

# 72 HIGH-PERFORMANCE POWERED CARPET PULLER OPERATING & SERVICE MANUAL



Read Manual Before Operating or  
Servicing Machine

403289 Rev C

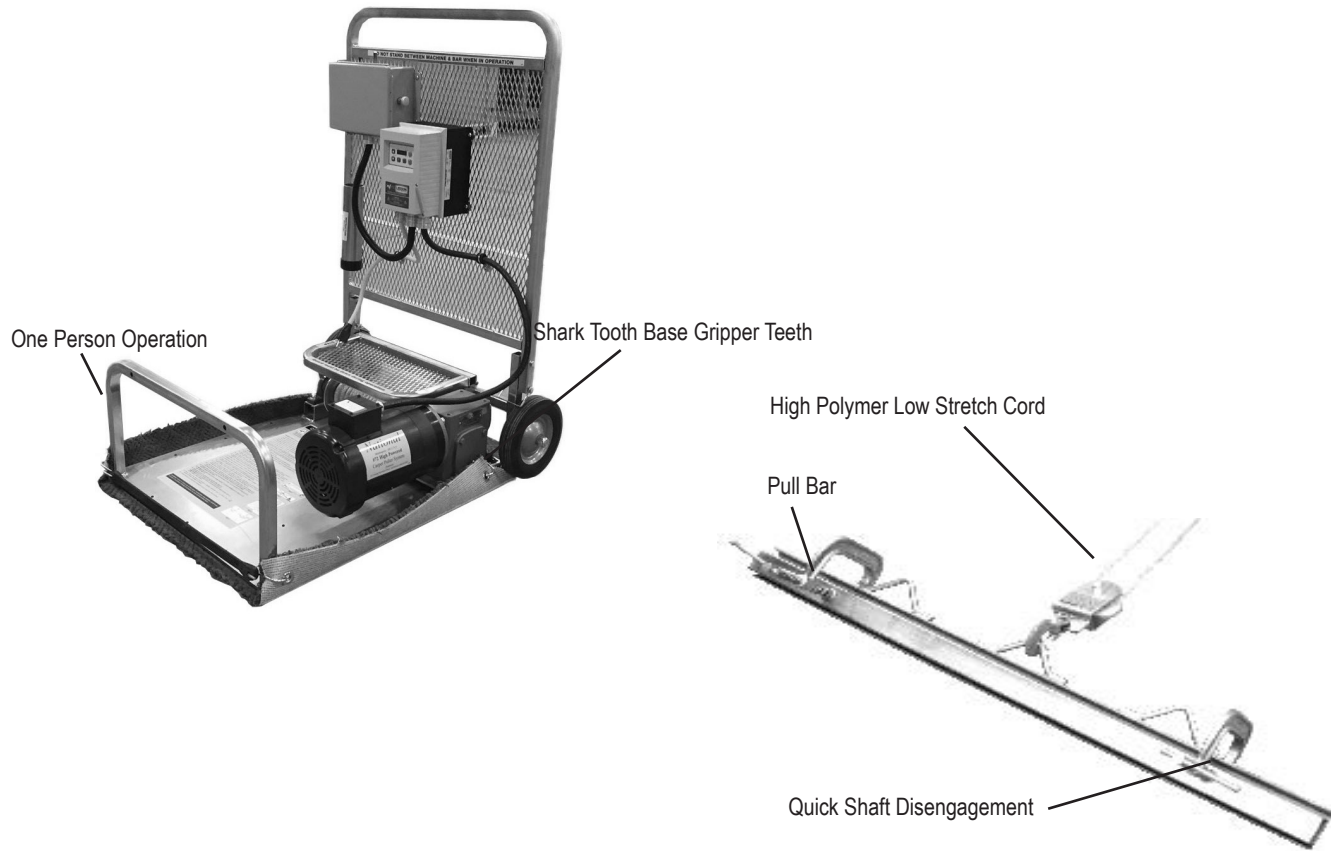


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# Features and Specifications



## FEATURES

**High-Polymer Low-Stretch Cord** - Non-nylon low stretch high polymer cord designed for safer wench application (no cable).

**Quick Shaft Disengagement** - Allows for fast re-hooks.

**One Person Operation** - Cuts normal labor to a fraction, easy to use on any job size.

**Pull Bar** - Strongest pull bars in the industry.

**Sharktooth Base Gripper Teeth** - Have a super hold even on flat carpet.

## Product Specifications

| Width            | Length         | Height                                                            | Weight   | Speed                | RPM   | Input Power | HP  | Amps (Full Load) |
|------------------|----------------|-------------------------------------------------------------------|----------|----------------------|-------|-------------|-----|------------------|
| 29.5"<br>(75 cm) | 34"<br>(86 cm) | 42" (107 cm) w/<br>screen<br>10" (25 cm) w/<br>screen folded down | 190 lbs. | Up to 30 ft/<br>min. | 1,740 | 110         | 1.5 | 5                |

## GENERAL RULES FOR SAFE OPERATION

Before use, anyone operating or performing maintenance on this equipment must read and understand this manual, as well as any labels packaged with or attached to the machine and its components. Read the manual carefully to learn equipment applications and limitations, as well as potential hazards associated with this type of equipment. Keep manual near machine at all times. If your manual is lost or damaged, contact National Flooring Equipment (NFE) for a replacement.

### PERSONAL

#### Dress properly and use safety gear.

Do not wear loose clothing; it may be caught in moving parts. Anyone in the work area must wear safety goggles or glasses, hearing protection during extended use, and a dust mask for dusty operations. Hard hats, face shields, safety shoes, etc. should be worn when specified or necessary.

#### Maintain control; stay alert.

Keep proper footing and balance, and maintain a firm grip. Observe surroundings at all times and use common sense. Do not use when tired, distracted, or under the influence of drugs, alcohol, or any medication that may cause decreased control.

#### Keep hands away from all moving parts and tooling.

Wear gloves when changing tooling. Remove tooling when machine is not in use and/or lower cutting head to the floor.

#### Do not force equipment.

Equipment will perform best at the rate for which it was designed. Excessive force only causes operator fatigue, increased wear, and reduced control.

### ENVIRONMENT

#### Avoid use in dangerous environments.

Do not use in rain, damp or wet locations, or in the presence of explosive atmospheres (gaseous fumes, dust, or flammable materials). Remove materials or debris that may be ignited by sparks. Keep work area tidy and well-lit - a cluttered or dark work area may lead to accidents. Extreme heat or cold may affect performance.

#### Protect others in the work area and be aware of surroundings.

Provide barriers or shields as needed to protect others from debris and machine operation. Children and other bystanders should be kept at a safe distance from the work area to avoid distracting the operator and/or coming into contact with the machine. Operator should be aware of who is around them and their proximity. Support personnel should never stand next to, in front of, or behind the machine while the machine is running. Operator should look behind them before backing up.

#### Guard against electric shock.

Ensure that machine is connected to a properly grounded outlet. Prevent bodily contact with grounded surfaces, e.g. pipes, radiators, ranges, and refrigerators. When scoring or making cuts, always check the work area for hidden wires or pipes.

### MAINTENANCE & REPAIRS

#### Begin maintenance work only when the machine is shut down, unplugged, and cooled down.

#### Use proper cleaning agents.

Ensure that all cleaning rags are fiber-free; do not use any aggressive cleaning products.

#### Schedule regular maintenance check-ups.

Ensure machine is properly cleaned and serviced. Remove all traces of oil, combustible fuel, or cleaning fluids from the machine and its connections and fittings. Retighten all loose fittings found during maintenance and repair work. Loose or damaged parts should be replaced immediately; use only NFE parts.

