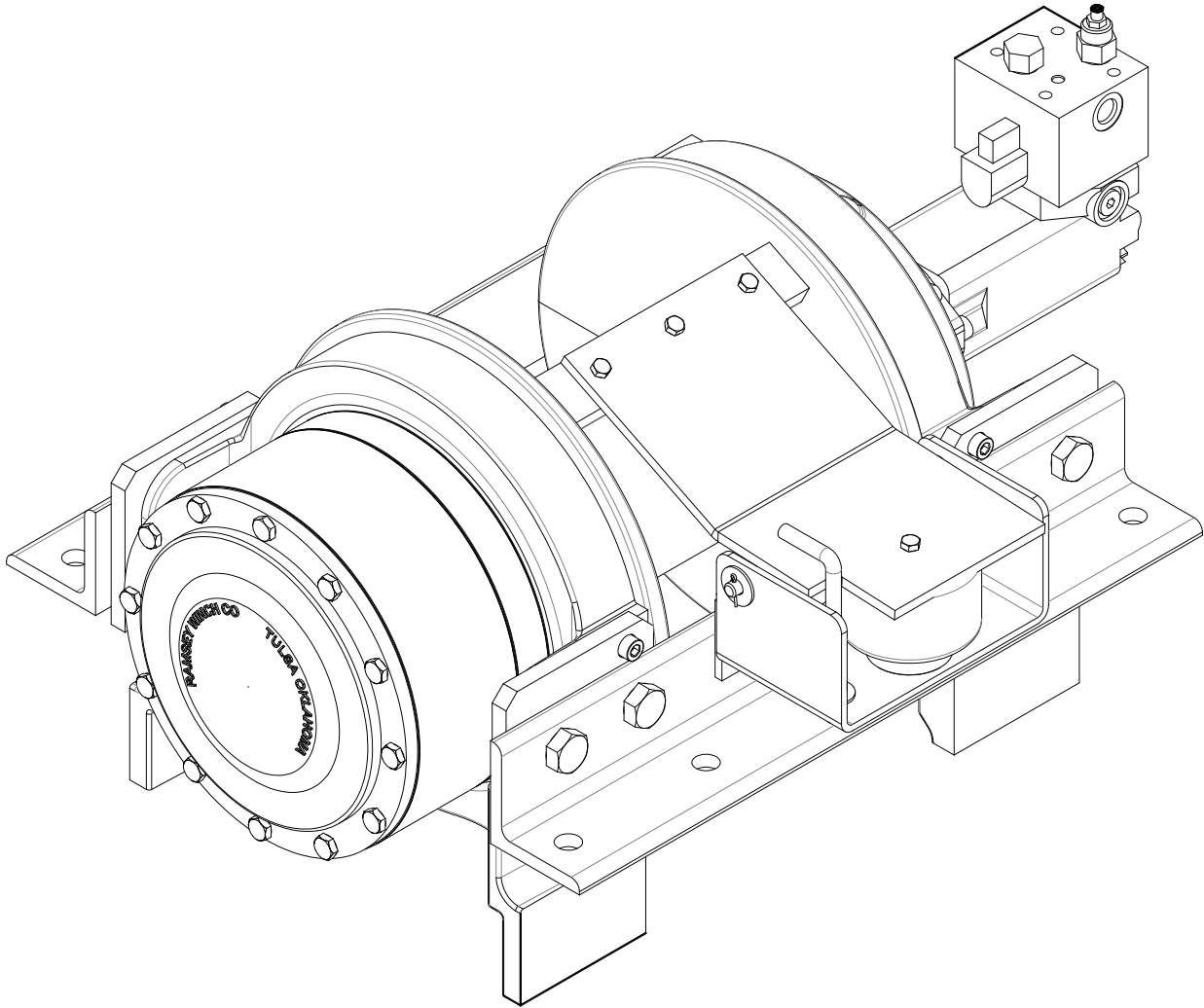




# OPERATING, SERVICE AND MAINTENANCE MANUAL



## 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!

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## 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.

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.	40,000	33,500	28,800	25,300	22,500	20,300
	Kg.	18,100	15,100	13,000	11,400	10,200	9,200
*Cable capacity	Ft.	25	55	95	135	185	235
	M.	7	16	28	41	56	71
*Line speed (at 20 GPM)	FPM	17	20	23	27	30	33
	MPM	5.2	6.1	7.0	8.2	9.1	10.1
* These specifications are based on recommended wire rope of .75 inch dia. EIPS cable and 9.6 cu.in./Rev. motor.							

**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.**

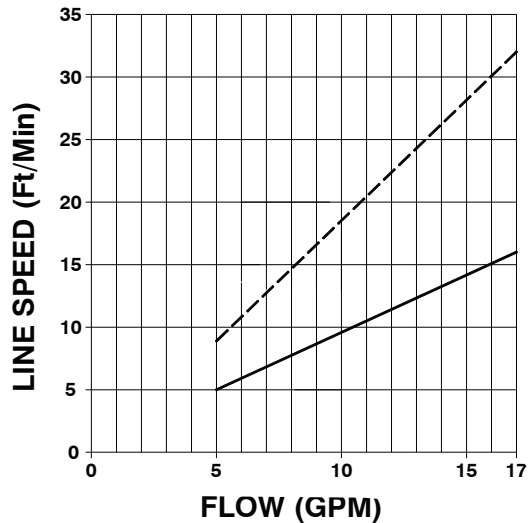
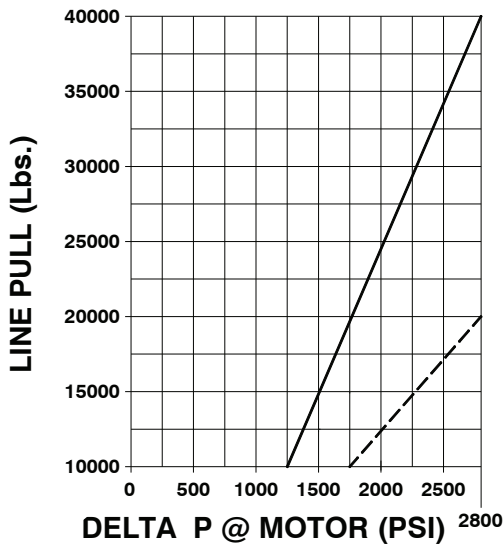
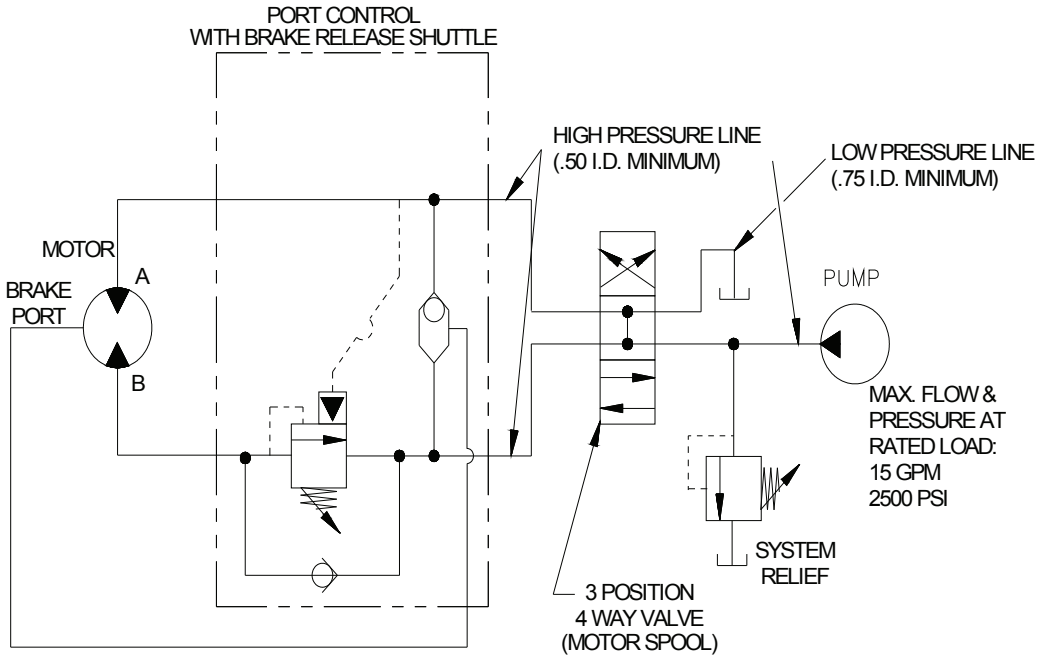
**A MINIMUM OF 5 WRAPS OF CABLE AROUND THE DRUM BARREL IS NECESSARY TO HOLD THE LOAD.**

