

ComTrac™ Adjustable Speed Drives

**Installation,
Maintenance,
and Spare
Parts Manual**



...new solutions



MEX (55) 53 63 23 31 MTY (81) 83 54 10 18
QRO (442) 1 95 72 60 ventas@industrialmagza.com

Terms and Conditions of Sale

1. **GENERAL.** All orders for products supplied by STOBER DRIVES INC. ("Stober") shall be subject to these terms and conditions of sales. All transactions shall be governed by the laws of the Commonwealth of Kentucky. No modifications hereto will be binding unless agreed to in writing by Stober.

2. **CUSTOMER.** The term "Customer," as used herein, means the distributor, resale dealer, original equipment manufacturer or first end-user customer that purchases the Stober products.

3. **WARRANTY.** Stober products shall be free from defects in material and workmanship for a maximum of 5-years (single shift operation or 30 months multiple shift operation) for ServoFit products and MGS *Long Life* products; 3-years (single shift operation or 18 months multiple shift operation) for MGS products; 2-years (single shift operation or 12 months multiple shift operation) for TD products, from the date of shipment to the Customer. For ServoFit products, all normal wear items, including oil seals and bearings, shall be covered for a period of 2-years (single shift operation or 12 months multiple shift operation). In the event that a product proves to be defective, Stober's sole obligation shall be, at its option, to repair or replace the product. The repaired or replacement product will be shipped F.O.B. Stober's facilities, freight prepaid by Stober.

No employee, agent or representative of Stober has the authority to waive, alter, vary or add to the terms hereof without the prior written approval of an officer of Stober. It is expressly agreed that (a) this section constitutes the final expression of the parties' understanding with respect to the warranty and (b) this section is a complete and exclusive statement of the terms of the warranty.

Stober shall have no obligation under the warranty set forth above in the event that:

- The Customer fails, within the warranty period to notify Stober in writing and provide Stober with evidence satisfactory to Stober of the alleged defect within five (5) days after it becomes known to the customer;
- After inspection of a product, Stober determines, in its sole discretion, that it is not defective in material or workmanship;
- Repair or replacement of a product is required through normal wear and tear;
- Any part in a product or any ingredient contained in a product requires replacement or repair through routine usage or normal wear and tear;
- A product is not maintained or used in accordance with Stober's applicable operating and/or maintenance manuals, whether by the Customer or any third party;
- A product has been subject to misuse, misapplication, negligence, neglect (including, but not limited to, improper maintenance or storage), accident, catastrophe, improper installation, modification, adjustment, repair or lubrication, whether by the Customer or any third party, without the prior written consent of Stober. Misuse shall include, but not be limited to, deterioration in a product due to chemical action and wear caused by the presence of abrasive materials;
- The system of connected rotating parts into which the product becomes incorporated is not compatible with the product, or it is not free from critical speed or torsional or other type of vibration within the specified operating range, no matter how induced; or
- The transmitted load and imposed torsional thrust and overhung loads are not within the published capacity limits for the unit sold.

Items manufactured by other parties but installed in or affixed to Stober's products are not warranted by Stober and bear only those warranties, express or implied, which are given by the manufacturer of such items, if any.

THE WARRANTY SET FORTH ABOVE IS INTENDED

SOLELY FOR THE BENEFIT OF THE Customer AND DOES NOT APPLY TO ANY THIRD PARTY. ALL CLAIMS MUST BE MADE BY THE Customer AND MAY NOT BE MADE BY ANY THIRD PARTY. THIS WARRANTY MAY NOT BE TRANSFERRED OR ASSIGNED, IN WHOLE OR IN PART, BY THE Customer FOR ANY REASON WHATSOEVER. ANY SUCH ATTEMPTED TRANSFER OR ASSIGNMENT SHALL BE NULL AND VOID.

THIS WARRANTY TAKES THE PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY STOBER, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF USE AND ALL OBLIGATIONS OR LIABILITIES ON THE PART OF STOBER FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE, REPAIR OR PERFORMANCE OF THE PRODUCTS.

4. **MODIFICATIONS.** Stober reserves the right, without notice to the Customer, to (a) change the specifications of any product, (b) improve a product in any manner that Stober deems necessary or appropriate and (c) discontinue the manufacture of any product.

5. **PURCHASE ORDERS.** The Customer will submit purchase orders for the products to Stober in writing, whether by mail or telefax, which shall set forth, at a minimum: (a) an identification of the products ordered, (b) prices for such products, (c) quantities, (d) requested delivery dates and (e) shipping instructions and shipping addresses.

6. **ACCEPTANCE OF ORDERS.** All purchase orders received from the Customer are subject to acceptance by Stober in writing.

7. **MODIFICATION OF ORDERS.** No accepted purchase order shall be modified or canceled except upon the written agreement of Stober and the Customer. Mutually agreed cancellations shall be subject to reasonable charges based upon expenses already incurred by Stober and commitments made by Stober. Mutually agreed change orders shall be subject to all provisions of these Terms and Conditions of Sale.

8. **PRICE INCREASES.** Stober may increase its prices for the products by providing the original purchaser of the products with at least thirty (30) days' prior written notice. Increased prices for products shall not apply to purchase orders accepted prior to the effective date of the price increase unless such orders provide for delivery more than thirty (30) days after the date of acceptance of the order.

9. **PRICING AND DELIVERY TERMS.** In accordance with KRS 355.2-319(1)(b), all products are delivered F.O.B. Stober's warehouse facility in Maysville, Kentucky, or such other facility as Stober may designate. Orders are then shipped per Customer's shipping instructions as set forth in Customer's purchase order. **CATALOG PRICING DOES NOT INCLUDE SHIPPING, HANDLING AND TAXES.** Once delivered to a common carrier of the Customer's choosing [or of Stober's choosing if Customer has failed to specify a common carrier on or before five (5) days prior to the requested delivery date] Stober shall have no further responsibility for the products and all risk of damage, loss or delay shall pass to the Customer. A handling fee is added to freight costs by Stober to cover the cost of having to pay the carrier within seven (7) days when the terms with the Customer are net 30. The Customer has the option of shipping collect with our carrier or the carrier of choice.

10. **PAYMENT TERMS.** Net 30 days. All orders will be shipped either prepaid by the Customer or C.O.D., at Stober's option, unless the Customer has established a previously approved credit line. If Stober approves a credit line for the Customer, all payments shall be due within thirty (30) days of the date of the invoice. If any invoice is not paid in full within such thirty (30) day period, then finance charges shall be assessed at the rate of one and one-half percent (1½%) per month (eighteen percent (18%) per year). If such rate is deemed to be usurious at any time, it shall be reduced to the maximum rate permitted by applicable law. Stober may stop or withhold shipment of products if the

Customer does not fulfill its payment obligations. If Stober is insecure about payment for any reason, Stober may require full or partial payment in advance and as a condition to the continuation of its delivery of products.

11. **SECURITY INTEREST.** Unless and until the products are paid for in full, Stober reserves a security interest in them to secure the unpaid balance of the purchase price. The Customer hereby grants to Stober a power of attorney, coupled with an interest, to execute and file on behalf of the Customer all necessary financing statements and other documents required or appropriate to protect the security interest granted herein.

12. **ACCEPTANCE OF PRODUCTS.** The Customer will conduct any incoming inspection tests as soon as possible upon arrival of the products, but in no event later than ten (10) days after the date of receipt. Any products not rejected by written notice to Stober within such period shall be deemed accepted by the Customer. Stober shall not be liable for any additional costs, expenses or damages incurred by the Customer, directly or indirectly, as a result of any shortage, damage or discrepancy in a shipment.

13. **LIMITATION OF REMEDIES.**

(a) STOBER SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE CAUSED BY DELAY IN FURNISHING THE CUSTOMER WITH PRODUCTS.

(b) IN NO EVENT SHALL STOBER'S LIABILITY INCLUDE ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSSES OR DAMAGES, EVEN IF STOBER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH POTENTIAL LOSS OR DAMAGE.

14. **MADE-TO-ORDER PRODUCTS.** Stober reserves the right to revoke and amend any price quotations offered to the Customer for made-to-order products, provided that such price quotations have not been accepted by the Customer prior to the date of revocation or amendment.

15. **DIES, TOOLS AND EQUIPMENT.** Charges incurred by the Customer for dies, tools and other equipment shall not confer ownership or the right to possession therein by the Customer. All such dies, tools and equipment shall remain the property of Stober, and Stober shall have the exclusive right to possession thereof. Stober shall maintain such tools and equipment in good working order.

16. **REGULATORY LAWS AND STANDARDS.** Stober makes no representation that its products conform to state or local laws, ordinances, regulations, codes or standards except as may be otherwise agreed to in writing by Stober.