#### Do not weld or flame-cut on the machine during repairs, or make changes to machine without authorization from NFE.

### EQUIPMENT

#### Use proper parts and accessories.

Only use NFE-approved or recommended parts and accessories. Using any that are not recommended may be hazardous.

#### Ensure accessories are properly installed and maintained.

Do not permanently remove a guard or other safety device when installing an accessory or attachment.

#### Inspect for damaged parts.

Check for misalignment, binding of moving parts, loose fasteners, improper mounting, broken parts, and any other conditions that may affect operation. If abnormal noise or vibration occurs, turn the machine off immediately. Do not use damaged equipment until repaired. Do not use if power switch does not turn machine on and off. For all repairs, insist on only identical NFE replacement parts.

#### Maintain equipment and labels.

Keep handles dry, clean, and free from oil and grease. Keep cutting edges sharp and clean. Follow instructions for lubricating and changing accessories. Motor and switches should be completely enclosed at all times with no exposed wiring. Inspect cord regularly. Labels carry important information; if unreadable or missing, contact NFE for a free replacement.

#### Avoid accidental starting; store idle equipment.

When not in use, ensure that the machine is unplugged; do not turn on before plugging in. Store in a dry, secured place. Remove tooling when storing, and keep away from children.



**CAUTION!** ENSURE PROPER USE OF EXTENSION CORDS. IF AMP DRAW IS HIGHER THAN SHOWN ON TABLE OR CORD IS LONGER THAN 50 FT, SEE AN ELECTRICIAN.


ASSUMPTIONS: 3% ALLOWABLE VOLTAGE DROP, COPPER CONDUCTORS RATED FOR 75°C, 1.25 SAFETY FACTOR, CORD VOLTAGE RATING OF 600VAC, PROPER CORD TYPES (STO, STOW, SOOW).

| Amp Draw | Gauge |
|----------|-------|
| 0-12     | 14    |
| 13-16    | 12    |
| 14-24    | 10    |
| 25-40    | 8     |

# Safety

---

## CARPET PULLER SAFETY GUIDELINES

- Never stand in line of pull in case the rope breaks or the pull bar lets loose.
- Always have remote switches in hand.
- Do not allow yourself or others to become entangled in pulley, rope, winding shaft, or pull bar.
- Do not use any other type of rope that does not meet NFE specifications (less than 6-8% stretch, 13900 pound tensile strength).
- Rope should always pull straight into the machine, never at an angle.
- Never have machine at an angle where the rope winds sideways on the shaft. This could cause the rope to wind improperly on the shaft and damage the rope.
- Ensure hook is securely tied to rope. 
- Know the working load limit (WLL) of the rope being used and ensure it is appropriate for the application.
- Do not bend rope around unprotected, sharp corners. Do not use over rough surfaces without chafe protection.
- Motor should not be run without a fan cover in place.



**WARNING:** DO NOT USE CABLE. DOING SO COULD CAUSE PROPERTY DAMAGE OR BODILY INJURY.



**WARNING:** THE IMPROPER USE OF ROPE IS DANGEROUS, AND COULD RESULT IN BODILY INJURY OR DEATH. ROPE WILL FAIL IF WORN, DAMAGED, ABUSED, OVERLOADED, OR NOT PROPERLY MAINTAINED.



**WARNING:** DO NOT STAND WITHIN RECOIL (SNAPBACK) AREA, UNLESS PROTECTED BY SCREEN. FAILURE TO DO SO COULD CAUSE SERIOUS BODILY INJURY OR DEATH.



**WARNING:** DO NOT USE ANY OTHER TYPE OF ROPE THAT DOES NOT MEET NATIONALS SPECIFICATIONS. OTHER TYPES OF ROPE WHICH MAY HAVE THE PROPER WLL, GENERALLY HAVE A HIGH ELONGATION OR STRETCH FACTOR, MAKING MACHINE POTENTIALLY DANGEROUS FROM ROPE SNAP BACK RESULTING IN BODILY INJURY OR DEATH. ONLY USE NATIONAL #71-P33 REPLACEMENT ROPE FOR SAFE OPERATION. FAILURE TO DO SO COULD CAUSE PROPERTY DAMAGE OR BODILY INJURY. NEVER USE CABLE.

# Components and Assembly

## TRANSPORT

- Cover gripper strips during transportation or when machine is not in use.
- Use caution near gripper pins to avoid getting scratched. They are sharp.
- Fold screen down and secure with screen pins (Figure 1).
- When machine is not in use, lay machine down flat to safely store (Figure 2) and keep pin guard cover in place.
- When machine is being transported, lay machine flat (Figure 2). Secure machine to wall of truck and keep pin guard cover in place.
- To move machine on jobsite, lean machine back onto wheels to roll like a two wheel dolly, holding the screen as a handle (Figure 3). Remember to release any pressure from rope before trying to move or reposition machine.



**WARNING:** DO NOT LEAVE MACHINE STANDING-UP FREELY (FIGURE 1).



**WARNING:** FAILURE TO FOLLOW ANY OF THE ABOVE INSTRUCTIONS COULD CAUSE DAMAGE TO MACHINE, PROPERTY, OR SERIOUS BODILY INJURY.



FIG. 1



FIG. 2



FIG. 3

## SET UP

1. Remove all debris from carpet area that machine will be anchored to. Keep pin base clear of obstructions (sweep with broom, or vacuum).
2. Set machine down onto gripper strip.
3. Remove (2) screen pins connected to frame and screen (Figure 4).
4. Fold screen up and re-place screen pins on both sides of lower screen (Figure 5).



**WARNING:** NEVER USE MACHINE WITH DAMAGED GRIPPER STRIPS, ROPE, PULLEY, PULL BAR OR SWITCH. FAILURE TO DO SO COULD CAUSE PROPERTY DAMAGE OR BODILY INJURY.



FIG. 4

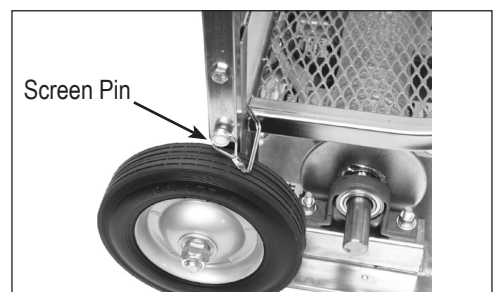


FIG. 5

# Components and Assembly

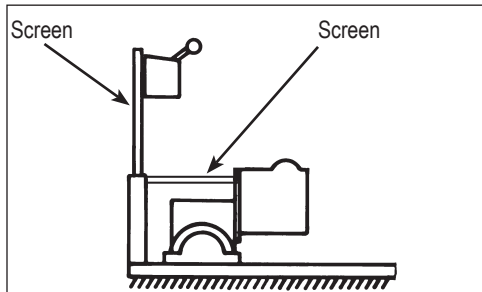


FIG. 6

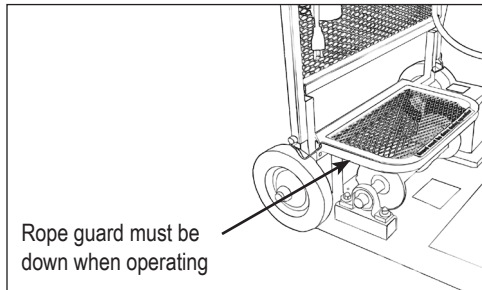


FIG. 7

## PRE-OPERATION INSPECTION

- Make certain protective screens are in place before operating (Figure 6).
- Ensure rope guard is in place. Guard should be in the down position to cover rope and drive shaft (Figure 7).
- Inspect weld points on pull bar for security.
- Inspect clamps to ensure they are not bent or damaged.
- Inspect for loose or damaged parts on the pulley wheel, pulley housing, pulley hook and pin.
- Inspect rope for cuts or fraying. Replace frayed or damaged rope with NFE stock #71-P33. Ensure hook is fastened correctly to rope. Do not tie knots in rope.
- Keep gripper strip pins clean and free from debris. Replace damaged pins with new gripper strips, NFE stock #71-P7. Clean dirty pin strips with a stiff wire brush. Brush in direction of pin angle.
- Inspect wiring for cuts or damage and switches to ensure they are in good working condition. Switches must return to the off position when released.
- Ensure fill plug is installed on gear unit.
- Pulley should be inspected before each use. Loose or damaged parts should be replaced immediately.
- Inspect area to be removed for any possible obstruction on floor, defects in carpet, cross seams, floor outlets, columns or posts.
- Remove all debris from carpet area that machine will be anchored to. Keep pin base clear of obstructions. Dirty, damaged, or missing pin strips could cause machine to slip.





