

8000

PROPANE POWERED RIDE-ON MACHINE



Caution: Read Manual Before Operating Machine

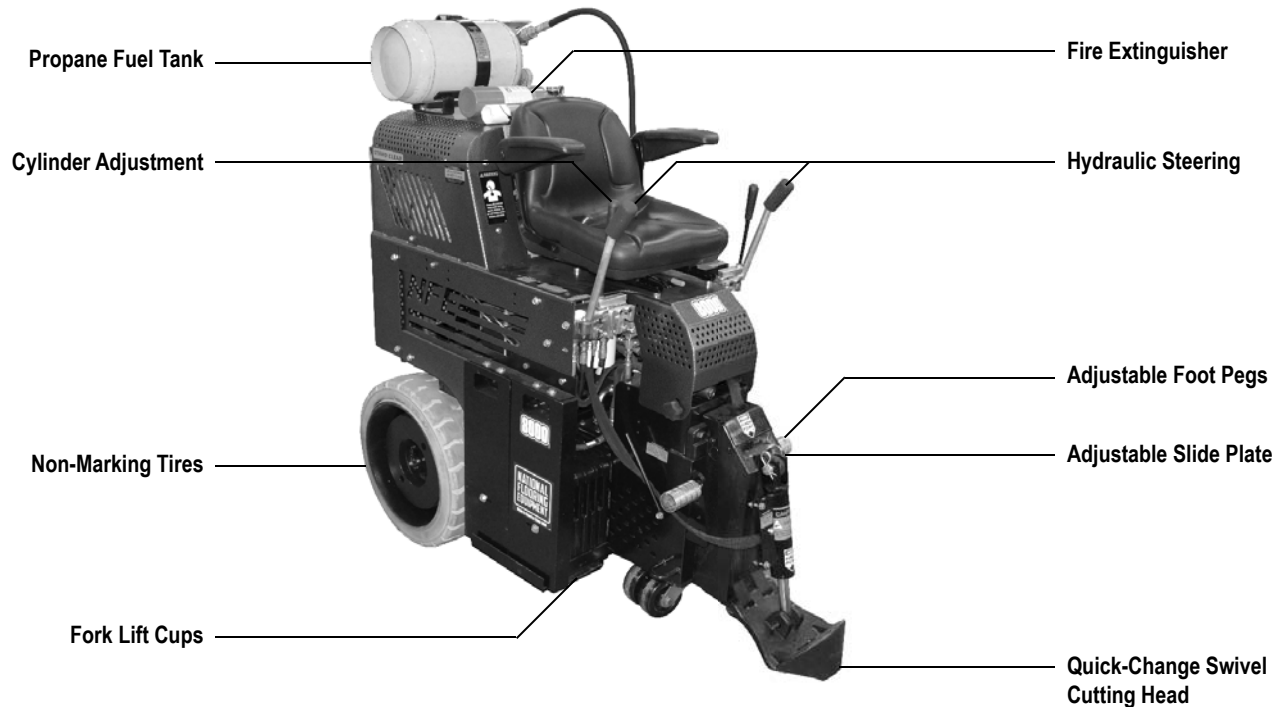
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Features and Specifications



FEATURES

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

Seat Switch - Seat switch and E-Stop knob for safety.

Hydraulic Steering - Forward, reverse, turn and brake with easy move control levers.

Adjustable Slide Plate - Affords maximum versatility in blade settings.

Adjustable Foot Pegs - Adjustable foot pegs provide optimal comfort and ergonomics.

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

Adjustable Blade - Adjustable blade pitch and angle.

Fork Lift Cups - Easily accessible fork lift cups for easy loading and unloading.

Cylinder Adjustment - Ability to adjust the height of the slide plate and allows precise angle adjustment of the cutting head with hand controls.

Product Specifications

Width	Length	Height	Weight	Fully Weighted	Speed	RPM	HP
30" (76.2 cm)	63" (160 cm)	70" (177.8 cm)	2822 lb (1280 kg)	2982 lb (1352.61 kg)	Up to 200 ft. per minute	2950	25

Safety

GENERAL RULES FOR SAFE OPERATION

READ AND SAVE ALL INSTRUCTIONS FOR FUTURE USE. Before use, ensure operators reads and understand this manual. Read and understand labeling on machine and components. All operators must view the instruction video. Extra copies of the manual and video are available.

1. **KNOW YOUR EQUIPMENT:** Read this manual carefully to learn equipment applications and limitations, potential hazards associated with this type of equipment. Keep this manual with the equipment it is associated with.
2. **DISARM MACHINE:** Remove cutting head or drop cutting head to the floor when machine is not in use.
3. **DO NOT "SIDE HILL" MACHINE.**
4. **AVOID 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.
5. **KEEP WORK AREA CLEAN AND WELL LIT:** Cluttered, dark work areas invite accidents.
6. **DRESS PROPERLY:** Do not wear loose clothing. These may be caught in moving parts. When working wear gloves and insulated non-skid footwear. Keep hands and gloves away from moving parts.
7. **USE SAFETY EQUIPMENT:** Proper eye protection should be worn at all times. 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.
8. **KEEP BYSTANDERS AWAY:** Children and other bystanders should be kept at a safe distance from the work area to avoid distracting the operator and contacting the equipment or extension cord. Operator should be aware of the proximity of bystanders. This machine is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
9. **PROTECT OTHERS IN THE WORK AREA:** Provide barriers or shields as needed to protect others from debris.
10. **USE PROPER ACCESSORIES:** Using accessories that are not recommended may be hazardous. Be sure accessories are properly installed and maintained. Do not delete a guard or other safety device when installing an accessory or attachment.
11. **CHECK FOR DAMAGED PARTS:** Inspect guards and other parts before use. Check for misalignment, binding of moving parts, improper mounting, broken parts and other conditions that may affect operation. If abnormal noise or vibration occurs, turn off immediately and have the problem corrected before further use. Do not use damaged equipment. Tag damaged equipment "DO NOT USE" until repaired. Missing or damaged parts should be properly repaired or replaced immediately. For all repairs, use only identical National replacement parts.
12. **REMOVE ALL ADJUSTING KEYS AND WRENCHES:** Make a habit of checking that the adjusting keys, wrenches, etc. are removed from the tool before turning it on.
13. **GUARD AGAINST ELECTRIC SHOCK:** Prevent body contact with grounded objects such as pipes, radiators, ranges and any other related surfaces. When making cuts, always check the work area for hidden wires or pipes. Hold your equipment by insulated nonmetal grasping surfaces. Use a Ground Fault Circuit Interrupter (GFCI) to reduce shock hazards.
14. **AVOID ACCIDENTAL STARTING:** Be sure equipment is turned off before plugging in. Do not use equipment if the power switch does not turn the equipment on and off.
15. **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.
16. **KEEP HANDS AWAY FROM ALL CUTTING EDGES AND MOVING PARTS.**
17. **WEAR** gloves when changing accessories.
18. **DO NOT OVERREACH. MAINTAIN CONTROL:** Keep proper footing and balance at all times. Maintain a firm grip.
19. **STAY ALERT:** Watch what you are doing and use common sense. Do not use when you are tired, distracted or under the influence of drugs, alcohol or any medication causing decreased control.
20. **MAINTAIN EQUIPMENT CAREFULLY:** Keep handles dry, clean and free from oil and grease. Keep cutting edges sharp and clean. Follow instructions for lubricating and changing accessories. Inspect equipment cords and extension cords for damage. Replace damaged parts. Use only identical National replacement parts.
21. **STORE IDLE EQUIPMENT:** When not in use, store in a dry, secured place. Keep away from children.
22. **MAINTAIN LABELS AND NAMEPLATES:** These carry important information. If unreadable or missing, contact National for a replacement.
23. **MACHINE IS HEAVY, DO NOT DROP.** Ensure proper lifting procedures are followed when transporting.
24. **DO NOT OPERATE ON STEPS.**

25. **DO NOT ALLOW** the cutting heads to come into contact with the supply cord.
26. **REGULARLY EXAMINE** the supply cord for damage, such as cracking or aging. If damaged, replace the cord before further use. Only replace the supply cord with the type specified in this manual.

CHARACTERISTICS OF A DEFENSIVE OPERATOR

A Good Operator is a “Defensive” Operator!

QUALITIES INCLUDE:

Education: Acquires knowledge of the machine, jobsite condition and the surrounding environment.

Alert: Stays alert at all times and never lets guard down.

Skills: Only performs duties they are qualified to do. Continually tries to improve.

Judgment: Use sound judgement and does not take careless chances.

Common Sense: Applies knowledge in practical situations.

Recognizes the Hazards: Maintains alertness and anticipates danger.

Understands the Defense: Knows that safety isn't an accident. A person must choose to follow a forward-thinking mind set.

Acts Correctly: Does not give in to peer pressure. Performs correctly when supervised or not.

HYDRAULIC SAFETY TIPS

MAINTAINING A SAFE WORK ENVIRONMENT

Establishing a safe work environment around your hydraulic equipment is paramount to safe and effective machine operation. The easiest and most effective way to avoid problems is to make sure coworkers understand equipment, know how to operate safely and recognize the danger represented if handled carelessly. A few things to be aware of:

1. **Pressure:** Hydraulic fluid under pressure is dangerous and can cause serious injury.
2. **Flammability:** When ignited, some hydraulic fluids can explode and/or cause fires.
3. **Mechanical:** Hydraulic fluid creates movement, which causes parts of your equipment to move or rotate. Always be aware of what you are doing.
4. **Moisture:** Use caution when operating in wet or high moisture conditions. Make sure all electrical fittings, switches, cords plus stain reliefs are in good condition. Always unplug when not in use and when doing any service work.
5. **Electrical:** Faulty wiring can also be an electrical hazard. A regular preventive maintenance program should always include a wiring check. Unplug batteries and/or charger before servicing.
6. **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, 55° C), shut off machine and allow to cool off.

PRESSURE

Our system runs at or below 3,000 psi. 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:

1. **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. Do not touch a pressurized hydraulic hose assembly with any part of your body. If fluid punctures the skin, even if no pain is felt, a serious emergency exists. Obtain medical assistance immediately. Failure to do so can result in loss of the injured part or death.
2. **Leak:** Keep fittings and hoses tight. Only check and service when not under pressure. Leaking hydraulic fluid is not only unsightly, it's hazardous. In addition to making workplace floors slippery and dangerous, leaks also contaminate the environment. Before cleaning an oil spill, always check EPA, state and local regulations.
3. **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.



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.

Safety

4. **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

With the exception of those comprised primarily of water, all hydraulic fluid is flammable when exposed to the proper conditions (including many "fire-resistant" hydraulic fluids).

Leaking pressurized hydraulic fluids may develop a mist or fine spray that can flash or explode upon contact with a cause 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 making 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.

HYDRAULIC FLUID

Only use Texaco Rando 46 Hydraulic Oil or Compatible Fluid like IS032. Non-compatible fluids could cause damage to unit or serious injury.

SAFETY SWITCH

The 8000 Propane Powered Ride-On has been equipped with a safety switch under the seat, which requires the operator to be seated before the 8000 can be operated. Do not attempt the start-up procedure with out being seated on the machine.

USE CARBON MONOXIDE DETECTOR WHEN OPERATING MACHINE


Included with the 8000 are a 75007 lapel CO Monitor and a 75008 Clip. it is recommended that the operator and anyone in the working vicinity wear the detector. Failure to do so could cause bodily injury and/or death. The use of detectors helps to verify if work area is safe from Carbon Monoxide poisoning. The detector has an adhesive strip on the back for mounting or can be worn with the included clip. It can detect as little as 100ppm (part per million) carbon monoxide gas at approximate relative humidity range of 33 to 50%. if the humidity is very high it can detect concentrations as low as 20ppm. the presence of CO will change the impregnated silica color change from red to red/brown and then to gray/black as the concentration levels increase. once the detector is exposed to fresh air, it will return back to red. Shelf life in an unopened pack is approximately two to three years (expiration date is visible through unopened package on the back). once opened it should be replaced approximately every ninety days. Write date opened in provided area on the front of the detector. read further user directions on the back of the detector.

FIRST AID


Immediately flush eyes with cold, fresh water for a minimum of 10 minutes if electrolytic acid comes in contact with eyes. Seek professional medical attention.

VENTILATION

Blocking louvers or air flow perforations of convection or fan cooled battery chargers and/or machine will result in damage to the unit. When utilizing the unit leave space for air to flow freely through the intake and discharge louvers and/or perforations.



WARNING: SILICA DUST WARNING SCRAPING/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 FAMILIAR 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.



RISK OF EXPLOSIVE GASES

Chargers can ignite flammable materials and vapors. Do not use near fuels, grain, dust, solvents, or other flammables. Batteries generate explosive gases during normal operation. To reduce the risk of battery explosion it is important each time, before using the charger, you read this manual a manufacturer of any equipment you intent to use in the vicinity of the batteries or battery charger. Review all cautionary markings.

GASES, DUST, STEAM, SMOKE

Do not weld, flame cut or perform grinding work on the 8000 Propane Ride-On without written authorization from the manufacturer. The danger of fire or explosion exists when work of this nature is done. Begin maintenance work only when the machine is in Shut Down Mode (turned off).

SAFETY PRECAUTIONS (OPERATOR/PERSONNEL TRAINING)

Operating and maintenance personnel must verify availability of appropriate fire protection equipment, be properly trained in the use of the equipment and know how to contact the Fire Department or Emergency Medical Service if needed.

SAFETY PRECAUTIONS

- Only qualified, trained personnel should operate this unit.
- Loose or damaged parts should be replaced immediately. Failure to do so could cause equipment damage or serious injury.
- Switches and levers should be inspected. Do not use if defective. Power on/off switch should return to off when lever is released.
- Turn ignition key to OFF position prior to performing maintenance. Motor and switches should be completely enclosed at all times with no exposed wiring.
- Disconnect negative lead from ignition battery before servicing. Failure to do so can cause damage to electrical system and/or electrical shock.
- Only use National components. Failure to do so could cause damage or serious injury.
- Always be aware of support personnel and their proximity when in operation. Block off work area.
- Support personnel should never stand next to machine, in front of or behind machine while machine is running. Failure to do so could cause serious bodily injury or death.
- Manual should be kept with machine in supplied holder for access by operator at all times.
- Always wear eye and hearing protection when running machine.
- Never defeat switches or guards.
- Remove blade when machine is not in use and/or lower cutting head to floor. Failure to do so could cause serious bodily injury.
- Wear gloves when changing blades. Always shut machine off when changing blades.
- Turn propane valve OFF before servicing scraper.

BEFORE CARRYING OUT MAINTENANCE OR REPAIR WORK:

- Let the engine and the exhaust system, cool down.
- Remove all traces of oil, combustible fuel or cleaning fluids from the scraper, its connections and fittings in particular.
- Do not use any aggressive cleaning products.
- Be sure that all cleaning rags are fiber free.
- Retighten all loose fittings found during maintenance and repair work.

Machine Operation

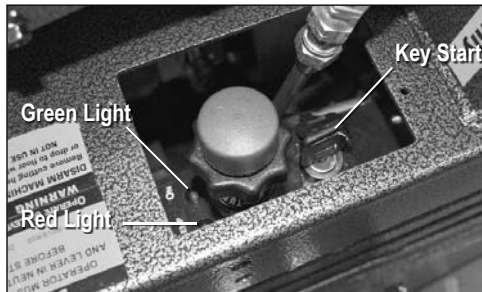


FIG. A



FIG. B

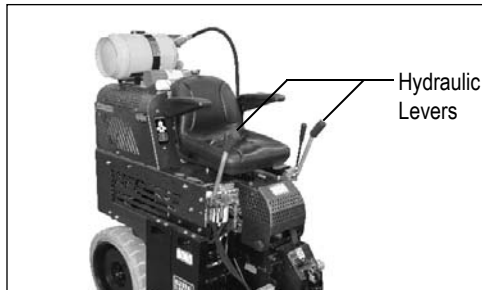


FIG. C

MACHINE START-UP PROCEDURE

POWER/Key Start (Figure A)

1. Open propane tank valve by turning knob CCW until fully open.
2. Operator must be seated in seat. The machine will not start unless the operator is seated.
3. Insure that hydraulic levers are "centered".
4. Set throttle at a quarter open.
5. Start with ignition key switch.
6. Both a Red & Green light will illuminate (Figure A). As soon as engine starts, the red light will shut off. If the Red light does not shut off, turn machine off.
7. Adjust throttle to move to desired RPM.

THROTTLE CONTROL (FIGURE B)

1. Make sure throttle is pushed down.
2. Start machine.
3. Adjust throttle to desired RPM by pulling up on the throttle control.
4. When at desired RPM, turn throttle friction knob counter-clockwise to hold in position.

HYDRAULIC LEVERS (FIGURE C)

The hydraulic levers 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.

- Move levers slowly.
- Both levers forward $\uparrow\uparrow$ move the machine forward.
- Both levers backward $\downarrow\downarrow$ move the machine backward.
- The left lever forward and the right lever backward $\uparrow\downarrow$ turn the machine quickly to the right.
- The left lever backward and the right lever forward $\downarrow\uparrow$ turn the machine quickly to the left.
- Only using the left or right lever forward \uparrow , turns the machine slowly to the right or left.
- Only using the left or right lever backwards \downarrow , turns the machine slowly to the left or right.
- Correcting direction while moving forward is accomplished by slightly reducing pressure on one lever or the other while moving.
- The center position on levers causes wheels to lock-up.
- Always chock wheels and tie down machine when transporting.

SEAT SWITCH

The seat has a safety switch. Operator must be properly positioned for machine to run.

CYLINDER LIFT (FIGURE D)

The cylinder lift lever 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 jack up the front of the machine (Figure D). 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 (Figure E). Never use the cutting head only.

SHUT DOWN MODE (SHUT DOWN PROCEDURE/ TURNED OFF)

1. Move the 8000 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 F).
6. Let the engine, exhaust system and hydraulic components cool down before performing maintenance on the machine.

MACHINE STORAGE

- Follow **Shut Down Mode** procedure.
- After engine has completely cooled down, disconnect propane line.
- Remove negative terminal on battery.

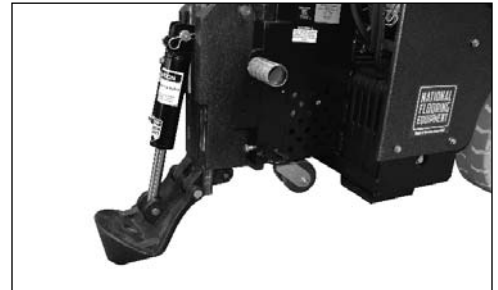


FIG. D

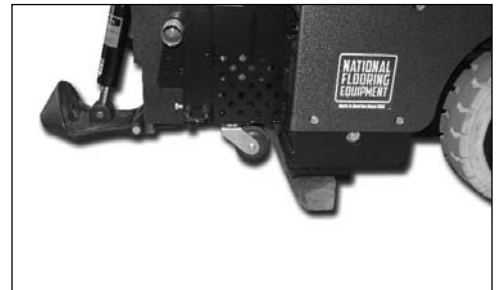


FIG. E

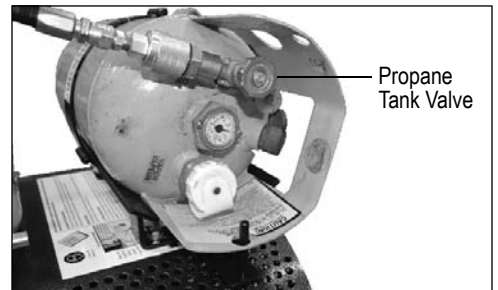


FIG. F



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



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

Machine Operation

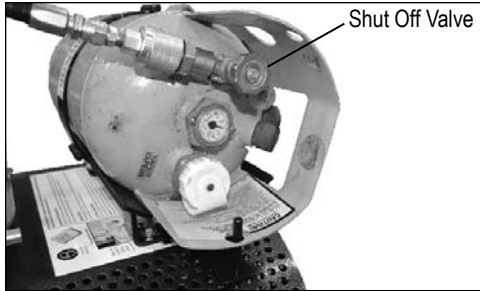


FIG. G

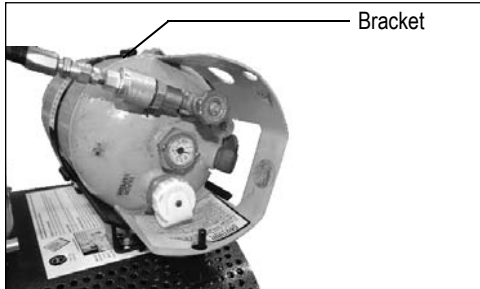


FIG. H

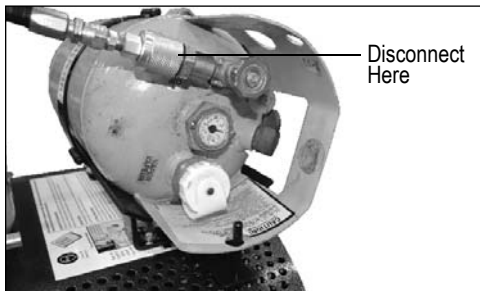


FIG. I

CHANGING PROPANE TANK

To change the propane tank:

1. Turn machine off.
2. Shut propane tank off (Figure G).
3. Release hood strap.
4. Release tank bracket (bracket does not need to be removed, it will swing back) (Figure H).
5. Disconnect propane hose (Figure I).
6. Remove tank and replace.
7. Follow steps in reverse order to reinstall.



