



INSTALLATION MANUAL

TORQ Locker for Kubota Tractors Installation Manual

Made in USA By:





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TORQ Locker Installation Instructions By:



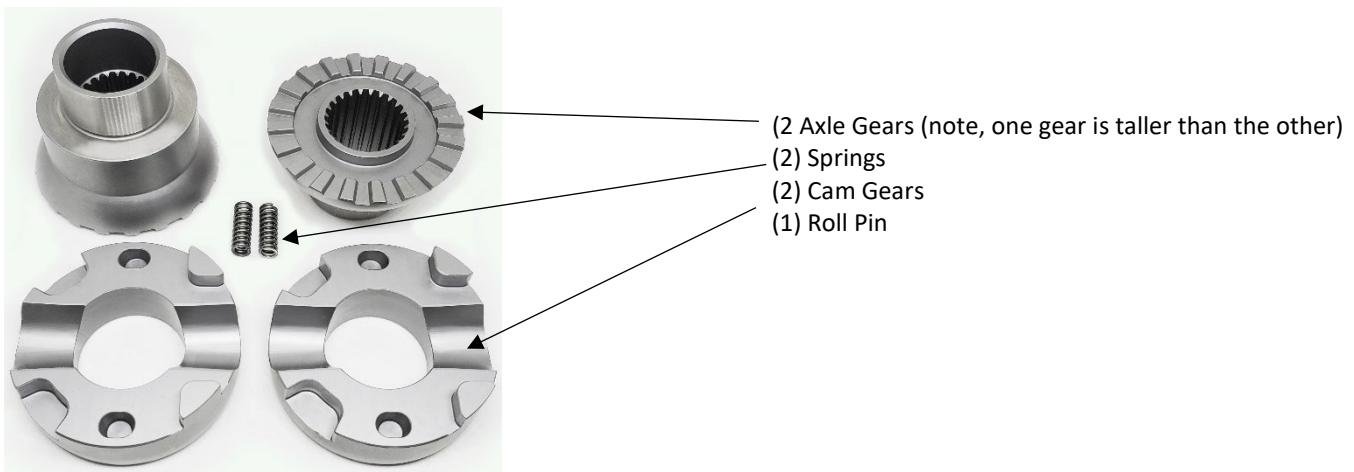
INTRODUCTION

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 5 to 8 hours when these instructions are followed. They also assume that the installer has a shop manual covering the vehicle and that they are 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 for additional information on how to safely operate your new locker-equipped vehicle.

TORQ LOCKER™ PARTS LIST



INSTALLATION VIDEO FROM ONE OF OUR DISTRIBUTORS:

<https://www.youtube.com/watch?v=UliJCCh886U>

An electronic version of this install manual with Color photos is available here:

<https://www.torqmasters.com/manuals>

ADDITIONAL PARTS & RECOMMENDED TOOLS

Only reuse the stock components if they are in excellent condition. We recommend replacing the stock cross pin if your differential has over 150,000 miles or if the surfaces of the individual shafts are scored.

For your installation, you will need:

- **Gear Oil** – Use OEM recommended oils
- **Oil pan**
- **Vehicle Jack**
- **Metric Tool Kit**
- **Gasket maker material.**
- **Shop manual for vehicle**
- **Dial caliper or feeler gauge** – for measuring center gap.
- **Pinion Seal** - this oil seal may be damaged with removal

INSTALLATION

- 1.) **Prep vehicle for TORQ Locker install:** The instructions below outlining the disassembly of the front axle assembly are a guide, please consult your Shop Manual for vehicle specific instructions and best practices.

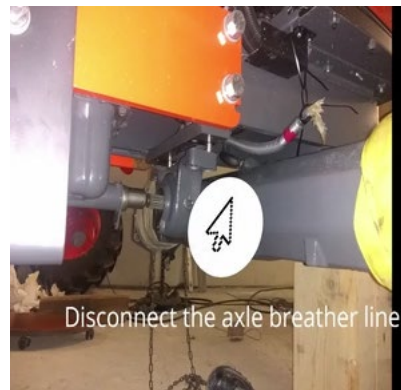
Position your tractor on a level surface, engage the transmission brake, pull the hand brake and secure the tractor with the use of wheel chocks. Raise the tractor with the hydraulic jack and use jack stands to support the front axle. Remove the front tires



Drain the oil from the axle assembly. Unbolt the steering arm and knuckle assembly, use a motor hoist to move the knuckle out of the work area.



2.) **Prep vehicle for TORQ Locker install:** Remove the 2 front axle shafts. Unbolt and slide the driveshaft sleeve out of the work area. Disengage the driveshaft from the pinion.



3.) **Prep vehicle for TORQ Locker install:** Disconnect both hydraulic connections from the steering actuator. Disconnect the axle breather line.



4.) **Prep vehicle for TORQ Locker install:** Remove the Pinion Support. Remove the Pinion seal, snap rings and spacer.



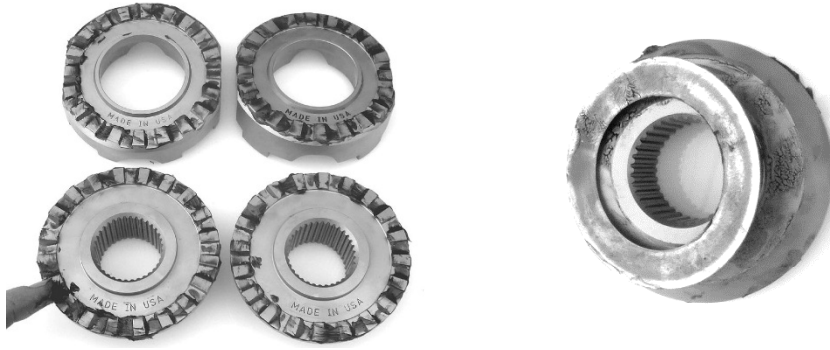
5.) **Prep vehicle for TORQ Locker install:** Remove the pinion gear. Be mindful of the shims inside the axle housing at the differential. Push the differential out of the axle housing from one side.



