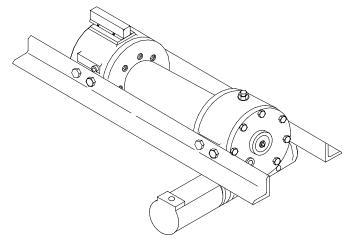


Ramsey Winch Company OWNER'S MANUAL

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



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

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.

^{**} Fifth Layer does not conform to SAE J706

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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 $1/2 \times 3 \times 4$ 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

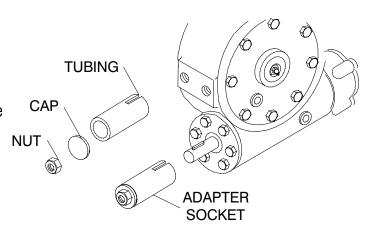
The oil cooled, fully adjustable, automatic worm brake operates in the worm housing lubricant, all parts being submerged in oil. When the brake wears to the point that the load begins to drift, the brake can be adjusted as follows:

- 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.

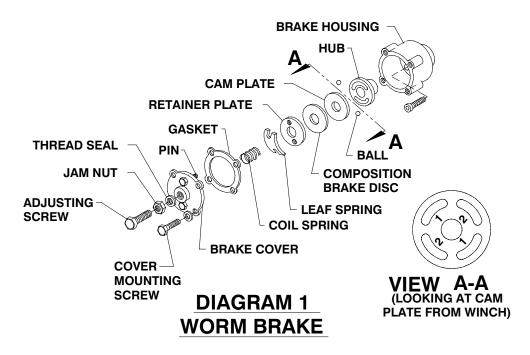
After welding the cap and nut to the tubing, slot the tubing, as shown. This will allow the special adapter to slide over the keyway and will then act as a large socket. A torque wrench can the be used to apply the proper torque. Turn the torque wrench so that the drum turns in the spool out direction 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.



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

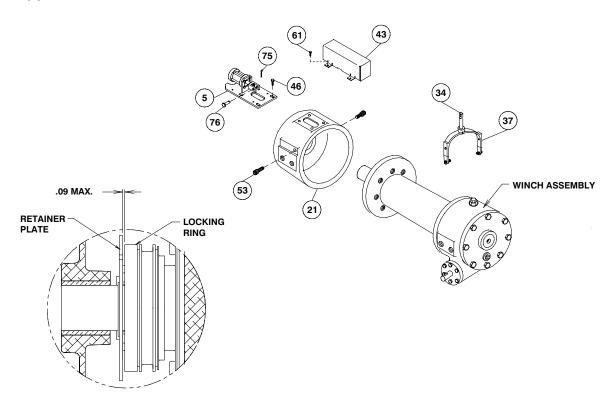
After the brake has been adjusted to the proper torque setting (see Adjustment section above), disengage clutch. Start vehicle engine and run winch in the reel in (hoisting direction). Allow winch to run in this direction for one minute.

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.



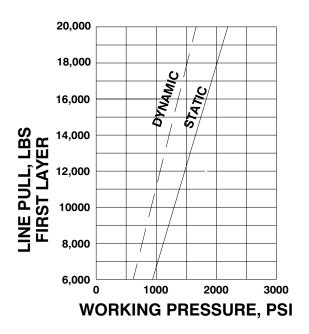
HYDRAULIC SYSTEM REQUIREMENTS

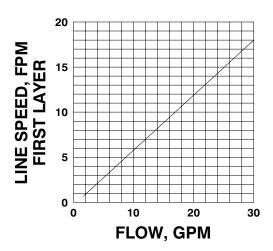
Refer to the performance charts, below, to properly match your hydraulic system to H-800 Dow-Lok $^{\circledR}$ winch performance. The charts consist of :

- (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).

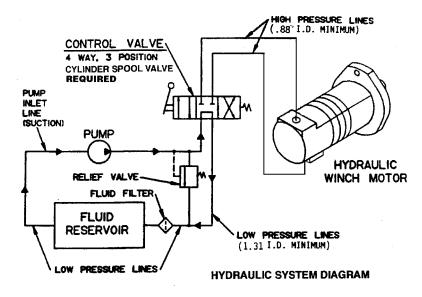
Performance based on a motor displacement of 14.9 cubic inches with 30 GPM maximum flow rate. See page 17 for motor port size.

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





TYPICAL HYDRAULIC LAYOUT



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	Winch not mounted squarely, causing end bearings to bind drum	1. Check mounting, refer to "Winch Mounting", page 4.
	2. Clutch not disengaged	 (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

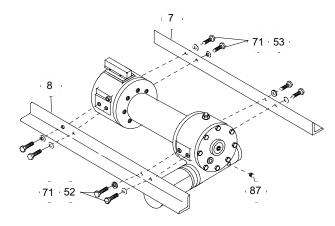
Refer to parts list and parts drawing pages for actual item numbers and corresponding parts numbers.