17. **SIZES AND WEIGHTS.** Stober's products are made only in the sizes and to the specifications set forth in its catalogs and other literature. If any alteration is requested, such altered product will be treated as a made-to-order item. Stober assumes no responsibility for typographical errors which may appear in its catalogs or literature, and cannot accept alteration charges caused by such errors. Since weights shown in Stober's catalogs are approximate, they cannot be used in determining freight allowances set forth in its catalogs and other literature. Freight allowances will be determined at the time of shipment and shall be based on actual shipping weight.

18. **SYSTEM DESIGN.** Responsibility for system design to ensure proper use and application of Stober's products within their published specifications and ratings rests solely with the Customer. This includes, but is not limited to, an analysis of loads created by torsional vibrations within the entire system, regardless of how induced.

STOBER DRIVES INC.

1781 Downing Drive
Maysville, KY 41056
Phone: (606) 759-5090
FAX: (606) 759-5045
www.stober.com
E-mail: sales@stober.com



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ComTrac Adjustable Speed Drives

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IMPORTANT NOTICE

Prior to April 1, 1991, ComTrac Drives were sold through the Link-Belt® division of PTC/Rexnord under the TD brand name. The parts and instructions listed in this manual also apply to all Link-Belt TD drives.

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Installation Instructions

Thank you for purchasing a ComTrac Drive. In order to obtain long life and trouble-free operation from your ComTrac Drive, it is essential that the installation and operating procedures outlined in this manual be followed.

This manual includes directions for mounting and start-up of the ComTrac Drive, as well as lubrication and maintenance instructions. Failure to follow these instructions will void the drive's warranty.


If you have any questions about the installation, operation or maintenance of your ComTrac Drive, please contact your local Stober distributor for assistance.

WARNING:

Safety is the most important consideration when operating any type of drive. Through proper application, safe handling methods, and wearing appropriate clothing, you can prevent accidents and injury to yourself and fellow workers.

The shafts of adjustable speed drives rotate at very high speeds and can cut off or severely injure hands, fingers, and arms. Use appropriate guards for shafts and other rotating parts at all times. Follow all directions in the service instruction manual. Obey all federal, state and local safety regulations when operating the drive.

	<p>⚠ WARNING</p> <p>Cover rotating parts with safety guard before turning on power.</p> <p style="text-align: right;">1978W101-1</p>
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	<p>⚠ WARNING</p> <p>Turn power off before removing cover. Cover must be in place when power is on.</p> <p style="text-align: right;">1978W104-1</p>
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— Always be sure electrical power is off while making electrical connections and during installation and maintenance of the unit.

— Keep clothing, hands, and tools away from ventilation openings on motors and from all rotating parts during operation.

— Lift drive with a double rope sling or other proper lifting equipment of adequate strength. Make sure load is secured and balanced to prevent shifting when unit is being moved. Lifting drives by hand may be dangerous and should be avoided.

— The intended use of lifting lugs is to handle the weight of the unit only. Never use a lifting lug to lift attached assemblies.

— Never operate drive at speeds higher than those shown on the nameplate, or personal injury may result. Contact Stober Drives Inc., if there is any change of operating conditions from those for which the unit was originally sold (as stamped on the nameplate). Failure to comply could result in personal injury and or machinery damage.

— Always follow good safety practices at all times.

Each drive is tested before delivery. Before installation, however, it is advisable to examine the unit for possible damage which might have occurred during transit. If damage is discovered, it should be immediately reported to the transport agent.

If installation is delayed after receipt of the ComTrac Drive, the drive should be stored in a clean, dry place until put into service. Long term storage requires special procedures. If not kept in a heated, dry area, consult Stober Drives, Inc. for service instructions.

ComTrac Adjustable Speed Drives



Motor Mounting

Remove the access cover (62). Lubricate and insert keyed motor shaft into the slotted bore of the drive cone (66) shaft. Tighten the four motor flange bolts.

IMPORTANT: Rotate motor several revolutions before tightening motor clamp to assure proper installation.

NOTE: For ease of installation, secure the key to the motor shaft. (Staking near the end of the keyway or a temporary adhesive works well.)

Tighten the hex socket screw (92) of motor clamp (67) with hex wrench provided to the tightening torque shown in the table below. **DO NOT OVERTIGHTEN.** Re-attach access cover (62).

Mount couplings, gears, sprockets or pulleys as close as possible to the housing to minimize the effects of overhung loads on shafts and bearings.

CAUTION: Do not drive couplings, sprockets, gears or pulleys on to shaft with hard hammer blows, since damage to internal gears or bearings will result. All output shafts have a metric centering thread for attachment of transmission devices. They can be pulled on gently with a bolt and plate.

Unit Mounting

ComTrac Series 1 & 2 Drives with built-in gear reduction (Type 1—, 2—):

Geared drives have integral mounting feet and are designed to be mounted on rigid foundations. All housing feet must rest firmly on supports before being bolted down. Use shims to level the drive and proper size foundation bolts to secure the drive to the foundation. Use flat washers between the heads of the bolts and the housing feet.

Geared drives are shipped from the factory filled with lubricant to accommodate horizontal mounting only. If wall or ceiling mounting is required see lubrication instructions on page 3.

If vertical mounting (output shaft up or down) is required please consult Stober Drives, Inc.

ComTrac Series ON, non-gear drives with integral mounting feet (Type ON):

Non-geared drives with feet require the same attention to mounting as outlined above for geared drives. These drives can be horizontal, wall, ceiling or vertically mounted without concern for lubrication or other modifications.

ComTrac Series OF Drives with C-flange input and C-face output (Type OF):

These drives are non-geared and are designed to be attached to any speed reducer with a C-face input. Care must be taken to follow the speed reducer manufacturer's recommended mounting instructions.

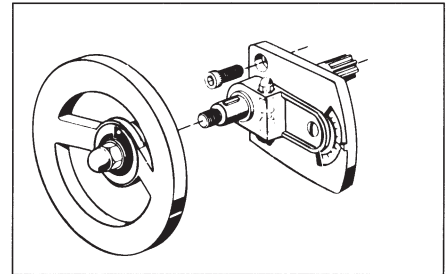
NOTE: ComTrac Series OF Drives with C-face output adapters are not furnished with mounting feet. The drive and motor assembly is mounted on the speed reducer. The reducer mounting feet must support the reducer and ComTrac drive and motor assembly. If there is concern for the ability of the reducer mounting feet to support the entire assembly, a larger speed reducer may be selected.

Installation

The output shaft of the ComTrac Drive, is shipped from the factory with a protective coating. Remove this coating with a suitable non-flammable solvent. Precaution must be taken not to allow the solvent to contact the output shaft oil seal, since damage to the seal may occur.

Handwheel Position

ComTrac Drives are furnished with the speed control handwheel on the left, as viewed from the output shaft end of the drive. If it is necessary that the handwheel be moved to the opposite side, this can be accomplished very easily with the hex wrenches provided with each drive.



PROCEDURE:

Remove the three plastic plugs in the housing on the side opposite the handwheel. Remove the handwheel and indicator assembly by removing the two socket-head cap screws which secure the handwheel/indicator assembly to the housing.

Turn the yellow numbered position indicator wheel around by removing the slotted screw. (Be sure to remove tape covering to expose position numbers on other side of wheel). Replace slotted screw.

Place pinion, handwheel and indicator on desired side of the drive's housing (from where three plastic plugs were removed), and secure with the same two socket-head cap screws.

Replace plastic plugs in holes where the handwheel was originally mounted.

Lubricate motor slide and rack (both sides) with one stroke from a grease gun through fittings in housing.

Electric Remote Control (ERC) Mounting

The Electric Remote Control consists of a small gearmotor mounted on the ComTrac Drive in place of the manual handwheel control.

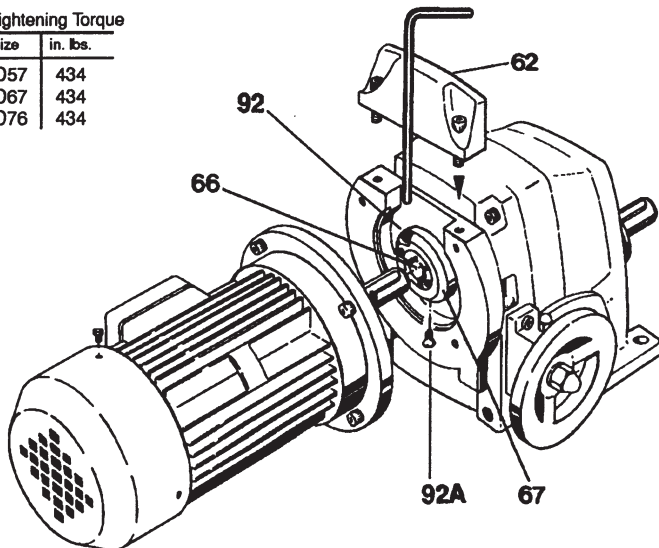
PROCEDURE:

Attaching the ERC is accomplished by simply removing the two socket-head cap screws that secure the handwheel and indicator assembly to the drive's housing. Replace the handwheel/indicator assembly with the ERC and secure it to the housing with the same two cap screws.

