

LUG-ALL®

OPERATING INSTRUCTIONS FOR YOUR LUG-ALL® CABLE RATCHET WINCH HOIST



650 Lincoln Road, Birdsboro, PA 19508
Phone: (877) 658-4255 / Fax: (610) 286-9661 / Web: www.lug-all.com

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SAFETY



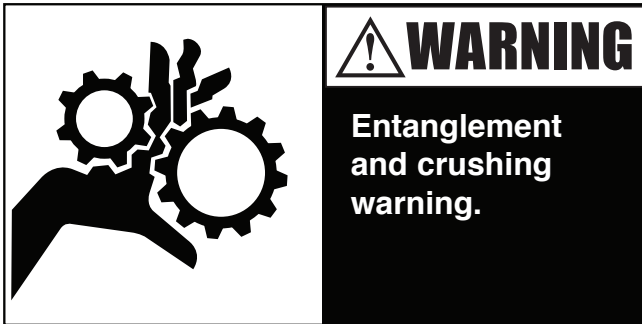
Do not attempt to operate the LUG-ALL until you carefully read the instructions and recommendations in this manual.

The LUG-ALL must be properly operated and maintained to avoid risk of property damage or bodily injury.

To avoid personal injury or equipment damage:

- Do not exceed load rating.
- Inspect LUG-ALL before each use for damage, malfunction or worn parts.
- Do not operate if hoist is damaged or malfunctioning.
- Inspect hooks (bent, enlarged opening) and latches. Remove hoist from service until damaged hooks or latches are replaced.
- Operate only when hook-to-hook pull is in a straight line.
- Do not use if the cable has kinks, cuts, broken strands, fraying or abrasions. The cable must be replaced even though damage to the cable appears minor.
- The cable must be evenly wrapped around the drum for secure hoist operation. Examine the cable to ensure it is properly seated in the pulley wheel.
- Do not use to lift people, or loads over people.
- Do not leave an unattended load suspended in the air.
- Do not lengthen, or make any substitution for the LUG-ALL reversible handle.
- Do not remove or obscure warning labels.
- Do not use hoist as a load binder.
- Do not snag or pull the cable over edges, as serious weakening may result.
- Do not use LUG-ALL as a tow line.
- Close latches on hook before using.
- Use only genuine LUG-ALL replacement parts.

- LUG-ALL hoists must be used in an ambient operating temperature range. The allowable range to use the hoist is -10°C to +50°C / 14°F to 122°F.
- Due to the possibility of entanglement, it is critical that long hair, loose fitting clothing, and jewelry be kept away from working mechanisms on the hoist at all times.



- Do not place fingers, hands, or any other part of the body in pawl area during operation of the hoist.

YOUR NEW LUG-ALL HOIST

Congratulations, you have just purchased the best cable ratchet winch hoist available on the market today. Since 1949 LUG-ALL has been the world's leading manufacturer of cable winch hoists. With quality and reliability built into every cable ratchet winch hoist, the LUG-ALL name is unmatched by the competition. Please be sure to read through this instruction manual in its entirety to assure your hoist is used safely and effectively.

Handle Installation

- 1) Remove the handle for your LUG-ALL hoist from the cardboard shield inside the product box
- 2) Locate the wing nut on the side of the U-frame and remove.

- 3) Position the handle so that the three holes on the crimped end line up with the shafts and handle bolt on the U-frame.

(SEE FIGURE 1)

