

# 5625 PROPANE RIDE-ON SCRAPER OPERATING MANUAL



Read Manual Before Operating Machine

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# Features and Specifications



## FEATURES

**Non-marking Tires** - Large non-marking tires work on all types of applications and debris build-up.

**Adjustable Foot Pegs** - Adjustable foot pegs provide optimum comfort and ergonomics.

**Fork Lift Cups** - Easily accessible fork lift cups for loading/unloading.

**Debris Deflector** - Redirects debris away from the operator.

**Control Levers** - Moves forward, in reverse, turns, and brakes with easy-to-move levers.

**Cutting Head Cylinder Lift** - Changes the angle of the cutting head with the control handle next to the operator seat.

**Adjustable Slide Plate** - Affords maximum versatility in blade settings.

**Quick-Change Swivel Head** - Assures continuous blade contact with the floor.

## Product Specifications

Width	Length	Height	Empty Weight	Weight	Speed	RPM	HP
26" (66 cm)	63" (160 cm)	52.25" (133 cm)	1,371 lbs (623 kg)	1,816 lbs (824 kg)	Up to 200 ft/min.	2,950	25

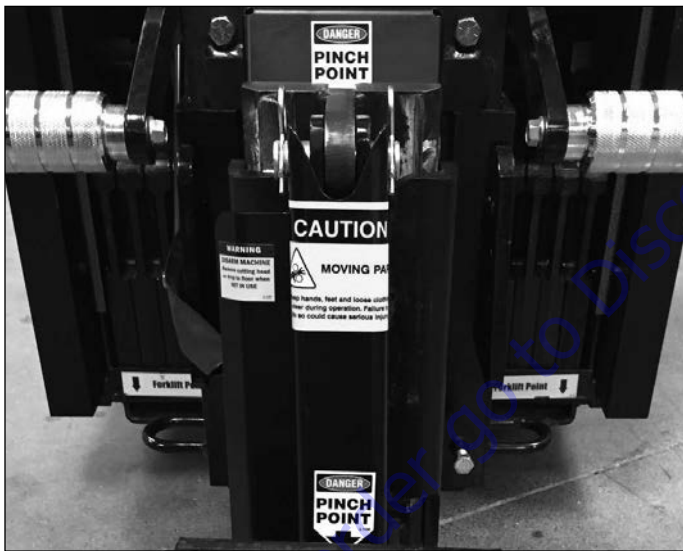
# Features and Specifications

## MACHINE VARIANTS

### Differences Between Machine Models

Region	Serial Number	Propane Tank	Body Panels	Cutting Head
United States	5625-10XXXX	7050-P	Silver Vein	Manual Lift
	5625-23XXXX	Top Bracket	Silver Vein	Manual Lift
	5625-12XXXX	Top Bracket	Green	Manual Lift
	5625-17XXXX	7050-P	Silver Vein	Dual Lift
	5625DL-23XXXX	Top Bracket	Silver Vein	Dual Lift
International	5625-13XXXX	Top Bracket	Silver Vein	Dual Lift

Dual Lift



Manual Lift



7050-P Propane Tank



Top Bracket Propane Tank



**ATTENTION:** NATIONAL FLOORING EQUIPMENT (NFE) DOES NOT SUPPORT CONVERTING THE 7050-P PROPANE TANK TO A TOP BRACKET CONFIGURATION. THIS CONFIGURATION IS NOT AVAILABLE UNLESS APPROVED BY NFE.

# Safety

## 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. Everyone in the work area should wear safety goggles or glasses. Wear 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. Wear the provided Carbon Monoxide (CO) lapel monitor when operating.

#### **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/or blades.**

Wear gloves when changing blades. Remove blade 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. Only use in properly ventilated areas, due to possible CO exposure.

#### **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.**

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.

### 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 safety device when installing accessories.

#### **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 if ignition switch does not turn machine on and off. For repairs, insist on identical NFE 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's propane valve is closed. Store in a dry, secured place. Remove blades when storing, and keep away from children.

#### **Wear CO lapel monitor (NFE # 75007) when operating.**

The presence of CO will change the impregnated silica color from red to burgundy, then to gray or black as the concentration levels increase. Once the detector is exposed to fresh air, it will return back to red. An unopened pack will last 2-3 years (expiration date is visible through unopened package on the back). Once opened it should be replaced approximately every 90 days.

### Maintenance & Repairs

#### **Begin maintenance work only when the machine is shut down, the propane valve is closed, and the engine has cooled.**

#### **Use proper cleaning agents.**

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

#### **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 without authorization from NFE.**



## RIDE-ON SCRAPER SAFETY GUIDELINES

Before use, anyone operating this equipment must read and understand these safety instructions.

### Scraping

**Do not drive machine along hills or uneven surfaces.**

The weight of the machine may become distributed differently if on an uneven surface. Too much of an angle could make the machine unsafe or cause it to tip over. Always keep the front of the machine facing downward while traveling up or down ramps or inclines. Do not run the machine in unsafe environments.

**Observe location of electrical supplies and extension cords.**

Do not allow cutting heads to come into contact with any electrical supply or extension cord.