**WARNING:** NEVER ATTEMPT TO GUIDE ROPE BY HAND ONTO SHAFT WHILE UNDER POWER. OPERATOR COULD BECOME ENTANGLED IN WINDING SHAFT CAUSING SERIOUS INJURY.



**WARNING:** NEVER TOUCH ROPE OR WINDING SHAFT WHILE OPERATING. DOING SO COULD CAUSE BODILY INJURY.



**WARNING:** NEVER STAND IN FRONT OR NEXT TO PULL BAR OR TRY TO PULL ON IT WHEN ROPE HAS TENSION ON IT. DOING SO COULD CAUSE SERIOUS BODILY INJURY.



**WARNING:** SWITCHES MUST COME TO NEUTRAL POSITION AND SPOOL/ ROPE COME TO STOP BEFORE REVERSE DRIVE WILL ENGAGE.

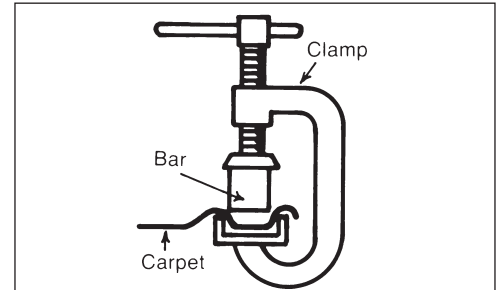
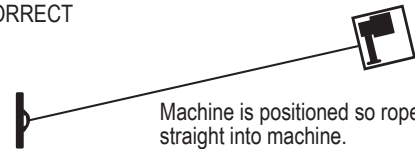


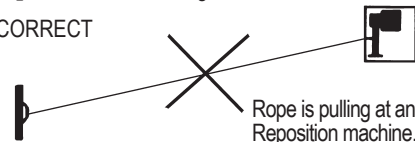
FIG. 8

CORRECT



Machine is positioned so rope pulls straight into machine.

INCORRECT



Rope is pulling at an angle. Reposition machine.

FIG. 9

## GENERAL OPERATION

### SCORING THE CARPET

- Score carpet in 6 foot widths, or narrower if the carpet is very strong.
- Carpet should be pulled lengthwise whenever possible. Carpet is the weakest, especially in woven or axminster construction, when pulling cross breadth. Watch for cross seams. If there is a small piece of carpet attached to the pull bar and the pull bar meets a cross seam, the pull bar will jump forward rapidly.

### HOOKING UP THE PULL BAR

1. Loosen the carpet approximately 12-18" from the wall where the tearout will begin. (The #99 Cobra Clamp (Figure 8) is an easy way to get ahold of carpet to pull away from the wall).
2. Attach pull bar to loosened carpet. Make sure the carpet goes all the way through the channel bar, reaching out the other side (all 3 sides) (Figure 8).
3. Insert bar and tighten "C" clamps. Make sure channel bar fits flat into the channel of the clamping bar (Figure 8). Failure to do so could cause bar to disengage carpet prematurely.

### ROPE SET-UP

MOVE MACHINE INTO PLACE SO THAT THE ROPE WILL PULL STRAIGHT INTO THE MACHINE (FIGURE 9). IF ROPE IS PULLING AT AN ANGLE, STOP THE MACHINE AND RELEASE PRESSURE ON ROPE.

PULL ROPE SHOULD ALWAYS BE AT A 90 DEGREE ANGLE TO THE MACHINE. NEVER HAVE MACHINE AT AN ANGLE WHERE THE ROPE WINDS SIDWAYS ON THE SHAFT (FIGURE 9). THIS COULD CAUSE THE ROPE TO WIND IMPROPERLY ON THE SHAFT AND DAMAGE THE ROPE.

Usually, hook rope up to the center hook on the pull bar. Hooking to the right or left shift hook on the pull bar will keep the bar at an angle to stay clear of a wall or object.

### POSITIONING MACHINE FOR STRAIGHT OR DOUBLE PULL

Single pull will remove approximately 20 ft/min. Double pull will remove approximately 12 ft/min. If machine seems bogged down when pulling on single pull, immediately shut off machine and switch to a double pull (Figure 10).

1. To adjust machine base, make sure tension is released from rope and pull bar. Lift

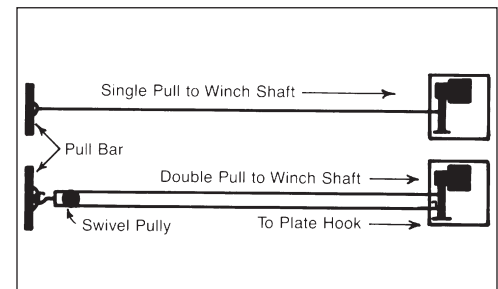


FIG. 10

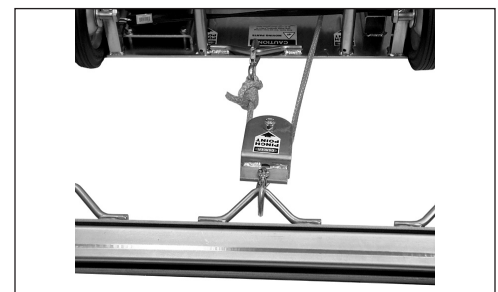


FIG. 10.1



FIG. 11

# Operation



FIG. 12



FIG. 12.1

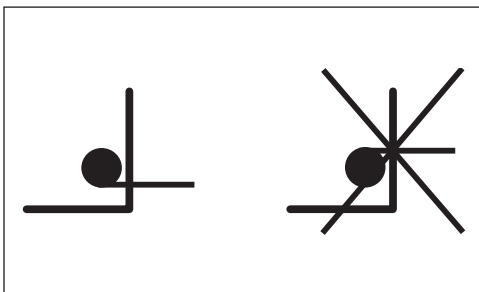


FIG. 13



FIG. 14

base using front screen (Figure 11) and position for a straight pull.

2. Release drive shaft from pin to quickly extend the rope out to the pull bar.
3. Either hook rope onto pull bar (Figure 12) or hook pulley onto pull bar and insert rope hook through pulley to attach to the rope (Figure 12.1).
4. See Figures 10 and 10.1 for double pull instructions.
5. With power off, take up slack quickly by hand. Re-engage drive shaft to pin. Rope feeds in from the bottom of the drive shaft (Figure 13).

**Note:** If you need to make any adjustments on pull bar, be sure all pressure is released on pull rope. Ensure pull bar is always free from obstructions, such as posts or other solid objects. If you should hit an obstruction, release tension on rope before adjusting pull bar.

