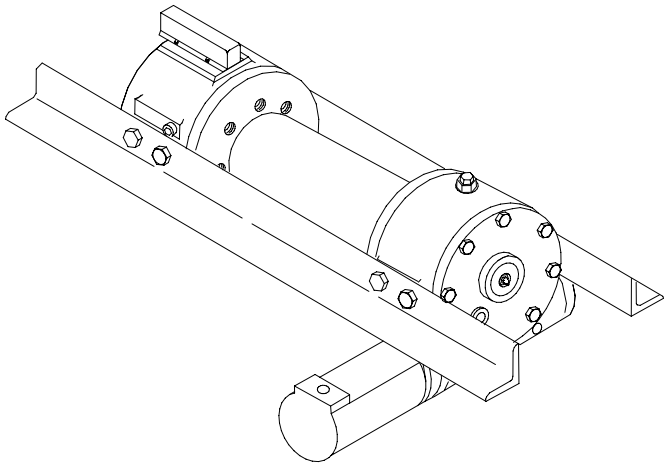
Ramsey Winch Company
OWNER'S MANUAL

MODEL H-800 SERIES
DOW-LOK® EQUIPPED
INDUSTRIAL LOW-MOUNT WINCH



Rated Line Pull	(lbs.)	20,000				
	(Kg.)	9,060				
Gear Reduction	.....	40:1				
Worm RPM	.....	460 @ 30 GPM				
Weight (without cable)	.....	485 lbs. (220 Kg)				
LAYER OF CABLE		1	2	3	4	5**
*Rated line pull per layer	lbs.	20,000	16,600	14,200	12,400	11,000
	Kg.	9,060	7,510	6430	5,610	4,980
*Cable Capacity	ft.	35	75	125	180	240
	m	10	22	38	54	72
*Line Speed	FPM	18	22	26	29	33
	MPM	5.4	6.6	7.9	8.8	10.0

* These specifications are based on recommended wire rope of .63 inch (16 mm) dia. 6x19 extra improved plow steel or equivalent

** Fifth Layer does not conform to SAE J706

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

Congratulations

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.

CAUTION: Read and understand this manual before installation and operation of winch. See Safety Precautions.

Contents

Safety Precautions To Guard Against Possible Injury

A. Clutch must be totally engaged before starting the winch operation.

B. Do not disengage clutch under load.

C. Stay out from under and away from raised loads.

D. Stand clear of cable while pulling. Do not try to guide cable.

E. Do not exceed maximum line pull ratings shown in specifications.

F. Do not use winch to lift, support, or otherwise transport people.

G. A minimum of 5 wraps of cable around the drum barrel is necessary to hold load. Cable set screw is not designed to hold load.

TECHNIQUES OF OPERATION

The best way to get acquainted with how your winch operates is to make test runs before you actually use it. Plan your test in advance. Remember, you hear your winch, as well as see it operate. Get 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.

The Dow-lok® clutch provides free-spooling and clutch engagement with the cable drum. With the clutch disengaged, the cable can be free-spooled off the drum. For winching in the load the clutch must be fully engaged with the drum.

The clutch is latched into either the engaged "IN" position, or the disengaged "OUT" position, by a pin at the bottom of the shifter handle which fits into the latching slots.

TO UNLATCH CLUTCH

Run winch in the reverse (reel out) direction until the load is off the cable, grasp handle firmly and while pushing on the top of the handle with the thumb for leverage, lift until pin clears latching slots.

TO ENGAGE THE CLUTCH

Unlatch and pull handle toward the "IN" position as far as it will go. In order to attain full engagement, internal elements of the clutch must be aligned. This alignment will take place when the cable drum or cable drum shaft turns a maximum of 1/4 revolution. The clutch will automatically spring into engagement and pin will drop into "IN" slots when this alignment takes place. **Do not attempt to lift a load unless pin is fully into "IN" slots. Keep clear of spring-loaded handle during automatic engagement.**

TO DISENGAGE THE CLUTCH

Unlatch and push handle to "OUT" position and fully insert pin into latching slots. **Do not disengage the clutch under load.**

The Dow-lok® air-shifter clutch provides free-spooling and clutch engagement with the cable drum. With the clutch disengaged, the cable can be free-spooled off the drum. For winching in the load, the clutch must be fully engaged with the drum.

TO ENGAGE THE CLUTCH

There must be a minimum of 1 foot of slack in the cable before attempting to engage the clutch. This will allow the drum to rotate a minimum of 1/4 turn allowing the engagement of the clutch before picking up the load. With this slack in the cable, exhaust air pressure from the air shift cylinder. Run the winch in the "IN" direction until the clutch starts to turn. **Clutch must be fully engaged before starting the winch operation.**

TO DISENGAGE THE CLUTCH

Run winch in the "OUT" direction until there is no load on the cable. Apply 70-90 psi to the air shift cylinder to disengage the clutch. **Do not disengage the clutch under load.**

WINCH 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 in good operating condition so that hot oil gasses may escape.
3. Lubricate cable with light oil.

B. MONTHLY

1. Lubricate the various grease fittings located in the ends of cable drum shaft, end bearing, clutch housing or clutch operating linkage. Any good grade of grease containing moly-disulfide is acceptable.
2. Check the action of the locking ring. Make sure it is spring loaded and free to move fully against the cable drum in the engaged position and that it is pulled fully away from the cable drum and latched when disengaged.
3. Check the winch mounting bolts. If any are missing, replace them and securely tighten any that are loose. Make sure to use only grade 5 bolts or better.
4. Check the torque setting of the oil cooled worm brake. Make any adjustments required, following the procedure described in “Worm Brake Maintenance” in the Owner's Manual.
5. Check alignment of chain and sprockets and adjust as required to minimize wear.
6. Inspect the cable. If the cable has become frayed with broken strands, replace immediately.

C. ANNUALLY

1. Perform the following annually or more often if winch is used frequently:
   - Drain the oil from the winch.
   - Fill the winch to the oil level plug with clean kerosene.
   - Run the winch a few minutes with no load in the reel in direction.
   - Drain the kerosene from the winch.
   - Refill the winch to the oil level plug with all purpose E.P. 140 gear oil.
2. Inspect frame and surrounding structure for cracks or deformation.
3. Gear wear can be estimated by rocking the drum back and forth. If necessary, drain oil and remove cover for closer inspection.

WINCH MOUNTING

It is most important that this winch be mounted securely so that the three major sections (the clutch housing end, the cable drum and the gear-housing end) are properly aligned.

All standard H-800 Dow-Lok® series winches are furnished with recommended mounting angles. Angle size is 1/2 x 3 x 4 high strength steel angle.

CABLE INSTALLATION

The Ramsey Model H-800 "Dow-Lok"® winch has two tapered pockets cast into the drum. One pocket is for installations with the wire rope wound over the drum. The other pocket is for an underwound wire rope.

1. Slide the wire rope through narrow end of the pocket against the drum flange.
2. Wrap the wire rope around the anchor "puck" and pull the wire rope and anchor back into the wide end of the pocket.
3. Use a soft hammer to drive the back side of the wire rope, firmly seating the wire rope and anchor, into the pocket.

The wire rope can easily be removed from the drum by driving the anchor out the wide end of the pocket.

WORM BRAKE MAINTENANCE

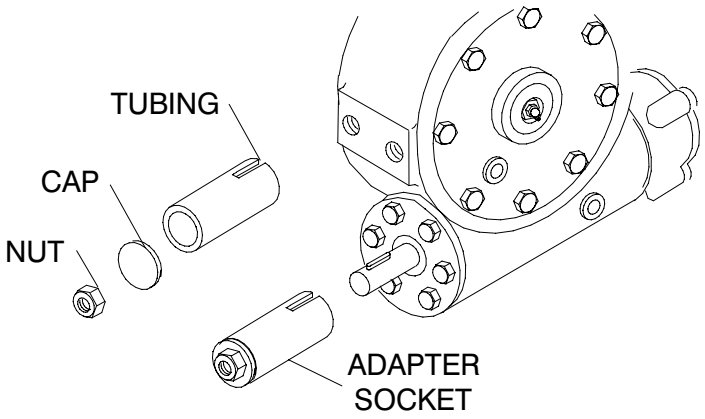
ADJUSTMENT

The oil cooled, fully adjustable, automatic worm brake operates in the worm housing lubricant, all parts being submerged in oil. When the brake wears to the point that the load begins to drift, the brake can be adjusted as follows:

1. Loosen the adjusting screw lock nut.
2. Tighten the brake by turning the adjusting screw clockwise. CAUTION: Only 1/4 turn is usually required to adjust the brake. Over-tightening can cause over-heating, and damage to the brake parts. Tighten the lock nut after adjustment is completed.

If the brake does not respond to adjustment then a new leaf spring and brake disc is needed.

A torque wrench can be equipped with a special adapter to fit the input shaft (worm) of the winch. The adapter can be made by welding a nut to the end of a piece of tubing as shown in the following figure.



After welding the cap and nut to the tubing, slot the tubing, as shown. This will allow the special adapter to slide over the keyway and will then act as a large socket. A torque wrench can the be used to apply the proper torque. Turn the torque wrench so that the drum turns in the spool out direction or lowering direction. The torque rating for the brake on the Model H-800 Dow-Lok® should be 50 to 55 ft-lbs. If torque wrench does not show the proper value as it turns, then the worm brake adjusting bolt should be turned clockwise 1/4 turn. Each time the adjusting bolt is turned, check the torque reading. Continue this procedure until the proper torque reading is achieved. Then tighten the lock nut.

DIS-ASSEMBLY

1. Remove the drain plug and drain the worm gear oil from the gear housing.
2. Back off the lock nut, then the adjusting screw, both two turns or more by turning them counter-clockwise.
3. Remove the cover mounting screws.
4. Remove the cover along with coil spring and leaf spring.
5. Remove the retainer plate, composition brake disc, cam plate and balls. Note which slots balls are in.
6. Inspect parts as follows:
   a) Composition brake discs are 1/4" thick when new. Replace if thinner than 3/16” or if surfaces are glazed or burnt.
   b) Inspect the flat, ground surface of the cam plate and retainer plate for glazing, warpage, or other damage. Glazing can be removed by scraping carefully. Otherwise replace cam plate or retainer plate.
   c) Inspect the leaf spring. It should be bowed 1/8". Replace leaf spring if flattened.