**Operator must be seated before starting machine and should stay seated until motor has stopped running.**

This machine is equipped with a safety switch under the seat, which requires the operator to be seated before the machine can be operated. Do not attempt the start-up procedure without first being seated on the machine.

**Be aware of protrusions (stud anchors, re-bar, threaded rod, etc.), cracks, and expansion joints.**

### Battery

**Remove personal metal items when working with batteries.**

A battery can produce a short circuit current sufficient enough to weld metal objects, causing severe burns. Be careful to not drop metal tools on the battery, as a spark or short circuit could cause an explosion.

**Never smoke or allow a spark or flame near the battery.**

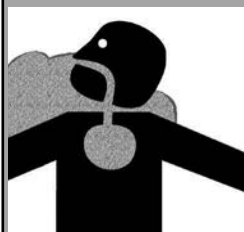
**Do not block the machine's air flow.**

Blocking ventilation slots or air flow will result in damage to the machine. Leave space for air to flow freely during operation.



**WARNING:** BE CAUTIOUS WHEN WORKING WITH BATTERY. IF ELECTROLYTIC ACID GETS IN THE EYES, IMMEDIATELY FLUSH OUT WITH COLD, FRESH WATER FOR AT LEAST 10 MINUTES AND GET MEDICAL HELP.

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**WARNING:** GRINDING/CUTTING/DRILLING OF MASONRY, CONCRETE, METAL AND OTHER MATERIALS CAN GENERATE DUST, MISTS AND FUMES CONTAINING CHEMICALS KNOWN TO CAUSE SERIOUS FATAL INJURY OR ILLNESS, SUCH AS RESPIRATORY DISEASE, CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. IF YOU ARE UNFAMILIAR WITH THE RISKS ASSOCIATED WITH THE PARTICULAR MATERIAL BEING CUT, REVIEW THE MATERIAL SAFETY DATA SHEET AND/OR CONSULT YOU EMPLOYER, THE MATERIAL MANUFACTURER/SUPPLIER, GOVERNMENTAL AGENCIES SUCH AS OSHA AND NIOSH AND OTHER AUTHORITIES ON HAZARDOUS MATERIALS. CALIFORNIA AND SOME OTHER AUTHORITIES, FOR INSTANCE, HAVE PUBLISHED LISTS OF SUBSTANCES KNOWN TO CAUSE CANCER, REPRODUCTIVE TOXICITY, OR OTHER HARMFUL EFFECTS. CONTROL DUST, MIST AND FUMES AT THE SOURCE WHERE POSSIBLE. IN THIS REGARD USE GOOD WORK PRACTICES AND FOLLOW THE RECOMMENDATIONS OF THE MANUFACTURER/SUPPLIER, OSHA/NIOSH, AND OCCUPATIONAL AND TRADE ASSOCIATIONS. WHEN THE HAZARDS FROM INHALATION OF DUST, MISTS AND FUMES CANNOT BE ELIMINATED, THE OPERATOR AND ANY BYSTANDERS SHOULD ALWAYS WEAR A RESPIRATOR APPROVED BY OSHA/MSHA FOR THE MATERIAL BEING CUT.

# Safety

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## HYDRAULIC SAFETY

### Maintaining a Safe Work Environment

Establishing a safe work environment in and around your hydraulic equipment is extremely important. The easiest and most effective way to avoid problems is to make sure associates understand their equipment, know how to operate the machines safely, and recognize the dangers if handled carelessly. A few things to be aware of are:

- **Pressure:** Hydraulic fluid under pressure is dangerous and can cause serious injury. Never look for a leak when unit is under pressure. Using your hand could cause serious injury. A few common ways to encounter hydraulic fluid under pressure include:
  - Pinhole: Fluid under pressure can cause serious injury. It can be almost invisible escaping from a pinhole, and it can pierce the skin into the body.



**DANGER:** DO NOT TOUCH A PRESSURIZED HYDRAULIC HOSE ASSEMBLY WITH ANY PART OF THE BODY. IF FLUID PUNCTURES THE SKIN, EVEN IF NO PAIN IS FELT, A SERIOUS EMERGENCY EXISTS. OBTAIN MEDICAL ASSISTANCE IMMEDIATELY. FAILURE TO DO SO COULD RESULT IN LOSS OF THE INJURED BODY PART OR DEATH.

- Leak: Keep fittings and hoses tight. Only check and service when not under pressure. Leaking hydraulic fluid is hazardous; in addition to making workplace floors slippery and dangerous, it also contaminates the environment. Before cleaning an oil spill, always check EPA, state, and local regulations.
  - Burst: Whether due to improper selection or damage, a ruptured hose can cause injury. If it bursts, a worker can be burned, cut, injected, or may slip and fall.
  - Coupling Blow-Off: If the assembly is not properly made or installed, the coupling could come off and hit or spray a worker, possibly resulting in serious injury. Never operate machine without guards.
- **Flammability:** When ignited, some hydraulic fluids can cause fires and/or explode. With the exception of those comprised primarily of water, all hydraulic fluid is flammable (including many “fire-resistant” hydraulic fluids) when exposed to the proper conditions. Leaking pressurized hydraulic fluids may develop a mist or fine spray that can flash or explode upon contact with a source of ignition. These explosions can be very severe and could result in serious injury or death. Precautions should be taken to eliminate all ignition sources from contact with escaping fluids, sprays or mists resulting from hydraulic failures. Sources of ignition could be electrical discharges (sparks), open flames, extremely high temperatures, sparks caused by metal-to-metal contact, etc.



