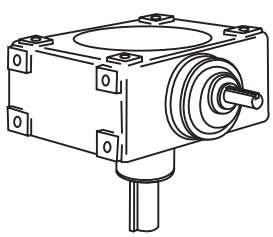
How to Use This Manual

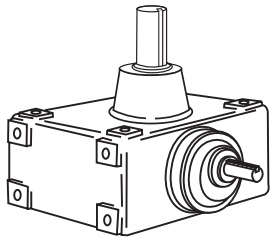
This manual provides detailed instructions on installation and maintenance of Type DTC conveyor drives. Use the table of contents below, to locate required information.

CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL FOR OPTIMUM PERFORMANCE AND TROUBLE FREE SERVICE.

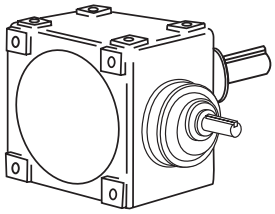
Table of Contents



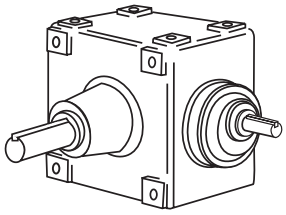
L.S. SHAFT DOWN



L.S. SHAFT UP



L.S. SHAFT RIGHT



L.S. SHAFT LEFT

Introduction

Credit for long service and dependable operation of a gear drive is often given to the engineers who designed it, or the craftsmen who constructed it, or the sales engineer who recommended the type and size. Ultimate credit belongs to the mechanic on the job who works to make the foundation rigid and level, who accurately aligns the shafts and carefully installs the accessories, and who makes sure that the drive receives regular lubrication. The details of this important job are the subject of this manual.

NAMEPLATE — Operate Rexnord gear drives only at horsepower, speed and ratio shown on nameplate. Before changing any one of these, submit complete nameplate data and new application conditions to the Factory for correct oil level, parts and application approval.

DISASSEMBLY AND ASSEMBLY — Disassembly & assembly instructions and parts guides are available from the Factory or Rexnord Representatives. When requesting information, please give complete data from the nameplate on the gear drive; Model, M.O.Number, Date, RPM, and Ratio.

WARNING: Consult applicable local and national safety codes for proper guarding of rotating members. Lock out power source and remove all external loads from drive before servicing drive or accessories.

Warranty

Rexnord Industries, LLC (the "Company") warrants that Conveyor Drives (I) conform to Company's published specifications, and (II) are free from defects of material for three years from the date of shipment.

Company does not warrant any non-Company branded products or components (manufacturer's warranty applies) or any defects in , damage to, or failure of products caused by: (I) dynamic vibrations imposed by the drive system in which such products are installed unless the nature of such vibrations has been defined and accepted in writing by Company as a condition of operation; (II) failure to provide suitable installation environment; (III) use for purposes other than those for which designed, or other abuse or misuse; (IV) unauthorized attachments, modifications or disassembly, or (V) mishandling during shipping.

Installation Instructions

The following instructions apply to standard Falk Type DTC, conveyor drives. If a drive is furnished with special features, refer to the supplementary instructions shipped with the drive.

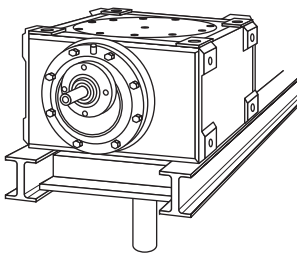
WELDING — Do not weld on the gear drive or accessories without prior approval from the Factory. Welding on the drive may cause distortion of the housing or damage to the bearings and gear teeth. Welding without prior approval could void the warranty.

EFFECTS OF SOLAR ENERGY — If the gear drive operates in the sun at ambient temperatures over 100°F (38°C), then special measures should be taken to protect the drive from solar energy. This protection can consist of a canopy over the drive or reflective paint on the drive. If neither is possible, a heat exchanger or other cooling device may be required to prevent the sump temperature from exceeding the allowable maximum.

HORIZONTAL MOUNTING — Mount gear drive with base horizontal, unless it has been specifically ordered for mounting in another position. If it is necessary to mount the drive in a different position from that for which it was ordered, consult the Factory for changes necessary to provide proper lubrication.

NON-HORIZONTAL MOUNTING — For gear drives with non-horizontal mounting, including tilted, vertical and wall mounted, refer to instructions provided with the drive for oil levels and bearing lubrication.

