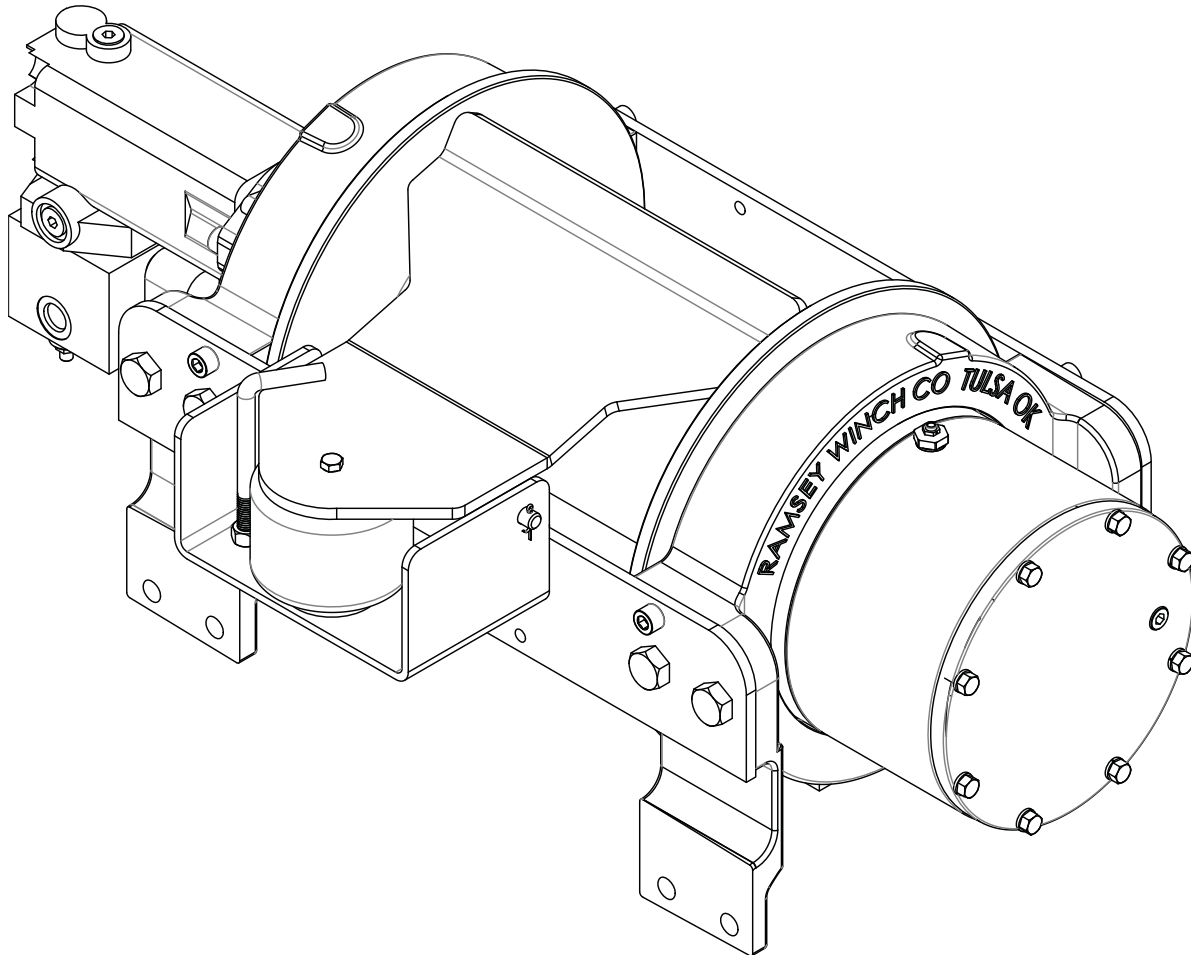




# OPERATING, SERVICE AND MAINTENANCE MANUAL



## MODEL HD-P35,000 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-P35,000

### 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) STANDARD DRUM

Rated Line Pull (lbs.).....		35,000				
(Kgs.).....		15,909				
Gear Reduction.....		33.16:1				
Weight (without cable).....		504 lb. (226 Kgs.)				
LAYER OF CABLE		1	2	3	4	5
*Rated line pull per layer	Lbs.	35,000	28,600	24,200	21,000	18,500
	Kg.	15,870	12,970	10,970	9,520	8,390
*Cable capacity	Ft.	25	65	105	155	210
	M.	7	19	32	47	64
*Line speed (at 25 GPM)	FPM	23.2	28.4	33.6	38.7	43.9
	MPM	7.02	8.65	10.24	11.79	13.38
* These specifications are based on recommended wire rope .75" dia. EIPS and 11.9 cu.in./Rev. motor.						

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

Continued

**SPECIFICATIONS\* SHORT DRUM**

Rated Line Pull (lbs.).....35,000							
(Kgs.).....15,909							
Gear Reduction.....33.16:1							
Weight (without cable).....504 lb. (229 Kgs.)							
LAYER OF CABLE		1	2	3	4	5	6
*Rated line pull per layer	Lbs. Kg.	35,000 15,870	28,600 12,970	24,200 10,970	21,000 9,520	18,500 8,390	16,500 7,484
*Cable capacity	Ft. M.	20 6.09	45 13.72	75 22.86	110 33.53	155 47.24	200 60.96
*Line speed (low) (at 25 GPM)	FPM MPM	23 7.01	27 8.23	32 9.73	36 10.67	41 12.50	46 14.02
*Line speed (high) (at 25 GPM)	FPM MPM	46 14.02	56 16.46	64 19.46	72 21.34	82 25	92 28.04
* These specifications are based on recommended wire rope .75" dia. EIPS and 11.9 cu.in./Rev. motor at 2725 psi working pressure.							
* Directional control valve required: 3-position, 4 way motor spool.							
* Winch meets SAE J706.							

**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.**

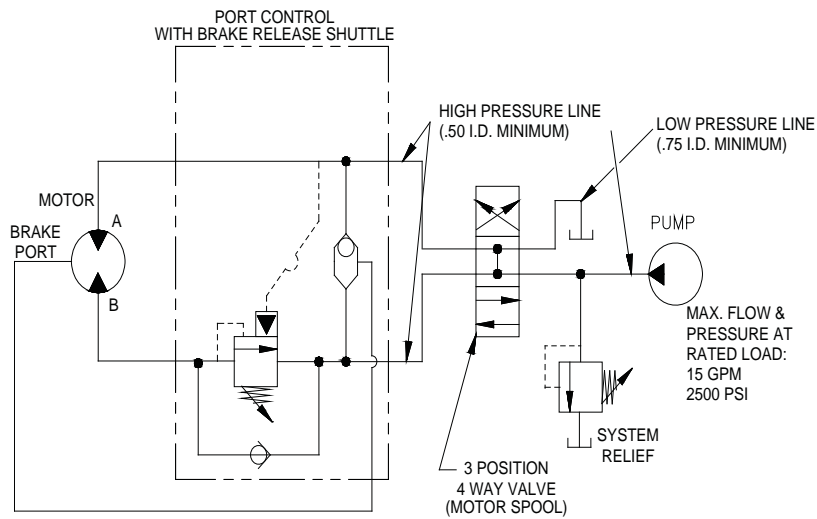
**CABLE ANCHOR IS NOT DESIGNED TO HOLD LOAD.**

## HYDRAULIC SYSTEM REQUIREMENTS

Refer to the performance charts to properly match your hydraulic system to HDP-35000 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 11.9 cubic inches with 25 GPM maximum flow rate. See page 10 for motor port size.

