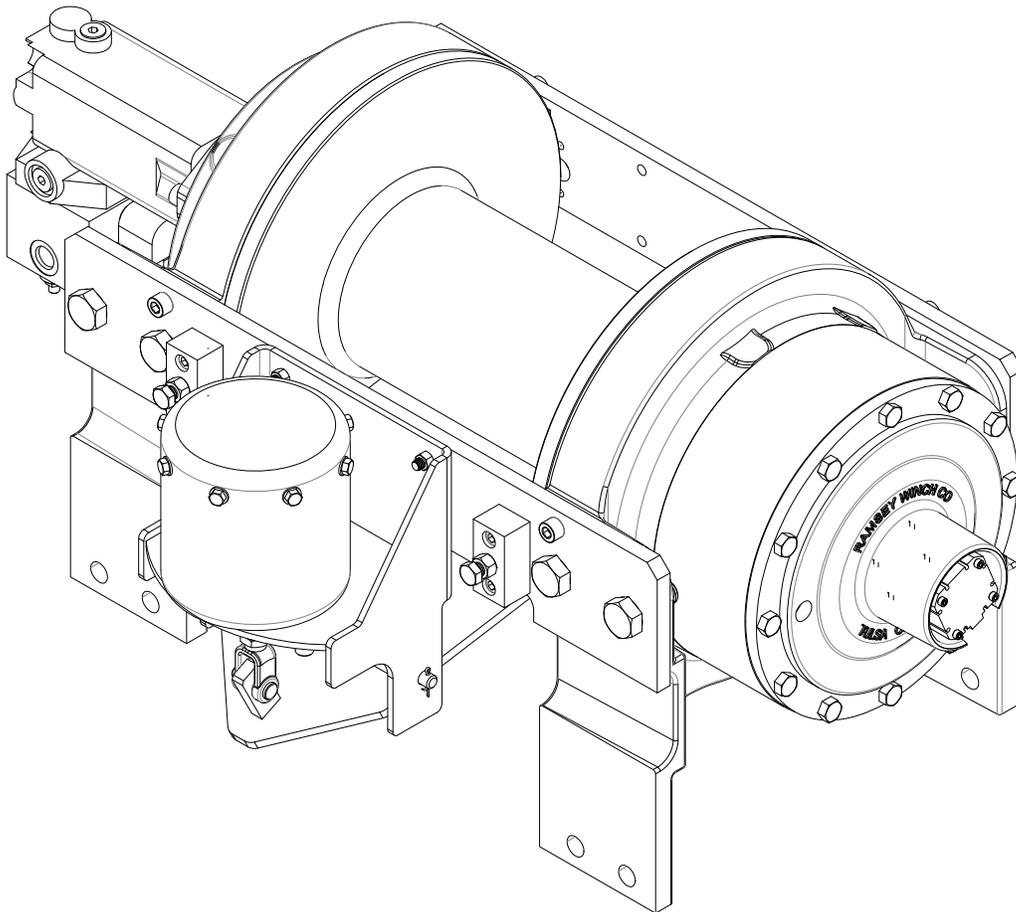




OPERATING, SERVICE AND MAINTENANCE MANUAL



MODEL RPH-50,000 2 SPEED INDUSTRIAL PLANETARY WINCH

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



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RAMSEY HYDRAULIC PLANETARY WINCH MODEL RPH 50,000

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

Rated Line Pull (lbs.).....		50,000				
(Kgs.).....		22,670				
Gear Reduction.....		51.35:1				
Weight (without cable).....		717 lb. (325.2 Kgs.)				
LAYER OF CABLE		1	2	3	4	5**
*Rated line pull per layer	Lbs.	50,000	40,900	34,600	30,000	26,400
	Kg.	22,670	18,550	15,690	13,600	11,970
*Cable capacity	Ft.	30	65	110	160	220
	M.	9	19	33	48	66
*Line speed (at 25 GPM)	FPM	23	28	33	38	43
	MPM	7.0	8.6	10.1	11.7	13.2
* These specifications are based on recommended wire rope of .875 inch dia. extra improved plow steel or equivalent						
** Last layer does not conform to SAE J706						

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*

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

WARNINGS:

VERIFY PROPER COUNTERBALANCE VALVE CARTRIDGE AND PLUG POSITION FOR SPECIFIC INSTALLATION.

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.

WINCH MOUNTING

Use (8) 3/4" diameter grade 5 or better bolts to attach winch to the wrecker.

Before operating the winch for the first time, remove the cover from the breather vent at the back of the air cylinder and the relief fitting on top of the clutch housing.

CABLE INSTALLATION

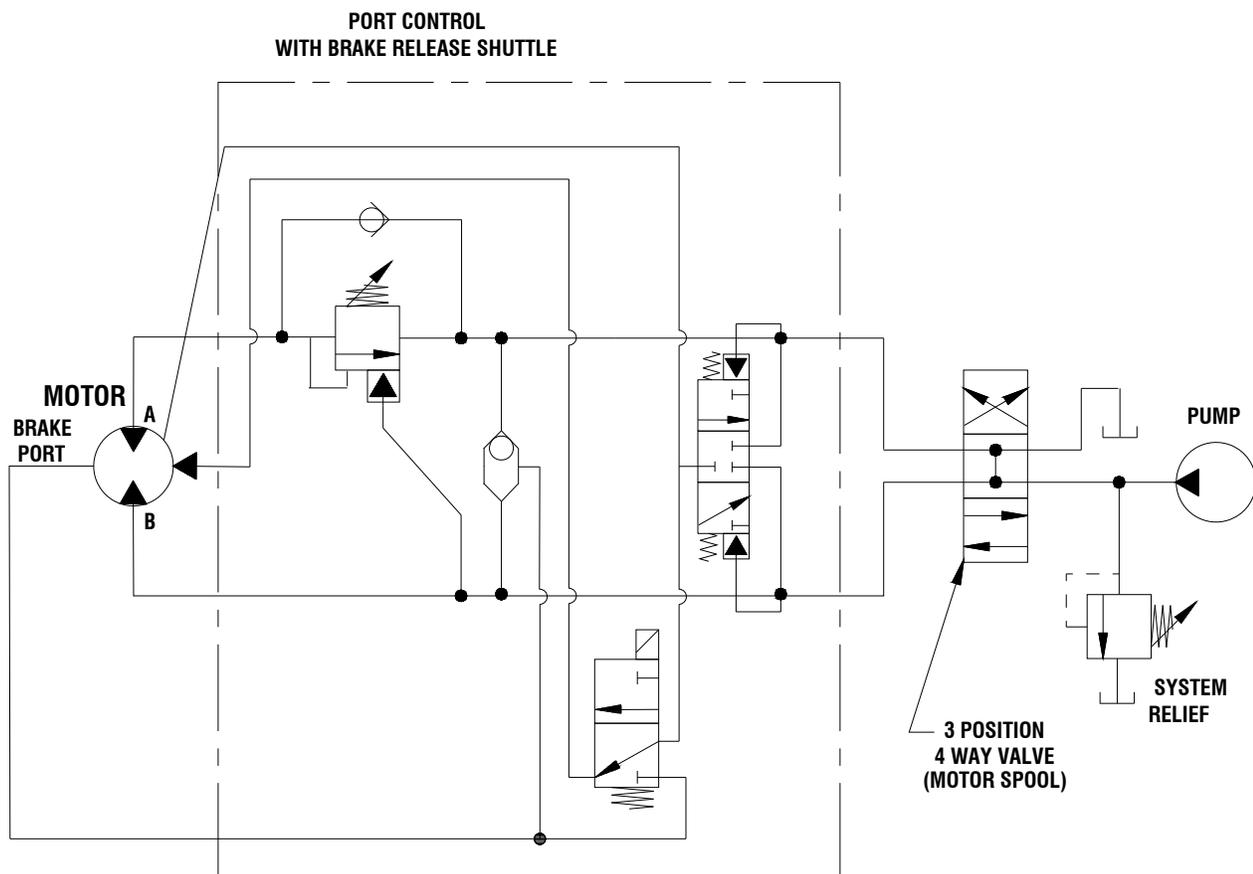
1. Unwind cable by rolling it out along the ground to prevent kinking. Securely wrap end of wire rope, opposite hook, with plastic or similar tape to prevent fraying.
2. Insert the end of cable, opposite hook end, into the hole in drum barrel. Secure cable to drum barrel, using setscrew furnished with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

HYDRAULIC SYSTEM REQUIREMENTS

Refer to the performance charts to properly match your hydraulic system to RPH-50000 winch performance. The charts consist of:

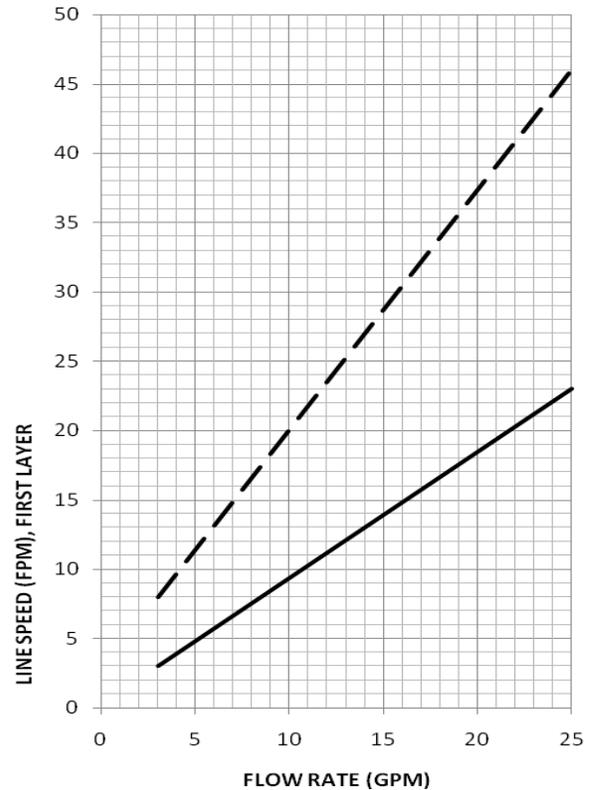
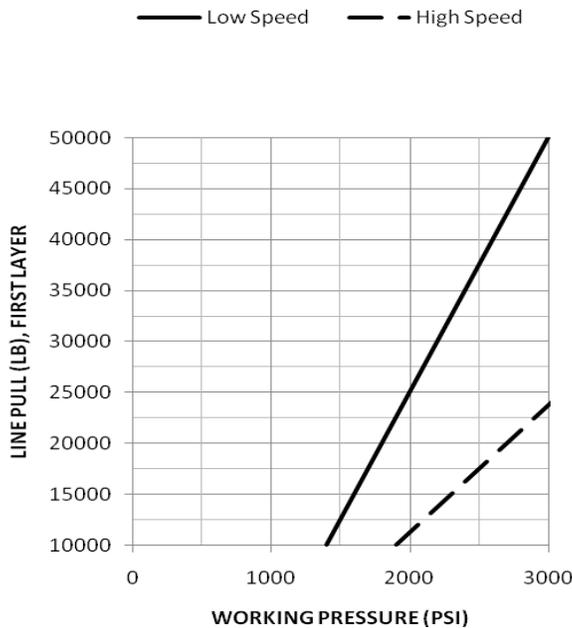
- (1) Line pull (lb.) first layer vs. working pressure (PSI) and (2) Line speed (FPM), first layer vs. flow (GPM). Performance based on a motor displacement of 9.6 cubic inches with 25 GPM maximum flow rate. See page 14 for motor port size.