# 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 17 GPM maximum flow rate. See page 10 for motor port size.

## TYPICAL LAYOUT



## 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

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.

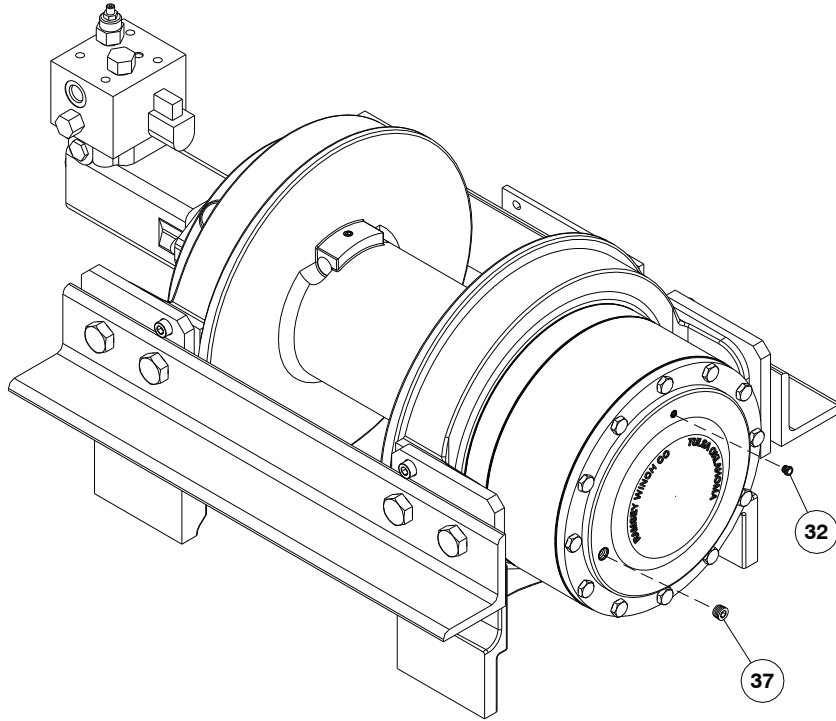
## TROUBLESHOOTING GUIDE

CONDITIONS	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM WINCH	<ol style="list-style-type: none"><li>1. Seals damaged or worn.</li><li>2. Too much oil.</li><li>3. Damaged gaskets.</li></ol>	<ol style="list-style-type: none"><li>1. Replace seal.</li><li>2. Drain excess oil. Refer to OPERATION.</li><li>3. Replace gaskets.</li></ol>
WINCH RUNS TOO SLOW	<ol style="list-style-type: none"><li>1. Low flow rate</li><li>2. Hydraulic motor worn out.</li></ol>	<ol style="list-style-type: none"><li>1. Check flow rate. Refer to HYDRAULIC SYSTEMS performance chart page 2.</li><li>2. Replace motor.</li></ol>
CABLE DRUM WILL NOT FREESPOOL	<ol style="list-style-type: none"><li>1. Clutch not disengaged</li></ol>	<ol style="list-style-type: none"><li>1. Check air pressure to clutch cylinder: 100 PSI Minimum required. Refer to page 10 for port location.</li></ol>
BRAKE WILL NOT RELEASE	<ol style="list-style-type: none"><li>1. Brake line disconnected or blocked.</li></ol>	<ol style="list-style-type: none"><li>1. Check brake function.</li></ol>