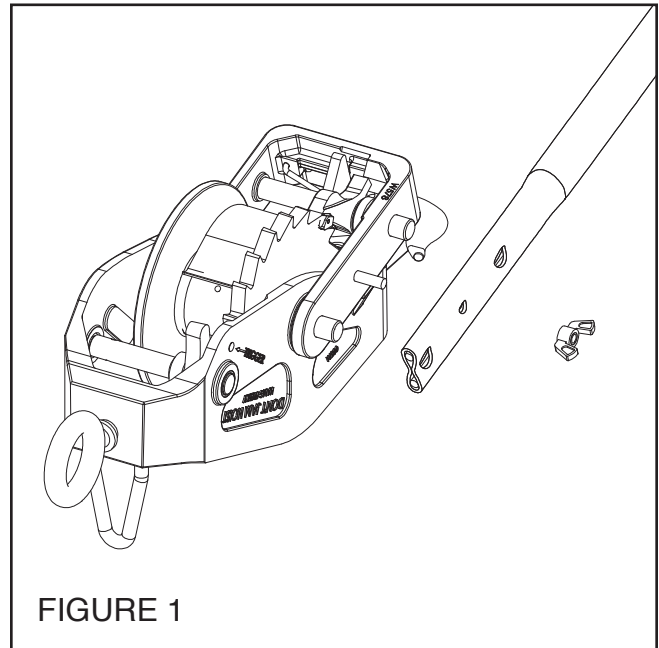


FIGURE 1

- 4) Screw the wing nut back onto the handle bolt and tighten until snug.

(SEE FIGURE 2)

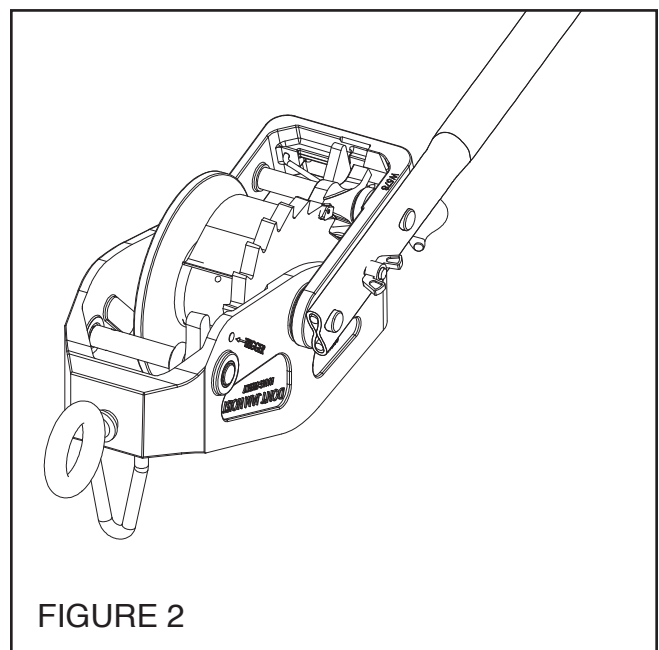


FIGURE 2

REGULAR LOWERING LUG-ALLS

The regular lowering LUG-ALL has three modes of operation:

- Lifting or tensioning
- Lowering or backing off
- Free release

Lifting or lowering operations are carried out while the hoist is under load (at least 15 lbs). The position of the reverse lever to either hold the U-frame pawl against or away from the ratchet teeth (under spring tension) determines the action. Free release quickly unwinds the cable from the drum.

Lifting and Tensioning

- 1) Rotate the reverse lever toward the drum to engage the U-frame pawl against the ratchet teeth.
- 2) Operate the handle as required to lift the load or apply the required tension.

(SEE FIGURE 3)

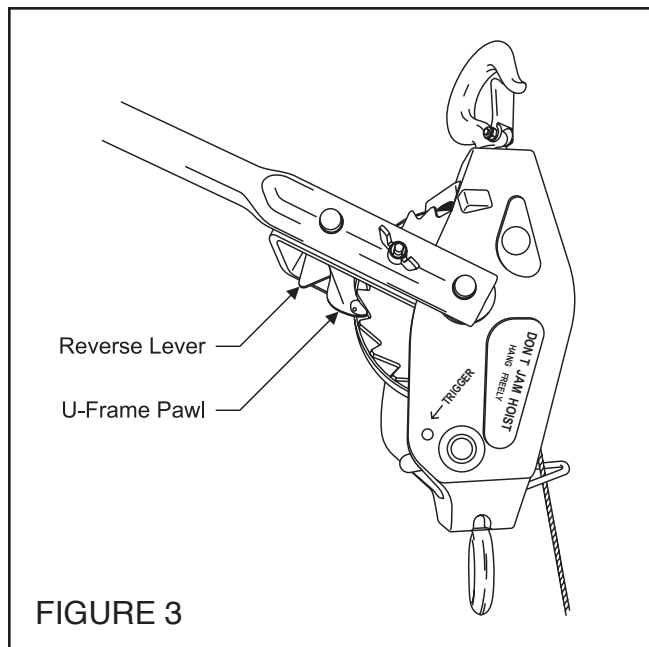


FIGURE 3

Lowering or Backing Off

(requires load of 15 lbs or more)