(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.

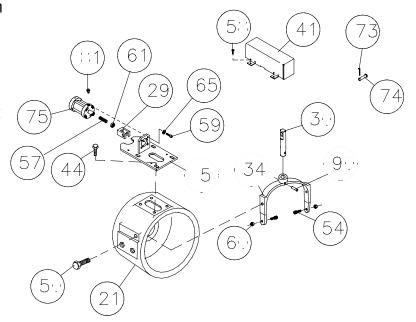
Remove the screws (item #50) that attach the yoke to the clutch housing. The screws (item #54) and nuts (item #60) on the yoke can be removed after removing the clutch housing from the drum. To remove shifter shaft (item

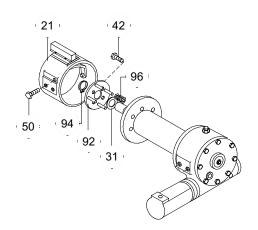
#30) from yoke (item #34), remove roll pin (item #90).

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).

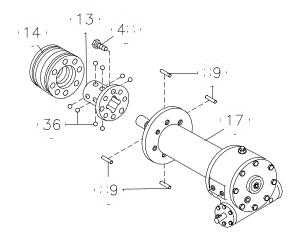
Remove four capscrews (item #42), retainer plate (item #67), springs (item #96) and spacer (item #31).

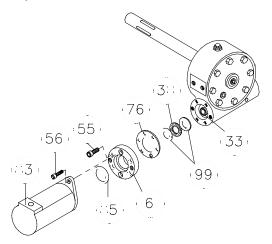
(4)

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.





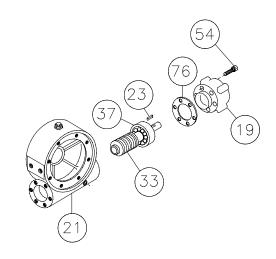
(5)

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.

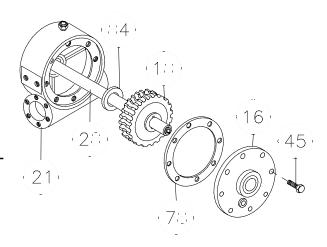
Check for signs of wear or damage to worm (item #33) and bearings (item #37). Replace if necessary.

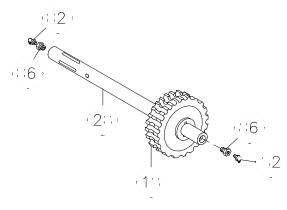


(7)

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.

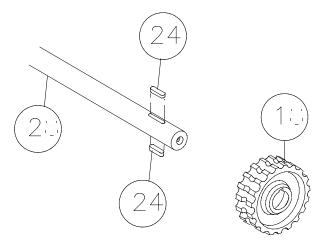
Check lube fittings (item #82) for damage and replace if necessary.

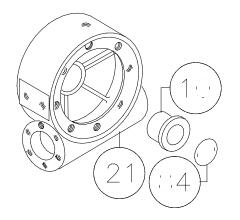
Remove lube fittings and reducers (item #86) from ends of shaft, if following Step 9, and reinstall after Step 9.

(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.



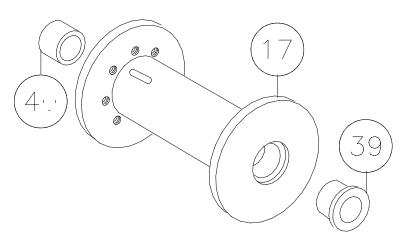


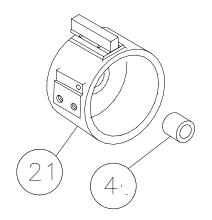
(10)

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.



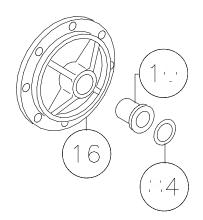


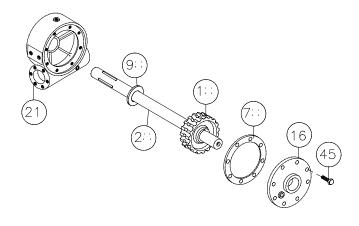
(12)

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)

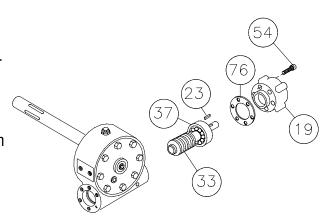
Slide spacer (item #98) over long end of shaft and place against gear hub. Apply grease to end of shaft, opposite gear. Apply grease to bushing in gear housing (item #21). Place greased end of shaft through bushing in gear housing. Place gasket (item #78) onto gear housing cover (item #16). Apply grease 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.

