

# GRIZZLY

## OPERATOR'S INSTRUCTION MANUAL

MODEL: 511 000 / 512 000

ENGINE MODEL: \_\_\_\_\_

SERIAL: \_\_\_\_\_

ENGINE SERIAL: \_\_\_\_\_

DATE OF PURCHASE: \_\_\_\_\_

PURCHASED FROM: \_\_\_\_\_

**WARNING:** THIS PRODUCT IS DESIGNED AND MANUFACTURED TO GIVE SAFE AND DEPENDABLE SERVICE IF OPERATED ACCORDING TO INSTRUCTIONS. THE MANUFACTURER PROVIDES THE FOLLOWING INSTRUCTIONS FOR USE AND CARE OF THIS EQUIPMENT AND RELIES UPON THE PURCHASER TO SEE TO IT THAT THESE INSTRUCTIONS ARE MADE CLEAR TO THE PERSONS WHO WILL ACTUALLY BE USING THE EQUIPMENT. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR EQUIPMENT DAMAGE.

### GRIZZLY EQUIPMENT

9475 PASCAL GAGNON STREET, ST-LÉONARD, QUEBEC, CANADA

TEL: (514) 325-1260 / 1-888-325-9953 FAX: (514) 325-9952

E-MAIL: [info@alcor-inc.com](mailto:info@alcor-inc.com) Web site: [www.alcor-inc.com](http://www.alcor-inc.com)

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## INTRODUCTION

### 511 000, 512 000 LADDER HOISTS

Thank you for purchasing this quality **GRIZZLY** product. With proper use and care, this ladder hoist will provide many years of reliable service. For the safety of all job-site personnel it is mandatory that the instructions provided for the use and handling of the equipment be read and thoroughly understood by the operators.



## CAUTION

INTENDED USE: THIS MACHINE IS INTENDED TO BE USED FOR THE SOLE PURPOSE OF LIFTING AND LOWERING MATERIAL AND SUPPLIES TO AND FROM THE ROOF. ANY OTHER USE OF THIS EQUIPMENT VOIDS THE MANUFACTURER'S WARRANTY AND IS THE SOLE RESPONSIBILITY OF THE OWNER/USER, SHOULD ANY DAMAGE OR INJURY MAY OCCUR.

## **PREPARATION**

### **OPERATOR:**

START BY READING AND FULLY UNDERSTANDING OPERATING INSTRUCTIONS. IF SOMETHING IS NOT UNDERSTOOD, HAVE SOMEONE ELSE READ AND EXPLAIN THE INSTRUCTIONS TO THE OPERATOR OR CALL THE MANUFACTURER FOR INFORMATION. AN UNINFORMED OPERATOR CAN SUBJECT HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

## **WEAR PROPER ATTIRE**

Safety glasses are recommended and must be worn if any roof cutting or scraping is being done in the vicinity. Safety glasses and or face shield are also necessary when working with hot stuff.

Wear properly fitting clothes. Tight clothing can restrict movement and slow down reaction time in a dangerous situation. Loose fitting clothing can be dangerous and cause serious injury if it gets caught in moving mechanical parts. Wear a long-sleeved shirt, buttoned at the cuffs, safety shoes, and pants without cuffs, and knit wrist type gloves.

Hard hat must be worn by operator when work is being done.

## **ROOF PREPARATION**

### **Inspect Roof Deck**

Before allowing equipment and personnel access to roof, make certain roof is strong enough to support the weight. Check load limits of deck with owner, builder or architect. Clear the work area of all potentially dangerous obstacles that could cause personal injury to the operator or others. Keep unauthorized people away from construction area. Check to see that all roof openings are guarded to protect against falls.

### **Warning Line System**

The operation of this piece of equipment must be in compliance with Federal **OSHA** standards governing safety perimeters with respect to the use of power equipment. When operating parallel to roof edge warning line system must be at least six feet from edge. When operating perpendicular to edge warning line must be ten feet from roof edge. For specific information on warning lines, the use of guard rails and motion-stopping-safety systems, refer to section on OSHA Law.

