

# Screw Conveyor and Hydroil Screw Conveyor Drive

## SCXT105 thru SCXT705 Single Reduction Screw Conveyor Drive

## HSCXT105 thru HSCXT505A Single Reduction Hydroil Screw Conveyor Drive

### Instruction Manual

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see [dodgeindustrial.com](http://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.

**NOTE:** A Screw Conveyor Drive consists of two subassemblies and drive shaft listed below.

1. **Reducer** – Includes speed reducer, shaft retainer, retainer bolt and lockwasher.
2. **Adapter Assembly** – Includes adapter bolts, lockwashers, a lip type seal, a seal retaining ring and drive shaft key.

Make certain none of the parts have been damaged in shipment. Any shipping damage should be promptly reported to the carrier. Read all instructions in this manual before attempting to assemble or install the Screw Conveyor Drive. It is important that assembly be performed in the following sequence and that each step be completed before continuing to the next.

**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<sup>®</sup> 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.

**NOTE:** This reducer is compatible with the Ability Smart Sensor that can be installed in the adapter plug labeled “smart sensor”. The plug and sensor can be moved to different locations as required by mounting position.

## ASSEMBLY

1. Place reducer on blocks so that it lays flat with the input shaft down.
2. Position adapter on reducer output hub so that small end (end with 12 holes) rests on reducer. Select the 4 mounting holes to match the shaft used (Figure 1).
3. Place adapter screws and lockwashers through adapter and thread into reducer. Do not tighten.
4. Place seal in adapter so that spring faces out. Seal should be tapped evenly into place in the adapter with a soft hammer, applying force only on the outer corner of the seal. Fill cavity between lips of seal with grease. Install seal retainer ring by tapping with a hammer. Apply grease to adapter section of shaft (middle section). Slide shaft, keyseated end first, into adapter and through reducer.

**NOTE:** Be extremely careful when sliding adapter section of shaft through seal to prevent seal lips from being damaged or rolled over.

5. Carefully place reducer on its side. Rotate shaft to align keyseats in shaft and output hub and install key. Install shaft retainer, lockwasher and bolt. Tighten bolt to torque specified in Table 4.
6. Lay reducer on blocks with input shaft down and tighten adapter bolts to torque specified in Table 4.
7. If waste packing is to be used, it may be installed through access hole provided in the adapter. Waste packing, not furnished with the screw conveyor drive, may be used as a separate seal option or in combination with the lip seal.

## OPTIONAL ADJUSTABLE PACKING ADAPTER – ASSEMBLY

1. Place reducer on blocks so that it lays flat with the input shaft down.
2. Position adapter on reducer output hub so that small end (end with 12 holes) rests on reducer. Select the 4 mounting holes to match the shaft used (Figure 1).
3. Place adapter screws and lockwashers through adapter and thread into reducer. Do not tighten.
4. Install 2 screws in studs in the adapter. Use Loctite on threads. See Figure 2.

Flatten braided seals with a soft hammer. Place seals in adapter, one of top of the other with joints offset from each other. Lay retaining ring loosely on top of seals. Slide shaft, keyseated end first, into adapter and through adjusting flange into reducer. Take care to clear the seals with the adapter section of the shaft. Once shaft has bottomed, seat retainer ring by tapping with a hammer. Install adjustable flange and secure with hex nuts provided.

5. Carefully place reducer on its side. Rotate shaft to align keyseats in shaft and output hub and install key. Install shaft retainer, lockwasher, and bolt. Tighten bolts per Table 4.
6. Lay reducer on blocks with input shaft down and tighten adapter bolts per Table 4.