**CAUTION:** NEVER USE YOUR HANDS TO CHECK FOR LEAKS OVER HOSE OR HYDRAULIC CONNECTIONS. USE A PIECE OF CARDBOARD TO LOCATE A PRESSURIZED LEAK. FOR LOW PRESSURE LEAKS (DRIPS), USE A RAG TO CLEAN THE AREA AND DETERMINE WHERE THE LEAK ORIGINATES.

- **Mechanical:** Hydraulic fluid creates movement, which means some equipment may move. Observe surroundings and equipment at all times.
- **Moisture:** Do not use in wet or high moisture conditions.
- **Electrical:** Faulty wiring can be an electrical hazard. A regular preventive maintenance program should always include a wiring check. If applicable, disconnect battery before servicing.
- **Temperature:** Because this machine operates at a relatively low pressure, overheating is not common. If surface of tank becomes too hot to touch by hand (above 130°F or 55°C), shut off machine and allow it to cool.

### Hydraulic Fluid

Only use Texaco Rando 46 Hydraulic Oil or compatible fluid like ISO or AW #46 from a brand name manufacturer. Non-compatible fluids could cause damage to unit or serious injury.



# Components and Assembly

## TRANSPORT

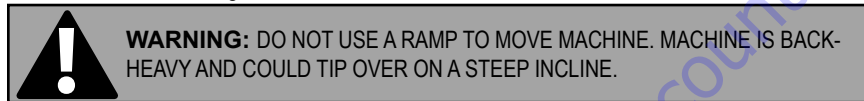
- Secure machine down with ratchet straps when transporting the machine. Straps need to be rated at least twice the weight of the machine.
- Never leave machine unattended on an incline; chock wheels to keep machine from rolling.
- Hydraulic levers should be straight up in the “neutral” position, not locked in the forward or backward position.
- Lift machine off swivel caster or transport wheels by lowering cutting head for better stabilization.
- Always remove blade and cutting head when machine is being moved or transported. Slide plate can be removed to make the machine more compact.
- Removing any added weight prior to loading/unloading makes this process easier and safer.

## Dock Heights

It is best to load or unload the machine from a level dock height, e.g. a van from a van dock height or a truck/semi from a regular dock height.

## Power Gate

A power gate can be used when the appropriate dock height is unavailable. Ensure gate is properly rated for machine. To better secure machine, raise machine off the caster and onto the lowered cutting head. Tie machine down; chock wheels.



## Fork Lift Cups

There are two fork lift cups mounted under the front of the machine (Figure 1). Slide fork lift forks through fork lift cups. Slide forks all the way back to where they almost touch the rear tire (Figure 1.1). Before lifting machine, secure machine to fork lift with heavy 3000 lb. or heavier rope or chain. Tilt forks back to lift machine (Figure 1.2).

## Wheel Chocks

Wheel chocks will help to secure the machine, but do not use wheel chocks on their own.

## LONG-TERM MACHINE STORAGE

1. Follow the procedure for shutting down the machine in the Operation section.
2. After engine has completely cooled down, disconnect propane line.
3. Remove negative terminal on battery.

## JOBSITE MOVEMENT

### Taping Wheels

Taping the wheels with a wide masking tape can prevent damage to floors during move-in and move-out.

### Front Wheel Assembly

The front wheel assembly (#5110-100) is included and very helpful when moving the machine around on a job site or loading the machine that is not on a pallet. It allows ma-

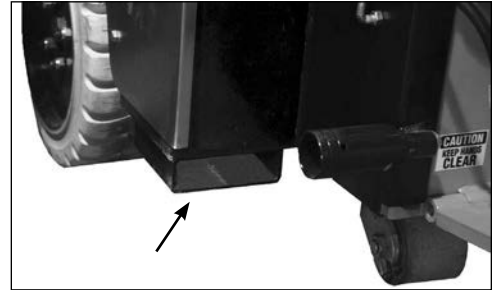


FIG. 1

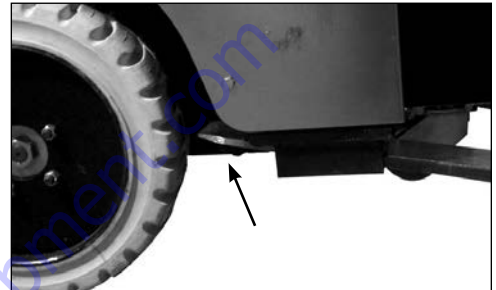


FIG. 1.1



FIG. 1.2

# Components and Assembly



FIG. 2

FIG. 2.1

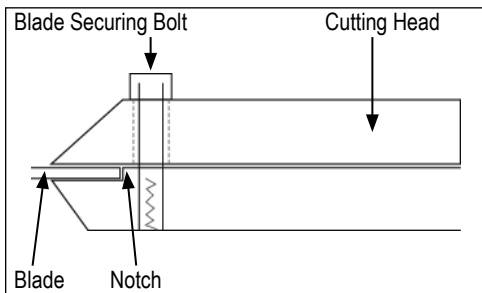


FIG. 3

chine stability and safe transportation over most surfaces. It is easy and quick to attach or detach.

