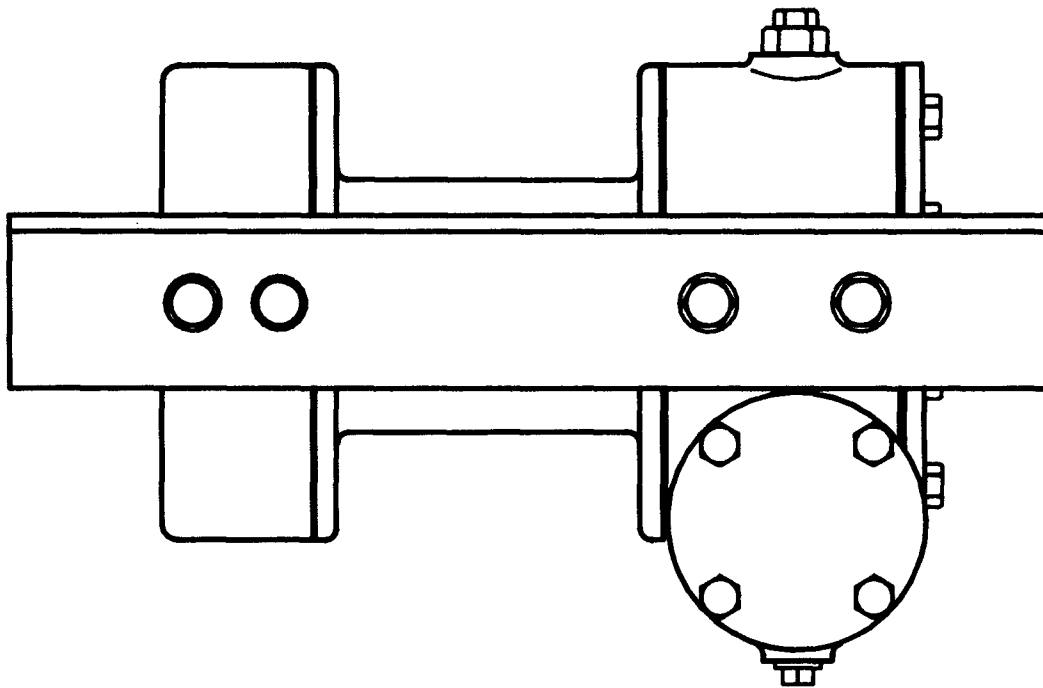




# OPERATING, SERVICE AND MAINTENANCE MANUAL



## MODEL 7/H-7 SERIES INDUSTRIAL LOW-MOUNT WINCHES

INCLUDES: 7/X-7 AND H-7/HX-7



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

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RAMSEY WINCH MODEL 7/H-7 SERIES

PLEASE READ THIS MANUAL CAREFULLY

This manual contains useful ideas in obtaining the most efficient operation from your Ramsey Winch, and safety procedures one needs to know before operating a Ramsey Winch.

WARRANTY INFORMATION

Ramsey Winches are designed and built to exacting specifications. Great care and skill go into every winch we make. If the need should arise, warranty procedure is outlined on the back of your self-addressed postage paid warranty card. Please read and fill out the enclosed warranty card and send it to Ramsey Winch Company. If you have any problems with your winch, please follow instructions for prompt service on all warranty claims. Refer to back page for limited warranty.

SPECIFICATIONS: Conforms to SAE J706.

Rated Line Pull 1st Layer (Lbs.).....		3,000				
(Kgs.).....		1,350				
Total Gear Reduction: All Models.....		38:1				
Weight: 7.....		26 lbs. (12 Kgs.)				
X7.....		33 lbs. (15 Kgs.)				
H-7.....		35 lbs. (16 Kgs.)				
HX-7.....		42 lbs. (19 Kgs.)				
Layer of Cable		1	2	3	4	5**
Rated Line Pull per layer	Lbs.	3,000	2,600	2,200	2,000	1,800
	Kgs.	1,350	1,170	990	900	810
*7/H-7 Drum Cable capacity per layer	Ft.	10	20	35	50	70
	M.	3	6	10	15	21
*X7/HX-7 Drum Cable capacity per layer	Ft.	15	40	65	95	125
	M.	4	12	19	28	38
LINE SPEED	Worm RPM	FPM (MPM)	FPM (MPM)	FPM (MPM)	FPM (MPM)	FPM (MPM)
7/X-7 Models	1200	26.7 (8.0)	30 (9.2)	33 (10.0)	38 (11.5)	43 (13.1)
H-7/HX-7 Models	750	16.7 (5.0)	19.3 (5.8)	21 (6.3)	24 (7.2)	27 (8.2)

\*These specifications are based on recommended cable of (6mm) 1/4" galvanized aircraft cable

\*\* 5th Layer does not conform to SAE J706

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

## 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.

When pulling a load where there is even a remote chance of cable failure, place a blanket, jacket or tarpaulin over the cable about six yards behind the hook. This will slow the snap back of a broken cable and could prevent serious injury.

## WINCH MOUNTING

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

All standard model 7/H-7 series winches are furnished with recommended mounting angles. Angle size is 3/16 x 1-1/2 x 2 high strength steel angle.

## CABLE INSTALLATION

1. Unwind cable by rolling it out along the ground to prevent kinking. Securely wrap end of cable, opposite hook, with plastic or similar tape to prevent fraying.
2. Insert the cable, opposite hook end, into the 21/64" dia. hole in drum barrel. Secure cable to drum barrel, using setscrew furnished with winch. TIGHTEN SETSCREW SECURELY.
3. Carefully run winch in the "reel-in" direction. Keeping tension on end of cable, spool all the cable onto the cable drum, taking care to form neatly wrapped layers.

## SAFEGUARDS-WARNINGS:

STAY OUT FROM UNDER AND AWAY FROM RAISED LOADS.

STAY CLEAR OF CABLE WHILE PULLING. DO NOT TRY TO GUIDE CABLE.

DO NOT EXCEED MAXIMUM LINE PULL RATINGS SHOWN IN TABLE.

DO NOT USE WINCH TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.

A MINIMUM OF 5 WRAPS OF CABLE AROUND THE DRUM BARREL IS NECESSARY TO HOLD THE LOAD.

CABLE CLAMP IS NOT DESIGNED TO HOLD 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 cable drum, end bearing, clutch housing or clutch operating linkage. Any good grade of moly-disulfide containing grease is acceptable.
2. In the case of jaw clutch winches, check the action of the sliding clutch, making sure it is fully engaging and disengaging with the cable drum. Observe the jaws on both the clutch and cable drum, checking for rounding of the driving faces. If rounding has occurred they should be replaced immediately.
3. In the case of Dow-Lok clutches, 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.
4. 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.
5. Check the torque setting of the oil cooled worm brake. Make any adjustments required, following the procedure described in ADJUSTING THE OIL COOLED WORM BRAKE in the Owner's Manual.
6. Check alignment of chain and sprockets and adjust as required to minimize wear.
7. Inspect the cable. If the cable has become frayed with broken strands, replace immediately.

