



INSTALLATION MANUAL

TORQ Locker TL-16035 Dana 60 Installation Instructions By:

Made in USA:

TORQ-MASTERS
INDUSTRIES



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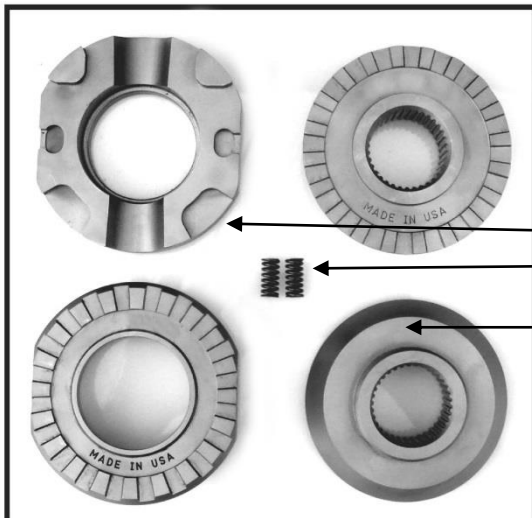
INTRODUCTION

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 two 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.

NOTE: TORQ Locker™ is for Open Differentials Only



TORQ LOCKER™ PARTS LIST

- (2) Cam Gears
- (2) Springs
- (2) Axle Gears

Note: The TORQ Locker™ does not have spacers, as seen in The Aussie Locker™

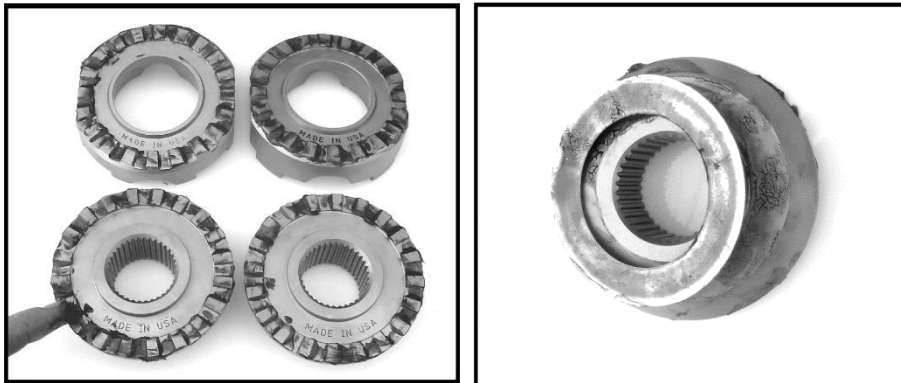
ADDITIONAL PARTS & RECOMMENDED TOOLS

Only reuse stock components if they are in excellent condition. We recommend replacing the stock Cross Pin if your differential has over 150,000 miles. Visit www.TorqMasters.com for replacement stock components and custom thickness thrust washers if needed.

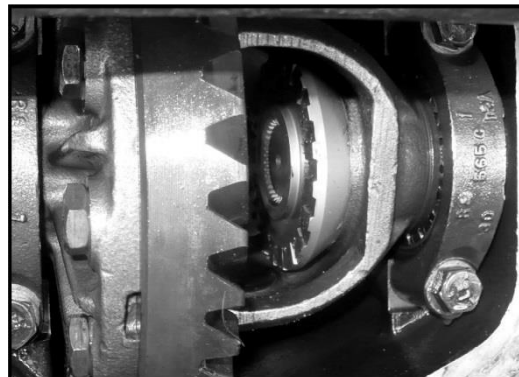
- **Stock or Aftermarket Side Gear Thrust Washer**
- **Stock or Aftermarket Cross Pin** - Inspect for wear marks, replace if wear is evident. Inspect for metal fatigue, scrape a metal file across the middle of the cross shaft. If the file creates a groove, the shaft hardness has fatigued and will need to be replaced. If the file slides and does not cut the metal, the cross shaft should be OK to re-use.
- **Gear Oil** – Use OEM recommended oils, or for:
 - Hot Climates use Conventional 85W-140
 - Cold Climates use Conventional 80W-90
- **Gasket Maker**
- **Shop Manual for vehicle** – Haynes or Chilton Manuals are sufficient
- **Caliper** – for measuring center gap

