



OPERATIONS MANUAL

APPLIES TO 20 – 75 TON ELECTRIC WINCH MODELS

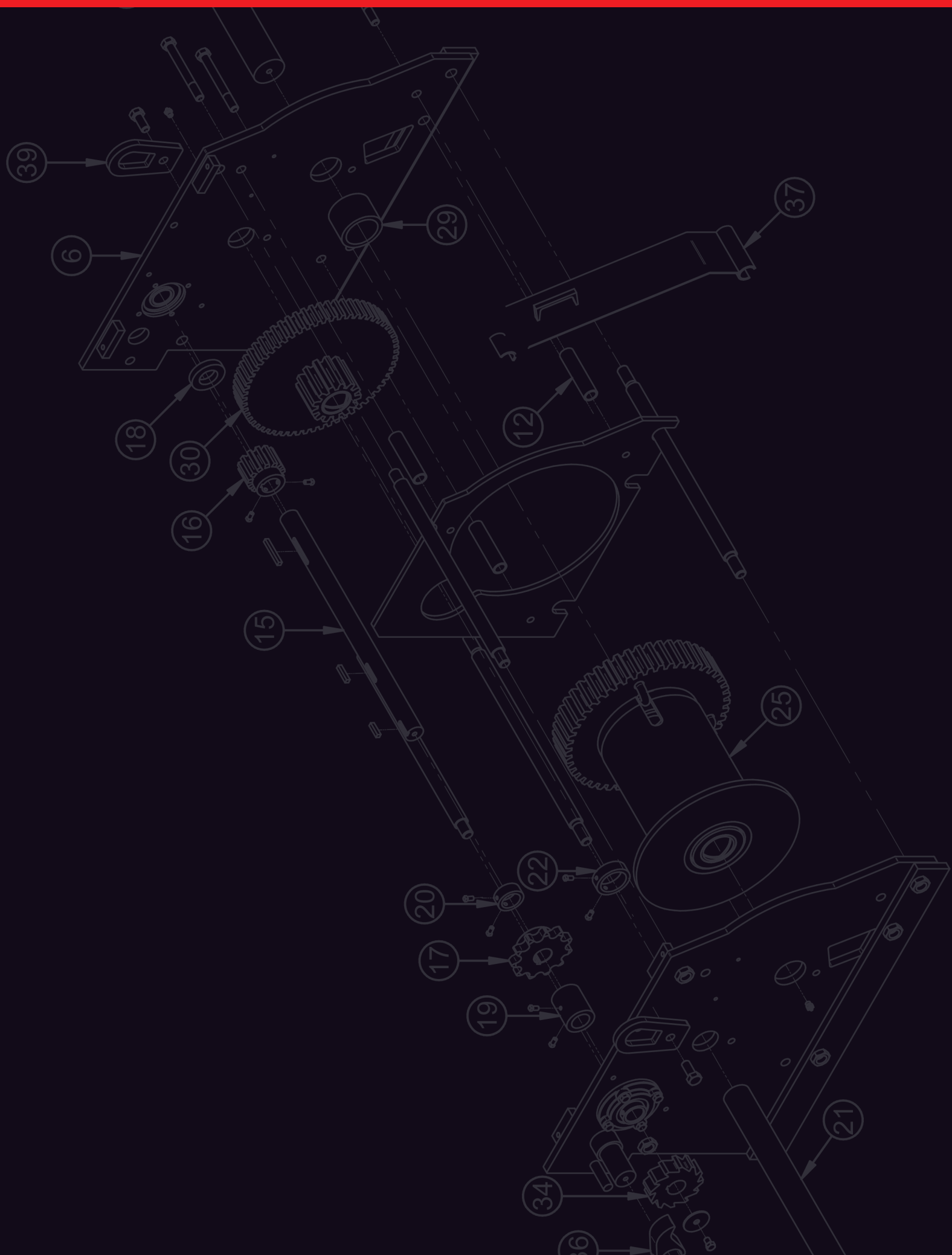


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Patterson is proud to be associated with the following organizations:





OUR HERITAGE

The Patterson Company began operations in 1858 on the banks of the Monongahela River in Pittsburgh. In the 1950s we began designing and manufacturing towboat and barge winches, which is what we are known for today. When we started, we made just a few sizes of winches, but we now offer winches with capacities from 20 tons to 90 tons and in three operating formats: manual, electrical, and hydraulic. Over the years, we've improved the winch by listening to the needs of the end user. The results are increased safety and winches that require less maintenance. For over 150 years, we've protected, pulled and performed for you.

OUR MISSION

Communicate openly, honestly, and directly with self and others.

Work smartly, stretch, grow, and succeed.

Treat self and others with respect.

Help self and others.

Have fun!

We have set our course for the future. The mission statement summarizes Patterson's goals, strategies and values. In the future, Patterson will continue to focus on innovation and growth in our core markets. Our mission underscores Patterson's willingness, as a company, to help shape the future and our determination to come up with innovations that directly benefit our industries.

THE PATTERSON DIFFERENCE

For more than 150 years, the Patterson Company has been manufacturing products and providing services that help our customers work safer, easier, and faster. It's not just a slogan with us—it's a real commitment. No other manufacturer provides the level of dedication, quality, and innovation that we do.

Patterson manufactures winches, ratchet turnbuckles, tensors and more, and our products stand up to every punishment our customers can dish out. But superior products aren't all we provide. Our teamwork approach means that our staff, our customers, our partners, and the professionals and experts in every one of our markets are valued contributors in every way. We come up with our industry-leading innovations because we listen to our customers and respond to their needs.

IMPORTANT!

Prior to installing, using or performing maintenance on this equipment, please read this manual thoroughly and carefully. Keep this manual and all other instructions accessible at all times.

Although this manual will help you become familiar with the required safety and operating procedures, it is by no means a substitute for proper training and safe use of this equipment. Because owners and operators are solely responsible for determining whether a particular usage is acceptable, only individuals trained in the proper use of this product, barge rigging, and other marine equipment should operate this equipment.

The typical operational environment of this equipment includes very high forces, and the potential hazards associated with these forces should not be underestimated. Improper installation or misuse of this equipment may result in injury to persons or cause equipment failure or other damage.

THE PATTERSON WARRANTY AND RETURN POLICY

Limited Warranty

Subject to its standard Terms and Conditions, W.W. Patterson Company ("Seller") warrants that its winches, under normal use and service, will be free from defects in materials and/or workmanship for a period of 180 days from the date the winch is shipped to the end-user and warrants that its jacks, turnbuckles, tensors and any other product manufactured by or on behalf of Seller, under normal use and service, will be free from defects in materials and/or workmanship for a period of 90 days from the date the Product is shipped to the end-user. As used herein, "Products" shall collectively mean the winches, jacks, turnbuckles, tensors and other products manufactured by or on behalf of Seller.

This warranty is limited to the repair, or at Seller's sole option, the replacement of any Product(s) or component(s) found to be defective. This limited warranty (a) does not cover damage caused by improper use, storage, handling or normal wear and tear, including but not limited to any effects of weathering, misuse, alteration or neglect, (b) does not apply to defects arising from the buyer's faulty maintenance or unauthorized modification or alteration of the Product, (c) does not cover damage from handling in shipment and (d) does not cover damage from accident, disaster or event of force majeure. [Any equipment or components of the Products not manufactured by or on behalf of Seller are sold only under such warranty as the manufacturer thereof provides to Seller and which Seller is able to enforce, but such items are not warranted by Seller in any way.]

To make claims under this limited warranty, the Product(s) must, at Seller's sole option, be (1) returned for examination, freight prepaid, to W.W. Patterson Company, 870 Riversea Road, Pittsburgh, PA 15233, or (2) inspected by an authorized agent, employee or representative of Seller. This limited warranty is effective, provided, the buyer notifies Seller of the alleged defect in writing immediately after such defect becomes known to the buyer, and the Product has not been modified, altered or changed by any person or entity (other than an authorized agent, employee or representative of Seller) without Seller's prior written approval. Notwithstanding the foregoing, Seller reserves the right to determine, in its sole discretion, if the Product is defective.

Authorization, shipping instructions and other conditions related to the return of any Product, including but not limited to a Return Material Authorization ("RMA") number, must be obtained from Seller before returning any Products to Seller, and credit will not be allowed for Products returned without meeting such conditions of Seller. RMA numbers can be obtained from Seller by contacting either rma@pattersonmfg.com or calling 1-800-322-2018. When requesting an RMA number, provide the order number, a description of the Product(s) to be returned and the reason for return. SELLER WILL ONLY ACCEPT PRODUCTS FOR RETURN THAT HAVE AN RMA NUMBER. To avoid delays in processing a return, the RMA number must be clearly printed on the return label. All Products shall be returned to Seller at the following address: RMA Department, Patterson, 845 Pennsylvania Avenue, Pittsburgh, PA 15233. All Products returned to Seller must be shipped freight prepaid and received by Seller within thirty (30) days (for Products returned from within the United States) or forty-five (45) days (for Products returned internationally) of the RMA number issuance date. Products should be returned via a trackable shipping method as Seller is not responsible for any Products lost in shipment during the return process.

Upon Seller's receipt of Products returned in accordance with Seller's return instructions, Seller will diligently process the return. Products that are for immediate replacement will be sent and invoiced to the buyer at the return address provided by the buyer. Upon processing a return of a Product, Seller will either bill or credit the buyer's invoice dependent on the outcome of the return. Seller reserves the right to invoice the buyer if any of the following occur during the return process: (1) the Product is not returned within thirty (30) days (for Products returned from within the United States) or forty-five (45) days (for Products returned internationally) of the RMA number issuance date; (2) the Product is damaged due to the negligence and/or improper use by the buyer or any third party; or (3) the Product is returned outside the limited warranty period. Seller further reserves the right to charge a restocking fee of at least 25% of the purchase price for all returned Products.

EXCEPT FOR WARRANTY OF TITLE AND THE WARRANTIES SET FORTH HEREIN, AND AS FURTHER DESCRIBED IN SELLER'S TERMS AND CONDITIONS WHICH ARE HEREBY INCORPORATED BY REFERENCE, SELLER MAKES NO OTHER REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, WRITTEN OR ORAL, WITH RESPECT TO THE PERFORMANCE OF ANY SERVICE, OR THE SHIPMENT, DELIVERY, PERFORMANCE OR CONDITION OF ANY PRODUCTS OR COMPONENT THEREOF, WHETHER OR NOT MANUFACTURED, DESIGNED OR DEVELOPED, IN WHOLE OR IN PART, BY SELLER. SELLER SPECIFICALLY DISCLAIMS, AND BUYER, ON BEHALF OF ITSELF AND ITS DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, REPRESENTATIVES, SUCCESSORS AND ASSIGNS AND ALL OTHER PURCHASERS OR USERS OF THE PRODUCTS, HEREBY WAIVES, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE, RELATING TO THIS CONTRACT, INVOICE, OR THE PRODUCTS PURCHASED PURSUANT HERETO.

NOTWITHSTANDING ANY PROVISION CONTAINED HEREIN, SELLER SHALL NOT BE LIABLE IN CONTRACT, IN TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE OR STRICT LIABILITY), INDEMNIFICATION OR OTHERWISE FOR DAMAGE TO OR LOSS OR USE OF PROPERTY OR EQUIPMENT, INJURY TO PERSONS (INCLUDING DEATH) CAUSED BY, WITHOUT LIMITATION, MISUSE, UNSAFE OPERATION, MODIFICATION, ALTERATION OR CHANGE OF THE PRODUCTS, LOSS OF TIME, LOSS OF PROFITS OR REVENUE, LOSS OF GOODWILL, INTERRUPTION OF BUSINESS, COST OF CAPITAL, COST OF TEMPORARY PROPERTY OR EQUIPMENT (INCLUDING ADDITIONAL EXPENSES INCURRED IN USING EXISTING FACILITIES), OR FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, REGARDLESS OF WHETHER SELLER (A) HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES OR (B) IS NEGLIGENT. THIS WARRANTY GIVES BUYER SPECIFIC LEGAL RIGHTS, AND BUYER MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO BUYER.

Returned Goods Policy

Upon written authorization by Patterson Company, standard Patterson products listed on current price sheets can be returned for credit, provided the merchandise is unused, undamaged and complete. Patterson Company reserves the right to solely determine if the merchandise is acceptable upon receipt. Returned goods shall be sent freight prepaid to Patterson Company and a 25% restocking charge applies to each returned product.