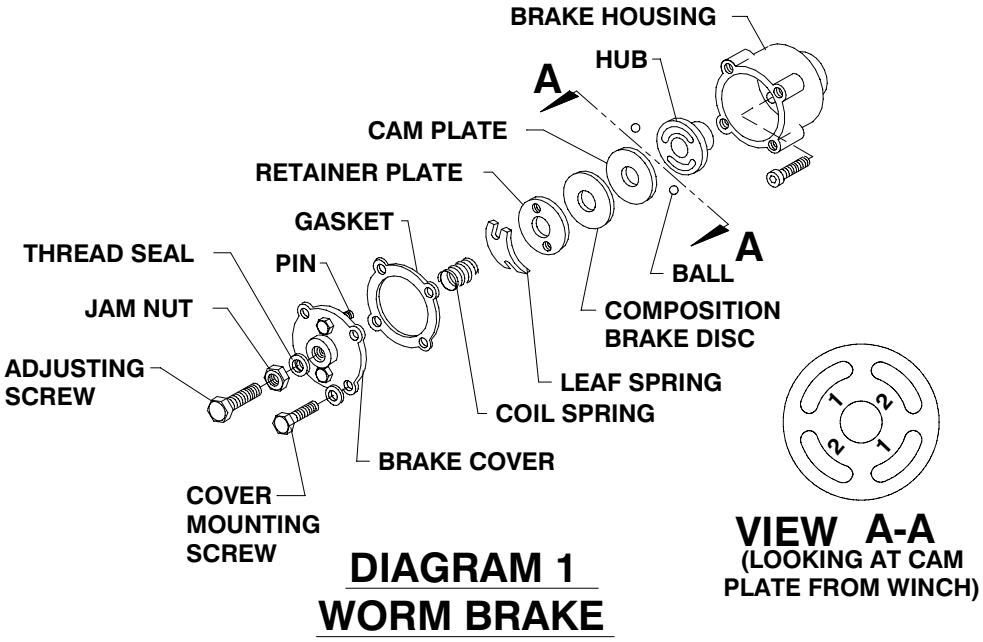


DIAGRAM 1
WORM BRAKE

RE-ASSEMBLY

1. Press brake hub into place over worm shaft and key.
2. Assemble balls in #2 slots of cam. Use stiff grease to hold balls into place and slide cam over end of worm. Be sure that balls are secure, between cam slots and hub slots.
3. Install retainer plate, smooth side toward brake disc.
4. Install the gasket on the cover with a small amount of grease or sealer.
5. The coil spring goes over the adjusting screw on the inside of the cover.
6. Install the notches of the leaf spring on the pins protruding through the cover. The hollow side of the leaf spring goes toward the brake.
7. Install brake housing cover, making sure the protruding pins go through the leaf spring and into the holes in the retainer plate.
8. Bolt cover into place with the mounting screws. Install drain plug and add 3-3/4 pints all purpose E.P. 140 oil.
9. Turn winch in the hoisting direction at least one turn of the input shaft.
10. Turn the adjusting screw in until it is finger tight.

TEST FOR PROPER BRAKE ASSEMBLY

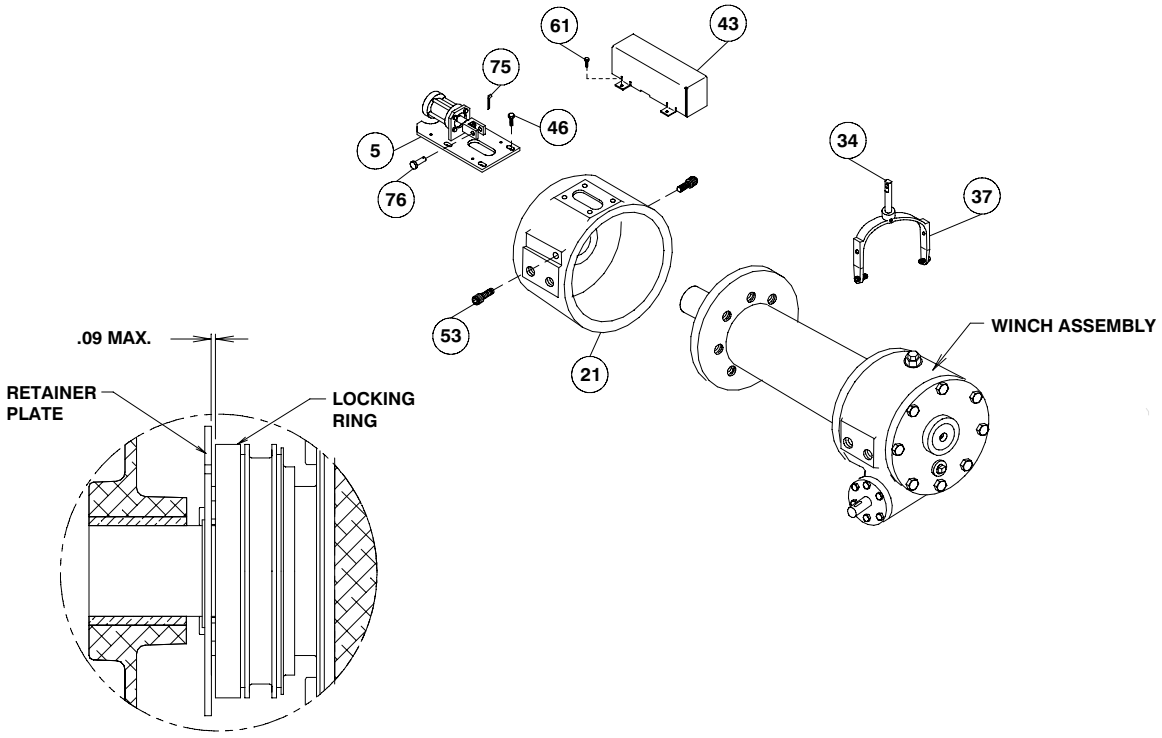
After the brake has been adjusted to the proper torque setting (see Adjustment section above), disengage clutch. Start vehicle engine and run winch in the reel in (hoisting direction). Allow winch to run in this direction for one minute.

Place your hand on the brake housing. If housing is not hot to the touch, run winch in the reverse direction (cable out) for one minute. Brake housing should be hot to the touch.

When these conditions exist, proper installation has been made. If heating becomes noticeable when running the winch in forward rotation (hoisting direction), the brake should be again disassembled. When disassembled, place the brake balls in the alternate set of slots in the cam plates, then carefully follow the instructions for re-assembling and checking the brake.

CLUTCH AIR SHIFTER ADJUSTMENT

1. Place winch assembly back into mounting frame and reattach using (8) mounting bolts and lockwashers. Torque mounting hardware to 290 ft. lbs. each. Make sure that gear housing and clutch housing are not rubbing against drum flanges.
2. Place air shifter assembly #5 over shifter shaft aligning clevis over flats of shaft. Secure clevis to shaft using clevis pin #76 and cotter pin #75. Place shifter shaft in the "ENGAGED" position. With the air cylinder shaft fully retracted, push shifter assembly toward the drum until all play is taken out of the shifter shaft. Secure shifter assembly to clutch housing using (4) capscrews #46 (flanged hx. hd. serrated). Tighten securely, but do not torque.
3. Hook up air (70 to 90 psi) to inlet port of air cylinder and disengage clutch. Look into the opening in the clutch housing and verify that the locking ring and retainer plate are not making contact. Locking ring and retainer plate must not make contact. There must be a clearance (gap) of .09 inch (max.) between the locking ring and retainer plate when the winch is fully disengaged. If there is contact, the (4) capscrews #46 should be loosened and the plate pulled away from the drum approximately .06 inch. Tighten screws securely and check action to assure needed clearance. Repeat adjustment procedure as needed to acquire needed gap. Shift clutch 2 or 3 times to verify proper shifting of clutch. After final adjustment, torque (4) capscrews #46 to 18 ft. lbs. each. Attach cover #43 using (4) capscrews #61.



HYDRAULIC SYSTEM REQUIREMENTS

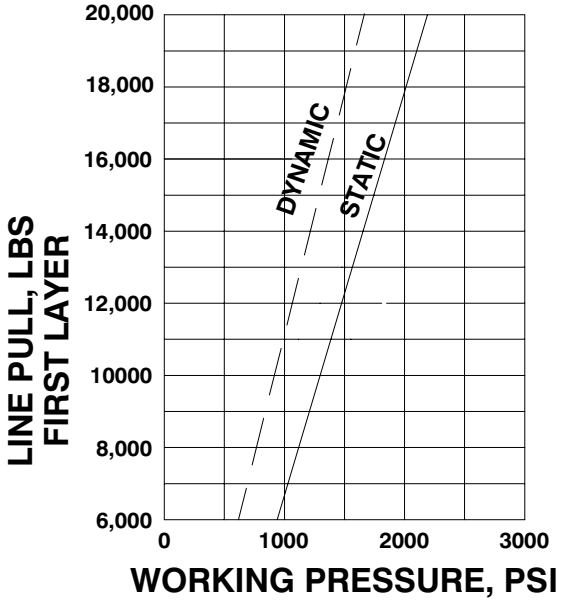
Refer to the performance charts, below, to properly match your hydraulic system to H-800 Dow-Lok® winch performance. The charts consist of :

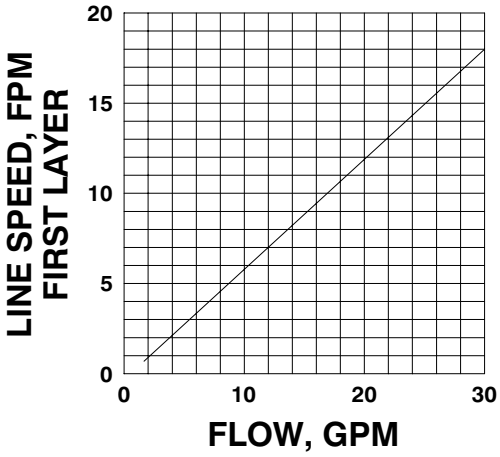
(1) Line pull (lb.) first layer vs. working pressure (PSI). STATIC (solid line) refers to hoisting a suspended load from rest; DYNAMIC (dotted line) refers to maintaining the motion of a moving load.