TYPICAL LAYOUT



PERFORMANCE CHARTS

(BASED ON 9.6 CU. IN./REV MOTOR-LOW SPEED)



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.

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.

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 top of the gear housing. 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 80W-140 gear oil.
4. Inspect tie bars and surrounding structure for cracks or deformation.

TROUBLE SHOOTING GUIDE

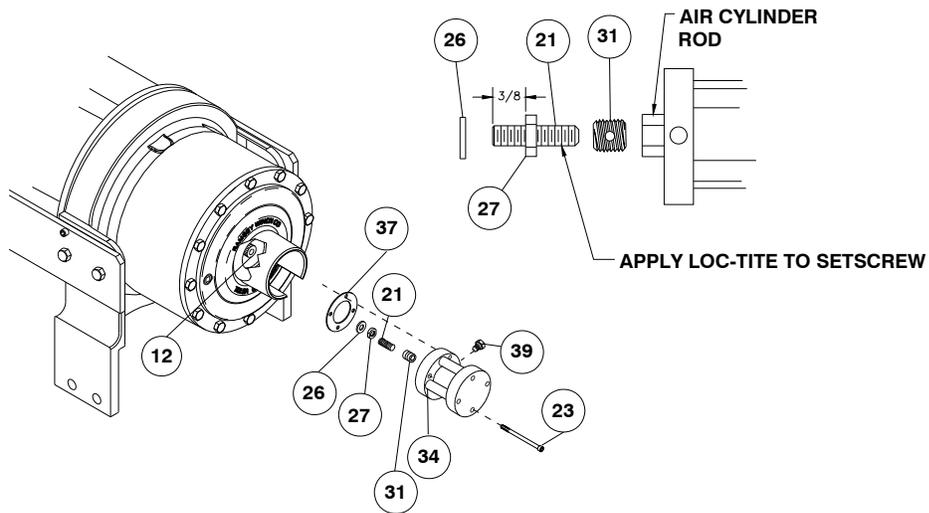
CONDITIONS	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM WINCH	<ol style="list-style-type: none">1. Seals damaged or worn.2. Too much oil.3. Damaged gaskets.	<ol style="list-style-type: none">1. Replace seal.2. Drain excess oil. Refer to OPERATION.3. Replace gaskets.
WINCH RUNS TOO SLOW	<ol style="list-style-type: none">1. Low flow rate.2. Hydraulic motor worn out.	<ol style="list-style-type: none">1. Check flow rate. Refer to HYDRAULIC SYSTEMS performance chart page 2.2. Replace motor.
CABLE DRUM WILL NOT FREESPOOL	<ol style="list-style-type: none">1. Clutch not disengaged.	<ol style="list-style-type: none">1. Check air pressure to clutch cylinder 100 PSI min. required Refer to page 17 for port location.
BRAKE WILL NOT RELEASE	<ol style="list-style-type: none">1. Brake line disconnected or blocked.	<ol style="list-style-type: none">1. Check brake function. Refer to page 14.
LOAD LOWERS TOO FAST	<ol style="list-style-type: none">1. Hydraulic lines to counter-balance valve incorrectly installed and/or cartridge plug position incorrect for drum rotation direction to reel cable in.	<ol style="list-style-type: none">1. Refer to View A-A pg. 17 for correct installation.

INSTRUCTIONS FOR OVERHAUL

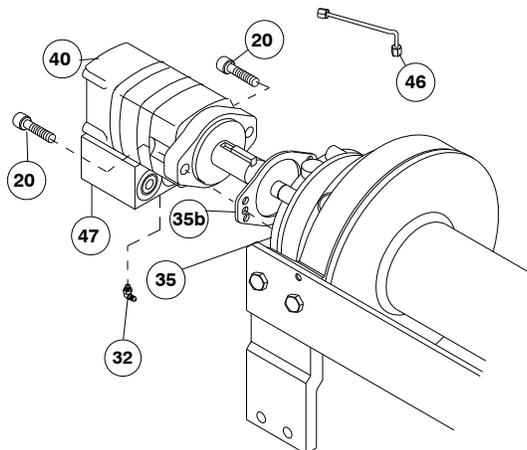
DIS-ASSEMBLY

1. Drain oil from gear housing #10 by removing pipe plug #43 from in end bearing. Remove reducer #42 and relief fitting #38. If new air cylinder is required, remove air cylinder #34 from cover by removing (4) capscrews #23.

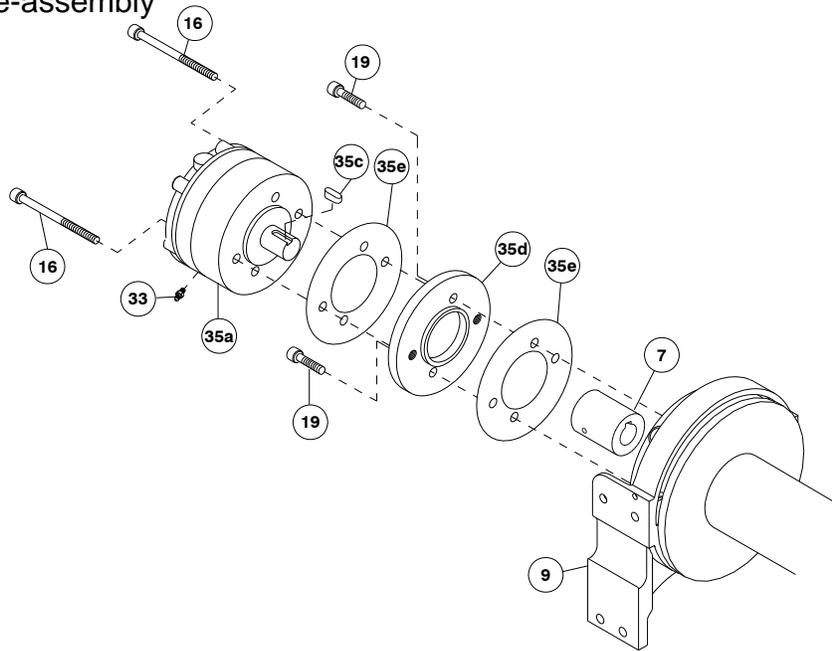
Remove washer #25, nut #26, setscrew #21, and insert #31 from end of air cylinder rod. Apply Loc-tite to threads of nut #26 and thread onto setscrew #21 to 3/8" from drive end, as shown below. Apply Loc-tite to threads of setscrew and thread insert #31 over end of setscrew and against nut. Use setscrew and nut to thread insert #31 into end of air cylinder rod. Tighten nut against cylinder rod, keeping 3/8" distance from drive end of setscrew to nut. If breather vent #39 is damaged, remove and replace.



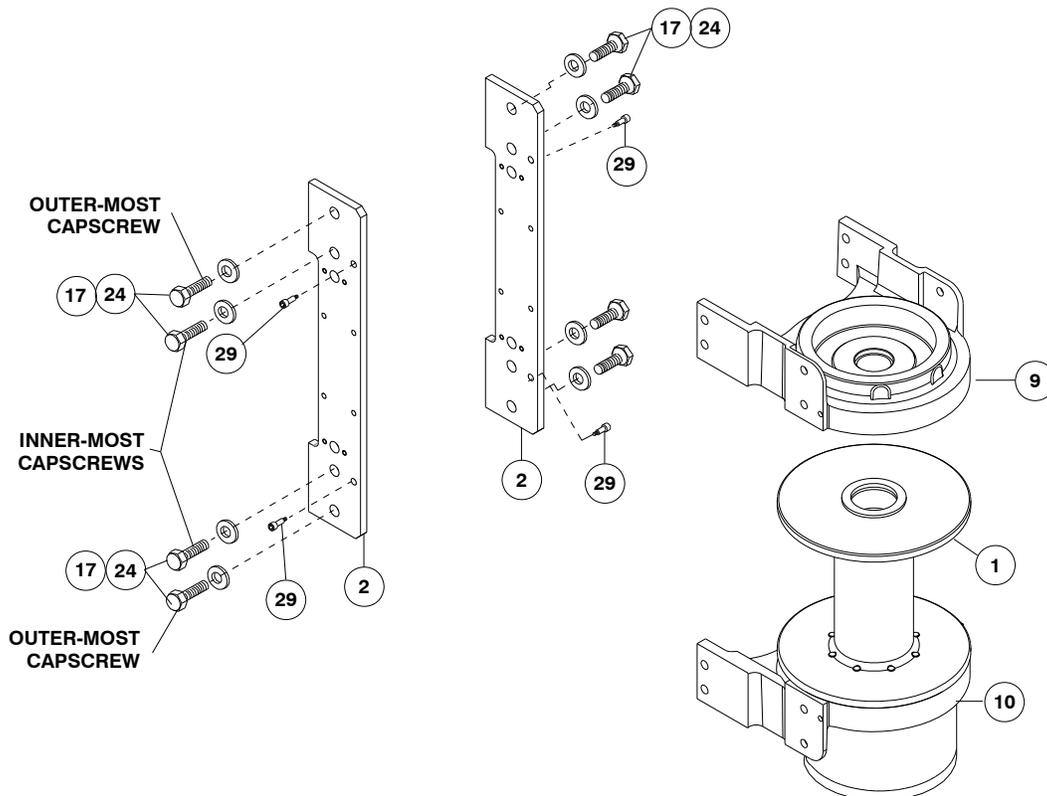
2. Disconnect tube #46 from elbow #32 on valve #47 and fitting #33 on bottom of brake #35. Remove motor #40 and gasket #35b by removing (2) capscrews #20. Remove valve #47 if needed from motor by loosening (3) capscrews #18, as shown on page 22.