Lubricate motor slide and rack (both sides) with one stroke from a grease gun through fittings in housing.

Clamp Ring Setscrew Tightening Torque

Size	in. lbs.	Size	in. lbs.
TD27	88.5	TD57	434
TD37	88.5	TD67	434
TD47	221	TD76	434





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The ERC is operated by pushbutton or other form of contact (furnished by customer). A mechanical clutch is contained within the gearmotor which indicates the end position of travel, in either direction, by making a clicking noise. Also, the ERC can be operated while the drive is stationary.

Power required for the ERC is 230 volt, three-phase, 60 hertz, or 115 volt single-phase, 60 hertz.

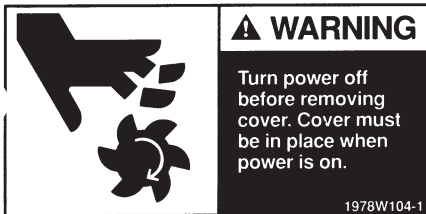
The wiring diagram for the ERC is inside the motor's conduit box. A wiring diagram is also included on page 13 of this manual.

The ERC motor and drive should be protected from excessive dust, flying chips, and oil splashes.

Maintenance and Lubrication

WARNING:

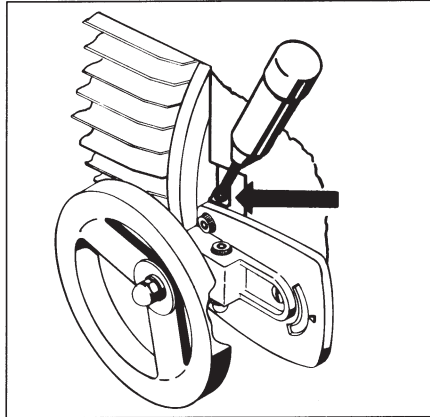
Before beginning any work on the ComTrac Drive system, disconnect the driving means (lock-out the motor starter, and unload breakers, backstops, etc.) Failure to do so may cause serious personal injury and/or machinery damage.



Non-g geared drives (Type 0N and 0F): These units require lubricant only in the cam and bearing chamber and are shipped with the lubricant in them. There is a sufficient quantity of lubricant to allow mounting the non-g geared ComTrac Drive in any position.

For normal indoor installations the handwheel or ERC control pinion and motor slide rack should be lubricated through the grease fitting every six months using NLGI No. 2 grease. One stroke of a grease gun is sufficient. When the drive is operating under wet conditions, increase the frequency of lubrication to once a month.

Under normal operating conditions the synthetic oil in the cam and bearing chamber does not need to be replaced. If for any reason some quantity of lubricant is lost, remove the rest of the lubricant from the cam and bearing chamber and replace it with the type and quantity of oil listed in the lubrication table shown on page 4.



For installations in the food, dairy, beverage and baking industries, where special lubricants are required, a suitable grease of the user's preference should be used.

When a ComTrac Drive with C-face output (Type 0F) is attached to a speed reducer, follow the manufacturer's lubrication instructions for the reducer mounting before start-up.

ComTrac Drives with integral gear reduction (Type 1 and Type 2):

These drives are shipped with the correct amount of No. 4 EP oil for

horizontal mounting. If the drive is to be mounted in another position (wall or ceiling) it will be necessary to drain the oil and refill the drive with the correct amount of lubricant before start-up. See table on page 4.

If vertical mounting (shaft up or down) is required, contact Stober Drives, Inc.

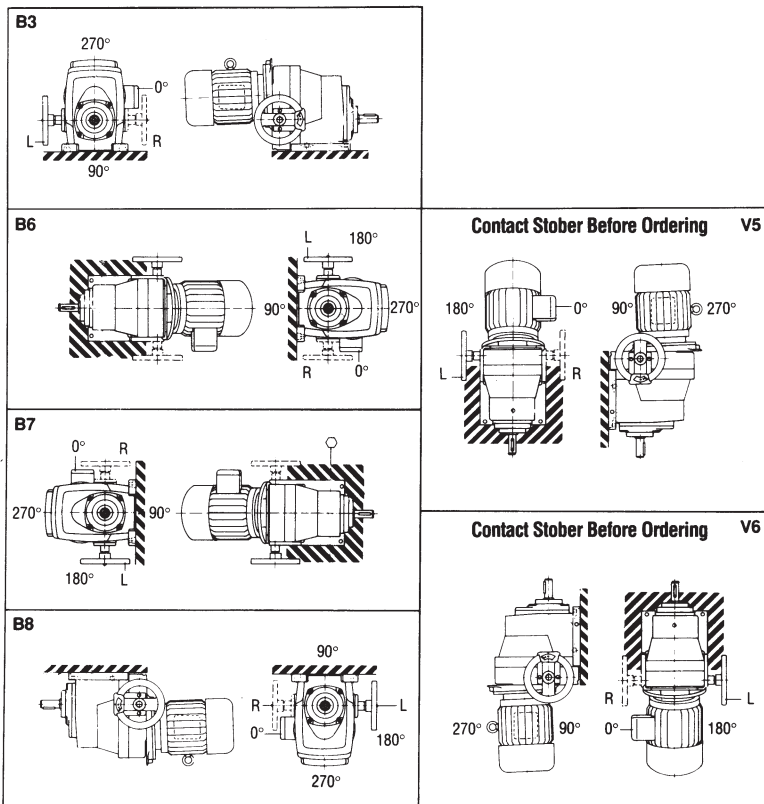
Washdown/Outdoor Service/Severe Duty

Stober has developed a severe duty protection package for ComTrac drives which significantly improves the drive's ability to withstand the effects of outdoor use, exposure to excessively humid or acidic environments, or spray washed with water or caustic fluids.

The ComTrac severe duty package includes corrosion protection for all functional components and housings including: drive cone, motor clamp ring, motor slide and rack, bearing housing, and main housing cover.

To prevent corrosion, these components are protected by a special heat treatment process similar to chrome plating.

Mounting Positions



ComTrac Adjustable Speed Drives



Lubrication Quantities and Types

Comtrac Series ON and Series OF Non-Gear Drives

Table 1. Bearing & Cam Chamber Lubrication Approximate Oil Quantity — Fluid Ounces

Size & Type	Quantity
TD27-0	1.5
TD37-0	1.7
TD47-0	1.9
TD57-0	4.4
TD67-0	5.4
TD76-0	6.1

Table 2. Bearing/Cam Chamber Oils

Manufacturer	Darmex	Mobil *	Exxon	Gulf	Lubriplate	Keystone	Texaco
Mfg. No.	9140	Mobilgear 630	Spartan 220	HD220	APG 90	KSL-366	Meropa 220
AGMA No.	—	—	5 EP	5 EP	5 EP	5 EP	5 EP

*SHC626 is used for initial fill.

For subsequent refills (if necessary) any of above products may be used.

Comtrac Series 1 & 2 Geared Drives

Single Reduction (1—)

Double Reduction (2—)

Table 3. Approximate ComTrac Series 1 & 2 Oil Quantity* — Fluid Ounces

Size/Type	Mounting Positions		
	Horizontal	Wall	Ceiling
TD27-1	10	10	15
TD27-2	14	17	15
TD37-1	14	15	19
TD37-2	32	32	32
TD47-1	19	22	32
TD47-2	36	41	41
TD57-1	24	30	41
TD57-2	61	81	81
TD67-1	27	37	47
TD76-1	61	81	112

Table 4. Typical Oils Meeting Geared ComTrac Series 1 & 2 Drive Requirements

Lubricant Manufacturer	Ambient Temperature	
	+ 15°F to + 60°F	+ 50°F to + 125°F
	AGMA Lubricant No.	AGMA Lubricant No.
	2 EP	4 EP
BP	BP ENERGOL GR-XP-68	—
CHEVRON	—	AW MACH. OIL 150
EXXON	SPARTAN EP-68	SPARTAN EP-150
MOBIL	MOBILGEAR 626	MOBILGEAR 629
SHELL	OMALA 68	OMALA 250
TEXACO	MEROPA 68	MEROPA 150

* Units are shipped filled with oil for mounting in the horizontal (B3) position. For units mounted in other positions, fill with oil as shown above.

Troubleshooting Notes

If the output speed of the ComTrac Drive starts to vary or the speed drops during normal operation, check the clamping screw (socket-head #1) behind the handwheel. If it is loose, allowing the handwheel to turn without resistance, tighten the screw until you feel resistance when turning the handwheel and the output speed of the drive remains constant when set.

