OWNER'S MANUAL

Lewis Winch Model 400 MK2

SAFETY FIRST

WARNING:

- Wear Gloves, Eye and Ear Protection.
- Do not operate this unit while under the influence of alcohol or drugs
- Use additional safety restraint while pulling rolling loads
- MAXIMUM RATED CAPACITY 4000 Pounds or 8000 Pounds with Snatch Block

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Choosing the Right Saw.

The size of your saw is important.

- First take a look at the General Performance Chart.

Expected Use	Engine Size (bhp)	Pulling Capacity (lbs) Straight-Line	Pulling Capacity (lbs) Using 1 Snatch Block
Light Duty	3-4	2,000-2,500	4,000-5,000
General Duty	5-6	3,000-3,500	6,000-7,000
Heavy Duty	7*	up to 4,000	up to 8,000

- Using at least a 3 horsepower saw [or 48+cc's, 18+" bar with 3/8's chain (normal profile)] ensures a commercial-grade clutch that may slip under a heavy load but it won't burn up.
- Using Snatch Block(s) with heavier loads can significantly improve the Safety Factors and decrease the load on the cable and the winch.

* The **operator accepts all risk** when using an engine with more than 100 cc's (7.1 hp).

The condition of your saw is important.

Please note that actual pulling power is determined by the condition of the engine (chain saw).

- **Chain saws must be properly maintained and serviced** (see your saw owner's manual or check with your local dealer). Among other things, **ensure the throttle and clutch are in proper working order** – these directly effect the safe performance of your winch.

Operating Tips

Anchoring the winch.

- Use a safety chain, heavy cable, the anchor hook or hitch plate.
- **Find an anchor point that won't move during your pull** – choose something heavier and more solid than what you're trying to move.

Using the winch in a stationary position.

- Set the winch on something solid.
    - **It is difficult and dangerous to control a winch in mid-air.**

Cable Management.

- **New cable is stronger than used cable.**
- **Replace cable when it shows signs of wear** (frays, bends, etc.).
- 1/8" and 3/16" cable is available - **DO NOT USE LARGER CABLE.** If you need more pulling power – use more Snatch Blocks.
- New 3/16" cable is 150 feet long. This allows you the most options when you're using a Snatch Block to change the direction of the pull or to increase the pulling power. If you're pulling the load direct - without a block - you may want to cut off 20-30 feet of cable to make Cable Management easier.
- Keep at least 10 to 12 wraps on the drum at all times .
- Be careful to take the slack out of the line (and any on the drum) before beginning your pull. This will **avoid a sudden 'jerk' on the line** that could break the cable and/or damage your winch.
- Always keep tension (use a Bungy cord) on the hand brake to prevent cable from unwinding.

An unexpected tug on the line.

- Stop the engine, free the load from the obstacle, and start pulling again.
- **You may damage the winch if you pull against an unknown load** (tree, root, rock, etc.). Winch damage is more likely with larger (saw) engines.

Snatch Block.

- When using a block to increase the pulling power, attach the cable hook to a large, heavy, stationery object. **Do not attach the cable hook to the winch.**

Releasing Cable Tension.

- If you have any difficulty releasing the clutch because of tension remaining in the cable, you may consider using a 'chain binder' in your anchor set-up.
- **Warning – Engage the Hand Brake when releasing the Clutch under Load.**

Servicing / Maintenance

The Cable.

- Closely monitor the cable for signs of breaks and/or wear. Replace damaged cable.

The Gear Box.

- **Never let the gear box run dry.**
- Remove the Oil Plug from the Oil Fill Hole to check the oil level (number 40 on the diagram).
  - Keep at least 4 ounces of oil in the gear box (approximately 3/8" to 1/2" depth in the bottom of a 'level' gear box).
  - Manufacturer currently uses 140 weight gearoil.
  - Nearly all gear damage occurs in a 'dry' gear box.

Any oil (or grease) is better than none at all.

Chain Guard Cover.

- **Do not operate the winch unless the chain guard cover is in place.**
- The guard can also help keep your chain free of dirt, grass and twigs.

Noise & Vibration.