1. Raise slide plate so the bottom of the slide plate is higher or even with the bottom of the guide channels.
2. Raise cylinder; remove cutting head or shank.
3. Insert the front wheel assembly into the cutting head.
4. Secure with securing pin.

## Moving Machine without Power (Pushing Machine)

**Forward:** To move the machine forward, levers need to be pushed forward. To lock levers in place, connect a bungee-strap from each lever (pushing levers forward), pulling straps down to and connecting to the front plate (Figure 2). Never leave machine unattended with strap holding levers open.



**WARNING:** PROTECT OTHERS IN WORK AREA. PROVIDE BARRIERS OR SHIELDS AS NEEDED TO PROTECT OTHERS FROM DEBRIS AND MACHINE OPERATION. OPERATOR SHOULD BE AWARE OF WHO IS AROUND THEM AND THEIR PROXIMITY.

**Backward:** To move machine backward, levers need to be pulled backwards. To lock levers in place, connect a bungee strap from each lever (pushing levers backward), Pulling straps to the back of the machine and connecting behind the seat or the rear of the machine (Figure 2.1). Never leave machine unattended with strap holding levers open.



**WARNING:** ALWAYS REMOVE STRAPS BEFORE STARTING MOTORS. FAILURE TO DO SO WILL MAKE MACHINE MOVE AND MAY CAUSE PROPERTY DAMAGE AND/OR BODILY INJURY.

## Moving Machine on Caster

Moving a weighted machine only on the front caster and not on the cutting head or the front wheel assembly can seem to make the machine turn sluggish. It might turn hard to the right or the left, which is normal.

# Components and Assembly

## CUTTING HEAD AND BLADES

Matching the correct cutting head, blade size, blade angle and added weight to the machine to make the material removal as easy as possible is important. For every material being removed, there is an optimum blade width, thickness, sharpness, angle and bevel (bevel up or bevel down).

The machine is supplied with a 6" and 12" cutting head. Having additional cutting heads will save time on the job. Insert blades into the extra cutting heads before starting a job. When the blade is dull, instead of taking the time to replace it or sharpen it on the job, take out the cutting head and replace it with another.



**WARNING:** DISARM MACHINE WHEN MACHINE IS NOT IN USE. REMOVE THE CUTTING HEAD OR LOWER CUTTING HEAD TO THE FLOOR. FAILURE TO DO SO COULD CAUSE SEVERE BODILY INJURY.



**WARNING:** BLADES ARE SHARP, USE EXTREME CAUTION. NEVER CHANGE CUTTING HEAD OR SERVICE BLADES WHILE MACHINE IS RUNNING.

### Shear Point

The shear point is the point where material to be removed will cut cleanly from the floor. If the blade is too wide, too dull or too steep, the shear point is lost.

### Inserting Cutting Head

1. With machine off, insert desired cutting head into cutting head holder.
2. Secure with cutting head clip.

### Swivel Head

The swivel head keeps the blade in contact with the floor even when the floor is uneven. When using a flat blade, by swiveling the head over 180° allows another sharp edge on the blade without having to replace the blade.



**WARNING:** MACHINE HAS A SWIVEL FRONT CASTER. NEVER "SIDE HILL" (FIGURE 1). IF THE MACHINE IS ON AN INCLINE WITHOUT POWER, THE FRONT CASTER WILL CAUSE MACHINE TO SWING TO THE LOWEST POINT. IF IT IS NECESSARY TO RUN MACHINE ON AN INCLINE, RUN MACHINE ON CUTTING HEAD. PLACE AT LEAST AN 8" CUTTING HEAD ON MACHINE. TO KEEP FROM DAMAGING FLOOR, CLAMP A PIECE OF CARPET TO CUTTING HEAD.

### Inserting or Changing Blades

Sharp blades are imperative for good performance. Always wear gloves when handling blades.

1. Using a 3/4" socket wrench, loosen bolts on cutting head. Quantity of bolts will vary depending upon cutting head size.
2. Insert blade into the cutting head to back of notch (Figure 3); tighten firmly.

**Note:** A cordless 3/8" drive impact wrench will speed up this process.

### Inserting a Shank Blade

Shank blades do not require a cutting head.

1. Insert desired shank blade into cutting head holder.
2. Secure with cutting head clip.

### Self-Scoring Blades

Instead of pre-scoring a job, for soft goods (carpet, vinyl, linoleum, membrane) the self-scoring blades automatically do the scoring.

### Sharpening Blades

Dull blades greatly reduce cutting ability. Re-sharpen or replace as needed. In use, blades develop a back-bevel (Figure 4). When re-sharpening, blade will not be truly sharp until all back-bevel is gone.

