

WILDCATTM WINCH SERIES

**OPERATING, SERVICE AND
MAINTENANCE MANUAL**

By **RAMSEY**



WILDCAT SERIES 80,000 LB INDUSTRIAL WINCH



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

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RAMSEY HYDRAULIC PLANETARY WINCH MODEL WILDCAT 80K

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 your winch, please follow instructions for prompt service on all warranty claims. Refer to back page for limited warranty.

SPECIFICATIONS*

APPROXIMATE WEIGHT:			1700 LBS							
WORKING PRESSURE:			2500 PSI							
CABLE DIAMETER:			1 INCH							
MAX FLOW:			60 GPM							
LAYER OF CABLE	CABLE CAPACITY		LOW SPEED				HIGH SPEED			
			LINE PULL		LINE SPEED		LINE PULL		LINE SPEED	
	Ft	m	Lb	Kg	fpm	mpm	Lb	Kg	fpm	mpm
1	50	20	80000	36280	30	9	30000	13630	60	18
2	115	45	66600	30200	36	11	25000	11350	72	22
3	185	73	57100	25900	42	13	21400	9730	84	26
4	270	106	50000	22670	48	15	18700	8520	96	29
5	365	144	44400	20130	54	16	16600	7560	108	33
* These specifications are based on recommended wire rope of 1" Extra Improved Plow Steel Cable and a 9.0 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 FULLY 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.

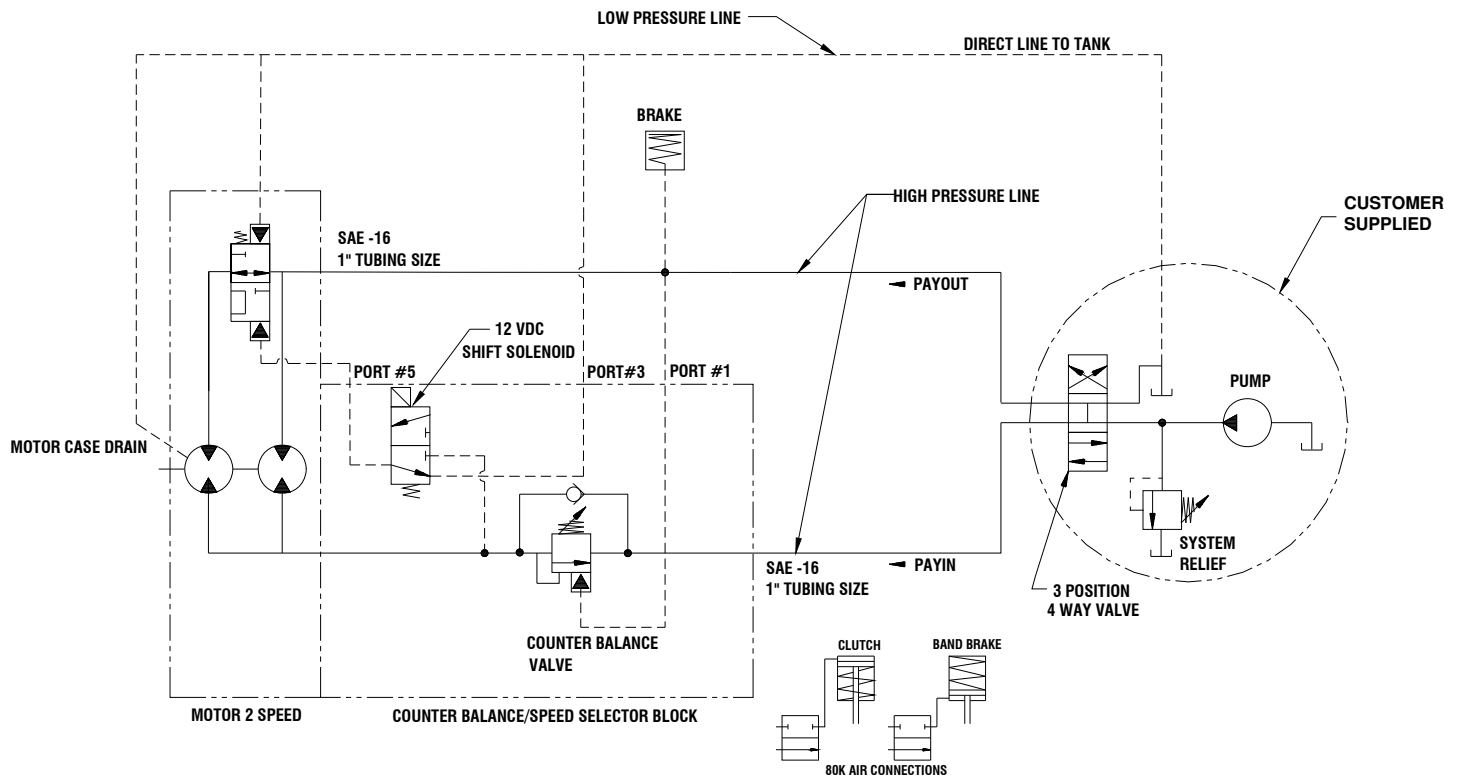
BAND BRAKE IS NOT TO BE USED TO HOLD LOAD

HYDRAULIC SYSTEM REQUIREMENTS

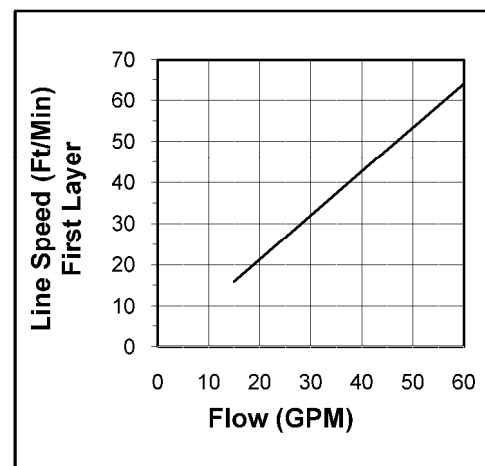
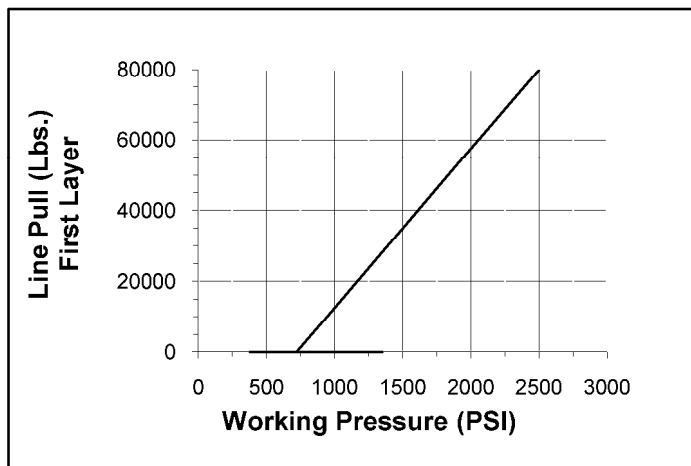
Refer to the performance charts, below, to properly match your hydraulic system to winch performance. The charts consist of:

(1) Line pull (lb.) first layer vs. working pressure (PSI) and (2) line speed, first layer (FPM) vs. gallons per minute (GPM). Performance based on a motor displacement of 9.0 cubic inches/rev with 60 GPM maximum flow rate. Motor has (2) 1"-12 SAE straight thread o-ring ports.

Note: A motor spool (open center) directional control valve is required for brake operation.



