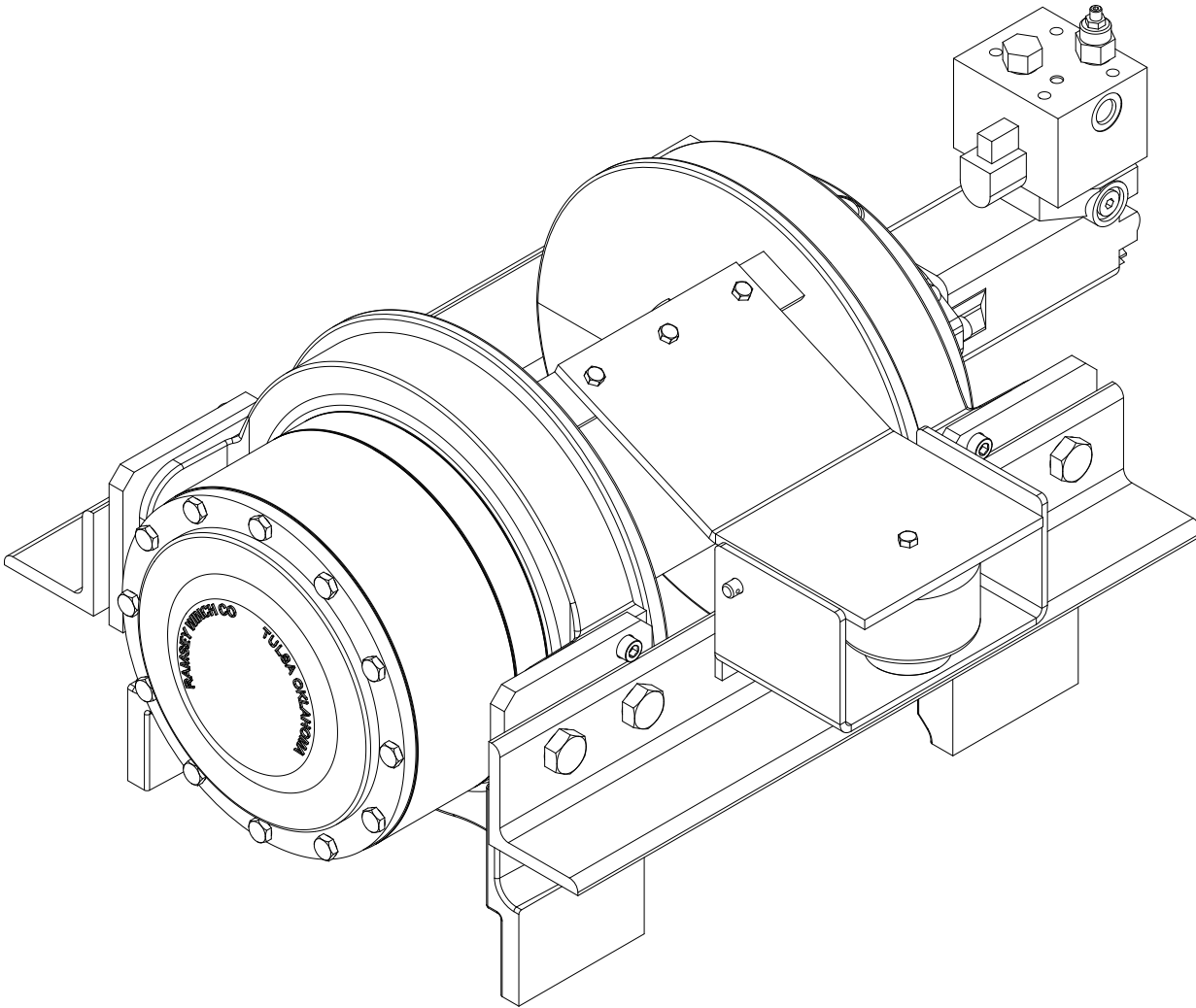




# OPERATING, SERVICE AND MAINTENANCE MANUAL



## MODEL HD-P40,000 INDUSTRIAL PLANETARY WINCH WITH AIR TENSIONER AND 2 SPEED MOTOR



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

# TABLE OF CONTENTS

INTRODUCTION .....	1
WARRANTY INFORMATION .....	1
SPECIFICATIONS .....	1
WARNINGS .....	1
HYDRAULIC SYSTEM REQUIREM .....	2
PERFORMANCE CHARTS .....	2
WINCH OPERATION .....	3
CLUTCH OPERATION .....	3
CABLE INSTALLATION .....	3
MAINTENANCE .....	4
TROUBLE SHOOTING GUIDE .....	4
INSTRUCTIONS FOR OVERHAUL .....	5-9
MOUNTING CONFIGURATIONS .....	10
DIMENSIONAL DRAWING .....	11
PARTS LIST AND PART DRAWING .....	13-16
LIMITED WARRANTY .....	Last Page

# RAMSEY HYDRAULIC PLANETARY WINCH

## MODEL HD-P40,000

### PLEASE READ THIS MANUAL CAREFULLY

This manual contains useful ideas in 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 "WARNINGS" 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 our winch, please follow instructions for prompt service on all warranty claims. Refer to back page for limited warranty.

### SPECIFICATIONS\* (LOW SPEED MODE)

Rated Line Pull (lbs.).....		40,000					
(Kgs.).....		18,100					
Gear Reduction.....		51.35:1					
Weight (without cable).....		740 lb. (336.36 Kgs.)					
LAYER OF CABLE		1	2	3	4	5	6
*Rated line pull per layer	Lbs. Kg.	40,000 18,100	33,500 15,100	28,800 13,000	25,300 11,400	22,500 10,200	20,300 9,200
*Cable capacity	Ft. M.	25 7	55 16	95 28	135 41	185 56	235 71
*Line speed (low) (at 25 GPM)	FPM MPM	24 7.2	28 8.5	32 9.7	36 10.9	40 12.1	44 13.3
* These specifications are based on recommended wire rope .75" dia. EIPS and 9.6 cu.in./Rev. motor at 2800 psi working pressure. * Directional control valve: 3-position, 4 way motor spool. * Winch meets SAE J706.							

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

### **WARNINGS:**

CLUTCH MUST BE TOTALLY ENGAGED BEFORE STARTING THE WINCHING OPERATION.

DO NOT START WINCH MOTOR BEFORE ENGAGING CLUTCH.

DO NOT DISENGAGE CLUTCH UNDER LOAD.

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 PEOPLE.

A MINIMUM OF 5 WRAPS OF CABLE AROUND THE DRUM BARREL IS NECESSARY TO HOLD THE LOAD.

CABLE ANCHOR IS NOT DESIGNED TO HOLD LOAD.

