

OPERATORS' GUIDE



REL-CH-1000
1,000 lb. Electric Capstan

WARNING



All information found in this guide must be read and understood before use or testing of this tool.

Failure to read and understand these warnings and safe handling instructions could result in severe personal injury and or death.



**THIS TOOL IS NOT INTENDED
FOR PERSONNEL LIFTING**

WARNING

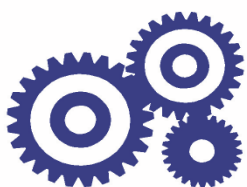
Failure to observe this notice may result in severe injury or death.



REL-C-FS-1
FOOT SWITCH



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& SERVICE CO., INC.**

CH1000 Manual 01-15

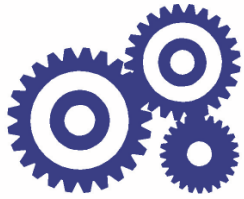


RELIABLE EQUIPMENT & SERVICE CO., INC.



REL-CH-1000
REL-C-FS-1
REL-CH-1000BX
R-CH-BRACKET

Capstan
Foot Switch
Steel Box (Opt'l)
Univ. Bracket (Opt'l)



RELIABLE EQUIPMENT & SERVICE CO., INC.



REL-CH-1000

1,000 LB. ELECTRIC CAPSTAN

These versatile 1,000 lb. capstans are the perfect partner for overhead and underground lifting and pulling applications.

The **REL-CH-1000** is small and lightweight, making them perfect for use in remote and limited access areas.

FEATURES:

- 1,000 lb. capacity
- Lightweight (only 35 lbs.)
- Power Source: 115 Volt AC (Int, Duty)
- Remote Foot Control Switch included
- 40 ft./min. Rope Speed @ 1,000 lb. load
- Steel capstan drum with larger radius at load-line wrap and zinc-plated rope surface.



REL-C-FS-1
FOOT SWITCH

SIMPLIFY HEAVY TASKS

Raising Transformers
Hoisting Heavy Insulators
Stringing and Tensioning
Setting Utility Poles
Pulling Underground Cable

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THIS SYMBOL INDICATES ITEMS OF EXTREME IMPORTANCE.

Safety of user and others may be in jeopardy if these instructions are not read and understood.



CAUTION

The information in this manual is intended to guide the user in the use and application of this tool. It is not intended as a substitute for proper training and experience in safe work practices for this type of equipment.

Consult your supervisor or safety personnel if you have any questions regarding the safe operation of this tool.

REGISTRATION

UPON RECEIPT OF THIS TOOL, COMPLETE THE REGISTRATION BELOW.

COMPANY _____

ADDRESS _____

PHONE _____ **FAX** _____

SERIAL NUMBER _____

DATE OF PURCHASE _____

DEALER NAME _____



WARNING

BEFORE USING THIS TOOL, READ THE WARNINGS and the recommended practices described in this manual. Failure by the operator to read and fully understand these warnings will leave this person unqualified to use and operate this tool. Property damage, severe personal injury, and/or death could result by not following these warnings.

These warnings will appear in appropriate locations when they are pertinent to the particular subject being shown. Read each one carefully and follow them strictly.



Eye Protection

WARNING

Always wear eye protection to avoid injury from flying debris or hydraulic oil leaks. Failure to do so can result in serious personal injury.



Dust Mask

WARNING

Always wear a dust mask. Failure to observe this warning may result in serious health issues and/or breathing difficulty.



Hard Hat

WARNING

Always wear a hard hat to avoid injury from falling debris. Failure to do so can result in serious personal injury.



Foot Protection

WARNING

Always wear foot protection. Failure to do so can result in serious personal injury.



Hearing Protection

WARNING

Always wear hearing protection, to avoid hearing loss due to long term exposure to high noise levels.



Protective Gloves

WARNING

Always wear protective gloves. Failure to do so can result in serious personal injury.



WARNING

Safe Operation & Care

USE THIS TOOL FOR ITS INTENDED PURPOSE ONLY
Any other use can result in injury or property damage.
INSPECT TOOL BEFORE USE. Replace any worn, damaged or missing parts. A damaged or improperly assembled tool may malfunction, injuring operator and/or nearby personnel.
KEEP ALL PARTS OF THE BODY AWAY FROM MOVING PARTS.
Failure to observe this warning could result in serious injury.



