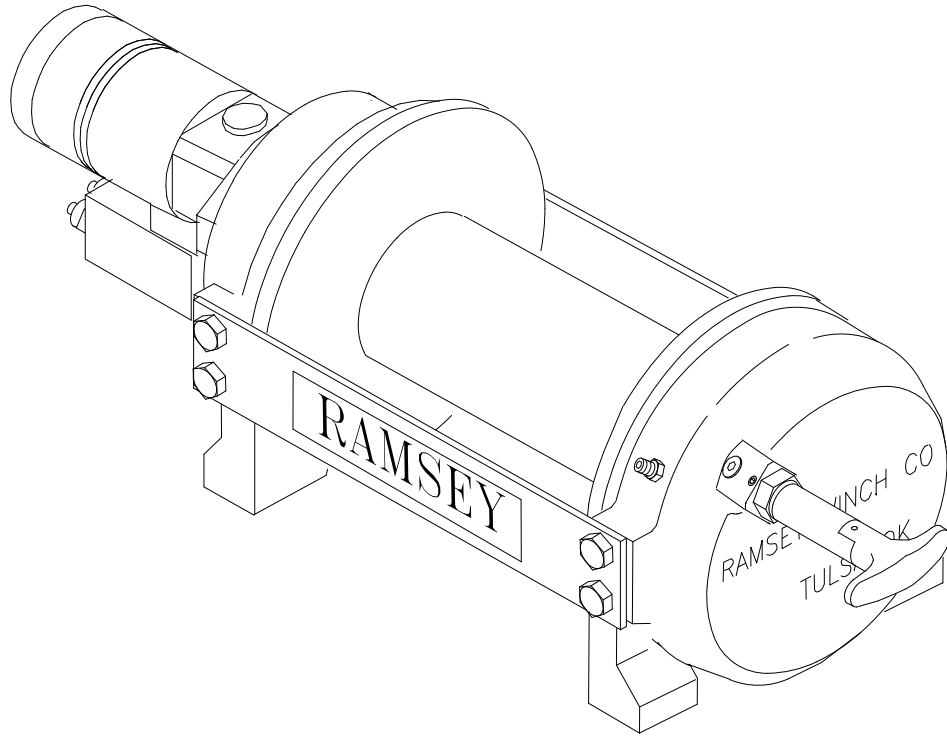




OPERATING, SERVICE AND MAINTENANCE MANUAL



MODEL RPH 15,000 PLANETARY WINCH

Intended Purpose: Vehicle recovery and pulling of loads



CAUTION: READ AND UNDERSTAND THIS MANUAL BEFORE INSTALLATION AND OPERATION OF WINCH. SEE SAFEGUARDS AND WARNINGS!

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RAMSEY HYDRAULIC PLANETARY WINCH MODEL RPH 15,000

PLEASE READ THIS MANUAL CAREFULLY

This manual contains useful ideas for obtaining the most efficient operation from your Ramsey Winch, and safety procedures one needs to know before operating a Ramsey Winch. Do not operate this winch until you have carefully read and understand the "WARNING" and "OPERATION" sections of this manual.

WARRANTY INFORMATION

Ramsey Winches are designed and built to exacting specifications. Great care and skill go into every winch we make. If the need should arise, warranty procedure is outlined on the back of your self-addressed postage paid warranty card. Please read and fill out the enclosed warranty card and send it to Ramsey Winch Company. If you have any problems with your winch, please follow instructions for prompt service on all warranty claims. Refer to back page for limited warranty.

SPECIFICATIONS*

Rated Line Pull (lbs.).....		15,000					
(kgs.).....		6,800					
Gear Reduction.....		7.7:1					
Weight (without cable).....		300 lbs. (136 kgs.)					
LAYER OF CABLE		1	2	3	4	5	6**
*Rated line pull per layer	Lbs. Kg.	15,000 6,800	12,600 5,710	10,800 4,890	9,500 4,300	8,500 3,850	7,600 3,440
Cable capacity	Ft. M.	35 10	75 22	125 38	180 54	240 73	310 94
Line speed (at 15 GPM)	FPM MPM	25 7,6	29 8,8	34 10,3	39 11,8	44 13,4	48 14,6
*These specifications are based on recommended 1/2" (13 mm) EIPS wire rope and a 24.0 Cu. In./Rev. motor.							
**Last layer does not comply with SAE J-706							

NOTE: The rated line pulls shown are for the winch only. Consult the wire rope manufacturer for wire rope ratings.

WARNINGS:

CLUTCH MUST BE FULLY ENGAGED BEFORE STARTING THE WINCH.

DO NOT DISENGAGE CLUTCH UNDER LOAD.

DO NOT LEAVE CLUTCH ENGAGED WHEN WINCH IS NOT IN USE.

STAY OUT FROM UNDER AND AWAY FROM RAISED LOADS.

STAND CLEAR OF CABLE WHILE PULLING. DO NOT TRY TO GUIDE CABLE.

DO NOT EXCEED MAXIMUM LINE PULL RATINGS SHOWN IN TABLE.

DO NOT USE WINCH TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.

A MINIMUM OF 5 WRAPS OF CABLE AROUND THE DRUM BARREL IS NECESSARY TO HOLD THE LOAD. CABLE CLAMP (SETSCREW) IS NOT DESIGNED TO HOLD LOAD.

IN CAR CARRIER APPLICATIONS, AFTER PULLING VEHICLE ON CARRIER, BE SURE TO SECURE VEHICLE TO CARRIER BED. DO NOT MAINTAIN LOAD ON WINCH CABLE WHILE TRANSPORTING VEHICLE. DO NOT USE WINCH AS A TIE DOWN.

WHEN PULLING A HEAVY LOAD PLACE A BLANKET, JACKET, OR TARPAULIN OVER THE CABLE FIVE OR SIX FEET FROM THE HOOK.

AVOID CONDITIONS WHERE LOAD SHIFTS OR JERKS OCCUR, AS THEY MAY INDICATE A DANGEROUS SITUATION.

WINCH MOUNTING

ESSENTIAL MOUNTING INSTRUCTIONS TO MAINTAIN ALIGNMENT OF PLANETARY WINCH COMPONENTS

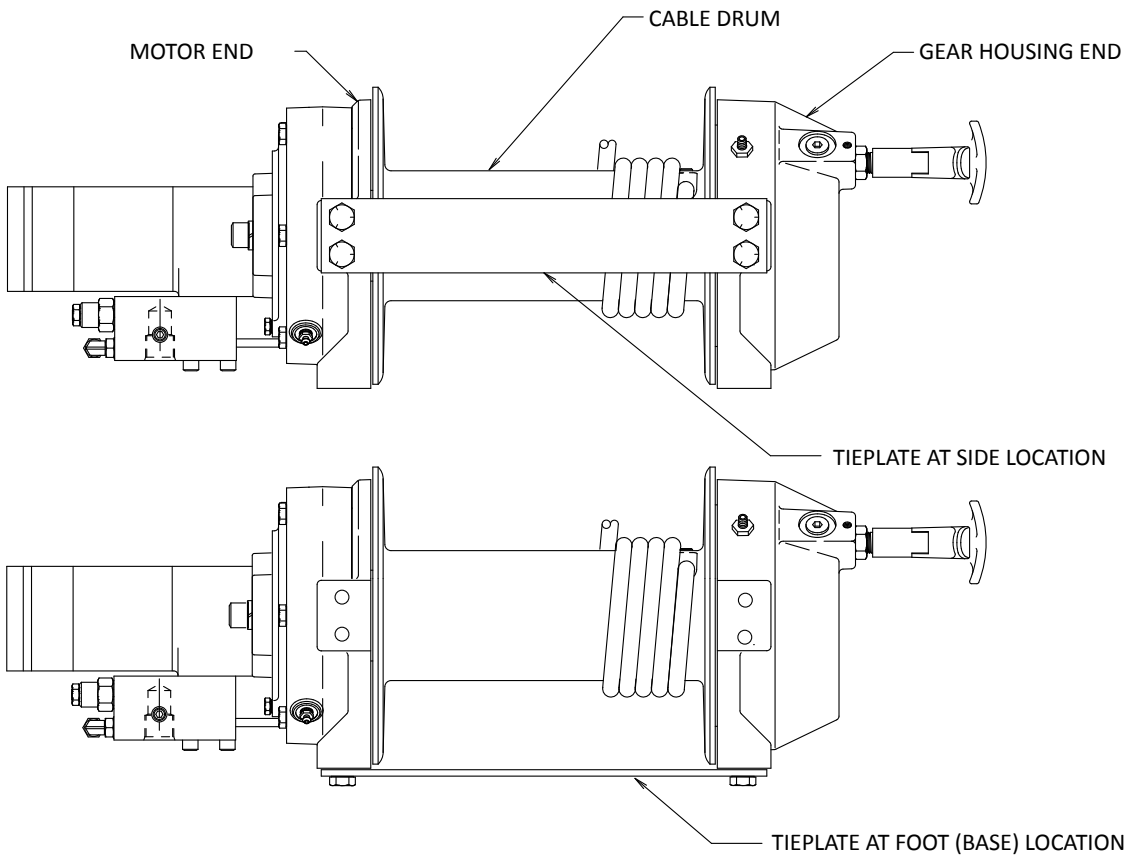
It is most important that this winch be mounted securely so that the three major sections (the motor end, the cable drum and the gear housing end) are properly aligned. Excessive bushing wear and difficulty in freespooling are usually symptoms of misalignment.

