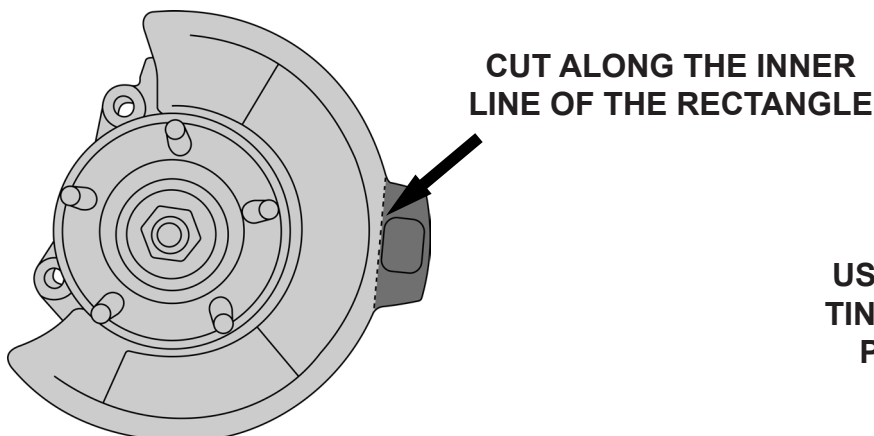
ONCE REMOVED FROM THE AXLE, GENTLY BEND THE FRONT EDGE INWARDS AT THE INDENTED LINE.

REINSTALL THE BACKING PLATE USING THE FACTORY HARDWARE.

TORQUE TO 10 FT LBS.

5

(JK MODEL ONLY) IF YOU HAVE UPGRADED STEERING LINKAGE YOU MAY NEED TO TRIM THE FRONT BACKING PLATE



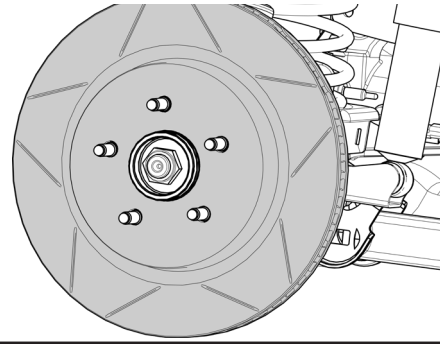
USE A CUT OFF WHEEL OR TIN SNIPS TO REMOVE THIS PART OF THE BACKING PLATE

6

INSTALL THE NEW TERAFLEX ROTOR

TEMPORARILY INSTALL A LUG NUT
TO HOLD ROTOR IN PLACE

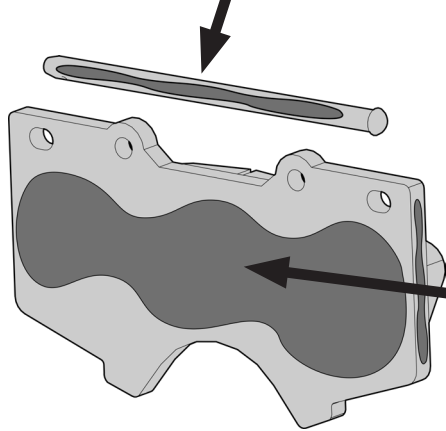
SPIN THE ROTOR TO MAKE SURE
THERE IS NO CONTACT WITH
THE BACKING PLATE



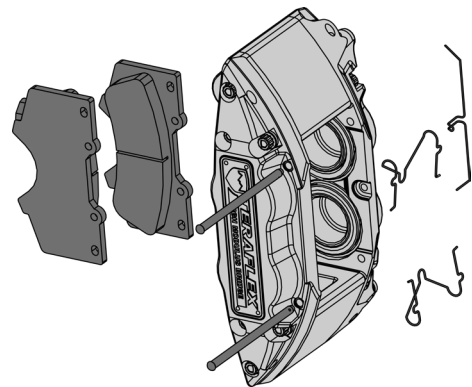
7

INSTALL THE BRAKE PADS

Apply synthetic grease to pin.

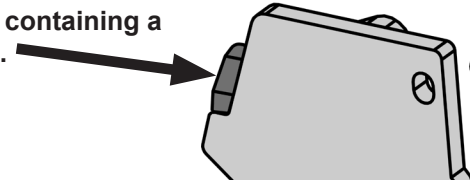


Apply Disc Brake
Quiet or Brake
Anti Squeak on the
back and sides.
Let dry before
installing



SLIDE THE PADS INTO POSITION
AND LOCK INTO PLACE WITH THE
PAD PINS AND SPRINGS.

