

GRIZZLY

OPERATOR'S INSTRUCTION MANUAL

MODEL: 101 000 ENGINE MODEL: _____

SERIAL: _____ ENGINE SERIAL: _____

DATE OF PURCHASE: _____

PURCHASED FROM: _____

WARNING: THIS PRODUCT IS DESIGNED AND MANUFACTURED TO PROVIDE 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

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INTRODUCTION

101 000, 102 000, 103 000, 104 000 MINI MOPPERS

Thank you for purchasing this quality **GRIZZLY** product. With proper use and care, this Mini Mopper 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 ON FLAT, LEVEL ROOFS ONLY FOR THE SOLE PURPOSE OF APPLYING HOT ASPHALT. 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 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.

A hard hat must be worn by operator when working on a job site.

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

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.

HOISTING MACHINE TO ROOF

WARNING; ALWAYS CHECK DECK LOAD LIMITS WITH BUILDER, OWNER, OR ARCHITECT BEFORE DECIDING TO USE ON THE ROOF.

INSPECT THE HOIST

Make certain hoist is in safe operating condition, to be operated by trained personnel. The hoist should be clear of ground objects and overhead obstacles, such as power lines; it should be secure and properly counterbalanced. Hoist should be inspected for frayed cables, bent frame members or faulty mechanical parts. Make sure everyone on the ground is completely clear of the hoisting area. Do not exceed the weight and size capacity of your hoist. Do not use if you are in doubt.

CONNECTING TO LIFT RINGS

There is one centered lift ring on the machine (see fig.2). Always lift machine by this ring using the proper hook and cable. Do not attempt to lift the machine by any other part. Always inspect ring for wear or damage and make sure the hoist, cable, hook, etc. are in good running order or damage or injury may result.

WARNING; DO NOT LIFT THE MINI MOPPER WITH HOT STUFF CONTAINED!!!



Fig. 2

WEIGHT;	Model: 101000 Metric	80 LBS
	102000 36"	75 LBS
	103000 24"	70 LBS
	104000 48"	90 LBS

SAFETY PRECAUTIONS

- Do not allow other people to be near the machine during operation (except operator)
- Do not hoist the Mini-Mopper with hot stuff contained.
- Never operate equipment that is damaged in any way. Repairs or replacement of damaged components must be made by a qualified mechanic.
- Do not modify the equipment. Do not operate a modified piece of equipment.
- Avoid slick areas on the roof to prevent slipping.
- Wear safety footwear and snug fit clothing.
- Be trained to do the specific job before operating the equipment on an actual job.
- Do not exceed weight carrying capacity of the deck. Check with owner or architect for deck capacity.
- Operate on flat, level roofs only.
- Guard all openings in the roof.
- Do not operate within 10 feet of roof edge (or within 6 feet, if operation in parallel to the edge).
- Do not operate this machine if you are under the influence of alcohol, marijuana, or drugs that could impair judgment and ability.
- Keep the equipment in good condition.
- Make certain the operator and others in the vicinity wear a respirator and other protective gear as conditions warrant.
- Always use a spotter to guide the operator of the Mini-Mopper.

OPERATION

BEFORE OPERATION

- Check machine for cracks, broken welds and other damage. Repair or replace if damaged.
- Check bolts on handle for tightness, re-tighten if needed.
- Make sure the Mini-Mopper tank is dry before using and that there is no trash or foreign matter in the tank. Even small amounts of moisture will react violently with hot material.
- Always wear proper clothing (100% cotton is best) as recommended by roof association when on a roof:
 - a) hard hat with face shield
 - b) long sleeve work shirt buttoned at the wrist and collar
 - c) long work pants with no cuffs
 - d) safety high top shoes
 - e) work gloves with knit wrist (to prevent hot material from spilling into the glove)
- Be sure hot line is secure and cannot move, splashing operator during the filling of Mini-Mopper
- Use Mini-Mopper only on a flat, level roof and within a perimeter warning system. Never operate within 6 feet of the roof edge. Check temperature of material at the kettle or tanker. Do not accept hot material unless it is within the recommended temperature range of the manufacturer.
- Keep an approved fire extinguisher available in case of fire. Never use water.
- Check that roof is rated to handle the weight of the minimopper, and asphalt (8 lbs. Per US gallon)
- Inspect Mini-Mopper for any exterior damage and do not use if you suspect damage.
- Do not allow any external ignition source (matches, cigarettes) near heated asphalt or your hot tank.
- Tire Servicing: check tire pressure on tires.