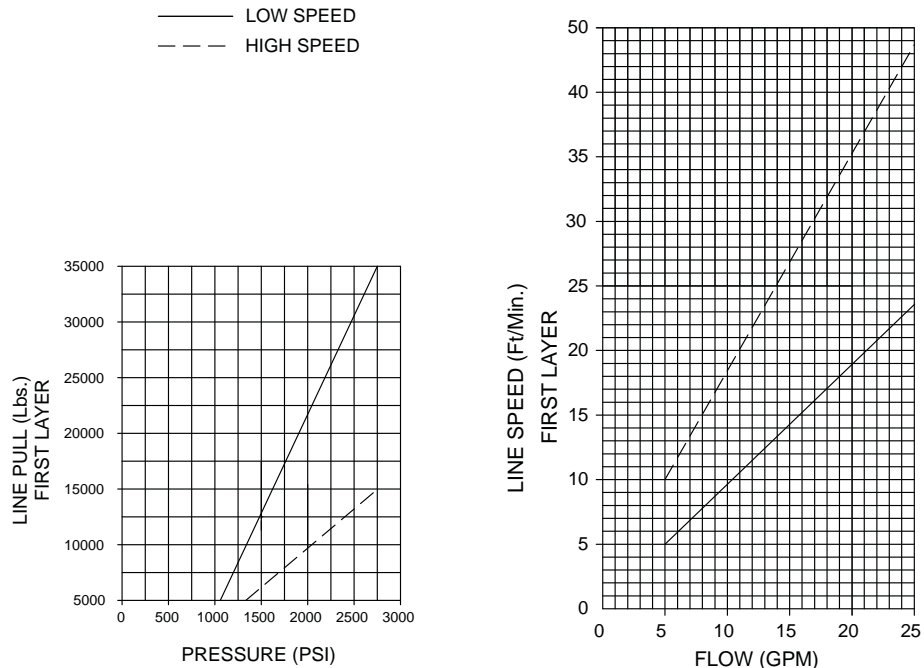
## TYPICAL LAYOUT



## PERFORMANCE CHARTS

(BASED ON 11.9 CU. IN./REV MOTOR)

PERFORMANCE WITH 11.9/5.95 IN<sup>3</sup> 2-SPEED HYDRAULIC MOTOR:



## 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 re-wind 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.

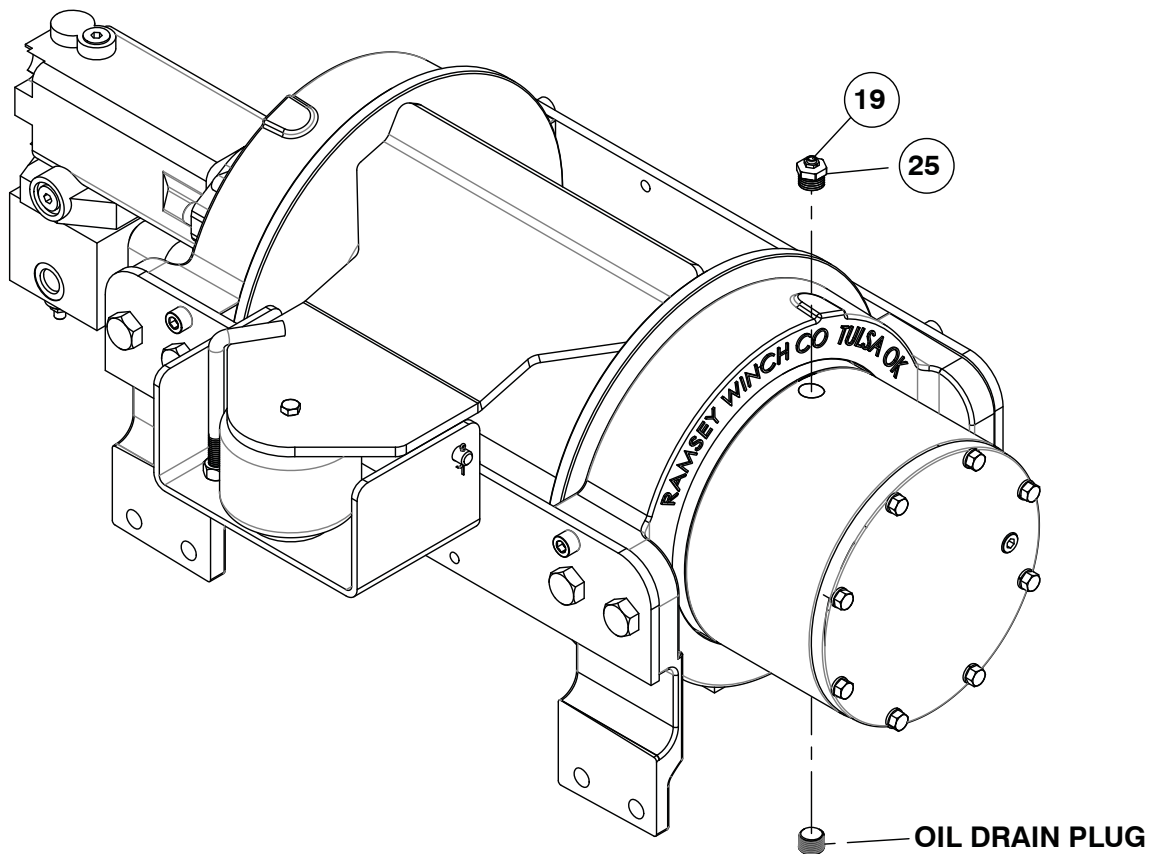
## TROUBLESHOOTING GUIDE

CONDITIONS	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM WINCH	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. Too much air pressure to tensioner. 2. Clutch will not dis-engaged	1. Adj. air pressure lower & confirm tensioner still holds tension. 2. 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

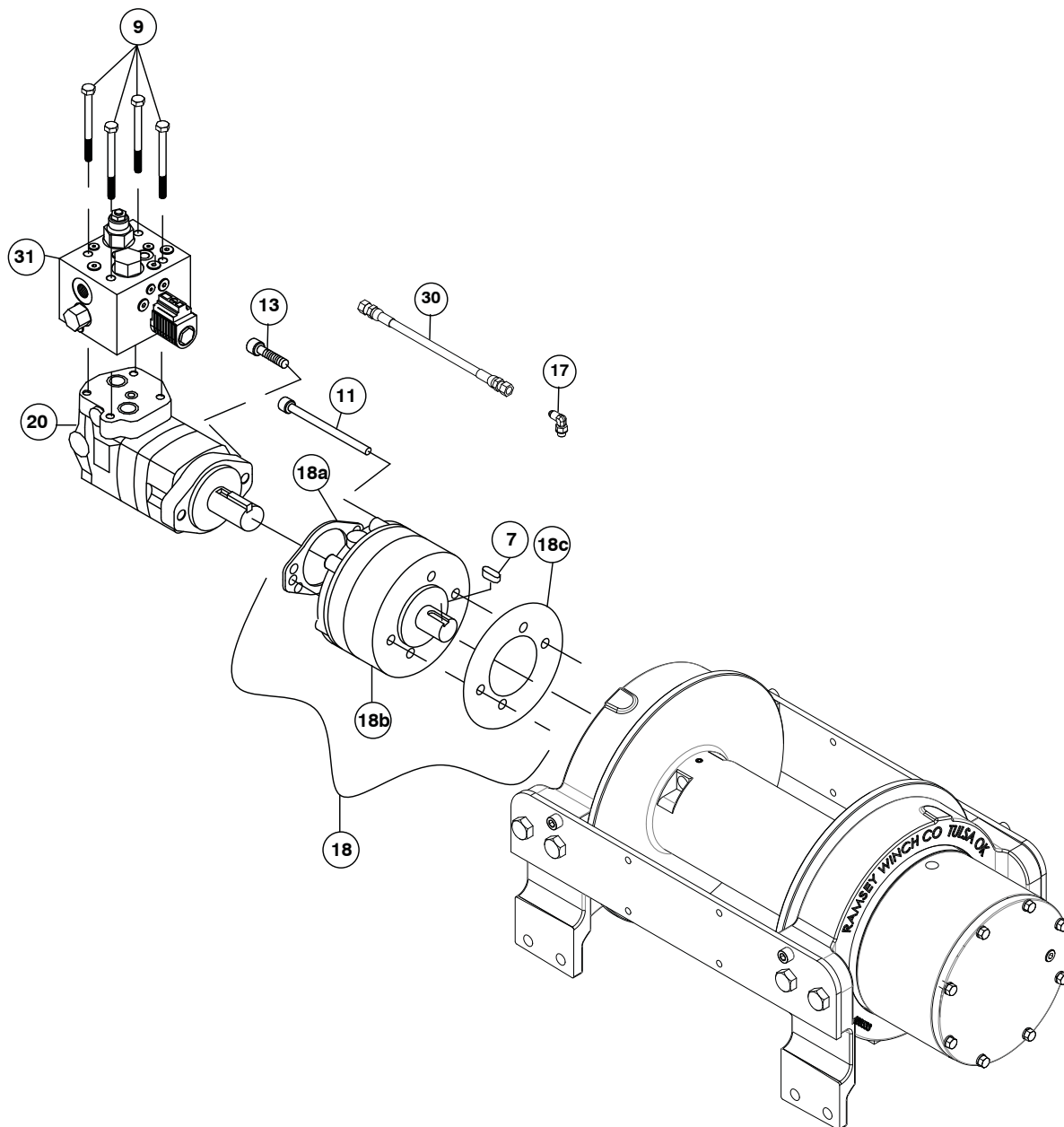
## DIS-ASSEMBLY

1. Drain oil from gear housing by removing oil drain plug, pipe plug #19 and relief fitting #25. Remove tensioner assembly.

