Installation and Parts Replacement Manual
For

Dodge® TORQUE-ARM II™
Speed Reducers
Ratios 5, 9, 15, 25, and 40:1

TA0107L	TA6307H
TA1107H	TA7315H
TA2115H	TA8407H
TA3203H	TA9415H
TA4207H	TA10507H
TA5215H	TA12608H

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 Rockwell Automation, nor are the responsibility of Rockwell Automation. 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.

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CONTENTS

TORQUE-ARM II REDUCER INSTALLATION……..…... 3

TORQUE-ARM II BUSHING INSTALLATION……...…… 4

LUBRICATION……. 6

GUIDELINES FOR TORQUE-ARM II REDUCER
LONG-TERM STORAGE……... 8

OIL VISCOSITY EQUIVALENCY CHART…….. 9

COOLING FAN INSTALLATION ……. 10

BACKSTOPS……...…… 12

MOTOR MOUNTS……...…… 13

TORQUE-ARM II BELT GUARD INSTALLATION…… 17

SCREW CONVEYOR ADAPTER ASSEMBLY……...…….. 19

DRIVESHAFT REMOVAL ……..……. 19

REPLACEMENT OF PARTS……...……. 20

REPLACEMENT PART AND KIT NUMBERS……...…… 22

TORQUE-ARM II REDUCER SECTION VIEWS…… 25

DETAILED PARTS LIST…… 27

ACTUAL RATIOS…… 32

INSTALLATION

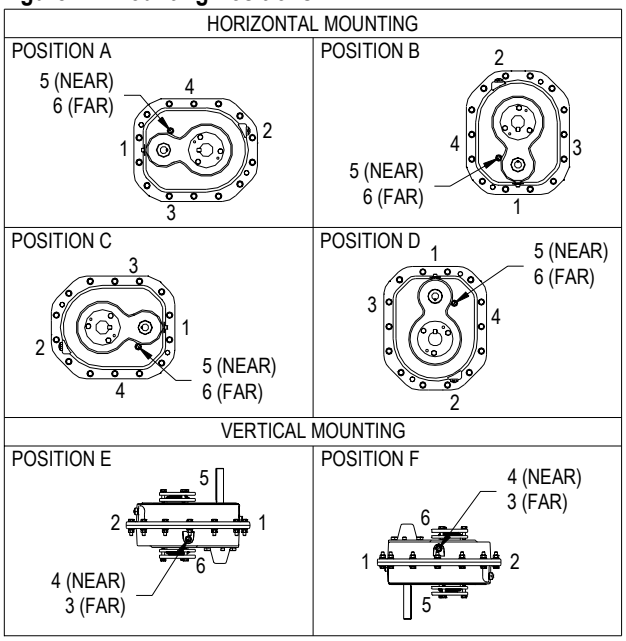
1. Use lifting bracket to lift reducer.

2. Determine the running positions of the reducer. (See Fig. 1) Note that the reducer is supplied with 6 plugs; 4 around the sides for horizontal installations and 1 on each face for vertical installations. These plugs must be arranged relative to the running positions as follows:

Horizontal Installations - Install the magnetic drain plug in the hole closest to the bottom of the reducer. Throw away the tape that covers the filter/ventilation plug in shipment and install plug in topmost hole. Of the 2 remaining plugs on the sides of the reducer, the lowest one is the minimum oil level plug.

Vertical Installations - Install the filter/ventilation plug in the hole provided in the upper face of the reducer housing as installed. If space is restricted on the upper face, install the vent in the highest hole on the side of the reducer per Figure 1. Install a plug in the hole in the bottom face of the reducer. Do not use this hole for the magnetic drain plug. Of the remaining holes on the sides of the reducer, use the plug in the upper housing half for the minimum oil level plug.

Figure 1 – Mounting Positions



Output Speeds Above 15 RPM						
Mounting Position	Vent and Plug Locations					
	1	2	3	4	5	6
Position A	Level	Plug	Drain	Vent	Plug	Plug
Position B	Drain	Vent	Level	Plug	Plug	Plug
Position C	Plug	Level	Vent	Drain	Plug	Plug
Position D	Vent	Drain	Level	Plug	Plug	Plug
Position E	Level	Plug	Plug	Drain	Vent	Plug
Position F	Plug	Drain	Level	Plug	Plug	Vent

Output Speeds 15 RPM and Below +						
Mounting Position	Vent and Plug Locations					
	1	2	3	4	5	6
Position A	Plug	Level	Drain	Vent	Plug	Plug
Position B	Drain	Vent	Plug	Level	Plug	Plug
Position C	Level	Plug	Vent	Drain	Plug	Plug
Position D	Vent	Drain	Level	Plug	Plug	Plug
Position E	Level	Plug	Plug	Drain	Vent	Plug
Position F	Plug	Drain	Level	Plug	Plug	Vent

+ Below 15 RPM output speed, oil level must be adjusted to reach the highest oil level plug. If reducer position is to vary from those shown in Figure 1, either more or less oil may be required. Consult Dodge.

The running position of the reducer in a horizontal application is not limited to the four positions shown in Fig. 1. However, if running position is over 20° in position "B" & "D" or 5° in position "A" & "C", either way from sketches, the oil level plug cannot be used safely to check the oil level, unless during the checking, the torque arm is disconnected and the reducer is swung to within 20° for position "A" & "C" or 5° for position "B" & "D" of the positions shown in Fig. 1. Because of the many possible positions of the reducer, it may be necessary or desirable to make special adaptations using the lubrication filling holes furnished along with other standard pipe fittings, stand pipes and oil level gauges as required.

3. Mount reducer on driven shaft as follows:

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

For Taper Bushed Reducer: Mount reducer on driven shaft per instruction in Torque-Arm II Bushing Installation section of this manual.

4. Install sheave on input shaft as close to reducer as practical. (See Fig. 2)

5. If not using a Dodge Torque-Arm II motor mount, install motor and V-belt drive so belt will approximately be at right angles to the centerline between driven and input shaft. (See Fig. 3) This will permit tightening the V-belt with the torque arm.

6. Install torque arm and adapter plates reusing the reducer bolts. The adapter plates will fit in any position around the input end reducer.

7. Install torque arm fulcrum on a flat and rigid support so that the torque arm will be approximately at right angles to the centerline through the driven shaft and the torque arm anchor screw. (See Fig. 4) Make sure that there is sufficient take-up in the turnbuckle for belt tension adjustment when using V-belt drive.

CAUTION: Unit is shipped without oil. Add proper amount of recommended lubricant before operating. Failure to observe this precaution could result in damage to or destruction of the equipment

8. Fill gear reducer with recommended lubricant. See Table 2.

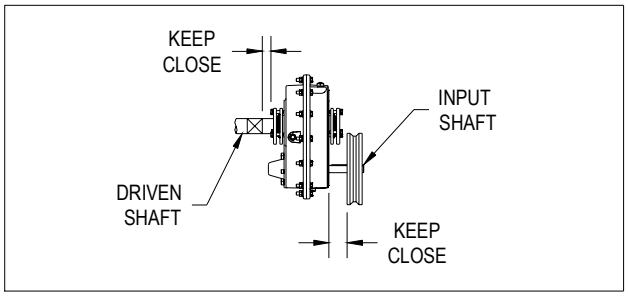


Figure 2 – Reducer and Sheave Installation

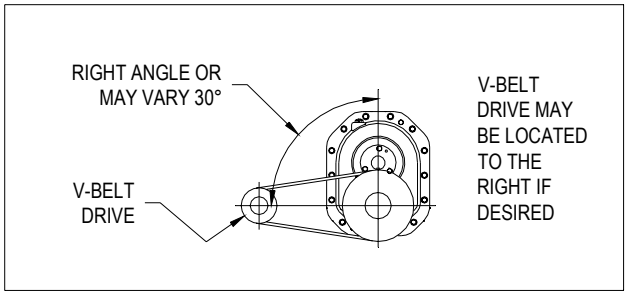


Figure 3 – Angle of V-Drive

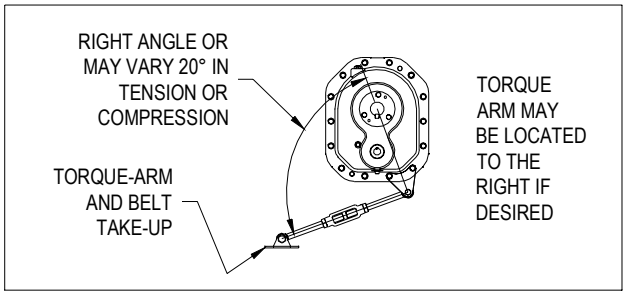


Figure 4 – Angle of Torque-Arm

TORQUE-ARM II BUSHING INSTALLATION

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

The Dodge Torque-Arm II Reducer is designed to fit both standard and short length driven shafts. The Standard Taper Bushings series is designed where shaft length is not a concern. The Short Shaft Bushing series is to be used where the driven shaft does not extend through the reducer.

Standard Taper Bushings:

1. One bushing assembly is required to mount the reducer on the driven shaft. An assembly consists of two tapered bushings, bushing screws and washers, two bushing backup plates and retaining rings, and necessary shaft key or keys. The driven shaft must extend through the full length of the reducer. If the driven shaft does not extend through the reducer do not use the standard tapered bushings; instead use the short shaft bushings as described in the Short Shaft Bushings section that follows. The minimum shaft length, as measured from the end of the shaft to the outer edge of the bushing flange (see Figure 5), is given in Table 1.

2. Install one bushing backup plate on the end of the hub and secure with the supplied retaining ring. Repeat procedure for other side.

3. Place one bushing, flange end first, onto the driven shaft and position per dimension "A", as shown in Table 1. This will allow the bolts to be threaded into the bushing for future bushing and reducer removal.

4. Insert the output key in the shaft and bushing. For easy of installation, rotate the driven shaft so that the shaft keyseat is at the top position.

5. Mount the reducer on the driven shaft and align the shaft key with the reducer hub keyway. Maintain the recommended minimum distance "A" from the shaft bearing.

6. Insert the screws, with washers installed, in the unthreaded holes in the bushing flange and align with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing screws. Tighten the screws lightly. If the reducer must be positioned closer than dimension "A", place the screws with washers installed, in the unthreaded holes in the bushing before positioning reducer making sure to maintain at least 1/8" between the screw heads and the bearing.

7. Place the second tapered bushing in position on the shaft and align the bushing keyway with the shaft key. Align the unthreaded holes in the bushing with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing holes. Insert bushing screws, with washers installed in the unthreaded holes in the bushing. Tighten screws lightly.

8. Alternately and evenly tighten the screws in the bushing nearest the equipment to the recommended torque given in Table 1. Repeat procedure on outer bushing.

Short Shaft Bushings:

1. One bushing assembly is required to mount the reducer on the driven shaft. An assembly consists of one long tapered bushing, one short tapered bushing, one tapered bushing wedge, bushing screws and washers, two bushing backup

plates and retaining rings, and necessary shaft key or keys. The driven shaft does not need to extend through the reducer for the short shaft bushing to operate properly. The minimum shaft length, as measured from the end of the shaft to the outer edge of the bushing flange (see Figure 5), is given in Table 1.

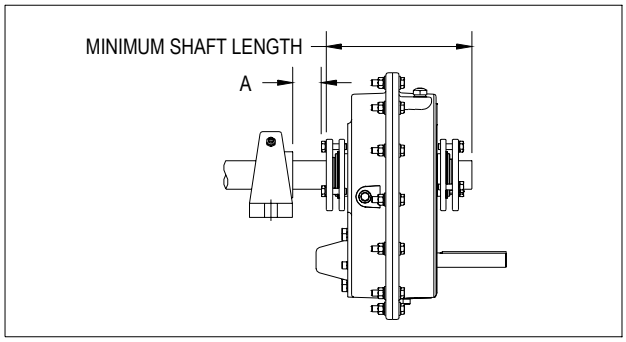


Figure 5 – Minimum Recommended Dimensions

Table 1 – Minimum Mounting Dimensions and Bolt Torques

Minimum Required Shaft Length		
Reducer Size	Standard Taper Bushing	Short Shaft Bushing
TA0107L	6.83	4.32
TA1107H	6.95	4.43
TA2115H	7.80	4.80
TA3203H	8.55	5.46
TA4207H	8.94	5.66
TA5215H	10.33	6.35
TA6307H	10.82	6.72
TA7315H	11.87	7.62
TA8407H	12.82	8.10
TA9415H	13.74	8.56
TA10507H	15.46	9.67
TA12608H	18.32	11.60

Bushing Screw Information and Minimum Clearance for Removal			
Reducer Size	Fastener Size	Torque in Ft.-Lbs.	A
TA0107L	5/16-18	20 – 17	1.08
TA1107H	5/16-18	20 – 17	1.20
TA2115H	3/8-16	20 – 17	1.20
TA3203H	3/8-16	20 – 17	1.20
TA4207H	3/8-16	26 – 23	1.48
TA5215H	1/2-13	77 – 67	1.81
TA6307H	1/2-13	77 – 67	1.81
TA7315H	1/2-13	77 – 67	2.06
TA8407H	1/2-13	77 – 67	2.06
TA9415H	5/8-11	86 – 75	2.39
TA10507H	5/8-11	86 – 75	2.39
TA12608H	5/8-11	86 – 75	2.39

2. The long bushing is designed to be installed from the side of the reducer opposite the driven equipment as shown in Figure 6. The long bushing when properly installed is designed to capture the end of the customer shaft that does not extend through the reducer. Normally the reducer would be mounted such that the input shaft extends from the side of the reducer opposite the driven equipment however the reducer design allows installation of the reducer to be mounted in the opposite direction.

3. Install the tapered bushing wedge into the hollow bore of the reducer from the same side as the long bushing will be installed. When installing the tapered bushing wedge into the reducer hub, install the flange end first so that the thin taper is pointing outwards towards the long bushing as shown in Figure 6. The wedge is properly installed when it snaps into place in the reducer hub.

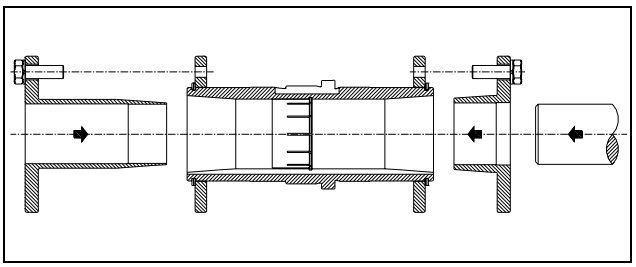


Figure 6 – Short Shaft Bushing and Output Hub Assembly

4. Align the tapered bushing wedge keyway with the reducer hub keyway. The keyway in the wedge is slightly wider than the keyway in the reducer hub allowing for easier installation.

5. Install one bushing backup plate on the end of the hub and secure with the supplied retaining ring. Repeat procedure for other side.

6. Install the short bushing; flange first, on the driven shaft and position per dimension “A”, as shown in Table 1. This will allow the bolts to be threaded into the bushing for future bushing and reducer removal.

7. Insert the output key in the shaft and bushing. For easy of installation, rotate the driven shaft so that the shaft keyseat is at the top position.

8. Mount the reducer on the driven shaft and align the shaft key with the reducer hub keyway. Maintain the recommended minimum distance “A” from the shaft bearing.

9. Insert the screws, with washers installed, in the unthreaded holes in the bushing flange and align with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing screws. Tighten the screws lightly. If the reducer must be positioned closer than dimension “A”, place the screws with washers installed, in the unthreaded holes in the bushing before positioning reducer making sure to maintain at least 1/8” between the screw heads and the bearing.

10. Place the long bushing in position on the shaft and align the bushing keyway with the shaft key. Use care to locate the long bushing with the tapered bushing wedge installed earlier. Align the unthreaded holes in the bushing with the threaded holes in the bushing backup plate. If necessary, rotate the bushing backup plate to align with the bushing holes. Insert bushing screws, with washers installed in the unthreaded holes in the bushing. Tighten screws lightly.

11. Alternately and evenly tighten the screws in the bushing nearest the equipment to the recommended torque given in Table 1. Repeat procedure on outer bushing.

