Torque-Arm TXT/HXT Single Reduction Tapered-Bushed and Straight-Bore Speed Reducers

Instruction Manual

TXT/HXT105E TXT/HXT205E TXT/HXT305E TXT/HXT405E TXT/HXT505E TXT605E TXT705E

Includes Char-Lynn 6B Hydroil Reducers

HXT105E–6B HXT205E–6B HXT305E–6B HXT405E–6B HXT505E–6B

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see **dodgeindustrial.com** for updated instruction manuals.

WARNING: To ensure the drive is not unexpectedly started, turn off and lock-out or tag power source before proceeding. Failure to observe these precautions could result in bodily injury.

WARNING: All products over 25 kg (55 lbs) are noted on the shipping package. Proper lifting practices are required for these products.

INSTALLATION

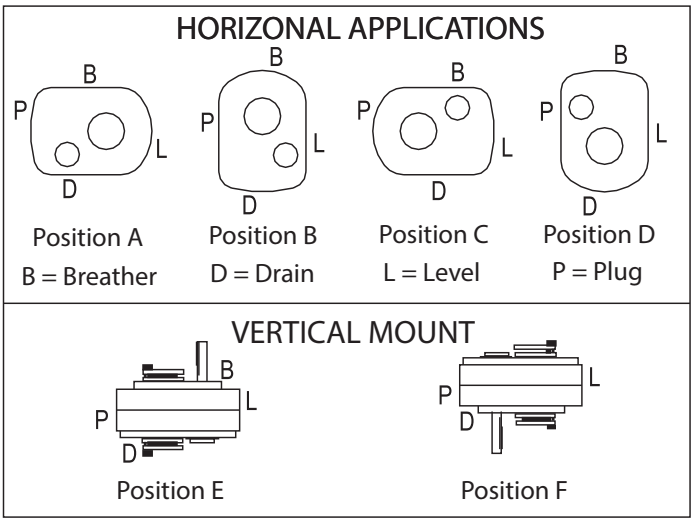
NOTE: This reducer is compatible with the Dodge sensor, which can be installed in the adapter plug labelled "smart sensor." The plug and sensor can be moved to different locations as required by mounting position.

1. Use eyebolt to lift reducer.
2. Determine the running position of the reducer (see Figure 1). Note that the reducer is supplied with either four or seven plugs; four around the sides for horizontal installations and one 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 filler/ventilation plug in shipment and install plug in topmost hole. Of the three remaining plugs on the sides of the reducer, the lowest one is the minimum oil level plug.

   Vertical Installations—Install the filler/ventilation plug in the hole provided in the top face of the reducer housing. Use the hole in the bottom face for the magnetic drain plug. Of the five remaining holes on the sides of the reducer, use a plug in the upper housing half for the minimum oil level plug.

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 Dodge® nor are the responsibility of Dodge. 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 risk 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.



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 Product Support.

Figure 1 - Mounting Positions

The running position of the reducer in a horizontal application is not limited to the four positions shown in Figure 1. However, if the running position is over 20° in position B and D or over 5° in position A and C—either way from sketches—the oil level plug cannot be safely used 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 and C or to within 5° for position B and D of the positions shown in Figure 1. Because of the many possible positions of the reducer, it may be necessary or desirable to make special adaptations using the lubrication fitting 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 Tapered-Bushed Reducer: Mount reducer on driven shaft per instruction manual for tapered bushings.
4. Install sheave on input shaft as close to reducer as practical (see Figure 2).
5. If not using a Dodge Torque-Arm 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 Figure 3). This will permit tightening the v-belt with the torque-arm.
6. Install torque-arm and adapter plates using the long reducer bolts. The adapter plates may be installed in any position around the input end of the 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 Figure 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 the recommended volume of lubricant.

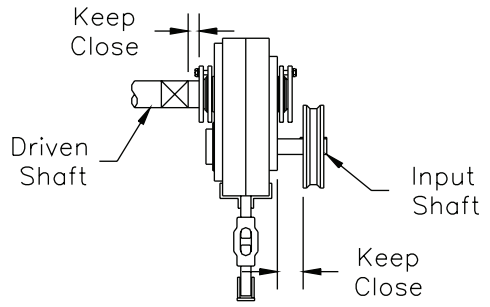


Figure 2 - Reducer and Sheave Installation

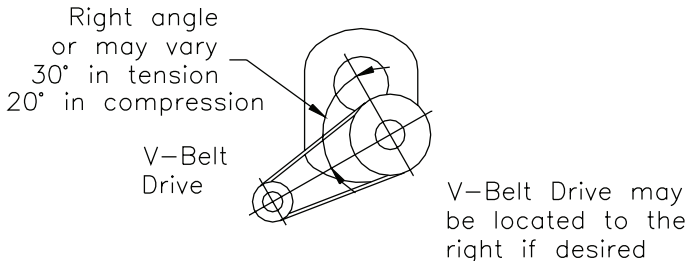


Figure 3 - Angle of V-Drive

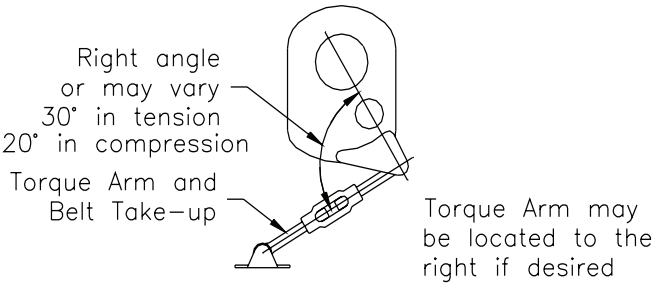


Figure 4 - Angle of Torque Arm

Tapered Bushing Installation

CAUTION: DO NOT USE LUBRICANTS OR ANTI-SEIZE WHEN INSTALLING TWIN TAPERED BUSHINGS. The use of lubricants or anti-seize could result in over tightening of the bushing assembly. This may result in bushing assembly damage or future bushing removal issues.

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, and necessary shaft keys or key. The driven shaft must extend through the full length of the reducer. 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. This dimension does not include dimension A. Dimension A should be added to the minimum shaft length to allow for the removal of the bushings at disassembly.
2. 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 and for future bushing and reducer removal. If the reducer must be positioned closer to the equipment than dimension A, place the screws, with washers installed, into the unthreaded holes of the bushing flange prior to placing the bushing on the shaft and position as required.
3. Insert the output key in the shaft and bushing. For ease of installation, rotate the driven shaft so that the shaft keyseat is at the top position.
4. 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.
5. 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.
6. 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.
7. 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.

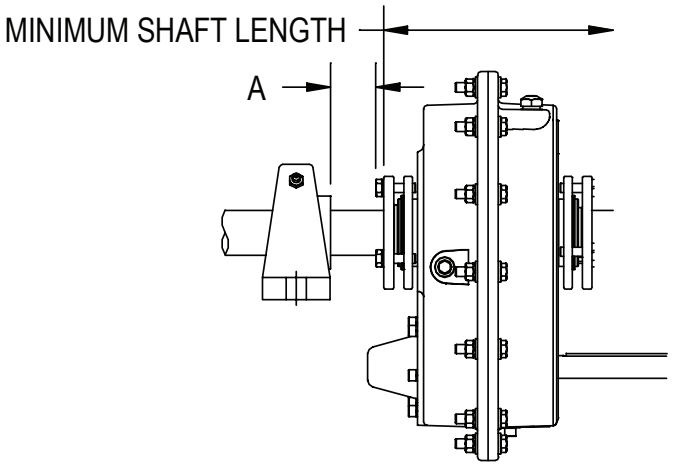


Figure 5 - Minimum Recommended Dimensions

Table 1–Minimum Mounting Dimensions and Bolt Torques

Minimum Required Shaft Length		
Reducer Size	**Tapered Bushing**	**Straight Bushing**
TXT/HXT105E	6-1/2	5-5/8
TXT/HXT205E	6-3/4	5-13/16
TXT/HXT305E	8-9/16	7-11/16
TXT/HXT405E	9-5/16	8-1/4
TXT/HXT505E	9-3/4	8-11/16
TXT605E	10-3/4	9-5/8
TXT705E	11-15/16	10-3/4

Bushing Screw Information and Minimum Clearance for Removal

Reducer Size	Fastener Size	Torque (in-lbs)	Dim. "A"
TXT/HXT105E	5/16-18	200	1-1/4
TXT/HXT205E	5/16-18	200	1-1/4
TXT/HXT305E	3/8-16	360	1-1/2
TXT/HXT405E	3/8-16	360	1-3/4
TXT/HXT505E	3/8-16	360	1/13/16
TXT605E	1/2-13	800	1/13/16
TXT705E	1/2-13	800	2-1/16

Tapered Bushing Removal

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, key(s), and inboard bushing.

Straight-Bore Reducer

1. Mount reducer on driven shaft as close to bearing as practical. If bushings are used, assemble bushing in reducer first. A set of bushings for one reducer consists of one keyseated bushing and one plain bushing. Extra length set screws are furnished with the reducer. Driven shaft should extend through full length of speed reducer.
2. Tighten both set screws in each collar.

