

PARTS REPLACEMENT MANUAL FOR DODGE® TD615A & TD625A Torque-Arm® Speed Reducers With Tapered Roller Bearings

These instructions must be read thoroughly before installing or operating this product.

IMPORTANT

Using tools normally found in a maintenance department, a Dodge Torque-Arm Speed Reducer can be disassembled and reassembled by careful attention to the instructions given below.

Cleanliness is very important to prevent the introduction of dirt into the bearings and other parts of the reducer. A tank of clean solvent, an arbor press, and equipment for heating bearings and gears, should be available for shrinking these parts on shafts.

The oil seals are of the rubbing type and considerable care should be used during disassembly and reassembly to avoid damage to the surface which the seals rub on.

The keyseat in the input shaft as well as the six holes in the output hub should be covered with scotch tape or paper before disassembly or reassembly. Also be careful to remove any burrs or nicks on surfaces of input shaft and output hub before disassembly or reassembly.

ORDERING PARTS

When ordering parts for reducer specify reducer size and number, part name, part number, and quantity.

It is strongly recommended that gears be replaced only in pairs; that is, when a pinion or gear is replaced, the mating gear or pinion be replaced also.

If the large gear on the output hub must be replaced, it is recommended that an output hub assembly of a gear assembled on a hub be ordered to secure undamaged surfaces on the output hub where the oil seals rub.

However, if it is desired to use the old output hub, press the gear and bearing off and examine the rubbing surface under the oil seal carefully for possible scratching or other damage resulting from the pressing operation.

To prevent oil leakage at the shaft oil seals the smooth surface of the output hub must not be damaged.

If any parts must be pressed from a shaft or from the output hub, this should be done before ordering parts to make sure that none of the parts are damaged in removal.

Because old shaft oil seals and housing gasket may be damaged in disassembly it is advisable to order replacements for these parts.

If replacing a bearing, hub or shaft it is advisable to order a set of shims for adjustment of the affected bearings. If replacing the housing it is advisable to order a set of shims for the output hub assembly and the shaft assemblies because the adjustment of all the bearings may be affected.

WARNING: Because of the possible danger to person(s) or property from accidents which may result from the improper use of products, it is important that correct procedures be followed. Products must be used in accordance with the engineering information specified in the catalog. Proper installation, maintenance and operation procedures must be observed. The instructions in the instruction manuals must be followed. Inspections should be made as necessary to assure safe operation under prevailing conditions. Proper guards and other suitable safety devices or procedures, as may be desirable, or as may be specified in safety codes should be provided, and are neither provided by Baldor Electric Company, nor are the responsibility of Baldor Electric Company. This unit and its associated equipment must be installed, adjusted and maintained by qualified personnel who are familiar with the construction and operation of all equipment in the system and the potential hazards involved. When risks to persons or property may be involved, a holding device must be an integral part of the driven equipment beyond the speed reducer output shaft.

REMOVING REDUCER FROM SHAFT

Loosen screws in both output hub collars. Remove the collar next to end of shaft. This exposes three puller holes in output hub to permit use of wheel puller. In removing reducer from shaft be careful not to damage ends of hub.

DISASSEMBLY

1. Remove all bolts from housing. Open housing evenly to prevent damage to parts inside.
2. Lift shaft, gear, and bearing assemblies from housing.
3. Remove seals and bearing cups from housing.
4. Remove cover and seal carriers from left half of housing (as viewed in drawing).

REASSEMBLY

1. **Output Hub Assembly:** Heat gear from 325 to 350°F. to shrink onto hub. Heat bearing cones from 270 to 290°F. to shrink onto hub. Any injury to the hub surfaces where the oil seals rub will cause leakage, making it necessary to use a new hub.
2. **Countershaft Assembly:** Shaft and pinion are integral. Heat gear from 325 to 350°F. to shrink on shaft. Heat bearing cones from 270 to 290°F. to shrink on shaft.
3. **Input Shaft Assembly:** Shaft and pinion are integral. Heat bearing cones to 270 to 290°F. to shrink on shaft.
4. Place bearing cups in right half of housing (as viewed in drawing). Make sure the cups are properly seated in the housing. Place housing on blocks to allow clearance for protruding end of output hub.
5. Mesh output hub and countershaft assemblies together and place in housing half. Place input shaft assembly in position. Make sure rollers are properly seated in bearing cups.
6. Place a new housing gasket on the housing half. Place other half of housing (without cover and carriers assembled on housing) in position and draw halves together evenly to prevent damage to parts. The final wrench torque should be 900 pound inches. When a torque wrench is not available, this value can be approximated by using a piece of pipe on an ordinary wrench and pulling 90 pounds at 10" distance from center of pull to center of screw, or 45 pounds at 20" distance, etc.
7. Place the output hub seal carrier in position without shims and install two cap screws diametrically opposed. Torque each screw to 25 lb-in. Rotate the shaft to roll in the bearings and then torque each screw once to 50 lb-in. Do not retorque the screws. Turn the shaft again to roll in the bearings. With a feeler gauge, check the gap between carrier and housing clockwise from, but next to, each screw. To determine the shim thickness required add .013" to the average of the two feeler required shims. Retorque carrier screws to 360 lb-in.
8. Adjust the countershaft bearings using the same procedure as in Step 7. Add .013" to the average of the two feeler gauge readings to determine the shim thickness required.
9. Adjust the input shaft bearings using the same procedure as in Step 7 except add .016" to the average of the two feeler gauge readings to determine the shim thickness required.
10. Extreme care should be used in installing seals on input shaft and output hub to avoid damage to seals due to contact with sharp edges of the keyseat in the input shaft or the holes in the output hub. This danger of damage and consequent oil leakage can be decreased by covering the keyseat and holes with scotch tape or paper which can be removed subsequently. Chamfer or deburr housing bore if end of bore is sharp or rough. Fill cavity between lips of seal with grease. Seals should be pressed or tapped with a soft hammer evenly into place in the housing, applying force only on outside corner of seals. A slight oil leakage at the seals may be evident during initial running in, but will disappear unless the seals have been damaged.