WARNING

Safety

DO NOT attempt to make any changes to any of the component parts or accessories when connected to the power source.
DO NOT adjust, inspect, or clean tool while the tool is connected to the power source. The tool could accidentally start up and cause serious injury.
DO NOT lock the tool in the On Position. In an emergency, serious damage or injury could occur during the time required to stop the tool.



WARNING

Electrical Shock Hazard

Always wear and use the necessary clothing, equipment and safety practices to protect against electrical shock. Failure to follow these rules can result in serious personal injury or death.



CAUTION

General Safety

Ensure that all fellow employees and bystanders are clear and protected from possible injury caused by this tool or the operations being performed. Persons in close proximity could be injured and property damaged if the tool were to malfunction. This tool should always be used within the limits and purposes stated by the product manufacturer. Abuse or usage beyond the manufacturers' intended purposes could cause damage to the tool and severe injury to the operator.

TOOL SPECIFICATIONS

Length..... 20 in.
Width..... 6.5 in.
Weight (Hoist Only) 35 lb.
Rated Capacity 1,000 lb.
Power Source Electric - 115V, 60 Cyc., 20 A
Max. Rope Diameter 3/4 in.
This is the largest diameter that can be conveniently wrapped around the drum.



WARNING

Operation/Safety methods may vary in accordance with the working guidelines established by each utility or contractor.

For your own safety, ensure that you fully comply with all safe operation guidelines required by your employer.



OPERATIONAL SAFETY



USE ALL APPROPRIATE AND APPLICABLE PERSONAL SAFETY EQUIPMENT as required by the operating company.

ALWAYS INSPECT capstan for wear or deterioration every day. Replace all parts that show signs of wear or damage.

KEEP ALL PARTS OF THE BODY AWAY from moving parts of the tool when connected to the power source.

MAKE SURE there is no person in close proximity to you or the tool who could be injured by any operation being performed with the tool.

DO NOT overextend your position by overreaching or unbalancing the footing necessary to maintain physical control of your body.

ALWAYS MAINTAIN a firm grip on the rope to avoid having the rope slip out of the hands during an operation, causing property damage, serious injury or death.

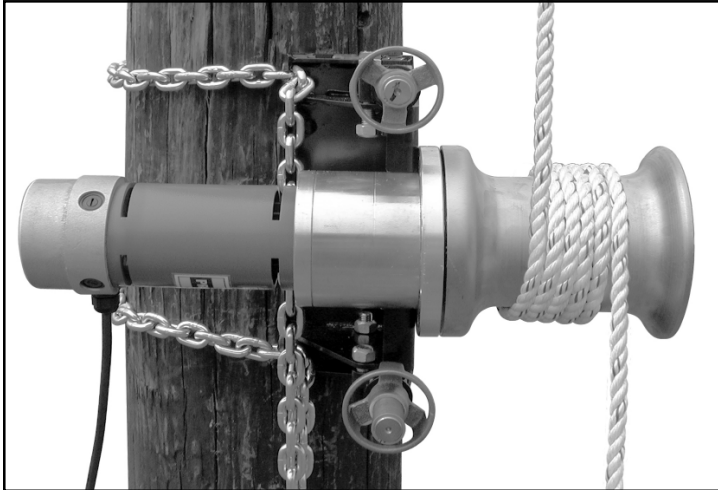
USE THIS TOOL FOR THE MANUFACTURERS' INTENDED PURPOSE ONLY.

OBSERVE CLOSELY ALL SAFETY RULES FOR A PARTICULAR JOB CLASS

**FAILURE TO HEED THESE WARNINGS COULD RESULT IN
PROPERTY DAMAGE, SERIOUS PERSONAL INJURY OR DEATH.**

OPERATING INSTRUCTIONS

THE PURCHASER/OWNER of this unit must be certain that all the users of this unit are properly trained in it's use and in compliance with all appropriate industrial codes and/or practices.



This lightweight one-piece unit provides maximum power with a minimum effort.

Simple set-up and rigging allow this hoist to perform a variety of complex tasks. Setting poles, raising transformers, pulling underground cable, or stringing and tensioning of overhead line are only a few applications possible with this workhorse.



REL-C-FS-1

The hoist is provided with a water resistant foot switch which leaves both hands free for the capstan operation.



WARNING

DO NOT OPERATE CAPSTAN HOIST WITHOUT CONTROL FOOT SWITCH

Loss of control can result in damage, severe injury or death could result.

