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 ABB nor are the responsibility of ABB. 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.
3. Mount Taper Bushed reducer on driven shaft per instructions packed with tapered bushings.

4. Install torque arm and adapter plates using the long reducer bolts. The bolts may be shifted to any of the holes on the input end of the reducer.

5. Install torque arm fulcrum on a rigid support so that the torque arm will be approximately at right angles to the center line through the driven shaft and the torque arm anchor screw.

CHAR-LYNN H, S, T AND 2000 SERIES
6B SPLINE MOTOR INSTALLATION

Consult the local Char-Lynn Motor dealer for hydraulic motor information.

REDUCER LUBRICATION

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.

Use a high grade petroleum base, rust and oxidation inhibited (R & O) gear oil—see tables. Follow instructions on reducer nameplate, warning tags, and in the installation manual.

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

CAUTION: Too much oil will cause overheating and too little will result in gear failure. Check oil level regularly. Failure to observe these precautions could result in damage to or destruction of the equipment.

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

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.

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.

<table>
<thead>
<tr>
<th>Reducer Size</th>
<th>Position A</th>
<th>Position B</th>
<th>Position C</th>
<th>Position D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid</td>
<td>Quarts (Approx)</td>
<td>Liters (Approx)</td>
<td>Fluid</td>
<td>Quarts (Approx)</td>
</tr>
<tr>
<td>HXT315B HXT325B</td>
<td>48</td>
<td>1-1/2</td>
<td>1.42</td>
<td>48</td>
</tr>
<tr>
<td>HXT415B HXT425B</td>
<td>60</td>
<td>1-7/8</td>
<td>1.77</td>
<td>72</td>
</tr>
<tr>
<td>HXT515C HXT525C</td>
<td>104</td>
<td>3-1/4</td>
<td>3.08</td>
<td>128</td>
</tr>
</tbody>
</table>

① Refer to Figure 1 for mounting positions.
② U.S. Measure: 1 quart = 32 fluid ounces = .94646 liters.
Note: If reducer position is to vary from those shown in Figure 1 either more or less oil may be required. Consult Dodge Product Support.
## Table 2 — Lubrication Recommendations

### ISO Grades for Ambient Temperatures of 15° to 60°

<table>
<thead>
<tr>
<th>Output RPM</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
</table>

Below – 23°F call application engineering.
20°F to -22°F use Mobil SHC 627
Above 125°F use Mobil SHC 634.

## Table 3 — Lubrication Recommendations

### ISO Grades for Ambient Temperatures of 50° to 125°

<table>
<thead>
<tr>
<th>Output RPM</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>301–400</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>201–300</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>151–200</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>126–150</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>101–125</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>81–100</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>41–80</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>11–40</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>1–10</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
<td>320</td>
</tr>
</tbody>
</table>

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.

Refer to Oil Viscosity Equivalency Chart 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 lubricant manufacturer representative for recommendations.
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 the 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 a suitable solvent.
3. Fill the unit to the proper oil level using a recommended lubricant. The VCI oil will not affect the new lubricant.
4. Follow the installation instructions provided in this manual.

REPLACEMENT OF PARTS

A DODGE TORQUE-ARM Speed Reducer can be disassembled and reassembled by careful attention to the instructions following, using tools normally found in a maintenance department.

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

Our factory is prepared to repair reducers for customers who do not have proper facilities or who for any reason desire factory service.

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

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

ORDERING PARTS

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

It is strongly recommended that when a pinion or gear is replaced, the mating gear or pinion be replaced also.

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

However, if it is desired to use the old output hub, press the gear and bearing off and examine the rubbing surface under the oil seal carefully for possible scratching or other damage resulting from the pressing operation. To prevent oil leakage at the shaft oil seals the smooth surface of the output hub must not be damaged.

If any parts must be pressed from a shaft or from the output hub, this should be done before ordering parts to make sure that none of the bearings or other parts are damaged in removal. Do not press against outer race of any bearing.

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

If replacing a bearing 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.
REMOMING TAPER BUSHED REDUCER FROM SHAFT

WARNING: External loads may cause machine movement. Block machine before removing any drive train components. Failure to observe these precautions could result in bodily injury.

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 bushing flanges are clean.
3. Remove the outside bushing, the reducer and then the inboard bushing.