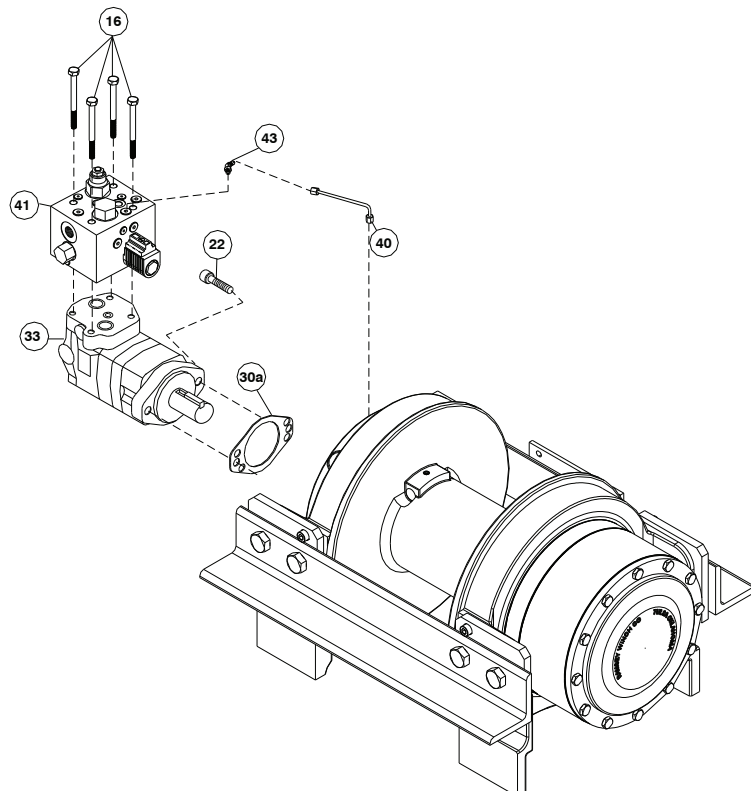
# INSTRUCTIONS FOR OVERHAUL

## DIS-ASSEMBLY

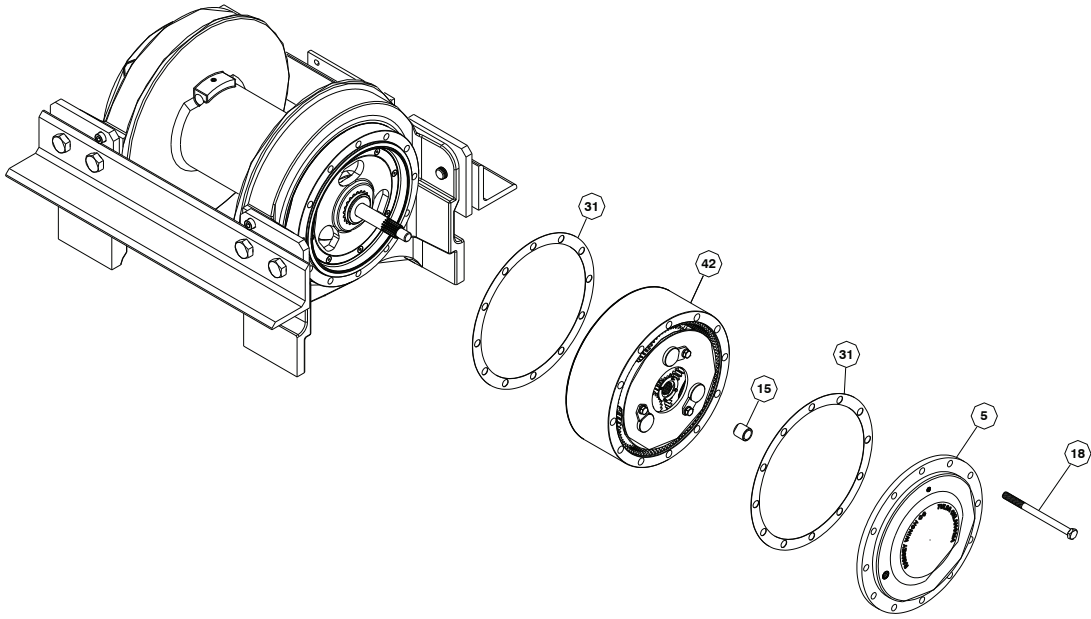
1. Drain oil from gear housing cover by removing pipe plug #37 and relief fitting #32. Remove tensioner assembly.



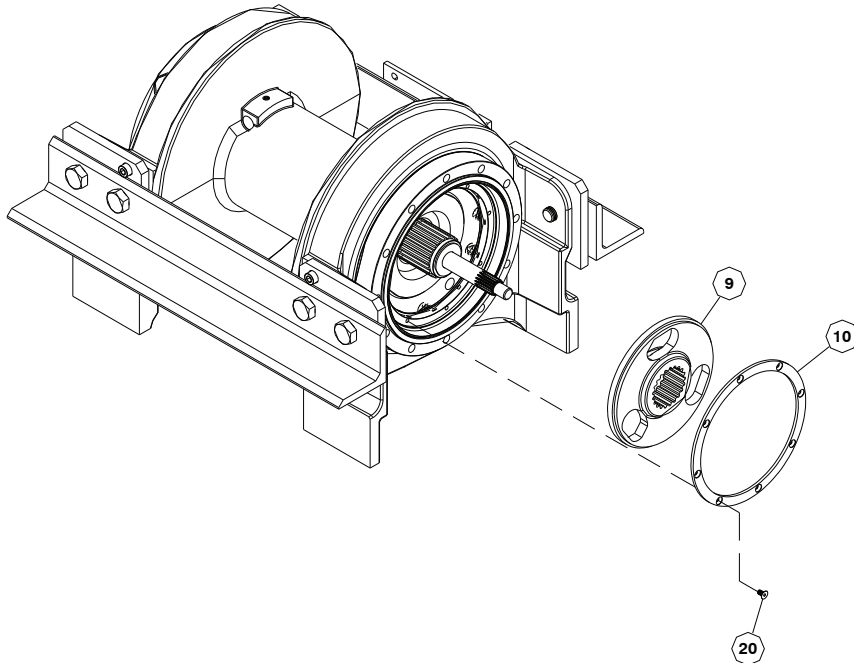
2. Disconnect tube #40 from elbow #43 on valve #41 and fitting #29 on brake #30b. Remove motor #33 and gasket #30a by removing (2) capscrews #22. Remove valve #41, if needed, from motor by loosening (4) capscrews #16.



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.