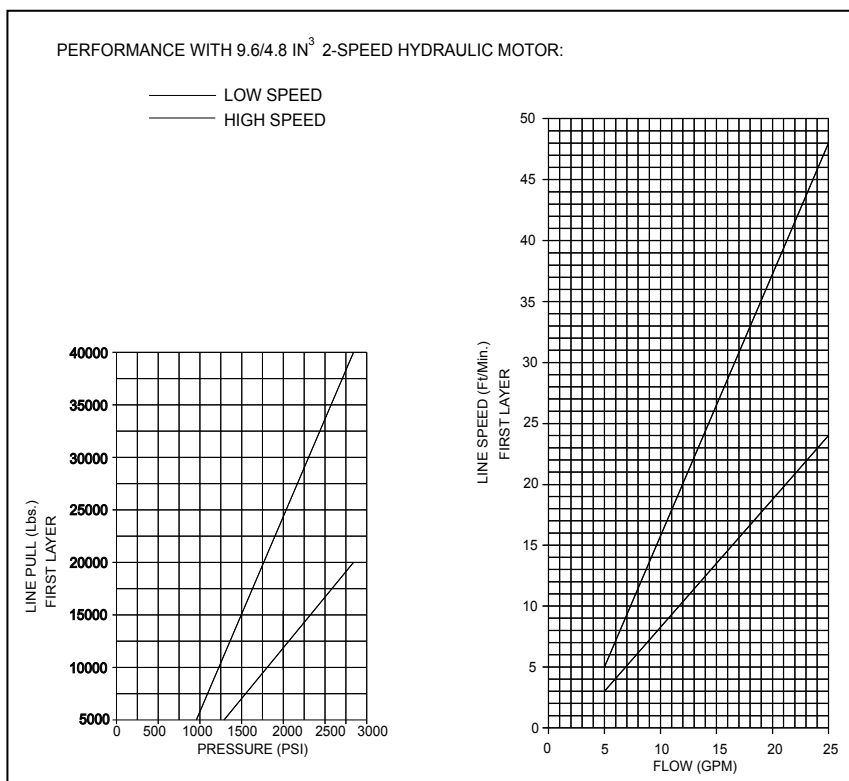
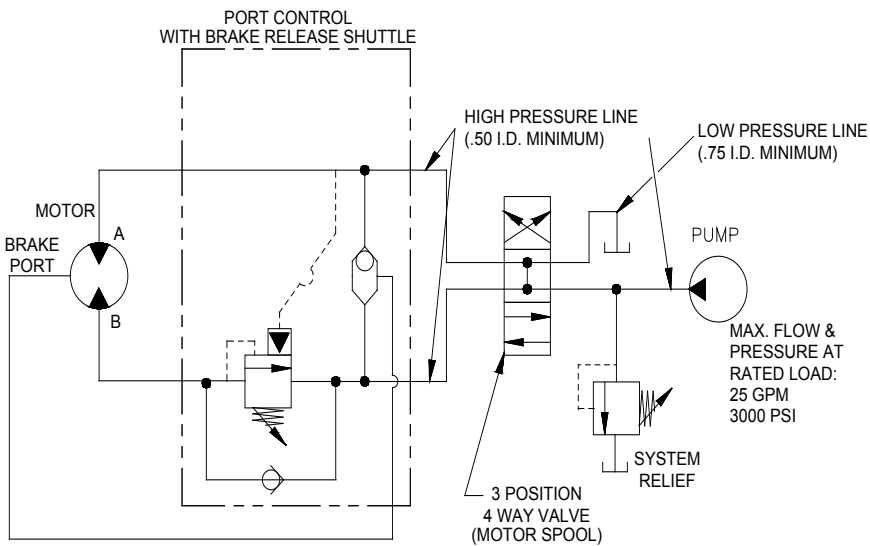
# HYDRAULIC SYSTEMS REQUIREMENTS

## HYDRAULIC SYSTEM REQUIREMENTS

Refer to the performance charts to properly match your hydraulic system to HDP-40000 winch performance. The charts consist of:

- (1) Line pull (lb.) first layer vs. working pressure (PSI) and (2) Line speed (FPM) first layer vs. flow (GPM). Performance is based on a motor displacement of 9.6 cubic inches with 25 GPM maximum flow rate. See page 10 for motor port size.

## TYPICAL LAYOUT



# WINCH OPERATION

## WINCH OPERATION

The best way to get acquainted with how your winch operates is to make test runs before you use it. Plan your test in advance. Remember, you hear your winch, as well as see it operate. Learn to recognize the sounds of a light steady pull, a heavy pull, and sounds caused by load jerking or shifting. Gain confidence in operating your winch and its use will become second nature with you.

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.

## CLUTCH OPERATION

To engage clutch:

1. Move the clutch control valve to the “clutch engaged” position.
2. Anytime the temperature is below freezing, run the motor in the “cable out” direction only until the drum starts to turn. In extreme cold temperatures (below 0° F/-18° C), pull out on the cable by hand only until the drum starts to turn.
3. Wait at least 3 seconds for the clutch to fully engage, after which the winch is ready to winch in the cable.

**WARNING:** Do not attempt to engage the clutch by first running the winch motor and then moving the clutch control valve to the “clutch-engaged” position while the motor is running. Do not start picking up the load at the same time the clutch is being engaged.

To disengage clutch:

1. Run the winch in the “cable out” direction until the load is off the cable.
2. Move the clutch control valve to the “clutch-disengaged” position.
3. The cable may now be pulled off by hand.

## CABLE INSTALLATION

1. Unwind cable by rolling it out along the ground to prevent kinking. Securely wrap end of wire rope, opposite hook, with plastic or similar tape to prevent fraying.
2. Insert the end of cable, opposite hook end, into the hole in drum barrel. Secure cable to drum barrel, using setscrew furnished with winch. **TIGHTEN SETSCREW SECURELY.**
3. Carefully run the 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.

# MAINTENANCE

## MAINTENANCE

Adhering to the following maintenance schedule will keep your winch in top condition and performing as it should with a minimum of repair.

### A. WEEKLY

1. Check the oil level and maintain it to the oil level plug. If oil is leaking out, determine location and repair.
2. Check the pressure relief plug in the gear housing cover. Be sure that it is not plugged.
3. Lubricate cable with light oil.

### B. MONTHLY

1. Check the winch mounting bolts. If any are missing, replace them and securely tighten any that are loose. Use grade 5 or better bolts.
2. Inspect the cable. If the cable has become frayed with broken strands, replace immediately.

### C. ANNUALLY

1. Drain the oil from the winch annually or more often if winch is used frequently.
2. Fill the winch to the oil level plug with clean kerosene. Run the winch a few seconds with no load in the reel in direction. Drain the kerosene from the winch.
3. Refill the winch to the oil level plug with all-purpose SAE 75W-90 synthetic gear oil.
4. Inspect frame and surrounding structure for cracks or deformation.

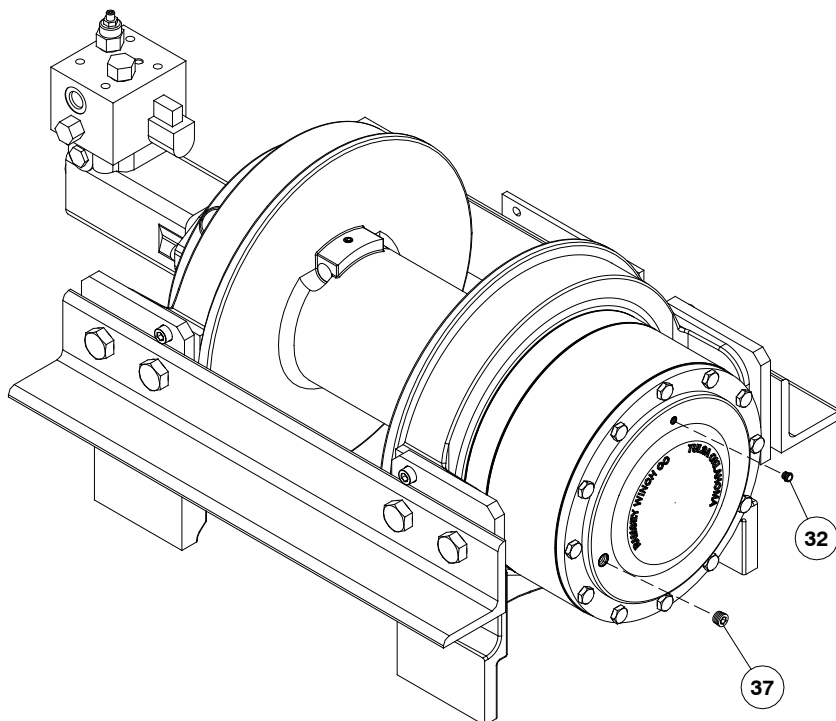
## TROUBLESHOOTING GUIDE

CONDITIONS	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM WINCH	1. Seals damaged or worn.	1. Replace seal.
	2. Too much oil.	2. Drain excess oil. Refer to OPERATION.
	3. Damaged gaskets.	3. Replace gaskets.
WINCH RUNS TOO SLOW	1. Low flow rate	1. Check flow rate. Refer to HYDRAULIC SYSTEMS performance chart page 2.
	2. Hydraulic motor worn out.	2. Replace motor.
CABLE DRUM WILL NOT FREE-SPOOL	1. Clutch not disengaged	1. Check air pressure to clutch cylinder: 100 PSI Minimum required. Refer to page 10 for port location.
BRAKE WILL NOT RELEASE	1. Brake line disconnected or blocked.	1. Check brake function.