6. If strength of carpet does not allow 6 foot width to be pulled without breaking the carpet or stalling the machine, cut carpet into smaller widths or convert from single to double pull mode (Figure 10).

**Note:** Always release tension on rope and pull bar when machine is stopped. If using an



**WARNING:** NEVER STAND IN FRONT OR NEXT TO PULL BAR, BETWEEN PULL BAR AND THE MACHINE, OR TRY TO PULL ON THE BAR WHEN ROPE HAS TENSION ON IT. DOING SO COULD CAUSE SERIOUS BODILY INJURY.



**WARNING:** NEVER TRY TO OPERATE MACHINE UNATTENDED. DO NOT ALTER SWITCHES OR GUARDS. DO NOT DEFEAT A SAFETY DEVICE.

angle pull from one room to another, ensure hallways are blocked off.

## START-UP PROCEDURE

1. Connect machine to power source. Once the unit is plugged in, the display will appear similar to this: "STOP."
2. Select direction with the toggle on top of the larger gray box.
3. Press and hold both power buttons (one on each side of larger gray box); the motor will start to turn. If it's moving the wrong direction, release the buttons and allow machine to stop; then change the toggle.
4. To stop the machine, release the power buttons.

**Note:** Machine is programmed with a slow start.

## OPERATING CONTROLS

- To change direction, use the toggle switch on the larger gray box.
- To start the machine pulling, depress both buttons on either side of the larger gray box.
- To change the pulling speed, press and hold the up arrow on the control box (Figure 14) to move faster or the down arrow to move slower. Speed is adjustable from 60 HZ to 0 HZ and is displayed on the screen.
- The "M" or "Enter" button on the control box can be used to toggle through a menu of items. The programming cannot be changed, only the speed of the machine.

# Troubleshooting Guide

| Problem                                                       | Cause                                                | Solution                                                                     |
|---------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------|
| Unit fails to operate                                         | Blown fuse or open circuit breaker                   | Replace fuse or reset circuit breaker                                        |
|                                                               | No power                                             | Check that proper power source and extension cord are being used             |
|                                                               | Defective motor                                      | Repair or replace                                                            |
|                                                               | Excessive load                                       | Convert to double pull to reduce load                                        |
| Input motor runs, but speed reducer output shaft doesn't turn | No input pin on shaft                                | Install pin                                                                  |
|                                                               | Defective gear(s)                                    | Check and replace if necessary                                               |
| Intermittent rotation of output shafts                        | Poor electrical connection                           | Check connection                                                             |
|                                                               | Damaged gear assembly, possibly caused by shock load | Replace gear and, if possible, avoid shock load                              |
| Excessive noise                                               | Bearings worn                                        | Replace                                                                      |
|                                                               | Shaft misaligned                                     | Adjust shaft                                                                 |
|                                                               | Weight overload which causes worn bearings           | Correct load and/or replace bearing                                          |
|                                                               | Insufficient lubrication                             | Check oil level                                                              |
|                                                               | Dented fan cover                                     | Replace fan cover                                                            |
| Oil leak                                                      | Fill plug not installed                              | Install fill plug                                                            |
|                                                               | Gasket broken or not sealed                          | Replace or re-seal gasket                                                    |
|                                                               | Damaged or worn seal                                 | Replace seal                                                                 |
|                                                               | Too much oil                                         | Check oil level                                                              |
| Machine moves while in use                                    | Debris in gripper strips                             | Clean or replace gripper strips                                              |
|                                                               |                                                      | Remove debris from floor surface before setting machine in place to pull     |
| Rope winds on shaft incorrectly                               | Pulling at an angle                                  | Release pressure on rope; using screen, position machine for a straight pull |

## CONTROLLER FAULT AND CIRCUIT OVERLOAD

If puller is faulting or circuits are blowing, the machine could be overloaded. This could be due to individual jobsite power sources and/or variances in jobsite floor surfaces. Always monitor load percent and make alterations to machine accordingly. Do not run load over 100%. To display the load percent, press the "Enter" button on the controller twice. To take load off the machine, follow one or more of the following:

1. Slow the speed of the machine down by holding the down arrow button.
2. If machine is in single pull mode, convert to double pull mode.

# Maintenance



**WARNING:** ENSURE POWER SUPPLY IS DISCONNECTED BEFORE SERVICING MACHINE OR REMOVING ANY COMPONENTS. FAILURE TO DO SO COULD CAUSE ELECTRIC SHOCK.

## PREVENTIVE MAINTENANCE

- Inspect for damage on power cords, rope, switches, and guards. Worn or broken cords and switches could result in electrical shock and should be replaced.
- Pull rope should be replaced when excessive wear (reduction in diameter), frays, or cuts are visible. Use #71-P33 Replacement Rope.
- Oil level in gearbox should be checked once per year. Remove level screw on side of gearbox; fill if needed (Mobil SHC 634).
- Drive shaft and pillow block bearing should be greased for free shaft movement to engage and disengage.
- Examine pulley for free movement of pulley wheel and to ensure pulley frame and hook are free from damage.



FIG. 1

## CLEANING

Properly selected and installed electric motors are capable of operating for long periods with minimal maintenance. Periodically clean dirt accumulations in and around vent openings, preferably by vacuuming to avoid embedding dirt in windows.

Periodically check that all electrical connections are tight.

## ROPE

Replace rope if frays or cuts are noticeable.

- **To remove rope**, lift guard and release drive shaft pin. Pull rope off of drive shaft. Cut knot off at the end of rope to remove.
- **To install rope**, insert rope through hole in drive shaft on the sidewinder guide. Tie a knot on end of rope to secure. Take up slack quickly by hand, then re-engage drive shaft pin. Release guard down into place. Turn switch to forward to wind rope onto drive shaft.

Secure rope hook to end of rope with knot as seen in Figure 1.

## PULL BAR

Internal clamping bar could build up with residue.

1. Remove bar.
2. With gloves on, scrape off residue with a razor scraper or wipe off with a solvent.
3. Inspect clamp for proper condition.
4. Ensure "C" clamps are not bent and are working properly.
5. Re-place bar.

## GRIPPER STRIPS

Use protective cover over gripper strips when the machine is being transported or not in use. Keep gripper pins free of debris.



FIG. 2

To remove debris, use a wire brush. Be sure to wear gloves and brush over pins in a downward motion (from back of machine to front of machine), removing debris caught in pins (Figure 2). Use a long shank screwdriver to pry out debris that is embedded into the pins.



**CAUTION:** NEVER USE MACHINE WITH DAMAGED OR CLOGGED GRIPPER STRIPS. CLOGGED GRIPPER STRIPS WILL NOT ALLOW MACHINE TO STAY SECURED WHICH COULD CAUSE DAMAGE TO MACHINE, PROPERTY DAMAGE, OR BODILY INJURY

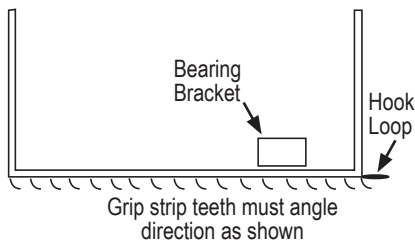


FIG. 3

## REPLACING GRIPPER STRIPS

1. Remove (6) phillips head screws.
2. Remove damaged gripper strip and replace with a new gripper strip.
3. Gripper strip pins are angled. The angle faces towards the front of the machine (Figure 3). Repeat with (4) remaining gripper strips.
4. Re-place screws (Figure 4).

## LUBRICATION

Figure 5 shows the correct locations for the oil fill plug, the oil level plug, and the oil drain plug on the reducer. Plugs may vary in location on the sides of the reducer.