WARNING: VENTILATION IS REQUIRED IN CONFINED WORK ENVIRONMENTS. CARBON MONOXIDE IS A VERY TOXIC, COLORLESS AND ODORLESS GAS. WHEN ENGINES OPERATE IN ENCLOSED SPACES, SUCH AS WAREHOUSES, BUILDINGS UNDER CONSTRUCTION, OR TUNNELS, CARBON MONOXIDE CAN ACCUMULATE QUICKLY AND REACH CONCENTRATIONS THAT ARE DANGEROUS FOR HUMANS. IT CAUSES HEADACHES, DIZZINESS, LETHARGY AND DEATH. CO IS USUALLY THE MAJOR CONCERN WHENEVER LPG ENGINES ARE USED INDOORS

CARBON MONOXIDE DETECTOR

Included with the 8000 are a 75007 Lapel CO Monitor and a 75008 Clip. It is recommended that the operator and anyone in the working vicinity wear the detector. Failure to do so could cause bodily injury and/or death. The use of detectors helps to verify if work area is safe from Carbon Monoxide poisoning. The detector has an adhesive strip on the back for mounting or can be worn with the included clip. It can detect as little as 100 ppm (part per million) carbon monoxide gas at approximate relative humidity range of 33 to 50%. If the humidity is very high it can detect concentrations as low as 20 ppm. The presence of CO will change the impregnated silica color change from red to red/brown and then to gray/black as the concentration levels increase. Once the detector is exposed to fresh air, it will return back to red. Shelf life in an unopened pack is approximately two to three years (expiration date is visible through unopened package on the back). Once opened it should be replaced approximately every ninety days. Write date opened in provided area on the front of the detector. Read further user directions on the back of the detector.

Machine Operation

LOADING/UNLOADING

- Always remove blade and cutting head when machine is being moved or transported
- Cutting head and slide plate can be removed to make the machine more compact.
- NEVER leave machine unattended on an incline.
- Removing added weights help to make the machine easier and safer to move in and out of a vehicle.



WARNING: MACHINE HAS A SWIVEL FRONT CASTER. NEVER SIDE HILL (SEE FIGURE K). THE MACHINE 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 A 8" CUTTING HEAD IN MACHINE. TO KEEP FROM DAMAGING FLOOR, CLAMP A PIECE OF CARPET INTO CUTTING HEAD TO SLIDE ON THE FLOOR. THIS WILL GIVE POSITIVE CONTACT WITH THE FLOOR WHEN POWER IS DISENGAGED FROM THE WHEELS.

DOCK HEIGHTS

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

POWER-GATE

A power-gate can be used when the dock height is not available. Make sure gate is properly rated for 1590 kg (3500 lb). Make certain the machine is secure so it does not roll off the power-gate. To better secure machine, raise machine onto the lowered cutting head, raising machine off the caster. Tie machine down, chock wheels.

RAMPS

To be safe, the ramp needs to be very long to accommodate the machine being loaded/unloaded. Remove added weight. Make sure ramp is secured. Do not have at a steep incline. The use of a power winch or hand come-a-long is much safer. For a van, the ramp should be 3.6 to 5.5 m (12 to 18 feet) in length depending on the depth of the incline. For truck height taller than a van, longer ramps will be needed. See OSHA guidelines. It is not recommended to drive the machine, connected with power, on a ramp. Make sure ramp is secure and has good contact before using. Failure to do so could cause ramp to fall away from the vehicle.

NOTE: SEE CORRECT AND SAFE OPERATING ANGLES AND CENTER OF GRAVITY ON PAGE 15.

FORKLIFT CUPS

There are two forklift cups mounted under the front of the machine (See Figure L). Slide fork lift forks through forklift cups. Slide forks all the way back to touch the rear tire (See Figure M). Before lifting machine, secure machine to fork lift with heavy 1590 kg (3500 lb) or heavier rope or chain. Tilt forks back to lift machine (See Figure N).

WINCHES

Winches should be used for safety when loading or unloading with ramps. 1590 kg (3500 lb) winch minimum.

TRANSPORTING

Secure machine down with ratchet straps when transporting the machine. Chock wheels to keep machine from rolling, hydraulic levers should not be locked in the forward or backward position. Hydraulic levers should be straight up in the "neutral" position. This helps to lock drive wheels. Lift machine off swivel caster by lowering cutting head for better stabilization. Proper securing straps need to be rated at least twice the weight of the machine.

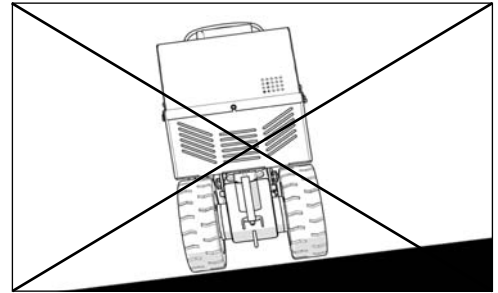


FIG. J
CAUTION: DO NOT SIDE HILL

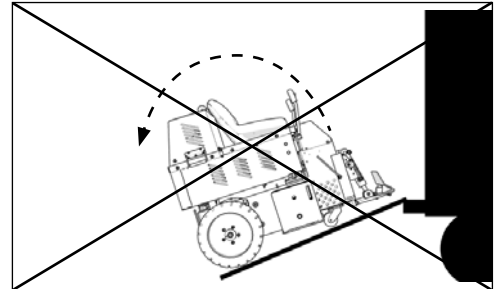
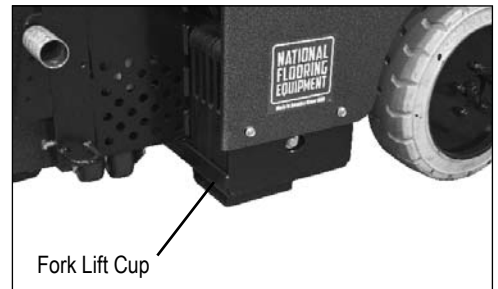
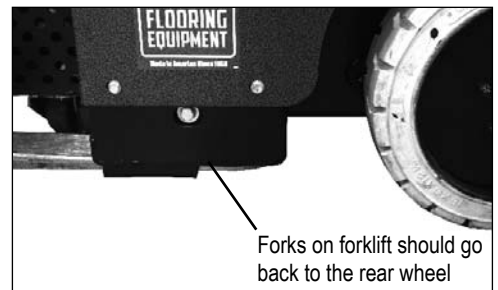


FIG. K
Caution: Machine is back heavy. Do not run on steep incline. This could cause machine to tip over.



Fork Lift Cup

FIG. L



Forks on forklift should go back to the rear wheel

FIG. M



FIG. N

Machine Operation

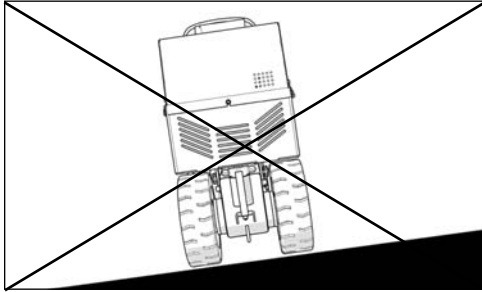


FIG. O

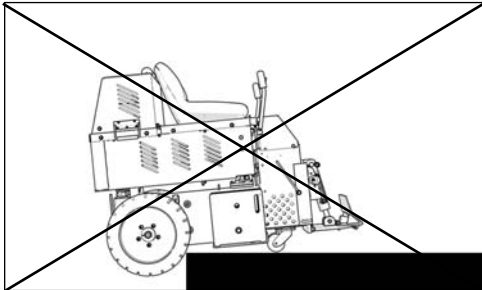


FIG. P

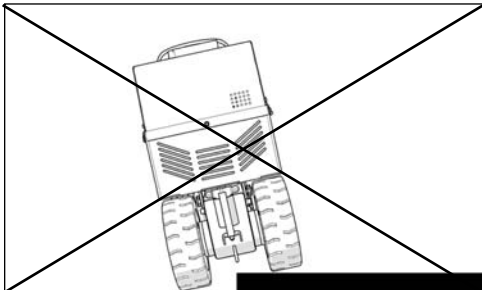


FIG. Q

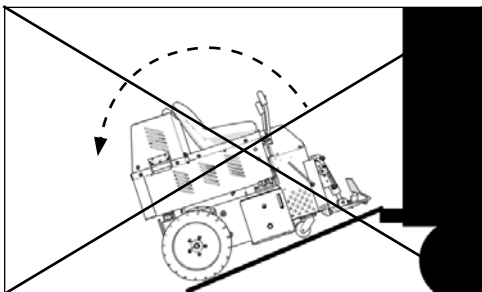


FIG. R

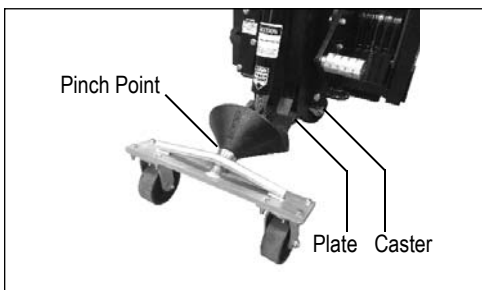


FIG. S

WHEEL CHOCKS

Wheel chocks will help to secure the machine but DO NOT use wheel chocks alone to secure the machine.

CENTER OF GRAVITY

Be aware of your surroundings and machines operating angles. When changing from a low slide plate to a high slide plate setting or a low cutting head angle to a high cutting head angle, the operating “attitude” of the machine changes. When a floor surface is not level (ramps, inclines, large amounts of debris which would lift the drive wheel of the machine, etc.), the center of gravity changes (See Figure O, P & Q). Too much of an angle could make the machine unsafe (a cause for tip-over). **Do Not** run the machine in unsafe environments.

JOB SITE MOVEMENT

- Always remove blade and cutting head when machine is being moved or transported
- Cutting head and slide plate can be removed to make the machine more compact.
- NEVER leave machine unattended on an incline.
- Removing added weights help to make the machine easier to move.

TAPING WHEELS

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

LEAP FROGGING BOARDS

Leap frogging boards help to protect floors from damage. Use two or three ¼” luan or plywood sheets, approximately 68.8 cm (27”) wide by 1.8 m (6’) long. Cover one side of the board with a thin carpet. With the carpet side to the floor, place a board in front of the machine. Drive onto the board. Set the next board in front of the machine. As you drive off one board, pick it up and set it in front of the machine.

FRONT WHEEL ASSEMBLY (FIGURE S)

The Front Wheel Assembly is an attachment that is very helpful when moving the machine around on a job-site or loading the machine that is not on a pallet. It allows machine stability and safe transportation over most surfaces. It is easy and quick to attach or detach. Raise slide plate so the bottom of the slide plate is higher or even with the bottom of the guide channels. Raise cylinder, insert Front Wheel Assembly into cutting head. Secure with securing pin.



CAUTION: WHEN MOVING THE SLIDE PLATE, BE AWARE OF PINCH POINT AT THE BOTTOM OF THE PLATE. FAILURE TO DO SO COULD CAUSE SERIOUS BODILY INJURY.



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.

NOTE: Make sure the plate is parallel with the floor so the caster swivels freely.

Machine Operation

TO MOVE 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 (See Figure T). Never leave machine unattended with strap holding levers open.

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 (See Figure U). Never leave machine unattended with strap holding levers open.



FIG. T

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. This is normal.



FIG. U



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

WHEEL SIZE

The 21” wheel comes standard on the machine. This wheel will work on all job types of application and heavy debris build-up (VCT, ceramic etc.). It also works best 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.

To change wheels, see Wheel Changing on page 26.



WARNING: WHEN DOING MAINTENANCE OR CHANGING A WHEEL, MAKE SURE MACHINE IS SUPPORTED PROPERLY OR SERIOUS INJURY COULD OCCUR.

CUTTING HEAD & BLADES

DIALING IN THE MACHINE

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

SAVING TIME WITH EXTRA CUTTING HEADS

The machine is supplied with one 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. Or when a different type or size of blade is needed, you have them ready to use.

Machine Operation

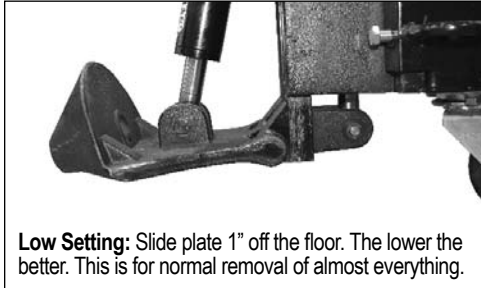


FIG. V

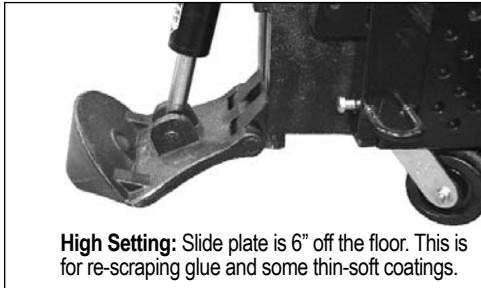


FIG. W

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.

WEIGHT VS. SHARPNESS

The most common way to compensate for a dull blade is to add more weight and raise the blade angle (see re-scrape set up Page 19). 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, you are misunderstanding the conditions.

CUTTING HEAD ANGLE

Set the cutting head angle to where the material comes up the easiest. The lowest is usually the best.

ADJUSTING THE DUAL LIFT HYDRAULIC SLIDE PLATE

For safety, 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.

To begin it is necessary to be properly seated in the operator's seat.

Next, twist the Red Emergency Stop switch located to the right of the operator. The E-Stop switch is spring loaded and will pop "Up" when twisted.

Push the green "On" button to start the machine.

To set the height of the hydraulic slide plate you must first adjust the angle or pitch of the cutting head holder.

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 commonly referred to as the "cutting head lever".

Next pull back on the cutting head lever and raise the cutting head holder to an angle higher than the bottom of the slide plate; then release the lever.

There is also a straight and narrow handle rod adjacent to the right hand steering lever. This handle rod raises and lowers the hydraulic slide plate and is commonly referred to as the "slide plate lever".

To lower the slide plate the operator must push forward on the slide plate lever. Reverse-ly, to raise the slide plate the operator must pull back on the slide plate lever.

While the hydraulic slide plate can be adjusted to many different positions, there are two basic slide plate settings.

A "low" setting has the hydraulic slide plate positioned approximately one inch off the floor. This setting is most commonly used during initial scraping or removal applications; such as carpet, VCT, ceramic tile and wood flooring applications.

Note: The "low" setting on older model hydraulic slide plates may stop the plate within one to two inches of the floors surface.



CAUTION: NEVER CHANGE CUTTING HEAD OR SERVICE BLADES WHILE MACHINE IS RUNNING.



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

Machine Operation

ADJUSTING THE DUAL LIFT HYDRAULIC SLIDE PLATE (CONT.)

A “high” setting has the hydraulic slide plate positioned six inches off the floor or in most cases flush with the bottom of the slide plate channel guide. This setting is most often used for re-scraping glues, mastics, thin sets and soft coatings.

The operator may now install the cutting head attachment based on the type of scraping application required.

Make sure to wear proper work gloves when installing or removing any cutting head attachments.

With the machine off, slide the shaft off the cutting head attachment into the cutting head holder and secure it to the holder with a cutting head clip.

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 (See Figure X). 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 (See Figure Y). Failure to raise the slide plate could cause machine damage and/or bodily injury.

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.

CUTTING HEAD INSERTION

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

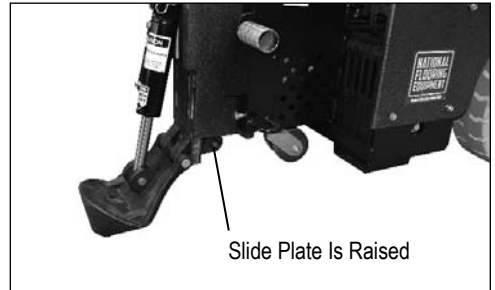


FIG. X

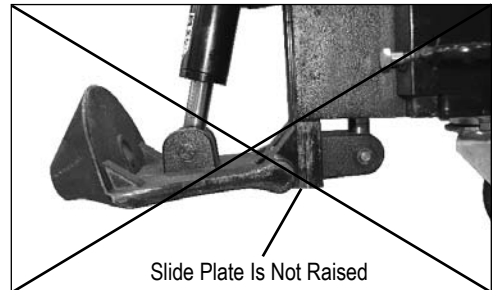


FIG. Y



CAUTION: WATCH OUT FOR OBSTRUCTIONS IN THE FLOOR (IE: EXPANSION JOINTS, NAILS, BOLTS, RECEPTACLES). THEY WILL BREAK BLADES.

SHANK BLADE INSERTION

Shank blades do not require a cutting head. Insert desired shank blade into cutting head holder. Secure with cutting head clip.

BLADE SETTING

- Dull blades greatly reduce cutting ability. Re-sharpen or replace as needed.
- Proper blade size and placement, depending on material and sub-floor type, affects performance.
- The harder a job comes up, for best results, use a smaller blade.
- 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. Wider is not always better or faster.
- Normally bevel on blade is up for concrete. Bevel down for wood and shoe blades for soft sub-floors.
- KEEP BLADES SHARP.



BEVEL UP
CONCRETE FLOORS



BEVEL DOWN OR
SHOE BLADES
WOOD FLOORS



SHOE BLADE
SOFT SUB-FLOORS



Machine Operation

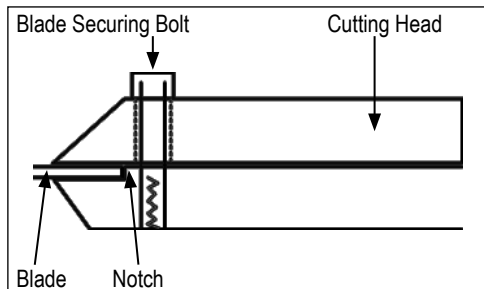


FIG. Z

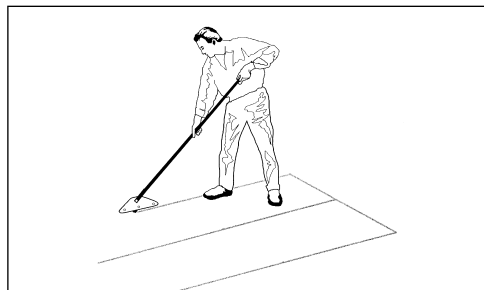


FIG. AA

- Dull blades greatly affect the performance of the machine and reduce cutting ability, sharpen or replace as needed.
- Keep your work area clean and clear of debris.
- After you have removed a portion of material, remove it out of the way. This will give the machine maximum performance and help to keep the work area safe.
- Always wear gloves when handling blades.
- Everyone in work area should wear eye protection.