## **GENERAL PREPARATION**

Clear the work area of all potentially dangerous obstacles that could cause personal injury to the operator or others. Keep unauthorized people away from construction area.

## **INSPECT THE PLATFORM AND ACCESSORIES**

Make certain top bracket, ladder shoes, ladder, and platform are in safe operating condition, to be operated by trained personnel. The ladder hoist should be clear of ground objects and overhead obstacles, such as power lines. Make sure everyone on the ground is completely clear of the hoisting area. Do not exceed the weight and size capacity of your ladder hoist. Use only on a flat and level surface. Do not use if you have any doubts.

## **SIZE AND CAPACITIES OF LADDER HOISTS**

### MODEL 511000 LH 250 ladder hoist

- 17" wide track
- 250 lbs lifting capacity
- GX120 or GX160 power unit
- 44' maximum length
- ladder support required at heights exceeding 28'
- hoist speed varies to 220 ft. /min.

### MODEL 512000 LH 400 ladder hoist

- 24" wide track
- 400 lbs lifting capacity
- GX120 or GX160 power unit
- 44' maximum length
- ladder support required at heights exceeding 28'
- hoist speed varies to 110 ft. /min.

NOTE: Platform speeds and capacities are average and are based on 3/16 inch diameter of cable. As cable builds up on drum, lifting speed increases and lifting capacity decreases in direct proportion to drum diameter.

## COMPLETING THE PLATFORM ASSEMBLY

Assemble the platform as follows:

1. Remove all parts from the box
2. You should have;
  - 1 main frame and platform
  - 1 pivot bracket with wheels
  - 2 braces
  - 1 bottom sheave (LH 400 only)
3. Install braces #38 to point “A” and “B”, tighten all bolts securely.