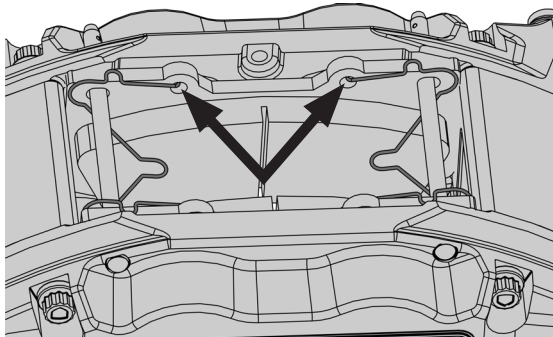
Note: Make sure each caliper is assembled with the outside pad containing a
wear indicator pointing towards the top of the Jeep.



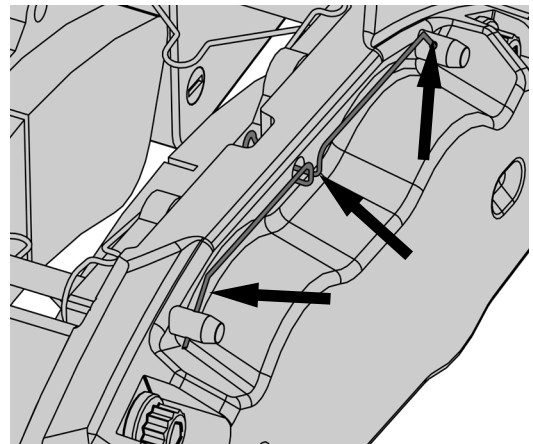
8

INSTALL THE SEPARATOR SPRINGS AND LOCK THE PAD PINS INTO POSITION

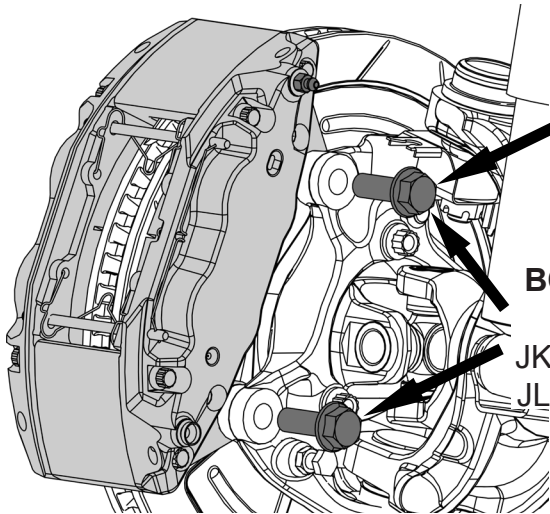
Insert each end of the separator springs
into the holse on the pads.



9



INSTALL THE TERAFLEX CALIPER ONTO THE KNUCKLE USING THE FACTORY BOLTS



**USE BLUE
THREAD LOCK ON THE
FACTORY CALIPER
BOLTS**

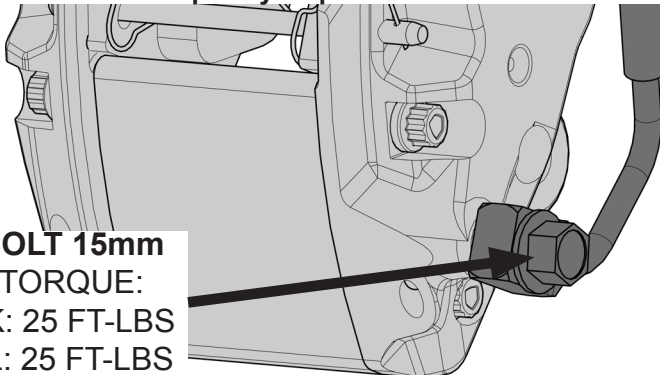
**BOLTS 21mm
TORQUE:
JK: 100 FT-LBS (FACTORY)
JL: 148 FT-LBS**

10

**REMOVE THE BRAKE LINE FROM THE STOCK CALIPER
AND INSTALL IT ONTO THE TERAFLEX CALIPER**

Attach a brake line clamp to the brake line to prevent the master cylinder from draining. Minimize fluid loss as much as possible.