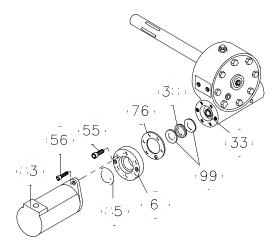
(15)

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.

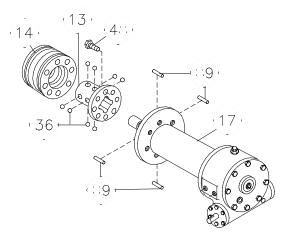
(17)

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.

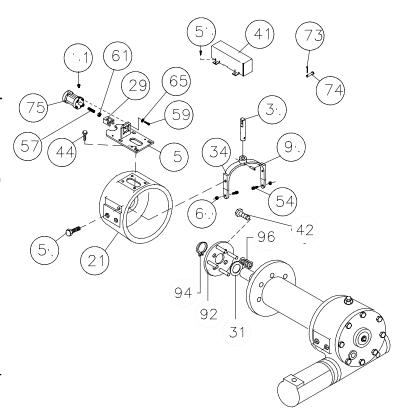
(18)

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 ADJUST-ED, BELOW.) Mount the air cylinder (item #75) to



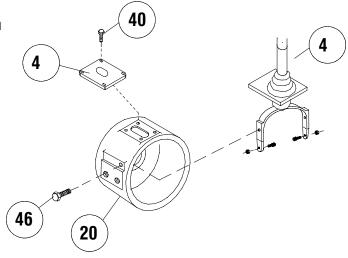
the shifter bracket (item #5) using four screws (item #59) and lockwashers (item #65). Tighten to 45 in-lbs. (5 Nm) torque. Make sure breather vent (item #81) is installed on air cylinder and is not covered.

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.

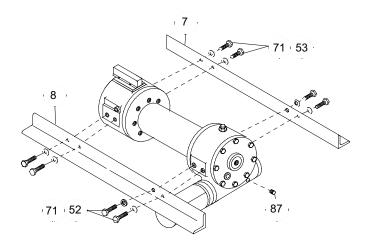
(18a) For the manual shifter, set the shifter assembly (item #4) so that the screw heads at the bottom of the shifter assembly engage the external groove in the locking ring (item #10). Push the clutch housing (item #20) onto the drum shaft and latch the shifter assembly in the engaged "IN" position.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

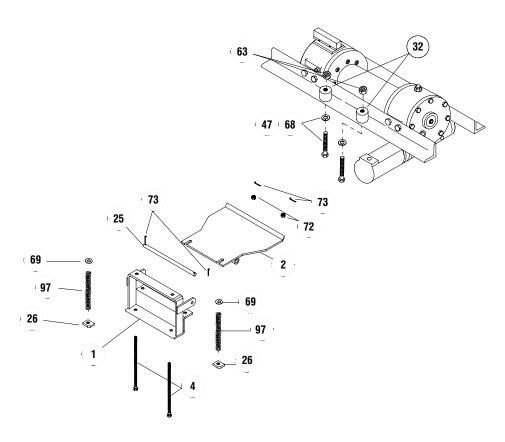
Re-assemble the tensioner assembly. Mount the assembly to the angle using the spacers (item #32) under the tensioner bracket. Center the tensioner plate (item #2) between the drum flanges using a tape measure or scale. Tighten the mounting bolts to 87 ft-lbs. of torque.

(3)

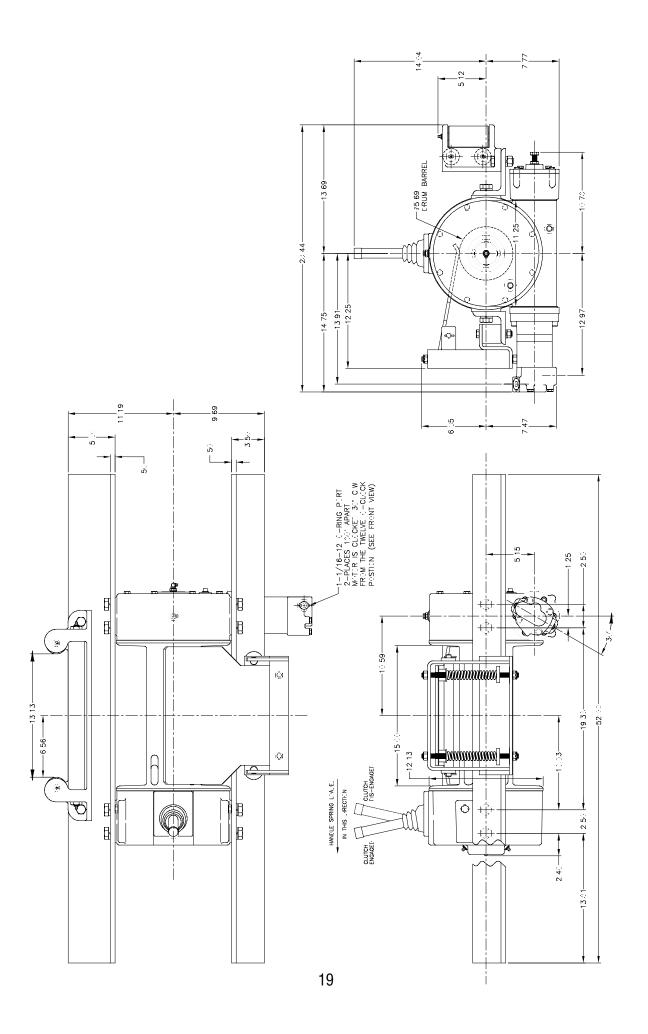
Before increasing tension on the cable tensioner, the cable should be installed on the drum. As cable winds onto the drum, watch the tensioner. The tensioner must be free to move without obstruction to function properly. If the tensioner touches either drum flange, correct the problem.