NOTE: Read all of the information following these simple instructions. These guides will aid you with the practical use of your capstan.

1. Mount capstan on truck, pole, or other suitable base.
Use only approved mounting hardware for desired application.
2. Connect power cord from capstan to receptacle end of foot switch cord.
3. Connect power cord from foot switch to 115 volt AC power supply.
4. Test operation of capstan using foot control prior to connecting load.
5. Begin lifting, lowering, or pulling application, following all company and industry safe load handling guidelines established for the required job.



CAUTION

Under extreme loading, when operating an electric hoist from a limited power source such as a truck driven generator, the hoist motor may stall before reaching maximum capability. The hoist should not be operated under these conditions to avoid damage to the motor.



DANGER

This unit is not intended for personnel lifting.

Overhead loads can fall.

Do not allow anyone to stand under or near load.

Maintain operator control at all times.

Keep rope securely on capstan drum.

Do not allow the rope to overwrap itself.

Do not allow the rope to ride up over the end of the drum flange.

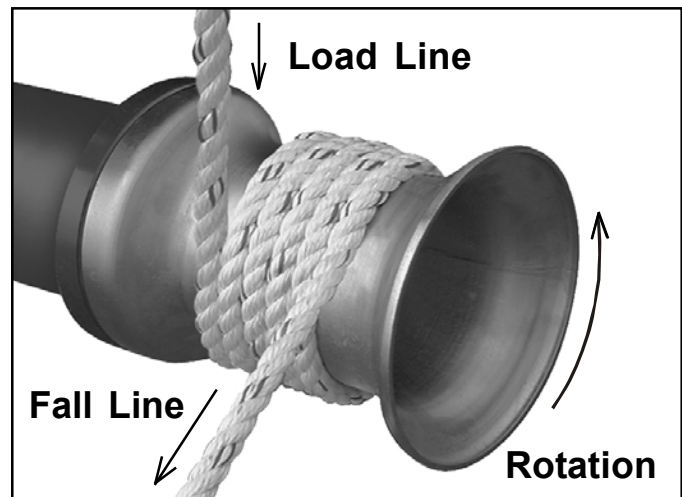
Do not remove wraps from drum while supporting a load.

Failure to observe this warning could result in serious injury.

The proper method of wrapping rope (shown right) places the load wrap on the small (inboard) end of the drum. This wrap allows the rope to feed smoothly over the drum without jumping or overwrapping while raising or lowering loads.

WARNING: Never place Load Line near large (outboard) end of drum.

NOTE: Lowering a load requires as many wraps, or more than lifting.



ROPE WRAPS - It is extremely important to use the proper number of rope turns. The number of wraps is directly related to many variables, such as type of load, tackle setup, and rope used. The most important factor is the amount of operator effort needed to keep the rope just tight enough on the drum to raise and lower the load (approx. 20 lbs. force).

Adding wraps will decrease the effort required to control the load.

WARNING: Using so many wraps that operator is not required to pull rope off of the drum could result in overwrapping, causing loss of control of the load, property damage, and/or personal injury.

Removing wraps increases effort required.

WARNING: Do not remove wraps from drum while supporting a load.



CAUTION

Continued use of polypropylene rope should be avoided.

Polypropylene rope is seriously weakened whenever use of it generates friction heat. This condition occurs due to the slipping of the rope over the capstan drum, and should be avoided. Poly-dacron rope has a higher tolerance to heat.

LOWERING A LOAD - Best results when lowering a load will be achieved with the capstan running. This will provide a smoother motion than just allowing the rope to slip over a stationary drum.

NOTE: Load will be raised slightly before being lowered. Ensure that the load is clear of obstructions or energized lines prior to starting capstan. If needed lower the load just by slipping the rope until proper clearance has been achieved.