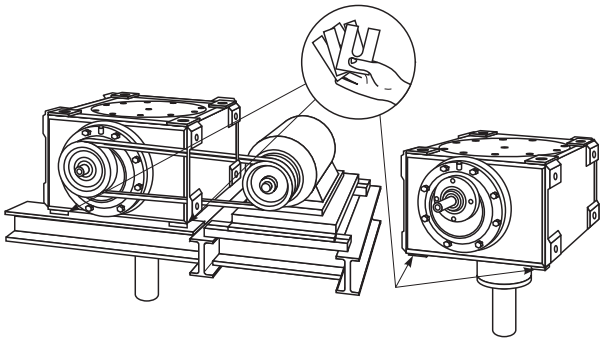
FOUNDATION, STEEL — When mounting gear drive on structural steel, it is recommended that an engineered design be utilized for a pedestal, adapter base or bed to provide sufficient rigidity, to prevent induced loads from distorting the housing and causing gear misalignment. In the absence of an engineered design, it is recommended that a base plate, with thickness equal to or greater than the thickness of the drive feet, be securely bolted to steel supports and extend under the entire drive.



GEAR DRIVE ALIGNMENT — Align drive with driven equipment by placing broad, flat shims under all mounting pads. Start at the low speed shaft end and level across the length and then the width of the drive. Check with a feeler gauge to make certain that all pads are supported to prevent distortion of housing when drive is bolted down. After drive is aligned with driven equipment and bolted down, align prime mover to drive input shaft.

If equipment is received from the Factory mounted on a bedplate, the components were accurately aligned at the Factory with the bedplate mounted on a large, flat assembly plate. Shim under the bedplate foot pads until the gear drive is level and all feet are in the same plane.

Check high speed shaft coupling alignment. If the coupling is misaligned, the bedplate is shimmed incorrectly. Re-shim bedplate and recheck high speed coupling alignment. If necessary, realign motor.



LEVEL & ALIGN MOTOR PLATE — Shim under the motor plate foot pads until level and all motor plate feet are in the same plane. Align low speed shaft with driven equipment. Bolt motor plate in place.

Motors and other components (whether mounted on motor plates or motor brackets) may become misaligned during shipment. ALWAYS check alignment after installation. Refer to coupling alignment instructions.

Shaft Connections

WARNING: *Provide suitable guards in accordance with OSHA standards.*

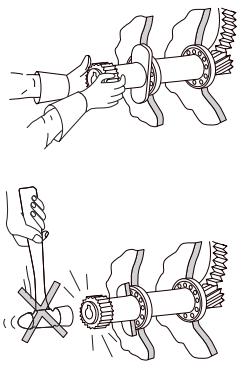
COUPLING CONNECTIONS — The performance and life of any coupling depends largely upon how well the coupling is installed and serviced. Refer to the coupling manufacturer's manual for specific instructions.

CORRECT METHOD

Heat interference fitted coupling hubs, pinions, sprockets, or pulleys to a maximum of 275°F (135°C) and slide onto gear drive shaft.

INCORRECT METHOD

DO NOT drive coupling hub, pinion, sprocket, or pulley onto the shaft. An endwise blow on the shaft/coupling may damage gears and bearings.



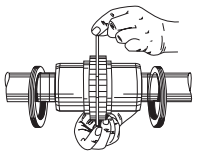
— CAUTION —
DO NOT HAMMER

FALK COUPLINGS — (Except fluid type) Detailed installation manuals are available from Rexnord or your local Rexnord Distributor—just provide size and type designations stamped on the coupling. For lubricant requirements and a list of typical lubricants meeting Rexnord specifications, refer to appropriate coupling service manual.

Flanged Type Rigid Couplings are typically used on drives with vertical output shafts. The low speed shaft extension ends of the solid vertical shaft drives are drilled and tapped to accommodate coupling keeper plates.Tightening torques for fasteners, including keeper plate fasteners are listed in **T**able 1, Page 3.

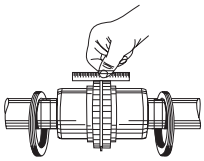
FLUID COUPLINGS — Refer to the installation manual furnished with the fluid coupling for installation, alignment and start-up instructions.