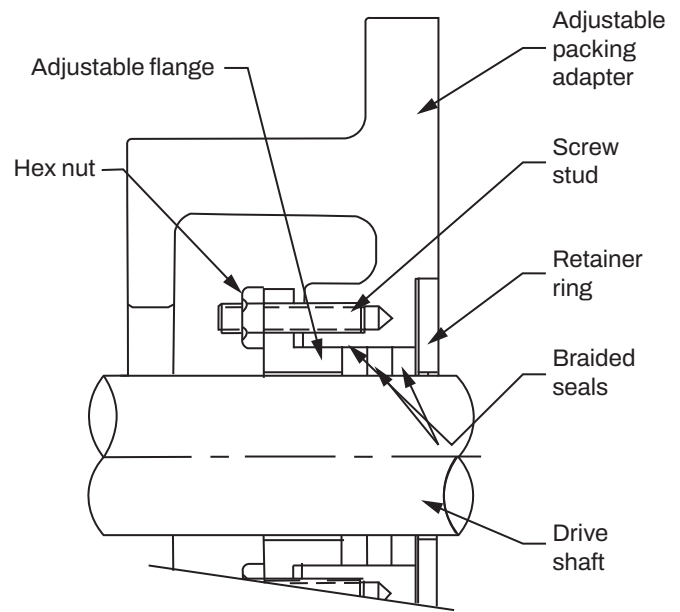


Figure 1 - Assembly

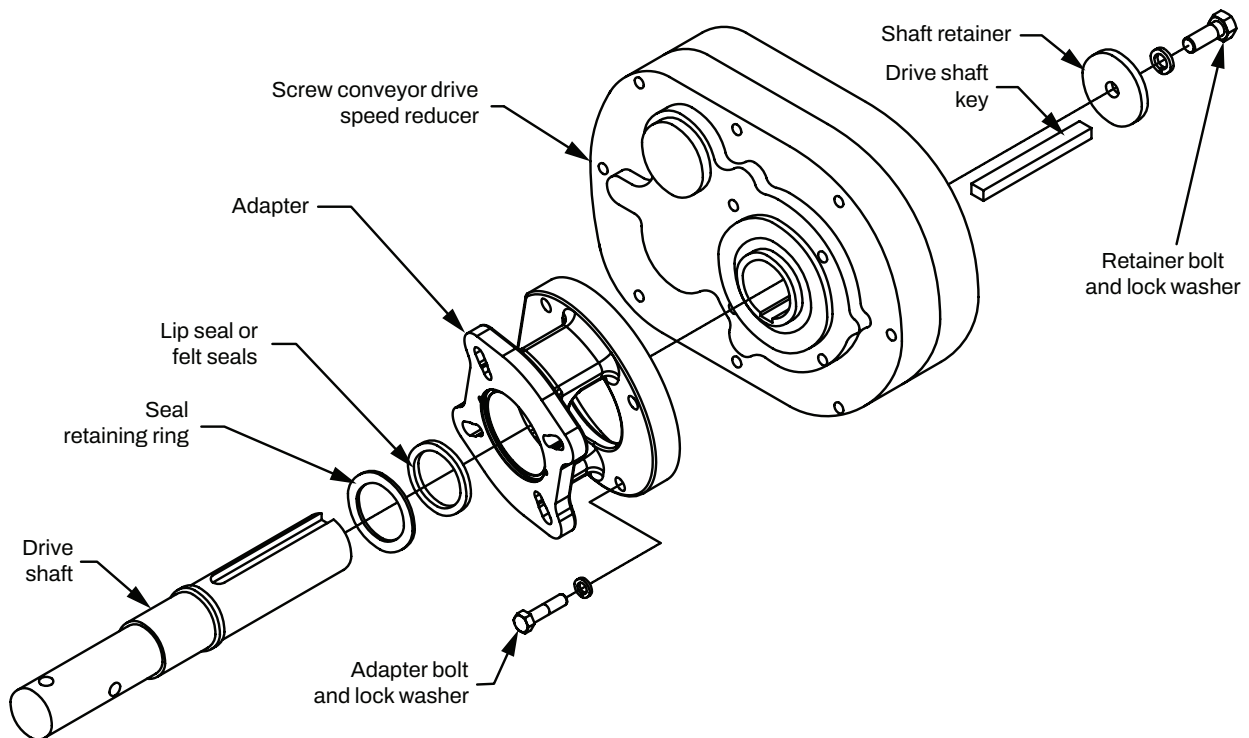


Figure 2 - Optional Adjustable Packing Adapter

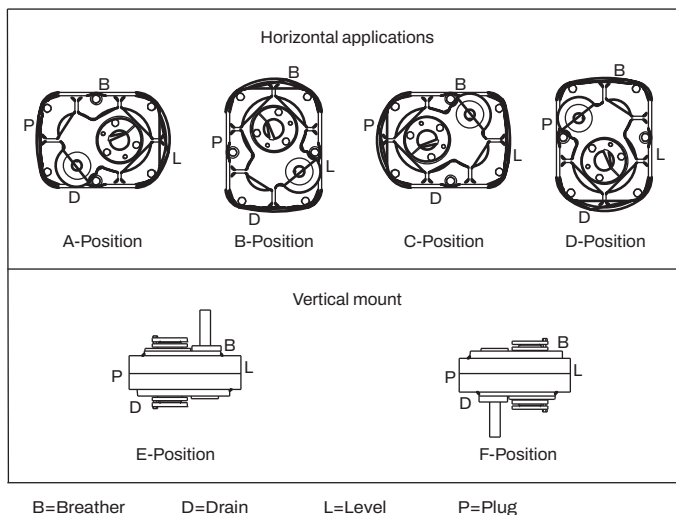
## INSTALLATION

1. Determine the running positions of the reducer (Figure 3). Note that the reducer is supplied with 7 plugs; 5 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 3 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 top face of the reducer housing. Use the hole in the bottom face for the magnetic drain plug. Of the 5 remaining holes on the sides of the reducer, use a plug in the upper housing half for the minimum oil level plug.

**WARNING:** To ensure that 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.



**Figure 3 - Mounting Positions**

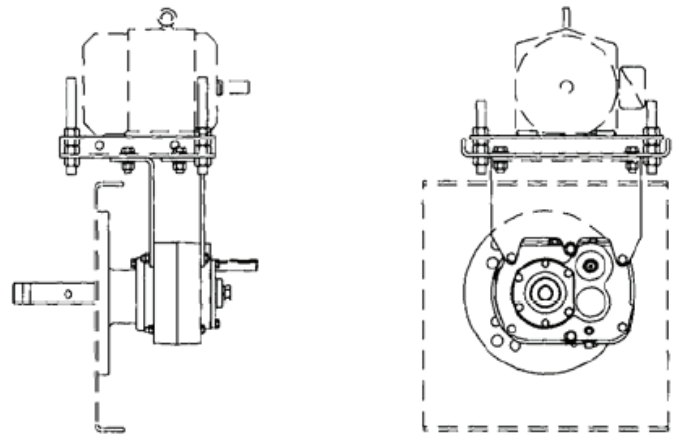
**NOTE:** If motor mount, motor and sheaves are to be installed on reducer before mounting screw conveyor drive to trough end, bypass step 2; perform steps 3 and 4, and then return to step 2.

1. Use lifting tab to hoist screw conveyor drive into position. Slide shaft into screw and adapter over trough end studs. Only one set of adapter holes will fit over the trough end studs. If the mounted position of the screw conveyor varies more than 15° from any of the four horizontal mounting positions (Figure 1), an incorrect set of holes has been selected for coupling adapter to reducer. This can be corrected by removing adapter screws and rotating reducer to its proper position. Reinstall and tighten adapter screws to torque specified in Table 4. Install lockwashers and tighten nuts on trough end studs. Attach drive shaft to screw
2. Remove the three bolts from reducer housing required for mounting the SCD Motor Mount. Place the motor mount in position and install the three housing bolts supplied with the motor mount. Tighten bolts to torque specified in Table 4.

3. Install motor, drive sheave and driven sheave so that driven sheave is as close to the reducer housing as practical. Install V-belt and tension with the four adjusting screws provided on the SCD Motor Mount. Install belt guard. Make required electrical connections for motor.

**WARNING:** The user is responsible for conforming with the National Electrical Code and all other applicable local codes. Wiring practices, grounding, disconnects and overcurrent protection are of particular importance. Failure to observe these precautions could result in severe bodily injury or loss of life.

4. Because reducer is shipped without oil, it is necessary to add the proper amount before operating the drive. Use a high grade petroleum base, rust and oxidation inhibited (R & O) gear oil—see lubrication tables.



**Figure 4 - Complete Drive**

5. Retighten bolts and pipe plugs after a few days of operation. This prevents oil leakage.

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

## LUBRICATION

Under average industrial operating conditions, the lubricant should be changed every 2500 hours of operation or every six 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.

**CAUTION:** Extreme pressure (EP) lubricants are not recommended for average operating conditions. Failure to observe these precautions could result in damage to, or destruction of, the equipment.

Under extreme operating conditions, such as rapid rise and fall of temperatures, 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 the severity of the conditions.

**Table 1 – Oil Volumes**

| Reducer Size | Volume of Oil Required to Fill Reducer to Oil Level Plug ① ④ |        |        |              |        |        |              |        |        |              |        |        |              |        |        |              |        |        |
|--------------|--|--------|--------|--------------|--------|--------|--------------|--------|--------|--------------|--------|--------|--------------|--------|--------|--------------|--------|--------|
|              | ② Position A   |        |        | ② Position B |        |        | ② Position C |        |        | ② Position D |        |        | ② Position E |        |        | ② Position F |        |        |
|              | Fluid Oz.  | ③ Qts. | Liters | Fluid Oz.    | ③ Qts. | Liters | Fluid Oz.    | ③ Qts. | Liters | Fluid Oz.    | ③ Qts. | Liters | Fluid Oz.    | ③ Qts. | Liters | Fluid Oz.    | ③ Qts. | Liters |
| (H)SCXT105   | 20   | 5/8    | .59    | 24           | 3/4    | .71    | 20           | 5/8    | .59    | 24           | 3/4    | .71    | 36           | 1      | 1.06   | 44           | 1      | .30    |
| (H)SCXT205   | 24   | 3/4    | .71    | 28           | 7/8    | .83    | 28           | 7/8    | .83    | 28           | 7/8    | .83    | 56           | 1-3/4  | 1.66   | 72           | 2-1/4  | 2.13   |
| (H)SCXT305A  | 28   | 7/8    | .83    | 48           | 1-1/2  | 1.42   | 44           | 1      | 1.30   | 44           | 1      | 1.30   | 80           | 2-1/2  | 2.37   | 100          | 3      | 2.96   |
| (H)SCXT405A  | 48   | 1-1/2  | 1.42   | 72           | 2-1/4  | 2.13   | 68           | 2      | 2.01   | 60           | 1      | 1.78   | 128          | 4      | 3.79   | 156          | 4      | 4.61   |
| (H)SCXT505A  | 108  | 3      | 3.19   | 136          | 4-1/4  | 4.02   | 124          | 3      | 3.67   | 120          | 3-3/4  | 3.56   | 248          | 7-3/4  | 7.33   | 288          | 9      | 8.52   |
| SCXT605      | 144  | 4-1/2  | 4.30   | 184          | 5-3/4  | 5.40   | 144          | 4-1/2  | 4.30   | 160          | 5      | 4.70   | 384          | 12     | 11.40  | 352          | 11     | 10.4   |
| SCXT705      | 240  | 7-1/2  | 7.10   | 288          | 9      | 8.50   | 240          | 7-1/2  | 7.10   | 296          | 9-1/4  | 8.80   | 608          | 19     | 18.0   | 552          | 17-1/4 | 16.30  |

① Below 15 RPM output speed, oil level must be adjusted to reach the highest oil level plug (P).

② Refer to Figure 3 for mounting positions.

**Note:** If reducer position is to vary from those shown in Figure 3, either more or less oil may be required. Consult product support.

③ U.S. Measure: 1 qt. = 32 fl. oz. = .94646 liters.

④ All liquid measure amounts are approximate.