Always check tire manufacturer's recommendations for correct tire pressure before inflating tire. (Correct tire pressure should be imprinted on the side of the tire.)

BASIC EQUIPMENT OPERATION

The Mini-Mopper is designed for use inside a perimeter warning system. It is a pull-push machine that dispenses hot asphalt. Do not operate within 10 feet of roof edge (or 6 feet if operating parallel to roof). A spotter must be designated to warn the operator when he is approaching the end of the roofing area. The spotter must shout "End of the roof" or something similar within 10 feet of the roof edge. Another type of verbal command is to countdown "3-2-1" as the operator approaches the end of the roofing area. Even if the end of the roofing area is not near a roof edge, it is helpful to the operator to anticipate the stopping point. The spotter can also inform the operator "End of the Roll" so that the operator can tip the machine and stop without wasting hot asphalt. Keep well clear of other people and materials on the roof while operating. Do not use the equipment if you don't have a qualified operator.

WARNING; DO NOT OPERATE THE MINI MOPPER WITHOUT SPOTTER. SPOTTER MUST WARN OPERATOR OF DISTANCE TO ROOF EDGE AND OPENINGS, OBSTACLES, SLIPPERY SPOTS AND OTHER POSSIBLE SITUATIONS.

DANGER; ERUPTION OF OVERHEATED ASPHALT HAS BEEN REPORTED. READ AND UNDERSTAND INSTRUCTIONS.

OVERHEATED ASHPALT MAY ERUPT

Before filling the equipment with hot stuff, be sure to adjust the flow adjustment screws. For more information see illustrated parts list. The tank can be filled from a hotline (connected to kettle or tanker) or from a portable hot tank or lugger. Always wear a face shield when filling from the hotline set up.

ERUPTION/FLASHING - AN ERUPTION REQUIRES THESE THREE COMPONENTS TO HAPPEN

Examples;

1. **Fuel** - Flammable gases from overheated, poorly refined hot material.
2. **Air** - Can come from tipping, sloshing, or discharging asphalt with filler lip open.
3. **Ignition** - Overheated material or material in tank with lower flash point (coked material on walls of tank, trash, cigarette, match).

Obtain information from your supplier of hot material for specific instructions on ways to avoid eruption or flashing of their particular product.

MINI MOPPER OPERATION

FILLING OF THE MINI MOPPER

1. Never stand downwind of hot source when filling as fumes and/or hot material may cause injury.
2. Do not fill hot tank more than $\frac{3}{4}$ full to avoid splashing of hot material.
3. Never fill with overheated material. Flash points vary and proper temperature level information must be obtained from the asphalt manufacturer.

After you fill the Mini-Mopper (respect the instructions, serious injuries can occur), tip the Mini-Mopper around the wheel axle. To go forward, pull the Mini-Mopper. The operator walks backwards, monitoring the flow and coverage of asphalt. Speed is controlled by the operator. Do not move the equipment suddenly, injuries can occur. After you finish the work you must, drain the tank completely while it is hot.

4. Always use a spotter to guide the operator.

After reading through all of the instructions, the Mini-Mopper should be ready for operation. When operating equipment for the first time, position the equipment on the ground or in an open level area away from obstructions and roof edges. With no load on the Mini Mopper, practice manoeuvring the equipment.

MAINTENANCE

Lubrication recommendations are: roller bearings on wheels are pre-lubricated and require no greasing.

The Mini-Mopper should be completely cleaned at least annually. Scrape off the build up of carbon and bitumen while the machine is still hot. Use care not to damage inside of tank.

All mechanical parts should be inspected on a regular basis, and replaced or repaired as necessary. This includes tires, rollers or structural parts of the Mini-Mopper.

Replace broken parts before operating.

Tire Servicing: Check tire pressure on tires.

Always check tire manufacturer's recommendations for correct tire pressure before inflating tire. (Correct tire pressure should be imprinted on the side of the tire.)