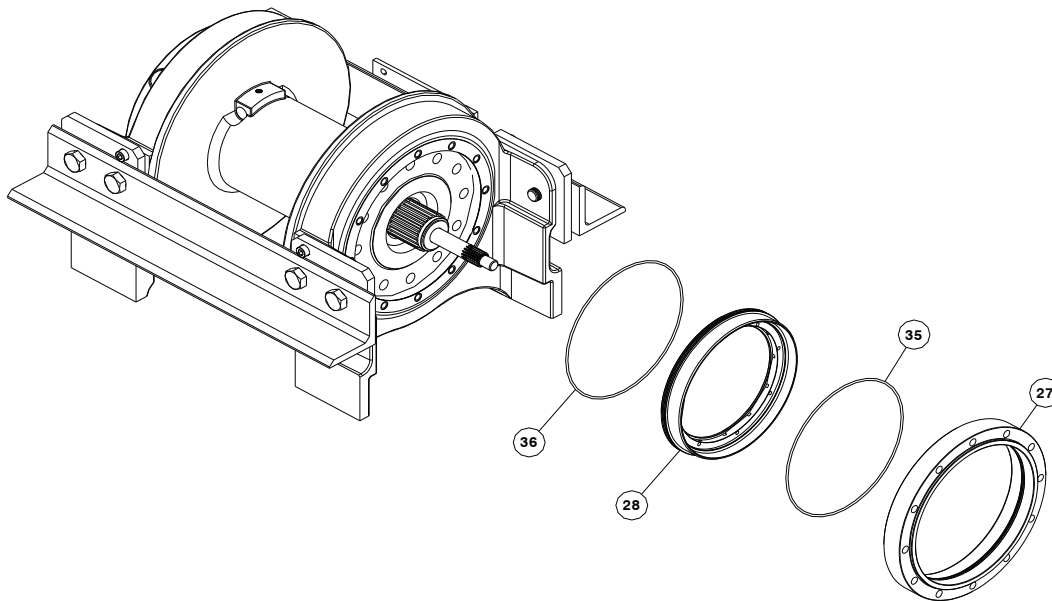


4. Remove (8) capscrews #20 to remove clutch retainer plate #10 from clutch piston. Remove clutch #9.

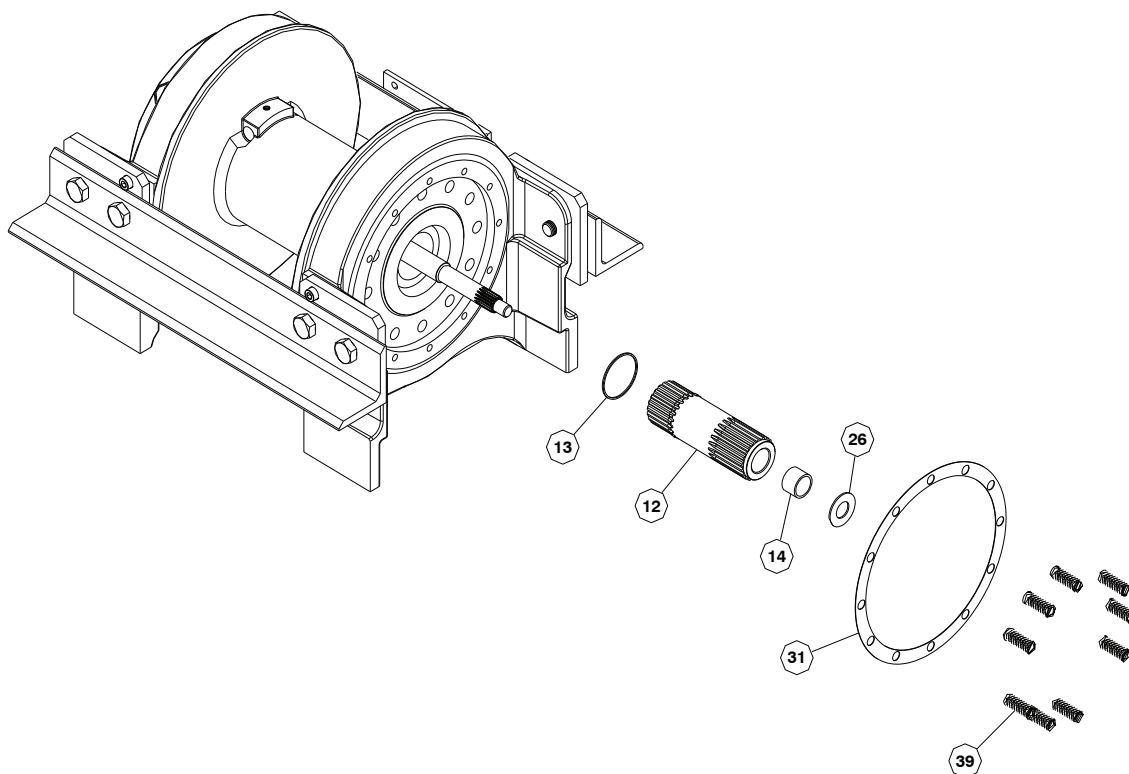




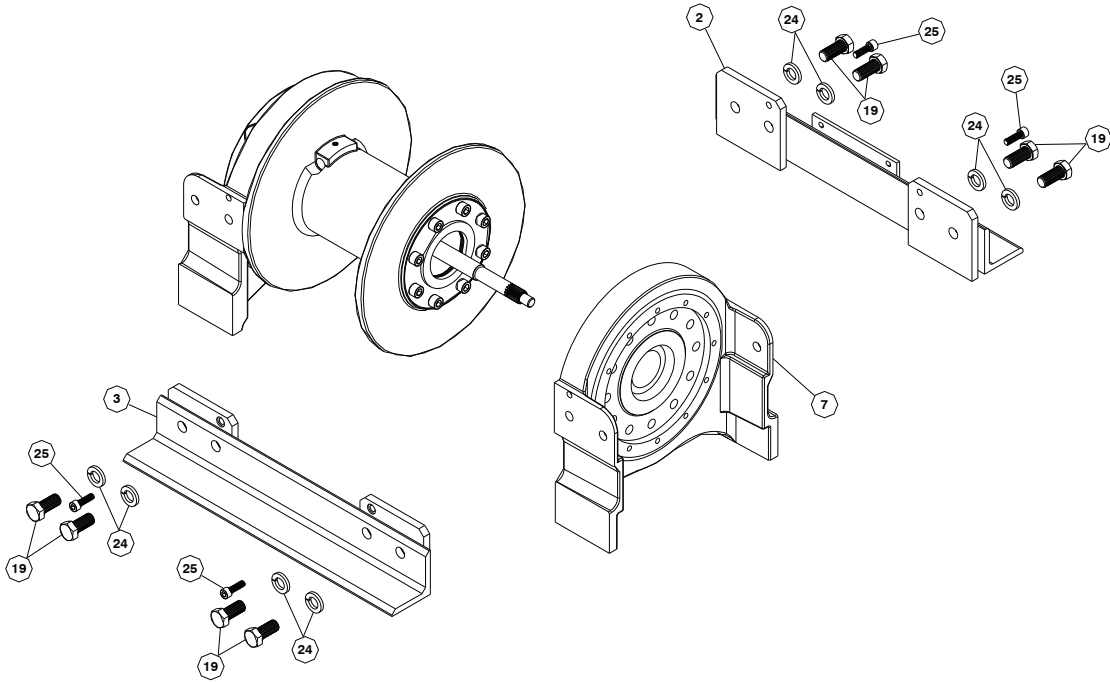
5. Remove clutch housing #27 with piston #28 inside. To remove piston from clutch housing apply air to 1/8" port. Remove o-rings #28 and #35 and inspect for damage or wear.



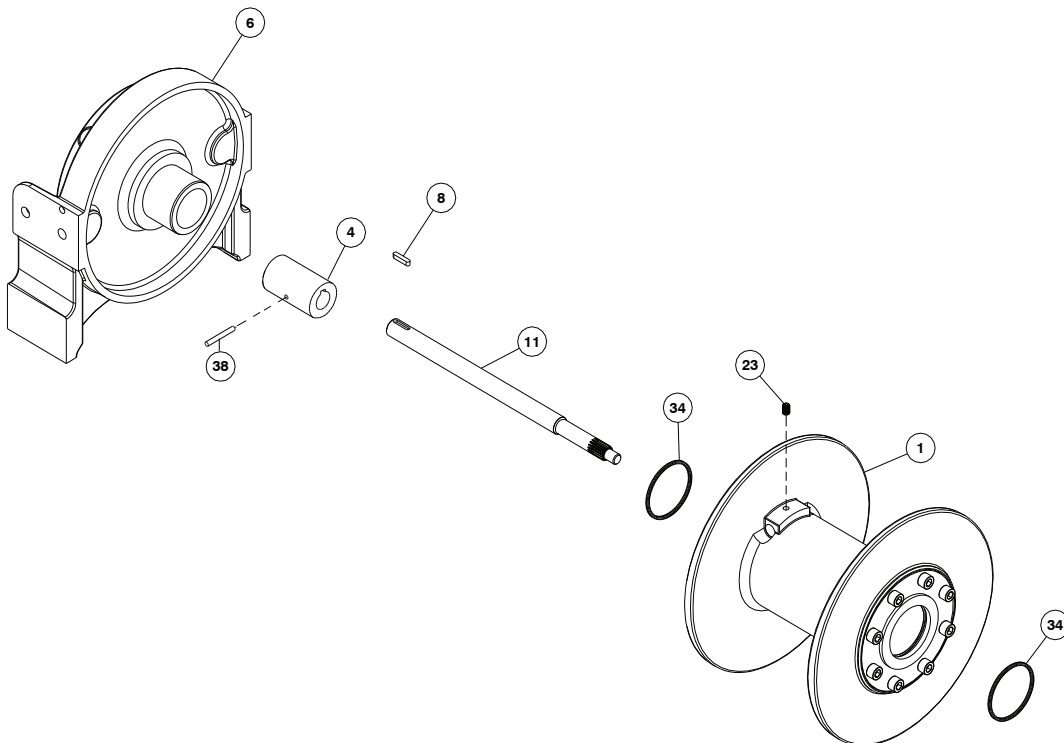
6. Remove (9) springs #39, thrust washer #26, gasket #31, output shaft #12 and spacer #13 from gear end bearing. Inspect output shaft bushing #14 for damage or wear. Replace if damaged or excessive wear.