**Note:** Thinner blades are easier to sharpen, but they also break easier.

# Components and Assembly

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FIG. 4

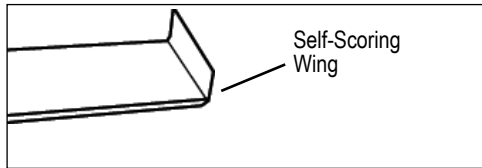


FIG. 5

- Always wear gloves and safety glasses.
- Grind blade using a 4" diameter disk with 120 or finer grit. Be careful not to catch disk on edge or corner of blade.
- Pass grinder along blade edge starting on one end and continuing in one direction being careful to hold grinder at proper angle of blade. Grind until sharp.
- While using a high quality fine tooth hand file, follow the same procedure as above.
- Blades are sharp. Use extreme caution.
- Have plenty of sharp blades on each job so on-the-job blade sharpening is eliminated.
- It is best to re-sharpen dull blades on proper bench or belt grinder in the shop, so the blades are ready for the next job.

**Sharpening Self-Scoring Blades:** It is important to keep the "wings" on a self-scoring blade sharp (Figure 5). Use a file on the wing edge. Sharpen the flat part of the blade, the same way as described above.

**Sharpening Carbide-Tipped Blades:** To sharpen carbide tipped blades, a carbide grinding wheel is necessary, i.e. silicon carbide or green wheel.

## WHEEL SIZE

An 18" wheel comes standard on the machine. This wheel will work on all types of applications and flooring with heavy debris build-up (VCT, ceramic etc.). It also works well for slippery/slimy residue, ie. double stick.

Keep wheels clean and free of debris, make sure it can move freely. Clean as needed; inspect before each use.

## START-UP PROCEDURE

1. Insert key to the power key start (Figure 6).

**Note:** The machine is equipped with a kill switch in the seat, so it will not start unless the operator is properly seated.

2. Open propane tank valve by turning knob counterclockwise until fully open.
3. Ensure that hydraulic levers are centered.
4. Set throttle at a quarter open.
5. Start machine with ignition switch. Both a red and green light will illuminate (Figure 6.1). Do not hold in the “on” position for more than five seconds.
6. As soon as the engine starts, the red light will shut off. If the Red light does not shut off, turn machine off.
7. Adjust throttle to desired RPM.

**Note:** If machine is not running but the key is in the ignition and in the “on” position, the hour meter will continue to run.

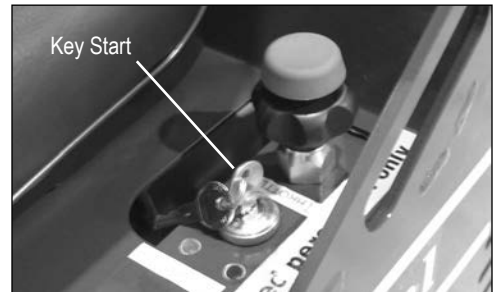


FIG. 6

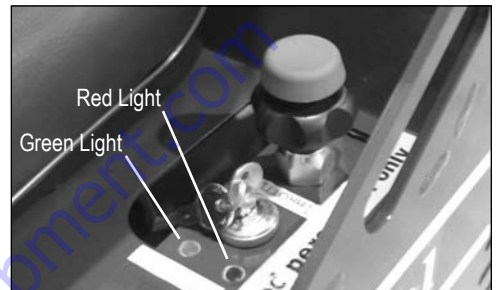


FIG. 6.1

## CONTROLS

### Throttle Control

1. With machine on, adjust throttle to desired RPM by pulling up on the throttle control.
2. When at desired RPM, turn throttle friction knob counter-clockwise to hold in position (Figure 7).

### Hydraulic Levers

The hydraulic levers (Figure 8) steer the machine. They are feathered spool valves. For smooth even movement, always move levers slowly. Fast movement on control levers will result in jerky, uneven movement.

- To move the machine forward, push both levers forward  $\uparrow\uparrow$ .
- To move the machine backward, pull both levers backward  $\downarrow\downarrow$ .
- To turn the machine quickly to the right, move the left lever forward and the right lever backward  $\uparrow\downarrow$ .
- To turn the machine quickly to the left, move the left lever backward and the right lever forward  $\downarrow\uparrow$ .
- To turn the machine slowly to the left or right, push the left or right lever forward  $\uparrow$  or backwards  $\downarrow$ .
- Correcting direction while moving forward is accomplished by slightly reducing pressure on one lever or the other while moving.
- Placing levers in the center position will cause the wheels to lock-up.



FIG. 7



FIG. 8

# Operation



FIG. 9



FIG. 10

## Cylinder Lift Lever

The cylinder lift lever (Figure 9) raises and lowers the cylinder and cutting head. After setting slide plate to proper height, use the cylinder lift lever to set blade to proper cutting angle.

- Pull back ↓ on the cylinder lift lever to raise the cutting head.
- Push the cylinder lift lever forward ↑ to lower the cutting head.
- Continuing to push the cylinder lift lever forward and it will adjust the angle of the cutting head. This will also lift up the front of the machine. **Note:** This will need to be done when doing maintenance on the machine (ie: wheel changing, front caster maintenance etc). When doing machine maintenance, besides raising the cutting head angle, place blocks under the machine. Never use the cutting head only.