DISASSEMBLY

1. Remove all bolts from housing. Drive back hollow dowel pins on either side of housing. Remove backup plates and snap rings on the output hub on taper bushed reducers. Open housing evenly to prevent damage to parts inside.
2. Lift shaft, gear and bearing assemblies from housing.
3. Remove seals, seal carriers and bearing cups from housing.

REASSEMBLY

2. Countershaft Assembly: Heat gear to 325° to 350°F and bearing cones to 270° to 290°F for shrinking onto shaft.
3. Input Shaft Assembly: Shaft and pinion are integral. Heat bearing cones to 270° to 290°F for shrinking onto shaft.
4. Drive the dowel pins back into position in the right hand housing half.
5. Install countershaft cover in right-hand housing half. Place housing half on blocks to allow for protruding End of output hub. Install bearing cups in right-hand housing half making sure they are properly seated.
6. Mesh output hub gear and small countershaft gear together and set in place in housing. Set input shaft assembly in place in the housing. Make sure bearing rollers (cones) are properly seated in their cups. Set bearing cups for left-hand housing half in place on their rollers.
7. Clean housing flange surfaces on both halves, making sure not to nick or scratch flange face. Place a new bead of gasket eliminator on flange face and spread evenly over entire flange leaving no bare spots. Place other housing half into position and tap with a soft hammer (rawhide not lead hammer) until housing bolts can be used or draw housing halves together. Torque housing bolts per torque values listed below.
8. Place output hub seal carrier in position without slims and install two carrier screws diametrically opposed. Torque each screw to 25 lb.-ins. Rotate the output hub to roll in the bearings and then torque each screw once to 50 lb.-ins. Do not retorque screws. Again turn output hub to roll in the bearings. With a feeler or taper gage, measure the gap between the housing and the carrier, clockwise from and next to each screw. To determine the required shim thickness, take the average of the two feeler gage readings. Remove carrier and install the required shims. Note: Total shim thickness per carrier should not include more than .009” plastic shims and each plastic shim should be inserted between two metal shims. Place a 1/8” diameter bead of Dow Corning RTV732 sealant on the face around the I.D. of the end shim (sealant is to be between reducer housing and shim) and install carrier on reducer housing. Torque carrier bolts to value shown in Table 5. Output hub should have an axial end play of .001” to .003”.
9. Adjust the countershaft bearings using the same method as in step 8 above. The axial end play should be .001” to .003”.
10. Again using the same procedure as in step 8, adjust the input shaft bearings, except the axial end play should be .002” to .004”.
11. Apply sealant to the input shaft cover gasket and install input shaft cover in 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. This danger of damage and consequent oil leakage can be decreased by covering all sharp edges with tape or paper 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 in but should disappear unless seals have been damaged.
12. Install bushing back-up plate and snap rings.
Table 4 – Quantities of VCI #105 Oil

<table>
<thead>
<tr>
<th>Case Size</th>
<th>Quarts or Liters</th>
</tr>
</thead>
<tbody>
<tr>
<td>HXT3C</td>
<td>.1</td>
</tr>
<tr>
<td>HXT4C</td>
<td>.2</td>
</tr>
<tr>
<td>HXT5C</td>
<td>.3</td>
</tr>
</tbody>
</table>

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

Table 5 – Bolt Tightening Torque Values

<table>
<thead>
<tr>
<th>Reducer Size</th>
<th>Housing Bolts (in.-lbs.)</th>
<th>Seal Carrier Bolts (in.-lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HXT325C</td>
<td>600</td>
<td>204</td>
</tr>
<tr>
<td>HXT415C/HXT425C</td>
<td>600</td>
<td>360</td>
</tr>
<tr>
<td>HXT525C</td>
<td>900</td>
<td>360</td>
</tr>
</tbody>
</table>

Table 6 – Manufacturers’ Part Numbers For Replacement Output Hub Bearings

<table>
<thead>
<tr>
<th>TORQUE-ARM</th>
<th>Output Hub Bearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducer Drive Size</td>
<td>Part Number</td>
</tr>
<tr>
<td>HXT325C</td>
<td>403127</td>
</tr>
<tr>
<td>HXT415C/HXT425C</td>
<td>402268/403163</td>
</tr>
<tr>
<td>HXT525C</td>
<td>403016</td>
</tr>
</tbody>
</table>

