



INSTALLATION GUIDE

Installation Guide for the Heavy-Duty 300 Output Shaft Kit Part #002223000(HD300)



Think safety first when installing this kit. This kit was designed specifically for the Dana 300 transfer case. It can be used with either the factory stock gears or with the TeraLow 300 4.0:1 low-range gear kit (LOW300)

Note: This kit will NOT fit the 1980 model Dana 300 Transfer Case.

Photos in these instructions are of a display transfer case which has some areas cut away for observation of the inside of the case.

Before installation make sure that your HD300 kit includes each of the following items:

- | | |
|---|---------------------------------|
| 1 bearing race (LM48510) | 1 bearing (LM48548) |
| 1 large bearing race (LM501314) | 1 large bearing (501349) |
| 1 cv type yoke (SS103) | 1 oil seal 472572 (SS104) |
| 1 speedo gear 4338996 (SS110) | 1 yoke nut (SS112) |
| 1 thrust washer (TL655) | 1 preload shim .010" (TL656-10) |
| 1 preload shim .024" (TL656-24) | 1 preload shim .003" (TL656-3) |
| 1 heavy duty output shaft (TL657) | 1 pocket bearing (TL658) |
| 1 housing (TLHD300-5) | |
| 1 front speedo gear spacer (TL778) | |
| 1 rear speedo gear spacer OD 1.8"x ID .481" (TL777) | |

Disassembly

1. Drain the transfer case. Remove front and rear drive shafts. Remove transfer case from vehicle.
2. Remove the shift lever assembly and the bottom cover.

TeraFlex, Inc.
5680 W Dannon Way
West Jordan, UT 84081
Phone/801.288.2585
Fax/801.713.2313
www.teraflex.com

3. Remove the front and rear drive shaft yokes.
4. Remove the input shaft support attaching bolts and remove the support, rear output shaft gear and input shaft assembly. It may be necessary to use a putty knife to break the seal around the support.
5. Remove the rear output shaft clutch sleeve from the transfer case.
6. Remove the intermediate shaft lock plate and bolt.
7. Use a brass drift and hammer to tap the intermediate shaft out of the case.
8. Remove the intermediate gear assembly thrust washers, needle bearings and spacers.
9. Remove the rear housing. Loosen the housing with a rubber mallet so it can be removed.
10. Remove the speedometer drive gear and end play shims from the rear output shaft.
11. Remove the rear output shaft front bearing and support the case on blocks. Brace the clutch gear on a firm surface and tap the shaft out of the bearing with a rubber mallet. If the shaft does not come out easily it will be necessary to use an arbor press.
12. Remove the rear output shaft front bearing, thrust washer, clutch gear and output shaft from the case.

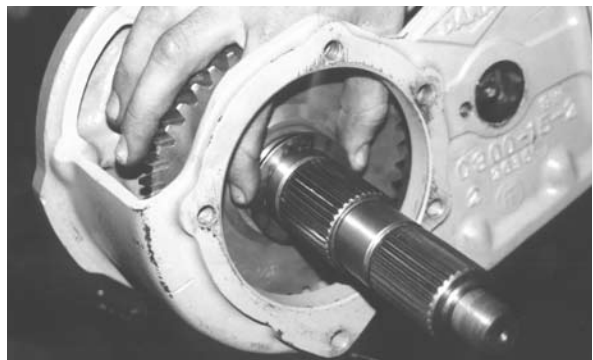
Reassembly

1. Install the input shaft rear pocket bearing in the new Tera Heavy Duty rear output shaft.
2. Place the rear output shaft clutch gear in the case and insert the shaft into the gear.



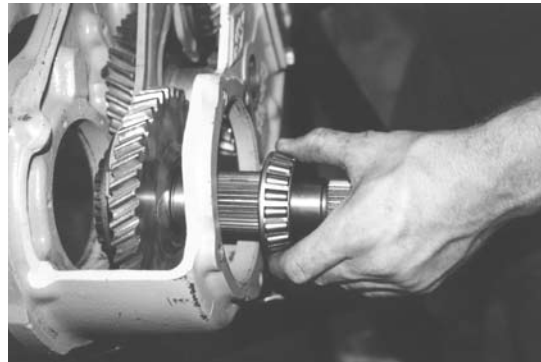
3. Install the thrust washer.