### C. ANNUALLY

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

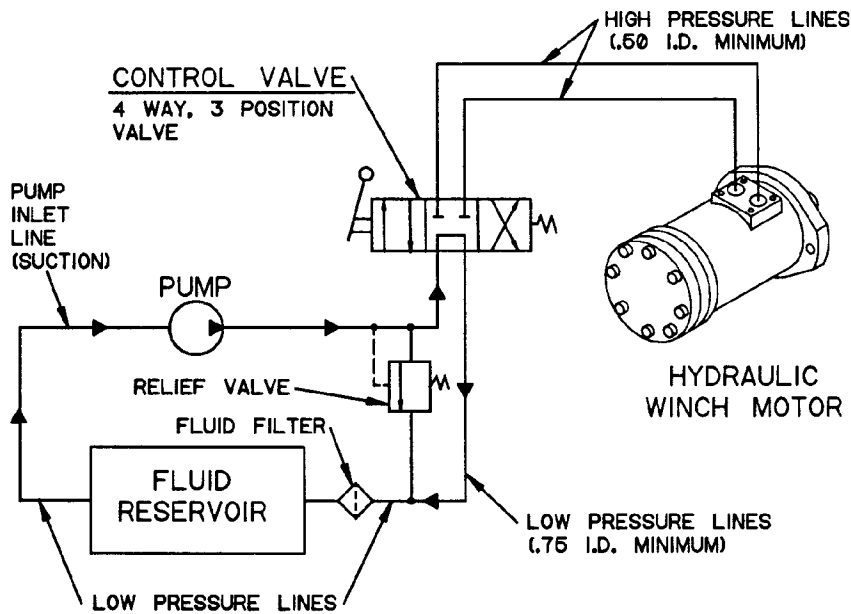
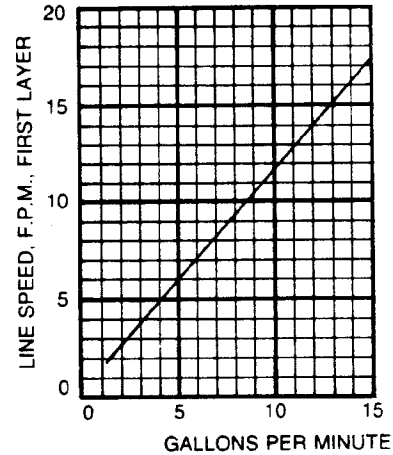
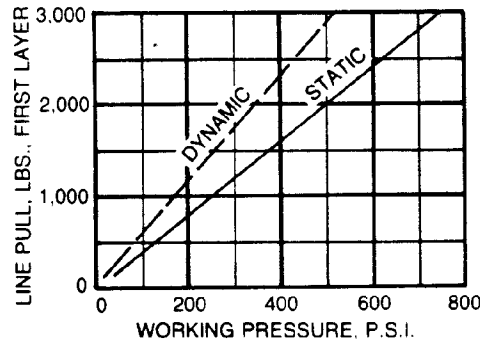
## HYDRAULIC SYSTEMS

Refer to the performance charts, below, to properly match your hydraulic system to the H-7 Series winch performance. The charts consist of: (1) Line speed, first layer (F.P.M.) vs. gallons per minute (G.P.M.) and, (2) Line pull (lbs.) first layer vs. working pressure (P.S.I.). STATIC (solid line) refers to hoisting a suspended load from rest; DYNAMIC (dotted line) refers to maintaining the motion of a moving load.

Performance based on a motor displacement of 4.5 cubic inches with 15 GPM maximum flowrate. SEE PAGE 11 FOR MOTOR PORT SIZE.

### H-7, HX-7 Series Performance

3,000 Lb. Duty Rating  
38:1 Gear Ratio



### TRUBLE SHOOTING TIPS

CONDITION	POSSIBLE CAUSE	CORRECTION
OIL LEAKS FROM HOUSING.	<ol style="list-style-type: none"> <li>1. Seal damaged or worn.</li> <li>2. Too much oil.</li> <li>3. Damaged gasket.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace seal.</li> <li>2. Drain excess oil. Refer to TECHNIQUES OF OPERATION.</li> <li>3. Replace gasket.</li> </ol>
WINCH RUNS TOO SLOW.	<ol style="list-style-type: none"> <li>1. Hydraulic motor worn out.</li> <li>2. Low flow rate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace motor.</li> <li>2. Check flow rate. Refer to HYDRAULIC SYSTEMS flow chart page 4.</li> </ol>
HYDRAULIC FLUID LEAKS OUT HOLE IN MOTOR ADAPTER.	<ol style="list-style-type: none"> <li>1. Hydraulic motor shaft seal damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace seal.</li> </ol>

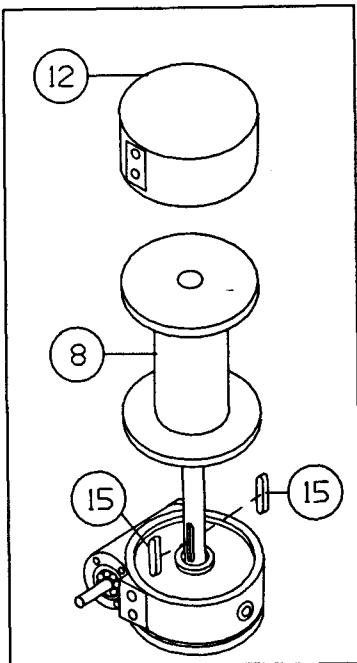
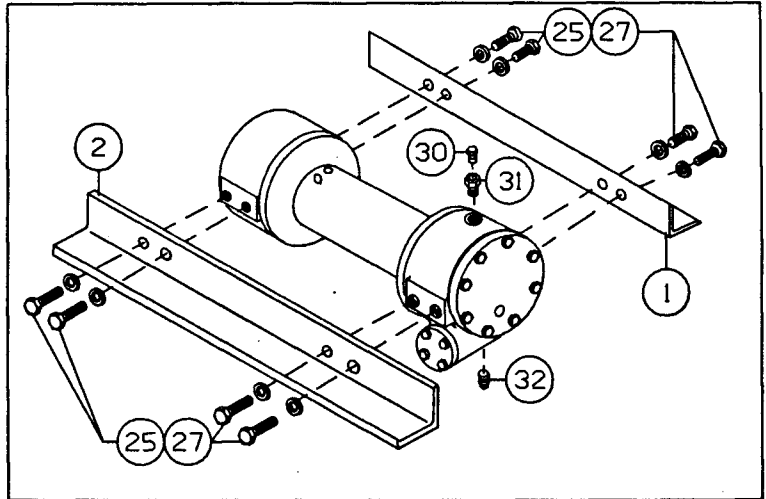
INSTRUCTIONS FOR OVERHAUL OF RAMSEY

MODEL 7B/H-7B SERIES WINCHES

DISASSEMBLY

Refer to Parts List & Parts Drawing pages  
for actual item numbers & corresponding part numbers

1. Drain oil from gear housing by removing (item #32) plug from bottom of gear housing. Remove relief fitting and reducer (items #30 & #31) from top of gear housing. Remove winch from mounting angles (items #1 & #2) by removing hardware (items #25 & #27) shown.