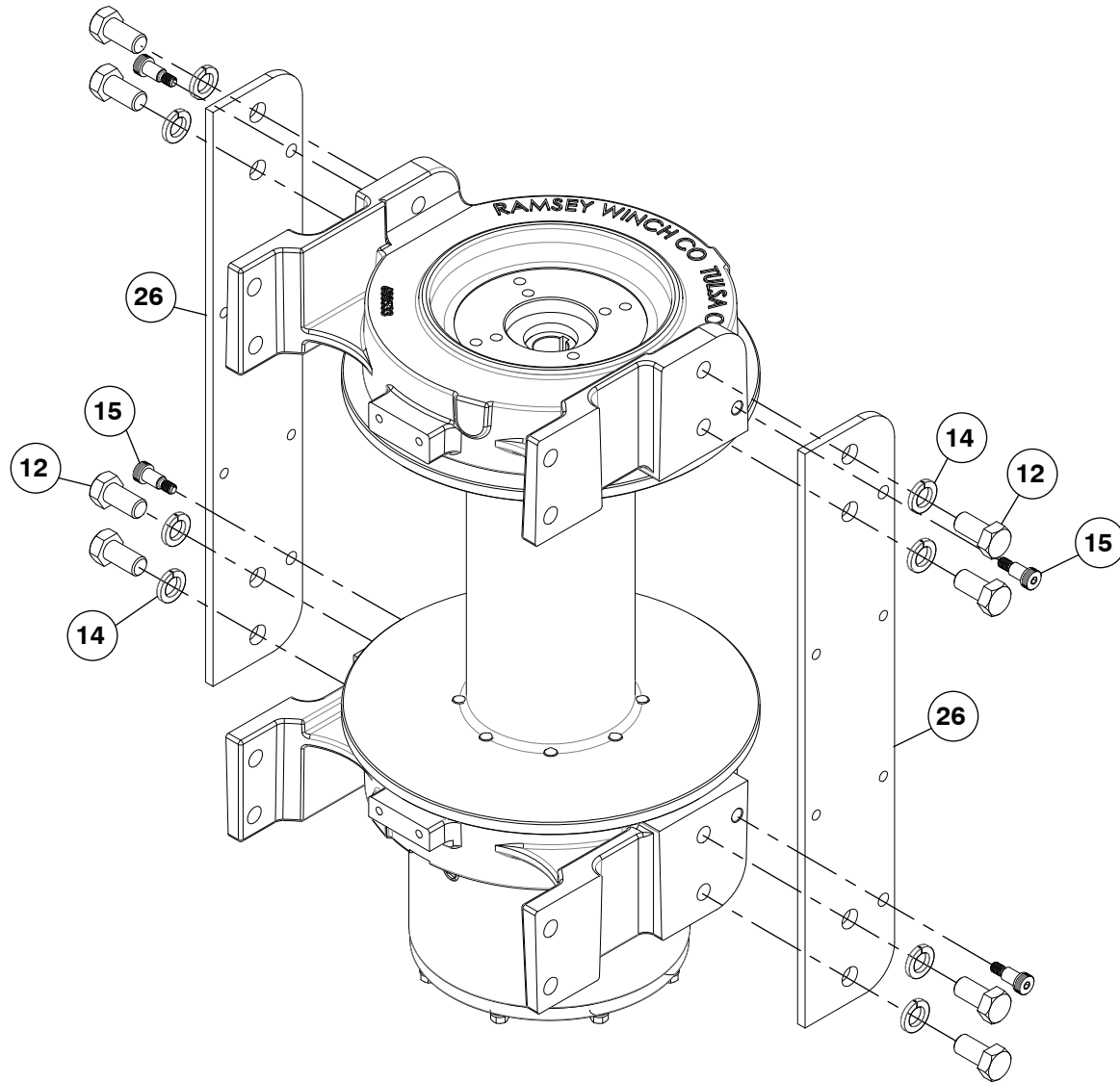




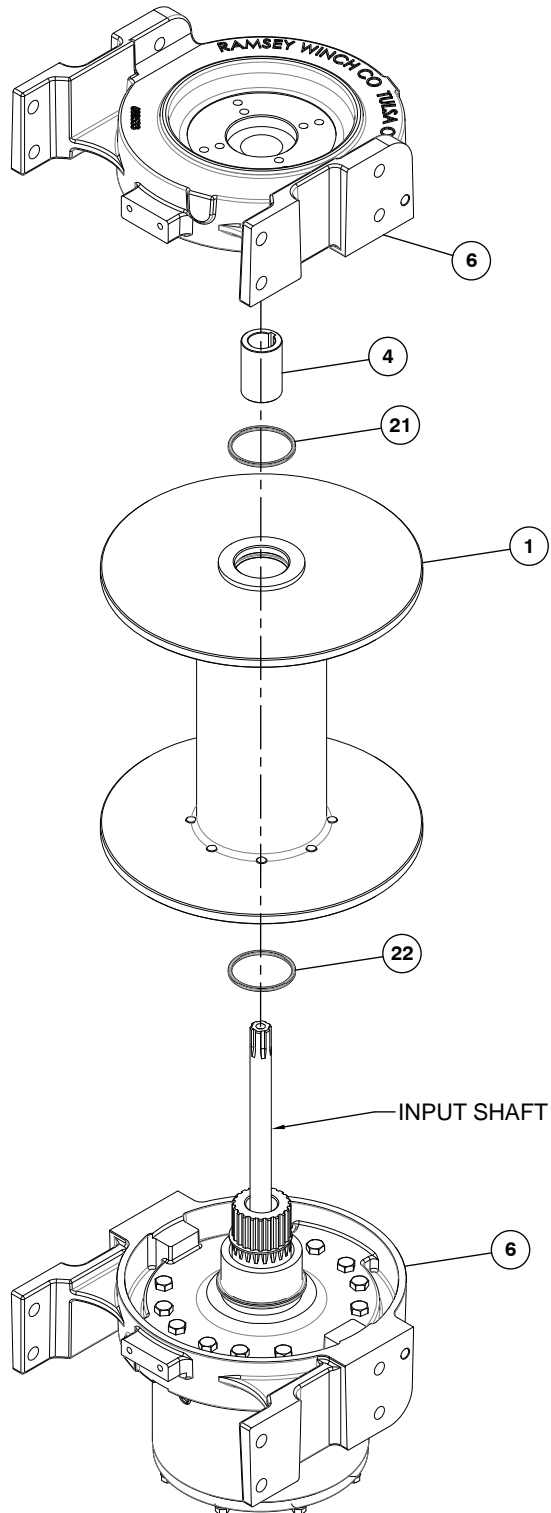
2. Disconnect tube #30 from valve #31 and fitting #17 on brake #18. Remove motor #20 and gasket #18a by removing (2) capscrews #13. Remove valve #31, if needed, from motor by loosening (4) capscrews #9.