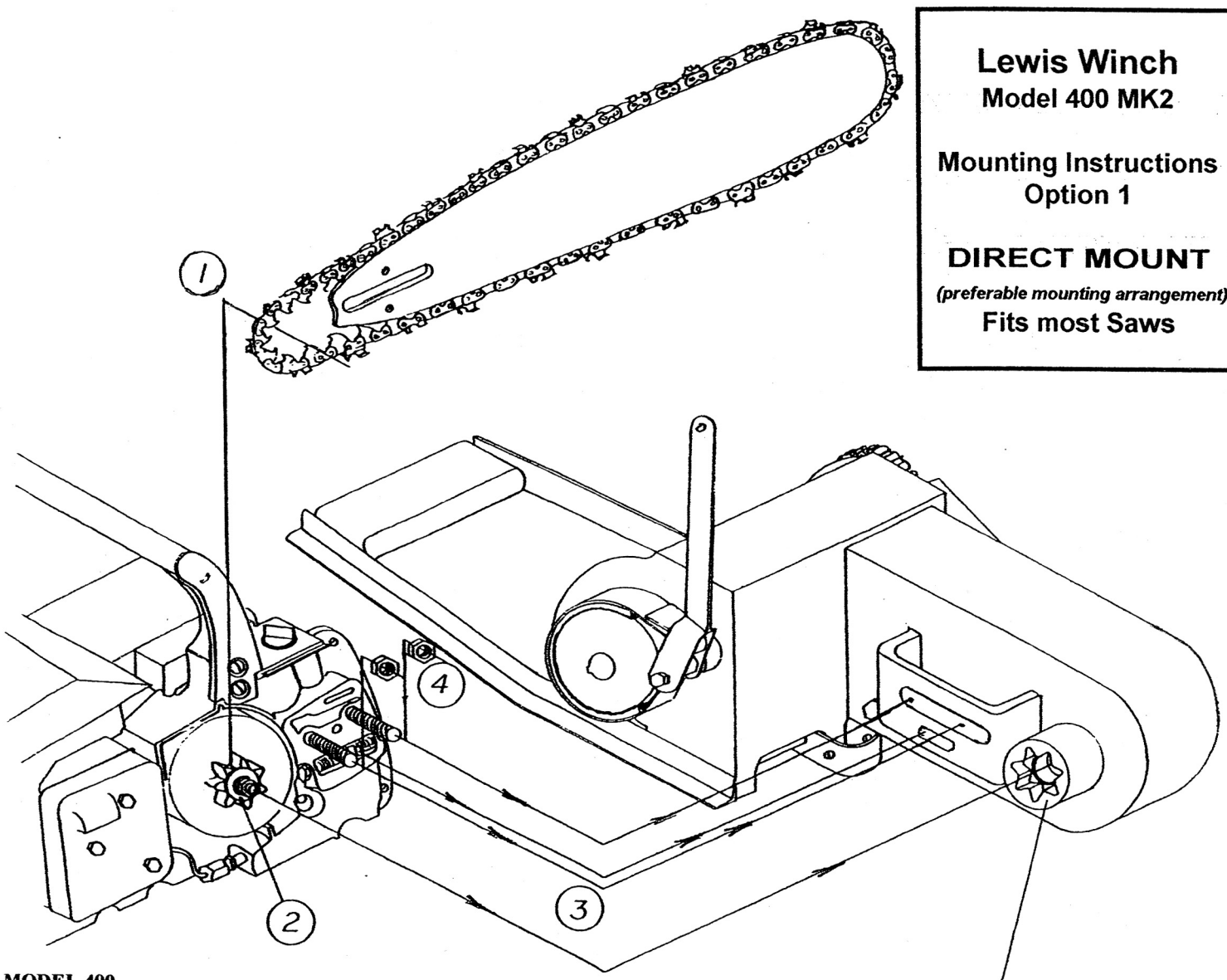
The sound level of the winch does not exceed 70 dB(A) and, regarding vibrations, the acceleration does not exceed 2.5 m/s^2. Actually, the amounts of sound and vibrations generated by the winch are negligible. Nearly all noise and vibrations emanate from the drive engine. See owner's manual from engine manufacturer to determine relevant engine noise & vibration levels. In certain applications, the winch may serve to dampen the engine noise and/or vibration levels.

Do not take chances with your safety. This manual is general in nature. If you have any questions or concerns, check with your local dealer or call the factory for more information.

Lewis Winch
Model 400 MK2

Mounting Instructions
Option 1

DIRECT MOUNT
(preferable mounting arrangement)
Fits most Saws



MODEL 400

Universal adaptor kit
Use the appropriate part for your machine

1. Remove the bar and chain from your saw.
2. Replace the large washer on the clutch paddle wheel sprocket with the smaller washer.
3. Insert the seven-tooth sprocket on your saw into the female fitting on the winch. The saw's bar studs are inserted into the winch's upper slot on the casting, forward of the female fitting. The bar-adjustment stud on your saw fits into the winch's lower slot, so the winch will bolt flush to the casting.
4. Fasten the nuts on the bar studs.