For new reducers, change the oil 120 hours after the reducer starts operating (based on 8 hours per day operation). After the first change, change oil every 2,000 operating hours or every six months.

Use Mobil SHC® 634 gear lubricant or a similar synthetic gear oil. ISO viscosity grade 460. Available from National, stock #1450-40, 1 quart.

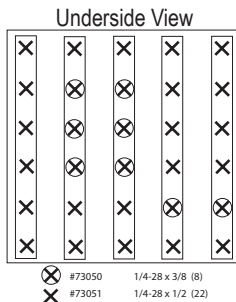


FIG. 4

## ADDING/CHANGING OIL

To add oil:

1. Remove both the fill plug and oil level plug.
2. Place oil in the fill plug hole. Keep adding oil in until it starts to come out of the oil level plug hole.
3. Replace plugs.

To change oil, first drain oil from unit by removing the drain plug. Re-place drain plug and complete steps 1-3 for adding oil.

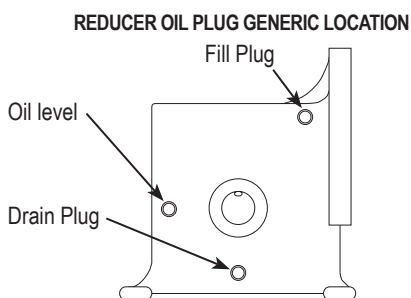


FIG. 5

## CHANGING THE OUTPUT OIL SEAL

1. Remove the rope shaft and gear reducer from the unit.
2. Place some form of support, (2 x 4 etc.), under the gear reducer shaft to keep it from bending. Drive out the gear reducer shaft pin and pick out the old seal.
3. Clean out the area where the old seal was; install the new seal by carefully pressing it in.
4. Re-install drive pin; put loctite around the middle of the pin and carefully press into the shaft.
5. Re-install rope shaft.

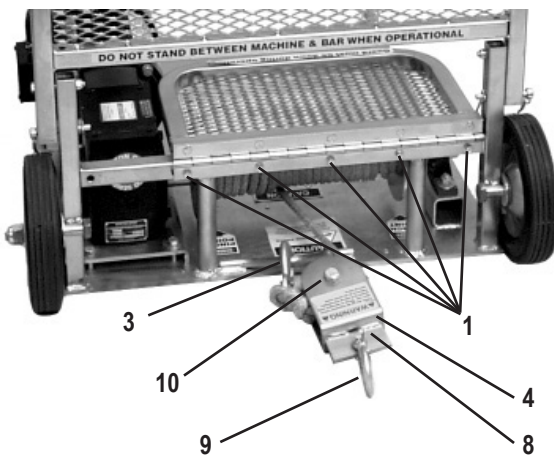
# Parts List and Diagrams

## SCREEN



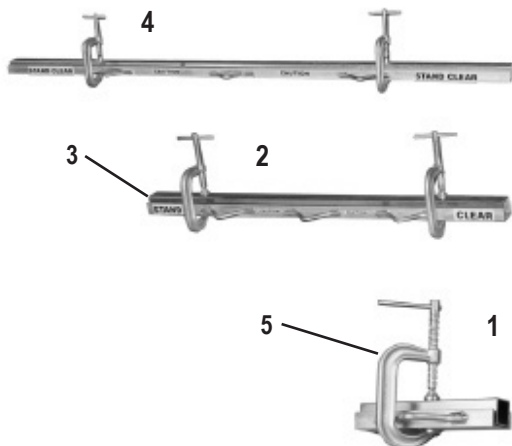
|   | PART# | DESCRIPTION                           | QTY |
|---|-------|---------------------------------------|-----|
| 1 | 71-S2 | SCREEN                                | 1   |
| 2 | 73007 | 1/4 FLAT WASHER                       | 4   |
| 3 | 73014 | 1/4-20 X 1 1/2 HEXHEAD BOLT           | 4   |
| 4 | 74406 | 10-32X3/8 PHILLIPS HEAD MACHINE SCREW | 4   |

## PULLEY



|    | PART#     | DESCRIPTION                      | QTY |
|----|-----------|----------------------------------|-----|
| 1  | 73025     | 1/4 ROPE GUARD RIVET             | 5   |
| 2  | 71-P10    | CASTER WHEEL                     | 1   |
| 3  | 71-P15    | ROPE HOOK                        | 1   |
| 4  | 71-P16    | PULLEY COMPLETE                  | 1   |
| 5  | 71-P16-1  | PULLY WHEEL & BUSHING ONLY       | 1   |
| 6  | 71-P16-1A | PULLY WHEEL ONLY                 | 1   |
| 7  | 71-P16A   | PULLY BUSHING ONLY               | 1   |
| 8  | 71-P16B   | PULLEY BODY ONLY                 | 1   |
| 9  | 71-P16-2  | PULLEY HOOK ONLY                 | 1   |
| 10 | 73409     | 1/2-13 X 2 1/2 HEXHEAD CAP SCREW | 1   |

## PULL BAR



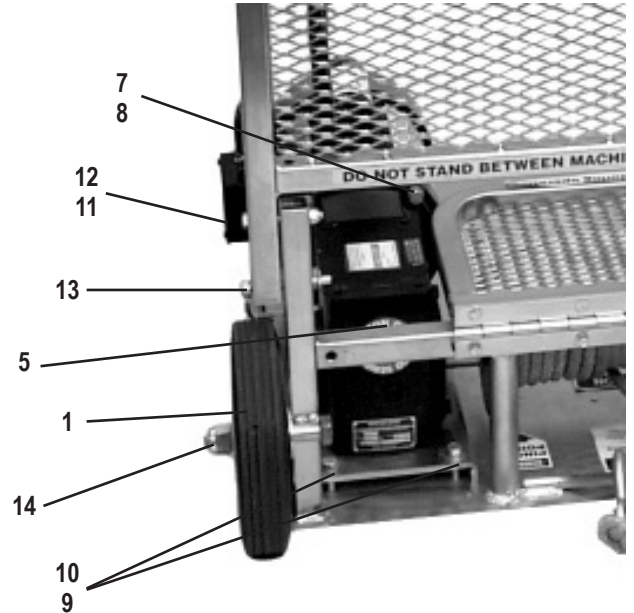
|   | PART# | DESCRIPTION               | QTY |
|---|-------|---------------------------|-----|
| 1 | 71-1  | PULL BAR 1'               | 1   |
| 2 | 71-2  | PULL BAR 46"              | 1   |
| 3 | 71-2A | 46" CLAMP BAR INSERT ONLY | 1   |
| 4 | 71-3  | PULL BAR 7'               | 1   |
| 5 | 71-C  | "C" CLAMP ONLY            | 1   |