**Table 2 – Lubrication Recommendations – ISO Grades for Ambient Temperatures of 15 °F to 60 °F①**

| Output RPM | Reducer Size |     |     |     |     |     |     |
|------------|--------------|-----|-----|-----|-----|-----|-----|
|            | 1            | 2   | 3   | 4   | 5   | 6   | 7   |
| 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 |

**Table 3 – Lubrication Recommendations – ISO Grades for Ambient Temperatures of 50 °F to 125 °F①**

| Output RPM | Reducer Size |     |     |     |     |     |     |
|------------|--------------|-----|-----|-----|-----|-----|-----|
|            | 1            | 2   | 3   | 4   | 5   | 6   | 7   |
| 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 |

①Notes:

Below -23 °F call application engineering.

20 °F to -22 °F use Mobil SHC 627.

Above 125 °F use Mobil SHC 634.

**NOTE:** Pour point of lubricant selected should be at least 10°F lower than expected minimum ambient starting temperature. See last page of manual for lubricant viscosity classification equivalents. 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 recommendation.

**CAUTION:** Do not use oils containing slippery additives such as graphite or molybdenum disulphide in the reducer when backstop is used. These additives will destroy sprag action. Failure to observe these precautions could result in damage to, or destruction of, the equipment.

## GUIDELINES FOR TORQUE-ARM 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 the 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 air tight. Replace the vent plug with a standard pipe plug and wire the vent to the unit.
3. Cover the shaft extension with a waxy rust preventative compound that will keep oxygen away from the bare metal. (Non-Rust X-110 by Daubert Chemical Co.)
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 the 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. Assemble the vent plug into the proper hole.
2. Clean the shaft extensions with petroleum solvents.
3. Fill the unit to the proper oil level using a recommended lubricant. VCI oil will not affect the new lubricant.
4. Follow the installation instructions provided in this manual.

**Table 4 - Quantity of VIC #105 Oil**

| <b>Case Size</b> | <b>Quarts or Liters</b> |
|------------------|-------------------------|
| (H)SCXT105       | .1                      |
| (H)SCXT205       | .1                      |
| (H)SCXT305A      | .1                      |
| (H)SCXT405A      | .2                      |
| (H)SCXT505A      | .3                      |
| (H)SCXT605       | .4                      |
| (H)SCXT705       | .5                      |

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

# OIL VISCOSITY EQUIVALENCY CHART

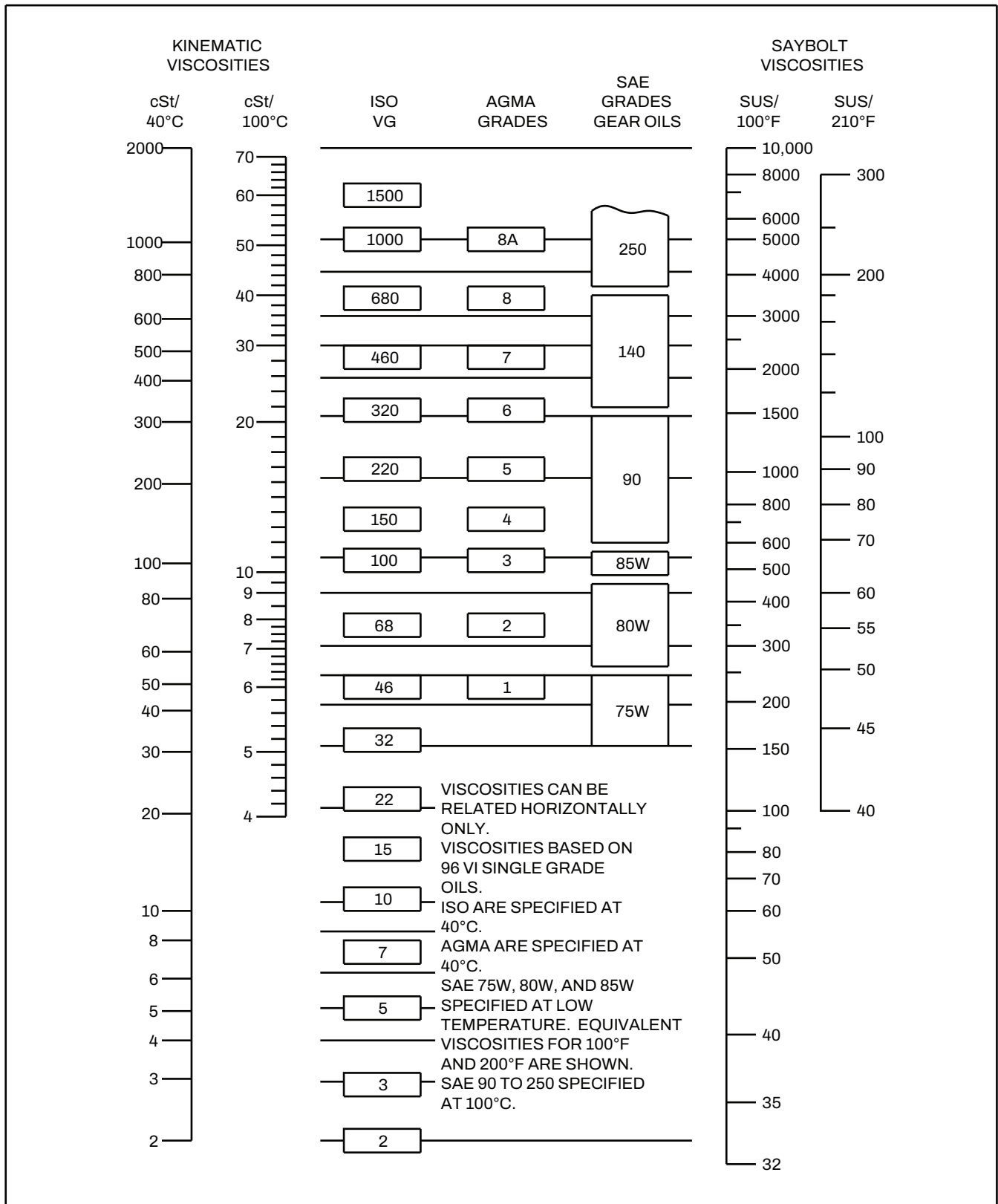


Figure 5 - Oil Viscosity Equivalency Chart



## REPLACEMENT OF PARTS

Dodge is prepared to repair Screw Conveyor Drive speed reducers for customers who do not have the proper facilities or for those who desire factory service. However, if the customer has access to an arbor press, equipment for heating and shrinking bearings and gears on shafts, and the tools normally found in a maintenance department, the Screw Conveyor Drive speed reducer can easily be disassembled and reassembled by careful attention to the following instructions.

Cleanliness is very important to prevent the introduction of dirt into the bearings and other parts of the reducer. The oil seals are of the rubbing type and considerable care should be exercised during disassembly or reassembly to avoid damage to the surfaces on which these seals rub. Any sharp edges on the input shaft or output hub should be covered with adhesive tape or paper before performing any work on the unit. Nicks and burrs on surfaces or the input shaft or output hub should be removed.

### ORDERING PARTS

When ordering parts for reducer, specify Screw Conveyor Drive size and serial number, part name, part number, and quantity.

Parts that must be pressed from shafts or output hub should be removed before ordering parts. This assures that those parts, if damaged during pressing operation, will be replaced.

It is recommended that when a pinion or gear is replaced, the mating gear or pinion be replaced also. This insures that the gear teeth will mesh properly. If the large gear on the output hub must be replaced, it is suggested that an output hub assembly, consisting of a gear assembled on an output hub, be ordered to secure an output hub with undamaged surfaces on which the oil seals rub. However, if the old output hub is to be used, carefully press the gear and bearing cones off. Thoroughly examine the area under the oil seals for scratches or any other damage resulting from the pressing operation. To prevent leakage at the oil seals, the rubbing area must be smooth.