Bushing Removal for Standard Taper or Short Shaft Bushings:

1. Remove bushing screws.

2. Place the screws in the threaded holes provided in the bushing flanges. Tighten the screws alternately and evenly until the bushings are free on the shaft. For ease of tightening screws make sure screw threads and threaded holes in the bushing flanges are clean. If the reducer was positioned closer than the recommended minimum distance "A" as shown in Table 1, loosen the inboard bushing screws until they are clear of the bushing flange by 1/8". Locate two (2) wedges at 180 degrees between the bushing flange and the bushing backup plate. Drive the wedges alternately and evenly until the bushing is free on the shaft.

3. Remove the outside bushing, the reducer, and then the inboard bushing.

LUBRICATION

IMPORTANT: Because reducer is shipped without oil, it is necessary to add the proper amount of oil before operating reducer. Use a high-grade petroleum base rust and oxidation inhibited (R&O) gear oil - see tables. Follow instructions on reducer warning tags, and in the installation manual.

Under average industrial operating conditions, the lubricant should be changed every 2500 hours of operation or every 6 months, whichever occurs first. Drain reducer and flush with kerosene, clean magnetic drain plug and refill to proper level with new lubricant.

CAUTION: Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly. Failure to observe this precaution could result in bodily injury.

Under extreme operating conditions, such as rapid rise and fall of temperature, dust, dirt, chemical particles, chemical fumes, or oil sump temperatures above 200°F, the oil should be changed every 1 to 3 months, depending on severity of conditions.

Table 2 – Oil Volumes

Reducer Size		Approximate Volume of Oil to Fill Reducer to Oil Level Plug ● ⏚											
		† Position A		† Position B		† Position C		† Position D		† Position E		† Position F	
		▲ Qt	L	▲ Qt	L	▲ Qt	L	▲ Qt	L	▲ Qt	L	▲ Qt	L
TA0107L	Single	0.7	0.6	0.5	0.5	0.7	0.6	1.4	1.3	1.3	1.2	1.5	1.4
	Double	0.7	0.6	0.5	0.5	0.6	0.6	1.3	1.3	1.2	1.2	1.4	1.3
TA1107H	Single	1.3	1.3	0.7	0.7	0.7	0.6	1.7	1.6	1.5	1.4	1.9	1.8
	Double	1.3	1.3	0.7	0.7	0.6	0.6	1.7	1.6	1.5	1.4	1.9	1.8
TA2115H	Single	2.1	2.0	1.2	1.2	1.1	1.0	2.7	2.5	2.3	2.2	3.1	2.8
	Double	2.1	2.0	1.1	1.1	1.0	1.0	2.6	2.5	2.4	2.3	3.0	2.9
TA3203H	Single	2.8	2.7	1.6	1.6	1.8	1.7	4.1	3.9	3.3	3.1	4.4	4.2
	Double	2.8	2.7	1.5	1.4	1.7	1.6	4.0	3.8	3.4	3.3	4.2	4.0
TA4207H	Single	4.4	4.2	2.6	2.5	2.9	2.8	7.4	7.0	6.3	6.0	7.8	7.3
	Double	4.4	4.2	2.5	2.4	2.8	2.6	7.3	6.9	6.4	6.0	7.5	7.1
TA5215H	Single	7.4	7.0	4.9	4.7	5.8	5.5	13.2	12.5	11.6	11.0	13.1	12.4
	Double	7.4	7.0	4.7	4.4	5.5	5.2	12.9	12.2	11.4	10.8	12.6	11.9
TA6307H	Single	8.8	8.4	5.8	5.5	6.6	6.2	16.1	15.3	13.2	12.5	16.1	15.3
	Double	8.8	8.4	5.5	5.2	6.2	5.9	15.8	15.0	13.9	13.1	15.3	14.5
TA7315H	Single	8.4	8.0	11.8	11.1	13.9	13.2	22.5	21.3	22.1	20.9	25.1	23.7
	Double	8.4	8.0	10.8	10.3	13.2	12.5	22.0	20.9	22.4	21.2	23.1	21.8
TA8407H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	7.7	7.3	11.7	11.1	13.7	12.9	25.1	23.8	24.0	22.7	25.8	24.4
TA9415H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	17.0	16.1	16.8	15.9	18.1	17.1	33.2	31.4	33.2	31.4	38.6	36.5
TA10507H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	38.0	36.0	27.6	26.1	25.8	24.4	53.5	50.6	53.8	50.9	56.1	53.0
TA12608H	Single	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Double	53.0	50.2	41.5	39.3	37.1	35.1	70.7	66.9	72.2	68.3	80.4	76.1

● Oil quantity is approximate. Service with lubricant until oil runs out of oil level hole.
† Refer to Figure 1 for mounting positions.
▲ US measure: 1 quart = 32 fluid ounces = .94646 liters.
⏚ Below 15 RPM output speed, oil level must be adjusted to reach the highest oil level plug. If reducer position is to vary from those shown in Figure 1, either more or less oil may be required. Consult Dodge.

Table 3 – Oil Recommendations

ISO Grades For Ambient Temperatures of 50˚F to 125˚F												
Output RPM	Torque-Arm II Reducer Size											
	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H	TA6307H	TA7315H	TA8407H	TA9415H	TA10507H	TA12608H
301 – 400	320	320	320	220	220	220	220	220	220	220	220	220
201 – 300	320	320	320	220	220	220	220	220	220	220	220	220
151 – 200	320	320	320	220	220	220	220	220	220	220	220	220
126 – 150	320	320	320	220	220	220	220	220	220	220	220	220
101 – 125	320	320	320	320	220	220	220	220	220	220	220	220
81 – 100	320	320	320	320	320	220	220	220	220	220	220	220
41 – 80	320	320	320	320	320	220	220	220	220	220	220	220
11 – 40	320	320	320	320	320	320	320	320	320	320	220	220
1 – 10	320	320	320	320	320	320	320	320	320	320	320	320

ISO Grades For Ambient Temperatures of 15˚F to 60˚F												
Output RPM	Torque-Arm II Reducer Size											
	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H	TA6307H	TA7315H	TA8407H	TA9415H	TA10507H	TA12608H
301 – 400	220	220	220	150	150	150	150	150	150	150	150	150
201 – 300	220	220	220	150	150	150	150	150	150	150	150	150
151 – 200	220	220	220	150	150	150	150	150	150	150	150	150
126 – 150	220	220	220	150	150	150	150	150	150	150	150	150
101 – 125	220	220	220	220	150	150	150	150	150	150	150	150
81 – 100	220	220	220	220	220	150	150	150	150	150	150	150
41 – 80	220	220	220	220	220	150	150	150	150	150	150	150
11 – 40	220	220	220	220	220	220	220	220	220	220	150	150
1 – 10	220	220	220	220	220	220	220	220	220	220	220	220

Notes:

1. Assumes auxiliary cooling where recommended in the catalog.

2. Pour point of lubricant selected should be at least 10°F lower than expected minimum ambient starting temperature.

3. Extreme pressure (EP) lubricants are not necessary for average operating conditions. When properly selected for specific applications, TORQUE-ARM II backstops are suitable for use with EP lubricants.

4. Special lubricants may be required for food and drug industry applications where contact with the product being manufactured may occur. Consult a lubrication manufacturer's representative for his recommendations.

5. For reducers operating in ambient temperatures between -22°F (-30°C) and 20°F (–6.6°C) use a synthetic hydrocarbon lubricant, 100 ISO grade or AGMA 3 grade (for example, Mobil SHC627). Above 125°F (51°C), consult DODGE Gear Application Engineering (864) 288-9050 for lubrication recommendation.

6. Mobil SHC630 Series oil is recommended for high ambient temperatures.

GUIDELINES FOR TORQUE-ARM II REDUCER LONG-TERM STORAGE

During periods of long storage, or when waiting for delivery or installation of other equipment, special care should be taken to protect a gear reducer to have it ready to be in the best condition when placed into service.

By taking special precautions, problems such as seal leakage and reducer failure due to lack of lubrication, improper lubrication quantity, or contamination can be avoided. The following precautions will protect gear reducers during periods of extended storage:

Preparation:

1. Drain oil from the unit. Add a vapor phase corrosion inhibiting oil (VCI-105 oil by Daubert Chemical Co.) in accordance with Table 4.

2. Seal the unit airtight. Replace the vent plug with a standard pipe plug and wire the vent to the unit.

3. Cover all unpainted exterior parts with a waxy rust preventative compound that will keep oxygen away from the bare metal. (Non-Rust X-110 by Daubert Chemical Co. or equivalent)

4. The instruction manuals and lubrication tags are paper and must be kept dry. Either remove these documents and store them inside, or cover the unit with a durable waterproof cover which can keep moisture away.

5. Protect reducer from dust, moisture, and other contaminants by storing the unit in a dry area.

6. In damp environments, the reducer should be packed inside a moisture-proof container or an envelope of polyethylene containing a desiccant material. If the reducer is to be stored outdoors, cover the entire exterior with a rust preventative.

When placing the reducer into service:

1. Fill the unit to the proper oil level using a recommended lubricant. The VCI oil will not affect the new lubricant.

2. Clean the shaft extensions with petroleum solvents.

3. Assemble the vent plug into the proper hole.

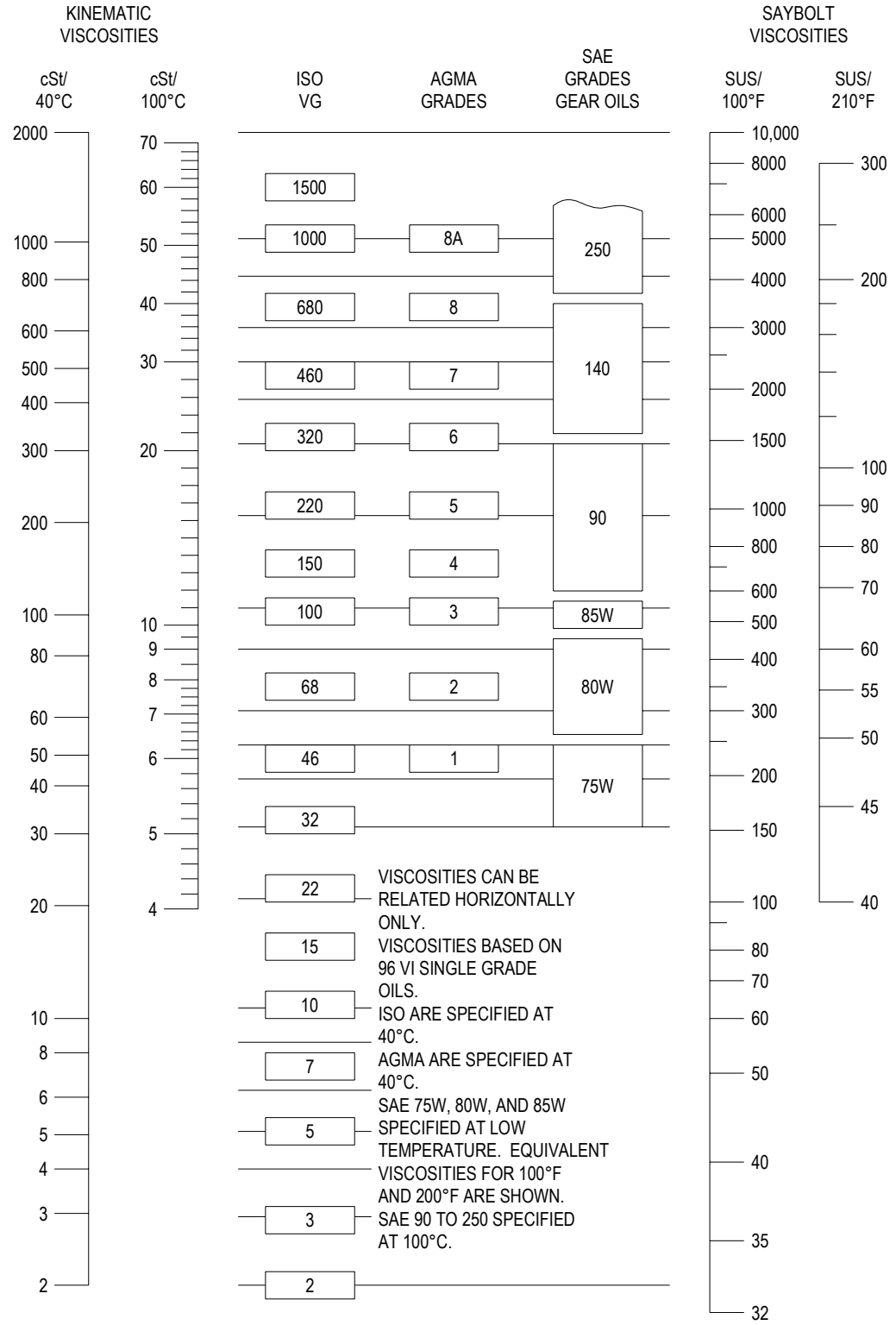
Follow the installation instructions provided in this manual.

Table 4 – Quantities of VCI #105 Oil

Reducer Size	Quantity (Ounces / Milliliter)
TA0107L	1 / 30
TA1107H	1 / 30
TA2115H	1 / 30
TA3203H	1 / 30
TA4207H	1 / 30
TA5215H	2 / 59
TA6307H	2 / 59
TA7315H	3 / 89
TA8407H	3 / 89
TA9415H	4 / 118
TA10507H	6 / 177
TA12608H	8 / 237

VCI #105 and #10 are interchangeable.
VCI #105 is more readily available.

OIL VISCOSITY EQUIVALENCY CHART



COOLING FAN INSTALLATION

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

Unpack all components and inspect for shipping damage. Do not use any component that has been damaged or modified. Make sure all components are clean and free of any foreign material prior to assembly. Cooling fan assembly is designed to fit onto the input shaft before placement of sheeves or belt guard assembly.

Installation for TA4207CF and TA5215CF:

1. Referring to Figure 2, install tapered bushing (9) into bore of fan blade assembly (2) and loosely install the three set screws provided with fan. Snug set screws but do not tighten at this time.

2. Slide fan assembly onto input shaft and install input shaft key. Note: Key is supplied with the TAII reducer. Locate fan blade edge distance "A" (Figure 1) from end of shaft per Table 1. Make sure fan assembly rotates without interference when input shaft is rotated.

3. Alternately tighten the set screws until fan assembly is securely installed on the input shaft.

4. Recheck fan assembly for proper location and clearance. Loosen set screws and repeat steps 2 and 3 above if not properly located.

Installation for TA6307CF through TA12608CF:

1. Referring to Figure 2, install fan guard back plate assembly (1) using the four bolts (4) provided. Note that the screen is mounted towards the reducer. Tighten to recommended torque in Table 1.

CAUTION: Fan guard screen has sharp edges. Use caution when installing to avoid lacerations.

2. Slide fan blade assembly (2) onto input shaft and install key and set screws (5). Note: Key is supplied with the TAII reducer. Position fan blade edge distance "A" (Figure 1) from end of shaft per Table 1. Make sure fan assembly rotates without interference when input shaft is rotated. Tighten the two fan blade set screws (5) securely.

3. Install fan guard cover (3) with four bolts (6), lockwashers (7), and hex nuts (8). Tighten securely.

4. Verify fan blade rotates freely and does not interfere with fan guard back plate (1) or fan guard cover (3). Adjust fan blade if necessary.