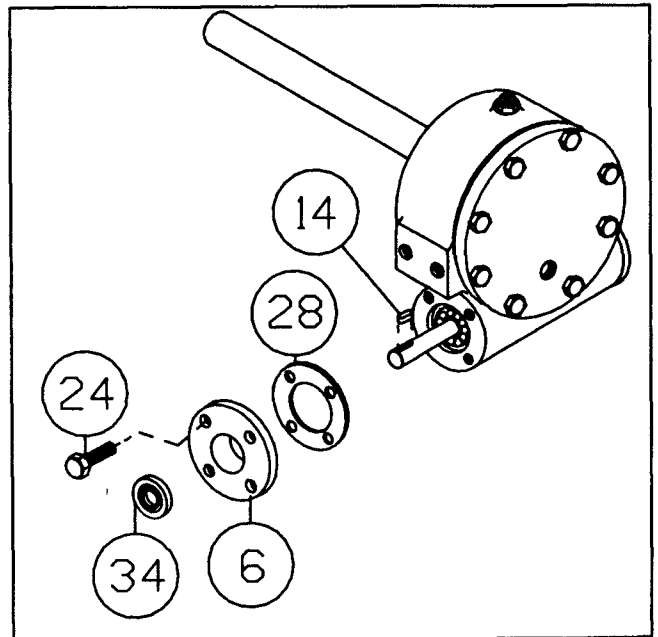


2. Slide end bearing (item #12) and drum (item #8) from drum shaft. Remove two keys (item #15) from drum shaft.

3. Remove key (item #14) from worm gear shaft.

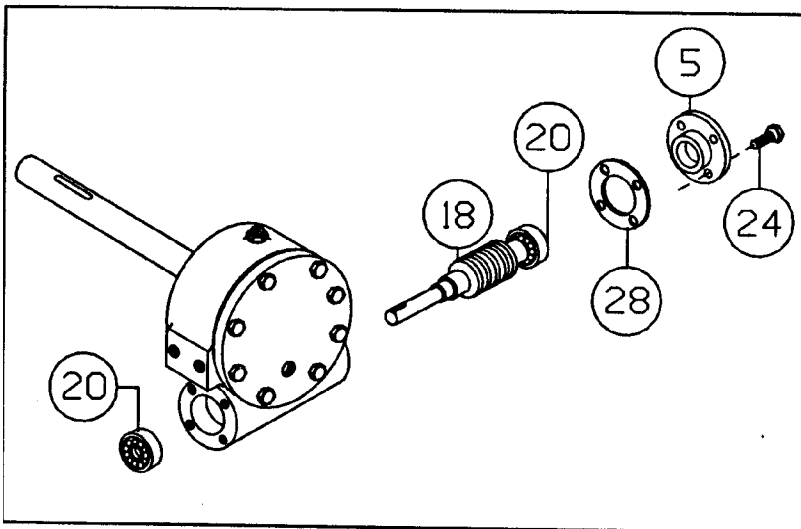
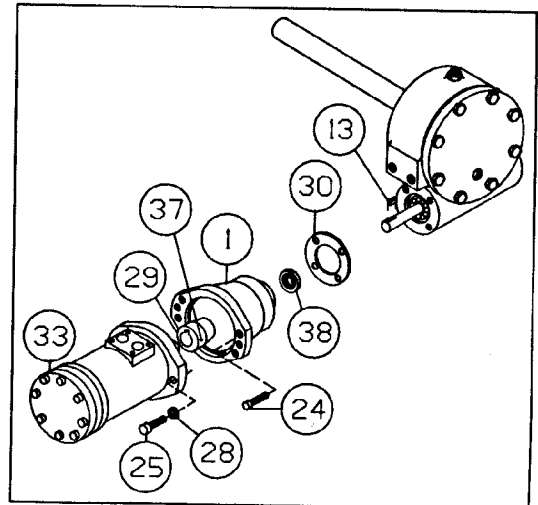
Remove bearing cap (item #6) and gasket (item #28) by unscrewing four capscrews (item #24).

Remove seal (item #34) from bearing cap and press new seal into place.



- Remove motor (item #33) and coupling (item #29) from (item #1) adapter by unscrewing two (item #25) capscrews.

Remove key (item #13) from worm shaft. Unscrew four capscrews (item #24) and remove adapter from gear housing. Replace adapter seal (item #38) and gasket (item #30).

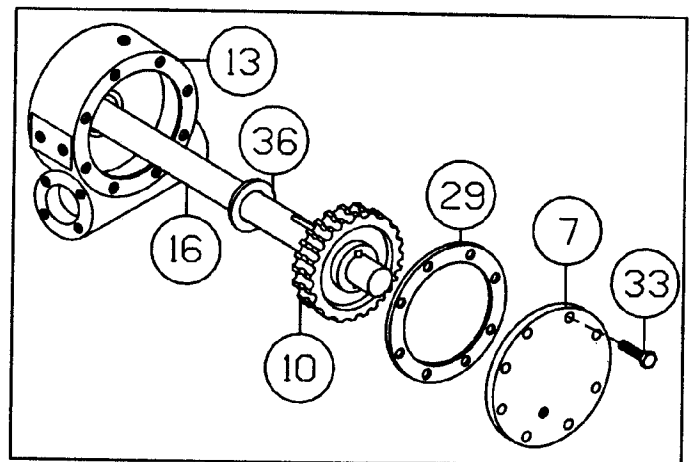


- Remove bearing cap (item #5) and gasket (item #28) from gear housing by unscrewing four capscrews (item #24). Remove worm (item #18) and bearing (item #20) from gear housing. Use a soft hammer to gently tap input end of worm and drive worm and bearing from gear housing. Once worm has been removed from housing, bearing can be pressed from end of worm.

Check for signs of wear to worm (item #18) and bearings (item #20). Replace if necessary.

- Remove gear housing cover (item #7) from gear housing (item #13) by unscrewing eight capscrews (item #33).