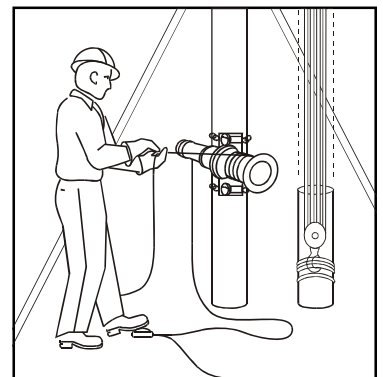
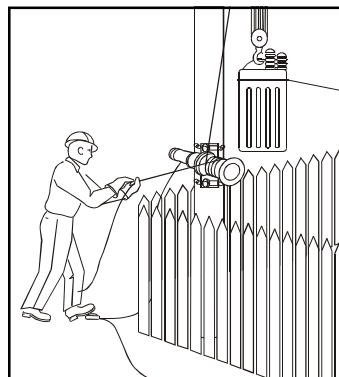
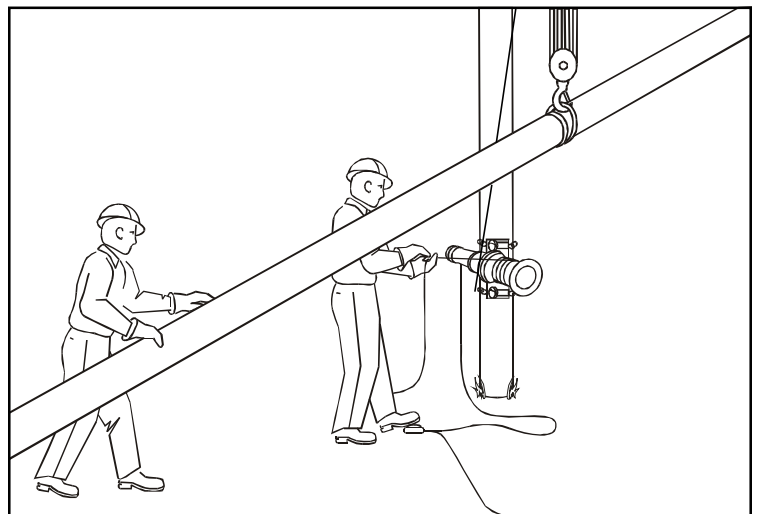
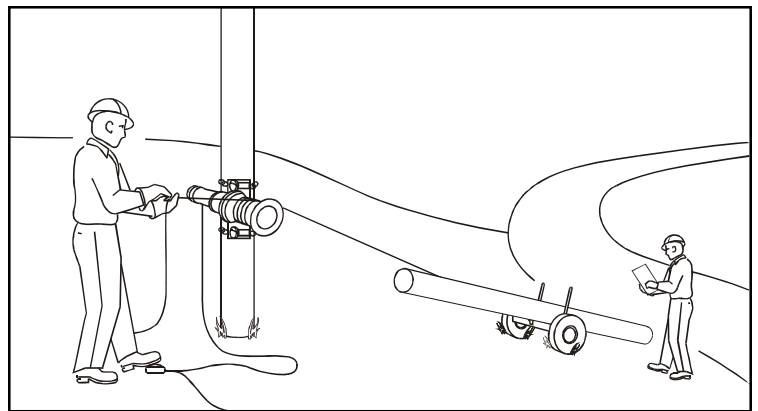
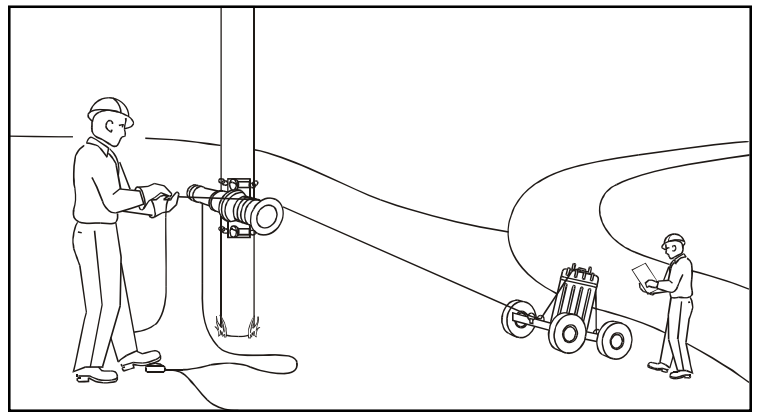
COMMON APPLICATIONS

