Parts Replacement Manual For HYDROIL® TORQUE-ARM® Speed Reducers Taper Bushed For Char-Lynn H, S, T and 2000 Series 6B Spline Motors

SIZES: HXT325C, HXT425C/HXT415C, HXT525C

These instructions must be read thoroughly before installation or operation. This instruction manual was accurate at the time of printing. Please see **dodgeindustrail.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: The reducer is compatible with the Dodge 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.

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.

REDUCER INSTALLATION

1. On sizes HXT3B, HXT4B, and HXT5C, replace the plastic plug that protects the threaded hole in the reducer housing with the eyebolt supplied with the reducer.
2. Determine the running position of the reducer (see Fig. 1). Note that the reducer is supplied with either 6 plugs; 4 around the sides for horizontal installations and 1 on each face for vertical installations. These plugs must be arranged relative to the running positions as follows:

   Horizontal Installations – Install the magnetic drain plug in the hole closest to the bottom of the reducer. Install vent plug in topmost hole. Of the 2 remaining plugs on the sides of the reducer, the lowest one is the minimum oil level plug.

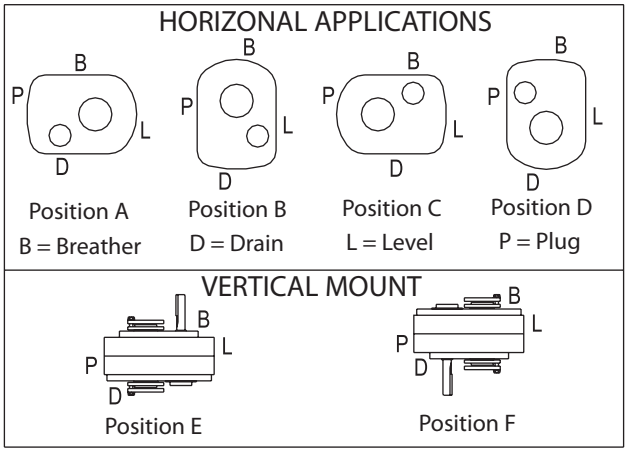


Figure 1 - Mounting Positions

The running position of the reducer in a horizontal application is not limited to the four positions shown in Figure 1. However, if running position is over 20° 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° in positions "B" and "D" or 5° in positions "A" and "C" 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 gages as required.

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 1 – Oil Volumes

Reducer Size	Volume of Oil Required to Fill Reducer to Oil Level Plug											
	① Position A			① Position B			① Position C			① Position D		
	Fluid Ounces (Approx)	Quarts (Approx)	② Liters (Approx)	Fluid Ounces (Approx)	Quarts (Approx)	② Liters (Approx)	Fluid Ounces (Approx)	Quarts (Approx)	② Liters (Approx)	Fluid Ounces (Approx)	Quarts (Approx)	② Liters (Approx)
HXT315B HXT325B	48	1-1/2	1.42	48	1-1/2	1.42	24	3/4	.71	72	2-1/4	2.13
HXT415B HXT425B	60	1-7/8	1.77	72	2-1/4	2.13	40	1-1/4	1.18	56	1-3/4	1.66
HXT515C HXT525C	104	3-1/4	3.08	128	4	3.79	104	3-1/4	3.08	128	4	3.79

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.

Minimum Oil Recommendations for Average Operating Conditions

Table 2 — Lubrication Recommendations

ISO Grades for Ambient Temperatures of 15º to 60º														
Output RPM	Reducer Size													
	1	2	3	4	5	6	7	8	9	10	12	13	14	15
301–400	220	220	150	150	150	150	150	150	150	150	150	150	150	150
201–300	220	220	150	150	150	150	150	150	150	150	150	150	150	150
151–200	220	220	150	150	150	150	150	150	150	150	150	150	150	150
126–150	220	220	220	150	150	150	150	150	150	150	150	150	150	150
101–125	220	220	220	220	150	150	150	150	150	150	150	150	150	150
81–100	220	220	220	220	220	150	150	150	150	150	150	150	150	150
41–80	220	220	220	220	220	150	150	150	150	150	150	150	150	150
11–40	220	220	220	220	220	220	220	220	220	220	150	150	150	150
1–10	220	220	220	220	220	220	220	220	220	220	220	220	220	220