If the handwheel clamping screw is tight, the speed drop may be caused by the following:

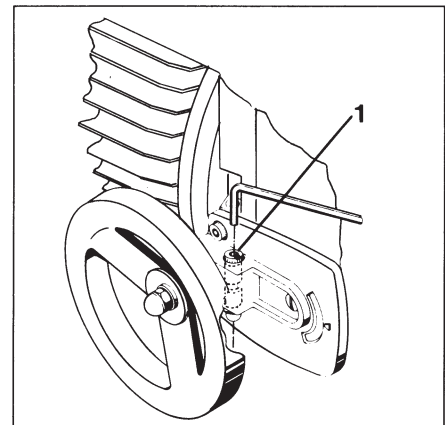
- A. The contact surface of the drive cone may have become oily. In this case the input section of the housing (9) must be removed, and the drive cone and traction ring degreased and dried with soft paper.

- B. After prolonged service the traction ring (11) may have worn down to its mounting flange. The traction ring must then be replaced. Replacement traction rings are available from stock (see page 7).

- C. Check the driven equipment for a possible overload.

In the event of a driven equipment jam/stall, the ComTrac drive motor and drive cone may continue to rotate. This may cause a depression to be worn in the traction ring, and after resumption of operation a knocking noise may be heard. Shallow depressions will disappear in time; if the knocking continues or is objectionable, the traction ring must be replaced.

Optimum service life can be obtained if starting a loaded system at slow ComTrac Drive speed settings is avoided.





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Maintenance and Repair

Instructions For Replacing Traction Rings

ComTrac Adjustable Speed Drives automatically compensate for normal wear of the traction ring.

However, if after several thousand hours the annular contact surface of the traction ring becomes worn, the output shaft of the drive will slip, and tend to stop under normal load — especially at the top end of the speed range.

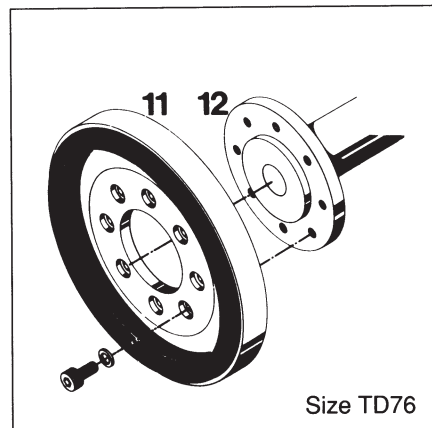
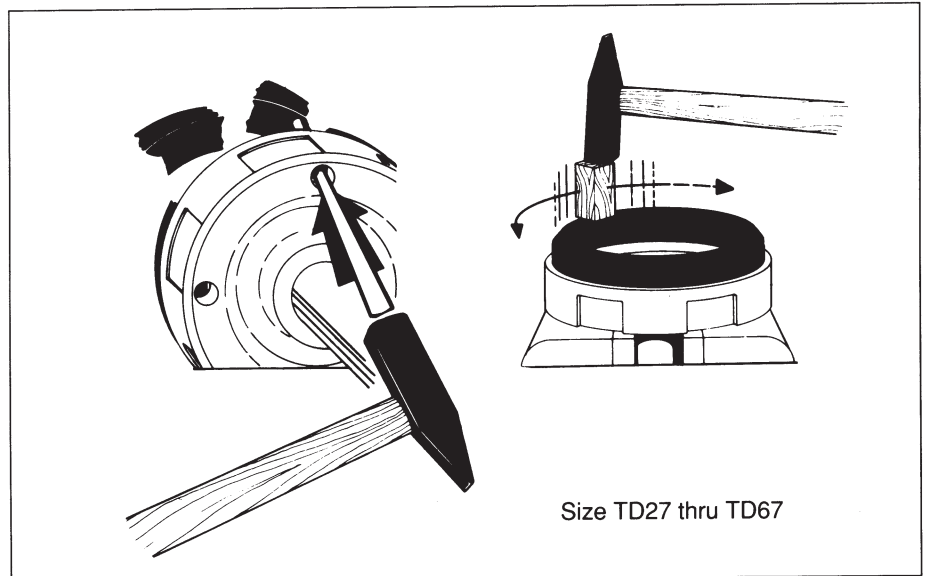
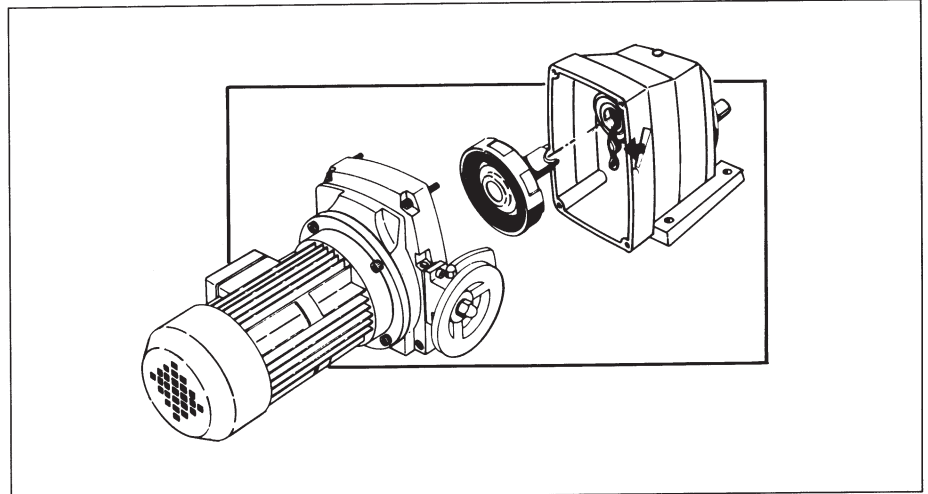
The condition of the traction ring can be checked after removal of the housing cover (See Illustration). The traction ring must be replaced when the annular contact surface has worn down almost to the metal edge of the mounting flange.

Observance of the nameplate power range for the particular ComTrac Drive in use will ensure that the traction ring will wear evenly.

Changing The Traction Ring

Appropriate eye protection must be worn prior to beginning this procedure.

1. Remove the 4 socket head cap screws and remove the housing cover.
2. Carefully pull out the traction ring complete with the flange and shaft from the bearings. **Caution: Protect the precision ground shaft from damage.**
3. Remove the traction ring from its flange as shown.
4. For sizes TD27 through TD67, press in the new traction ring by applying light hammer strokes until the ring is evenly seated. Use a block of hardwood between the hammer and the ring or use a soft mallet. Be careful not to damage the new traction ring. Clean the housing and the ring hub.
5. If desired, replace ring, flange and shaft assembly complete (Kit C, See page 7).
6. Carefully replace the traction ring and shaft taking precaution not to damage the oil seal. Rotate the ring/shaft assembly to be sure the cams are properly seated.
7. Be sure that the annular contact surface of the traction ring and the drive cone surface are not damaged during assembly, and are free



from grease. Wipe off any oil or grease with a dry rag, or preferably a clean paper tissue.

8. When reassembling the housing do not use more force than is necessary to overcome the spring pressure.
9. Replace the lubricant in the bearing/cam chamber with the proper amount of lubricant shown in Table 1 on page 4. Replace the oil fill plug.
10. Grease the motor slideways by pumping small amount of grease through the grease fittings.
11. The new traction ring requires time to run in. Therefore, avoid running the drive at full load during the first few hours of operation.

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Bearing and Oil Seal Replacement

The charts below list available replacement bearings and oil seals for ComTrac drives. For bearing and seal locations, refer to the parts drawings with component location beginning on page 9. Select first by drive type (Series ON, OF, 1 or 2) and then by size (TD27, TD37, etc.).

Table 5. Bearing Replacement

Loc. No.	Type Bearing	UNIT SIZE					
		TD27	TD37	TD47	TD57	TD67	TD76
13	Cylindrical Roller	*NU204EC	*NU205EC	*NU205EC	*NU206EC	*NU207EC	*NU2208
29	Ball	6205/ †6005	6205	6305	6306	6307	6308
64	Ball	60082Z	60082Z	60092Z	60112Z	60132Z	60162Z
36	Ball	6302	6304	6304	6305	6305	6305
37	Ball	6204	6206	6306	6307	6307	6309
45	Ball	6204	6305	6305	30307††	—	—
47	Ball	6205	6207	6307	32210††	—	—
59	Ball	6202	6303	6304	6305	—	—

Bearing Numbers Listed are SKF.

* Because the inner ring of this bearing is not required, it is important to use ONLY SKF bearings for proper fit, as the specifications may vary by manufacturers.

† Bearing for double reduction unit.