(2) Line speed, first layer (FPM) vs. Flow, gallons per minute (GPM).

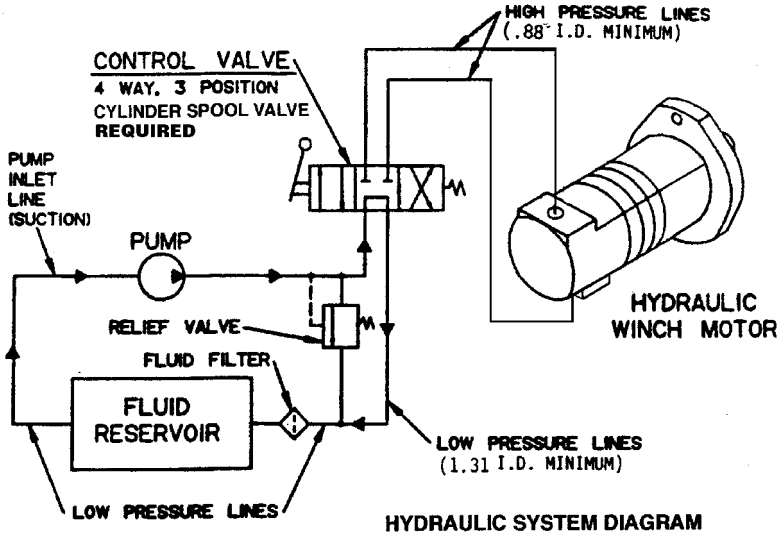
Performance based on a motor displacement of 14.9 cubic inches with 30 GPM maximum flow rate. See page 17 for motor port size.

H-800 Series Performance
20,000 lb. Duty Rating 40:1 Gear Ratio





TYPICAL HYDRAULIC LAYOUT



HYDRAULIC SYSTEM DIAGRAM

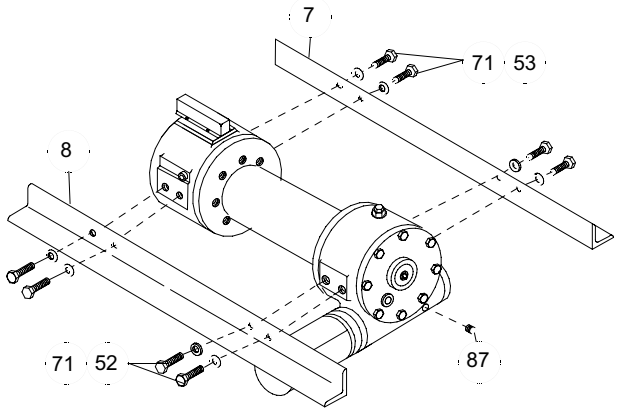
TROUBLESHOOTING GUIDE

CONDITIONS	POSSIBLE CAUSE	CORRECTION
CLUTCH INOPERATIVE OR BINDS UP	1. Dry or rusted shaft.	1. Clean and lubricate.
	2. Bent yoke or linkage.	2. Replace yoke or shaft assembly.
OIL LEAKS FROM HOUSING	1. Seal damaged or worn.	1. Replace seal.
	2. Too much oil.	2. Drain excess oil.
	3. Damaged gasket.	3. Replace gasket.
LOAD DRIFTS DOWN	1. Worm brake has become worn.	1. Refer to “Worm Brake Maintenance”, page 5.
	2. Worm brake out of adjustment	2. Turn adjusting bolt clockwise 1/4 turn or until load does not drift.
WINCH RUNS TOO SLOW	1. Hydraulic motor worn out.	1. Replace motor.
	2. Low flow rate.	2. Check flow rate. Refer to “Hydraulic Systems”, flow chart, page 8.
CABLE DRUM WILL NOT FREESPOOL	1. Winch not mounted squarely, causing end bearings to bind drum	1. Check mounting, refer to “Winch Mounting”, page 4.
	2. Clutch not disengaged	2. (Air Shift) Check air pressure to air cylinder. Minimum 70 PSI required. Refer to Clutch Air Shifter Adjustment, page 7. (Manual shift) Confirm that clutch pin has dropped into “IN” slots properly.
HYDRAULIC FLUID LEAKS FROM HOLE IN ADAPTER	1. Damaged motor shaft seal.	1. Replace seal.

INSTRUCTIONS FOR OVERHAUL OF RAMSEY MODEL H-800 DOW-LOK®

Dis-assembly

Refer to parts list and parts drawing pages for actual item numbers and corresponding parts numbers.



(1)

Drain oil from gear housing by removing pipe plug (item #87) from gear housing.

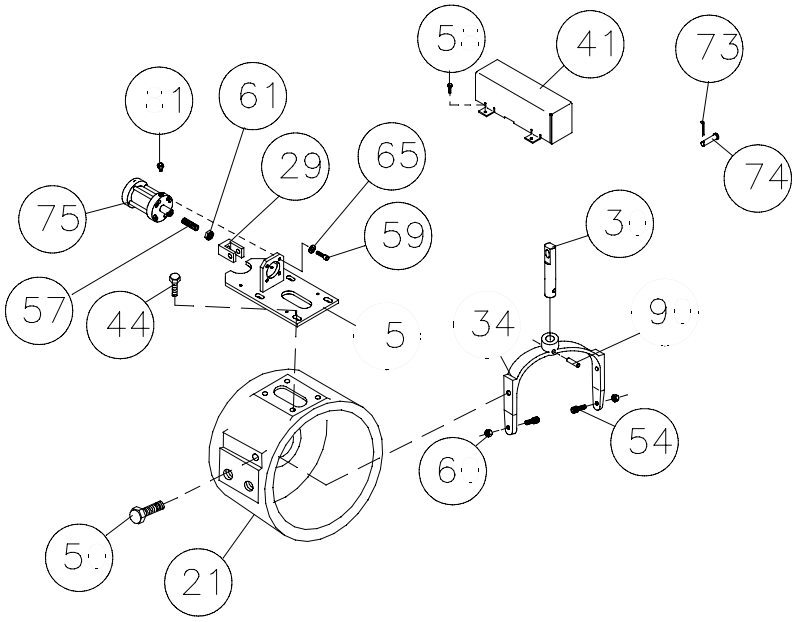
Shift clutch into the engaged "IN" position.

Remove frame angles (items # 7 & 8) from winch assembly.

(2)

If the air cylinder and shifter needs to be removed, remove the (4) capscrews (item #58) that hold the shifter cover (item #41) onto the shifter bracket (item #5). Remove cotter pin (item #73) and clevis pin (item #74) that hold clevis (item #29) to shifter shaft and yoke.

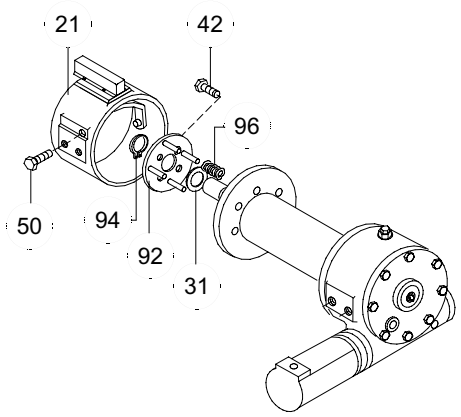
Remove the screws (item #50) that attach the yoke to the clutch housing. The screws (item #54) and nuts (item #60) on the yoke can be removed after removing the clutch housing from the drum. To remove shifter shaft (item #30) from yoke (item #34), remove roll pin (item #90).



Unscrew setscrew (item #57) from air cylinder (item #75) and remove jam nut (item #61) if needed.

To remove the air cylinder from the shifter bracket (item #5), remove 4 screws (item #59) and lockwashers (item #65). To remove the bracket from the clutch housing (item #21), remove 4 capscrews (item #44).

NOTE: It will be necessary to pull the yoke and shifter shaft upward inside the clutch housing as far as it will go in order to clear the locking ring.

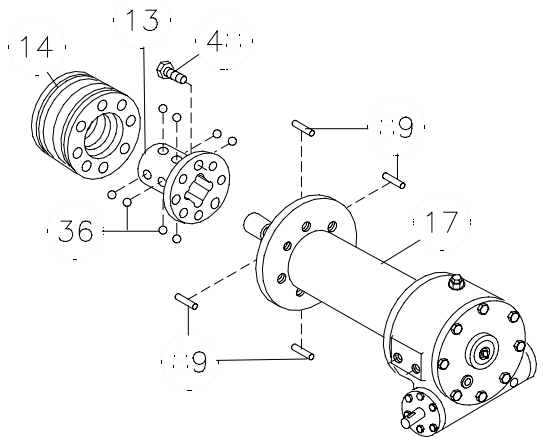


(3)

Remove two capscrews (item #50) from clutch housing (item #21) and unlatch shifter assembly.

Remove clutch housing from end of drum shaft. Press in on retainer plate (item #92), to relieve the spring tension and remove the retainer ring (item #94).

Remove four capscrews (item #42), retainer plate (item #67), springs (item #96) and spacer (item #31).

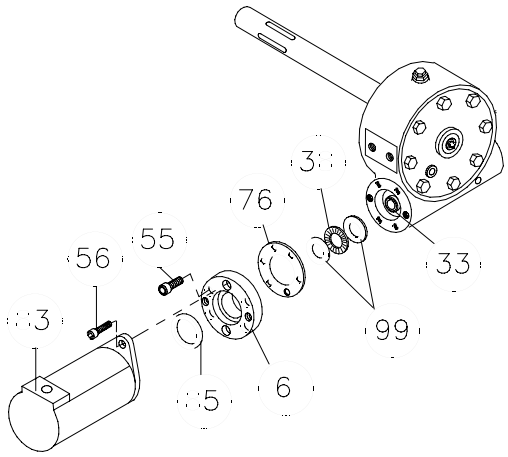


(4)

Slide the locking ring (item #14) from the clutch. NOTE: The locking ring cannot be removed unless the clutch is engaged, with dowel pins (item #89) seated in the shaft keyways.