Table 1 - Dimensions and Bolt Torque

Reducer Size	Dim."A" mm	Torque (Ft.-Lbs.)
TA4207H	3-3/4	-----
TA5215H	4-5/8	-----
TA6307H	4-1/4	33 - 30
TA7315H	4-3/8	33 - 30
TA8407H	5-1/16	33 - 30
TA9415H	6-1/4	33 - 30
TA10507H	6-7/16	33 - 30
TA12608H	6-7/16	33 - 30

Figure 1 - Fan Blade Placement

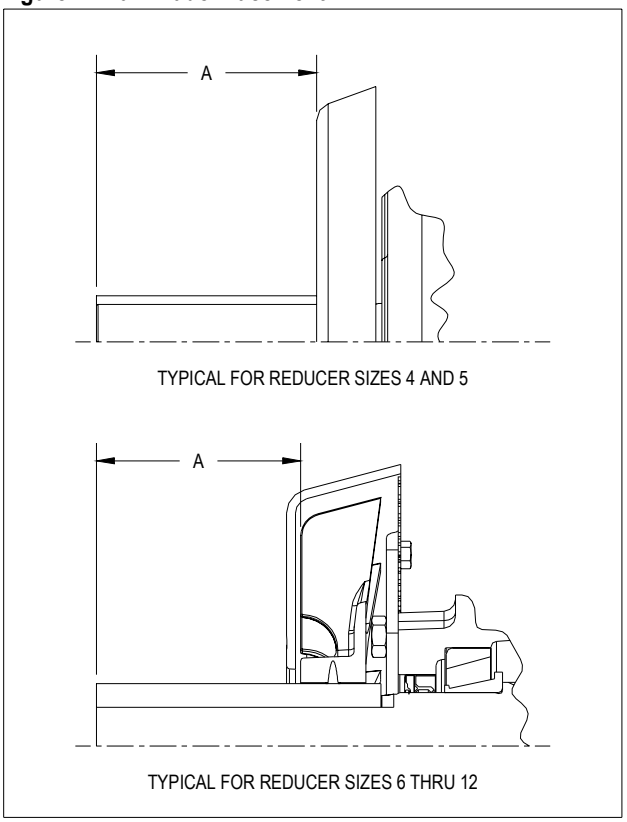
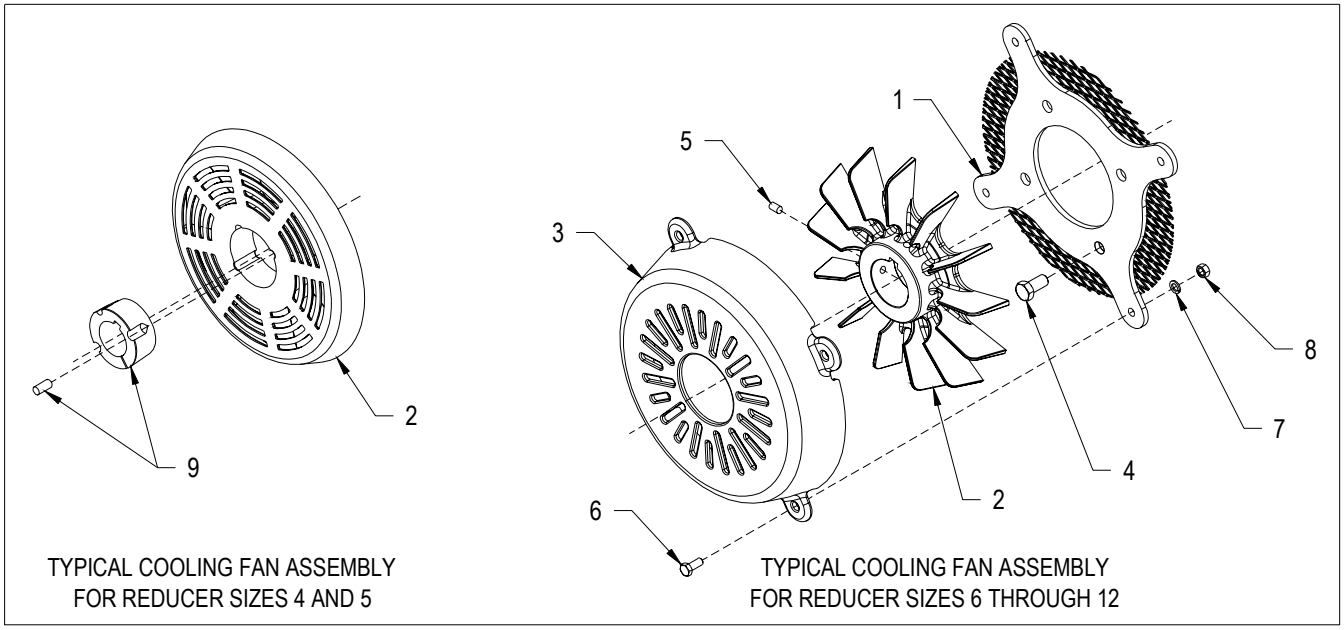


Figure 2 – Parts Identification



TYPICAL COOLING FAN ASSEMBLY FOR REDUCER SIZES 4 AND 5

TYPICAL COOLING FAN ASSEMBLY FOR REDUCER SIZES 6 THROUGH 12

Table 2 – Cooling Fan Part Numbers

Description	Ref. Number	Quantity	TA4207	TA5215	TA6307	TA7315	TA8407	TA9415	TA10507	TA12608
Cooling Fan Assembly	-----	1	904106	905106	906106	907106	907106	909106	910106	912106
Fan Guard Plate Assy.	1	1	-----	-----	906519	906519	906519	909519	909519	912519
Fan Blade	2	1	904517	905517	906517	907517	907517	909517	910517	910517
Fan Guard Cover	3	1	-----	-----	906521	906521	906521	909521	909521	909521
Mounting Bolt	4	4	-----	-----	411294	411294	411294	411294	411294	411294
Fan Set Screw	5	2	-----	-----	400086	400086	400086	400086	400086	400086
Cover Bolt	6	4	-----	-----	411390	411390	411390	411390	411390	411390
Lockwasher	7	4	-----	-----	419010	419010	419010	419010	419010	419010
Hex Nut	8	4	-----	-----	407085	407085	407085	407085	407085	407085
Taper Bushing Assy.	9	1	117162	117092	-----	-----	-----	-----	-----	-----

Assembly includes parts listed below marked

Set screws are included with taper bushing assembly.

BACKSTOPS

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

1. Remove backstop shaft cover and gasket, shown in Figure 7. These parts will not be reused. This cover is directly opposite the extended end of the input shaft.

2. Clean the face of the gearbox to remove any gasket material or contamination from the cover mounting surface. It is important that contamination not get into the gearbox or the backstop during the backstop installation/servicing process.

3. Face reducer looking at the side from which the cover was removed. Determine carefully the desired direction of free rotation. It is important that the direction be correctly determined because to reverse the direction after the backstop is installed, it is necessary to remove the backstop, turn it end-for-end and then reinstall it.

4. Match the arrow on the backstop inner race to the direction of free rotation for the desired shaft. Note that reversing the backstop end-for end changes the direction of the arrow. The shaft will rotate in the same direction as the arrow on the backstop.

5. If the backstop kit has a spacer ring included, install it onto the shaft first, adjacent to the bearing inner ring.

6. Install the backstop inner race and sprag cage assembly onto the shaft. DO NOT remove the cage from the inner race or the shipping strap from the sprag set at this time. Insert the key into the inner race and mating shaft keyway. These parts should slip onto the shaft easily, a light coating of oil may assist in assembly. Do not use a hammer to force the installation, damage can occur to the shaft and/or the backstop. Slide the race against the spacer or the shaft shoulder and install the retaining ring into the groove in the shaft. Only use the supplied key, as it is specifically designed for each backstop.

7. Apply a thin coating of RTV silicone onto the gearbox mating surface for the outer race (same as the cover area). It is important to apply the sealant around the fastener holes to prevent leakage. Do not allow excessive amounts of silicone to enter the gearbox or to be applied to other parts.

8. Install the outer race by gently rotating it opposite the shaft rotation while pressing lightly inwards. Do not force the outer race into position as backstop damage may occur. Once the outer race is well piloted onto the sprag set, remove the shipping strap from the sprag set by cutting it, being careful not to let the outer race back off the sprags. The outer race should slide easily into position with a slight turning motion. A light coating of oil on the race inner diameter may ease installation.

9. Align the fastener holes in the outer race with the mating holes in the gearbox. Use the supplied grade 5 fasteners and lock washers only. Torque the fasteners in an alternating pattern per Table 5.

Table 5 – Backstop Fastener Torque Values

Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	1/4-20	8 – 7
TA1107H	1/4-20	8 – 7
TA2115H	1/4-20	8 – 7
TA3203H	1/4-20	8 – 7
TA4207H	1/4-20	8 – 7
TA5215H	5/16-18	17 – 15
TA6307H	5/16-18	17 – 15
TA7315H	3/8-16	30 – 27
TA8407H	5/16-18	17 – 15
TA9415H	3/8-16	30 – 27
TA10507H	3/8-16	30 – 27
TA12608H	3/8-16	30 – 27

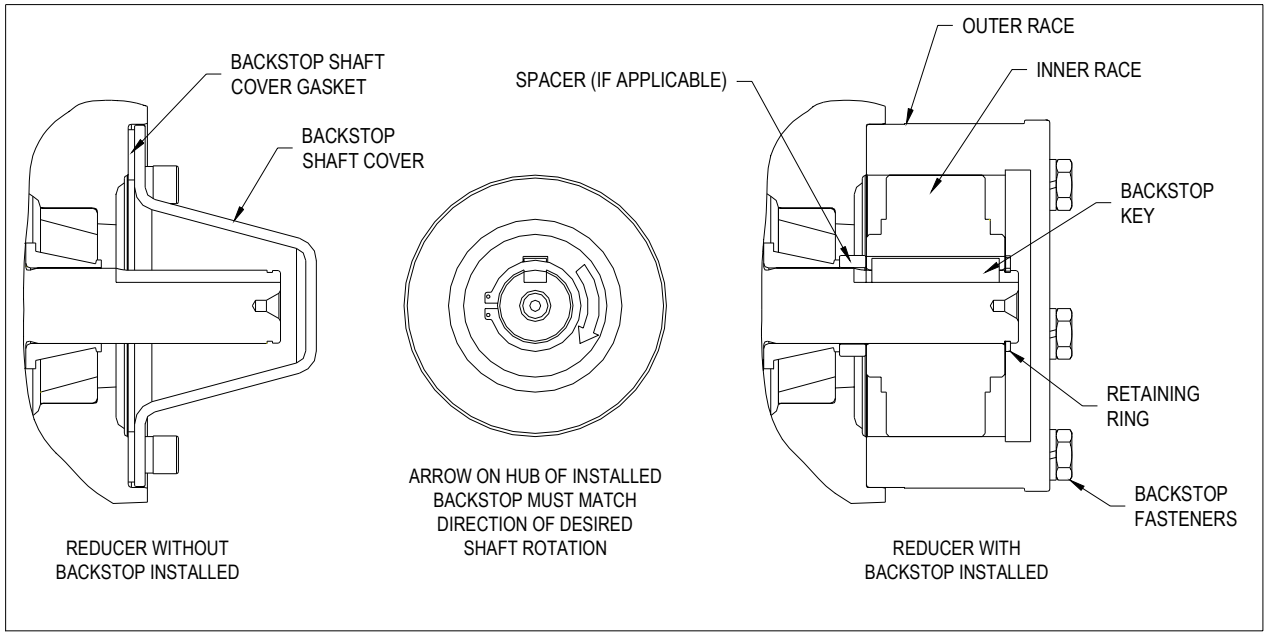


Figure 7 – Backstop Assembly

MOTOR MOUNTS

Motor Mount Assembly:

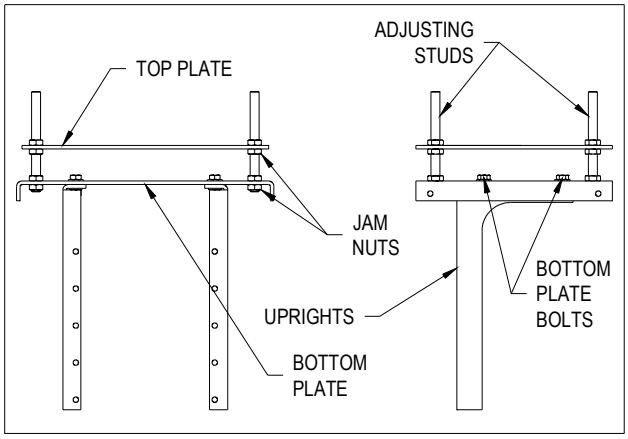


Figure 8 – Motor Mount Components

Refer to Figure 8 for descriptions of component parts. Using the hardware provided, assemble uprights (the angled parts to which the reducer is fastened) to the u-shaped, rectangular bottom plate. Notice that there are eight slots cut into the plate. If the reducer is to be mounted in Positions A or C, as illustrated in Figure 8, assemble the uprights in the outermost slots. If the reducer is to be mounted in Positions B or D, assemble the uprights in the innermost slots. The bottom plate may be mounted with the vertical flanges up or down (as shown in Figure 8). Snug bolts only, do not torque bolts at this time.

Fasten long threaded studs to the four corners of bottom plate using jam nuts, one on each side of the plate. Securely tighten these nuts, as they will not require any further adjustment. Add one additional jam nut to each stud and thread approximately to the middle of the stud. Assemble top motor plate (the flat rectangular plate with many holes) on top of the jam nuts. Assemble the remaining jam nuts on studs to secure top motor plate. Do not fully tighten these nuts yet.

The motor mount may be installed in any of the four positions (A, B, C or D) and in any of the mounting levels (M1, M2, M3 or M4) shown in Figure 9. Note that the motor mount uprights attach to the input side of the reducer when mounted in either the “B” or “D” positions.

Motor Mount Installation:

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

Remove four or six (as required) housing bolts from the reducer. Place the motor mount in position and reinstall the bolts through the motor mount uprights and reducer housing. Where reducer is shaft mounted in positions A or C, the torque-arm adapter plate must be mounted between the reducer housing and the motor mount upright. Tighten bolts to the torque specified in Table 9.

Mount the motor onto the top plate and bolt securely. Install the motor sheave and reducer sheave as close to the motor and reducer housings as practical. Loosen the bottom plate bolts and slide the motor and mounting plate to accurately align the motor and reducer sheave. Securely tighten the bottom plate bolts. Install the required number of V-belts and tension belts by alternately adjusting the jam nuts on the four adjusting studs

provided on the motor mount. Check all bolts to see that they are securely tightened. Verify that the V-belt drive is properly aligned before operating the reducer.

