

# 6280 HD

## HEAVY DUTY HYDRAULIC SELF-PROPELLED WALK BEHIND SCRAPER INSTRUCTION MANUAL



Read Manual Before Operating Machine

**NATIONAL  
FLOORING  
EQUIPMENT**

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**Declaration of Conformity**



**National Flooring Equipment Inc.**

9250 Xylon Ave N  
Minneapolis, MN 55445 USA

Declares that under our sole responsibility the products:

**6280-COM, 6280-COM-EUR, 6280-COM-AUS, 6280-COM-UK,  
5280, 5280-EUR, 5280-AUS, 5280-UK, 6280HD-COM,  
6280HD-COM-EUR, 6280HD-COM-AUS, 6280HD-COM-UK**

Are in conformity with the provisions of the following EC  
Directive, including all amendments, and with national  
legislation implementing this directive:

**Machinery Directive 2006/42/EC**

The Following Harmonized Standards were applied:

**EN 60335-2-67:2003 + A1 :2006 with  
EN 60335-1:2002 + A1:04 + A2:06 + A11:04 + A12:06  
EN ISO 12100:2010, ISO 4413:2010**

This Product Carries the CE Mark, which was first affixed in 2013

| Place                  | Signature | Date              |
|------------------------|-----------|-------------------|
| <b>Minneapolis, MN</b> |           | <b>05/19/2014</b> |

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| <b>Jönköping, Sweden</b> |           | <b>05/19/2014</b> |

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# Features and Specifications



## FEATURES

**Traction Wheels** - These industrial grade wheels are self-cleaning and disengage for loading/unloading.

**Side Slide Weights with Quick Adjust Levers** - Applies additional pressure to the scraper head as desired or if more traction is needed, slide them back over the wheels.

**Lifting Bail Eyebolts** - Eases loading/unloading.

**Unique Swivel Head** - Unique swivel head provides continuous contact with the floor.

**Quick Adjust Multi Position Handle** - Allow adjustment of handle angle to suit operator or work conditions. Folds flat over machine for storage or transport.

## Product Specifications

| Width             | Length            | Height            | Weight                                                                      | Speed     | RPM       | Voltage | HP  | Amps<br>(full load) |
|-------------------|-------------------|-------------------|-----------------------------------------------------------------------------|-----------|-----------|---------|-----|---------------------|
| 16"<br>(40.64 cm) | 33"<br>(83.82 cm) | 47"<br>(119.4 cm) | 365 lb (165.5 kg)<br>(machine only)<br>490 lb (222.26 kg)<br>(with weights) | 30 ft/min | 1725/1425 | 115     | 1.5 | 13                  |

## 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 by contacting National Flooring Equipment.

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. **GROUND YOUR EQUIPMENT:** See Grounding Page 7.
3. **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.
4. **KEEP WORK AREA CLEAN AND WELL LIT:** Cluttered, dark work areas invite accidents.
5. **DO NOT USE ON STEPS.**
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 appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge. Equipment is not to be used by children.
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 is hazardous. Be sure accessories are properly installed and maintained. Do not remove 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 surfaces such as pipes, radiators, ranges and refrigerators. 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 ABUSE CORD:** Never unplug by pulling the cord from the outlet. Pull plug rather than cord to reduce the risk of damage. Keep the cord away from heat, oil, sharp objects, cutting edges and moving parts.
19. **DO NOT OVERREACH. MAINTAIN CONTROL:** Keep proper footing and balance at all times. Maintain a firm grip.
20. **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.
21. **STARTING MACHINE:** On/Off switch must be in off position before connecting to power source.
22. **UNPLUG EQUIPMENT:** When not in use and before changing accessories or performing recommended maintenance, unplug machine.
23. **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 tool cords and extension cords for damage. Replace damaged parts. Use

# Safety

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only identical National replacement parts.

24. **STORE IDLE EQUIPMENT:** When not in use, store in a dry, secured place. Keep away from children.
25. **MAINTAIN LABELS AND NAMEPLATES:** These carry important information. If unreadable or missing, contact National for a replacement.
26. **MACHINE IS HEAVY, DO NOT DROP.** Ensure proper lifting procedures are followed when transporting.
27. **DO NOT ALLOW** the oscillating plates to come into contact with the supply cord.
28. **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:** Educates themselves on the machine and the environment.

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

**Skills:** Only performs duties he/she is qualified to do. Always tries to improve.

**Judgment:** Use sound judgement. Does not take unnecessary risks.

**Common Sense:** Applies knowledge in practical situations.

**Recognizes the Hazards:** Maintains alertness. Anticipates danger.

**Understands the Defense:** Knows that safety isn't an accident...it's a thinking person's choice.

**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 working environment in and around your hydraulic equipment is just common sense. The easiest and most effective way to avoid problems is to make sure associates understand their equipment, know how to operate it safely and recognize the danger it represents if handled carelessly. A few things you must be aware of include:

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 strain 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 2,000 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.