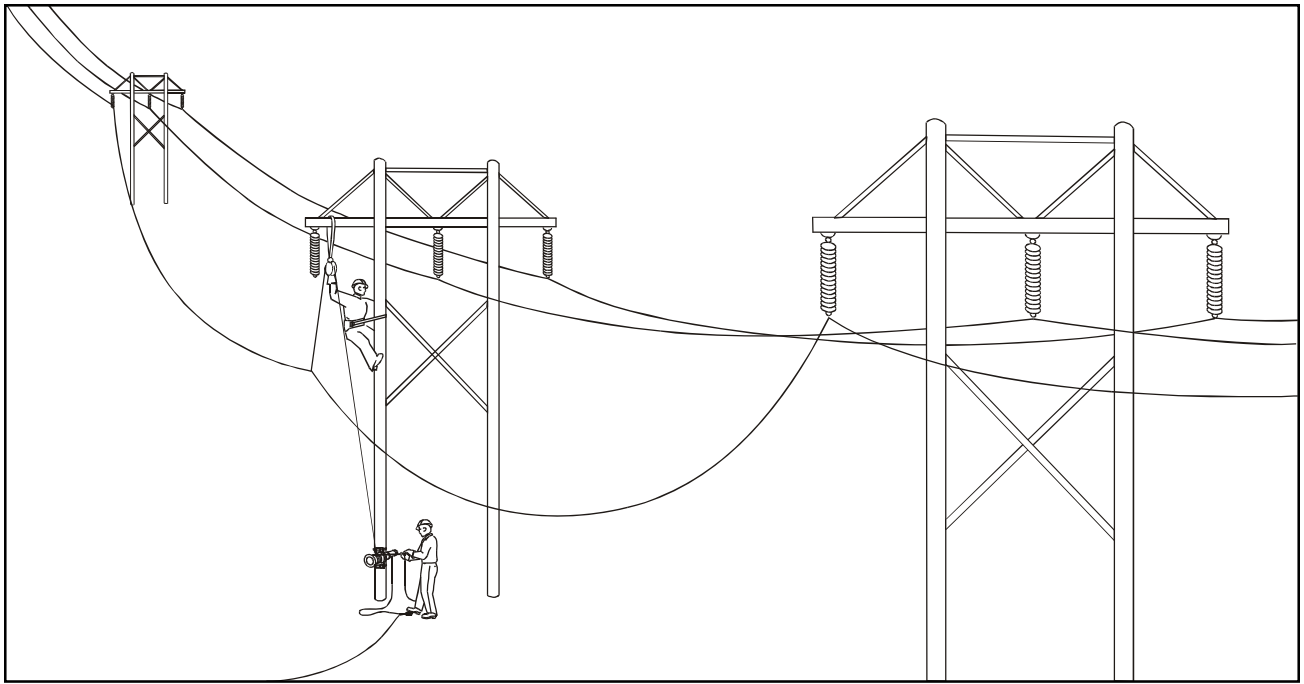
DIRECT PULLING - Transformers and poles can be pulled from the truck to rear property lines using only the capstan and a length of fall line from a set of blocks.

This offers significant advantages over moving items using a truck mounted winch. A direct pull requires less rope, eliminates the need for an additional sling and snatch block assembly, and reduces the chance of encountering obstructions within the ropes path.

RAISING AND LOWERING - Whether raising and setting a new pole, switching out a transformer in a remote location, or removing a pole stub, a portable capstan will simplify the task and allow maximum control over many troublesome applications.

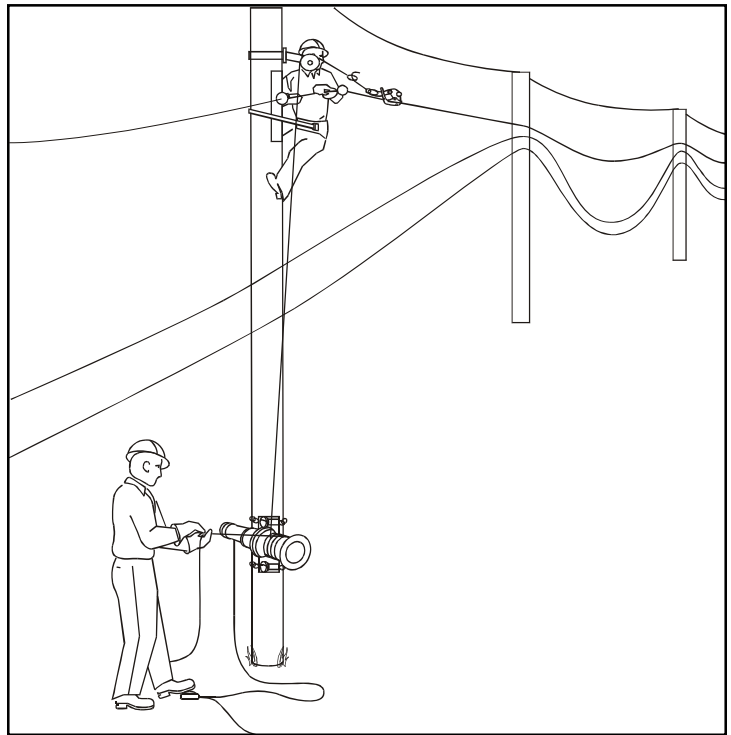
This hoist allows workers to remain in the work zone, and reduces the possibility of errors and delays due to lack of communication between the work zone and the truck.