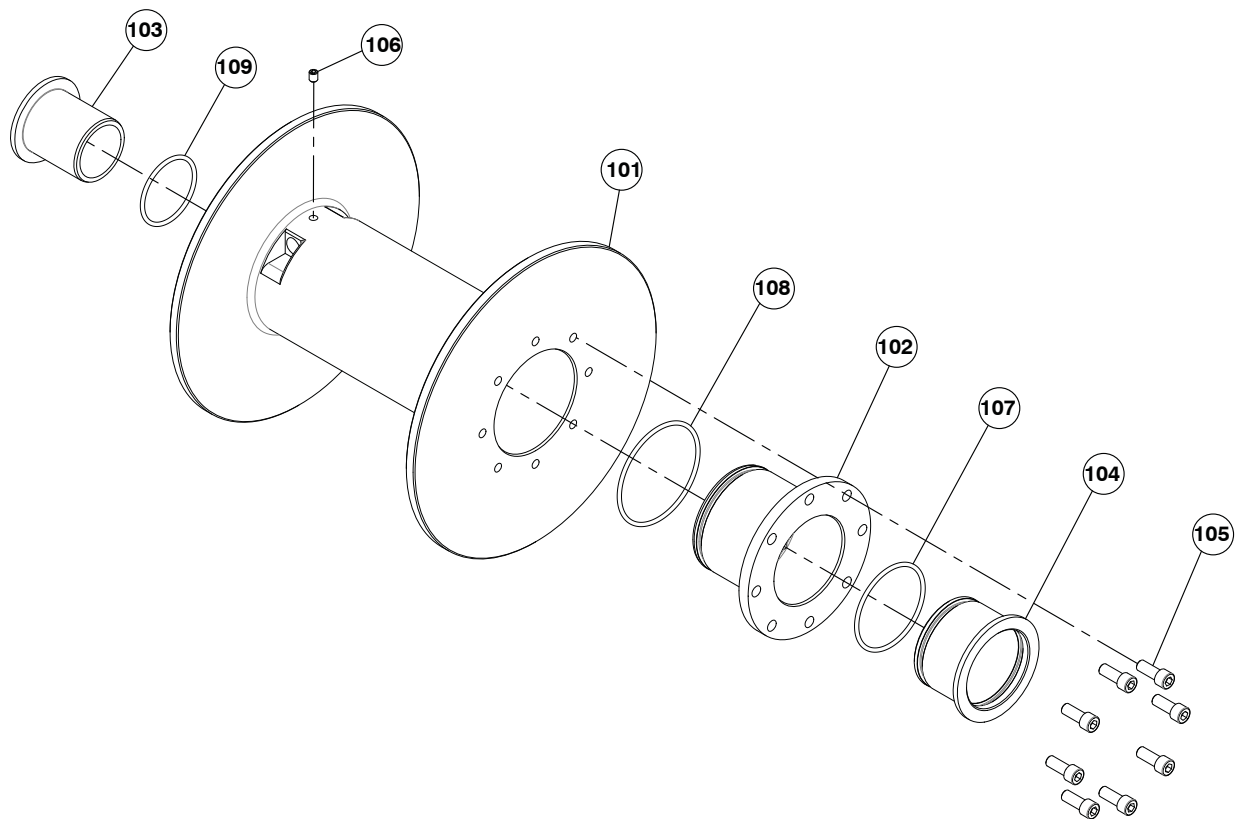
3. Stand winch up on gear box end as shown. Remove winch tie plates #26 by removing (8) capscrews #12, (8) lock washers #14, and (4) shoulder bolts #15.



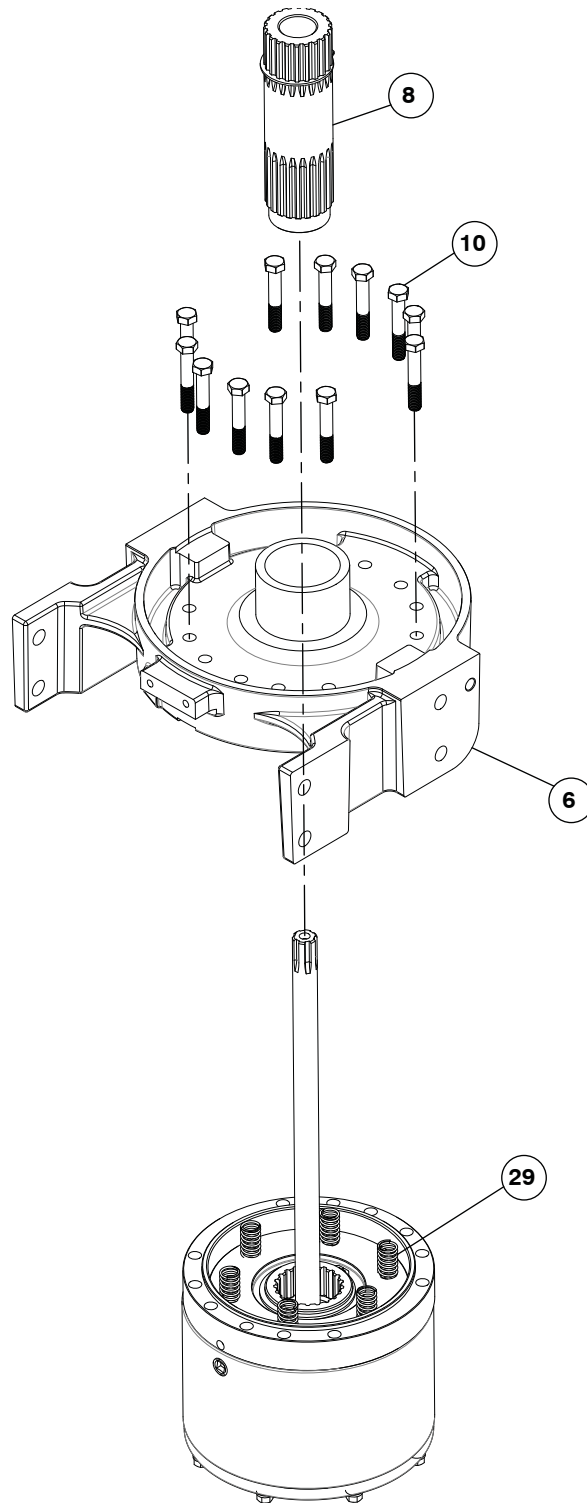
4. Pull motor end bearing #5 from drum assembly #1. Remove motor coupling #4 from input shaft. Pull drum assembly #1 from gear end bearing #6. Remove quad rings #21 and #22 from grooves in drum bushings. Examine drum assembly #1 for signs of wear.



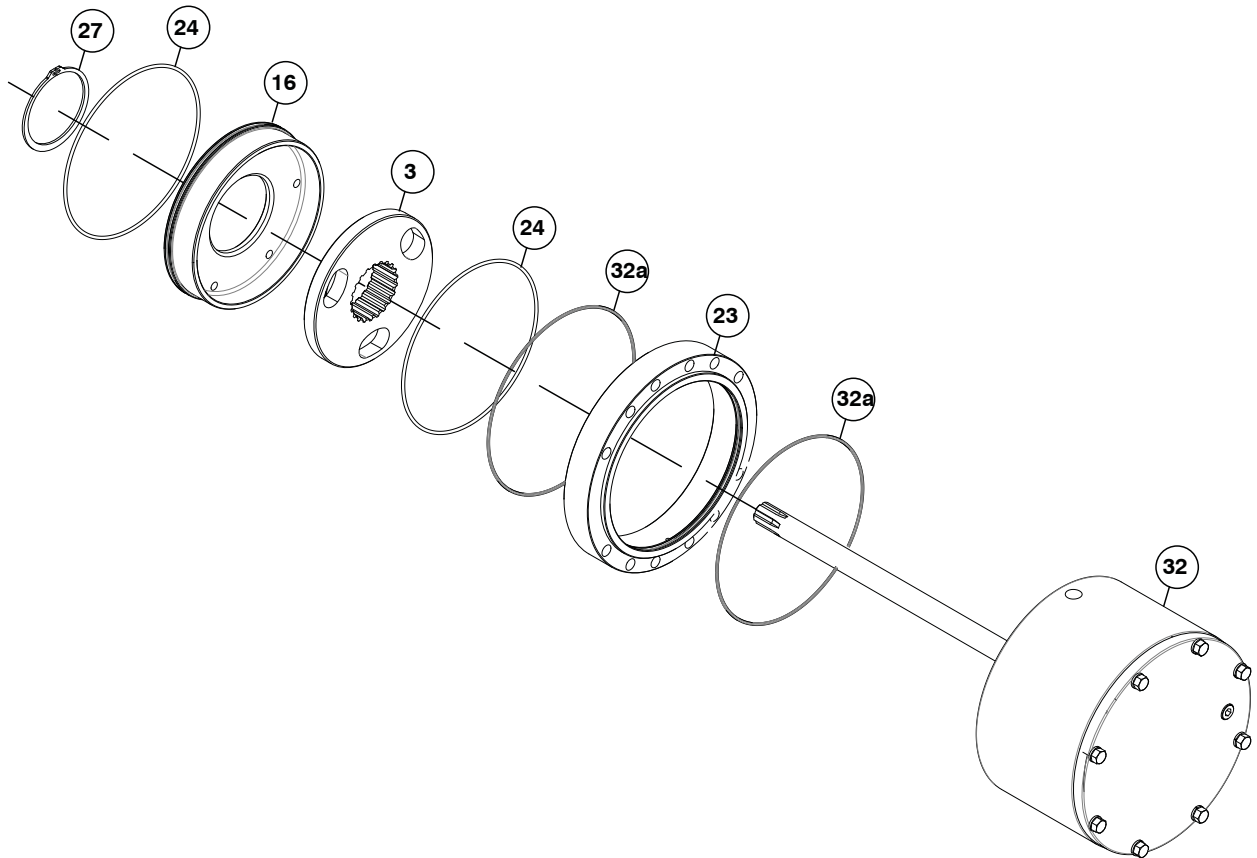
5. If splines inside drum driver #102 are damaged, drum driver must be replaced. Remove drum driver by unscrewing (8) capscrews #105. If bushings show signs of wear, replace by pressing old bushings from drum #101 and removing O-rings from grooves in drum and drum driver #102. Place well-oiled O-rings #107 into driver and #109 into drum. Place well-oiled O-ring #108 in groove on outside of driver #102. Press bushings #104 into drum driver until flange is flush and #103 is flush against drum.