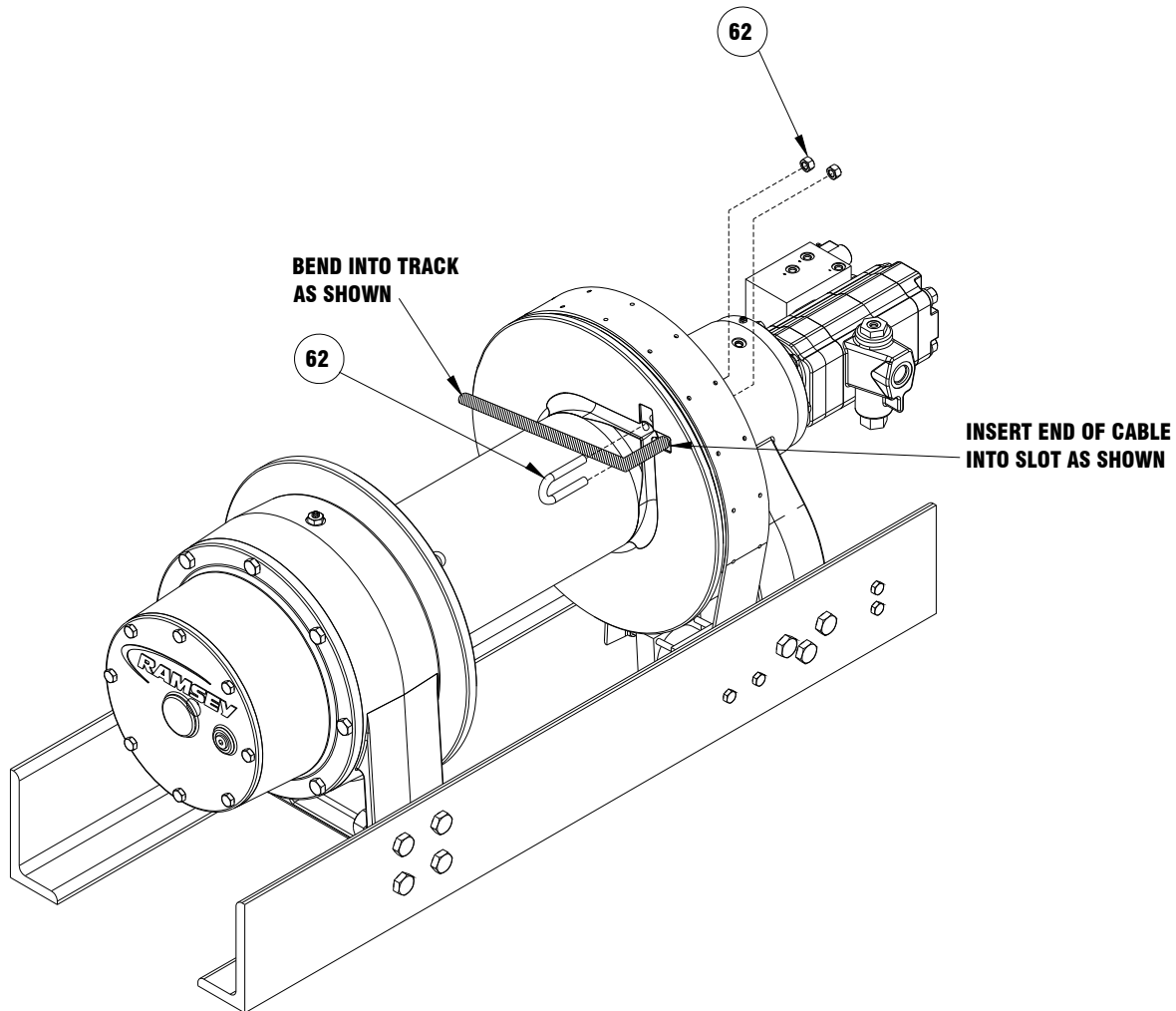
PERFORMANCE CHARTS



BASED ON 9.0 CU IN/REV MOTOR

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. Place taped end of cable into slot on drum flange and bend into track on drum flange. Secure using supplied u-bolt #62 and (2) nuts.
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.
4. After installing cable, band brake is used to prevent bird nesting while pulling out cable, when clutch is disengaged.



CLUTCH OPERATION

WARNING: CLUTCH MUST BE FULLY ENGAGED BEFORE STARTING THE WINCHING OPERATION.

To engage clutch:

1. Move clutch control to engage the clutch.
2. Run the motor in the cable out direction until the drum begins to turn.

WARNING: DO NOT DISENGAGE CLUTCH UNDER LOAD.

To disengage clutch:

1. Run the winch in the "cable out" direction until the load is off the cable.
2. Move the clutch control to disengage the clutch. The cable may now be spooled off.

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 on the gear housing cover and the brake housing cover. Be sure they are not plugged.
3. Lubricate cable with light oil.
4. Lubricate drum bushings with grease. It is necessary to remove cable to expose the grease zerks on drum. Use high quality lithium grease for best results.
5. Apply a high quality lithium grease to clutch spline. Apply band brake to control drum. Declutch drum and apply grease to spline between clutch and drum.

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. Refill the winch to the oil level plug with all purpose GL-5 oil, (see page 5) for gear lube compatible with your climate.
3. Inspect winch for damage and wear.

LUBRICATION TABLE

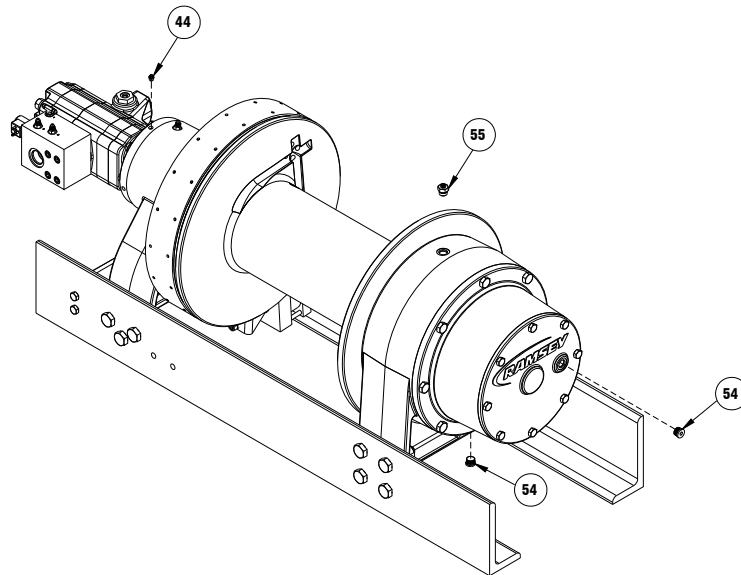
Lubricant Description*	Temp Range F(C)		
	Min Ambient & Operating	Max Ambient	Max Operating
80W140 Synthetic	-25 (-32)	125 (52)	225 (107)
75W90 Synthetic	-40 (-40)	115 (46)	215 (102)
80W90 Conventional	-20 (-29)	100 (38)	180 (82)
85W140 Conventional	20 (6)	120 (50)	200 (93)
*Use API GL-5 or EP lubricants.			

TROUBLE SHOOTING GUIDE

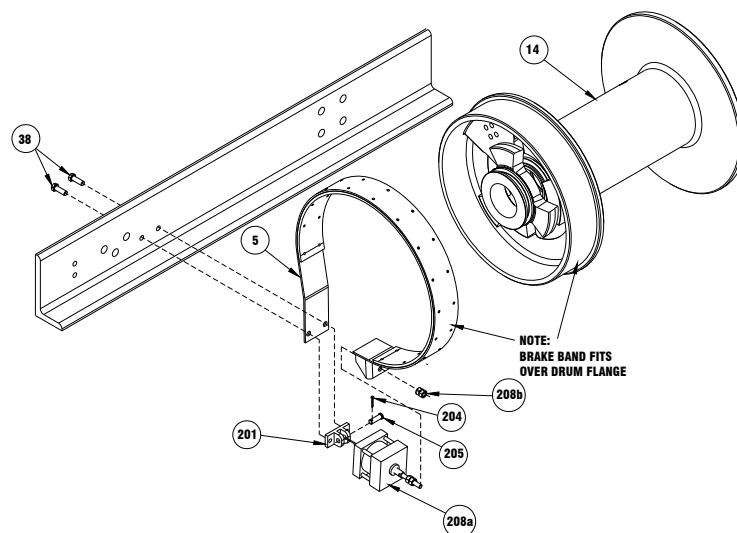
CONDITIONS	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM WINCH	<ol style="list-style-type: none"> Seals damaged or worn. Too much oil. Damaged o-rings. Case drain not connected. 	<ol style="list-style-type: none"> Replace seal Drain excess oil. Refer to page 6. Replace o-rings. Connect case drain.
WINCH RUNS TOO SLOW	<ol style="list-style-type: none"> Low flow rate. Hydraulic motor worn out. 	<ol style="list-style-type: none"> Check flow rate. Refer to HYDRAULIC SYSTEMS performance chart on page 2. Replace motor.
CABLE DRUM WILL NOT FREESPOOL	<ol style="list-style-type: none"> Clutch not disengaged 	<ol style="list-style-type: none"> Check operation. Refer to Clutch Operation on page 4.
BRAKE WILL NOT HOLD	<ol style="list-style-type: none"> Incorrect directional control valve. (cylinder spool, closed center). Excessive hydraulic system back pressure. Sprag clutch worn out. 	<ol style="list-style-type: none"> Use only a motor spool (open center) directional control valve. Reduce system back pressure to less than 100 psi. Replace sprag clutch mechanism.
BRAKE WILL NOT RELEASE	<ol style="list-style-type: none"> Brake line disconnected or blocked 	<ol style="list-style-type: none"> Repair brake line.
WINCH WILL NOT OPERATE AT HIGH SPEED	<ol style="list-style-type: none"> Shift solenoid not working. 	<ol style="list-style-type: none"> Verify shift spool is energized.
WINCH OPERATES ERRATICALLY ON INHAUL	<ol style="list-style-type: none"> Sprag hub is reversed. 	<ol style="list-style-type: none"> Install sprag hub correctly.

INSTRUCTIONS FOR DISASSEMBLY

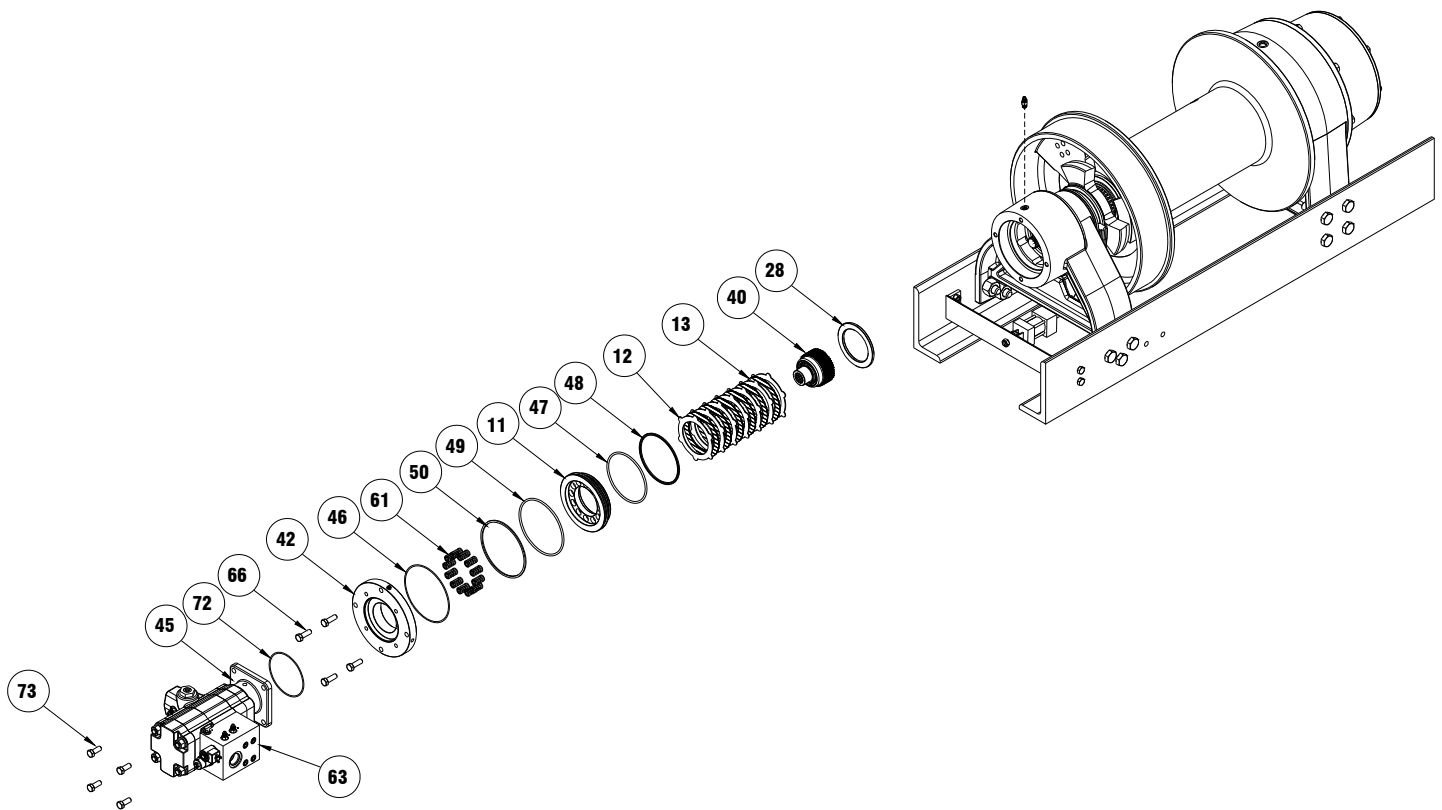
1. Remove wire rope from drum.
2. Drain oil from winch by removing (2) plugs #54, removing the lower plug first.
3. When replacing lubricant, use 264 oz of applicable lube for your climate from table on page 5, adding 4 oz at #44 and the remaining at # 55.