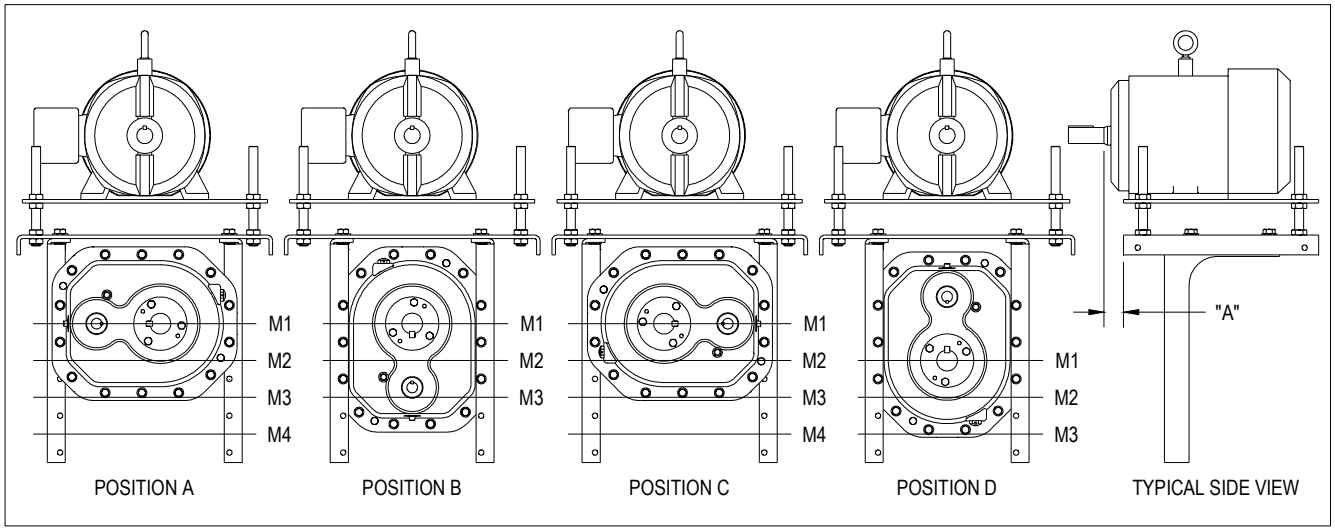


Figure 9 – Motor Mount Positions

Table 6 – V-Drive Center Distances

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			56T / A=.78	140T / A=1.22	180T / A=1.37	210T / A=1.55	250T	280T	320T
TA0107L Reducer	A	M1	14.4 – 18.2	14.4 – 18.2	15.4 – 19.2	16.2 – 19.9	----	----	----
		M2	16.8 – 20.5	16.8 – 20.5	17.8 – 21.5	18.5 – 22.3	----	----	----
		M3	19.1 – 22.9	19.1 – 22.9	20.1 – 23.9	20.8 – 24.6	----	----	----
		M4	21.5 – 25.2	21.5 – 25.2	22.5 – 26.2	23.2 – 27.0	----	----	----
	B	M1	17.2 – 21.0	17.2 – 21.0	18.2 – 22.0	19.0 – 22.8	----	----	----
		M2	19.6 – 23.4	19.6 – 23.4	20.6 – 24.4	21.3 – 25.1	----	----	----
		M3	22.0 – 25.8	22.0 – 25.8	23.0 – 26.8	23.7 – 27.5	----	----	----
	C	M1	12.6 – 16.4	12.6 – 16.4	13.6 – 17.4	14.3 – 18.1	----	----	----
		M2	14.9 – 18.7	14.9 – 18.7	15.9 – 19.7	16.7 – 20.4	----	----	----
		M3	17.3 – 21.1	17.3 – 21.1	18.3 – 22.1	19.0 – 22.8	----	----	----
		M4	19.6 – 23.4	19.6 – 23.4	20.6 – 24.4	21.4 – 25.2	----	----	----
	D	M1	11.8 – 15.6	11.8 – 15.6	12.8 – 16.6	13.5 – 17.3	----	----	----
		M2	14.1 – 17.9	14.1 – 17.9	15.1 – 18.9	15.9 – 19.7	----	----	----
		M3	16.5 – 20.3	16.5 – 20.3	17.5 – 21.3	18.3 – 22.1	----	----	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			56T / A=.78	140T / A=1.22	180T / A=1.37	210T / A=1.55	250T / A=1.56	280T	320T
TA1107H Reducer	A	M1	11.8 – 15.9	11.8 – 15.9	12.7 – 16.9	13.4 – 17.6	14.4 – 18.6	----	----
		M2	14.2 – 18.5	14.2 – 18.5	15.2 – 19.4	15.9 – 20.2	16.9 – 21.2	----	----
		M3	16.8 – 21.0	16.8 – 21.0	17.7 – 22.0	18.5 – 22.7	19.5 – 23.7	----	----
		M4	19.3 – 23.6	19.3 – 23.6	20.3 – 24.6	21.0 – 25.3	22.0 – 26.3	----	----
	B	M1	15.7 – 20.0	15.7 – 20.0	16.7 – 21.0	17.5 – 21.8	18.5 – 22.8	----	----
		M2	18.3 – 22.6	18.3 – 22.6	19.3 – 23.6	20.1 – 24.4	21.1 – 25.4	----	----
		M3	20. 9 – 25.2	20.9 – 25.2	21.9 – 26.2	22.6 – 27.0	23.6 – 28.0	----	----
	C	M1	11. 8 – 15.9	11.8 – 15.9	12.7 – 16.9	13.4 – 17.6	14.4 – 18.6	----	----
		M2	14.2 – 18.5	14.2 – 18.5	15.2 – 19.4	15.9 – 20.2	16.9 – 21.2	----	----
		M3	16.8 – 21.0	16.8 – 21.0	17.7 – 22.0	18.5 – 22.7	19.5 – 23.7	----	----
		M4	19.3 – 23.6	19.3 – 23.6	20.3 – 24.6	21.0 – 25.3	22.0 – 26.3	----	----
	D	M1	9.3 – 13.7	9.3 – 13.7	10.3 – 14.7	11.1 – 15.4	12.1 – 16.4	----	----
		M2	11.9 – 16.2	11.9 – 16.2	12.9 – 17.2	13.7 – 18.0	14.7 – 19.0	----	----
		M3	14.5 – 18.8	14.5 – 18.8	15.5 – 19.8	16.3 – 20.6	17.3 – 21.6	----	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			56T / A=.78	140T / A=1.22	180T / A=1.37	210T / A=1.55	250T / A=1.56	280T	320T
TA2115H Reducer	A	M1	13.6 – 17.2	13.6 – 17.2	14.6 – 18.1	15.3 – 18.9	16.3 – 19.8	----	----
		M2	16.6 – 20.1	16.6 – 20.1	17.5 – 21.1	18.3 – 21.9	19.2 – 22.8	----	----
		M3	19.5 – 23.1	19.5 – 23.1	20.5 – 24.1	21.2 – 24.9	22.2 – 25.9	----	----
		M4	22.5 – 26.2	22.5 – 26.2	23.5 – 27.1	24.2 – 27.9	25.2 – 28.9	----	----
	B	M1	18.5 – 22.2	18.5 – 22.2	19.5 – 23.2	20.3 – 24.0	21.3 – 25.0	----	----
		M2	21.6 – 25.3	21.6 – 25.3	22.6 – 26.3	23.3 – 27.0	24.3 – 28.0	----	----
		M3	24.6 – 28.3	24.6 – 28.3	25.6 – 29.3	26.4 – 30.1	27.4 – 31.1	----	----
	C	M1	13.6 – 17.2	13.6 – 17.2	14.6 – 18.1	15.3 – 18.9	16.3 – 19.8	----	----
		M2	16.6 – 20.1	16.6 – 20.1	17.5 – 21.1	18.3 – 21.9	19.2 – 22.8	----	----
		M3	19.5 – 23.1	19.5 – 23.1	20.5 – 24.1	21.2 – 24.9	22.2 – 25.9	----	----
		M4	22.5 – 26.2	22.5 – 26.2	23.5 – 27.1	24.2 – 27.9	25.2 – 28.9	----	----
	D	M1	10.4 – 14.1	10.4 – 14.1	11.4 – 15.1	12.2 – 15.9	13.2 – 16.9	----	----
		M2	13.5 – 17.2	13.5 – 17.2	14.5 – 18.2	15.3 – 19.0	16.3 – 20.0	----	----
		M3	16.6 – 20.3	16.6 – 20.3	17.6 – 21.3	18.3 – 22.0	22.0 – 23.0	----	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			140T / A=1.22	180T / A=1.37	210T / A=1.55	250T / A=1.56	280T / A=1.16	320T	360T
TA3203H Reducer	A	M1	14.6 – 18.4	15.5 – 19.4	16.2 – 20.1	17.2 – 21.1	17.9 – 21.8	----	----
		M2	17.9 – 21.8	18.9 – 22.8	19.6 – 23.5	20.5 – 24.5	21.3 – 25.2	----	----
		M3	21.2 – 25.2	22.2 – 26.2	22.9 – 26.9	23.9 – 27.9	24.7 – 28.6	----	----
		M4	24.6 – 28.6	25.6 – 29.6	26.3 – 30.3	27.3 – 31.3	28.1 – 32.1	----	----
	B	M1	19.8 – 23.9	20.8 – 24.9	21.6 – 25.6	22.6 – 26.6	23.3 – 27.4	----	----
		M2	23.3 – 27.3	24.3 – 28.3	25.0 – 29.1	26.0 – 30.1	26.8 – 30.8	----	----
		M3	26.7 – 30.8	27.7 – 31.8	28.5 – 32.5	29.5 – 33.5	30.2 – 34.3	----	----
	C	M1	13.6 – 17.4	14.5 – 18.4	15.2 – 19.1	16.2 – 20.1	16.9 – 20.8	----	----
		M2	16.9 – 20.8	17.8 – 21.7	18.6 – 22.5	19.5 – 23.5	20.2 – 24.2	----	----
		M3	20.2 – 24.2	21.2 – 25.1	21.9 – 25.9	22.9 – 26.9	23.6 – 27.6	----	----
		M4	23.6 – 27.6	24.6 – 28.5	25.3 – 29.3	26.3 – 30.3	27.0 – 31.0	----	----
	D	M1	10.2 – 14.2	11.2 – 15.2	11.9 – 16.0	12.9 – 17.0	13.7 – 17.7	----	----
		M2	13.6 – 17.7	14.6 – 18.7	15.4 – 19.4	16.4 – 20.4	17.1 – 21.2	----	----
		M3	17.1 – 21.1	18.1 – 22.1	18.8 – 22.9	19.8 – 23.9	20.6 – 24.6	----	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			140T / A=1.22	180T / A=1.37	210T / A=1.55	250T / A=1.56	280T / A=1.16	320T / A=.38	360T
TA4207H Reducer	A	M1	17.3 – 21.1	18.3 – 22.1	19.0 – 22.8	19.9 – 23.8	20.6 – 24.5	21.6 – 25.5	----
		M2	21.2 – 25.1	22.2 – 26.1	22.9 – 26.8	23.9 – 27.8	24.6 – 28.6	25.6 – 29.5	----
		M3	25.2 – 29.2	26.2 – 30.2	26.9 – 30.9	27.9 – 31.9	28.7 – 32.6	29.6 – 33.6	----
		M4	29.3 – 33.2	30.2 – 34.2	31.0 – 34.9	32.0 – 35.9	32.7 – 36.7	33.7 – 37.7	----
	B	M1	22.6 – 26.7	23.6 – 27.7	24.4 – 28.4	25.4 – 29.4	26.1 – 30.2	27.1 – 31.2	----
		M2	26.8 – 30.8	27.8 – 31.8	28.5 – 32.5	29.5 – 33.5	30.3 – 34.3	31.3 – 35.3	----
		M3	30.9 – 34.9	31.9 – 35.9	32.6 – 36.7	33.6 – 37.7	34.4 – 38.4	35.4 – 39.4	----
	C	M1	15.4 – 19.2	16.3 – 20.1	17.0 – 20.8	18.0 – 21.8	18.7 – 22.5	19.6 – 23.5	----
		M2	19.3 – 23.1	20.2 – 24.1	20.9 – 24.8	21.9 – 25.8	22.6 – 26.5	23.6 – 27.5	----
		M3	23.2 – 27.2	24.2 – 28.1	24.9 – 28.9	25.9 – 29.9	26.6 – 30.6	27.6 – 31.6	----
		M4	27.3 – 31.2	28.2 – 32.2	29.0 – 32.9	29.9 – 33.9	30.7 – 34.6	31.7 – 35.6	----
	D	M1	12.2 – 16.2	13.2 – 17.2	14.0 – 18.0	15.0 – 19.0	15.7 – 19.7	16.7 – 20.7	----
		M2	16.3 – 20.4	17.3 – 21.4	18.1 – 22.1	19.1 – 23.1	19.8 – 23.9	20.8 – 24.9	----
		M3	20.4 – 24.5	21.4 – 25.5	22.2 – 26.2	23.2 – 27.2	23.9 – 28.0	24.9 – 29.0	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			180T / A=1.37	210T / A=1.55	250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T
TA5215H Reducer	A	M1	19.5 – 23.4	20.2 – 24.1	21.1 – 25.1	21.8 – 25.8	22.8 – 26.8	23.8 – 27.8	----
		M2	24.2 – 28.3	25.0 – 29.0	25.9 – 30.0	26.7 – 30.7	27.6 – 31.7	28.6 – 32.7	----
		M3	29.1 – 33.2	29.8 – 33.9	30.8 – 34.9	31.5 – 35.6	32.5 – 36.6	33.5 – 37.6	----
		M4	34.0 – 38.1	34.7 – 38.8	35.7 – 39.8	36.5 – 40.6	37.4 – 41.5	38.4 – 42.5	----
	B	M1	26.2 – 30.3	26.9 – 31.1	27.9 – 32.1	28.7 – 32.8	29.7 – 33.8	30.7 – 34.8	----
		M2	31.2 – 35.3	31.9 – 36.1	32.9 – 37.1	33.7 – 37.8	34.7 – 38.8	35.7 – 39.8	----
		M3	36.2 – 40.3	36.9 – 41.1	37.9 – 42.1	38.7 – 42.8	39.7 – 43.8	40.7 – 44.8	----
	C	M1	16.4 – 20.3	17.1 – 21.0	18.0 – 21.9	18.7 – 22.6	19.7 – 23.6	20.6 – 24.6	----
		M2	21.1 – 25.1	21.8 – 25.8	22.8 – 26.8	23.5 – 27.5	24.4 – 28.5	25.4 – 29.4	----
		M3	25.9 – 29.9	26.6 – 30.7	27.6 – 31.6	28.3 – 32.4	29.3 – 33.4	30.3 – 34.3	----
		M4	30.8 – 34.8	31.5 – 35.6	32.5 – 36.6	32.2 – 37.3	34.2 – 38.3	35.2 – 39.3	----
	D	M1	17.7 – 21.8	18.4 – 22.6	19.4 – 23.6	20.2 – 24.3	21.2 – 25.3	22.2 – 26.3	----
		M2	22.7 – 26.8	23.4 – 27.6	24.4 – 28.6	25.2 – 29.3	26.2 – 30.3	27.2 – 31.3	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			180T / A=1.37	210T / A=1.55	250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T / A=.75
TA6307H Reducer	A	M1	21.2 – 25.0	21.9 – 25.8	22.9 – 26.7	23.6 – 27.4	24.5 – 28.4	25.5 – 29.4	26.5 – 30.4
		M2	26.2 – 30.1	26.9 – 30.8	27.9 – 31.8	28.6 – 32.5	29.6 – 33.5	30.5 – 34.5	31.5 – 35.4
		M3	31.2 – 35.1	32.0 – 35.9	32.9 – 36.9	33.7 – 37.6	34.6 – 38.6	35.6 – 39.6	36.6 – 40.6
		M4	36.3 – 40.3	37.0 – 41.0	38.0 – 42.0	38.8 – 42.7	39.7 – 43.7	40.7 – 44.7	41.7 – 45.7
	B	M1	27.5 – 31.5	28.2 – 32.3	29.2 – 33.3	30.0 – 34.0	31.0 – 35.0	32.0 – 36.0	33.0 – 37.0
		M2	32.7 – 36.7	33.4 – 37.5	34.4 – 38.5	35.2 – 39.2	36.2 – 40.2	37.2 – 41.2	38.2 – 42.2
		M3	37.9 – 41.9	38.6 – 42.7	39.6 – 43.7	40.4 – 44.4	41.4 – 45.4	42.4 – 46.4	43.4 – 47.4
	C	M1	17.9 – 21.6	18.6 – 22.3	19.5 – 23.3	20.2 – 24.0	21.1 – 25.0	22.1 – 25.9	23.0 – 26.9
		M2	22.8 – 26.6	23.5 – 27.3	24.4 – 28.3	25.2 – 29.0	26.1 – 30.0	27.1 – 31.0	28.0 – 32.0
		M3	27.8 – 31.7	28.5 – 32.4	29.5 – 33.4	30.2 – 34.1	31.2 – 35.1	32.1 – 36.1	33.1 – 37.1
		M4	32.8 – 36.8	33.5 – 37.5	34.5 – 38.5	35.3 – 39.2	36.2 – 40.2	37.2 – 41.2	38.2 – 42.2
	D	M1	14.4 – 18.4	15.2 – 19.2	16.1 – 20.2	16.9 – 20.9	17.9 – 21.9	18.9 – 22.9	19.9 – 23.9
		M2	19.6 – 23.6	20.3 – 24.3	21.3 – 25.3	22.1 – 26.1	23.1 – 27.1	24.1 – 28.1	25.1 – 29.1
		M3	24.8 – 28.8	25.5 – 29.5	26.5 – 30.5	27.3 – 31.3	28.3 – 32.3	29.3 – 33.3	30.2 – 34.3

