INSTALLATION MANUAL

TORQ Locker for Honda Talon Installation Instructions By:

Made in USA By:

INSTALLATION MANUAL

TORQ Locker Installation Instructions By:

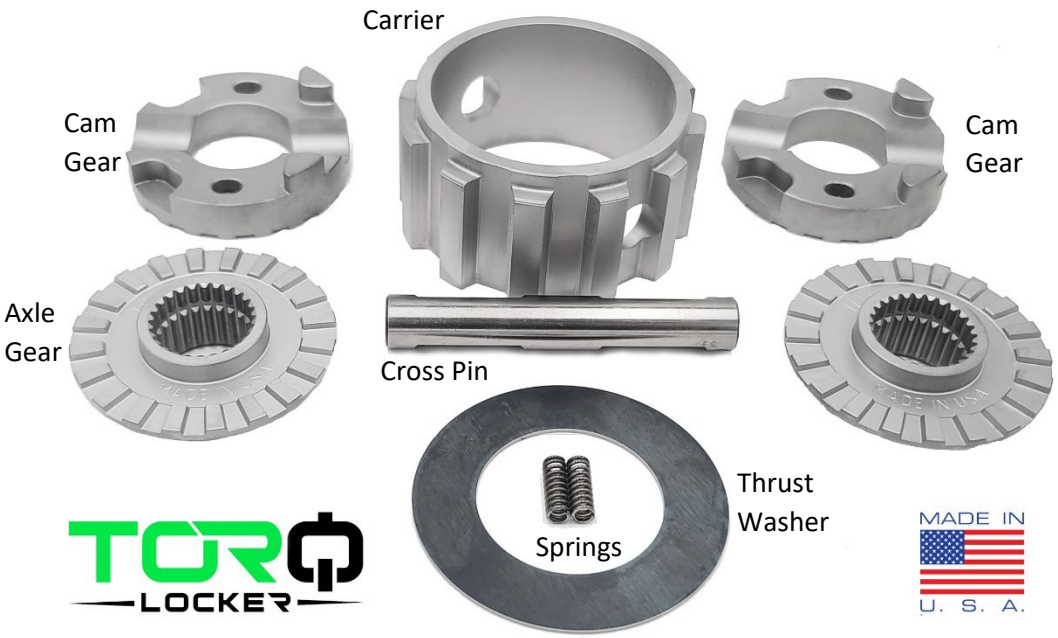
INTRODUCTION

We suggest that you read these instructions before beginning your installation to familiarize yourself with the installation steps.

Installation of your new locker is accomplished by removing the differential gears from the differential case and installing the TORQ Locker™ components in their place. This type of installation can be made by the weekend mechanic who is familiar with the operation of a differential and who is able to exercise appropriate care during the installation process. Normal installation takes about three hours when these instructions are followed. They also assume that the installer is familiar with the procedures used in removing wheels, axle shafts, etc. Shortcuts should not be attempted unless the installer is very familiar with the shop manual procedures for the vehicle.

Great care has been taken in developing these instructions for the proper installation of the TORQ Locker™; however, the final results are the responsibility of the installer. After the locker is installed, the safe operation of the vehicle is the responsibility of the driver; anyone who drives it should read the Operator's Guide at the end of this manual for additional information on how to safely operate your new TORQ Locker™- equipped vehicle.