SELF-SCORING BLADES

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

BLADE INSERTION OR BLADE CHANGING

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

Note: A cordless 3/8" drive impact wrench will speed up this process especially out on the job.

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



WARNING: BLADES ARE SHARP, USE EXTREME CAUTION.



WARNING: NEVER CHANGE CUTTING HEAD OR SERVICE BLADES WHILE MACHINE IS RUNNING.



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

CERAMIC SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (1") off the floor. Use a Shank Blade or a Shank Blade with a carbide tip.

WOOD SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (1") off the floor. Use Shank Blades, Shank Blades with carbide tips or a 15.25 to 20.3 cm (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.

SECONDARY BACKING CARPET SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (1") off the floor. Use a Cutting head from 25.4 to 68.6 cm (10" to 27") with Heavy Duty Blades or a Cutting Head from 25.4 to 35.5 cm (10" to 14") with a Self-Scoring Blade.

FOAM BACK CARPET SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (1") off the floor. Use Cutting Heads from 25.4 to 35.5 cm (10" to 14") with Self-Scoring Blades. If it is not stuck tight, use a Cutting Head from 35.5 to 68.6 cm (14" to 27") with a Standard Blade.

Machine Operation

DOUBLE STICK CARPET SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (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 25.4 to 35.5 cm (10" to 14") with Self-Scoring Blades. If self-scoring blades do not work, score thru 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.

VCT TILE SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (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" to 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 SET-UP

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (1") off the floor. Use a Cutting Head from 15.25 to 35.5 cm (6" to 14") with self-scoring blades or use ditching method with a flat blade (see page 20).

RE-SCRAPING SET-UP

Slide plate should be set high, approx 15.25 cm (6") off the floor. Use a Cutting Head from 20.3 to 68.6 cm (8" to 27") with Scraper Blades to match cutting head size. A 38.1 cm (15") scrapper blade would use a 35.5 cm (14") Cutting Head. Razor Blades are faster but a Cutting Head from 20.3 to 35.5 cm (8" to 14") can be used with a Standard Blade. Flip head regularly.

THIN COATING SET-UP

Slide plate could be set to the low or high setting off the floor. Test to see which works best. Use a Cutting Head from 20.3 to 68.6 cm (8" to 27") with Razor Blades to match cutting head size.

WORKING OVER 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, slide plate should be at a low setting, slide plate should be set to the lowest setting or approximately 2.5 cm (1") off the floor. Use a smaller size blade. If goods come up easily, a wider blade can be used.

WORKING OVER 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. Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (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 prevent the blade from 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.

WORKING OVER SOFT SUB-FLOOR

Slide plate should be set low, slide plate should be set to the lowest setting or approximately 2.5 cm (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 prevent the blade from digging into the floor. Sometimes a shank blade or a shank blade with a carbide tip will work.

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 FILE.



CAUTION: NEVER CHANGE CUTTING HEAD OR SERVICE BLADES WHILE MACHINE IS RUNNING.



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

Machine Operation

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 5 to 15.25 cm (2" to 6") in width, make ditches 30 to 60 cm (1' to 2') apart in the same direction the machine will be removing the goods (See Figure BB). 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.

CHECKER BOARD DITCHING

To make carpet removal and debris cleanup easier, checker board ditching is very helpful. Using as wide of a self-scoring blade as possible, make ditches 1.2 to 1.8 m (4' to 6') apart crossways from the way the machine will be removing the goods (See Figure CC). 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.

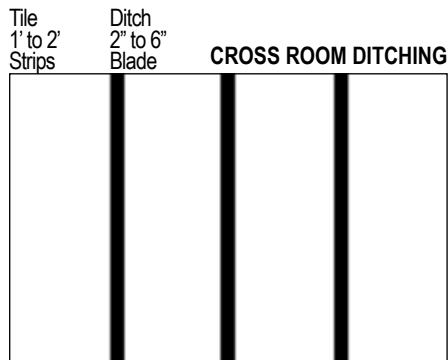


Figure BB
Run the machine the same direction that the ditches are made

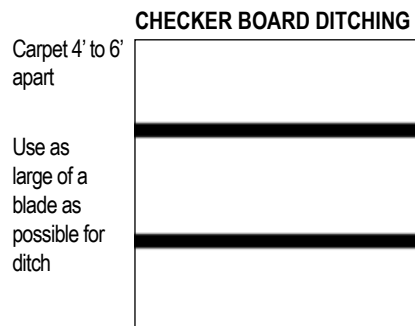


Figure CC
Run the machine crossways from the directions that the ditches are made

BLADE SHARPENING

Always check for blade sharpness before using; because dull blades greatly reduce cutting effectiveness. Over time, the used blades will develop a back bevel. While re-sharpening, blades will not recover entirely until the back bevel is completely leveled out. NOTE: Thinner blades are easier to sharpen, but they also break easier.

- 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.

SELF-SCORING BLADE SHARPENING

It is important to keep the "wings" on these self-scoring blades sharp. Use a file on the edge. Sharpen the flat part of the blade, the same way as described above.

CARBIDE TIPPED BLADE SHARPENING

To sharpen carbide tipped blades, a carbide grinding wheel is necessary, ie: silicon carbide or green wheel.

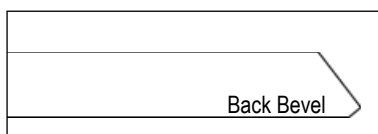


FIG. DD

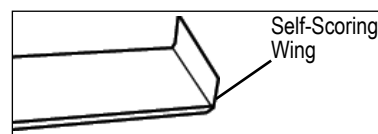


FIG. EE

STANDARD BLADE (FIGURE FF)

This heavy duty blade is designed to remove soft goods, carpet, and vinyl flooring. Its .062 thickness offers flexibility to maximize the shear point angle.

PART#	DESCRIPTION	THICKNESS (IN.)
135	5" X 16" BLADE	.062
147	4" X 6" BLADE	.062
148	5" X 6" BLADE	.062

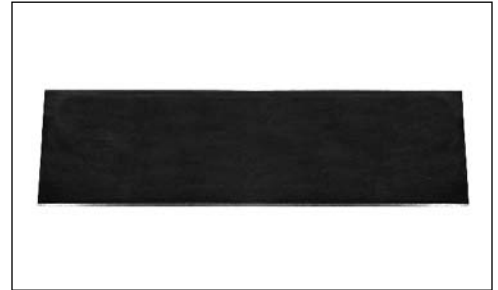


FIG. FF

RAZOR/SCRAPER BLADES (FIGURE GG)

These razor sharp blades are designed for super hard thin epoxies, thin mil coatings (like urethane paint), poured elastomeric coatings up to 60 mil and hard to remove adhesives.

PART#	DESCRIPTION	THICKNESS (IN.)
363-2	3/4" X 8" RAZOR/SCRAPER BLADE (50/PKG)	.032
368-8	7/8" X 8" RAZOR/SCRAPER BLADE (50/PKG)	.045
368-12	7/8" X 12" RAZOR/SCRAPER BLADE (50/PKG)	.045
368-15	7/8" X 15" RAZOR/SCRAPER BLADE (50/PKG)	.045

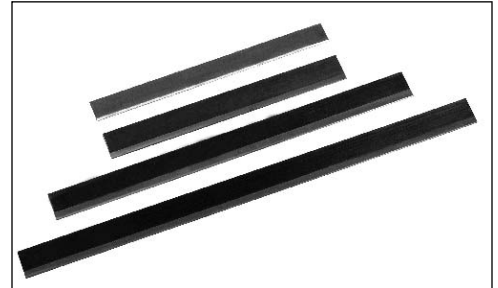


FIG. GG

SELF-SCORING BLADES (FIGURE HH)

These 90° angled self-scoring wing tipped blades are tough and long lasting. Made from National's proven blade hardening process, they perform up to ten times longer than the competition. They work on attached cushion, unitary or secondary backing, vinyl back, soft to medium PVC, linoleum, carpet tiles, soft cork, enhancer and unibond hot melts.

PART#	DESCRIPTION	THICKNESS (IN.)
6258-BU	3" X 12" SELF-SCORING BLADE	.062
6259-BU	3" X 14" SELF-SCORING BLADE	.062
6260-BD	3" X 6" HEAVY DUTY DITCHING	.094
6276-BU	3" X 10" SELF-SCORING BLADE	.094
6277-BU	3" X 12" SELF-SCORING BLADE	.094
6278-BU	3" X 14" SELF-SCORING BLADE	.094



FIG. HH

HEAVY DUTY BLADES (FIGURE II)

This heavy duty blade is flexible and delivers jobsite versatility. Made with National's proven blade hardening process, these blades will stay sharper longer with better overall performance than any other blade on the market. They work on VCT, VAT, wood, tile, rubber, epoxy, elastomeric coatings, scraping thin-set and glued ceramic.

PART#	DESCRIPTION	THICKNESS (IN.)
6283	3" X 27" HEAVY DUTY BLADE	.094
6284	3" X 12" HEAVY DUTY BLADE	.094
6285	3" X 6" HEAVY DUTY BLADE	.094
6286	3" X 10" HEAVY DUTY BLADE	.094

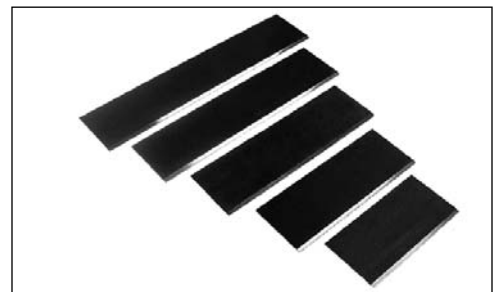


FIG. II

EXTRA HEAVY DUTY BLADES (FIGURE JJ)

These extremely hard, high abrasion alloy blades are designed for tough tear up situations. VCT, VAT, wood, tile, lighter ceramic, re-scraping thin-set, all carpets, cork, elastomeric coatings, re-scraping rubber and urethane coatings. They hold all edges extremely well.

PART#	DESCRIPTION	THICKNESS (IN.)
6290	3" X 6" EXTRA HEAVY DUTY BLADE	.187
6291	3" X 8" EXTRA HEAVY DUTY BLADE	.187
6292	3" X 12" EXTRA HEAVY DUTY BLADE	.187
6293	3" X 14" EXTRA HEAVY DUTY BLADE	.187
6294	3" X 27" EXTRA HEAVY DUTY BLADE	.187

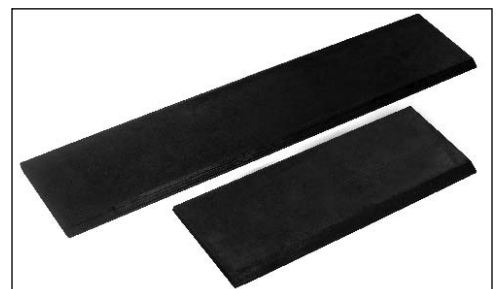


FIG. JJ

Blades



FIG. KK

PREMIUM HIGH TEMPERED BLADES (FIGURE KK)

These ultra-high quality spring steel blades are extra hard; ensuring long blade life between sharpenings. They work on all glued down carpets, VCT, VAT, rubber tile, cork, re-scraping adhesive and elastomeric coatings. Great for floor accumulations!

PART#	DESCRIPTION	THICKNESS (IN.)
7050-200	3" X 6" PREMIUM HIGH TEMPERED BLADE	.062
7050-201	3" X 8" PREMIUM HIGH TEMPERED BLADE	.062
7050-202	3" X 10" PREMIUM HIGH TEMPERED BLADE	.062
7050-203	3" X 12" PREMIUM HIGH TEMPERED BLADE	.062
7050-204	3" X 14" PREMIUM HIGH TEMPERED BLADE	.062
7050-205	3" X 27" PREMIUM HIGH TEMPERED BLADE	.062



FIG. LL

STRAIGHT SHANK BLADES (FIGURE LL)

Works well for ceramic, wood and thick epoxy. The ultimate for the toughest removals. Made from an ultra tough alloy, which is put through special processing to give these blades unbelievable edge holding ability for ceramic epoxy, thin-set, mud set, decorative concrete toppings and much more.

PART#	DESCRIPTION	THICKNESS (IN.)
7070-2	4" X 2" STRAIGHT SHANK BLADE	.500
7070-3	4" X 3" STRAIGHT SHANK BLADE	.500
7070-4	4" X 4" STRAIGHT SHANK BLADE	.500
7070-6	4" X 6" STRAIGHT SHANK BLADE	.500



FIG. MM

ANGLE SHANK BLADES (FIGURE MM)

Works well for ceramic and thick epoxy. The same application as the #7070 blades, but is mounted at an angle to achieve the optimum shear point for optimum performance.

PART#	DESCRIPTION	THICKNESS (IN.)
7071-2	4" X 2" ANGLE SHANK BLADE	.500
7071-3	4" X 3" ANGLE SHANK BLADE	.500
7071-4	4" X 4" ANGLE SHANK BLADE	.500
7071-6	4" X 6" ANGLE SHANK BLADE	.500



FIG. NN

STRAIGHT SHANK W/ CARBIDE TIP (FIGURE NN)

Works well for ceramic and thick epoxy. The same application as the #7070 blades, but are carbide tipped for holding a sharp edge for long periods. Nothing else performs like carbide when no other blade will work. Works well on elastomeric coatings.

PART#	DESCRIPTION	THICKNESS (IN.)
7072-2	4" X 2" STRAIGHT SHANK W/ CARBIDE TIP	.500
7072-3	4" X 3" STRAIGHT SHANK W/ CARBIDE TIP	.500
7072-4	4" X 4" STRAIGHT SHANK W/ CARBIDE TIP	.500
7072-6	4" X 6" STRAIGHT SHANK W/ CARBIDE TIP	.500



FIG. OO

TAPERED CUTTING HEAD SHANKS (FIGURE OO)

The longer taper works great on tough wood floors (glued & nailed). The long length allows the blade to easily slide under tough materials. They work through most ceramics and VCT.

PART#	DESCRIPTION	THICKNESS (IN.)
7075-8	2" X 8" TAPERED CUTTING HEAD SHANK	.300
7075-11	2" X 11" TAPERED CUTTING HEAD SHANK	.300
7077-8	3.5" X 8" TAPERED CUTTING HEAD SHANK	.300
7077-11	3.5" X 11" TAPERED CUTTING HEAD SHANK	.300

TAPERED CUTTING HEAD SHANKS (FIGURE PP)

The longer taper works great on tough wood floors (glued & nailed). The long length allows the blade to easily slide under tough materials. They work through most ceramics and VCT.

PART#	DESCRIPTION	THICKNESS (IN.)
7076-8	2" X 8" TAPERED W/ CARBIDE TIP	.300
7076-11	2" X 11" TAPERED W/ CARBIDE TIP	.300
7078-8	3.5" X 8" TAPERED W/ CARBIDE TIP	.300
7078-11	3.5" X 11" TAPERED W/ CARBIDE TIP	.300



FIG. PP

ULTRA HEAVY DUTY CERAMIC EPOXY ANGLE SHANKS W/ CARBIDE TIPS (FIGURE QQ)

Designed for ceramic removal and thin-set rescraping. 1/2" of carbide. The extra carbide allows for maximum resharping. Strong enough to work on machines up to 3500 lb.

PART#	DESCRIPTION	THICKNESS (IN.)
7079-2	2" X 6" ULTRA HD CERAMIC EPOXY BLADE	.500
7079-4	4" X 6" ULTRA HD CERAMIC EPOXY BLADE	.500
7079-6	6" X 6" ULTRA HD CERAMIC EPOXY BLADE	.500



FIG. QQ

INCREASED ANGLE BLADES (FIGURE RR)

These blades are mainly used for VCT, but can be used on most other applications. They supply a greater angle when needed. Prevents machine from jumping off material. They contribute to keeping the machine steady and reduce jumping.

PART#	DESCRIPTION	THICKNESS (IN.)
7081	3" X 10" INCREASED ANGLE BLADE	.062
7083	3" X 8" INCREASED ANGLE BLADE	.062

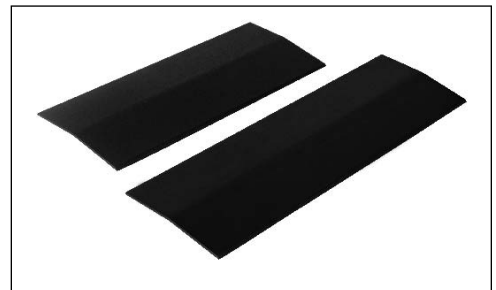


FIG. RR

Machine Maintenance

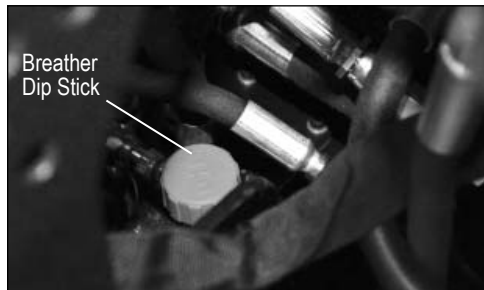


FIG. SS

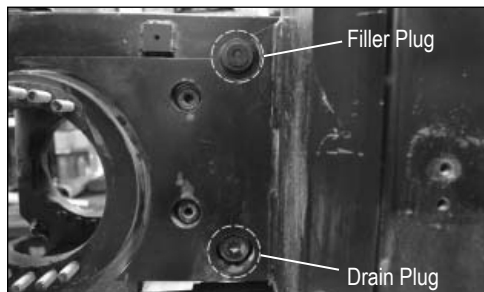


FIG. TT



CAUTION: LET ENGINE COOL BEFORE ANY MAINTENANCE. FAILURE TO DO SO COULD CAUSE SERIOUS BODILY INJURY.

DUAL SLIDE PLATE REMOVAL

1. Lower the slide plate to the floor and place a block under the assembly.
2. Remove the front cylinder by taking the 1/2" bolt out of the bottom and removing the pin from the top of the cylinder.
3. Remove the E-clips from the pin at the bottom of the internal cylinder, then remove the pin.
4. Remove the pin from the top of the internal cylinder and then remove the cylinder from the machine.
5. Loosen the pinch bolt from the lower right side of the frame.
6. Remove the lock nut from securing bolts at the top of the slide plate.
7. Remove the socket head screws at the top of the dual slide from both sides of the assembly.
8. Install 3/8-16x5" bolts into the holes the socket head screws were removed from. Once installed the bolts should be used as lifting handles.
9. Lift the frame out of the machine.

LEAK MAINTENANCE

All fittings on this machine are O-ring style.

1. Disconnect machine from power.
2. If a leak is detected, tighten fitting with the proper wrench size. DO NOT over tighten. Over tightening could damage O-rings.
3. If a leak still persists, remove fitting and replace O-ring.

HYDRAULIC FLUID LEVEL

To check hydraulic fluid

1. Remove breather dip stick (See Figure SS)
 2. Check to see that hydraulic fluid is visible on dip stick
- OR
1. Remove filler plug (See Figure TT).
 2. Oil should be visual 5 cm (2") below hole (use flashlight to illuminate).
 3. Reinsert plug.

HYDRAULIC OIL CHANGE OUT

1. Let hydraulic fluid cool before maintenance.
2. Disconnect machine from battery.
3. Drain fluid by removing the drain plug from side of tank (See Figure TT). Take Caution: this unit contains seven gallons of fluid. Make sure you have the proper size containers to catch fluid.
4. Replace drain plug.
5. Remove filler plug (See Figure TT).
6. Add oil into the filler plug hole until visual 5 cm (2") below hole.