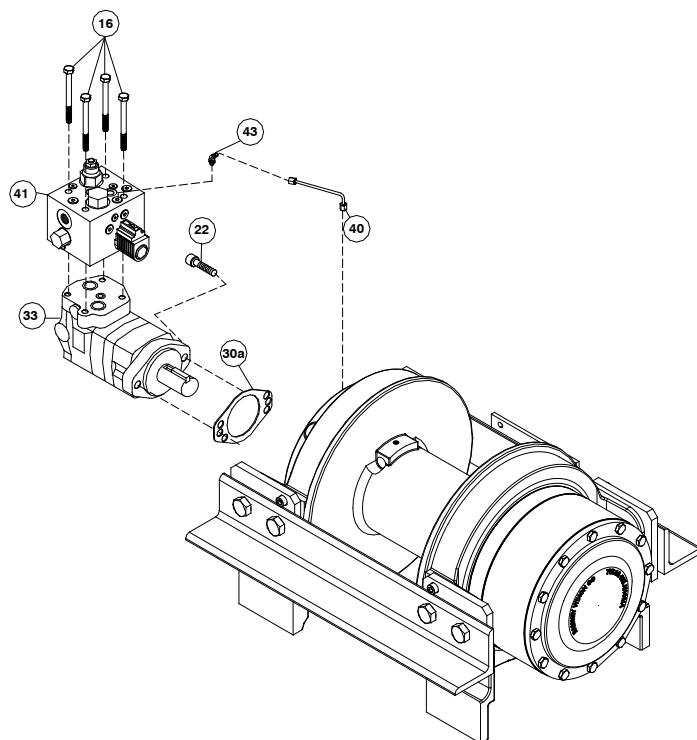
# INSTRUCTIONS FOR OVERHAUL

## DIS-ASSEMBLY

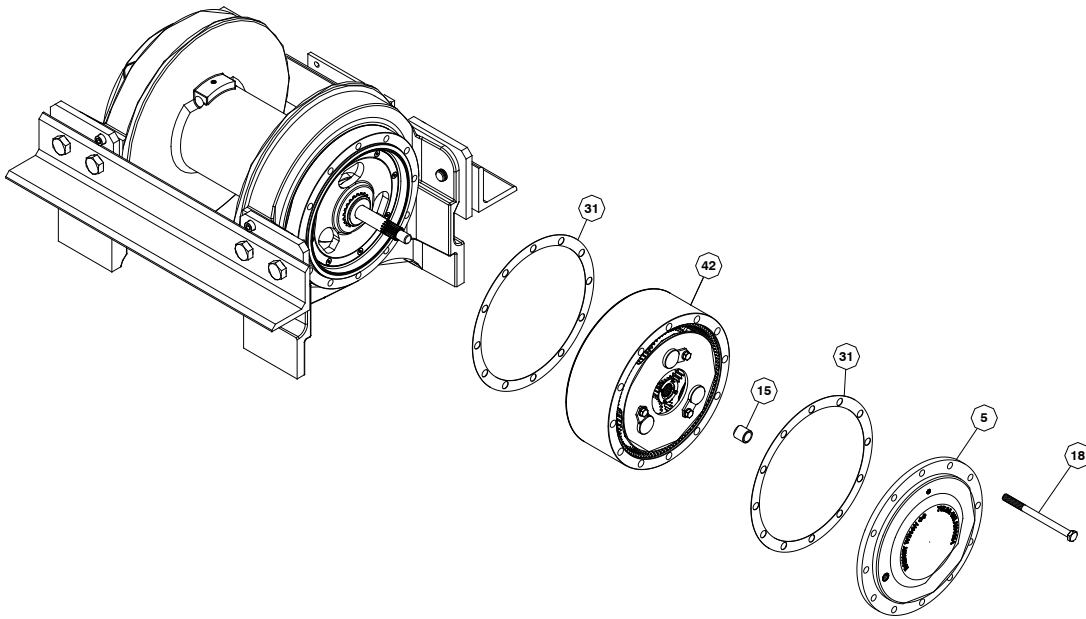
1. Drain oil from gear housing cover by removing pipe plug #37 and relief fitting #32. Remove tensioner assembly.



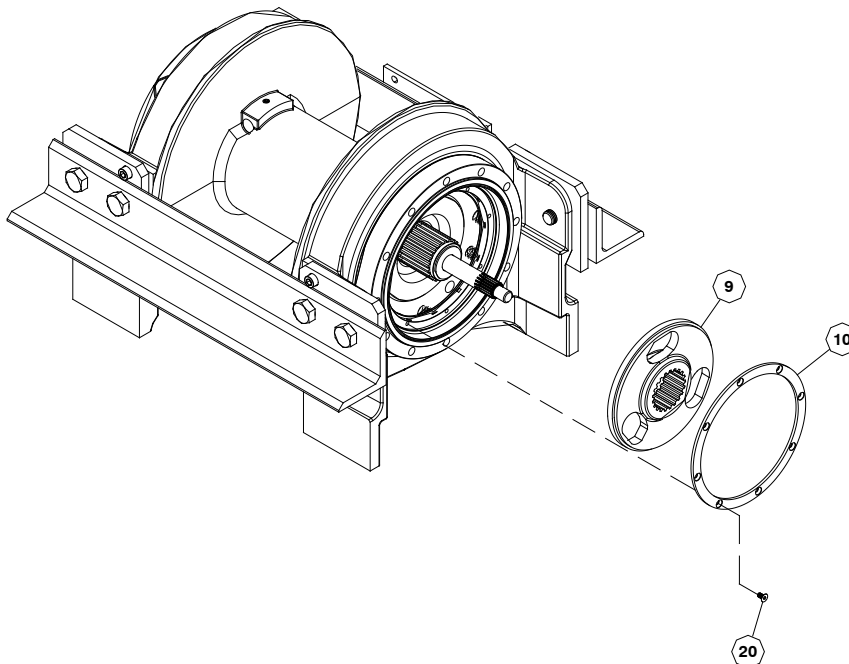
2. Disconnect tube #40 from elbow #43 on valve #41 and fitting #29 on brake #30b. Remove motor #33 and gasket #30a by removing (2) capscrews #22. Remove valve #41, if needed, from motor by loosening (4) capscrews #16.



3. Remove (12) capscrews #18 to remove gear housing cover and gasket from ring gear. Remove input thrust washer, sun gear and input carrier assembly from inside ring gear. Remove ring gear and gasket. Remove output carrier assembly. Inspect gear housing cover bushing #15 for damage or wear. Replace if damaged or excessive wear.