TORQ LOCKER™ PARTS LIST



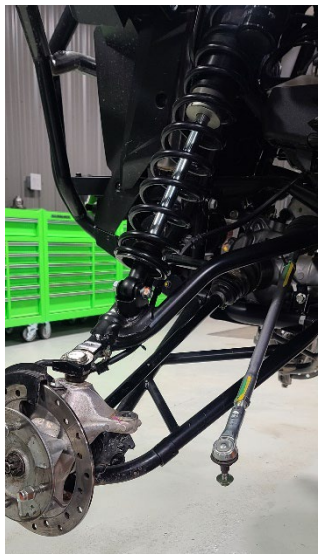
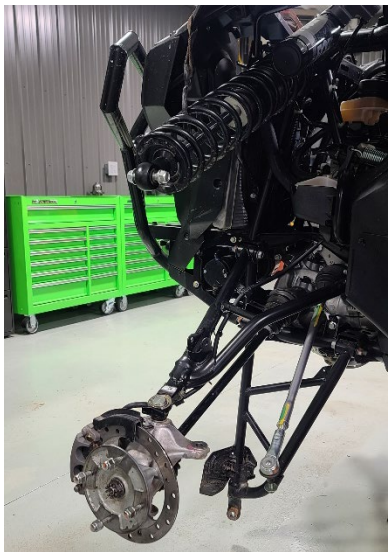
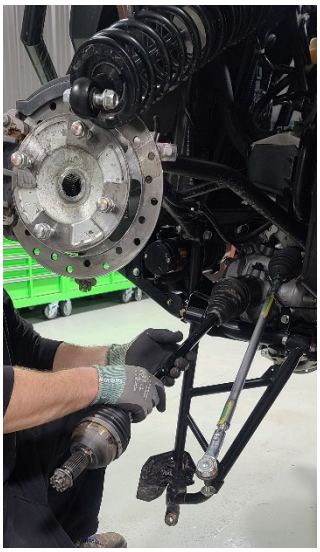
- (2) Cam Gears
- (2) Axle Gears
- (1) Case
- (1) Cross Pin
- (1) Thrust washer
- (2) Springs

TORQ Locker™ INSTALLATION GUIDE

Disassemble components to access the front differential:

a. **Prep vehicle for install:** Shift the vehicle into park. Jack up the front end and use jack stands or a lift to hold the front end of the vehicle off the ground safely and securely.

b. **Remove the Front Wheels:**

c. **Remove the front Bumper and Winch**

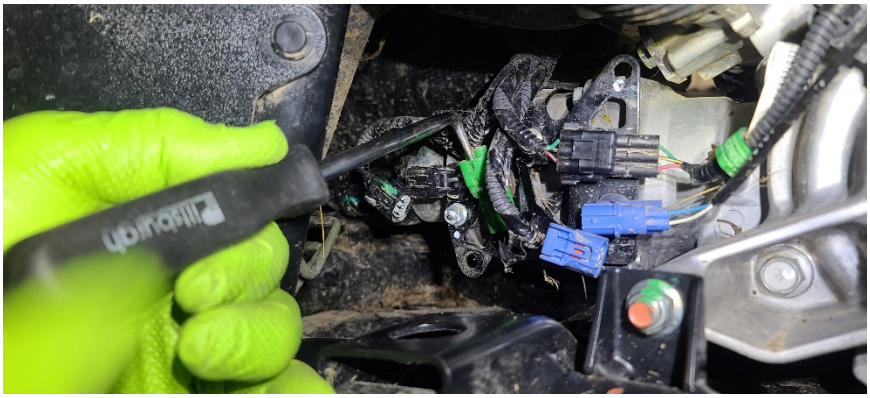
d. **Drain differential gear oil:**

e. **Remove the Tie Rod at the wheel hub:**

f. **Remove the Shock Lower Bolts:** Use a ratchet strap to pull the shock out of the way.

g. **Remove the lower ball joint bolt & remove the axle from the wheel hub :** This will allow you to pull the upper arm and wheel hub out of the work area. Use another ratchet strap to hold the upper arm out of the way.

h. **Remove front Axle Shafts:** With the knuckle pulled out of the way, the axle shafts should come out with a hard tug. Be mindful of the snap rings on the ends of the axle plunging joints. Don't lose the snap rings. Also be mindful of the oil seals. Replace the oil seal later on the workbench if damaged or previously leaking. Use caution as to not pull the vehicle off the jack stands.



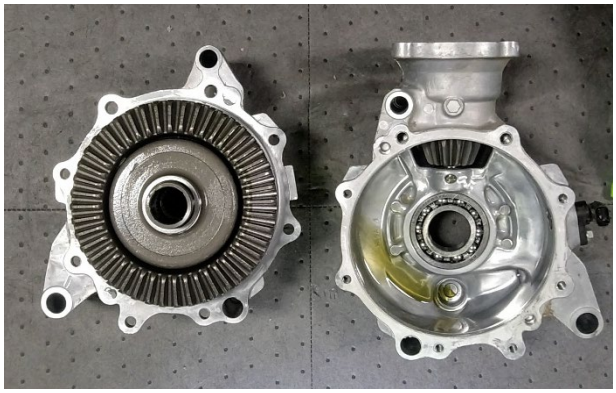

i. **Disconnect electrical connections and breather tube from the differential:** Some of these connections use a pull tab, some of the connections use a push tab.

