



**INSTALLATION GUIDE**

# Installation Guide for the TJ Long-Arm Upgrade Part #001447700(LAT)



This kit is designed specifically for use with TeraFlex lifts and suspensions. It replaces standard-length control arms with new, longer control arms. The upgrade will improve on-road driving comfort as well as off-road performance.

There have been some in-line changes made to the Long Arm kit that will require the modification of the factory skid plate, or the purchase of the Teraflex's new Belly Up skid plate (Part # BUT-03). Please be sure that you understand what is required before you begin the installation of this kit.

**INSTALLATION WARNING:**

We recommend that certified technicians perform this installation. Attempts to install this product without proper training or experience may jeopardize the safety of you and the vehicle. These instructions are meant only as a guideline for the installation procedure and are not meant as the definitive source. The Factory Service Manual should be used in conjunction with this instruction guide when installing the components. Read this instruction guide thoroughly before beginning the installation process.

Be sure you have all needed parts and know where they will be installed. Read each step completely as you go. If any parts are missing from the kit please call 801-288-2585 for replacement. Take every precaution to make this installation a safe procedure. Make safety the number one priority with any suspension or lift installation. Read all safety, warranty, and maintenance information included at the end of the instruction guide.

**Tera Manufacturing, Inc.**  
5251 South Commerce Dr.  
Murray, Utah 84107  
Phone/801.288.2585  
Fax/801.713.2313  
www.teraflex.biz

Please make sure that your kit includes the following items before starting installation:

Part	Description	Quantity
250L2	Long-arm bracket, left	1
250R2	Long-arm bracket, right	1
977-26	Lower FlexArm, TJ Fr&Rr	4

**CHANGES:**

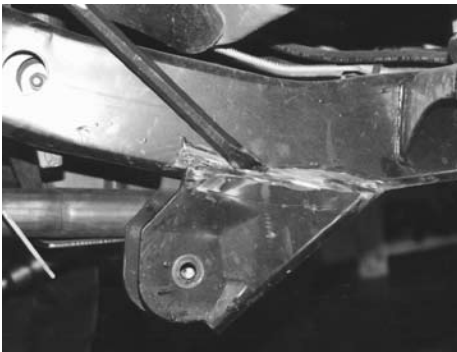
The main bracket in Teraflex's Long Arm Kit has had some changes to the rear lower control arm mount that improves the overall geometry of the suspension, and allows the use of Teraflex's popular modular control arms. Another advantage is that this new bracket design makes it possible to upgrade to the triangulated four link LCG suspension without changing and discarding your long arm bracket. In the future the rear suspension can be upgraded to the triangulated 4 link, while the front suspension can be done either at the same time as the rear, or at a later date.

### PASSENGER SIDE INSTALLATION:

1. Jack up the vehicle off ground and secure with jack stands.
2. If the TJ is equipped with factory side steps, remove them.
3. Starting on the passenger side first, remove the front and rear lower control arms.

*Note: It is important to remove the control arms from only the passenger side at this time. This helps to keep the axle positioned correctly. The driver's side will follow later.*

4. Remove the lower control arm mounts from the vehicle. Grind the welds away and use a chisel to separate the bracket from the frame.



5. Buffing and painting the bracket area will improve appearance and minimize rust.
6. Support the transmission and transfer case with a jack.
7. Remove the transfer-case skid plate or belly pan. It will be necessary to either use TeraFlex's BellyUp skid plate (part #BUT-03) or modify the stock skid plate.
8. Teraflex's new BellyUp Skid Plate (Part # BUT-03) is recommended to complement the Long Arm kit. We recommend this because of the time and effort required to make the stock skid plate fit with the long arm bracketry. The BellyUp Skid Plate is laser cut from 3/16" thick steel for superior protection, and its low profile provides up to an additional 1-5/8" of ground clearance. If the new BellyUp skid plate is not purchased, the factory skid plate must be modified to allow enough clearance for the bracket and rear lower control arms.
9. 1997-2002 TJs: To trim the factory skid plate, lay the long arm bracket on top of the factory skid plate using the correct holes for your TJ (see dia-

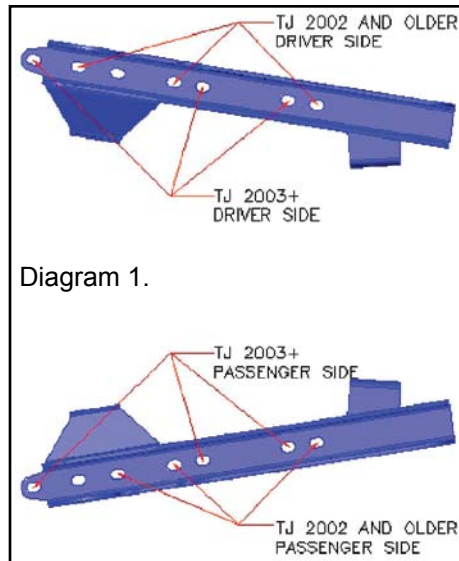


Diagram 1.

gram 1). Trim the plate and place the brackets and arms on top to be sure there is enough clearance, cycle the arms through it's full range of movement to make sure that enough material is removed from the skid plate.