ALWAYS OBSERVE THESE BASIC SAFETY PRECAUTIONS:

1. Only allow personnel trained in the required safety and operating procedures to use and maintain this equipment.
2. Only pull loads less than or equal to the rated capacity of this equipment.
3. Keep all body parts, loose clothing, and any foreign objects away from this equipment during operation.
4. Always remain to the side of this equipment and slightly behind the gear motor, during operation of the winch.
5. Never operate this equipment from the front or when bystanders are in front of it.
6. Equipment operators and bystanders should stay clear of any load and the wire/synthetic rope.
7. Make sure all people and foreign objects are clear of the load and its path.
8. Never allow anyone to stand on a moving load.
9. Do not stand or step over wire/synthetic rope.
10. Under no circumstances, should this product be used to move, raise or lower people or equipment.
11. Never use this equipment for lifting or lowering loads.
12. Do not operate this product unless you have a firm stance on a non-slippery surface.
13. Do not apply tension to this equipment unless there are at least four (4) complete wraps of wire rope, eight (8) complete wraps of synthetic rope, or the number of wraps recommended by the rope manufacturer, on the rope drum.
14. Do not operate this equipment if jamming, overloading, or binding occurs.
15. Position the load correctly. Only pull in a straight line or use a sheave; do not “side pull” the load.
16. Pay attention to the load at all times when operating this equipment.
17. After use, properly secure this equipment and all loads.
18. Never run the wire/synthetic rope over a sharp edge; use a sheave.
19. Perform a daily inspection of this equipment for worn or damaged parts and cracked welds. If any worn or damaged parts or cracked welds are found, stop use immediately and remove the equipment from service, until all appropriate repairs have been completed.

SAFETY INFORMATION

The following safety labels and definitions are based on ANSI Z535 safety standards.

Below is a list of signal words used to identify different levels of potential hazard. These signal words will be used throughout this manual when they apply.



DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.



WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.



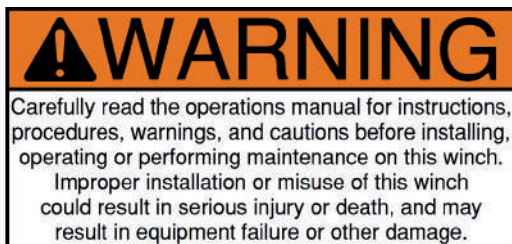
CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.



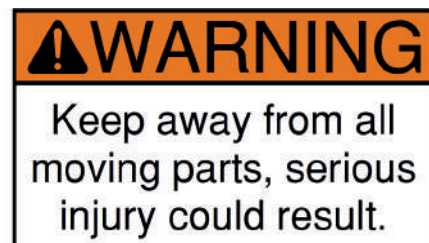
NOTICE is used to address practices not related to physical injury.

The following safety labels can be found on all electric winch models.

Part Number: LABEL017



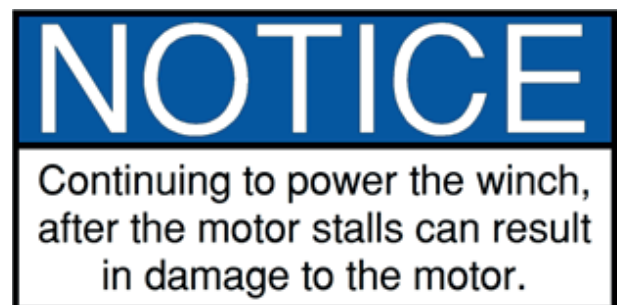
Part Number: LABEL018

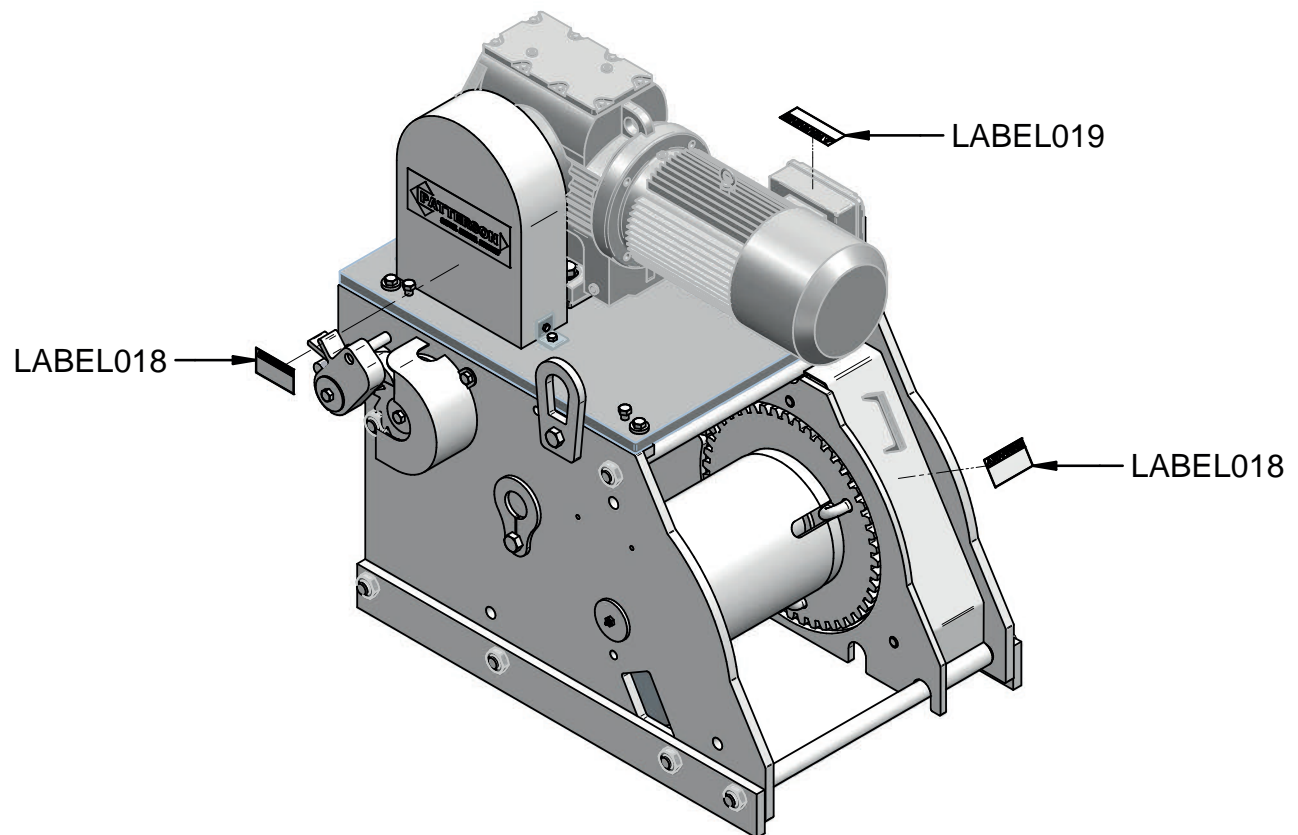
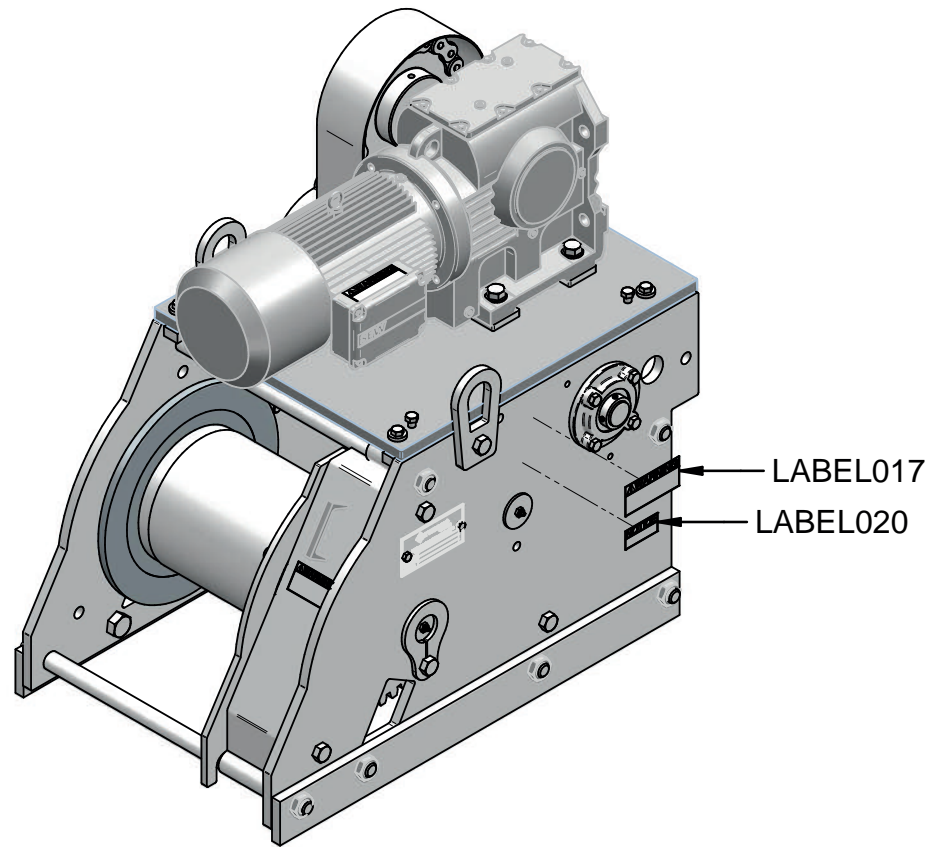


Part Number: LABEL019



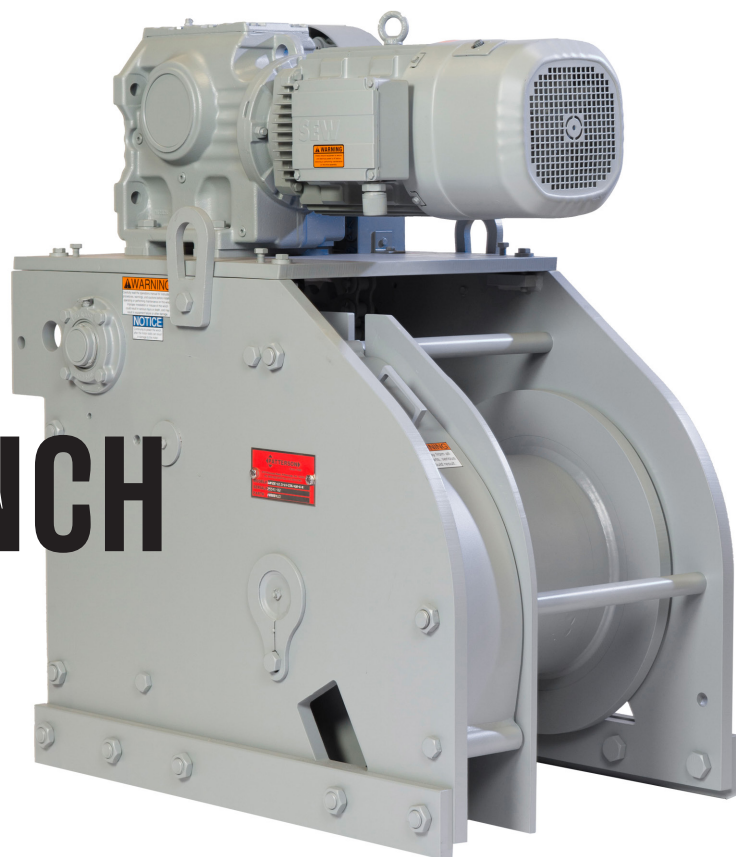
Part Number: LABEL020







STANDARD ELECTRIC WINCH HEAVY DUTY



The Patterson Electric Winch, available in capacities from 20 to 90 tons, is designed for easy, safe operation and rock-solid durability. The heavy duty roller bearings on the shaft drive, thermostatically protected motors, machined alloy gearing, and NEMA 4 spring-loaded electric brakes make our towboat winches a study in strength. We offer 208 V or 230/460 V 3-phase, 60Hz high-torque motors, with other voltages, and special marine motors available.

Patterson offers galvanized winches for optimal corrosion protection, and our saltwater-corrosion protection package leaves nothing to chance: hot-dipped galvanized construction includes stainless steel shafts, nuts and bolts, as well as anti-seize on all threads or fasteners.