SAFETY HAZARDS

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

Broken bones, cuts 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 always 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 525°-540°; for pitch, about 450°-475°)
- ▶ 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

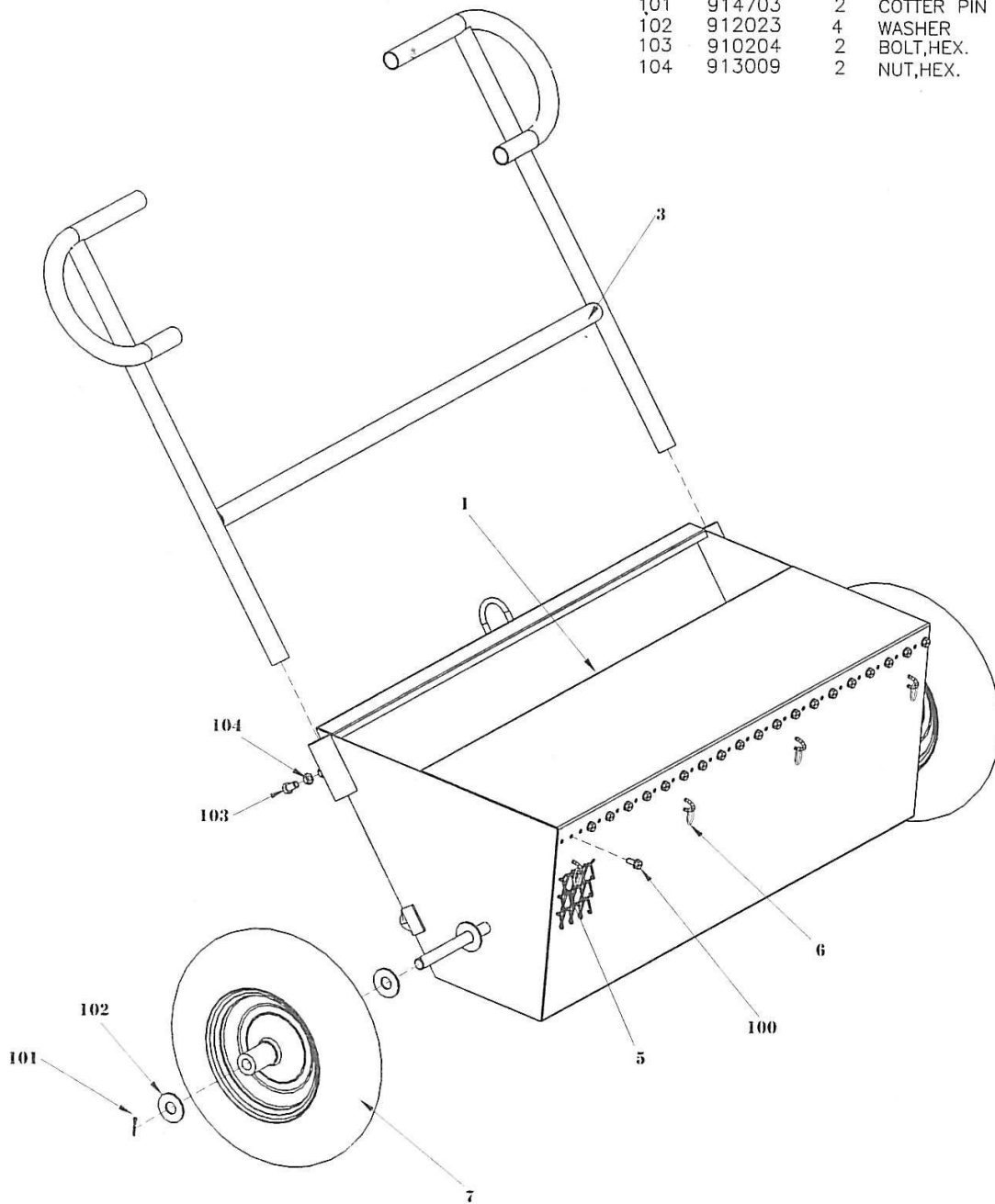
Objects can be projected by machines, from welding or grinding operations and can be windblown. Tear-off operations, where power cutters, power brooms and power spudders are generally used, are the major source of flying substances. The part of the body most often injured is the eyes.

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.

BLOW OUT

ITEM.	NO.	QTY.	DESCRIPTION
1	101001	1	FRAME
3	101003	1	HANDLEBAR
5	101005	1	MOPPING MESH
6	101006	4	CHAIN,HOOK
7	935010	2	WHEEL
100	910677	20	FLOW ADJUST,SCREW
101	914703	2	COTTER PIN
102	912023	4	WASHER
103	910204	2	BOLT,HEX.
104	913009	2	NUT,HEX.



DATE:	11.14.2005	MINI MOPPER
REV.:	01.01.2005	
EQUIPEMENT GRIZZLY EQUIPEMENT		101000