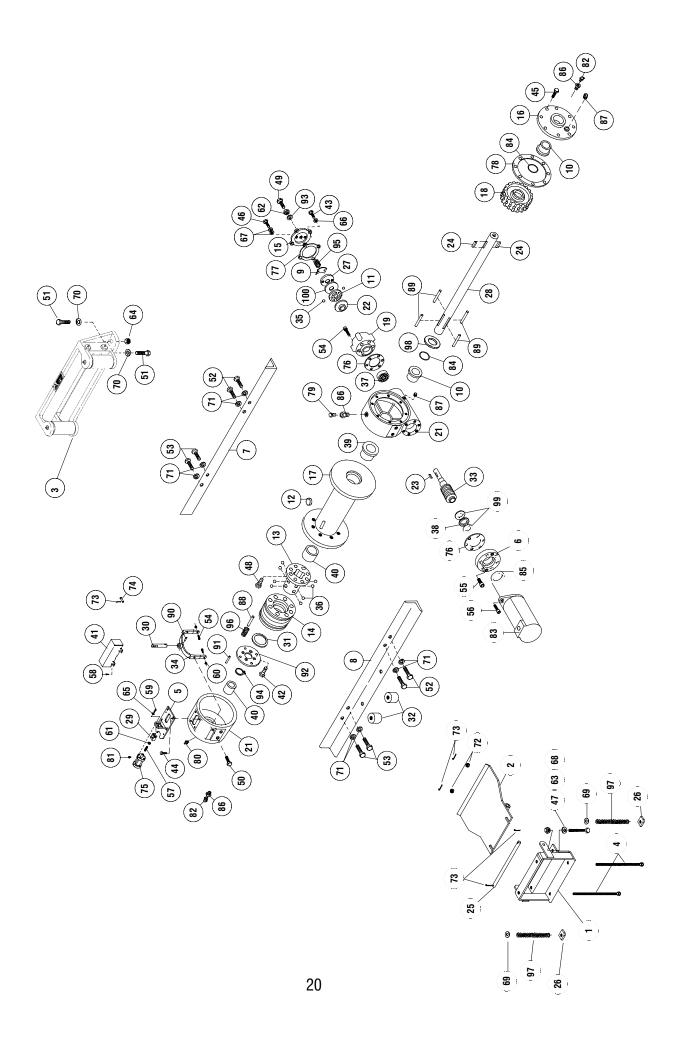
(4)

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.