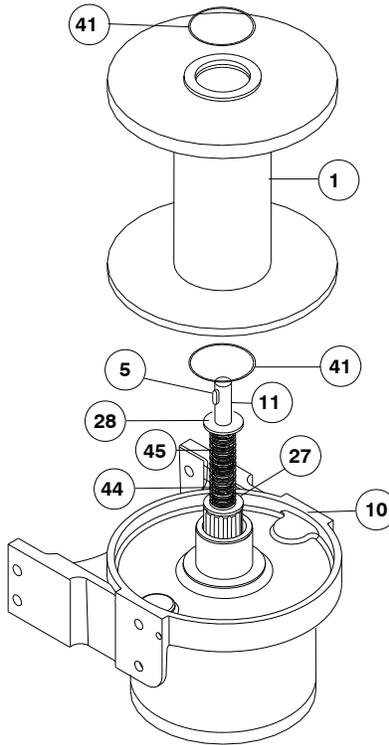
- Remove brake assembly screws #16 from brake 35a to access (2) mounting screws #19 attaching brake adapter plate #35d to end bearing #9. **CAUTION: BRAKE IS SPRING-LOADED BY CLUTCH SPRING AND MUST BE RESTRAINED AGAINST END BEARING AS MOUNTING SCREWS ARE REMOVED.** Remove coupling #7 and gasket #35e from end bearing. Take note of mounting configuration for proper mounting of parts during re-assembly



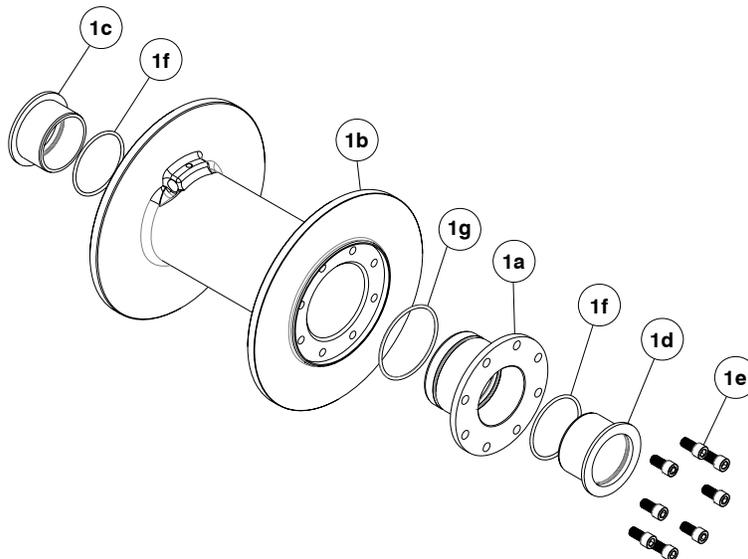
- Remove winch from tie bars #2 by removing (8) capscrews #17, (8) lockwashers #24, and (4) shoulder bolts #29. Pull motor end bearing #9 from drum assembly #1.



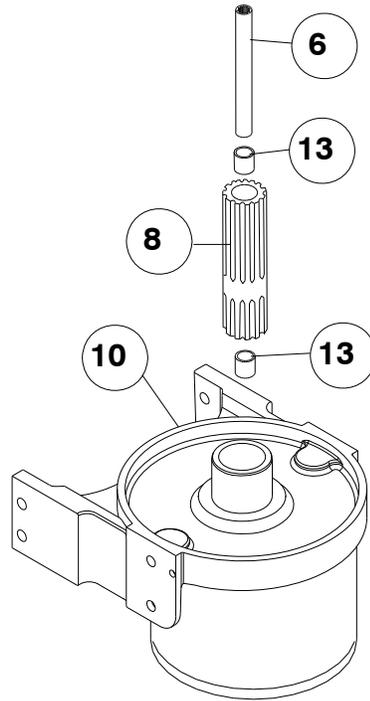
5. Pull drum assembly #1 upward from end bearing #10. Remove quad-rings #41 from grooves in drum bushings. Remove input shaft #11, clutch springs #44 & #45 and washers #27 & #28 from end bearing. Examine splined ends of input shaft for signs of wear, replace if damaged.



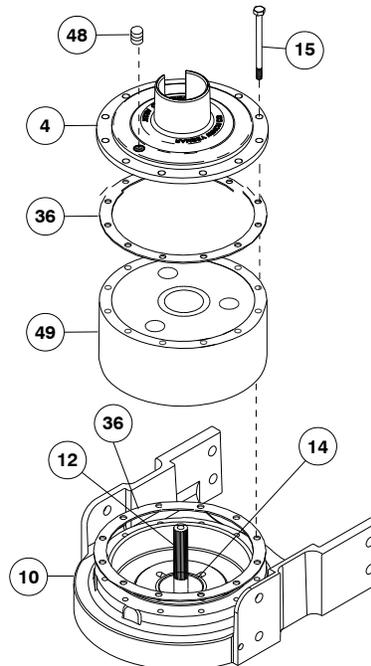
6. Examine drum assembly #1 for signs of wear. If splines inside of drum driver #1a are damaged, drum driver must be replaced. Remove drum driver by unscrewing (8) capscrews #1e. If bushings 1c & 1d show signs of wear, replace by pressing old bushings from drum and removing o-rings 1f & 1g from grooves in drum 1b and drum driver 1a. Place well-oiled o-rings into grooves in drum and drum driver. Press new bushing into end of drum opposite drum driver and press bushing into drum driver until flange of bushings are flush against drum and driver.



7. Remove output coupling #8 and coupling shaft #6 from end bearing #10. Examine bearings #13 pressed in output coupling for signs of wear. Replace bearings, if necessary, by pressing old bearings from coupling and press new bearings into each end of output coupling. Place coupling shaft into bearings.



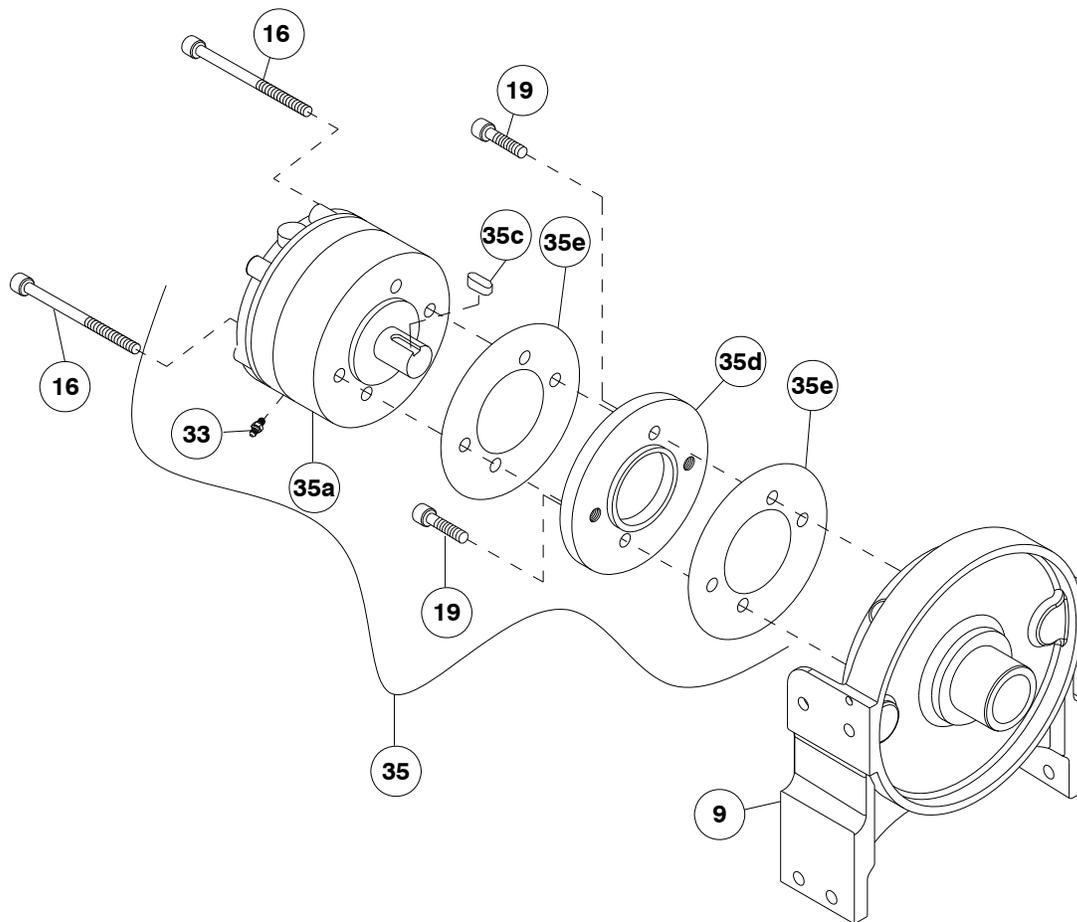
8. Remove (12) capscrews #15 to pull gear-housing cover #4 and gasket #36 from ring gear #49. Remove input thrust washer, sun gear and carrier assemblies from inside of ring gear. Remove ring gear #49 and gasket #36 from end bearing #10. Examine shifter shaft #12 for signs of wear, replace if necessary. Examine bushing #14 for signs of wear. Replace bushing, if necessary, by pressing old bushing from housing and pressing new bushing into place.