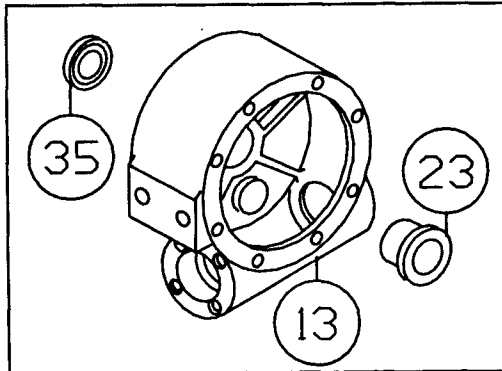
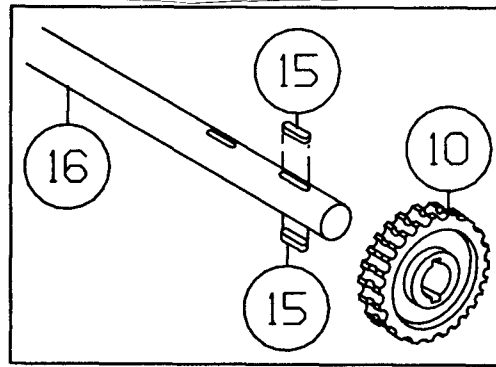
Remove cover gasket (item #29) and pull shaft (item #16), with gear (item #10) attached, and thrust washer (item #36) from gear housing.





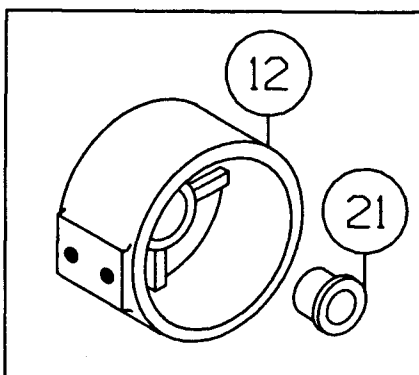
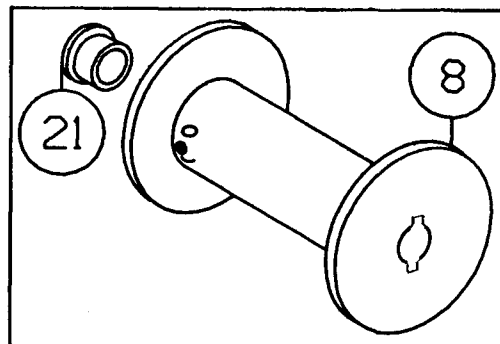
7. Check for signs of wear on gear teeth.  
If replacement of gear is necessary  
gear must be replaced as follows:

- a) Press gear from shaft.
- b) Examine shaft keys (item #15) and keyways. If distortion of keys and/or keyways is evident, shaft and keys should be replaced.
- c) Tap keys firmly into shaft keyways. Press shaft and keys through gear keyways until end of keys, on long end of shaft, are flush with gear.



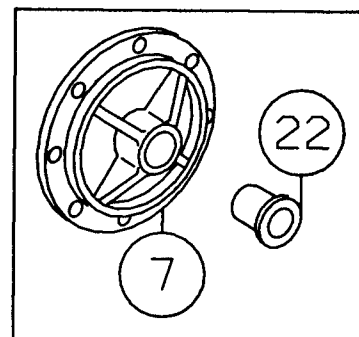
8. Remove seal (item #35) from back of gear housing (item #13). Press bushing (item #23) from gear housing. Press new bushing and seal back into place.

9. ON X-7B & HX-7B ONLY. Check drum bushing (item #21) for signs of wear. Replace if necessary by pressing old bushing from drum (item #8) and pressing new one in place.



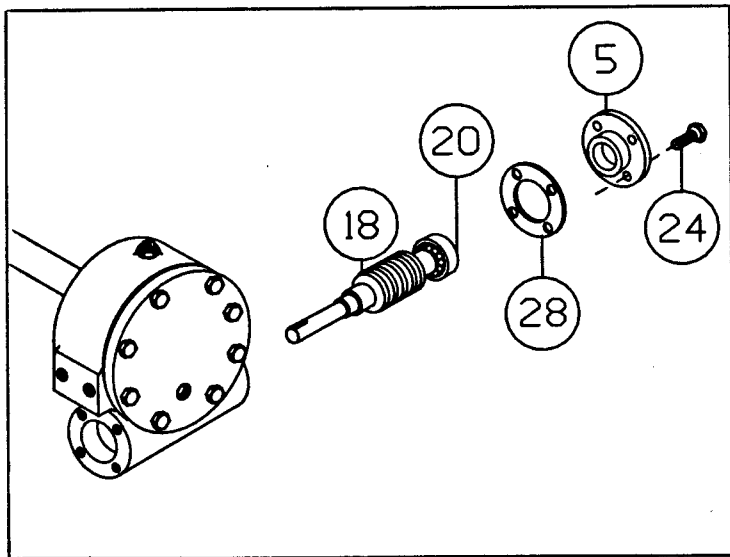
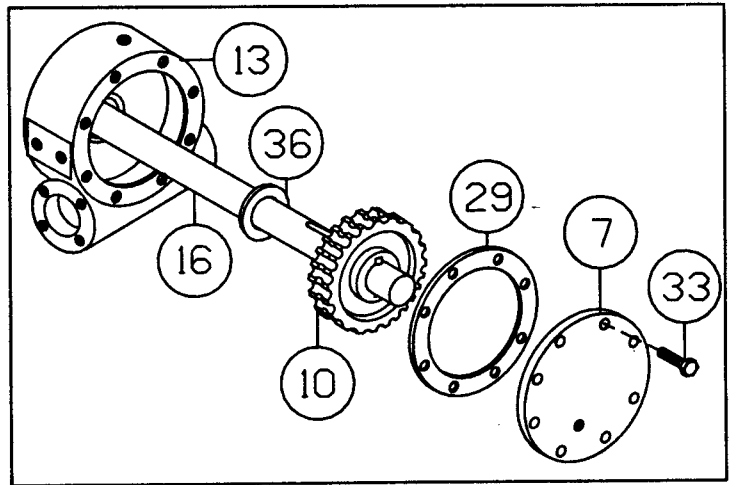
10. Check end bearing bushing (item #21) for signs of wear. If necessary, remove old bushing and press new bushing into place.

11. Check cover bushing (item #22) for signs of wear. Replace if necessary by removing old bushing and pressing new bushing into place.