GAP AND ANGULAR ALIGNMENT — If possible, after mounting coupling hubs, position the driving and driven equipment so that the distance between shaft ends is equal to the coupling gap. Align the shafts by placing a spacer block, equal in thickness to required gap, between hub faces, as shown, and also at 90° intervals around the hub. Check with feelers.



STEELFLEX® ILLUSTRATED

OFFSET ALIGNMENT — Align driving and driven shafts so that a straight edge will rest squarely on both couplings hubs as shown to the right and also at 90° intervals. Tighten foundation bolts of the connected equipment and recheck alignment and gap.

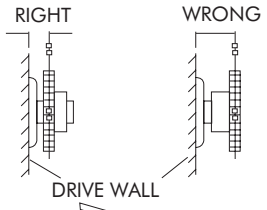


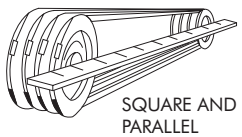
STEELFLEX ILLUSTRATED

SPROCKETS, PULLEYS OR SHEAVES — Mount power take-offs as close to the gear drive housing as possible to avoid undue bearing load and shaft deflection.

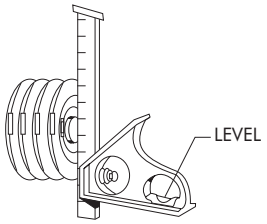
Align the output shaft of the gear drive square and parallel with the driven shaft by placing a straightedge across the face of the sprockets or sheaves as illustrated. Check horizontal shaft alignment by placing one leg of a square against the face of the sheave or sprocket with the spirit level on the horizontal leg of the square.

DO NOT over tighten belts or chains. Adjust chains to manufacturers' specifications. Adjust belts as follows:





SQUARE AND PARALLEL



The ideal tension is the lowest tension at which the belt will not slip under peak load conditions. Check the belt tension frequently during the first 24 to 48 hours of run-in operation. Over tightening belts shortens belt and bearing life. Keep belts free from foreign material which may cause slippage. Inspect the V–belt periodically; tighten the belts if they are slipping.

Rexnord Industries, LLC, Gear Group
3001 W. Canal St., Zip 53208-4200, Milwaukee, WI USA Telephone: 414-342-3131
Fax: 414-937-4359 e-mail: info@rexnord.com web: www.rexnord.com

OUTBOARD BEARING — Mount the outboard bearing and gear drive on a common foundation so that they will shift as an assembly if settling should occur. Bring the outboard bearing to the correct horizontal position with broad flat shims under the mounting pad. Align accurately so that the load is equally divided between the two drive bearings and the outboard bearing. Mount a stop bar against the pillow block foot on the load side when large horizontal load components are exerted on the pillow block.

PINION MOUNTING — Mount pinion as close to the drive as possible to avoid undue bearing load and shaft deflection. Refer to Factory for pinion alignment instructions.

Fastener Tightening Torques

Use the tightening torque values specified in Table 1, for fastening gear drives, motors, keeper plates, and accessories to their mounting surfaces with non-lubricated fasteners. DO NOT use these values for "torque locking" fasteners or for fastening components with aluminum feet or with soft gaskets or vibration dampers on the mounting surface. If the tightening torque exceeds the capacity of the torque wrench, use a torque multiplier. Use Grade 5 fasteners for diameters through 1.50"; for larger diameter fasteners, use ASTM A-354 Grade BC.

TABLE 1 — Tightening Torques lb-in (Nm) ± 5% — DO NOT Lubricate Fasteners

DRIVE SIZE	Thread Dia-UNC	Metal to Metal
3DTC	.875-9	4560 (515)
5DTC	1.250-7	12600 (1 424)

Lubrication Recommendations

Carefully follow lubrication instructions on the gear drive nameplate, warning tags, and installation manuals furnished with the gear drive.

Lubricants listed in this manual are typical ONLY and should not be construed as exclusive recommendations. Industrial type petroleum based rust and oxidation inhibited (R & O) gear lubricants or industrial type sulphur-phosphorus extreme pressure (EP) gear lubricants are the recommended lubricants for ambient temperatures of 15°F to 125°F (-9°C to +52°C).

For drives operating outside the above temperature range refer to "Synthetic Lubricants" paragraphs, Page 4. Synthetic lubricants can also be used in normal climates.

VISCOSITY (IMPORTANT) — The proper grade for R & O and EP lubricants is found in Table 2. For cold climate conditions refer to Table 4, Page 5 and the "Synthetic Lubricant" paragraphs. Select a lubricant which has a pour point at least 10°F (5.5°C) below the expected minimum ambient starting temperature. Usable temperature ranges can sometimes be widened if specific application conditions are known.