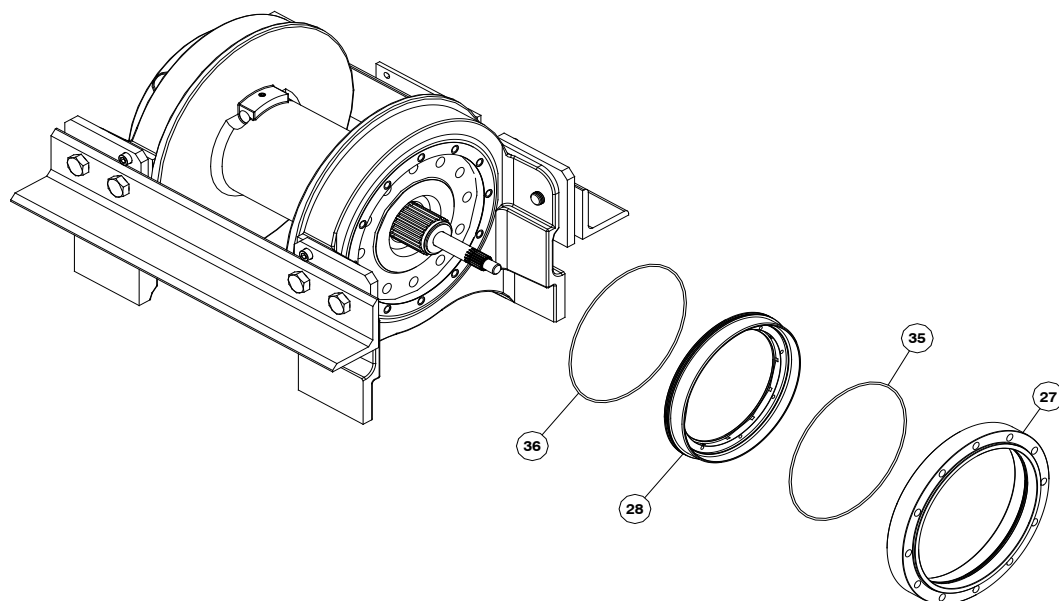


4. Remove (8) capscrews #20 to remove clutch retainer plate #10 from clutch piston. Remove clutch #9.

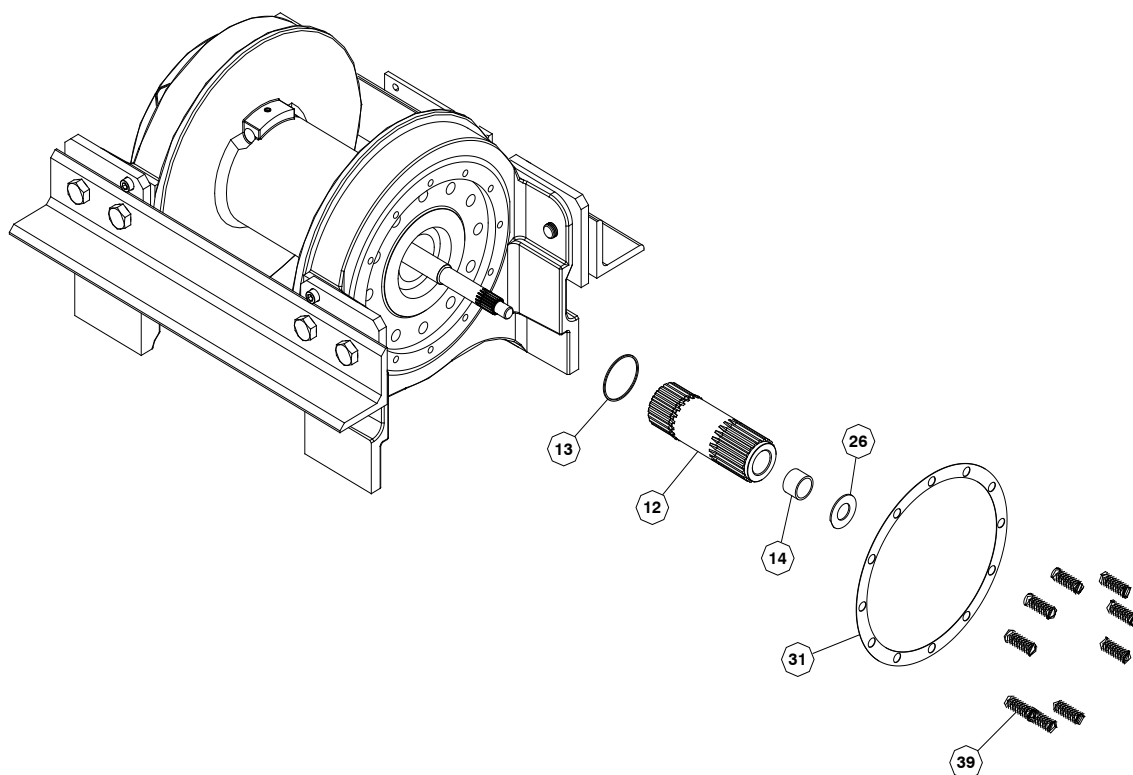




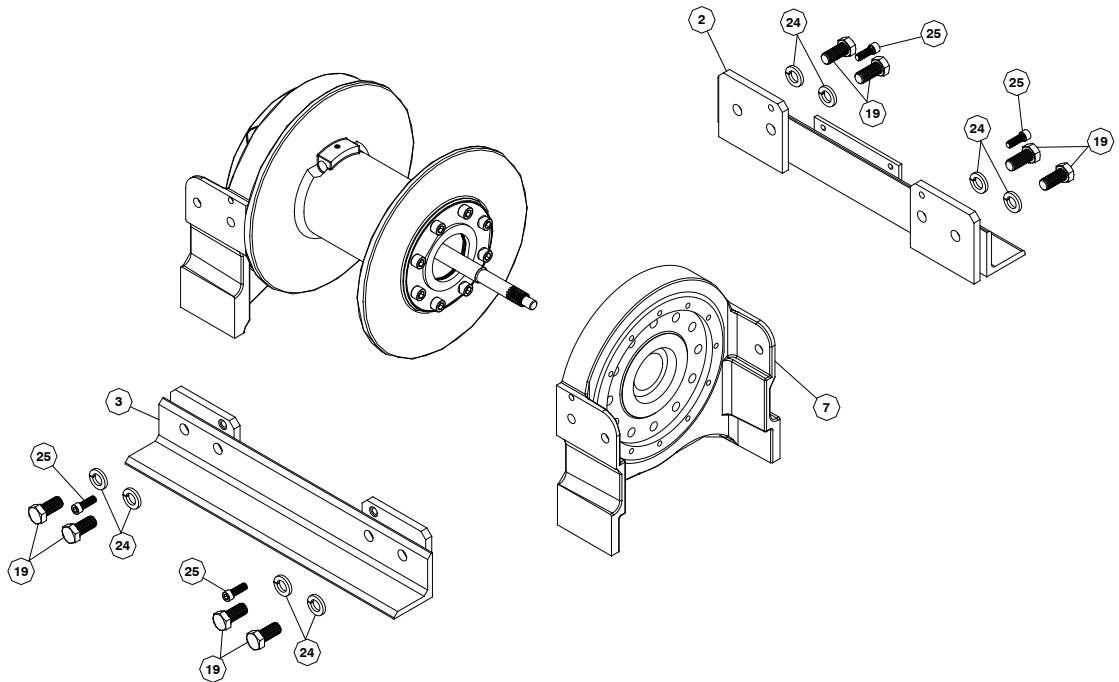
5. Remove clutch housing #27 with piston #28 inside. To remove piston from clutch housing apply air to 1/8" port. Remove o-rings #28 and #35 and inspect for damage or wear.



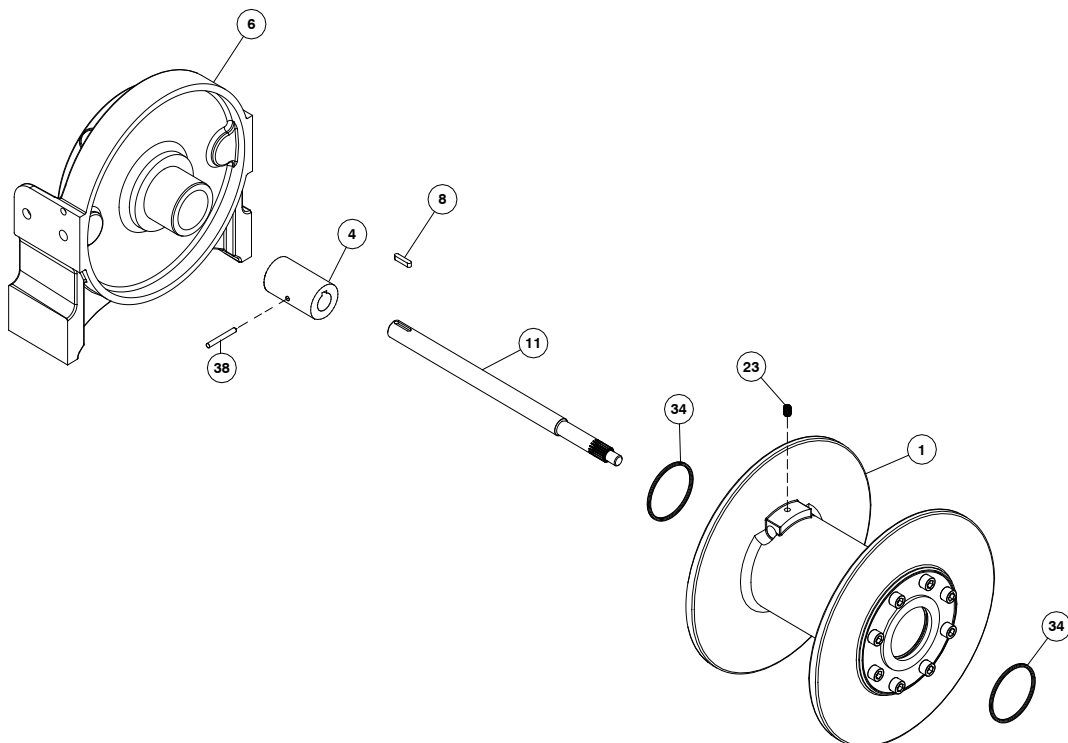
6. Remove (9) springs #39, thrust washer #26, gasket #31, output shaft #12 and spacer #13 from gear end bearing. Inspect output shaft bushing #14 for damage or wear. Replace if damaged or excessive wear.