Table 7 – Manufacturers’ Part Numbers For Replacement Countershaft Bearings

<table>
<thead>
<tr>
<th>Torque Arm Reducer</th>
<th>Countershaft Bearing Input Side</th>
<th>Countershaft Bearing Adapter Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Part Number</td>
<td>Part Number</td>
</tr>
<tr>
<td>HXT325C</td>
<td>403094</td>
<td>403094</td>
</tr>
<tr>
<td>HXT415C/HXT425C</td>
<td>402000/403000</td>
<td>402000/403000</td>
</tr>
<tr>
<td>HXT525C</td>
<td>403027</td>
<td>403027</td>
</tr>
</tbody>
</table>

Table 8 – Manufacturers’ Part Numbers For Replacement Input Shaft Bearings

<table>
<thead>
<tr>
<th>Torque Arm Reducer</th>
<th>Countershaft Bearing Input Side</th>
<th>Countershaft Bearing Adapter Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Part No.</td>
<td>Part No.</td>
</tr>
<tr>
<td>HXT325C</td>
<td>403139</td>
<td>403094</td>
</tr>
<tr>
<td>HXT415C/HXT425C</td>
<td>402280/403027</td>
<td>402142/403102</td>
</tr>
<tr>
<td>HXT525C</td>
<td>402144/403104</td>
<td>402266/403073</td>
</tr>
</tbody>
</table>
Parts for HXT3C through HXT5C
Taper Bushed Hydroil Speed Reducers