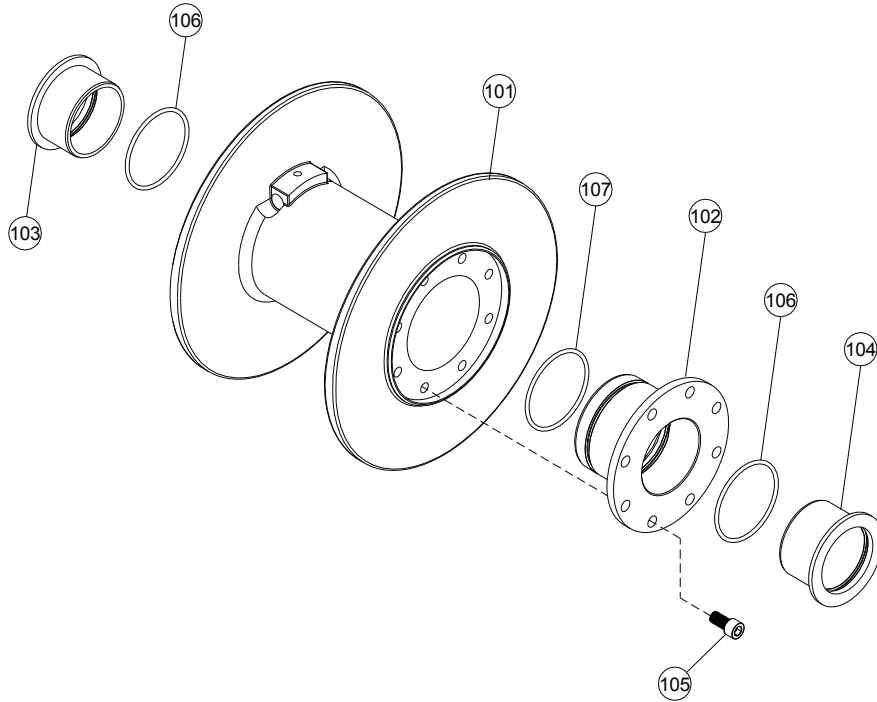
- Remove winch tie bars #2 and #3 by removing (8) capscrews #19, (8) lock washers # 24, and (4) shoulder bolts #25. Pull gear end bearing #7 from drum assembly #1.



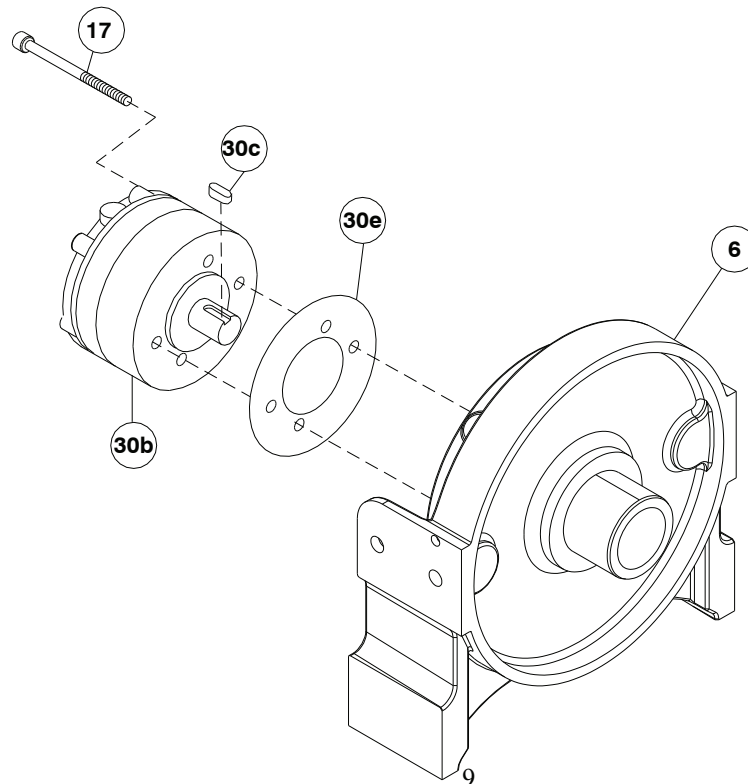
- Pull drum assembly #1 from end bearing #6. Remove quad-rings #34 from grooves in drum bushings. Remove input shaft #11 from end bearing. Examine splined ends of input shaft for signs of wear, replace if damaged. Examine drum assembly #1 for signs of wear.



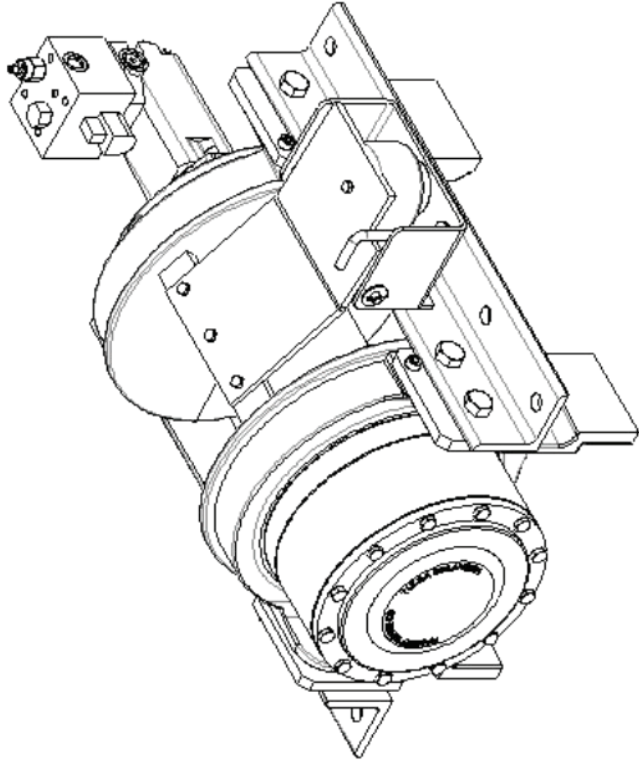
9. If splines inside drum driver #102 are damaged, drum driver must be replaced. Remove drum driver by unscrewing (8) capscrews #105. If bushings show signs of wear, replace by pressing old bushings from drum #101 and removing o-rings from grooves in drum and drum driver. Place well oiled o-rings #106 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.