If a gear drive operates in a typical indoor environment where the ambient temperature is within 70°F to 125°F (21°C to 52°C), the oil viscosity should be increased one AGMA grade above that shown for the 50°F to 125°F (10°C to 52°C) range. That is, an AGMA Number 6 or 7 should be substituted for a 5 or 6 respectively, under this ambient condition.

TABLE 2 — Viscosity Grade Recommendations for R & O or EP Lubricants

Output RPM	Normal Climates			
	15° to 60°F (-9° to + 16°C)		50° to 125°F (10° to 52°C)	
	ISO-VG	AGMA	ISO-VG	AGMA
Output RPM Below 80	150	4	320	6
Output RPM 80 & Above	150	4	220	5

OIL PUMPS — When selecting a lubricant for a gear drive equipped with an oil pump, cold temperature oil viscosity is important. Lubricant viscosity at start-up generally should not exceed 1725 cSt (8,000 SSU). When exceeding this viscosity, pump cavitation is possible, preventing oil circulation. A sump heater may be required or it may be possible to use a lower viscosity oil to minimize pump cavitation, refer to Falk.

Petroleum Based Lubricants

R & O GEAR LUBRICANTS (Table 5) — Industrial type petroleum based rust and oxidation inhibited (R & O) gear lubricants are the most common and readily available general purpose gear lubricants.

EXTREME PRESSURE (EP) LUBRICANTS (Table 3) — For highly loaded gear drives or drives loaded in excess of original estimates, industrial type petroleum extreme pressure lubricants are preferred. The EP lubricants currently recommended are of the sulphur-phosphorus type.

WARNING: EP LUBRICANTS IN FOOD PROCESSING INDUSTRY — EP lubricants may contain toxic substances and should not be used in the food processing industry without the lubricant manufacturers' approval. Lubricants which meet USDA "H1" classification are suitable for food processing applications.

CAUTION: EP LUBRICANTS & INTERNAL BACKSTOPS — Do not use EP lubricants or lubricants with anti-wear additives or lubricant formulations including sulfur-phosphorus, chlorine, lead derivatives, graphite, or molybdenum disulfides in drives equipped with internal cartridge type backstops. Some lubricants in Table 5 may contain anti-wear additives. Lubricants in Table 3 do contain several of these additives.

Synthetic Lubricants

Synthetic lubricants of the polyalphaolefin type are recommended for cold climate operation, high temperature applications, extended temperature range (all season) operation, and/or extended lubricant change intervals. The proper viscosity grade of synthetic lubricant is given in Table 4.

WARNING: SYNTHETIC LUBRICANTS IN FOOD PROCESSING INDUSTRY — Synthetic lubricants may contain toxic substances and should not be used in the food processing industry without the lubricant manufacturers' approval. Lubricants which meet USDA "H1" classification are suitable for food processing applications.

CAUTION: SYNTHETIC LUBRICANTS & INTERNAL BACKSTOPS — Synthetic lubricants may be used in gear drives with internal backstops operating only in cold temperatures -30° to +50°F (-34° to 10°C). Mobil SHC 624 and SHC 626 provide proper backstop action under these conditions. Other synthetic lubricants may also be acceptable. DO NOT use synthetic lubricants in drives with backstops operating in ambient temperatures above 50°F (10°C).

Oil Levels

Fill the drive with oil to the level indicated on the oil dipstick. Approximate oil capacities are given on the drive nameplate and in Table 7, Page 6.

TABLE 3 — Extreme Pressure Lubricants

Maximum Operating Temperature 200°F(93°)

Manufacturer	Lubricant
Amoco Oil Co. BP Oil Co. Chevron U.S.A. Inc Citgo Petroleum Corp.	Permagear/Amogear EP Energear EP Gear Compounds EP Citgo EP Compound
Conoco Inc. Exxon Co. U.S.A. E. F. Houghton & Co. Imperial Oil Ltd.	Gear Oil Spartan EP MP Gear Oil Spartan EP
Kendall Refining Co. Keystone Div. Pennwalt Corp. Lyondell Petrochemical (ARCO) Mobil Oil Corp. Petro-Canada Products	Kendall NS-MP Keygear Pennant NL Mobilgear Ultima EP
Phillips 66 Co Shell Oil Co. Shell Canada Limited Sun Oil Co. Texaco Lubricants	Philgear Omala Oil Omala Oil Sunep Meropa
Unocal 76 (East & West) Valvoline Oil Co.	Extra Duty NL Gear Lube AGMA EP