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			210T / A=1.55	250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T / A=.75	440T
TA7315H Reducer	A	M1	27.4 – 31.4	28.4 – 32.4	29.1 – 33.1	30.1 – 34.1	31.1 – 35.1	32.1 – 36.1	----
		M2	33.3 – 37.3	34.3 – 38.3	35.0 – 39.0	36.0 – 40.0	37.0 – 41.0	38.0 – 42.0	----
		M3	39.2 – 43.2	40.2 – 44.2	41.0 – 45.0	42.0 – 46.0	43.0 – 47.0	44.0 – 48.0	----
		M4	45.2 – 49.2	46.2 – 50.2	46.9 – 50.9	47.9 – 51.9	48.9 – 52.9	49.9 – 53.9	----
	B	M1	30.0 – 34.0	31.0 – 35.0	31.8 – 35.7	32.8 – 36.7	33.7 – 37.7	34.7 – 38.7	----
		M2	36.0 – 40.0	37.0 – 40.9	37.7 – 41.7	38.7 – 42.7	39.7 – 43.7	40.7 – 44.7	----
		M3	41.9 – 45.9	42.9 – 46.9	43.6 – 47.6	44.6 – 48.6	45.6 – 49.6	46.6 – 50.6	----
	C	M1	17.4 – 21.3	18.4 – 22.4	19.1 – 23.0	20.0 – 23.9	21.0 – 24.9	22.0 – 25.9	----
		M2	23.2 – 27.1	24.2 – 28.1	24.9 – 28.8	25.9 – 29.8	26.9 – 30.8	27.8 – 31.8	----
		M3	29.1 – 33.0	30.0 – 34.0	30.8 – 34.7	31.8 – 35.7	32.8 – 36.7	33.7 – 37.7	----
		M4	35.0 – 39.0	36.0 – 39.9	36.7 – 40.7	37.7 – 41.7	38.7 – 42.7	39.7 – 43.7	----
	D	M1	20.5 – 24.4	21.5 – 25.4	22.2 – 26.1	23.2 – 27.1	24.2 – 28.1	25.1 – 29.1	----
		M2	26.4 – 30.3	27.4 – 31.3	28.1 – 32.0	29.1 – 33.0	30.1 – 34.0	31.0 – 35.0	----
		M3	32.3 – 36.3	33.3 – 37.2	34.0 – 38.0	35.0 – 39.0	36.0 – 40.0	37.0 – 41.0	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			210T / A=1.55	250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T / A=.75	440T
TA8407H Reducer	A	M1	27.4 – 31.3	28.3 – 32.3	29.1 – 33.0	30.1 – 34.0	31.0 – 35.0	32.0 – 36.0	----
		M2	33.2 – 37.2	34.2 – 38.2	35.0 – 39.0	36.0 – 39.9	37.0 – 40.9	37.9 – 41.9	----
		M3	39.2 – 43.2	40.2 – 44.2	40.9 – 44.9	41.9 – 45.9	42.9 – 46.9	43.9 – 47.9	----
		M4	45.1 – 49.1	46.1 – 50.1	46.9 – 50.9	47.9 – 51.9	48.8 – 52.8	49.8 – 53.8	----
	B	M1	30.2 – 34.2	31.2 – 35.2	32.0 – 35.9	32.9 – 36.9	33.9 – 37.9	34.9 – 38.9	----
		M2	36.2 – 40.1	37.1 – 41.1	37.9 – 41.9	38.9 – 42.9	39.9 – 43.9	40.9 – 44.9	----
		M3	42.1 – 46.1	43.1 – 47.1	43.8 – 47.8	44.8 – 48.8	45.8 – 49.8	46.8 – 50.8	----
	C	M1	17.6 – 21.4	18.5 – 22.4	19.2 – 23.1	20.2 – 24.1	21.2 – 25.1	22.1 – 26.0	----
		M2	23.3 – 27.3	24.3 – 28.2	25.0 – 29.0	26.0 – 30.0	27.0 – 30.9	28.0 – 31.9	----
		M3	29.2 – 33.2	30.2 – 34.1	30.9 – 34.9	31.9 – 35.9	32.9 – 36.9	33.9 – 37.8	----
		M4	35.1 – 39.1	36.1 – 40.1	36.8 – 40.8	37.8 – 41.8	38.8 – 42.8	39.8 – 43.8	----
	D	M1	20.3 – 24.2	21.3 – 25.2	22.0 – 25.9	23.0 – 26.9	23.9 – 27.9	24.9 – 28.9	----
		M2	26.1 – 30.1	27.1 – 31.1	27.9 – 31.8	28.8 – 32.8	29.8 – 33.8	30.8 – 34.8	----
		M3	32.1 – 36.0	33.0 – 37.0	33.8 – 37.8	34.8 – 38.8	35.8 – 39.7	36.7 – 40.7	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T / A=.75	440T / A=1.62	----
TA9415H Reducer	A	M1	N/A	N/A	N/A	N/A	N/A	N/A	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
		M4	N/A	N/A	N/A	N/A	N/A	N/A	----
	B	M1	35.5 – 39.2	36.2 – 40.0	37.2 – 41.0	38.2 – 42.0	39.2 – 43.0	40.2 – 44.0	----
		M2	40.5 – 44.2	41.2 – 45.0	42.2 – 46.0	43.2 – 47.0	44.2 – 47.9	45.2 – 48.9	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
	C	M1	N/A	N/A	N/A	N/A	N/A	N/A	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
		M4	N/A	N/A	N/A	N/A	N/A	N/A	----
	D	M1	21.3 – 25.0	22.0 – 25.7	23.0 – 26.7	24.0 – 27.7	25.0 – 28.7	25.9 – 29.7	----
		M2	26.2 – 29.9	26.9 – 30.6	27.9 – 31.6	28.9 – 32.6	29.9 – 33.6	30.9 – 34.6	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T / A=.75	440T / A=1.62	----
TA10507H Reducer	A	M1	N/A	N/A	N/A	N/A	N/A	N/A	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
		M4	N/A	N/A	N/A	N/A	N/A	N/A	----
	B	M1	46.7 – 50.5	47.5 – 51.2	48.5 – 52.2	49.5 – 53.2	50.5 – 54.2	51.5 – 55.2	----
		M2	52.1 – 55.9	52.8 – 56.6	53.8 – 57.6	54.8 – 58.6	55.8 – 59.6	56.8 – 60.6	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
	C	M1	N/A	N/A	N/A	N/A	N/A	N/A	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
		M4	N/A	N/A	N/A	N/A	N/A	N/A	----
	D	M1	17.7 – 21.4	18.4 – 22.2	19.4 – 23.2	20.4 – 24.2	21.4 – 25.2	22.4 – 26.2	----
		M2	23.0 – 26.8	23.8 – 27.5	24.8 – 28.5	25.8 –29.5	26.8 – 30.5	27.8 – 31.5	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----

	Position	Mtg.	Motor Frame / Motor Shaft Offset Dimension "A"						
			250T / A=1.56	280T / A=1.16	320T / A=.38	360T / A=1.01	400T / A=.75	440T / A=1.62	----
TA12608H Reducer	A	M1	N/A	N/A	N/A	N/A	N/A	N/A	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
		M4	N/A	N/A	N/A	N/A	N/A	N/A	----
	B	M1	48.9 – 52.7	49.7 – 53.5	50.7 – 54.5	51.7 – 55.5	52.7 – 56.5	53.7 – 57.5	----
		M2	54.5 – 58.3	55.3 – 59.1	56.3 – 60.1	57.3 – 61.1	58.3 – 62.1	59.3 – 63.1	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
	C	M1	N/A	N/A	N/A	N/A	N/A	N/A	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----
		M4	N/A	N/A	N/A	N/A	N/A	N/A	----
	D	M1	22.0 – 25.8	22.8 – 26.6	23.8 – 27.6	24.8 – 28.6	25.8 – 29.6	26.8 – 30.6	----
		M2	N/A	N/A	N/A	N/A	N/A	N/A	----
		M3	N/A	N/A	N/A	N/A	N/A	N/A	----

TORQUE-ARM II BELT GUARD INSTALLATION

Two different belt guards are available for the Torque-Arm II speed reducer. One belt guard assembly is designed for mounting in position "B" and the other belt guard assembly is designed for mounting in position "C" as shown in Figure 10. It is important that the mounting position of the Torque-Arm II Motor Mount be determined prior to purchase of the belt guard as these two guards do not interchange and will be attached to the motor mount uprights.

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

WARNING: Ensure that all guards are properly installed before proceeding. Exercise extreme care to avoid contacting rotating parts. Failure to observe these precautions could result in bodily injury.

Vertical Installation (Position B):

1. Remove belt guard and hardware from box and verify all parts are available. The belt guard assembly consists of one back cover, one front cover, two brackets, and necessary hardware.

2. Using the hardware provided, assemble the two brackets to the back cover as shown in Figure 11. Note that the brackets are mounted so that the angles of the brackets are mounted to the inside. Do not fully tighten these bolts.

3. Position back cover over the motor shaft and reducer input shaft. The long slot in the back cover fits over the motor shaft.

4. Align the back cover assembly to the Torque-Arm II Motor Mount and attach using four cap screws, washers, and nuts. Securely tighten the brackets to the motor mount and back cover.

5. Install motor and reducer sheaves. Install belts and adjust accordingly.

6. Align hinges on front cover to pins on back cover and assemble.

7. Close cover and secure with two cap screws and washers.

8. Check machine for proper operation.

Horizontal Installation (Position C):

1. Remove belt guard and hardware from box and verify all parts are available. The belt guard assembly consists of one back cover, one front cover, two brackets, and necessary hardware.

2. Using the hardware provided, assemble the two brackets to the back cover as shown in Figure 12. Note that the brackets are mounted so that the angles of the brackets are mounted in the same direction. Do not fully tighten these bolts.

3. Position back cover over the motor shaft and reducer input shaft. The long slot in the back cover fits over the motor shaft.

4. Align the back cover assembly to the Torque-Arm II Motor Mount and attach using four cap screws, washers, and nuts. Securely tighten the brackets to the motor mount and back cover.

5. Install motor and reducer sheaves. Install belts and adjust accordingly.

6. Align hinges on front cover to pins on back cover and assemble.

7. Close cover and secure with two cap screws and washers.

8. Check machine for proper operation.

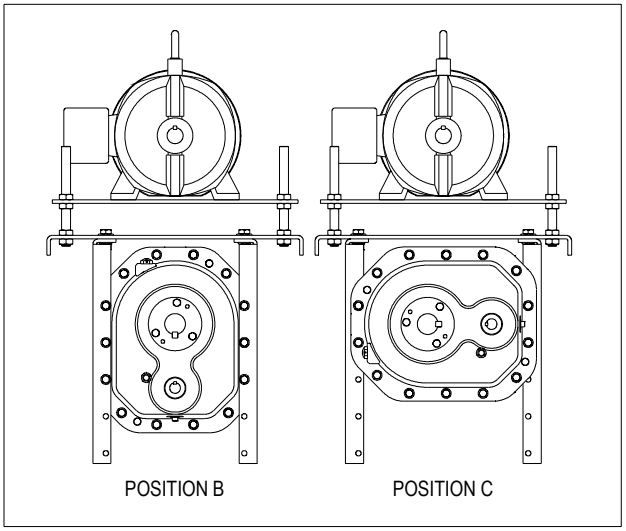


Figure 10 – Belt Guard Mounting Positions

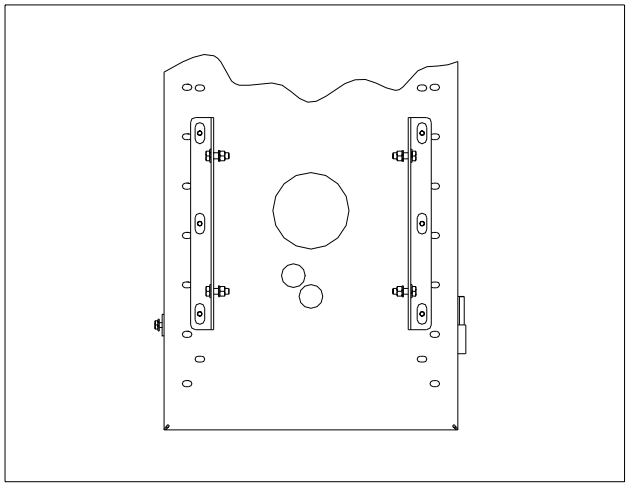


Figure 11 – Mounting Brackets in Position B

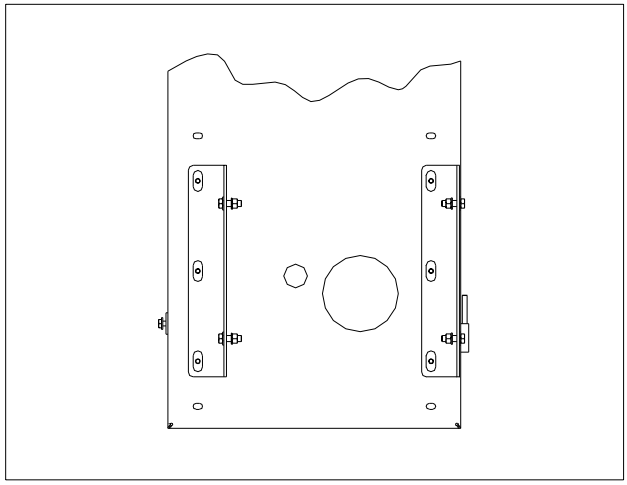


Figure 12 – Mounting Brackets in Position C

SCREW CONVEYOR ADAPTER ASSEMBLY

1. Install seals (408) into adapter housing as shown in Figure 13. If the optional packing adapter is to be used, install only one seal in the small end of the adapter. Use extreme care when installing seals to avoid damage to the seals. Press or tap seals into place by applying pressure only on the outer edge of the seal. Make sure seals are install evenly and are not tilted.

2. If using the optional packing adapter, install the two studs (413), retaining ring (412), and two nuts (414). Thread the nuts onto the studs about 4-5 threads. Install the three braided type seals (415) in a circular direction into the adapter cavity. Shoulder the braided seals against the adjustable retaining ring (412). To aid in installation of the driveshaft in step 7, the braided seals can be flattened out slightly with a soft hammer prior to installation. When installing the braided seals offset the joints from each other.

3. Lightly tap the large washer (407) into the counterbore on the large end of the adapter to seal the braided material installed in step 2 or the seal installed in step 1.

4. Place reducer on blocks so that it lays flat with the input shaft down.

5. Position screw conveyor adapter (400) on the reducer output hub so that the small end (end with four drilled holes) rests on reducer. The approximate 1/8" piloting projection should locate in the output seal bore next to the auxiliary seal. Adapter projection should not touch the face of the gear case casting.

6. Place four adapter screws (409) and lock washers (410) through the adapter and thread into the reducer. Tighten the four cap screws (409) to the torque specified in Table 9.

7. Turn reducer onto its side. Use caution not to damage either type seals and install driveshaft through the adapter housing into the reducer. Line up the keyway in the driveshaft with the keyway in the reducer hub bore. Slide or gently tap key into reducer through the input shaft side of the output hub.

8. Install the retaining ring (411) into the screw conveyor wedge (402). Making sure the driveshaft is fully seated into the reducer, slide the wedge onto driveshaft.

9. Install keeper plate (401), driveshaft cap screw (404), and lockwasher (405). Torque to specifications in Table 9.

DRIVESHAFT REMOVAL

To remove the driveshaft from the reducer the following steps are required.

1. Remove the driveshaft retaining bolt (404) and lock washer (405), the keeper plate (401), and the retaining ring (411).

2. Referring to Table 7, install the correct size hex head set screw into the end of the driveshaft until flush. Note TA6307H and TA7315H does not require a set screw.

3. Position the keeper plate (401) flush against the end of the driveshaft and with the small end facing out. Next install the retaining ring (411). When properly installed, the retaining ring holds the keeper plate (401) in place.

4. Screw removal bolt(s) into the keeper plate (401) and tighten until the driveshaft wedge (402) is dislodged. Once the driveshaft wedge (402) is dislodged, pull the assembly free from the reducer. If installed, remove the hex head set screw from the end of the driveshaft. The driveshaft can now be easily removed from the reducer by pulling the driveshaft straight out of the reducer.

Note: The removal bolt is not the same bolt as the retaining bolt. Refer to Table 7 for the correct bolt to be used for removal.