Key Features

Corrosion Protection

Dependable Safety

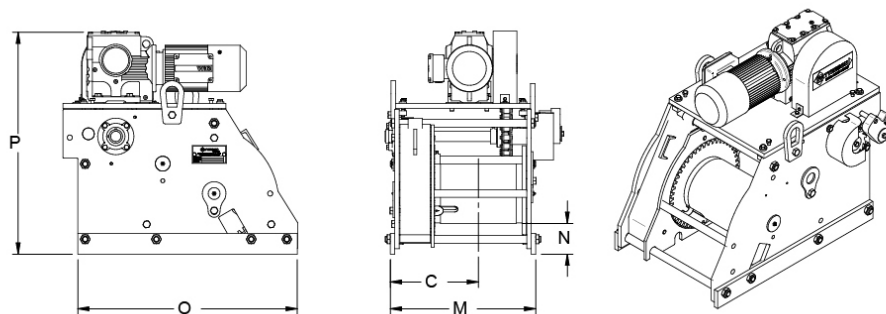
Performance Data

Model*(WWP)	Dog Holding Capacity	Brake Holding Capacity	Line Pull 1st Wrap	Line Speed 1st Wrap	Stall Pull 1st Wrap	Ultimate Shock Load
20E-3.0	40,000 lbs	30,000 lbs	3,700 lbs	22 fpm	16,000 lbs	40,000 lbs
30E-3.0	60,000 lbs	47,000 lbs	5,700 lbs	14 fpm	25,000 lbs	60,000 lbs
30E-5.0	60,000 lbs	39,000 lbs	7,300 lbs	18 fpm	33,000 lbs	60,000 lbs
40E-5.0	80,000 lbs	46,000 lbs	8,600 lbs	16 fpm	39,000 lbs	80,000 lbs
40E-7.5	80,000 lbs	63,000 lbs	9,700 lbs	21 fpm	40,000 lbs	80,000 lbs
65E-7.5	130,000 lbs	82,000 lbs	12,800 lbs	16 fpm	52,000 lbs	130,000 lbs
65E-12.5	130,000 lbs	92,000 lbs	13,200 lbs	26 fpm	65,000 lbs	130,000 lbs
75E-12.5	150,000 lbs	73,000 lbs	11,000 lbs	29 fpm	58,000 lbs	130,000 lbs

[More Details >](#)



STANDARD ELECTRIC WINCH



Specifications

Model* (WWP)	Drum Diameter	C	M	N	O	P	Net Weight	Shipping Weight
20E-3.0	8.625"	5.81"	14.75"	6.5"	35"	32.5"	830 lbs	880 lbs
30E-3.0	10"	8.81"	19"	6"	35"	32"	1,015 lbs	1,065 lbs
30E-5.0	10"	8.81"	19"	6"	35"	32"	1,020 lbs	1,070 lbs
40E-5.0	10"	9.18"	24.5"	5"	37"	40"	1,415 lbs	1,465 lbs
40E-7.5	10"	9.18"	24.5"	5"	37"	40"	1,430 lbs	1,480 lbs
65E-7.5	14"	10.75"	25.75"	6.5"	38"	48"	2,140 lbs	2,190 lbs
65E-12.5	14"	10.75"	25.75"	6.5"	38"	48"	2,150 lbs	2,200 lbs
75E-12.5	16"	8.25"	22.25"	8.75"	45"	50.25"	3,550 lbs	3,600 lbs

Drum Capacities

Model* (WWP)	1/2"	5/8"	3/4"	7/8"	1"	1 1/8"	1 1/4"
20E-3.0	220'	140'	100'	xx	xx	xx	xx
30E-3.0	xx	120'	85'	75'	xx	xx	xx
30E-5.0	xx	120'	85'	75'	xx	xx	xx
40E-5.0	xx	xx	180'	130'	100'	xx	xx
40E-7.5	xx	xx	180'	130'	100'	xx	xx
65E-7.5	xx	xx	xx	230'	180'	150'	xx
65E-12.5	xx	xx	xx	230'	180'	150'	xx
75E-12.5	xx	xx	xx	xx	190'	150'	130'

*All performance data and specifications set forth in the above tables are guidelines. The referenced data and specifications were produced under controlled testing conditions and should be used as estimates only. Due to variability in individual operators, in weather, in towing conditions, and in various other factors, actual results may vary. In addition, for the purpose of installation, please verify all dimensions as the dimensions, specifications, data and other information contained in this brochure are subject to change at any time without notice.

INSTALLATION

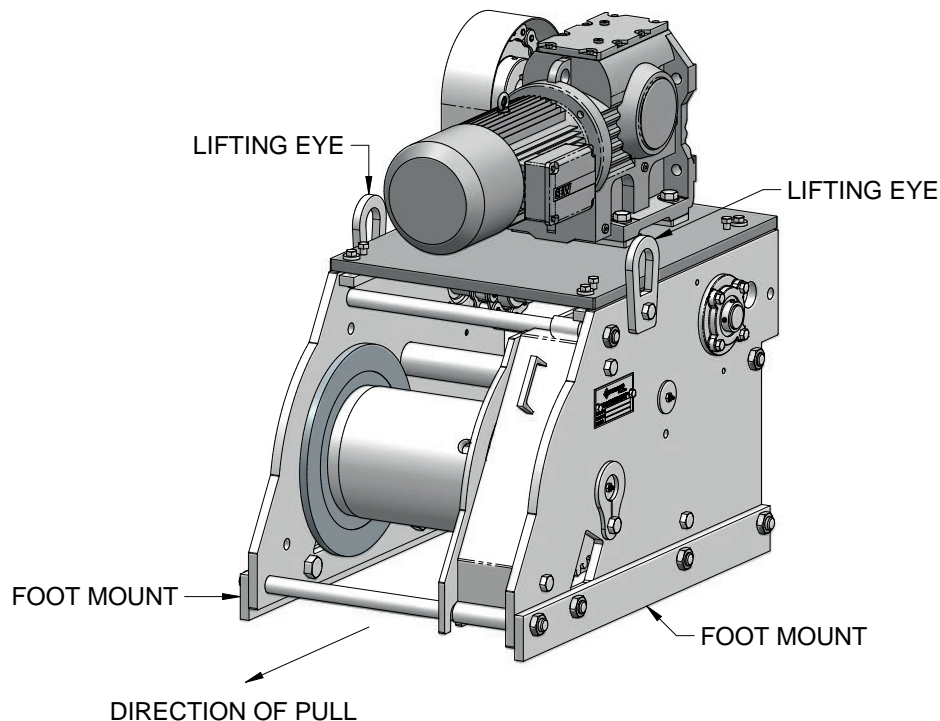
Prior to installation carefully inspect this equipment for possible shipping damage.

NOTICE

THIS EQUIPMENT IS NOT A BALANCED LOAD. IT SHOULD ONLY BE LIFTED BY THE LIFTING EYES ON EITHER SIDE OF THE EQUIPMENT. NEVER LIFT THIS EQUIPMENT BY THE GEARMOTOR OR DAMAGE WILL OCCUR!

Safe Installation Procedures

- Do not use wire rope as a ground (earth) for welding.
- Do not attach a welding electrode to this equipment or the wire rope.
- Never run the wire/synthetic rope over a sharp edge; use a correctly sized sheave. Refer to the mounting section for specific instructions.
- With the exception of the foot mounts, do not weld on or to any part of the winch.
- Always maintain the minimum number of complete wraps on the rope drum required. (See Page 5, #12)
- Verify that the gears and components are lubricated before using this equipment. Refer to the **LUBRICATION** section for specific information. (See Page 16)



INSTALLATION

NOTICE

BEARINGS THAT ARE LOOSE OR WORN MUST BE REPLACED. FAILURE TO OBSERVE THIS PRECAUTION WILL RESULT IN ADDITIONAL COMPONENT DAMAGE.

NOTICE

THE DECK AND STRUCTURE MUST BE STRONG ENOUGH TO WITHSTAND THE WEIGHT AND HOLDING CAPACITY OF THIS EQUIPMENT, AND THE FORCES LIKELY TO OCCUR DURING OPERATION.

- This equipment must be installed on flat, rigid, and non-slippery surfaces.
- Place this equipment in the mounting area, in line with the direction of cable pull.
- Check for required clearance and fleet angle distance for proper inspection, operation, and maintenance.

FLEET ANGLE DISTANCE		
Winch	Drum Length (in.)	Fleet Angle Distance (ft)
20E	6.875	11
30E	10	16
40E	14.375	23
65E	14	22
75E	10	16
	14	22
	18	29

- When a lead sheave is used it should be aligned with the center of the drum.
- Weld to the deck along the complete length of both foot mounts. Use seal welding to protect the weld against corrosion.

NOTICE

THE WELD HAS TO BE STRONG ENOUGH TO WITHSTAND LOADS EQUAL TO, AT LEAST, THE ULTIMATE SHOCK LOAD CAPACITY OF THIS EQUIPMENT.

NOTICE

ENSURE THE WIRE/SYNTHETIC ROPE DIAMETER PROVIDES AN ADEQUATE SAFETY FACTOR FOR ANTICIPATED LOADS.

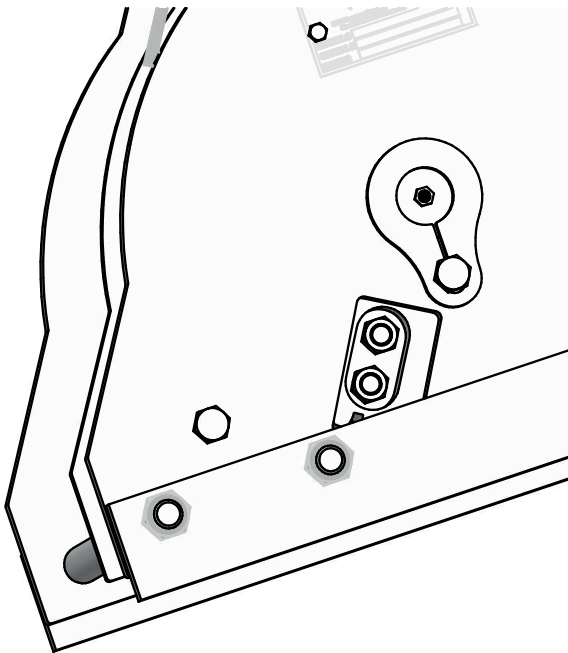
WIRE ROPE INSTALLATION

NOTICE

VERIFY ROPE DRUM CAPACITY. (See Page 8)

Safe Wire Rope Handling Procedures

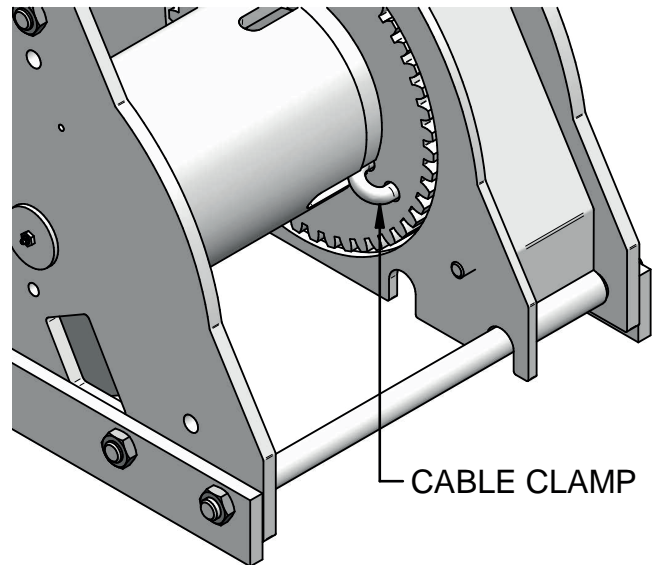
- Always use gloves when handling wire rope.
- Never use rope that is twisted, frayed, or kinked.
- Always ensure the rope is correctly spooled and the first layer is tight.
- Always maintain the required minimum number of complete wraps on the rope drum. (See Page 5, #12)



- Rotate the drum until the cable clamp nuts appear in the slot on the side plate, as shown above. Using a standard socket wrench with an extension, loosen the nuts.

NOTICE

PERIODICALLY RETIGHTEN THE NUTS ON THE CABLE CLAMP TO INSURE THE CABLE IS SECURE AGAINST ROPE DRUM FLANGE.



- If installing wire on a new winch, remove and discard the cable clamp spacer. If worn out wire rope is being replaced, remove the rope from the cable clamp and dispose of the wire rope properly. Insert the new wire rope from the front of the winch, into the cable clamp, until 3 to 4 inches of rope extends through the clamp and tighten the nuts evenly. For proper installation please reference the rope clip torque specifications. (See Page 12)

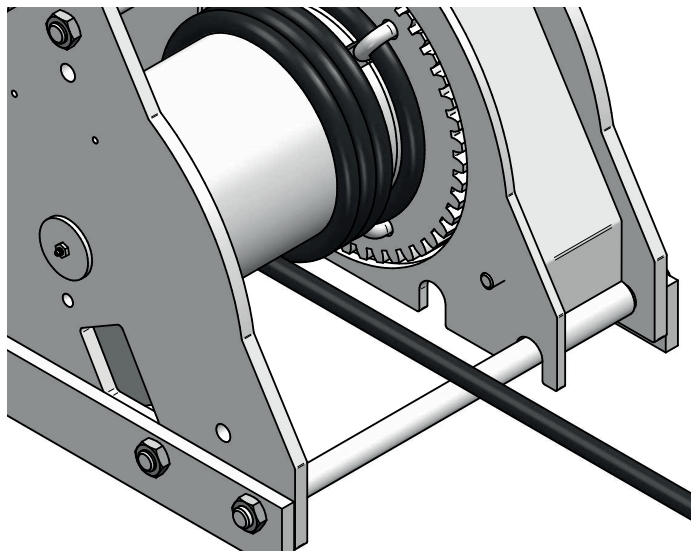
The rope must reel in from the bottom of the rope drum. Pressing either the **REEL IN** or **REEL OUT** push button, on the control box or the remote station, make sure the rope drum rotates in the appropriate direction. If the drum does not rotate in the desired direction, refer to the SEW documentation supplied with this equipment for proper wiring.

WIRE ROPE INSTALLATION

NOTICE

FOUR (4) COMPLETE WRAPS OF WIRE ROPE, EIGHT (8) COMPLETE WRAPS OF SYNTHETIC ROPE, OR THE NUMBER OF WRAPS RECOMMENDED BY THE ROPE MANUFACTURER, MUST BE ON THE DRUM AT ALL TIMES IN ORDER FOR THIS EQUIPMENT TO ATTAIN ITS FULL HOLDING CAPACITY.