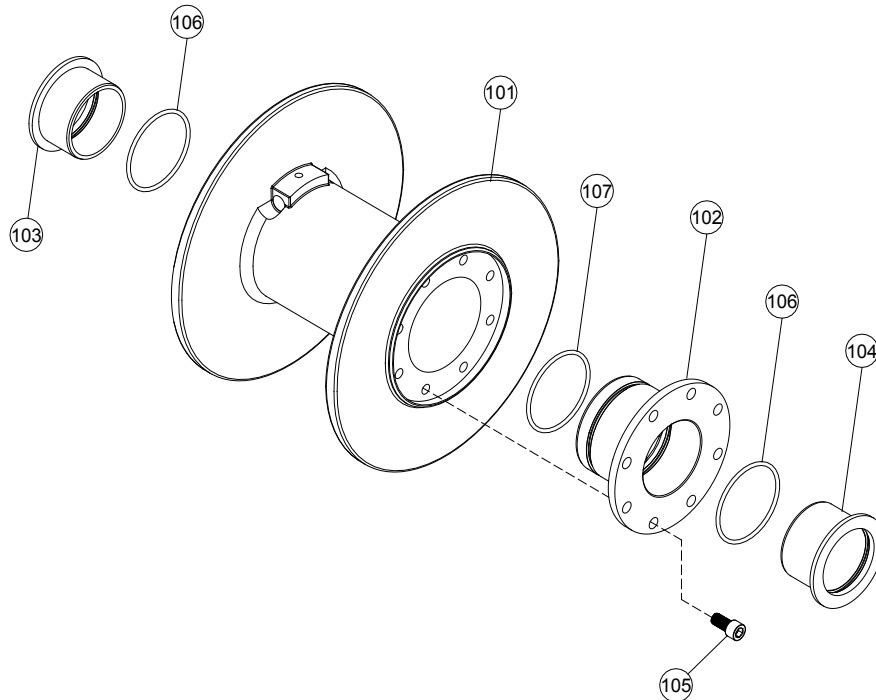
7. Remove winch tie bars #2 and #3 by removing (8) capscrews #19, (8) lock washers # 24, and (4) shoulder bolts #25. Pull gear end bearing #7 from drum assembly #1.



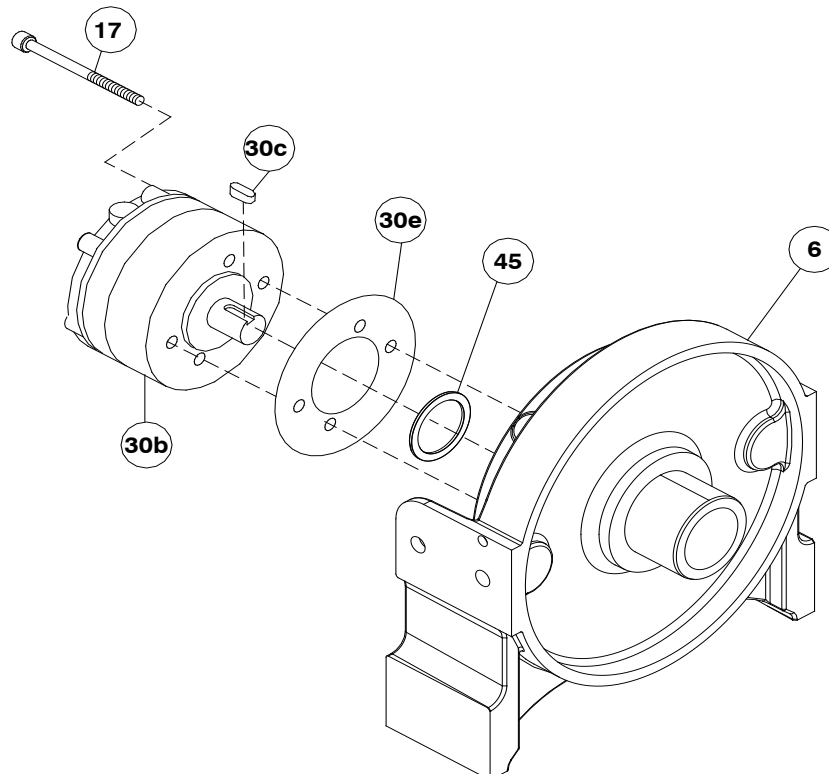
8. Pull drum assembly #1 from end bearing #6. Remove quad-rings #34 from grooves in drum bushings. Remove input shaft #11 and coupling #4 from end bearing. Examine splined ends of input shaft for signs of wear, replace if damaged. Examine drum assembly #1 for signs of wear.



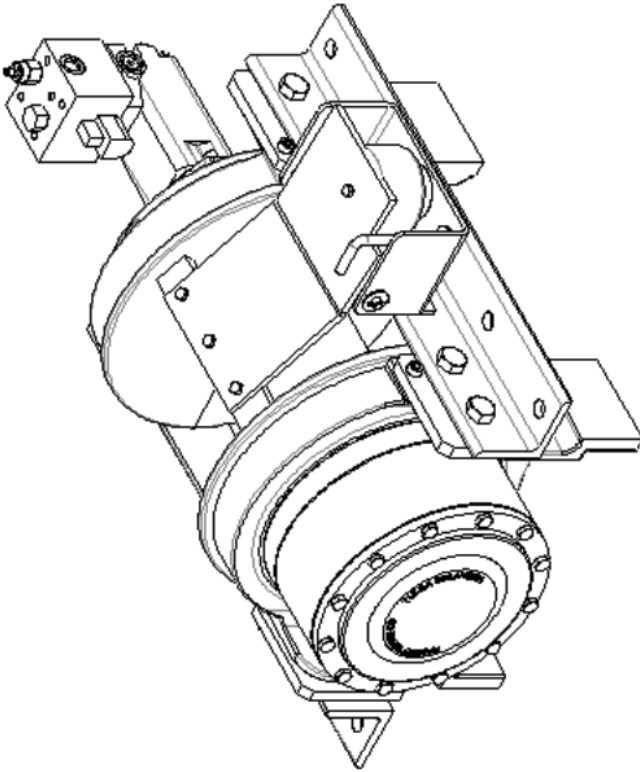
9. If splines inside drum driver #102 are damaged, drum driver must be replaced. Remove drum driver by unscrewing (8) capscrews #105. If bushings show signs of wear, replace by pressing old bushings from drum #101 and removing o-rings from grooves in drum and drum driver. Place well oiled o-rings #106 into driver and drum. Place well oiled o-ring #107 on outside of driver. Press bushings #104 into drum driver until flange is flush and #103 is flush against drum.