j. **Remove Differential mounting bolts:**

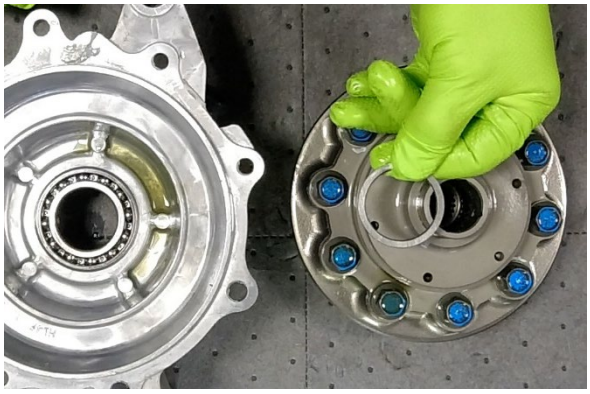
k. **Disconnect the final clutch from the differential housing:**

l. **Remove the front Differential:** Hold the final clutch in place and use a pry bar to separate the final clutch from the differential housing. Note – if the final clutch is pulled forward the driveshaft can separate from the transmission. If this happens, reinstall the driveshaft before differential reinstallation. Pull the differential out from the front of the vehicle. Place the differential on a clean work surface.

Disassemble the Differential:



1.) **Open the Differential Housing:** Remove the case bolt. Use a screwdriver or flat punch at the pry locations to split the housing.

2.) **Remove the Differential Case from the Differential Housing** Be mindful of any shims on the bearing hubs on the outside of the differential case, or on the bearings inside housing.

*** These shims set backlash and need to be reinstalled in the same position. DO NOT DISCARD THESE SHIMS



3.) **Remove all "Chicklets", Gears and washers from inside the Differential Case:** Unbolt the ring gear. When you split the case in half the contents will fall out. The chicklets are small trapezoidal pieces of metal. Remove the Chicklets, 2 Gears and 2 thrust washers. These items will not be reused. The inside of the case should be completely empty for the Locker install.


4.) **Prep TORQ Locker for Install:** Apply medium grease, in a very, very thin coating, to the teeth of the gears and to the backs of the axle gears.

5.) **Place a cam gear on an axle gear, then insert the 2 springs**

6.) **Slide the Locker Carrier over the axle and cam gear, then insert the cross pin**

7.) **Place the 2nd cam gear over the cross pin and align the springs so they are in the pockets**

8.) **Place the 2nd axle gear onto the cam gear:**

9.) **Place the differential case over the locker assembly:** Hold the locker assembly in one hand. Use your other hand to place the differential case over the locker. Then while holing both items, flip them over so the locker is facing up.

****Note** The Locker Case has chamfered flutes on one end and flush flutes on the other end. The flush flutes face the ring gear mounting surface. The two halves of the Differential Case won't bolt together if the Locker carrier is inserted upside down.

****Note** Check the locker springs by pushing down on the axle gear and feeling for spring function.

10.) **Install the Locker Thrust Washer:** Use a dab of grease to hold the washer. Install the washer on the short side of the split Differential Case

11.) **Reinstall the Ring gear and bolt together the Differential Case:** Clean the Ring Gear bolts and Ring Gear bolt holes of existing Thread Locker with Brake Cleaner, it may be necessary to use a wire brush. Dry bolts and bolt holes with compressed air. Apply Red Thread Locker 271 to Ring Gear Bolts. Torque ring gear bolts to 74 Ft-lbs.

12.) **Clean the mating surfaces of the Differential housing:** Remove existing sealant with brake cleaner and scotchbrite pad
13.) **Reinstall the Differential case into the Differential housing.** Ensure backlash shims are in the original position.
14.) **Apply Gear Oil RTV Gasket Maker to Differential Housing per manufacturer's instruction & Bolt together** Torque Differential housing bolts. The larger bolts torque to 35 Ft-lbs, and torque the smaller bolts to 18 Ft-lbs.
15.) **Reinstall the Differential housing into the vehicle and Reassemble the vehicle** Torque the final clutch assembly mounting bolts to 18 Ft-lbs. Torque the differential housing to chassis bolts to 32 Ft-lbs.
16.) **Fill the Differential with gear oil:** Use the manufacturer's recommended gear oil. ***** Note -** Best practice is to wait 24 hours for the RTV and Thread Locker to cure before filling the differential housing with gear oil.