- Slowly start to reel the rope onto the drum. Maintain enough tension on the rope to be sure the first coil begins snugly against the side of the drum and each successive coil is snug against the previous coil. Check to make sure the rope is reeled in from the bottom of the drum.
- Continue to spool the rope until the required minimum number of complete rope coils are secured on the drum. (See Page 5, #12)



NOTICE

THE TORQUE VALUES SHOWN BELOW ARE BASED ON THE THREADS BEING CLEAN, DRY, AND FREE OF LUBRICATION.

ROPE CLIP TORQUE SPECIFICATIONS		
ROPE SIZE (in.)	CLIP SIZE (in.)	TORQUE (ft. lbs.)
3/4	5/8	95
7/8	3/4	130
1	7/8	225
1-1/8	1-1/8	225
1-1/4	1-1/4	360

NOTICE

THE FULL EXTENT OF WIRE/SYNTHETIC ROPE WEAR CANNOT BE DETERMINED BY VISUAL INSPECTION.

At any indication of wear, inspect the wire/synthetic rope using the following steps:

- Replace loose or damaged end connections.
- Make sure the rope clip is securely mounted in the drum.
- Verify the rope diameter: Measure the diameter of the wire rope from crown-to-crown throughout the life of the rope. Recording of the actual diameter should only be done with the wire rope under equivalent loading and in the same operating section as accomplished during previous inspections. If the actual diameter of the wire rope has decreased more than 1/64" (0.4mm), a thorough examination of the wire rope should be conducted by an experienced inspector to determine the suitability of the wire rope to remain in service.

Initial Operating Checks

- Prior to initial operation, verify the oil level in the reduction gear and grease components as described in the **LUBRICATION** section.
- Ensure all mounting fasteners are tightened and the rope is spooled correctly onto the drum.
- Operate this equipment, without load, in both directions. During operation inspect components for abnormal noises, indications of binding and misalignment of parts.
- Operate this equipment, under light load, in both directions. During operation inspect components for abnormal noises, indications of binding and misalignment of parts.
- Test the brake while the motor is stopped. The brake should hold an appropriate load without slipping.

Important aspects of winch operation:

- Follow all safety instructions when installing, operating or maintaining this equipment.
- Only trained personnel, familiar with the safety procedures and operation of this product, should operate this equipment.
- Subject this equipment to a regular inspection and maintenance procedure.
- Be aware of this equipment's capacity and the load being applied at all times.

Inspection

Before each shift, inspect this equipment as described under **INSPECTION AND MAINTENANCE** (See Page 15)

(Verify manual operation) The holding brake is supplied with a hand-operated manual release mechanism. This manual release feature allows the operator to release the brake without energizing the motor. The manual brake release can be operated using the set screw, accessible on the outside of the brake housing.

NOTICE

DISCONTINUE WINCH OPERATION IF IT IS SUSPECTED THAT THE HOLDING BRAKE IS NOT FUNCTIONING PROPERLY.

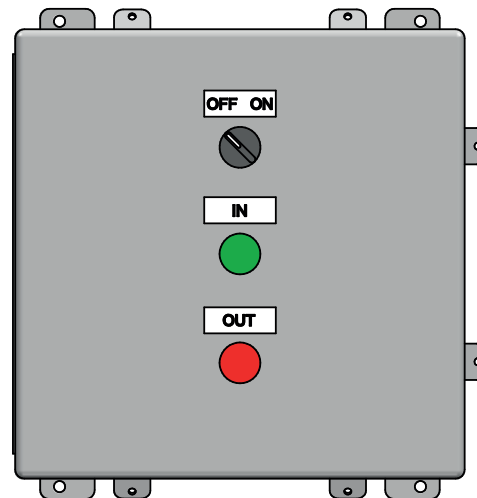
Instructions for adjusting the holding brake can be found in the SEW manual supplied with this equipment and online at the SEW website.

OPERATION OF THE WINCH

The electric brake, electric motor, and gearbox are integrally mounted to the winch frame. Normally, a two button (**IN/FORWARD** and **OUT/REVERSE**) control station is used to operate the winch. Each button should be wired to provide an automatic stop the moment either button is released.

NOTICE

ONLY A QUALIFIED ELECTRICIAN SHOULD WIRE THE CONTROL BOX AND REMOTE STATION OF THIS EQUIPMENT



The electric brake is a disc type, normally set by mechanical spring pressure. The brake release occurs simultaneously, with the powering of the motor and the brake, and locks automatically when the motor's electric power is turned off.

REEL-IN: Press the **IN/FORWARD** push-button. Continue to reel in wire/synthetic rope at the rated load and speed until the winch reaches the desired line tension. To stop the winch, release the **IN/FORWARD** button and the brake will engage.

NOTICE

FAILURE TO STOP POWERING THIS EQUIPMENT, AFTER MOTOR REACHES STALL, CAN RESULT IN MOTOR BURNOUT.

REEL-OUT: Check to see if the Locking Dog is engaged. If it is not, press the **OUT/REVERSE** push-button. This will allow pay-out of the wire rope to the desired length. To stop the winch, release the **OUT/REVERSE** button and the brake will engage. If the locking dog is engaged, manually rotate the counterweight towards the back of the winch. Press the **IN/FORWARD** push-button until the counterweight rotates and disengages the locking dog. Release the **IN/FORWARD** button and press the **OUT/REVERSE** button. This will allow pay-out of the wire rope to the desired length. To stop the winch, release the **OUT/REVERSE** button and the brake will engage.

If the counterweight does not disengage the locking dog, the most common cause is that tension on the rope exceeds the stall pull of the winch. In this case, reposition the vessel to decrease the tension on the rope.

NOTICE

FAILURE TO DISENGAGE THE LOCKING DOG, PRIOR TO REEL-OUT, CAN RESULT IN MOTOR/EQUIPMENT FAILURE.

INSPECTION AND MAINTENANCE

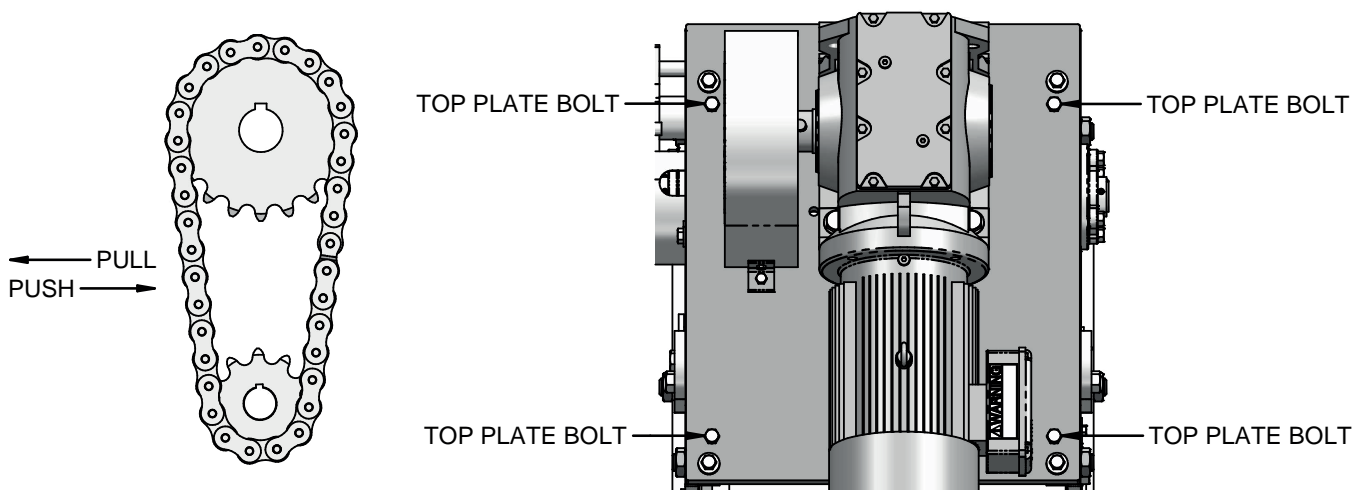
Frequent and periodic inspections should be performed by personnel trained in the required safety, operation, and maintenance procedures. Frequent inspections are basic visual observations during routine equipment operation. More thorough inspections should be performed periodically for closer observation to critical areas and parts of this equipment. Inspection intervals depend on the environment this equipment is being exposed to, the frequency of use, the amount of time the equipment has been used, and the level of wear on critical components.

Regular inspections aid in preventative maintenance and reveal potentially dangerous conditions and can reduce lost time, due to equipment failure. Any problems or potential issues should be reported to trained personnel for the appropriate corrective action.

Prior to operation, inspect the shafts, gears, motor, brake, electrical wiring, side plates, and drum for indication of damage. Do not operate the winch until noted discrepancies have been reviewed and inspected further by trained personnel.

Visually inspect this equipment during operation for irregular function and listen for abnormal noises; these could indicate potential problems. Make sure the gear motor, brake, and all moving parts are operating properly. If problems are found, repair as necessary and never operate the winch until all defects have been repaired. To test the brake, pull the wire/synthetic rope with the brake engaged and check that it does not slip.

- Inspect components and the wire/synthetic rope. Clean and lubricate as necessary.
- All grease fittings should be lubricated regularly, using a POLYUREA grease such as ALTRA 500 EP2.
- All gear teeth should be coated regularly, with heavy-duty gear grease.
- Oil the roller chain regularly.
- Check roller chain tension regularly. Optimal chain tension allows between 3/4" and 1" of movement back and forth, when pushed and pulled by hand. Adjust the top-plate bolts until proper tension is achieved.



LUBRICATION

All gear motor lubrication requirements and procedures can be found in the SEW manual supplied with this equipment and online at the SEW website.

Bearings and Pivot Points

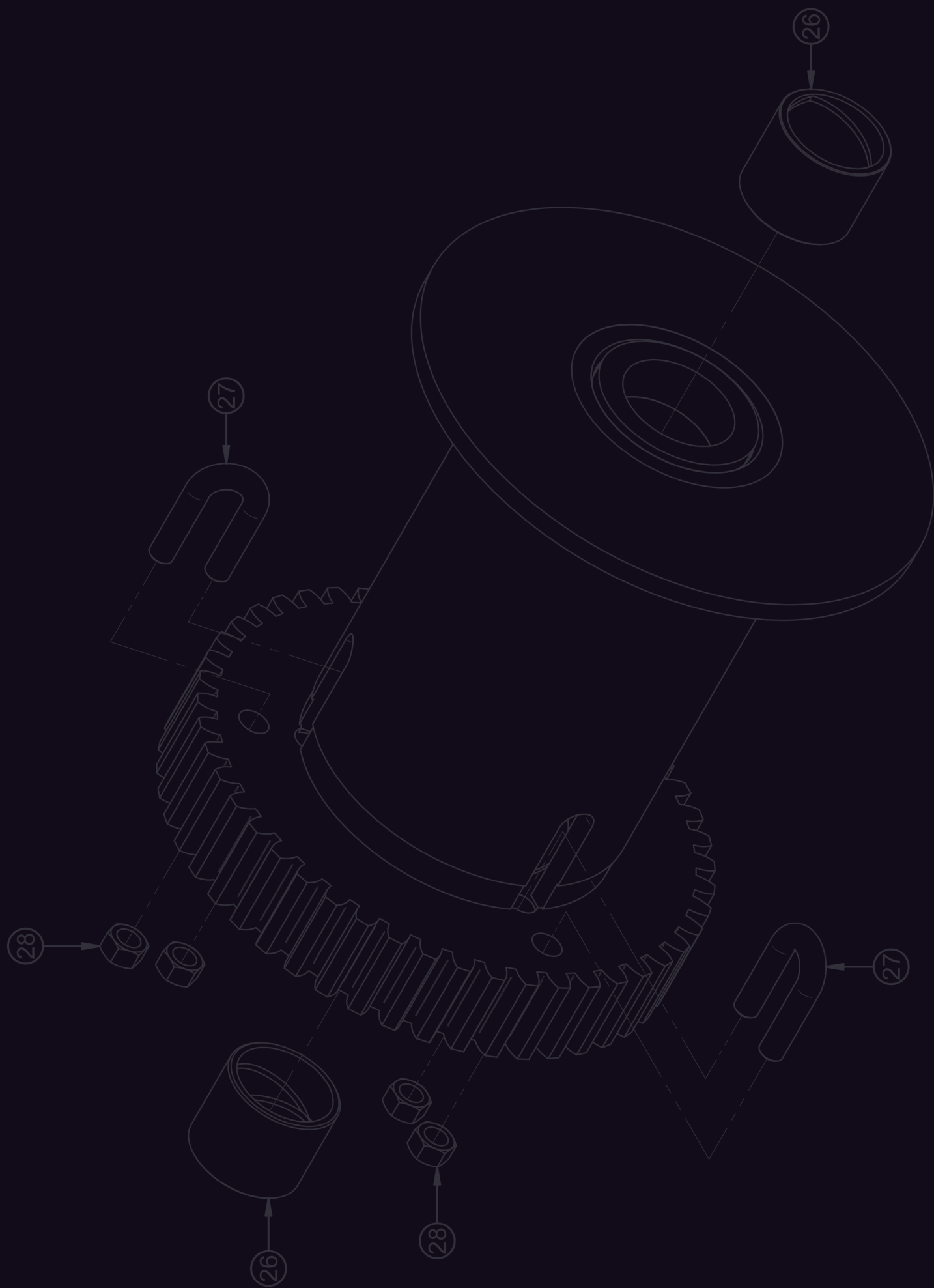
Components with grease fittings should be lubricated monthly, with 2 or 3 pumps from a grease gun, or more frequently, depending on conditions and use of this equipment. Rotate components slowly as grease is applied.