Machine Maintenance

REPLACE IN-TANK STRAINERS

1. Remove the (8) socket head cap screws that hold down the top suction assembly.
2. Carefully pull the suction assembly out as far as you can.
3. Reach in to the reservoir and unscrew the strainers from the end of the suction hose.
4. Screw in the replacement strainers to the end of the suction hose.
5. Re-assemble the suction assembly by re-seating the assembly and tightening down with the (8) socket head cap screws.

HYDRAULIC CYLINDER CHANGE OUT

1. Disconnect machine from power.
2. Disconnect cylinder lines. Have a container or rag ready to catch oil from lines.
3. Remove cylinder securing hexhead bolt from lower cutting head support.
4. Remove clips and pin from cylinder and slide plate.
5. Remove cylinder upper pin.
6. Remove cylinder.

ENGINE CHANGE OUT

1. Disconnect motor from power.
2. Lift hood and secure in place.
3. Remove cap from engine oil hose. Drain.
4. Remove engine oil filter.
5. Replace cap & new filter. Refill with new engine oil.

TO REMOVE OR CHANGE A HOSE

To remove or change a hose

1. Disconnect machine from power.
2. Remove hood.
3. Using proper wrench size, remove hose from fitting.
4. When replacing, make sure O-ring is properly seated on hose fitting.

TO REMOVE OR REPLACE FOOT PEG

To remove or replace foot peg

1. Insert a socket with extension into foot peg and secure bolt head with wrench.
2. Remove nut from inside of peg.
3. Remove foot peg from bolt.
4. Replace foot peg before operating machine. DO NOT use machine without foot pegs.

Machine Maintenance



FIG. UU

PUMP CHANGE OUT

1. Lift and secure hood.
2. Disconnect hydraulic lines.
3. Remove two 3/8"-16x1 pump bolts.
4. Remove pump by pulling pump straight out from pump motor.

VALVE CHANGE OUT

1. Disconnect machine from power (charger or battery).
2. Lift hood and secure in place.
3. Remove hoses from valve body. Have a container or rag ready to catch leakage from lines.
4. Take notice of angle of valve fittings.
5. Remove two 1/4" bolts securing valve body.

WHEEL MOTOR CHANGE OUT

1. Disconnect machine from power.
2. Block up machine to remove wheel. See wheel changing below.
3. Remove wheel.
4. Remove oil lines from wheel motor. A small amount of oil will run out of the lines. Drain into a container. Wipe up spills immediately.
5. Remove ten (10) 1/2" wheel motor securing nyloc nuts.
6. Pull out on wheel motor to remove.

WHEEL CHANGING (FIGURE UU)

1. Jack machine up by pushing the cylinder lift forward to lower and adjust the angle of the cutting head to raise machine.
2. Place blocks under forklift cups on the side of the machine that wheel is being changed.
3. Take Caution: Make sure machine is supported properly or serious injury could occur.
4. Let cylinder down resting machine on blocks allowing rear wheel to be lifted off the floor.
5. Remove five 1/2" lug nuts with an extended arm wrench, remove wheel.
6. Replace wheel.
7. Replace five lug nuts and tighten, making sure lug nuts are very tight.
8. Raise cylinder to raise machine off of blocks. Remove blocks and lower machine.
9. Repeat to other side if necessary.

Machine Maintenance

CHANGING HYDRAULIC FLUID FILTER

1. Remove old filter by turning counter-clockwise. Have rag ready to catch excess fluid that may spill.
2. Install new filter on by turning clockwise.

SWITCHES

There are two switches:

- On (Key) Switch
- Seat Switch

Caution: Do not disable switches



CAUTION: THE BACKUP BEEPER IS ON THE MACHINE FOR SAFETY. IT IS IMPORTANT TO KEEP IT IN GOOD WORKING CONDITION. FAILURE TO DO SO COULD CAUSE BODILY INJURY.

SEAT REPLACEMENT

1. Remove two (2) knobs on each side of the hood (4 times).
2. Slightly raise seat plate & unplug wire harness.
3. Lift hood all the way back to the hood bumpers.
4. Remove seat.
5. To replace seat, set seat on top of hood.
6. Replace the four 5/16 button hexhead screws from underneath the hood.
7. Firmly tighten.
8. Reconnect back-up beeper and seat switch wires.
9. Replace hood and screws.

CASTER MAINTENANCE

1. Keep clean and free of debris, make sure it can move freely.
2. Give a shot of grease in grease zerc on caster every six months to keep moving freely.
3. To remove caster, machine will need to be raised. Push the cylinder lift lever forward to lower and adjust the angle of the cutting head to jack up the machine (See Figure VV). Block up machine (See Figure WW). Remove four bolts, pull caster off, clean/replace as needed.
4. Replace caster.
5. Replace and firmly tighten the four bolts.
6. Lower the machine.

NOTE: A SPACER IS NEEDED WITH CASTER WHEN USING AN 18 INCH WHEEL.



FIG. VV

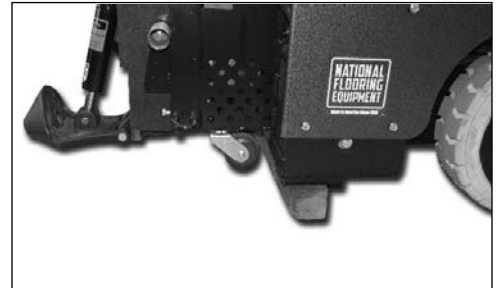


FIG. WW

Machine Maintenance

CLEAN AIR CLEANER FOAM ELEMENT

1. Wash the element in detergent and water and dry thoroughly.
2. Soak the element in new engine oil and squeeze it to remove excess oil.

CLEAN AIR CLEANER PAPER ELEMENT

1. Clean the paper element by tapping it gently against a flat surface to remove the dust. If the element is very dirty replace it with a new one.
2. You can rinse the element with water and let the element air dry thoroughly before re-installing.

Caution: When operating in dusty conditions engine may require more frequent maintenance.



CAUTION: DO NOT USE PETROLEUM SOLVENT TO CLEAN PAPER ELEMENT. DO NOT OIL PAPER ELEMENT. DO NOT USE PRESURIZED AIR TO CLEAN OR DRY PAPER-ELEMENT.

CLEAN FUEL FILTER ELEMENT

1. Close the fuel valve to shut off the fuel flow.
2. Loosen the sediment bowl and remove the filter element and gasket.
3. Remove any sediment, wipe clean and reinstall the assembly.

CHECK ENGINE OIL

1. Check engine oil level daily and before each operation.
2. Make sure machine is on a level surface.
3. Remove oil dipstick and wipe clean.
4. Insert the oil gauge into the tube



CAUTION: STOP THE ENGINE. BE CAREFUL WITH HOT OIL.

CHANGE ENGINE OIL

1. Run the engine to warm the oil.
2. Be sure the engine (machine) is on a level surface.
3. Stop the engine.
4. Remove the oil drain screw and drain the oil to a suitable container (around 2 L).
5. Install the oil drain screw.
6. Remove oil gauge and refill with new oil.
7. Check the oil level.

CHANGE OIL FILTER

1. Drain engine oil to suitable sized container.
2. Rotate the filter counter-clockwise to remove it.

Machine Maintenance

3. Coat a film of clean engine oil on seal of new filter.
4. Install new filter rotating clockwise until the seal contacts the mountin surface. Rotate filter 3/4 of a turn more by hand to fully tighten down.
5. Replace engine oil.
6. Run the engine for around 3 minutes, stop engine and check for oil leaks around the filter.
7. Add oil to compensate oil level down due to oil filter capacity.



CAUTION: BEFORE PERFORMING MAINTENANCE ON SPARK PLUG STOP THE ENGINE AND ALLOW TO COOL.

CLEAN AND REGAP SPARK PLUG

1. Disconnect the spark plug wire lead and remove the spark plug.
2. Clean the electrodes by scraping or with a wire brush to remove carbon deposits and wetness.
3. Inspect for cracked porcelain or other wear and damage. Replace the spark plug with a new one if necessary.
4. Check the spark plug gap and reset it if necessary. The gap must be between 0.7 and 0.8 mm. To change the gap bend only the side-electrode using a spark plug tool.
5. Install and tighten the spark plug to 17 ft-lb torque. Then re-connect the spark plug lead.

REPLACE AIR CLEANER

1. Remove the wing bolts, washers and air cleaner case.
2. Take off the air cleaner elements from the body.
3. Install the elements and the air cleaner parts correctly on the air cleaner body.

Maintenance Schedule

Maintenance to be performed	Interval					
	Daily	160 hrs	1000 hrs	2000 hrs	After initial 50 hrs	After initial 500 hrs
Check wheels, caster and wheel motors for build up; and clean	•					
Check hydraulic oil level	•					
Inspect all safety devices (e-stop, backup beeper, seat switch)	•					
Inspects for leaks (hoses and fittings)	•					
Grease front caster wheel			•			
Replace the hydraulic return line oil filter		•			•	
Replace in-tank strainers				○		
Replace hydraulic fluid			•			•

Maintenance to be performed	Interval							
	Daily	First 8 hrs	Every 25 hrs	Every 50 hrs	Every 100 hrs	Every 200 hrs	Every 300 hrs	Every 400 hrs
Check and add engine oil, check for loose fasteners	•							
Check for fuel and oil leakage	•							
Clean air cleaner foam element			•					
Clean air cleaner paper element					•			
Clean fuel filter element					•			
Change engine oil (without oil filter)		•		•				
Change engine oil (with oil filter)		•			•			
Clean and regap spark plug					•			
Change oil filter						•		
Replace air cleaner paper element							•	
Clean dust and dirt from cylinder and cylinder head fins							•	
Clean combustion chamber							•	
Check and adjust valve clearance							•	
Clean and lap valve seating surface							•	
Inspect radiator and hoses						•		
Check fan belt conditions and tension						•		
Change coolant								•

Troubleshooting Guide

Problem	Cause	Solution
1. The scraper does not work when the pump is generating pressure.	a. Severe blockage in wheel drive motor hoses b. Wheel drive motors defective	a. Check hoses for blockage and replace hose if necessary b. Call National service center
2. The hoses are worn.	a. Hoses rubbing on components b. Hose has been exposed to poor environmental conditions	a. Replace and protect the hose b. Replace hose and protect equipment from poor conditions
3. The machine makes an unusually loud hissing or whistling noise.	a. Fluid is passing over relief valves b. Air in hydraulic circuit	a. If noise is continuous, call a National Service Center b. See Trouble 7 and 9
4. Oil deposits are evident on the inner sides of the driving wheels.	a. Fluid is passing over relief valves b. Air in hydraulic circuit	a. Have shaft seals replaced by a specialist b. Tighten hose fitting. Replace hose or fitting if necessary
5. The machine has no power with the engine running at 3500 rpm.	a. Check valve adjustment b. Check hoses for leaks	a & b. Contact National Service Center immediately. Do not operate in this condition!!
6. The scraper does not react when the motion control joystick is actuated.	See possible cause 5a and 5b	See remedy 5a and 5b
7. The hydraulic oil is very cloudy. Excessive air in the circuit can cause severe damage to pump. Stop machine and repair immediately!	a. Water has entered hydraulic tank b. Oil is contaminated with dirt c. Air has entered the circuit	a. Repair tank if necessary. Drain and clean tank thoroughly. Change oil. b. Drain and clean tank thoroughly. Change oil. c. Contact National Service Center
8. Excessive amount of oil on chassis.	a. Outside oil spilled on chassis b. Loose hose connections c. Loose tank fittings	a. Clean machine thoroughly and see if oil returns b. Check for loose hoses c. Check for loose fittings
9. Hydraulic oil and/or oil foam leaking from oil tank. Excessive air in the circuit can cause severe damage to piston pumps. Stop machine and repair immediately!	a. Oil level too high b. Oil level too low c. Vent in return filter blocked d. Air getting into hydraulic circuit	a. Drain tank to correct level b. Fill tank to correct level c. Check for blockage d. Check all suction lines. Tighten all hose connections and fittings.

Troubleshooting Guide

Problem	Cause	Solution
10. Engine dies or cuts out.	a. Fuel tank is empty b. Oil is low c. Operator not seated properly	a. Change or fill fuel tank b. Fill oil to proper level c. Position on seat correctly
11. Red ignition light stays on.	a. Oil is Low b. Machine is overheating	a. Fill oil to proper level b. Let engine cool. Add coolant to proper level
12. Machine doesn't start.	a. Machine needs to be primed	a. Press primer button once & restart machine

Complete Parts List

PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	70353 RETURN LINE	2	50	400130 KAWASAKI MOTOR	1
2	70602 INSTRUCTION MANUAL TUBE	1	51	400131 BOLT HEX HEAD 5/8-11X7	1
3	70603 INSTRUCTION TUBE CAP	1	52	400132 HEX HEAD CAP SCREW 1/2-13X4 YELLOW ZINC GRADE 8	1
4	70627 BRACKET, TANK, 33 POUND, LP	1	53	400164 KNOB, THREE-LOBE, 1/2-13 THREAD	2
5	70651 VALVE BODY PLUG	8	54	400176 IGNITION SWITCH, MAGNETO	1
6	70951 LOVEJOY COUPLER LO 90 DIN, 9T	1	55	400179 PUMP ADAPTER	1
7	70953 SPIDER (NOT SHOWN)	1	56	400197 WEIGHT, FRONT, 16.5 X 6.88	11
8	70954 LOVEJOY COUPLER LO 95 X 1 1/4	1	57	400276 MUFFLER BRACKET WELDMENT	1
9	72801 1/4" 90° FITTING	2	58	400327 HANDLE RUBBER COVER	2
10	72816 3/8 " 90° PUMP FITTING	2	59	400364 DOUBLE SPOOL VALVE (LH)	1
11	73008 1/4-20 NYLON LOCK NUT	4	60	400366 HANDLE WELDMENT, LEFT	1
12	73020 1/4-20 X 5/8 WIZLOCK BOLT	3	61	401401 DOUBLE SPOOL VALVE (RH)	1
13	73021 1/4-20 X 2 1/4 HEXHEAD CAP SCREW	4	62	401403 VALVE LEVER - SHORT	2
14	73201 3/8-16 X 1 HEXHEAD SCREW	2	63	401404 HANDLE WELDMENT, RIGHT	1
15	73202 3/8 INTERNAL LOCK WASHER	6	64	401408 VALVE LEVER SPACER	2
16	73203 3/8 SAE FLAT WASHER	2	65	401429 PIN, LOWER CUTTING HEAD SUPPORT	1
17	73204 3/8 SPLIT LOCK WASHER	2	66	401566 PLATE, SLIDE, DUAL LIFT	1
18	73207 3/8-16 NYLON LOCK NUT	2	67	401568 SUPPORT, TOOLING CARRIER, CAST	1
19	73208 3/8-16 X 1 1/2 HEXHEAD CAP SCREW	2	68	401574 FILTER BLOCK	1
20	73213 3/8-16 X 3/4 BUTTON HEAD CAP SCREW	3	69	401592 WHEEL MOTOR, POCLAIN W/BRAKE	2
21	73227 3/8-24 X 1 SET SCREW	3	70	401597 DOUBLE WHEEL CASTER ASSEMBLY	1
22	73235 3/8-24 JAMB NUT	3	71	401604 BUSHING, LEVER, HYDRO VALVE	1
23	73320 5/16-18 X 2 SOCKET HEAD CAP SCREW	1	72	401606 DOUBLE SPOOL CONTROL	2
24	73321 5/16-18 X 3 1/2 SOCKET HEAD CAP SCREW	1	73	401669 COVER, UPPER HOSE	1
25	73322 5/16-18 NYLON LOCK NUT	5	74	401697 WHEEL 21"	2
26	73324 5/16-18 X 3 1/4 SOCKET HEAD CAP SCREW	2	75	401560-SV PANEL, RIGHT	1
27	73334 5/16-18 X 1 1/2 SOCKET HEAD CAP SCREW	3	76	401561-SV PANEL, LEFT	1
28	73342 5/16-18 X 5 HEXHEAD CAP SCREW	2	77	401562-SV WRAP, LOWER	1
29	73351 5/16 SAE FLAT WASHER (NOT SHOWN)	1	78	401563-SV SHROUD, TOP	1
30	73402 1/2-13 NYLON LOCK NUT	6	79	5110-111 SEAT	1
31	73403 1/2 SPLIT LOCK WASHER	3	80	5110-164A RETURN TANK HOSE	1
32	73406 1/2-13 X 1-1/4 HEXHEAD CAP SCREW (NOT SHOWN)	5	81	5110-164B RETURN TANK HOSE CLAMP	1
33	73408 3/4-10 X 1-1/2 HEXHEAD BOLT GR.8 ZINC	4	82	5110-180 FOOT PEG	2
34	73414 1/2-13 X 7 HEXHEAD BOLT	1	83	5110-218 BACKUP BEEPER SWITCH	1
35	73430 1/2-20 NYLON LOCK NUT	10	84	5110-233 BREATHER ASSEMBLY	1
36	73525 NUT NYLOCK 5/8-11	1	85	5110-236-1 REPLACEMENT FILTER RETURN	1
37	73526 SAE 5/8 FLAT WASHER	1	86	5110-237 SUCTION FILTER SCREEN	1
38	73536 CYLINDER CLIP	2	87	5110-237-1 FILTER SUCTION LINE ASSEMBLY	2
39	74406 10-32 X 3/8 PHILLIPS PAN HEAD MACHINE SCREW	4	88	5110-237-1B FILTER HOSE FITTING(ONLY)	1
40	74425 10-32 K-LOCK NUT	6	89	5110-250 CYLINDER	2
41	74513 6-32X3/4 PHILLIPS PANDHEAD MACHINE SCREW	2	90	5110-251 CYLINDER CONNECTING ROD	1
42	74701 3/4" ID GROMMET	2	91	5110-267 CYLINDER LINE HOSES W/ SHEATH	2
43	74702 3/8" IC GROMMET	2	92	5110-268 STRAIGHT VALVE FITTING	4
44	74854 WEIGHT, POCKET, CAST, RIDE-ON	10	93	5110-272 CYLINDER LIFT LEVER ONLY	2
45	75005 FIRE EXTINGUISHER	1	94	5110-404 REAR WEIGHT	1
46	75006 FIRE EXTINGUISHER MOUNTING BRACKET	1	95	5200-116 BACKUP BEEPER ASSEMBLY	1
47	75007 LAPEL CARBON MONOXIDE MONITOR	1	96	5200-157 DRAIN/FILLER PLUG	3
48	75008 LAPEL CARBON MONOXIDE CLIP	1	97	5200-1G DOUBLE PUMP GASKET	1
49	80058 BREATHER W/ 6" DIP STICK	1	98	5200-261 WHEEL MOTOR LINE	4
			99	5200-261-1 WHEEL MOTOR HOSE CLAMP ASSM	2
			100	5200-262 HOSE (PRESSURE, RIGHT-25)	1

Complete Parts List

PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
101	5200-603	1	129	L137	2
102	5200QL-14	1	130	L141	2
103	5200QL-27	1	131	L142	1
104	5200QL-34	1	132	L165	1
105	5600-102	1	133	L175	1
106	5600-107	1	134	L176	2
107	5600-108	2	135	L223	1
108	5600-109	2	136	L256	2
109	5600-121	1	137	L287	2
110	5600-13	1	138	L306	1
111	5600-151	1	139	L314	1
112	5600-34	1	140	L315	1
113	5600-53	1	141	L316	1
114	5700-36	2	142	L317	1
115	5700-54	2	143	L318	1
116	5700-64	1	144	L319	1
117	5700-65	1	145	L33B	1
118	5700-66	1	146	L33C	1
119	5700-67	1	147	L33D	1
120	5700-70	1	148	L37	2
121	5700-71	1	149	L66	1
122	5700-75	1	150	L95F	2
123	5700-93	1	151	L98	1
124	6280-162G	1			
125	6500-11	1			
126	70905-D7	1			
127	L106	3			
128	L118	2			