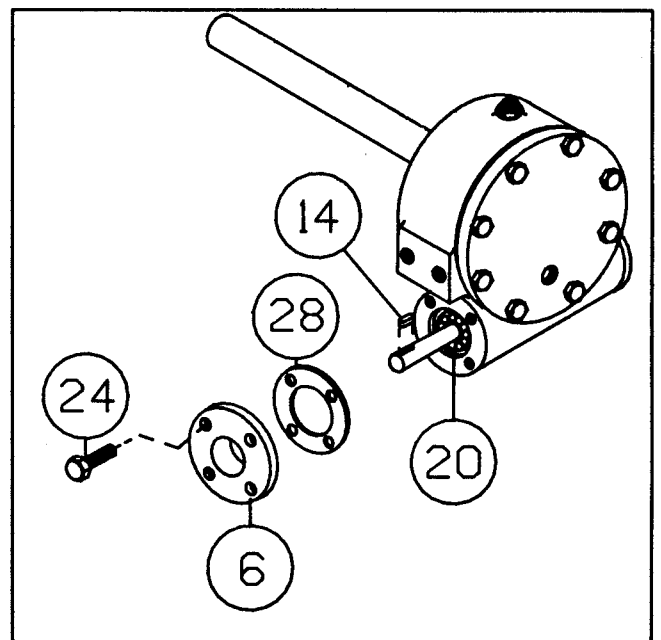
## REASSEMBLY

12. Apply grease to end of shaft, opposite gear. Apply grease to bushing in gear housing (item #13). Place greased end of shaft through thrust washer (item #36) and bushing in gear housing. Place gasket (item #29) onto gear housing cover (item #7). Apply grease to gear end of shaft and bushing in cover. Place cover onto shaft and secure to housing with eight (item #33) capscrews.

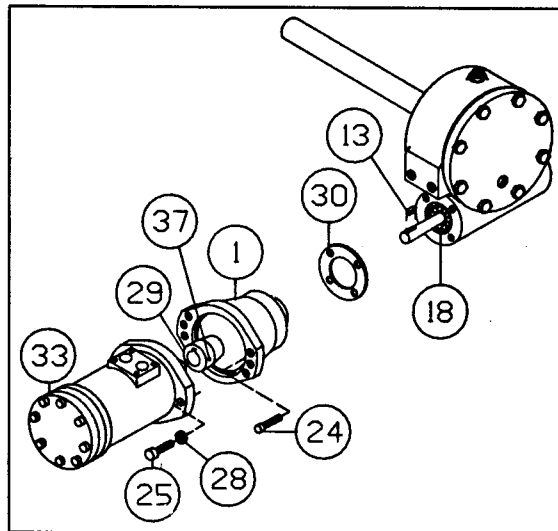


13. Press bearing (item #20) onto worm (item #18). NOTE: Be sure thick shoulder of bearings outer race (side with manufacturer's name and part number) is out, away from worm threads. Press bearing and worm into gear housing. Slip gasket (item #28) onto bearing cap (item #5). Use four capscrews (item #24) to secure cap to gear housing. Torque capscrews to 8 ft. lbs. (10.8 Nm.) each.

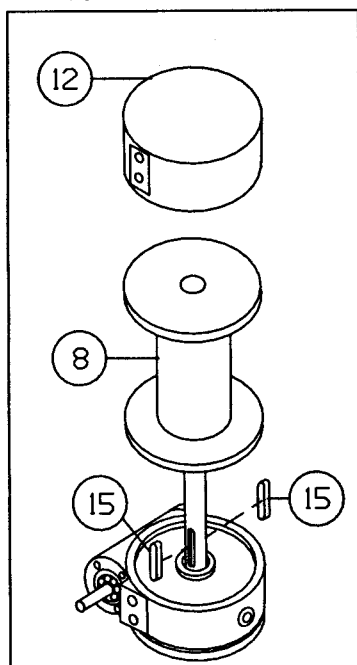
14. Press bearing (item #20) onto worm and into gear housing. NOTE: Be sure that thick shoulder of bearings outer race (side with manufacturer's name and part number) is out, away from worm threads. Place gasket (item #28) onto bearing cap (item #6) and attach bearing cap to gear housing. Use four (item #24) capscrews to secure. **TIGHTEN CAPSCREWS** to 8 ft. lbs. (10.8 Nm.) each. Tap key (item #14) into keyway.



15. Press bearing (item #18) onto worm and into housing. **NOTE:** Be sure that thick shoulder of bearings outer race (side with manufacturer's name and part number) is out, away from worm threads. Place gasket (item #30) onto adapter (item #1) and attach to gear housing using four capscrews (item #24). **TIGHTEN CAPSCREWS** to 12 ft. lbs. (10.8 Nm.) each. Insert key (item #13) into keyway of worm shaft. Slide tapered end of coupling (item #29) over end of worm shaft. Be sure roll pin (item #37) is in coupling.



Place motor shaft, with key in keyway, into coupling. Secure motor (item #33) to adapter, using two cap screws (item #25) and lockwasher (item #28). **TIGHTEN CAPSCREWS** to 75 ft. lbs. (102 Nm.) each.

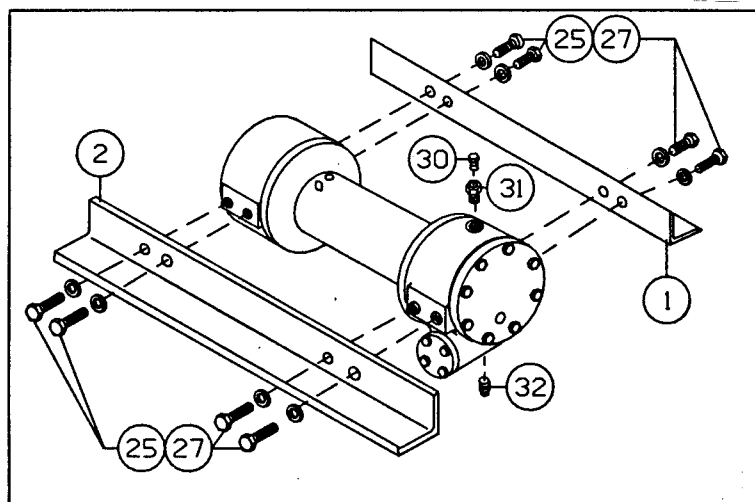


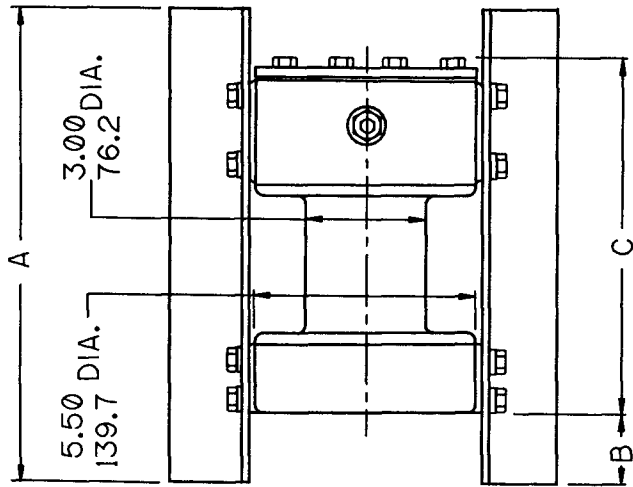
16. Place winch, with gear housing cover down, onto work bench. Drum shaft should be in vertical position. Place keys (item #15) into keyways of shaft. A rubber or brass mallet will be needed to gently tap keys into position. Apply grease to keys and end of shaft. Slide keyway end of drum (item #8) over drum shaft and keys.