In the as-installed condition, if the winch is mid mounted at least one tie plate must be attached to the mounting feet at the bottom of the winch to maintain alignment. **NOTE:** If the winch is foot mounted at least one tie plate must remain mounted at mid point of winch to maintain alignment. It is always desirable to use both tie plates in the final installed configuration.

Angle Mounting Kit, #251173, is recommended for maximum ease in mounting the winch. The angle kit will allow the winch to be mounted in upright or midmount applications and will meet the criteria of serving as a solid and true mounting surface.

When mounting the winch with other than the recommended Ramsey Angle Kit, the mounting hole patterns described on pages 14-15 must be used. The mounting surface must be flat within .015 inch and sufficiently stiff to resist flexing. If a steel plate is used for foot mounting it should be .750 inch thick. For this mounting application eight (8) 5/8-11NC x 1-1/2 Lg. Gr. 5 capscrews with lockwashers will be needed to mount winch. Capscrews should be torqued to 173 ft. lb. (235 Nm.).

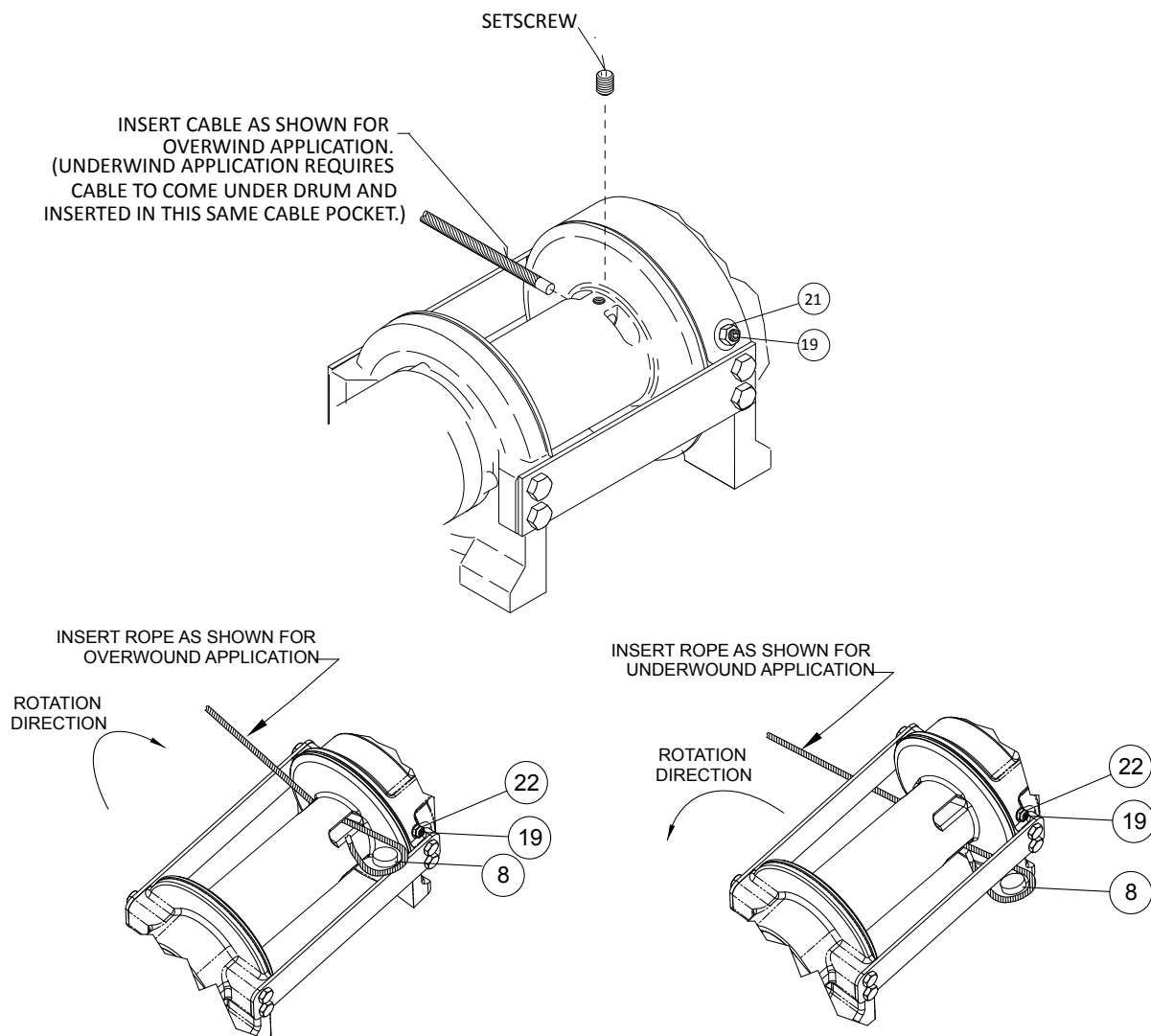
NOTE: If angles or a steel plate are used in mounting winch, tie plates provided with winch are to be attached to the remaining mounting pads, whether they be side or foot.



CABLE INSTALLATION

1. Unwind cable by rolling it out along the ground to prevent kinking. Securely wrap end of cable, opposite hook, with plastic or similar tape to prevent fraying.
2. Place taped end of cable into hole in cable drum, as shown below. Use 3/8-16NC x 1/2 lg. Hx. Soc. drive set-screw (part of 234173 drum assembly) to secure cable to drum.
3. Carefully run winch in the “reel-in” direction. Keeping tension on end of cable, spool all the cable onto the cable drum, taking care to form neatly wrapped layers.

After installing cable, check freespool operation. Disengage clutch and pull on cable at a walking speed. If cable “Birdnests”, loosen jam nut (item #22) and turn nylon screw (item #19) clockwise to increase drag on drum. If cable pull is excessive loosen nylon setscrew by turning counterclockwise. Tighten jam nut when proper setting is obtained. **CAUTION: OVER-TIGHTENING OF JAM NUT MAY STRIP NYLON SETSCREW.**



HYDRAULIC SYSTEM REQUIREMENTS

Refer to the performance charts below to properly match your hydraulic system to the winch performance. The charts consist of: (1) line pull (LB) first layer vs. working pressure (PSI); (2) line speed, first layer (FPM) vs. flow (GPM). A motor spool directional control valve is recommended.

SYSTEM REQUIREMENTS:

2500 PSI RELIEF VALVE SETTING

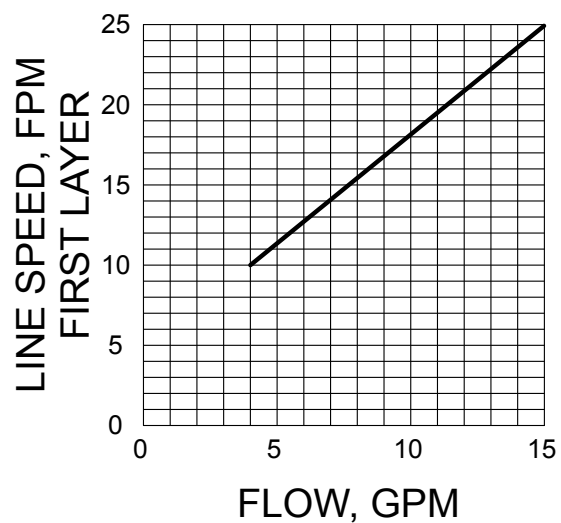
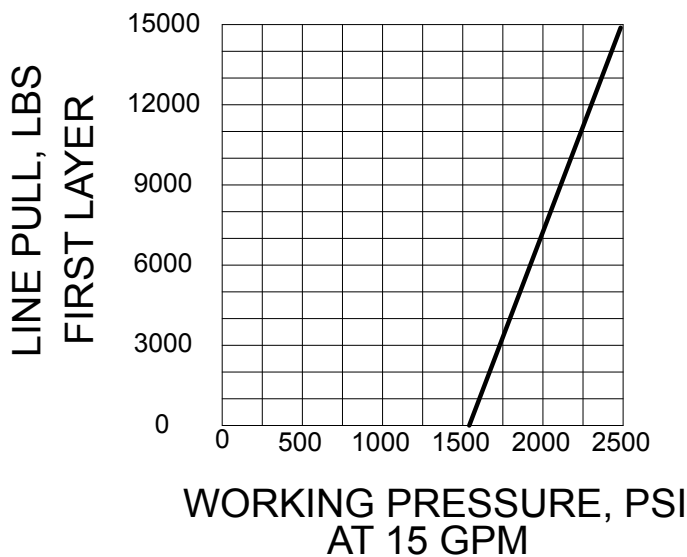
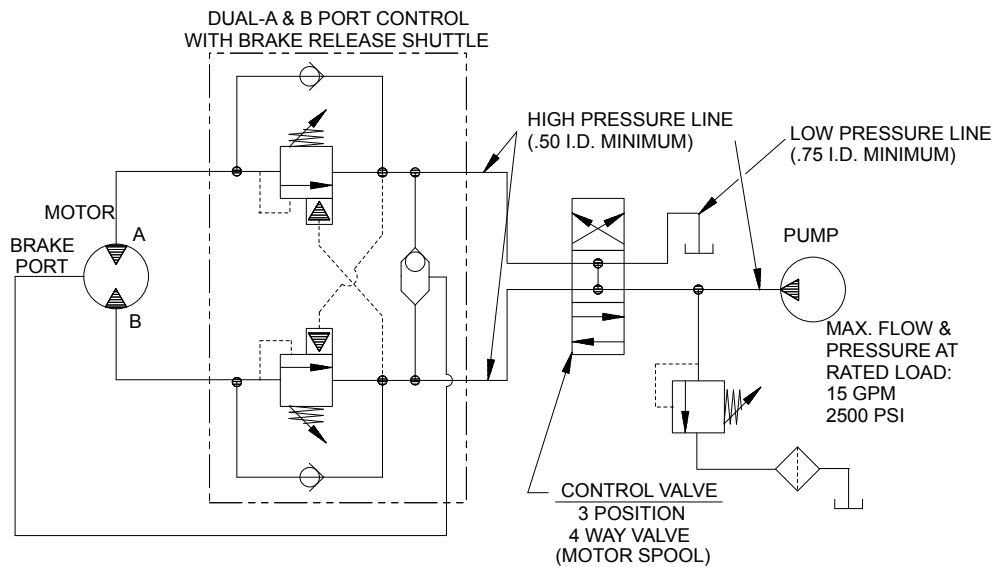
15 G.P.M. FLOW RATE *

10 MICRON NORMAL FILTRATION

* **Caution: Do not exceed 20 G.P.M. If exceeded, motor and winch may be damaged.**

PERFORMANCE CHARTS

TYPICAL LAYOUT



PERFORMANCE WITH 24.0 CU. IN. HYDRAULIC MOTOR:

OPERATION

The best way to get acquainted with how your winch operates is to make test runs before you actually use it. Plan your test in advance. Remember, you hear your winch, as well as see it operate. Get to recognize the sounds of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Avoid conditions where load shifts or jerks occur, as they may indicate a dangerous situation.

The uneven spooling of cable, while pulling a load, is not a problem, unless there is a cable pileup on one end of drum. If this happens, reverse the winch to relieve the load and move your anchor point further to the center of the vehicle. After the job is done you can unspool and rewind for a neat lay of the cable.

When pulling a heavy load place a blanket, jacket or tarpaulin over the cable about five or six feet behind the hook. In the event of a broken cable, this will slow the snap back of the cable and could prevent serious injury.

The winch clutch allows rapid unspooling of the cable from the cable drum for hooking onto the load. The clutch is operated by the clutch shifter lever or air shifter.

WARNING: DO NOT DISENGAGE CLUTCH UNDER LOAD.

MANUAL CLUTCH SHIFTER (Refer to page 14)

TO DISENGAGE CLUTCH: Run the winch in the reverse (reel out) direction until load is off the cable. Pull handle out and rotate 90°. With handle in the “DISENGAGED” position, cable may now be free-spooled from drum.

TO ENGAGE CLUTCH: Pull handle out, rotate 90° and release handle. Run the winch in reverse until the clutch handle snaps fully into the “ENGAGED” position. **DO NOT** attempt to pull a load unless the handle is fully at the “ENGAGED” position. If manual shift indicator light is present, the green light is lit when clutch is fully “ENGAGED”. **DO NOT** attempt to pull a load unless the green light is lit.

AIR CYLINDER CLUTCH SHIFTER (Refer to page 15)

TO DISENGAGE CLUTCH: Run the winch in the reverse (reel out) direction until load is off the cable. Apply air pressure to the .125-27 NPT port: 80 PSI (min.), 150 PSI (max.). **CAUTION:** Pressure must not exceed 150 PSI.

TO ENGAGE CLUTCH: Remove air pressure from the cylinder (a return spring engages the plunger). Run winch in reverse until the clutch engagement indicator light (green light) is lit. **DO NOT** attempt to pull a load unless the green light is lit. To connect light to the vehicle electrical system refer to the Electrical Schematic on page 15.

MAINTENANCE

1. Inspect the cable for damage and lubricate frequently. If the cable becomes frayed with broken strands, replace immediately.
2. Check that the clutch is fully engaging. See OPERATION instructions, above, for the appropriate clutch shifter.
FOR MANUAL CLUTCH ONLY: Monthly disengage clutch, put several drops of oil on the shaft and work clutch IN and OUT several times to lubricate inside of clutch cylinder.
3. Check to see that drum cable does not overrun (BIRDNEST) when freespooling. Refer to page 5.
4. Replace drum bushings and seals if seals begin to seep grease. Refer to OVERHAUL INSTRUCTIONS, page 9. Add additional lubricant, Mobilith SHC 007, to gears if required.

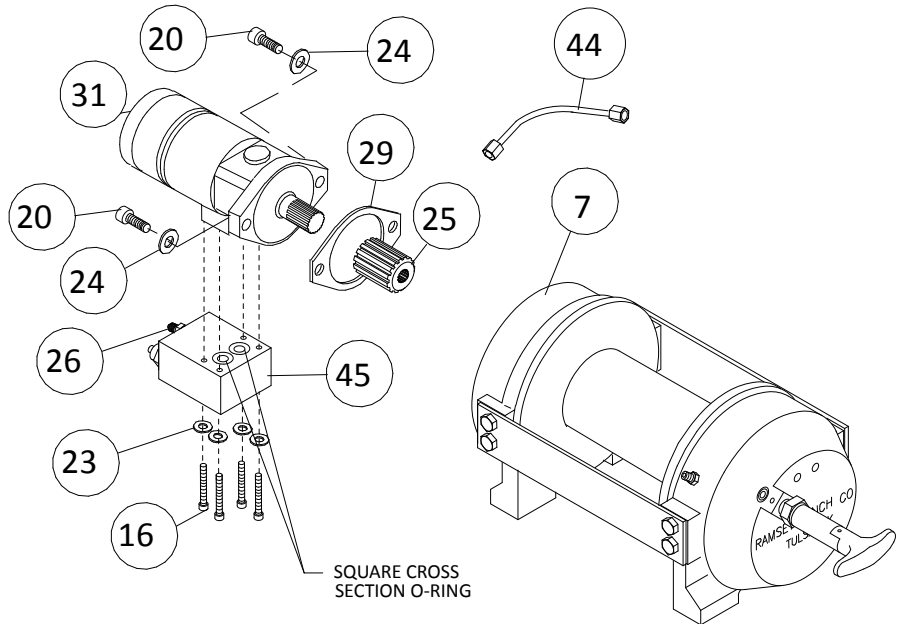
INSTRUCTIONS FOR OVERHAUL OF RAMSEY WINCH MODEL RPH 15,000

DISASSEMBLY

Take note of mounting configuration for proper mounting of parts during re-assembly. Replace all gaskets, o-rings, and seals with new ones during re-assembly.

Disconnect tube (item #44) from elbows on bottom of brake housing (item #7) and valve (item #45). Remove motor (item #31) from brake housing (item #7) by unscrewing capscrews (item #20). Tap motor lightly to disengage.