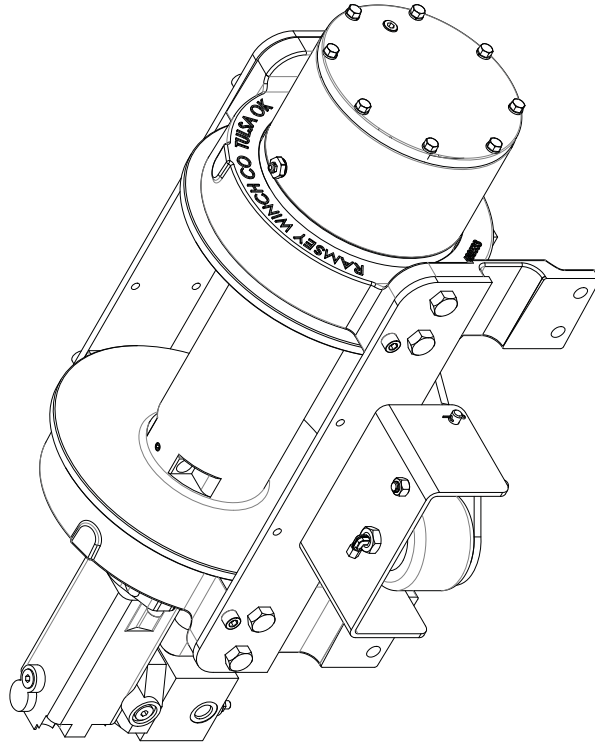
6. Remove output shaft #8 from gear end bearing #6. Inspect output shaft for damage or wear. Replace if damaged. Remove gear end bearing by removing the (12) capscrews #10. Note: the gear end bearing will be spring loaded and will “spring up” slightly when last capscrew is removed. Remove (6) springs #29.



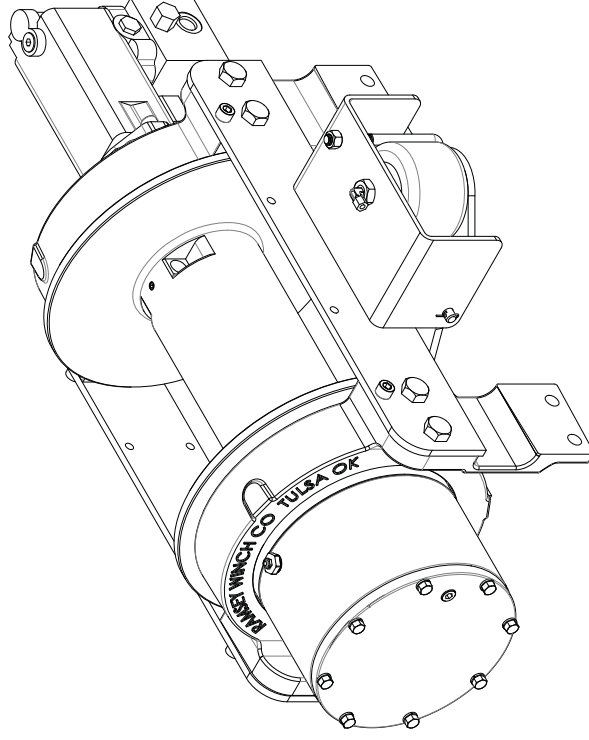
7. Remove clutch housing #23 with piston #16 and clutch #3 inside from gear box assembly #32. Inspect clutch for wear or damage and replace if required. Remove clutch #3 from piston by removing retainer ring #27. To remove piston from clutch housing apply air to 1/8" port on bottom of clutch housing. Remove O-rings #24 from grooves on piston and clutch housing and inspect for damage or wear. Inspect gear box assembly #32 for damage or wear. Replace complete gear box assembly if gears are damaged.