†† Taper Roller bearing

Table 6. Oil Seal Replacement

Loc. No.	Description	UNIT SIZE					
		TD27	TD37	TD47	TD57	TD67	TD76
26	METRIC DIM.	26.5x47x7	31.5x52x7	31.5x52x7	37.5x62x10	44x72x10	50x80x8
	STOCK NO.	*	*	*	*	*	*
34	METRIC DIM.	20x40x7	30x52x8	30x62x6.35	35x62x8	35x62x8	45x72x8
	CR STOCK NO.	7940	11640	11665	13970	13970	17778
	TYPE & STYLE	CRW1	CRW1	CRW1	CRW1	CRW1	CRW1
43	METRIC DIM.	25x40x7	35x62x8	35x62x8	50x72x8	—	—
	CR STOCK NO.	9725	13970	13970	19640	—	—
	TYPE & STYLE	CRW1	CRW1	CRW1	CRW1	—	—
93	METRIC DIM.	25x52x8	25x52x8	25x62x7	30x72x8	35x80x8	40x62x10
	CR STOCK NO.	9760	9760	9790	11685	13986	15845
	TYPE & STYLE	CRW1	CRW1	CRW1	CRW1	CRW1	CRW1

CR seals are Chicago Rawhide

* For availability of seals contact your local Stober Distributor



ComTrac Adjustable Speed Drives

Repair Parts Kits

Repair parts for ComTrac Drives are available in kit form only. The following pages show parts drawings with locator numbers, parts lists with kit designations, and kit drawings.

When ordering repair parts kits, the full ComTrac Drive nomenclature as shown

on the nameplate must be furnished (i.e., TD37 2 0135 K145). Use the kit number designations shown to order.

The following repair parts kits are available for all sizes of ComTrac Drives. For bearing and oil seal replacement parts, see the charts on the opposite page.

Part No.			
Serial No.	Ratio : 1		
Oil Capacity in Oz./Liters	Input RPM		
Input HP/KW	Output RPM		
		Output Torque in .lb.	
ComTrac Adjustable Speed Drives			
MGS Modular Gear System		Manufactured in Germany	
STOBER DRIVES INC.		Assembled in U.S.A.	
1781 Downing Drive		Maysville, KY 41068	

Traction Ring Only - Kit B

Drive Size	Kit Number
TD27	TD27B
TD37	TD37B
TD47	TD47B
TD57	TD57B
TD67	TD67B
TD76	TD76B

Size 76 only

Traction Ring, Flange & Shaft - Kit C

Drive Size	Kit Number
TD27	TD27C
TD37	TD37C
TD47	TD47C
TD57	TD57C
TD67	TD67C
TD76 ⁽¹⁾	TD76C

⁽¹⁾ Includes needle bearing #190

KIT "C"

Bearing Kit for Non-Gear Series ON and Series OF Drives - Kit D1

Includes all bearings, seals, and output shaft.

Drive Size	Kit Number
TD27	TD27D1
TD37	TD37D1
TD47	TD47D1
TD57	TD57D1
TD67	TD67D1
TD76	TD76D1

KIT "D1"

Bearing Kit for Geared Series 1 & 2 Drives - Kit D2

Includes all bearings and seals.

Drive Size	Kit Number
TD27	TD27D2
TD37	TD37D2
TD47	TD47D2
TD57	TD57D2
TD67	TD67D2
TD76	TD76D2

KIT "D2"

ComTrac Adjustable Speed Drives

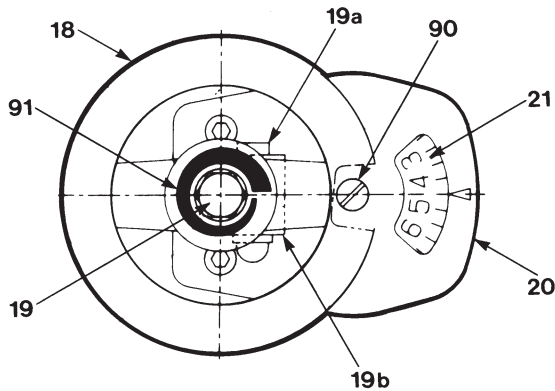


Repair Parts Kits

Handwheel - Kit E

Includes handwheel and position indicator assembly.

Drive Size	Kit Number
TD27	TD27E
TD37	TD37E
TD47	TD47E
TD57	TD57E
TD67	TD67E
TD76	TD76E

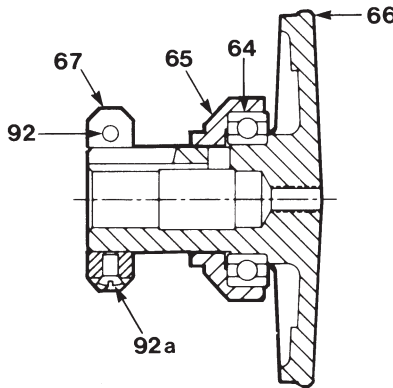


KIT "E"

Drive Cone - Kit F

Includes drive cone, bearing and clamp ring. Size 27 Kits vary by motor frame size. Kit F1 is used with NEMA 56C frame motors and Kit F2 is used with 143TC NEMA frame motors.

Drive Size	Kit Number
TD27	TD27F1/F2
TD37	TD37F
TD47	TD47F
TD57	TD57F
TD67	TD67F
TD76	TD76F



KIT "F"

Washdown Drive Cone - Kit WF

Includes washdown modified drive cone, bearing and clamp ring. Size 27 Kits vary by motor frame size. Kit WF1 is used with NEMA 56C frame motors and Kit WF2 is used with 143TC NEMA frame motors.

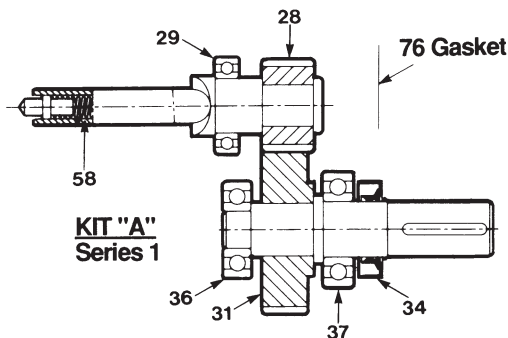
Drive Size	Kit Number
TD27	TD27WF1/WF2
TD37	TD37WF
TD47	TD47WF
TD57	TD57WF
TD67	TD67WF
TD76	TD76WF

Gearset - Kit A

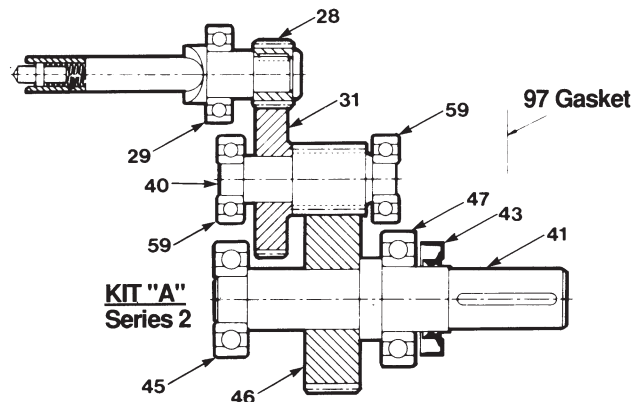
Complete gear sets for single or double reduction ComTrac Series 1 & 2 Drives. Important: Full drive nomenclature from the nameplate must be provided (i.e. TD37 2 0135 K145).

Drive Size	Kit Number
TD27	TD27A
TD37	TD37A
TD47	TD47A
TD57	TD57A
TD67	TD67A
TD76	TD76A

Part No. _____	
Serial No. _____	Ratio - 1
Oil Capacity in Oz./Liters _____	Input RPM _____
Input HP/kW _____	Output RPM _____
Output Torque in lb. _____	
ComTrac Adjustable Speed Drives	
MGS Modular Gear System STOBER DRIVES INC. 1781 Downing Drive Mayesville, KY 41056	