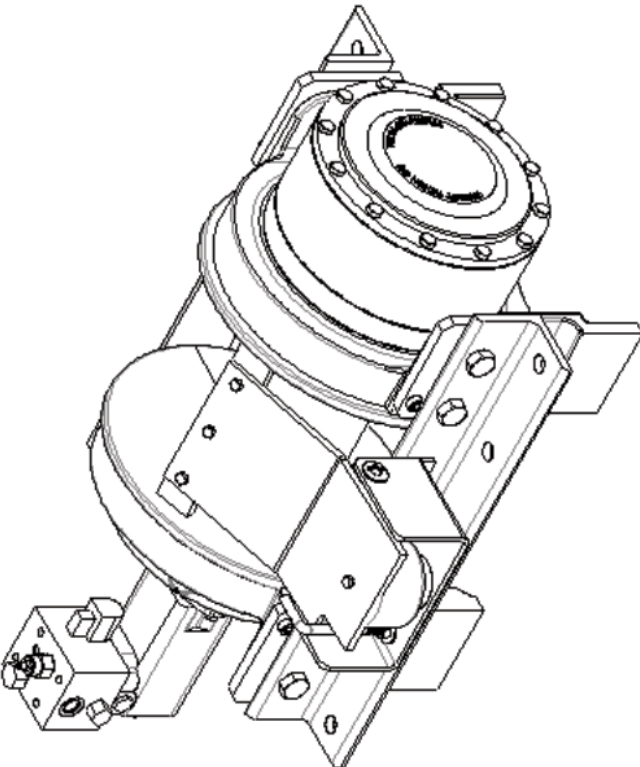
10. Remove brake assembly screws #17 from brake #30b attaching brake to end bearing #6. Remove gasket #30e and retainer plate # 45 from end bearing. Take note of mounting configuration for proper mounting of parts during re-assembly.



# WINCH MOUNTING CONFIGURATION

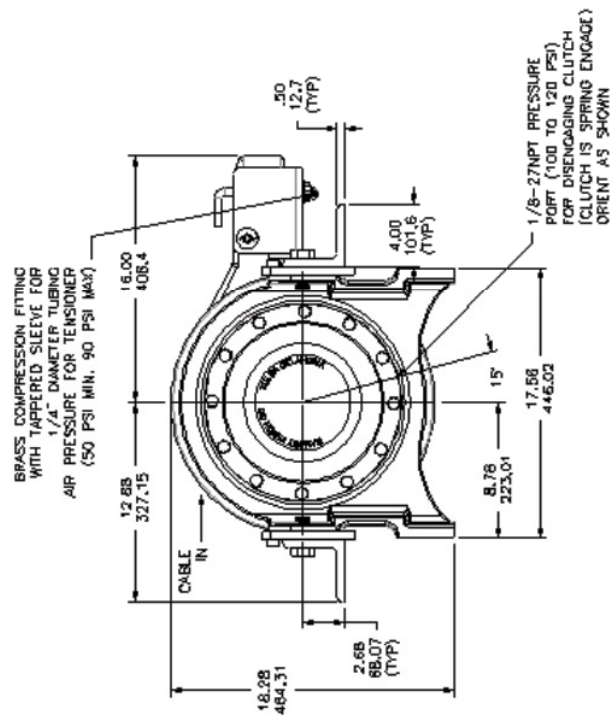
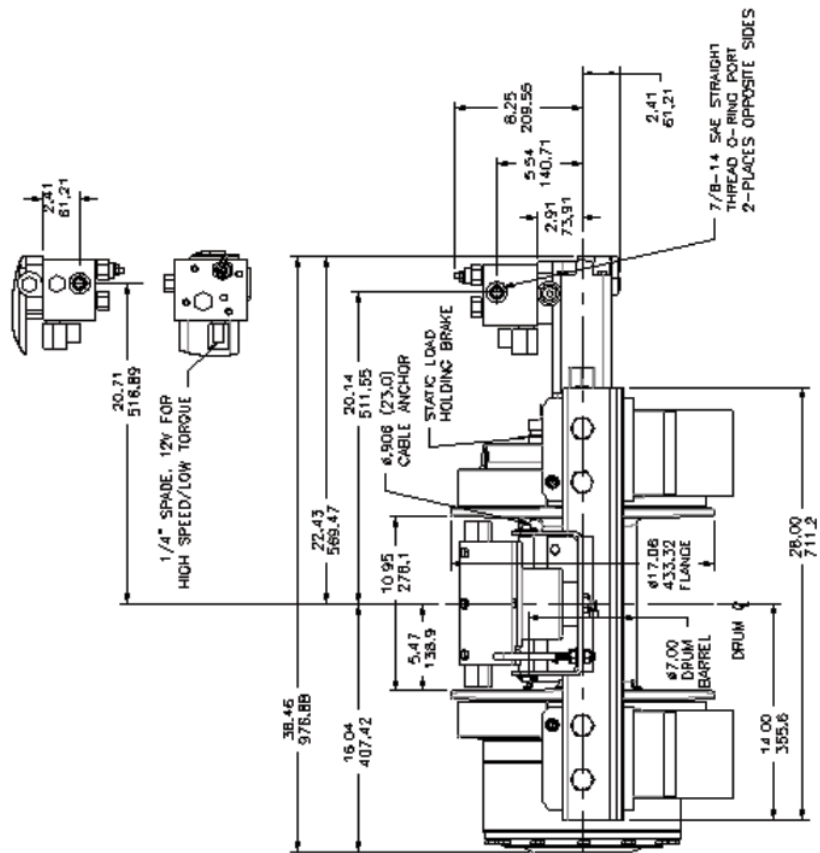


**L.H. MOUNTING  
CONFIGURATION**

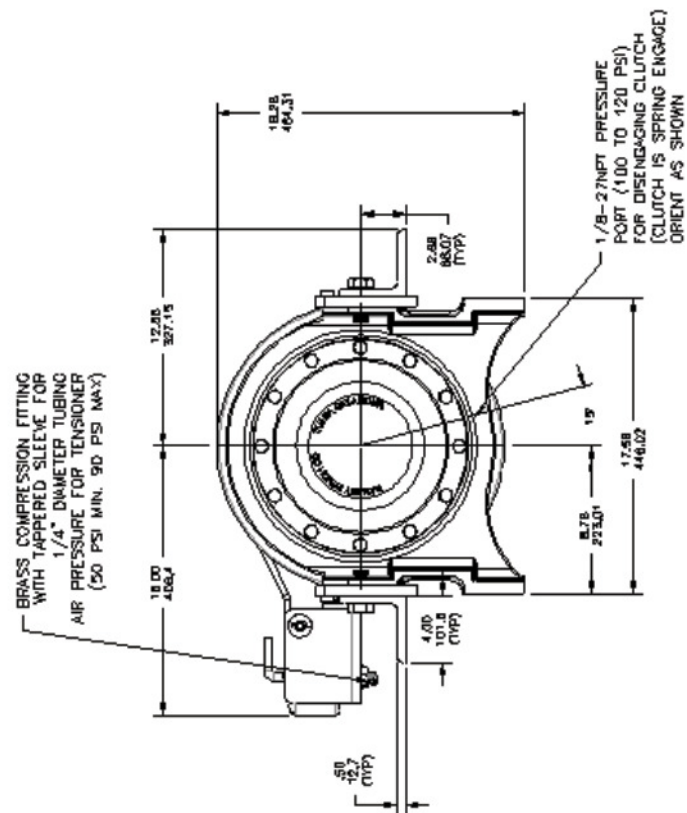
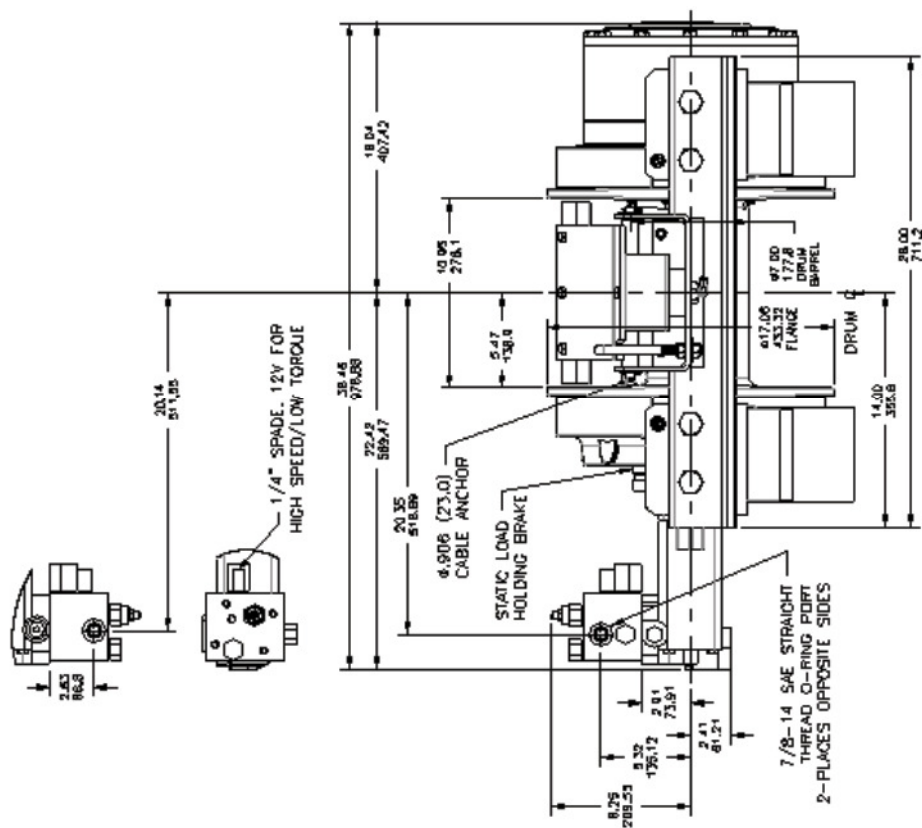