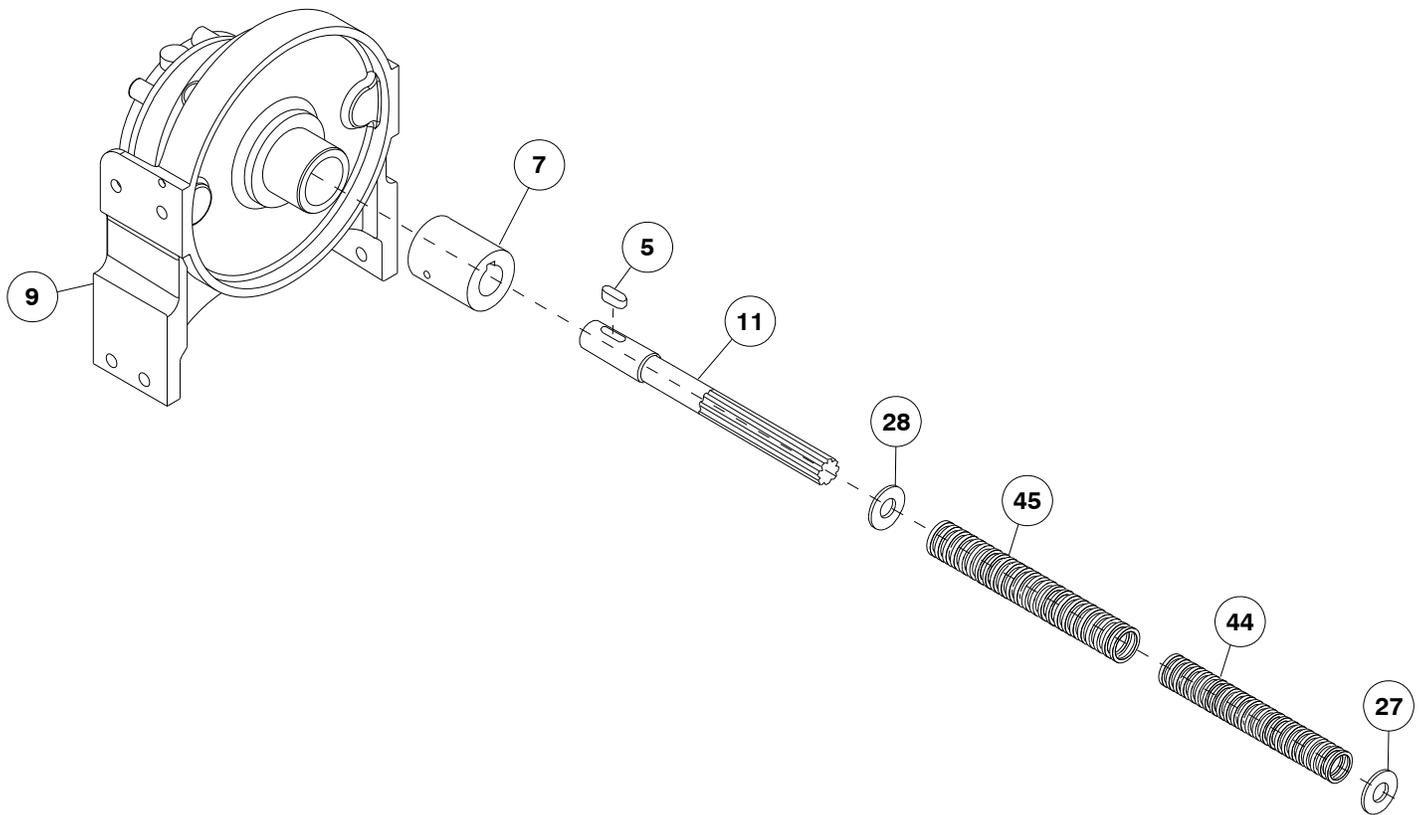
RE-ASSEMBLY

9. **NOTE:** DETERMINE MOUNTING CONFIGURATION OF WINCH ("A" ROTATION DRIVER SIDE OR "B" ROTATION PASSENGER SIDE) BEFORE RE-ASSEMBLY OF WINCH, TO ASSURE PARTS ARE MOUNTED TO PROPER SIDE. REFER TO WINCH MOUNTING CONFIGURATIONS ON PAGE 16.

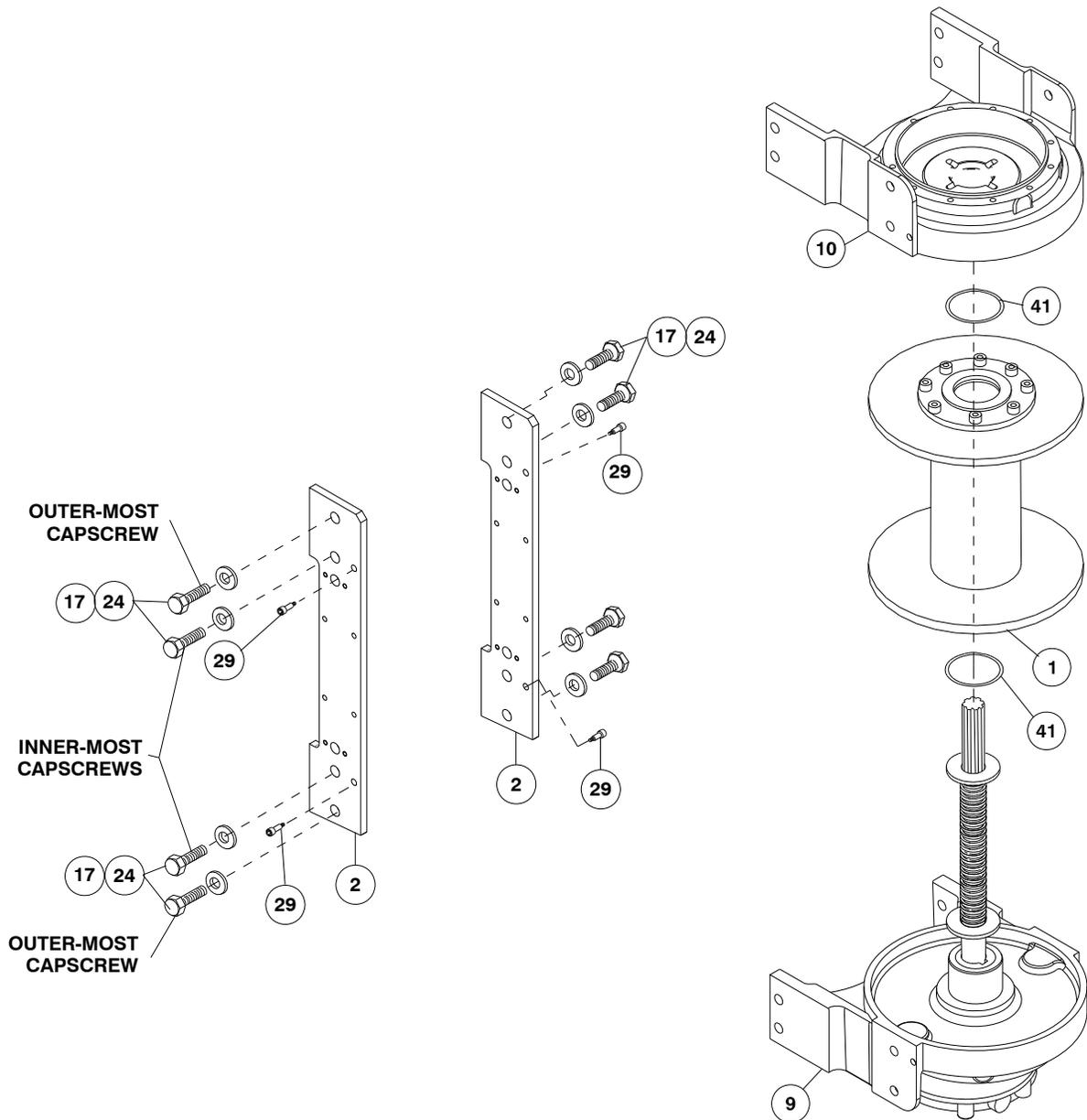
Place gasket #35e into position on mounting surface of end bearing #9. Use (2) capscrews #19 to attach brake adapter plate #35d to motor end bearing. Torque capscrews to 85 ft.-lbs. each. Apply second gasket to other side of adapter plate. Attach brake assembly #35a to brake adapter plate using capscrews #16. Torque capscrews to 97 ft.-lbs. each.



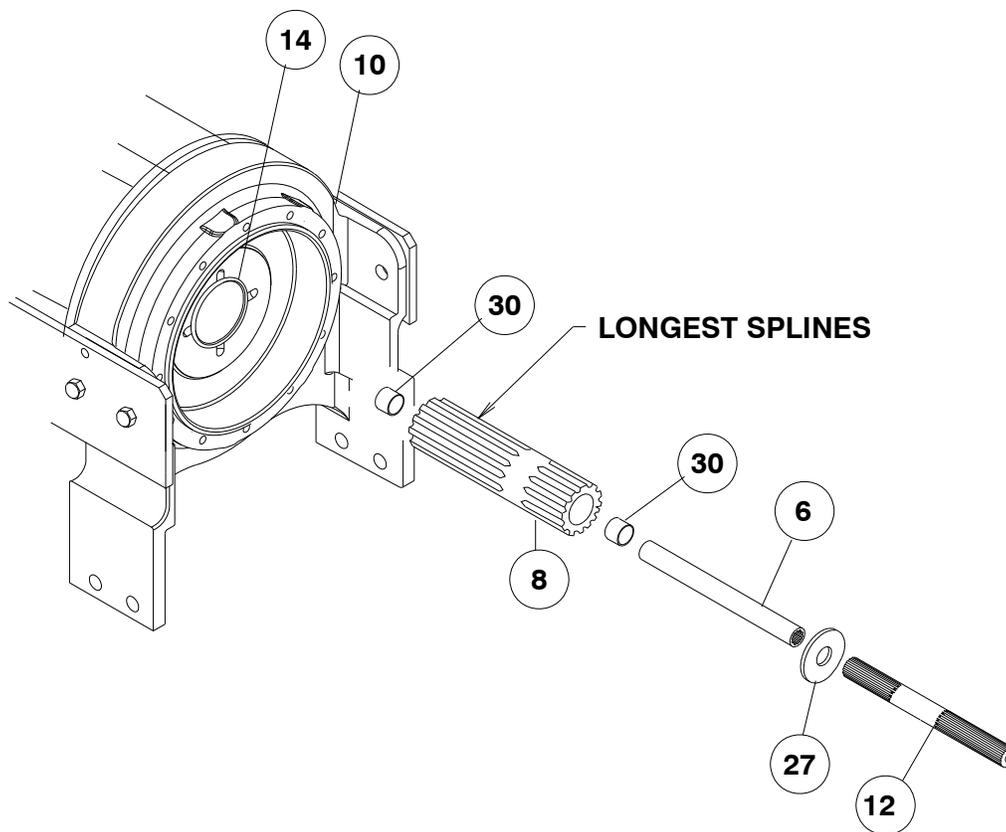
10. Gently tap key #5 into keyway of input shaft #11. Liberally apply grease to shoulder of input shaft. Place 1-3/4 OD washer #28 over end of shaft and against shoulder of shaft. Place spring #44 inside of spring #45 and place springs over shaft and against washer #28. Slide 2-3/8 OD clutch washer #27 over splined end of shaft and against springs. Use grease to hold springs and washers in place on shaft. Align keyway of coupling #7 with key end of input shaft. Slide coupling #7 over end of shaft #11. Slide entire assembly into journal of motor end bearing #9, aligning key slot in #7 with key on brake shaft, until it bottoms out. Stand entire assembly upright so that shaft and springs are vertical. **Note: Wood blocks or other equivalent support, under motor end bearing #9, should be used to stabilize assembly.**