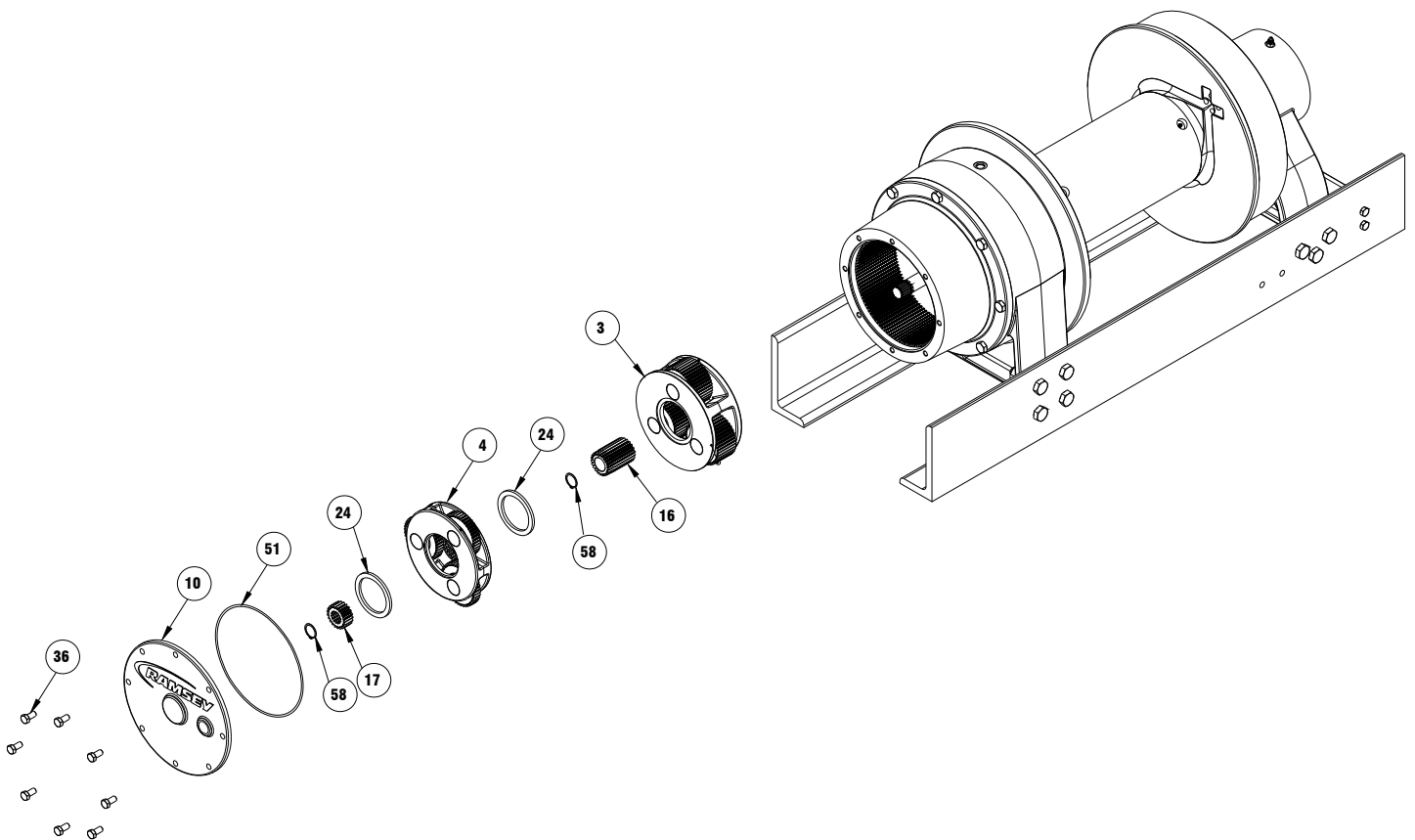
4. Remove (2) nuts #208b from air cylinder #208a. Air cylinder may now be removed. If needed, mounting bracket #201 may be removed by removing pin #204 from pin #205 and then sliding pin out of mounting bracket. Brake band #5 may be expanded over drum flange to barrel for easiest removal.



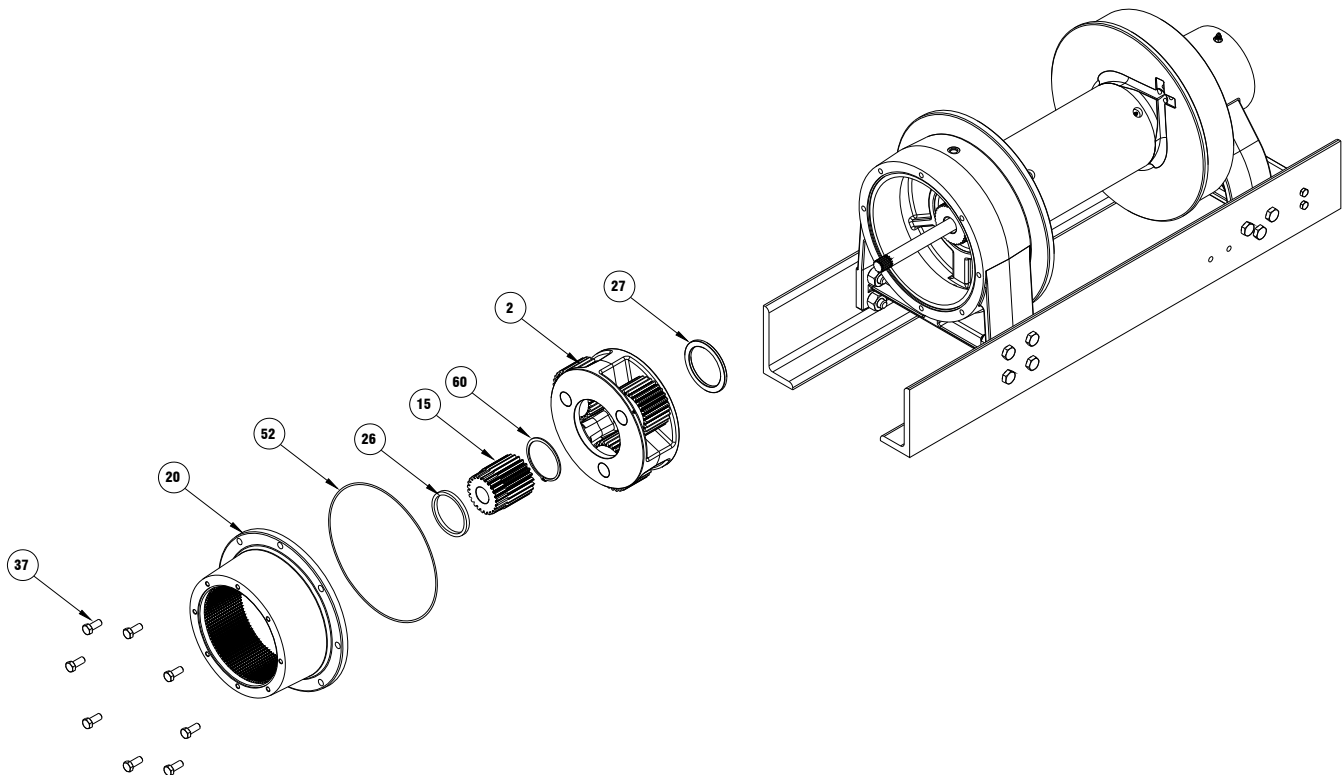
5. Remove motor #45 from winch by first disconnecting hydraulic lines (see page 17), solenoid wires, and then remove (4) bolts #73. O-ring #72 may now be removed.
6. Remove brake cover #42 by removing (4) bolts #66. **The cover is spring loaded, use care when removing.** Remove o-ring #46 then springs #61 may be removed; residual oil may be present in the brake housing.
7. Remove piston #11 including o-rings and backup rings #47, #48, #49, and #50 by using a momentary puff of compressed air into the brake port located on top of the end bearing. Capture the piston by placing a shop rag over the opening prior to using air.
8. Remove the sprag brake hub assembly #40, (7) stator plates #12, (6) disc brakes #13, and the spacer #28. The sprag brake hub assembly #40 is not a serviceable part, if damaged a replacement assembly should be ordered.