Straight-Bore Bushing Installation

1. One bushing assembly is required to mount the reducer on the driven shaft. An assembly consists of one keyed straight bushing, one plain straight bushing, required set screws, and necessary shaft key or keys. The driven shaft must extent through the reducer to operate properly. The minimum shaft length, as measured from the end of the shaft to the outer edge of the retaining collar, is given in Table 1.
2. Install the plain bushing into the reducer output hub on the side toward the equipment or bearing. Remove two short set screws from the retaining collar and install two of the longer set screws supplied with the bushing kit. Line up the bushing holes with the set screws. Thread the set screws in until they locate into the bushing holes. Make sure the set screws are threaded in only enough to locate the bushing in the reducer hub and does not extend thru the bushing
3. Install the keyed bushing into the opposite end of the reducer hub as the plain bushing. Remove one short set screw from the retaining collar and install the remaining set screw from the bushing kit into the collar. Line up the bushing hole with the set screw. Thread the set screw in until it locates into the bushing hole. Make sure the set screw is threaded in only enough to locate the bushing in the reducer hub and does not extend through the bushing.
4. Mount the reducer on the driven shaft as close to the equipment or bearing as practical.
5. Line up the keyway in the bushing with the keyway in the driven shaft. Insert the key supplied with the bushing kit into the keyway. Gently tap the key into position until the key is flush with the edge of the reducer. Securely tighten all set screws.

LUBRICATION

IMPORTANT: Because torque-arm reducers are shipped without oil, it is extremely important to add the proper amount of lubricant prior to operating reducer. For most applications a high-grade petroleum-base rust and oxidation inhibited (R&O) gear oil is suitable. See Table 2 and Table 3 for proper oil volume and viscosity requirements.

Under severe conditions EP oil can be used provided the reducer is not equipped with an internal backstop. Internal backstops are designed to rely on friction to operate correctly. EP lubricants contain friction modifiers that will alter backstop performance and therefore must not to be used on reducers equipped with internal backstops.

Follow instructions on reducer warning tags.

Lubrication is very important for satisfactory operation. The proper oil level must be maintained at all times. Frequent inspection, at least monthly, with the unit not running and allowing sufficient time for the oil to cool and the entrapped air to settle out of the oil should be made by removing the level plug and verifying the level is being maintained. If oil level is low, add the proper lubricant until the oil volume is increased to the correct level.

After an initial operation of about two weeks, the oil should be changed. If desired, this oil may be filtered and reused. After the initial break in period, under average industrial operating conditions, the lubricant should be changed every 2,500 hours of operation. At every oil change, drain reducer and flush with kerosene, clean magnetic drain plug and refill to proper level with new lubricant.

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 one to three months, depending on severity of conditions.

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 equipment damage and/or bodily injury.

Heating is a natural characteristic of enclosed gearing. A maximum gear case temperature approaching 200°F is not uncommon for some units operating in normal ambient temperatures of 80°F. When operating at the rated capacity with proper lubrication, no damage will result from this temperature. This maximum temperature was taken into consideration during the design of the reducer.

Table 2–Oil Volumes

Reducer	Approximate Volume of Oil to Fill Reducer to Oil Level Plug ①④⑤⑥					
	② Position A	② Position B	② Position C	② Position D	② Position E	② Position F
Size	③ Qt	③ Qt	③ Qt	③ Qt	③ Qt	③ Qt
TXT/HXT105E	5/8	3/4	5/8	3/4	1 1/8	1 3/8
TXT/HXT205E	3/4	7/8	7/8	7/8	1 3/4	2 1/4
TXT/HXT305E	7/8	1 1/2	1 3/8	1 3/8	2 1/2	3 1/8
TXT/HXT405E	1 1/2	2 1/4	2 1/8	1 7/8	4	4 7/8
TXT/HXT505E	3 3/8	4 1/4	3 7/8	3 3/4	7 3/4	9
TXT605E	4 1/2	5 3/4	4 1/2	5	12	11
TXT705E	7 1/2	9	7 1/2	9 1/4	19	17 1/4

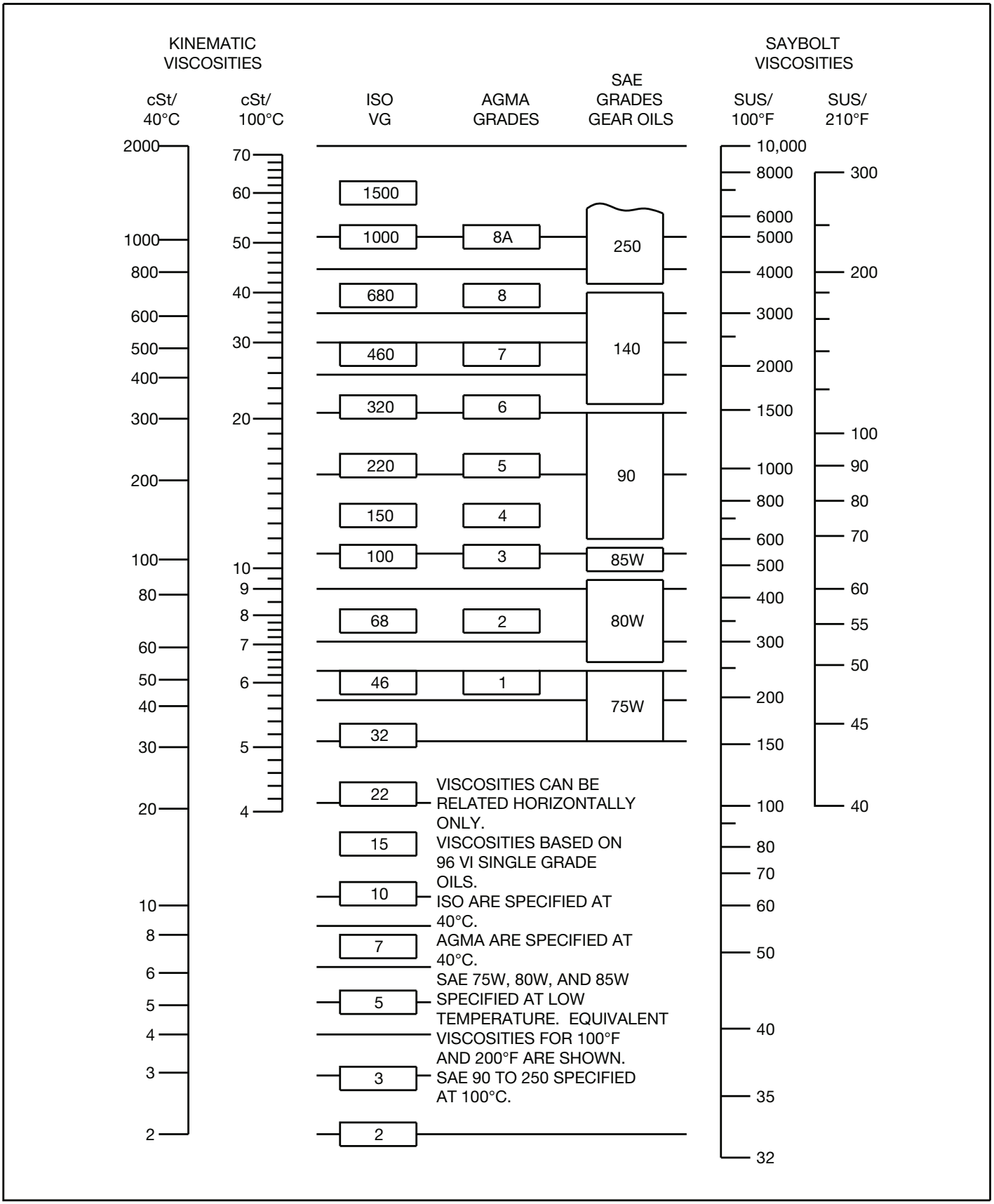
Notes:
① Oil quantity is approximate. Service with lubricant until oil runs out of oil level hole.
② Refer to Figure 1 for mounting positions.
③ US measure: 1 quart = 32 fluid ounces = .94646 liters.
④ Conversion from quarts rounded values.
⑤ Below 15 RPM output speed, oil level must be adjusted to reach 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.
⑥ Consult Dodge for proper oil level for reducers equipped with backstops and which are mounted in either the C position or D position.

Table 3–Oil Recommendations

ISO Grades For Ambient Temperatures of 50°F to 125°F (Refer to Notes below)							
Output RPM	Torque-Arm Reducer Size						
	TXT/HXT105E	TXT/HXT205E	TXT/HXT305E	TXT/HXT405E	TXT/HXT505E	TXT605E	TXT705E
301-400	320	320	220	220	220	220	220
201-300	320	320	220	220	220	220	220
151-200	320	320	220	220	220	220	220
126-150	320	320	320	220	220	220	220
101-125	320	320	320	320	220	220	220
81-100	320	320	320	320	320	220	220
41-80	320	320	320	320	320	220	220
11-40	320	320	320	320	320	320	320
1-10	320	320	320	320	320	320	320
ISO Grades For Ambient Temperatures of 15°F to 60°F (Refer to Notes below)							
Output RPM	Torque-Arm Reducer Size						
	TXT/HXT105E	TXT/HXT205E	TXT/HXT305E	TXT/HXT405E	TXT/HXT505E	TXT605E	TXT705E
301-400	220	220	150	150	150	150	150
201-300	220	220	150	150	150	150	150
151-200	220	220	150	150	150	150	150
126-150	220	220	220	150	150	150	150
101-125	220	220	220	220	150	150	150
81-100	220	220	220	220	220	150	150
41-80	220	220	220	220	220	150	150
11-40	220	220	220	220	220	220	220
1-10	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. Torque-arm internal backstops are not 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 Application Engineering +1 864 284 5700 for lubrication recommendations.
6. Mobil SHC630 Series oil is recommended for high ambient temperatures.

OIL VISCOSITY EQUIVALENCY CHART



MOTOR MOUNTS

The TA motor mount is designed to be installed on the output end of the reducer as shown in Figure 6. If bottom-mounting is desired, use the optional TAB style.