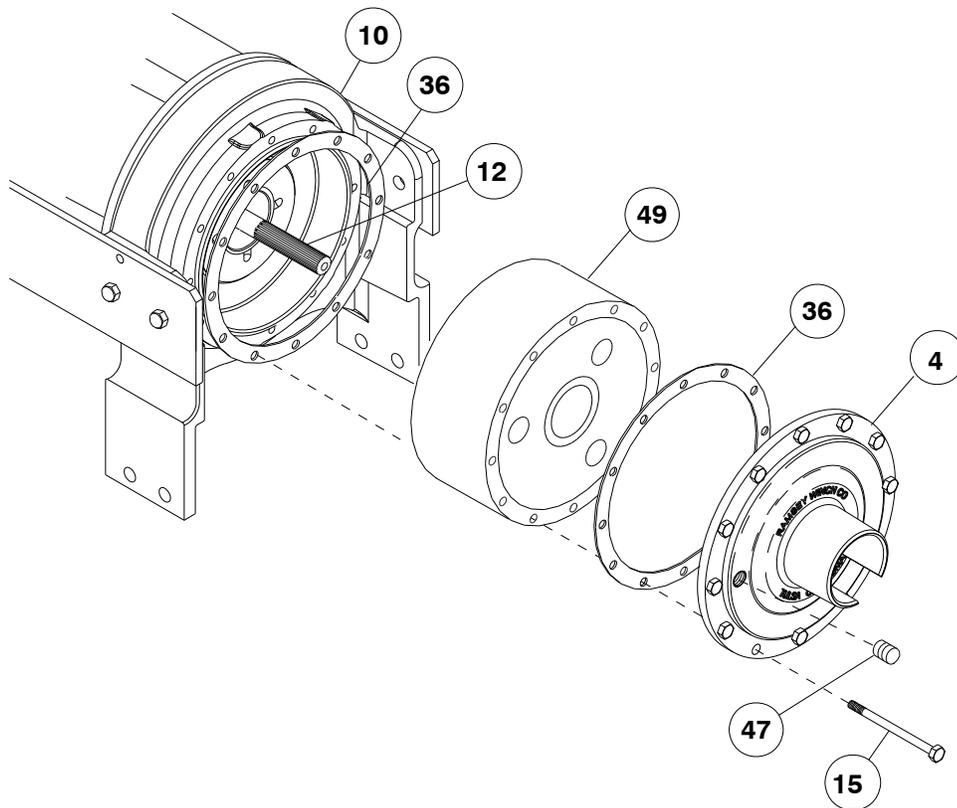
11. Seat well-oiled quad-ring #41 into groove of bushing in each end of drum assembly #1. Carefully set drum assembly down onto motor end bearing #9. Lift gear end bearing #10 and set into place on drum assembly. Attach tie bars #2 using (8) capscrews #17 and lockwashers #24. Install (4) shoulder bolts #29 and hand tighten. Tighten (4) innermost capscrews securely, check rotation of cable drum. Tighten (4) outer-most capscrews securely, check rotation of cable drum. Torque capscrews, in innermost then outer-most pattern shown below, to 430 ft.-lbs. each. Torque shoulder bolts to 30 ft.-lbs. each. Check rotation of cable drum assembly. It must rotate freely with no tight spots.



12. If removed, install bushing #14 into gear housing #10. Press bushings #30 into each end of output coupling #8. Place end (with longest splines) of output coupling #8 through end bearing bushing #14 and mesh coupling spline with spline inside of drum. Slide shaft coupling #6 into output coupling #8. Place shifter shaft #12 through washer #27 and into shaft coupling #6, meshing splines of shifter shaft with splines in shaft coupling.

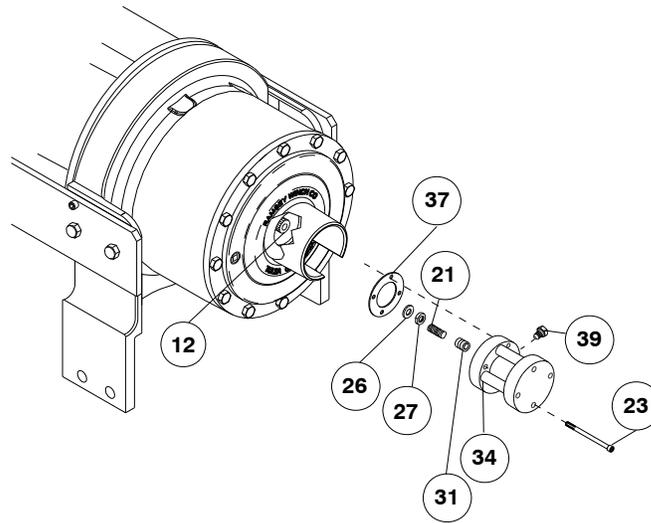


13. Set gasket #36 into place on gear housing end bearing #10. Place ring gear #49 onto end bearing, aligning holes in ring gear with holes in gasket and gear housing end bearing. Use (2) capscrews to temporarily secure ring gear to end bearing. Place (2) gear carrier assemblies into ring gear meshing carrier gears with ring gear. Slide input sun gear over shifter shaft #12 and mesh with teeth of input carrier. Apply grease to input thrust washer and place into slots of gearbox cover #4. Place gasket #36 into position on gearbox cover with sealer. Remove (2) temporary capscrews and attach cover and gasket to ring gear end bearing. Use (12) capscrews #15 to secure gearbox to gear housing end bearing. Torque capscrews to 87 ft-lbs. each, in a criss-cross pattern.

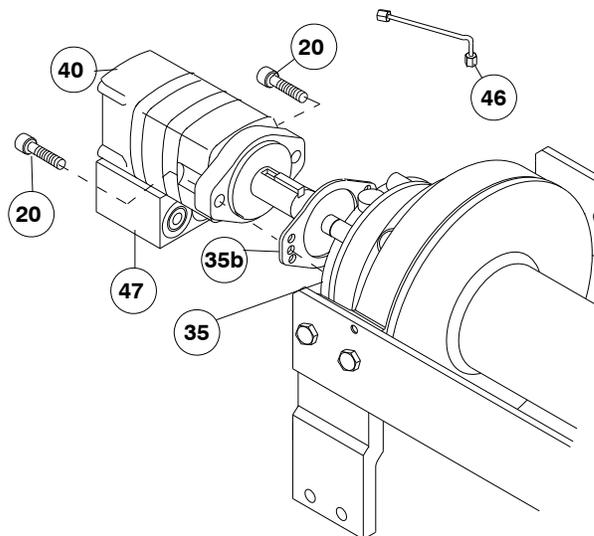


14. Apply Loc-tite to threads of nut #27 and thread onto setscrew #21 to 3/8 inch from drive end, as shown below. Slide washer #26 over set screw until it rests against the nut. Apply Loc-tite to threads of setscrew and thread insert #31 over end of setscrew and against nut. Use setscrew and nut to thread insert #31 into end of air cylinder rod. Tighten nut against cylinder rod, keeping 3/8 inch distance from drive end of setscrew to nut.

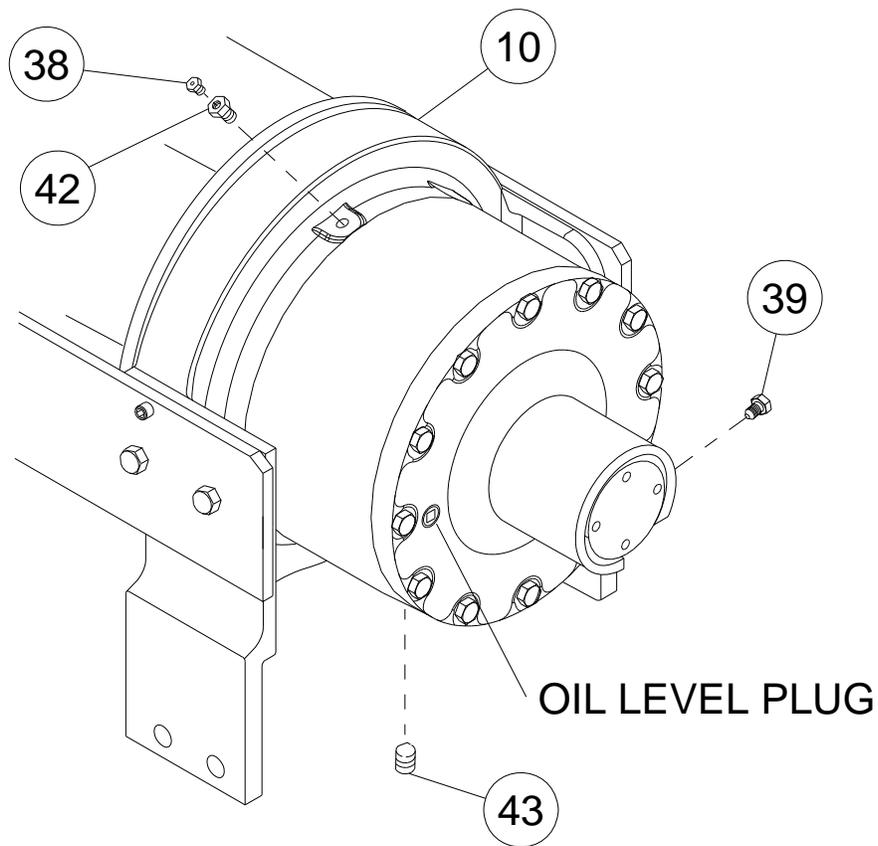
Pull rod from air cylinder as far as possible. Slide washer #25 over setscrew #20 and against nut attached to air cylinder rod. Place setscrew into hole of shifter shaft #12 and attach air cylinder to gear box cover using (4) capscrews #22. Apply Loc-tite PST thread sealer to threads of capscrews. Torque capscrews to 5 ft-lbs. each, in criss-cross pattern. **Note: port in cylinder should be oriented to be accessible through slot in gear box cover.**



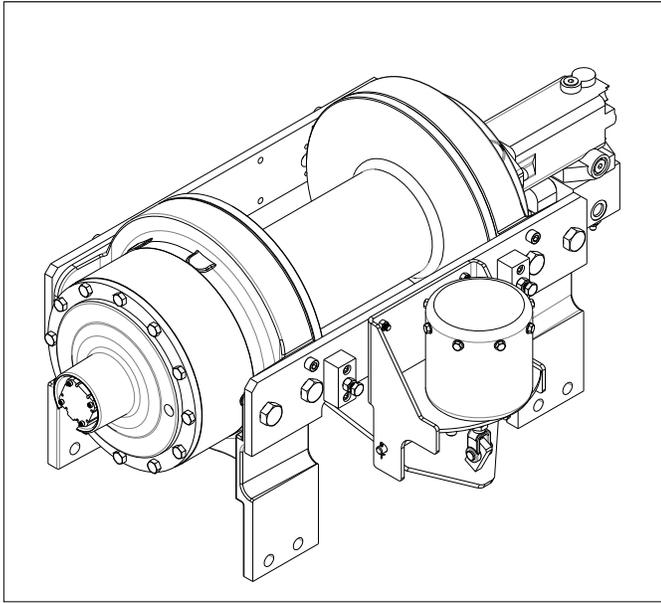
15. Attach motor #40 with gasket #35b to brake #35. Use (2) cap screws #20 and torque to 74 ft.-lbs. each. Securely connect tube #46 to elbow #32, in bottom of valve #47, and fitting #33 in bottom of brake #35.