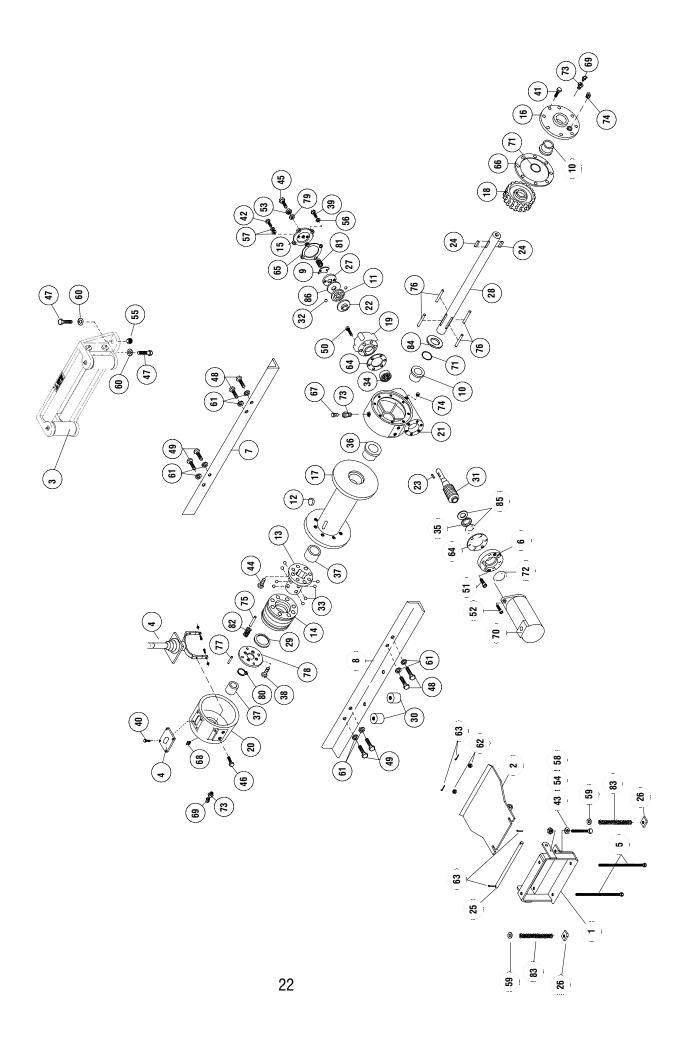
MODEL H-800 WITH AIR SHIFTER





PARTS LIST MODEL H-800 WITH AIR SHIFTER

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346044 PIVOT PIN 75 1 433016 350617 TENSIONER PLATE 77 1 442192 352021 PLATE - RETAINER 77 1 442194 352021 PLATE - RETAINER 77 1 442195 352024 SHAFT - DRUM 79 1 456038 362224 SPACER 80 1 456039 362224 SPACER 82 2 456039 36229 SPACER 82 2 456039 36229 SPACER 82 2 456039 36229 SPACER 82 456013 400011 BALL - LARKE 82<	7	342153	KEY	74	_	424029	CLEVIS PIN
350617 TENSIONER PLATE 77 1 442194 352021 PLATE - RETAINER 77 1 442194 357498 SHAFT - DRUM 78 1 442195 358067 CLEVIS 79 1 44508 358069 SHIFTER SHAFT 80 1 456038 36224 SPACER 81 1 456038 362293 SPACER 82 2 456038 362293 SPACER 83 1 456038 362293 SPACER 83 1 456038 362293 SPACER 83 4 450038 362293 SPACER 83 4 462041 400007 BALL - CLUTCH 83 4 462041 400011 BALL - CLUTCH 86 3 462041 402045 BEARING - BALL 84 4 470044 412051 BUSHING 412061 88 4 470044	_	346044	PIVOT PIN	75	_	433016	AIR CYLINDER
352021 PLATE - RETAINER 77 1 442194 357498 SHAFT - DRUM 78 1 442195 358067 CLEVIS 79 1 45608 358069 SHIFTER SHAFT 80 1 45608 36224 SPACER 82 2 45603 362293 SPACER 82 2 45603 368196 WORM R.H. 82 2 45603 368196 WORM R.H. 83 1 45603 370047 YOKE 84 2 46201 400011 BALL - BRAKE 85 1 46201 400011 BALL - CLUTCH 86 3 46801 402045 BEARING - BALL 87 2 46801 412051 BUSHING 47004 47004 412052 BUSHING 41400 47004 413074 COVER - AR SHIFT 4140 GR5 93 1 47004 414036 CAPSCREW	-	350617	TENSIONER PLATE	9/	2	442192	GASKET
357498 SHAFT - DRUM 358067 CLEVIS 358069 SHIFTER SHAFT 362024 SPACER 362224 SPACER 362224 SPACER 362224 SPACER 36223 SPACER 362224 SPACER 362224 SPACER 368196 WORM R.H. 370047 YOKE 400071 BALL - BRAKE 400071 BALL - BRAKE 400071 BALL - CLUTCH 402045 BEARING - BALL 402040 BALL 402041 BALL 402045 BEARING - BALL 40204 BALL 40204 BUSHING 412051 BUSHING 412052 BUSHING 414034 COVER - AIR SHIFT 414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 414111 CAPSCREW 5/16-18NC X 1/1C HX HD GR5 414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 414571 CAPSCREW 1/2-13NC X 3/1/2 LG HX HD GR5 <	-	352021	PLATE - RETAINER	77	-	442194	GASKET
358067 CLEVIS 358069 SHIFTER SHAFT 80 1 456008 362024 SPACER 81 1 456031 362224 SPACER 82 2 456038 362224 SPACER 82 2 456038 36223 SPACER 82 2 456038 36224 WCRM R.H. 83 1 456038 36229 SPACER 82 2 456039 36816 WCRM R.H. 83 1 456039 36816 WCRM R.H. 83 1 456013 40007 BALL - BRAKE 85 1 462041 400011 BALL - CLUTCH 86 3 468011 402045 BEARING - BALL 87 470042 412051 BUSHING 88 4 470042 413074 COVER - AIR SHIFT 47006 414008 47004 414036 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 92 1	-	357498	SHAFT - DRUM	78	_	442195	GASKET
358069 SHIFTER SHAFT 80 1 456031 362224 SPACER 81 1 456038 362224 SPACER 82 2 456039 362293 SPACER 82 2 456038 36229 WORM R.H. 83 1 456039 370047 YOKE 84 2 46013 400071 BALL - BRAKE 85 1 462041 400071 BALL - BRAKE 85 3 468011 402045 BEARING - BALL 86 3 468011 402045 BEARING - BALL 88 4 470042 412051 BUSHING 88 4 470042 412054 BUSHING 90 1 470045 41406 BUSHING 41206 91 470045 41403 COVER - MR SHIFT 414006 92 1 490025 41413 CAPSCREW J/4-18NC X 1 LG HX HD GR5 94 1 490025	-	358067	CLEVIS	79	_	456008	FITTING - RELIEF
362224 SPACER 81 1 456038 362293 SPACER 82 2 456039 36293 SPACER 82 2 456039 368196 WORM R.H. 83 1 456039 370047 YOKE 84 2 462013 400017 BALL - BRAKE 85 1 462041 400011 BALL - CLUTCH 86 3 468002 402045 BEARING - BALL 87 2 468011 402040 BINHING 88 4 470042 412051 BUSHING 89 4 470042 412054 BUSHING 90 1 470045 41304 COVER - AIR SHIFT 90 1 470056 41405 CONSEN WALL SHIFT 440056 91 470044 41411 CAPSCREW J-FARING 88 4 470056 414104 CAPSCREW J-FARING 88 4 470056 414	-	358069	SHIFTER SHAFT	8	_	456031	FITTING - LUBE
362293 SPACER 82 2 456039 368196 WORM R.H. 83 1 456039 370047 YOKE 84 2 462013 400007 BALL - BRAKE 85 1 462041 400011 BALL - CLUTCH 86 3 46801 402045 BEARING - BALL 87 2 46801 402045 BEARING - BALL 87 2 46801 402045 BEARING - BALL 88 4 47004 412051 BUSHING 89 4 47004 412052 BUSHING 90 1 47004 41304 COVER - MI SHIFT 91 4 47005 414105 CAPSCREW J/4-20NC X 3/4 LG HX HD GR5 92 1 47005 41411 CAPSCREW S/16-18NC X 1-1/4 LG ALL-THRD GR5 94 1 49002 41427 CAPSCREW J/2-13NC X 3/1/2 LG HX HD GR5 96 4 49006 414571 CAPSCREW J/2-13NC X 1/2 LG HX HD GR5	-	362224	SPACER	8	_	456038	BREATHER VENT