When this equipment is disassembled, clean all parts thoroughly and coat bushings and shafts with clean grease. Apply sufficient grease to provide a good protective coating.

During the winter months, if this equipment is not running efficiently, the oil in the gear box may need to be changed.

The following table shows recommended lubricants and their operating ambient temperature range.

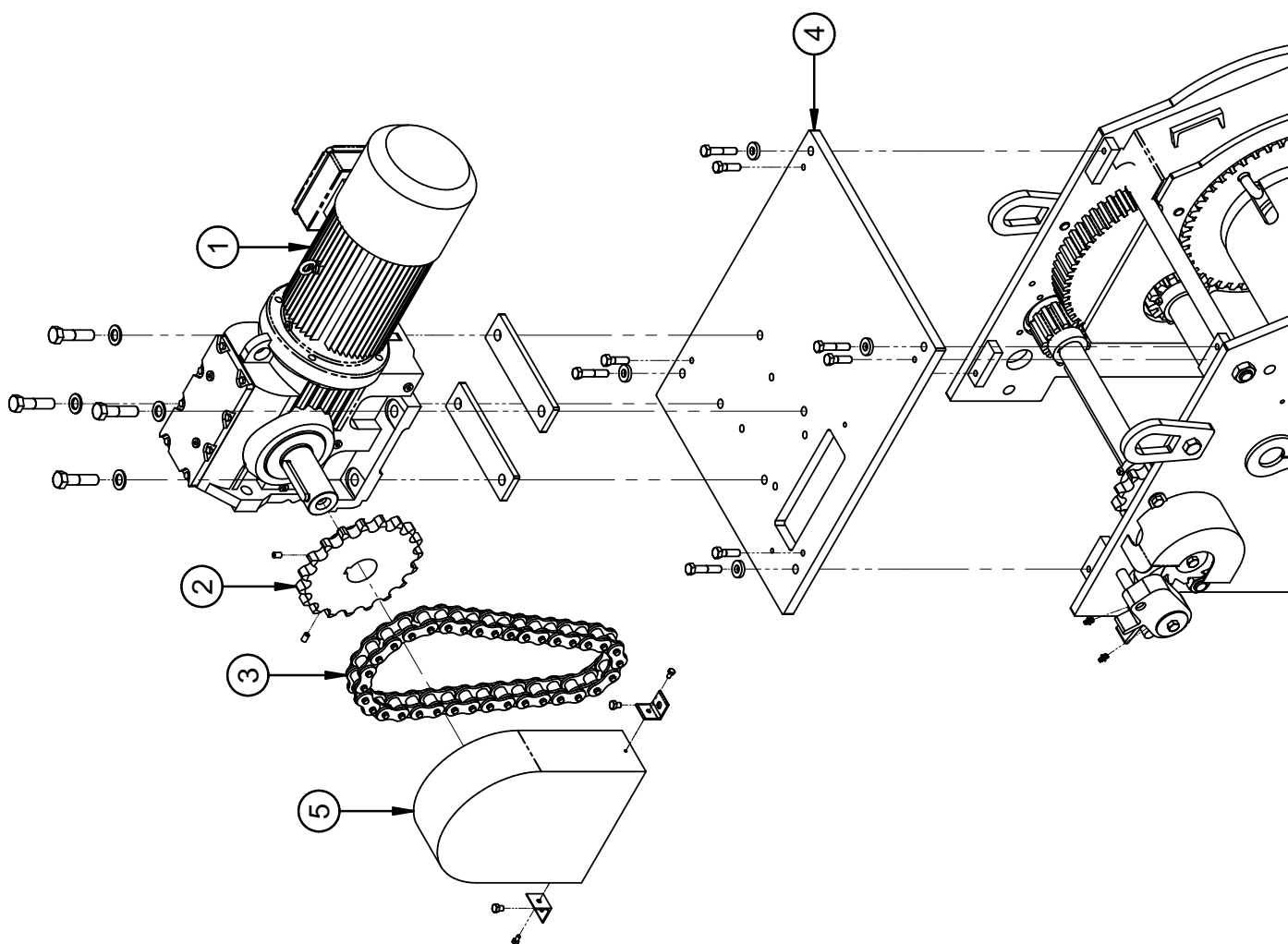
Lubricants	Temperature Range						
	32 to 104 °F	-4 to 140 °F	-22 to 176 °F	-40 to 50 °F	-4 to 50 °F	-13 to 68 °F	-40 to 32 °F
Exxon Mobil	MobilGear 600XP 680	N/A	Mobil SHC 634	Mobil SHC 629	MobilGear 600XP 100	Mobil Glygoyle 30	Mobil SHC 624
Shell	Shell Omala 680	Shell Tivela S 680	Shell Omala HD 460	Shell Omala HD 150	Shell Omala 100	Shell Tivela S 220	-
Klüber Lubrication	Klüberoil GEM 1-680 N	Klübersynth GH 6-680	Klübersynth GEM 4-460 N	Klübersynth GEM 4-150 N	Klüberoil GEM 1-150 N	Klübersynth GH 6-220	Klüber-Summit HySyn FG-32
Aral	Aral Degol BG 680	-	-	-	Aral Degol BG 100	Aral Degol BG 220	-
BP	BP Energol GR-XP 680	BP Enersyn SG-XP 680	-	-	BP Energol GR-XP 100	BP Enersyn SG-XP 220	-
Texaco	Meropa 680	Synlube CLP 680	Pinnacle EP 460	Pinnacle EP 150	Meropa 150	Synlube CLP 220	Cetus PAO 46
Total	Carter EP 680	-	-	Carter SH 150	Carter EP 100	Carter SY 220	Dacnis SH 32