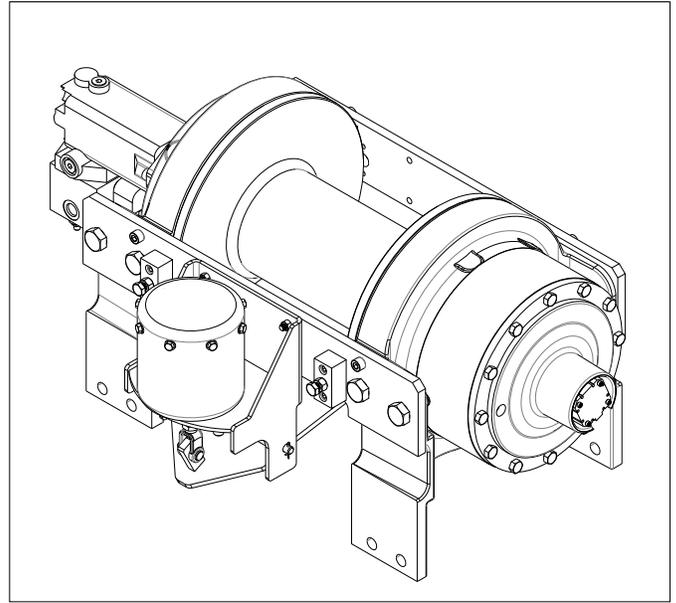
16. Apply thread sealer to threads of plug #43. Thread plug into tapped hole in bottom of gear end bearing #10. Pour approximately 2.5 quarts of SAE 80W-140 gear oil into end bearing. Check oil level by removing oil plug noted below. Insert relief fitting #38 and thread reducer #42 into top of end bearing at oil fill hole. Be sure breather vent #39 and relief fitting #38 are not damaged and in good operating condition. Replace if necessary.



17. Install winch and connect pressure lines. Apply at least 230 PSI pressure to release brake and verify that brake releases, by observing that the winch drum rotates. Check proper operation of clutch by applying air pressure to clutch air cylinder to disengage clutch. Verify winch freespool. Re-engage clutch. A loud noise should be heard when the clutch engages. Winch drum should not freespool. Operate winch forward and reverse to verify that drum rotates.

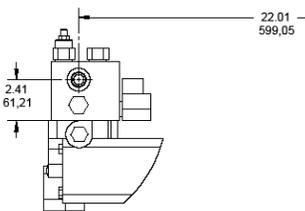
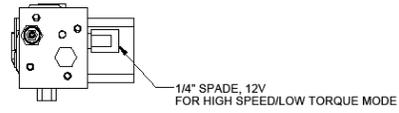
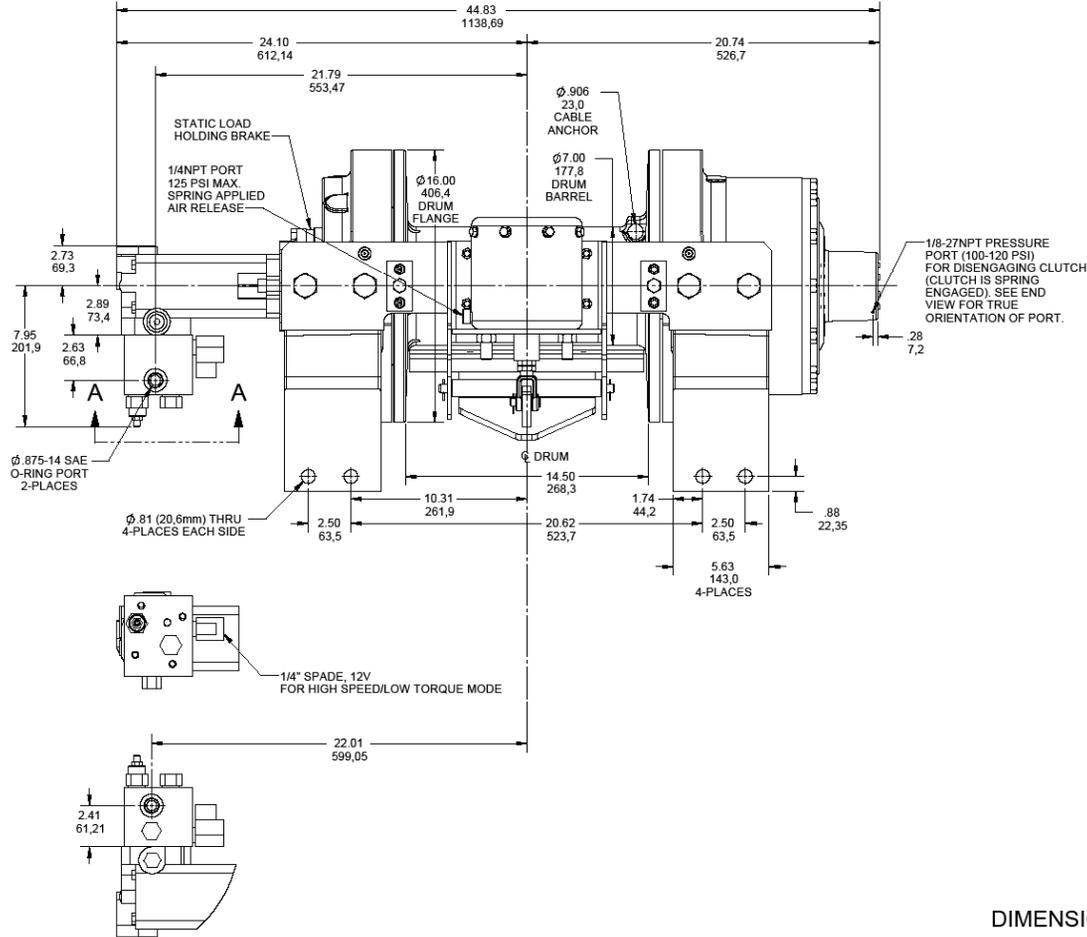