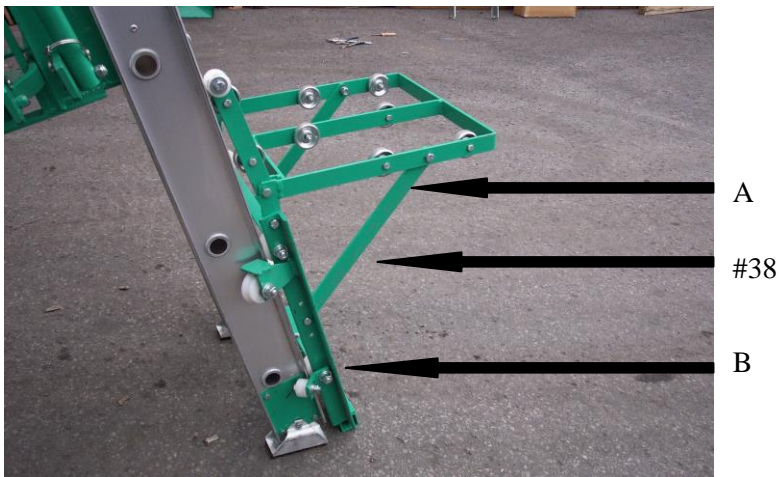


Fig. 2

4. Connect #33 pivot bracket to point “C” making sure to install pivot bracket with offset wheels #14 closest to ladder.

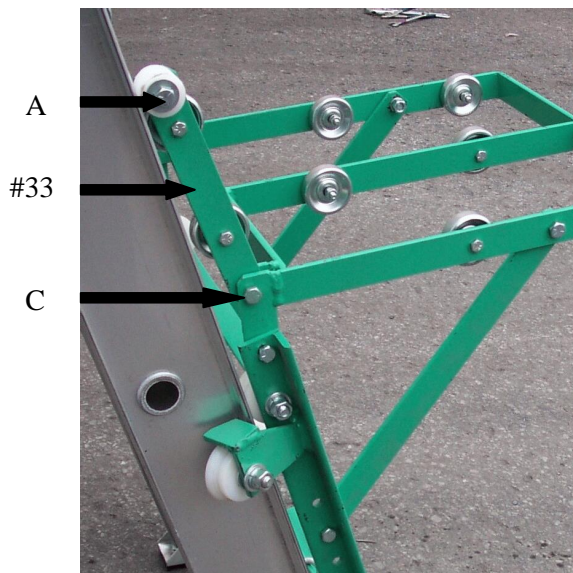


Fig. 3



## MOUNTING THE PLATFORM ON LADDER

Both models have the cross ties offset from the center of the rails to allow passage of the platform wheels. Before erecting the ladder, lay the bottom 16 ft. ladder section on the ground with the cross ties closest to the ground and the ladder shoes as shown.

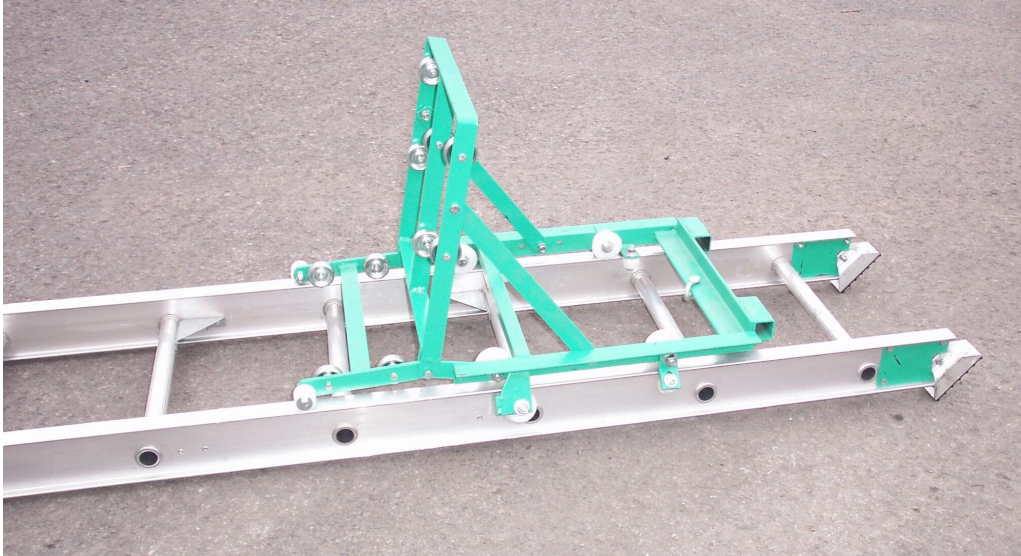


Fig. 4

The assembled platform will slide onto rails from the top of the ladder section (opposite the shoes.) The platform bumper should be on the bottom facing the shoes. Roll platform down the ladder without striking the shoes and securely tie it to any cross tie to prevent movement when raising the ladder.

## SETTING UP THE LADDER HOIST

The standard sectional platform hoist consists of three sections of ladder; a 16 ft. bottom section with shoes, an 8 ft. and a 4 ft. section, both with splice plates bolted permanently to their bottom end. These sections may be joined together with their splice plates by sliding the bottom of one section into the top of lower section and installing wing nuts and carriage bolts provided. Ladders of 16 ft., 20ft, 24 ft., and 28 ft. can be assembled as desired from these three sections. Select a length that will allow the top of the assembled ladder to project 2 to 3 ft. above the cornice or eave of roof.

For longer ladder lengths, a 16 ft. center section with splice plates attached is available to provide ladders up to 44 ft. in 4 ft. increments. Lengths over 28 ft. require the use of a ladder support to provide additional support for these long ladders.

**Warning:** Tighten all bolts and nuts securely. If all bolts are not in place and tightened securely, ladder failure may occur under load.

## MOUNTING THE TOP BRACKET

Slide top bracket into end of the top ladder section and bolt securely to the ladder. Make sure top sheave is centered with cross ties (fig. 5), or cable will cut through cross ties.