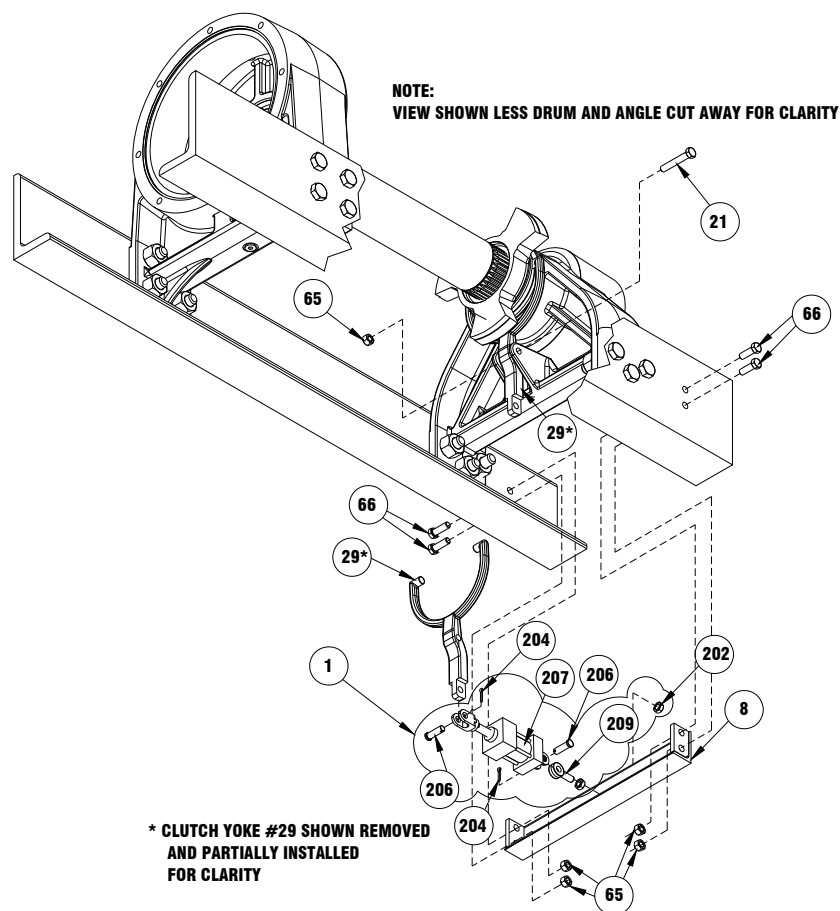
9. Remove (8) cover bolts #36; cover #10, and o-ring #51.
10. Remove snap ring #58, and sun gear #17.
11. The planetary carrier assembly #4 may now be removed along with (2) spacers #24.
12. Remove second snap ring #58 and intermediate sun gear #16.
13. Planetary carrier assembly #3 may now be removed.



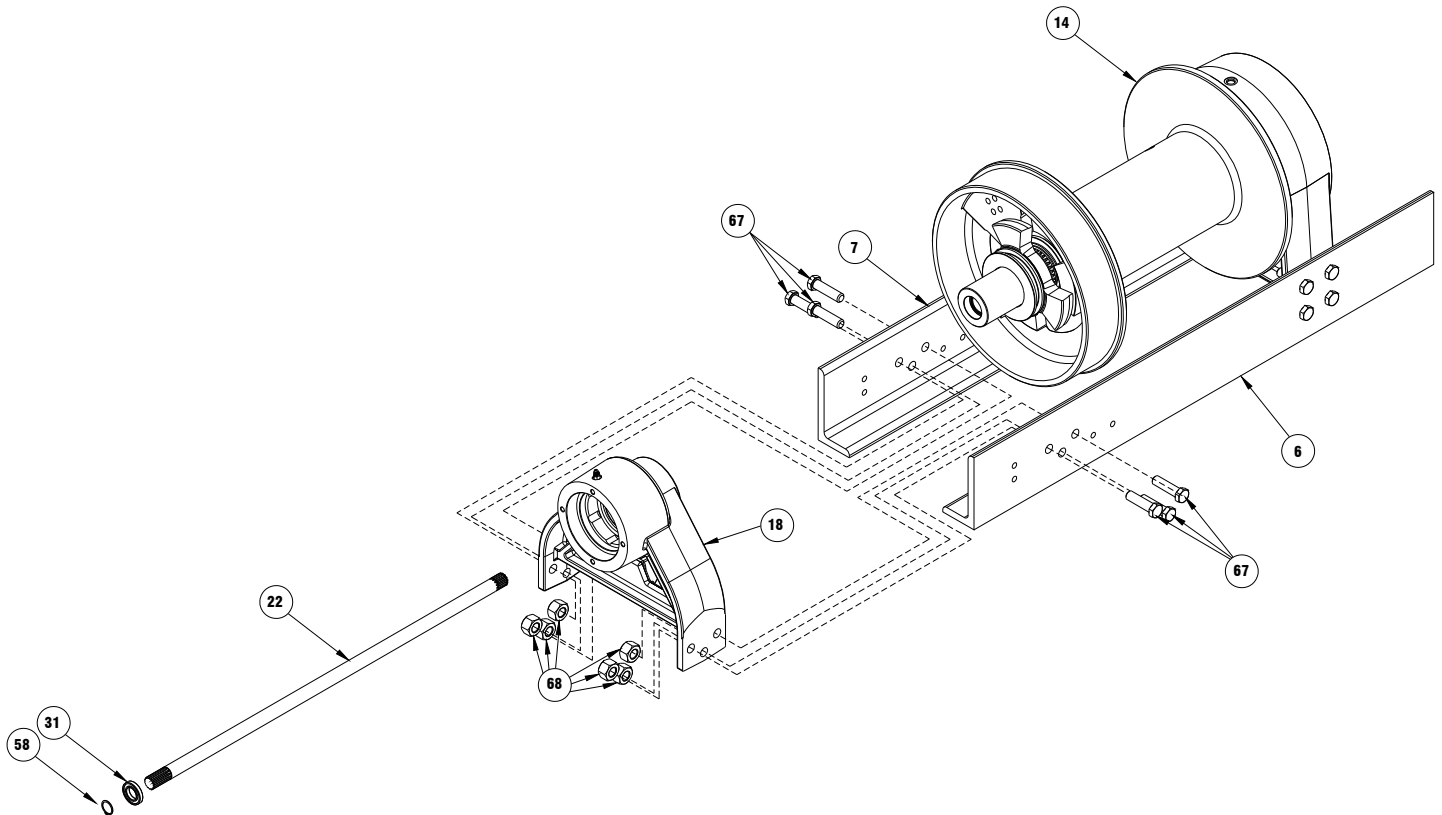
14. Using a nylon strap, support ring gear #20 from a hoist or boom, **this ring gear is heavy.**
Remove (8) bolts #37 leaving the top most bolt for last. Remove the final bolt while supporting ring gear. Set ring gear aside. Remove the o-ring #52.
15. Remove spacer #26 and the output sun gear #15.
16. Using a large pair of snap ring pliers remove the snap ring #60 from the shaft located inside the planetary carrier assembly #2.
17. Using a nylon strap and hoist slide the output planetary carrier #2 from the ring gear housing.
- The output planetary carrier is heavy.**
18. Remove the spacer #27.



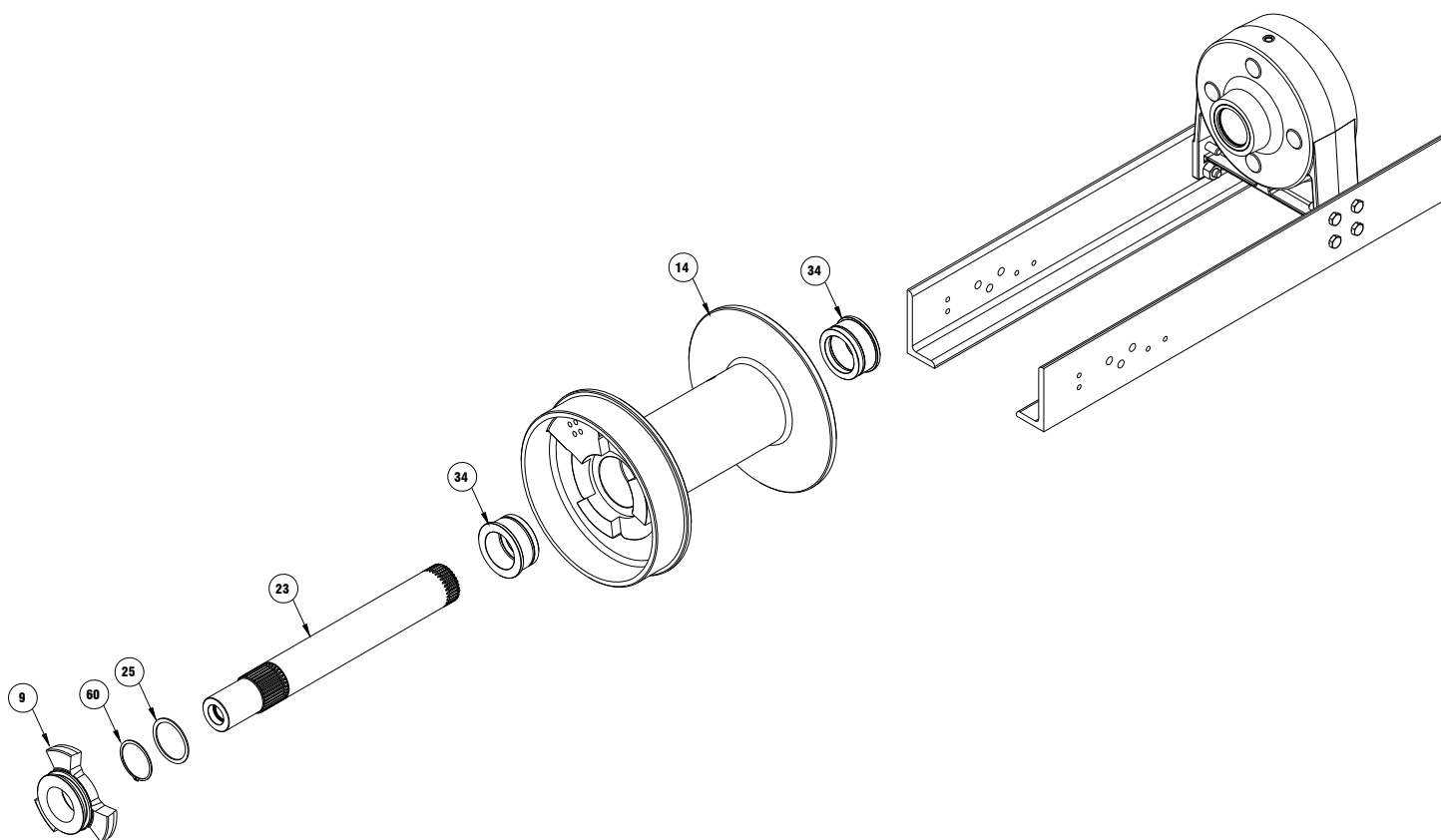
19. Remove the clutch cylinder #1 by removing the (2) cotter keys #204 and (2) pins #206 from either end of the air cylinder #207.
20. The clutch cylinder support angle #8 can be removed by removing the four bolts #66 and nuts #65 attaching it to the mounting angles.
21. Remove the clutch yoke #29 by removing center pivot bolt #21 and nut #65.