368196 WORM R.H. 83 1 458048 370047 YOKE 84 2 462013 400007 BALL - BRAKE 85 1 462041 400011 BALL - CLUTCH 86 3 468002 402045 BEARING - BALL 87 2 468011 402045 BEARING - BALL 88 4 470042 412051 THRUST BEARING 88 4 470042 412052 BUSHING 89 4 470044 412052 BUSHING 90 1 470045 413074 COVER - AIR SHIFT 91 470045 414105 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 92 1 490025 414126 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 94 1 490025 41427 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 95 1 494069 41427 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 96 4 494069 414571 CAPSCREW 1/2-13NC X 1/LG HX HD GR	7	362293	SPACER	85	7	456039	LUBE FITTING
370047 YOKE 84 2 462013 400007 BALL - BRAKE 85 1 462041 400001 BALL - CLUTCH 86 3 468002 402045 BEARING - BALL 87 2 468011 402045 BEARING - BALL 88 4 470042 412051 THRUST BEARING 89 4 470042 412052 BUSHING 89 4 470044 412054 BUSHING 90 1 470045 413074 COVER - AIR SHIFT 91 470045 414108 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 92 1 49005 41411 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 94 1 490025 41427 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 95 1 490025 41427 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 96 4 490025 41457 CAPSCREW 1/2-13NC X 3/1/LG HX HD GR5 96 4 490069 41457 CAPSCREW 1	-	368196	WORM R.H.	83	_	458048	MOTOR - HYD
400007 BALL - BRAKE 85 1 462041 400011 BALL - CLUTCH 86 3 468002 402045 BEARING - BALL 87 2 468011 402045 BEARING - BALL 88 4 470042 412051 BUSHING 89 4 470044 412052 BUSHING 90 1 470045 413074 COVER - AIR SHIFT 91 4 470045 414108 CAPSCREW 5/16-18NC X 1/4 LG HX HD GR5 92 1 470056 41411 CAPSCREW 5/16-18NC X 1/4 LG HX HD GR5 94 1 490025 41427 CAPSCREW 5/16-18NC X 1/4 LG HX HD GR5 94 1 490025 41427 CAPSCREW 5/16-18NC X 1/4 LG HX HD GR5 96 4 490025 41459 CAPSCREW 1/2-13NC X 3/1/2 LG HX HD GR5 96 4 490025 41457 CAPSCREW 1/2-13NC X 1/2 LG HX HD GR5 99 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1	-	370047	YOKE	84	2	462013	QUAD-RING
400011 BALL - CLUTCH 86 3 468002 402045 BEARING - BALL 87 2 468011 402109 THRUST BEARING 88 4 470042 412051 BUSHING 89 4 470044 412052 BUSHING 90 1 470045 413074 COVER - AIR SHIFT 91 4 470056 414038 CAPSCREW 5/16-18NC X 3/4 LG HX HD GR5 92 1 470056 41412 CAPSCREW 5/16-18NC X 3/4 LG HX HD GR5 94 1 490025 41427 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 94 1 490025 41427 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 96 4 491069 41427 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 96 4 49109 41454 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 96 4 49109 41457 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 99 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100	7	400007	BALL - BRAKE	82	_	462041	O RING
402045 BEARING - BALL 402109 THRUST BEARING 412051 BUSHING 412052 BUSHING 412052 BUSHING 413074 COVER - AIR SHIFT 414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 41411 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 41427 CAPSCREW 5/16-18NC X 1/LG HX HD GR5 41459 CAPSCREW 1/2-13NC X 3/1/LG HX HD GR5 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 414603 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 414619 CAPSCREW 1/2-13L LG HX HD ALL-THRD ZP 414619 CAPSCREW 1/2-1/2 LG HX HD ALL-THRD ZP	œ	400011	BALL - CLUTCH	98	က	468002	REDUCER
402109 THRUST BEARING 88 4 470042 412051 BUSHING 89 4 470044 412052 BUSHING 90 1 470045 413074 COVER - AIR SHIFT 91 4 770056 414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 92 1 470056 414111 CAPSCREW 5/16-18NC X 1 LG HX HD 93 1 480076 414277 CAPSCREW 5/16-18NC X 3/4 LG HX HD 94 1 490025 414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NVL PATCH 95 1 494010 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 96 4 94069 414551 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 96 4 940109 414567 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	_	402045	BEARING - BALL	87	2	468011	PIPE PLUG