Lubricant Changes

OIL ANALYSIS REPORT— Checking oil condition at regular intervals is recommended. In the absence of more specific limits, the guidelines listed below may be used to indicate when to change oil:

1. Water content is greater than 0.05% (500 ppm).
2. Iron content exceeds 150 ppm.
3. Silicon (dust/dirt) exceeds 25 ppm.
4. Viscosity changes more than 15%.

PETROLEUM LUBRICANTS — For normal operating conditions, change gear oils every 6 months or 2500 operating hours, whichever occurs first. If the drive is operated in an area where temperatures vary with the seasons, change the oil viscosity grade to suit the temperature, refer to Table 2. Lubricant suppliers can test oil from the drive periodically and recommend economical change schedules.

SYNTHETIC LUBRICANTS — Synthetic lube change intervals can be extended to 8000-10,000 hours depending upon operating temperatures and lubricant contamination. Laboratory analysis is recommended for optimum lubricant life and gear drive performance. Change lube with change in ambient temperature, if required. Refer to Table 4.

Lubrication Systems

SPLASH LUBRICATED DRIVES — Standard Type DTC drives are splash lubricated. The lubricant is picked up by the rotating gears and distributed to all gear meshes and bearings, except the low speed bearings that are greased.

OIL PUMPS —Occasionally gear drives are equipped with oil pumps, either for special lubrication considerations or for external cooling. When so equipped, run the lubrication system for several minutes to fill the system components. Verify that the pump is circulating oil properly then recheck the oil level.

Before starting the gear drive, rotate the input shaft by hand to check for any obstruction. Then start the drive and allow it to run without a load for several minutes. Shut down and recheck oil level. Add oil to compensate for cooler, filter, etc., oil capacities. If everything is satisfactory, the drive is ready for operation.

CAUTION: Consult Factory for drives that use pumps to distribute lubricants with temperatures below 30°F(-1°C).

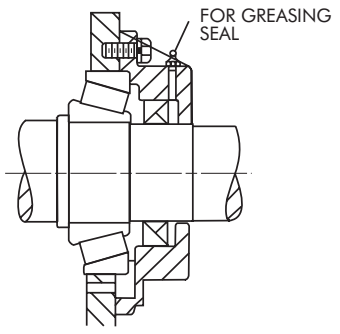
Bearing & Seal Greases

Some gear drives have one or more grease lubricated bearings and grease purged seals. Whenever changing oil in the drive, grease the bearings and purge the seals with one of the NLGI #2 greases listed in Table 6.

Some of these greases are of the EP type and may contain toxic substances not allowed in the food processing industry. A grease that meets the USDA "H1" classification is suitable for food processing applications.

GREASE LUBRICATED BEARINGS — All upper low speed shaft bearings and the lower low speed shaft bearings of drives with drywells are grease lubricated. When changing oil in the drive, grease bearings with a NLGI #2 bearing grease selected from Table 6. Regrease these bearings as part of the standard maintenance program. Before installing a drive, note the locations of all of the bearing grease fittings and grease labels for future maintenance reference. Note that some fittings may be ABOVE the oil level line and others BELOW. If a grease fitting will become inaccessible after the drive is installed, replace the fitting with a pipe extension (and the fitting) so that the grease fitting will be in an accessible location after the drive is installed.

GREASE LUBRICATED SEALS — Most gear drives and backstops are furnished with grease purged seals which minimize the entry of contaminants and abrasive dusts into the drive or backstop. Gear drives and backstops are shipped with NLGI #2 grease in the seal housing cavities unless otherwise specified. If grease could contaminate the product, as in the food and drug industries, it should be removed. A grease that meets USDA "H1" classification is suitable for food processing applications.



Rexnord Industries, LLC, Gear Group
3001 W. Canal St., Zip 53208-4200, Milwaukee, WI USA Telephone: 414-342-3131
Fax: 414-937-4359 e-mail: info@rexnord.com web: www.rexnord.com

Periodically (at least every six months) depending upon the frequency and degree of contamination, purge contaminated grease from seals by slowly pumping fresh bearing grease thru the seal, **WITH A HAND GREASE GUN**, until fresh grease flows out along the shaft. Wipe off purged grease.