# Safety



**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.

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.
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.

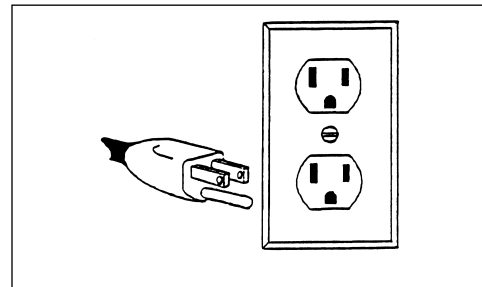


FIG. A

## 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 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.

## GROUNDING

Tools marked "Grounding Required" have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet (Figure A). If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock.

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically "live" terminal.

Your scraper must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in Figure A.

## EXTENSION CORDS



**WARNING:** IMPROPERLY CONNECTING THE GROUNDING WIRE CAN RESULT IN THE RISK OF ELECTRIC SHOCK. CHECK WITH A QUALIFIED ELECTRICIAN IF YOU ARE IN DOUBT AS TO WHETHER THE OUTLET IS PROPERLY GROUNDED. DO NOT MODIFY THE PLUG PROVIDED WITH THE TOOL. NEVER REMOVE THE GROUNDING PRONG FROM THE PLUG. DO NOT USE THE TOOL IF THE CORD OR PLUG IS DAMAGED. IF THE PLUG WILL NOT FIT THE OUTLET, HAVE A PROPER OUTLET INSTALLED BY A QUALIFIED ELECTRICIAN.

Grounded tools require a three wire extension cord. Double insulated tools can use either a two or three wire extension cord. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.

# Safety

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The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 10 gauge cord can carry a higher current than a 12 gauge cord. When using more than one extension cord to make up the total length, be sure each cord contains at least the minimum wire size required. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum wire size.

## GUIDELINES FOR USING EXTENSION CORDS

- If you are using an extension cord outdoors, make sure it is marked with the suffix "W-A" to indicate that it is acceptable for outdoor use.
- Be sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it.
- Protect your extension cords from sharp objects, excessive heat and damp or wet areas.
- Keep away from water. Do not use if wet.
- Inspect thoroughly before each use. DO NOT USE IF DAMAGED.
- Make sure equipment is OFF before connecting cord outlet.
- FULLY INSERT plug into outlet.
- Do not remove, bend or modify any metal prongs or pins of cord.
- Do not use excessive force to make connections.
- Do not connect a three prong plug to a two-hole cord.
- Avoid overheating. Uncoil cord and do not cover it with any material.
- Do not walk on cord.
- Do not drive, drag or place objects over cord.
- National recommends using a single 50' (15 m) 12 gauge extension cord.



**WARNING:** ELECTRICAL CORDS CAN BE HAZARDOUS. MISUSE CAN RESULT IN FIRE OR DEATH BY ELECTRICAL SHOCK. READ CAREFULLY AND FOLLOW ALL DIRECTIONS.



# Machine Operation

## TRANSPORTING

### WHEELS ENGAGING OR DISENGAGING

Wheels engage and disengage for easier maneuverability. Wheels in the “engage mode” are secured with the axle pins (See Figure B). This engages the wheels for the machine to be self-propelled.

When wheels are in the “disengage mode” (See Figure C). Machine can be moved around freely when the machine IS NOT under power.

### DISENGAGING WHEELS

Pull up on end of pin to release. Slide pin out. Repeat on second wheel. Note: Keeping axle pin facing straight up will make re-engaging easier.

### RE-ENGAGING WHEELS

Line up wheel hub hole and axle hole (See Figure E). Insert axle pin and secure pin end. Repeat on second wheel.

## LOADING/UNLOADING

### LIFTING BAIL

The lifting bails make loading/unloading easier when not able to drive or using a ramp. Location on lifting bails centrally locates balance of the machine to safely pick-up machine.

1. Place rope, hook system or chain through eyelets located on top of machine (See Figure F).
2. Raise machine with a fork lift or winch.
3. Slowly lower to desired location.