**Typical skid plate modifications necessary on '97-'02 vehicles.**

10. 2003-current TJs: The 2003 and newer TJ skid plate's sit closer to the rear of the TJ than previous models, this requires more extensive trimming of the factory skid plate than 97-02 models.



**Typical skid plate modifications necessary on '03-current vehicles.**

11. Position the control arm bracket assembly to the underside of the frame rail. Temporarily attach the

control arm bracket to the frame using the bolts from the skid plate. Use Diagram 1 to properly locate the holes that will be used with the vehicle's model year.

12. Make sure that the bracket aligns properly with the holes in the underside of the frame.
13. Secure the bracket by tack welding both sides of the bracket to the frame.



**NOTE:** Make the tack welds about 1 1/2 inches long.

14. Connect the front lower long FlexArm to the new bracket, then connect the FlexArm to the axle, and connect with the stock bolts.
15. Connect the new rear lower FlexArm to the bracket and to the axle. Lengthen or shorten the control arm to adjust for proper pinion angle. Secure with the stock bolts.

*Note: With a TeraFlex four-inch suspension, the front control arms should be about 32.5" center to center, and rear about 32". Adjust as necessary for the specific vehicle. Secure with stock bolts.*



### DRIVER'S SIDE INSTALLATION

16. Begin installation on the driver's side by removing the lower control arms from the driver's side of the vehicle.
17. Grind control arm brackets from the vehicle and touch up as necessary.
18. Connect the driver's side control arm bracket to the underside of the frame. Make sure the bracket is properly aligned with the holes in the underside of the frame before temporarily securing with the bolts from the skid

plate. Use Diagram 1 as reference.

19. Secure the bracket by tack welding both sides of the bracket to the frame.
20. Connect the front lower long FlexArm to the new bracket, then connect the FlexArm to the axle, and connect with the stock bolts.
21. Connect the new rear lower FlexArm to the bracket and to the axle. Lengthen or shorten the control arm to adjust for proper pinion angle. Secure with the stock bolts.
22. Make sure all bolts are securely fastened.

*Note: With a TeraFlex four-inch suspension, the front control arms should be about 32.5" center to center, and rear about 32". Adjust as necessary for the specific vehicle. Secure with stock bolts.*

22. Remove the three skid plate bolts from the underside of each control arm bracket.

*Note: The bracket will stay in position because it is attached to the frame by the tack welds performed previously.*

23. Replace skid plate and secure with bolts. Tighten securely.



24. Check to make sure all bolts are properly tightened.

**NOTE:** *It is highly recommended that you apply 1/2" stitch welds to permanently secure the bracketry to the frame.*

#### **ALIGNMENT NOTES:**

After installation of the TeraFlex Long-Arm suspension kit, it is imperative that the front end alignment angles be checked. It is recommended that your TJ be taken to a reputable alignment shop that understands 4WD vehicles and has experience with their alignment parameters.

Caster might be changed with the installation of our suspension kit. It is recommended that the factory specifications be maintained.

Toe-in is also important for tire wear. Toe-in may be affected on a three-inch kit, and will be affected on a four-inch kit. It has been recommended that the toe-in be set to minimum factory specifications if you go to the larger tire and wheel set up.



# 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:**

Tera Manufacturing 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 TeraFlex's two (2) year warranty to be free of defects in material and workmanship for two years from date purchased.

Tera 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. Tera Manufacturing 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.

## **COPYRIGHT**

©Copyright 2008. All rights reserved, TeraFlex Inc. Reproduction of this catalog and/or any of its contents without written permission is strictly prohibited.

TeraFlex® is a registered trademark of TeraFlex Inc. All trade names and logos including but not limited to TeraFlex, FlexArms, RockGuard, Monster, and LCG are protected by law and duplication of trade names and/or logos are strictly prohibited.

TeraFlex Inc. reserves the right to update, discontinue, redesign, modify finish, part number or component build parts if deemed necessary without written notice. TeraFlex Inc., and any associated dealers are not responsible for misprints or typographical errors that may have inadvertently been made within this instruction sheet.

Jeep® and the Jeep® grill are registered trademarks of Chrysler LLC, and have no affiliation with TeraFlex Inc.