Replacements for the old oil seals should be ordered, due to the probability of these parts being damaged during disassembly. If replacing a bearing, output hub, or a shaft, it is advisable to order a set of shims for adjustment of bearings on the shaft assembly. If replacing a housing, a set of shims should be ordered for each shaft assembly because the adjustment of the bearings on each shaft assembly is affected.

### REMOVING SCREW CONVEYOR DRIVE FROM THE TROUGH END

Disconnect any electrical power to the drive. Drain lubricant from reducer. Uncouple drive shaft and screw. Remove nuts from trough end studs. Support drive by means of hoist and carefully pull unit away from trough end to slide drive shaft out of screw.

### DISASSEMBLY

1. Remove retainer bolt, lockwasher, and shaft retainer from drive shaft. Pull drive shaft out of reducer from adapter side. Remove adapter.
2. Position reducer on its side and remove all bolts. Gently tap the output hub and input shaft with a soft hammer (rawhide, not lead hammer) to separate the housing halves. Open housing evenly to prevent damage to the parts inside.
3. Lift shaft, gear and bearing assemblies from housing.
4. Remove seals, seal carriers, and bearing cups from housing.
5. Clean all parts in solvent, inspect for damage, and coat with oil.

## 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. Input Shaft Assembly: Shaft and pinion are integral. Press bearings on shaft. Press against inner (not outer) race of bearings.
3. Drive the two dowel pins into place in the right hand housing half. Apply RTV732 sealant to carriers for R.H. side (backstop side) of reducer. Install carriers and torque bolts per Table 5.
4. Place R.H. housing half on blocks to allow for protruding end of output hub.
5. Install bearing cups in right-hand housing half, making sure they are properly seated.
6. Mesh output hub gear and input pinion assembly 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.
7. Clean housing flange surfaces on both halves, making sure not to nick or scratch flange face. Place a 1/8" bead of RTV732 sealant on flange face (make sure RTV is placed between bolt holes and inside of flange face). Place other 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 5.
8. Place output hub seal carrier in position without shims and install two carrier screws diametrically opposed. Torque each screw to 25 in. – lbs. Rotate the output hub to roll in the bearings and then torque each screw to 50 in. – lbs. Again turn output hub to roll in the bearings. With a feeler or taper gage, measure the gap between the housing and the carrier flange. To determine the required shim thickness, take the average of the two feeler gage readings. Remove carrier and install the required shims plus .002. Install carrier with shims and torque bolts per Table 5. Rotate hub assembly, tap lightly with rawhide mallet on end of hub, while rotating, to ensure bearings are seated. Using a dial indicator check end play of hub bearings, endplay should be .001–.003. Repeat this process as necessary to obtain proper end play. Place a 1/8" diameter bead of RTV732 sealant inside the carrier at the shim I.D. and install carrier on reducer housing. Torque carrier bolts to value shown in Table 5.
9. Using the same procedure as in step 8, adjust the input shaft bearings, except the axial end play should be .002" to .004".
10. Using gaskets or RTV732, install input shaft cover to right-hand housing half. Install input and output 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. Fill cavity between seal lips with grease. Seals should be pressed or tapped with a soft hammer evenly into place in the carrier, 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.

**Table 5 - Recommended Torque Values**

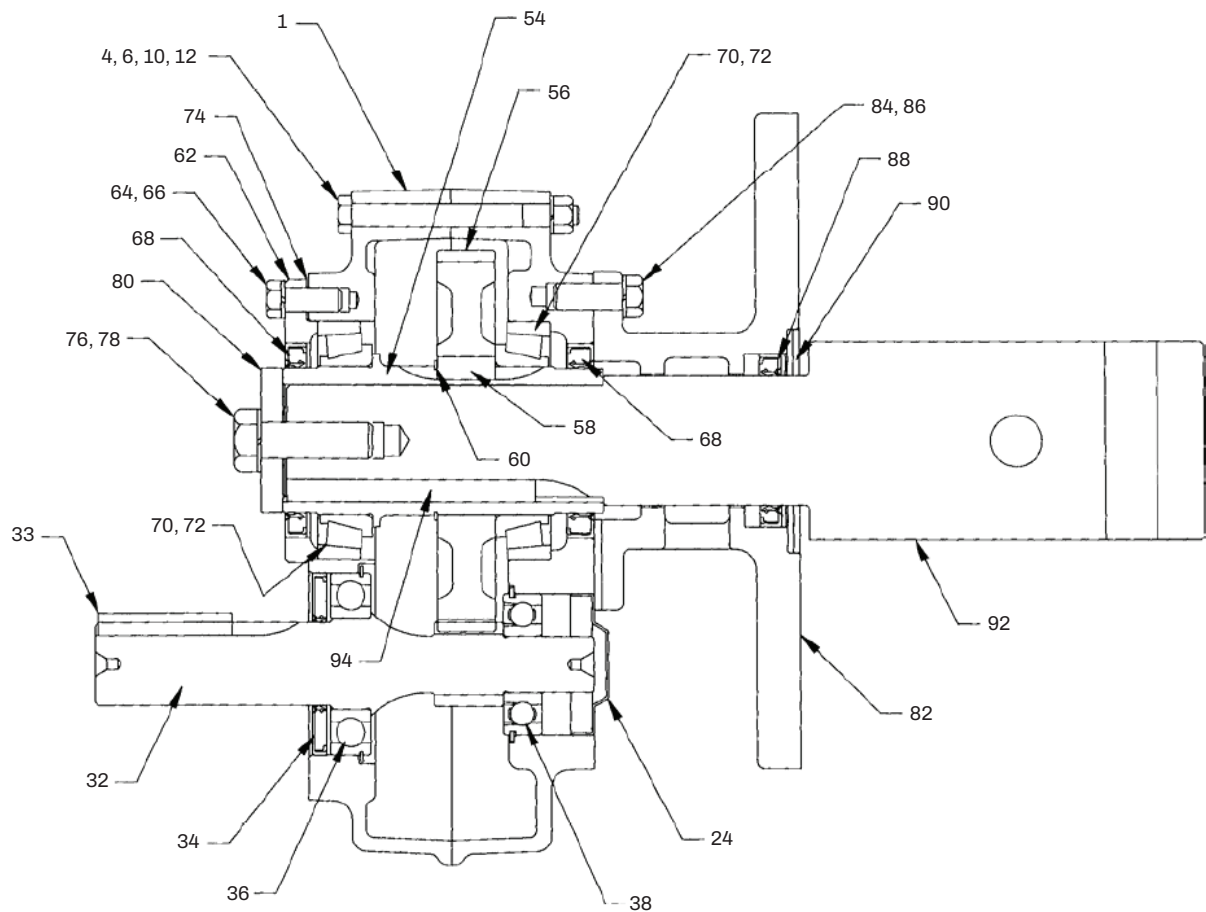
| Torque-Arm Reducer Drive Size | Recommended Torque (ft.-lbs.) |               |                           |                                    |                                      |                              |                      |
|-------------------------------|-------------------------------|---------------|---------------------------|------------------------------------|--------------------------------------|------------------------------|----------------------|
|                               | Adapter Bolts                 | Housing Bolts | OP Hub Seal Carrier Bolts | Countershaft Bearing Carrier Bolts | RH Countershaft Bearing Cover Screws | Hydroil Motor Adapter Screws | Backstop Cover Bolts |
| (H)SCXT105                    | 27–30                         | 27–30         | n/a                       | n/a                                | n/a                                  | 8                            | n/a                  |
| (H)SCXT205                    | 45–50                         | 27–30         | n/a                       | n/a                                | n/a                                  | 8                            | n/a                  |
| (H)SCXT305A                   | 68–75                         | 45–50         | 15–17                     | 15–17                              | 15–17                                | 15–17                        | 15–17                |
| (H)SCXT405A                   | 135–150                       | 45–50         | 27–30                     | 27–30                              | n/a                                  | 27–30                        | 27–30                |
| (H)SCXT505A                   | 135–150                       | 68–75         | 27–30                     | 27–30                              | 27–30                                | 27–30                        | 27–30                |
| (H)SCXT605                    | 135–150                       | 68–75         | 27–30                     | 27–30                              | 27–30                                | 27–30                        | 27–30                |
| (H)SCXT705                    | 135–150                       | 135–150       | 45–50                     | 45–50                              | 45–50                                | 45–50                        | 45–50                |

Note: Tighten sufficient to prevent oil leaks.