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

Table 3 — Lubrication Recommendations

ISO Grades for Ambient Temperatures of 50º to 125º														
Output RPM	Reducer Size													
	1	2	3	4	5	6	7	8	9	10	12	13	14	15
301–400	320	320	220	220	220	220	220	220	220	220	220	220	220	220
201–300	320	320	220	220	220	220	220	220	220	220	220	220	220	220
151–200	320	320	220	220	220	220	220	220	220	220	220	220	220	220
126–150	320	320	320	220	220	220	220	220	220	220	220	220	220	220
101–125	320	320	320	320	220	220	220	220	220	220	220	220	220	220
81–100	320	320	320	320	320	220	220	220	220	220	220	220	220	220
41–80	320	320	320	320	320	220	220	220	220	220	220	220	220	220
11–40	320	320	320	320	320	320	320	320	320	320	220	220	220	220
1–10	320	320	320	320	320	320	320	320	320	320	320	320	320	320

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

REMOVING 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

1. Output Hub Assembly: Heat gear to 325º to 350°F for shrinking onto output hub. Heat bearing cones to 270º to 290ºF for shrinking onto output hub.
2. Countershaft Assembly: Heat gear to 325º to 350°F and bearing cones to 270º to 290ºF for shrinking onto shaft.
3. Input Shaft Assembly: Shaft and pinion are integral. Heat bearing cones to 270º to 290ºF 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

Case Size	Quarts or Liters
HXT3C	.1
HXT4C	.2
HXT5C	.3

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

Table 5 – Bolt Tightening Torque Values

Reducer Size	Housing Bolts (in.-lbs.)	Seal Carrier Bolts (in.-lbs.)
HXT325C	600	204
HXT415C HXT425C	600	360
HXT525C	900	360

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

TORQUE-ARM	Output Hub Bearing
Reducer Drive Size	Part Number
HXT325C	403127
HXT415C HXT425C	402268 403163
HXT525C	403016

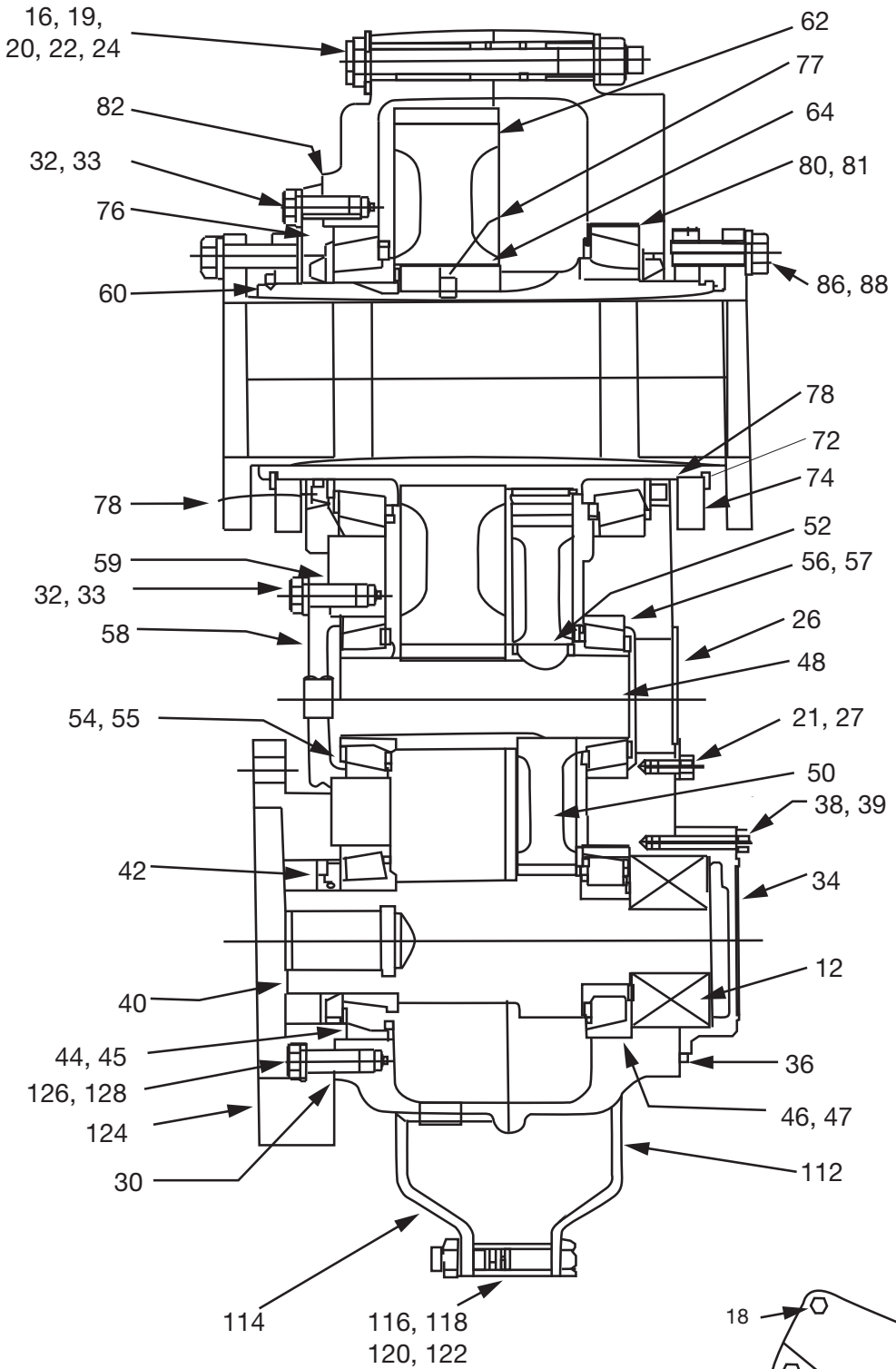
Table 7 – Manufacturers' Part Numbers For Replacement Countershaft Bearings

