

# TERAFLEX

## INSTALLATION GUIDE

# Installation Guide for the Revolver Shackle Kit

Part #001033000 (RYJ-F)

Part #001034000 (RYJ-R)



### For YJ Wrangler Front and Rear and 1976-86 CJ Rear

Thank you for purchasing TeraFlex revolver shackles. Correctly installed, the TeraFlex revolver shackles will give your vehicle the maximum articulation possible with your existing suspension components.

#### Installation:

1. Jack the front of the vehicle up by the frame so that the axle droops. Secure the frame with jack stands.
2. Unbolt the spring shackles and discard. Retain the 1/2-inch bolts to install the shackles.
3. Install the shackle so the hinged portion points toward the axle (see figure 1). This applies to shackles installed on both the front and rear of the vehicle. The relief in the yoke should be positioned towards the spring. The hinged portion of the shackle should always point towards the axle.
4. Secure the shackles with bolts and locking nuts. When tightened, the bolt should still be able to be rotated slightly using a wrench.
5. Remove the vehicle from the jack stands.

*Note: If the frame or spring bushings are rubber, grease the sides of them to make installation easier. Replacing factory bushings with polyurethane is recommended, but not mandatory.*

6. Repeat instructions above for the rear shackle application.

*Note: If the vehicle has stock springs and shackles, the frame bolts may be installed from the fuel tank side. To remove these bolts, place a floor jack under the gas tank skid plate and loosen the tank mounting bolts on the rear frame cross member and lower the tank approximately two inches. This will give you enough space to remove the frame bolts on the shackle. Reinstall the bolts from the outside of the frame when you install the revolver shackles.*

7. Check the shackle's clearance near the exhaust bracket at the right rear of the vehicle. It may be necessary to tap or bend the mount back toward the fuel tank approximately one inch. Check to make sure the bracket has good clearance from the tank.
8. Check to make sure you have tightened gas tank mounts, shackle bolts, and exhaust bracket. Lower vehicle off jack stands.

The shackles are now installed and ready for use.

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## Warning:

**Brake lines should be correctly extended, shocks should be checked for extended travel length, and the left rear emergency brake cable may need to be modified before using this vehicle. Check the driveshaft for proper clearance as well.**

Please check the following items:

1. On YJ applications modify the location of the left rear emergency brake cable. (See figure 2) Remove brake cable from bracket that pulls both left and right cables. Next push cable back through the frame mount. Pull cable out of the protective cover that guards the fuel filter. Drill a 9/16-inch hole in the frame bracket just below the fuel filter cover and re-install just as before.

2. Check the rear driveshaft, rear shocks, and rear brake lines. Vehicles with aftermarket suspension systems may already have longer shocks; brake lines extensions or longer brake lines; and a transfer case spacer or fixed yoke aftermarket driveshaft. Make sure that the driveshaft will rotate freely in full droop. When using a slip yoke stock drive shaft, make sure that under full droop it has at least a 1-1/4 inch overlap.

Jack the rear of the vehicle up until the shackles just start to open. STOP! Check driveshaft rotation, brake line length and shock travel. If the drive shaft is rotating freely and the shocks and brake lines are not maxed out, lift the vehicle until the rear tires are slightly off the ground or brake lines are tight. If successful in lifting the vehicle until the tires are slightly off the ground, re-check the driveshaft rotation, shock travel, and brake line tension. Please note that shocks may limit your full articulation capability.

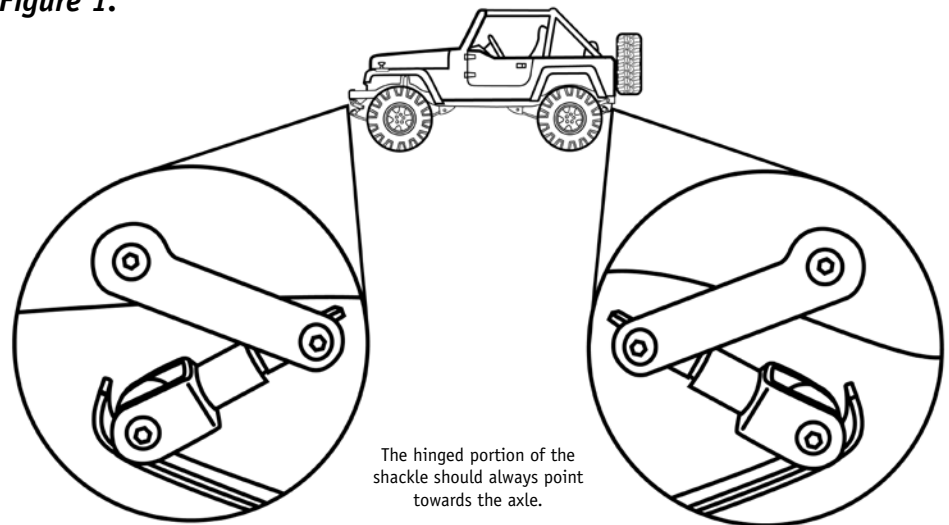
3. Lift the front of the vehicle until the shackles start to open. Check shock travel and brake cables. The illustration (figure 3) shows how to modify the front brake lines on YJs. Remove bolt from brake line bracket and carefully pull brake line down until it is about 1 inch above the bottom of the frame. Mark the position where it bolts on, and drill a new hole in the frame. Re-mount the brake line to the frame.

A few considerations will maximize the

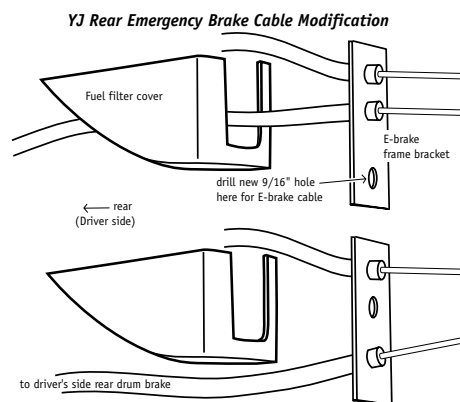
off-road performance of TeraFlex Revolver Shackles:

1. Use sway bar disconnects.
2. Use an aftermarket telescoping track bar.
3. Use front shocks with 10.5 to 12 inches of wheel travel.
4. Use rear shocks with 8 to 10 inches of wheel travel.
5. Use longer brake lines front and rear. **Note:** Most aftermarket suspensions kits already supply them but check to make sure yours are long enough.
6. Check right side emergency brake cable bracket that it clears the muffler mount. This can be bent to make clearance.
7. Check the 9/16-inch bolts on the fixed end of the springs. Tighten until snug, but you should be able to rotate them slightly with the bolt end.

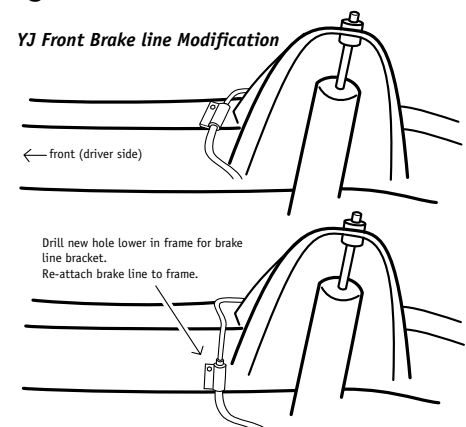
**Figure 1.**



**Figure 2.**



**Figure 3.**





## **PRODUCT INFORMATION & WARRANTY**

### **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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