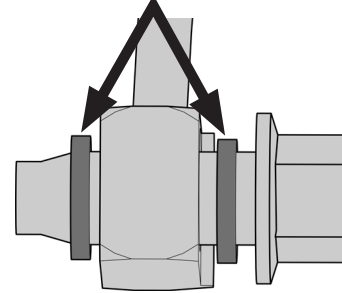
If you do not have brake line clamps, make the switch as quickly as possible.



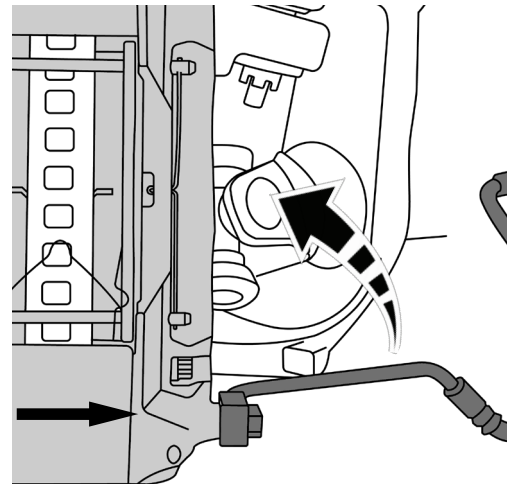
**BOLT 15mm
TORQUE:
JK: 25 FT-LBS
JL: 25 FT-LBS**

Where the brake line attaches should be pointing at a downward angle.

Install new crush washers



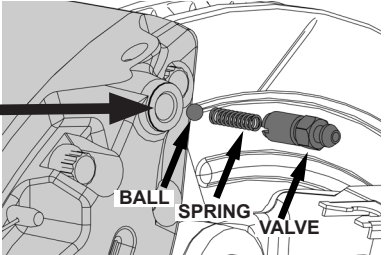
Note for JL Sport Trims:
New brake lines are recommended, but if you do not use new brake lines, then install brake lines as shown and then carefully bend the line upwards until it is parallel to the caliper. Check for leaks after bleeding the brakes.



11

GRAVITY BLEED THE BRAKES AND INSTALL THE BLEED VALVE

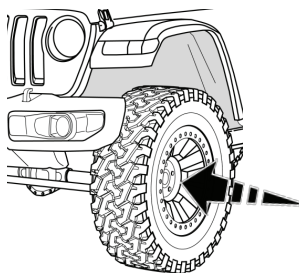
Once the supply line is attached to the brake calliper, the process for gravity bleeding has begun.

1. Check that the brake master cylinder is full. Have extra brake fluid on hand. Do not allow the brake master cylinder to drain beyond the minimum level.
2. **DO NOT** have the valve installed.
3. Wait until brake fluid begins to flow out the top hole.
4. Install the ball, spring, and bleed valve. 
5. Finger tighten the valve.
6. Clean up any brake fluid.
7. Refill the master brake cylinder.

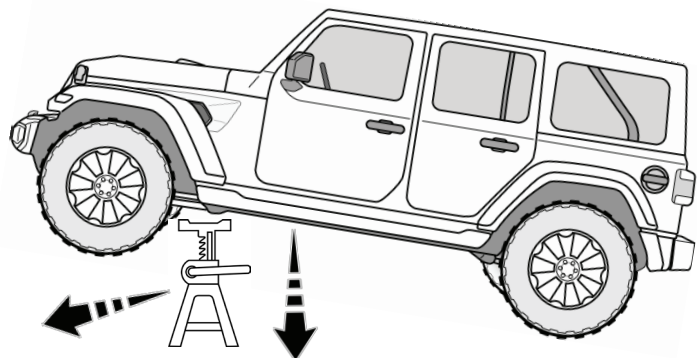
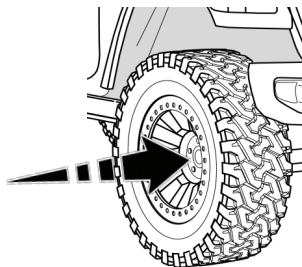
NOTE: you should also preform a manual bleed once all 4 brakes have been installed and gravity bled. See step 26 for manual bleed instructions.