Torque Arm Reducer	Countershaft Bearing Input Side	Countershaft Bearing Adapter Side
Size	Part Number	Part Number
HXT325C	403094	403094
HXT415C HXT425C	402000 403000	402000 403000
HXT525C	403027	403027

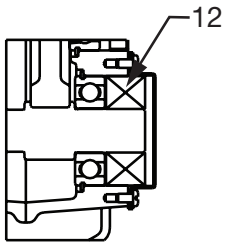
Table 8 – Manufacturers' Part Numbers For Replacement Input Shaft Bearings

Torque Arm Reducer	Countershaft Bearing Input Side	Countershaft Bearing Adapter Side
Size	Part No.	Part No.
HXT325C	403139	403094
HXT415C HXT425C	402280 403027	402142 403102
HXT525C	402144 403104	402266 403073

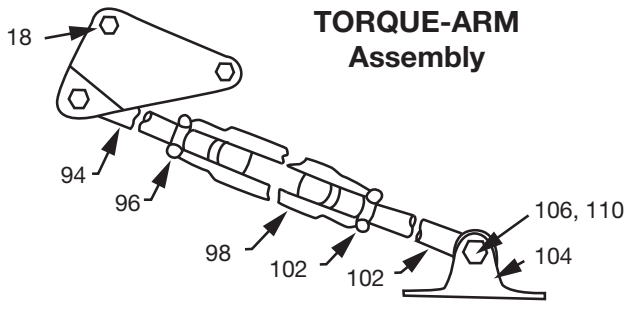
Parts for HXT3C through HXT5C
Taper Bushed Hydroil Speed Reducers