NOTE: *Keep all nuts, bolts and screws tight. Gearbox was filled with lubricant at the factory.*

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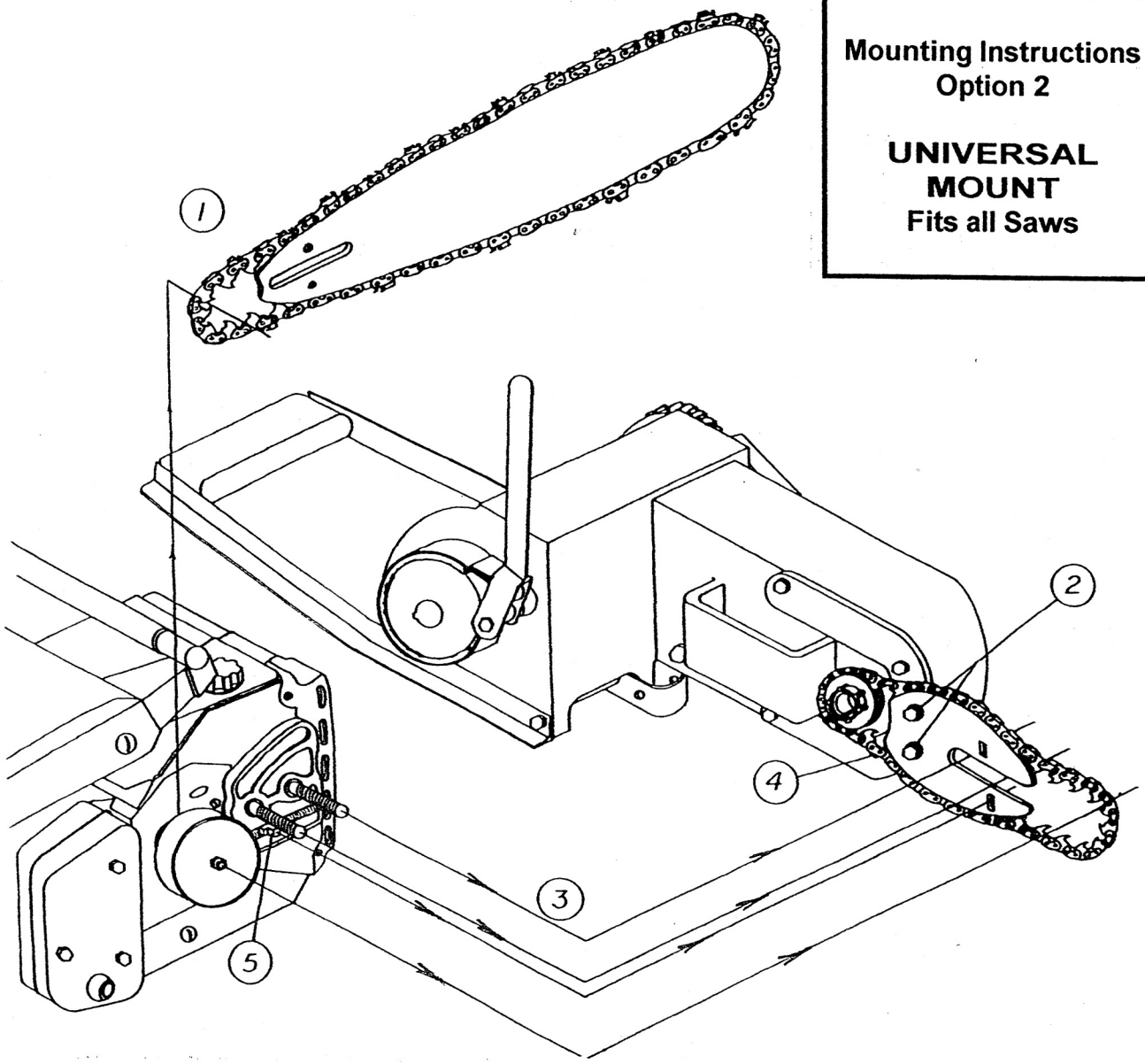
Mounting Instructions
Option 2