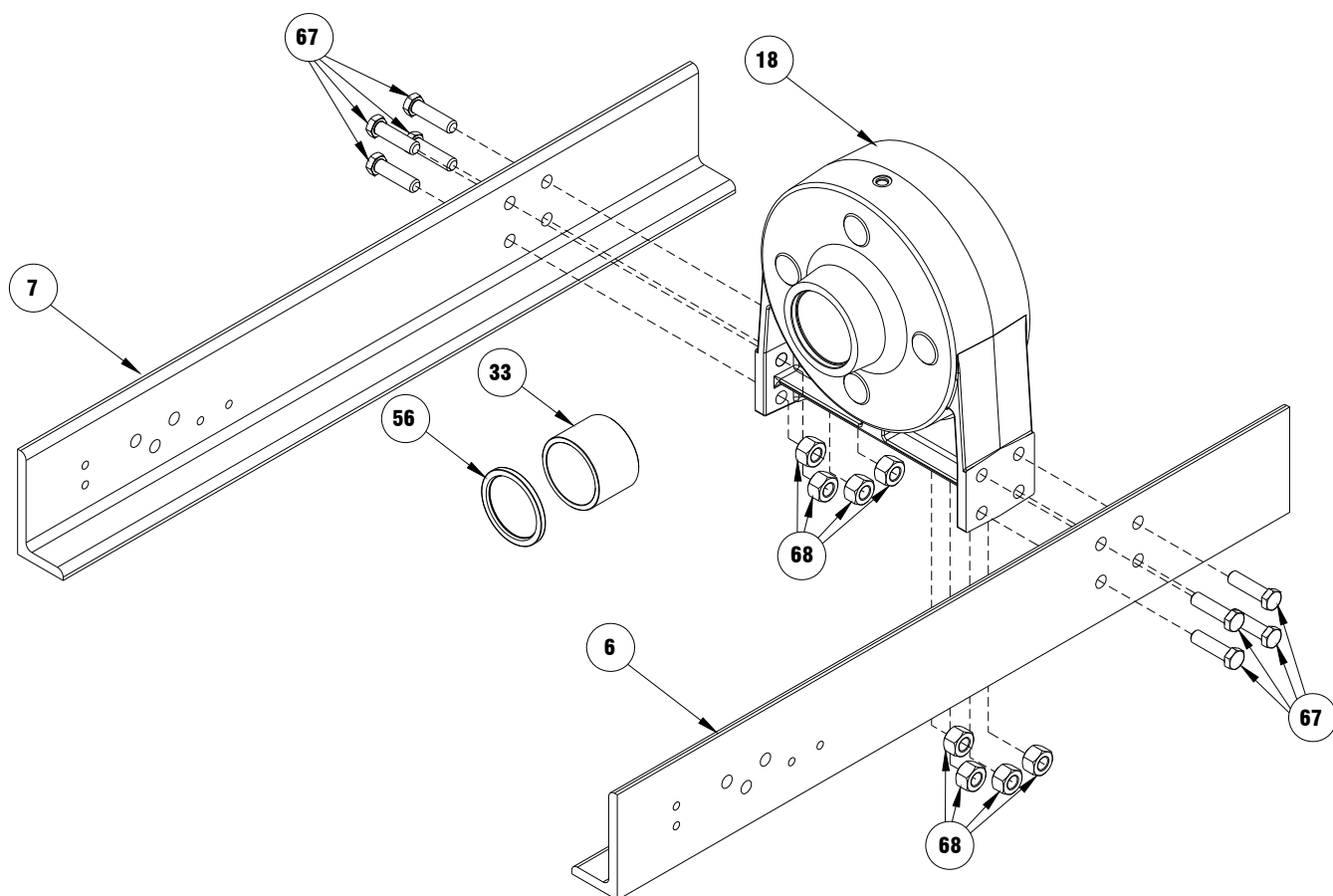
22. By removing snap ring #58 and ball bearing #31, the input shaft #22 may be removed.
23. To remove the motor end bearing #18, support drum #14 with a nylon strap or chain and hoist. Lift on the drum to tension the strap. Remove (6) bolts #67 and (6) nuts #68 attaching the end bearing to the mounting angles #6 and #7. The motor end bearing #18 will be supported on the output shaft end and may be slid off using a nylon strap and hoist to lift it.



24. While continuing to support the drum #14, remove the clutch #9, snap ring #60 and spacer #25.
25. The output shaft #23 may be slid from the drum assembly.
26. The drum #14 is now supported only by the nylon strap and maybe removed as needed.
27. The (2) bushings #34 may be pressed from the drum if replacement is necessary.



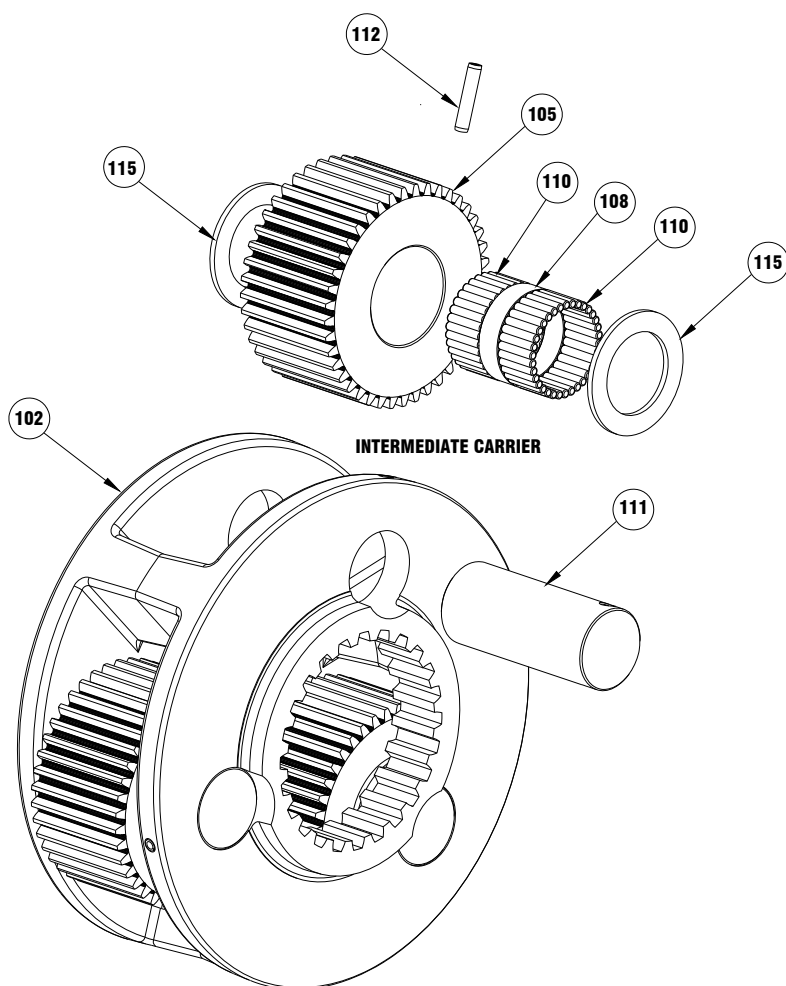
28. To remove gear end bearing #18, from mounting angles #6 and #7, first remove (4) 7/8-9NC bolts #67 and (4) nuts #68 from each angle. Shaft oil seal #56 and end bearing bushing # 33 can be removed and replaced at this time, if necessary.



DISASSEMBLY OF CARRIER ASSEMBLY

Carrier assemblies may be purchased as a complete assembly (see pg. 19) or parts may be purchased individually (see pg 16). If purchasing individual parts, it will be necessary to disassemble the gear carrier as outlined below. Disassembly/ assembly of carriers utilizes the same process for input carrier assembly #4, intermediate carrier assembly #3, and output carrier assembly #2. Detail shown below is for intermediate carrier assembly#3. Please see page 16 for detailed parts list and drawings of individual carriers.

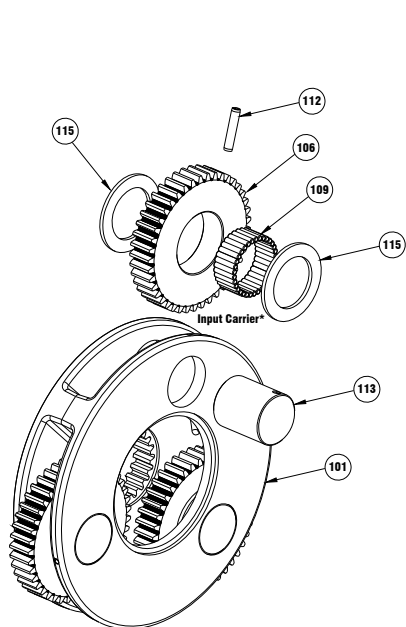
1. Carefully drive roll pin #112 into carrier pin #111 so that it is captured within carrier pin #111 but not touching the opposite side of the intermediate carrier #102.
2. Tap carrier pin #111 to remove it from the intermediate carrier #102.
3. Place a plastic pail in a position to catch bearings #110, spacer #108 and washers #115, then slide the gear #105 from the carrier assembly #102.
4. Remove the roll pin #112 from the carrier pin #111.
5. Repeat this process for the two remaining gears in the carrier.