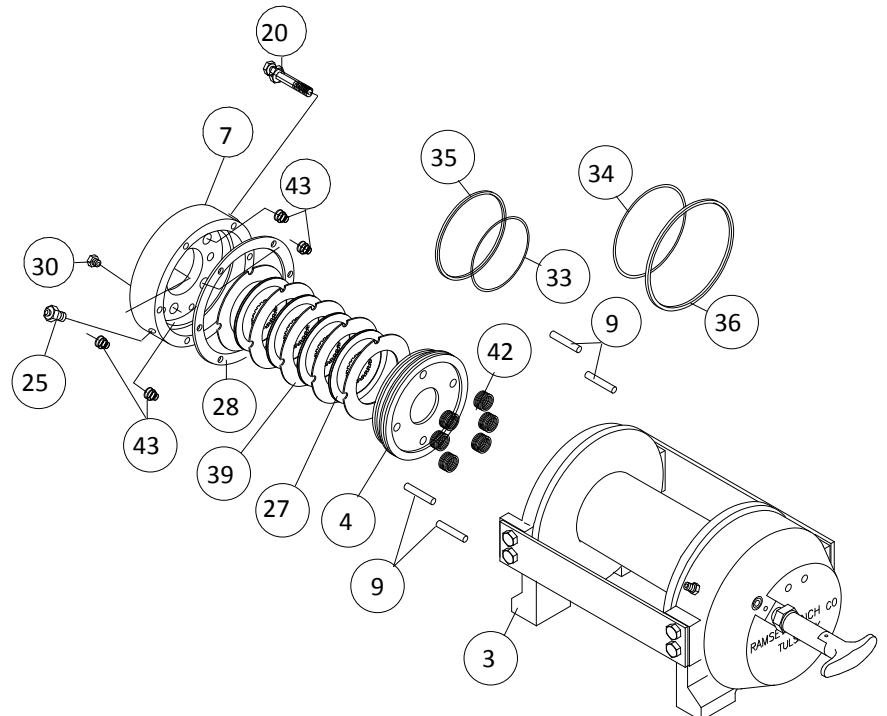
Remove coupling (item #25) from brake housing. Examine coupling for signs of wear, replace if necessary. If necessary remove valve (item #45) from motor by removing capscrews (item #16) and lock-washers (item #23). If valve is removed make sure two square cross section O-rings remain seated in their counter bores in valve.



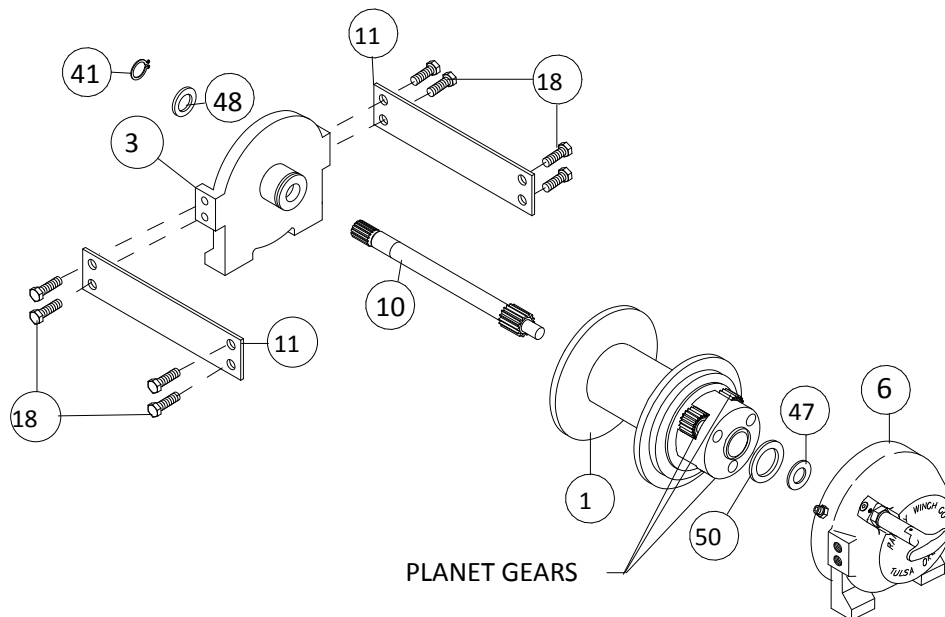
Remove brake housing (item #7) from end bearing (item #3) by unscrewing (6) capscrews (item #20) in a criss-cross pattern (2 turns each) until all capscrews are removed from brake housing. Remove brake parts from brake housing. Examine brake discs (item #27) for signs of wear and replace if necessary. Examine O-rings (items #33 and #34) and backup O-rings (items #35 and #36) for signs of wear. Remove O-rings and backup O-rings from grooves in brake piston (item #4).

Remove and examine springs (items #42 and #43) for damage, replace if necessary.

Examine fitting (item #30) to assure that fittings are in proper working condition, replace if necessary.

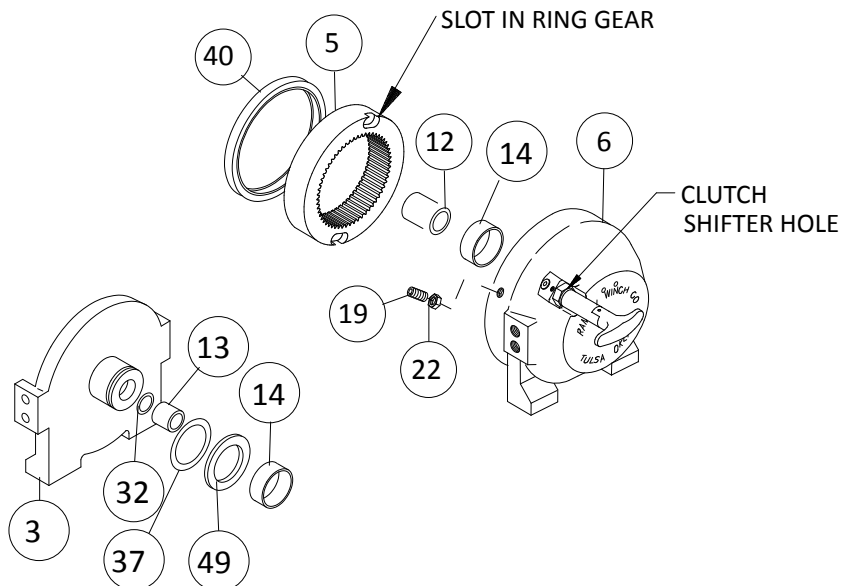


Remove tie plates (item #11) from end bearings (items #3 & #6) by unscrewing capscrews (item #18), as shown. Slide motor end bearing (item #3) from drum (item #1) and drum from gear housing end bearing (item #6). Remove input shaft (item #10) and thrust washers (items #47 & #50) from end bearings. Inspect gear teeth and splined end of shaft (item #10) for signs of wear. If necessary replace shaft.



Remove o-ring (item #37) and bushing (item #14) from outside of motor end bearing (item #3), remove o-ring (item #32) and bearing (item #13) from inside of motor end bearing. Dip new o-ring (item #32) in oil and seat into groove inside of end bearing and press new bearing (item #13) into end bearing. Press bushing (item #14) onto end bearing and dip o-ring (item #37) in oil and seat into groove of end bearing.

Remove seal (item #40) from gear housing end bearing (item #6). Loosen nut (item #22) and remove nylon set-screw (item #19) and remove ring gear (item #5) from gear housing end bearing. Remove bushing (item #14) and bearing (item #12) from gear housing end bearing (item #6). Press new bushing (item #14) and bearing (item #12) into place in end bearing. Install ring gear and nylon setscrew and nut. Ring gear must be fully seated in gear housing end bearing (item #6) and slot in ring gear must be aligned with clutch shifter hole. Dip new seal in oil and install in gear housing end bearing, with sharp edge of seal outward.



Generously apply grease (MOBILITH SHC 007) to teeth of ring gear (item #5), teeth of planet gears in drum (item #1) and to bushing in end bearing (item #6). Apply grease to teeth of gear and short end of shaft (item #8). Place gear end of shaft through backside of drum (item #1) rotate shaft to mesh shaft gear with planet gear in drum. Apply grease to end of shaft and to I.D. and O.D. of bushing protruding from drum. Set thrust washer (item #50) over bushing and against drum. Place drum assembly into end bearing meshing planet gears with output gear on shaft and with ring gear in end bearing. End of drum shaft is placed into bearing pressed in end bearing (item #6).