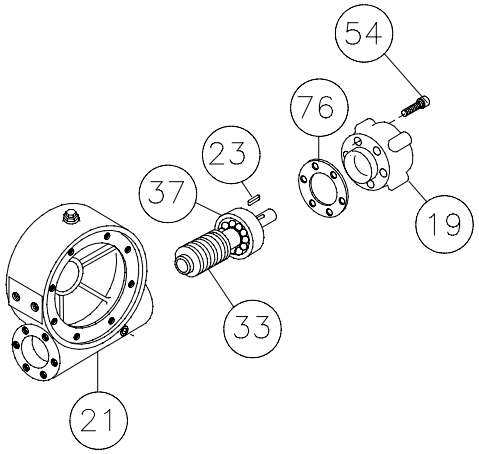
Rotate the drum so the eight balls (item #36) and four dowel pins (item #89) can be removed.

If necessary, the clutch (item #13) may be disassembled from the drum by removing eight capscrews (item #48). Slide drum (item #17) from drum shaft.



(5)

Remove motor (item #83) from adapter (item #6) by removing two capscrews (item #56). Remove adapter from gear housing by removing six (item #55) capscrews. Replace o-ring (item #85) and gasket (item #76). Remove thrust bearing (item #38) and thrust washers (item #99).



(6)

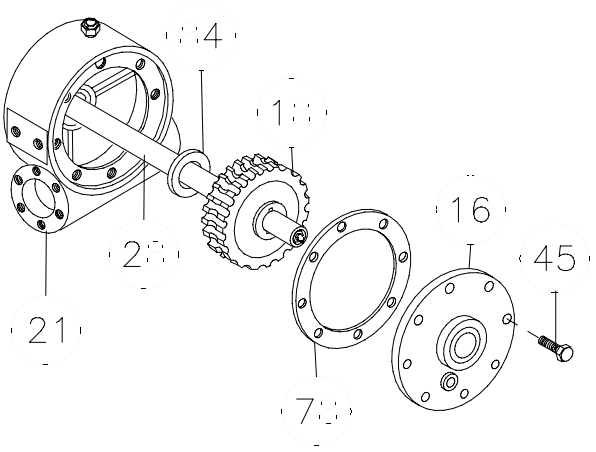
Refer to page 5, “Worm Brake Maintenance”. Remove brake housing (item #19) from gear housing by unscrewing six capscrews (item #54). Remove key (item #23) from worm. Remove worm (item #33) and bearing (item #37) from gear housing. Use a soft hammer to gently tap input end of worm and drive worm and bearing from gear housing. Once worm has been removed from housing, bearing can be pressed from end of worm.

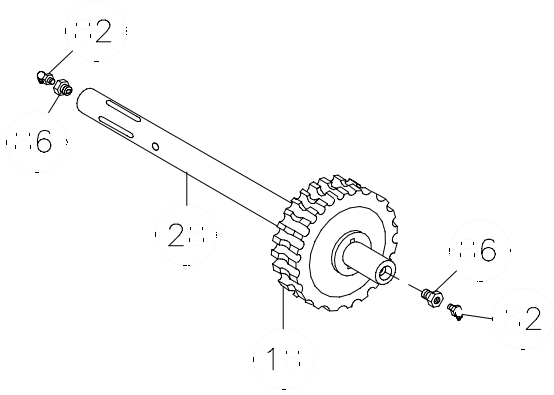
Check for signs of wear or damage to worm (item #33) and bearings (item #37). Replace if necessary.

(7)

Remove gear housing cover (item #16) from gear housing (item #21) by unscrewing eight capscrews (item #45). Thread two of the capscrews into the two tapped holes of cover and tighten. This will pull the cover loose from gear housing.

Remove cover gasket (item #78) and pull shaft (item #28), with gear (item #18) and spacer (item #84) attached, from gear housing.





(8)

Check for signs of wear on gear teeth. If necessary, replace gear.

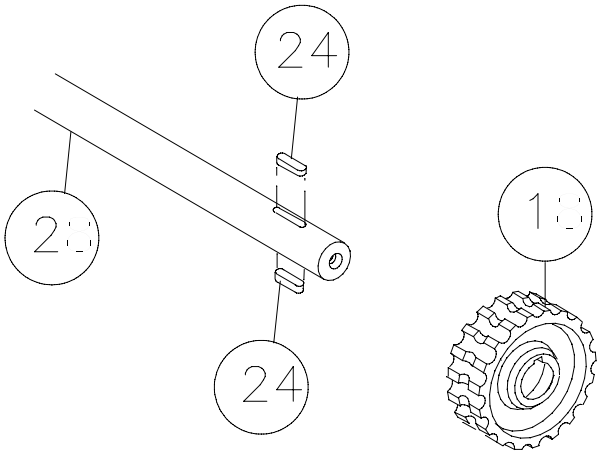
Check lube fittings (item #82) for damage and replace if necessary. Remove lube fittings and reducers (item #86) from ends of shaft, if following Step 9, and reinstall after Step 9.

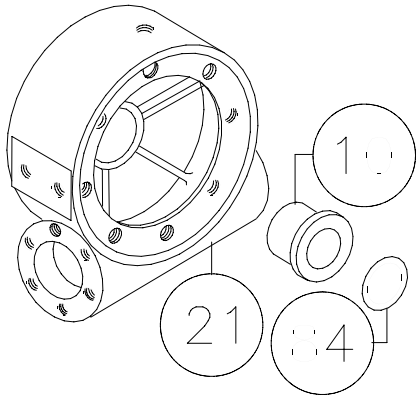
(9)

If shaft and/or gear is damaged, replace as follows:

a. Tap keys (item #25) into short keyways of drum shaft (item #27).

b. Press shaft (item #27) and keys through gear hub (item #17) until end of keys on long end of shaft are flush with hub.



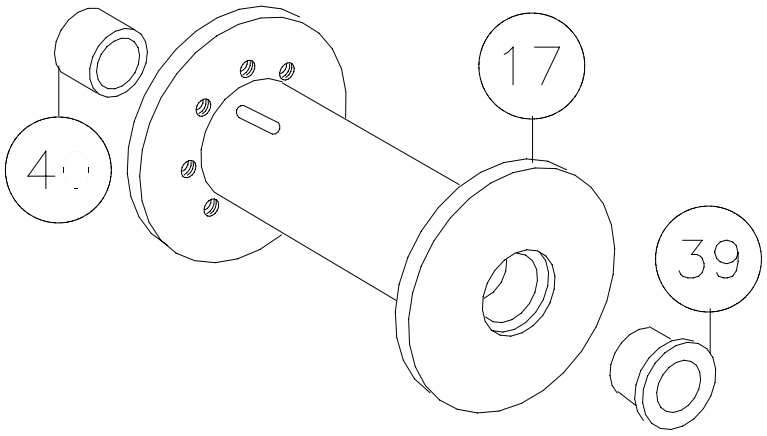


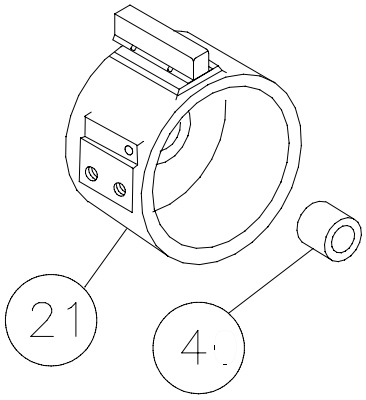
(10)

Check gear housing bushing (item #10) and quad ring (item #84) for signs of wear. Replace if necessary by pressing old bushing from gear housing (item #21). Press new bushing into place and insert new quad ring into groove inside of bushing.

(11)

Check drum bushings (items #39 & #40) for signs of wear. Replace if necessary by pressing old bushings from drum (item #17). Press bushing (item #39) into bore in drum until its flange is seated against bottom of counterbore. Press bushing (item #40) into opposite bore on drum until end of bushing extends .50" from end of drum.



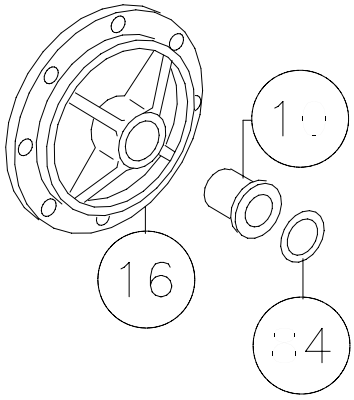


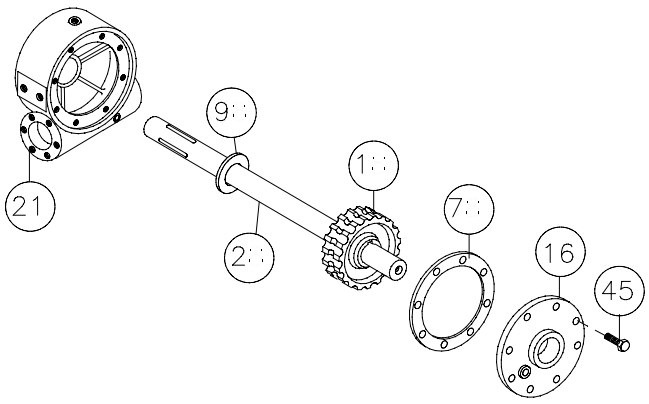
(12)

Check end bearing bushing (item #36) for signs of wear. If necessary, remove old bushing and press new bushing into place.

(13)

Check cover bushing (item #10) and quad ring (item #84) for signs of wear. Replace if necessary by pressing old bushing from gear housing cover (item #16). Press new bushing into place and insert new quad ring into groove inside of bushing.