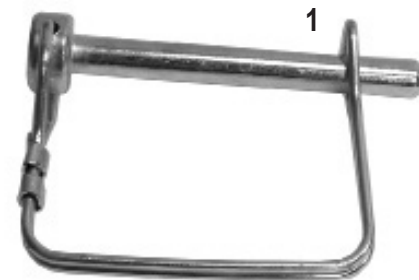
# Parts List and Diagrams

| PART# | DESCRIPTION                                     | QTY |
|-------|-------------------------------------------------|-----|
| 1     | 500-29 WHEEL (EACH)                             | 1   |
| 2     | 1450-13 BOX SEAL (DAYTON), SHAFT END (EXTERNAL) | 1   |
| 3     | 1450-27 GEAR BOX SEAL (DAYTON), SHAFT END       | 1   |
| 4     | 1450-28 DRIVE SHAFT PIN ONLY                    | 1   |
| 5     | 1451 GEAR REDUCER WITH PLATE & PIN              | 1   |
| 6     | 1451-19 GEAR REDUCER SEAL (NATIONAL)            | 1   |
| 7     | 73201 3/8-16 X 1 HEXHEAD BOLT                   | 4   |
| 8     | 73204 3/8 LOCK WASHER                           | 4   |
| 9     | 73215 3/8 EXTERNAL LOCK WASHER                  | 4   |
| 10    | 73241 3/8-24 X 1 1/4 HEXHEAD BOLT               | 4   |
| 11    | 73322 5/16-18 NYLON LOCK NUT                    | 2   |
| 12    | 73327 5/16 X 18 X 2 1/2 HEXHEAD BOLT            | 2   |
| 13    | 73330 5/16 X 2 PIN                              | 2   |
| 14    | 73525 5/8-11 NYLON LOCK NUT                     | 1   |

## WHEEL & GEAR REDUCER

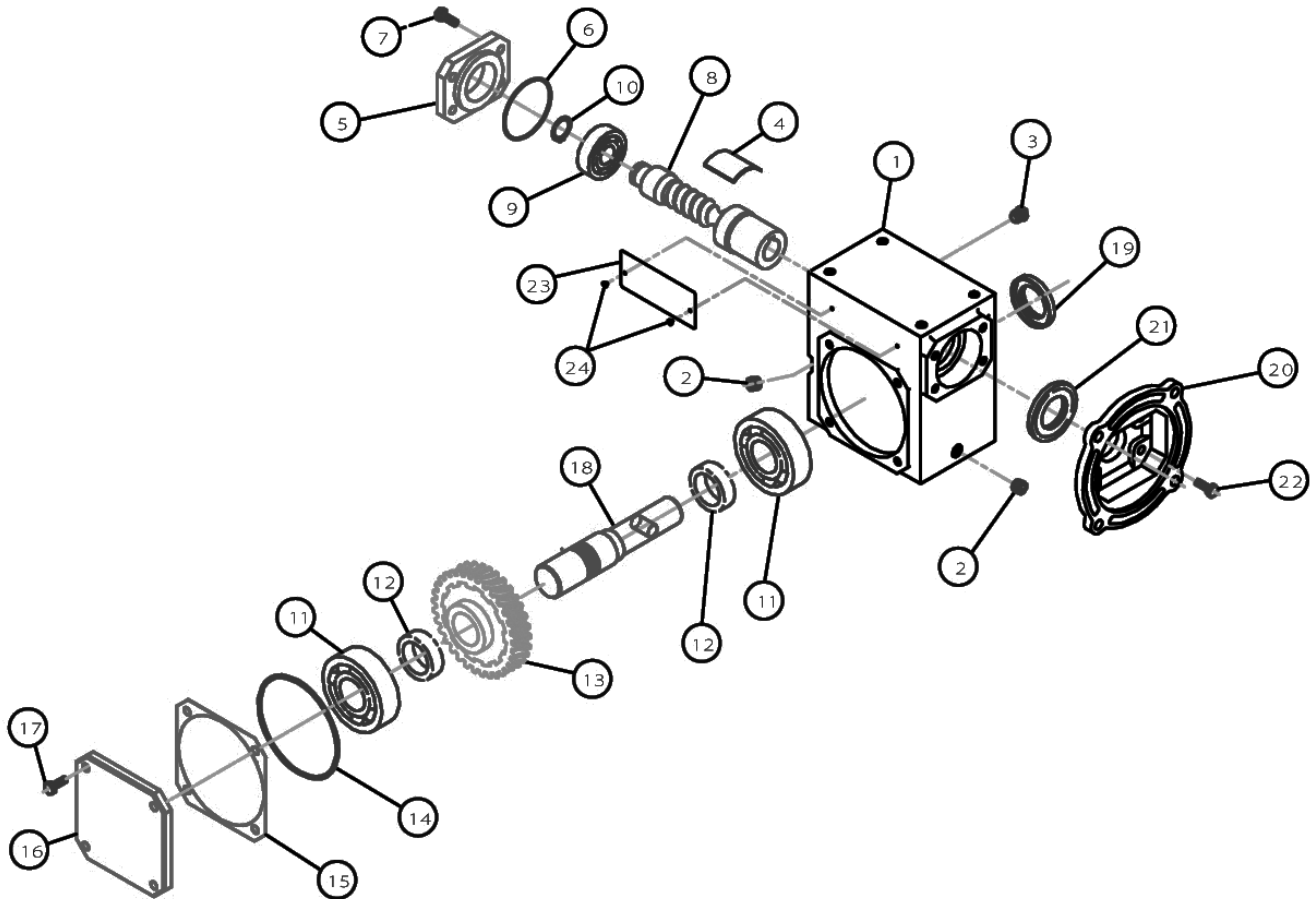


| PART# | DESCRIPTION        | QTY | PIN |
|-------|--------------------|-----|-----|
| 1     | 73330 5/16 X 2 PIN | 2   |     |



# Parts List and Diagrams

## GEAR REDUCER



| PART# | DESCRIPTION | QTY                            | PART# | DESCRIPTION | QTY                               |
|-------|-------------|--------------------------------|-------|-------------|-----------------------------------|
| 1     | 1450-28     | DRIVE SHAFT PIN                | 13    | 1451-9      | BEARING, BALL INPUT (#204)        |
| 2     | 1450-40     | GEAR OIL, 1 QT.                | 14    | 1451-10     | RING, RETAINER - EXTERNAL         |
| 3     | 1450-50     | SPACER PLATE FOR GEAR          | 15    | 1451-11     | BEARING, OUTPUT TAPPED ROLLER     |
| 4     | 1451        | GEAR REDUCER W/PLATE & PIN     | 16    | 1451-12     | SPACER, SOLID OUTPUT, (2.06)      |
| 5     | 1451-1      | GEAR HOUSING                   | 17    | 1451-13     | GEAR, SOLID OUTPUT, (2.06)        |
| 6     | 1451-2      | PLUG, PIPE HEX SOCKET          | 18    | 1451-14     | O-RING, AS568A-043                |
| 7     | 1451-3      | PLUG, POPPET VENT .25-18 NPT   | 19    | 1451-15     | SHIM, OUTPUT                      |
| 8     | 1451-4      | PLATE, OIL SPLASH GUARD        | 20    | 1451-19     | SEAL, OIL OUTPUT                  |
| 9     | 1451-5      | COVER, INPUT BLIND             | 21    | 1451-20     | FLANGE, QUILL (56C/140TC)         |
| 10    | 1451-6      | O-RING, AS568A-031             | 22    | 1451-21     | SEAL, OIL, INPUT FLANGE           |
| 11    | 1451-7      | SCREW, HEX HEAD CAP            | 23    | 1451-30     | SOLID OUTPUT ASSEMBLY REPLACEMENT |
| 12    | 1451-8      | SHAFT, INPUT QUILL (2.06 C.D.) |       |             |                                   |



# Parts List and Diagrams

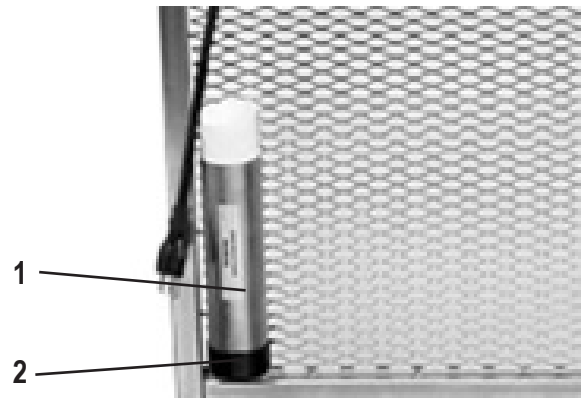
|   | <b>PART#</b> | <b>DESCRIPTION</b>     | <b>QTY</b> |
|---|--------------|------------------------|------------|
| 1 | 402265       | BOX, SWITCH, WIRED     | 1          |
| 2 | 402284       | CONTROLLER, BOX, WIRED | 1          |