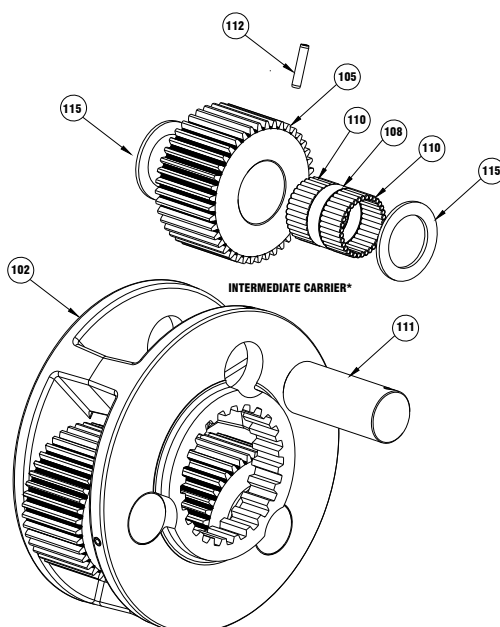
ASSEMBLY OF CARRIER ASSEMBLY

1. Place carrier #102 on flat clean surface.
2. A tool the width of the gear #105 and the diameter of the carrier pin #111 is helpful to install needle bearings #110.
3. Place the gear #105 on a flat thin clean metal plate; metal plate should not be thicker than thrust washer #115 and should be able to slide into gear pocket of carrier. Grease the inside of gear and insert the greased tool described above into gear.
4. Place one row of needle bearings #110 into gear #102 carefully sliding them down the gap between the tool and the gear so they stand vertically.
5. If more than one row of needle bearings is required, as shown in intermediate carrier, install spacer #108, and the next row of needle bearings #110 as detailed in step 4 above until all bearings are installed.
6. With tool remaining in place slide the gear #105 (resting on the thin plate) into position in the carrier #102.
7. Place thrust washer #115 on top of gear #105. Insert planet pin #111 into carrier #105
8. Turn carrier #102 on its side so that the gear is on top. Remove the thin plate. Remove tool by pushing planet pin #111 into carrier #102 until planet pin is at least half way past the last row of bearings #110. The tool may now be removed completely.
9. Insert a thrust washer between gear #105 and carrier #102. Completely insert planet pin #111 into carrier #102 using care to align the roll pin hole in planet pin #111 with the roll pin hole in the carrier #102.
10. Drive roll pin #112 into carrier #102 until roll pin #112 is flush with surface of the carrier #102.
11. Repeat this process to install the two remaining gears into the carrier.

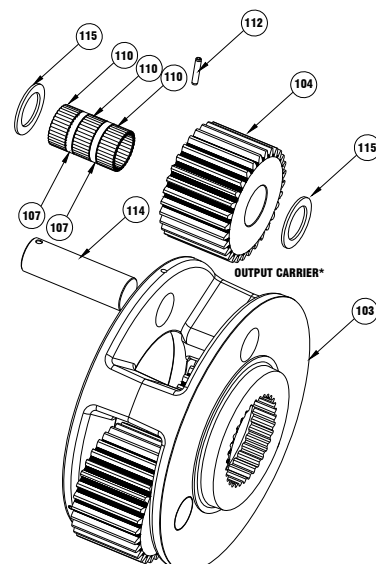
CARRIER ASSEMBLIES



* Input Gear Assembly may be purchased under part number 296672



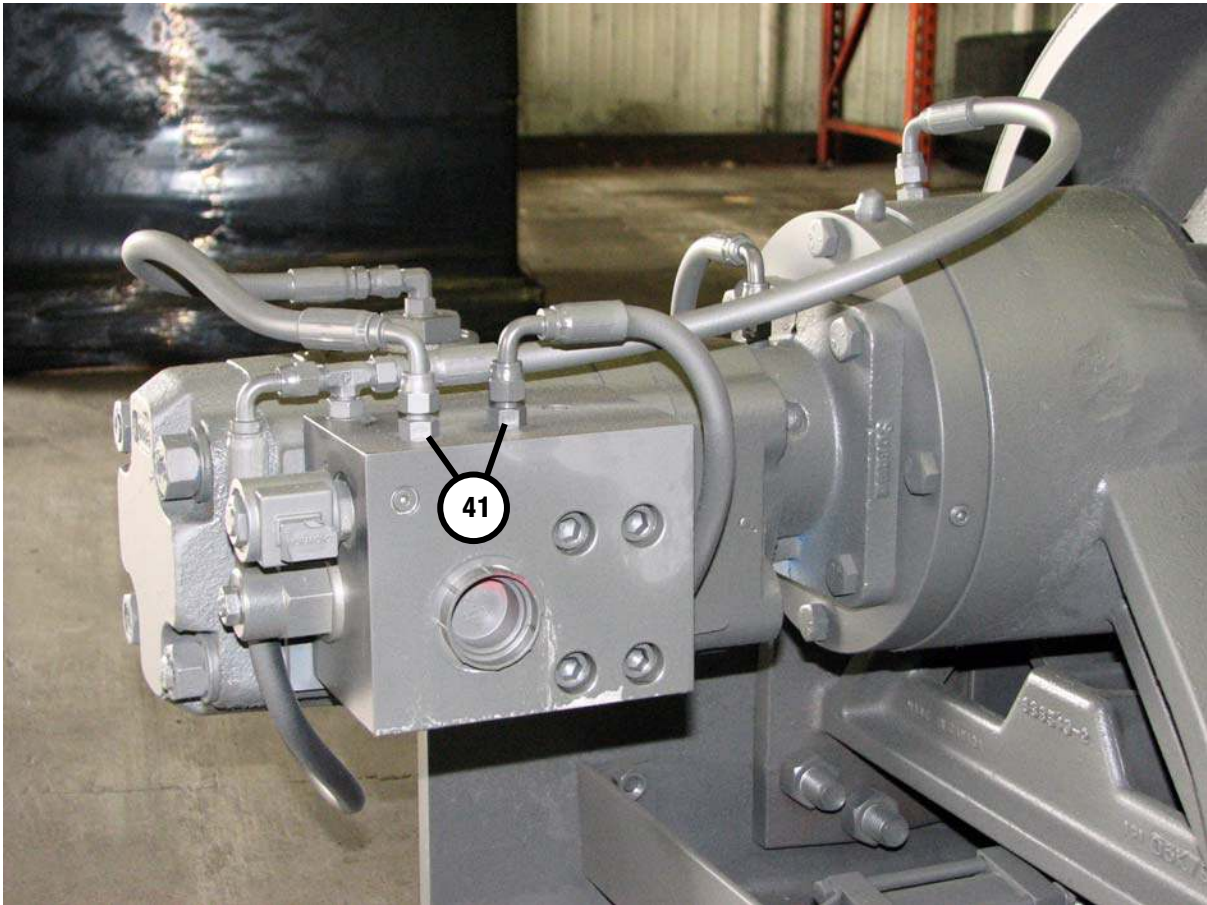
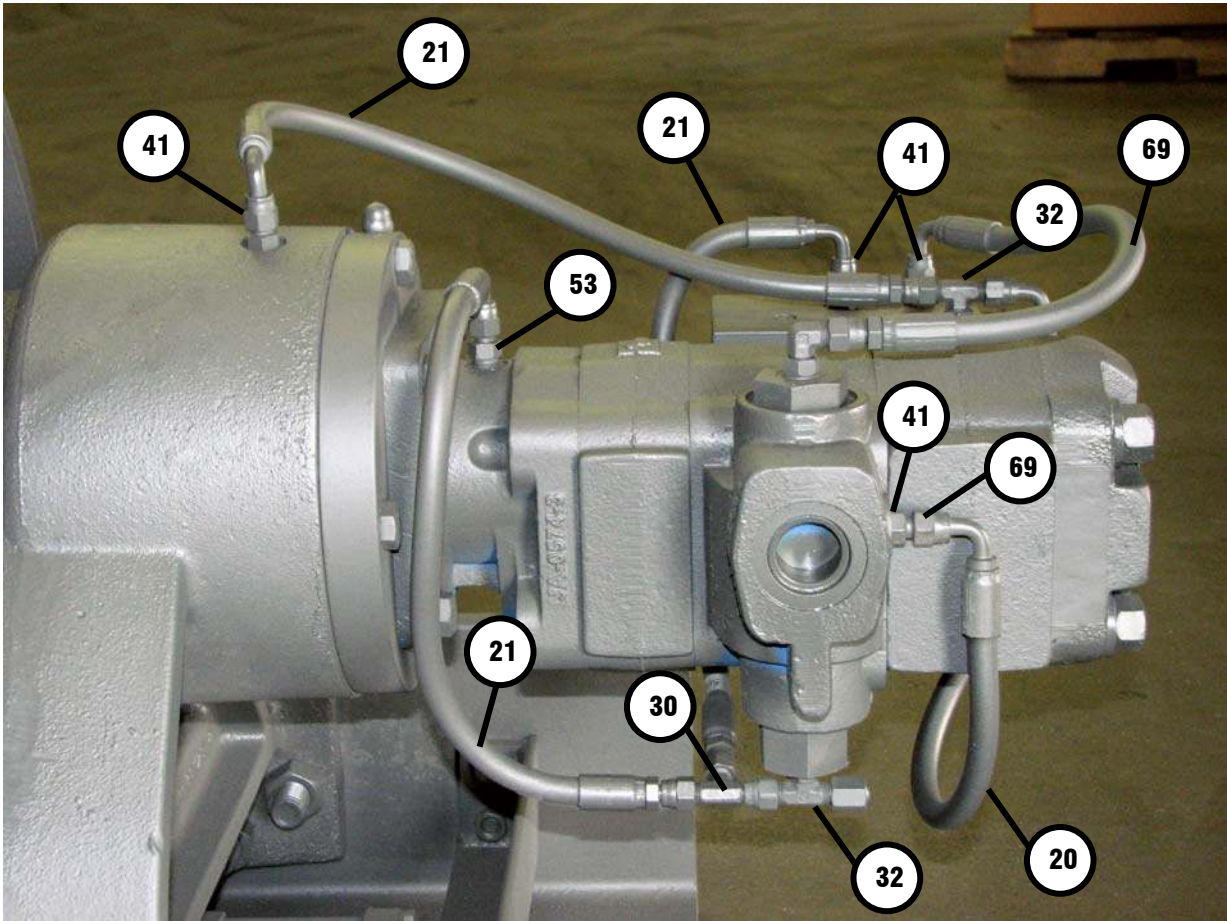
* Intermediate Gear Assembly may be purchased under part number 296671