RE-ASSEMBLY

(14)

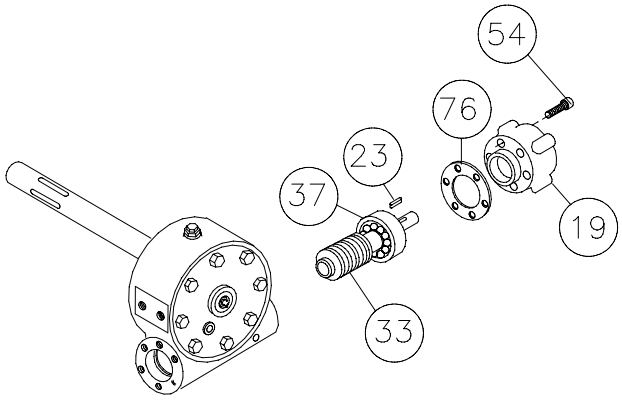
Slide spacer (item #98) over long end of shaft and place against gear hub. Apply grease to end of shaft, opposite gear. Apply grease to bushing in gear housing (item #21). Place greased end of shaft through bushing in gear housing. Place gasket (item #78) onto gear housing cover (item #16). Apply grease to gear end of shaft and cover bushing. Place cover onto shaft and secure to housing with eight (item #45) capscrews. Tighten capscrews to 39 ft-lb. (52 Nm.) torque each.

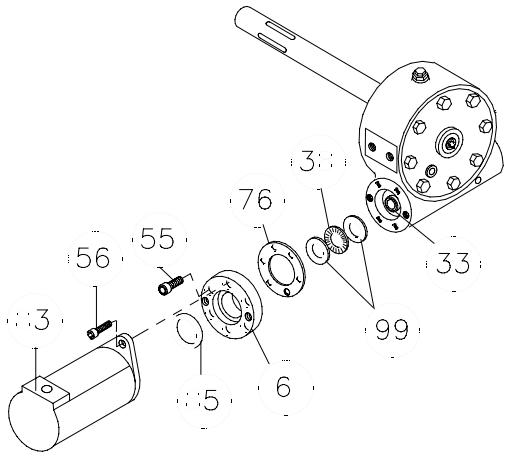
(15)

Press bearing (item #37) onto worm (item #33). NOTE: Be sure that thick shoulder of bearings outer race (side with manufacturer's name and part number) is out, away from worm threads.

Press bearing and worm into gear housing. Slip gasket (item #76) onto brake housing (item #19). Use six capscrews (item #54) to secure brake housing to gear housing. Tighten capscrews to 45 ft-lb. (61 Nm.) torque each.

Place key (item #23) into keyway of worm (item #30). Refer to page 5 for reassembly and checking of worm brake.





(16)

Place thrust washers (item #99) and thrust bearing (item #38) over end of worm (item #33) and into housing. Attach adapter (item #6) with gasket (item #76) to housing, using six (item #55) capscrews. Tighten capscrews to 45 ft-lb. (61Nm.) torque each.

Insert o-ring (item #85) into adapter and place motor shaft, with key in keyway, through o-ring. Insert motor shaft into end of worm. Secure motor (item #83) to coupling using two (item #56) capscrews. Tighten capscrews to 102 ft-lbs. (138 Nm.) torque each.

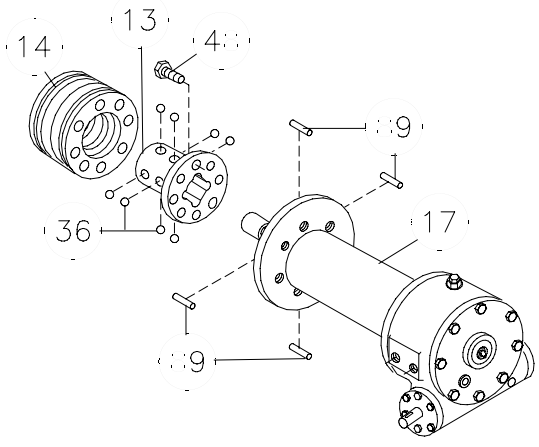
(17)

Slide drum assembly (item #17) onto drum shaft as shown.

Place clutch (item #13) over end of drum shaft. Align the clutch over the pilot bushing in drum. Install the eight capscrews (item #48) and tighten the capscrews to 103 ft-lb. (139 Nm.) torque to securely seat the clutch to the drum.

Rotate the drum to align the clutch slots with the shaft keyways. Lightly grease four dowel pins (item #89) and eight balls (item #36). Use molybdenum disulfide or graphite bearing grease. Insert the four dowel pins and eight balls. In the engaged position the balls should be nearly flush with the clutch.

Lightly grease the internal and external groove and bore in locking ring (item #14) and clutch (item #13).



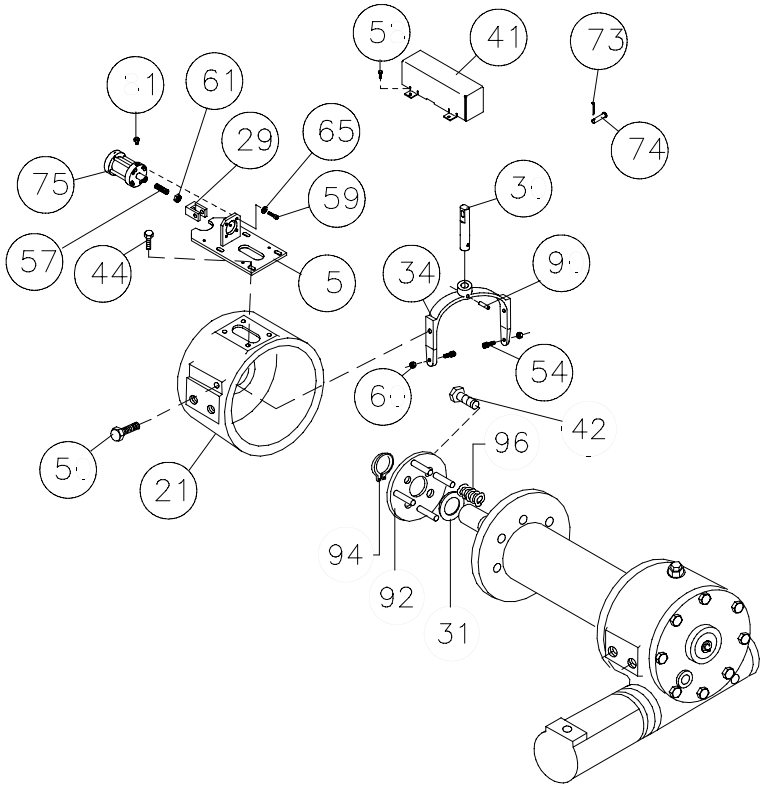
Slide locking ring onto the clutch. When fully engaged, the locking ring touches the clutch flange and there is .71 to .73 inches between the end of the locking ring and the end of the clutch.

(18)

Place four springs (item #96) over four roll pins on retainer plate (item #92). Install spacer (item #31) on the retainer plate and secure to clutch using four capscrews (item #42). Tighten capscrews to 9.7 ft-lb. (13 Nm.) torque each. Firmly seat the retainer ring (item #94) into drum shaft groove.

Attach the shifter shaft (item #30) to the yoke (item #34) with pin (item #90). Install screws (item #54) and nuts (item #60) into the yoke.

Set the yoke so that the screw heads engage the external groove in the locking ring (item #14). Push the clutch housing (item #21) onto the drum shaft and move the shifter shaft so that the clutch is in the engaged "IN" position. Insert the two capscrews (item #50) through the housing into the yoke.



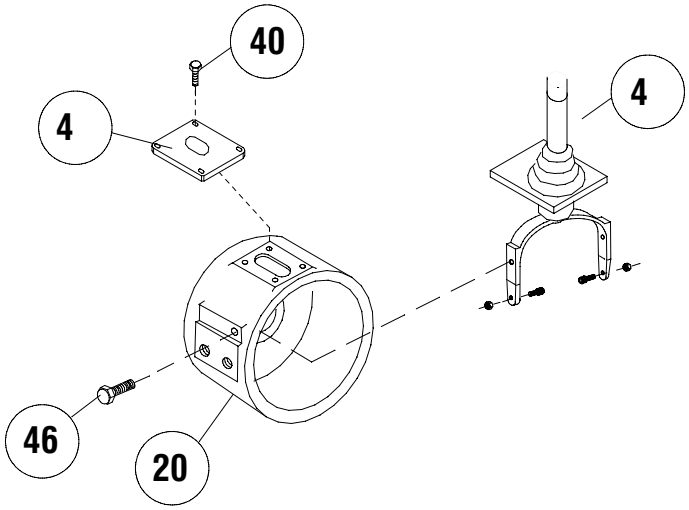
Mount the air shifter bracket (item #5) to the clutch housing (item #21) using four capscrews (item #44). Tighten to 18 ft-lbs. (24 Nm) torque. (DO NOT TIGHTEN UNTIL AIR SHIFTER STROKE IS ADJUSTED, BELOW.) Mount the air cylinder (item #75) to the shifter bracket (item #5) using four screws (item #59) and lockwashers (item #65). Tighten to 45 in-lbs. (5 Nm) torque. Make sure breather vent (item #81) is installed on air cylinder and is not covered.

Apply Loc-tite #262 to setscrew (item #57). Install setscrew into air cylinder until fully seated. Install jam nut (item #61) onto setscrew to approximately the middle. Thread clevis (item #29) onto setscrew. Adjust yoke until the clutch is fully engaged. Attach clevis to shifter shaft using clevis pin (item #74) and cotter pin (item #73).

Connect air pressure (70-90 PSI) to inlet port of air cylinder and confirm that clutch disengages when air pressure is applied. If necessary, the air shifter stroke can be adjusted by threading clevis on setscrew or by moving air shifter bracket on slotted mounting holes. When the stroke is set correctly, tighten the air shifter bracket mounting screws and tighten jam nut (item #61) against clevis.

Install the air shifter bracket cover using four screws (item #58). Tighten to 18 ft-lbs torque.