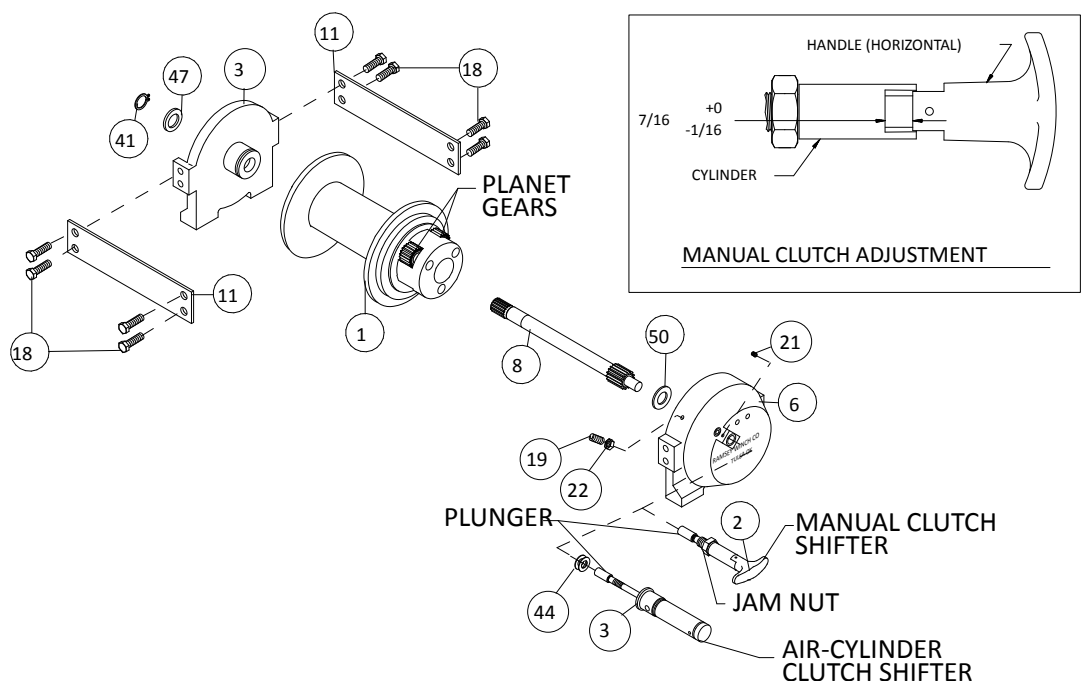
Apply grease to O.D. of bushing protruding from drum. Set thrust washer (item #47) over bushing and against drum. Assemble motor end bearing (item #3) to drum assembly and use tie plates (item #11) and capscrews (item #18) to hold both end bearings together. Tighten capscrews to 173 Ft. Lbs. (235 Nm.). If necessary, remove and replace appropriate shifter assembly (item #2 or #3), as follows:

MANUAL CLUTCH SHIFTER ASSEMBLY

Remove by loosening setscrew (item #21), jam nut and unscrewing clutch shifter. Be sure slot in ring gear is not aligned with clutch shifter hole in end bearing. Rotate drum, if necessary, to insure hole and slot are not aligned. Reinstall clutch shifter with plunger, jam nut and handle positioned in cylinder housing, as shown. Thread assembly (with handle engaged in cylinder slot) into the end bearing. Pull drum toward the gear housing end bearing to remove play. Hold drum in this position and continue threading the shifter assembly in until the gap between the end of the handle and cylinder is $7/16 +0 -1/16$ inch and handle is in the horizontal position, as shown below. **NOTE:** This gap will vary with drum endplay. With the drum pulled against the gear housing, the gap should be $3/8$ inch. Lightly tighten jam nut. Rotate drum until handle snaps fully into the engaged position. Pull handle out and rotate 90° . Verify that drum can be rotated freely (at least one full revolution) with clutch shifter at DISENGAGED position. Securely tighten jam nut while holding the handle. Tighten setscrew securely. Re-check clutch operation as described on page 7.

AIR CYLINDER SHIFTER ASSEMBLY

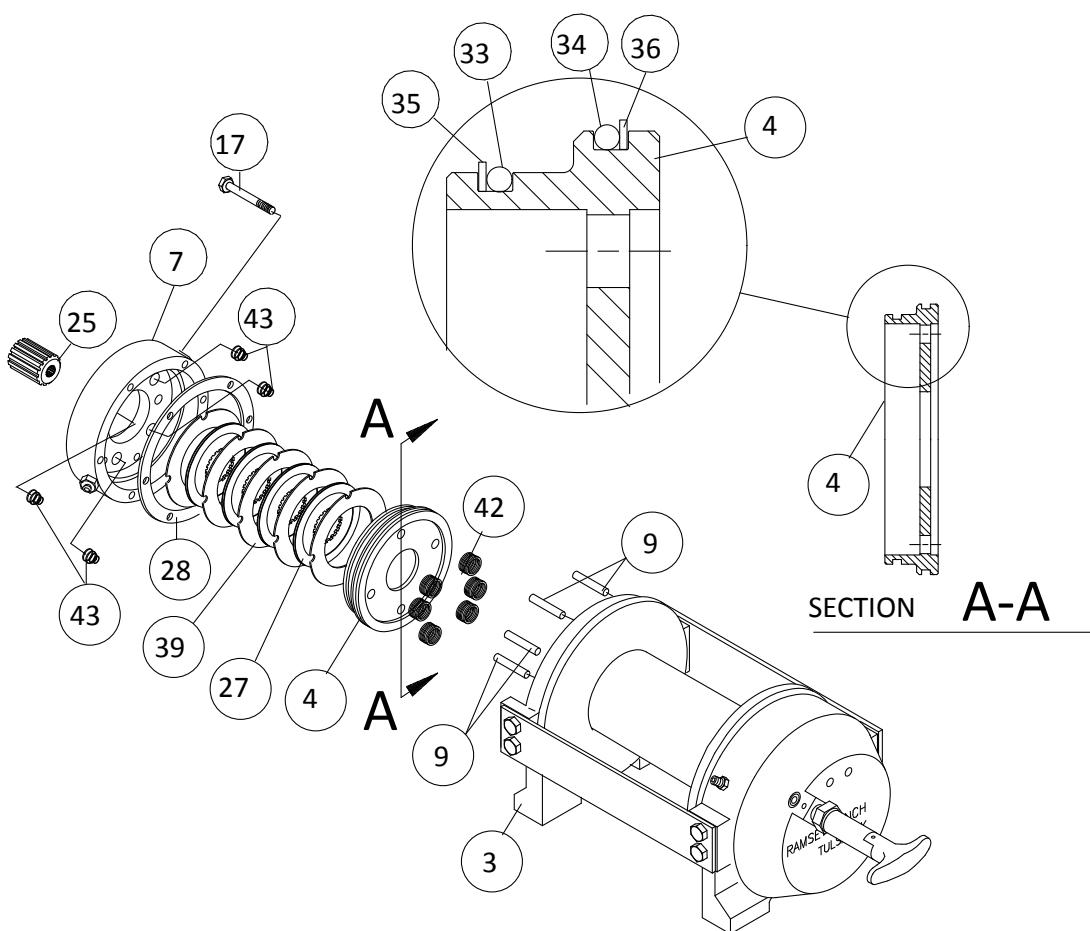
Remove by loosening setscrew (item #21), jam nut and unscrewing clutch shifter. To reinstall, thread air cylinder into housing. Install one or two shims (item #44) under cylinder head, if needed, to orient air cylinder port for pneumatic connections. Tighten setscrew. Refer to page 7 and check for proper operation of the clutch.



Set winch on gear housing end with motor end bearing up. Insert (6) springs (item #42) into pockets of motor end bearing. Install coupling (item #25) over splined end of shaft (item #8). Put (4) brake pins (item #9) into (4) holes in motor end bearing. Install well-oiled o-ring (items #33 and #34) and backup o-rings (items #35 and #36) into grooves in O.D. of piston (item #4). Place o-rings into portions of grooves nearest center of piston in both cases. See Section A-A at right.