Taper-Bushed

TORQUE-ARM Assembly

BACKSTOP Assembly

16, 19, 20, 22, 24
32, 33
60
54, 55
42
40
44, 45
126, 128
124
30

116, 118
120, 122

114

112
36
46, 47
54
55
32, 33
58
59
78

52
56, 57
26
48
21, 27
50
38, 39

78
72
74
52

82
32, 33

76
60

62
77
64
80, 81

86, 88
78
72
74
52
56, 57

42
40
44, 45
126, 128
124
30

116, 118
120, 122

114

18
94
96
98
102
102
106, 110
104
<table>
<thead>
<tr>
<th>Reference</th>
<th>Name of Part</th>
<th>Number Required</th>
<th>HXT3C Part No.</th>
<th>HXT4C Part No.</th>
<th>HXT5C Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Backstop Assembly</td>
<td>1</td>
<td>243106</td>
<td>244106</td>
<td>245154</td>
</tr>
<tr>
<td>1</td>
<td>Air Vent</td>
<td>1</td>
<td>243534</td>
<td>244567</td>
<td>245587</td>
</tr>
<tr>
<td>2</td>
<td>Dowel Pin</td>
<td>2</td>
<td>420063</td>
<td>420063</td>
<td>304624</td>
</tr>
<tr>
<td>3</td>
<td>Pipe Plug</td>
<td>2</td>
<td>430031</td>
<td>430031</td>
<td>430033</td>
</tr>
<tr>
<td>4</td>
<td>Gear</td>
<td>1</td>
<td>966905</td>
<td>966905</td>
<td>966906</td>
</tr>
<tr>
<td>5</td>
<td>Countershaft Cover Screws (Backstop Side)</td>
<td>4</td>
<td>416524</td>
<td>411035</td>
<td>411384</td>
</tr>
<tr>
<td>6</td>
<td>Lockwasher</td>
<td>1</td>
<td>243559</td>
<td>244574</td>
<td>244574</td>
</tr>
<tr>
<td>7</td>
<td>Lockwasher</td>
<td>4</td>
<td>419007</td>
<td>419009</td>
<td>419009</td>
</tr>
<tr>
<td>8</td>
<td>Input Shaft Bearing (Input Side)</td>
<td>1</td>
<td>243498</td>
<td>244587</td>
<td>245641</td>
</tr>
<tr>
<td>9</td>
<td>Input Shaft Bearing (Backstop Side)</td>
<td>1</td>
<td>402204</td>
<td>402200</td>
<td>402144</td>
</tr>
<tr>
<td>10</td>
<td>Countershaft Bearing Cover (Backstop Side)</td>
<td>1</td>
<td>402273</td>
<td>402142</td>
<td>402269</td>
</tr>
<tr>
<td>11</td>
<td>Countershaft Bearing Cover (Backstop Side)</td>
<td>1</td>
<td>403094</td>
<td>403102</td>
<td>403073</td>
</tr>
<tr>
<td>12</td>
<td>Countershaft with Pinion</td>
<td>1</td>
<td>389701</td>
<td>389708</td>
<td>389715</td>
</tr>
<tr>
<td>13</td>
<td>First Reduction: Gear</td>
<td>1</td>
<td>243555</td>
<td>244590</td>
<td>245596</td>
</tr>
<tr>
<td>14</td>
<td>Key</td>
<td>1</td>
<td>D8242</td>
<td>D8243</td>
<td>D8243</td>
</tr>
<tr>
<td>15</td>
<td>Countershaft Brg. (Input Side)</td>
<td>1</td>
<td>402273</td>
<td>402000</td>
<td>402203</td>
</tr>
<tr>
<td>16</td>
<td>Countershaft Brg. (Backstop Side)</td>
<td>1</td>
<td>402273</td>
<td>402000</td>
<td>402203</td>
</tr>
<tr>
<td>17</td>
<td>Countershaft Brg. Cover (Input Side)</td>
<td>1</td>
<td>403094</td>
<td>403000</td>
<td>403027</td>
</tr>
<tr>
<td>18</td>
<td>OUTPUT HUB ASSEMBLY</td>
<td>1</td>
<td>389703</td>
<td>389710</td>
<td>389717</td>
</tr>
<tr>
<td>19</td>
<td>Taper Bushed Taper Bushed</td>
<td>1</td>
<td>243556</td>
<td>244588</td>
<td>245590</td>
</tr>
<tr>
<td>20</td>
<td>Output Gear</td>
<td>1</td>
<td>243570</td>
<td>244188</td>
<td>245186</td>
</tr>
<tr>
<td>21</td>
<td>Output Gear Key</td>
<td>2</td>
<td>243216</td>
<td>244217</td>
<td>355064</td>
</tr>
<tr>
<td>22</td>
<td>Bushing Back-up Plate</td>
<td>2</td>
<td>243308</td>
<td>244099</td>
<td>245114</td>
</tr>
<tr>
<td>23</td>
<td>Retaining Ring</td>
<td>2</td>
<td>421109</td>
<td>421108</td>
<td>421107</td>
</tr>
<tr>
<td>24</td>
<td>Output Hub Seal Carrier (Input Side)</td>
<td>1</td>
<td></td>
<td></td>
<td>245592</td>
</tr>
<tr>
<td>25</td>
<td>Roll Pin</td>
<td>1</td>
<td>409022</td>
<td>409022</td>
<td>409022</td>
</tr>
<tr>
<td>26</td>
<td>Output Hub Bearing (Cone)</td>
<td>1</td>
<td>402272</td>
<td>402268</td>
<td>402193</td>
</tr>
<tr>
<td>27</td>
<td>Output Hub Bearing (Cup)</td>
<td>2</td>
<td>403127</td>
<td>403163</td>
<td>403016</td>
</tr>
<tr>
<td>28</td>
<td>SEAL KIT Backstop Cover Gasket</td>
<td>1</td>
<td>389720</td>
<td>389721</td>
<td>389722</td>
</tr>
<tr>
<td>29</td>
<td>Input Shaft Seal</td>
<td>1</td>
<td>243561</td>
<td>244593</td>
<td>245220</td>
</tr>
<tr>
<td>30</td>
<td>Output Hub Seal</td>
<td>2</td>
<td>902286</td>
<td>973109</td>
<td>962486</td>
</tr>
<tr>
<td>31</td>
<td>RTV Sealant, Tube</td>
<td>1</td>
<td>465044</td>
<td>465044</td>
<td>465044</td>
</tr>
</tbody>
</table>
# Parts for HXT3C through HXT5C