Perform the Wheel Spin Test

1.) Jack the front and rear of the vehicle up and place on jack stands so all 4 wheels are off the ground. Ensure the vehicle is stable.
2.) **For the Honda Talon – The engine needs to be running to engage 4wd and properly perform this test. Ensure the vehicle is in Park. Start the engine and engage 4wd. Wait until the 4wd indicator light stops flashing and the vehicle has fully shifted into 4wd. Leave the engine running while performing the wheel spin test.**
3.) Tires must be installed to complete this test.
4.) Rotate the Drivers side tire forward until it stops against the locked drive shaft. Hold it in position and maintain moderate pressure.
5.) Rotate the Passenger side tire backwards. It should ratchet smoothly, with the locker clicking as the tire rotates.
6.) Next rotate the Drivers side tire backwards until it stops against the locked drive shaft. Hold it in position and maintain moderate pressure.
7.) Then, rotate the Passenger side tire forwards. It should ratchet smoothly, with the locker clicking as the tire rotates.
8.) Repeat steps 4-7 this time starting with the Passenger side tire
9.) If your locker ratchets smoothly, then you have passed the "wheel spin" test and you are ready to finish up.
10.) Any questions? Shoot us an email or give us a call. Info@torqmasters.com

TEST DRIVE

1.) After your installation is complete it's time to take your vehicle out for a test drive. Refer to the Operators Guide for more information.
2.) During your initial testing, take it easy the first few miles. Remember that a front rear locker-equipped vehicle will have some different handling characteristics that you will quickly adapt to. Front locker applications should see no change in handling characteristics while in 2WD. It is not recommended to test a front locker in 4WD on dry pavement.
3.) Try your locker on a low-traction surface like a gravel parking lot to feel how the added traction feels.
4.) Note, there is a break-in period for your locker of about 100 miles after which the 'Click' noise should reduce slightly. The occasional 'Clunk' may be heard with this style of locker and should not be cause for concern.

NOTES & HELPFUL HINTS

- **Axle Seals:** Inspect while you are in the differential, now would be a good time to replace if needed
- **Differential case and bearings**: If there are any chips or cracks in the case, and/or the bearings are worn, replace them.
- **Check with your local Honda Dealer:** for any recalls prior to installing the TORQ Locker. If there is any front differential work to be performed under Warranty, your dealer may be able to install your TORQ Locker at a discounted labor rate.

TORQ Locker™ WARRANTY

TORQ Locker™ FOUR YEAR LIMITED WARRANTY

Torq-Masters Industries warrants each new TORQ Locker™ to be free from defects in material and workmanship under normal use and service following the date of purchase of the part for a period of four years. This warranty is limited to the manufacturer's repair or replacement of the defective parts only, providing the product, including all components and parts, is returned to the manufacturer or its authorized representative, together with proof of purchase and all relevant documentation, transportation charges prepaid. This warranty excludes labor or consequential damages or injury. This warranty excludes damage to the TORQ Locker™ as a result of driveline component failures that were not manufactured by Torq-Masters Industries Inc. The decision as to whether the defective part is to be repaired or replaced will rest solely with Torq-Masters Industries, Inc.

Any failure of the product as before described must be reported to the manufacturer within fifteen (15) days of failure and an authorization code number obtained for return of the product to manufacturer or its authorized representative. Proper proof of purchase must be furnished in order to obtain an authorization code; and this code number must be included with the relevant paperwork before mentioned. Please contact us to obtain a return authorization code.

Notes:

This warranty is in lieu of all other warranties express or implied and all other obligations or liabilities on the part of the manufacturer. The manufacturer neither assumes nor authorizes any other entity or person to assume for it any other liability in connection and sale of TORQ Lockers™

This warranty covers the original purchaser only. This warranty does not cover defects caused by any of the following: modification, alteration, repair or service of the product by anyone other than by the manufacturer or its authorized representative, physical abuse to or misuse of the product, improper diagnosis, installation or operation thereof in a manner contrary to the installation manual accompanying the product, and road, offroad or accident damage.

No repair or replacement of any part made under this warranty shall be deemed to alter or extend the term of the warranty in any way.