4. Install the front bearing onto the rear output



shaft.

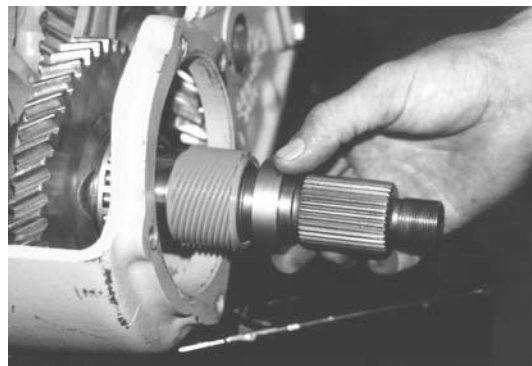
5. Insert the inner speedo gear spacer.



6. Insert the speedo gear and then the outer speedo



gear spacer.

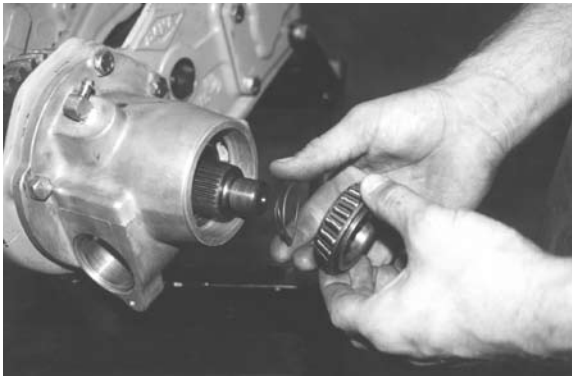


7. Install the input gear assembly.

8. Install the assembled support, shaft and gear in the case. Use two of the original bolts to align the housing on the case.



9. Install the end play shims on the rear output shaft.



10. Position the rear output shaft rear bearing in the bearing cup and install the drive shaft yoke.

11. Clamp a dial indicator to the bearing cap. Pry the shaft back and forth to check end play. If the end play is not within the specified range, remove or add shims between the rear speedometer drive gear spacer and the output shaft rear bearing. The preload should not exceed 10 in. lbs.

12. Remove the rear housing. Apply sealant to the rear housing mating surface and align it on the case with two mounting bolts. Tap the cap into position and install the bolts, torque them to 22-32 ft. lbs.

13. Install the oil seal.



14. Install the rear output shaft yoke and tighten the locknut to 90-100 ft. lbs.



15. Install the needle bearing and spacers in the intermediate gear.

16. Install the intermediate gear thrust washers in the case with the tangs aligned in the grooves. Petroleum jelly can be used to hold the washers in place. Then push the shaft into place.