Table 7 – Removal Hardware

Reducer Size	Removal Bolt	Hex head set screw
TA0107L	3/4-10 x 2	5/8-11 x 3/4
TA1107H	3/4-10 x 2	5/8-11 x 3/4
TA2115H	3/4-10 x 2	5/8-11 x 3/4
TA3203H	7/8-9 x 2	3/4-10 x 3/4
TA4207H	7/8-9 x 2	3/4-10 x 3/4
TA5215H	7/8-9 x 2	3/4-10 x 3/4
TA6307H	3/8-16 x 2 (4 required)	N/A
TA7315H	½-13 x 2 (4 required)	N/A

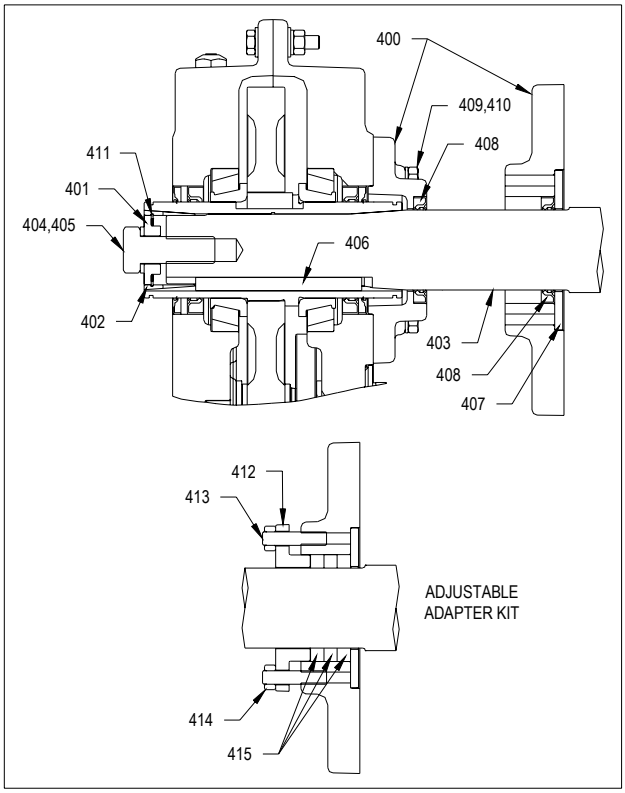


Figure 13 – Screw Conveyor Adapter Assembly

REPLACEMENT OF PARTS

IMPORTANT: Using tools normally found in a maintenance department, a Dodge Torque-Arm II speed reducer can be disassembled and reassembled by careful attention to the instructions following.

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 (for shrinking these parts on shafts) should be available.

Our factory is prepared to repair reducers for customers who do not have proper facilities or who, for any reason, desire factory service.
The oil seals are contact lip seals. Considerable care should be used during disassembly and reassembly to avoid damage to the surface on which the seals rub.

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

Ordering Parts: When ordering parts for reducer, specify reducer size number, reducer model number, part name, part number, and quantity.

It is strongly recommended that, when a pinion or gear is replaced, the mating pinion or gear is replaced also.
If the large gear on the output hub must be replaced, it is recommended that an output hub assembly consisting of a gear assembled on a hub be ordered to ensure undamaged surfaces on the output hub where the output 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 bearings or other parts are damaged in removal. Do not press against rollers or cage of any bearing.

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

Removing Reducer from Shaft:

WARNING: To ensure that drive is not unexpectedly started, turn off and lock out or tag power source before proceeding. Remove all external loads from drive before removing or servicing drive or accessories. Failure to observe these precautions could result in bodily injury.

Taper Bushed:

1. Disconnect and remove belt guard, v-drive, and motor mount as required. Disconnect torque arm rod from reducer adapter.

2. Remove bushing screws.

3. Place the screws in the threaded holes provided in the bushing flanges. Tighten the screws alternately and evenly until the bushings are free on the shaft. For ease of tightening screws, make sure screw threads and threaded holes in bushing flanges are clean. A tap can be used to clean out the threads. Use caution to use the proper size tap to prevent damage to the threads.

4. Remove the outside bushing, the reducer, and then the inboard bushing.

Disassembly:

1. Drain all oil from the reducer.

2. Position the reducer on its side and remove all housing bolts. Drive dowel pins from housing. Using the three pry slots around the periphery of the flange, gently separate the housing halves.. Open housing evenly to prevent damage to the parts inside.

3. Lift input shaft, all gear assemblies, and bearing assemblies from housing.

4. Remove seals from housing.

5. Remove bearings from shafts and hubs. Be careful not to scratch or damage any assembly or seal area during bearing removal. The hub assembly can be disassembled for gear replacement but if scratching or grooving occurs on the hub, seal leakage will occur and the hub will need to be replaced.

Reassembly:

1. Output Hub Assembly: Heat gear to 325°F to 350°F to shrink onto hub. Heat bearings to 270°F 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. Press gear and bearings on shaft. Press against inner race (not cage or rollers) of bearings.

3. Input Shaft Assembly: Shaft and pinion are integral. Press bearings on shaft. Press against inner race (not cage or rollers) of bearings.

4. Drive the two dowel pins into place in the right-hand housing half.

5. Place R.H. housing half on blocks to allow for protruding end of output hub.

6. Install bearing cups in right-hand housing half, making sure they are properly seated. The output hub assembly has one bearing pressed against the gear and the other bearing pressed against a shoulder on the hub. For double reduction reducers, install the output hub assembly so that the end where the bearing is pressed against the gear is up. For single reduction reducers, install the output hub assembly so that the end where the bearing is pressed against the gear is down.

7. Mesh output hub gear and small countershaft gear together and set in place in housing. Set input shaft assembly in place in the housing. Make sure bearing rollers (cones) are properly seated in their cups. Set bearing cups for left-hand housing half in place on their rollers.

8. Making sure both housing halves are clean, set left-hand housing half into position and tap with a soft hammer (rawhide, not lead hammer) until housing bolts can be used to draw housing halves together. Make sure reducer shafts do not bind while tightening housing bolts.

9. Rotate the input shaft and seat all bearings with a soft hammer. Using a magnetic base and indicator, measure and record the endplay of the input shaft, countershaft, and output hub. Remove left housing half and shim behind the bearing cup as required to achieve the correct bearing end play or preload per Table 8. Repeat this process and check endplay until proper endplay is obtained. Note that the output shaft is preloaded. After endplay is determined, add the correct shim thickness to the endplay reading to obtain the correct preload.

10. Remove left housing half and clean housing flange surfaces on both halves, making sure not to nick or scratch flange face. Place a 1/8" bead of Dow RTV732 sealant or equivalent on flange face (make sure RTV is placed around bolt holes and inside of flange face). Place left housing half into position and tap with a soft hammer (rawhide, not lead hammer) until housing bolts can be used to draw housing halves together. Torque housing bolts per torque values listed in Table 9.

11. Install input seal, output seals, and auxiliary seals. Extreme care should be used when installing seals to avoid damage due to contact with sharp edges on the input shaft or output hub. The possibility of damage and consequent oil leakage can be decreased by covering all sharp edges with tape prior to seal installation. Lightly coat the seal lips with Mobilith AW2 All-Purpose grease or equivalent. Seals should be pressed or tapped with a soft hammer evenly into place in the reducer housing, applying pressure only on the outer edge of the seals. A slight oil leakage at the seals may be evident during initial running, but should disappear unless seals have been damaged.

12. Install bushing backup plates and snap rings on Taper Bushed reducers or hub collars on straight bore reducers.

Table 8 – Bearing Adjustment Tolerances

Reducer Size	Bearing Endplay Values		
	Input	Countershaft	Output
TA0107L	.002-.004 Loose	.0005-.003 Loose	.002-.004 Preload
TA1107H	.002-.004 Loose	.0005-.003 Loose	.002-.004 Preload
TA2115H	.002-.004 Loose	.0005-.003 Loose	.002-.004 Preload
TA3203H	.002-.004 Loose	.0005-.003 Loose	.002-.004 Preload
TA4207H	.002-.004 Loose	.0005-.003 Loose	.002-.004 Preload
TA5215H	.002-.004 Loose	.0005-.003 Loose	.003-.005 Preload
TA6307H	.002-.004 Loose	.0005-.003 Loose	.006-.008 Preload
TA7315H	.002-.004 Loose	.0005-.003 Loose	.006-.008 Preload
TA8407H	.002-.004 Loose	.0005-.003 Loose	.004-.006 Preload
TA9415H	.002-.004 Loose	.0005-.003 Loose	.004-.006 Preload
TA10507H	.002-.004 Loose	.0005-.003 Loose	.006-.008 Preload
TA12608H	.002-.004 Loose	.0005-.003 Loose	.006-.008 Preload

Table 9 – Recommended Bolt Torque Values

Housing Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	5/16-18	17 – 15
TA1107H	5/16-18	17 – 15
TA2115H	3/8-16	30 – 27
TA3203H	3/8-16	30 – 27
TA4207H	1/2-13	75 – 70
TA5215H	1/2-13	75 – 70
TA6307H	1/2-13	75 – 70
TA7315H	5/8-11	90 – 82
TA8407H	5/8-11	90 – 82
TA9415H	5/8-11	90 – 82
TA10507H	¾-10	148 – 138
TA12608H	¾-10	148 – 138

Backstop Cover Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	1/4-20	8 – 7
TA1107H	1/4-20	8 – 7
TA2115H	1/4-20	8 – 7
TA3203H	1/4-20	8 – 7
TA4207H	1/4-20	8 – 7
TA5215H	5/16-18	17 – 15
TA6307H	5/16-18	17 – 15
TA7315H	3/8-16	30 – 27
TA8407H	5/16-18	17 – 15
TA9415H	3/8-16	30 – 27
TA10507H	3/8-16	30 – 27
TA12608H	3/8-16	30 – 27

Screw Conveyor Adapter Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	3/8-16	30 – 27
TA1107H	3/8-16	30 – 27
TA2115H	7/16-14	50 – 45
TA3203H	1/2-13	75 – 70
TA4207H	1/2-13	75 – 70
TA5215H	5/8-11	90 – 82
TA6307H	¾-10	148 – 138
TA7315H	¾-10	148 – 138

Screw Conveyor Drive Shaft Retainer Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque in Ft.-Lbs.
TA0107L	5/8-11	90 – 82
TA1107H	5/8-11	90 – 82
TA2115H	5/8-11	90 – 82
TA3203H	3/4-10	148 – 138
TA4207H	3/4-10	148 – 138
TA5215H	3/4-10	148 – 138
TA6307H	1-8	210 –190
TA7315H	1-8	210 – 190

REPLACEMENT PART AND KIT NUMBERS

Table 10–Dodge and Timken Part Numbers for Replacement Bearings, Single and Double Reduction Reducers

Reducer Size	Output Hub Bearing – LH and RH Sides	
	Dodge Part Number	Timken Part Number
TA0107L	900250/900251	LM104911/LM104949
TA1107H	901250/901251	382A/387A
TA2115H	403003/402003	JLM714110/JLM714149
TA3203H	903252/402268	493/498
TA4207H	403016/402193	42584/42381
TA5215H	403140/402050	JM822010/JM822049
TA6307H	906250/906251	68712/68462
TA7315H	403105/402147	36620/36690
TA8407H	403105/402147	36620/36690
TA9415H	403110/402160	46720/46790
TA10507H	910250/910251	JM738210/JM38249
TA12608H	912250/912251	LM742710/LM742749

Reducer Size	Countershaft Bearing – LH Side	
	Dodge Part Number	Timken Part Number
TA0107L	304833/304740	LM11710/LM11749
TA1107H	403165/402265	LM11910/LM11949
TA2115H	304836/411626-05-B	M12610/M12649
TA3203H	403101/402271	02820/02872
TA4207H	304809/304710	25821/25877
TA5215H	403005/402001	3820/3877
TA6307H	403026/906257	45220/45280
TA7315H	403159/907260	HM807010/HM807046
TA8407H	411626-06-BE/411626-05-BM	65500/65237
TA9415H	403036/304701	6320/6379
TA10507H	403087/402023	6420/6461
TA12608H	402233/912253	HH221410/HH221434

Reducer Size	Countershaft Bearing – Backstop (RH) Side	
	Dodge Part Number	Timken Part Number
TA0107L	304833/304740	LM11710/LM11749
TA1107H	403165/402265	LM11910/LM11949
TA2115H	304836/411626-05-B	M12610/M12649
TA3203H	403101/402271	02820/02872
TA4207H	304809/304710	25821/25877
TA5215H	403005/402001	3820/3877
TA6307H	403026/906257	45220/45280
TA7315H	403159/907260	HM807010/HM807046
TA8407H	411626-06-BE/908253	65500/65200
TA9415H	403036/304701	6320/6379
TA10507H	403087/402023	6420/6461
TA12608H	402233/912253	HH221410/HH221434

Reducer Size		Input Shaft Bearing – LH Side	
		Dodge Part Number	Timken Part Number
TA0107L	5:1	403165/402265	LM11910/LM11949
	9:1		
	15:1		
	25:1		
	40:1		
TA1107H	5:1	403063/411626-05-AY	09195/09081
	9:1		
	15:1		
	25:1	403063/402108	09195/09067
	40:1		
TA2115H	5:1	403094/304753	15245/15113
	9:1		
	15:1		
	25:1		
	40:1	403094/304707	15245/15101
TA3203H	5:1	304809/411626-05-K	25821/25880
	9:1		
	15:1		
	25:1		
	40:1	403101/402271	02820/02872
TA4207H	5:1	304809/411626-05-K	25821/25880
	9:1		
	15:1		
	25:1		
	40:1		
TA5215H	5:1	403005/402001	3820/3877
	9:1		
	15:1		
	25:1	403005/304717	3820/3880
	40:1		
TA6307H	5:1	403026/906260	45220/45290
	9:1		
	15:1		
	25:1		
	40:1		
TA7315H	5:1	304802/402041	HM212011/HM212049
	9:1		
	15:1		
	25:1		
	40:1		
TA8407H	15:1	908259/908260	H414210/H414242
	25:1		
	40:1		
TA9415H	15:1	403036/304701	6320/6379
	25:1		
	40:1		
TA10507H	15:1	402231/402232	JH415610/JH415647
	25:1		
	40:1		
TA12608H	15:1	402231/402232	JH415610/JH415647
	25:1		
	40:1		

Reducer Size		Input Shaft Bearing – RH Side	
		Dodge Part Number	Timken Part Number
TA0107L	5:1	403165/402265	LM11910/LM11949
	9:1		
	15:1		
	25:1		
	40:1		
TA1107H	5:1	403063/402108	09195/09067
	9:1		
	15:1		
	25:1		
	40:1		
TA2115H	5:1	403094/304707	15245/15101
	9:1		
	15:1		
	25:1		
	40:1		
TA3203H	5:1	403101/402271	02820/02872
	9:1		
	15:1		
	25:1		
	40:1		
TA4207H	5:1	904256/904257	2523/2585
	9:1		
	15:1		
	25:1		
	40:1	904256/904258	2523/2578
TA5215H	5:1	403005/402001	3820/3877
	9:1		
	15:1		
	25:1		
	40:1	403005/411626-05-V	3820/3875
TA6307H	5:1	403026/906260	45220/45290
	9:1		
	15:1		
	25:1	403026/906257	45220/45280
	40:1		
TA7315H	5:1	403159/907260	HM807010/HM807046
	9:1		
	15:1		
	25:1		
	40:1	403159/402054	HM807010/HM807040
TA8407H	15:1	908256/908257	HM813810/HM813844
	25:1		
	40:1	304804/908258	6220/6277
TA9415H	15:1	411626-06-BE/411626-05-BM	65500/65237
	25:1		
	40:1	304804/908258	6220/6277
TA10507H	15:1	411626-06-BE/411626-05-BM	65500/65237
	25:1		
	40:1	304804/908258	6220/6277
TA12608H	15:1	403036/304701	6320/6379
	25:1		
	40:1	403036/912258	6320/6381