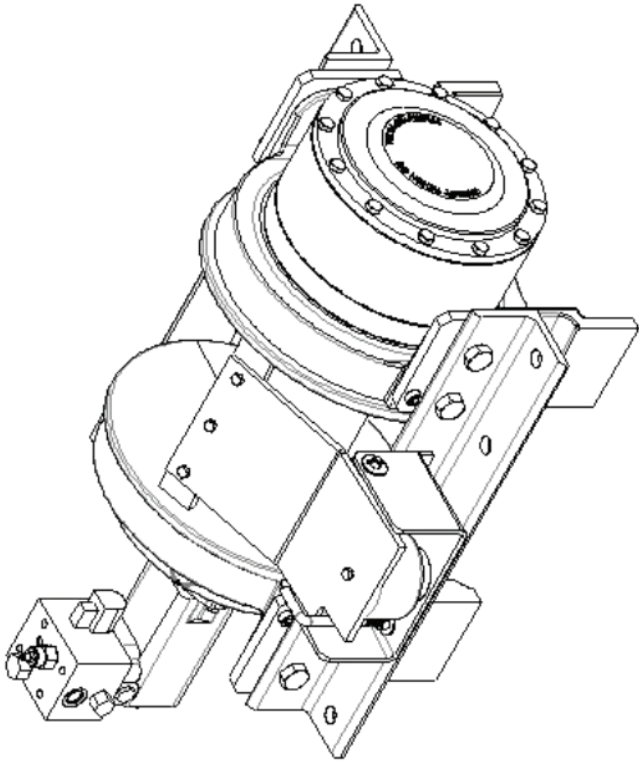
10. Remove brake assembly screws #17 from brake #36a attaching brake to end bearing #6. Remove coupling #4 and gasket #36e from end bearing. Take note of mounting configuration for proper mounting of parts during re-assembly.