CAUTION: *Rapid regreasing with a power grease gun can force grease inward past the seals and plug the oil drain back system causing seal leaks.*

TABLE 4 — Polyalphaolefin Type Synthetic Lubricants ★

AGMA Viscosity Grade		...	2	4	5	6
ISO Viscosity Grade		32	68	150	220	320
Viscosity at 104°F (40°C)	SSU	135–164	284–347	626–765	918–1122	1335–1632
	cSt	28.8–35.2	61.2–74.8	135–165	198–242	288–352
Ambient Temperature Range †		– 30 to +10	– 15 to + 50	0 to + 80	+10 to +125	+ 20 to +125
Manufacturer		Lubricant				
Chevron USA, Inc.		...	...	...	Syn. Gear Lube Tegra 220	...
Conoco, Inc.		Syncon 32	Syncon 68	...	...	...
CPI Engineering Services, Inc.		CP–4620–32	CP–4620–68	CP–4620–150	CP–4620–220	...
		CP–4630–32	CP–4630–68	CP–4630–150	CP–4630–220	...
Exxon Co. USA		...	...	Spartan Synthetic EP 150	Spartan Synthetic EP 220	Spartan Synthetic EP 320
Mobil Oil Corp.		SHC 624	SHC 626	SHC 629	SHC 630	SHC 632
		...	...	Mobilgear SHC 150	Mobilgear SHC 220	Mobilgear SHC 320

★ Minimum viscosity index of 130. Consult lubricant supplier/manufacturer for maximum operating temperature.

† With complete application information, temperature range can sometimes be extended, refer to the Factory.

TABLE 6 — Greases for Grease Lubricated Bearings & Grease Purged Seals

(0° to 200°F (-18° to +93°C)

Manufacturer	Lubricant
Amoco Oil Co. BP Oil Co. Chevron U.S.A., Inc. Citgo Petroleum Corp.	Amolith Grease No. 2 Energrease LS–EP2 Industrial Grease Medium Premium Lithium Grease No. 2
Conoco Inc. Exxon Company, U.S.A. E.F. Houghton & Co. Imperial Oil Ltd.	EP Conolith Grease No. 2 Unirex N2 Cosmolube 2 Unirex N2L
Kendall Refining Co. Keystone Div. Pennwalt Corp. Lyondell Petrochemical (ARCO) Mobil Oil Corp. Mobil Oil Corp Petro–Canada Products	Multi–Purpose Lithium Grease L421 Zeniplex 2 Litholine H EP 2 Grease Mobilith 22 Mobilith SHC 460★ Multipurpose EP2
Phillips 66 Co. Shell Oil Co. Shell Canada Limited Sun Oil Co. Texaco Lubricants	Philube Blue EP Alvania Grease 2 Alvania Grease 2 Ultra Prestige EP2 Premium RB Grease
Unocal 76 (East & West) Valvoline Oil Co.	Unoba EP2 Multilube Lithium EP Grease

★ High performance synthetic alternate.

TABLE 5 — Petroleum Based R & O Gear Oils (Maximum operating temperature of lubricants 200°F (93°C)