**WARNING:** BE AWARE OF THE MACHINE'S OPERATING ANGLES AND CAUTIOUS OF ANY UNBALANCED MACHINERY OR TOOLING. WHEN CHANGING FROM A LOW SLIDE PLATE TO A HIGH SLIDE PLATE SETTING, A LOW CUTTING HEAD TO A HIGH CUTTING HEAD ANGLE, OR WHILE OPERATING ON A SURFACE THAT IS NOT LEVEL, THE WEIGHT OF THE MACHINE MAY BE DISTRIBUTED DIFFERENTLY OR MAY BECOME UNBALANCED. TOO MUCH OF AN ANGLE COULD MAKE THE MACHINE UNSAFE OR CAUSE A TIP-OVER. DO NOT RUN THE MACHINE IN UNSAFE ENVIRONMENTS.



**WARNING:** DO NOT ALTER A SWITCH OR LEVER. DO NOT DEFEAT A SAFETY DEVICE.



**WARNING:** DISARM MACHINE BY REMOVING THE CUTTING HEAD OR LOWERING THE CUTTING HEAD TO THE FLOOR WHEN THE MACHINE IS NOT IN USE.

## SHUT-DOWN PROCEDURE

This is the state or condition that minimizes the danger of mechanical, electrical, pneumatic or hydraulic hazards.

1. Move the machine to level ground.
2. Turn off the ignition switch and remove the key.
3. Do not move hydraulic levers. The hydraulic system is the brake system. Moving levers could cause machine to roll, causing damage to machine, property damage and/ or bodily injury.
4. Wait until motor has stopped completely.
5. Close propane tank valve (Figure 10) (S/N: 5625-10XXXX and 5625-17XXXX only).
6. Let the engine, exhaust system and hydraulic components cool down before performing maintenance on the machine.



**WARNING:** ENGINE, EXHAUST SYSTEM, AND HYDRAULIC COMPONENT TEMPERATURES COULD BE IN EXCESS OF 200° F, CAUSING SEVERE BURNS IF TOUCHED.



## CHANGING PROPANE TANK

(S/N: 5625-10XXXX and 5625-17XXXX only)

1. Turn machine off.
2. Lift hood.
3. Disconnect propane hose (Figure 11).
4. Remove tank and replace.
5. Connect propane hose and close hood.



FIG. 11

## SLIDE PLATE ADJUSTMENTS AND SETTINGS

### Manual Lift

6. Follow shut-down procedure.
7. Remove cutting head.
8. Completely loosen slide plate bolts (Figure 12).
9. Use cylinder lift lever to raise or lower machine to move slide plate up or down.

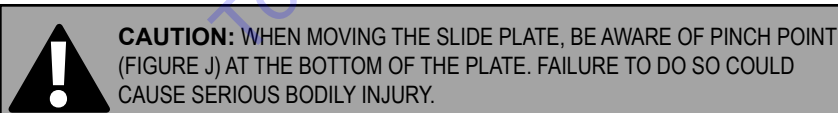
### Dual Lift

Prior to adjusting the dual lift hydraulic slide plate, make sure the channel guide is free of any debris and the machine is safely positioned on a flat surface.

1. Be properly seated in the operator's seat.
2. Twist the Red Emergency Stop switch located on the right side of the operator, the spring-loaded switch will pop up when twisted.
3. Push the Green 'ON' button to start the machine.
4. Adjacent to the left hand steering lever is a straight and narrow handle rod, this handle rod raises and lowers the front cylinder and is referred to as the 'cutting head lever'. To set the height of the hydraulic slide plate start by first adjusting the angle or pitch of the cutting head holder.
5. Pull back on the cutting head lever and raise the cutting head holder to an angle higher than the bottom of the slide plate.
6. Using the lever adjacent to the right hand steering lever raises and lowers the hydraulic slide plate and is referred to as the 'slide plate lever'. To lower the slide plate the operator must push forward on the slide plate lever. Reversely, to raise the slide plate the operator must pull back on the slide plate lever.



FIG. 12



### Slide Plate Settings

While the hydraulic slide plate can be adjusted to multiple positions, there are two basic slide plate settings:

- **Low Setting:** the hydraulic slide plate is positioned 1" off the floor. This setting is most commonly used during initial scraping or removal applications; such as carpet, VCT, ceramic tile and wood flooring. **Note:** The "low" setting on older model hydraulic slide plates may stop the plate within one to two inches of the floors surface.
- **High Setting:** the hydraulic slide plate is positioned 6" off the floor or in most cases flush with the bottom of the slide plate channel guide. This setting is most often

# Operation

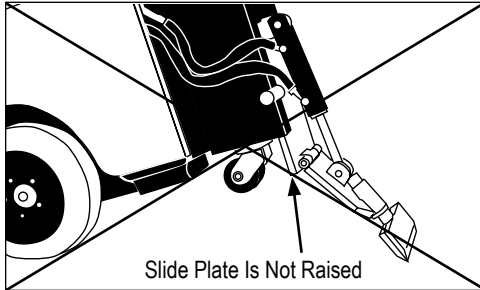


FIG. 13

used for re-scraping glues, mastics, thin sets and soft coating.

## Steep Cutting Head Angle

A steep angle is only used for re-scraping. The slide plate has to be raised so the bottom of the slide plate is higher or even with the bottom of the guide channels. Not raising the slide plate when operating the machine at a steep angle will cause the machine to jump and buck. It does not give the operator a clear vision of the cutting head and it raises the machine to operate at a unsafe operating height (Figure 13). Failure to raise the slide plate could cause machine damage and/or bodily injury.