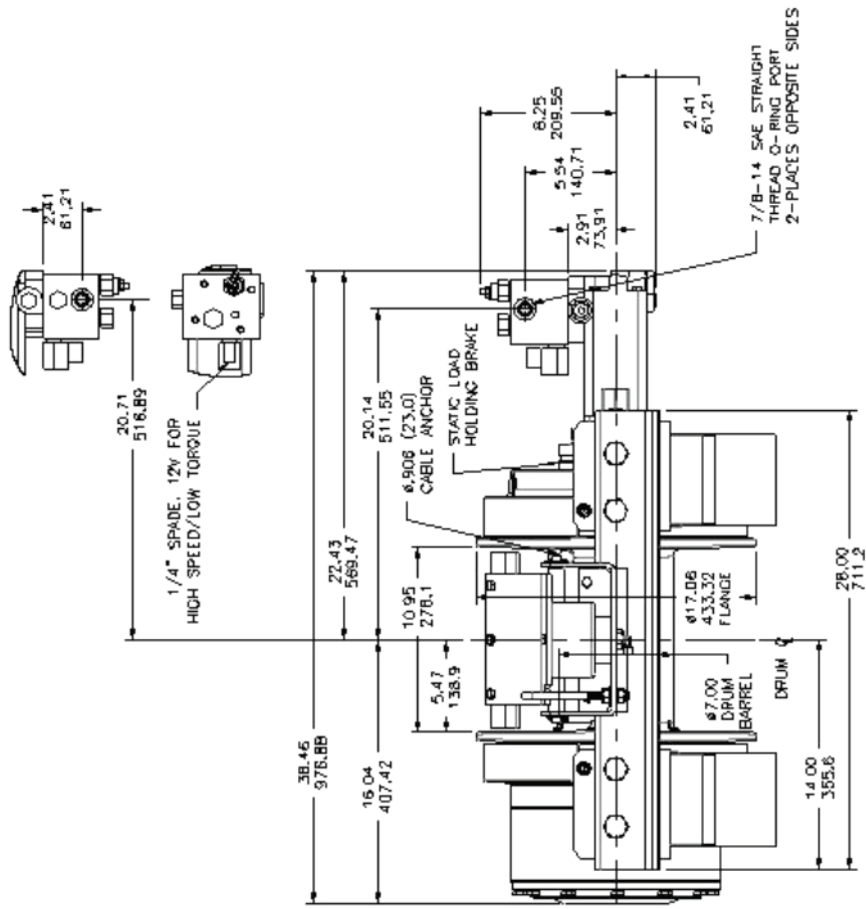
# WINCH MOUNTING CONFIGURATION



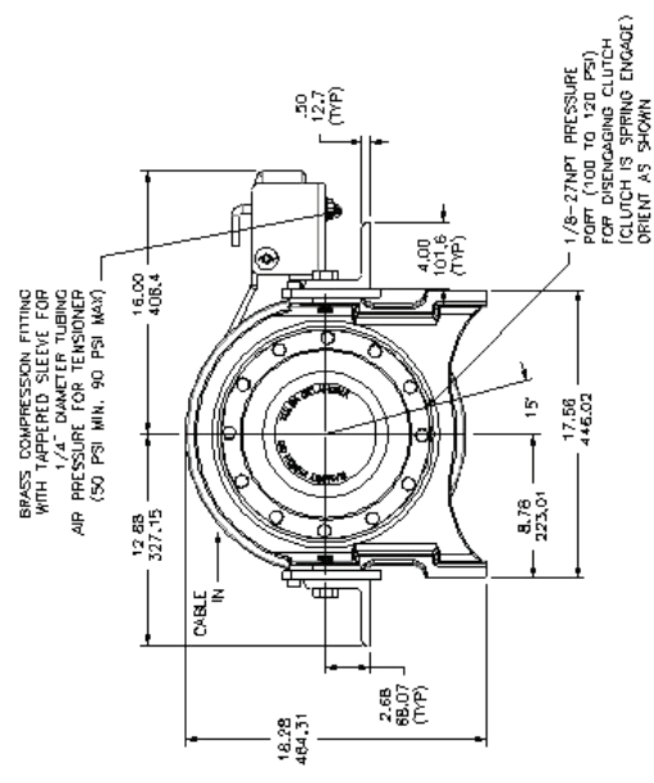
L.H. MOUNTING  
CONFIGURATION

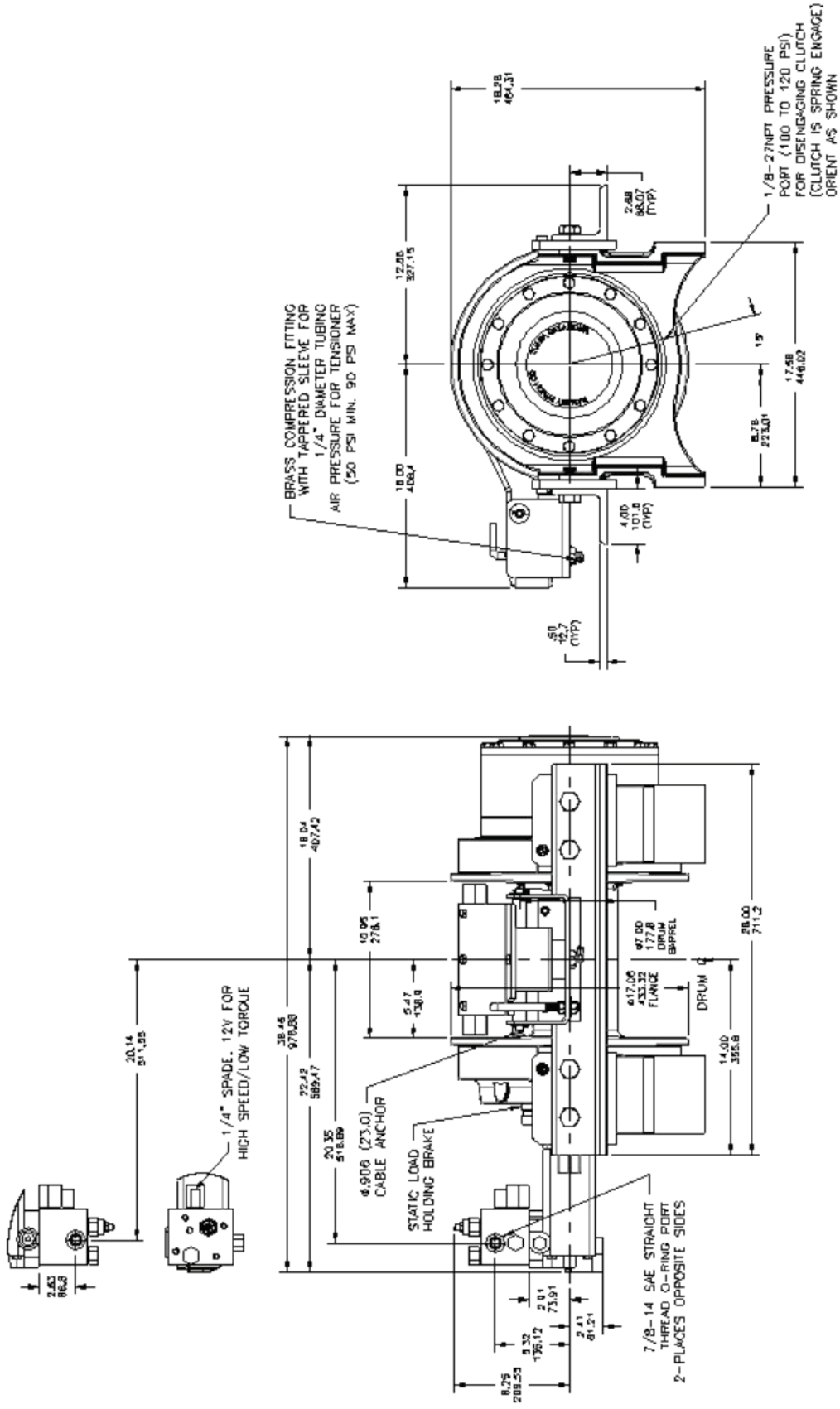


R.H. MOUNTING  
CONFIGURATION

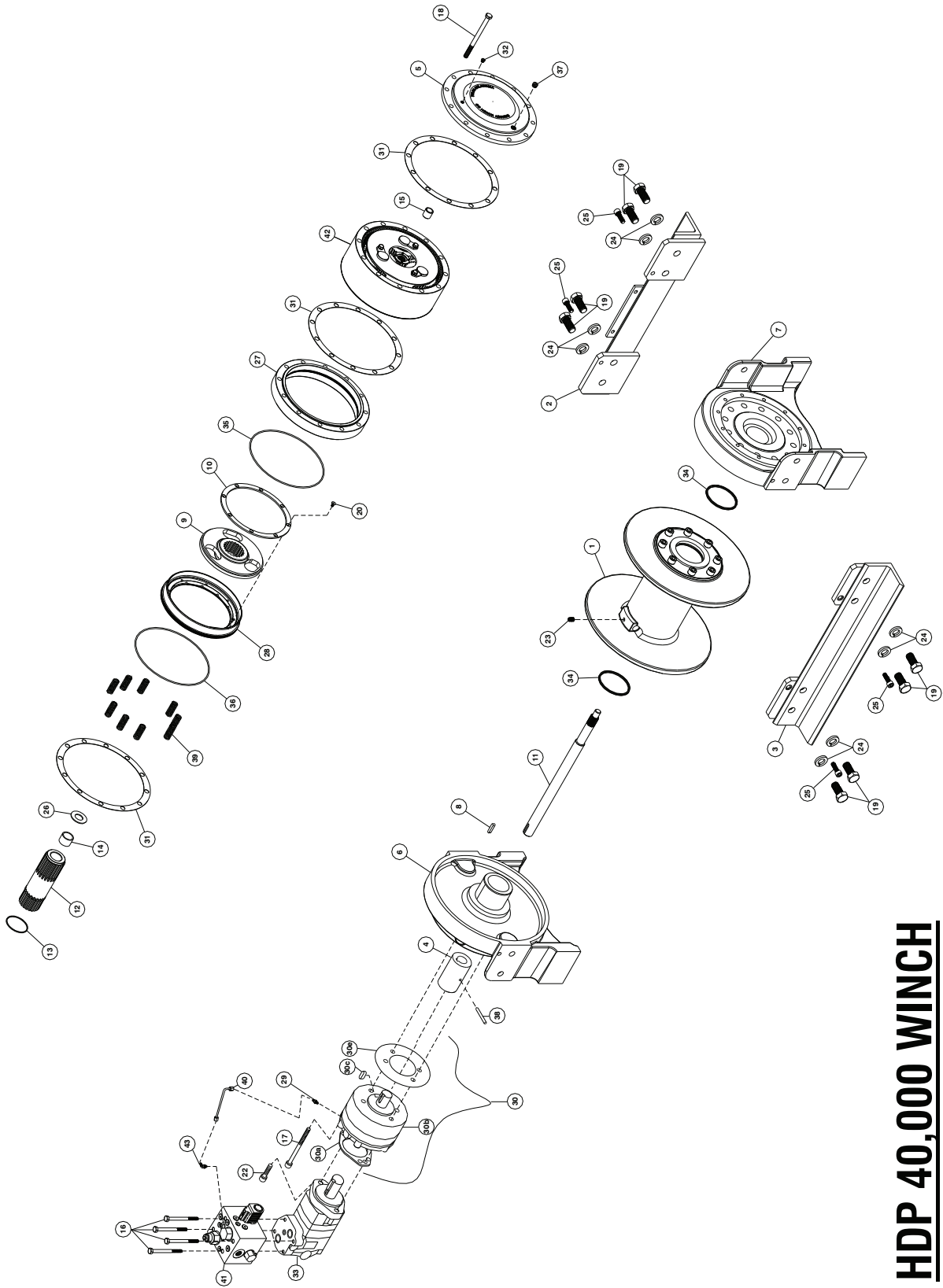


Winch Model HD-P 40,000  
L.H. Configuration shown





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



# HDP 40,000 WINCH

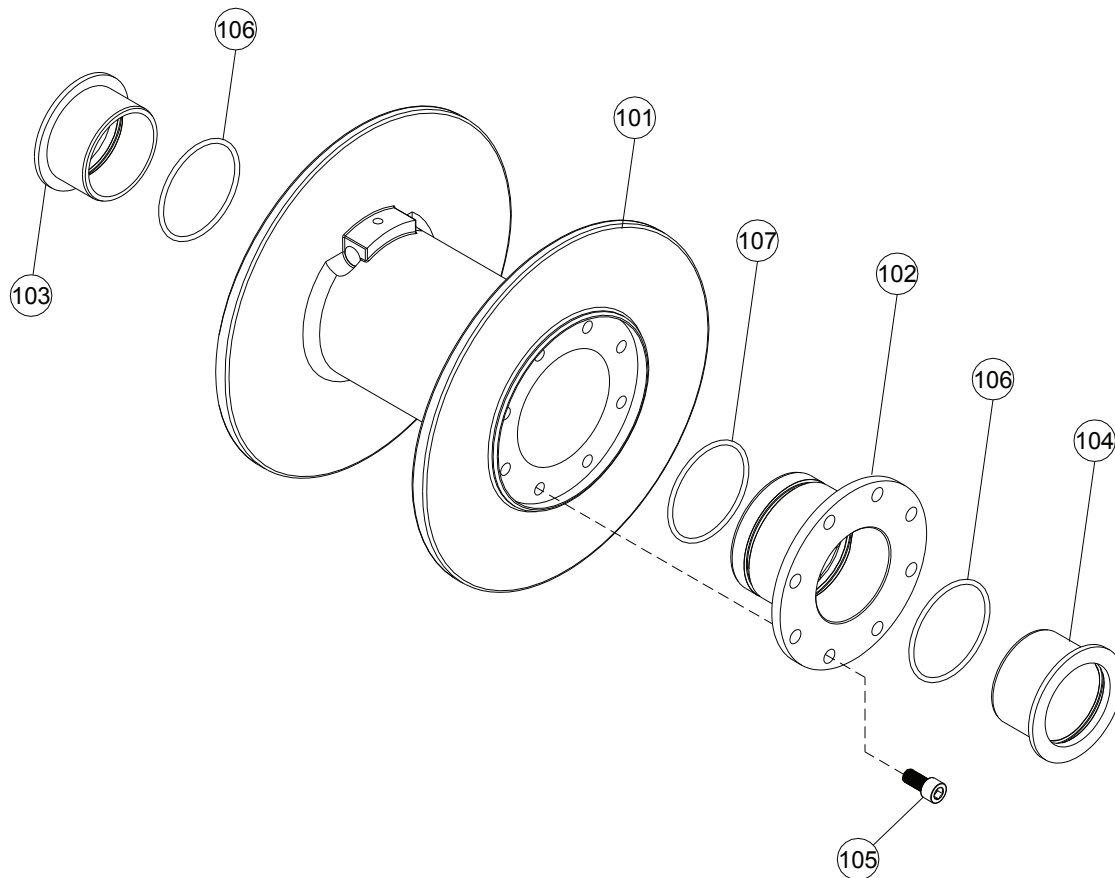