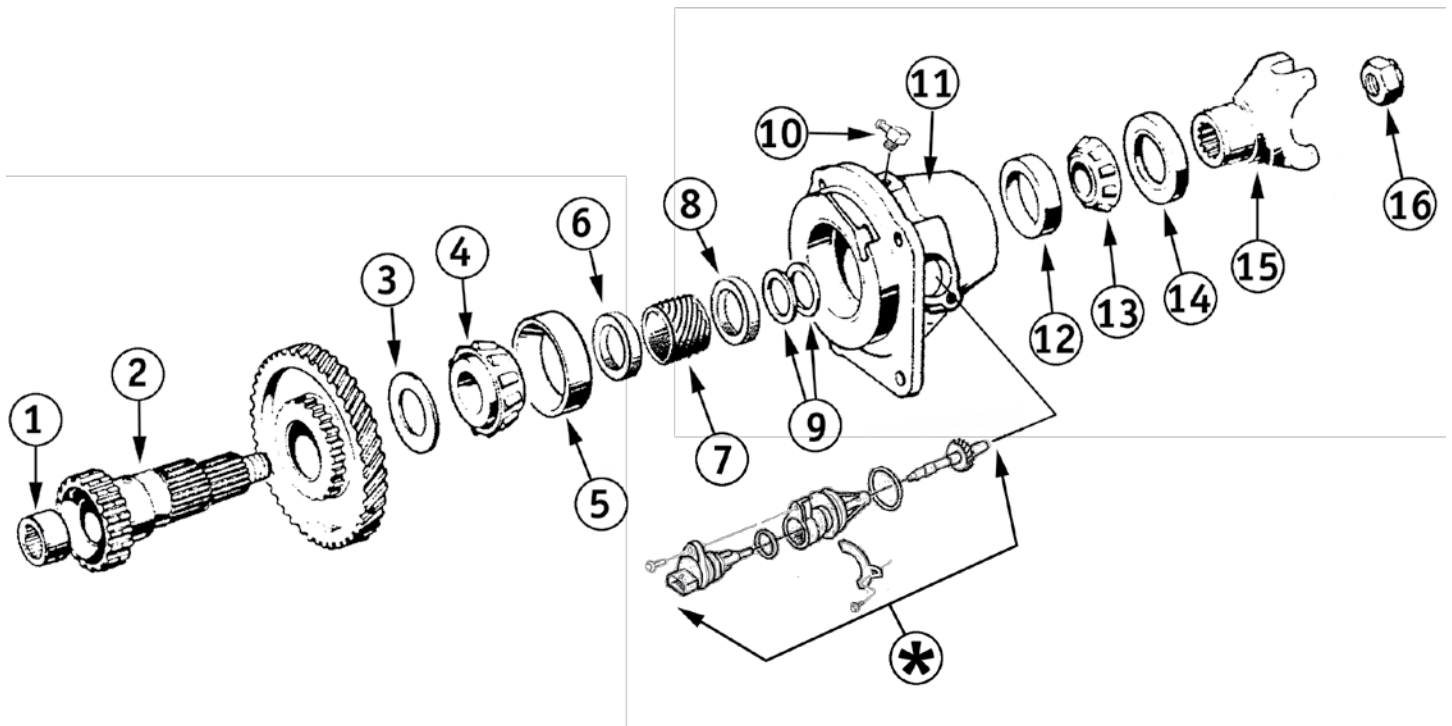
17. Install the shaft lock plate and bolt, tightening the bolt to 22-32 ft. lbs.

18. Install the bottom cover after applying sealant to the mating surface. Install the cover bolts and torque them to 22-32 ft. lbs.

19. Install front output yoke, shifter assembly and any other parts removed, then install the T-case in the vehicle.

20 Remember to fill the transfer case with oil.

Exploded view of the Tera Low Heavy-Duty 300 Output Shaft (HD300)



Items numbered are included in the TeraLow HD300 Heavy-Duty Output Shaft kit

- 1 pocket bearing (TL658)
- 2 Tera Heavy-Duty output shaft (TL657)
- 3 thrust washer (TL655)
- 4 large bearing (LM501349)
- 5 large race (LM501314)
- 6 front speedo gear spacer (TL778)
- 7 speedo gear 4338996 (SS110)
- 8 rear speedo gear spacer (TL777)
- 9 preload shims;
 - .003" (TL656-3),
 - .010" (TL656-10),
 - .024" (TL656-24)

- 10 brass elbow vent (TL26) pre-installed in the housing by Tera manufacturing
- 11 housing (TLHD300-5)
- 12 rear race (LM48510)
- 13 rear bearing (LM48548)
- 14 oil seal 472572 (SS104)
- 15 cv type yoke (SS103)
- 16 yoke nut 4167924 (SS112)
- * speedometer gear assembly

Note: this assembly is NOT included in the HD300 kit. It comes stock on 1981-86 models and must be replaced or re-used.

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.

COPYRIGHT

©Copyright 2008. All rights reserved, TeraFlex Inc. Reproduction of this catalog and/or any of its contents without written permission is strictly prohibited.

TeraFlex® is a registered trademark of TeraFlex Inc. All trade names and logos including but not limited to TeraFlex, FlexArms, RockGuard, Monster, and LCG are protected by law and duplication of trade names and/or logos are strictly prohibited.

TeraFlex Inc. reserves the right to update, discontinue, redesign, modify finish, part number or component build parts if deemed necessary without written notice. TeraFlex Inc., and any associated dealers are not responsible for misprints or typographical errors that may have inadvertently been made within this instruction sheet.

Jeep® and the Jeep® grill are registered trademarks of Chrysler LLC, and have no affiliation with TeraFlex Inc.

TeraFlex, Inc. 5241 South Commerce Dr. Murray, Utah 84107
Phone/801.288.2585 Fax/801.713.2313 www.teraflex.biz