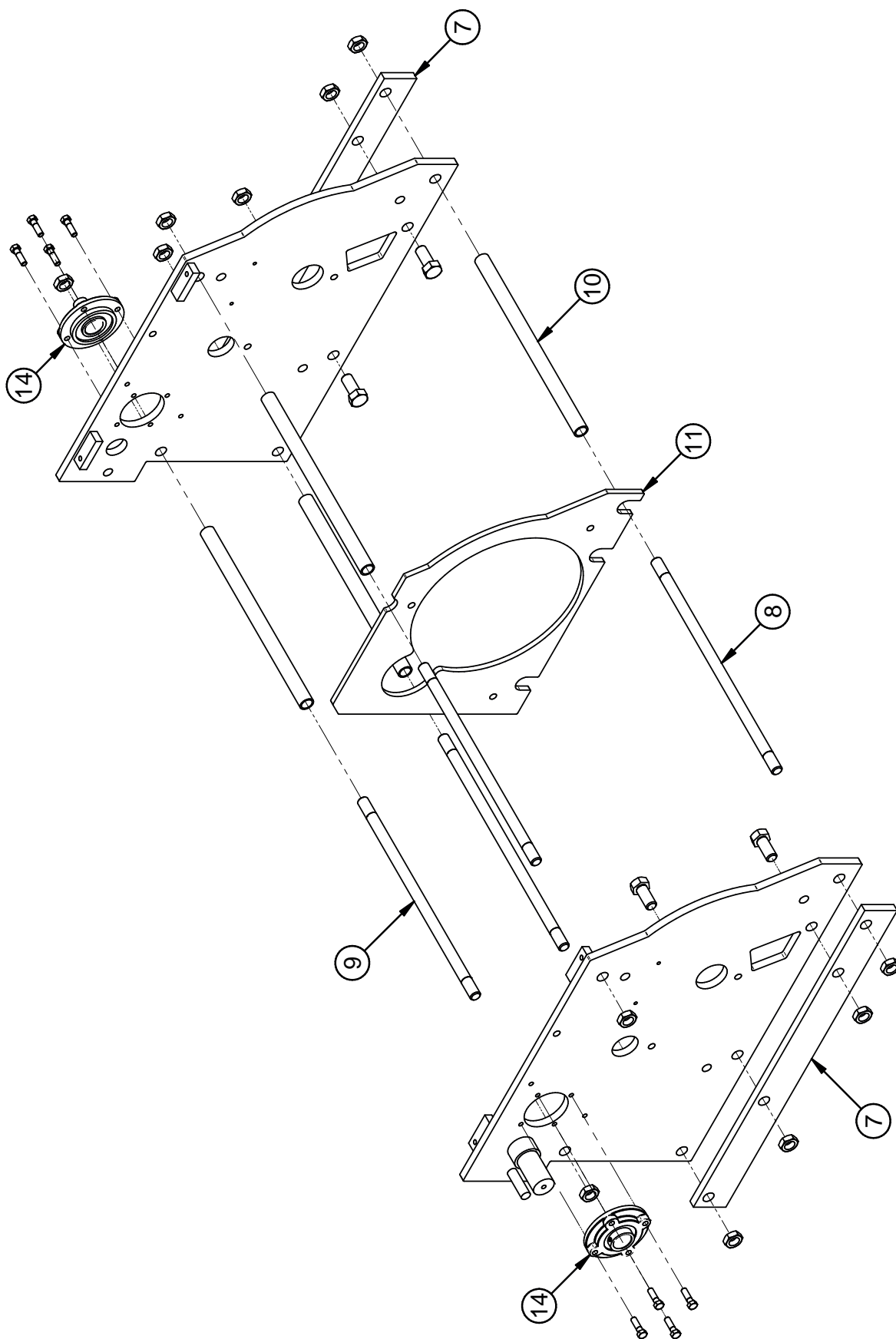


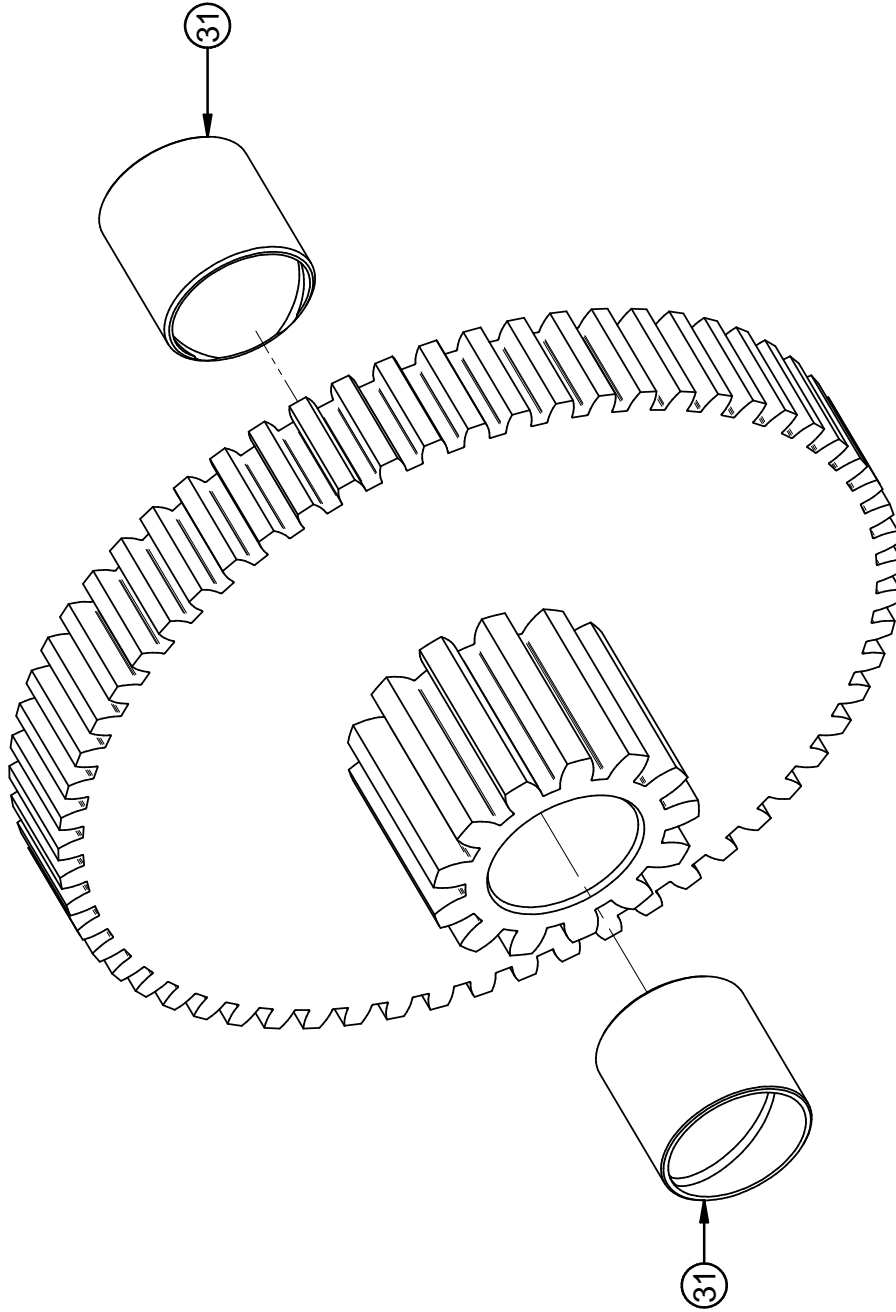


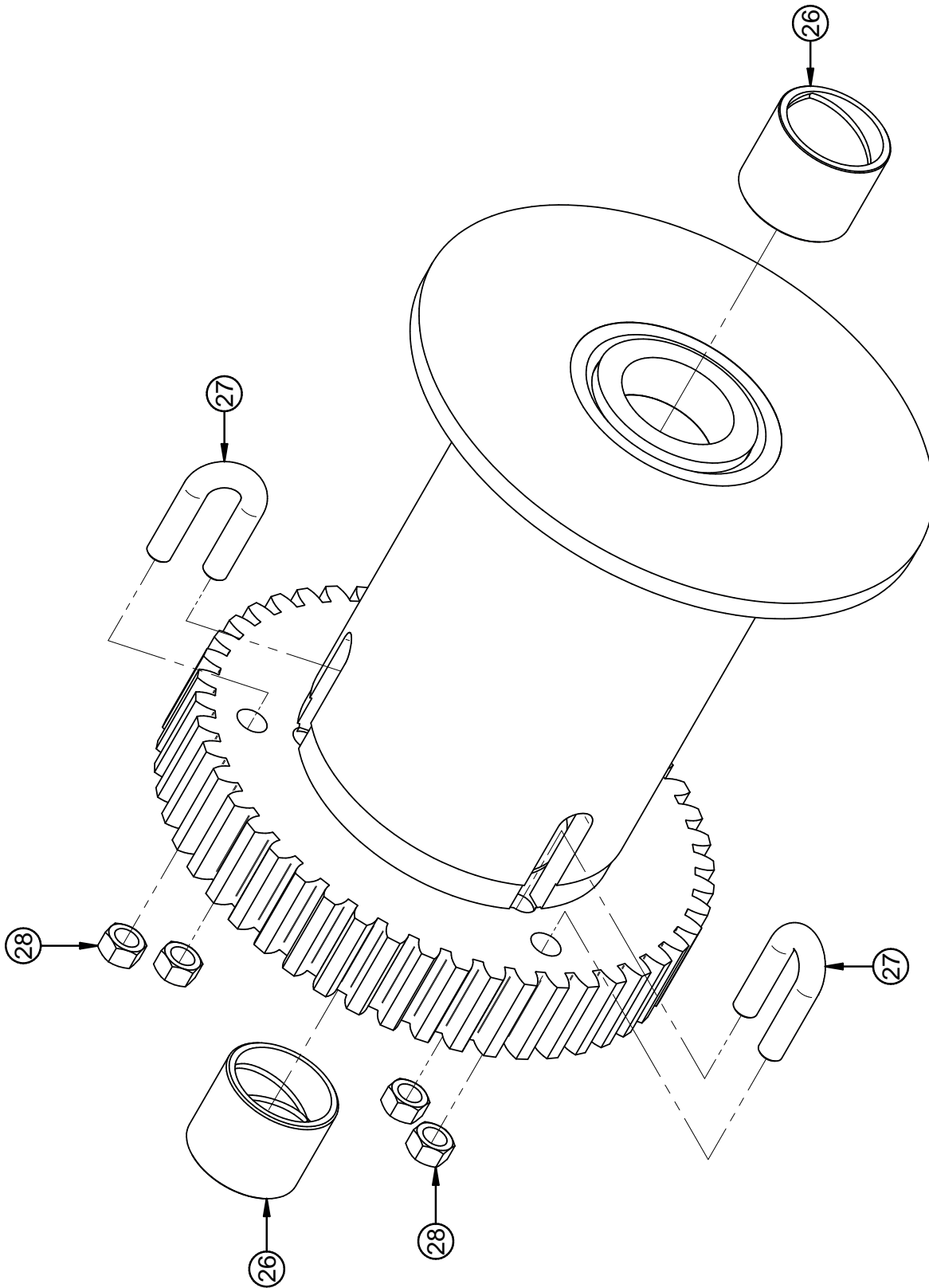
DRAWINGS AND PARTS LIST

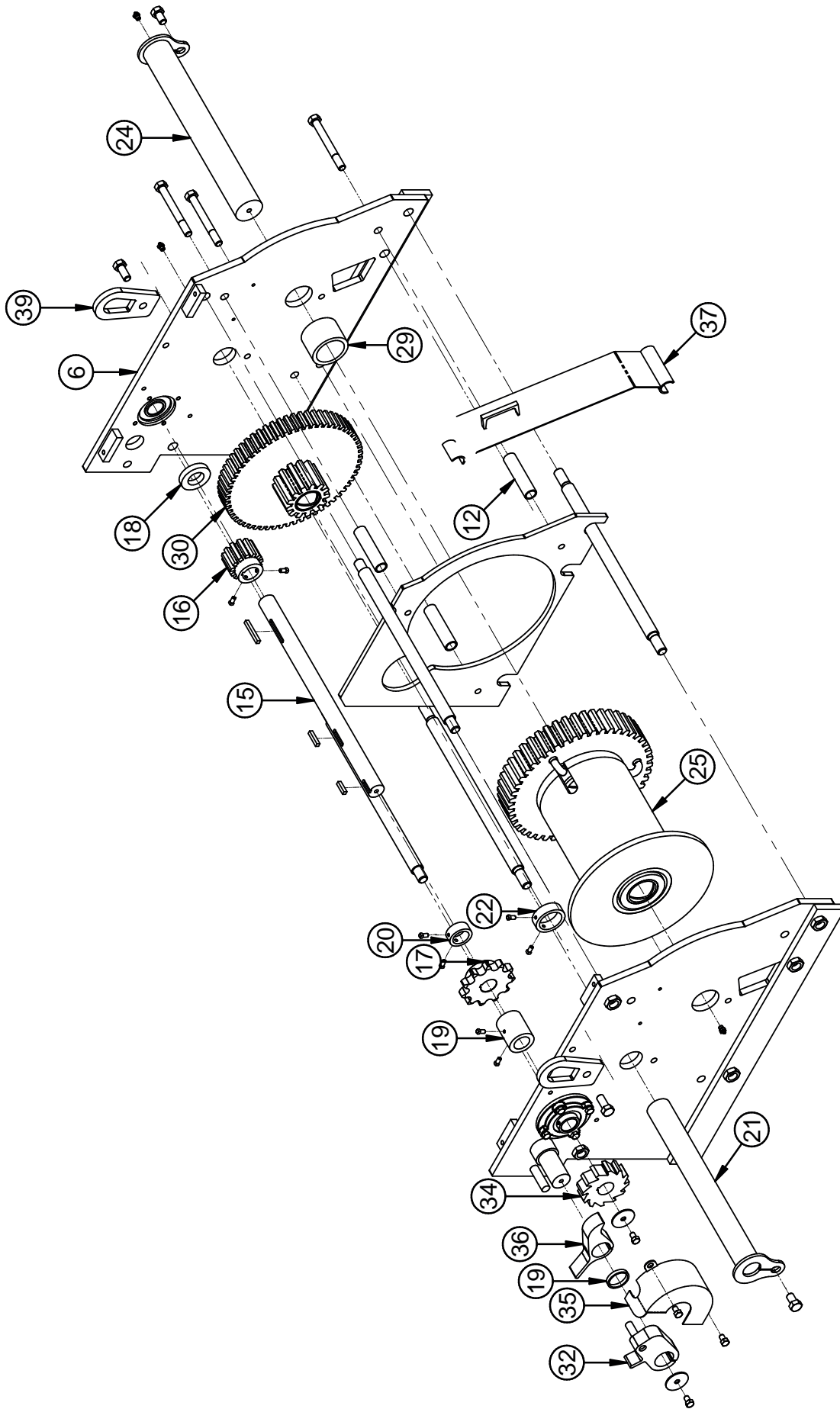
APPLIES TO 20 – 75 TON ELECTRIC WINCH MODELS