Fig. 5

## RAISING THE LADDER

**WARNING: KEEP LADDERS CLEAR OF ALL ELECTRICAL WIRES AND EQUIPMENT. NEVER CLIMB THE LADDER.**

**CAUTION: BECAUSE OF ITS LONG LENGTH AND WITH THE TOP BRACKET ATTACHED, THE LADDER ASSEMBLY IS EXTREMELY TOP HEAVY AND MUST BE KEPT UNDER CONTROL AT ALL TIMES.**

Two alternate methods are suggested for raising the ladder to its operating position.

### PROCEDURE A

1. Lay the assembled ladder with platform and top bracket attached parallel to the building wall that is to support the ladder.
2. Use a man on the roof with a rope dropped from the roof and attached to the top bracket to pull up the ladder while a man on the ground, with his feet braced against the ladder shoes to keep the bottom of ladder from slipping, aids in raising by pulling against the rails, cross ties or platform.
3. Another man on the ground may aid in erecting by “walking” the ladder up hand over hand on the rails or cross ties. When ladder reaches a vertical position, carefully turn the ladder away from the building where ladder is to be supported. Allowance must be made for an overhand on building.



**ALTERNATE PROCEDURE B**

1. Place ladder perpendicular to building with bottom shoes resting against building to prevent slipping.
2. Use a man on the roof with rope dropped from the roof and attached to the top bracket to pull up the ladder.
3. When track reaches a vertical position, carefully turn the ladder 180° with platform away from building. Allowance must be made for an overhang of building.

AFTER USING ONE OF THE PROCEDURES (A OR B) CONTINUE AS FOLLOWS:

4. Securely tie ladder to the roof with a rope fastened to a cross tie or top bracket to prevent ladder from slipping. Platform will not roll on track if rope is fastened around the rails
5. Mount the power unit on the 3<sup>rd</sup> and 5<sup>th</sup> ladder cross ties and clamp in place. Fasten or bolt the operating handles on the power hoist. When facing the power unit from the rear or building side of the ladder, the power unit handles are on your right.
6. Using a rope from the roof and with brake released, pull the hoist cable to the roof on the underside of ladder and reeve through the sheave on the top bracket. Drop the cable to ground (on platform side of the ladder) and fasten to shackle provided on the platform.

**NOTE:** The LH 400 requires a double line. After dropping cable end to ground, reeve cable through the sheave on LH 400 platform and pull end once more to the roof on platform side of ladder. Fasten end to shackle provided on top bracket.

7. Remove the tie rope holding platform in position on the ladder.
8. Make certain that both ladder shoes or spikes are firmly resting on a level surface. This prevents ladder slippage or uneven loading of ladder which could cause damage or injury to equipment or personnel.
9. Attach accessories to platform as required. Before operating read and understand the power hoist operating instructions. Your platform hoist is now ready for use.

## LOWERING THE LADDER

**WARNING: BEFORE LOWERING LADDER, CHECK CAREFULLY FOR PROXIMITY OF ELECTRICAL POWER LINES.**

When dismantling and lowering the equipment, reverse the erection procedure.

### USE OF LADDER SUPPORT

Ladder lengths in excess of 28 feet require the use of ladder support. The table below provides the suggested information for the distance of the bottom of the ladder to the building and the location of the ladder support for various conditions.

Building Height (feet)	Length of Track (feet)	Base of track to Building	Track support location Cross Tie to Bottom
12	16	3' 0"	Not required
16	20	4' 0"	Not required
20	24	5' 0"	Not required
24	28	6' 0"	Not required
28	32	7' 0"	13th
32	36	8' 0"	15th
36	40	9' 0"	18th
40	44	10' 0"	20th

**WARNING: TIGHTEN ALL BOLTS AND NUTS SECURELY. IF ALL BOLTS ARE NOT IN PLACE AND TIGHTENED SECURELY, LADDER FAILURE MAY OCCUR UNDER LOAD.**

## POWER UNIT OPERATION (511500/512500)

To prevent damage or injury to the equipment or operator it is important that the operator of this equipment thoroughly understands these instructions.