Apply grease to bushing in end bearing (item #12) and end of drum shaft. Slide end bearing over end of drum shaft.

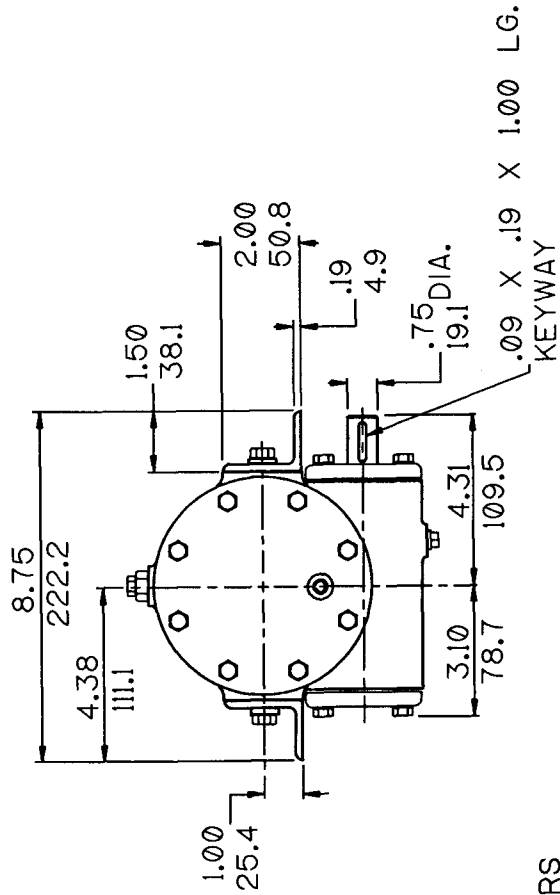
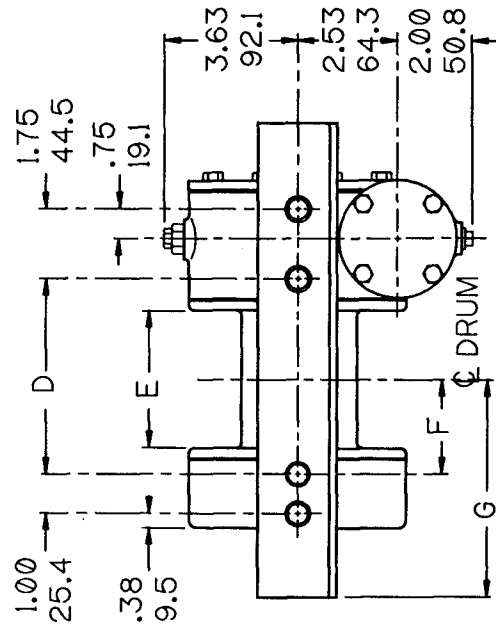
17. Attach mounting angles (items #1 & #2) using eight cap screws (item #25) with lockwashers (item #27). Torque cap screws to 12 ft. lbs. (16 Nm.) each. Insert plug (item #32) into bottom of gear housing. Permatex may be applied to threads to help prevent leakage.

Pour 3/4 pint of EP 140 gear oil into housing through hole in top of housing. Insert relief fitting (item #30) into reducer (item #31). Reducer should then be placed into hole on top of gear housing. Tighten fitting and reducer securely.

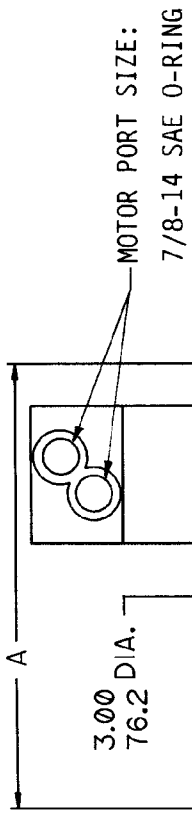




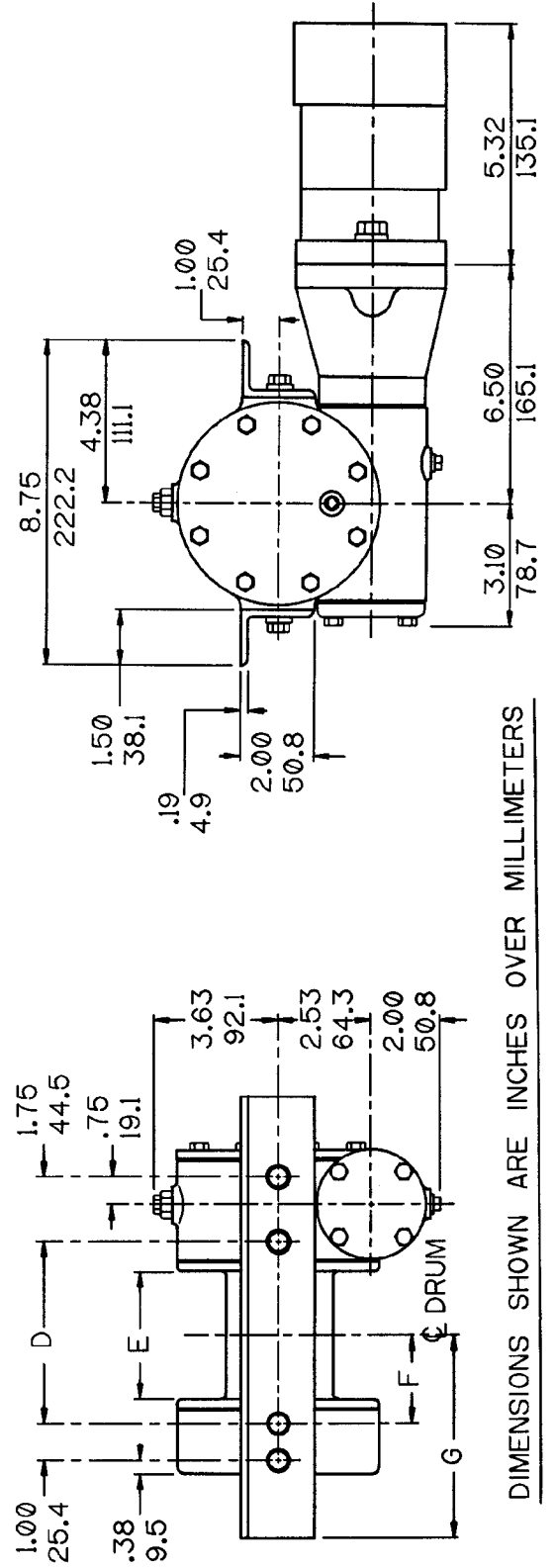
WINCH MODEL	A INCHES MM	B INCHES MM	C INCHES MM	D INCHES MM	E INCHES MM	F INCHES MM	G INCHES MM
7	12.00 304.8	1.75 44.5	8.96 227.6	4.94 125.5	3.50 88.9	2.41 61.2	5.54 140.7
X-7	18.00 457.2	3.25 82.6	11.90 302.3	7.88 200.2	6.44 163.5	3.88 98.6	8.50 215.9