# UNDERWOUND WINCH MOUNTING CONFIGURATION

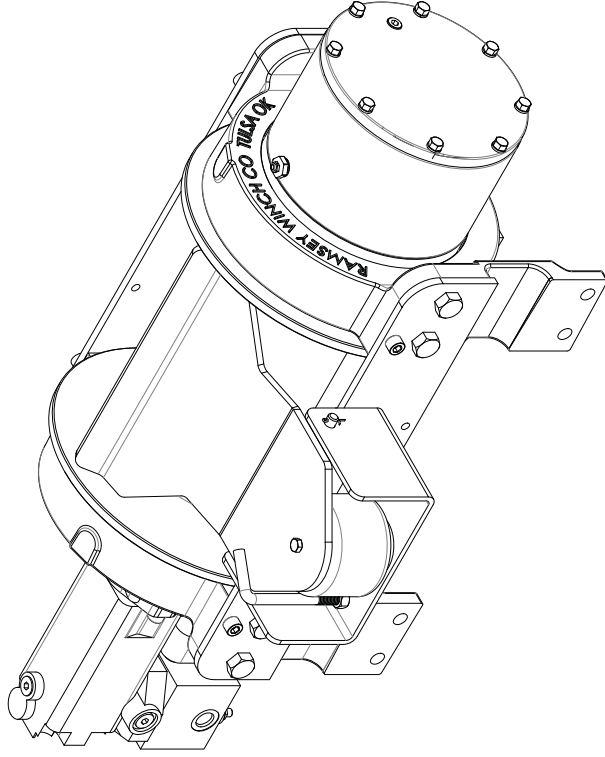


**L.H. MOUNTING  
CONFIGURATION  
UNDERWOUND**

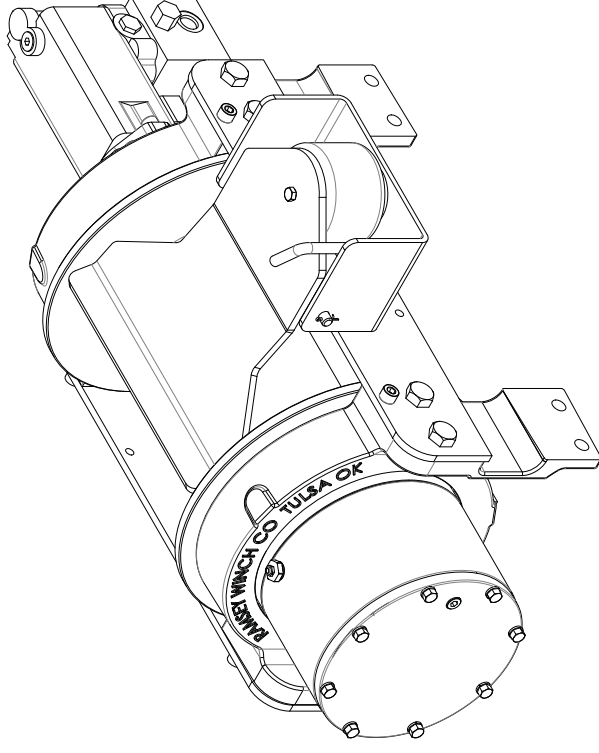


**R.H. MOUNTING  
CONFIGURATION  
UNDERWOUND**

# OVERWOUND WINCH MOUNTING CONFIGURATION



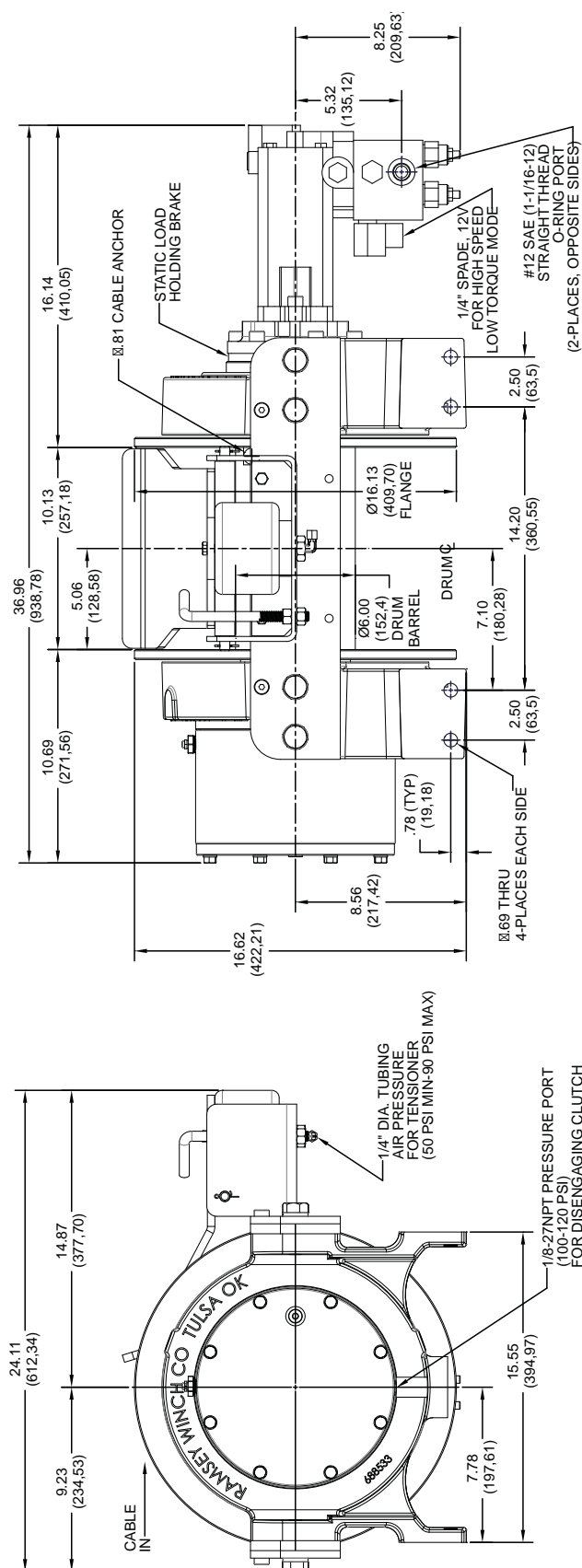
**L.H. MOUNTING  
CONFIGURATION  
OVERWOUND**