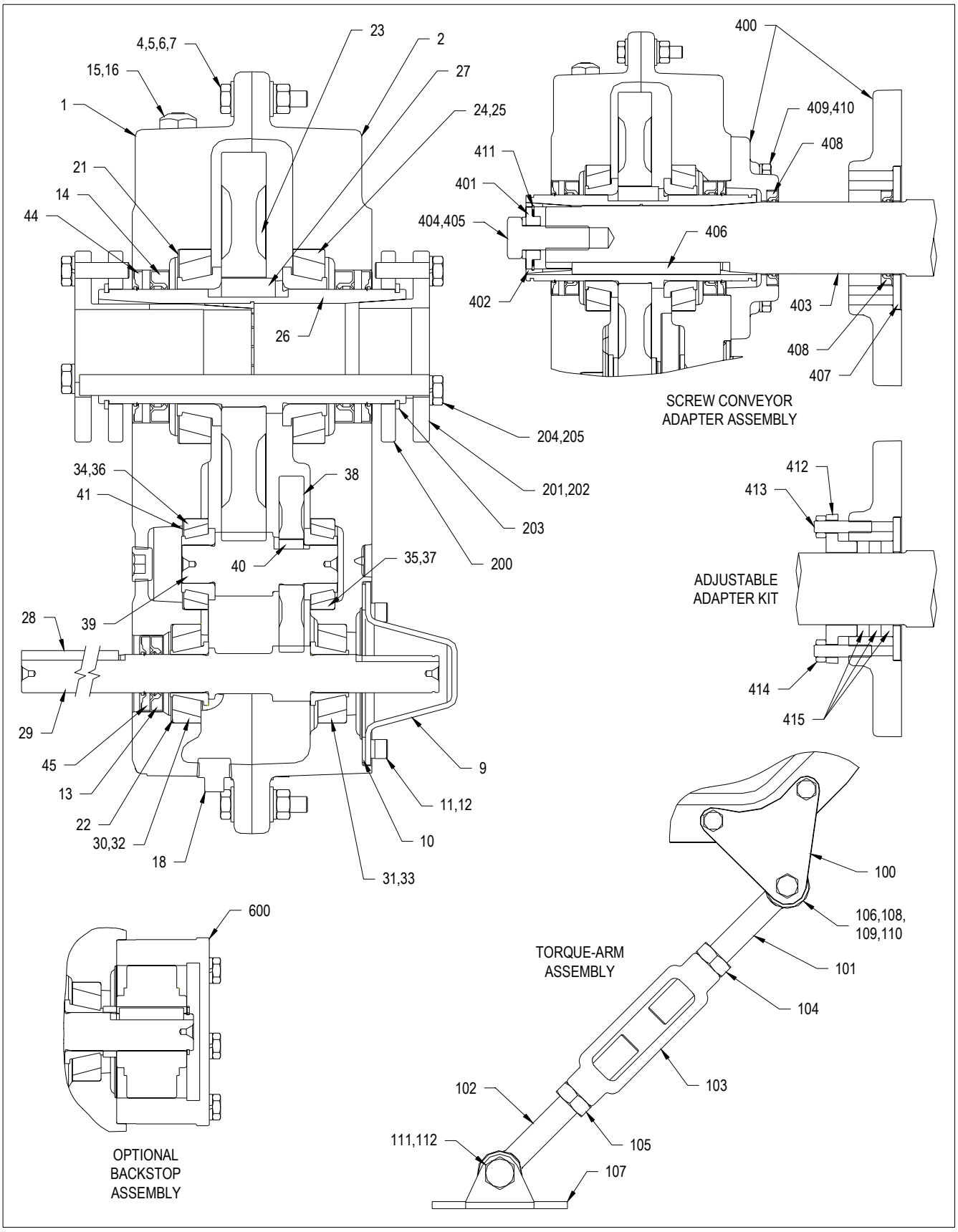
Note: LH is input side of reducer, and RH is backstop or output side of reducer. Bearing part numbers refer to Timken Roller Bearing Cup/Cone combinations, respectively, and apply to all ratios unless otherwise specified. For actual reducer ratios, refer to Table 12.

Table 11 – Replacement Parts Kit Numbers

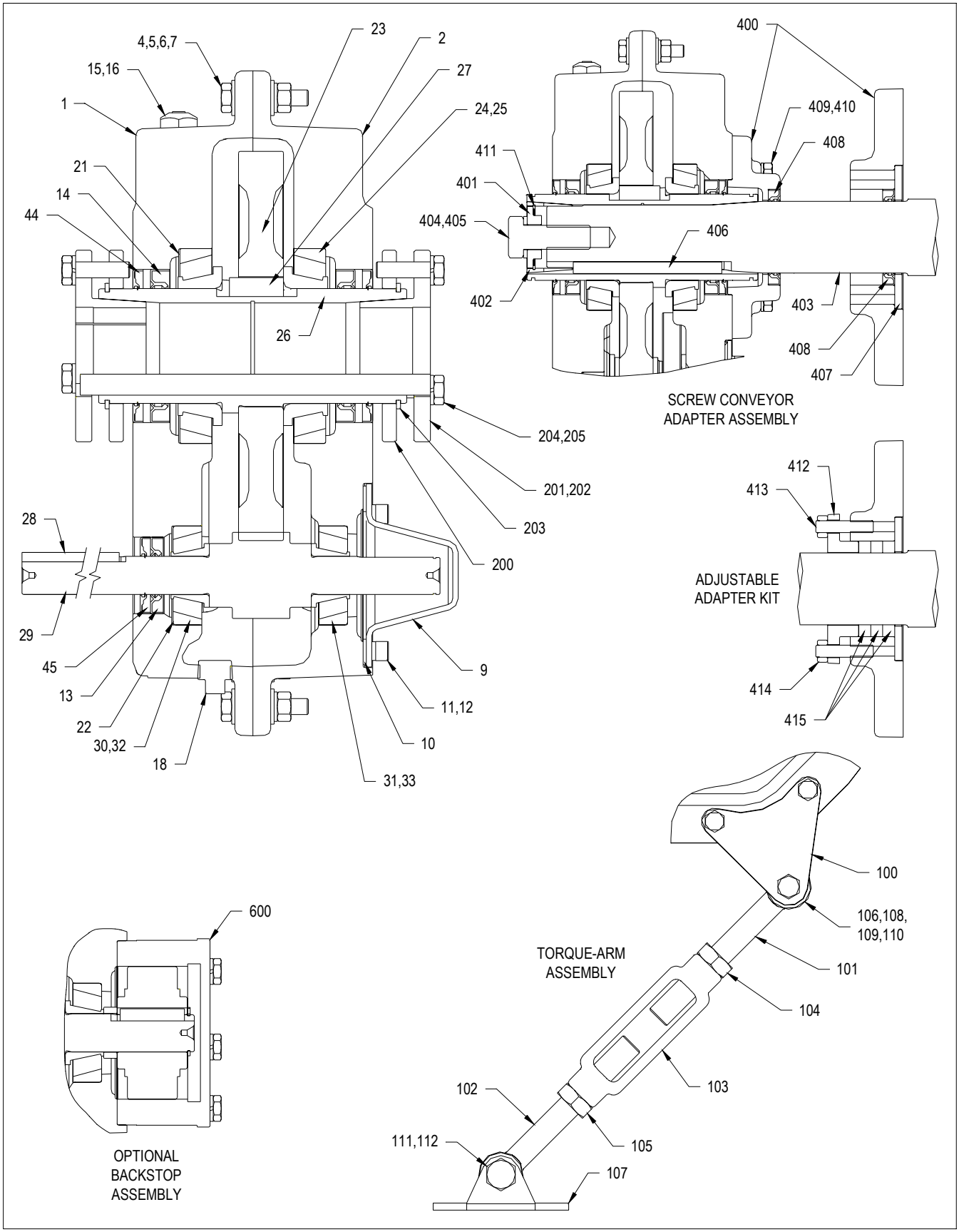
Reducer Size	Ratio	Seal Kit	Output Hub Assembly	Countershaft Assembly	Bearing Kit
TA0107L	5:1	900126	900120	---	900128
	9:1			900122	900129
	15:1			900123	
	25:1			900124	
	40:1			900125	
TA1107H	5:1	901126	901120	---	901128
	9:1			901122	901129
	15:1			901123	
	25:1			901124	901130
	40:1			901125	
TA2115H	5:1	902126	902120	---	902128
	9:1			902122	902129
	15:1			902123	
	25:1			902124	
	40:1	902127		902125	902130
TA3203H	5:1	903126	903120	---	903128
	9:1			903122	903129
	15:1			903123	
	25:1			903124	
	40:1	903127		903125	903130
TA4207H	5:1	904126	904120	---	904128
	9:1			904122	904129
	15:1			904123	
	25:1			904124	
	40:1			904125	904130
TA5215H	5:1	905126	905120	---	905128
	9:1			905122	905129
	15:1			905123	
	25:1			905124	905130
	40:1			905125	905131
TA6307H	5:1	906126	906120	---	906128
	9:1			906122	906129
	15:1			906123	
	25:1			906124	906130
	40:1			906125	
TA7315H	5:1	907126	907120	---	907128
	9:1			907122	907129
	15:1			907123	
	25:1			907124	
	40:1			907125	907130
TA8407H	15:1	908126	908120	908123	908129
	25:1			908124	
	40:1			908125	908130
TA9415H	15:1	909126	909120	909123	909129
	25:1			909124	
	40:1			909125	909130
TA10507H	15:1	910126	910120	910123	910129
	25:1			910124	
	40:1			910125	910130
TA12608H	15:1	912126	912120	912123	912129
	25:1			912124	
	40:1			912125	912130

Seal Kit consists of Input Seal, Output Seals, Backstop Cover Gasket and RTV Sealant.
Output Hub Assembly consists of Output Hub, Output Gear and Gear Key.
Countershaft Assembly consists of Countershaft Pinion, Countershaft Gear and Gear Key.
Bearing Kit consists of LH and RH Output Bearing Cup/Cone, LH and RH Countershaft Bearing Cup/Cone (double reduction only) and LH and RH Input Bearing Cup/Cone.

Parts for TA0107L thru TA12608H Taper Bushed Double Reduction Reducers



Parts for TA0107L thru TA7315H Taper Bushed Single Reduction Reducers



Parts for TA0107L thru TA5215H Taper Bushed Double and Single Reduction Reducers

Ref.	Description	Qty.	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H
1	Housing-LH	1	900202	901202	902202	903202	904202	905202
2	Housing-RH	1	900203	901203	902203	903203	904203	905203
§	RTV Sealant, Tube	1	465044	465044	465044	465044	465044	465044
4	Housing Bolt	14	411253	411253	411412	411412	411460	411460
5	Flat Washer	28	900241	900241	902241	902241	904241	904241
6	Nut	14	407085	407085	407087	407087	407091	407091
7	Lock-Washer	14	419010	419010	419011	419011	419013	419013
8 §	Dowel Pin	2	901248	901248	304624	901248	304624	304624
9	Backstop Shaft Cover	1	901279	901279	901279	903279	904279	905279
10	Backstop Cover Gasket	1	901280	901280	901280	903280	904280	905280
11	Backstop Cover Screw	6	417038	417038	417038	417038	417038	417074
12	Lock-Washer	6	419045	419045	419045	419045	419045	419046
13	Input Oil Seal							
	5:1, 9:1, 15:1	1	901235	901235	902235	304924	244524	304932
	25:1 Ratio	1	901235	901235	902235	304924	244524	304932
	40:1 Ratio	1	901235	901235	902233	903235	244524	304932
14	Output Oil Seal	2	900234	352122	243578	244673	245545	246310
15	Air Vent	1	241237	241237	241237	241237	245237	245237
16	Bushing	1	N/A	N/A	N/A	N/A	430079	430079
17 §	Oil Plug	4	430031	430031	430031	430031	430035	430035
18	Magnetic Oil Plug	1	430060	430060	430060	430060	430064	430064
21	Output Bearing Shim-As Req'd							
	.015" Shim		900263	901263	902263	903263	904263	905263
	.007" Shim		900265	901265	902265	903265	904265	905265
	.005" Shim		900264	901264	902264	903264	904264	905264
22	Input Bearing Shim-As Req'd							
	.015" Shim		901267	901271	902271	903267	903267	905271
	.007" Shim		901269	901273	902273	903269	903269	905273
	.005" Shim		901268	901272	902272	903268	903268	905272
41	Counter-Shaft Bearing Shim-As Req'd							
	.015" Shim		900267	901267	901271	903267	903267	905271
	.007" Shim		900269	901269	901273	903269	903269	905273
	.005" Shim		900268	901268	901272	903268	903268	905272
23	Output Gear	1	900208	901208	902208	903208	904208	905208
26	Output Hub	1	900230	901230	902230	903230	904230	905230
27	Output Gear Key	1	900275	901275	901275	903275	904275	905275
28	Input Pinion Key							
	5:1, 9:1, 15:1, 25:1 Ratio	1	901277	901277	902277	903277	904277	905277
	40:1 Ratio	1	901277	901277	902277	903298	904277	905277
29	Input Pinion							
	5:1 Ratio	1	900222	901222	902222	903222	904222	905222
	9:1 Ratio	1	900221	901221	902221	903221	904221	905221
	15:1 Ratio	1	900220	901220	902220	903220	904220	905220
	25:1 Ratio	1	900219	901219	902219	903219	904219	905219
	40:1 Ratio	1	900218	901218	902218	903218	904218	905218
38	First Stage Gear							
	9:1 Ratio	1	900217	901217	902217	903217	904217	905217
	15:1 Ratio	1	900215	901215	902215	903215	904215	905215
	25:1 Ratio	1	900213	901213	902213	903213	904213	905213
	40:1 Ratio	1	900211	901211	902211	903211	904211	905211
39	Counter-Shaft Pinion	1	900209	901209	902209	903209	904209	905209
40	First Stage Gear Key	1	900276	901276	902276	903276	904276	905276
600	Backstop Assembly							
	5:1, 9:1, 15:1, 25:1 Ratio	1	901102	901102	902102	903102	904102	905102
	40:1 Ratio	1	901102	901102	902102	903102	904103	905103
100	Torque-Arm Adapter Bracket	2	900500	901500	902500	903500	904500	905500
	Torque-Arm Rod Kit	1	241244	241244	242244	242244	244245	244245
101	? Torque-Arm Rod End	1	241245	241245	243245	243245	245245	245245
102	? Torque-Arm Extension	1	241247	241247	243247	243247	245247	245247
103	? Torque-Arm Turnbuckle	1	241246	241246	243246	243246	245246	245246
104	? RH Nut	1	407093	407093	407095	407095	407097	407097
105	? LH Nut	1	407242	407242	407244	407244	407246	407246
106	Torque-Arm Bushing	1	242243	242243	243243	243243	245243	245243
107	Torque-Arm Fulcrum	1	241249	241249	243249	243249	246249	246249
108	Torque-Arm Bolt	1	411412	411412	411437	411437	411460	411460
109	Torque-Arm Lock-Washer	1	419011	419011	419012	419012	419013	419013