Parts List and Diagrams

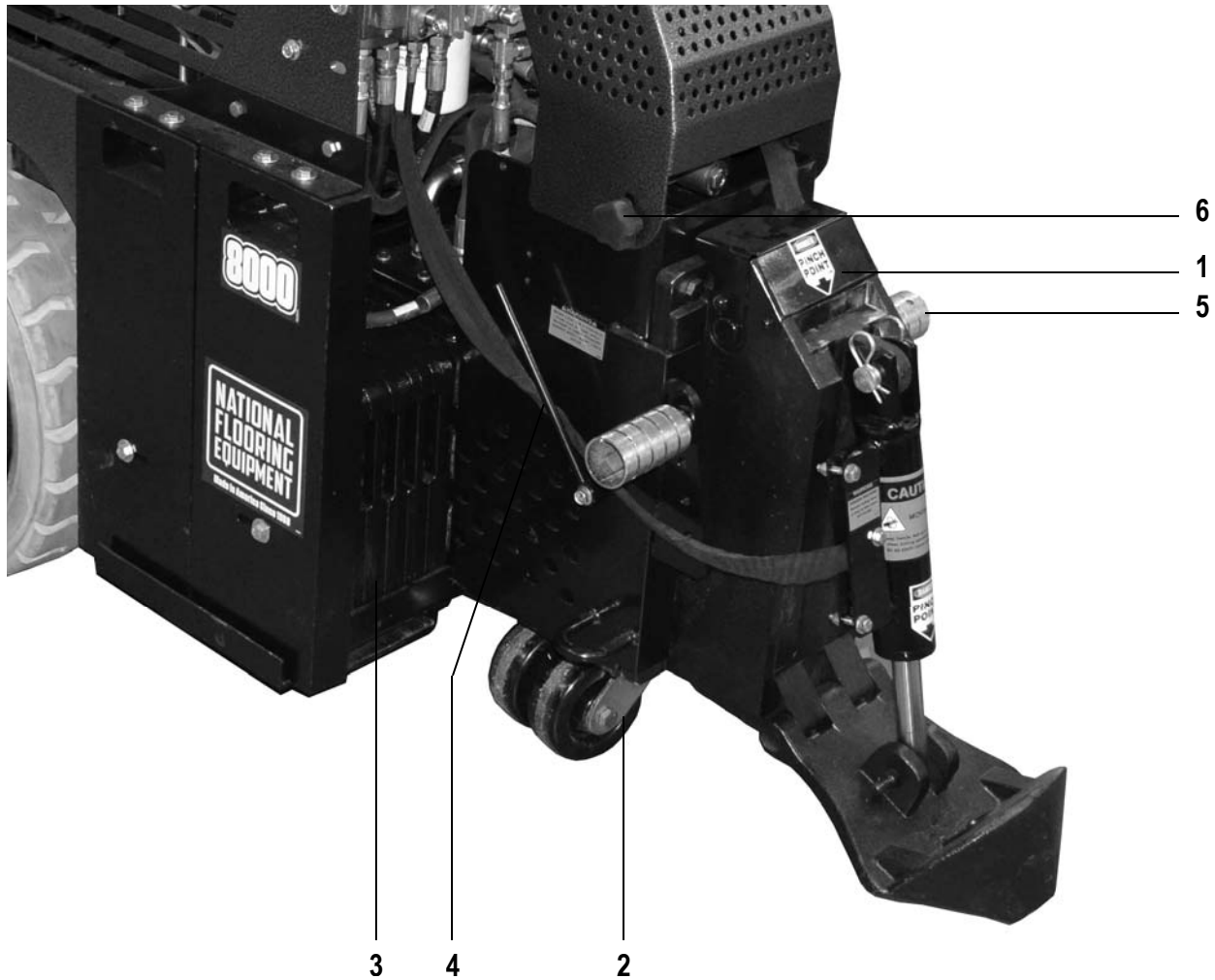
EXTERNAL PARTS



PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	5110-111 SEAT, RIDE-ON	1	8	70627 BRACKET, HORIZONTAL TANK	1
2	70602 TUBE, INSTRUCTION MANUAL	1	9	401798 HANDLE WLDT, LH, VALVE	1
3	401697 WHEEL 21"	2	10	401799 HANDLE WLDT, RH, VALVE	1
4	401560-SV PANEL, SIDE, RIGHT, SILVER VEIN	1	11	75006 BRACKET, FIRE EXTINGUISHER	1
5	401561-SV PANEL, SIDE, LEFT, SILVER VEIN (NOT SHOWN)	1	12	5700-60 BLADE HANDLE	2
6	401562-SV WRAP, REAR, LOWER, SILVER VEIN	1	13	400321 ARMRESTS	1
7	401563-SV HOOD, RIDE-ON, SILVER VEIN	1	14	7050-P PROPANE TANK	1

Parts List and Diagrams

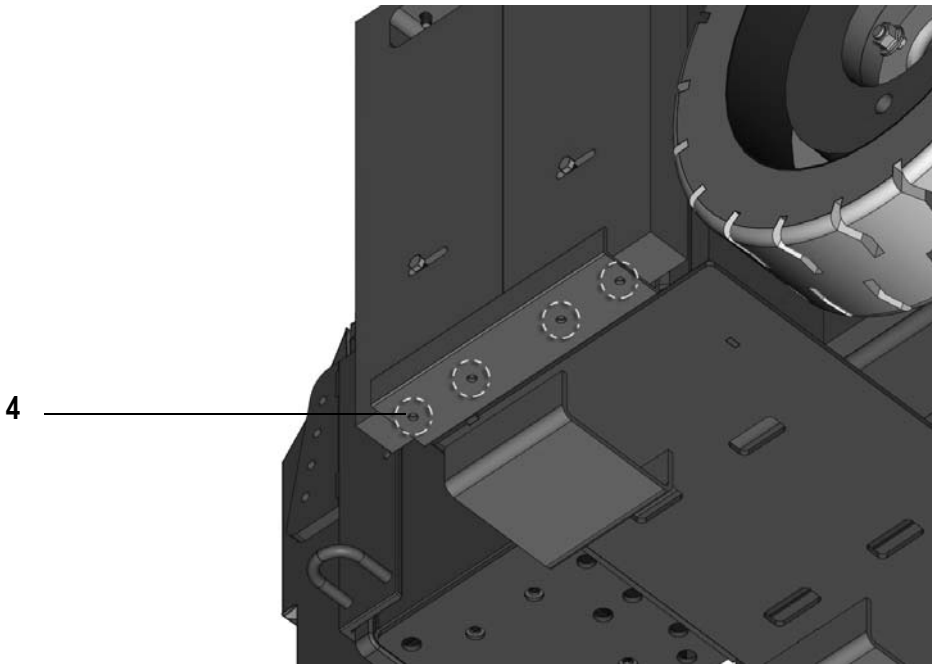
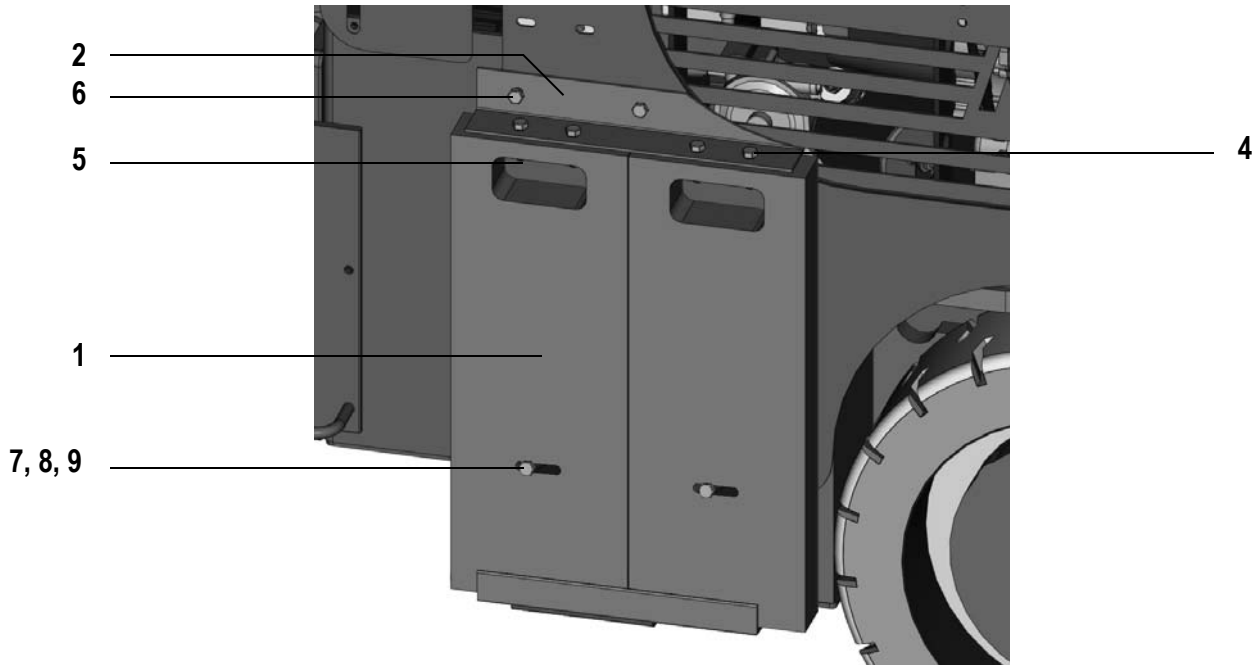
EXTERNAL PARTS (CONT'D)



PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1 401669	COVER, UPPER HOSE	1	4 5200-603	HOSE GUIDE	1
2 401597	DOUBLE WHEEL CASTER ASSEMBLY	1	5 5110-180	FOOT PEG	1
3 74854	WEIGHT, POCKET, CAST, RIDE-ON	10	6 400164	KNOB, THREE-LOBE 1/2-13	2

Parts List and Diagrams

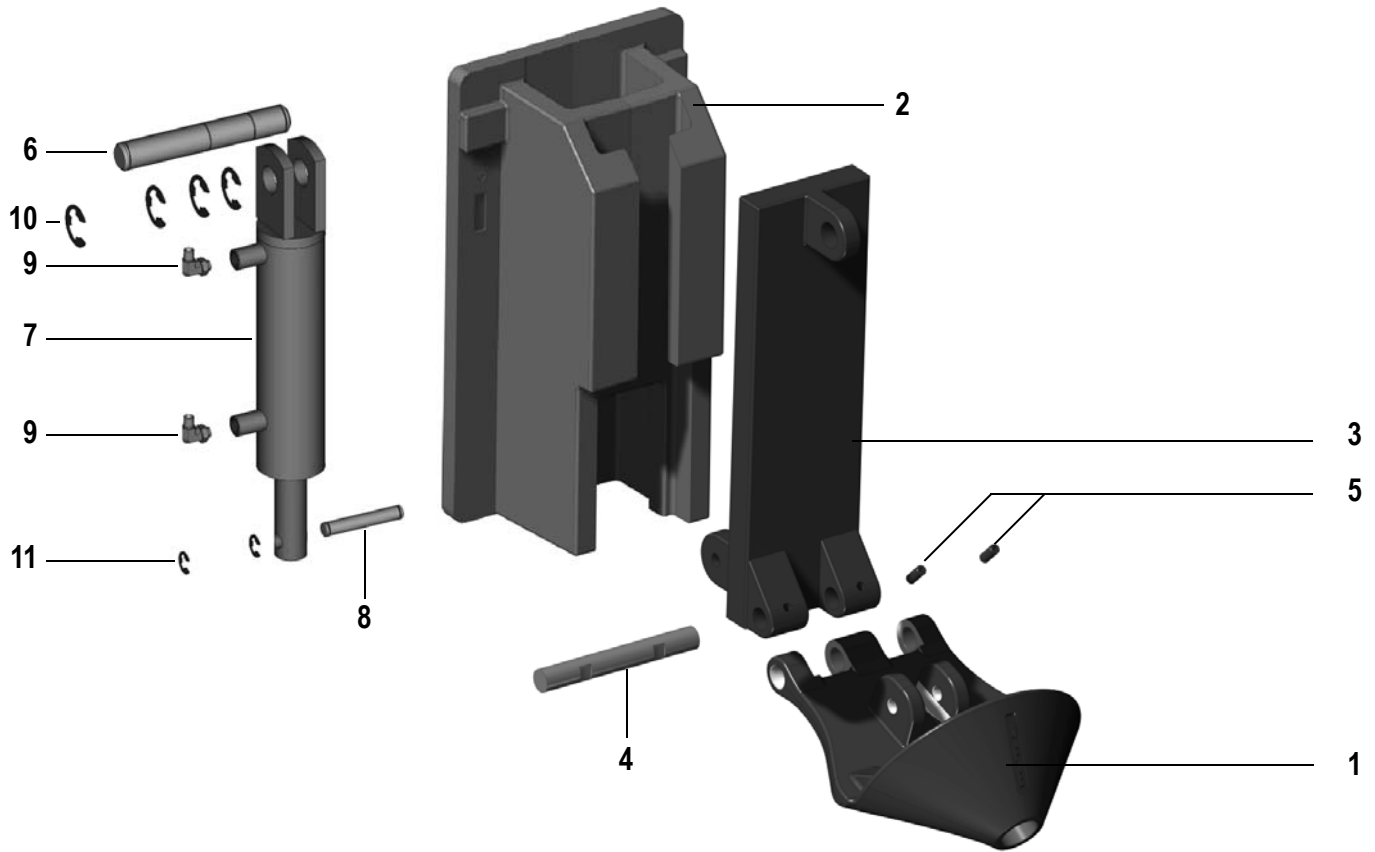
SIDE WEIGHT PARTS



PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	401960 WEIGHT, SIDE, HANGING	4	6	73208 BOLT, HEX HEAD CAP 3/8-16X1-1/2	4
2	401961 BRACKET, WEIGHT, RIGHT	1	7	401995 BOLT, WIZLOCK, 3/8-16 X 2.5	4
3	401962 BRACKET, WEIGHT, LEFT	1	8	73203 WASHER, FLAT, 3/8	4
4	73206 BOLT, HEX HEAD 3/8-16X1-1/4	8	9	73204 WASHER, SPLIT LOCK 3/8	4
5	73207 NUT, NYLOCK 3/8-16	4			

Parts List and Diagrams

DUAL SLIDE PLATE

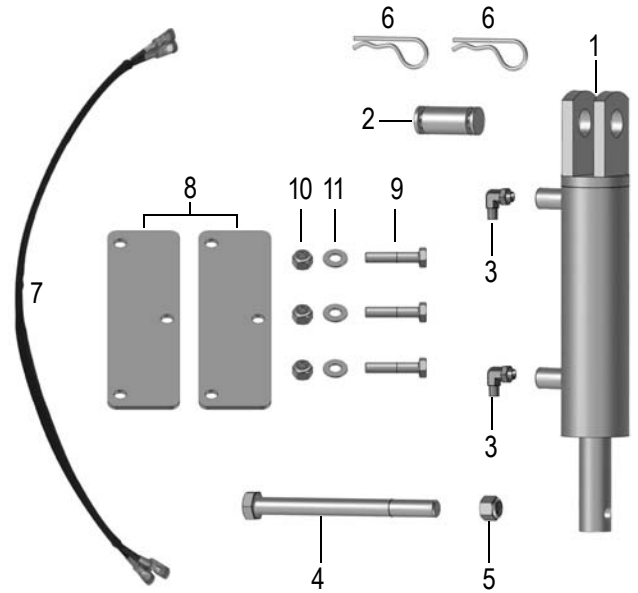


PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY		
1	401568	SUPPORT, TOOLING CARRIER, CAST	1	7	5110-250	CYLINDER NN16	1
2	401566	DUAL LIFT, FRAME, CAST	1	8	6500-30	PIN, LOWER BACK	1
3	6500-11	SLIDE PLATE, DUAL LIFT, CAST	1	9	72801	FITTING, 90 DEGREE, 1/4"	2
4	401429	LOWER CUTTING HEAD PIN	1	10	80083	E-CLIP, 1" SHAFT	4
5	401876	SSS 3/8-24 .25	2	11	80084	E-CLIP, .50", SHAFT	2
6	401859	PIN, UPPER, CAST DUAL LIFT	1				

Parts List and Diagrams

PART#	DESCRIPTION	QTY
1	5110-250 CYLINDER NN16	1
2	5110-251 ROD, CYLINDER CONNECT	1
3	72801 FITTING, 90 DEGREE, 1/4"	2
4	400132 BOLT, HEX HEAD, 1/2 13 X 4	1
5	73402 NUT, NYLOCK 1/2 13	1
6	73536 PIN, HITCH CLIP 5/8"	2
7	5110-267 HOSE, CYLINDER	1
8	5700-36 GUARD, HOSE	2
9	73334 BOLT, HEX HEAD CAP 5/16 18 X 1 1/2	3
10	73322 NUT, NYLOCK 5/16-18	3
11	73351 WASHER, FLAT SAE 5/16	3

FRONT CYLINDER ASSEMBLY



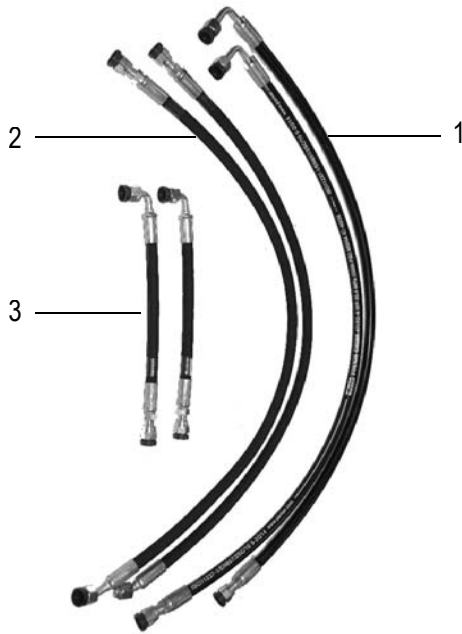
Parts List and Diagrams

WHEEL MOTOR



	PART#	DESCRIPTION	QTY
1	401592	WHEEL MOTOR, POCLAIN W/BRAKE	2
2	5110-114-2	FITTING, WHEEL MOTOR	6
3	5110-264	FITTING, VALVE, 45 DEGREE	2

WHEEL MOTOR HOSES

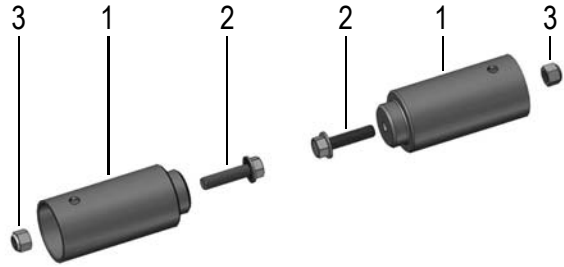


	PART#	DESCRIPTION	QTY
1	401632	HOSE, WHEEL MOTOR, HIGH PSI	4
2	5200-261	HOSE, WHEEL MOTOR	2
3	5700-75	HOSE, 12.5"	2

Parts List and Diagrams

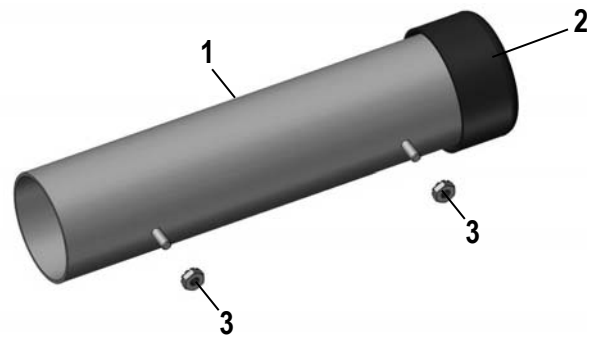
PART#	DESCRIPTION	QTY
1 5110-180	PEG, FOOT	2
2 73238	BOLT, FLANGE 3/8 16X1 1/2	2
3 73207	NUT, NYLOCK 3/8 16	2