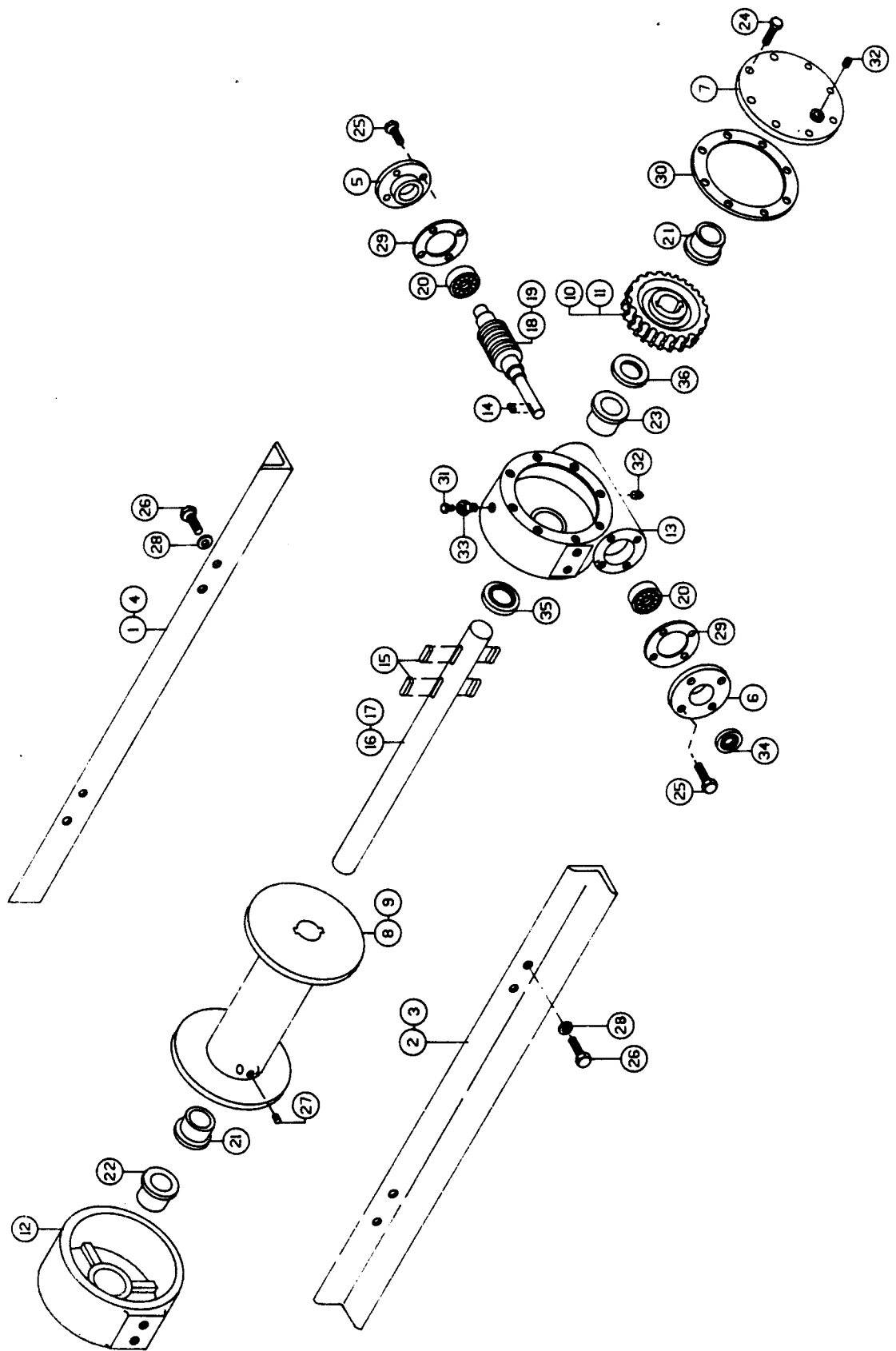
DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS



WINCH MODEL	A INCHES MM	B INCHES MM	C INCHES MM	D INCHES MM	E INCHES MM	F INCHES MM	G INCHES MM
H-7	12.00 304.8	1.75 44.5	8.96 227.6	4.94 125.5	3.50 88.9	2.41 61.2	5.54 140.7
HX-7	18.00 457.2	3.25 82.6	11.90 302.3	7.88 200.2	6.44 163.5	3.88 98.6	8.50 215.9