The manufacturer disclaims any implied warranties of merchantability of the goods or fitness of the goods for any purpose. The manufacturer has no liability for incidental, consequential or special damages including, but not limited to, claims of personal injury or property damage and claims of liabilities by third parties not the original purchaser to the product. While this warranty gives specific legal rights, some States have special laws regarding warranties which regulate limitation and time periods. These rights vary from state to state and purchaser is urged to review laws of his jurisdiction in the event of a warranty question.

If the purchaser disagrees with any of the terms of this warranty, please return the purchased item to Torq-Masters Industries, Inc. within three (5) business days of notification of shipment. Buyer is responsible for all shipping charges for receipt and return of product. A decision by the purchaser to retain the item purchased will be deemed acceptance of the specific terms of this warranty.

TORQ Locker™ is 100% made in the USA.

Please direct any questions to: **info@torqmasters.com**

Operators Guide

Your TORQ Locker™ is designed to provide you with dramatic improvements in traction performance. However, the safe operation of your vehicle is the responsibility of the driver, and it is suggested that all drivers carefully read this TORQ Locker™ guide.

- Do not engage 4WD, with a front TORQ Locker™, when driving on dry pavement – this will put unnecessary strain on your front axle shafts and axle joints.
- Advise anyone working on your vehicle that the vehicle is locker-equipped.
- Having the proper tire air pressure is not only essential for proper locker operation but also for driving safety. Large diameter tires are especially susceptible to creating locker problems when the tire diameters are significantly different or when tires are inflated to different pressures. Tires should always be inflated to manufacturer's specifications.
- Depending on many factors you may hear a clicking sound when you are making a turn. This is normal for automatic lockers and is a positive indication that your locker is working properly.
- Additional backlash is the nature of locker design. Due to the additional backlash you may hear a "clink" or "clunk" sound from time to time. This sound is part of normal locker operation.
- Your new TORQ Locker™ provides you with dramatic increases in traction performance. You can travel further, faster and with more traction than before. With this improved capability comes new responsibilities. You can get deeper in the woods and further up the hills than before. In case of emergencies or vehicle breakdowns it is a good practice to always travel with other off roaders for safety.

Frequently Asked Questions

Q: Do I use Thrust Washers in this install?
A: Yes, only use the Thrust washer included in the kit, not the OEM washers.

Q: Do I have to make any measurements?
A: No

Q: When in 2WD what affect does the locker have? Is there any difference from stock in simply having the locker installed when in 2WD?
A: There should be no perceivable difference than stock in 2WD with a front TORQ Locker installed

Q: When in 4WD at higher speeds is there any difference in handling compared to the stock?
A: In 4WD there will be a perceivable difference than the stock 4WD system because both front tires will have torque at all times. We suggest taking the vehicle for a test drive before any competitions or racing so the driver can get a feel for the additional traction.

Q: The cutout for the cross pin in the Cam Gear looks loose.
A: That's correct, this is by design. For the Locker to operate correctly, the Cam Gear must corkscrew about the cross pin, this drives the gears into the locked position.

Q: I can move one tire/ or the driveshaft, back and forth a quarter of a turn before the locker engages.
A: This is normal locker operation. The TORQ Locker™ adds backlash to the drivetrain.

Q: Does the TORQ Locker™ ever disengage?
A: The TORQ Locker™ never technically disengages, but it does allow for wheel spin differentiation so you can turn and steer the vehicle. The Locker achieves wheel speed differentiation through ratcheting. A slight audible click maybe noticeable at low speeds, this is an indication of the locker ratcheting.

Q: Where is the TORQ Locker™ made?
A: The TORQ Locker™ is made 100% in the USA from USA made raw materials in Rochester NY.

Q: What is the Warranty on the TORQ Locker™?
A: The TORQ Locker™ has a 4 year warranty with no tire size or horsepower limitations. The warranty does not cover damage to the locker from driveline component failures such as broken axle shafts or other differential failures.

Q: Do I need any special Gear Oil?
A: No, you can use your manufacturer's recommended gear oil.

Q: Will the TORQ Locker™ break my axle shafts?
A: The TORQ Locker™ will allow you to drive into the most extreme terrain, this extreme terrain puts more strain on your drivetrain and because of this additional strain, you could break driveline components.