FOOT PEG ASSEMBLY



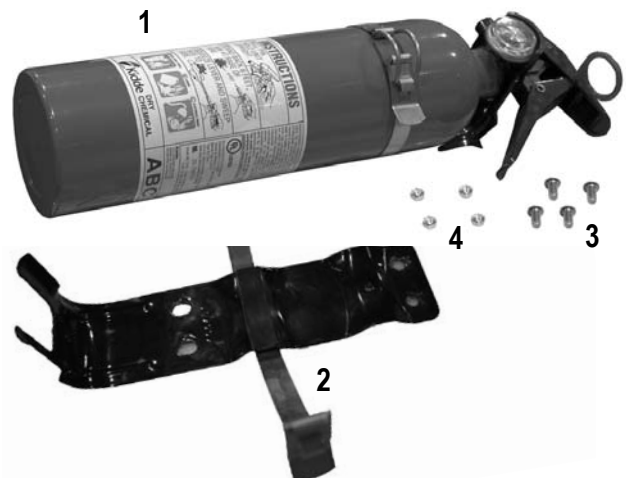
PART#	DESCRIPTION	QTY
1 70602	INSTRUCTION MANUAL TUBE	1
2 70603	INSTRUCTION TUBE CAP	1
3 74425	10/32 K-LOCK NUT	2

INSTRUCTION TUBE PARTS



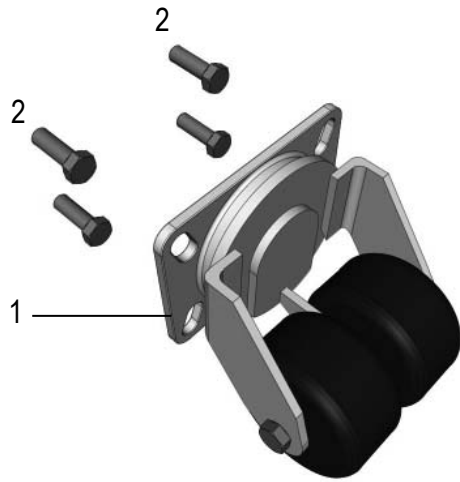
PART#	DESCRIPTION	QTY
1 75005	FIRE EXTINGUISHER	1
2 75006	FIRE EXTINGUISHER MOUNTING BRACKET	1
3 74406	10-32 X 3/8 PHILLIPS PAN HEAD MACHINE SCREW	4
4 74425	10-32 K-LOCK NUT	4

FIRE EXTINGUISHER PARTS



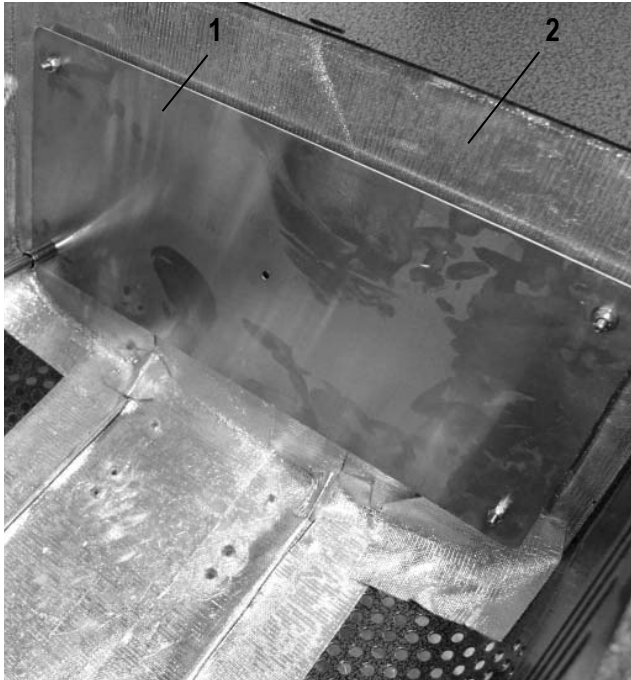
Parts List and Diagrams

CASTER WHEEL ASSEMBLY



	PART#	DESCRIPTION	QTY
1	401597	CASTER, DOUBLE GRAY	1
2	73406	BOLT, HEX HEAD CAP 1/2 13X1 1/4	4
3	73424	WASHER, FLAT, ZINC SAE 1/2 (NOT SHOWN)	4
4	73403	WASHER, SPLIT LOCK 1/2 (NOT SHOWN)	4

HEAT DEFLECTOR

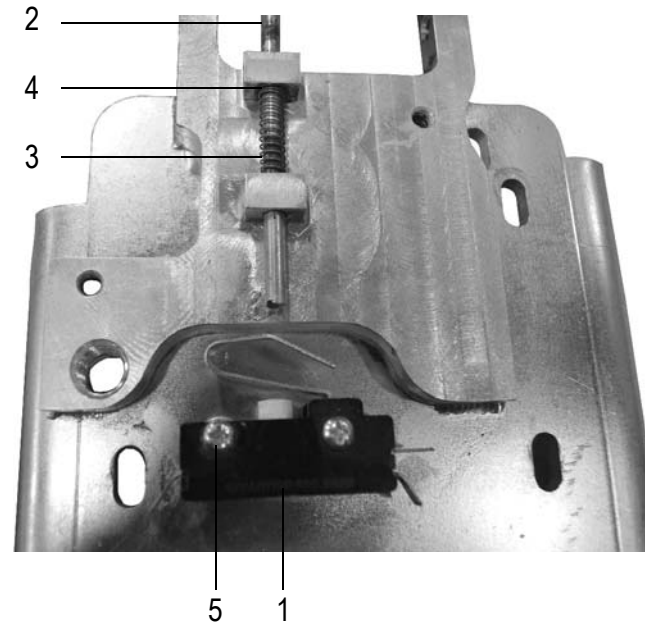


	PART#	DESCRIPTION	QTY
1	5600-80	HEAT DEFLECTOR	1
2	400280	HEAT BARRIER, ADHESIVE BACK	8FT

Parts List and Diagrams

PART#	DESCRIPTION	QTY
1	5110-218 SWITCH, BACK-UP BEEPER	1
2	5200QL-14A PIN, BACK-UP BEEPER	1
3	70712 SPRING, COMPRESSION, 151-A	1
4	73910 E-CLIP, 3/16	1
5	74517 SCREW, PHILLIPS PAN HEAD MAC 6-32X1 2	2
6	74501 WASHER, #6 FLAT SAE (NOT SHOWN)	1

BACKUP BEEPER



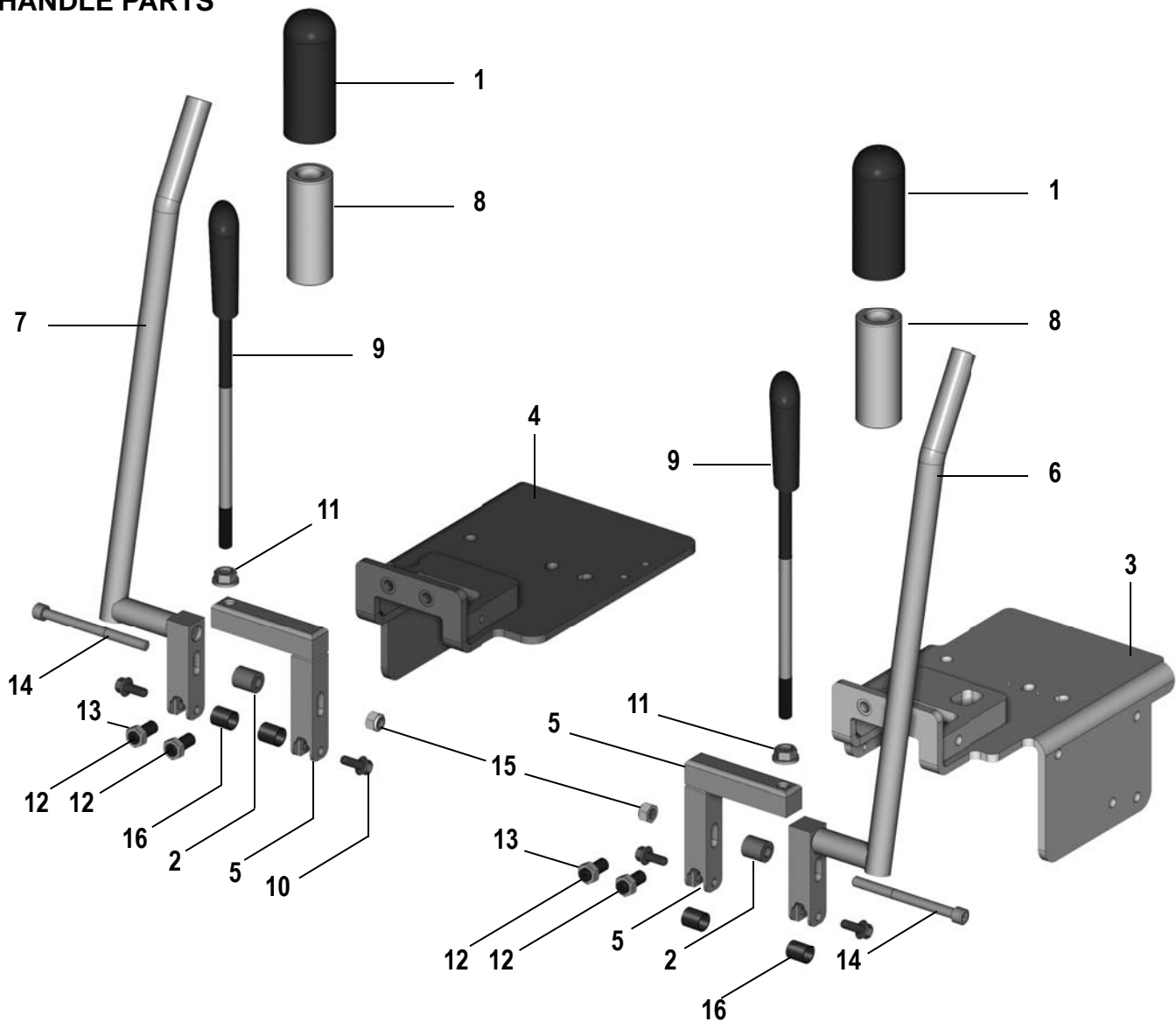
PART#	DESCRIPTION	QTY
1	5200-116 BEEPER, BACK UP	1

BACKUP BEEPER ASSEMBLY



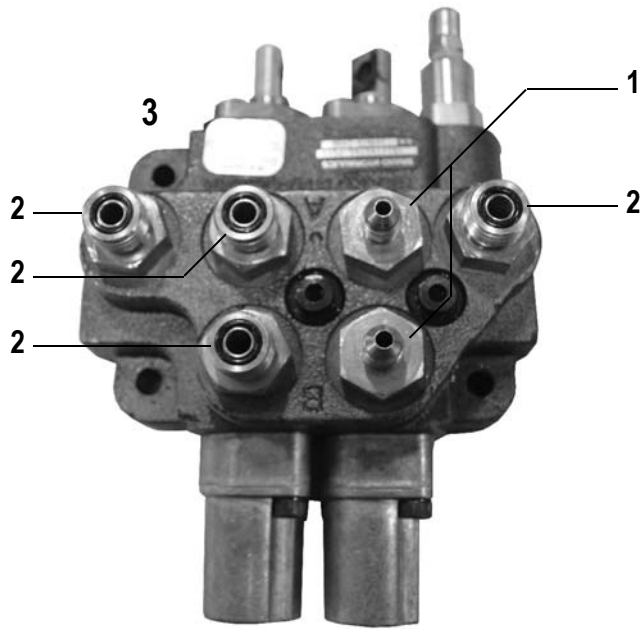
Parts List and Diagrams

HANDLE PARTS

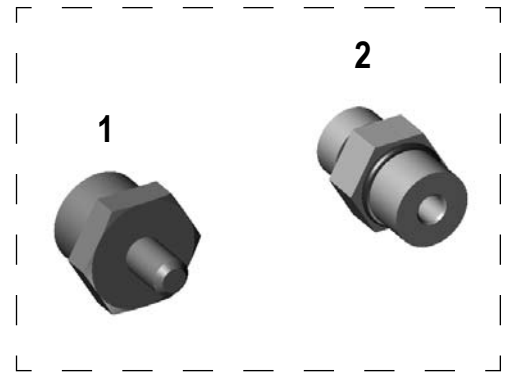


PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	400327 HANDGRIP	2	9	5700-60 BLADE HANDLE	2
2	401408 HANDLE SPACER	2	10	73020 WIZLOCK BOLT 1/4-20X5/8	4
3	401795 BRACKET, VALVE, LH	1	11	73211 NUT, FLANGE 3/8-16	4
4	401796 BRACKET, VALVE, RH	1	12	73227 SET SCREW 3/8-24X1	4
5	401797 BRACKET, UNIVERSAL, LEVER	2	13	73235 HEX JAM NUT 3/8-24	4
6	401798 HANDLE, LH, VALVE	1	14	73321 SOCKET HEAD CAP BOLT, 5/16-18X3 1/2	2
7	401799 HANDLE, RH. VALVE	1	15	73322 NYLOCK NUT 5/16-18	2
8	5700-54 HAND GRIP SLEEVE	2	16	401604 VALVE LEVER BUSHING	4

Parts List and Diagrams



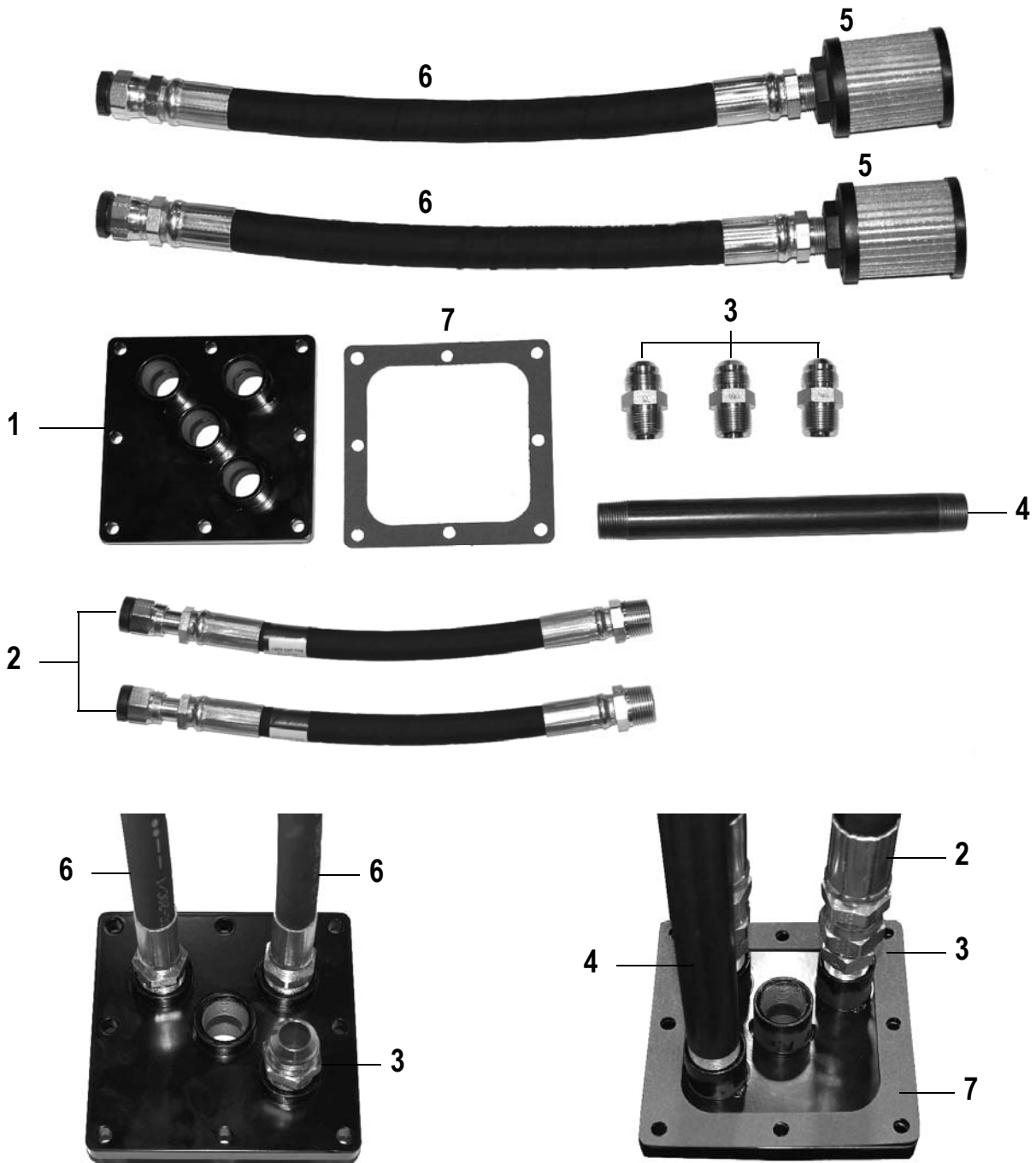
VALVE ASSEMBLY



PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	6280-221 HYDRAULIC MOTOR CONNECTOR	4	4	401853 HOSE, PUMP TO VALVE, RH, HIGH PSI	2
2	400034 FITTING, FF1231-06-08	8	5	401854 HOSE, PUMP TO VALVE, LH, HIGH PSI	2
3	401834 HIGH PSI DUAL SPOOL VALVE	2			

Parts List and Diagrams

SUCTION ASSEMBLY

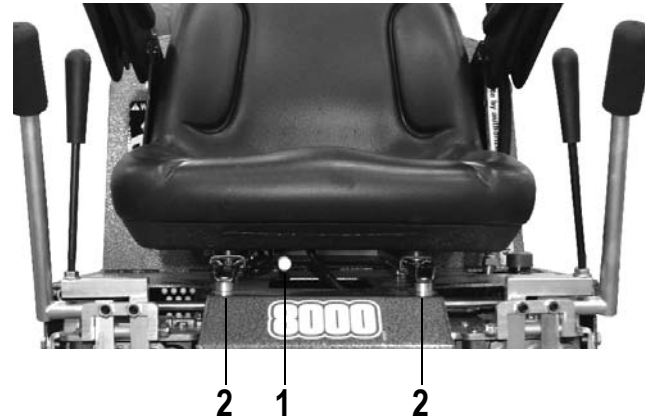


PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY		
1	401574	PLATE, SUCTION	1	5	5110-237	FILTER SCREEN	2
2	5700-77	ASSEMBLY, HOSE	2	6	400099	HOSE, SUCTION, 1/2" X 20" W/ FITTINGS	2
3	70652	FITTING	3	7	5700-93	GASKET	1
4	70655	PIPE, MALE, 10" X 3/4"	1				

Parts List and Diagrams

PART#	DESCRIPTION	QTY
1 401631	SEAT ADJUSTER	1
2 5200QL-13	SPACER, VALVE LEVER	4

SEAT ADJUSTER



PART#	DESCRIPTION	QTY
1 5110-207	SWITCH, SEAT	1

SEAT SWITCH



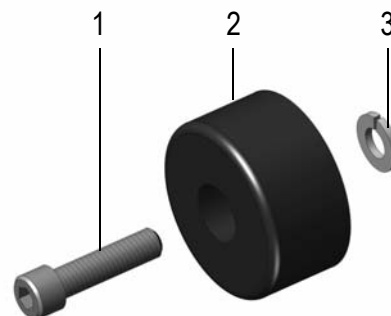
PART#	DESCRIPTION	QTY
1 401573	REAR FRAME COVER	1