12

NOTE: IF ONLY FRONT OF JEEP WAS LIFTED, REINSTALL TIRES AND LOWER JEEP BACK TO THE GROUND BEFORE LIFTING THE REAR

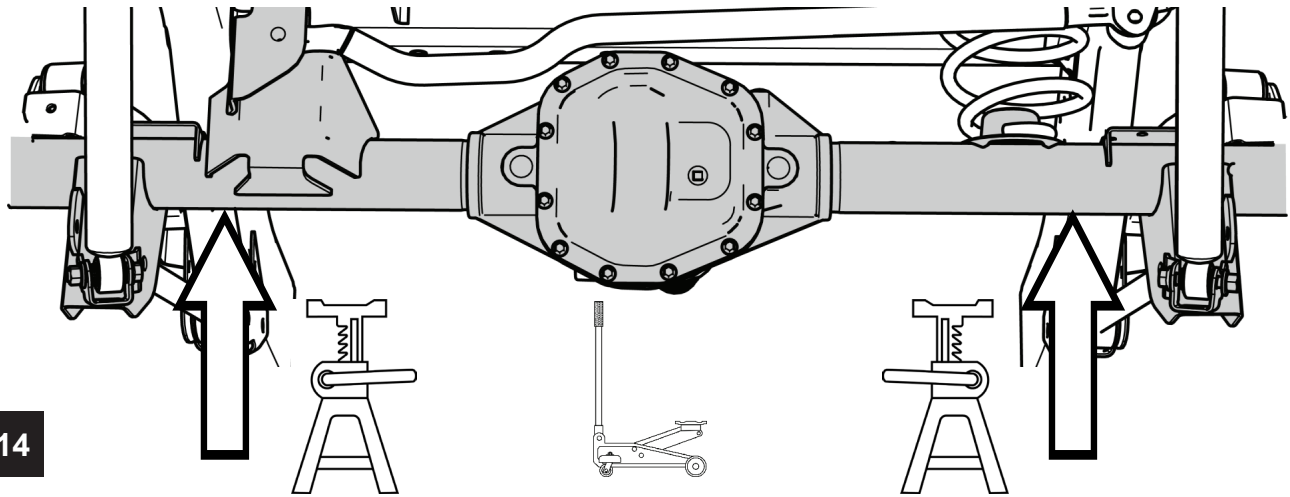


TORQUE:
JK: 100 FT-LBS
JL:130 FT-LBS



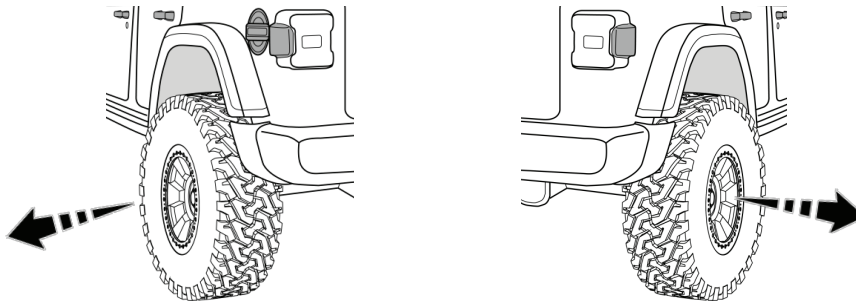
13

REAR INSTALL LIFT AND SUPPORT REAR AXLE



14

REMOVE REAR TIRES



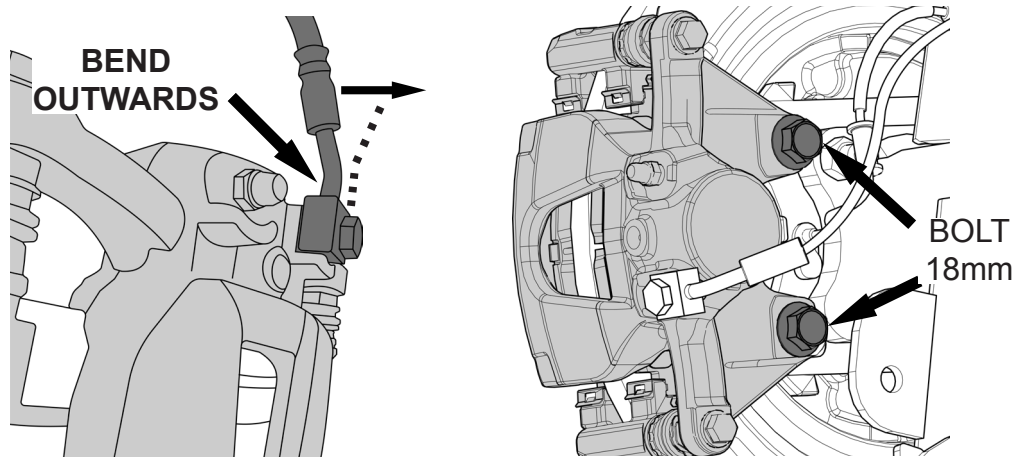
15

REMOVE THE REAR CALIPERS FROM THE AXLE

Note for JL Models only:

Before removing the caliper from the axle, carefully bend the brake line away from the axle until it points slightly outwards.