## CONTROLLER PARTS



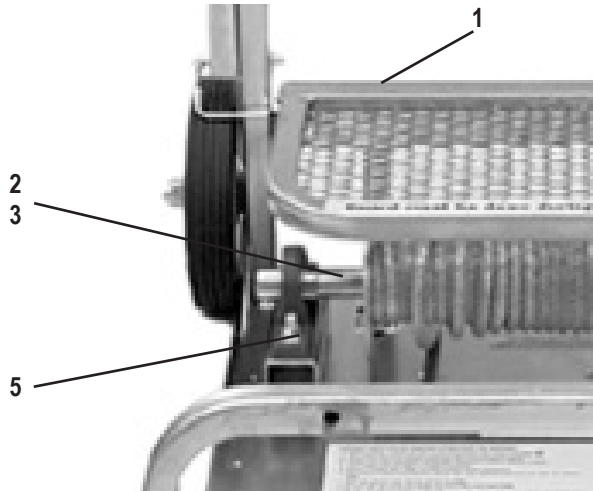
|   | <b>PART#</b> | <b>DESCRIPTION</b>   | <b>QTY</b> |
|---|--------------|----------------------|------------|
| 1 | 70602        | INSTRUCTION TUBE     | 1          |
| 2 | 70603        | INSTRUCTION TUBE CAP | 1          |

## INSTRUCTION TUBE



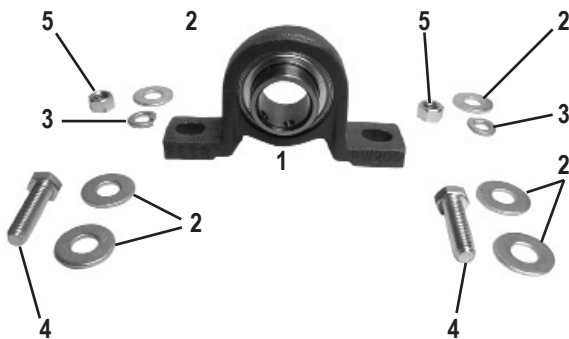
# Parts List and Diagrams

## ROPE & DRIVE SHAFT



|   | PART#  | DESCRIPTION             | QTY |
|---|--------|-------------------------|-----|
| 1 | 71-20  | ROPE GUARD              | 1   |
| 2 | 71-P17 | DRIVE SHAFT             | 1   |
| 3 | 71112  | PILLOW BLOCK BEARING    | 1   |
| 4 | 71-P33 | 50 FT. ROPE             | 1   |
| 5 | 73204  | 3/8 INT/EXT LOCK WASHER | 2   |

## PILLOW BLOCK BEARING PARTS



|   | PART# | DESCRIPTION                 | QTY |
|---|-------|-----------------------------|-----|
| 1 | 71112 | 1" ID BEARING               | 1   |
| 2 | 73203 | 3/8 FLAT WASHER             | 6   |
| 3 | 73204 | 3/8 SPLIT LOCK WASHER       | 4   |
| 4 | 73206 | 3/8-16 X 1 1/4 HEXHEAD BOLT | 2   |
| 5 | 73207 | 3/8 NYLON LOCK NUT          | 2   |

## PILLOW BLOCK BEARING PARTS

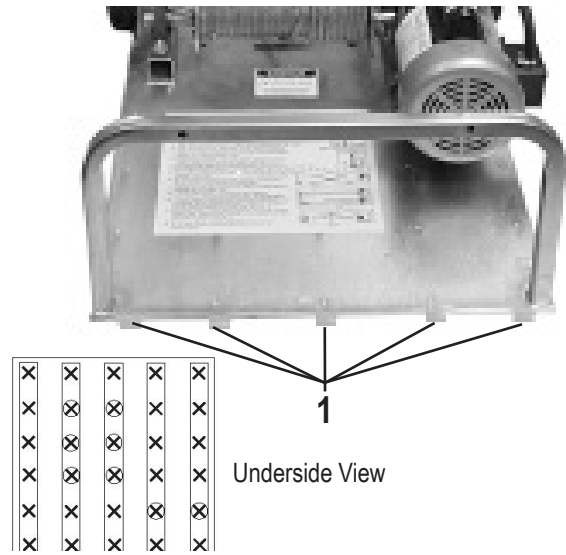


|   | PART#    | DESCRIPTION  | QTY |
|---|----------|--------------|-----|
| 1 | 72-21    | MOTOR SPACER | 1   |
| 2 | 72361-72 | 1.5 HP MOTOR | 1   |