REAR FRAME COVER



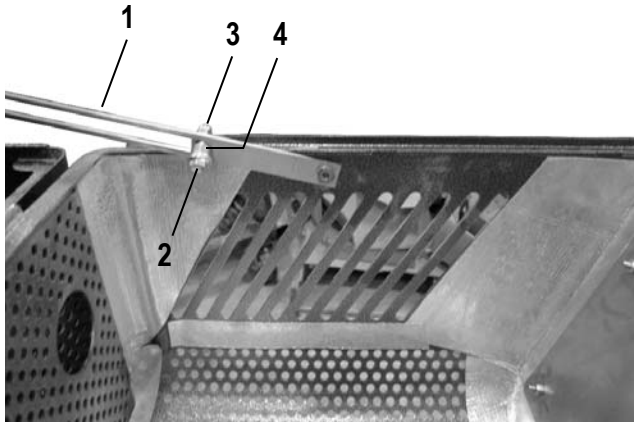
PART#	DESCRIPTION	QTY
1 73020	BOLT, WIZLOCK 1/4-20X5/8	2
2 5600-66	BUMPER, HOOD	2
3 73002	WASHER, SPLIT LOCK 1/4	2

HOOD BUMPER ASSEMBLY



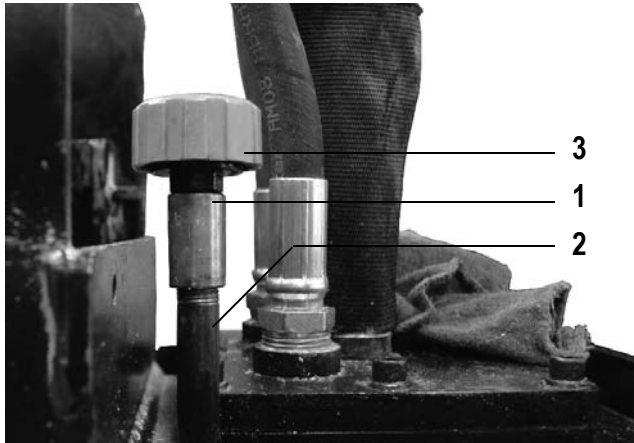
Parts List and Diagrams

HOOD SUPPORT



	PART#	DESCRIPTION	QTY
1	400172	HOOD SUPPORT	1
2	400178	SHOULDER SHROUD HOLD UP BOLT	1
3	400189	ACORN NUT 3/8-16	1
4	401963	HOOD STRAP BODY SPACER	1

DIPSTICK

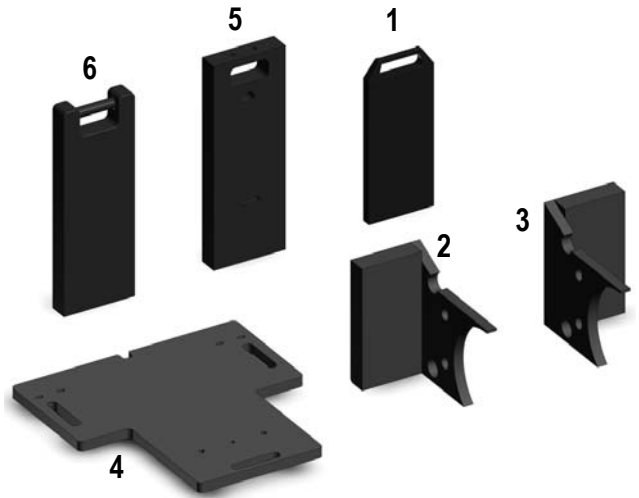


	PART#	DESCRIPTION	QTY
1	5110-234	RELIEF VALVE COUPLER	1
2	5110-234-1	RELIEF VALVE PIPE	1
3	80058	BREATHER, WITH 6" DIP STICK	1

Parts List and Diagrams

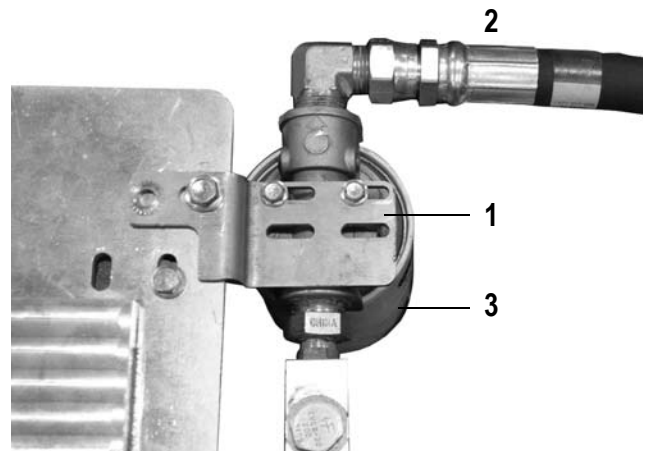
PART#	DESCRIPTION	QTY
1	400197 FRONT WEIGHT	11
2	401484 RIGHT SIDE WEIGHT	1
3	401485 LEFT SIDE WEIGHT	1
4	401686 RISER PLATE WEIGHT	1
5	401960 SIDE WEIGHT HANGING	4
6	5110-404 REAR WEIGHT	1

WEIGHTS



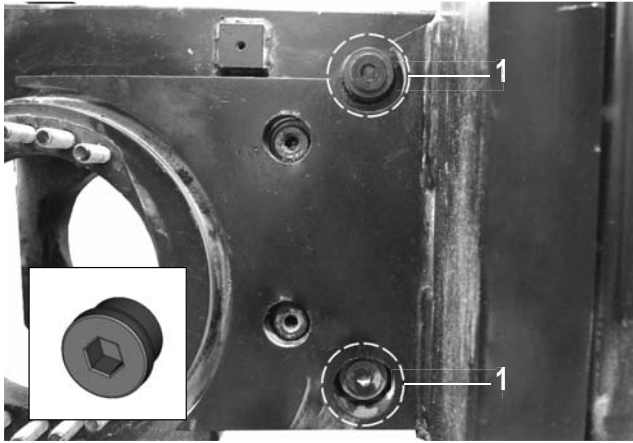
PART#	DESCRIPTION	QTY
1	70612 BRACKET, FILTER	1
2	401635 RETURN HOSE	1
3	5700-65 FILTER	1

FILTER



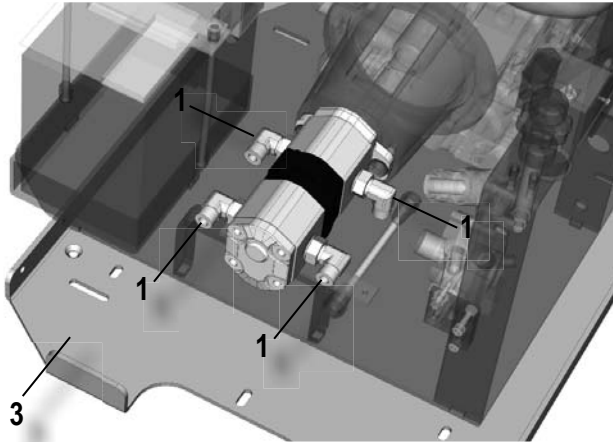
Parts List and Diagrams

DRAIN PLUGS



	PART#	DESCRIPTION	QTY
1	5110-157	PLUG, DRAIN-FILLER	2

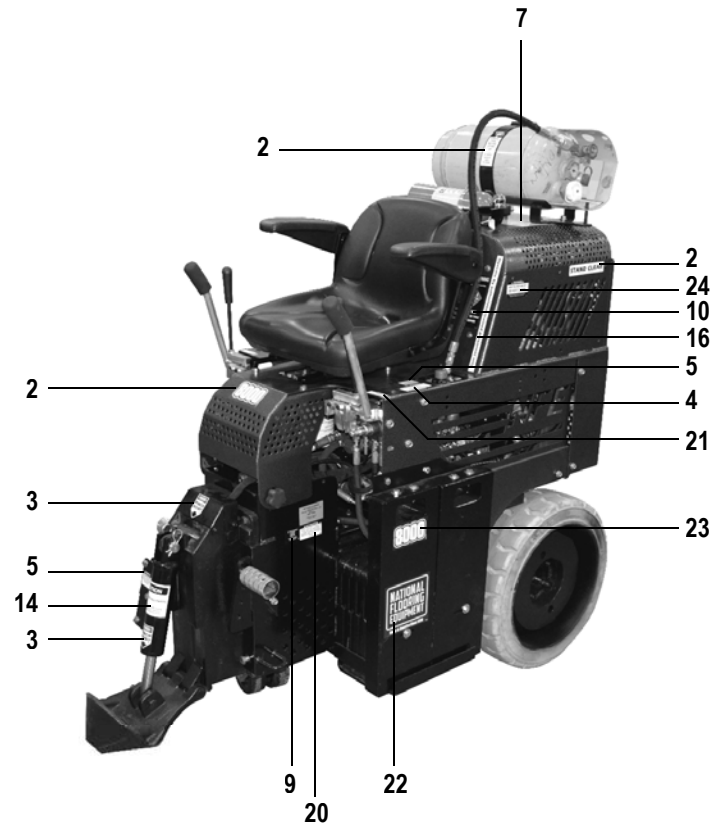
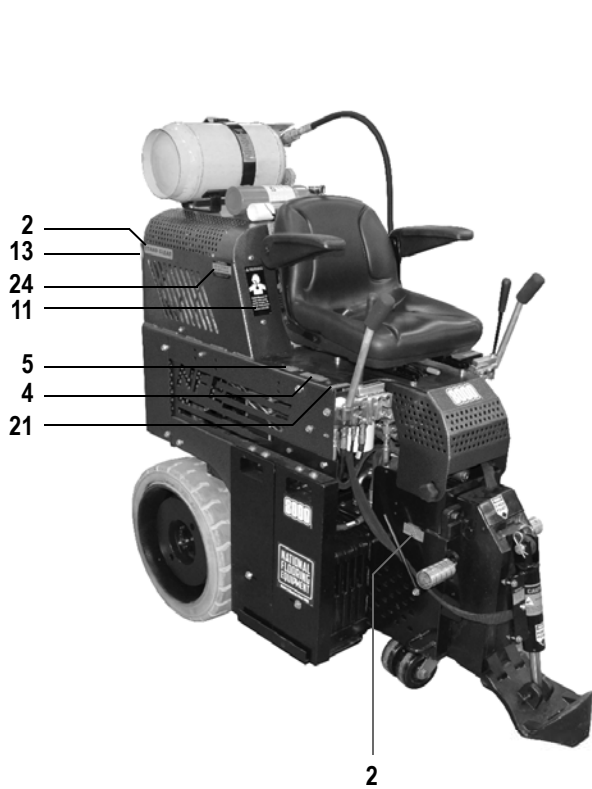
MOTOR POD ASSEMBLY



	PART#	DESCRIPTION	QTY
1	6280-118	FITTING, SUCTION HOSE TO PUMP	4
2	400182S	MOTOR POD ASSEMBLY 25HP	1
3	5200QL-27	BASE, MAIN	1

Parts List and Diagrams

LABELS



PART#	DESCRIPTION	QTY	PART#	DESCRIPTION	QTY
1	L01 CAUTION LABEL	1	14	L33B CAUTION MOVING PART LABEL	1
2	L08-1 STAND CLEAR LABEL	2	15	L33C INSTRUCTION MANUAL LABEL	1
3	L106 PINCH POINT LABEL	2	16	L33D AUTHORIZED PERSONNEL ONLY LABEL	1
4	L118 OPERATOR MUST BE SEATED LABEL	1	17	L37 CAUTION SHARP BLADES LABEL	2
5	L137 DISARM MACHINE LABEL	1	18	L561 WARNING REMOVE TANK LABEL	2
6	L142 TRAILER HITCH LABEL	1	19	L66 LARGE CAUTION LABEL	1
7	L165 LARGE RIDE-ON LABEL	1	20	L95F FLUID LEAK LABEL	2
8	L223 PATENT NUMBER LABEL	1	21	L98 BLADE LIFT LABEL	1
9	L231 PATENTS PENDING LABEL	1	22	402001 NATIONAL LOGO LARGE	2
10	L314 LP GAS LABEL	1	23	402059 8000 LABEL	2
11	L315 CARBON MONOXIDE LABEL	1	24	L256 AIR FILTER MUST BE KEPT CLEAN LABEL	2
12	L318 DO NOT TOUCH LABEL	1			
13	L319 BURNING HAZARD LABEL	1			

Parts List and Diagrams

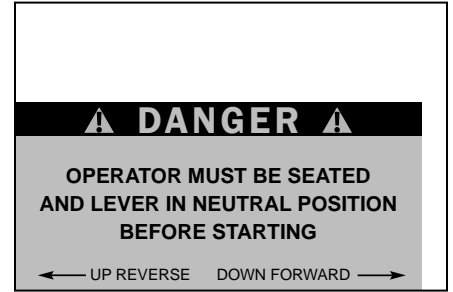
L01



L08-1



L106



L118



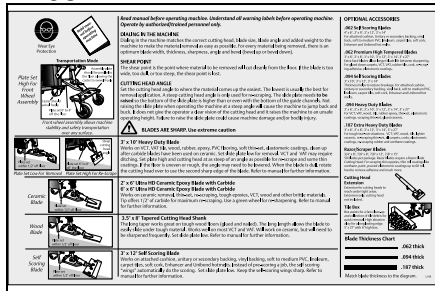
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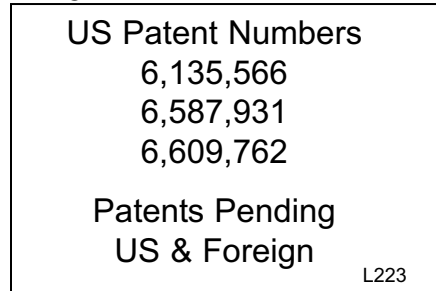
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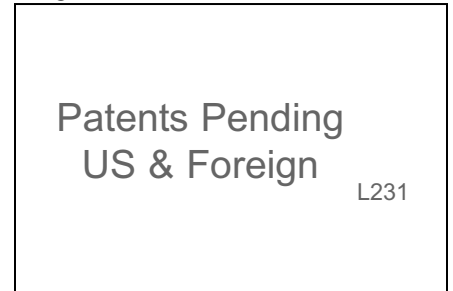
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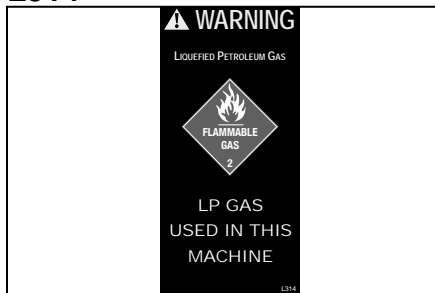
L223



L231



L314



L315



L318



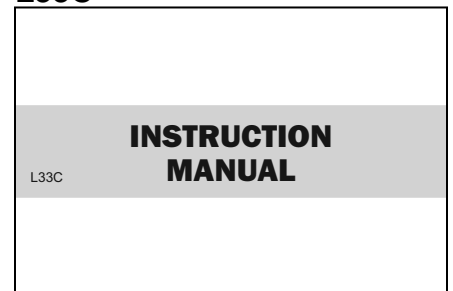
L319



L33B



L33C



Parts List and Diagrams

L33D

... Operate by authorized/trained personnel only

L37



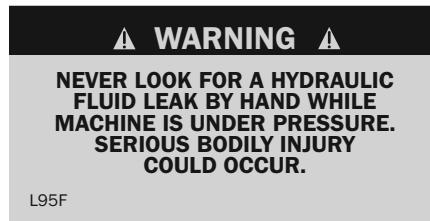
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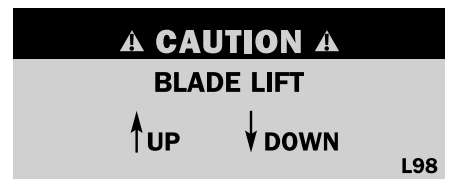
L66



L95F



L98



402001



Made in America Since 1968

402059

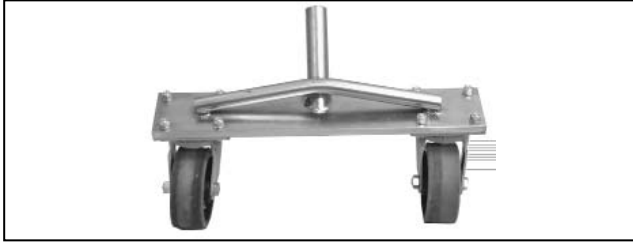


L256



Accessories

FRONT WHEEL ASSEMBLY



5110-100 Front Wheel Assembly

Allows stability and safe transportation over any surface. Easy and quick to attach.

CUTTING HEAD EXTENSION



7050-15 Cutting Head Extension

Extension for cutting heads to reach under tight areas.

PROPANE TANK



7050-P

Propane Tank

CARBON MONOXIDE MONITOR



75007

Lapel Carbon Monoxide Monitor

75008

Lapel Carbon Monoxide Clip

SLIDE PLATE WRENCH



70549

Slide plate wrench

Material Safety Data Sheet (MSDS) Information

CHEVRON HD 22 - 68 - HYDRAULIC FLUID

PRODUCT IDENTIFICATION AND COMPANY IDENTIFICATION

Product Number(S): CPS221655, CPS221658, CPS221659

Synonyms: Texaco Rando HD22, Texaco Rando HD 32, Texaco Rando HD 46, Texaco Rando HD 68

Company Information

Chevron Products Company

a division of Chevron U.S.A. Inc.

6001 Bollinger Canyon Road

San Ramon, CA 94583

United States of America

www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA.

International collect calls accepted.

(800) 231-0623 or (510) 231-0623

Product Information

email: lubemsds@chevron.com

Product Information: 800-LUBE-TEK

MSDS Requests: 800-414-6737

HAZARDOUS INGREDIENTS / IDENTIFY INFORMATION

MATERIALS/COMPONENTS	CAS NUMER	AMOUNT
Highly Refined Mineral Oil (C15 - C50)	mixture	90-100% weight

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

FIRE CLASSIFICATION: OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: (Cleveland Open Cup) 150 C (302 F) (Min)

Autoignition: No Data Available

Flammability (Explosive) Limits (% by volume in the air): Lower: Not Applicable Upper: Not Applicable

Material Safety Data Sheet (MSDS) Information

CHEVRON HD 22 - 68 - HYDRAULIC FLUID (CONTINUED)

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS: Fire Fighting instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when pounds will be evolved when this material undergoes combustion.

ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

HANDLING AND STORAGE

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be a necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS: Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the workplace when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS: Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Material Safety Data Sheet (MSDS) Information

CHEVRON HD 22 - 68 - HYDRAULIC FLUID (CONTINUED)

PHYSICAL AND CHEMICAL PROPERTIES

Attention: The data below are typical values and do not constitute a specification.

Color: Yellow	Physical State: Liquid	Odor: Petroleum odor
pH: Not applicable	Vapor Pressure: <0.01 mmHg @ 37.8 C (100 F)	Vapor Density (Air = 1): >1
Boiling Point: >315.6 C (600 F)	Solubility: Soluble in hydrocarbons; insoluble in water	Freezing Point: Not Applicable
Melting Point: Not Applicable	Specific Gravity: 0.86 - 0.87 @ 15.6 C (60.1 F) / 15.6 (60.1F)	Density: 0.86 kg/l - 0.9 kg/l @ 15 C (59 F)
Viscosity: 22 cSt - 61.2 cSt @40 C (104 F) (Min)		

STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: None known. (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.

Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.

Skin Sensitization: No product toxicology data available.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance (A3).

ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components of a similar material.

ENVIRONMENTAL FATE

This material is not expected to be readily biodegradable.

DISPOSAL CONSIDERATIONS

Use material for its intended purpose if recycle is possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR Additional Information: NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

Material Safety Data Sheet (MSDS) Information

REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

- | | |
|---------------------|----------------------|
| 01-1=IARC Group1 | 03=EPCRA 313 |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2 | 05=MA RTK |
| 02=NTP Carcinogen | 06=NJ RTK |

No components of this material were found on the regulatory lists above.