APPLICATIONS:

SETTING POLES
LIFTING TRANSFORMERS
PULLING OVERHEAD
PULLING UNDERGROUND
SAGGING WIRE
RAISING CONDUCTOR
POLE CONSTRUCTION
TOWER MAINTENANCE
PULLING POLE STUBS
MOVING LOADS
MUCH MORE . . .



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MOUNTING CAPSTAN

Using optional **REL-1335** bracket.

POLE - Turn chain binder handle counter-clockwise to open the chain binder completely before mounting the hoist onto the pole.

Hold capstan and bracket against pole using upper portion of leg.

Extend upper chain around pole, exchanging the chain from hand to hand. DO NOT over stretch or extend to a point where balance or control of the unit may be lost.

Hook chain into upper slot on the universal bracket.

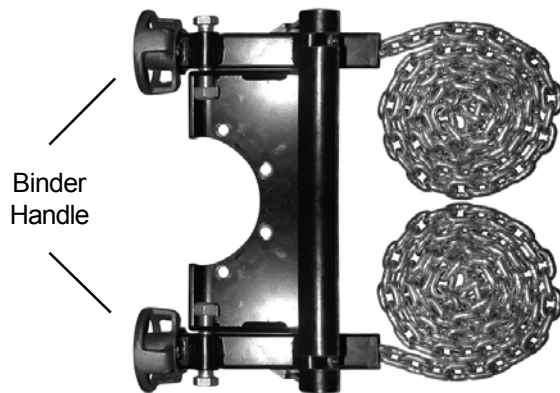


Repeat procedure with lower chain before releasing capstan. Turn the binder handle clockwise to tighten chain, until hoist is securely held in place.

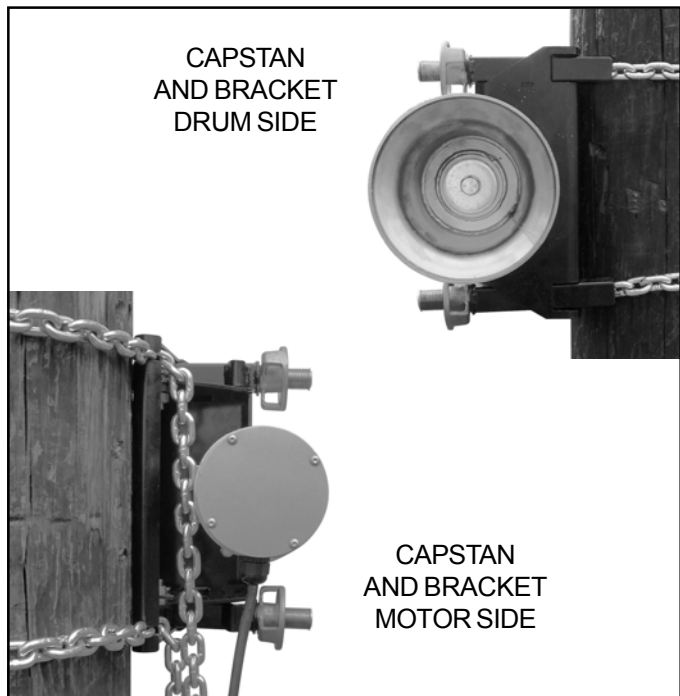
It may be necessary to re-tighten chain binder after initial loading.

TOWER OR BEAM - Align 90° angle formed by bracket base and binder with square corner of beam, and proceed as above to secure capstan on structure. Bracket base may also be bolted to tower, beam, or vehicle.