## BLADE SETTINGS

- Dull blades greatly reduce cutting ability; sharpen or replace as needed.
- Start with a narrow blade, then increase blade size to optimize cutting pass. Narrower blades work easier than wider blades and usually clean the floor better.
- For harder jobs, use a smaller blade.
- Normally, bevel on blade is up for concrete; bevel down on wood and shoe blades for soft sub-floors.



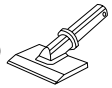
**BEVEL UP  
CONCRETE FLOORS**



**BEVEL DOWN  
SHOE BLADES  
WOOD FLOORS**



**SHOE BLADE  
SOFT SUB-FLOORS**



- Keep your work area clean and clear of debris.
- After you have removed a portion of material, move it out of the way. This will give the machine maximum performance and help to keep the work area safe.

## Weight vs. Sharpness

The most common way to compensate for a dull blade is to add more weight and raise the blade angle. Weight allows dull blades to be used to a point. Weight also causes blades to dull and break easier. Blades of any thickness tend to catch cracks and expansion joints and will bend or break the blade if set at a high angle. For best results, run a small ditching blade at a low angle to identify as many cracks and joints as possible. If blades are breaking, the conditions of use have been misunderstood.

## SETUP FOR SPECIFIC APPLICATION

### Ceramic

The slide plate should be adjusted to a low setting 1" off the floor. Use a shank blade or a shank blade with a carbide tip.

### Wood

The slide plate should be adjusted to a low setting 1" off the floor. Use shank blades, shank blades with carbide tips or a 6" or 8" cutting head with shoe blades, bent shoe blades, or heavy duty blades.

**Note:** Run machine 45° to the grain of the wood.

A heavy machine cannot be used on wood subfloors or raised panel computer floors. Keep machine light, remove all weights. A weighted machine could break through the floor. The slide plate should be adjusted to a low setting 1" off the floor. Blades should be as flat of an angle as possible. Use a shoe blade, extra heavy duty blade (these blades have a bend to them) or a regular blade, bevel up. When using a regular blade, bending up the corners of the blade will help from the blade digging into the floor. Sometimes

a shank blade or a shank blade with a carbide tip will work. Allow blade to shear material from the floor. The trick on wood floors is to run the blade flat. Approach should be at a 45° angle to the board. This keeps from digging into the board and hanging up at the seams.

## Secondary-Backing Carpet

The slide plate should be adjusted to a low setting 1" off the floor. Use a cutting head from 10"-27" with heavy duty blades or a cutting head from 10"-14" with a self-scoring blade.

## Foam-Back Carpet

The slide plate should be adjusted to a low setting 1" off the floor. Use cutting heads from 10"-14" with self-scoring blades. If it is not stuck tight, use a cutting head from 14"-27" with a standard blade.

## Double-Stick Carpet

The slide plate should be adjusted to a low setting 1" off the floor. It is best to test to see which is the easiest way to remove double stick. Start with a cutting head from 10"-14" with self-scoring blades. If self-scoring blades do not work, score through the carpet the width of the blade (standard blade) and scrape up. In some cases, carpet might pull off the pad and then scrape up the pad separately. Usually leaving carpet connected to the pad works the best. Sharp blades are necessary for proper operation.

**Note:** When removing carpet from over VCT Tile and the tile needs to be saved, run the machine at a 45° angle over the tile. This should help to save the tile.

## VCT Tile

The slide plate should be adjusted to a low setting 1" off the floor. If goods come up easily, change to a larger cutting head. If goods come up harder, use a cutting head from 6"-8" with a premium high tempered blade (.062) to match cutting head size. Sometimes a .094 blade may work better. If goods remove easily, a Tile Box #7074 can be used. A tile box also works for wind rowing, assists for a fast clean-up and collection of tile debris for quick removal.

## Rubber Tile

The slide plate should be adjusted to a low setting 1" off the floor. Use a cutting head from 6"-14" with self-scoring blades or use ditching method with a flat blade.

## Re-Scraping

Slide plate should be set high, 6"-8" off the floor. Use a cutting head from 8"-27" with scraper blades to match cutting head size. A 15" scraper blade would use a 14" cutting head. Razor blades are faster but a cutting head from 8"-14" can be used with a standard blade. Flip head regularly.

## Thin Coating

Slide plate could be set high, 6"-8" or low 1" off the floor. Test to see which works best. Use a cutting head from 8"-27" with razor blades to match cutting head size.

## Concrete

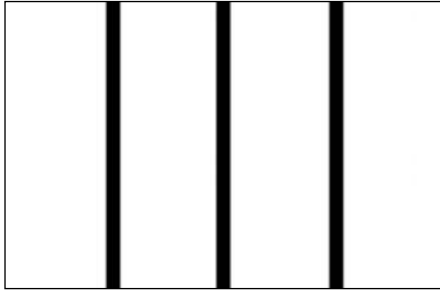
Blade should be bevel up when working over concrete. Pretty much anything over concrete works. Try different set-ups to see which works best. If goods come up difficult, the slide plate should be at a low setting, 1" off the floor. Use a smaller size blade. If goods come up easily, a wider blade can be used.