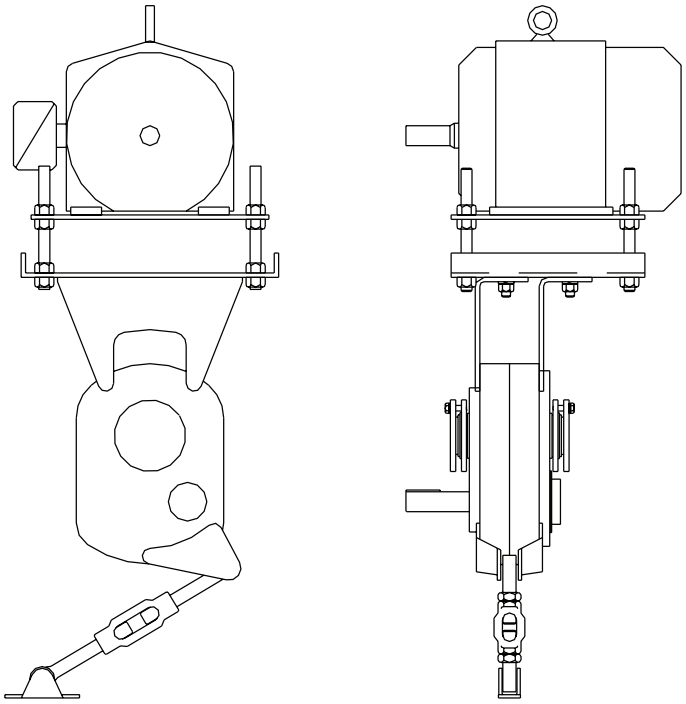


Figure 6 - Motor Mounts

Remove the required housing bolts on the output end of the reducer. Place the motor mount brackets in position and install the longer housing bolts supplied with the motor mount assembly. Do not fully tighten the housing bolts at this time.

Install the bottom plate to the motor mount brackets and tighten with the hardware provided. Next, tighten the housing bolts to the torque values listed in Table 6.

Install the four adjusting studs to the bottom plate using the jam nuts provided and securely tighten. These nuts will not require any further adjustment. Add one additional jam nut to each stud and thread approximately to the middle of the stud. Install the top motor plate 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.

Mount motor, drive and driven sheaves, and v-belts.

NOTE: Mount driven sheave as close to the reducer housing as practical.

Adjust v-belts to the proper tension by adjusting the jam nuts and securely tighten.

Check all bolts to ensure that they are securely tightened.

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.

GUIDELINES FOR TXT 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.

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.
4. Follow the installation instructions provided in this manual.

Table 4–Quantities of VCI #105 Oil

Reducer Size	Quantity (Ounces / Milliliter)
TXT/HXT105E	1 / 30
TXT/HXT205E	1 / 30
TXT/HXT305E	1 / 30
TXT/HXT405E	1 / 30
TXT/HXT505E	1 / 30
TXT605E	2 / 59
TXT705E	2 / 59

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

REPLACEMENT OF PARTS

NOTE: 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 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.

The oil seals are designed with a contact lip. 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. 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 a torque-arm reducer, specify reducer part number, part name, and quantity required. It is strongly recommended that, when a pinion or gear is replaced, the mating pinion or gear is replaced as well.

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.

Tapered-Bushed Reducer

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 outboard bushing, the reducer, and then the inboard bushing.

Straight-Bore Reducer

1. Disconnect and remove belt guard, v-drive, and motor mount as required. Disconnect torque-arm rod from reducer adapter.
2. Loosen and remove the set screws in both output hub collars.
3. Remove the collar from the output hub closest to the end of the shaft. This will expose three puller holes in the output hub to permit the use of a three-prong puller. In removing the reducer from the shaft, use care not to damage the reducer output hub.

Disassembly

1. Drain all oil from the reducer.
2. Remove all locking collars, retaining rings, and bushing backup plates as required. Position the reducer on its side and remove all housing bolts. Using the three pry slots around the periphery of the flange, gently separate the housing halves and open evenly to prevent damage to the parts inside. Remove the two dowel pins.
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.

TXT/HXT105E and TXT/HXT205E Reassembly

1. **Output Hub Assembly:** Heat gear from 325°F to 350° to shrink onto hub. Heat bearings from 270°F to 290°F to shrink onto hub. Any damage to the hub surfaces where the oil seals rub will cause leakage, making it necessary to replace the hub.
2. **Input Shaft Assembly:** Heat bearings from 270°F to 290°F and shrink onto shaft.
3. Drive the two dowel pins into place in the right-hand housing half (backstop side).
4. Make sure both housing halves are clean and free of RTV residue. Place right-hand housing half on blocks to allow for protruding end of output hub.
5. Install and mesh the output hub gear assembly and input shaft assembly in place in the right-hand housing.
6. Apply a continuous 1/8" diameter bead of Dow Corning RTV732 sealant on the flange surface of the right-hand housing, making sure RTV is placed around all bolt holes. Set the left-hand housing half in position onto the dowel pins located in the right-hand housing and gently tap with a soft hammer until housing bolts can be used to draw housing halves together. Make sure reducer shafts do not bind when tightening housing bolts.
7. Torque housing bolts per torque values listed in Table 6.
8. Install input and output seals. Lightly coat the seal lips with Mobilith AW2 All-Purpose grease or equivalent. The possibility of damage and consequent oil leakage can be decreased by covering all sharp edges with tape prior to seal installation. 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. Extreme care should be used when installing seals to avoid damage due to contact with sharp edges on the input shaft or output hub. A slight oil leak at the seals may be evident during initial running but should disappear unless seals have been damaged.

TXT/HXT305E and TXT/HXT405E Reassembly

1. Follow step one through step four listed under TXT/HXT105E and TXT/HXT205E reassembly.
2. Install all bearing cups in the right-hand housing half, making sure they are properly seated.
3. Install and mesh the output hub gear assembly and input shaft assembly in place in the right-hand housing.
4. Install all bearing cups without shims into the left-hand housing half. Set the left-hand housing half in position onto the dowel pins located in the right-hand housing and gently tap with a soft hammer until the housing bolts can be used to draw the housing halves together. Torque housing bolts per Table 6.
5. Rotate the input shaft by hand to seat the bearing cups.
6. Using an indicator and magnetic base, measure record the axial endplay of the input shaft and output hub assembly.
7. Remove all housing bolts and remove the left-hand housing. Remove the bearing cups from the left-hand housing. Based on the recorded readings, shim behind each bearing cup to set the correct endplay per Table 5. Reinstall the bearing cups into the left-hand housing. Repeat the above procedure and adjust the axial endplay as required per Table 5. Once the endplay is set, remove the left-hand housing and apply a continuous 1/8" diameter bead of Dow Corning RTV732 sealant or equivalent on the flange surface of the right-hand housing (to prevent oil leaks, make sure RTV is placed around all bolt holes).
8. Set the left-hand housing half in position onto the dowel pins located in the right-hand housing and torque housing bolts per Table 6.
9. Install input and output seals. Lightly coat the seal lips with Mobilith AW2 All-Purpose grease or equivalent. The possibility of damage and consequent oil leakage can be decreased by covering all sharp edges with tape prior to seal installation. 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. Extreme care should be used when installing seals to avoid damage due to contact with sharp edges on the input shaft or output hub. A slight oil leak at the seals may be evident during initial running but should disappear unless seals have been damaged.

TXT/HXT505E through TXT705E Reassembly

1. Follow step one through step four listed under TXT/HXT105E and TXT/HXT205E reassembly.
2. Install all bearing cups in right-hand housing half, making sure they are properly seated.
3. Install and mesh the output hub gear and the input shaft assembly into the right-hand housing. Make sure bearing cones are properly seated in their cups. Set bearing cups for left-hand housing half in place on their respective cones.
4. Make sure both housing halves are clean and free of RTV residue. Apply a continuous 1/8" diameter bead of Dow Corning RTV732 sealant on the flange surface of the right-hand housing (to prevent oil leaks, make sure RTV is placed around all bolt holes). Set the left-hand housing half in position onto the dowel pins and gently tap with a soft hammer until the housing bolts can be used to draw the housing halves together. Make sure reducer shafts do not bind when tightening the housing bolts. Torque housing bolts per torque values listed in Table 6.
5. Install the output seal carrier and draw down with two bolts 180° apart to 50 inch-pounds of torque. Loosen both bolts then retighten finger-tight only. Measure the clearance between the housing and output seal carrier flange at each bolt and average the two values. Add 0.010" to the average reading and make up shim pack.
6. Install shim pack between the carrier flange and reducer housing. Torque the bolts to the value shown in Table 6. Using a magnetic base and dial indicator, check the axial endplay reading of the output hub and verify the endplay is per Table 5. Adjust if necessary. Once endplay is correct, remove the output seal carrier and apply RTV to the output seal carrier at the inside diameter of the shims.
7. Repeat steps five and six above for adjusting the input bearings. Adjust the axial endplay per Table 5.
8. Install input and output seals. Lightly coat the seal lips with Mobilith AW2 All-Purpose grease or equivalent. The possibility of damage and consequent oil leakage can be decreased by covering all sharp edges with tape prior to seal installation. 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. Extreme care should be used when installing seals to avoid damage due to contact with sharp edges on the input shaft or output hub. A slight oil leak at the seals may be evident during initial running but should disappear unless seals have been damaged.