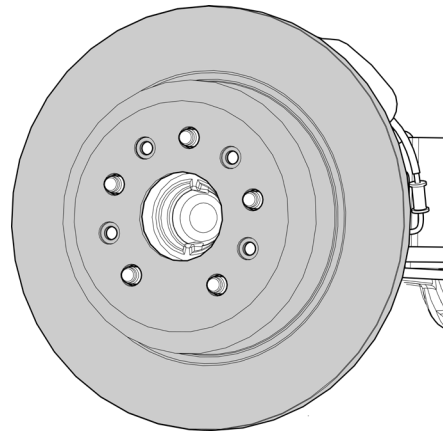
DO NOT HANG THE CALIPER FROM THE BRAKE LINE



16

REMOVE THE FACTORY ROTORS

NOTE: JL MODELS USE T30 SCREWS TO RETAIN ROTORS. JK MODELS USE ROTOR CLIPS. REMOVE AND DISCARD.

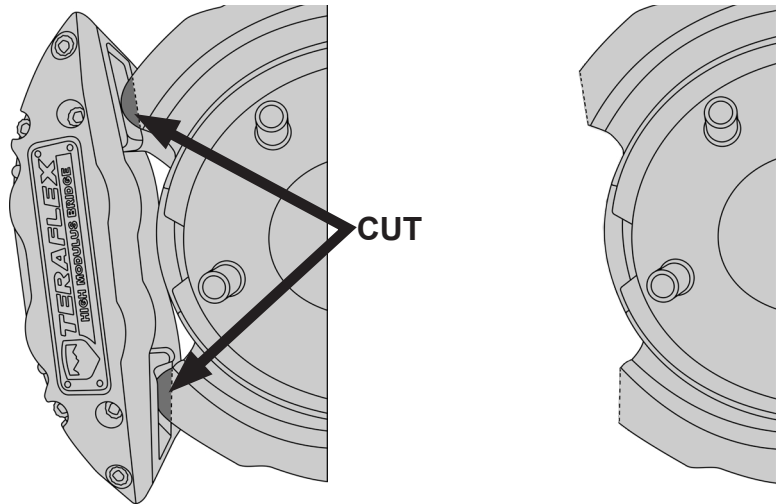


17

(JL MODELS ONLY) TRIM THE REAR BACKING PLATE

Temporarily install the delta calipers onto the axle and mark the backing plate along the bridge.

Remove the caliper and use a cut off wheel or tin snips to trim off the rear tips.