Parts for TA1107H thru TA5215H Taper Bushed Double and Single Reduction Reducers

Ref.	Description	Qty.	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H
110	Torque-Arm Nut	1	407087	407087	407089	407089	407091	407091
111	Torque-Arm Bolt	1	411456	411456	411484	411484	411484	411484
112	Torque-Arm Nut	1	407091	407091	407093	407093	407093	407093
113	Lock-washer	1	N/A	N/A	N/A	N/A	N/A	N/A
200	Bushing Back-Up Plate	2	241266	901301	243308	903301	904301	905301
203	Retaining Ring	2	421111	901304	421109	903304	421107	421055
204	Bushing Cap Screw	6	411405	411390	902306	411408	411408	411456
205	Bushing Lock-Washer	6	419010	419010	419011	419011	419011	419013
24	Output Bearing Cup	2	900250	901250	403003	903252	403016	403140
25	Output Bearing Cone	2	900251	901251	402003	402268	402193	402050
30	Input Bearing Cup-LH							
	5:1 Ratio	1	403165	403063	403094	304809	304809	403005
	9:1 Ratio	1	403165	403063	403094	304809	304809	403005
	15:1 Ratio	1	403165	403063	403094	304809	304809	403005
	25:1 Ratio	1	403165	403063	403094	304809	304809	403005
	40:1 Ratio	1	403165	403063	403094	403101	304809	403005
31	Input Bearing Cup-RH							
	5:1 Ratio	1	403165	403063	403094	403101	904256	403005
	9:1 Ratio	1	403165	403063	403094	403101	904256	403005
	15:1 Ratio	1	403165	403063	403094	403101	904256	403005
	25:1 Ratio	1	403165	403063	403094	403101	904256	403005
	40:1 Ratio	1	403165	403063	403094	403101	904256	403005
32	Input Bearing Cone-LH							
	5:1 Ratio	1	402265	411626-05-AY	304753	411626-05-K	411626-05-K	402001
	9:1 Ratio	1	402265	411626-05-AY	304753	411626-05-K	411626-05-K	402001
	15:1 Ratio	1	402265	411626-05-AY	304753	411626-05-K	411626-05-K	402001
	25:1 Ratio	1	402265	402108	304753	411626-05-K	411626-05-K	304717
	40:1 Ratio	1	402265	402108	304707	402271	411626-05-K	304717
33	Input Bearing Cone-RH							
	5:1 Ratio	1	402265	402108	304707	402271	904257	402001
	9:1 Ratio	1	402265	402108	304707	402271	904257	402001
	15:1 Ratio	1	402265	402108	304707	402271	904257	402001
	25:1 Ratio	1	402265	402108	304707	402271	904257	402001
	40:1 Ratio	1	402265	402108	304707	402271	904258	411626-05-V
34	Counter-Shaft Bearing Cup-LH	1	304833	403165	304836	403101	304809	403005
35	Counter-Shaft Bearing Cup-RH	1	304833	403165	304836	403101	304809	403005
36	Counter-Shaft Bearing Cone-LH	1	304740	402265	411626-05-B	402271	304710	402001
37	Counter-Shaft Bearing Cone-RH	1	304740	402265	411626-05-B	402271	304710	402001
44	Auxiliary Output Seal	2	900236	901236	902236	903236	904236	905236
45	Auxiliary Input Seal							
	5:1, 9:1, 15:1, 25:1 Ratio	1	901238	901238	902238	903238	904238	905238
	40:1 Ratio	1	901238	901238	--------	--------	904238	905238
400	Screw Conveyor Adapter	1	900401	901401	902401	903401	904401	905401
401	Screw Conveyor Keeper Plate	1	900402	901402	902402	903402	904402	905402
402	Screw Conveyor Wedge	1	900403	901403	902403	903403	904403	905403
403	Screw Conveyor Drive Shaft							
	1-1/2" Shaft	1	900421	901421	902421	903421	N/A	N/A
	1-1/2" Shaft, Stainless Steel	1	900429	901429	902429	903429	N/A	N/A
	2" Shaft	1	900422	901422	902422	903422	904422	905422
	2" Shaft, Stainless Steel	1	900430	901430	902430	903430	904430	905430
	2-7/16" Shaft	1	900423	901423	902423	903423	904423	905423
	2-7/16" Shaft, Stainless Steel	1	900431	901431	902431	903431	904431	905431
	3" Shaft	1	900424	901424	902424	903424	904424	905424
	3" Shaft, Stainless Steel	1	900432	901432	902432	903432	904432	905432
	3-7/16" Shaft	1	N/A	N/A	N/A	N/A	904425	905425
	3-7/16" Shaft, Stainless Steel	1	N/A	N/A	N/A	N/A	904433	905433
404	Retaining Bolt	1	411549	411549	411549	411551	411551	411551
405	Lock-Washer	1	419014	419014	419014	419016	419016	419016
406	Drive Shaft Key	1	900405	901405	902405	903405	904405	905405
407	Drive Shaft Washer	1	900404	901404	902404	903404	904404	905404
408	Seal	2	901411	901411	902411	353085	904411	905411
409	Bolt	4	411410	411410	411435	411456	411456	411483
410	Lock-Washer	4	419011	419011	419012	419013	419013	419014
411	Retaining Ring	1	900406	901406	902406	903406	904406	905406

Parts for TA0107L thru TA5215H Taper Bushed Double and Single Reduction Reducers

Ref.	Description	Qty.	TA0107L	TA1107H	TA2115H	TA3203H	TA4207H	TA5215H
412	Adjustable Packing Retainer	1	900413	901413	902413	903413	904413	905413
413	Adjustable Packing Gland Stud	2	400404	400404	400404	400404	400404	400404
414	Adjustable Packing Gland Nut	2	407202	407202	407202	407202	407202	407202
415	Sealing Rings	3	900416	901416	902416	903416	904416	905416

Notes:
§ Not shown on drawing.
Includes parts listed immediately below marked "?".
? Makes up assembly under which it is listed.
8 required on TA5215H.
See Table 12 for actual ratio.

Parts for TA6307H thru TA12608H Taper Bushed Double and Single Reduction Reducers

Ref.	Description	Qty.	TA6307H	TA7315H	TA8407H	TA9415H	TA10507	TA12608
1	Housing-LH	1	906202	907202	908202	909202	910202	912202
2	Housing-RH	1	906203	907203	908203	909203	910203	912203
§	RTV Sealant, Tube	1	465044	465044	465044	465044	465044	465044
4	Housing Bolt	14	411460	411488	411488	411488	411496	411496
5	Flat Washer	28	904241	907241	907241	907241	910241	910241
6	Nut	14	407091	407093	407093	407093	407095	407095
7	Lock-Washer	14	419013	419014	419014	419014	419016	419016
8 §	Dowel Pin	2	304624	304624	304624	304624	304624	304624
9	Backstop Shaft Cover	1	906279	907279	908279	907279	910279	912279
10	Backstop Cover Gasket	1	906280	907280	908280	907280	910280	912280
11	Backstop Cover Screw	6	417074	907281	417074	907281	907281	907281
12	Lock-Washer	6	419046	419047	419046	419047	419047	419047
13	Input Oil Seal							
	5:1, 9:1	1	352122	242210	N/A	N/A	N/A	N/A
	15:1	1	352122	242210	242210	242210	243578	243578
	25:1 Ratio	1	352122	242210	242210	242210	243578	243578
	40:1 Ratio	1	352122	242210	242210	242210	243578	243578
14	Output Oil Seal	2	906234	258019	258019	909234	910234	912234
15	Air Vent	1	245237	245237	245237	245237	245237	245237
16	Bushing	1	430079	430079	430079	430079	430079	430079
17 §	Oil Plug	4	430035	430035	430035	430035	430035	430035
18	Magnetic Oil Plug	1	430064	430064	430064	430064	430064	430064
21	Output Bearing Shim-As Req'd							
	.015" Shim		906263	907263	907263	909263	910263	912263
	.007" Shim		906265	907265	907265	909265	910265	912265
	.005" Shim		906264	907264	907264	909264	910264	912264
22	Input Bearing Shim-As Req'd							
	.015" Shim		906271	907271	903263	909267	910267	910267
	.007" Shim		906273	907273	903265	909269	910269	910269
	.005" Shim		906272	907272	903264	909268	910268	910268
41	Counter-Shaft Bearing Shim-As Req'd							
	.015" Shim		906271	906271	908267	909267	904263	912267
	.007" Shim		906273	906273	908269	909269	909265	912269
	.005" Shim		906272	906272	908268	909268	904264	912268
23	Output Gear	1	906208	907208	908208	909208	910208	912208
26	Output Hub	1	906230	907230	908230	909230	910230	912230
27	Output Gear Key	1	906275	907275	908275	909275	910275	912275
28	Input Pinion Key							
	5:1, 9:1	1	906277	907277	N/A	N/A	N/A	N/A
	15:1, 25:1 Ratio	1	906277	907277	908277	909277	909277	909277
	40:1 Ratio	1	906277	907277	908277	909277	909277	909277
29	Input Pinion							
	5:1 Ratio	1	906222	907222	N/A	N/A	N/A	N/A
	9:1 Ratio	1	906221	907221	N/A	N/A	N/A	N/A
	15:1 Ratio	1	906220	907220	908220	909220	910220	912220
	25:1 Ratio	1	906219	907219	908219	909219	910219	912219
	40:1 Ratio	1	906218	907218	908218	909218	910218	912218
38	First Stage Gear							
	9:1 Ratio	1	906217	907217	N/A	N/A	N/A	N/A
	15:1 Ratio	1	906215	907215	908215	909215	910215	912215
	25:1 Ratio	1	906213	907213	908213	909213	910213	912213
	40:1 Ratio	1	906211	907211	908211	909211	910211	912211
39	Counter-Shaft Pinion	1	906209	907209	908209	909209	910209	912209
40	First Stage Gear Key	1	906276	907276	908276	909276	910276	912276
600	Backstop Assembly							
	5:1, 9:1	1	906102	907102	N/A	N/A	N/A	N/A
	15:1 Ratio	1	906102	907102	908102	909102	910102	912102
	25:1 Ratio	1	906103	907102	908102	909102	910102	912102
	40:1 Ratio	1	906103	907103	908103	907103	910103	912103
100	Torque-Arm Adapter Bracket	2	906500	907500	907500	909500	910500	912500
	Torque-Arm Rod Kit	1	247238	248240	248240	272416	272416	
101	? Torque-Arm Rod End	1	247239	271050	271050	272050	272050	272151
102	? Torque-Arm Extension	1	247240	271052	271052	272052	272052	272153
103	? Torque-Arm Turnbuckle	1	247246	271051	271051	272051	272051	272152
104	? RH Nut	1	407099	407104	407104	407108	407108	407110

Parts for TA6307H thru TA12608H Taper Bushed Double and Single Reduction Reducers

Ref.	Description	Qty.	TA6307H	TA7315H	TA8407H	TA9415H	TA10507H	TA12608H
105	? LH Nut	1	407248	407250	407250	407251	407251	407111
106	Torque-Arm Bushing	1	247244	271046	271046	272046	272046	272187
107	Torque-Arm Fulcrum	1	247248	271054	271054	272054	272054	272154
108	Torque-Arm Bolt	1	411489	411510	411510	411520	411520	411527
109	Torque-Arm Lock-Washer	1	419014	419020	419020	419024	419024	419025
110	Torque-Arm Nut	1	407093	407099	407099	407104	407104	407108
111	Torque-Arm Bolt	1	411489	411516	411516	419524	411524	411528
112	Torque-Arm Nut	1	407093	407099	407099	407104	407104	407108
113	Lock-washer	1	419014	419020	419020	419024	419024	419025
200	Bushing Back-Up Plate	2	906301	272037	908301	909301	910301	912301
203	Retaining Ring	2	906304	421098	908304	909304	910304	912304
204	Bushing Cap Screw	6	411456	411457	411457	411484	411484	411484
205	Bushing Lock-Washer	6	419013	419013	419013	419014	419014	419014
24	Output Bearing Cup	2	906250	403105	403105	403110	910250	912250
25	Output Bearing Cone	2	906251	402147	402147	402160	910251	912251
30	Input Bearing Cup-LH							
	5:1 Ratio	1	403026	304802	N/A	N/A	N/A	N/A
	9:1 Ratio	1	403026	304802	N/A	N/A	N/A	N/A
	15:1 Ratio	1	403026	304802	908259	403036	402231	402231
	25:1 Ratio	1	403026	304802	908259	403036	402231	402231
	40:1 Ratio	1	403026	304802	908259	403036	402231	402231
31	Input Bearing Cup-RH							
	5:1 Ratio	1	403026	403159	N/A	N/A	N/A	N/A
	9:1 Ratio	1	403026	403159	N/A	N/A	N/A	N/A
	15:1 Ratio	1	403026	403159	908256	411626-06-BE	411626-06-BE	403036
	25:1 Ratio	1	403026	403159	908256	411626-06-BE	411626-06-BE	403036
	40:1 Ratio	1	403026	403159	304804	304804	304804	403036
32	Input Bearing Cone-LH							
	5:1 Ratio	1	906260	402041	N/A	N/A	N/A	N/A
	9:1 Ratio	1	906260	402041	N/A	N/A	N/A	N/A
	15:1 Ratio	1	906260	402041	908260	304701	402232	402232
	25:1 Ratio	1	906260	402041	908260	304701	402232	402232
	40:1 Ratio	1	906260	402041	908260	304701	402232	402232
33	Input Bearing Cone-RH							
	5:1 Ratio	1	906260	907260	N/A	N/A	N/A	N/A
	9:1 Ratio	1	906260	907260	N/A	N/A	N/A	N/A
	15:1 Ratio	1	906260	907260	908257	411626-05-BM	411626-05-BM	304701
	25:1 Ratio	1	906257	907260	908257	411626-05-BM	411626-05-BM	304701
	40:1 Ratio	1	906257	402054	908258	908258	908258	912258
34	Counter-Shaft Bearing Cup-LH	1	403026	403159	411626-06-BE	403036	403087	402233
35	Counter-Shaft Bearing Cup-RH	1	403026	403159	411626-06-BE	403036	403087	402233
36	Counter-Shaft Bearing Cone-LH	1	906257	907260	411626-05-BM	304701	402023	912253
37	Counter-Shaft Bearing Cone-RH	1	906257	907260	908253	304701	402023	912253
44	Auxiliary Output Seal	2	906236	907236	907236	909236	910236	912236
45	Auxiliary Input Seal							
	5:1, 9:1 Ratio	1	901236	907238	N/A	N/A	N/A	N/A
	15:1, 25:1 Ratio	1	901236	907238	907238	907238	902236	902236
	40:1 Ratio	1	901236	907238	907238	907238	902236	902236
400	Screw Conveyor Adapter	1	906401	907401	N/A	N/A	N/A	N/A
401	Screw Conveyor Keeper Plate	1	906402	907402	N/A	N/A	N/A	N/A
402	Screw Conveyor Wedge	1	906403	907403	N/A	N/A	N/A	N/A
403	Screw Conveyor Drive Shaft							
	2-7/16" Shaft	1	906423	907423	N/A	N/A	N/A	N/A
	2-7/16" Shaft, Stainless Steel	1	906431	907431	N/A	N/A	N/A	N/A
	3" Shaft	1	906424	907424	N/A	N/A	N/A	N/A
	3" Shaft, Stainless Steel	1	906432	907432	N/A	N/A	N/A	N/A
	3-7/16" Shaft	1	906425	907425	N/A	N/A	N/A	N/A
	3-7/16" Shaft, Stainless Steel	1	906433	907433	N/A	N/A	N/A	N/A
404	Retaining Bolt	1	411552	411552	N/A	N/A	N/A	N/A
405	Lock-Washer	1	419020	419020	N/A	N/A	N/A	N/A
406	Drive Shaft Key	1	906405	907405	N/A	N/A	N/A	N/A
407	Drive Shaft Washer	1	906404	907404	N/A	N/A	N/A	N/A
408	Seal	2	906411	907411	N/A	N/A	N/A	N/A

Parts for 6307H thru TA12608H Taper Bushed Double and Single Reduction Reducers

Ref.	Description	Qty.	TA6307H	TA7315H	TA8407H	TA9415H	TA10507H	TA12608H
409	Bolt	4	411983	411493	N/A	N/A	N/A	N/A
410	Lock-Washer	4	419016	419016	N/A	N/A	N/A	N/A
411	Retaining Ring	1	906406	907406	N/A	N/A	N/A	N/A
412	Adjustable Packing Retainer	1	906413	907413	N/A	N/A	N/A	N/A
413	Adjustable Packing Gland Stud	2	400404	400404	N/A	N/A	N/A	N/A
414	Adjustable Packing Gland Nut	2	407202	407202	N/A	N/A	N/A	N/A
415	Sealing Rings	3	906416	907416	N/A	N/A	N/A	N/A

Notes:

§ Not shown on drawing.

Includes parts listed immediately below marked "**?**".

? Makes up assembly under which it is listed.

8 required on TA5215H, TA6307H, TA7315H, TA8407H, and TA9415H, 12 required on TA10507 and TA12608H.

See Table 12 for actual ratio.

18 required on TA9415H, 20 required on TA10507H, 22 required on TA12608H.

36 required on TA9415H, 40 required on TA10507H, 44 required on TA12608H.

2 required on TA7315H, TA8407H, TA9415H, and TA10507H

8 required on TA12608H.

ACTUAL RATIOS

Table 12 – Actual Ratios

Reducer Size	Nominal Ratios				
	5:1	9:1	15:1	25:1	40:1
TA0107L	5.200	9.000	14.928	25.091	30.942
TA1107H	5.000	8.990	14.912	25.064	30.909
TA2115H	5.200	9.103	15.619	25.067	33.333
TA3203H	4.913	9.234	15.067	24.954	32.451
TA4207H	5.000	9.231	15.000	25.125	39.107
TA5215H	5.105	9.183	14.923	24.996	38.907
TA6307H	4.944	9.215	15.451	24.868	38.319
TA7315H	5.188	9.716	14.914	24.837	39.656
TA8407H	N/A	N/A	15.120	24.965	39.667
TA9415H	N/A	N/A	15.103	25.435	39.406
TA10507H	N/A	N/A	15.092	25.184	39.676
TA12608H	N/A	N/A	14.788	25.025	38.188