Taper-Bushed



BACKSTOP Assembly



TORQUE-ARM Assembly

Parts for HXT3C through HXT5C
Taper Bushed Hydroil Speed Reducers

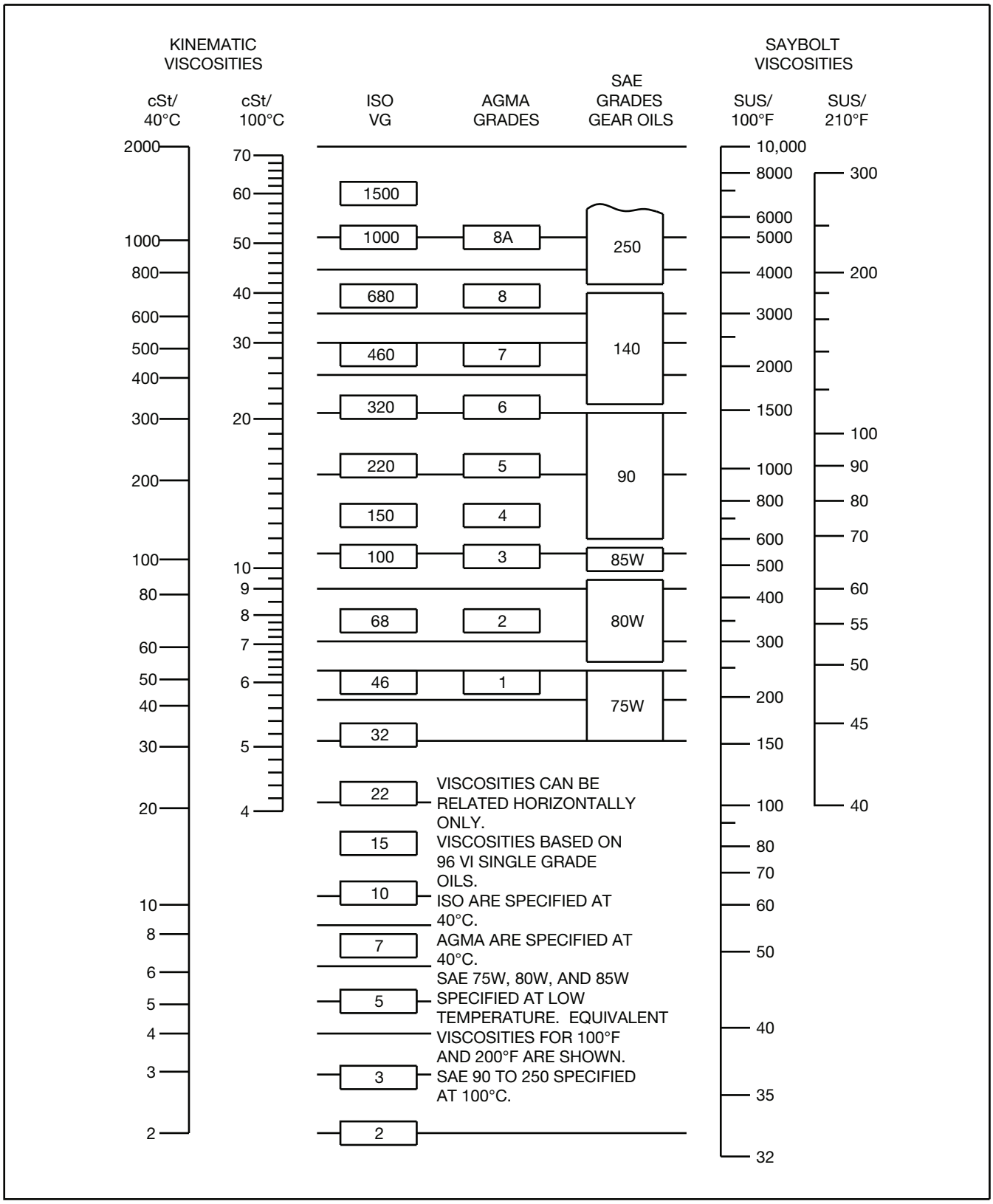
Reference	Name of Part		Number Required	HXT3C Part No.	HXT4C Part No.	HXT5C Part No.
12	Backstop Assembly		1	243106	244106	245154
	HOUSING		1	243534	244567	245587
①	Air Vent		1	900287	900287	904287
16	Housing Bolt		6	411440	411442	411464
18	Adapter Housing Bolt		2	411442	411444	411466
19	Washer		4	419094	419094	419096
20	Lockwasher		6	419012	419012	419013
22	Hex Nut		8	407089	407089	407091
24	Dowel Pin		2	420063	420063	304624
①	Pipe Plug		2	430031	430031	430033
①	Magnetic Plug		1	430060	430060	430062
①	Smart Sensor Adapter		1	966905	966905	966906
21	Countershaft Cover Screws (Backstop Side)		4	416524	411035	411394
26	Countershaft Bearing Cover (Backstop Side)		1	243559	244574	244574
27	Lockwasher		4	419007	419009	419009
30③	Complete Shim Kit		1	243800	244800	245139
32	Carrier and Cover Screws		10	411390	411407	411407
33	Lockwasher		10	419010	419011	419011
34	Backstop Cover		1	243560	244493	245226
38	Backstop Cover Screw		4	416524	411035	411406
39	Lockwasher		4	419007	419009	419009
		15:1 Ratio	1		244586	
40③	Input Shaft	25:1 Ratio	1	243498	244587	245641
44③	Input Shaft Bearing	Cone	1	402204	402280	402144
45③	(Input Side)	Cup	1	403139	403027	403104
46③	Input Shaft Bearing④	Cone	1	402273	402142	402269
47③	(Backstop Side)	Cup	1	403094	403102	403073
	COUNTERSHAFT ASSEMBLY⑥	25:1 Ratio	1	389701	389708	389715
48	⑤ Countershaft with Pinion		1	243555	244590	245596
50③	⑤ First Reduction:	15:1 Ratio			244214	
	Gear	25:1 Ratio	1	243239	244212	245212
52③	⑤ Key		1	D8242	D8243	D8243
54③	Countershaft Brg	Cone	1	402273	402000	402203
55③	(Input Side)	Cup	1	403094	403000	403027
56③	Countershaft Brg.	Cone	1	402273	402000	402203
57③	(Backstop Side)	Cup	1	403094	403000	403027
58	Countershaft Brg. Cover (Input Side)		1			245594
	OUTPUT HUB	Taper Bushed	1	389703	389710	389717
	ASSEMBLY⑥	Taper Bushed				
60③	⑤ Output Hub		1	243556	244588	245590
62③	⑤ Output Gear		1	243570	244188	245186
64③	⑤ Output Gear Key		2	243216	244217	355064
72	Bushing Back-up Plate		2	243308	244099	245114
74	Retaining Ring		2	421109	421108	421107
76	Output Hub Seal Carrier (Input Side)		1			245592
77	Roll Pin		1	409022	409022	409022
80③	Output Hub	Cone	2	402272	402268	402193
81③	Bearing	Cup	2	403127	403163	403016
	SEAL KIT⑥③		1	389720	389721	389722
36③	⑤ Backstop Cover Gasket		1	243561	244593	245220
42③	⑤ Input Shaft Seal		1	A73106	A73108	334277
78③	⑤ Output Hub Seal		2	902286	A73109	904286
①	RTV Sealant, Tube		1	465044	465044	465044