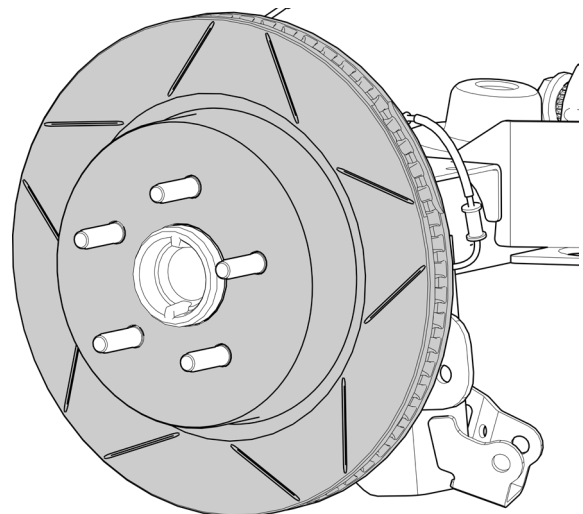


18

INSTALL THE NEW ROTOR

TEMPORARILY INSTALL A LUG NUT TO HOLD ROTOR IN PLACE

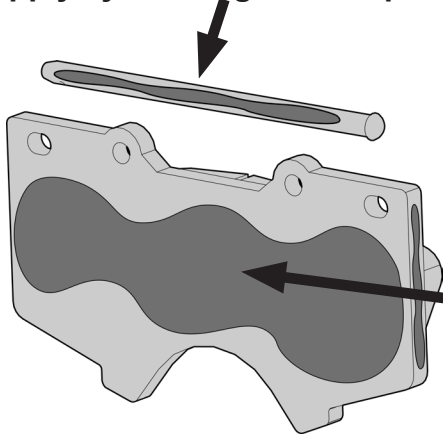
SPIN THE ROTOR TO MAKE SURE THERE IS NO CONTACT WITH THE BACKING PLATE



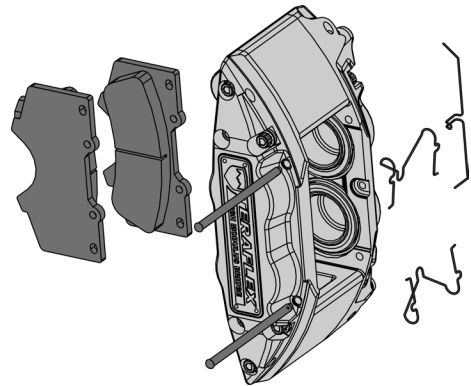
19

INSTALL THE BRAKE PADS

Apply synthetic grease to pin.

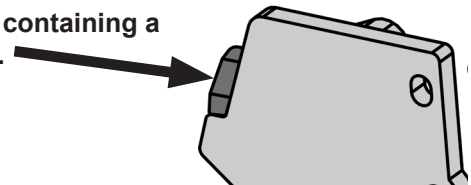


Apply Disc Brake Quiet or Brake Anti Squeak on the back and sides. Let dry before installing



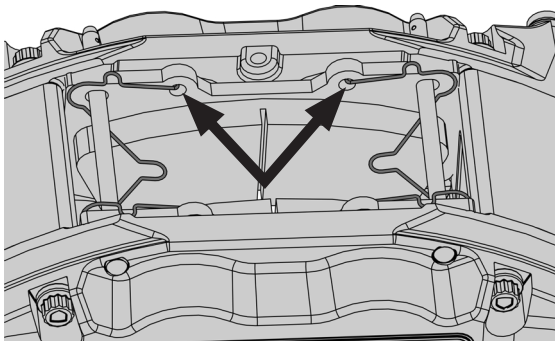
SLIDE THE PADS INTO POSITION AND LOCK INTO PLACE WITH THE PAD PINS AND SPRINGS.

Note: Make sure each caliper is assembled with the outside pad containing a wear indicator pointing towards the top of the Jeep.

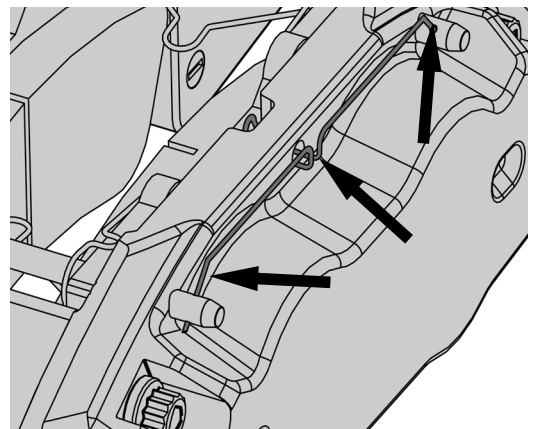


20

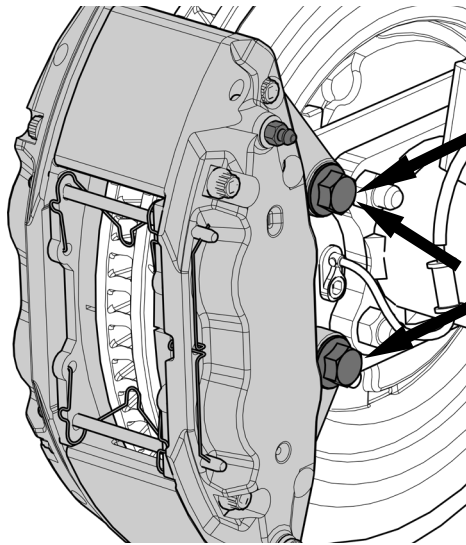
INSTALL THE SEPARATOR SPRINGS AND LOCK THE PAD PINS INTO POSITION



Insert each end of the separator springs into the holes on the pads.