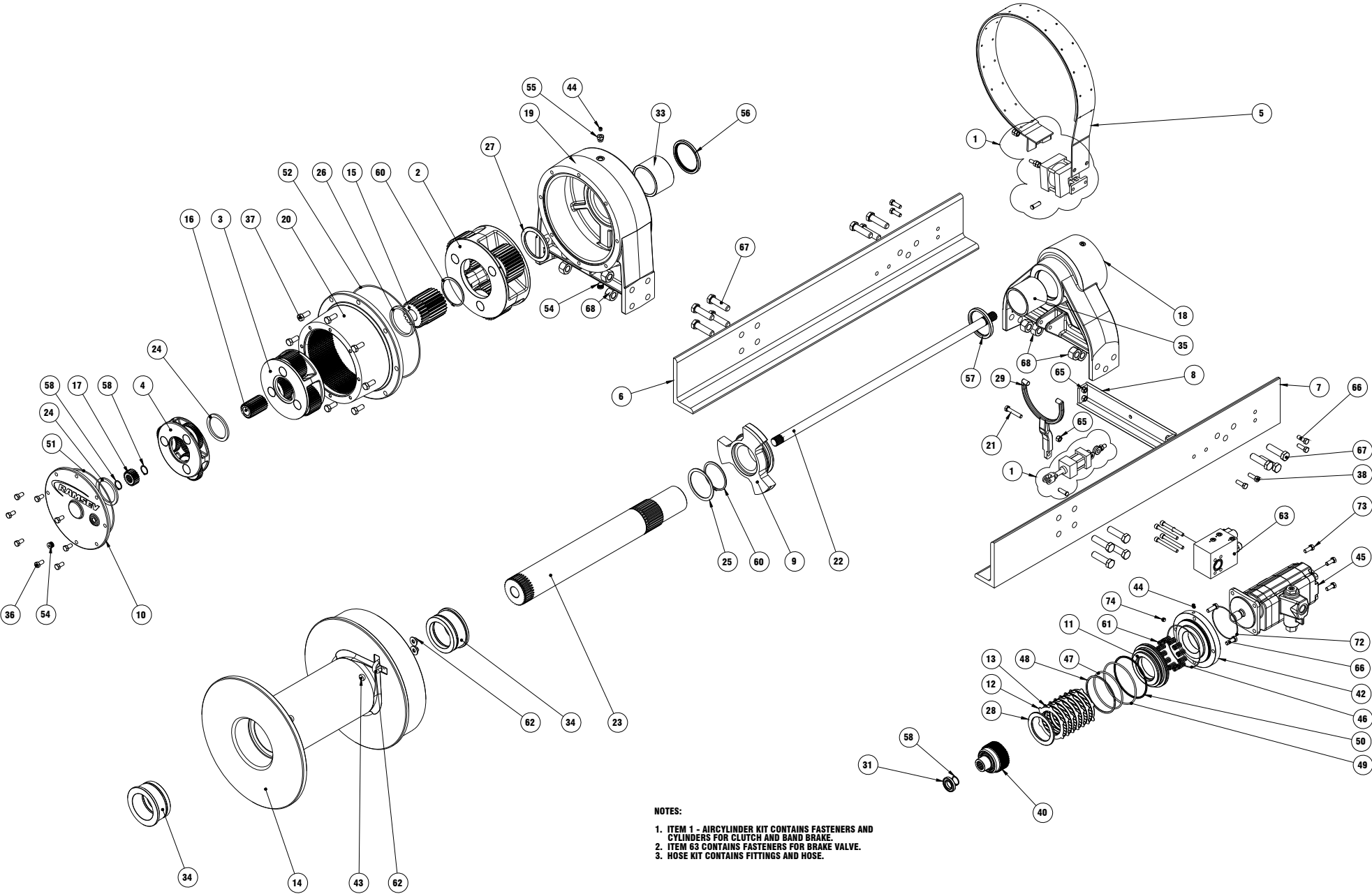
* Output Gear Assembly may be purchased under part number 296670

Item	Qty	Part No.	Description
101	1	317018	Input Carrier
102	1	317019	Intermediate Carrier
103	1	317020	Output Carrier
104	3	334202	Output Planet Gear
105	3	334204	Intermediate Planet Gear
106	3	334206	Input Planet Gear
107	6	362306	Output Spacer
108	3	362307	Intermediate Spacer
109	102	402135	Input Needle Roller Bearing
110	204	402136	Intermediate Needle Roller Bearing
110	306	402136	Output Needle Roller Bearing
111	3	470113	Intermediate Carrier Pin
112	9	470036	Input, Inter. & Output Roll Pin
113	3	470111	Input Carrier Pin
114	3	470115	Output Carrier Pin
115	18	518067	Input, Inter. & Output Thrust Washer

HOSE HOOKUP



PARTS DRAWING



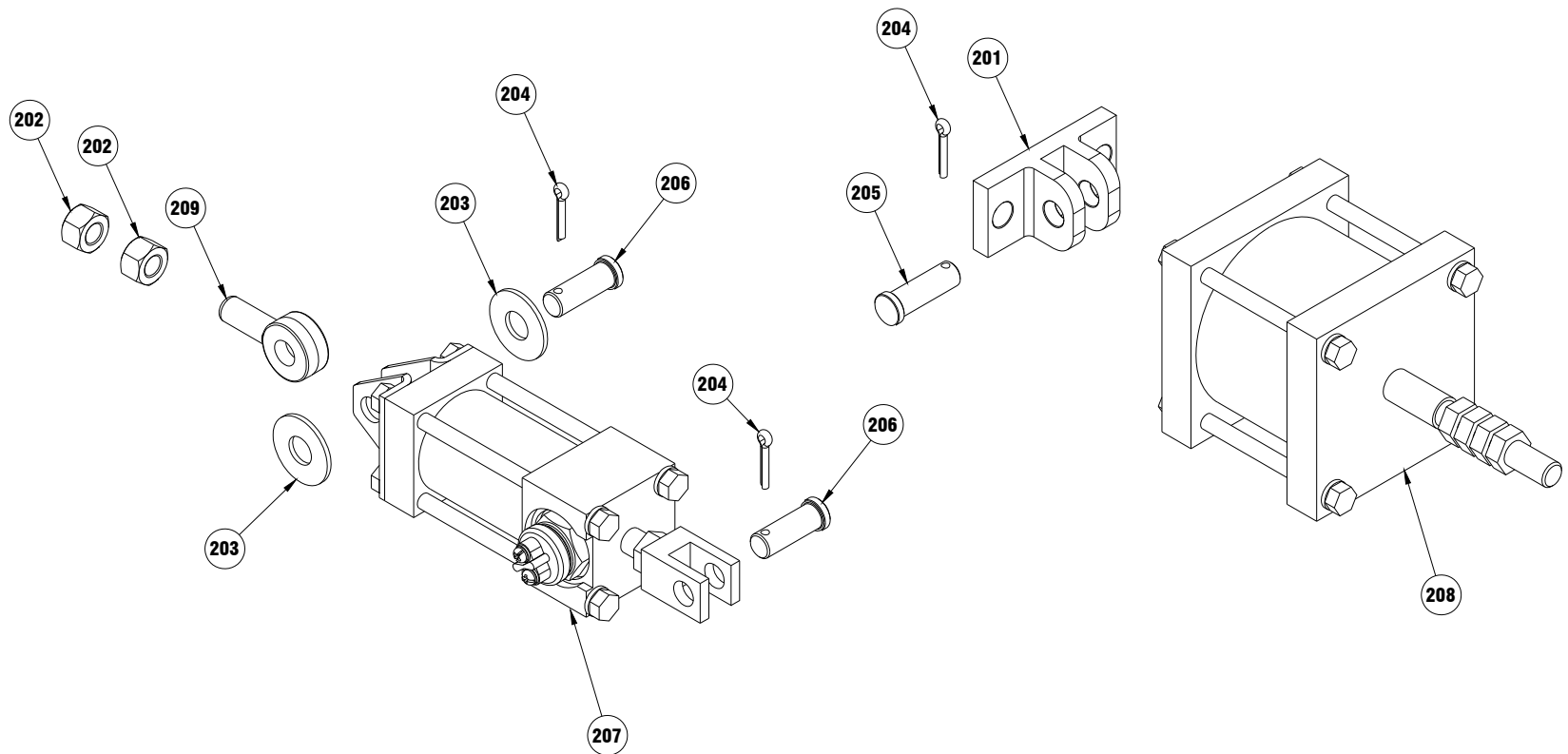
- NOTES:
- 1. ITEM 1 - AIRCYLINDER KIT CONTAINS FASTENERS AND CYLINDERS FOR CLUTCH AND BAND BRAKE.
 - 2. ITEM 63 CONTAINS FASTENERS FOR BRAKE VALVE.
 - 3. HOSE KIT CONTAINS FITTINGS AND HOSE.