**P/N 123628 "B" ROTATION
PASSENGER SIDE**

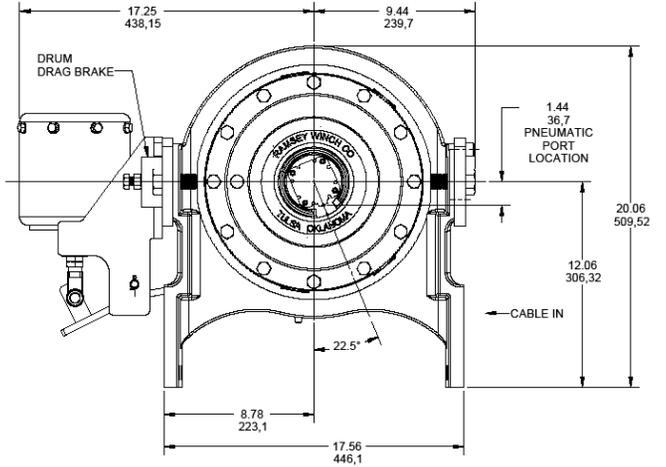


**P/N 123627 "A" ROTATION
DRIVER SIDE**

WINCH MOUNTING CONFIGURATIONS

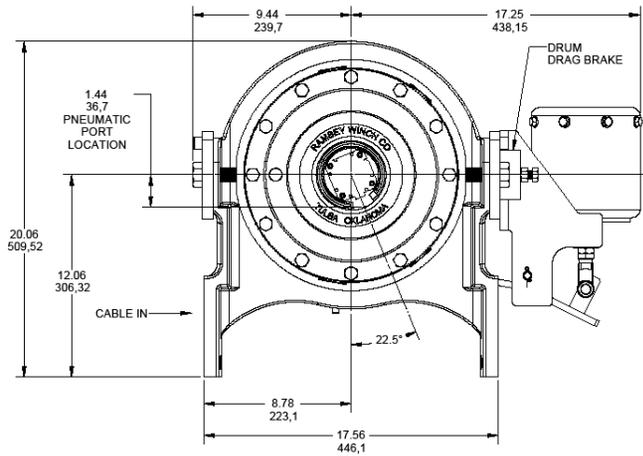


VIEW A-A

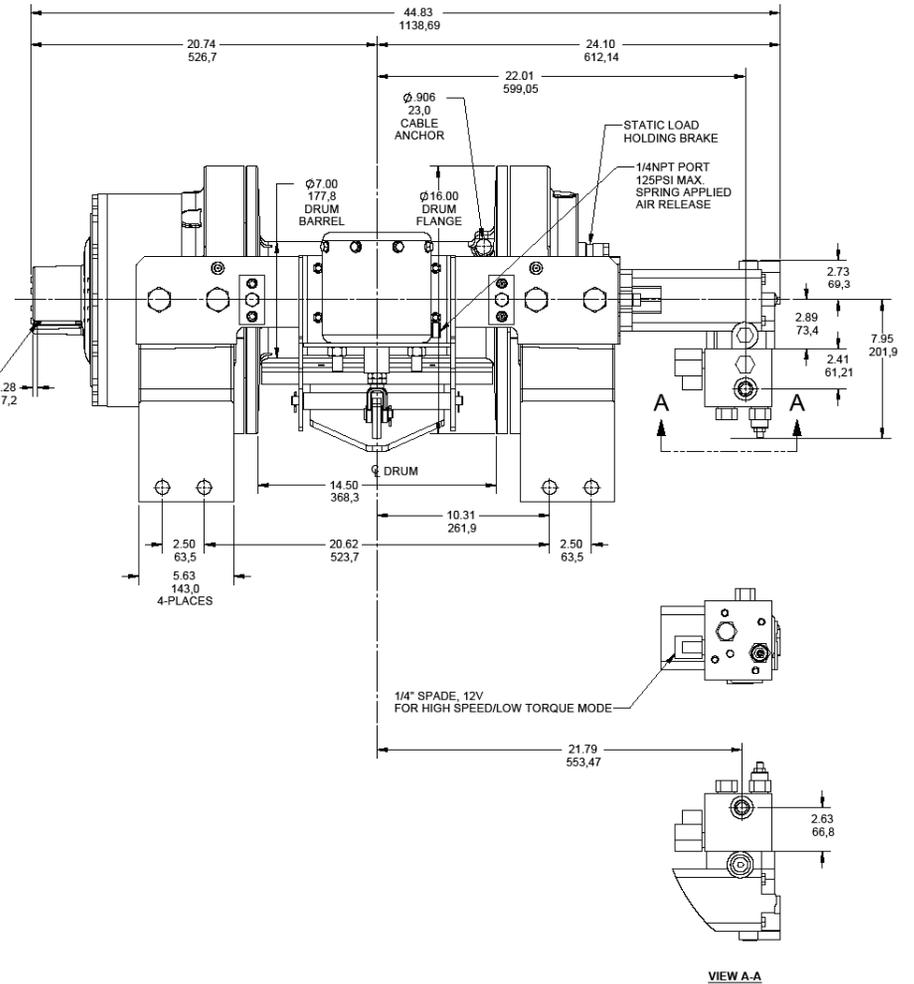


NOTE:
2-SPEED STANDARD MOTOR
UNDER WOUND AIR TENSIONER
"A" ROTATION SHOWN
DRIVER SIDE

DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS



1/8-27NPT PRESSURE PORT (100-120 PSI) FOR DISENGAGING CLUTCH. (CLUTCH IS SPRING ENGAGED.) SEE END VIEW FOR TRUE ORIENTATION OF PORT.



NOTE:
2-SPEED STANDARD MOTOR
UNDER WOUND AIR TENSIONER
"B" ROTATION SHOWN
123628 PASSENGER SIDE

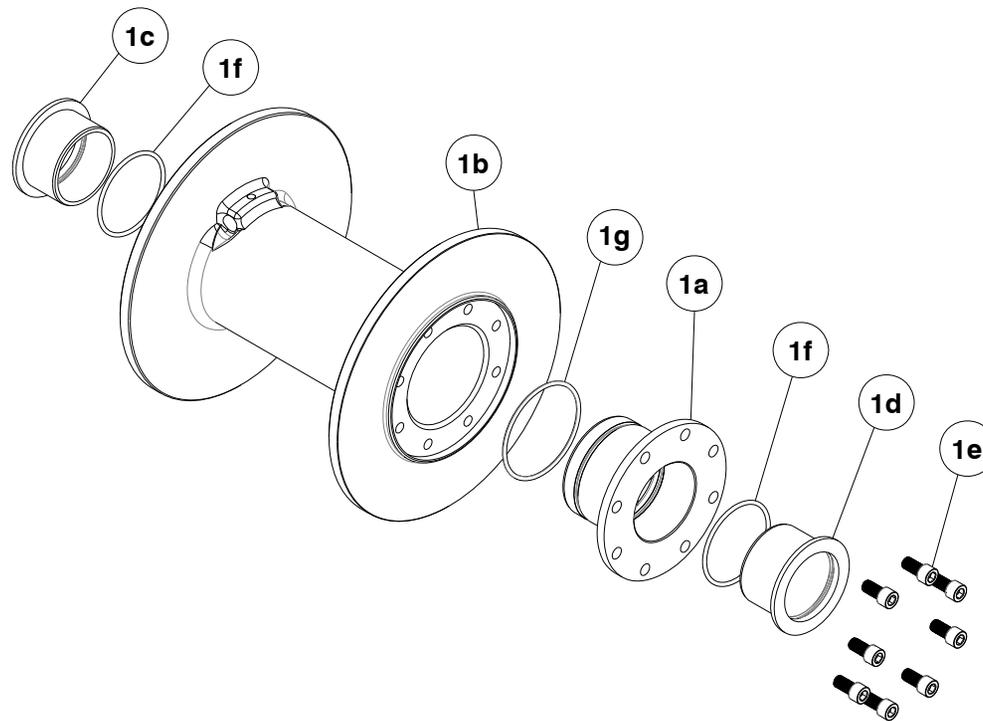
DIMENSIONS SHOWN ARE INCHES OVER MILIMETERS

395448 (234156) DRUM

ITEM	QTY.	PART #	DESCRIPTION
1a	1	332226	DRIVER
1b	1	332152	DRUM
1c	1	412078	BUSHING
1d	1	412079	BUSHING
1e	8	414978	CAPSCREW
1f	2	462043	ORING
1g	1	462075	ORING

395448 (234240) DRUM

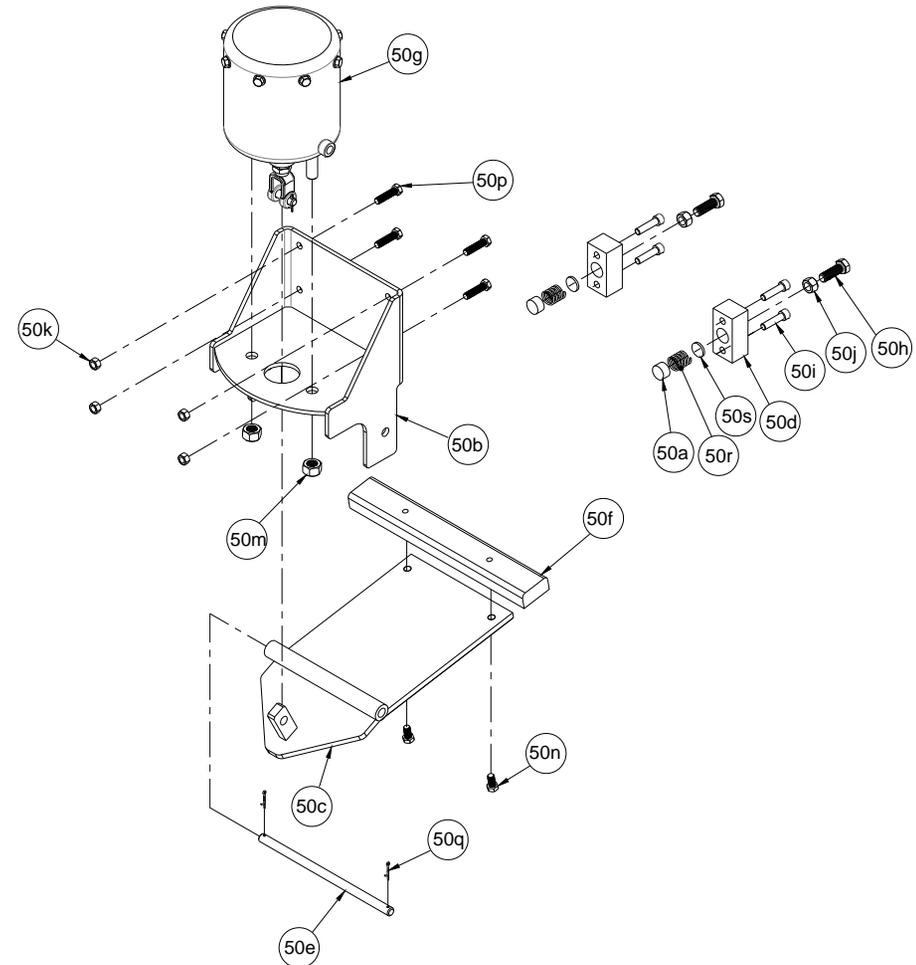
ITEM	QTY.	PART #	DESCRIPTION
1a	1	332148	DRIVER
1b	1	332271	DRUM
1c	1	412078	BUSHING
1d	1	412079	BUSHING
1e	8	414978	CAPSCREW
1f	2	462043	ORING
1g	1	462044	ORING

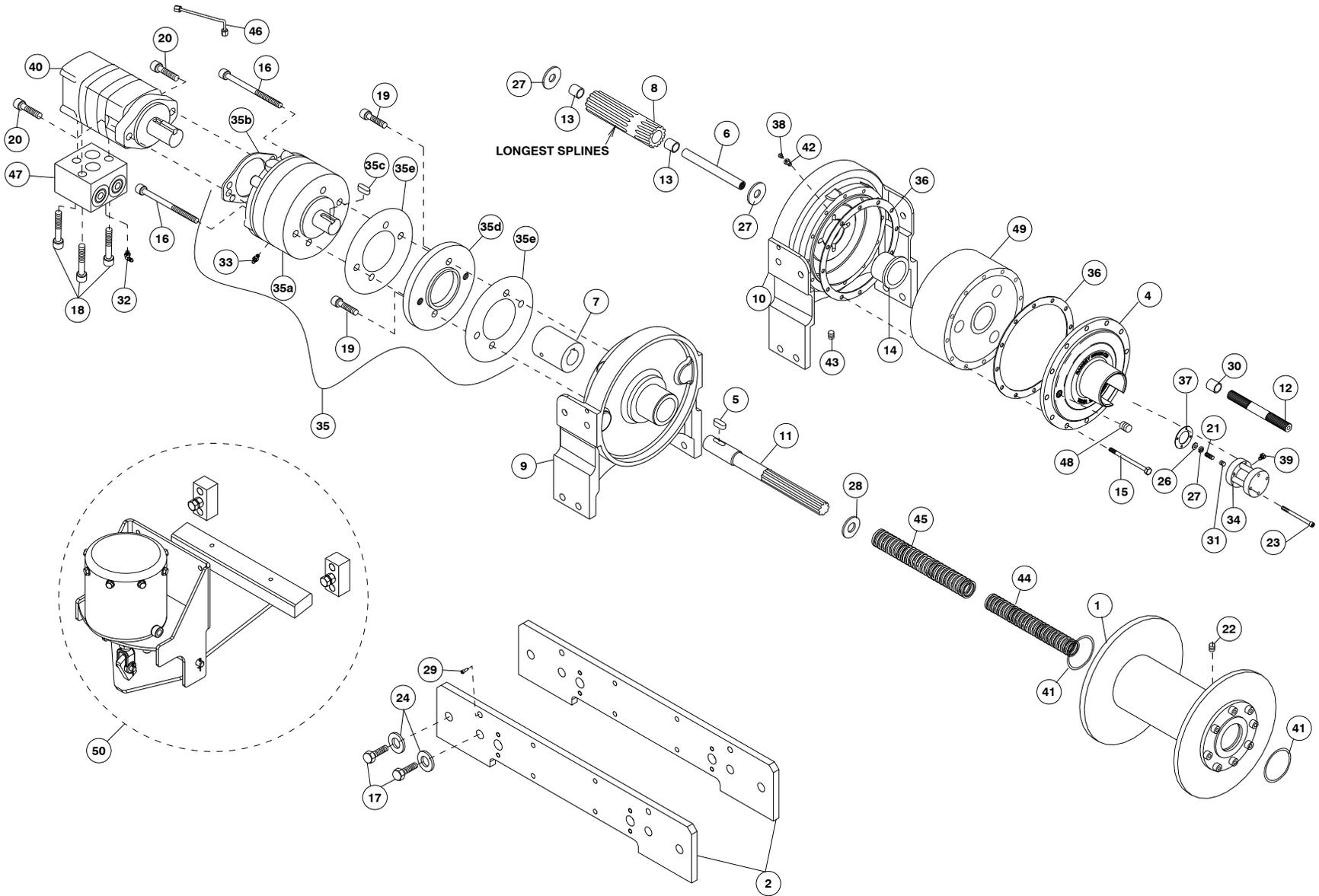


DRUM ASSEMBLY

PARTS LIST FOR TENSIONER (256139)