Table 5–Bearing Adjustment Tolerances

Reducer Size	Bearing Endplay Values	
	Input	Output
TXT/HXT105E	N/A	N/A
TXT/HXT205E	N/A	N/A
TXT/HXT305E	.002-.004 Loose	.0005-.003 Loose
TXT/HXT405E	.002-.004 Loose	.0005-.003 Loose
TXT/HXT505E	.002-.004 Loose	.0005-.003 Loose
TXT605E	.002-.004 Loose	.0005-.003 Loose
TXT705E	.002-.004 Loose	.0005-.003 Loose

Table 6–Recommended Bolt Torque Values

Recommended Torque Values (lbs-ft)			
Reducer Size	Housing Bolts	Output Seal Carrier	Input Seal Carrier
TXT/HXT105E	30 - 27	N/A	N/A
TXT/HXT205E	30 - 27	N/A	N/A
TXT/HXT305E	50 - 45	17 - 15	17 - 15
TXT/HXT405E	50 - 45	30 - 27	30 - 27
TXT/HXT505E	75 - 68	30 - 27	30 - 27
TXT605E	75 - 68	30 - 27	30 - 27
TXT705E	150 - 135	30 - 27	30 - 27

Backstop Cover Bolt Recommended Torque Values		
Reducer Size	Fastener Size	Torque (ft-lbs)
TXT/HXT105E	10 - 24 x 3/8	5 - 4
TXT/HXT205E	10 - 24 x 3/8	5 - 4
TXT/HXT305E	10 - 24 x 3/8	5 - 4
TXT/HXT405E	1/4 - 20 x 1/2	8 - 7
TXT/HXT505E	1/4 - 20 x 1 - 1/4	8 - 7
TXT605E	1/4 - 20 x 1 - 1/4	8 - 7
TXT705E	1/4 - 20 x 1	8 - 7

REPLACEMENT PART AND KIT NUMBERS

Table 7–Part Numbers for Replacement Bearings, Single Reduction Reducers

Reducer Size	Output Hub Bearing – LH and RH Sides	
	Dodge Part Number	Manufacturer's Part Number
TXT/HXT105E	424020	6011NR
TXT/HXT205E	424022	6013NR
TXT/HXT305E	402272 / 403127	LM814849 / LM814810
TXT/HXT405E	402268 / 403163	498 / 492A
TXT/HXT505E	402193 / 403016	42381 / 42584
TXT605E	403140 / 402050	JM822010 / JM822049
TXT705E	402058 / 403111	48290 / 48220

Reducer Size	Input Shaft Bearing – LH Input Side	
	Dodge Part Number	Manufacturer's Part Number
TXT/HXT105E	424076	390282
TXT/HXT205E	424078	390293
TXT/HXT305E	402190 / 403132	LM603049 / LM603011
TXT/HXT405E	402179 / 403006	368 / 362A
TXT/HXT505E	402270 / 403026	45289 / 45220
TXT605E	403106 / 402053	39520 / 39580
TXT705E	402057 / 403143	JH211749 / JH211710

Reducer Size	Input Shaft Bearing – RH Backstop Side	
	Dodge Part Number	Manufacturer's Part Number
TXT/HXT105E	424012	6304
TXT/HXT205E	424000	305NR
TXT/HXT305E	402271 / 403101	02872 / 02820
TXT/HXT405E	402285 / 403125	339 / 332
TXT/HXT505E	402266 / 403073	350A / 352
TXT605E	403009 / 402123	3926 / 3975
TXT705E	402078 / 403034	JH307749 / JH307710

Note: Bearing part numbers refer to cup/cone combinations, respectively, and apply to all ratios unless otherwise specified. For actual reducer ratios, refer to Table 9.

Table 8–Replacement Parts Kit Numbers

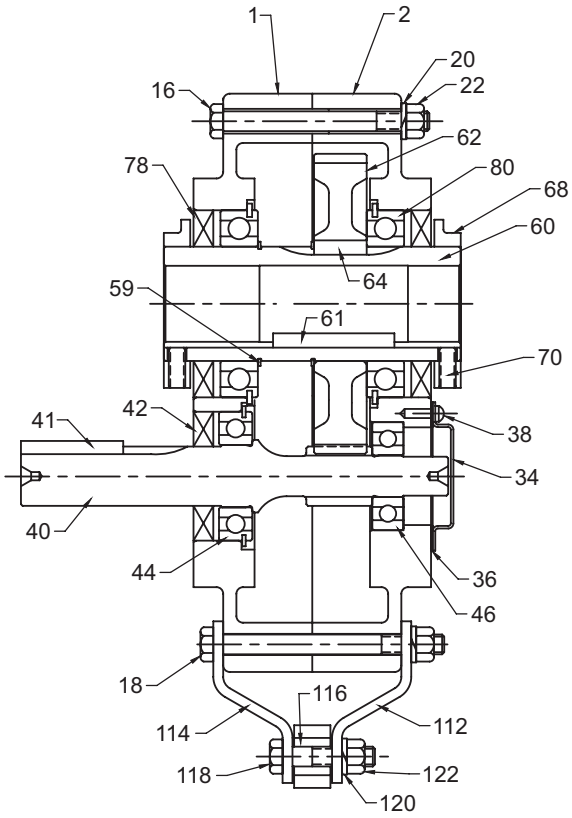
Reducer Size	Seal Kit	Bearing Kit	Complete Shim Kit
TXT/HXT105E	272700	389910	N/A
TXT/HXT205E	272701	389911	N/A
TXT/HXT305E	389726	392346	240125
TXT/HXT405E	389727	392348	240126
TXT/HXT505E	389728	392351	240127
TXT605E	272705	392352	246166
TXT705E	247345	392354	240121

Notes:
1. Seal Kit consists of Input Seal, Output Seals, Backstop Cover Gasket and RTV Sealant.
2. Bearing Kit consists of LH and RH Output Bearing Cup/Cone and LH and RH Input Bearing Cup/Cone.
3. Complete shim kit consists of all input and output bearing shims.

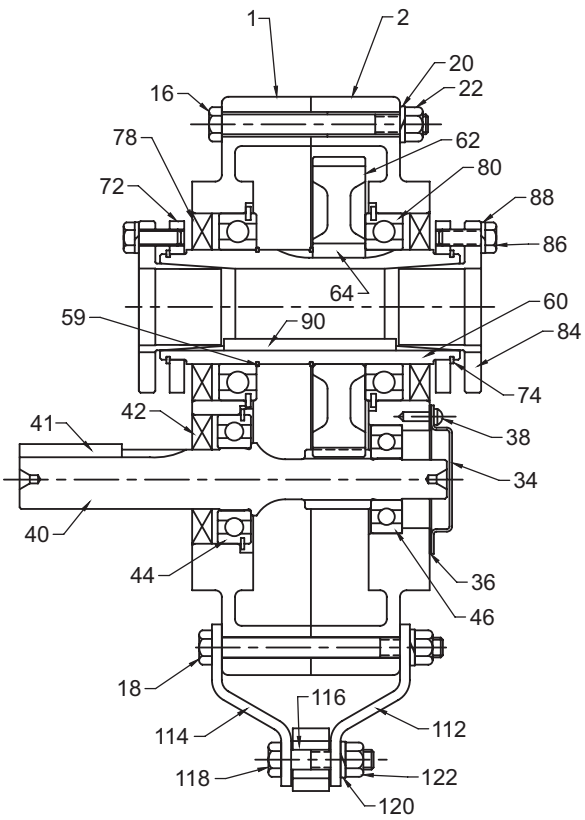
Table 9–Actual Ratios

Reducer Size	Nominal Ratio
	5:1
TXT/HXT105E	5.62
TXT/HXT205E	5.29
TXT/HXT305E	5.60
TXT/HXT405E	5.65
TXT/HXT505E	5.67
TXT605E	5.67
TXT705E	5.63

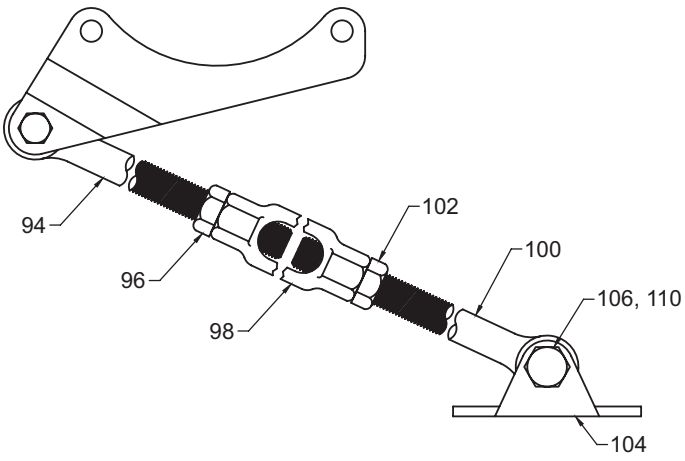
Parts for (H)TXT105E and (H)TXT205E Straight- and Tapered-Bushed Reducers



