

# TERAFLEX

## INSTALLATION GUIDE

### Installation Guide for the TJ & BellyUp Skidplate Kit Part #4648403



**Warning:**

This kit may not provide all of the hardware that is necessary to complete the installation. Please review the following information before you begin the installation process.

**Drive line Vibration:** This product does and will effect drive shaft angle and may cause drive shaft vibration. This kit may require the use of TeraFlex's HD Short Shaft Kit (#4444401) or equivalent.

**Fan Shroud:** Vehicles without a body lift may not have enough clearance between the radiator fan and the shroud. If you have a body lift, you may need to install the engine mount spacer kit (Part #1948100) included in the kit. Check fan Clearance BEFORE starting your engine.

**Rubicon Owners:** This kit may not contain all of the parts necessary to complete the installation on your vehicle. Because of the larger transfer case in the Rubicon models, there will be a clearance issue between the transfer case and the floor of the vehicle. A 1" body lift (#1942100) or a 1/2" transfer case lowering kit (#1900000) will provide the clearance needed without having to 'dimple' the floor pan.

**Note: The Rubicon air compressor system must be relocated. A compressor mounting bracket is available seperately from TeraFlex, part number (Part #4847400).**

**Frame variations:** We have seen a considerable variation in the frames that we have measured; Some adjustments may be needed to fit this skid plate to your vehicle.

This kit is not all inclusive. Some additional parts may be necessary as outlined above. Think safety first when installing this kit.

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## Installation

**NOTE:** It will be necessary to cut the transmission mount bracket that holds the exhaust. Cut approximately 3/4" to 1" out of the middle and weld the bracket back together before re-installing. Failure to do so may result in binding in the exhaust or the exhaust may touch the body.

1. Make sure that you have all the pieces to your kit prior to beginning work on your vehicle. See the warning on the previous page to see a list of the items and additional steps that may be necessary for your specific application.
2. Block rear tires. Set brake. Use a floor jack to support the weight of the transmission.
3. For 2003 and newer TJs with an automatic transmission, you will need to remove the stock automatic transmission skid plate. This skid plate cannot be used with this kit or on a lifted vehicle.
4. Remove the four bolts that connect the transmission to the skid plate.
5. Loosen the six frame rail bolts. Use jack stands to support the factory skid plate, then remove the six bolts and the factory skid plate.
6. For 2002 and earlier TJ automatics, remove the existing transmission mounting plate and install it on the new Belly Up plate.
7. Attach your new Belly Up skid plate to the frame by aligning the transmission bolts with the holes in the skid plate and then bolting the skid plate to the frame using the original six factory bolts.
8. Bolt the transmission mount to the skid plate using the factory nuts and the mounting holes in the center of the plate.

## Recommended Products

Part #1942100

One-inch body lift. May be required for use with this kit. Eliminates need for exhaust modification, and 'dimpling' the floor pan on Rubicon models.

Part #4444401

Short shaft kit/slip-yoke eliminator. May be required for BellyUp skid plate to eliminate driveshaft vibration.

Part #1544700

Rear lower shock mounts for TJs. Helps restore the TJs rear shocks to their original position when used on axles with high pinion angles.

Part #1644866/1643866/1615766

The adjustability of the upper and lower FlexArms can be used to properly correct pinion angles for use with the BellyUp skid plate.

Part #1744000

Adjustable rear track bar for TJs.

## Troubleshooting

Drive shaft vibrations

If drive shaft vibrations occur:

- a) adjust axle pinion angle for proper drive shaft angles.
- b) Use a transfer case lowering kit to reduce the driveshaft angles.

97-02 TJs                      1/2" drop= #1900000

1" drop= #1900100

2003+ TJs                      1" drop= #1900193

Exhaust alignment

The addition of a one-inch body lift will generally eliminate the need to adjust the exhaust.

Shift Linkage Adjustment

1. Shift transfer case into 4L position.
2. Raise vehicle.
3. Loosen lock bolt on adjustment trunnion.
4. Be sure linkage rod slides freely in trunnion. Clean rod and apply spray lube if necessary.
5. Verify that the transfer case range lever is fully engaged in 4L position.
6. Tighten adjusting trunnion lock bolt.
7. Lower vehicle.

Shift Linkage Binding

If binding occurs in the shift linkage:

- a) install a 1" body lift if you do not have a body lift.
- b) Install a modified bell crank for 97-02 TJs (#00583) or a shift linkage plate for 2003+ TJs (#1900003)

# **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:**

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.

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