ITEM	QTY.	PART #	DESCRIPTION
50a	2	330015	DRAG PUCK
50b	1	395439	AIR TENSIONER BRACKET
50c	1	395440	LEVER ARM
50d	2	395441	DRAG BRAKE HOUSING
50e	1	395442	PIVOT PIN
50f	1	395443	RUB BAR
50g	1	395444	AIR CYLINDER
50h	2	414548	CAPSCREW 1/2-13NC X 1.5 LG HXHD
50i	4	414906	CAPSCREW 3/8-16NC X 1.5 LG SOC HD
50j	2	418069	NUT 1/2-13NC HEX REG. ZINC PLATED
50k	4	418521	NUT-LOCK 3/8-16NC HEX
50m	2	418522	NUT-LOCK 5/8-18NF HEX, ZINC PLATED
50n	2	420001	CAPSCREW 3/8-13NC X 3/4 LG HH, GR8
50p	4	420002	CAPSCREW 3/8-16NC X 1 1/2 LG HH GR8
50q	2	424005	COTTER PIN
50r	2	494002	SPRING
50s	2	530174	SPACER



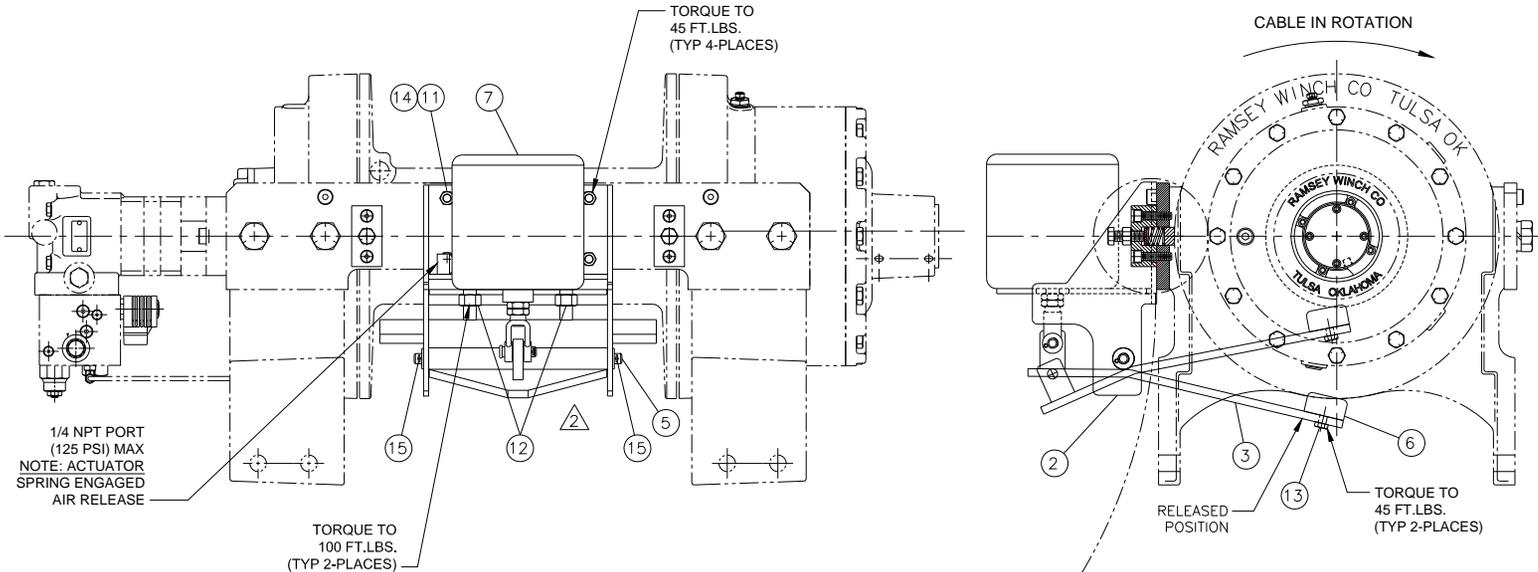


**123627 & 123628
RPH 50,000 WINCH**

PARTS LIST – P/N'S 123627 & 123628

ITEM	QTY.	PART #	DESCRIPTION	ITEM	QTY.	PART #	DESCRIPTION
1	1	395448	DRUM ASSEMBLY, CABLE ANCHOR M.E. (123628)	29	4	418453	SHOULDER BOLT
	1	395449	DRUM ASSEMBLY, CABLE ANCHOR G.E. (123627)	30	1	426044	SPACER – CLUTCH
2	2	395445	TIE BAR	31	1	426045	INSERT
4	1	395451	GEAR BOX COVER	32	1	432018	FITTING – HYD. 7/16-20 90° ELBOW
5	1	342081	KEY – RD. END	33	1	432023	FITTING – 7/16-20 STRAIGHT
6	1	324283	COUPLING – SHAFT	34	1	395450	AIR CYLINDER
7	1	299733	COUPLING – BRAKE	35	1	438037	BRAKE ASSEMBLY:
8	1	324295	COUPLING – OUTPUT	a	1		BRAKE
9	1	395446	END BEARING – MOTOR	b	1		MOTOR GASKET
10	1	395447	END BEARING – GEAR	c	1		BRAKE SHAFT KEY
11	1	357492	SHAFT – INPUT	d	1		ADAPTER PLATE
12	1	358064	SHAFT – SHIFTER	e	2		ADAPTER PLATE GASKET
13	2	402117	BEARING	36	2	442210	GASKET – GEAR BOX
14	1	412086	BUSHING – THRUST	37	1	442217	GASKET – AIR CYLINDER
15	12	414557	CAPSCREW 1/2-13NC X 6 LG. HX HD GR 5	38	1	456008	RELIEF FITTING
16	2	414595	CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR 8	39	1	456038	BREATHER VENT
17	8	414784	CAPSCREW 7/8-9NC X 2 LG. HX HD GR 5	40	1	395454	MOTOR – HYDRAULIC (W/KEY INCLUDED)
18	4	414400	CAPSCREW 3/8-16NC X 2-1/2 LG. HX SOC HD	41	2	462040	QUAD. RING
19	2	414947	CAPSCREW 1/2-13 NC X 1LG. SOC HD	42	1	468004	REDUCER
20	2	414948	CAPSCREW 1/2-13 NC X 1-1/4 LG. SOC HD	43	1	468019	PIPE PLUG
21	1	416051	SETSCREW 5/16-24NF X 1 LG. SOC HD	44	1	494106	SPRING
22	1	416072	SETSCREW 1/2-13NC X 3/4 LG. HX SOC HD	45	1	494114	SPRING – CLUTCH, OUTER
23	4	416211	CAPSCREW #10-24 NC X 3.25 HX SOC HD	46	1	509017	TUBE ASSEMBLY
24	8	418261	LOCKWASHER 7/8 MED. SECT	47	1	516035	VALVE – CONTROL “B” ROTATION (123628)
25	1	418429	WASHER - THRUST		1	516036	VALVE-CONTROL “A” ROTATION (123627)
26	1	418430	NUT – 5/16-24 NF X 1/8 THK, LOCK	48	1	468040	PIPE PLUG
27	2	418460	WASHER – CLUTCH, 2-1/4 x .938 ID	49	1	530172	GEAR BOX
28	1	418440	WASHER – SPRING, 1-3/4 OD	50	1	256139	TENSIONER KIT (*See page 24)

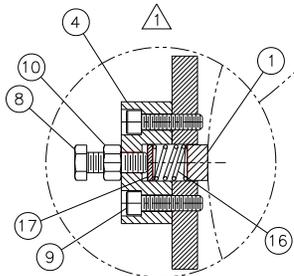
TENSIONER KIT INSTALLATION



NOTE:
 ⚠️ INSTALL DRAG BRAKE PER DRAWING.
 ADJUST BY BOTTOMING CAPSCREW #8.
 BACK OFF CAPSCREW 1 1/4 TURNS.
 TIGHTEN NUT #10, KEEPING CAPSCREW IN
 ADJUSTED LOCATION.

⚠️ INSTALL CABLE TENSIONER ASSEMBLY PER DRAWING.
 ADJUST BY CENTERING RUB BAR #6 BETWEEN
 DRUM FLANGES AS SHOWN. TIGHTEN CAPSCREWS #14
 AND LOCK NUTS #11 TO SPECIFIED TORQUE.
 1/4 NPT PORT TO FACE MOTOR END

3. WINCH PICTORIAL
 FOR REFERENCE ONLY



ITEM#	QTY.	PART NUMBER	DESCRIPTION	STOCK SIZE
17	2	530174	SPACER	
16	2	494002	SPRING	
15	2	424005	COTTER_PIN	
14	4	420002	CAPSCREW	3/8-16NC x 1 1/2LG HH GR8
13	2	420001	CAPSCREW	3/8-16NC x 3/4LG HH GR8
12	2	418522	NUT_LOCK	5/8-18NF HEX ZINC PLATED
11	4	418521	NUT_LOCK	3/8-16NC HEX
10	2	418069	NUT	1/2-13NC HEX REG. ZINC PLATED
9	4	414906	CAPSCREW	3/8-16NC x 1 1/2LG SOC HD
8	2	414548	CAPSCREW	1/2-13NC x 1 1/2LG HH
7	1	395444	AIR_CYLINDER	1/2-13NC HEX
6	1	395443	RUB_BAR	
5	1	395442	PIVOT_PIN	
4	2	395441	BRAKE_HOUSING	
3	2	395440	LEVER_ARM	
2	1	395439	BRACKET	
1	2	330015	PUCK	

LIST OF MATERIAL

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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