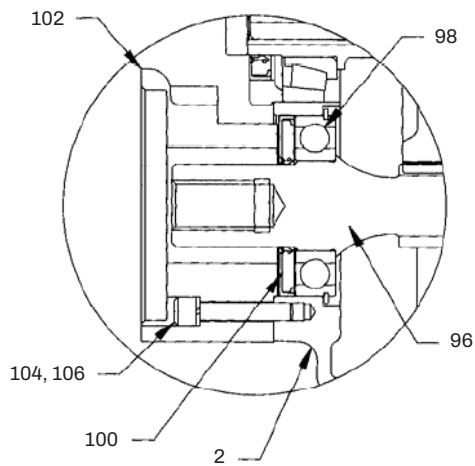
**Table 6 - Part Numbers for Replacement Bearings**

| Torque-Arm Reducer Drive Size | Output Hub Bearing | Countershaft Bearing Input Side | Countershaft Bearing Output Side | Input Bearings Input Side | Input Bearings Output Side |
|-------------------------------|--------------------|---------------------------------|----------------------------------|---------------------------|----------------------------|
|                               | Part No.           | Part No.                        | Part No.                         | Part No.                  | Part No.                   |
| 105                           | 402246<br>403149   | n/a                             | n/a                              | 424076                    | 424012                     |
| 205                           | 402247<br>403150   | n/a                             | n/a                              | 424078                    | 424000                     |
| 305A                          | 402272<br>403127   | n/a                             | n/a                              | 402190<br>403132          | 402271<br>403101           |
| 405A                          | 402268<br>403163   | n/a                             | n/a                              | 402179<br>403006          | 402285<br>403125           |
| 505A                          | 402193<br>403016   | n/a                             | n/a                              | 402270<br>403026          | 402266<br>403073           |
| 605                           | 402050<br>403140   | n/a                             | n/a                              | 402053<br>403106          | 402123<br>403009           |
| 705                           | 402058<br>403111   | n/a                             | n/a                              | 402057<br>403143          | 402078<br>403034           |





**Figure 6 - Parts for SCXT105, SCXT205, HSCXT105 & HSCXT205  
Screw Conveyor and Hydroil Screw Conveyor Drive**



NOTE: Parts for HSCXT Screw  
Conveyor Drives are the same as for  
SCXT Screw Conveyor Drives, except  
as noted in this view.

**Figure 7 - HSCXT105 and HSCXT205**

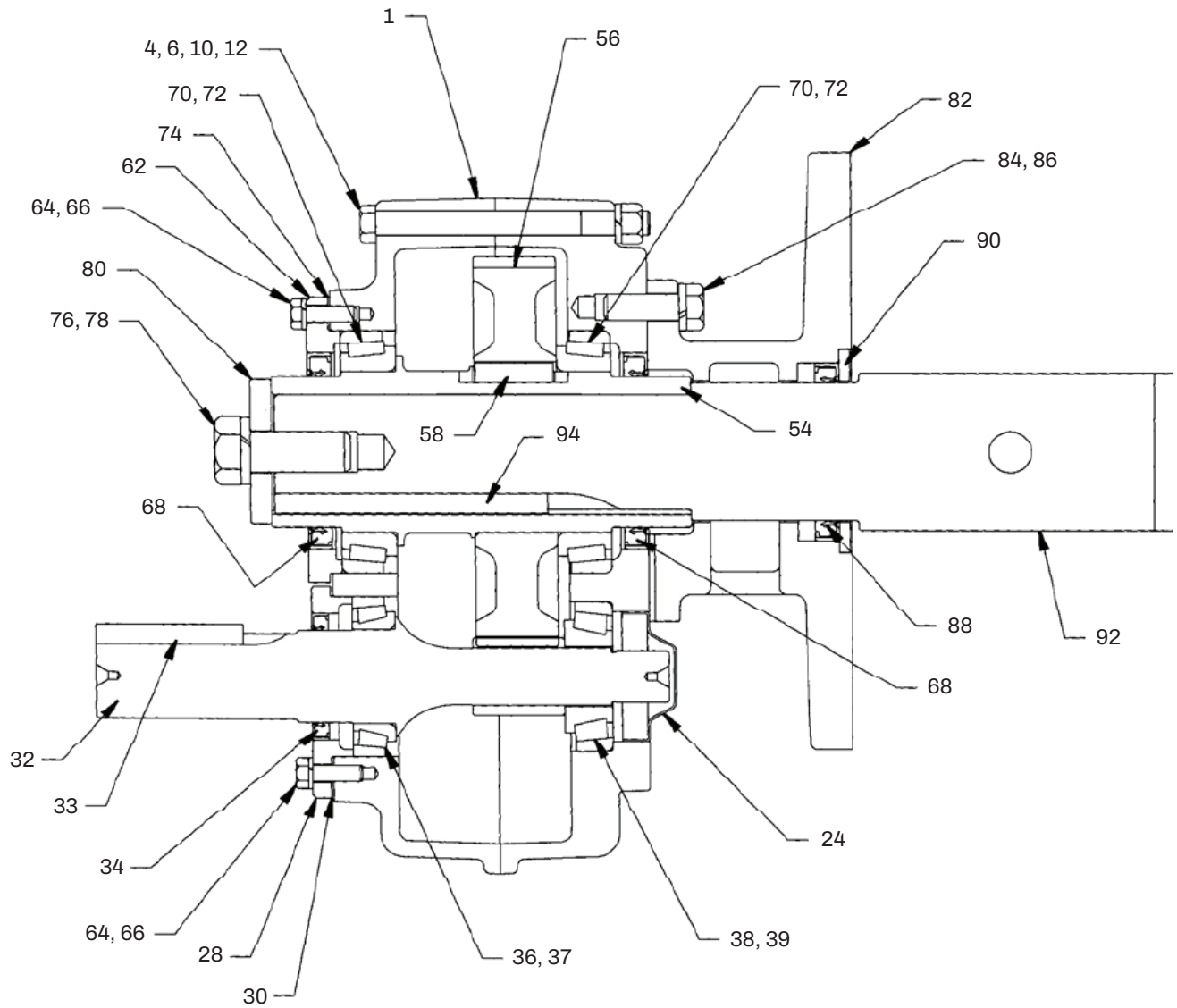
**Table 7 - Parts for SCXT105, SCXT205, HSCXT105 & HSCXT205 Screw Conveyor  
and Hydroil Screw Conveyor Drive**