- 1) Rotate the reverse lever away from the drum to move the U-frame pawl away from the ratchet teeth (FIGURE 4).
- 2) Move the handle until the U-frame pawl and the main frame pawl spring engages a ratchet tooth. Additional handle pressure in the same direction will release the main frame pawl, once the pawl engages the main spring and forces the main frame pawl to disengage.
- 3) Ease off handle pressure and the load will lower one ratchet tooth.

(SEE FIGURE 4)

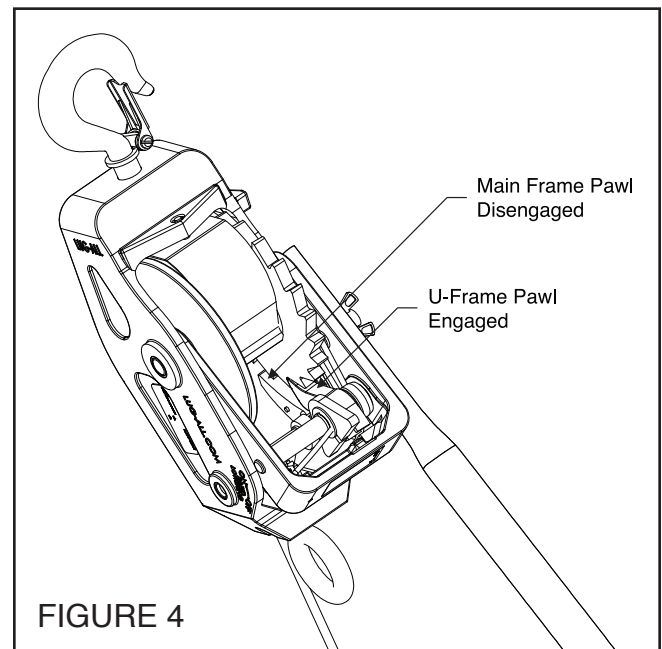


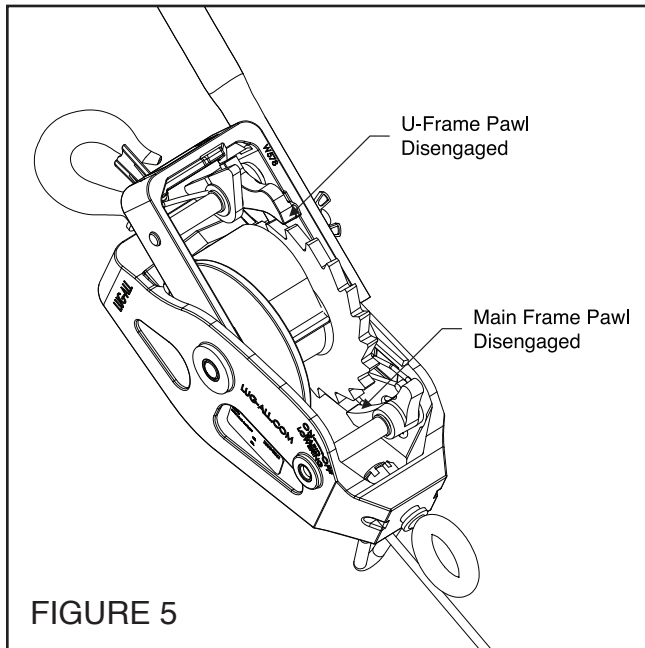
FIGURE 4

Free Release (will not operate under load)

- 1) Rotate the reverse lever away from the drum to move the U-frame pawl away from the ratchet teeth.

- 2) Press the trigger to hold the main frame pawl away from the ratchet teeth and pull out the cable the required distance.