6.) **Prep vehicle for TORQ Locker install:** Remove the differential from the axle housing and place it on a bench.



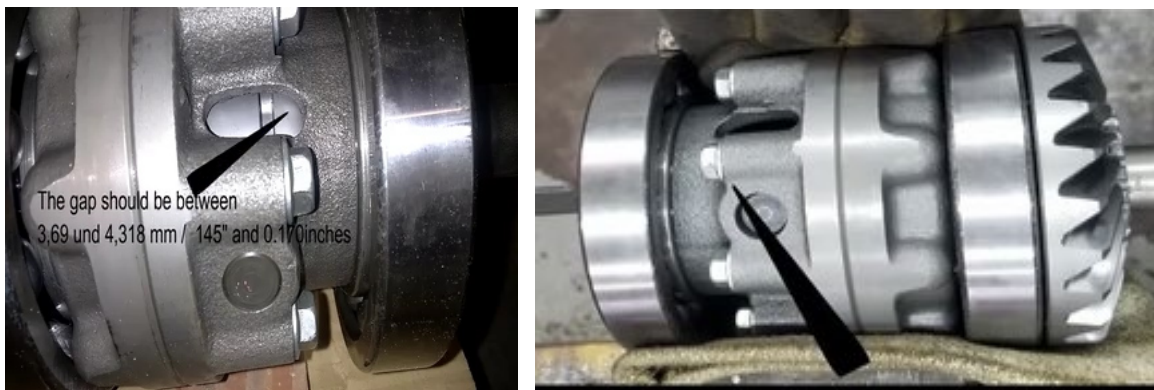
7.) **Disassemble the Differential:** Unbolt and split the differential in half. You will need to punch out the roll pin as far as possible, then cut the roll pin to fully remove it. Save the 2 Thrust Washers from the back side of the drive spider gears for re-use. Remove the spider gears and clutches.



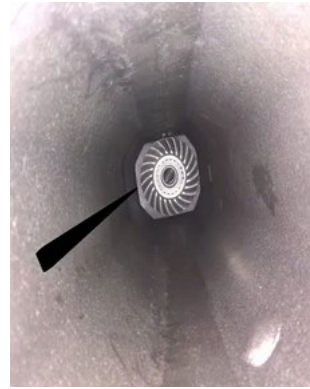
8.) **Prep TORQ Locker for Install:** Apply medium grease, in a very thin coating, to the teeth of the gears and to the backs of the axle gears. Place the OEM thrust washers on the back side of the TORQ Locker axle gears.



9.) **Install the TORQ Locker:** Install the TORQ Locker starting with the axle gear, place it at the bottom of the case and build the locker up layer by layer like a sandwich. Note, one axle gear is taller than the other. The taller axle gear will be installed on the clutch side of the differential after the clutches have been removed. Place the Cam Ger on top of the axle gear, then place the 2 springs into the holes in the cam gear. Next slide in the cross pin through the side of the case and insert the new roll pin through the cross pin. Then place the second cam gear and axle gear in the case. Place the other half of the differential case onto the assembled locker, align the dowel pins, and use a rubber mallet to fully seat both halves of the case.



10.) **Measure the Center Gap:** Torque 2 of the differential case bolts to ensure both halves of the differential are fully seated. Measure the center gap, the space between the two cam gears. The center gap should be between 3,69 mm and 4,318 mm or 0.145" and 0.170". Contact us immediately if your center gap is out of tolerance at info@torqmasters.com Next, torque the differential case bolts to 30-34 NM or 22-24 Ft Lbs.



- 11.) **Install the Differential into the Axle assembly:** The instructions below outlining the reassembly of the front axle assembly are a guide, please consult your Shop Manual for vehicle specific instructions and best practices.

If possible, rotate the axle assembly vertically and place the shims back to the same position they were removed from. We found it helpful when inserting the differential into the axle tube to rig up a long wire with a washer looped at the end. This way you can hook the differential ring gear and gently slide the differential into the axle assembly. Another tip is to place the differential into a freezer, then warm up the axle assembly with a heat gun prior to installation.

** Note, the differential does not seat in the center of the axle assembly, it is offset, away from the pinion gear.

Reinstall all the components removed or loosened during the differential removal.

- 12.) **Fill the Axle assembly with gear oil:** Consult your Shop Manual for vehicle specific instructions and best practices.

- 13.) **Perform the 'Spin Test':** Put the vehicle into 4WD to lock the drive shaft. Rotate one tire until it stops and hold it firmly. It is now locked to the locker teeth and to the drive shaft (you may need to chock the tire to hold it). Rotate the other tire in the opposite direction. It should release and go "click click click" as it rotates. Repeat for both tires in both directions.

TEST DRIVE

- 1.) After your installation is complete and you have passed the 'Spin Test' it's time to take your vehicle out for a test drive. Consult the Operator's Guide for detailed information on how to operate your vehicle on and off road.
- 2.) During your initial testing, take it easy the first few miles. Remember that a new rear locker-equipped vehicle will have some different handling characteristics that you will quickly adapt to. Take turns slowly and coast through the turn in rear-locker applications. 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 600 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—but remember that the ring and pinion backlash and bearing pre-load will need to be set up again after replacing.

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. 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

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