DIMENSIONS SHOWN ARE INCHES OVER MILLIMETERS

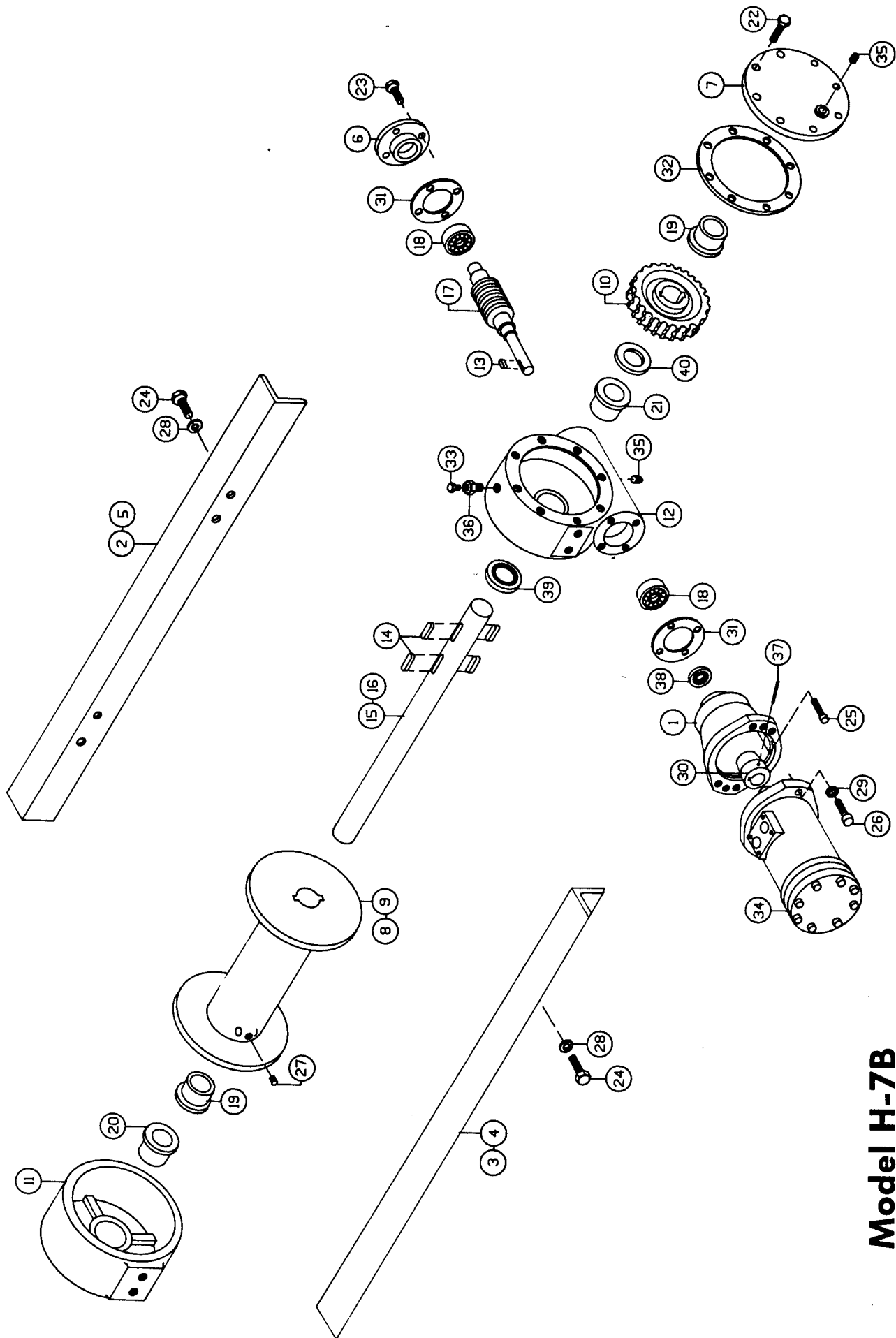


**Model 7B**

# PARTS LIST

## MODEL 7B

Item No.	Qty.	Part No.	Description
1	1	302039	ANGLE "STD 7B"
2	1	302040	ANGLE "STD 7B"
3	1	302041	ANGLE "X7B"
4	1	302042	ANGLE "X7B"
5	1	316083	BEARING CAP
6	1	316084	BEARING CAP
7	1	328009	COVER
8	1	332051	DRUM "STD 7B"
9	1	332053	DRUM "X7B"
10	1	334007	GEAR – R. H.
11	1	334063	GEAR – L. H.
12	1	338053	HOUSING – END BEARING
13	1	338238	HOUSING – GEAR
14	1	342027	KEY
15	4	342075	KEY
16	1	357446	SHAFT – DRUM "STD 7B"
17	1	357447	SHAFT – DRUM "X7B"
18	1	368158	WORM – R. H.
19	1	368160	WORM – L. H.
20	2	402002	BEARING
21	1	412003	BUSHING "7B"
	2	412003	BUSHING "X7B"
22	1	412046	BUSHING
23	1	412046	BUSHING
24	8	414020	CAPSCREW 1/4-20NC X 7/8 HX HD GR5 NYLOK H/P
25	8	414045	CAPSCREW 5/16-18NC X 7/8 HX HD GR5
26	8	414142	CAPSCREW 5/16-18NC X 3/4 HX HD GR5
27	1	416029	SETSCREW 1/4-20NC X 5/16 SOC DRIVE
28	8	418163	LOCKWASHER 5/16 MED SECT
29	2	442184	GASKET
30	1	442186	GASKET
31	1	456008	FITTING – RELIEF
32	2	468008	PIPE PLUG
33	1	468024	REDUCER
34	1	486009	OIL SEAL
35	1	486017	OIL SEAL
36	1	518015	THRUST WASHER



**Model H-7B**



# PARTS LIST

## MODELS H-7B & H-X7B

Item No.	Qty.	Part No.	Description
1	1	300057	ADAPTER
2	1	302039	ANGLE "STD H-7B"
3	1	302040	ANGLE "STD H-7B"
4	1	302041	ANGLE "H-X7B"
5	1	302042	ANGLE "H-X7B"
6	1	316083	BEARING CAP
7	1	328009	COVER
8	1	332051	DRUM "STD H-7B"
9	1	332053	DRUM "H-X7B"
10	1	334007	GEAR – R. H.
11	1	338053	HOUSING – END BEARING
12	1	338238	HOUSING – GEAR
13	1	342027	KEY
14	4	342075	KEY
15	1	357446	SHAFT – DRUM "STD H-7B"
16	1	357447	SHAFT – DRUM "H-X7B"
17	1	368158	WORM – R. H.
18	2	402002	BEARING
19	1	412003	BUSHING "H-7B"
	2	412003	BUSHING "H-X7B"
20	1	412046	BUSHING
21	1	412046	BUSHING
22	8	414020	CAPSCREW 1/4-20NC X 7/8 HX HD GR5 NYLOK H/P
23	4	414045	CAPSCREW 5/16-18NC X 7/8 HX HD GR5
24	8	414142	CAPSCREW 5/16-18NC X 3/4 HX HD GR5
25	4	414842	CAPSCREW 1/4-20NC X 1-3/4 LG SOC HD LOK-WEL
26	2	414952	CAPSCREW 1/2-13NC X 1-1/2 LG SOC HD C.P.
27	1	416029	SETSCREW 1/4-20NC X 5/16 SOC HD LOK-WEL
28	8	418163	LOCKWASHER 5/16 MED SECT
29	2	418218	LOCKWASHER 1/2 MED SECT C.P.
30	1	431008	COUPLING
31	2	442184	GASKET
32	1	442186	GASKET
33	1	456008	FITTING – RELIEF
34	1	458050	MOTOR – HYD.
35	2	468010	PIPE PLUG
36	1	468024	REDUCER
37	1	470033	SPIROL PIN
38	1	486009	OIL SEAL
39	1	486017	OIL SEAL
40	1	518015	THRUST WASHER

## NOTES

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## LIMITED WARRANTY

RAMSEY WINCH warrants each new RAMSEY Winch to be free from defects in material and workmanship for a period of one (1) year from date of purchase.

The obligation under this warranty, statutory or otherwise, is limited to the replacement or repair at the Manufacturer's factory, or at a point designated by the Manufacturer, of such part that shall appear to the Manufacturer, upon inspection of such part, to have been defective in material or workmanship.

This warranty does not obligate RAMSEY WINCH to bear the cost of labor or transportation charges in connection with the replacement or repair of defective parts, nor shall it apply to a product upon which repairs or alterations have been made, unless authorized by the Manufacturer, or for equipment misused, neglected or which has not been installed correctly.

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 of 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.



### **Ramsey Winch Company**

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