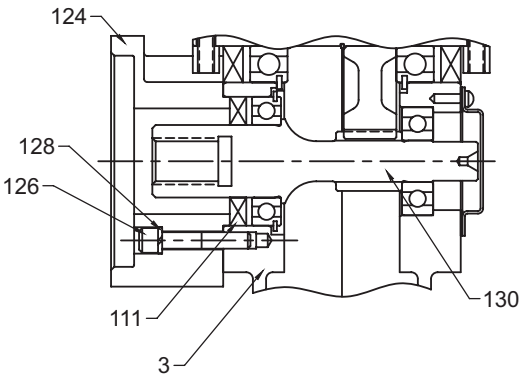
STRAIGHT BORE



TAPERED BORE



TORQUE ARM ROD ASSEMBLY



HYDROIL INPUT

Parts for (H)TXT105E and (H)TXT205E Straight- and Tapered-Bushed Reducers

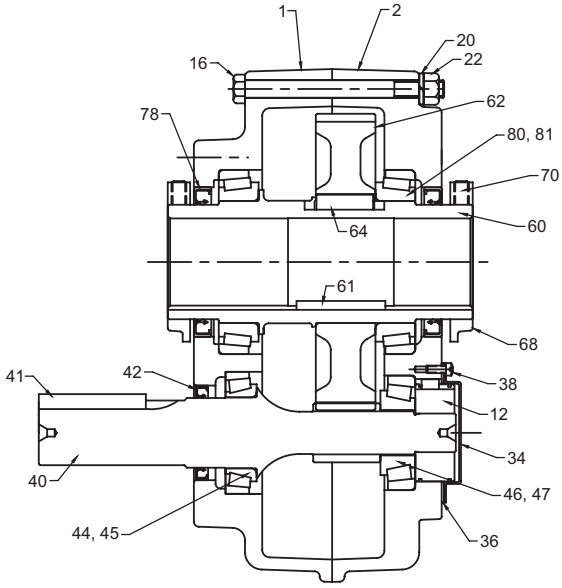
Ref.	Description	Quantity	(H)TXT105E	(H)TXT205E
1	Housing LH – TXT	1	241720	242712
2	Housing RH – TXT/HXT	1	241721	242713
2	Housing RH - Flange	1	241726	242733
3	Housing LH,- HXT	1	241727	242734
①	RTV Sealant	1	465044	465044
①	Air Vent	1	900287	900287
12	Backstop Assembly	1	242101 ①	252101 ①
16	Housing Bolt	⑤	032018032CR	032018032CR
18	Housing Bolt - Adapter and Lifting Lug	3	032018036CR	032018036CR
20	Lock-washer	⑥	034017014AF	034017014AF
22	Hex Nut	⑥	033102014AM	033102014AM
①	Dowel Pin	2	420063	420063
①	Magnetic Oil Plug	1	430060	430060
①	Oil Plug	3	430031	430031
①	Smart Sensor Adapter	1	966905	966905
①	Shim Kit			
34	Backstop Cover	1	242221	243221
38	Backstop Cover Screw	4	032404003JF	032404003JF
①	Seal Kit ②			
36	Backstop Cover Gasket ③	1	242220	243220
42	Input Pinion Shaft Seal ③	1	242211	244211
78	Output Hub Oil Seal - Tapered Bore ③	2	241214	242213
78	Output Hub Oil Seal - Straight Bore ③	2	241214	242213
40	Input Pinion ④	1	251020	242214
130	Hydroil Input Pinion ④	1	251086	242215
130	Hydroil 6-B Pinion ④	1	251141	252141
41	Input Pinion Key	1	443013	443052
44	Input Ball Bearing, Input Side - TXT	1	424076	424078
54	Input Ball Bearing, Input Side - HXT	1	424137	424078
46	Input Ball Bearing, Backstop Side	1	424012	424000
80	Output Ball Bearing	2	424020	424022
44	Input Bearing Cone, Input Side	-	N/A	N/A
45	Input Bearing Cup, Input Side	-	N/A	N/A
46	Input Bearing Cone Backstop Side	-	N/A	N/A
47	Input Bearing Cup Backstop Side	-	N/A	N/A
80	Output Bearing Cone	-	N/A	N/A
81	Output Bearing Cup	-	N/A	N/A
	Taper Bore Output Hub Assembly ②	1	390878	392111
	Straight Bore Output Hub Assembly ②	1	390151	392110
60	Output Hub			
	Straight Bore ③	1	241208	242208
	Taper Bore ③	1	241265	242134
62	Output Gear ③	1	241007	242181
64	Output Gear Key ③	1	241217	443399
59	Output Hub Snap Ring ③	2	966112	966113
61	Straight Bore Output Hub Key	1	241296	242296
68	Straight Bore Output Hub Collar	2	241209	242209
70	Straight Bore Output Hub Collar Screw	4	400062	400094
72	Taper Bore Bushing Backup Plate	2	241266	242137
74	Bushing Backup Plate Retaining Ring	2	421111	421112
84	Tapered Bore Bushing Assembly ②			
	Bushing ③			
	1” Bore	1	241278	N/A
	1-1/8” Bore	1	241282	242146
	1-3/16” Bore	1	241286	242148
	1-1/4” Bore	1	241288	242150
	1-5/16” Bore	1	241290	242152
	1-3/8” Bore	1	241294	242154
	1-7/16” Bore	1	241292	242156
	1-1/2” Bore	1	N/A	242158
	1-5/8” Bore	1	N/A	242162

Parts for (H)TXT105E and (H)TXT205E Straight- and Tapered-Bushed Reducers

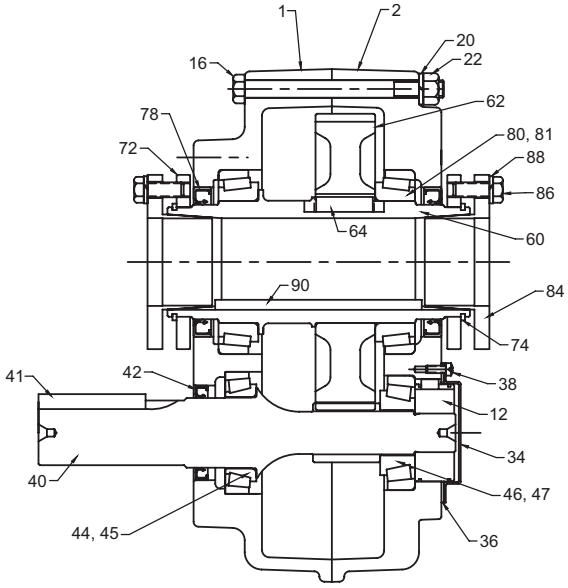
Ref.	Description	Quantity	(H)TXT105E	(H)TXT205E
	1-11/16" Bore	1	N/A	242164
	1-3/4" Bore	1	N/A	242166
	1-7/8" Bore	-	N/A	N/A
	1-15/16" Bore	1	N/A	242168
	2" Bore	-	N/A	N/A
	2-1/8" Bore	-	N/A	N/A
	2-3/16" Bore	-	N/A	N/A
	2-1/4" Bore	-	N/A	N/A
	2-7/16" Bore	-	N/A	N/A
86	Bushing Screw ③	6	032018007BR	032018008BR
88	Lock Washer ③	6	034017013AF	034017013AF
90	Key, Taper Bore Bushing to Shaft ③			
	1" Bore	1	443274	N/A
	1-1/8" Bore	1	443271	443281
	1-3/16" Bore	1	241308	443281
	1-1/4" Bore	1	241307	443281
	1-5/16" Bore	1	241306	443264
	1-3/8" Bore	1	241310	443280
	1-7/16" Bore	1	241305	443282
	1-1/2" Bore	1	N/A	242282
	1-5/8" Bore	1	N/A	242172
	1-11/16" Bore	1	N/A	242171
	1-3/4" Bore	1	N/A	242170
	1-7/8" Bore	-	N/A	N/A
	1-15/16" Bore	1	N/A	443283
	2" Bore	-	N/A	N/A
	2-1/8" Bore	-	N/A	N/A
	2-3/16" Bore	-	N/A	N/A
	2-1/4" Bore	-	N/A	N/A
	2-7/16" Bore	-	N/A	N/A
	Torque-Arm Assembly ②	1	964263	A73091
94	Torque-Arm Rod End ③	1	A73092	A73087
96	RH Nut ③	1	033102018AM	407295
98	Torque-Arm Turnbuckle ③	1	A73086	A73089
100	Torque-Arm Extension ③	1	A73085	A73088
102	LH Nut ③	1	A73261	A73262
104	Torque-Arm Fulcrum ③	1	241249	243249
106	Fulcrum Screw ③	1	032018012DR	032018016ER
110	Hex Nut ③①	1	033102016AM	033102018AM
	Adapter Assembly ②	1	259151	259152
112	RH Torque-Arm Adapter Bracket ③	1	241242	242136
114	LH Torque-Arm Adapter Bracket ③	1	241241	242135
116	Adapter Bushing ③	1	964256	964257
118	Adapter Bolt ③	1	032018014CR	032018016NR
120	Lock Washer ③	1	034017014AF	034017015AF
122	Hex Nut ③	1	033102014AM	033102015AM
124	Hydraulic (Hydroil) Motor Adapter	1	251087	252078
	Hydroil 6B Motor Adapter	1	251142	252142
126	Adapter Screw, HXT	6	032130014BF	032130014BF
	Adapter Screw, HXT-6B	6	032130014BF	032130008BF
128	Lock-washer	6	034020013AE	034020013AE
111	Input Pinion Seal	1	251089	244211
132	Hydroil Motor to Adapter Screw	2	032018012DR ①	032018012DR ①
134	Hydroil Motor to Adapter Lock-washer	2	034017016AF ①	034017016AF ①

① Not shown on drawing
② Includes parts listed immediately below
③ Makes up assembly under which it is listed
④ See Table 9 for actual ratio
⑤ 3 Required for TXT105E, 4 Required for TXT205E
⑥ 6 Required for TXT105E, 7 required for TXT205E

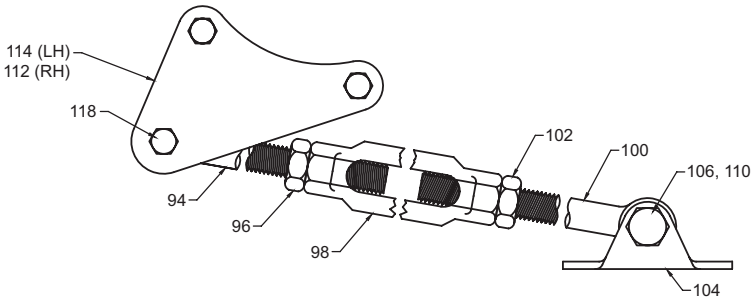
Parts for (H)TXT305E and (H)TXT405E Straight- and Tapered-Bushed Reducers