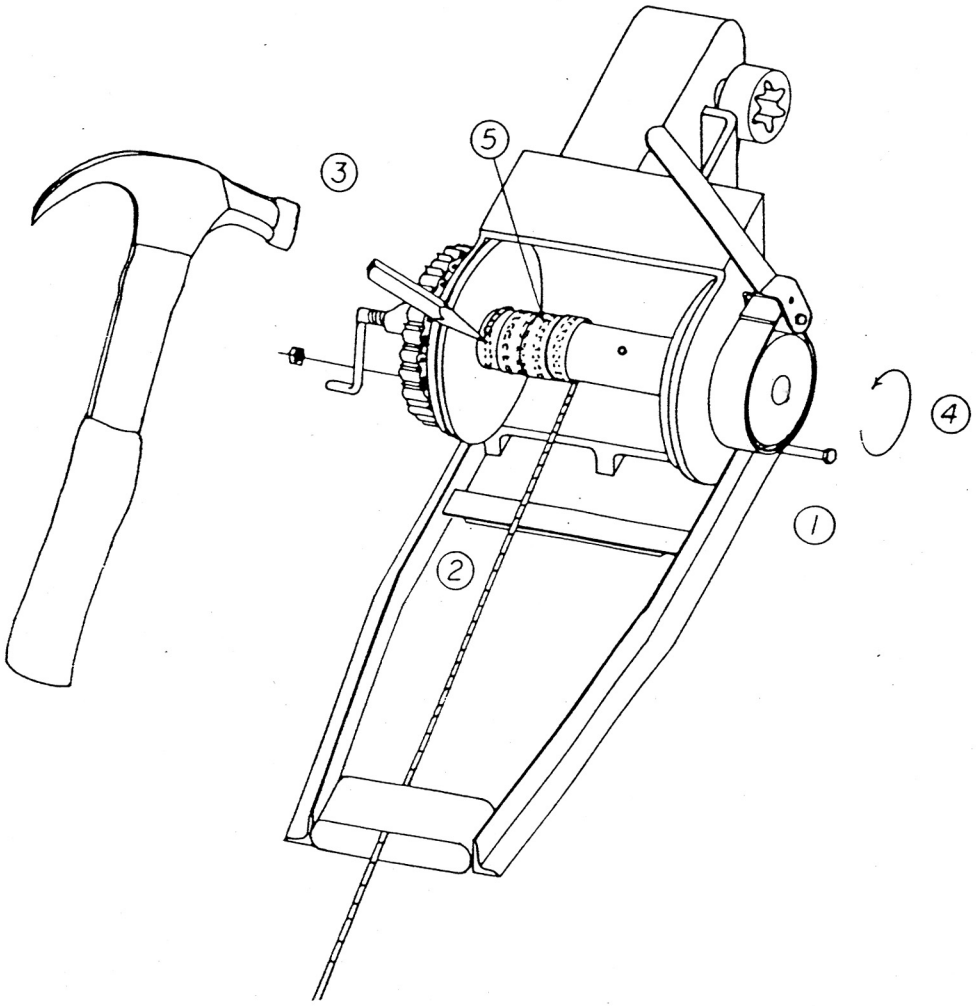
UNIVERSAL MOUNT
Fits all Saws



1. Remove the bar and chain from your saw.
2. Bolt adaptor on winch with two 5/16 " cap screws and lock-washers.
3. Place bolted adaptor on your saw where the bar was removed and fastened.
4. Wrap supplied cutterless chain around your chainsaw sprocket and the sprocket on the winch, connect with supplied connecting link.
5. With chain in place adjust bar by tightening adjustment screw on your chainsaw.

NOTE: *Keep all nuts, bolts and set screws tight. Gearbox was filled with lubricant at the factory.*

Assembly Instructions



Cable Installation

- Unroll cable (see next page).
- Slip end through the Fair Lead and then through the hole in the drum. Push the cable through the hole until it appears on the other side.
- By rotating the drum shaft, wrap the cable tightly around the drum 8 to 10 times.
- Tip: You can keep these wraps tight with gray/duct tape.
- Finish winding cable on drum.

WARNING! Keep at least 10 to 12 wraps on the drum at all times .

WARNINGS, DEFINITIONS AND CAUTIONS

governing the purchase, sale and use of wire rope and aircraft cable

WARNING

Breaking strengths apply only to new unused wire rope ad aircraft cable. When determining Maximum Working Load, see CAUTION below. These products must be properly applied to equipment which is properly designed, maintained, and operated under normally accepted conditions, and OSHA safety standards. Aircraft cables are not suitable for use in aircraft controls.

DEFINITION: BREAKING STRENGTH

Breaking Strength applies only to new, unused wire rope or aircraft cable and is the minimum at which the product will break when properly tested in a standard testing machine, pulled in direct tension at a uniform rate of speed, being in the same condition as when it left the factory.

CAUTION

When determining maximum working load for each individual application, many factors should be considered. Included among but not limited to these factors are loads applied, speed of operation, acceleration, deceleration, length of rope or cable, shock loads, abrasion, corrosion, number, size, condition and location of drums and sheaves, facilities for inspection and the danger to life and property should a rope or cable break.

Store and handle properly before and after use.
Inspect from time to time. Do not kink or knot.

AIRCRAFT CABLE
SUPPLIED BY
LEWIS WINCH INC.
HAS A
BREAKING STRENGTH
OF
1/8" 2,145 LBS.
3/16" 4,927 LBS.

KINKING OF WIRE ROPE can be avoided if ropes are properly handled and installed.

CAUSE - Kinking is caused by the rope taking a spiral shape as a result of unnatural twist in the rope. One of the most common causes for this twist is improper unreeling and uncoiling.