| Reference | Name of Part                      |           | Number<br>Required | (H)SCXT105  | (H)SCXT205  |
|-----------|-----------------------------------|-----------|--------------------|-------------|-------------|
| 1         | SCXT Housing                      |           | 1                  | 351235      | 352179      |
| 2         | HSCXT Housing                     |           | 1                  | 351241      | 352246      |
| ③         | Air Vent                          |           | 1                  | 900287      | 900287      |
| 4         | Housing Bolt                      |           | ④                  | 411418      | 411418      |
| 6         | Lockwasher                        |           | ⑦                  | 419011      | 419011      |
| ③         | Washer                            |           | 4                  | 419092      | 419092      |
| 10        | Hex Nut                           |           | ④                  | 407087      | 407087      |
| 12        | Dowel Pin                         |           | 2                  | 420091      | 420091      |
| ③         | Pipe Plug                         |           | 5                  | 430031      | 430031      |
| ③         | Magnetic Drain Plug               |           | 1                  | 430060      | 430060      |
| ③         | Smart Sensor Adapter              |           | 1                  | 966905      | 966905      |
| 24        | Input Shaft Bearing Cover         |           | 1                  | 361062      | 354112      |
| 32 ⑥      | Input Shaft with<br>Pinion        | 5:1 Ratio | 1                  | 251020      | 242214      |
| 33        | Input Shaft Key                   |           | 1                  | 443013      | 443052      |
| 36 ⑥      | Input Shaft Bearing (Input Side)  |           | 1                  | 424076      | 424078      |
| 38 ⑥      | Input Shaft Bearing (Output Side) |           | 1                  | 424012      | 424000      |
|           | Output Hub Assembly ①             |           | 1                  | 391029 HA   | 392105 HA   |
| 54 ⑥      | ② Output Hub                      |           | 1                  | 351112      | 352112      |
| 56 ⑥      | ② Output Hub Gear                 |           | 1                  | 241007      | 242181      |
| 58 ⑥      | ② Output Hub Gear Key             |           | 1                  | 241217      | 443399      |
| 70 ⑥      | Output Hub Bearing Cone           |           | 2                  | 402246      | 402247      |
| 62        | Output Hub Seal Carrier           |           | 1                  | 351114      | 362051      |
| 64        | Carrier Screw                     |           | 6                  | 411405      | 032018008CJ |
| 66        | Lockwasher                        |           | 6                  | 419010      | 419011      |
| 72 ⑥      | Output Hub Bearing Cup            |           | 2                  | 403149      | 403150      |
| 74        | Output Hub Shim Pack              |           | 1 Set              | 391056      | 392160      |
| 76        | Retainer Bolt                     |           | 1                  | 411549      | 411549      |
| 78        | Lockwasher                        |           | 1                  | 034017018AB | 034017018AB |
| 80        | Shaft Retainer                    |           | 1                  | 351116      | 352116      |
| ①         | Adapter Assembly                  |           | 1                  | 351086      | 352052      |
| 82 ②      | ⑧ Adapter                         |           | 1                  | 356169      | 356113      |
| 84 ②      | Bolt                              |           | 4                  | 032018010CJ | 411433      |
| 86 ②      | Lockwasher                        |           | 4                  | 419011      | 419012      |
| 88 ②      | Lip Seal                          |           | 1                  | 351123      | 901286      |
| 90 ②      | Seal Retaining Ring               |           | 1                  | 351121      | 352121      |
| ① ⑨       | Adjustable Packing Kit            |           | 1                  | 356301      | 356302      |
| ② ③       | Adjustable Packing Retainer       |           | 1                  | 356134      | 356115      |
| ② ③       | Stud                              |           | 2                  | 400404      | 400404      |
| ② ③       | Hex Nut                           |           | 2                  | 407202      | 407200      |
| ② ③       | Braided Seal                      |           | 3                  | 427663      | 427659      |

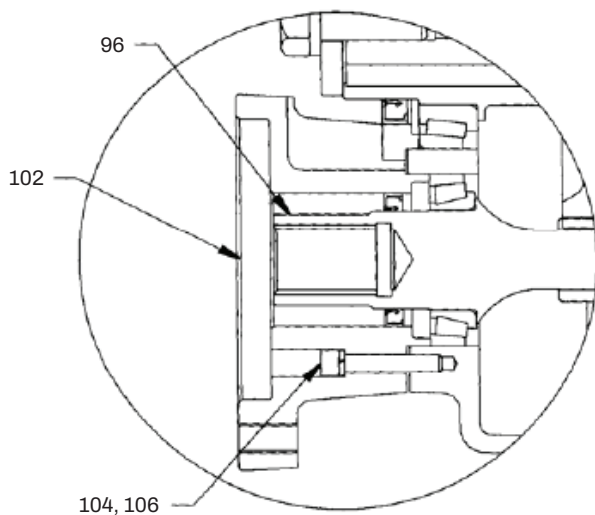
**Table 7 - Parts for SCXT105, SCXT205, HSCXT105 & HSCXT205 Screw Conveyor  
and Hydroil Screw Conveyor Drive**

| Reference | Name of Part                     |              | Number<br>Required | (H)SCXT105  | (H)SCXT205  |
|-----------|----------------------------------|--------------|--------------------|-------------|-------------|
| 92        | Drive Shaft j                    | 1-1/2" Dia.  | 1                  | 351094      | 352090      |
|           |                                  | 2" Dia.      | 1                  | 351095      | 352091      |
|           |                                  | 2-7/16" Dia. | 1                  | 351096      | 352092      |
|           |                                  | 3" Dia.      | 1                  | 351097      | 352093      |
|           |                                  | 3-7/16" Dia. | 1                  | —           | —           |
| 94        | ② Key                            |              | 1                  | 443287      | 443223      |
| ①         | SCXT Seal Kit                    |              | 1                  | 272716      | 272717      |
| 34 ②      | ⑥ Input Shaft Seal               |              | 1                  | 242211      | 244211      |
| 68 ②      | ⑥ Output Hub Seal                |              | 2                  | 351113      | 352113      |
| ①         | HXCXT Seal Kit                   |              | 1                  | 236115      | 272717      |
| 100 ②     | ⑥ Input Seal                     |              | 1                  | 251089      | 244211      |
| 68 ②      | ⑥ Output Hub Seal                |              | 2                  | 351113      | 352113      |
| ③ ⑥       | RTV Sealant, Tube                |              | 1                  | 415112-80-H | 415112-80-H |
| 96 ⑥      | Hydroil Input<br>Pinion          | 5:1 Ratio    | 1                  | 251086      | 242215      |
| 98 ⑥      | Input Shaft Bearing (Input Side) |              | 1                  | 424137      | 424078      |
| 100 ⑥     | Input Seal                       |              | 1                  | 251089      | 252063      |
| 102       | Hydroil Motor Adapter            |              | 1                  | 361076      | 362077      |
| 104       | Adapter Screw                    |              | 5                  | 417090      | 417090      |
| 106       | Lockwasher                       |              | 5                  | 419046      | 419046      |

- ① Includes parts listed immediately below marked "②".
- ② Makes up assembly under which listed.
- ③ Not shown on drawing.
- ④ 6 required for (H)SCXT105; 7 for (H)SCXT205.
- ⑤ Used only on (H)SCXT105 and (H)SCXT205 with 1-1/2" diameter shafts.
- ⑥ Recommended spare parts.
- ⑦ 4 required for (H)SCXT105; 5 required for (H)SCXT205.
- ⑧ Must buy complete adapter assembly.
- ⑨ Must have adapter assembly to use packing kit.



**Figure 8 - Parts for SCXT305A, SCXT405A, SCXT505A & HSCXT305A, HSCXT405A & HSCXT505A  
Screw Conveyor and Hydroil Screw Conveyor Drive**



NOTE: Parts for HSCXT Screw Conveyor Drives are the same as for SCXT Screw Conveyor Drives, except as noted in this view.