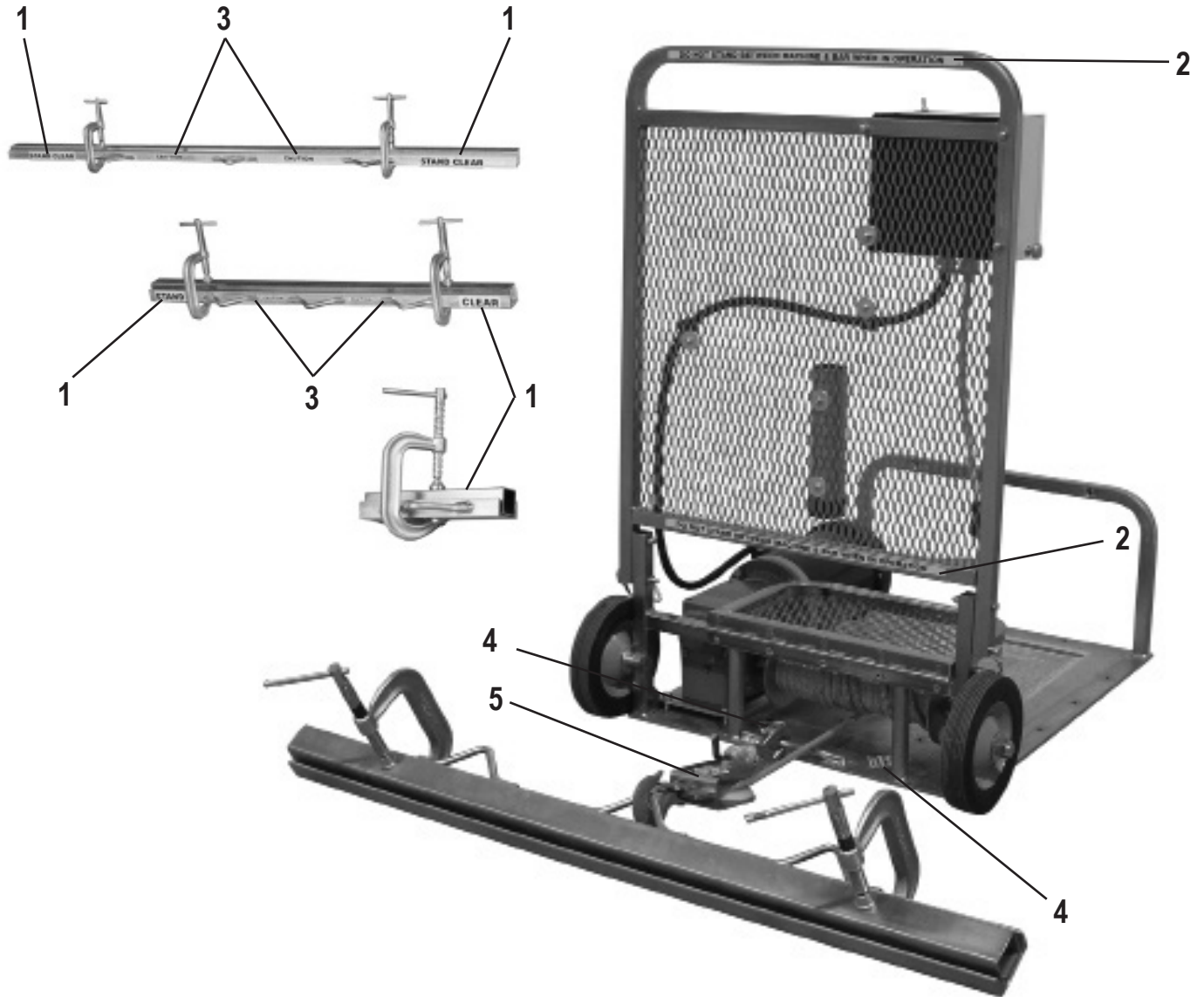
# Parts List and Diagrams

| PART#    | DESCRIPTION                                      | QTY |
|----------|--------------------------------------------------|-----|
| 1 71-P8  | REPLACEMENT GRIPPER STRIP<br>(5 STRIPS PER BASE) | 1   |
| 2 71-P8S | GRIPPER STRIP SPACER                             | 5   |
| 3 71-P32 | PROTECTIVE GRIP STRIP COVER & STRAPS             | 1   |
| 4 73051  | 1/4-28 X 1/2                                     | 22  |
| 5 73050  | 1/4-28 X 3/8                                     | 8   |

## GRIPPER STRIP

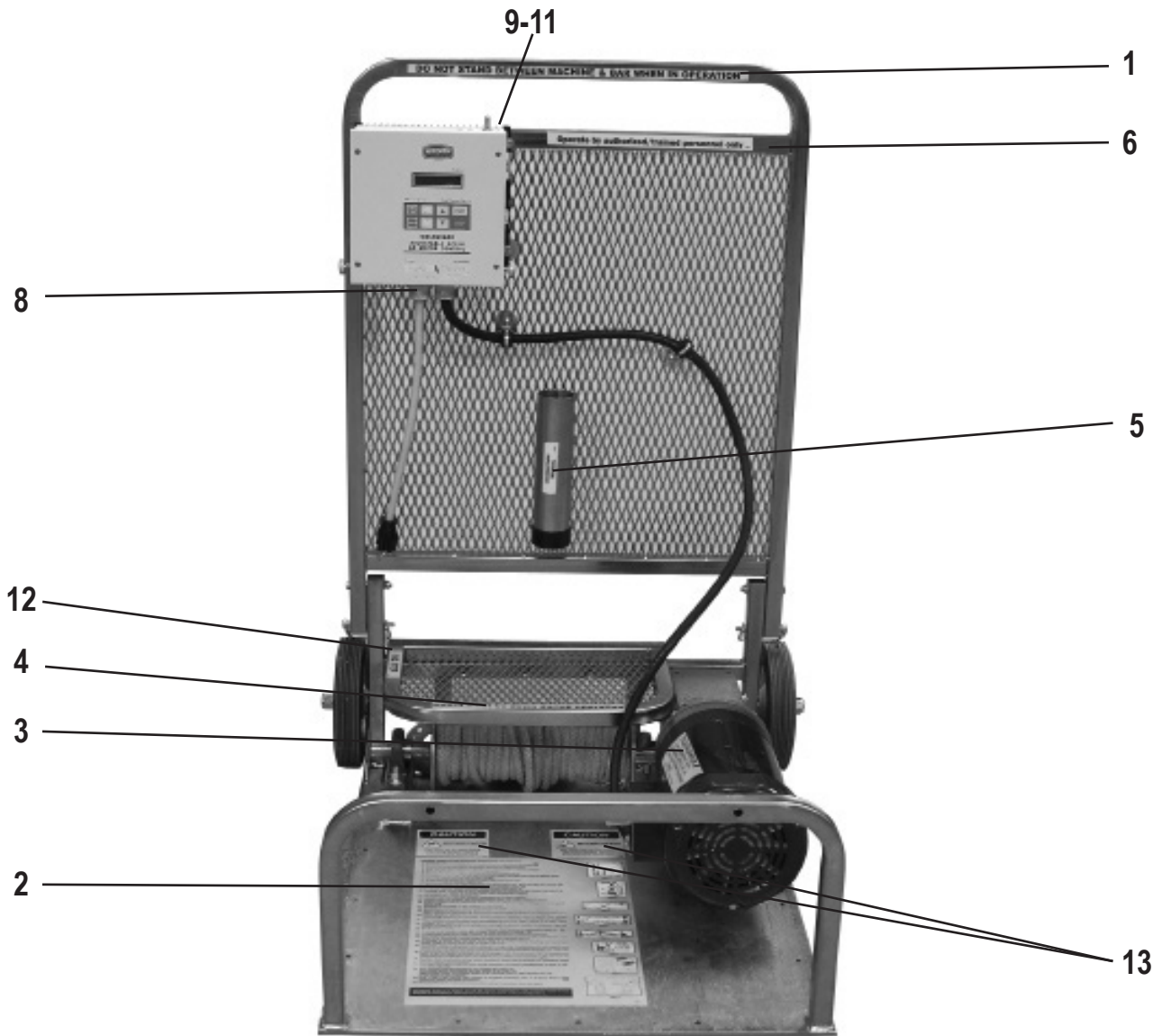


# Parts List and Diagrams



| PART# | DESCRIPTION | QTY                         | PART# | DESCRIPTION | QTY   |                      |   |
|-------|-------------|-----------------------------|-------|-------------|-------|----------------------|---|
| 1     | L08         | STAND CLEAR LABEL (PER BAR) | 2     | 4           | L106  | PINCH POINT LABEL    | 3 |
| 2     | L26         | DO NOT STAND BETWEEN        | 3     | 5           | L1000 | PULLEY WARNING LABEL | 1 |
| 3     | L66         | CAUTION LABEL (PER BAR)     | 2     |             |       |                      |   |

# Parts List and Diagrams



| PART# | DESCRIPTION | QTY                             | PART# | DESCRIPTION | QTY   |                                        |   |
|-------|-------------|---------------------------------|-------|-------------|-------|----------------------------------------|---|
| 1     | L26         | DO NOT STAND BETWEEN            | 3     | 8           | L95J  | 110 VOLT LABEL (ON CONTROL BOX)        | 1 |
| 2     | L27         | OPERATING INSTRUCTIONS LABEL    | 1     | 9           | L110B | OFF LABEL                              | 1 |
| 3     | L32A        | STOCK #72 LABEL                 | 1     | 10          | L110C | IN LABEL                               | 1 |
| 4     | L33A        | GUARD MUST BE DOWN LABEL        | 1     | 11          | L110D | OUT LABEL                              | 1 |
| 5     | L33C        | INSTRUCTION MANUAL LABEL        | 1     | 12          | L135  | NO STEP LABEL                          | 1 |
| 6     | L33D        | AUTHORIZED PERSONNEL ONLY LABEL | 1     | 13          | L33B  | CAUTION MOVING PARTS LABEL (NOT SHOWN) | 2 |
| 7     | L49         | CAUTION CORD LABEL              | 1     |             |       |                                        |   |







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