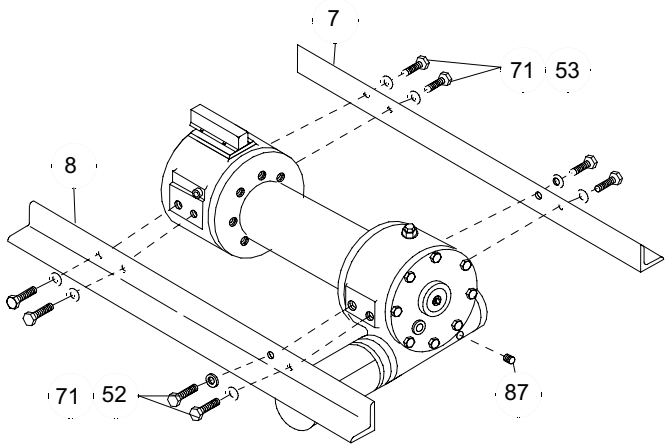
(18a) For the manual shifter, set the shifter assembly (item #4) so that the screw heads at the bottom of the shifter assembly engage the external groove in the locking ring (item #10). Push the clutch housing (item #20) onto the drum shaft and latch the shifter assembly in the engaged “IN” position. Insert the two capscrews (item #46) into the shifter assembly.



(19)

Attach mounting angles (items #7 & 8) to winch assembly. Use capscrews (item #52 & #53) and lockwashers (item #71). Tighten capscrews to 290 ft-lb. (393 Nm) each. Insert plug (item #87) into hole in bottom of gear housing. Remove reducer and relief fitting on top of gear housing (items #79 & 86). Pour 3 -3/4 pints of E.P. 140 oil into hole and replace plugs.

Check the action of the clutch by shifting and freespooling the winch drum several times. Operate the winch forward and reverse and confirm that drum rotates.



CABLE TENSIONER OVERHAUL

If the cable tensioner needs to be overhauled, it will need to be re-assembled and adjusted for the proper freespool effort. **Do not operate the winch with the tensioner against a bare drum.** The winch should only be operated with the cable tensioner installed with at least one wrap of cable around the drum.

(1)

To remove the tensioner from the winch, remove the capscrews (item #47), lockwashers (item #68), and nuts (item #63) that mount the tensioner to the angle. Disassemble the tensioner assembly as shown below. Replace any parts that are worn.

(2)

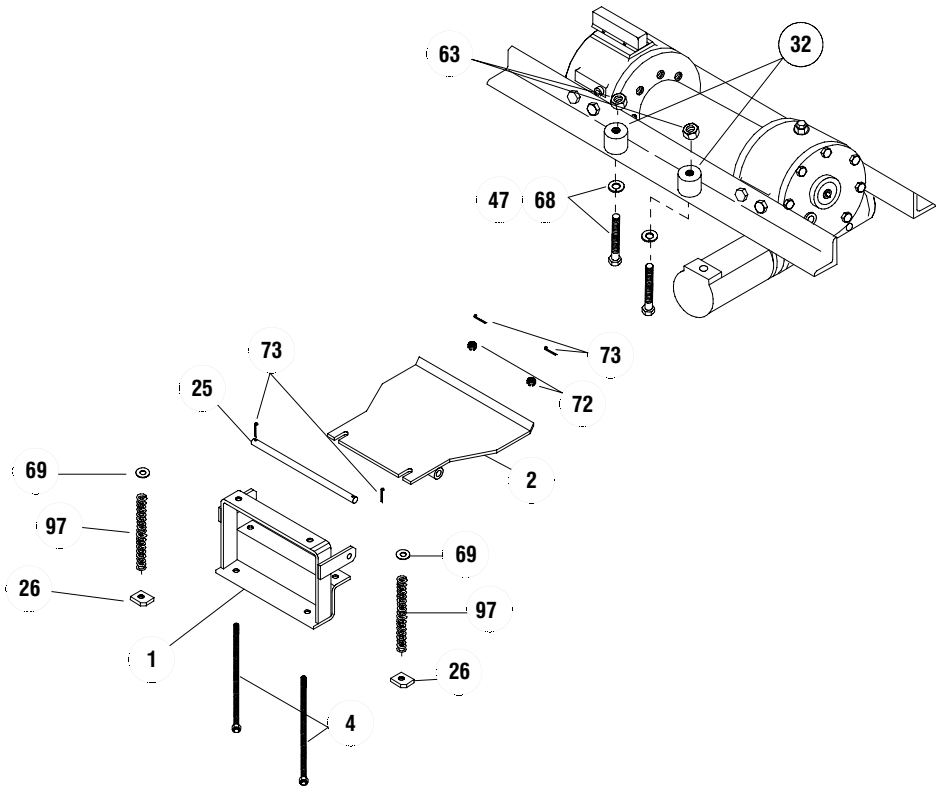
Re-assemble the tensioner assembly. Mount the assembly to the angle using the spacers (item #32) under the tensioner bracket. Center the tensioner plate (item #2) between the drum flanges using a tape measure or scale. Tighten the mounting bolts to 87 ft-lbs. of torque.

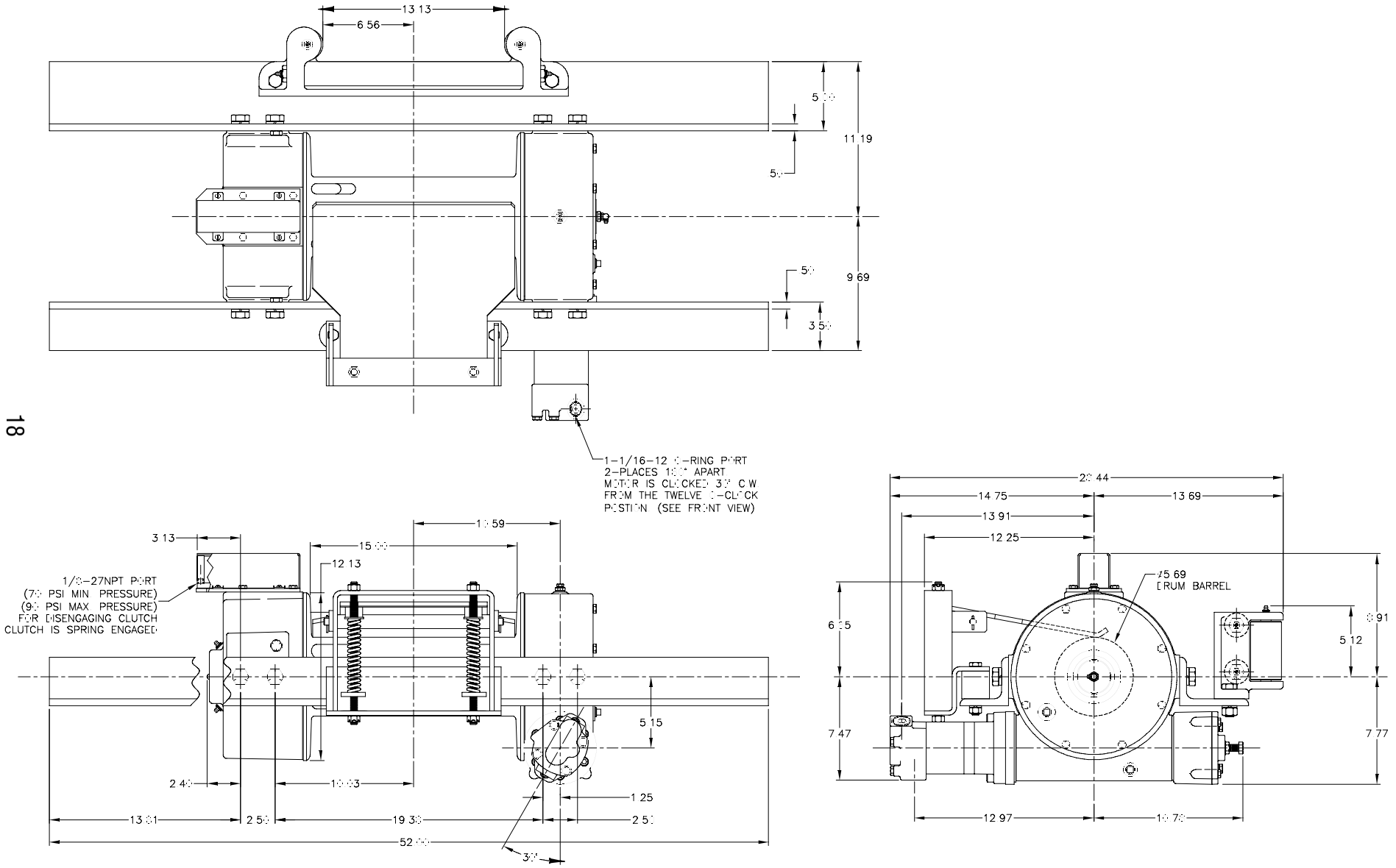
(3)

Before increasing tension on the cable tensioner, the cable should be installed on the drum. As cable winds onto the drum, watch the tensioner. The tensioner must be free to move without obstruction to function properly. If the tensioner touches either drum flange, correct the problem.