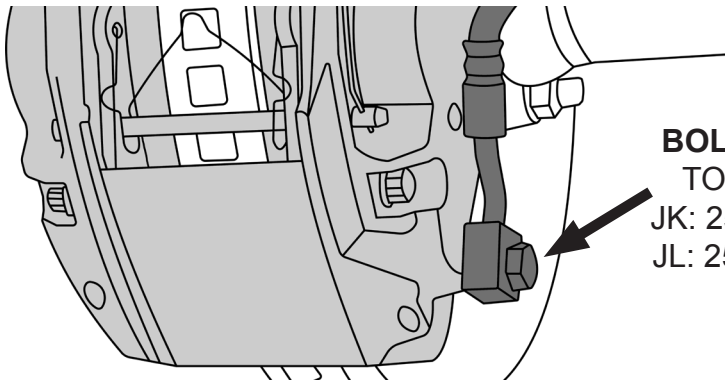


21

INSTALL THE TERAFLX CALIPER ONTO THE AXLE USING THE FACTORY BOLTS

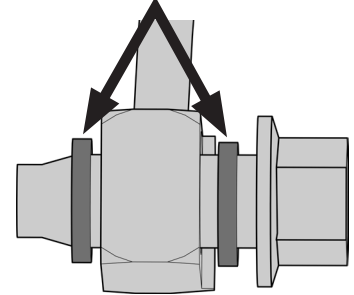
**USE BLUE
THREAD LOCK ON THE
FACTORY CALIPER
BOLTS**

**BOLTS 18mm
TORQUE:
JK: 77 FT-LBS
JL: 74 FT-LBS (FACTORY)**

22**REMOVE THE BRAKE LINE FROM THE STOCK CALIPER AND INSTALL IT ONTO THE TERAFLX CALIPER WITH THE SUPPLIED CRUSH WASHERS**

**BOLT 15mm
TORQUE:
JK: 25 FT-LBS
JL: 25 FT-LBS**

Install new crush washers



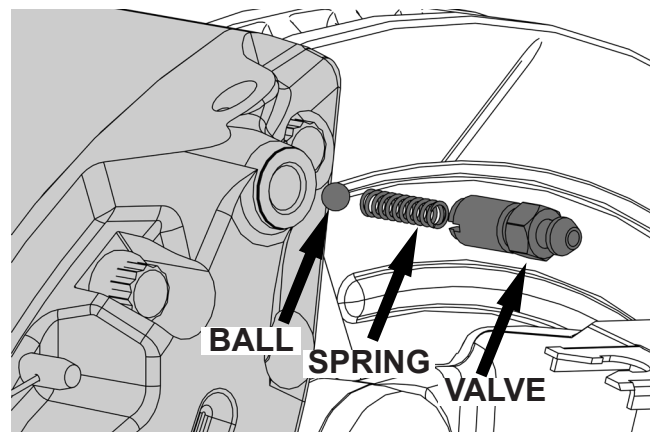
Attach a brake line clamp to the brake line to prevent the master cylinder from draining. Minimize fluid loss as much as possible. If you do not have brake line clamps, make the switch as quickly as possible.

23**GRAVITY BLEED THE BRAKES AND INSTALL THE BLEED VALVE**

Gravity bleed the rear brakes following the same actions in step 13.

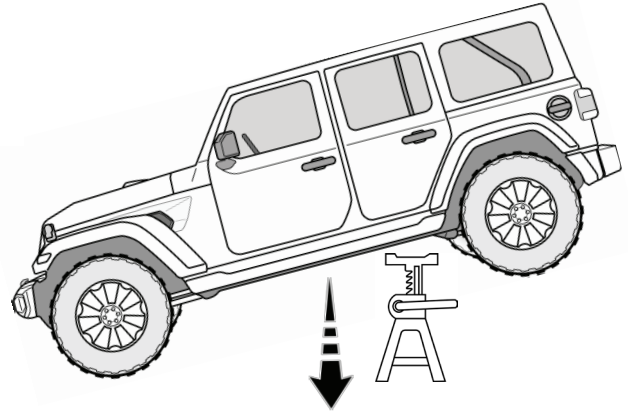
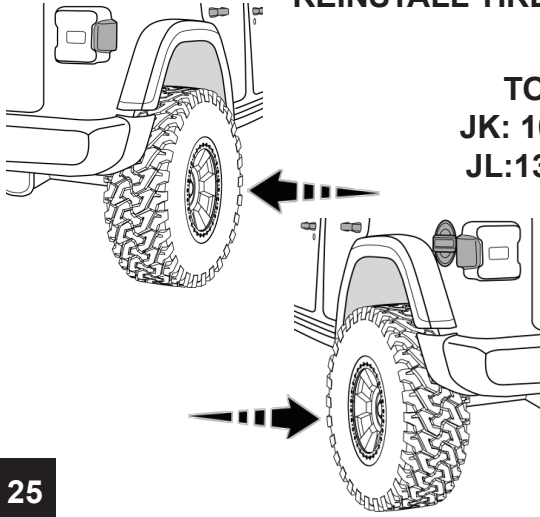
After the caliper is gravity bled, install the ball, spring, and bleed valve finger tight.