412051 BUSHING 89 4 770044 412052 BUSHING 90 1 470045 413074 COVER - AIR SHIFT 91 4 770056 414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 92 1 470056 414111 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 93 1 470030 414277 CAPSCREW 5/16-18NC X 3/4 LG HX HD 94 1 490025 414399 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH 95 1 494010 414399 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 96 4 94069 414551 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 98 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	-	402109	THRUST BEARING	88	4	470042	PIN - ROLL
412052 BUSHING 413074 COVER - AIR SHIFT 413074 COVER - AIR SHIFT 414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 414111 CAPSCREW 5/16-18NC X 1 LG HX HD 414126 CAPSCREW 5/16-18NC X 3/4 LG HX HD 414277 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 NYL PATCH 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 414603 CAPSCREW 1/2-20NF X 1/2 LG HX HD GR5 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP	-	412051	BUSHING	88	4	470044	PIN - DOWEL
413074 COVER - AIR SHIFT 414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 92 1 470056 414111 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 93 1 486076 414126 CAPSCREW 5/16-18NC X 3/4 LG HX HD 94 1 490025 414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH 95 1 494010 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 96 4 494069 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	7	412052	BUSHING	90	_	470045	PIN - ROLL
414038 CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5 92 1 474030 414111 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 93 1 486076 414126 CAPSCREW 5/16-18NC X 3/4 LG HX HD 94 1 490025 414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH 95 1 494010 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 96 4 494069 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	-	413074	COVER - AIR SHIFT	91	4	470056	PIN - ROLL
414111 CAPSCREW 5/16-18NC X 1 LG HX HD GR5 93 1 486076 414126 CAPSCREW 5/16-18NC X 3/4 LG HX HD 94 1 490025 414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH 95 1 494010 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 96 4 494069 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	4	414038	CAPSCREW 1/4-20NC X 3/4 LG HX HD GR5	95	_	474030	PLATE - RETAINER
414126 CAPSCREW 5/16-18NC X 3/4 LG HX HD 414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	4	414111	CAPSCREW 5/16-18NC X 1 LG HX HD GR5	93	_	486076	THREAD SEAL
414277 CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH 95 1 494010 414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 96 4 494069 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 99 2 518036 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	4	414126	CAPSCREW 5/16-18NC X 3/4 LG HX HD	94	_	490025	RING - RETAINER
414399 CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5 96 4 494069 414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 99 2 518036 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	_∞	414277	CAPSCREW 3/8-16NC X 1 LG HX HD GR5 NYL PATCH	92	_	494010	SPRING
414545 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5 97 2 494109 414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 99 2 518036 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	7	414399	CAPSCREW 3/8-24NF X 1-1/4 LG ALL-THRD GR5	96	4	494069	SPRING
414571 CAPSCREW 1/2-20NF X 1 LG HX HD GR5 98 1 518016 1 414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 99 2 518036 1 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007 1	7	414545	CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5	6	2	494109	SPRING - TENSIONER
414603 CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5 99 2 518036 414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	_∞	414571	CAPSCREW 1/2-20NF X 1 LG HX HD GR5	86	_	518016	THRUST WASHER
414619 CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP 100 1 530007	-	414603	CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5	66	7	518036	THRUST WASHER
	2	414619	CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP	100	-	530007	DISC - BRAKE