(SEE FIGURE 5)



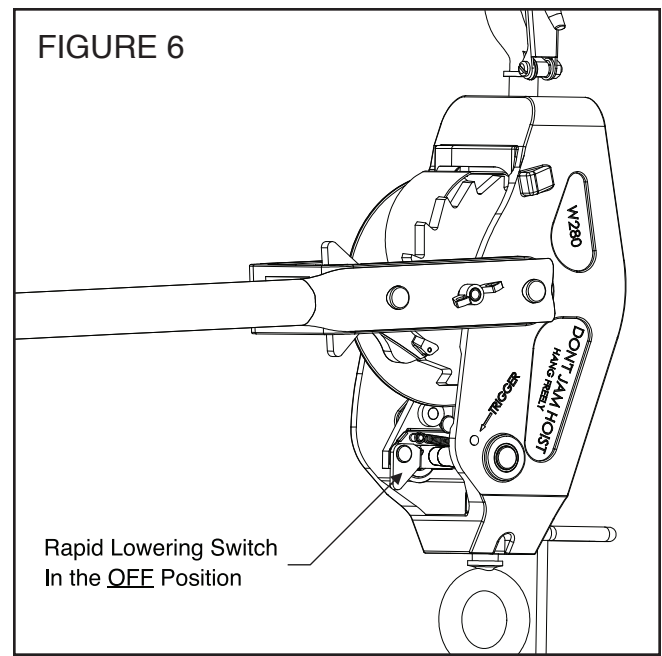
RAPID LOWERING LUG-ALLS

The rapid lowering LUG-ALL models operate on the same basic principles as the regular lowering LUG-ALLs but have an additional action - rapid lowering.

Lifting or Tensioning

- 1) Rotate the reverse lever toward the drum to engage the U-frame pawl against the ratchet teeth.
- 2) Place the rapid lowering switch in the OFF position.
- 3) Operate the handle as required to lift the load or apply the required tension.

(SEE FIGURE 6)

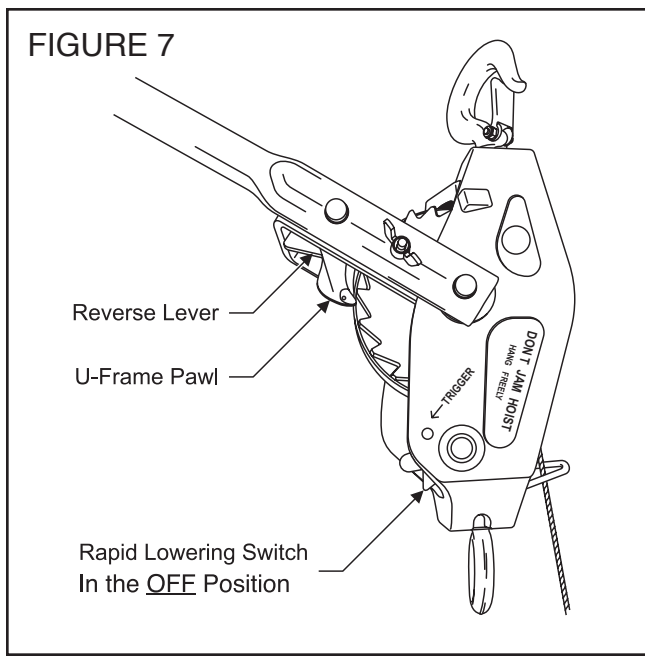


Regular Lowering or Backing Off

(requires load of 15 lbs or more)

- 1) Rotate the reverse lever away from the drum to move the U-frame pawl away from the ratchet teeth.
- 2) Place the rapid lowering switch in the OFF position.
- 3) Move the handle until the U-frame pawl engages a ratchet tooth. Additional handle pressure in the same direction will release the main frame pawl.
- 4) Ease off handle pressure and the load will lower one ratchet tooth.