Parts for HXT3C through HXT5C Taper Bushed Hydroil Speed Reducers

Reference	Name of Part		Number Required	HXT3C Part No.	HXT4C Part No.	HXT5C Part No.
84	BUSHING ASSEMBLY⑥	1-5/16" Bore	1	243282	.....	.....
		1-3/8" Bore	1	243284	.....	.....
		1-7/16" Bore	1	243260	244079	.....
		1-1/2" Bore	1	243262	244081	.....
		1-5/8" Bore	1	243264	244083	.....
		1-11/16" Bore	1	243268	244085	.....
		1-3/4" Bore	1	243266	244087	.....
		1-7/8" Bore	1	243270	244089	245084
		1-15/16" Bore 2" Bore	1	243272 243274	244093	245086
		2-1/8" Bore	1	.....	244095	245088
		2-3/16" Bore	1	243276	244109	.....
		2-1/4" Bore	1	.....	244111	245090
		2-7/16" Bore	1	.....	244113	245092
		2-1/2" Bore	1	.....	244115	245094
		2-11/16" Bore	1	.....	.....	245099
		2-15/16" Bore	1	.....	.....	245110
			1		.....	245112
86	⑤ Bushing Screw		6	411407	411408	411435
88	⑤ Lockwasher		6	419011	419011	419012
90	⑤Key, Bushing to Shaft	1-5/16" Bore	1	443264	.....	.....
		1-3/8" Bore	1	443264	.....	.....
		1-7/16" Bore	1	443265	443254	.....
		1-1/2" Bore	1	443265	443254	.....
		1-5/8" Bore	1	443265	443254	.....
		1-11/16" Bore	1	443266	443254	.....
		1-3/4" Bore	1	443266	443254	.....
		1-7/8" Bore	1	443267	443255	443251
		1-15/16" Bore	1	443269	443255	443251
		2" Bore	1	443268	443255	443251
		2-1/8" Bore	1	.....	443258	.....
		2-3/16" Bore	1	443270	443259	443251
		2-1/4" Bore	1	.....	443260	443251
		2-7/16" Bore	1	.....	443261	443243
		2-1/2" Bore	1	.....	.....	443244
		2-11/16" Bore	1	.....	.....	443245
		2-15/16" Bore	1	.....	.....	443250
①	⑤ Key, Bushing to Output Hub		1⑦	443262	.....	443202
①	⑤ Key, Bushing to Output Hub	1-3/8" thru 1-7/8" Bore	1	.....	443257 443256	.....
		1-15/16" & 2" Bore	1	.....		.....
	TORQUE-ARM ASSEMBLY ⑥		1	243097	245097	245097
94	⑤ Rod End		1	243245	245245	245245
96	⑤ Hex Nut		1	407095	407097	407097
98	⑤ Turnbuckle		1	243246	245246	245246
100	⑤ Extension		1	243247	245247	245247
102	⑤ L.H. Hex Nut		1	407244	407246	407246
104	⑤ Fulcrum		1	243249	246249	246249
106	⑤ Fulcrum Screw		1	411484	411484	411484
110	⑤ Hex Nut		1	407093	407093	407093
	ADAPTER ASSEMBLY ⑥		1	259153	259154	259155
112	⑤ R.H. Adapter Plate		1	243242	244244	245242
114	⑤ L.H. Adapter Plate		1	243241	244243	245241
116	⑤ Adapter Bushing		1	243243	245243	245243
118	⑤ Adapter Bolt		1	411437	411460	411460
120	⑤ Lockwasher		1	419012	419013	419013
122	⑤ Hex Nut		1	407089	407091	407091
124	Motor Adapter		1	243467	244573	245643
126	Adapter Screw		⑧	417081	417108	417108
128	Lockwasher		4	419046	419047	419047

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



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

MN1664 02/22