PARTS LIST

ITEM	QTY	PART NO	DESCRIPTION
1	1	256131	AIR CYLINDER KIT
2	1	296670	OUTPUT CARRIER ASSEMBLY
3	1	296671	INTERMEDIATE CARRIER ASSEMBLY
4	1	296672	INPUT CARRIER ASSEMBLY
5	1	299748	BAND BRAKE
6	1	303150	LH MOUNTING ANGLE
7	1	303151	RH MOUNTING ANGLE
8	1	312574	CLUTCH CYLINDER SUPPORT BRACKET
9	1	324510	CLUTCH
10	1	328167	GEAR HOUSING COVER
11	1	330016	BRAKE PISTON
12	7	330017	STRATOR PLATE
13	6	330018	DISC-BRAKE
14	1	332229	DRUM
15	1	334198	GEAR-SUN
16	1	334199	GEAR-SUN
17	1	334200	GEAR-SUN
18	1	338378	END BEARING-MOTOR SIDE
19	1	338380	END BEARING-GEAR SIDE
20	1	338381	HOUSING-GEAR
21	1	414543	CAPSCREW-1/2-13NCX3LG,HXHD, GR 5
22	1	357529	INPUT SHAFT
23	1	357530	SHAFT-OUTPUT
24	2	362301	SPACER
25	1	362302	SPACER-SHAFT
26	1	362303	SPACER 80K WINCH
27	1	362304	SPACER
28	1	362305	SPACER
29	1	370062	YOKE-SHIFTER
30	1	432048	FITTING JIC SWIVEL TEE
31	1	402132	BALL BEARING
32	2	432049	FITTING JIC BRANCH TEE
33	1	412119	END BEARING BUSHING
34	2	412120	DRUM BUSHING
35	1	412121	END BEARING BUSHING
36	8	414521	CAPSCREW-1/2-13NCX1LG HXHD GR 5
37	8	414658	BOLT-5/8-11NCX1 1/2LG,HXHD,Z/P,GR.5

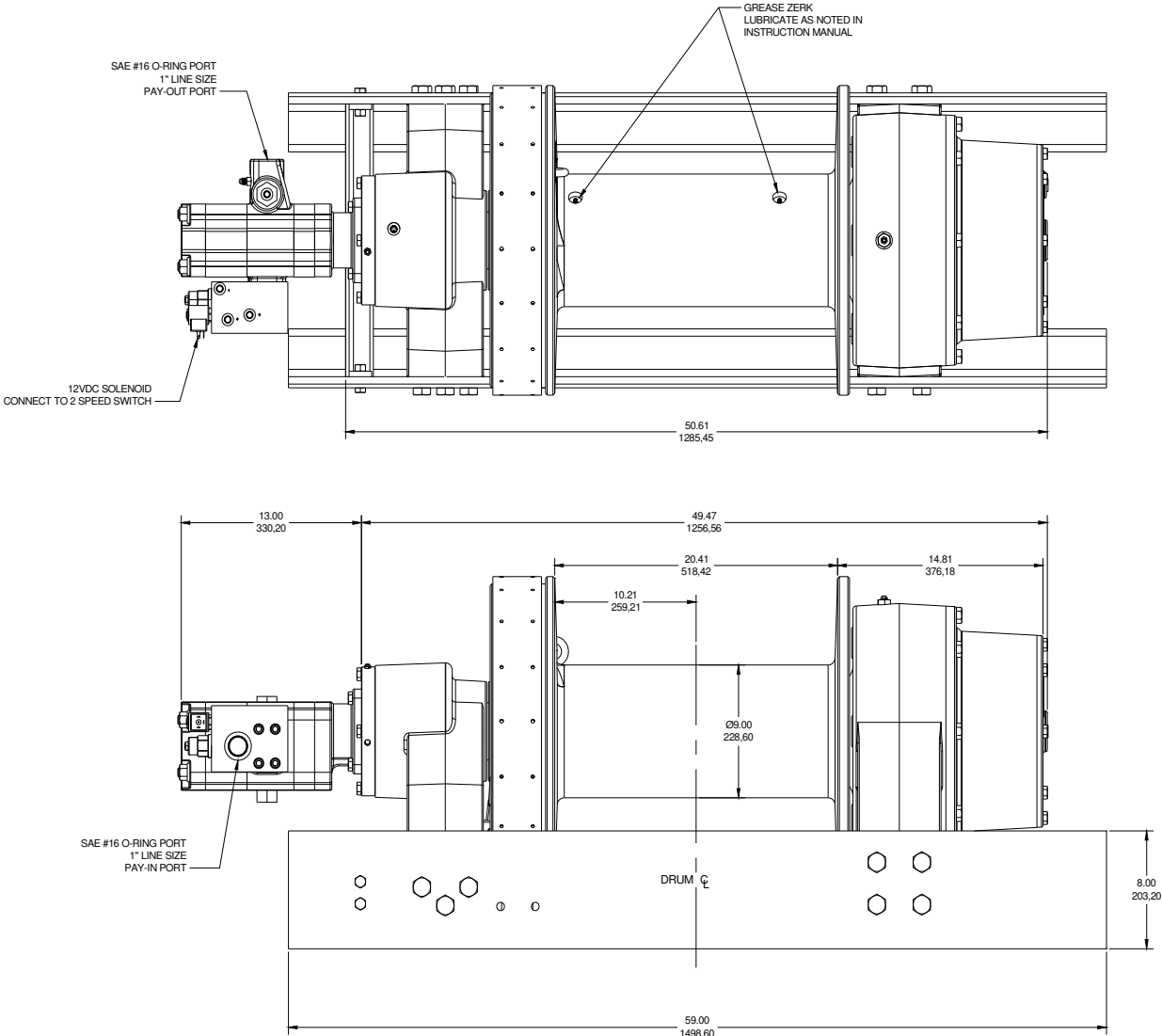
ITEM	QTY	PART NO	DESCRIPTION
38	2	414551	BOLT-1/2-13NCX1 1/2LG HXHD,GR5/FB
39	1	432018	FITTING JIC O-RING EL
40	1	296952	SPRAG BRAKE HUB ASSEMBLY
41	4	432023	FITTING JIC O-RING NIPPLE
42	1	438043	BRAKE COVER
43	2	456001	FITTING-LUBE, 3/16 DRIVE FIT, SHORT
44	2	456008	FITTING-RELIEF1/8-27NPTF, 15 PSI MAX
45	1	458164	MOTOR-HYD, 3.21/5.78 CU.IN., 2 SPD
46	1	462063	O-RING 2-165
47	1	462082	O-RING 2-358
48	1	462083	BACK UP RING
49	1	462084	O-RING 2-362
50	1	462085	BACK UP RING
51	1	462092	O-RING 2-275
52	1	462093	O-RING 2-280
53	1	432053	FITTING JIC O-RING NIPPLE
54	2	468041	PLUG, -8 SAE, 3/4"-16 UNF
55	1	468042	REDUCER-3/4-16 SAE O-RING X 1/8NPTF
56	1	486087	SEAL-OIL-SHAFT-SKF 42419
57	1	486088	SEAL-OIL-SHAFT-SKF 38653
58	3	490006	SNAP RING 5100-125
59	1	432054	FITTING JIC SWIVEL EL
60	2	490056	SNAP RING 5100-425
61	12	494129	SPRING-BRAKE
62	1	514023	U-BOLT W/2 NUTS
63	1	516048	COUNTER BALANCE BLOCK
65	5	418069	NUT-1/2-13NC HEX REG,Z/P
66	8	414556	CAPSCREW-1/2-13NCX1 3/4 HXHD GR.5
67	14	414790	BOLT-7/8-9NC X 3.25 LG,HXHD,GR8, Z/P
68	14	418108	NUT-7/8-9NC HEX REG Z/P
69	1	509137	HOSE
70	2	509140	HOSE
71	3	509141	HOSE
72	1	462081	ORING 2-159
73	4	414578	BOLT-1/2-13NC X 1 1/4 LG, HXHD, GR 5
74	1	468016	PIPE PLUG 1/8-27 NPTF

AIR CYLINDER KIT #256131 PARTS LIST

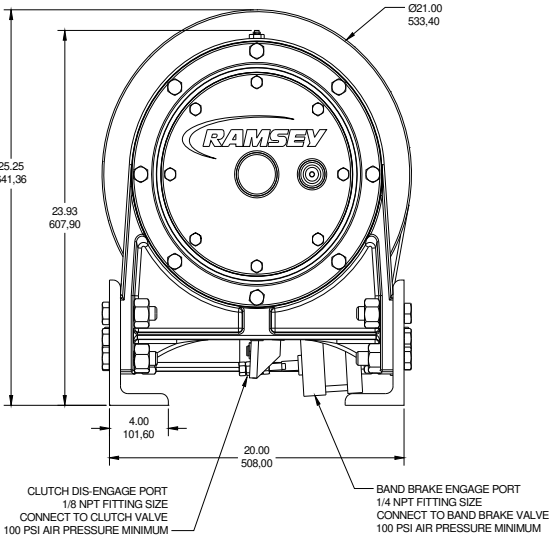


ITEM	QTY	PART NO	DESCRIPTION
201	1	408422	MOUNTING BRACKET
202	2	418067	NUT-1/2-20NF HEX JAM
203	2	418223	WASHER-1/2 USS FLAT
204	3	424005	COTTER PIN- 1/8 DIA X 1 LG
205	1	424027	CLEVIS PIN-1/2 SHAFT DIA X 1 1/2 LG
206	2	424205	CLEVIS PIN-1/2 SHAFT DIA X 1 23/64 LG
207	1	433031	AIR CYLINDER
208	1	433032	AIR CYLINDER
209	1	448108	EYE BOLT

DIMENSIONAL DRAWING



Bolt Size (inches)	Thds Per Inch	Bolt Torque (ft-lb)	
		SAE Grade 5	SAE Grade 8
7/16	14	54	78
1/2	13	78	119
5/8	11	154	230
3/4	10	257	380
7/8	9	382	600
1	8	587	700





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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