(SEE FIGURE 7)



Rapid Lowering Mode

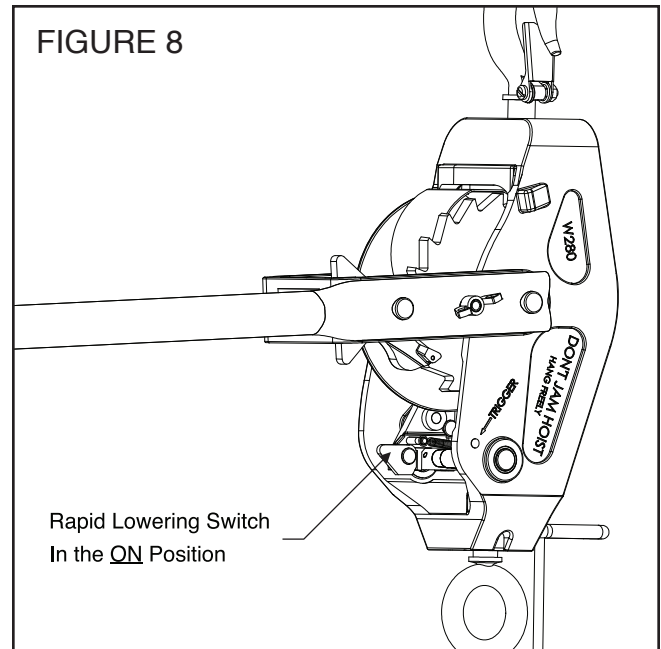
(requires load of 15lbs or more)

When using the rapid lowering mode, operators must position themselves in such a way that they can control the torque of the handle through the full travel of the arc, which is four times longer than with regular lowering. When first engaging rapid lowering, the first stroke of the handle may lower from one to four ratchet teeth depending on the cam position. Following strokes will lower four ratchet teeth.

- 1) Rotate the reverse lever away from the drum to move the U-frame pawl away from the ratchet teeth.
- 2) Place the rapid lowering switch in the ON position.
- 3) Move the handle until the U-frame pawl engages a ratchet tooth. Additional handle pressure in the same direction will release the main frame pawl.

- 4) Ease off handle pressure slowly and the load will lower up to four ratchet teeth on the first stroke and four teeth thereafter.

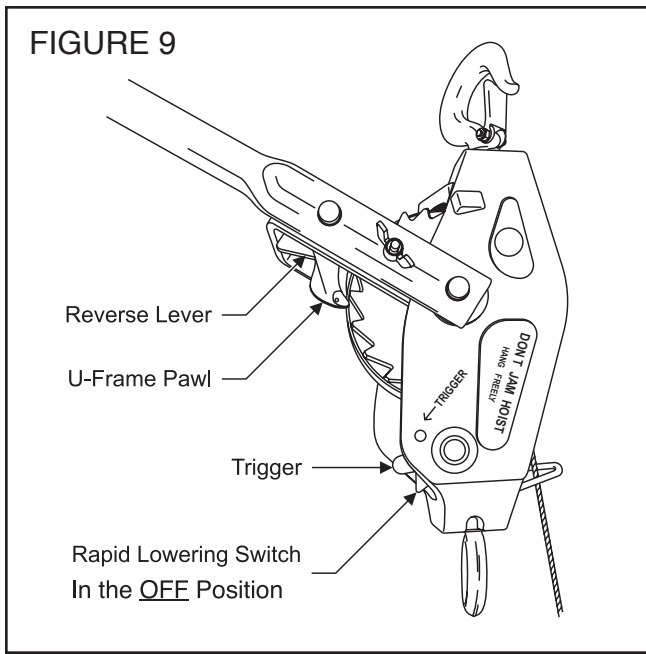
(SEE FIGURE 8)



Free Release *(will not operate under load)*

- 1) Place the rapid lowering switch in the OFF position.
- 2) Rotate the reverse lever away from the drum to move the U-frame pawl away from the ratchet teeth.
- 3) Press the trigger to hold the main frame pawl away from the ratchet teeth and pull out the cable the required distance.

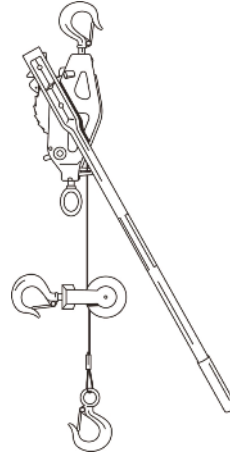
(SEE FIGURE 9)



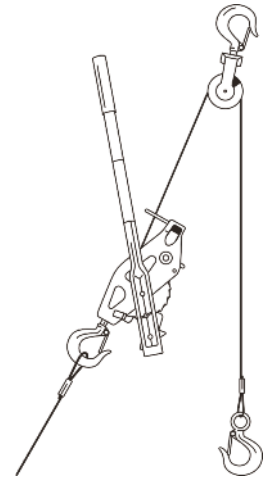
RIGGING

The LUG-ALL cable ratchet winch hoist will operate in any position: right side up, upside down or at any angle as a hoist or horizontally as a winch. The lifting and pulling power of the winch hoist depends on whether it is single-line rigged or double-line rigged with the use of a pulley block. Rig the winch hoist with double-line for full rated capacity or single-line for one half-rated capacity and twice the lifting distance and operating speed.