**R.H. MOUNTING  
CONFIGURATION**

## DIMENSIONAL DRAWINGS

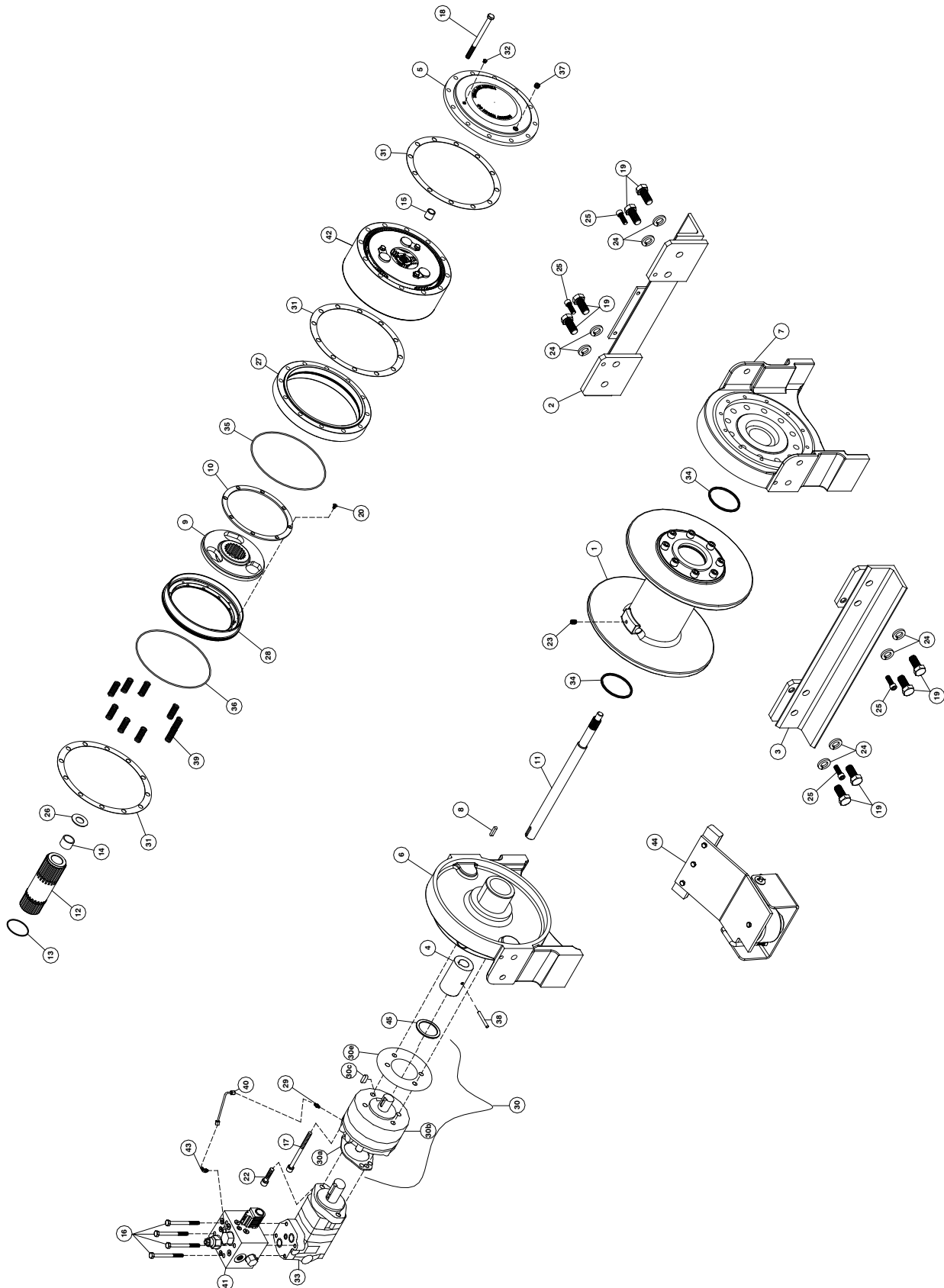


Winch Model HD-P 40,000  
L.H. Configuration shown



Winch Model HD-P 40,000  
R.H. Configuration shown

# HDP 40,000 WINCH



# PARTS LIST - HDP 40,000

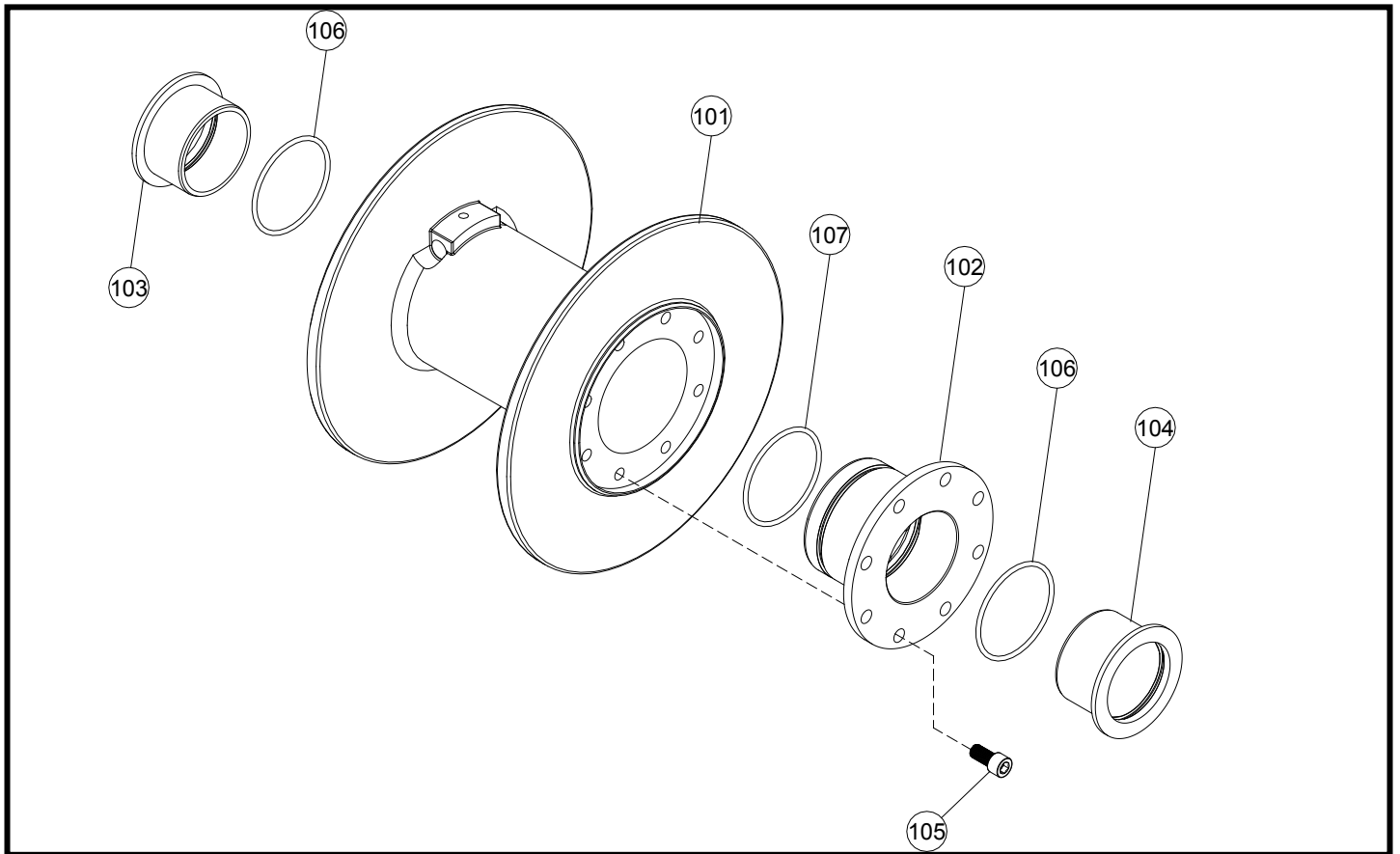
Item No.	Qty	Part No.	Description
1	1	234191	DRUM ASSEMBLY
2	1	243047	MOUNTING ANGLE
3	1	243048	MOUNTING ANGLE
4	1	324284	MOTOR COUPLING
5	1	328180	GEAR HOUSING COVER
6	1	338365	MOTOR END BEARING
7	1	338417	GEAR END BEARING
8	1	342081	KEY
9	1	342517	CLUTCH
10	1	352035	CLUTCH RETAINING RING
11	1	357542	INPUT SHAFT
12	1	357543	OUTPUT COUPLING
13	1	362327	SPACER
14	1	412044	BUSHING
15	1	412105	BUSHING
16	4	414400	CAPSCREW-3/8-24NF X4LG,HXHD,GR-5
17	2	414595	CAPSCREW-1/2-13NC x 3-1/2 LONG, HX SOC HD
18	12	414612	CAPSCREW-1/2-13NCX7 GR5,PLTD
19	8	414784	CAPSCREW-7/8-9NC X 2 LG,HEX HD,GR-5
20	8	414819	BOLT-1/4-20NCX1/2,FLAT SOCHD,ND STP
22	2	414948	CAPSCREW-1/2-13NCX1 1/4LG,SOCKET HD
23	1	416072	SETSCREW-1/2-13NCX3/4LG HXSOCHD CUP
24	8	418261	LOCKWASHER-7/8 MED SECTION,ZINC PLT
25	4	418453	BOLT-SHOULDER, .50 X.75 LG./375-16
26	1	418520	WASHER-THRUST
27	1	426059	CYLINDER
28	1	426060	PISTON
29	1	432023	FITTING
30	1	438044	BRAKE ASSEMBLY
30a	1		MOTOR END GASKET
30b	1		BRAKE
30c	1		KEY
31	3	442210	GASKET
32	1	456008	RELIEF FITTING
33	1	458101	MOTOR
34	2	462040	QUAD RING
35	1	462103	O-RING 2-274
36	1	462104	O-RING 2-275
37	1	468040	PIPE PLUG
38	1	470075	PIN
39	9	494140	SPRING