KIT "A" Series 1

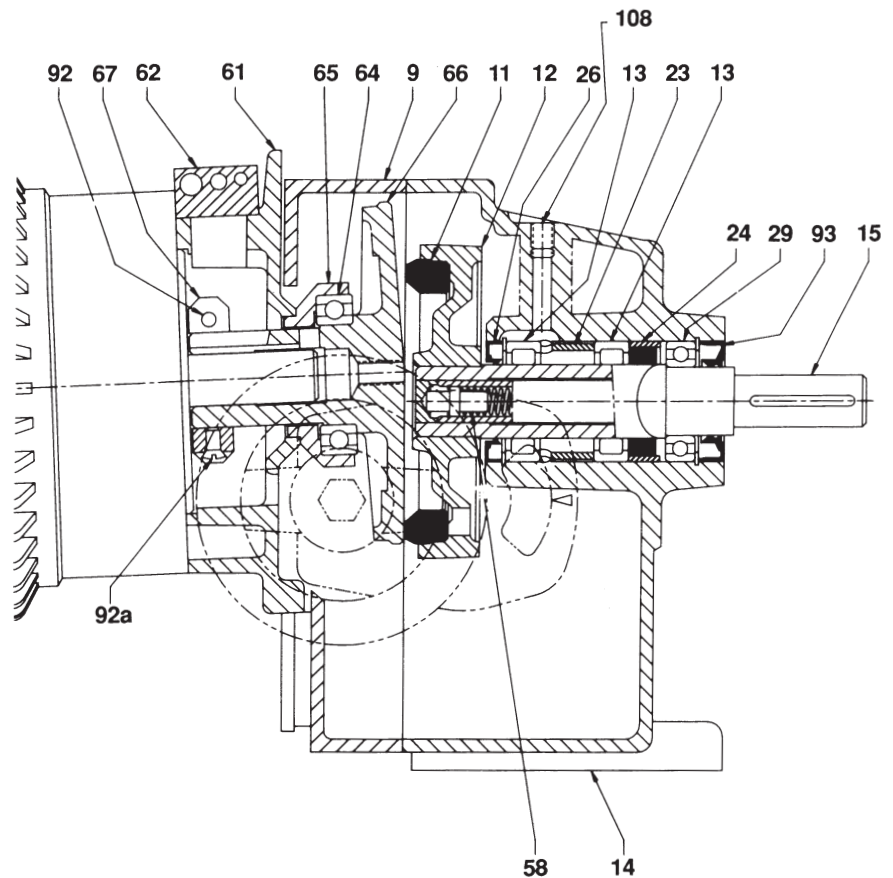
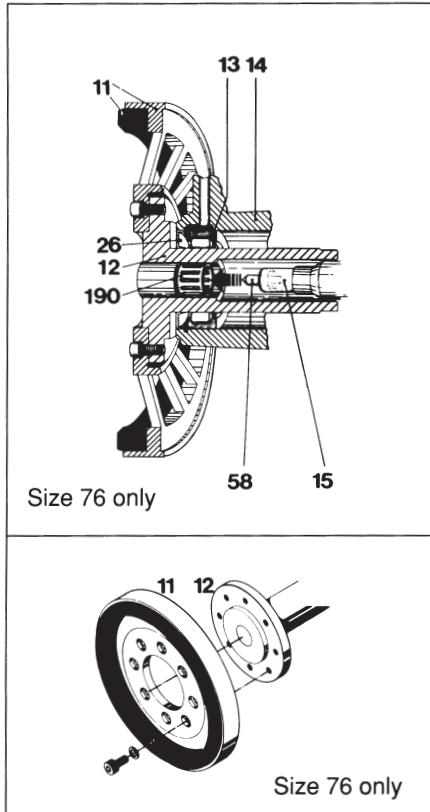


KIT "A" Series 2



ComTrac Adjustable Speed Drives

ComTrac Series ON Drives. Non-gear with Feet Parts identification



ITEM	DESCRIPTION	Qty	KIT							ITEM	DESCRIPTION	Qty	KIT						
			B	C	D1	E	F	TD 27	B				C	D1	E	F	TD 27		
9	Main Housing Cover **	1							58	Compression Spring	1			D1					
11	Traction Ring	1	B	C					61	Motor Slide **	1								
12	Traction Ring Flange with Shaft	1		C					62	Access Cover	1								
13	Roller Bearing	2			D1				64	Ball Bearing	1				F	F			
14	Main Housing **	1							65	Bearing Housing	1				F	F			
15	Output Shaft	1			D1				66	Disc (Cone)	1				F	F2			
18	Handwheel	1				E			67	Clamp Ring	1				F	F			
19	Control Shaft	1				E			66	Disc (Cone) 56C Motor FR*	1					F1			
19a	Clamp Screw	1				E			90	Slotted Screw	1			E					
19b	Clamp	1				E			91	Speed Symbol	1			E					
20	Scale Housing	1				E			92	Clamp Ring Screw	1				F	F			
21	Scale Disc	1				E			92a	Set Screw	1				F	F			
23	Bearing Spacer	1			D1				93	Output Seal	1		D1						
24	Centering Ring with Felt	1			D1				108	Plug	1								
26	Oil Seal	1			D1				190	Needle Bearing	1		C						
29	Ball Bearing	1			D1														

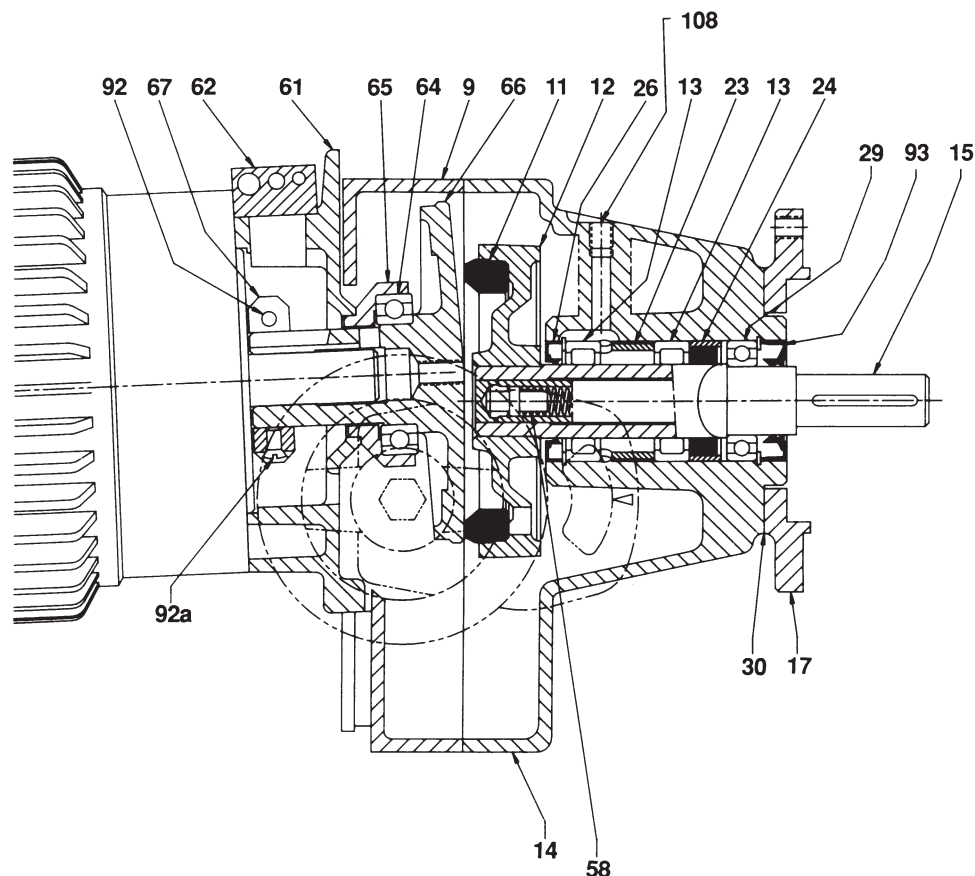
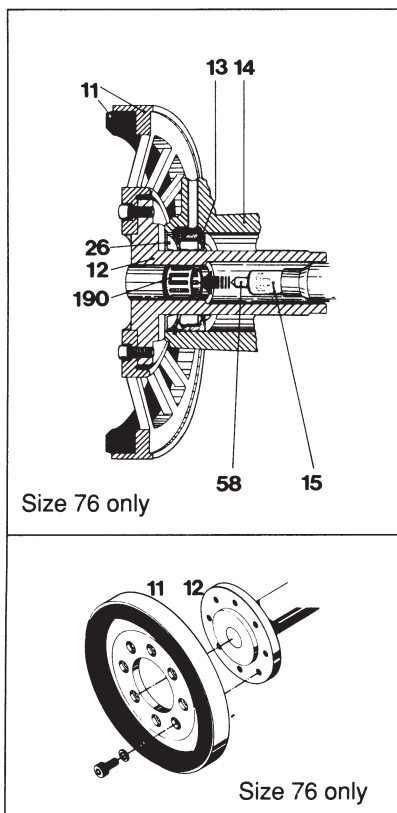
* F1 Used on TD27 for 56C Fr. Motor
F2 Used on TD27 for 143TC Fr. Motor