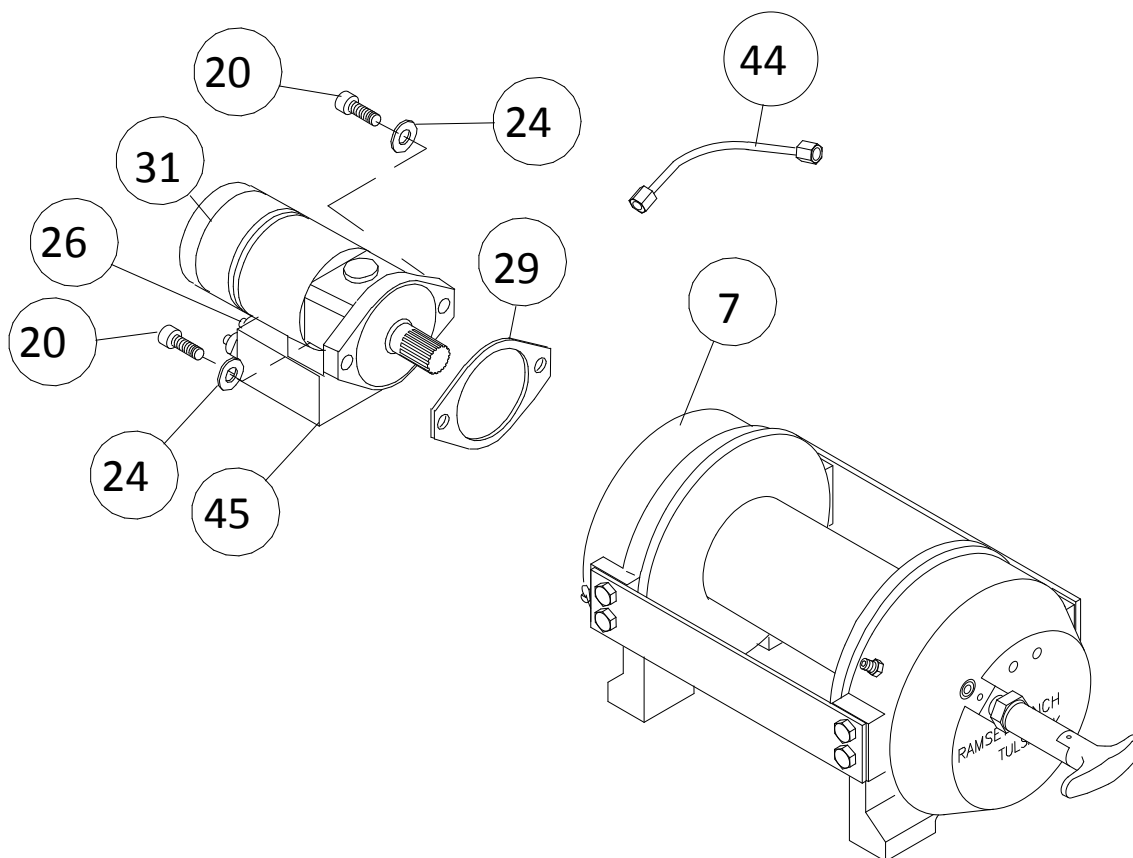
Piston (item #4), brake discs (item #27), and separator plates (item #39) must be clean and free of grease and oil.

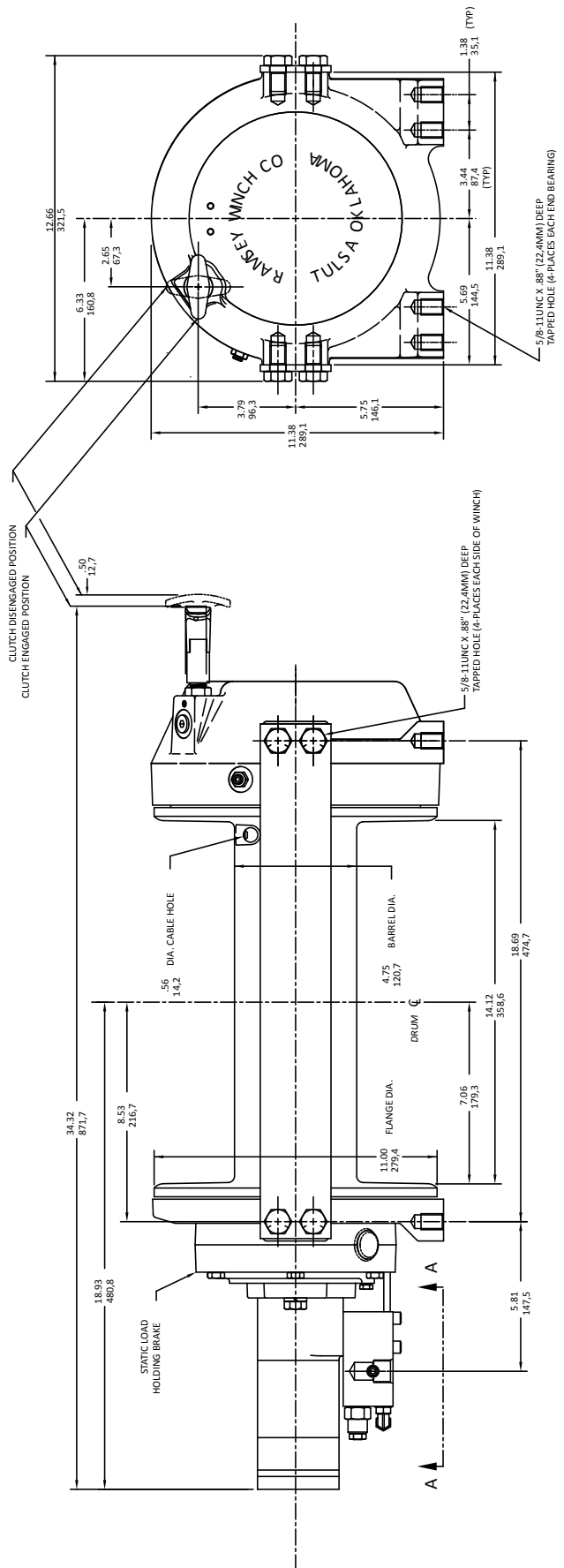
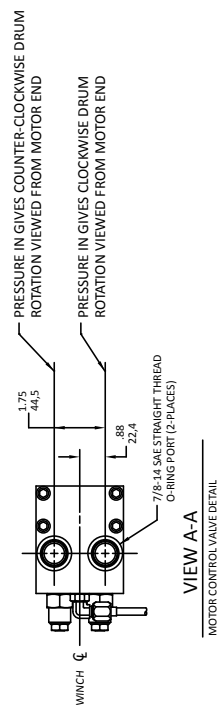
Place piston over pins (item #9) and on top of springs (item #42). Place separator plates (item #39) and brake discs (item #27) alternately on top of piston, as shown. Press larger diameter end of (4) springs (item #43) into pockets in brake housing (item #7). Place gasket (item #28) on top of end bearing (item #4). Place brake housing over brake parts with fitting ports downward toward mounting feet. Align mounting holes and force brake housing down onto end bearing (item #4). Apply 271 Loc-tite to 6 capscrews (item #17) and finger tighten until flush with surface of brake housing. Tighten capscrews (2 turns each) in a criss-cross pattern until a torque of 30 ft-lbs. for each capscrew is achieved.



Place gasket (item #29) into position on mounting surface of motor (item #31). Slide motor shaft into coupling and attach motor to brake housing (item #7). Use (2) capscrews (item #20) with lockwashers (item #24) and torque to 87 ft.-lbs. (118 Nm) each. Securely connect tube (item #44) to elbows (item #26) in valve (item #45) and in bottom of brake housing.

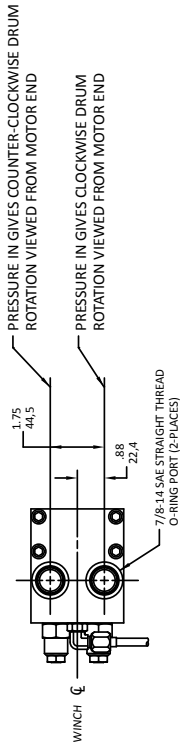
Apply at least 550 PSI hydraulic pressure to release brake and verify that brake releases by observing that the winch drum rotates.





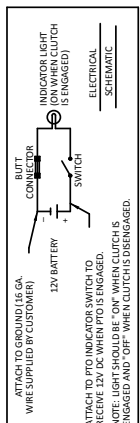
DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS

MODEL RPH-15,000 WITH MANUAL CLUTCH SHIFTER



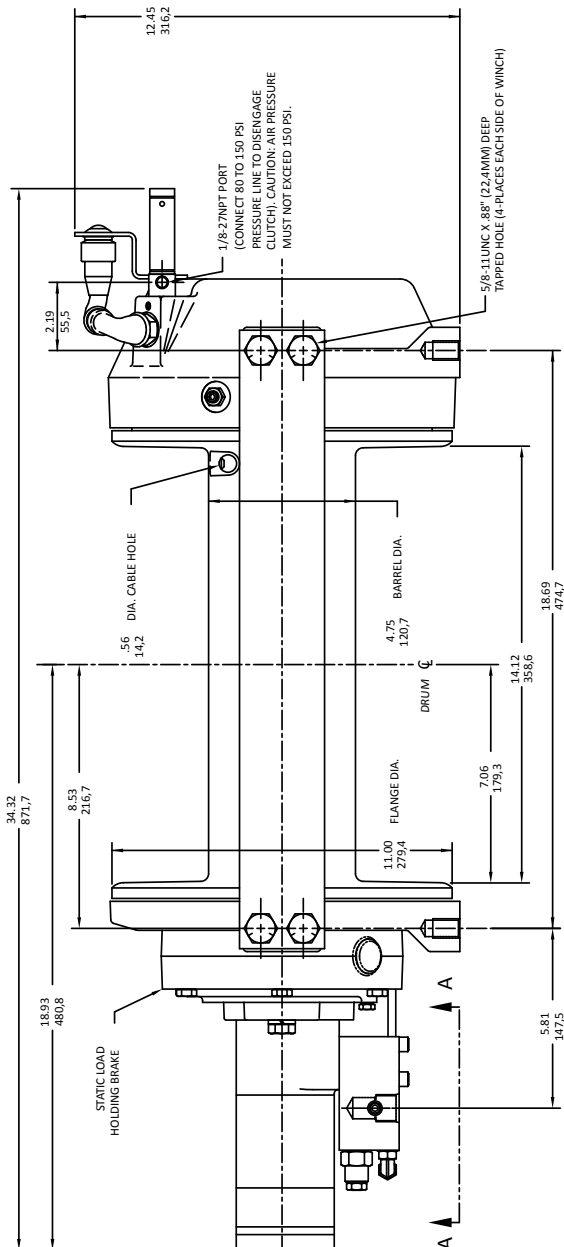
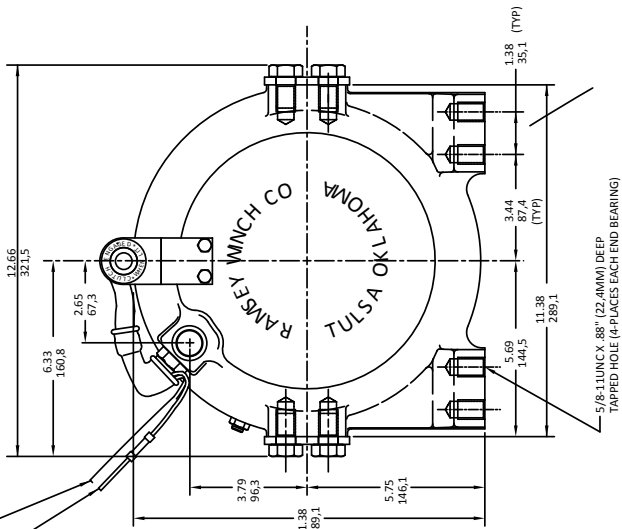
VIEW A-A

MOTOR CONTROL VALVE DETAIL



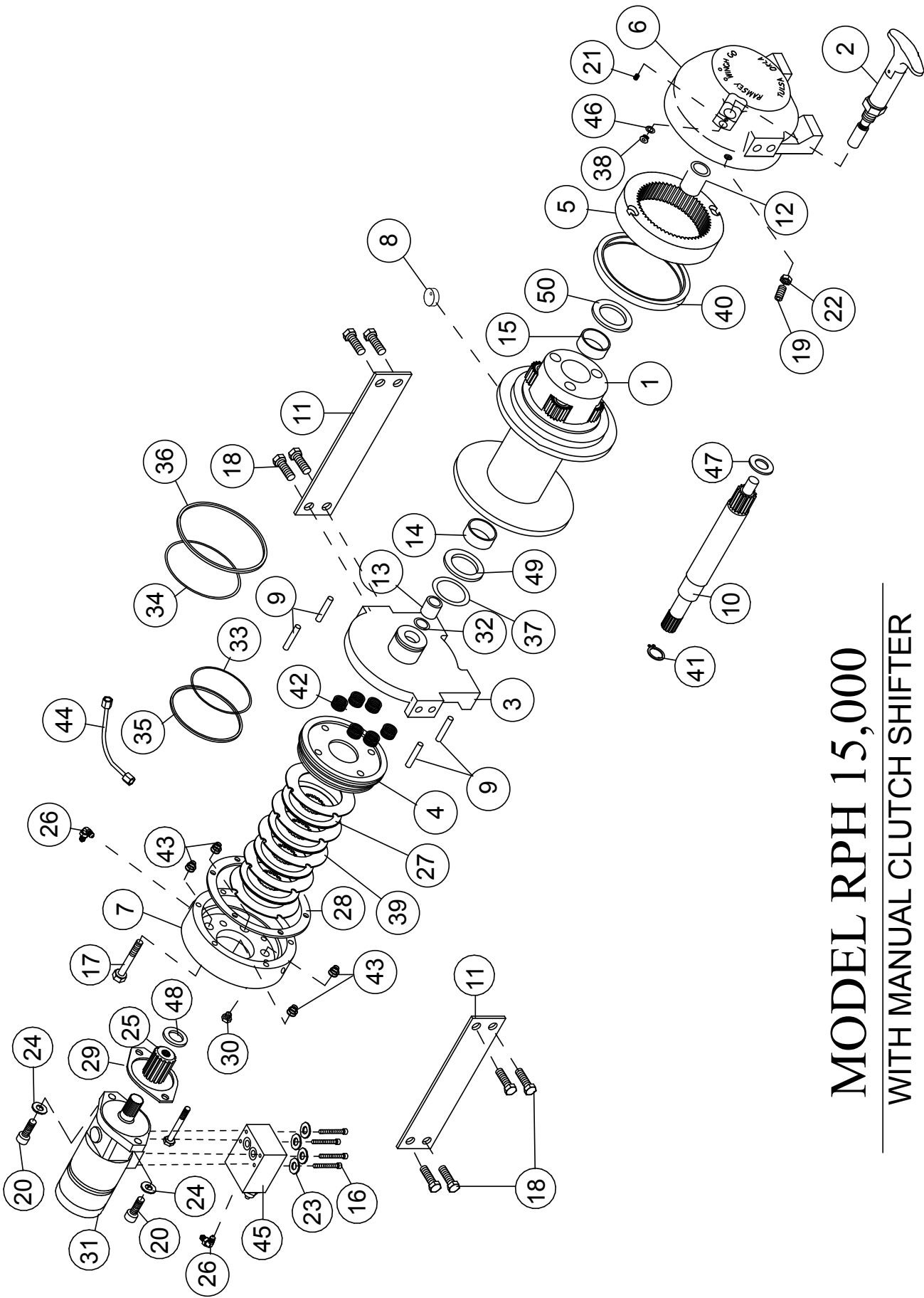
ATTACH TO 12V DC (+)
(SEE ELECTRICAL SCHEMATIC)

ATTACH TO GROUND (SEE
ELECTRICAL SCHEMATIC)



DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS

MODEL RPH-15,000 WITH AIR SHIFTER



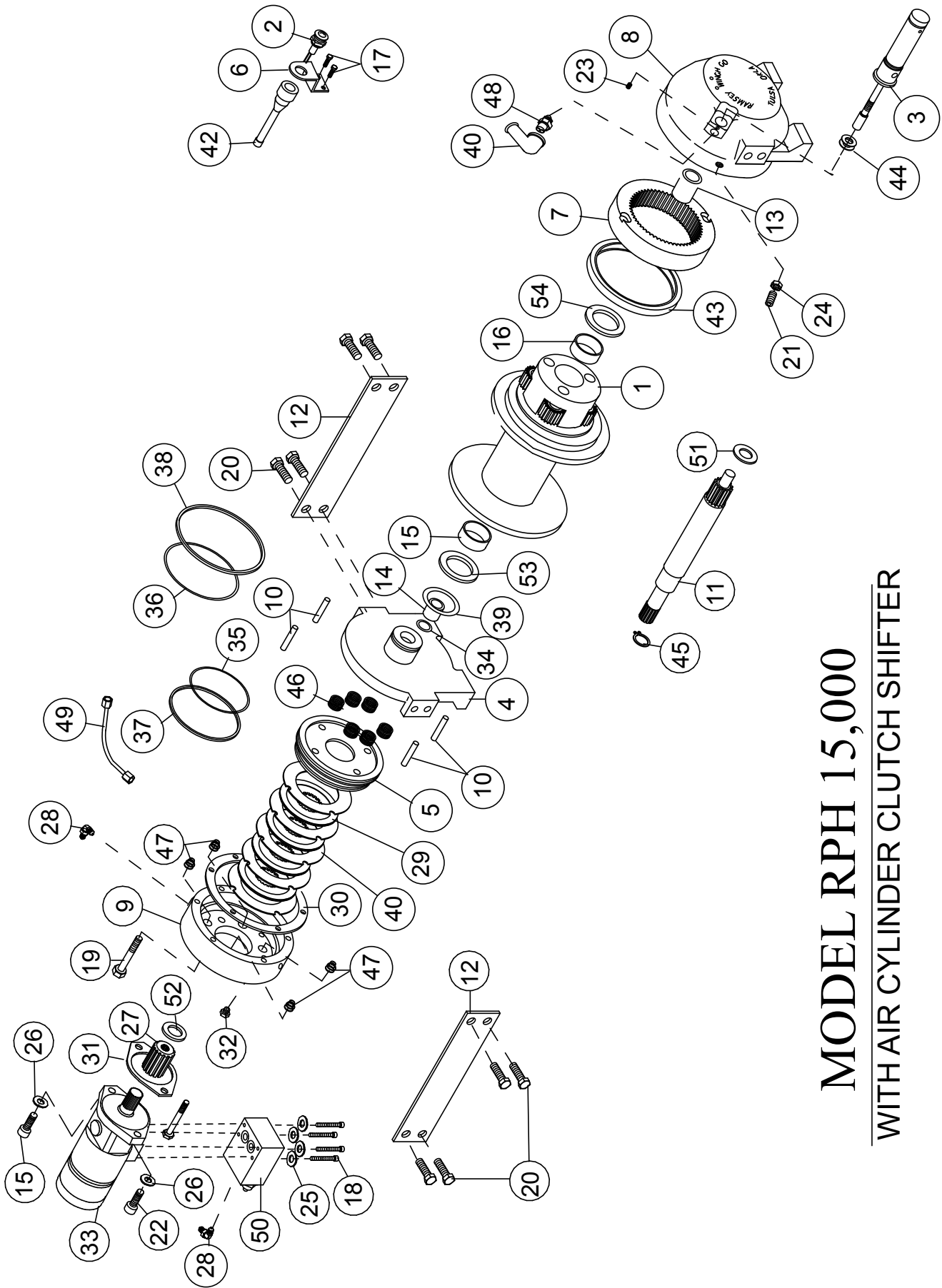
MODEL RPH 15,000

WITH MANUAL CLUTCH SHIFTER

PARTS LIST - RPH 15000 WITH MANUAL CLUTCH SHIFTER

ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	234173	STD. DRUM ASS'Y.	25	1	431015	COUPLING - BRAKE
2	1	234226	SHORT DRUM ASS'Y. SHIFTER ASS'Y.	26	2	432018	FITTING - 7/16 ELBOW
3	1	276052	GEAR-RING	27	4	438022	DISC - BRAKE
4	1	338345	HOUSING - GEAR, END BEARING H	28	1	442220	GASKET - BRAKE
5	1	306042	PISTON - BRAKE	29	1	442223	GASKET - MOTOR
6	1	334177	PIN - BRAKE	30	1	456038	FITTING - VENT
7	1	338414	END BRG-GEAR HSG.	31	1	458090	MOTOR-HYDRAULIC
8	1	338302	HSG-BRAKE, RP	32	1	462056	O-RING
9	4	315009	ROPE ANCHOR*	33	1	462057	O-RING
10	4	346045	PIN - BRAKE	34	1	462058	O-RING
11	1	357518	SHAFT - INPUT (STD. DRUM)	35	1	462059	O-RING
12	1	357521	SHAFT - INPUT (SHORT DRUM)	36	1	462060	O-RING
13	2	395236	TIE PLATE (SHORT DRUM) BEARIN	37	1	462061	O-RING (Drum)
14	2	474224	TIE PLATE (SHORT DRUM) BEARIN	38	1	472052	PLUG
15	1	402120	BEARING - MOTOR END BEARING	39	5	474111	PLATE SEPARATOR
16	1	402121	BEARING - MOTOR END BEARING	40	1	486101	SEAL-GEAR HSG
17	1	412095	BUSHING - DRUM (MTR. END)	41	1	490037	SNAP RING
18	1	412096	BUSHING - DRUM (G.HSG. END)	42	6	494110	SPRING BRAKE
19	4	414159	CAPSCREW - 5/16-18 X 1-1/2 LG H	43	4	494112	SPRING BRAKE
20	6	414303	CAPSCREW - 3/8-16NC X 2-1/2 LG.	44	1	509009	TUBE ASSEMBLY
21	8	414664	CAPSCREW - 5/8-11NC X 1 LG. HX.	45	1	516013	VALV-MOTOR CONTROL
22	1	414926	SETSCREW - 3/8-16NC X 1 LG., SC	46	1	518037	THRUST WASHER
23	2	414948	CAPSCREW - 1/2-13NC X 1-1/4 LG	47	1	518047	THRUST WASHER
24	1	416016	SETSCREW - 1/4-20NC	48	1	518052	THRUST WASHER
	1	418036	NUT 3/8 - 16NC HEX. JAM	49	1	518053	THRUST WASHER (MTR. END)
	4	418063	LOCKWASHER - 5/16 MED SECT Z	50	1	518054	THRUST WASHER (G. HSG. END)
	2	418218	LOCKWASHER - 1/2 ID MED. SECT.				

* 315009 TO BE USED ON SHORT DRUM



MODEL RPH 15,000

WITH AIR CYLINDER CLUTCH SHIFTER

PARTS LIST - RPH 15000 WITH AIR-CYLINDER CLUTCH SHIFTER

ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	234173	STD. DRUM ASS'Y.	27	1	431015	COUPLING - BRAKE
	1	234200	SHORT DRUM ASS'Y. SHIFTER ASS'	28	2	432018	FITTING - 7/16 ELBOW
2	1	236020	LIGHT ASSY	29	4	438022	DISC - BRAKE
3	1	276053	SHIFTER ASSY. - AIR	30	1	442220	GASKET - BRAKE
4	1	338345	END BEARING - MOTOR	31	1	442223	GASKET - MOTOR
5	1	306042	PISTON - BRAKE	32	1	456038	FITTING - VENT
6	1	312526	BRACKET - LIGHT MTG.	33	1	458090	MOTOR-HYDRAULIC
7	1	334177	GEAR-RING	34	1	462056	O-RING
8	1	338414	HOUSING -GEAR, END BEARING	35	1	462057	O-RING
9	1	338302	HOUSING - BRAKE	36	1	462058	O-RING
10	4	346045	PIN - BRAKE	37	1	462059	O-RING
11	1	357518	SHAFT - INPUT (STD. DRUM)	38	1	462060	O-RING
	1	357521	SHAFT - INPUT (SHORT DRUM)	39	1	462061	O-RING (Drum)
12	2	395236	TIE PLATE (STD. DRUM) BEARING	40	5	474111	PLATE SEPARATOR
	2	474224	TIE PLATE (SHORT DRUM) BEARIN	41	1	482013	GROMMET
13	1	402120	BEARING	42	1	482045	RUBBER BOOT
14	1	402121	BEARING - MOTOR END BEARING	43	1	486101	SEAL - GEAR HSG
15	1	412095	BUSHING - DRUM (MTR. END)	44	2	488007	SHIM
16	1	412096	BUSHING - DRUM (G.HSG. END)	45	1	490037	SNAP RING
17	2	414036	CAPSCREW - 5/16-18 X 1-1/2 LG F	46	6	494110	SPRING BRAKE
18	4	414159	CAPSCREW - 3/8-16NC X 2-1/2 LG.	47	4	494112	SPRING BRAKE
19	6	414303	CAPSCREW - 5/8-11NC X 1 LG. HX.	48	1	504021	SWITCH ASSY
20	8	414664	SETSCREW - 3/8-16NC X 1 LG., S	49	1	509009	TUBE ASSEMBLY
21	1	414926	CAPSCREW - 1/2-13NC X 1-1/4 LG	50	1	516013	VALV-MOTOR CONTROL
22	1	414948	SETSCREW - 1/4-20NC	51	1	518047	THRUST WASHER
23	2	416016	NUT 3/8 - 16NC HEX. JAM	52	1	518052	THRUST WASHER
24	1	418036	LOCKWASHER - 5/16 MED SECT 2	53	1	518053	THRUST WASHER (MTR. END)
25	4	418063	LOCKWASHER - 1/2 ID MED. SECT	54	1	518054	THRUST WASHER (G. HSG. END)
26	2	418218	LOCKWASHER - 1/2 ID MED SECT.	55	1	351009	ROPE ANCHOR *

* 315009 TO BE USED ON SHORT DRUM

LIMITED WARRANTY

RAMSEY WINCH warrants each new RAMSEY Winch to be free from defects in material and workmanship for a period of one (1) year from date of purchase.

The obligation under this warranty, statutory or otherwise, is limited to the replacement or repair at the Manufacturer's factory, or at a point designated by the Manufacturer, of such part that shall appear to the Manufacturer, upon inspection of such part, to have been defective in material or workmanship.

This warranty does not obligate RAMSEY WINCH to bear the cost of labor or transportation charges in connection with the replacement or repair of defective parts, nor shall it apply to a product upon which repair or alterations have been made, unless authorized by Manufacturer, or for equipment misused, neglected or which has not been installed correctly.

RAMSEY WINCH shall in no event be liable for special or consequential damages. RAMSEY WINCH makes no warranty in respect to accessories such as being subject to the warranties of their respective manufacturers.

RAMSEY WINCH, whose policy is one of continuous improvement, reserves the right to improve its products through changes in design or materials as it may deem desirable without being obligated to incorporate such changes in products of prior manufacture.

If field service at the request of the Buyer is rendered and the fault is found not to be with RAMSEY WINCH's product, the Buyer shall pay the time and expense to the field representative. Bills for service, labor or other expenses that have been incurred by the Buyer without approval or authorization by RAMSEY WINCH will not be accepted. See warranty card for details.



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