BALDOR • DODGE®

Parts for TD615A & TD625A Speed Reducers

Reference	Name of Part	Number Required	Part Number
12	Backstop Assembly	1	246092
14	HOUSING ASSEMBLY ②	1	390476
①	③ Air Vent	1	904287
16	③ Housing Bolt	6	411466
18	③ Adapter - Housing Bolt	2	411468
20	③ Lockwasher	8	419013
22	③ Plain Washer	2	419096
24	③ Hex Nut	8	407091
26	③ Dowel Pin	2	420112
28	③ Housing Gasket	1	246219
①	③ Pipe Plug	2	430033
29	③ Magnetic Plug	1	430062
30	③ Countershaft Bearing Cover - Backstop Side	1	244224
31	Input Shaft Seal Carrier	1	246320
32	Input Shaft Bearing Shim Pack	1 Set ④	390474
	.002" Thick	⑤	427675
	.005" Thick	⑤	427676
	.010" Thick	⑤	427677
	.025" Thick	⑤	427678
33	Carrier and Cover Screw	18	411408
34	Lockwasher	18	419011
35	Backstop Cover	1	246221
36	Backstop Cover Gasket	1	246220
37	Cover Screw	6	411404
38	Lockwasher	6	419009
40	Input Shaft with Pinion 15 to 1 Ratio ⑥	1	246370
	25 to 1 Ratio ⑦	1	246371
42	Input Shaft Seal	1	242202
43	Input Shaft Bearing Cone - Input End	1	390445
45	Input Shaft Brg. Cone - Backstop End	1	390446
46	Input Shaft Bearing Cup	2	390687
	COUNTERSHAFT 15 to 1 Ratio ⑥	1	390477
	ASSEMBLY ② 25 to 1 Ratio ⑦	1	390479
50	③ Countershaft with Pinion	1	246306
51	③ First Reduction Gear 15 to 1 Ratio ⑥	1	246008
	25 to 1 Ratio ⑦	1	246005
54	③ Key	1	245218
55	Countershaft Bearing Cone	2	390447
56	Countershaft Bearing Cup	2	390377
57	Countershaft Brg. Cover - Input Side	1	246373
59	Countershaft Bearing Shim Pack	1 Set ④	390480
	.002" Thick	⑤	427679
	.005" Thick	⑤	427680
	.010" Thick	⑤	427681
	.025" Thick	⑤	427682
	OUTPUT HUB ASSEMBLY ②	1	390478
60	③ Output Hub	1	246306
61	③ Output Gear	1	246007
62	③ Key	1	245217
64	③ Snap Ring	1	421033
66	Output Hub Collar with Screws	2	246309
67	Collar Screw	4	400154
68	Output Hub Seal	2	246302
69	Output Hub Seal Carrier	1	246314
71	Output Hub Bearing Cone	2	390448
72	Output Hub Bearing Cup	2	390449
73	Output Hub Bearing Shim Pack	1 Set ④	390481
	.002" Thick	⑤	427683
	.005" Thick	⑤	427684
	.010" Thick	⑤	427685
	.025" Thick	⑤	427686