KINKING

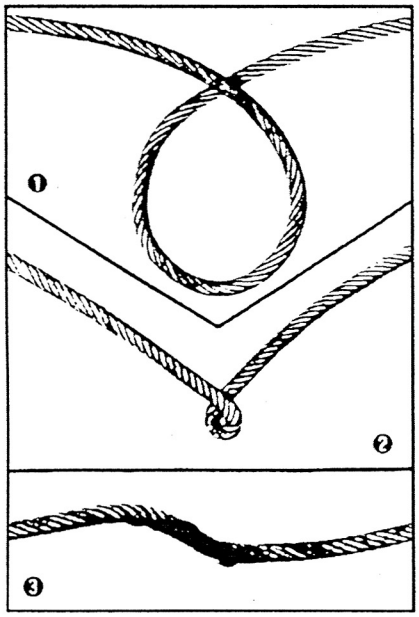


Illustration #1 shows the start of a kink. At this stage no harm will be done if you discontinue the pull and untwist the wire rope to prevent further kinking.

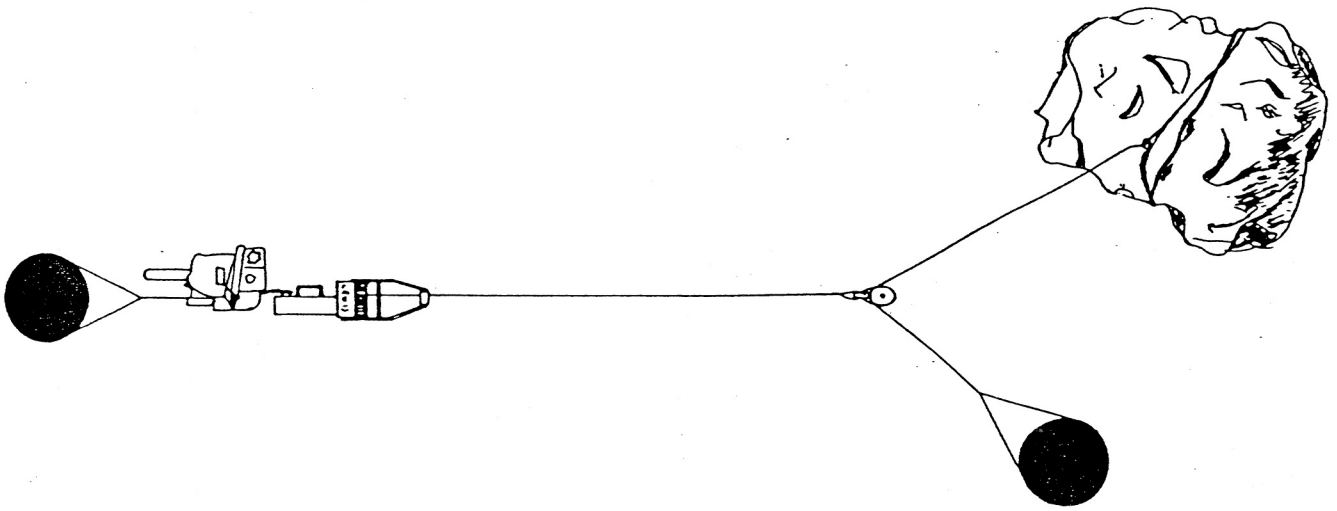
EFFECT - Illustration #2 shows the effect. The rope has been kinked and it is permanently injured.

RESULT - Notice in **Illustration #3,** the result of a rope that has been kinked. Strands and wires are out of position, which creates unequal tension and brings excessive wear at this part of the rope.

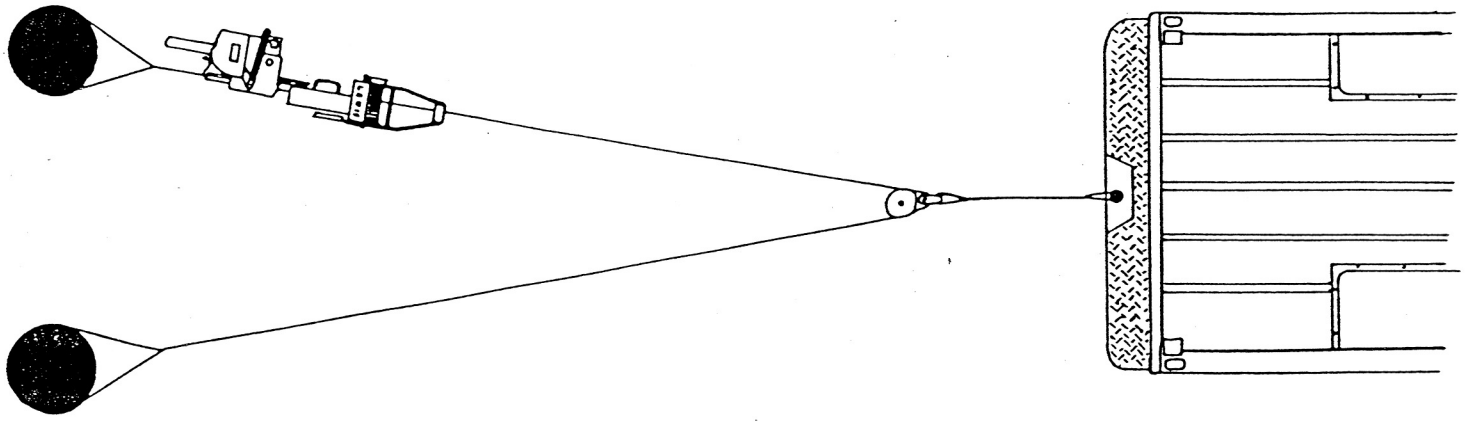
Even though the kink may be straightened so that the damage appears to be slight, the relative adjustment between the strands has been disturbed so the rope can not give maximum service, and should be replaced.