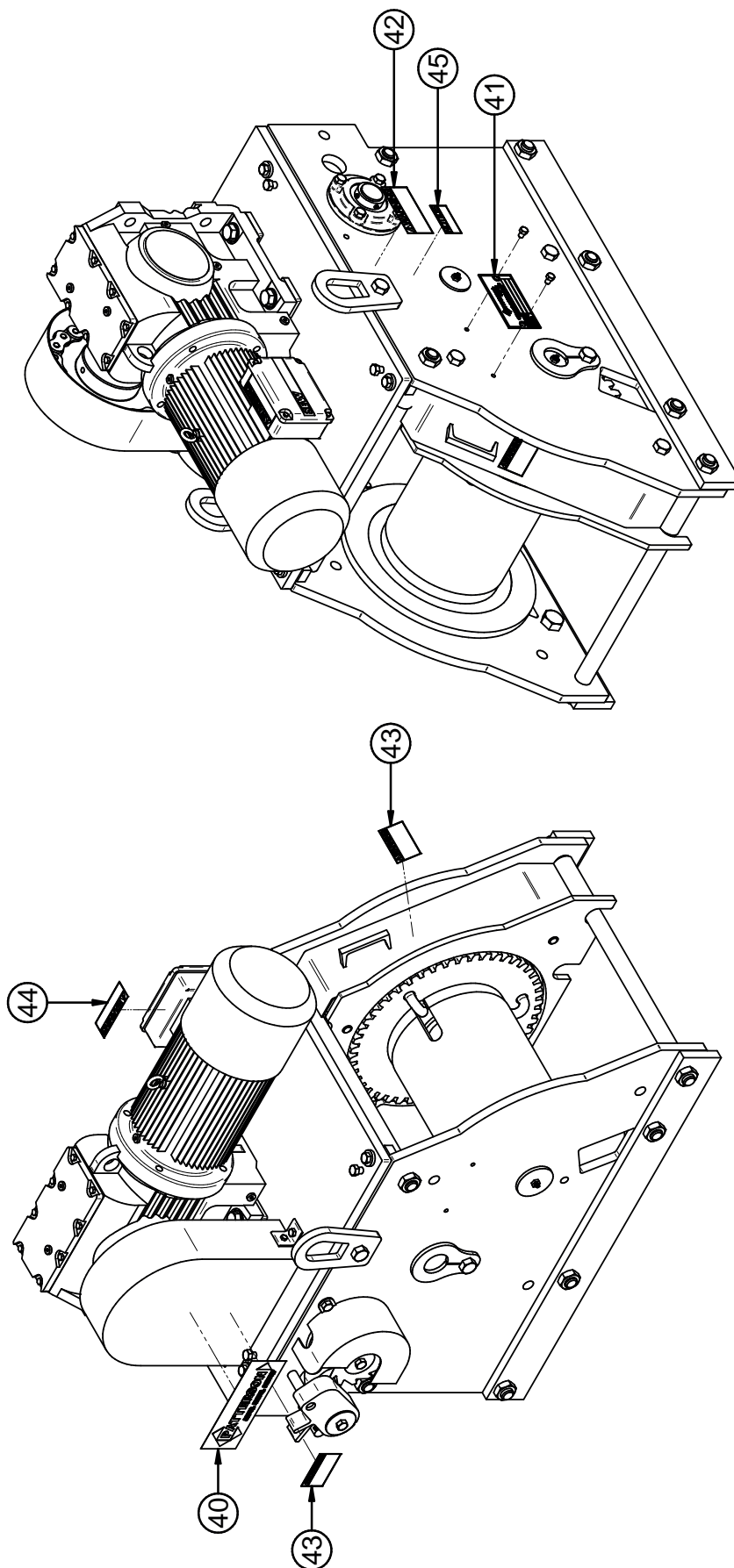






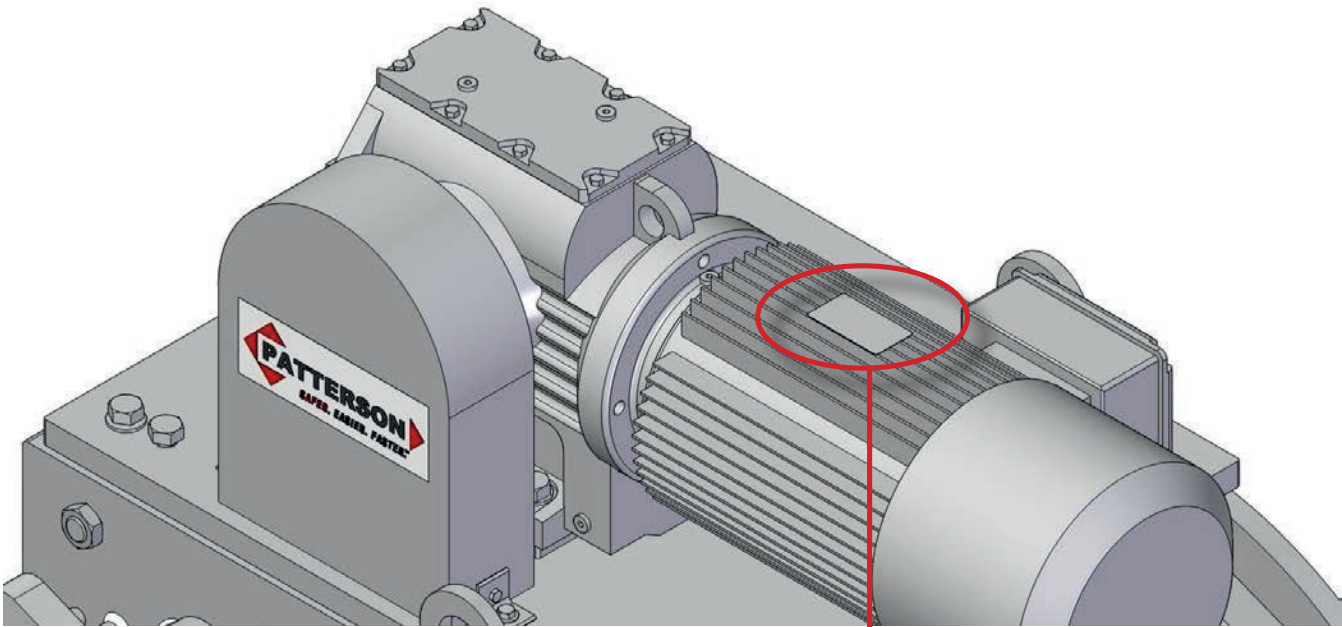






ELECTRIC WINCH					ITEM						
					1	2	3	4	5		
					GEAR MOTOR	SPROCKET	CHAIN	TOP PLATE	SPROCKET GUARD		
TONNAGE	HORSEPOWER	VOLTAGE	PART NUMBER	MODEL NUMBER	PART NUMBER						
20E	3.0	208	A0000490	WWP20E-3.0-6-208-P-L	B110011	6230	A0000475	P0000391	1190-A		
			A0000491	WWP20E-3.0-6-208-P-R	B120011						
		230/460	A0000492	WWP20E-3.0-6-230/460-P-L	B110012						
			A0000493	WWP20E-3.0-6-230/460-P-R	B120012						
		208	A0000494	WWP20E-3.0-6-208-G-L	B110011	P0000474		P0000392	P0000470		
			A0000495	WWP20E-3.0-6-208-G-R	B120011						
		230/460	A0000496	WWP20E-3.0-6-230/460-G-L	B110012						
			A0000497	WWP20E-3.0-6-230/460-G-R	B120012						
		30E	208	A0000454	WWP30E-3.0-10-208-P-L	B110011	6233-A	A0000472	P0000395	1190-A	
				A0000455	WWP30E-3.0-10-208-P-R	B120011					
230/460			A0000456	WWP30E-3.0-10-230/460-P-L	B110012						
			A0000457	WWP30E-3.0-10-230/460-P-R	B120012						
208			A0000458	WWP30E-3.0-10-208-G-L	B110011	P0000471	P0000396		P0000470		
			A0000459	WWP30E-3.0-10-208-G-R	B120011						
230/460			A0000460	WWP30E-3.0-10-230/460-G-L	B110012						
			A0000461	WWP30E-3.0-10-230/460-G-R	B120012						
	5.0		208	A0000462	WWP30E-5.0-10-208-P-L	B110013	6320	A0000475	P0000395	1190-A	
				A0000463	WWP30E-5.0-10-208-P-R	B120013					
		230/460	A0000464	WWP30E-5.0-10-230/460-P-L	B110014						
			A0000465	WWP30E-5.0-10-230/460-P-R	B120014						
		208	A0000466	WWP30E-5.0-10-208-G-L	B110013	P0000474	P0000396		P0000470		
			A0000467	WWP30E-5.0-10-208-G-R	B120013						
		230/460	A0000468	WWP30E-5.0-10-230/460-G-L	B110014						
			A0000469	WWP30E-5.0-10-230/460-G-R	B120014						
			40E	208	A0000499	WWP40E-5.0-14-208-P-L	B110013	6056	A0000346	P0000287	P0000348
					A0000500	WWP40E-5.0-14-208-P-R	B120013				
230/460				A0000501	WWP40E-5.0-14-230/460-P-L	B110014					
				A0000502	WWP40E-5.0-14-230/460-P-R	B120014					
208				A0000503	WWP40E-5.0-14-208-G-L	B110013	6056-G	P0000288		P0000349	
				A0000504	WWP40E-5.0-14-208-G-R	B120013					
230/460				A0000505	WWP40E-5.0-14-230/460-G-L	B110014					
				A0000506	WWP40E-5.0-14-230/460-G-R	B120014					
	7.5			208	A0000298	WWP40E-7.5-14-208-P-L	B110009	P0000295	A0000297	P0000287	1189-C
					A0000299	WWP40E-7.5-14-208-P-R	B120009				
		230/460		A0000302	WWP40E-7.5-14-230/460-P-L	B110010					
				A0000303	WWP40E-7.5-14-230/460-P-R	B120010					
		208		A0000256	WWP40E-7.5-14-208-G-L	B110009	P0000304	P0000288		P0000296	
				A0000257	WWP40E-7.5-14-208-G-R	B120009					
		230/460		A0000300	WWP40E-7.5-14-230/460-G-L	B110010					
				A0000301	WWP40E-7.5-14-230/460-G-R	B120010					
			65E	208	A0000404	WWP65E-7.5-14-208-P-L	B110009	5329-B	6014-A	P0000336	1189-C
					A0000405	WWP65E-7.5-14-208-P-R	B120009				
230/460				A0000406	WWP65E-7.5-14-230/460-P-L	B110010					
				A0000407	WWP65E-7.5-14-230/460-P-R	B120010					
208				A0000332	WWP65E-7.5-14-208-G-L	B110009	P0000435	P0000337		P0000296	
				A0000333	WWP65E-7.5-14-208-G-R	B120009					
230/460				A0000408	WWP65E-7.5-14-230/460-G-L	B110010					
				A0000409	WWP65E-7.5-14-230/460-G-R	B120010					
	12.5			208	A0000410	WWP65E-12.5-14-208-P-L	B110015	5329-B	P0000435	P0000336	1189-C
					A0000411	WWP65E-12.5-14-208-P-R	B120015				
		230/460		A0000412	WWP65E-12.5-14-230/460-P-L	B110016					
				A0000413	WWP65E-12.5-14-230/460-P-R	B120016					
		208		A0000414	WWP65E-12.5-14-208-G-L	B110015	P0000435	P0000337		P0000296	
				A0000415	WWP65E-12.5-14-208-G-R	B120015					
		230/460		A0000416	WWP65E-12.5-14-230/460-G-L	B110016					
				A0000417	WWP65E-12.5-14-230/460-G-R	B120016					
		75E		208	A0001165	WWP75E-12.5-10 208-P-L	B110015	P0001175	A0001177	P0001173	1189-C
					A0001166	WWP75E-12.5-10 208-P-R	B120015				
400				A0001178	WWP75E-12.5-14 400V P RH	B120041	P0001199	P0001200	P0001197		
				A0001179	WWP75E-12.5-14 400V P LH	B110041					
				A0001180	WWP75E-12.5-18 400V P RH	B120041			P0001195		
				A0001181	WWP75E-12.5-18 400V P LH	B110041					

Contact Patterson Manufacturing for information on SEW-Eurodrive gearmotors and replacement parts. Refer to the S.O. tag number, located on top of the motor housing; an illustration of the tag location can be found below. This number will provide specific information about the individual gearmotor used on each Patterson electric winch. The S.O. number can also be entered into the SEW SO Info app, for all motor information and specifications. The app is available for iPhone and iPad at the App Store.



SEW-EURODRIVE INC

S.O. XXXXXXXXXXXXXX

Type XXXXXXXXXXXXXXXXXXXX/XX/XX

X Phase XXXXXXXX

XX Hz rpm XXXX/XX
 HP X.X
 Ins. Cl. X

XXXXX/XXXX
 XX.XX/X.X
 Duty XXXX DESIGN X
Starting torque

S.F. X.XX
 eff% XX.X
 AMB XX °C

Ratio XX.XX lb-in XXXX
 Mtg Pos MXX Rating X.XX
 Lube XXXXXXXXXXXXX

Brake: Voltage XXXXX
 Torque XXX
 XXXX.X XXXX

AMB X...XX °C

XXXXXXXX.XX

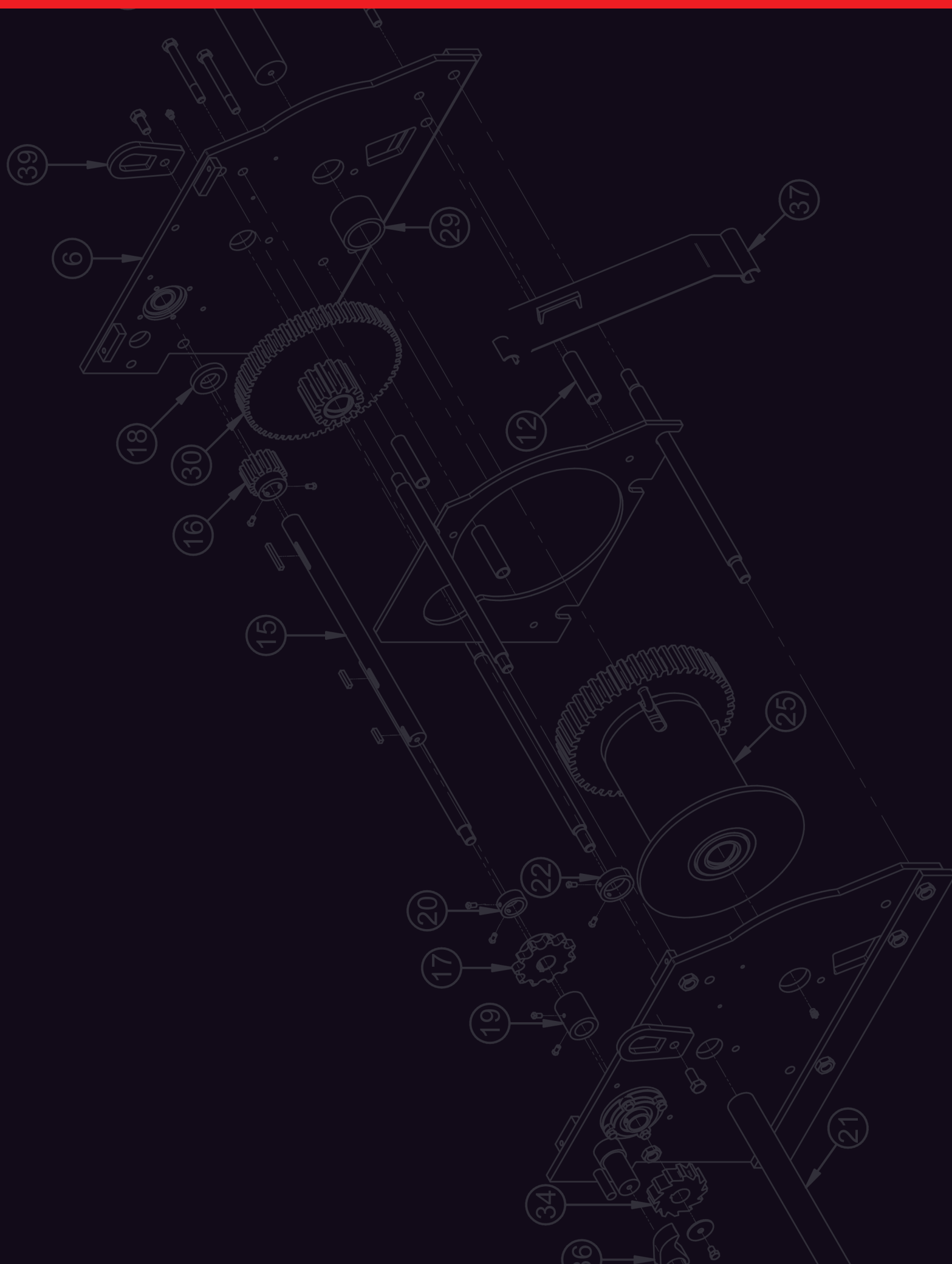
20 TON ELECTRIC WINCH						
ITEM	COMPONENTS	QTY	FINISH			
			PAINT		GALVANIZED	
			HAND			
			L	R	L	R
6	WINCH - LESS MOTOR	1	A0000486	A0000487	A0000488	A0000489
7	FOOTMOUNT	2	6104			
8	TIE ROD	4	5231			
9		3	5232			
10	SEPARATOR	7	5233			
11	GEAR GUARD	1	6103			
12	GEAR GUARD SEPARATOR	3	5209			
13	-----N/A-----					
14	SHAFT BEARING	2	1690			
15	NO 1 SHAFT	1	6114-NC		6114-G	
16	NO 1 SHAFT PINION GEAR	1	5211			
17	NO 1 SHAFT SPROCKET	1	6112-NC			
18	NO 1 SHAFT PINION GEAR SPACER	1	6117-A			
19	NO 1 SHAFT SPROCKET SIDE SPACER	1	5247-A			
20	NO 1 SHAFT SPROCKET RETAINER	1	5247-B		5247-G	
21	NO 2 SHAFT	1	5222		5222-G	
22	NO 2 SHAFT, COMBO GEAR SPACER	1	5226			
23	NO 2 SHAFT, COMBO GEAR RETAINER	1	5227			
24	NO 3 SHAFT	1	5224		5224-G	
25	ROPE DRUM	1	5243			
26	ROPE DRUM BUSHING	2	1073			
27	ROPE DRUM U-BOLT	1	1079			
28	ROPE DRUM HEX NUT	2	1480			
29	ROPE DRUM SPACER	1	5217			
30	COMBO GEAR	1	5248			
31	COMBO GEAR BUSHING	2	1473			
32	COUNTERWEIGHT	1	6045-LH	6045-RH	6045-LH	6045-RH
33	PAWL & COUNTERWEIGHT SPACER	1	5009			
34	RATCHET GEAR	1	6127			
35	ENCLOSED DOG GUARD	1	1051-A-LH	1051-A-RH	1051-A-LH	1051-A-RH
36	LOCKING PAWL	1	6047			
37	FRONT GEAR SHROUD	1	6256			
38	-----N/A-----					
39	LIFTING EYE	2	6108			
40	SIDE PLATE LOGO LABEL	1	C000858			
41	ELECTRIC WINCH NAME TAG	1	1376			
42	LABEL, WARNING, OPERATIONS MANUAL	1	LABEL017			
43	LABEL, WARNING, MOVING PARTS	2	LABEL018			
44	LABEL, WARNING, ELECTRIC SHOCK HAZARD	1	LABEL019			
45	LABEL, NOTICE, MOTOR STALL	1	LABEL020			