** **Not Stocked** - Order on request only

ComTrac Adjustable Speed Drives



ComTrac Series OF Drives. Non-gear with C-face Output Parts identification



ITEM	DESCRIPTION	Qty	KIT							ITEM	DESCRIPTION	Qty	KIT						
			B	C	D1	E	F	TD 27	B				C	D1	E	F	TD 27		
9	Main Housing Cover **	1							58	Compression Spring	1			D1					
11	Traction Ring	1	B	C					61	Motor Slide **	1								
12	Traction Ring Flange with Shaft	1		C					62	Access Cover	1								
13	Roller Bearing	2			D1				64	Ball Bearing	1				F	F			
14	Main Housing **	1							65	Bearing Housing	1				F	F			
15	Output Shaft	1			D1				66	Disc (Cone)	1				F	F2			
17	Flange **	1							67	Clamp Ring	1				F	F			
18	Handwheel	1				E			66	Disc (Cone) 56C Motor FR*	1					F1			
19	Control Shaft	1				E			90	Slotted Screw	1				E				
19a	Clamp Screw	1				E			91	Speed Symbol	1				E				
19b	Clamp	1				E			92	Clamp Ring Screw	1					F	F		
20	Scale Housing	1				E			92a	Set Screw	1				F	F			
21	Scale Disc	1				E			93	Output Seal	1			D1					
23	Bearing Spacer	1			D1				108	Plug	1								
24	Centering Ring with Felt	1			D1				190	Needle Bearing	1		C						
26	Oil Seal	1			D1														
29	Ball Bearing	1			D1														
30	Gasket	1																	

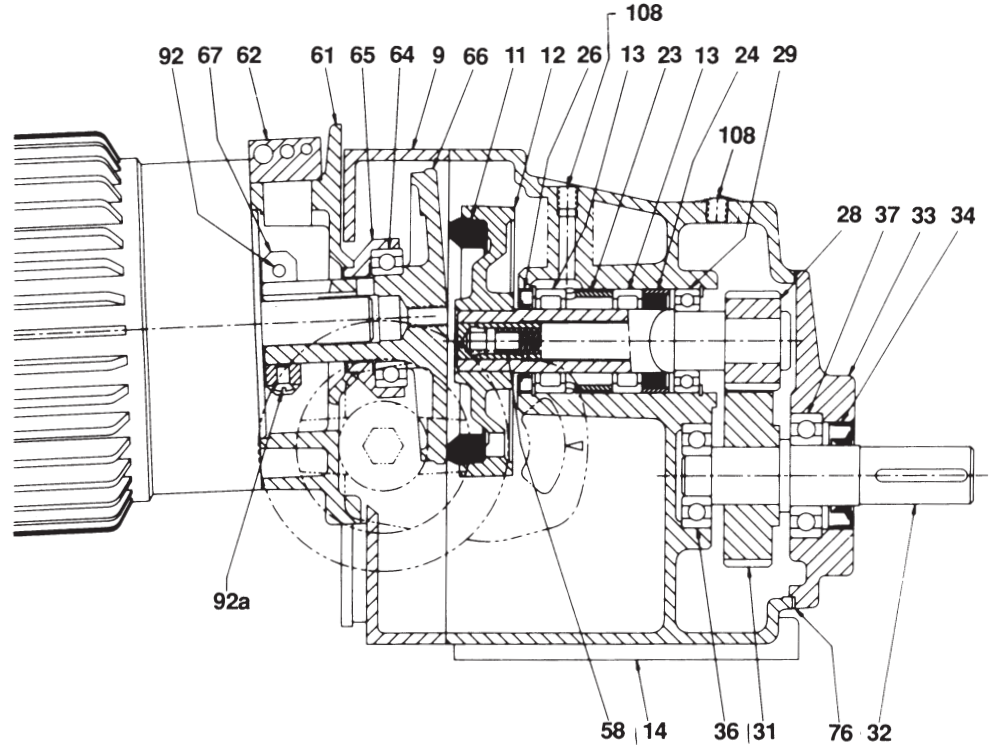
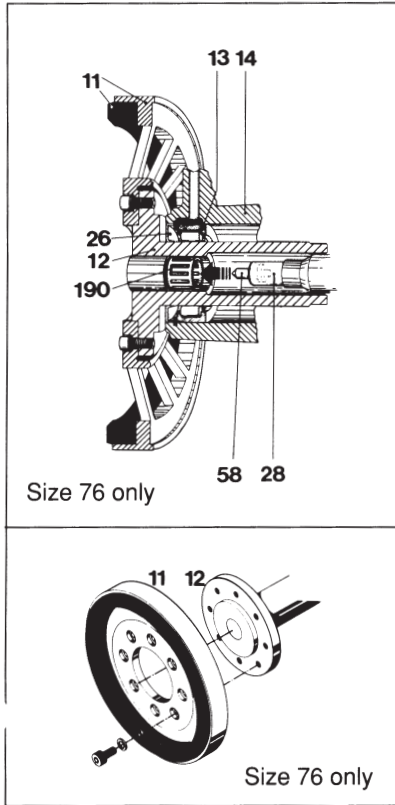
* F1 Used on TD27 for 56C Fr. Motor
F2 Used on TD27 for 143TC Fr. Motor

** Not Stocked - Order on request only



ComTrac Adjustable Speed Drives

ComTrac Series 1 Drives. Geared Single Reduction Parts identification



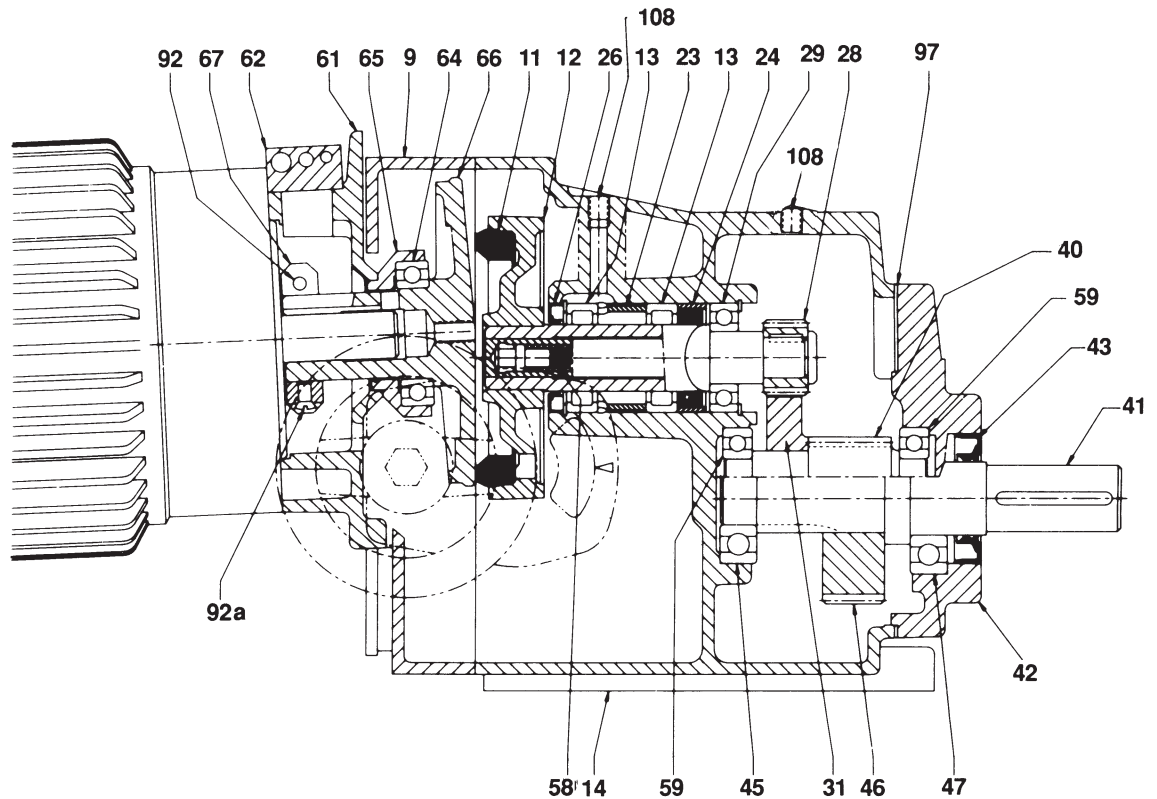
ITEM	DESCRIPTION	Qty	KIT							ITEM	DESCRIPTION	Qty	KIT						
			A	B	C	D2	E	F	TD 27				A	B	C	D2	E	F	TD 27
9	Main Housing Cover **	1							34	Output Seal	1	A							
11	Traction Ring	1		B	C				36	Ball Bearing	1	A							
12	Traction Ring Flange with Shaft	1			C				37	Ball Bearing	1	A							
13	Roller Bearing	2				D2			58	Compression Spring	1	A							
14	Main Housing **	1							61	Motor Slide **	1								
18	Handwheel	1					E		62	Access Cover	1								
19	Control Shaft	1					E		64	Ball Bearing	1				F	F			
19a	Clamp Screw	1					E		65	Bearing Housing	1				F	F			
19b	Clamp	1					E		66	Disc (Cone)	1				F	F2			
20	Scale Housing	1					E		67	Clamp Ring	1				F	F			
21	Scale Disc	1					E		76	Gasket	1	A							
23	Bearing Spacer	1				D2			90	Slotted Screw	1				E				
24	Centering Ring with Felt	1				D2			91	Speed Symbol	1				E				
26	Oil Seal	1				D2			92	Clamp Ring Screw	1				F	F			
28	Input Shaft with Pinion	1	A						92a	Set Screw	1				F	F			
29	Ball Bearing	1	A						66	Disc (Cone) 56C Motor FR *	1					F1			
31	Intermediate Gear	1	A						108	Plug	1								
32	Output Shaft	1	A						190	Needle Bearing	1			C					
33	Output Housing Cover **	1																	