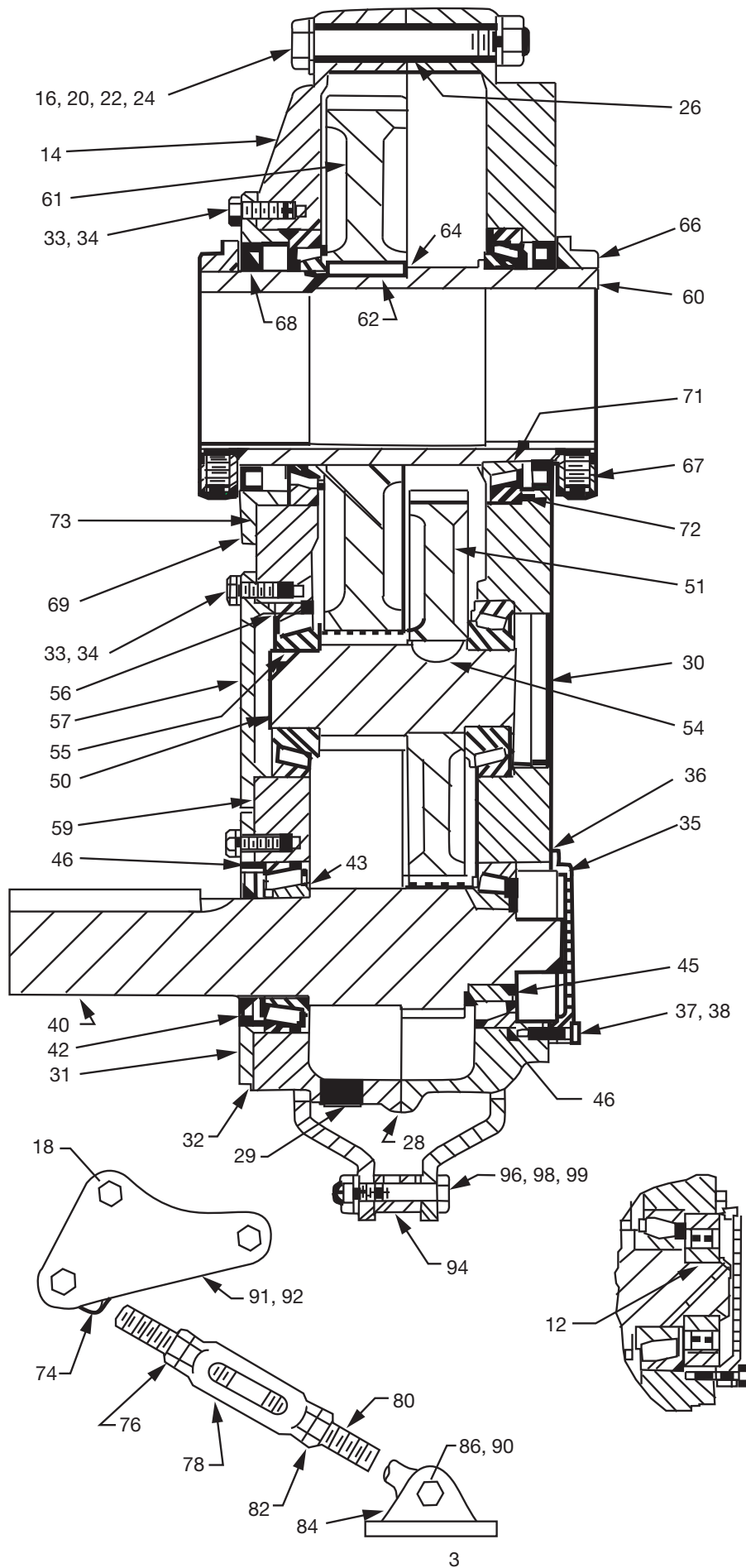
Parts for TD615A & TD625A Speed Reducers

Reference	Name of Part	Number Required	Part Number
	TORQUE ARM ASSEMBLY ②	1	245097
74	③ Rod End	1	245245
76	③ Hex Nut	1	407097
78	③ Turnbuckle	1	245246
80	③ Extension	1	245247
82	③ L. H. Hex Nut	1	407246
84	③ Fulcrum	1	246249
86	③ Fulcrum Bolt	1	411494
90	③ Hex Nut	1	407093
91	L. H. Adapter Plate	1	246241
92	R. H. Adapter Plate	1	246242
94	Adapter Bushing	1	245243
96	Adapter Bolt	1	411460
98	Lockwasher	1	419013
99	Hex Nut	1	407091

NOTES:

- ① Not shown on drawing
- ② Includes parts listed immediately below marked. Housing Assembly also includes two piece housing.
- ③ The parts marked make up the assemblies under which they are listed. Housing Assembly also includes two piece housing.
- ④ One set consists of one each of the shims listed immediately below.
- ⑤ If replacing a bearing, hub or shaft it is advisable to order a set of shims for adjustment of the affected bearings. If replacing the housing it is advisable to order a set of shims for the output hub assembly and the shaft assemblies because the adjustment of all the bearings may be affected.
- ⑥ Approximate ratio of TD615A reducer
- ⑦ Approximate ratio of TD625A reducer

Parts for TD615A & TD625A Speed Reducers





P.O. Box 2400, Fort Smith, AR 72902-2400 U.S.A., Ph: (1) 479.646.4711, Fax (1) 479.648.5792, International Fax (1) 479.648.5895

Dodge Product Support

6040 Ponders Court, Greenville, SC 29615-4617 U.S.A., Ph: (1) 864.297.4800, Fax: (1) 864.281.2433

www.baldor.com

© Baldor Electric Company
MN1656 (Replaces 499590)



All Rights Reserved. Printed in USA.
10/11 Printshop 500