These instructions should be readily available for references on job site.

## CONNECTING TO LADDER

When used on platform hoist, place the #2 clamp on the fifth cross tie from the bottom on the underside of the ladder. Center the unit between the ladder rails and lock in place by rotating #3 lock to the left. Insert # 26 lock pin in hole provided to prevent lock from loosening. (Fig.6)

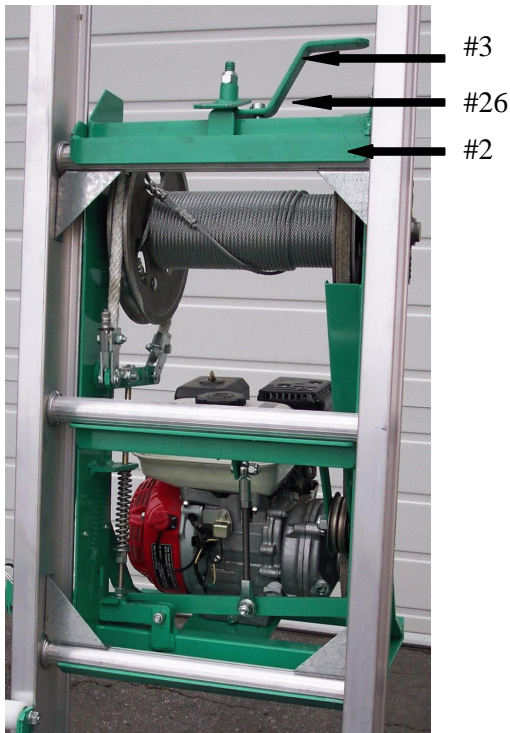


Fig.6

When you face the unit from the front of the ladder, the operating handles will be on your left.



Fig. 7

## **SAFETY PRECAUTIONS:**

1. Do not allow other people to be near the equipment during operation (except operator).
2. Do not exceed the weight capacity of your platform.
3. Never operate equipment that is damaged in any way. Repairs or replacement of damaged components must be made by a qualified mechanic.
4. Do not modify the equipment. Do not operate a modified piece of equipment.
5. Wear safety footwear, and snug fit clothing.
6. Be trained to do the specific job before operating the hoist on an actual job.
7. Do not operate this equipment if you are under the influence of alcohol, marijuana, or drugs that could impair judgment and ability.
8. Keep the equipment in good condition.
9. The owner or operator must see that all warning decals are in place and legible. Write to **Grizzly** equipment for replacement decals and instructions.

## **MAINTENANCE**

### **POWER UNIT 511500/512500**

Engines are guaranteed against defects by the manufacturer. Follow the manufacturer's instructions for proper lubrication and maintenance. For repairs contact the nearest authorized center.

Grease the drum bearings every 30 hours of operation or sooner as needed.

Lubricate each moving joint with SAE 30 oil on a regular basis to ensure free operation.

**GRAVEL HOPPER (511 050, 512 050)**

Place #38 braces in the desired holes on main frame to achieve optimum placement of gravel hopper (center hole as shown in fig. #8 is usually the best option).

Before tightening the bolts on hinged brackets, make certain that both front legs of hopper are resting solidly on platform. (If not, excessive load will be placed on #14 wheels causing undue wear).



## OPERATION

When the platform reaches the top, and #3 pivot bracket goes over the top of the rails, the discharge gate opens and dumps the material into waiting wheelbarrow or spreader.

## SAFETY HAZARDS

Safety hazards are not always obvious to workers. Unlike exposure to health hazards, where illness or injuries develop slowly, safety hazards usually result in immediate injury or death.

Broken bones, cut, bruises, sprains, burns and loss of limbs, eyesight and hearing are the kinds of injuries caused by safety hazards.

The rate of occupational injuries in roofing, in fact, ranks in the top ten of all major occupational groups.