## Soft Sub-Floor

The slide plate should be adjusted to a low setting 1" off the floor. Blades should be as flat of an angle as possible. Use a shoe blade, extra heavy duty blade (these blades have a bend to them) or a regular blade, bevel down. When using a regular blade, bending up the corners of the blade will help from the blade digging into the floor. Sometimes a shank blade or a shank blade with a carbide tip will work.

# Operation

Tile Ditch  
1'-2' Strips 2"-6" Blade **CROSS ROOM DITCHING**



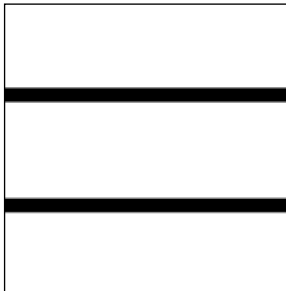
**Figure 14**

↑ Run the machine the same direction that the ditches are made ↑

### CHECKER BOARD DITCHING

Carpet 4'-6' apart

Use as large of a blade as possible for ditch



**Figure 15**

↑ Run the machine crossways from the directions that the ditches are made ↑

## DITCHING

### Cross-Room Ditching

When removing hard-to-remove ceramic, VCT or VAT, cross-room ditching will help to make the removal easier. Using a blade 2"-6" in width, make ditches 1'-2' apart in the same direction the machine will be removing the goods (Figure 14). This relieves the pressure holding the tiles together. If ditching helps and the goods are coming up easy, try using a wider blade to ditch with.

### Checkerboard Ditching

To make carpet removal and debris cleanup easier, checkerboard ditching is very helpful. Using as wide of a self-scoring blade as possible, make ditches 4'-6' apart crossways from the way the machine will be removing the goods (Figure 15). Running the machine crossways from the ditches will make smaller pieces of debris to be hauled away. Instead of large gummy rolls of carpet, there are small squares that can be rolled, palletized, put on a dolly or folded with the sticky side in. This makes removing the debris easier and reduces the amount of debris.

**Note:** Ditching will expose expansion joints.

Daily or On-the-Job Maintenance Checks	Interval			
	Daily	Monthly	Hrs	Yearly
Inspect machine and parts for damage	•			
Check hydraulic fluid		•		
Change hydraulic fluid				•
Check engine oil	•			
Change engine oil	See Kawasaki manual			

**Note:** For additional maintenance and repair information, reference this machine's Service Manual.

# Troubleshooting Guide

Problem	Cause	Solution
Scraper does not work when pump is generating pressure.	Severe blockage in wheel drive motor hoses.	Check hoses for blockage and replace hose if necessary.
	Wheel drive motors defective.	Call NFE service center.
Hoses are worn.	Hoses rubbing on components.	Replace and protect hose.
	Hose has been exposed to poor environmental conditions.	Replace hose and protect equipment from poor conditions.
Machine makes an unusually loud hissing or whistling noise.	Fluid is passing over relief valves.	If noise is continuous, call National service center.
	Air in hydraulic circuit.	Check all suction lines; tighten all hose connections. Call NFE service center.
Oil deposits are evident on the inner sides of the driving wheels.	The shaft seals on the wheel motor is worn out.	Replace wheel motor.
	Hose fittings are loose.	Tighten hose fitting. Replace hose or fitting if necessary.
The machine has no power with the engine running at 2,950 RPM.	Check the valve, love joy coupler on pump, handle hardware, and for hose leaks.	Contact NFE service center immediately. Do not operate in this condition.
The scraper does not react when the motion control joystick is actuated.	Check the valve, love joy coupler on pump, handle hardware, and for hose leaks.	Contact NFE service center immediately. Do not operate in this condition.
The hydraulic oil is very cloudy. Excessive air in the circuit can cause severe damage to pump. Stop machine and repair immediately!	Water has entered the hydraulic tank.	Repair tank if necessary. Drain and clean tank thoroughly.
	Oil is contaminated with dirt.	Drain and clean tank thoroughly. Change oil.
	Air has entered the circuit.	Contact NFE service center.
Excessive amount of oil on the chassis.	Outside oil spilled on chassis.	Clean machine thoroughly and see if oil returns.
	Loose hose connections.	Check for loose hoses.
	Loose tank fittings.	Check for loose fittings.
	Low fluid level.	Check fluid level and replace.
Hydraulic oil and/or oil foam leaking from the oil tank.	Oil level is too high.	Drain tank to correct level.
	Oil level is too low.	Fill tank to correct level.
	Vent in return filter blocked.	Check for blockage.
	Excessive air in the circuit can cause severe damage to piston pumps.	<b>Stop and repair!</b> Check all suction lines. Tighten all hose connections and fittings.
Engine dies or cuts out.	Fuel tank is empty.	Change or fill fuel tank.
	Oil is low.	Fill oil to proper level.
	Operator is not seated properly.	Position on seat correctly.
Red ignition light stays on.	Oil is low.	Fill engine oil to proper level.
	Machine is overheating.	Let engine cool. Add coolant to proper level.
Machine doesn't start.	Machine needs to be primed.	Press primer button once; restart machine.

**Note:** For additional maintenance and repair information, reference this machine's Service Manual.

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