INSTALLATION

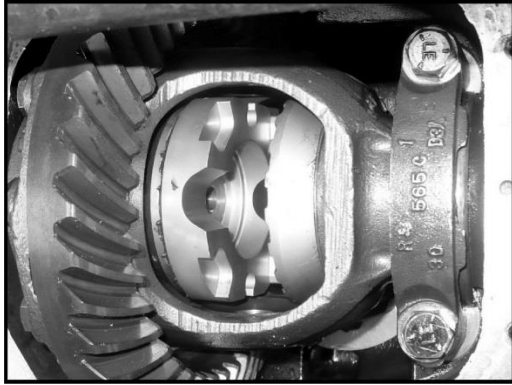
- 1.) **Prep vehicle for install:** Engage the parking brake. Place jack stands under your axle because the tires will need to be rotated for testing, and engage the front hubs (if necessary). Put the transfer case in NEUTRAL to free up the drive shaft so that the differential case can be rotated during assembly. Remove the differential cover and drain the oil. Remove one axle shaft, consult your Shop Manual for vehicle specific instructions. Remove the Cross Shaft, existing differential gears and thrust washers. For higher gear ratios, you will need to pull the differential case, then remove the ring gear to access the cross pin, again, consult your shop manual.
- 2.) **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.
- 3.) **Thrust Washers:** Install new or existing thrust washers onto the backs of the connectors and press them into the grease to help hold them in place.



- 4.) **Install Axle 2 Gears:** with Thrust Washers on the backs of the axle gears, driver and passenger side



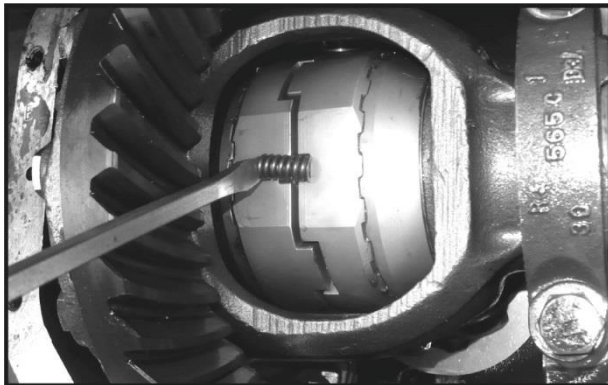
- 5.) **Install First Cam Gear:** on Ring Gear side of the case, push it into the grease on the teeth to hold it in position. Notice that next to one of the curved recesses there are pockets that must be facing outward.



- 6.) **Install Second Cam Gear:** positioning it so that its projections will slip into the opposing pockets. Slide it in past the left connector until they are flush with each other. Push the right rotor into the grease to hold it in position.



- 7.) **Install the Two Springs:** rotate the locker assembly and install the two springs into the Spring Pockets.

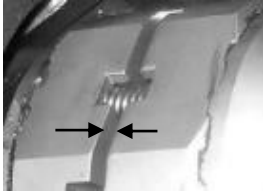


NOTE: The springs are Heavy Duty. Try using a flat screwdriver to pry the springs into the pockets. An alternative method is to compress the spring with pliers and insert it about half way into both cam gears, release the pliers, and then tap it into place with a screwdriver handle.

- 8.) **Reinstall the Cross Pin and Roll Pin**



- 9.) **Check the Center Gap Measurement:** Use your caliper or feeler gauges to measure the gap between the two cam gears with the locker teeth engaged. This is an installation check to see if the thrust washers were installed or to see if the differential case is within average machining tolerances or if it has become worn. If the gap is out of specifications, please contact Customer Support: Info@TorqMasters.com



NOTE: Center Gap Spacing = Between 0.145" and 0.175"

- 10.) **Perform the 'Spin Test':** Put the transfer case lever into the 4WD position 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. The "click" will be less noticeable when the cover is installed and the housing is filled with oil.
- 11.) **Complete Installation:** Replace the Differential Cover and add gear oil. Fill with your OEM recommended oil, or for less 'Click' noise: Hot Climates use Conventional 85W-140, Cold Climates use Conventional 80W-90. Leave the vehicle in gear, apply the emergency brake, remove the jack stands and lower the vehicle to the ground.

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.
- **Thick Ring Gear:** If the Ring Gear is thick and interferes with the removal of the Cross Pin; pull the two axle shafts, pull the differential case from the axle housing, pull the ring gear from the case, then remove the Cross Pin and differential gears. Refer to your vehicle shop manual for this procedure as this varies between axle assemblies. A case spreader or high-lift jack may be necessary for some applications.

WARRANTY

TORQ Locker™ TWO 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 two 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 and/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 (3) 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.

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TORQ Locker™ is 100% made in the USA.

Please direct any questions to: info@torqmasters.com

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