* F1 Used on TD27 for 56C Fr. Motor
 F2 Used on TD27 for 143TC Fr. Motor
 ** Not Stocked - Order on request only

ComTrac Adjustable Speed Drives



ComTrac Series 2 Drives. Geared Double Reduction Parts identification

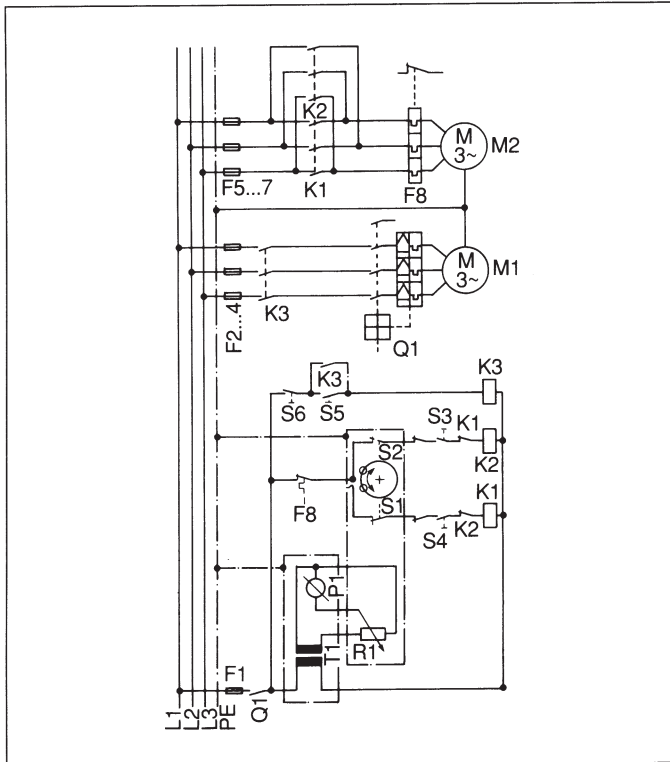


ITEM	DESCRIPTION	Qty	KIT							ITEM	DESCRIPTION	Qty	KIT						
			A	B	C	D2	E	F	TD 27				A	B	C	D2	E	F	TD 27
9	Main Housing Cover **	1								42	Output Housing Cover **	1							
11	Traction Ring	1		B	C					43	Output Seal	1	A						
12	Traction Ring Flange with Shaft	1			C					45	Ball Bearing	1	A						
13	Roller Bearing	2				D2				46	Low Speed Gear	1	A						
14	Main Housing **	1								47	Ball Bearing	1	A						
18	Handwheel	1					E			58	Compression Spring	1	A						
19	Control Shaft	1					E			59	Ball Bearing	2	A						
19a	Clamp Screw	1					E			61	Motor Slide **	1							
19b	Clamp	1					E			62	Access Cover	1							
20	Scale Housing	1					E			64	Ball Bearing	1					F	F	
21	Scale Disc	1					E			65	Bearing Housing	1					F	F	
23	Bearing Spacer	1				D2				66	Disc (Cone)	1					F	F2	
24	Centering Ring with Felt	1				D2				67	Clamp Ring	1					F	F	
26	Oil Seal	1				D2				66	Disc (Cone) 56C Motor FR *	1							F1
28	Input Shaft with Pinion	1	A							90	Slotted Screw	1				E			
29	Ball Bearing	1	A							91	Speed Symbol	1				E			
31	Intermediate Gear	1	A							92	Clamp Ring Screw	1					F	F	
40	Inter. Pinion with Shaft	1	A							92a	Set Screw	1					F	F	
41	Output Shaft	1	A							97	Gasket	1	A						
										108	Plug	1							

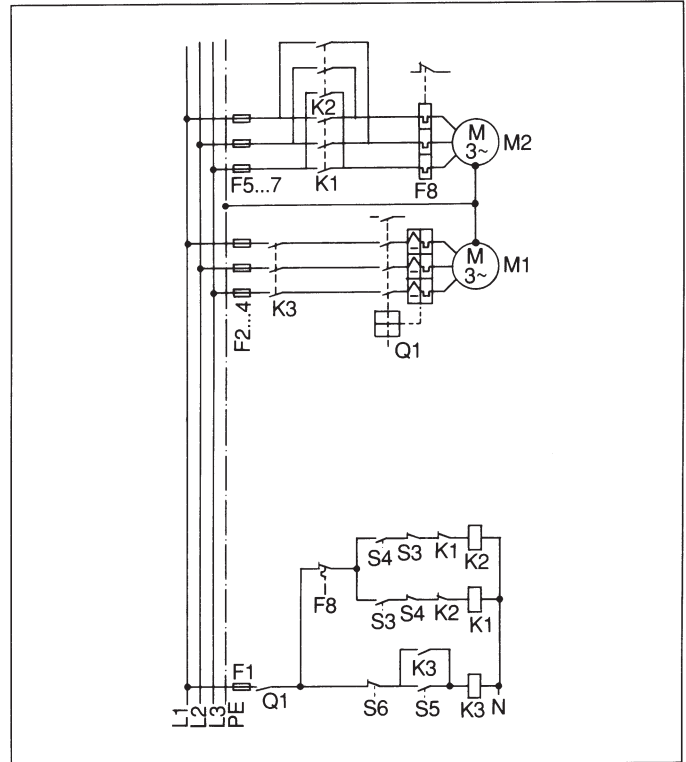
* F1 Used on TD27 for 56C Fr. Motor
 F2 Used on TD27 for 143TC Fr. Motor
 ** Not Stocked - Order on request only

Wiring Diagrams

Electric Remote Control (ERC) With Limit Switches (LS)



Limit Switches (LS)



Symbols:

- F1: Control Fuse
- F2 - F4: Main Motor Fuses
- F5 - F7: Servomotor Fuses
- F8: Servomotor Overcurrent Trip
- K1: Servomotor High Speed Contactor
- K2: Servomotor Low Speed Contactor
- K3: Main Motor Contactor
- M1: Main Motor
- M2: Servomotor
- P1: Voltmeter, 0-5V

- Q1: Main Motor Protection Switch
- R1: Potentiometer 1K w 4W
- S1: High Speed Limit Switch⁽¹⁾
- S2: Low Speed Switch⁽¹⁾
- S3: Servomotor Accelerate Push Button
- S4: Servomotor Decelerate Push Button
- S5: Main Motor ON
- S6: Main Motor OFF
- T1: Transformer 220V/17V

⁽¹⁾ Change-over Contact 250V/16A

Continuing engineering advances may cause slight changes to the information shown.

ComTrac Maintenance Record

Use this form to record all information about your ComTrac Drive to help simplify drive maintenance in the future.

Date of installation: _____
 Location: _____

Purchased from:

Company Name: _____
 Address: _____
 City: _____
 State: _____ Zip: _____
 Telephone: (____) _____ Fax (____) _____
 Contact: _____

Nameplate Data

ComTrac Drive Type (Check One)

- Series ON, foot mount, non-gear
- Series OF, C-face output, non-gear
- Series 1 or 2, foot mount, geared

Part No.		_____	
Serial No.	Ratio : 1	_____	
Oil Capacity in Ozs./Liters	Input RPM	_____	
Input HP/kW	Output RPM	_____	
ComTrac® Adjustable Speed Drives		Output Torque in./lb. _____	
MGS Modular Gear System		Manufactured in Germany. Assembled in U.S.A.	
STOBER DRIVES INC. 1781 Downing Drive Maysville, KY 41056			

Date	Maintenance Notes	Date	Maintenance Notes
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____



INDUSTRIAL MAGZA®
 DIST. AUTORIZADO
 MEX (55) 53 63 23 31
 QRO (442) 1 95 72 60
 MTY (81) 83 54 10 18
 ventas@industrialmagza.com

STOBER DRIVES INC.
 1781 Downing Drive
 Maysville, KY 41056
 Phone: 606 759-5090
 FAX: 606 759-5045
 http://www.stober.com