NOTE: you should also perform a manual bleed once all 4 brakes have been installed. See step 26 for manual bleed instructions.

**24**

REINSTALL TIRES AND LOWER TO THE GROUND

**TORQUE:
JK: 100 FT-LBS
JL:130 FT-LBS**



25

MANUAL METHOD OF BLEEDING THE BRAKES

1. Fill the brake master cylinder with brake fluid.
2. Ready a container to catch the brake fluid. Tip: attaching some spare hose to the bleed screw will allow for fluid to be directed into a bottle or pan.
3. Start with the **REAR PASSENGER BRAKE**: Open the bleed screw. Delta brakes use a ball valve to allow a single person to be able to bleed the brakes, but it is still recommend to have a second person to help.
4. Press the brake pedal in all the way. A small amount of fluid should leave the system.
5. Press the brake pedal in all the way a second time until a strong stream of fluid shoots out the bleed screw.
6. Close the bleed screw.
7. Torque Bleed screw to 25 ft - lbs.
8. Refill the master cylinder.
9. Repeat this process for the other three unbled brakes in this order: rear driver brake, front passenger brake and last front driver brake.

CAUTION

- Use Caution while taking the Jeep for it's first drive.
- The brake pedal should be tested for a spongy or springy feel **BEFORE** test driving. To check, pump the brakes. If the pedal rises and does not maintain the same travel, then this is an indication air is still present in the brake lines and you need to repeat the bleeding process.
- Delta brakes will feel softer (or have more pedal travel) than the OEM brakes. A soft feeling pedal is **NOT** an indication that there is air in the brake lines.
- If brake reservoir gets too low all 4 brakes will need to be re-bled. The best practice is to refill after each brake is bled.
- When bleeding all 4 brakes be sure to do so in the following order: Rear Passenger, Rear Driver, Front Passenger, and Front Driver.
- If hot work has been done near brake lines (e.g. cutting or welding). It is possible brake fluid has boiled and must be flushed from the affected brake line.
- If the master cylinder is drained and air enters the system, an ABS bleed using a scan tool may be necessary.

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 PRODUCT WARRANTY:

TeraFlex Inc. warrants TeraFlex Suspension products to the original retail purchaser to be free of defects in material and workmanship for as long as the original purchaser owns the vehicle on which products were originally installed.

Failure to complete regular maintenance (grease every 3000 miles) on TeraFlex FlexArms will void this warranty. All other conditions of the standard TeraFlex product warranty apply.

All TeraLow products are covered by the TeraFlex two (2) year warranty to be free of defects in material and workmanship for two years from date purchased.

TeraFlex axles are covered by a 12-month warranty to be free of defects in materials and workmanship.

This warranty does not cover or include product finish, improperly installed or applied products, improperly maintained products, products or components used for racing or competition or damage due to abuse or neglect, products that fail due to the use of larger tire and wheel combinations.

All returns must be accompanied by an original invoice. It is the customer's responsibility to remove the product from the vehicle. Shipping charges are the responsibility of the customer. TeraFlex Inc. will pay the return freight if the product meets the terms of warranty.

This warranty is for the replacement or repair of defective TeraFlex products only and does not include freight charges, labor charges for removal of or installation of TeraFlex or related products or components, costs incurred due to down time of the vehicle, or lost profits due to vehicle down time.

A returned goods authorization number (RGA#) must accompany any returned products. For more information please contact a TeraFlex customer service representative.

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