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States)

One or more components is listed on ELINCS (European Union). Secondary notification by the importer may be required.

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Hydraulic oil)

WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation,*-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION: Label Category: INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet:

Revision Date: January 15, 2007

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

- | | |
|---|--|
| TLV - Threshold Limit Value | TWA - Time weighted Average |
| STEL - Short-term Exposure Limit | PEL - Permissible Exposure Limit |
| CAS - Chemical Abstract Service Number | IMDG - International Maritime Dangerous Goods Code |
| API - American Petroleum Institute | MSDS - Material Safety Data Sheet |
| ACGIH - American Conference of Government Industrial Hygienists | CVX - Chevron |
| NFPA - National Fire Protection Association (USA) | DOT - Department of Transportation |
| NTPA - National Toxicology Program(USA) | IARC - International Agency for Research on Cancer |
| OSHA - Occupational Safety and Health Administration | |

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

Fire Extinguisher - MSDS

1. PRODUCT AND COMPANY IDENTIFICATION
 2. COMPOSITION/INFORMATION ON THE COMPONENTS
 3. HAZARD IDENTIFICATION
 4. FIRST AID MEASURES
 5. FIRE FIGHTING MEASURES
 6. ACCIDENTAL RELEASE MEASURES
 7. HANDLING AND STORAGE
 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
 9. PHYSICAL AND CHEMICAL PROPERTIES
 10. STABILITY AND REACTIVITY
 11. TOXICOLOGICAL INFORMATION
 12. ECOLOGICAL INFORMATION
 13. DISPOSAL
 14. TRANSPORT INFORMATION
 15. REGULATORY INFORMATION
 16. OTHER INFORMATION
-

KIDDE
A UTC FIRE & SECURITY COMPANY

MATERIAL SAFETY DATA SHEET

KIDDE 55 MULTI-PURPOSE DRY CHEMICAL (FIRE EXTINGUISHING AGENT)

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:
KIDDE 55 MULTI - PURPOSE DRY CHEMICAL (FIRE EXTINGUISHING AGENT)

OTHER TRADE NAMES: ABC, AMMONIUM PHOSPHATE, MONOAMMONIUM PHOSPHATE

MANUFACTURER/SUPPLIER:
KIDDE - RESIDENTIAL AND COMMERCIAL
A UNITED TECHNOLOGIES COMPANY

ADDRESS:
1016 CORPORATE PARK DRIVE
MEBANE, NC 27302
USA

PHONE NUMBER:
(919) 304-8200
(919) 563-5911

CHEMTREC NUMBER (FOR EMERGENCIES ONLY):
(800) 424-9300
(703) 527-3887 (INTERNATIONAL)

REVISION DATE: AUGUST 7, 2007

MSDS DATE: JANUARY 15, 2007

THIS MSDS HAS BEEN COMPILED IN ACCORDANCE WITH - EC DIRECTIVE
91/155/EC - OSHA'S HAZCOM STANDARD (29 CFR 1910.1200)

Fire Extinguisher - MSDS (Continued)

2. COMPOSITION/INFORMATION ON THE COMPONENTS

COMPONENT NAME	CAS#/CODES	CONCENTRATION	R PHRASES	EU CLASSIFICATION
MONOAMMONIUM PHOSPHATE	7722-76-1 EC#2317645	55 - 65%	NONE	NONE
AMMONIUM SULFATE	7783-20-2 EC#2319841	30 - 40%	NONE	NONE
MICA	12001-26-2	1 - 4%	NONE	NONE
CLAY	8031-18-3	<2%	NONE	NONE
AMORPHOUS SILICA	7631-86-9 EC#2315454	<2%	NONE	NONE
DYE	NA	<0.1%	NONE	NONE

3. HAZARD IDENTIFICATION

EU MAIN HAZARDS: NON HAZARDOUS POWDER

ROUTES OF ENTRY:

EYE CONTACT

INHALATION

SKIN CONTACT

CARCINOGENIC STATUS: SEE SECTION 11 - TOXICITY

TARGET ORGANS:

RESPIRATORY SYSTEM

SKIN

EYE

HEALTH EFFECTS - EYES:

CONTACT FOR SHORT PERIODS OF TIME MAY CAUSE IRRITATION.

HEALTH EFFECTS - SKIN: CONTACT MAY CAUSE MILD IRRITATION.

HEALTH EFFECTS - INGESTION: INGESTION IS NOT AN EXPECTED ROUTE OF EXPOSURE.

HEALTH EFFECTS - INHALATION:

MAY IRRITATE THE RESPIRATORY TRACT. MAY CAUSE TRANSIENT COUGH AND SHORTNESS OF BREATH.

4. FIRST AID MEASURES

EYES:

IMMEDIATELY FLOOD THE EYE WITH PLENTY OF WATER OF WARM WATER FOR AT LEAST 15 MINUTES, HOLDING THE EYE OPEN. OBTAIN MEDICAL ATTENTION IF SORENESS OR REDNESS PERSISTS.

SKIN:

WASH AFFECTED AREA WITH SOAP AND WATER. OBTAIN MEDICAL ATTENTION IF IRRITATION PERSISTS.

INGESTION:

DILUTE BY DRINKING LARGE QUANTITIES OF WATER AND OBTAIN MEDICAL ATTENTION.

INHALATION:

MOVE VICTIM TO FRESH AIR. OBTAIN MEDICAL ATTENTION IMMEDIATELY FOR ANY BREATHING DIFFICULTY.

ADVICE TO PHYSICIANS: TREAT SYMPTOMATICALLY.

Fire Extinguisher - MSDS (Continued)

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

THIS PREPARATION IS USED AS AN EXTINGUISHING AGENT AND THEREFORE IS NOT A PROBLEM WHEN TRYING TO CONTROL A BLAZE. USE EXTINGUISHING AGENT APPROPRIATE TO OTHER MATERIALS INVOLVED. KEEP PRESSURIZED EXTINGUISHERS AND SURROUNDINGS COOL WITH WATER SPRAY AS THEY MAY RUPTURE OR BURST IN THE HEAT OF A FIRE.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

PRESSURIZED CONTAINERS MAY EXPLODE IN HEAT OF FIRE.

PROTECTIVE EQUIPMENT FOR FIRE-FIGHTING:

WEAR FULL PROTECTIVE CLOTHING AND SELF-CONTAINED BREATHING APPARATUS AS APPROPRIATE FOR SPECIFIC FIRE CONDITIONS.

6. ACCIDENTAL RELEASE MEASURES

SWEEP UP OR VACUUM. PREVENT SKIN AND EYE CONTACT. WEAR APPROPRIATE PROTECTIVE EQUIPMENT.

7. HANDLING AND STORAGE

PRESSURIZED EXTINGUISHERS SHOULD BE PROPERLY STORED AND SECURED TO PREVENT FALLING OR BEING KNOCKED OVER. DO NOT DRAG, SLIDE OR ROLL EXTINGUISHERS. DO NOT DROP EXTINGUISHERS OR PERMIT THEM TO STRIKE AGAINST EACH OTHER. NEVER APPLY FLAME OR LOCALIZED HEAT DIRECTLY TO ANY PART OF THE EXTINGUISHER OR PLASTIC CONTAINER. STORE PRESSURIZED EXTINGUISHERS AND PLASTIC CONTAINERS AWAY FROM HIGH HEAT SOURCES.

STORAGE AREA SHOULD BE:

COOL
DRY
WELL VENTILATED
UNDER COVER
OUT OF DIRECT SUNLIGHT

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE STANDARDS:

OCCUPATIONAL EXPOSURE LIMITS ARE LISTED BELOW, IF THEY EXIST.

MICA:

ACGIH TLV: 3 MG/M3 TWA, MEASURED AS RESPIRABLE FRACTION OF THE AEROSOL.
OSHA PEL: 20 MPPCF, <1% CRYSTALLINE SILICA

NUISANCE DUST LIMIT:

OSHA PEL:
50 MPPCF OR 15 MG/M3 TWA, TOTAL DUST
15 MPPCF OR 5 MG/M3 TWA, RESPIRABLE FRACTION

ENGINEERING CONTROL MEASURES:

USE WITH ADEQUATE VENTILATION. THERE SHOULD BE LOCAL PROCEDURES FOR THE SELECTION, TRAINING, INSPECTION AND MAINTENANCE OF THIS EQUIPMENT. WHEN USED IN LARGE VOLUMES, USE LOCAL EXHAUST VENTILATION.

Fire Extinguisher - MSDS (Continued)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

NOT NORMALLY REQUIRED. USE DUST MASK WHERE DUSTINESS IS PREVALENT, OR TLV IS EXCEEDED.

HAND PROTECTION:

NOT NORMALLY NEEDED WHEN USED AS A PORTABLE FIRE EXTINGUISHER. USE GLOVES IF IRRITATION OCCURS.

EYE PROTECTION: CHEMICAL GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

BODY PROTECTION: NORMAL WORK WEAR.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: POWDER

COLOR: PALE YELLOW

ODOR: ODORLESS

SPECIFIC GRAVITY: NOT AVAILABLE

BOILING RANGE/POINT (DEG. C/F): NOT APPLICABLE

FLASH POINT (PMCC) (DEG. C/F): NOT FLAMMABLE

SOLUBILITY IN WATER: NOT APPLICABLE

VAPOR DENSITY (AIR = 1): HEAVIER THAN AIR.

VAPOR PRESSURE: NOT APPLICABLE

EVAPORATION RATE: NOT APPLICABLE

10. STABILITY AND REACTIVITY

STABILITY: STABLE UNDER NORMAL CONDITIONS.

CONDITIONS TO AVOID:

HEAT

HIGH TEMPERATURES

EXPOSURE TO DIRECT SUNLIGHT

MATERIALS TO AVOID:

STRONG OXIDIZING AGENTS

STRONG ACIDS

SODIUM HYPOCHLORITE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

HAZARDOUS DECOMPOSITION PRODUCTS:

OXIDES OF CARBON

AMMONIA

OXIDES OF PHOSPHORUS

NITROGEN OXIDES

Fire Extinguisher - MSDS (Continued)

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: LOW ORDER OF ACUTE TOXICITY.

CHRONIC TOXICITY/CARCINOGENICITY:

THIS PRODUCT IS NOT EXPECTED TO CAUSE LONG TERM ADVERSE HEALTH EFFECTS.

MICA AND CLAY MAY CONTAIN SMALL QUANTITIES OF QUARTZ (CRYSTALLINE SILICA) AS AN IMPURITY. PROLONGED EXPOSURE TO RESPIRABLE CRYSTALLINE SILICA DUST AT CONCENTRATIONS EXCEEDING THE OCCUPATIONAL EXPOSURE LIMITS MAY INCREASE THE RISK OF DEVELOPING A DISABLING LUNG DISEASE KNOWN AS SILICOSIS. IARC FOUND LIMITED EVIDENCE FOR PULMONARY CARCINOGENICITY OF CRYSTALLINE SILICA IN HUMANS.

GENOTOXICITY: THIS PRODUCT IS NOT EXPECTED TO CAUSE ANY MUTAGENIC EFFECTS.

REPRODUCTIVE/DEVELOPMENTAL TOXICITY:

THIS PRODUCT IS NOT EXPECTED TO CAUSE ADVERSE REPRODUCTIVE EFFECTS.

12. ECOLOGICAL INFORMATION

MOBILITY: NO RELEVANT STUDIES IDENTIFIED.

PERSISTENCE/DEGRADABILITY: NO RELEVANT STUDIES IDENTIFIED.

BIO-ACCUMULATION: NO RELEVANT STUDIES IDENTIFIED.

ECOTOXICITY: NO RELEVANT STUDIES IDENTIFIED.

13. DISPOSAL

DISPOSE OF CONTAINER IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND NATIONAL REGULATIONS. DO NOT CUT, PUNCTURE OR WELD ON OR NEAR TO THE CONTAINER. NO HARM TO THE ENVIRONMENT IS EXPECTED FROM THIS PREPARATION.

14. TRANSPORT INFORMATION

DOT CFR 172.101 DATA: NOT REGULATED

UN PROPER SHIPPING NAME: NOT REGULATED

UN CLASS: NONE

UN NUMBER: NONE

UN PACKAGING GROUP: NONE

15. REGULATORY INFORMATION

EU LABEL INFORMATION:

CLASSIFICATION AND LABELLING HAVE BEEN PERFORMED ACCORDING TO EU DIRECTIVES 67/548/EEC AND 99/45/EC INCLUDING AMENDMENTS.

EU HAZARD SYMBOL AND INDICATION OF DANGER.:

THIS PREPARATION IS NOT CLASSIFIED AS DANGEROUS.

R PHRASES: NONE

S PHRASES: NONE.

Fire Extinguisher - MSDS (Continued)

15. REGULATORY INFORMATION

US REGULATIONS (FEDERAL, STATE) AND INTERNATIONAL CHEMICAL REGISTRATION LAWS:

TSCA LISTING:

THIS PRODUCT CONTAINS INGREDIENTS THAT ARE LISTED ON OR EXEMPT FROM LISTING ON THE EPA TOXIC SUBSTANCE CONTROL ACT CHEMICAL SUBSTANCE INVENTORY.

EINECS LISTING:

ALL INGREDIENTS IN THIS PRODUCT HAVE NOT BEEN VERIFIED FOR LISTING ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS) OR THE EUROPEAN LIST OF NEW CHEMICAL SUBSTANCES (ELINCS).

DSL/NDSL (CANADIAN) LISTING:

ALL INGREDIENTS IN THIS PRODUCT ARE LISTED ON THE DOMESTIC SUBSTANCE LIST (DSL) OR THE NON-DOMESTIC SUBSTANCE LIST (NDSL) OR ARE EXEMPT FROM LISTING.

WHMIS CLASSIFICATION:

D2B

THIS PRODUCT WAS CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THESE REGULATIONS.

MA RIGHT TO KNOW LAW:

ALL COMPONENTS HAVE BEEN CHECKED FOR INCLUSION ON THE MASSACHUSETTS SUBSTANCE LIST (MSL). THOSE COMPONENTS PRESENT AT OR ABOVE THE DE MINIMUS CONCENTRATION INCLUDE:

MICA	(12001-26-2)	1 - 4%
AMORPHOUS SILICA	(7631-86-9)	<2%
AMMONIUM SULFATE	(7783-20-2)	30 - 40%

PA RIGHT TO KNOW LAW:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS FOUND ON THE PENNSYLVANIA HAZARDOUS SUBSTANCE LIST:

MICA	(12001-26-2)	1 - 4%
AMORPHOUS SILICA	(7631-86-9)	<2%
AMMONIUM SULFATE	(7783-20-2)	30 - 40%

NJ RIGHT TO KNOW LAW:

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS FOUND ON THE NJ RIGHT TO KNOW HAZARDOUS SUBSTANCE LIST:

MICA	(12001-26-2)	1 - 4%
AMORPHOUS SILICA	(7631-86-9)	<2%

CALIFORNIA PROPOSITION 65:

THIS PRODUCT DOES NOT CONTAIN MATERIALS WHICH THE STATE OF CALIFORNIA HAS FOUND TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

SARA TITLE III SECT. 302 (EHS):

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS SUBJECT TO SARA TITLE III SECTION 302.

SARA TITLE III SECT. 304:

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS SUBJECT TO SARA TITLE III SECTION 304.

SARA TITLE III SECT. 311/312 CATEGORIZATION:

IMMEDIATE (ACUTE) HEALTH HAZARD

SARA TITLE III SECT. 313:

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS THAT ARE LISTED IN SECTION 313 AT OR ABOVE DE MINIMIS CONCENTRATIONS.

Fire Extinguisher - MSDS (Continued)

16. OTHER INFORMATION

NFPA RATINGS:

NFPA CODE FOR HEALTH 1
NFPA CODE FOR FLAMMABILITY 0
NFPA CODE FOR REACTIVITY 0
NFPA CODE FOR SPECIAL HAZARDS NONE

HMS RATINGS:

HMS CODE FOR HEALTH 1
HMS CODE FOR FLAMMABILITY 0
HMS CODE FOR REACTIVITY 0
HMS CODE FOR PERSONAL PROTECTION SEE SECTION 8

ABBREVIATIONS:

N/A: DENOTES NO APPLICABLE INFORMATION FOUND OR AVAILABLE
CAS#: CHEMICAL ABSTRACTS SERVICE NUMBER
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
TLV: THRESHOLD LIMIT VALUE
PEL: PERMISSIBLE EXPOSURE LIMIT
STEL: SHORT TERM EXPOSURE LIMIT
NTP: NATIONAL TOXICOLOGY PROGRAM
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
R: RISK
S: SAFETY

PREPARED BY: ENVIRONET LLC.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA BELIEVED TO BE ACCURATE. HOWEVER, NO REPRESENTATION, WARRANTY, OR GUARANTEE IS MADE TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR ITS OWN PARTICULAR USE. BADGER FIRE PROTECTION ASSUMES NO RESPONSIBILITY FOR PERSONAL INJURY OR PROPERTY DAMAGE RESULTING FROM USE, HANDLING OR FROM CONTACT WITH THIS PRODUCT.

Guarantee

National Flooring Equipment, Inc. (National) warrants to the first consumer/purchaser that this National brand product (**8000 Propane Powered Floor Prep System**) when shipped in its original container, will be free from defective workmanship and materials and agrees that it will, at its option, either repair the defect or replace the defective product or part thereof at no charge to the purchaser for parts or labor for the period(s) set forth below.

This warranty does not apply to any appearance items of the product, to the additional excluded items set forth below, or to any product, the exterior of which has been damaged or defaced, which has been subjected to misuse, abnormal service or handling, or which has been altered or modified in design or construction.

In order to enforce the rights under this limited warranty, the purchaser should follow the steps set forth below and provide proof of purchase to National.

The limited warranty described herein is in addition to whatever implied warranties may be granted to purchasers by law. All implied warranties including the warranties of merchantability and fitness for use are limited to the periods from the date of purchase as set forth below. Some states do not allow time limitations on an implied warranty, so the above limitation may not apply to you.

Neither the sales person of the seller, nor any other person, is authorized to make any other warranties other than those described herein, or to extend the duration of any warranties beyond the time period described herein on behalf of National.

The warranties described herein shall be the sole and exclusive warranties granted by National and shall be the sole and exclusive remedy available to the purchaser. Correction of defects in the manner and for the period of time described herein, shall constitute complete fulfillment of all liabilities and responsibilities of National to the purchaser with respect to the product and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall National be liable, or in any way responsible for any damage or defects in the product which were caused by repairs or attempted repairs performed by anyone other than National. Nor shall National be liable, or in any way responsible, for any incidental or consequential, economics or property damage. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

WARRANTY PERIOD

The **8000 Propane Powered Floor Prep System** is guaranteed to be free of manufacturer defective workmanship and in quality of materials for a period of one year.

Items excluded from warranty coverage, unless found and reported defective immediately upon removal from the original shipping container and before being used by the original purchaser.

A freight damage claim must be filed with the carrier by the purchaser, the shipper cannot file the freight claim.

TO OBTAIN SERVICE CONTACT NATIONAL FLOORING EQUIPMENT, INC. TOLL FREE AT 800-245-0267 FOR A REPAIR AUTHORIZATION NUMBER. COD FREIGHT RETURNS WILL NOT BE ACCEPTED. FREIGHT COLLECT SHIPMENTS WILL NOT BE ACCEPTED. WARRANTY REPAIRS MUST BE ACCOMPANIED BY DATE OF PURCHASE RECEIPT AND A RETURN/REPAIR AUTHORIZATION NUMBER.

RETURN/REPAIR AUTHORIZATION NUMBER: _____

MACHINE SERIAL NUMBER: _____



Made in America Since 1968

9250 Xylon Avenue N • Minneapolis, MN 55445 • U.S.A.
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Web Site: www.nationalequipment.com • E-Mail: info@nationalequipment.com