PARTS LIST

	Description	CAPSCREW 1/2-20NF X 1 LG HX HD GR5	CAPSCREW 1/2-20NF X 1-3/4 LG ALL-THRD GR5	CAPSCREW 1/2-13NC X 2-1/2 LG HX HD ALL-THRD ZP	CAPSCREW 5/8-11NC X 2 LG HX HD GR5	CAPSCREW 3/4-10NC X 1-3/4 GR5 NYL PATCH	CAPSCREW 3/4-10NC X 1-3/4 GR5	CAPSCREW 3/8-16NC X 1 LG SOC HD	CAPSCREW 3/8-16NC X 1 1/4 LG SOC HD	CAPSCREW 1/2-13NC X 1 1/2 LG SOC HD Z/P	NUT 1/2-20NF HX JAM	NUT 1/2-13NC HX REG Z/P	NUT 5/8-11NC REG HX Z/P	LOCKWASHER 5/16 MED SECT Z/P	WASHER - FLAT 3/8 ALUM	LOCKWASHER 1/2 MED SECT	WASHER - FLAT 1/2 Z/P	LOCKWASHER 5/8 MED SECT Z/P	LOCKWASHER 3/4 MED SECT	NUT - 1/2-13NC HX SLOTTED Z/P	COTTER PIN	GASKET	GASKET	GASKET	FITTING - RELIEF	FITTING - LUBE	LUBE FITTING	MOTOR - HYD	QUAD-RING	O RING	REDUCER	PIPE PLUG	PIN - ROLL	PIN - ROLL	PIN - ROLL	PLATE - RETAINER	THREAD SEAL	RING - RETAINER	SPRING	SPRING	SPRING - TENSIONER	THRUST WASHER	THRUST WASHER	DISC - BRAKE
TER	Part No.	414571	414603	414619	414665	414751	414777	414897	414913	414952	418067	418069	418080	418163	418184	418217	418223	418237	418249	418436	424005	442192	442194	442195	456008	456031	456039	458048	462013	462041	468002	468011	470042	470044	470056	474030	486076	490025	494010	494069	494109	518016	518036	230007
IL SHIF	Oty.	∞	-	2	4	4	4	9	9	2	-	7	7	4	4	2	7	4	∞	7	4	2	-	-	-	-	7	_	7	_	က	7	4	4	4	_	-	-	-	4	7	-	2	-
MANU/	Item No.	44	45	46	47	48	49	20	51	52	53	54	22	26	22	28	29	09	61	62	63	64	65	99	29	89	69	20	71	72	73	74	75	9/	22	28	62	80	81	82	83	84	82	98
MODEL H-800 WITH MANUAL SHIFTER). Description	7 TENSIONER BRACKET ASSEMBLY	_	ROLLER FAIRLEAD ASSEMBLY	-	•	_	_	ANGLE - TENSIONER SIDE	SPRING - FLAT				_	3 LOCKING RING		2 COVER - GEAR HOUSING		_		_	_			_	_		_				_			_	_						_		5 CAPSCREW 1/2-13NC X 3 1/2 LG HX HD GR5
	Part No.	204267	265018	274010	276033	299694	300063	303112	303113	306035	308083	314007	314010	324151	324318	328027	328122	332167	334188	338221	338235	338242	340011	342053	342153	346044	350617	352021	357498	362224	362293	368196	400007	400011	402045	402109	412051	412052	414038	414111	414142	414277	414399	414545
	Qty.	-	-	-	-	2	-	-	-	-	2	_	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	_	-	2	-	2	∞	-	-	-	2	4	4	4	8	2	2
	Item No.	-	7	က	4	2	9	7	∞	6	10	=	12	13	14	15	16	17	48	19	20	21	22	23	24	22	56	27	78	53	30	3	32	33	34	32	36	37	38	33	40	41	45	43

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 COMPANY

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