AGMA Viscosity Grade		3	4	5	6	7
ISO Viscosity Grade		100	150	220	320	460
Viscosity at 104°F (40°C)	SSU	417-510	626-765	918-1122	1335-1632	1919-2346
	cSt	90-110	135-165	198-242	288-352	414-506
Manufacturer		Lubricant	Lubricant	Lubricant	Lubricant	Lubricant
Amoco Oil Co. BP Oil Co. Chevron U.S.A., Inc. Citgo Petroleum Corp.		Amer.Ind. Oil 100 Turbinol T–100 Machine Oil AW 100 Citgo Pacemaker 100	Amer.Ind. Oil 150 Turbinol T–150 Machine Oil AW 150 Citgo Pacemaker 150	Amer.Ind. Oil 220 Energol HLP-HD 220 Machine Oil AW 220 Citgo Pacemaker 220	Amer. Ind. Oil 320 . . . . . Machine Oil AW 320 Citgo Pacemaker 320	Amer. Ind. Oil 460 . . . . Citgo Pacemaker 460
Conoco Inc. Exxon Company, U.S.A. Houghton International, Inc. Imperial Oil Ltd.		Dectol R&O Oil 100 Teresstic 100 Hydro–Drive HP 500 Teresso 100	Dectol R&O Oil 150 Teresstic 150 Hydro–Drive HP 750 Teresso 150	Dectol R&O Oil 220 Teresstic 220 Hydro–Drive HP 1000 Teresso 220	Dectol R&O Oil 320 Teresstic 320 . . . . . Teresso 320	Dectol R&O Oil 460 Teresstic 460 . . . .
Kendall Refining Co. Keystone Lubricants Lyondell Petrochemical (ARCO) Mobil Oil Corp. Petro–Canada Products		Kenoil R&O AW 100 KLC–30 Duro 100 DTE Oil Heavy Harmony 100	Four Seasons AW 150 KLC–40 Duro 150 DTE Oil Extra Heavy Harmony 150 or 150D	. . . . . KLC-50 Duro 220 DTE Oil BB Harmony 220	. . . . Duro 320 DTE Oil AA Harmony 320	. . . . DTE Oil HH . . . . .
Phillips 66 Co. Shell Oil Co. Shell Canada Limited Texaco Lubricants		Magnus Oil 100 Morlina 100 Tellus 100 Regal Oil R&O 100	Magnus Oil 150 Morlina 150 Tellus 150 Regal Oil R&O 150	Magnus Oil 220 Morlina 220 Tellus 220 Regal Oil R&O 220	Magnus Oil 320 Morlina 320 Tellus 320 Regal Oil R&O 320	. . . . . Morlina 460 . . . . . Regal Oil R&O 460
Unocal 76 (East) Unocal 76 (West) Valvoline Oil Co		Unax RX 100 Turbine Oil 100 Valvoline AW ISO 100	Unax RX 150 Turbine Oil 150 Valvoline AW ISO 150	Unax RX 220 Turbine Oil 220 Valvoline AW ISO 220	Unax AW320 Turbine Oil 320 Valvoline AW ISO 320	Turbine Oil 460 Turbine Oil 460 . . . . .

Oil Lubricated Bearings

Oil Capacities

APPROXIMATE GALLONS (LITERS) FOR ORDERING OIL — The table below lists approximate oil capacities for standard Type DTC drives. Exact quantities vary with the drive size, ratio, input speed, etc. Therefore, always fill the drive to the oil level marked by level plug on housing.

High Speed Head, Air Vent, & Oil Plug Positions

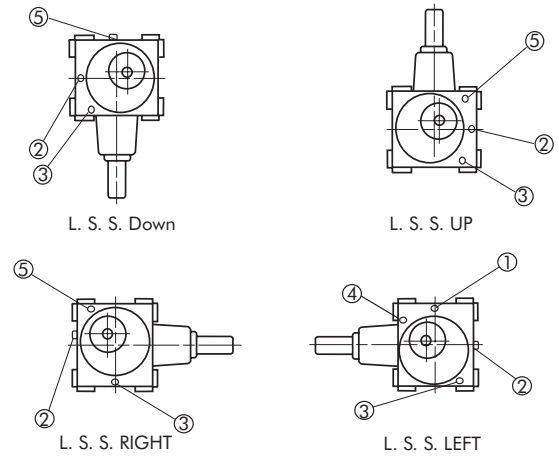
When changing the mounting position of a drive (e.g., from L.S. Shaft up to L.S. Shaft down), rotate the H.S. Head 180° to position the H.S. Head Shaft seal above the level of oil. Refer to the following illustrations for correct positions of H.S. Head and drain, vent and fill plugs.

1. Air Vent
2. Oil Level Plug
3. Oil Drain Plug
4. Oil Filter Plug
5. Vent & Filler Plug

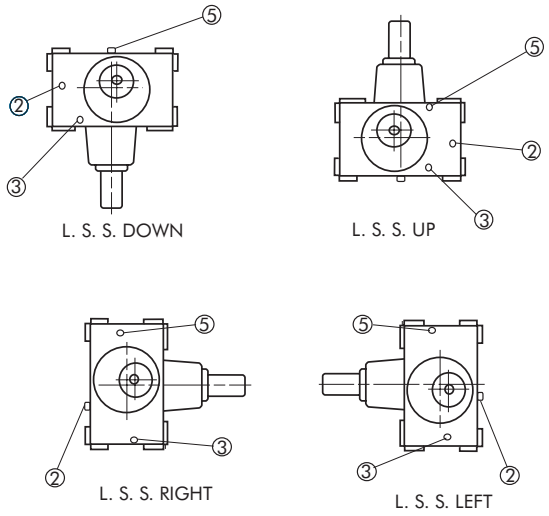
TABLE 7 — Type DTC Approx. Oil Capacities