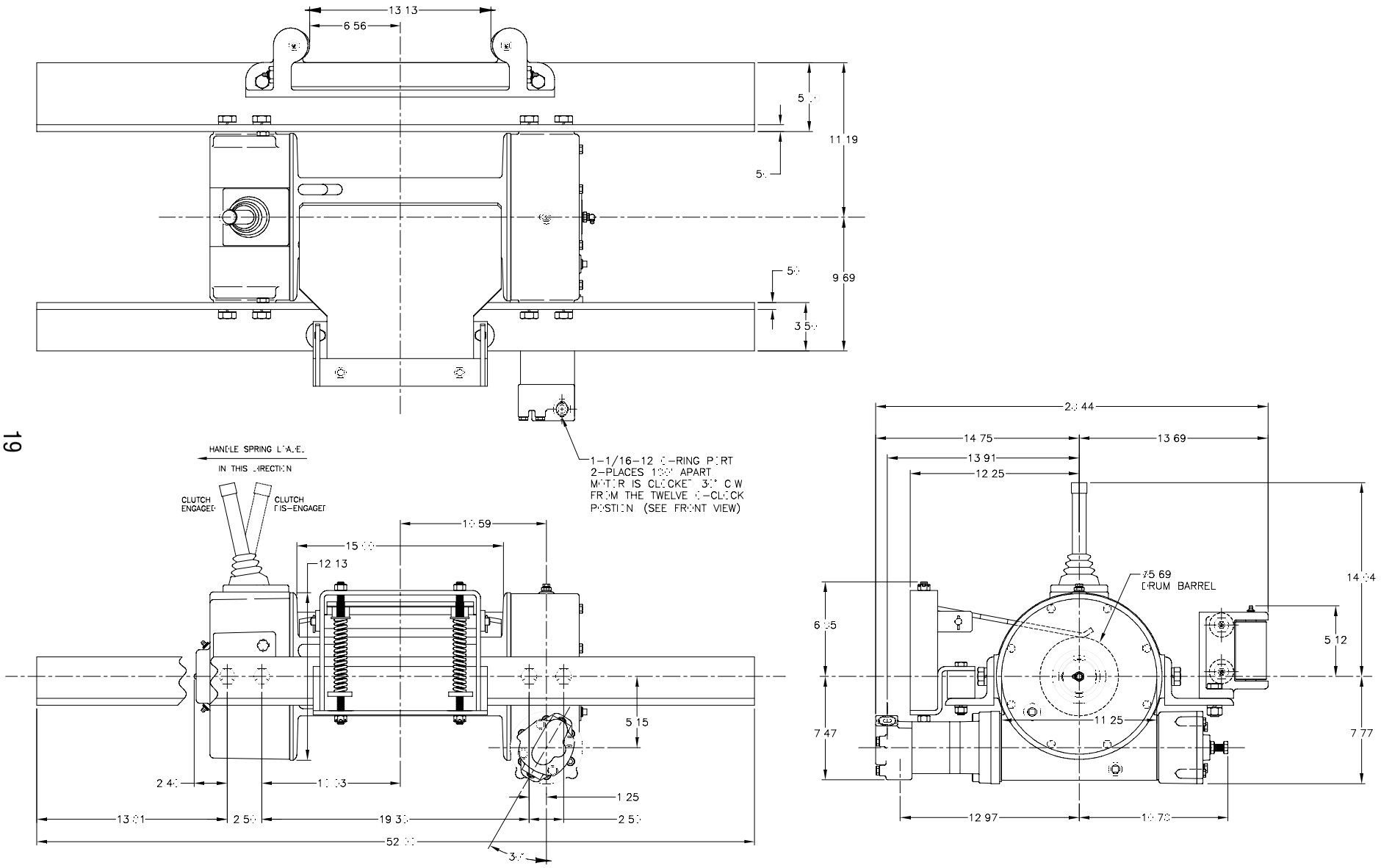
(4)

To adjust the freespool effort of the tensioner, turn the adjustment nut (item #72) or the tensioner stud (item #4). This will adjust the spring height. Start adjusting the tensioner with the spring height at 5.50”. Disengage the winch and freespool some cable off the drum. Adjust the spring tension to achieve the desired freespool effort that also prevents “bird nesting” of the cable.

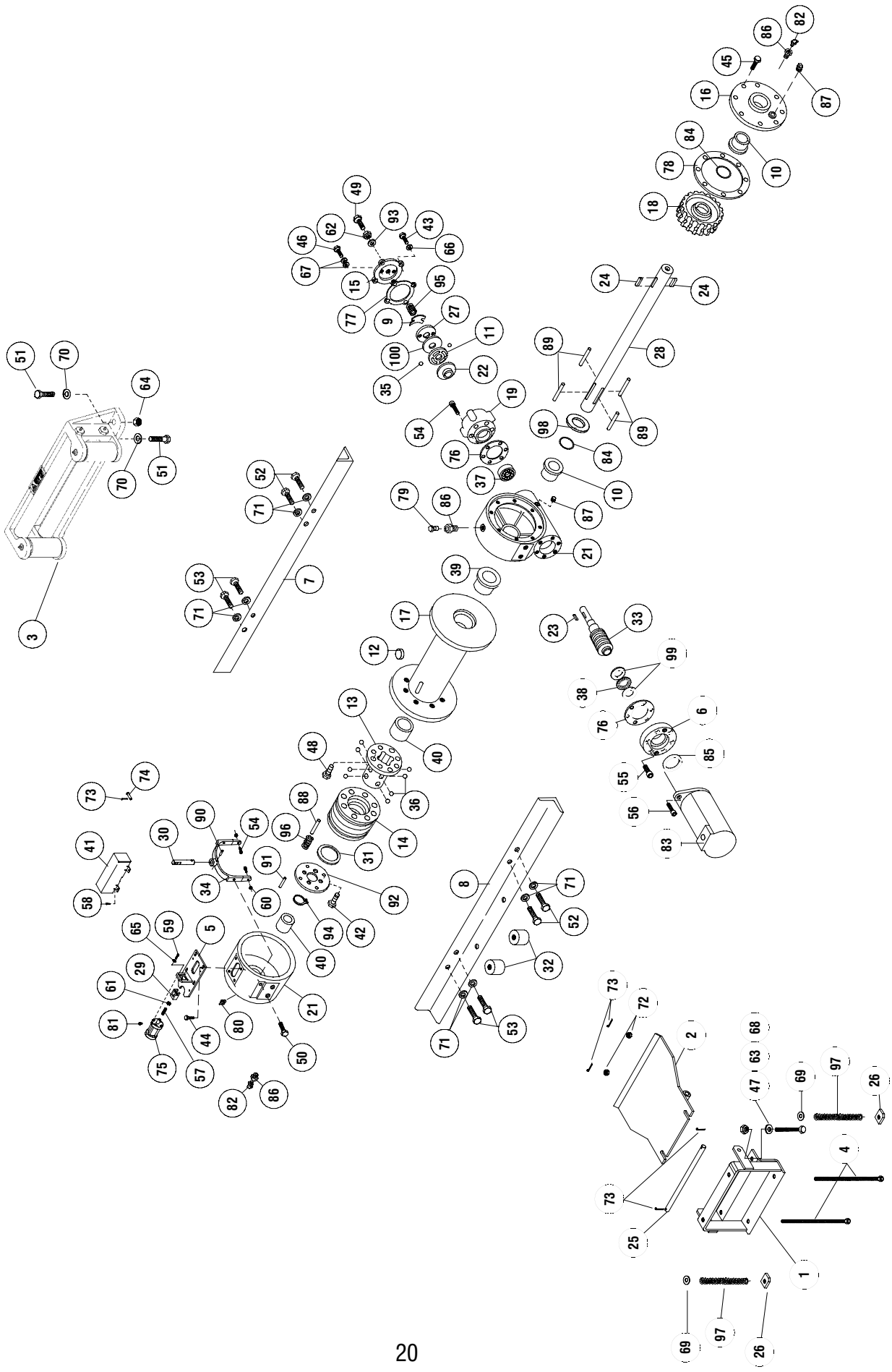




MODEL H-800 WITH AIR SHIFTER



MODEL H-800 WITH MANUAL SHIFTER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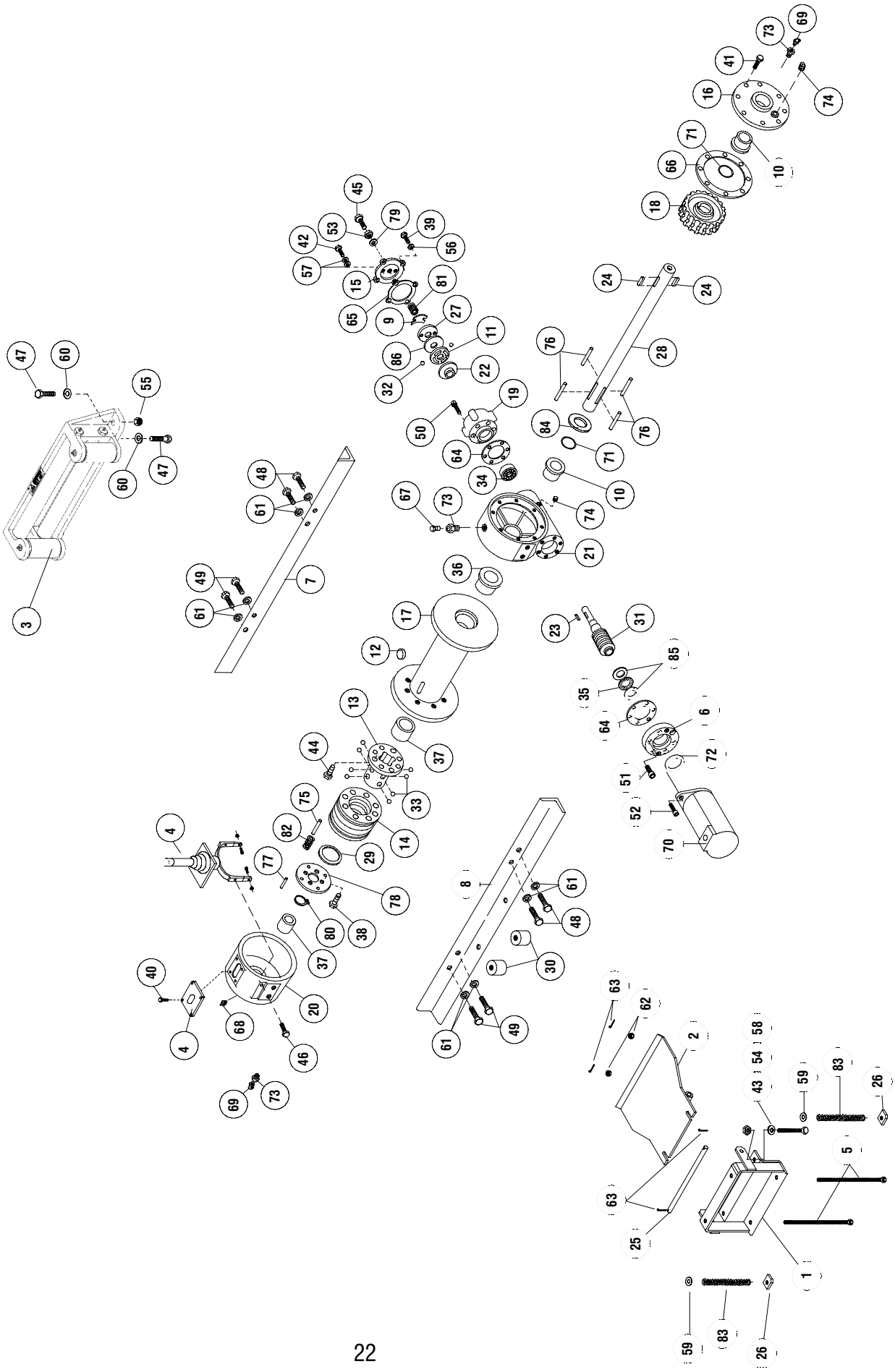
PARTS LIST