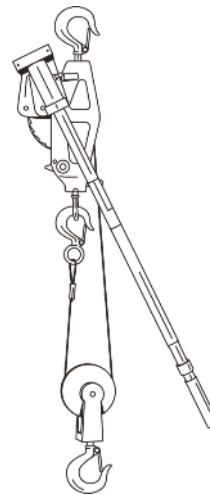
Always rig the LUG-ALL so that it will hang freely and be free to move from side-to-side. If the frame is jammed out of line it is subjected to undue stress from uneven loading and would not be free to move sideways, which is necessary to allow even wrapping of the cable on the drum. Hooks should be placed so the point of contact is in line with the center of the shank or eye. When rigging a LUG-ALL that will be used in rapid lowering mode it must be done so a full stroke of the handle is possible. For example, if working from a ceiling with the LUG-ALL right side up it would be necessary to use a choker or extension to lower the LUG-ALL sufficient distance to allow the handle to travel its full arc, which carries it above the top hook.



Single Rigged
(1/2 Capacity)



Alternate Single Rigging
(1/2 Capacity)



Double Rigged
(Full Capacity)

CARE OF THE LUG-ALL CABLE RATCHET WINCH HOIST

Your LUG-ALL is designed to provide many years of satisfactory performance if used properly. Always hang it freely with a straight line between the top hook and the load hook (do not jam against a stationary object). And remember, LUG-ALL hoists are intended for industrial use, not for lifting or supporting human or animal cargo, or lifting over people.

The LUG-ALL is extremely easy to care for. Its open construction makes it simple to clean after use in mud, ice, sand or other extreme conditions. Strip the cable from the drum and flush the drum with water or steam. A quick check of the hoist takes only seconds. Years of life can be added to the hoist by following these recommendations.

- Do not snag or pull the cable over sharp or rough edges as this will wear and fray the cable. LUG-ALLs are equipped with high quality cable, and with reasonable care will give satisfactory service.
- When rewinding the cable on the drum, apply light (10 lbs) tension. This assures even wrapping and will prevent the cable from “wedging” the next time it is used under heavy load.
- Stop pulling when the cable clamp reaches the cable guide or pulley wheel, or the pulley wheel reaches the cable guide (depending on rig used), as continued pulling will damage parts.
- Use a steady, straight pull to operate the LUG-ALL.
- When operating the LUG-ALL under load, do not allow the handle to “fly” as this can cause damage to the U-frame.

DAILY CABLE INSPECTIONS



The pictures below illustrate the more obvious types of severely damaged cables. Cables exhibiting damage of this sort to any degree must be replaced immediately.



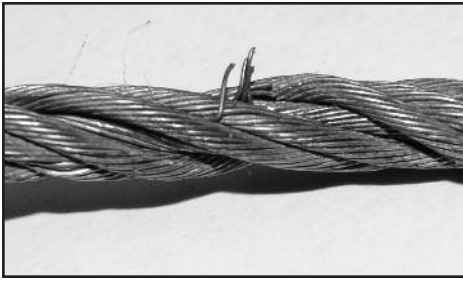
Drum Crushing and Spiraling

The badly deteriorated condition of this cable clearly indicates that it is unsafe for operation. Cable damage of this type is usually caused by hoist abuse and by repeatedly overloading the hoist beyond its rated capacity. A hoist with this cable condition should not be used under any circumstances, and the cable must be replaced before the hoist can be safely operated.