— Gallons (Liters)

Mounting Position	3DTC	5DTC
Low Speed Shaft Vertical Down	10.0 (37,9)	18 (68,1)
Low Speed Shaft Vertical Up	8.5 (32,2)	16 (60,6)
Low Speed Shaft Horizontal	5.5 (20,8)	13 (49,2)



3DTC



5DTC

Rexnord Industries, LLC, Gear Group
3001 W. Canal St., Zip 53208-4200, Milwaukee, WI USA Telephone: 414-342-3131
Fax: 414-937-4359 e-mail: info@rexnord.com web: www.rexnord.com

Preventive Maintenance

AFTER FIRST WEEK — Check alignment of the total system and realign where necessary. Also, tighten all external bolts and plugs where necessary. DO NOT readjust the internal gear or bearing settings in the drive, these were permanently set at the Factory.

AFTER FIRST MONTH'S SERVICE — Proceed as follows:

1. Operate drive until old sump oil reaches normal operating temperature. Shut the drive down and drain immediately.
2. Immediately flush drive with an oil of the same type and viscosity grade as the original charge (warmed to approximately 100°F (38°C) in cold weather). Rapidly pour or pump a charge equal to 25-100% of the initial fill volume through the drive or until clean oil flows through the drain.
3. Close the drain and refill the drive to the correct level with new or reclaimed oil of the correct type and viscosity. If determined to be in good condition by the supplier, reclaimed oil may be reused if it is filtered through a 40 micron or finer filter.

PERIODICALLY — Carefully check the oil level of the drive when it is stopped and at ambient temperature, add oil if needed. If the oil level is ABOVE the high level mark on the dipstick, have the oil analyzed for water content. Moisture in the oil may indicate that the heat exchanger or a seal is leaking. If so, replace the defective part immediately and change the oil. DO NOT fill above mark indicated as leakage or undue heating may result. Also check coupling alignment to make certain that foundation settling has not caused excessive misalignment. If drive is equipped with a fan, periodically clean accumulated foreign matter from the fan, fan guard, and deflector to allow adequate air flow.

LUBRICANT CHANGES — Refer to Page 4.

BEARING & SEAL GREASES — Refer to Page 5.

Stored & Inactive Gear Drives

Each gear drive is protected with rust preventive that will protect parts against rust for a period of 4 months in an outdoor shelter or 12 months in a dry building after shipment from the Factory.

If a gear drive is to be stored, or is inactive after installation beyond the above periods, drain oil from housing and spray all internal parts with a rust preventive oil that is soluble in lubricating oil or add "Motorstor"™ vapor phase rust inhibitor at the rate of one ounce per cubic foot of internal drive space (or 5% of sump capacity) and rotate the shafts several times by hand. Before operating, drives which have been stored or inactive must be filled to the proper level with oil meeting the specifications given in this manual. Refer to Manual 128-014 for "Start-up after Storage" instructions.

Periodically inspect stored or inactive gear drives and spray or add rust inhibitor every six months, or more often if necessary. Indoor dry storage is recommended.

Gear drives ordered for extended storage can be treated at the Factory with a special preservative and sealed to rust-proof parts for periods longer than those cited previously.

The vent cap and vented dipstick should be replaced with a plug (vented dipstick and vent cap assembly should be attached to gear drive for future use) so that the protective rust inhibiting atmosphere is sealed inside the drive. Install vent cap and vented dipstick when preparing drive for operation.

Motorstor *™/VCI–10 (Add to Stored or Inactive Drives)

DRIVE SIZE	MotorStor* Ounces (Liters) Per Drive
3DTC	2 (0,059)
5DTC	3 (0,089)

* Product of Daubert Chemical Company, Chicago, IL.

Rexnord Industries, LLC, Gear Group
3001 W. Canal St., Zip 53208-4200, Milwaukee, WI USA Telephone : 414-342-3131
Fax: 414-937-4359 e-mail: info@rexnord.com web: www.rexnord.com

298-110
January 2007
Supersedes 7-03