**R.H. MOUNTING  
CONFIGURATION  
OVERWOUND**

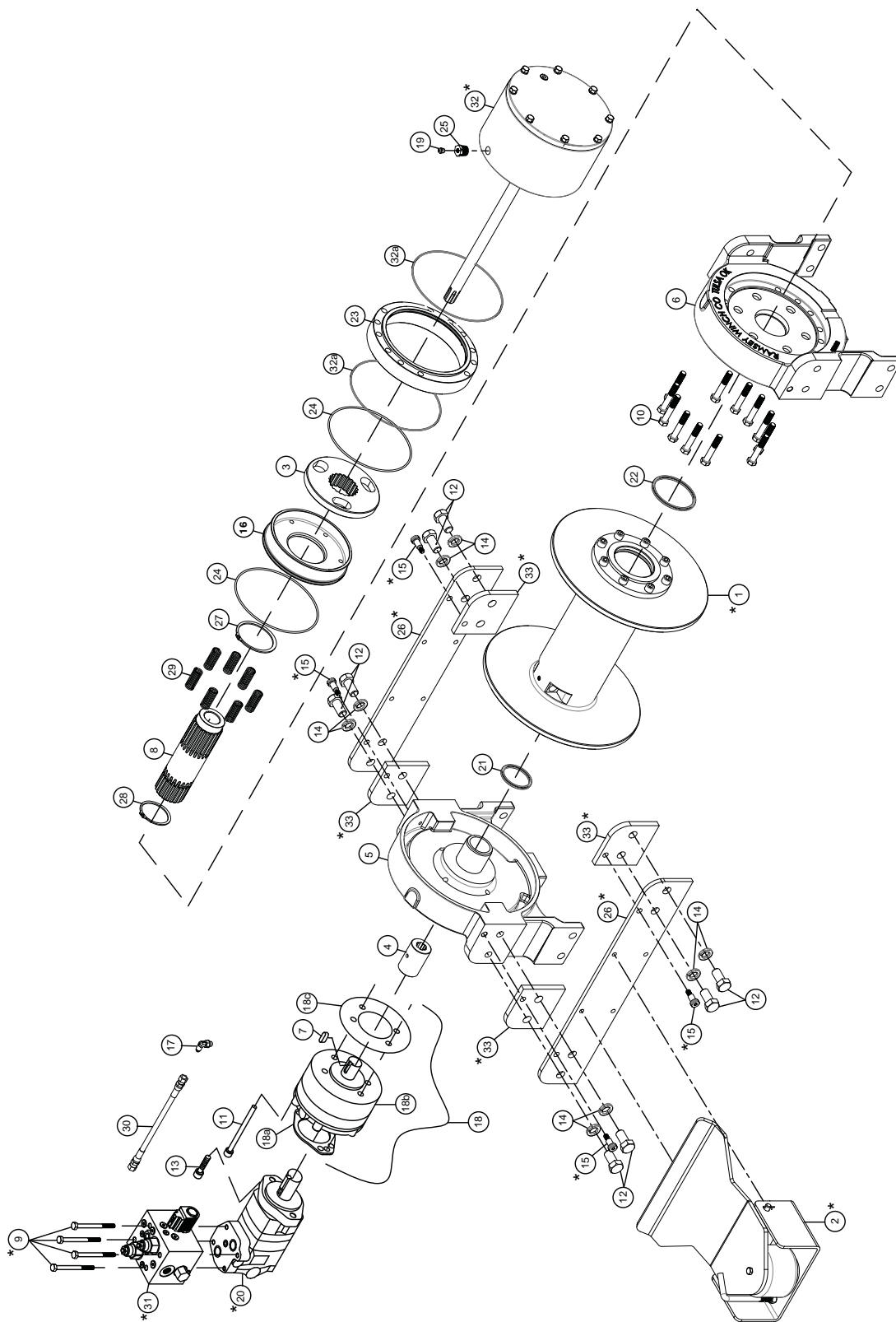






WINCH MODEL HDP 35,000  
SHORT DRUM, 2 SPEED  
L.H. CONFIGURATION SHOWN





## HDP 35.000 WINCH

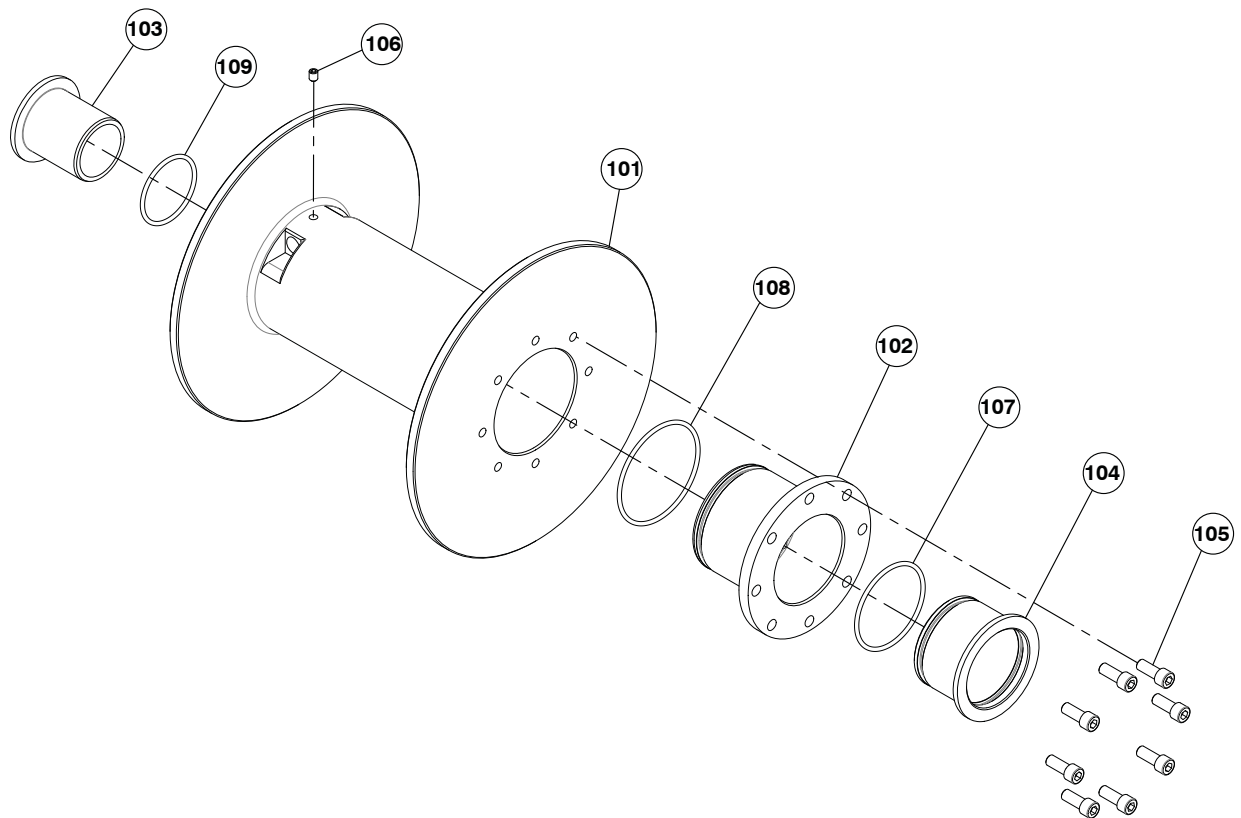
\* SEE BILL OF MATERIAL

# PARTS LIST - HDP 35,000

Item No.	Qty	Part No.	Description	Item No.	Qty	Part No.	Description
1	1	234245	DRUM ASSEMBLY	19	1	456008	RELIEF FITTING
*	1	234251	SHORT DRUM ASSEMBLY	20	1	458126	MOTOR-2 SPD
2	1	299761	TENSIONER ASSEMBLY	*	1	458133	MOTOR-SINGLE SPEED
*	1	299763	TENSIONER ASSY-SHORT DRUM	21	1	462013	QUAD RING
3	1	324520	CLUTCH	22	1	462050	QUAD RING
4	1	324521	MOTOR COUPLING	23	1	426061	CYLINDER
5	1	338356	MOTOR END BEARING	24	2	462110	ORING-LOW TEMP
6	1	338441	GEAR END BEARING	25	1	468004	REDUCER-1/2NPT
7	1	342081	KEY	26	2	474227	TIE PLATE
8	1	357552	OUTPUT COUPLING	*	2	474241	TIE PLATE SHORT DRUM
9	4	414400	CAPSCREW-3/8-24NF X 4LG,HXHD,GR-5	27	1	490067	RING RETAINER
*	3	414935	CAPSCREW-3/8-16NC X 2-1/2LG,HX SOC HD	28	1	490072	RING RETAINER
10	12	414543	CAPSCREW 1/2-13NC X 3 LG HEX HD	29	7	494140	SPRING
11	2	414595	CAPSCREW-1/2-13NC X 3-1/2 LG, SOC HD	30	1	509138	HOSE
12	8	414777	CAPSCREW 3/4-10NC X 1-3/4 LG HEX HD	31	1	516025	VALVE-CONTROL, 2 SPD, 12V
13	2	414948	CAPSCREW-1/2-13NCX1 1/4LG,SOCKET HD	*	1	516011	VALVE-CONTROL, SINGLE SPD
14	1	418249	LOCKWASHER 3/4 MED SECTION	32	1	530176	GEARBOX
15	4	418453	SHOULDER BOLT	*	1	530177	GEARBOX (SHORT DRUM)
*	4	418452	SHOULDER BOLT (SHORT DRUM)	32a	2		O-RING
16	1	426062	PISTON	33	4	474242	TIE PLATE SPACER (SHORT DRUM)
17	1	432018	FITTING – HYD. 7/16-20 90° ELBOW				
18	1	438044	BRAKE ASSEMBLY				
18a	1		MOTOR GASKET				
18b	1		BRAKE				
18c	1		ADAPTER PLATE GASKET				

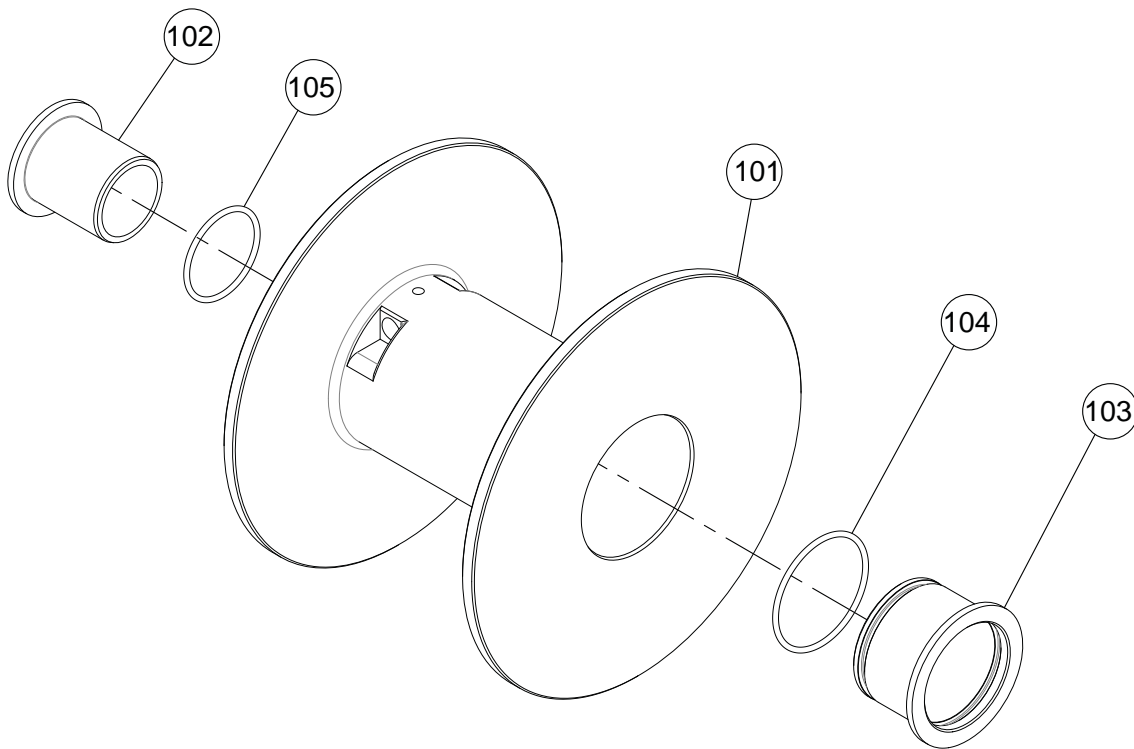
## DRUM ASSEMBLY - 234245

Item No.	Part No.	Quantity	Description
101	332196	1	DRUM-CABLE
102	332283	1	DRIVER-DRUM
103	412087	1	BUSHING
104	412088	1	BUSHING
105	414964	8	CAPSCREW
106	416059	1	SETSCREW
107	462052	1	O-RING
108	462053	1	O-RING
109	462054	1	O-RING



## DRUM ASSEMBLY - 234251

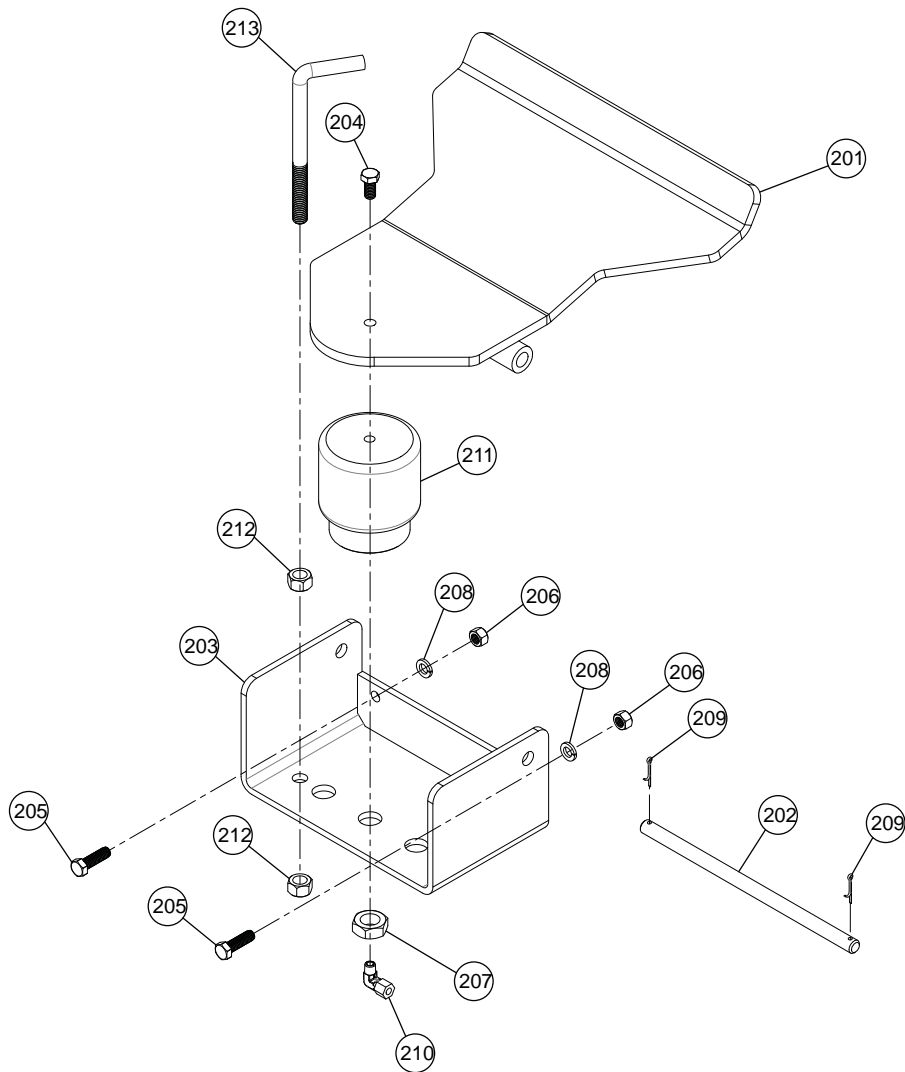
Item No.	Part No.	Quantity	Description
101	234250	1	DRUM-CABLE
102	412087	1	BUSHING
103	412088	1	BUSHING
104	462052	1	O-RING
105	462054	1	O-RING