40	1	509125	TUBE ASSEMBLY
41	1	516035	VALVE-CONTROL ("B" ROTATION)
		516036	VALVE-CONTROL ("A" ROTATION)
42	1	530173	GEARBOX
43	1	432018	FITTING- HYD. 7/16-20 90° ELBOW
44	1	299744	TENSIONER ASSEMBLY
45	1	352036	RETAINER PLATE



# DRUM ASSEMBLY AND PARTS

## DRUM ASSEMBLY - 234191

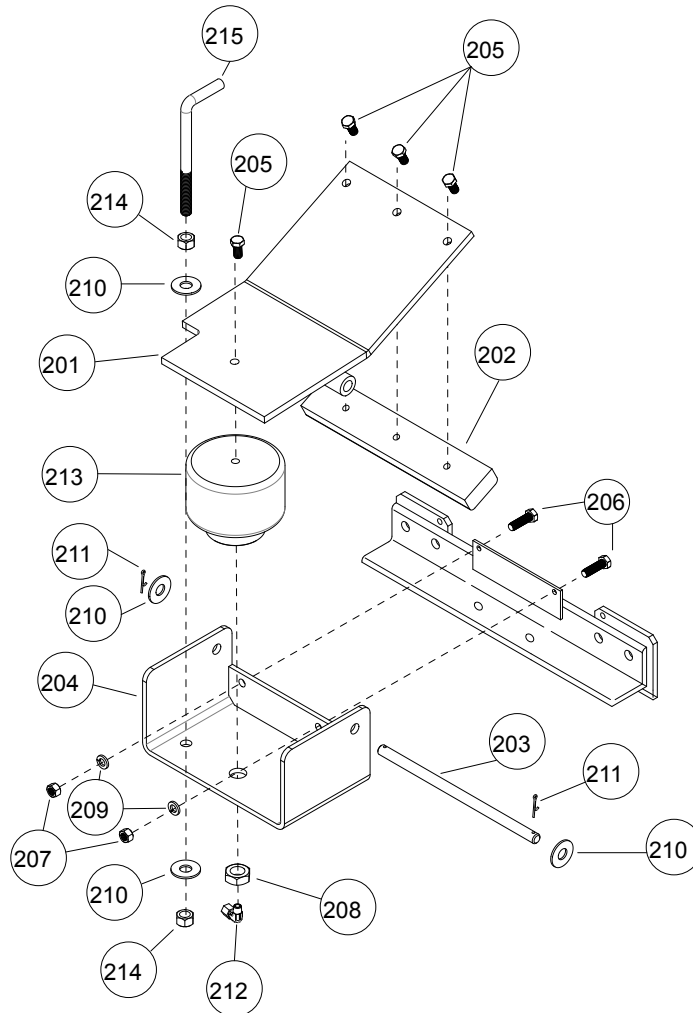
Item No.	Part No.	Quantity	Description
101	332197	1	DRUM-CABLE
102	332226	1	DRIVER-DRUM
103	412078	1	BUSHING-DRUM
104	412079	1	BUSHING-DRUM
105	414978	8	CAPSCREW-5/8-18NC X 1 1/4LG, SOC HD
106	462043	2	O-RING-AS-568-348, 3/16 X 4 3/4 X 4 3/8
107	462075	1	O-RING-AS-568-354, 3/16 X 5 1/2 X 5 1/8



# CABLE TENSIONER / PARTS LIST

## CABLE TENSIONER (OVERWOUND) - 299744

Item No.	Part No.	Quantity	Description
201	265102	1	LEVER ARM
202	304174	1	BAR
203	346046	1	PIVOT PIN
205	408362	1	BRACKET
205	414278	4	CAPSCREW-3/8-16NCX3/4LG,HXHD,GR.5, ZINC PLATED
206	414316	2	CAPSCREW-3/8-16NCX1 1/4,HXHD,GR.5, ZINC PLATED
207	418045	2	NUT-3/8-16NC HEX REG GR.5, ZINC PLATED
208	418098	1	NUT-3/4-16NF HEX JAM
209	418177	2	LOCKWASHER-3/8 MED SECT,ZINC PLATED
210	418223	4	WASHER-1/2 USS FLAT,ZINC PLATED
211	424005	2	COTTER PIN
212	432033	1	FITTING-ELBOW
213	433029	1	ACTUATOR
214	418069	2	NUT - 1/2 - 13 UNC HEX REG, ZINC PLATED
215	420005	1	ANCHOR BOLT BENT, 1/2 - 13 UNC, 2 X 6 IN



# 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.



## RAMSEY WINCH COMPANY

Post Office Box 581510 Tulsa, Oklahoma 74158-1510

Telephone: (918) 438-2760 FAX: (918) 438-6688