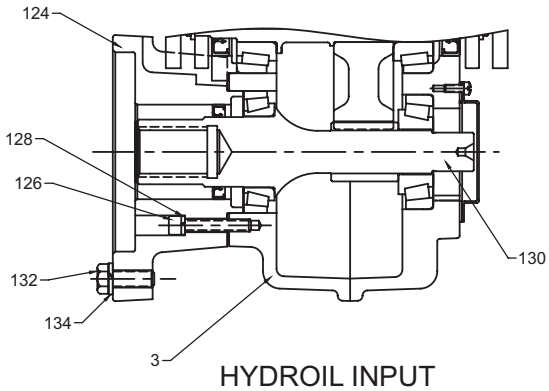
STRAIGHT BORE



TAPERED BORE



TORQUE ARM ROD ASSEMBLY



HYDROIL INPUT

Parts for (H)TXT305E and (H)TXT405E Straight- and Tapered-Bushed Reducers

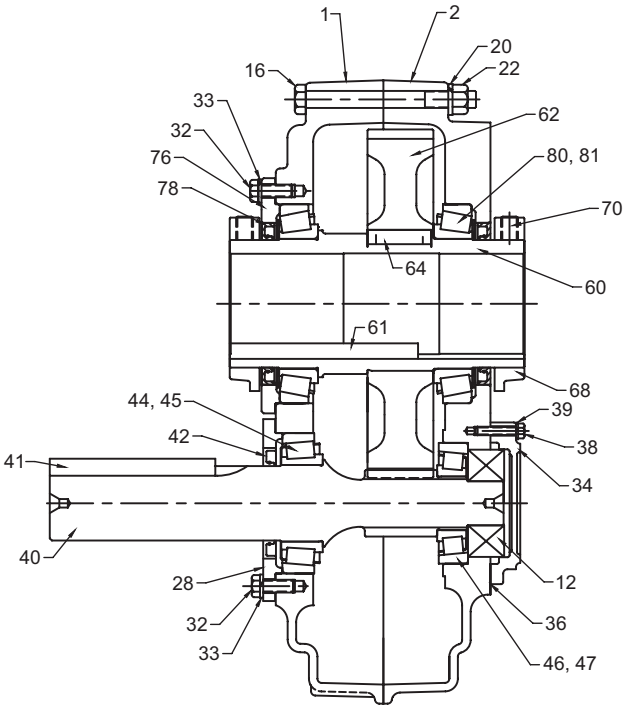
Ref.	Description	Quantity	(H)TXT305E	(H)TXT405E
1	Housing LH – TXT	1	243720	244720
2	Housing RH – TXT/HXT	1	243721	244721
2	Housing RH - Flange	1	243726	244725
3	Housing LH,- HXT	1	243724	244731
①	RTV Sealant	1	465044	465044
①	Air Vent	1	900287	900287
12	Backstop Assembly	1	252101	244149
16	Housing Bolt	5	032018040NR	032018044NR
18	Housing Bolt - Adapter and Lifting Lug	3	032018044NR ①	032018048NR ①
20	Lock-washer	8	034017015AF	034017015AF
22	Hex Nut	8	033102015AM	033102015AM
①	Dowel Pin	2	420063	420063
①	Magnetic Oil Plug	1	430060	430060
①	Oil Plug	3	430031	430031
①	Smart Sensor Adapter	1	966905	966905
①	Shim Kit			
34	Backstop Cover	1	253175	254223
38	Backstop Cover Screw	4	032404003JF	032018004AR
①	Seal Kit ②			
36	Backstop Cover Gasket ③	1	253176	254221
42	Input Pinion Shaft Seal ③	1	351123	334277
78	Output Hub Oil Seal - Tapered Bore ③	2	902286	A73109
78	Output Hub Oil Seal - Straight Bore ③	2	902286	A73109
40	Input Pinion ④	1	253170	254230
130	Hydroil Input Pinion ④	1	253171	254231
130	Hydroil 6-B Pinion ④	1	253141	254141
41	Input Pinion Key	1	443078	443096
44	Input Ball Bearing, Input Side - TXT	-	N/A	N/A
54	Input Ball Bearing, Input Side - HXT	-	N/A	N/A
46	Input Ball Bearing, Backstop Side	-	N/A	N/A
80	Output Ball Bearing	-	N/A	N/A
44	Input Bearing Cone, Input Side	1	402190	402179
45	Input Bearing Cup, Input Side	1	403132	403006
46	Input Bearing Cone Backstop Side	1	402271	402285
47	Input Bearing Cup Backstop Side	1	403101	403125
80	Output Bearing Cone	2	402272	402268
81	Output Bearing Cup	2	403127	403163
	Taper Bore Output Hub Assembly ②	1	389703	389710
	Straight Bore Output Hub Assembly ②	1	389702	389709
60	Output Hub			
	Straight Bore ③	1	243557	244589
	Taper Bore ③	1	243556	244588
62	Output Gear ③	1	243570	244188
64	Output Gear Key ③	1	243216	354087
59	Output Hub Snap Ring ③	2	N/A	N/A
61	Straight Bore Output Hub Key	1	243250	244250
68	Straight Bore Output Hub Collar	2	243572	244658
70	Straight Bore Output Hub Collar Screw	4	400098	400150
72	Taper Bore Bushing Backup Plate	2	243308	244099
74	Bushing Backup Plate Retaining Ring	2	421109	421108
84	Tapered Bore Bushing Assembly ②			
	Bushing ③			
	1” Bore	-	N/A	N/A
	1-1/8” Bore	-	N/A	N/A
	1-3/16” Bore	-	N/A	N/A
	1-1/4” Bore	-	N/A	N/A
	1-5/16” Bore	1	243282	N/A
	1-3/8” Bore	1	243284	N/A
	1-7/16” Bore	1	243260	244079
	1-1/2” Bore	1	243262	244081
	1-5/8” Bore	1	243264	244083

Parts for (H)TXT305E and (H)TXT405E Straight- and Tapered-Bushed Reducers

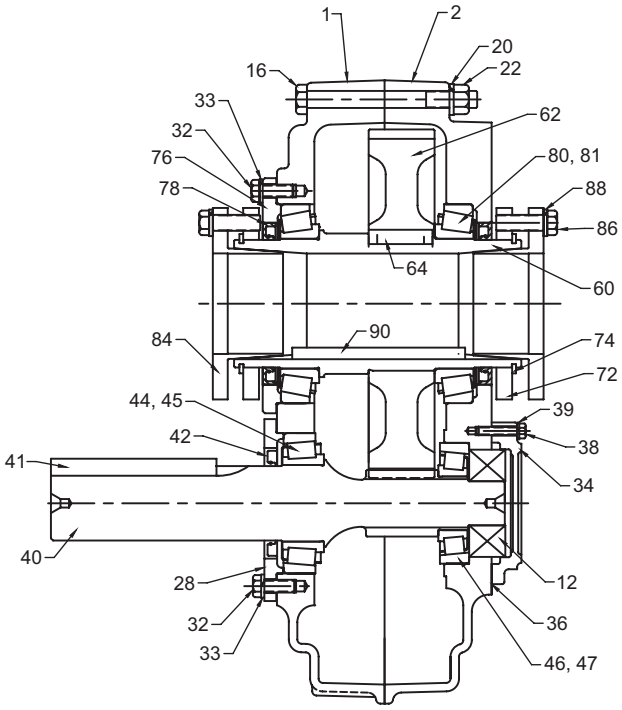
Ref.	Description	Quantity	(H)TXT305E	(H)TXT405E
	1-11/16" Bore	1	243268	244085
	1-3/4" Bore	1	243266	244087
	1-7/8" Bore	1	243270	244089
	1-15/16" Bore	1	243272	244093
	2" Bore	1	243274	244095
	2-1/8" Bore	1	N/A	244109
	2-3/16" Bore	1	243276	244111
	2-1/4" Bore	1	N/A	244113
	2-7/16" Bore	1	N/A	244115
86	Bushing Screw ③	6	032018008CR	032018010CR
88	Lock Washer ③	6	034017013AF	034017014AF
90	Key, Taper Bore Bushing to Shaft ③			
	1" Bore	-	N/A	N/A
	1-1/8" Bore	-	N/A	N/A
	1-3/16" Bore	-	N/A	N/A
	1-1/4" Bore	-	N/A	N/A
	1-5/16" Bore	1	443264	N/A
	1-3/8" Bore	1	443264	N/A
	1-7/16" Bore	1	443265	443254
	1-1/2" Bore	1	242265	242254
	1-5/8" Bore	1	443264	443254
	1-11/16" Bore	1	443266	443254
	1-3/4" Bore	1	443266	443254
	1-7/8" Bore	1	443267	443255
	1-15/16" Bore	1	443269	443255
	2" Bore	1	443268	443255
	2-1/8" Bore	1	N/A	443258
	2-3/16" Bore	1	443270	443259
	2-1/4" Bore	1	N/A	443260
	2-7/16" Bore	1	N/A	443261
	Torque-Arm Assembly ②	1	A73091	964268
94	Torque-Arm Rod End ③	1	A73087	A73146
96	RH Nut ③	1	407295	033102022AB
98	Torque-Arm Turnbuckle ③	1	A73089	A73147
100	Torque-Arm Extension ③	1	A73088	A73148
102	LH Nut ③	1	A73262	A73263
104	Torque-Arm Fulcrum ③	1	243249	246249
106	Fulcrum Screw ③	1	032018016ER	032018016ER
110	Hex Nut ③①	1	033102018AM	033102018AM
	Adapter Assembly ②	1	259153	259154
112	RH Torque-Arm Adapter Bracket ③	1	243242	244244
114	LH Torque-Arm Adapter Bracket ③	1	243241 ①	244243 ①
116	Adapter Bushing ③	1	964257 ①	964259 ①
118	Adapter Bolt ③	1	032018016NR	032018018DR
120	Lock Washer ③	1	034017015AF ①	034017016AF ①
122	Hex Nut ③	1	033102015AM ①	033102016AM ①
124	Hydraulic (Hydroil) Motor Adapter	1	253172	254222
	Hydroil 6B Motor Adapter	1	253142	254142
126	Adapter Screw, HXT	⑦	032130014BF	032130018CF
	Adapter Screw, HXT-6B	⑦	032130008BF	032130018CF
128	Lock-washer	⑦	034020013AE	034020014AE
111	Input Pinion Seal	-	N/A	N/A
132	Hydroil Motor to Adapter Screw	2	032018012DR	032018012DR
134	Hydroil Motor to Adapter Lock-washer	2	034017016AF	034017016AF