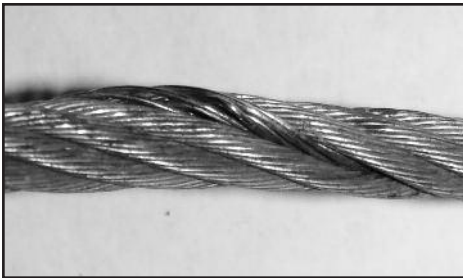
Cut Cable

The condition of this cable indicates that it has been cut by a sharp object. This is apparent to the eye because several of the strands appear to be of equal length. It goes without saying that this cable must be replaced before the hoist can be safely operated.



Broken Wires

The frayed condition of this cable indicates broken wires and an unsafe condition. Cable deficiencies of this type are usually caused by abrasion. This can easily happen in a hoist operation if the operator allows the cable to come in contact with any other surface. This cable is considerably weakened and must be replaced before the hoist can be safely operated.



Kinks

Kinks can result from improper uncoiling and unspooling, or they can be formed in hoist operation. Cable loops can occur in a slack line, or in a line under tension. If a loop occurs, it should be removed immediately. Otherwise the loop may be pulled through when tension is applied to the line and form a permanently deforming kink. Kinks in a cable are always dangerous as they create unequal tension in the rope and in the strands. A cable with kinks must be replaced before the hoist can be safely operated.

TROUBLESHOOTING

If your LUG-ALL will not lower or back off automatically, the following tests can be made:

- 1) Inspect cable on drum to see that it is not "wedged" or "jammed". Test by operating free release. The cable should pull out freely.
- 2) Examine U-frame pawl spring. With the reverse lever in the lifting position, the spring should hold the pawl against ratchet teeth. In the lowering position, the spring should hold the pawl away from the ratchet teeth.
- 3) Check the button on the side of the U-frame pawl for excessive wear. Its width should be approximately 1 1/2 times the diameter of the main frame pawl spring. Place the reverse lever in the lowering position, move the U-frame until the pawl button comes in contact with the spring. If the button is not worn excessively and slips past the spring, then the U-frame is twisted and the winch-hoist should be repaired.
- 4) If the pawl button contacted the main frame pawl spring and guided the U-frame pawl into the ratchet wheel, then test the main frame pawl spring for fatigue. With the reverse lever in the lowering position and the hoist under light tension, place the handle in the full lowering position so that the U-frame pawl engages the ratchet wheel. If the main frame pawl does not release, continue to press on the handle and at the same time press the "trigger". If the "trigger" pressure releases the main frame pawl, but spring pressure does not, it indicates the spring is fatigued and should be replaced.
- 5) If, when the above test is made, pressure on the "trigger" does not release the main frame pawl, test the U-frame pawl for excessive wear. To test, place an object (knife blade, nail, paper clip, etc.) between the U-frame pawl and the tooth it would normally engage for lowering. If it lowers one notch under this test with the unit under light tension, then the trouble is located. This condition is more likely to develop after a LUG-ALL has been repaired and a

new main frame pawl installed but not a new U-frame pawl. Under normal conditions the two pawls wear evenly and seldom give any difficulty.

- 6) Check both U-frame and main frame pawls for “snappy” spring action. Sluggish action can result from dirt or corrosion on the shafts and in the shaft holes. Remove shafts and clean with fine steel wool. Clean the shaft holes in the pawls. The U-frame and main frame pivot points are equipped with OILITE bearings. Apply light oil on all bearing surfaces and reassemble.
- 7) Check to see that both pawls engage solidly at the base of the ratchet teeth in both lifting and lowering cycles.
- 8) If main frame pawl on rapid lowering model does not fully engage, check the actuating pin and edge of projection on the rapid lowering assembly that engages the actuating pin to see if it is bent.
- 9) The U-frame pawl should align with the ratchet teeth, if it does not, check to see if the U-frame is twisted from someone having let go of the handle while handling a load.

CABLE HOIST LOAD CHARTS

The following load charts display single and double line capacities for LUG-ALL cable ratchet winch hoists. Metric capacities shown are exact equivalents of U.S. Domestic Ratings.