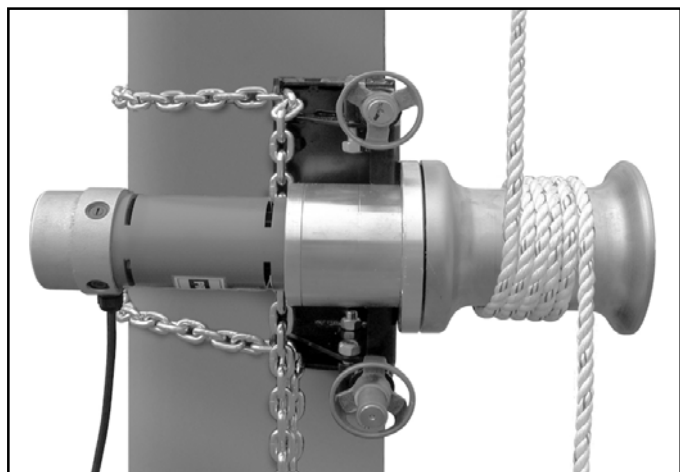
UNIVERSAL CAPSTAN BRACKET



CAPSTAN
AND BRACKET
DRUM SIDE



CAPSTAN
AND BRACKET
MOTOR SIDE



MAINTENANCE

The life, reliability, and safety of the tool is dependent on proper maintenance.

DAILY MAINTENANCE

Clean all surfaces including motor, drum, foot switch, and power cords.

Inspect tool for wear and damage.

Worn or damaged parts can cause malfunction during operation.

All the above items must be replaced with new parts if signs of wear are evident.

NOTE: Keep Label Set clean and legible. Replace decals when necessary. Part #RLCH1000



WARNING

BEFORE USING THIS PRODUCT READ THE SAFETY WARNINGS and recommended practices described in the manual. Failure by the operator to read and fully understand the warnings will leave this person unqualified to use and operate the tool.

Failure to observe all warnings and instructions could result in property damage, severe personal injury, and/or death.

CAUTION

Operation and safety methods may vary in accordance with the guidelines established by each utility. For your safety, ensure that you fully comply with all safe operation guidelines established by your respective power utility.

REL-SM

DANGER

The user should be properly trained in the correct procedures required for work on or around electrical lines.

DANGER

EXPLOSION HAZARD

DO NOT operate motor where explosive vapors or flammable materials exist. Death or serious injury will result. Check NEC and local codes before installing.