# **CABLE TENSIONER - 299761 & 299763**

## **Item No. Part No. Quantity Description**

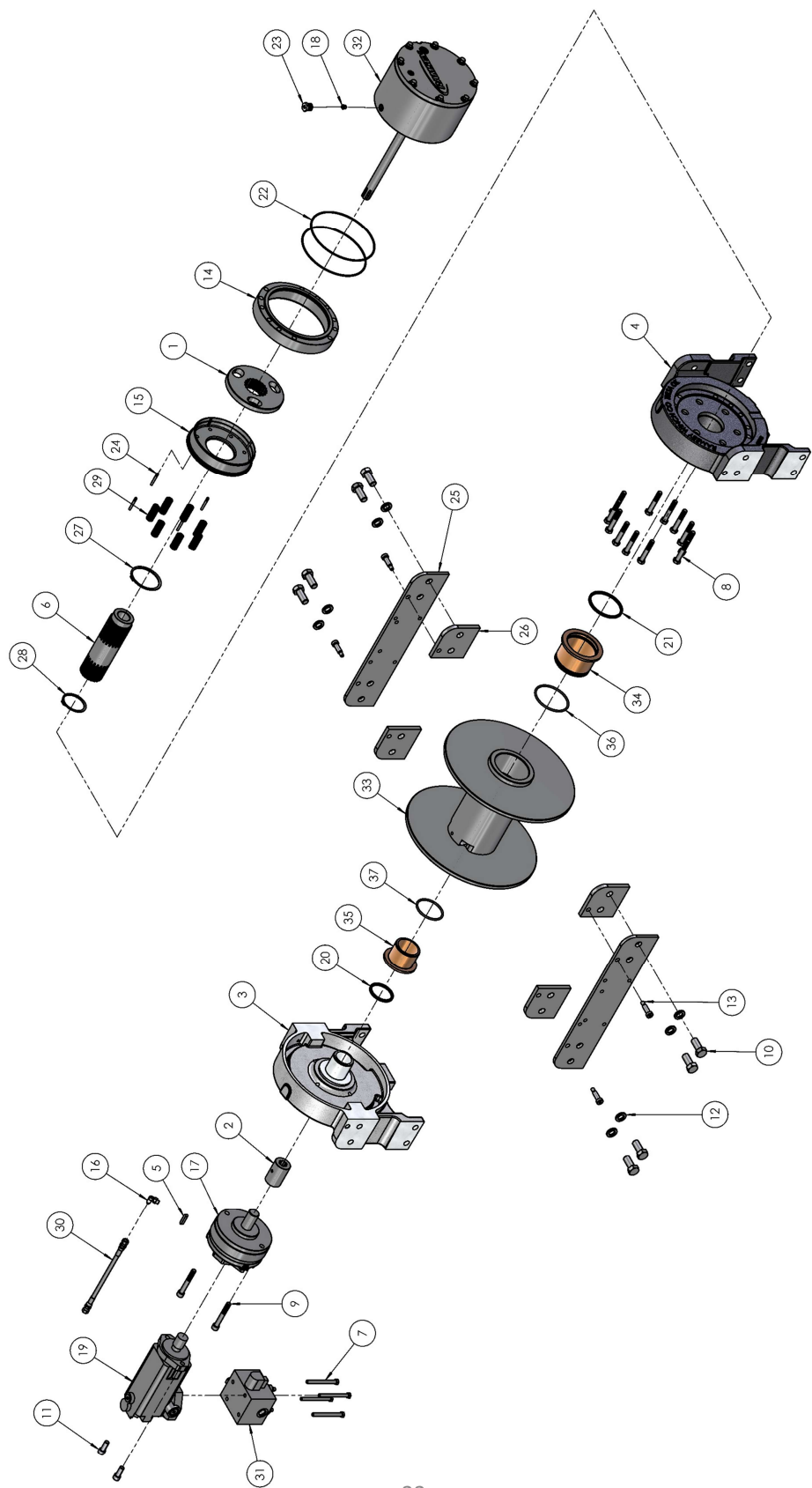
201	265119	1	LEVER ARM
	265123	1	LEVER ARM-SHORT DRUM
202	346046	1	PIVOT PIN
203	408362	1	BRACKET
204	414278	1	CAPSCREW-3/8-16NCX3/4LG,HXHD,GR.5, ZINC PLATED
205	414316	2	CAPSCREW-3/8-16NCX1 1/4,HXHD,GR.5, ZINC PLATED
206	418045	2	NUT-3/8-16NC HEX REG GR.5, ZINC PLATED
207	418098	1	NUT-3/4-16NF HEX JAM
208	418177	2	LOCKWASHER-3/8 MED SECT,ZINC PLATED
209	424005	2	COTTER PIN
210	432033	1	FITTING-ELBOW
211	433029	1	ACTUATOR
212	418069	2	NUT-1/2-13NC, HEX REG, ZP
213	420005	1	ANCHOR BOLT, 1/2-13NC, 2X6 IN.





KITS AND MAINTENANCE PARTS

123734



## KITS AND MAINTENANCE PARTS

**123734**

Item#	QTY.	PART NUMBER	DESCRIPTION	KITS				
				207033	222080	246067	248058	283090
1	1	324520	CLUTCH		X			
2	1	324521	COUPLING-MOTOR					X
3	1	338356	END BEARING-MOTOR SIDE					
4	1	338441	END BEARING-GEAR SIDE					
5	2	342081	KEY-RD ENDS,5/16X5/16X1.5LG	X				
6	1	357552	SHAFT-OUTPUT					
7	4	414400	CAPSCREW-3/8-24NF X4LG,HXHD,GR-5					
8	12	414543	CAPSCREW-1/2-13NCX3LG,HXHD,GR.5					
9	2	414595	CAPSCREW-1/2-13NC x 3-1/2 LONG, HX SOC HD, GR8	X				
10	8	414777	CAPSCREW-3/4-10NCX1 3/4LG,HXHD,GR-5					
11	2	414948	CAPSCREW-1/2-13NCX1 1/4LG,SOCKET HD					
12	8	418249	LOCKWASHER-3/4 ID MED SECT					
13	4	418452	BOLT-SHOULD,SOCHD/.5X1.25/3/8NCX5/8					
14	1	426061	CYLINDER-PISTON					
15	1	426062	PISTON-CLUTCH					
16	1	432018	FITTING 7/16-20 90 degree					
17	1	438044	BRAKE-MODULAR	X				
18	1	456008	RELIEF FIT-1/8-27PFT					
19	1	458126	MOTOR-HYDRAULIC					
20	1	462013	QUAD-RING-2 7/8ODX2 1/2IDX3/16			X		
21	1	462050	QUAD-RING			X		
22	2	462110	O RING 7.734 ID X 8.012 OD X .139 THK		X	X		
23	1	468004	REDUCER-1/2-1/8NPTF,HEX					
24	4	470156	THREADED TAPER PIN		X			
25	2	474241	PLATE- TIE					
26	4	474242	SPACER-TIE PLATE					
27	1	490067	RING-RETAINING		X			
28	1	490072	RING-RETAINING					
29	7	494140	SPRING		X			
30	1	509138	HOSE -4 -4 STRAIGHT 37DEG FLARE 11.3 LENGTH					
31	1	516025	VALVE-MTR.CONTROL					
32	1	530177	GEARBOX					
33	1	234250	DRUM ASSEMBLY					
34	1	412088	BUSHING-DRUM				X	
35	1	412188	BUSHING-DRUM				X	
36	1	462052	O-RING, 3 7/8 ID			X		
37	1	462054	O-RING-3/16X3IDX3 3/8OD			X		

## 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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