① Not shown on drawing
② Includes parts listed immediately below
③ Makes up assembly under which it is listed
④ See Table 9 for actual ratio
⑦ 4 Required for TXT305E, 6 required for TXT405E

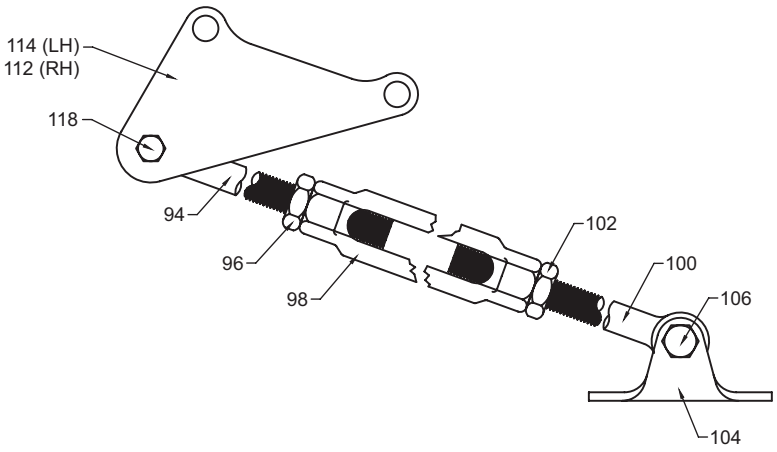
Parts for (H)TXT505E Straight- and Tapered-Bushed Reducer



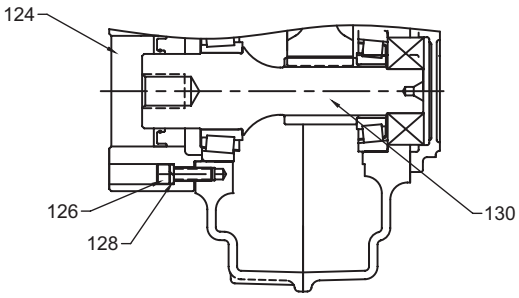
STRAIGHT BORE



TAPERED BORE



TORQUE ARM ROD ASSEMBLY



HYDROIL INPUT

Parts for (H)TXT505E Straight- and Tapered-Bushed Reducer

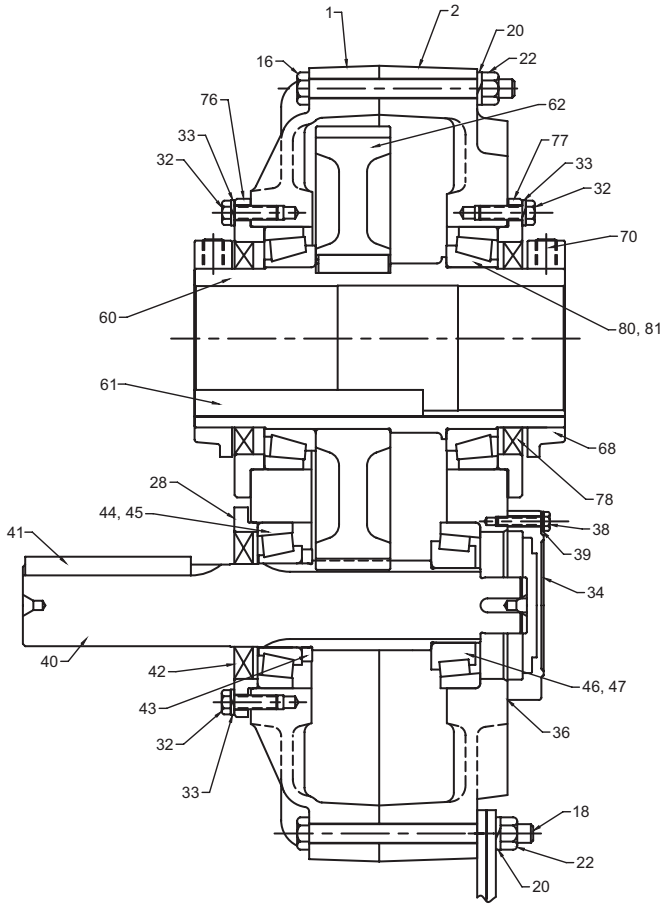
Ref.	Description	Quantity	(H)TXT 505E
1	Housing LH – TXT	1	245677
2	Housing RH – TXT/HXT	1	245678
2	Housing RH - Flange	1	245684
①	RTV Sealant	1	465044
①	Air Vent	1	904287
12	Backstop Assembly	1	246101
16	Housing Bolt	5	032018040DR
①	Housing Bolt - Adapter and Lifting Lug	3	032018044DR
20	Lock-washer	6	034017016AF
22	Hex Nut	8	033102016AM
①	Dowel Pin	2	304624
①	Magnetic Oil Plug	1	430062
①	Oil Plug	4	430033
①	Smart Sensor Adapter	1	966906
①	Shim Kit		
28	Input Shaft Seal Carrier	1	255224
32	Seal Carrier Bolt	12	032018008CR
33	Seal Carrier Lock-washer	12	034017014AF
34	Backstop Cover	1	255019
38	Backstop Cover Screw	4	032018010AR
39	Backstop Cover Lock-washer	4	034017012AF
①	Seal Kit ②		
36	Backstop Cover Gasket ③	1	255020
42	Input Pinion Shaft Seal ③	1	245546
78	Output Hub Oil Seal ③	2	245545
40	Input Pinion ④	1	255221
130	Hydroil Input Pinion ④	1	255222
130	Hydroil 6-B Pinion ④	1	255161
41	Input Pinion Key	1	443113
44	Input Bearing Cone, Input Side	1	402270
45	Input Bearing Cup, Input Side	1	403026
46	Input Bearing Cone Backstop Side	1	402266
47	Input Bearing Cup Backstop Side	1	403073
80	Output Bearing Cone	1	402193
81	Output Bearing Cup	1	403016
	Taper Bore Output Hub Assembly ②	1	389717
	Straight Bore Output Hub Assembly ②	1	389716
60	Output Hub		
	Straight Bore ③	1	245591
	Taper Bore ③	1	245590
62	Output Gear ③	1	245186
64	Output Gear Key ③	1	355064
61	Straight Bore Output Hub Key	1	245250
68	Straight Bore Output Hub Collar	2	245598
70	Straight Bore Output Hub Collar Screw	4	400154
72	Taper Bore Bushing Backup Plate	2	245114
74	Bushing Backup Plate Retaining Ring	2	421107
76	Output Hub Seal Carrier, Input Side	1	255236
84	Tapered Bore Bushing Assembly ②		
	Bushing ③		
	1-15/16” Bore	1	245086
	2” Bore	1	245088
	2-3/16” Bore	1	245090
	2-1/4” Bore	1	245092
	2-7/16” Bore	1	245094
	2-1/2” Bore	1	245099
	2-11/16” Bore	1	245110
	2-15/16” Bore	1	245112
86	Bushing Screw ③	6	032018012NR
88	Lock Washer ③	6	034017015AF
90	Key, Taper Bore Bushing to Shaft ③		