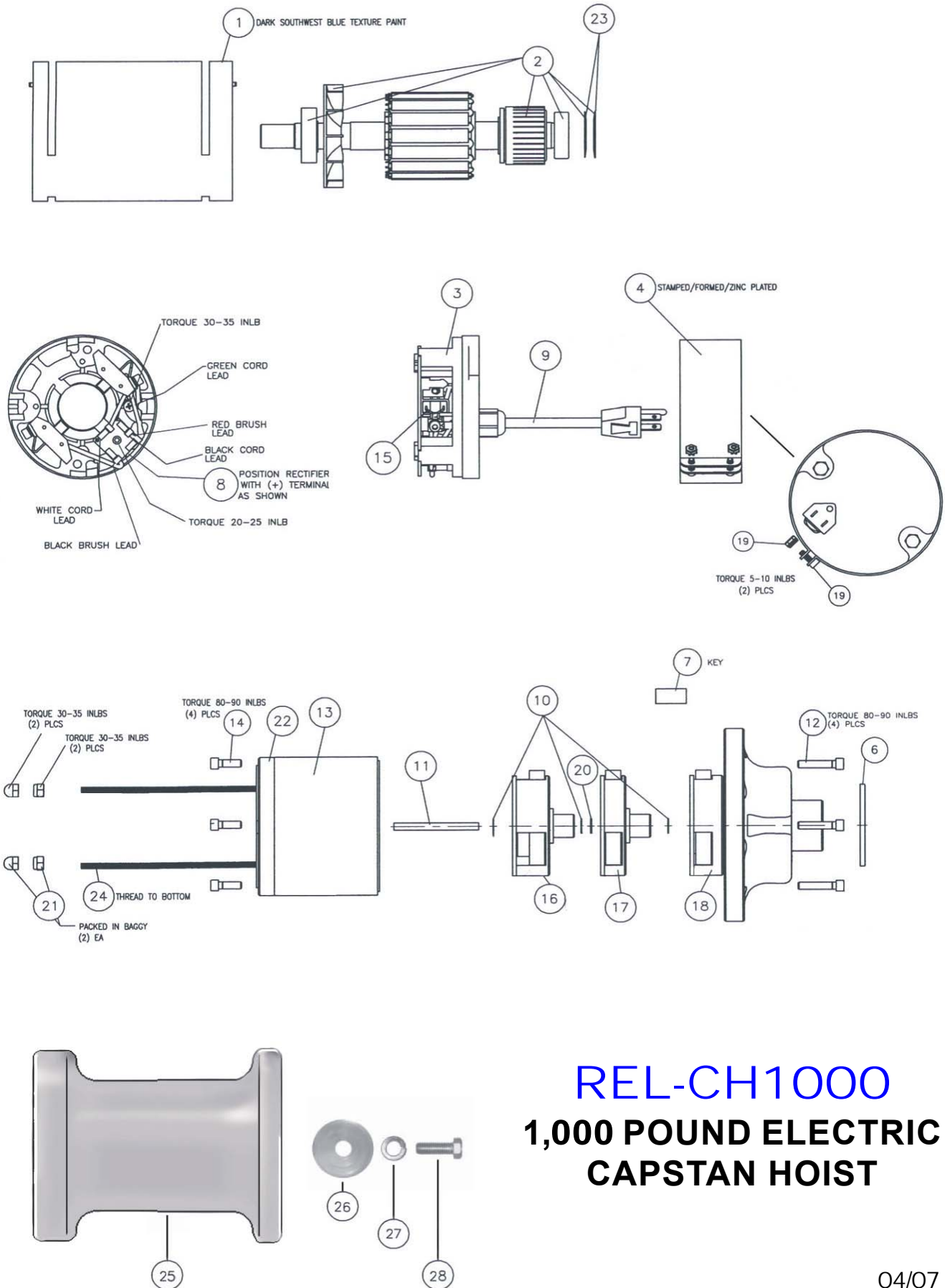
CH-1880-EH



WARNING

THIS TOOL IS NOT INTENDED FOR PERSONNEL LIFTING

Failure to observe this notice may result in severe injury or death.



04/07

ITEM	PART #	DESCRIPTION	QTY
1	9550-900	MAGNET & CAN ASSEMBLY	1
2	9550-901	ARMATURE & BEARING ASSEMBLY W/ WASHERS	1
3	9550-902	COMM.ENDBELL ASSEMBLY	1
4	9550-903	BRUSH SHIELD ASSEMBLY	1
5	9550-904	GEARBOX / ENDPLATE / STUD / NUT - ASSEMBLY	1
6	9550-905	TAPERED BEARING DUST COVER	1
7	9550-906	1/2 X 1/2 SQUARE PARALLEL KEY	1
8	9550-907	25 AMP RECTIFIER	1
9	9550-908	POWER CORD ASSEMBLY	1
10	9550-309	THRUST WASHER	3
11	9550-910	DOWEL PIN	1
12	9550-911	1/4-20 SOCKET HEAD CAP SCREW - 1 1/4"	4
13	9550-912	RING GEAR	1
14	9550-316	1/4-20 SOCKET HEAD CAP SCREW - 3/4"	4
15	9550-913	BRUSH	2
16	9550-914	1ST STAGE GEAR ASSEMBLY	1
17	9550-915	2ND STAGE GEAR ASSEMBLY	1
18	9550-916	3RD STAGE GEAR ASSEMBLY	1
19	9550-917	8-32 SOCKET HEAD CAP SCREW W/ 8-32 NUT	2
20	9550-918	PLAIN WASHER	1
21	9550-919	1/4-20 HEX NYLON LOCK NUT W/ 1/4-20 HEX ACORN NUT	2
22	9550-920	MACHINED OUTPUT END PLATE	1
23	9550-921	BELL WASHER	2
24	9550-922	1/4-20 STUD	2
25	53093	Capstan Drum	1
26	53095	Flat Washer, 2-3/8" Dia.	1
27	53090	Lockwasher, 1/2"	1
28	53040	Bolt, 1/2" x 1-1/4", GR5	1
	RLCH1000	Label, Warning	1
Not Shown	53091	Cap Screw, Capstan Mounting (for use with optional Mount/Bracket)	4
Not Shown	53092	Lockwasher, Capstan Mounting (for use with optional Mount/Bracket)	4

Maintenance Records

Date	Parts or Service Required

If you have any questions regarding the information found in this manual please contact RELIABLE EQUIPMENT at the address, phone or fax numbers shown below.



**RELIABLE EQUIPMENT
& SERVICE CO., INC.**

301 Ivyland Road • Warminster, PA 18974

Phone: 800-966-3530 • Fax: 215-357-9193

Visit us on the web at www.Reliable-Equip.com