**Figure 9 - HSCXT305A, HSCXT405A and HSCXT505A**

**Table 8 - Parts for SCXT305A, SCXT405A, SCXT505A & HSCXT305A, HSCXT405A & HSCXT505A**  
**Screw Conveyor and Hydroil Screw Conveyor Drive**

| Reference | Name of Part                           |              | Number Required | (H)SCXT305A | (H)SCXT405A | (H)SCXT505A |
|-----------|--|--------------|-----------------|-------------|-------------|-------------|
| 1         | (H)SCXT Housing                        |              | 1               | 253169      | 254220      | 255220      |
| ③         | Air Vent                               |              | 1               | 900287      | 900287      | 904287      |
| 4         | Housing Bolt                           |              | 8               | 411440      | 411442      | 411464      |
| 6         | Lockwasher                             |              | 8               | 419012      | 419012      | 419013      |
| ③         | Washer                                 |              | 4               | 419094      | 419094      | 419096      |
| 10        | Hex Nut                                |              | 8               | 407089      | 407089      | 407091      |
| 12 ④      | Dowel Pin                              |              | 2               | 420055      | 420055      | 420110      |
| ③         | Pipe Plug                              |              | 2               | 430031      | 430031      | 430033      |
| ③         | Smart Sensor Adapter                   |              | 1               | 966905      | 966905      | 966906      |
| ③         | Magnetic Drain Plug                    |              | 1               | 430060      | 430060      | 430062      |
| 24        | Input Shaft Bearing Cover              |              | 1               | 253149      | 254275      | 245624      |
| 28        | Input Shaft Seal Carrier               |              | 1               | 253177      | 254224      | 255224      |
| 30 ⑥      | Input Shaft Bearing Shim Pack          |              | 2 Sets          | 389723      | 389724      | 389725      |
| 32 ⑥      | Input Shaft with Pinion                | 5:1 Ratio    | 1               | 253170      | 254230      | 255221      |
| 33        | Input Shaft Key                        |              | 1               | 443078      | 443096      | 443113      |
| 36 ⑥      | Input Shaft Bearing Cone (Input Side)  |              | 1               | 402190      | 402179      | 402270      |
| 37 ⑥      | Input Shaft Bearing Cup (Input Side)   |              | 1               | 403132      | 403006      | 403026      |
| 38 ⑥      | Input Shaft Bearing Cone (Output Side) |              | 1               | 402271      | 402285      | 402266      |
| 39 ⑥      | Input Shaft Bearing Cup (Output Side)  |              | 1               | 403101      | 403125      | 403073      |
|           | Output Hub Assembly ①                  |              | 1               | 389702      | 389709      | 389716      |
| 54 ⑥      | ② Output Hub                           |              | 1               | 243557      | 244589      | 245591      |
| 56 ⑥      | ② Output Hub Gear                      |              | 1               | 243570      | 244188      | 245186      |
| 58 ⑥      | ② Output Hub Gear Key                  |              | 2               | 243216      | 391015      | 391026      |
| 62        | Output Hub Seal Carrier                |              | 1               | 243547      | 244591      | 255236      |
| 64        | Carrier Screw                          |              | 10 ④            | 411390      | 032018008CJ | 032018008CJ |
| 66        | Lockwasher                             |              | 10 ④            | 419010      | 419011      | 419011      |
| 70 ⑥      | Output Hub Bearing Cone                |              | 2               | 402272      | 402268      | 402193      |
| 72 ⑥      | Output Hub Bearing Cup                 |              | 2               | 403127      | 403163      | 403016      |
| 74        | Output Hub Shim Pack                   |              | 1 Set           | 243139      | 244153      | 245139      |
| 76        | Retainer Bolt                          |              | 1               | 411551      | 411551      | 411551      |
| 78        | Lockwasher                             |              | 1               | 034017020AB | 034017020AB | 034017020AB |
| 80        | Shaft Retainer                         |              | 1               | 353053      | 354088      | 355065      |
|           | Adapter Assembly ①                     |              | 1               | 353047      | 354121      | 355072      |
| 82 ⑦      | ② Adapter                              |              | 1               | 356164      | 356150      | 356159      |
| 84        | ② Bolt                                 |              | 4               | 411456      | 411483      | 411483      |
| 86        | ② Lockwasher                           |              | 4               | 419013      | 034017018AB | 034017018AB |
| 88        | ② Lip Seal                             |              | 1               | 353085      | 354115      | 355067      |
| 90        | ② Seal Retaining Ring                  |              | 1               | 353054      | 354089      | 355066      |
| ①         | Adjustable Packing Kit ③               |              | 1               | 356303      | 356304      | 356305      |
| ③         | Adjustable Packing Retainer ②          |              | 1               | 356166      | 356152      | 356161      |
| ③         | Stud ②                                 |              | 2               | 400404      | 400404      | 400404      |
| ③         | Hex Nut ②                              |              | 2               | 407202      | 407202      | 407202      |
| ③         | Braided Seal ②                         |              | 3               | 427658      | 427664      | 427674      |
| 92        | Drive Shaft ①                          | 1-1/2" Dia.  | 1               | 243562      | 244594      | —           |
|           |  | 2" Dia.      | 1               | 243563      | 244595      | 355175      |
|           |  | 2-7/16" Dia. | 1               | 243564      | 244596      | 355176      |
|           |  | 3" Dia.      | 1               | 243565      | 244597      | 355177      |
|           |  | 3-7/16" Dia. | 1               | —           | 244598      | 355178      |
| 94        | ② Key                                  |              | 1               | 443098      | 443114      | 443239      |
|           | Seal Kit ⑥ ①                           |              | 1               | 389726      | 389727      | 389728      |
| 34        | ② Input Seal                           |              | 1               | 351123      | 334277      | 245546      |
| 68        | ② Output Seal                          |              | 2               | 902286      | A73109      | 404286      |
| 1         | RTV Sealant, Tube                      |              | 1               | 415112-80-H | 415112-80-H | 415112-80-H |
| 96 ⑥      | Hydroil Input Pinion                   | 5:1 Ratio    | 1               | 253171      | 254231      | 255222      |
| 102       | Hydroil Motor Adapter                  |              | 1               | 253172      | 254222      | 255226      |
| 104       | Adapter Screw                          |              | 6 ⑤             | 417090      | 417120      | 417120      |
| 106       | Lockwasher                             |              | 6 ⑤             | 419046      | 419047      | 419047      |

① Includes parts listed immediately below marked ②.

② Makes up assembly under which listed.

③ Not shown on drawing.

④ 12 required for SCXT505A; 6 for HSCXT305A, HSCXT405 and HSCXT505A.

⑤ 4 required for HSCXT305A.

⑥ Recommended spare parts.

⑦ Must buy complete Adapter Assembly.

⑧ Must have adapter assembly to use packing kit.

⑨ Included with housing assembly.