30 TON ELECTRIC WINCH						
ITEM	COMPONENTS	QTY	FINISH			
			PAINT		GALVANIZED	
			HAND			
			L	R	L	R
6	WINCH - LESS MOTOR	1	A0000450	A0000451	A0000452	A0000453
7	FOOTMOUNT	2	6104			
8	TIE ROD, 20-1/4 LG	4	6225			
9		3	6226			
10	SEPARATOR	7	6227			
11	GEAR GUARD	1	6103			
12	GEAR GUARD SEPARATOR	3	6212			
13	-----N/A-----					
14	SHAFT BEARING	2	1690			
15	NO 1 SHAFT	1	6218-NC		6218-G	
16	NO 1 SHAFT PINION GEAR	1	6209			
17	NO 1 SHAFT SPROCKET	1	6112-NC			
18	NO 1 SHAFT PINION GEAR/SPROCKET SPACER	2	6117-B			
19	-----N/A-----					
20	NO 1 SHAFT SPROCKET RETAINER	1	5247-B		5247-G	
21	NO 2 SHAFT	1	6219-B		6219-G	
22	NO 2 SHAFT, COMBO GEAR SPACER	1	6223-B			
23	NO 2 SHAFT, COMBO GEAR RETAINER	1	5227-B		5227-G	
24	NO 3 SHAFT	1	6222-B		6222-G	
25	ROPE DRUM	1	6198-B			
26	ROPE DRUM BUSHING	2	1695			
27	ROPE DRUM U-BOLT	1	1082			
28	ROPE DRUM HEX NUT	2	1635		1713-SS	
29	ROPE DRUM SPACER	1	6213-B			
30	COMBO GEAR	1	6197-B			
31	COMBO GEAR BUSHING	2	1694			
32	COUNTERWEIGHT	1	6045-LH	6045-RH	6045-LH	6045-RH
33	PAWL & COUNTERWEIGHT SPACER	1	5009			
34	RATCHET GEAR	1	6127			
35	ENCLOSED DOG GUARD	1	1051-A-LH	1051-A-RH	1051-A-LH	1051-A-RH
36	LOCKING PAWL	1	6047			
37	FRONT GEAR SHROUD	1	6211			
38	-----N/A-----					
39	LIFTING EYE	2	6108			
40	SIDE PLATE LOGO LABEL	1	C000858			
41	ELECTRIC WINCH NAME TAG	1	1376			
42	LABEL, WARNING, OPERATIONS MANUAL	1	LABEL017			
43	LABEL, WARNING, MOVING PARTS	2	LABEL018			
44	LABEL, WARNING, ELECTRIC SHOCK HAZARD	1	LABEL019			
45	LABEL, NOTICE, MOTOR STALL	1	LABEL020			

40 TON ELECTRIC WINCH						
ITEM	COMPONENTS	QTY	FINISH			
			PAINT		GALVANIZED	
			HAND			
			L	R	L	R
6	WINCH - LESS MOTOR	1	A0000291	A0000292	A0000293	A0000294
7	FOOTMOUNT	2	6003			
8	TIE ROD	4	6040			
9		2	6041			
10	SEPARATOR	6	6042			
11	GEAR GUARD	1	6010			
12	GEAR GUARD SEPARATOR	3	5073			
13	-----N/A-----					
14	SHAFT BEARING	2	1078			
15	NO 1 SHAFT	1	6015-NC		6015-NC SS	
16	NO 1 SHAFT PINION GEAR	1	5063			
17	NO 1 SHAFT SPROCKET	1	6030-NC			
18	NO 1 SHAFT PINION GEAR SPACER	1	6035			
19	NO 1 SHAFT SPROCKET SPACER	1	6034		6034-G	
20	NO 1 SHAFT SPROCKET RETAINER	1	5227			
21	NO 2 SHAFT	1	6017		6017-SS	
22	-----N/A-----					
23	NO 2 SHAFT, COMBO GEAR RETAINER	1	5121			
24	NO 3 SHAFT	1	6019		6019-SS	
25	ROPE DRUM	1	6048			
26	ROPE DRUM BUSHING	2	1076			
27	ROPE DRUM U-BOLT	2	1080			
28	ROPE DRUM U-BOLT HEX NUT	4	1555			
29	ROPE DRUM SPACER	1	5111			
30	COMBO GEAR	1	5156			
31	COMBO GEAR BUSHING	2	1075			
32	COUNTERWEIGHT	1	6045-LH	6045-RH	6045-LH	6045-RH
33	PAWL & COUNTERWEIGHT SPACER	1	5009			
34	RATCHET GEAR	1	6046			
35	ENCLOSED DOG GUARD	1	1051-A-LH	1051-A-RH	1051-A-LH	1051-A-RH
36	LOCKING PAWL	1	6047			
37	FRONT GEAR SHROUD	1	6031			
38	-----N/A-----					
39	LIFTING EYE	2	6008			
40	SIDE PLATE LOGO LABEL	1	C000858			
41	ELECTRIC WINCH NAME TAG	1	1376			
42	LABEL, WARNING, OPERATIONS MANUAL	1	LABEL017			
43	LABEL, WARNING, MOVING PARTS	2	LABEL018			
44	LABEL, WARNING, ELECTRIC SHOCK HAZARD	1	LABEL019			
45	LABEL, NOTICE, MOTOR STALL	1	LABEL020			

65 TON ELECTRIC WINCH						
ITEM	COMPONENTS	QTY	FINISH			
			PAINT		GALVANIZED	
			HAND			
			L	R	L	R
6	WINCH - LESS MOTOR	1	A0000400	A0000401	A0000402	A0000403
7	FOOTMOUNT	2	5256			
8	TIE ROD	4	5316			
9	-----N/A-----					
10	SEPARATOR	4	5318			
11	GEAR GUARD	1	P0000973			
12	GEAR GUARD SEPARATOR	3	5073			
13	-----N/A-----					
14	SHAFT BEARING	2	1691			
15	NO 1 SHAFT	1	5325-NC		5325-SS	
16	NO 1 SHAFT PINION GEAR	1	5259			
17	NO 1 SHAFT SPROCKET	1	5257-NC			
18	NO 1 SHAFT PINION GEAR SPACER	1	5336-A			
19	NO 1 SHAFT PINION GEAR RETAINER	1	5344-A			
20	NO 1 SHAFT SPROCKET RETAINER	1	5266			
21	NO 2 SHAFT	1	5326-B		5326-SS	
22	-----N/A-----					
23	NO 2 SHAFT, COMBO GEAR RETAINER	1	5121-A			
24	NO 3 SHAFT	1	5312		5312-SS	
25	ROPE DRUM	1	5323			
26	ROPE DRUM BUSHING	2	1077			
27	ROPE DRUM U-BOLT	2	1081			
28	ROPE DRUM U-BOLT HEX BOLT	4	1033			
29	ROPE DRUM SPACER	1	5306			
30	COMBO GEAR	1	5156-B			
31	COMBO GEAR BUSHING	2	1696			
32	COUNTERWEIGHT	1	6045-RH	6045-RH	6045-LH	6045-RH
33	PAWL & COUNTERWEIGHT SPACER	1	5009			
34	RATCHET GEAR	1	6046-A			
35	ENCLOSED DOG GUARD	1	1051-A-LH	1051-A-RH	1051-A-LH	1051-A-RH
36	LOCKING PAWL	1	6047			
37	FRONT GEAR SHROUD	1	A0000976			
38	-----N/A-----					
39	LIFTING EYE	2	6008			
40	SIDE PLATE LOGO LABEL	1	C000858			
41	ELECTRIC WINCH NAME TAG	1	1376			
42	LABEL, WARNING, OPERATIONS MANUAL	1	LABEL017			
43	LABEL, WARNING, MOVING PARTS	2	LABEL018			
44	LABEL, WARNING, ELECTRIC SHOCK HAZARD	1	LABEL019			
45	LABEL, NOTICE, MOTOR STALL	1	LABEL020			

75 TON ELECTRIC WINCH								
ITEM	COMPONENTS	QTY	FINISH					
			PAINT				GALVANIZED	
			HAND					
			L	R	L	R	L	R
6	WINCH - LESS MOTOR	1	A0001169	A0001170	P0001192	P0001191	P0001185	P0001184
7	FOOTMOUNT	2	6328					
8	TIE ROD	3	5125		5125-14		5125-18	
9		3	6357		6357-14		6357-18	
10	SEPARATOR	6	6325		6325-14		6325-18	
11	GEAR GUARD	1	6304-A					
12	GEAR GUARD SEPARATOR	4	5073-C					
13	GEAR GUARD SEPARATOR BOLT	4	5073-D					
14	SHAFT BEARING	2	1731					
15	NO 1 SHAFT	1	6316		6316-14		6316-18	
16	NO 1 SHAFT PINION GEAR	1	6307					
17	NO 1 SHAFT SPROCKET	1	6315-NC					
18	NO 1 SHAFT PINION GEAR SPACER	1	6338					
19	NO 1 SHAFT SPROCKET SIDE SPACER	1	6336					
20	NO 1 SHAFT SPROCKET RETAINER	1	6337					
21	NO 2 SHAFT	1	6317		6317-14		6317-18	
22	-----N/A-----							
23	NO 2 SHAFT, COMBO GEAR RETAINER	1	6333					
24	NO 3 SHAFT	1	6318		6318-14		6318-18	
25	ROPE DRUM	1	6326		6326-14		6326-18	
27	ROPE DRUM BUSHING	2	1736					
28	ROPE DRUM U-BOLT	2	1545					
29	ROPE DRUM U-BOLT HEX NUT	4	1555					
26	ROPE DRUM SPACER	1	6309					
30	COMBO GEAR	1	6377					
31	COMBO GEAR BUSHING	2			1735			
32	COUNTERWEIGHT	1	6335-LH	6335-RH	6335-LH	6335-RH	6335-LH	6335-RH
33	PAWL & COUNTERWEIGHT SPACER	1	5009					
34	RATCHET GEAR	1	6331					
35	ENCLOSED DOG GUARD	1	1051-A-LH	1051-A-RH	1051-A-LH	1051-A-RH	1051-A-LH	1051-A-RH
36	LOCKING PAWL	1	6330					
37	FRONT GEAR SHROUD	1	6320					
38	REAR GEAR SHROUD	1	6320-A					
39	LIFTING EYE	2	6008					
40	SIDE PLATE LOGO LABEL	1	C000858					
41	ELECTRIC WINCH NAME TAG	1	1376					
42	LABEL, WARNING, OPERATIONS MANUAL	1	LABEL017					
43	LABEL, WARNING, MOVING PARTS	2	LABEL018					
44	LABEL, WARNING, ELECTRIC SHOCK HAZARD	1	LABEL019					
45	LABEL, NOTICE, MOTOR STALL	1	LABEL020					





ELECTRIC WINCH OPERATIONS MANUAL

5/13/2015 REV1



FOR MORE THAN 150 YEARS, PATTERSON HAS BEEN DEDICATED TO CREATING GEAR THAT'S SAFER, EASIER, AND FASTER. WE *ARE* THE FUTURE OF BARGE HANDLING EQUIPMENT, AND WE'D LIKE TO SHOW YOU WHY.

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