# PARTS LIST - HDP 40,000

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



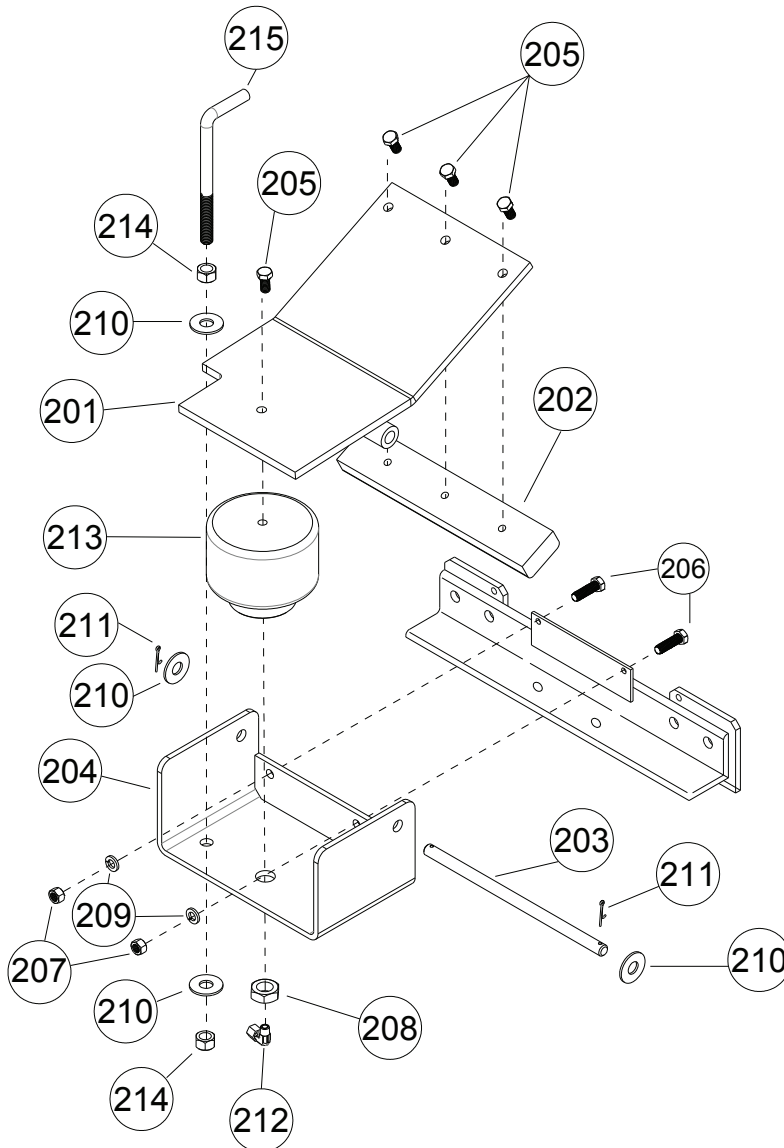
## DRUM ASSEMBLY - 234191

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 (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
215	420005	1	ANCHOR BOLT



## **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**

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