LEWIS WINCH

OPERATING TIPS



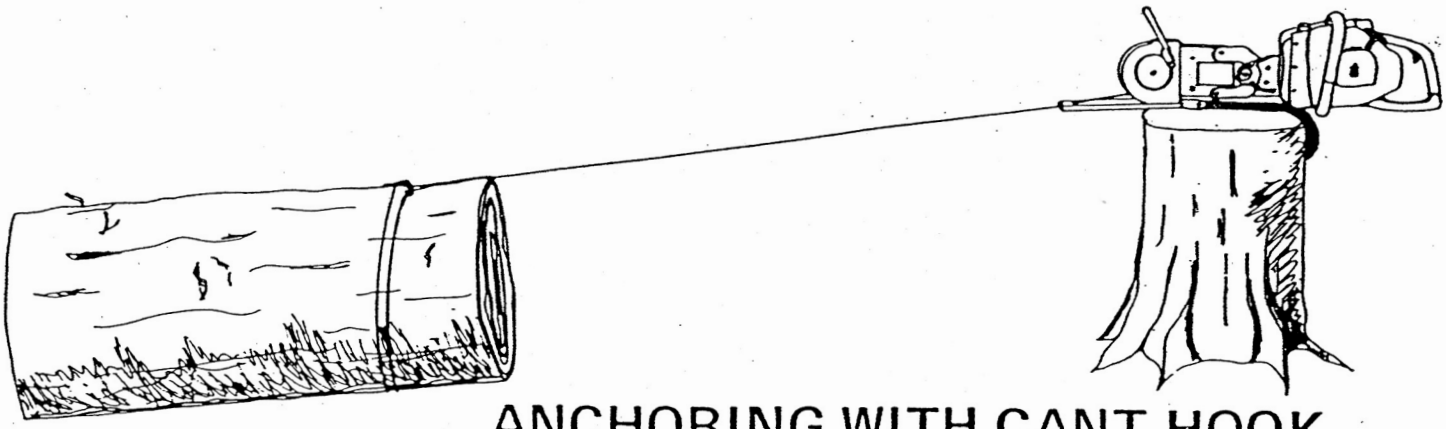
TO INCREASE SPEED 50%:



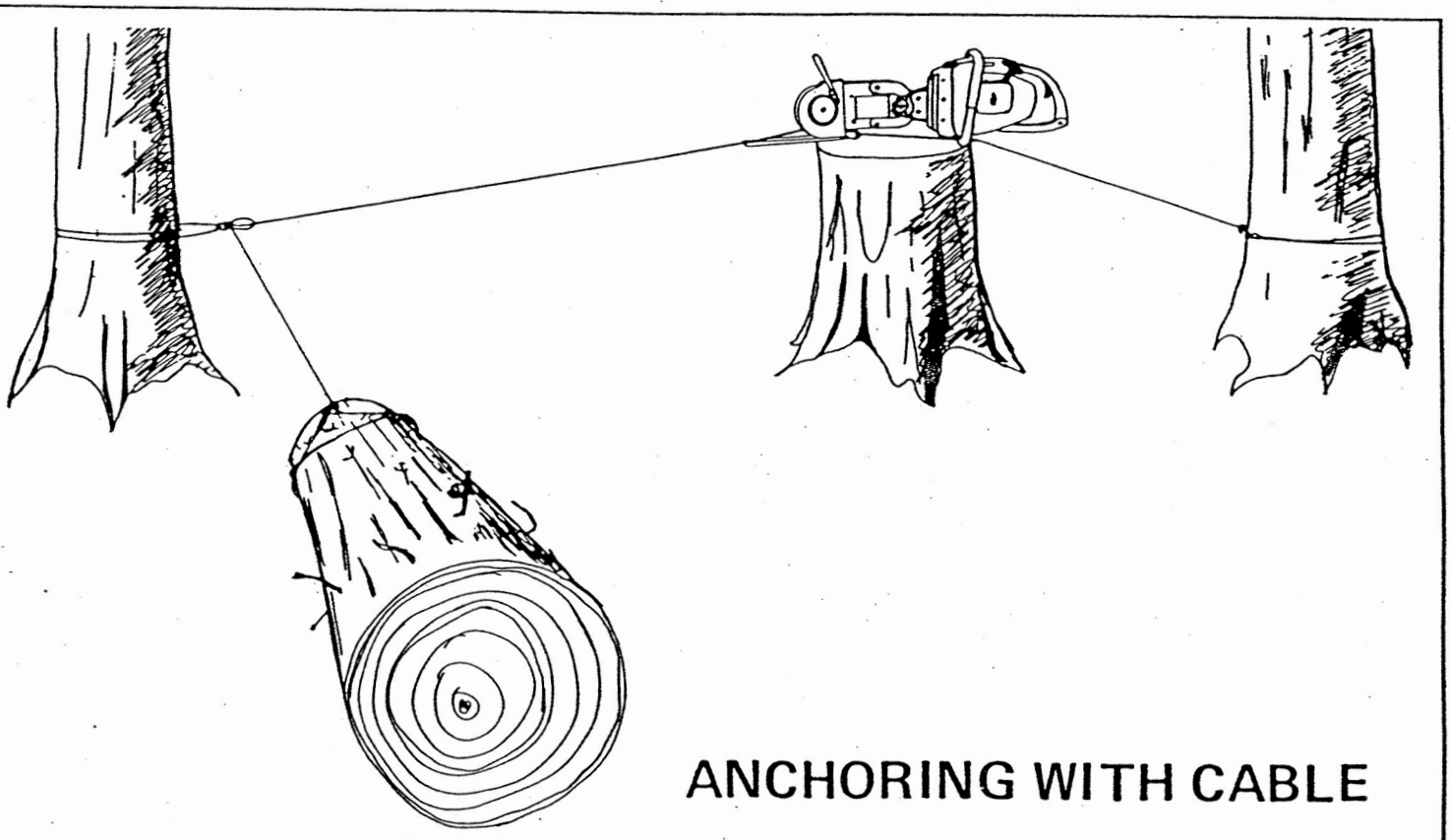
TO DOUBLE PULLING POWER:

SET WINCH ON STUMP OR LOG.
ANCHOR TO BASE OF TREE
PULL CABLE THROUGH SNATCH BLOCK TO LOAD

NOTE: ANCHOR DEVICE MUST BE LOWER THAN WINCH

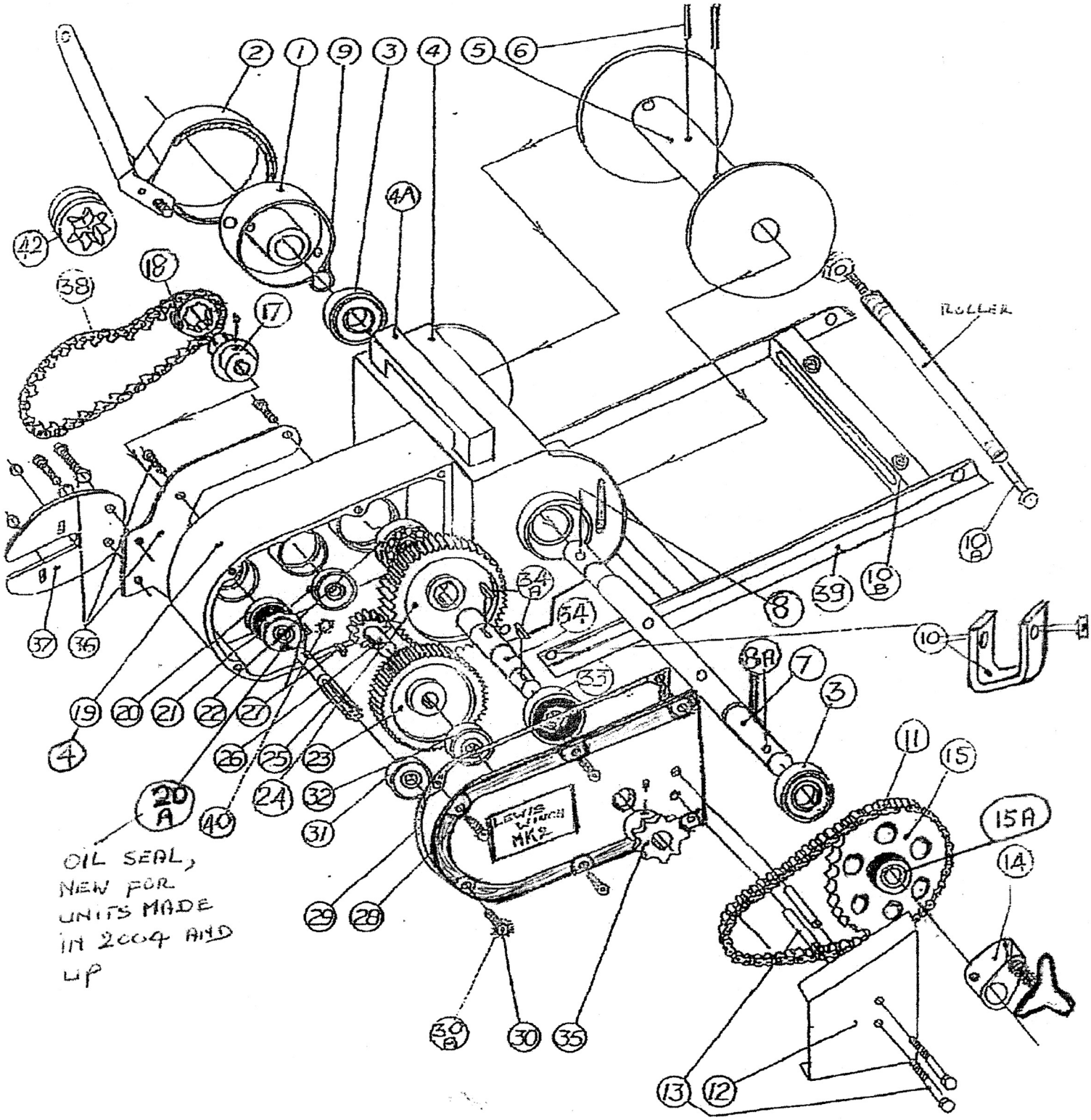


ANCHORING WITH CANT HOOK



ANCHORING WITH CABLE

IMPORTANT: WINCH WILL NOT OPERATE PROPERLY HANGING IN THE AIR.



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www.lewiswinch.com

winch parts list2

lewis winch parts list Jan.2004

item no.		lewis part no.	description
1		A400	brake drum
2		A401	brake handle
3		B402	bearing
4		B403	drumhousing c/w gearbox (one casting)
4A		B403A	main handle
5		B404	cable drum
6		B404A	retainerpins (2)
7		B406	drum shaft
8		B407	retainerpin (1)
8A		B407A	double roll retainerpin (1)
9		B408	snapring (1)
10		B409	shackle & bolt c/w locknut
10A		B409A	cable roller & bolt c/w locknut
10B		B409B	harden shoulderbolt c/w locknuts (2)
11		C409	40 pitch chain c/w connector
12		C500	chain guard
13		C501	bolts c/w spacers (2)
14		D502	clutch c/w handle for new sprocket #15
15		D503	sprocket with 6 holes for clutch(units 2003 and later)
15A	new	D503A	bronze bushing
16		E504	obsolete
17		E504B	adaptor
18		E504C	rim sprocket 3/8 pitch
19		E505	obsolete (see item 4)
20		E506	bearing
20A	new	E506A	oilseal for input shaft(for units made 2004 and later)
21		E507	bearing
22		E508	bearing
23		E509	gear 2nd shaft ,large
24		E600	gear 3rd shaft , large
25		E601	gear 1st shaft , small (input shaft)
26		E602	gear 2nd shaft , small
27		E603	key
28		E604	gearbox cover
29		E605	gasket
30		E605A	sockethead capscrews 1/4nc (6)
30A		E605B	1/4 star lockwashers
31		F606	bearing
32		F607	bearing
33		F608	bearing
34		G700	shaft gearbox (output shaft)
34A		G609	key (2)
35		H702	sprocket
36		L900	yoke c/w bolts
37		L901	bar adaptor
38		L902	cutterless chain 3/8 pitch
39		L903	fairlead
40		L904	drainplug
42		L906	universal adaptor kit (4 pieces)
accessory		N1002	snatchblock 1 1/2 ton
accessory		N1008	cable 3/16 x 150 ft,c/w hook
accessory		N1009	cable 1/8 x 250 ft,c/w hook

UNIT COMES WITH 3/16 CABLE c/w hook

NOTE:When ordering spare parts,let us know of you have a MK2 winch or older unit.

NOTE: Gear Lubricant filled at the factory. If drained, use 4 ounces (140 wt. typical).

Warranty will be equal to the famous CANNON TREE PLANTER (post hole digger) in service for over 30 years, with no recalls. The LEWIS WINCH will be under the same(1 year) warranty for materials and workmanship, warranty claims to be judged by distributor and dealer, without the hassle of sending it back to us. We have faith in our distributors and dealers.

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