## Taper Bushed Hydroil Speed Reducers

<table>
<thead>
<tr>
<th>Reference</th>
<th>Name of Part</th>
<th>Number Required</th>
<th>HXT3C Part No.</th>
<th>HXT4C Part No.</th>
<th>HXT5C Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>84</td>
<td>BUSHING ASSEMBLY</td>
<td>1</td>
<td>243282</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>86</td>
<td>Bushing Screw</td>
<td>6</td>
<td>411407</td>
<td>411408</td>
<td>411435</td>
</tr>
<tr>
<td>88</td>
<td>Lockwasher</td>
<td>6</td>
<td>419011</td>
<td>419011</td>
<td>419012</td>
</tr>
<tr>
<td>90</td>
<td>Key, Bushing to Shaft</td>
<td>1</td>
<td>443264</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>91</td>
<td>Key, Bushing to Output Hub</td>
<td>1</td>
<td>443262</td>
<td>-----</td>
<td>443202</td>
</tr>
<tr>
<td>92</td>
<td>Key, Bushing to Output Hub</td>
<td>1</td>
<td>443257</td>
<td>443256</td>
<td>-----</td>
</tr>
<tr>
<td>94</td>
<td>TORQUE-ARM ASSEMBLY</td>
<td>1</td>
<td>243097</td>
<td>245097</td>
<td>245097</td>
</tr>
<tr>
<td>96</td>
<td>Rod End</td>
<td>1</td>
<td>243245</td>
<td>245245</td>
<td>245245</td>
</tr>
<tr>
<td>98</td>
<td>Hex Nut</td>
<td>1</td>
<td>407095</td>
<td>407097</td>
<td>407097</td>
</tr>
<tr>
<td>100</td>
<td>Extension</td>
<td>1</td>
<td>243246</td>
<td>245246</td>
<td>245246</td>
</tr>
<tr>
<td>102</td>
<td>L.H. Hex Nut</td>
<td>1</td>
<td>407244</td>
<td>407246</td>
<td>407246</td>
</tr>
<tr>
<td>104</td>
<td>Fulcrum</td>
<td>1</td>
<td>243249</td>
<td>246249</td>
<td>246249</td>
</tr>
<tr>
<td>106</td>
<td>Fulcrum Screw</td>
<td>1</td>
<td>411484</td>
<td>411484</td>
<td>411484</td>
</tr>
<tr>
<td>110</td>
<td>Hex Nut</td>
<td>1</td>
<td>407093</td>
<td>407093</td>
<td>407093</td>
</tr>
<tr>
<td>112</td>
<td>Adapter Plate</td>
<td>1</td>
<td>243241</td>
<td>244244</td>
<td>244244</td>
</tr>
<tr>
<td>114</td>
<td>Adapter Plate</td>
<td>1</td>
<td>243241</td>
<td>244244</td>
<td>244244</td>
</tr>
<tr>
<td>116</td>
<td>Adapter Bushing</td>
<td>1</td>
<td>243243</td>
<td>245243</td>
<td>245243</td>
</tr>
<tr>
<td>118</td>
<td>Adapter Bolt</td>
<td>1</td>
<td>411437</td>
<td>411460</td>
<td>411460</td>
</tr>
<tr>
<td>120</td>
<td>Lockwasher</td>
<td>1</td>
<td>419012</td>
<td>419013</td>
<td>419013</td>
</tr>
<tr>
<td>122</td>
<td>Hex Nut</td>
<td>1</td>
<td>407090</td>
<td>407091</td>
<td>407091</td>
</tr>
<tr>
<td>124</td>
<td>Motor Adapter</td>
<td>1</td>
<td>243467</td>
<td>244573</td>
<td>245643</td>
</tr>
<tr>
<td>126</td>
<td>Adapter Screw</td>
<td>1</td>
<td>417081</td>
<td>417108</td>
<td>417108</td>
</tr>
<tr>
<td>128</td>
<td>Lockwasher</td>
<td>4</td>
<td>419046</td>
<td>419047</td>
<td>419047</td>
</tr>
</tbody>
</table>

1. Not shown on drawing
2. If replacing a bearing 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 assembled is affected.
3. Recommended spare parts
4. Part Number 402266 for HXT525C
5. Parts marked make up the assemblies under which they are listed
6. Includes parts listed immediately below. Housing assembly also includes a two-piece housing.
7. On size HXT3C for 1-5/16" thru 1-3/4" bores and HXT5C for 1-7/16" thru 2-1/4" bores.
8. 5 required for HXT5C, 4 required for HXT3C and HXT4C
OIL VISCOSITY EQUIVALENCY CHART

VISCOSITIES CAN BE RELATED HORIZONTALLY ONLY. VISCOSITIES BASED ON 96 VI SINGLE GRADE OILS.
ISO ARE SPECIFIED AT 40°C.
AGMA ARE SPECIFIED AT 40°C.
SAE 75W, 80W, AND 85W SPECIFIED AT LOW TEMPERATURE. EQUIVALENT VISCOSITIES FOR 100°F AND 200°F ARE SHOWN. SAE 90 TO 250 SPECIFIED AT 100°C.