Parts for (H)TXT505E Straight- and Tapered-Bushed Reducer

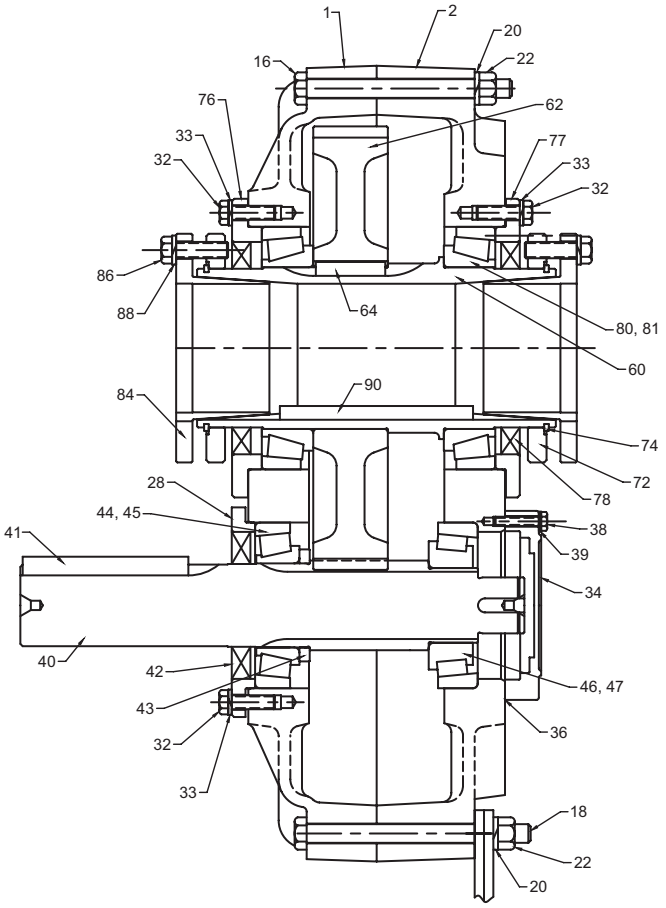
Ref.	Description	Quantity	(H)TXT 505E
	1-15/16” Bore	1	443251
	2” Bore	1	443251
	2-3/16” Bore	1	443251
	2-1/4” Bore	1	443251
	2-7/16” Bore	1	443243
	2-1/2” Bore	1	443244
	2-11/16” Bore	1	443245
	2-15/16” Bore	1	443250
①	Key, Bushing to Output Hub ③		
	1-15/16” thru 2-1/4” Bore	1	443202
	Torque-Arm Assembly ②	1	964268
94	Torque-Arm Rod End ③	1	A73146
96	RH Nut ③	1	033102022AM
98	Torque-Arm Turnbuckle ③	1	A73147
100	Torque-Arm Extension ③	1	A73148
102	LH Nut ③	1	A73263
104	Torque-Arm Fulcrum ③	1	246249
106	Fulcrum Screw ③	1	032018016ER
①	Lockwasher ③	1	034017018AF
①	Hex Nut ③	1	033102018AM
	Adapter Assembly ②	1	259155
112	RH Torque-Arm Adapter Bracket ③	1	245242
114	LH Torque-Arm Adapter Bracket ③①	1	245241
①	Adapter Bushing ③	1	964259
118	Adapter Bolt ③	1	032018018DR
①	Lock Washer ③	1	034017016AF
①	Hex Nut ③	1	033102016AM
124	Hydraulic (Hydroil) Motor Adapter	1	255226
	Hydroil 6B Motor Adapter	1	255162
126	Adapter Screw, HXT	6	032130018CF
	Adapter Screw, HXT-6B	6	032130010CF
128	Lock-washer	6	034020014AE
132	Hydroil Motor to Adapter Screw	①	032018012DR
134	Hydroil Motor to Adapter Lock-washer	①	034017016AF

① Not shown on drawing
② Includes parts listed immediately below
③ Makes up assembly under which it is listed
④ See Table 9 for actual ratio

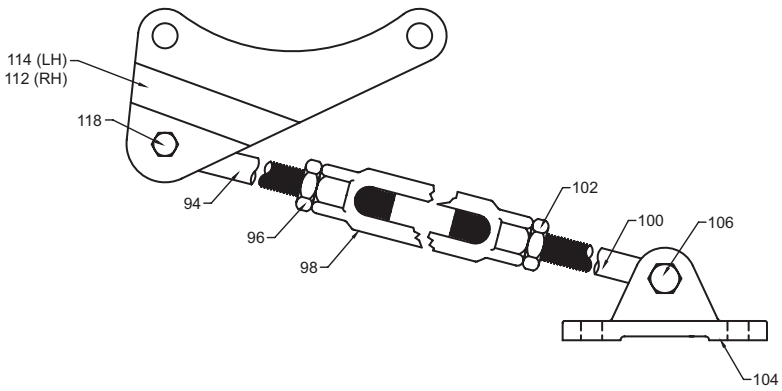
Parts for TXT605E and TXT705E Straight- and Tapered-Bushed Reducers



STRAIGHT BORE



TAPERED BORE



TORQUE ARM ROD ASSEMBLY

Parts for TXT605E and TXT705E Straight- and Tapered-Bushed Reducers

Ref.	Description	Quantity	TXT605E	TXT705E
1	Housing LH – TXT	1	246796	247677
2	Housing RH – TXT/Flange	1	246797	247678
①	RTV Sealant	1	465044	465044
①	Air Vent	1	904287	904287
①	Backstop Assembly	1	246092	247260
16	Housing Bolt	6	032018044DR	032018048FR
18	Housing Bolt - Adapter and Lifting Lug	2	032018048DR	032018052FR
20	Lock-washer	6	034017016AF	034017012AF
22	Hex Nut	8	033102016AM	033102020AM
①	Dowel Pin	2	304624	304624
①	Magnetic Oil Plug	1	430062	430064
①	Oil Plug	4	430033	430035
①	Smart Sensor Adapter	1	966906	966907
①	Shim Kit			
28	Input Shaft Seal Carrier	1	246184	257045
32	Seal Carrier Bolt	⑤	032018010CR	032018010NR
33	Seal Carrier Lock-washer	⑤	034017014AF	034017015AF
34	Backstop Cover	1	246221	247221
38	Backstop Cover Screw	6	032018010AR	032018008AR
39	Backstop Cover Lock-washer	6	034017012AF	034017012AF
①	Seal Kit ②			247345
36	Backstop Cover Gasket ③	1	246220	246220
42	Input Pinion Shaft Seal ③	1	256032	242113
78	Output Hub Oil Seal ③	2	905286	247310
40	Input Pinion ④	1	256028	257044
41	Input Pinion Key	1	443113	443127
43	Input Bearing Spacer, Input Side	1	256030	N/A
44	Input Bearing Cone, Input Side	1	403106	402057
45	Input Bearing Cup, Input Side	1	402053	403143
46	Input Bearing Cone Backstop Side	1	403009	402078
47	Input Bearing Cup Backstop Side	1	402123	403034
80	Output Bearing Cone	1	403140	402058
81	Output Bearing Cup	1	402050	403111
	Taper Bore Output Hub Assembly ②	1	390935	390941
	Straight Bore Output Hub Assembly ②	1	390988	390990
60	Output Hub			
	Straight Bore ③	1	246338	247338
	Taper Bore ③	1	246269	272137
62	Output Gear ③	1	246295	247215
64	Output Gear Key ③	2	245217	245217
61	Straight Bore Output Hub Key	1	246343	247263
68	Straight Bore Output Hub Collar	2	246309	247309
70	Straight Bore Output Hub Collar Screw	4	400154	400190
72	Taper Bore Bushing Backup Plate	2	246270	272138
74	Bushing Backup Plate Retaining Ring	2	421055	421099
76	Output Hub Seal Carrier, Input Side	1	246187	247315
77	Output Hub Seal Carrier, Backstop Side	1	246186	247315
84	Tapered Bore Bushing Assembly ②			
	Bushing ③			
	2-3/16” Bore	1	246261	N/A
	2-1/4” Bore	1	246262	N/A
	2-7/16” Bore	1	246263	272125
	2-1/2” Bore	1	246264	N/A
	2-11/16” Bore	1	246265	272147
	2-7/8” Bore	1	246266	N/A
	2-15/16” Bore	1	246267	272132
	3” Bore	1	246283	272133
	3-3/16” Bore	1	N/A	272134
	3-7/16” Bore	1	246268	272135
	3-15/16” Bore	1	N/A	272136
86	Bushing Screw ③	6	032018010CR	032018012DR

Parts for TXT605E and TXT705E Straight- and Tapered-Bushed Reducers

Ref.	Description	Quantity	TXT605E	TXT705E
88	Lock Washer ③	6	034017014AF	034017016AF
90	Key, Taper Bore Bushing to Shaft ③			
	2-3/16" Bore	1	443211	N/A
	2-1/4" Bore	1	443211	N/A
	2-7/16" Bore	1	443214	443248
	2-1/2" Bore	1	443214	N/A
	2-11/16" Bore	1	443238	443248
	2-7/8" Bore	1	443236	N/A
	2-15/16" Bore	1	443237	443199
	3" Bore	1	443252	443216
	3-3/16" Bore	1	N/A	443235
	3-7/16" Bore	1	443213	443217
	3-15/16" Bore	1	N/A	443218
①	Key, Bushing to Output Hub ③			
	2-3/16" thru 2-1/2" Bore	1	443212	N/A
	2-7/16" thru 3" Bore	1	N/A	443198
	Torque-Arm Assembly ②	1	964268	964269
94	Torque-Arm Rod End ③	1	A73146	A73269
96	RH Nut ③	1	033102022AM	033102024AM
98	Torque-Arm Turnbuckle ③	1	A73147	A73267
100	Torque-Arm Extension ③	1	A73148	A73265
102	LH Nut ③	1	A73263	A73266
104	Torque-Arm Fulcrum ③	1	246249	247248
106	Fulcrum Screw ③	1	032018016ER	032018028ER
①	Lockwasher ③	1	034017018AF	034017018AF
①	Hex Nut ③	1	033102018AM	033102018AM
	Adapter Assembly ②	1	259156	259157
112	RH Torque-Arm Adapter Bracket ③	1	246242	247242
114	LH Torque-Arm Adapter Bracket ③①	1	246241	247241
①	Adapter Bushing ③	1	964259	964260
118	Adapter Bolt ③	1	032018018DR	032018028ER
①	Lock Washer ③	1	034017016AF	034017018AF
①	Hex Nut ③	1	033102016AM	033102018AM

① Not shown on drawing
② Includes parts listed immediately below
③ Makes up assembly under which it is listed
④ See Table 9 for actual ratio
⑤ 18 Required for TXT605E, 22 Required for TXT705E

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