MODEL H-800 WITH AIR SHIFTER

Item No.	Qty.	Part No.	Description	Item No.	Qty.	Part No.	Description
1	1	204267	TENSIONER BRACKET ASSEMBLY	51	4	414665	CAPSCREW 5/8-11NC X 2 LG HX HD GR5
2	1	265018	TENSIONER PLATE ASSEMBLY	52	4	414751	CAPSCREW 3/4-10NC X 1-3/4 GR5 NYL PATCH
3	1	274010	ROLLER FAIRLEAD ASSEMBLY	53	4	414777	CAPSCREW 3/4-10NC X 1-3/4 GR5
4	2	299694	TENSIONER STUD ASSEMBLY	54	8	414897	CAPSCREW 3/8-16NC X 1 LG SOC HD
5	1	299695	AIR SHIFTER BRACKET ASSEMBLY	55	6	414913	CAPSCREW 3/8-16NC X 1 1/4 LG SOC HD
6	1	300063	ADAPTER	56	2	414952	CAPSCREW 1/2-13NC X 1 1/2 LG SOC HD Z/P
7	1	303112	ANGLE - ROLLER FAIRLEAD SIDE	57	1	416061	SETSCREW 3/8-24NF X 1-1/4 LG
8	1	303113	ANGLE - TENSIONER SIDE	58	4	416214	SCREW #10-32NF X 1/4 LG RD HD Z/P
9	1	306035	SPRING - FLAT	59	4	416262	SCREW #10-32NF X 3/4 LG HX SOC Z/P
10	2	308083	BUSHING	60	2	418035	NUT 3/8-16NC HX REG Z/P
11	1	314007	CAM PLATE	61	1	418041	NUT 3/8-24NF HX JAM
12	1	314010	CABLE ANCHOR	62	1	418067	NUT 1/2-20NF HX JAM
13	1	324151	CLUTCH	63	2	418069	NUT 1/2-13NC HX REG Z/P
14	1	324318	LOCKING RING	64	2	418080	NUT 5/8-11NC REG HX Z/P
15	1	328027	COVER - BRAKE	65	4	418141	LOCKWASHER #10 MED SECT Z/P
16	1	328122	COVER - GEAR HOUSING	66	4	418163	LOCKWASHER 5/16 MED SECT Z/P
17	1	332167	DRUM	67	4	418184	WASHER - FLAT 3/8 ALUM
18	1	334188	GEAR - R.H.	68	2	418217	LOCKWASHER 1/2 MED SECT
19	1	338221	HOUSING - BRAKE	69	2	418223	WASHER - FLAT 1/2 Z/P
20	1	338235	HOUSING - CLUTCH	70	4	418237	LOCKWASHER 5/8 MED SECT Z/P
21	1	338242	HOUSING - GEAR	71	8	418249	LOCKWASHER 3/4 MED SECT
22	1	340011	HUB - BRAKE	72	2	418436	NUT - 1/2-13NC HX SLOTTED Z/P
23	1	342053	KEY	73	5	424005	COTTER PIN
24	2	342153	KEY	74	1	424029	CLEVIS PIN
25	1	346044	PIVOT PIN	75	1	433016	AIR CYLINDER
26	1	350617	TENSIONER PLATE	76	2	442192	GASKET
27	1	352021	PLATE - RETAINER	77	1	442194	GASKET
28	1	357498	SHAFT - DRUM	78	1	442195	GASKET
29	1	358067	CLEVIS	79	1	456008	FITTING - RELIEF
30	1	358069	SHIFTER SHAFT	80	1	456031	FITTING - LUBE
31	1	362224	SPACER	81	1	456038	BREATHER VENT
32	2	362293	SPACER	82	2	456039	LUBE FITTING
33	1	368196	WORM R.H.	83	1	458048	MOTOR - HYD
34	1	370047	YOKE	84	2	462013	QUAD-RING
35	2	400007	BALL - BRAKE	85	1	462041	O RING
36	8	400011	BALL - CLUTCH	86	3	468002	REDUCER
37	1	402045	BEARING - BALL	87	2	468011	PIPE PLUG
38	1	402109	THRUST BEARING	88	4	470042	PIN - ROLL
39	1	412051	BUSHING	89	4	470044	PIN - DOWEL
40	2	412052	BUSHING	90	1	470045	PIN - ROLL
41	1	413074	COVER - AIR SHIFT	91	4	470056	PIN - ROLL
42	4	414038	CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5	92	1	474030	PLATE - RETAINER
43	4	414111	CAPSCREW 5/16-18NC X 1 LG HX HD GR5	93	1	486076	THREAD SEAL
44	4	414126	CAPSCREW 5/16-18NC X 3/4 LG HX HD	94	1	490025	RING - RETAINER
45	8	414277	CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH	95	1	494010	SPRING
46	2	414399	CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5	96	4	494069	SPRING
47	2	414545	CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5	97	2	494109	SPRING - TENSIONER
48	8	414571	CAPSCREW 1/2-20NF X 1 LG HX HD GR5	98	1	518016	THRUST WASHER
49	1	414603	CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5	99	2	518036	THRUST WASHER
50	2	414619	CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP	100	1	530007	DISC - BRAKE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PARTS LIST

MODEL H-800 WITH MANUAL SHIFTER

Item No.	Qty.	Part No.	Description	Item No.	Qty.	Part No.	Description
1	1	204267	TENSIONER BRACKET ASSEMBLY	44	8	414571	CAPSCREW 1/2-20NF X 1 LG HX HD GR5
2	1	265018	TENSIONER PLATE ASSEMBLY	45	1	414603	CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5
3	1	274010	ROLLER FAIRLEAD ASSEMBLY	46	2	414619	CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP
4	1	276033	SHIFTER ASSEMBLY	47	4	414665	CAPSCREW 5/8-11NC X 2 LG HX HD GR5
5	2	299694	TENSIONER STUD ASSEMBLY	48	4	414751	CAPSCREW 3/4-10NC X 1-3/4 GR5 NYL PATCH
6	1	300063	ADAPTER	49	4	414777	CAPSCREW 3/4-10NC X 1-3/4 GR5
7	1	303112	ANGLE - ROLLER FAIRLEAD SIDE	50	6	414897	CAPSCREW 3/8-16NC X 1 LG SOC HD
8	1	303113	ANGLE - TENSIONER SIDE	51	6	414913	CAPSCREW 3/8-16NC X 1 1/4 LG SOC HD
9	1	306035	SPRING - FLAT	52	2	414952	CAPSCREW 1/2-13NC X 1 1/2 LG SOC HD Z/P
10	2	308083	BUSHING	53	1	418067	NUT 1/2-20NF HX JAM
11	1	314007	CAM PLATE	54	2	418069	NUT 1/2-13NC HX REG Z/P
12	1	314010	CABLE ANCHOR	55	2	418080	NUT 5/8-11NC REG HX Z/P
13	1	324151	CLUTCH	56	4	418163	LOCKWASHER 5/16 MED SECT Z/P
14	1	324318	LOCKING RING	57	4	418184	WASHER - FLAT 3/8 ALUM
15	1	328027	COVER - BRAKE	58	2	418217	LOCKWASHER 1/2 MED SECT
16	1	328122	COVER - GEAR HOUSING	59	2	418223	WASHER - FLAT 1/2 Z/P
17	1	332167	DRUM	60	4	418237	LOCKWASHER 5/8 MED SECT Z/P
18	1	334188	GEAR - R.H.	61	8	418249	LOCKWASHER 3/4 MED SECT
19	1	338221	HOUSING - BRAKE	62	2	418436	NUT - 1/2-13NC HX SLOTTED Z/P
20	1	338235	HOUSING - CLUTCH	63	4	424005	COTTER PIN
21	1	338242	HOUSING - GEAR	64	2	442192	GASKET
22	1	340011	HUB - BRAKE	65	1	442194	GASKET
23	1	342053	KEY	66	1	442195	GASKET
24	2	342153	KEY	67	1	456008	FITTING - RELIEF
25	1	346044	PIVOT PIN	68	1	456031	FITTING - LUBE
26	1	350617	TENSIONER PLATE	69	2	456039	LUBE FITTING
27	1	352021	PLATE - RETAINER	70	1	458048	MOTOR - HYD
28	1	357498	SHAFT - DRUM	71	2	462013	QUAD-RING
29	1	362224	SPACER	72	1	462041	O RING
30	2	362293	SPACER	73	3	468002	REDUCER
31	1	368196	WORM R.H.	74	2	468011	PIPE PLUG
32	2	400007	BALL - BRAKE	75	4	470042	PIN - ROLL
33	8	400011	BALL - CLUTCH	76	4	470044	PIN - ROLL
34	1	402045	BEARING - BALL	77	4	470056	PIN - ROLL
35	1	402109	THRUST BEARING	78	1	474030	PLATE - RETAINER
36	1	412051	BUSHING	79	1	486076	THREAD SEAL
37	2	412052	BUSHING	80	1	490025	RING - RETAINER
38	4	414038	CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5	81	1	494010	SPRING
39	4	414111	CAPSCREW 5/16-18NC X 1 LG HX HD GR5	82	4	494069	SPRING
40	4	414142	CAPSCREW 5/16-18NC X 3/4 LG HX HD GR5	83	2	494109	SPRING - TENSIONER
41	8	414277	CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH	84	1	518016	THRUST WASHER
42	2	414399	CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5	85	2	518036	THRUST WASHER
43	2	414545	CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5	86	1	530007	DISC - BRAKE

Warranty Information

Ramsey Winches are designed and built to exacting specifications. 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.

Limited Lifetime 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

RAMSEY WINCH COMPANY

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