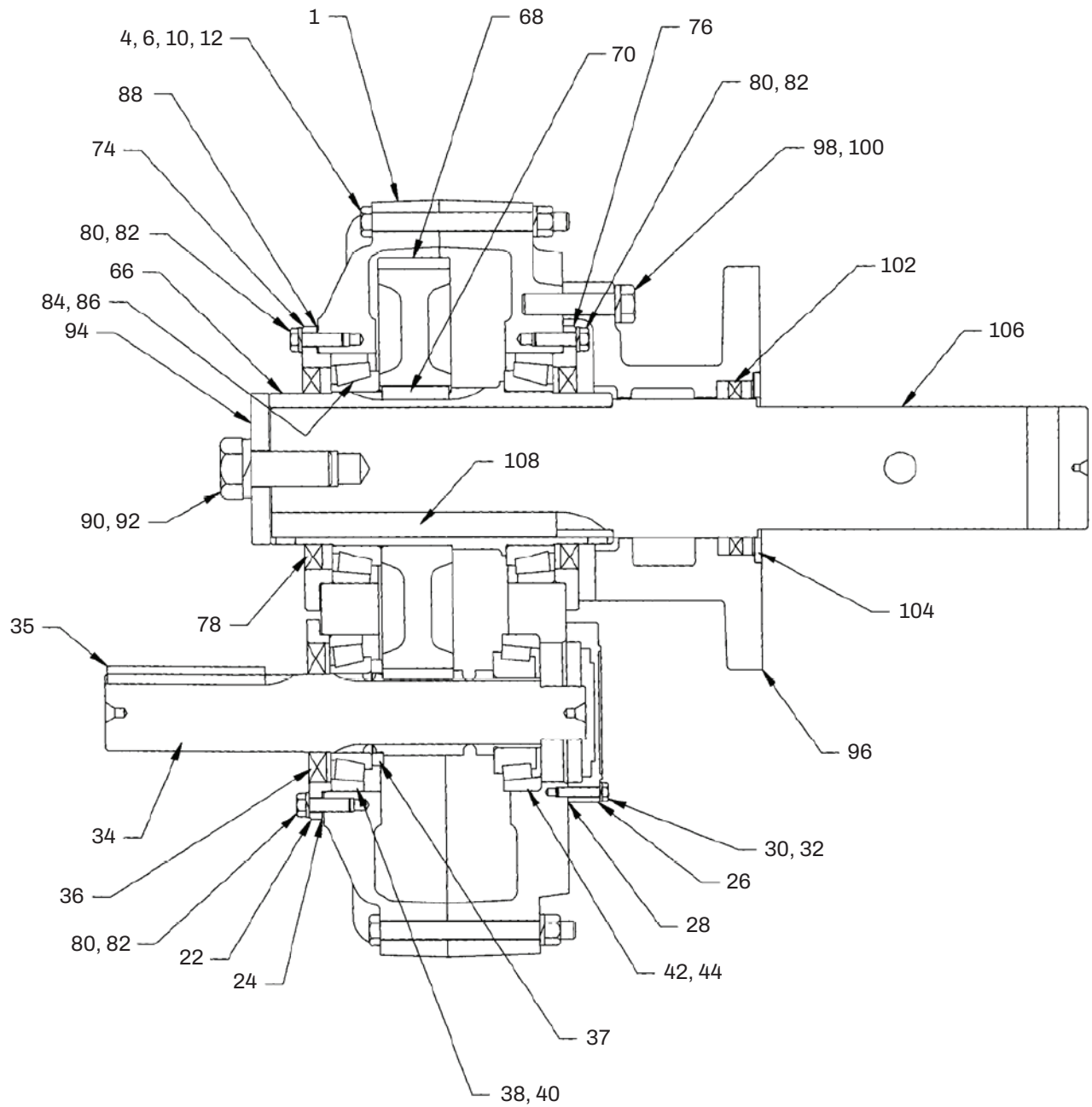


Figure 10 - Parts for SCXT605 - SCXT705 Screw Conveyor Drive

| Table 9 - Parts for SCXT605 - SCXT705 Screw Conveyor Drive |  |                 |             |             |
|--|--|-----------------|-------------|-------------|
| Reference  | Name of Part                           | Number Required | SCXT605     | SCXT705     |
| 1  | SCXT Housing Assembly                  | 1               | 246174      | 247184      |
| ③  | Air Vent                               | 1               | 904287      | 390061      |
| 4  | Housing Bolt                           | 8               | 411466      | 411498      |
| 6  | Lockwasher                             | 8               | 419013      | 034017020AB |
| ③  | Washer                                 | 2               | 419096      | 419082      |
| 10   | Hex Nut                                | 8               | 407091      | 407095      |
| 12 ③   | Dowel Pin                              | 2               | 420112      | 420128      |
| ③  | Pipe Plug                              | 4               | 430033      | 430035      |
| ③  | Smart Sensor Adapter                   | 1               | 966906      | 966907      |
| ③  | Magnetic Drain Plug                    | 1               | 430062      | 430064      |
| 22   | Input Shaft Seal Carrier               | 1               | 246184      | 257045      |
| 24<br>88   | Complete Shim Kit ⑤                    | 1               | 246166      | 247138      |
| 26   | Input Shaft Bearing Cover              | 1               | 246221      | 247221      |
| 30   | Input Shaft Cover Screw                | 6               | 411404      | 411402      |
| 32   | Lockwasher                             | 6               | 419009      | 419009      |
| 34 ⑤   | Input Shaft with Pinion 5:1 Ratio      | 1               | 256028      | 257044      |
| 35   | Input Shaft Key                        | 1               | 443113      | 443127      |
| 37 ⑤   | Input Shaft Bearing Spacer             | 1               | 256030      | —           |
| 38 ⑤   | Input Shaft Bearing Cone (Input Side)  | 1               | 402053      | 402057      |
| 40 ⑤   | Input Shaft Bearing Cup (Input Side)   | 1               | 403106      | 403143      |
| 42 ⑤   | Input Shaft Bearing Cone (Output Side) | 1               | 402123      | 402078      |
| 44 ⑤   | Input Shaft Bearing Cup (Output Side)  | 1               | 403009      | 403034      |
|  | Output Hub Assembly j                  | 1               | 390988      | 390990      |
| 66 ⑤   | ② Output Hub                           | 1               | 246338      | 247338      |
| 68 ⑤   | ② Output Hub Gear                      | 1               | 246295      | 247215      |
| 70 ⑤   | ② Output Hub Gear Key                  | 2               | 245217      | 245217      |
| 74   | Output Hub Seal Carrier (Input Side)   | 1               | 246187      | 247315      |
| 76   | Output Hub Seal Carrier (Output Side)  | 1               | 246186      | 247315      |
| 80   | Carrier Screw                          | m               | 032018010CJ | 411433      |
| 82   | Lockwasher                             | m               | 419011      | 419012      |
| 84 ⑤   | Output Hub Bearing Cone                | 2               | 402050      | 402058      |
| 86 ⑤   | Output Hub Bearing Cup                 | 2               | 403140      | 403111      |
| 24<br>88   | Complete Shim Kit ⑤                    | 1               | 246166      | 247138      |
| 90   | Retainer Bolt                          | 1               | 411552      | 411552      |
| 92   | Lockwasher                             | 1               | 419020      | 419020      |
| 94   | Shaft Retainer                         | 1               | 356047      | 356191      |
|  | Adapter Assembly ①                     | 1               | 356055      | 356187      |
| 96   | ② ⑥ Adapter                            | 1               | 356155      | 356193      |
| 98   | ② Bolt                                 | 4               | 032018020EJ | 411496      |
| 100  | ② Lockwasher                           | 4               | 034017018AB | 034017020AB |
| 102  | ② Lip Seal                             | 1               | 355054      | 355054      |
| 104  | ② Seal Retaining Ring                  | 1               | 356054      | 356054      |
| 108  | ② Key                                  |                 | 443288      | 443289      |
|  | Adjustable Packing Kit ① ⑦             | 1               | 356306      | 356306      |
| ③  | ② Adjustable Packing Retainer          | 1               | 356157      | 356157      |
| ③  | ② Stud                                 | 2               | 400404      | 400404      |
| ③  | ② Hex Nut                              | 2               | 407202      | 407202      |



| Table 9 - Parts for SCXT605 - SCXT705 Screw Conveyor Drive |                            |              |                 |             |             |
|--|----------------------------|--------------|-----------------|-------------|-------------|
| Reference  | Name of Part               |              | Number Required | SCXT605     | SCXT705     |
| ③  | ② Braided Seal             |              | 3               | 427687      | 427687      |
| 106  | Drive Shaft j              | 1-1/2" Dia.  | 1               | 356040      | 356180      |
|  |                            | 2" Dia.      | 1               | 356041      | 356181      |
|  |                            | 2-7/16" Dia. | 1               | 356042      | 356182      |
|  |                            | 3" Dia.      | 1               | 356043      | 356183      |
|  |                            | 3-7/16" Dia. | 1               | 356044      | 356184      |
| 108  | ② Key                      |              | 1               | 443288      | 443289      |
|  | Seal Kit ⑤①                |              | 1               | 272705      | 247345      |
| 28⑤  | ② Input Shaft Cover Gasket |              | 1               | 246220      | 246220      |
| 36⑤  | ② Input Shaft Seal         |              | 1               | 256032      | 242113      |
| 78⑤  | ② Output Hub Seal          |              | 2               | 905286      | 247310      |
| ③  | RTV Sealant, Tube          |              | 1               | 415112-80-H | 415112-80-H |

- ① Includes parts listed immediately below marked ②.  
 ② Makes up assembly under which listed.  
 ③ Not shown on drawing.  
 ④ 18 required for SCXT605; 22 for SCXT705.  
 ⑤ Recommended spare parts.  
 ⑥ Must buy complete Adapter Assembly.  
 ⑦ Must have adapter assembly to use packing kit.  
 ⑧ Included with housing assembly.

**Dodge Industrial, Inc.**  
 1061 Holland Road  
 Simpsonville, SC 29681  
 +1 864 297 4800