### Falls

Falls are the number one cause of serious injury and death to roofers. An estimated 10 percent of all roofing accidents result from falls off roof edges, through roofing openings or off ladders, more than half of the non-fatal accidents result in serious injury.

Unprotected and unguarded roof edges and roof openings create extremely hazardous conditions.

Ladders with cracked, loose or missing steps: with side rails broken or cracked and not attached firmly to the steps; with broken, loose or missing locks, or coated with grease, oils or hardened bitumen can lead to serious injury. Ladders should be inspected to make sure they're properly maintained and constructed and that they're long enough to extend three feet above the roof's surface.

Improperly balanced or unstable hoists overturn and will often carry the worker along. Rolls of roofing felt should never be used as counterweight. Workers should know the load capacity; it should be posted.

### Burns

Skin contact with hot asphalt and hot coal tar pitch usually results in second and third degree burns. They usually involve deeper portions of the skin and are easily infected.

An estimated 16 percent of all injuries are burns from hot stuff. The major causes of burns have been from;

- < Kettle flashes
- < Kettle splashes from dropping pieces of coal pitch or asphalt into the kettle
- < Slips and trips while carrying hot bitumen in open containers
- < Splashes involving transfer operations like from the hot pipe outlet to a hot lugger, from a hot lugger to a mop cart or a pail, or from the kettle to a pail

### Heavy Lifting

Sprains and strains, a majority of which involve the back, are the most common roofing injury and one of the most severe. Almost 30 percent of these injuries result in 10 or more days away from work.

### Fire/Explosion

Two conditions must be met in order for fires and explosions to occur. First, there must be an ignition source, a welding arc, spark, cigarette, flame or simply a hot spot as in a kettle or tanker. Secondly, there must be the right mixture of



vapours (from asphalt, pitch, solvents) and oxygen.

- For kettles and tankers, fire/explosion conditions arise when;
- Oversized burners are used to fire the kettle, causing localized overheating of the heating tubes creating a hot spot.
- The temperature of the bitumen is brought up to the desired operation temperature too quickly.
- Allowing the level of bitumen to drop to the level of the firing tubes, allowing excessively high surface temperatures.
- Heating the bitumen to its flash point (for asphalt, about 525E-540E; for pitch, about 450E-475E)
- The temperature of the bitumen is hot enough to reach the auto-ignition level
- In tankers, the vent pipe is clogged or plugged so that flammable vapours can build up to explosive levels

Many solvents evaporate quickly at roof temperatures. Explosive mixtures of vapours can be readily formed within confined spaces like high parapet walls, in atriums or in any space where little or no ventilation exists. And any kind of spark or flame can ignite the vapours.

### **Electrocution**

Low voltage electricity can cause shock, muscle contractions, breathing difficulty, irregular heartbeat, severe burns and death. The route that the current takes through the body affects the degree of injury. Current flowing from one finger to another would not pass vital organ, while from one hand to another would pass through the heart and lungs.

Electrical tools should be properly grounded. The electrical cord should end in a three-prong grounding contact, or the wires should be enclosed in a metal case with a special grounding attachment.

Employers are required to provide ground fault circuit interrupters for all outlets on construction sites that are not part of the permanent wiring of the building. This is actually a fast-acting circuit breaker, which can shut off electricity in a fraction of a second.

Aluminum or other metal ladders pose a serious electrical hazard around electrical equipment and energized lines.

### **Falling Objects**

Tools, bricks, materials, buckets, boxes, pallets or almost anything dropped from a sufficient height can cause severe damage. Head injuries, one of the highest compensated injuries to workers, often include brain damage.

Workers need protective head gear when working beneath people, tools and equipment.

### **Flying Objects**

Objects can be projected by machines, from welding or grinding operations and can be windblown. Tear-off operations, where power cutters, power brooms and power spudders are generally used, are the major source of flying substances.

The part of the body most often injured is the eyes.

### **Unguarded Machinery**

Exposed blades and chains on powered machinery like hoists and roof cutters can severely lacerate and crush parts of the body. Guards should always be fitted over moving parts to protect workers.