MODEL	SINGLE LINE CAPACITY IN LBS/KG	DOUBLE LINE CAPACITY IN LBS/KG
1000-15	1000/455	n/a
115-R	1000/455	n/a
1500-25	750/341	1500/682
125-R	750/341	1500/682
2250-15	1125/511	2250/1022
215-R	1125/511	2250/1022
2250-20	1125/511	2250/1022
3000-10	1500/682	3000/1363
310-R	1500/682	3000/1363
2250-38	1125/511	2250/1022
238-R	1125/511	2250/1022
3000-30	1500/1022	3000/1364
330-R	1500/1022	3000/1364
4000-20	2000/909	4000/1818
420-R	2000/909	4000/1818
6000-15	3000/1364	6000/2728

Cable Ratchet Winch Hoist Pre-Operational Inspection

Unit Number: _____ Model: _____ Date: _____

Inspection Point	Inspection Result (✓)	
	Pass	Fail
1) Inspect hooks and latches for deformation, cracks, and wear. An elongated or bent hook is an indication that the hoist was overloaded.	<input type="checkbox"/>	<input type="checkbox"/>
2) Check operation of latches. Safety latches on the hooks should not be defeated by wiring it open or by removal.	<input type="checkbox"/>	<input type="checkbox"/>
3) Inspect cable for kinks, cuts, broken strands, fraying or abrasions.	<input type="checkbox"/>	<input type="checkbox"/>
4) Check ratchet teeth for gouges, burred edges or other physical damage.	<input type="checkbox"/>	<input type="checkbox"/>
5) Check for bent or broken metal parts, rounded edges, and elongated holes.	<input type="checkbox"/>	<input type="checkbox"/>
6) Check metal parts for corrosion.	<input type="checkbox"/>	<input type="checkbox"/>
7) Check pawls and levers for bends, cracks or other damage.	<input type="checkbox"/>	<input type="checkbox"/>
8) Check integrity of springs.	<input type="checkbox"/>	<input type="checkbox"/>
9) Operate U-frame and verify that the U-frame does not rub against main frame during operation.	<input type="checkbox"/>	<input type="checkbox"/>
10) Test operating functions (lifting, lowering, free release) of hoist.	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: The cable should be pulled from the drum during inspection. The hoist should be removed from service if any inspection points fail.



LIMITED WARRANTY

Seller warrants that the LUG-ALL described is free from defects in material and workmanship for a term of one year from the date of purchase by the original consumer. In the event of a defect, malfunction or other failure of the LUG-ALL product not caused by unreasonable use, failure to provide reasonable and necessary maintenance or damage to the product while in the possession of the consumer, the seller will remedy the defect or failure within 30 days of return to seller at the address specified below. The remedy will consist solely of repair or replacement of the product at the seller's option. If after a reasonable number of attempts by the seller to remedy the defect, malfunction or other failure and the remedy fails of its essential purpose, the consumer is entitled to elect either a refund or a replacement, without charge.

This warranty does not apply to defects caused by modification, alteration, repair or service of the LUG-ALL by anyone other than LUG-ALL. The warranty extends to only the original purchaser of the LUG-ALL.

In order to obtain performance under the warranty, the consumer must deliver the LUG-ALL and all ancillary parts thereto to LUG-ALL Corporation, 604 Hemlock Road, Morgantown, PA 19543, together with written explanation of the defect or failure (Telephone: (610)-286-9884; Fax: (610)-286-9661). Delivery expenses and insurance for warranty service to and from LUG-ALL are the responsibility of the Buyer. Proof of purchase, such as sales receipt or other documentation is required when requesting warranty service.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

In no event shall seller (including its affiliates, subsidiaries, contractors, directors, employees and agents) be liable for any consequential, incidental, economic, direct, indirect, general or special damages of any kind, including, without limitation, lost business, lost savings, lost data and lost profits, regardless of the cause and whether arising in contract (including fundamental breach), tort (including negligence), or otherwise, even if the seller has been advised of the possibility of such damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the exclusion or limitation in this paragraph may not apply to you.

Buyer shall notify Seller promptly, and in any event within thirty (30) days of its becoming aware of any accident or malfunction involving Seller's products that arise out of or relate to any personal injury or damage to property and shall cooperate fully with Seller in investigating and determining the cause of such accident or malfunction. To the extent that Buyer fails to give such notice to Seller and provide such cooperation, Buyer shall be liable to Seller for the consequences of such failure.