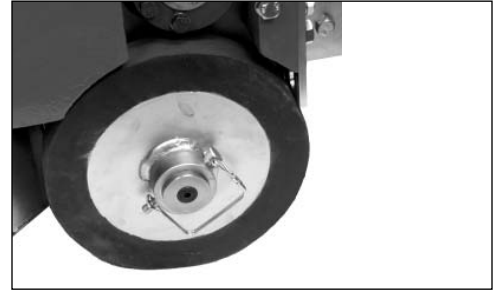


FIG. B

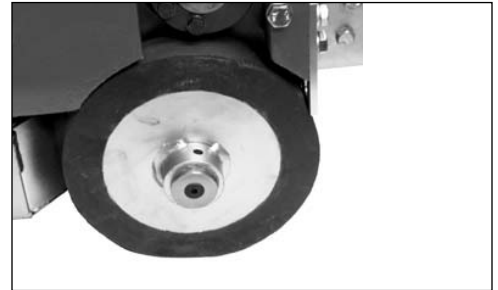


FIG. C



FIG. D

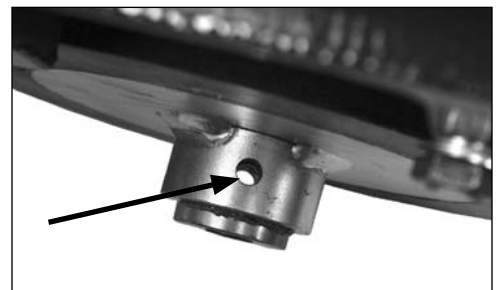


FIG. E



FIG. F



**CAUTION:** ALWAYS REMOVE ALL COUNTER WEIGHTS & BLADES AND MAKE SURE THE WHEELS ARE IN “ENGAGE MODE” (FIGURE D) BEFORE LOADING OR UNLOADING. FAILURE TO DO SO COULD RESULT IN PROPERTY DAMAGE AND/OR PERSONAL INJURY.

# Machine Operation



FIG. G

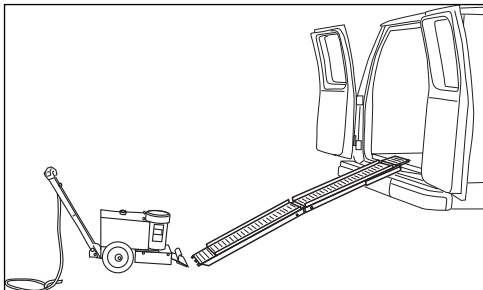


FIG. H

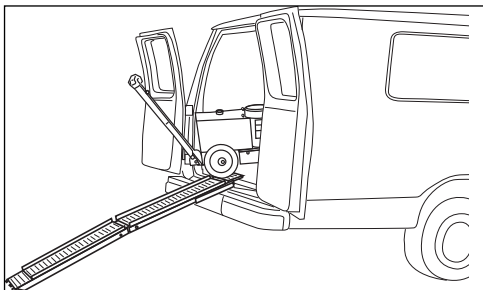


FIG. I

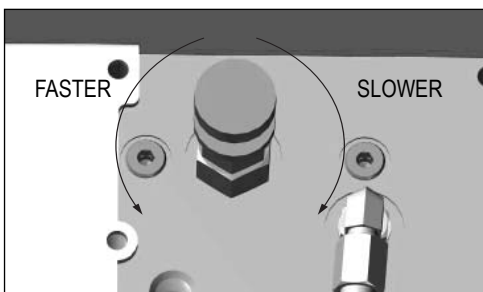


FIG. J

## RAMP LOADING

1. Put the wheels in "engage mode".
2. Make sure ramp is clean and dry, free of grease or oil.
3. Position ramp securely to back of vehicle, making sure there is good contact (See Figure G).
4. Position machine at bottom of ramp (See Figure H).
5. Engage power switch and drive onto vehicle.

## RAMP UNLOADING

1. Put the wheels in "engage mode".
2. Position ramp securely to back of vehicle, making sure there is good contact (See Figure G).
3. Position machine at the back of the truck in line with the ramp (See Figure H).
4. Carefully move machine onto ramp leaving cutting head down (in contact with ramp surface). **CAUTION:** Machine even without weights weighs 318 pounds (165 kg). Make sure you have machine under control. Failure to do so could cause machine runaway, damage to machine, damage to property or cause serious injury.
5. Slowly back machine down ramp.

## OPERATING CONTROLS

### MACHINE START-UP PROCEDURE:

1. Machine **MUST** be off before plugging machine into power source.
2. Plug machine into outlet.
3. Turn speed control to slowest position.
4. Push "ON/OFF" switch to the ON position.
5. Engage forward or reverse switch.
6. Increase speed control to desired speed.

### SPEED CONTROL

- Speed control knob can be adjusted while machine is running.
- Turning speed control knob counter clockwise will increase maximum forward speed (See Figure J).
- Turning speed control knob clockwise will decrease maximum forward speed (See Figure J).

### ADDING/REMOVING OPTIONAL SLIDE SIDE WEIGHTS

To move the side slide weight forward/back based on job application conditions, raise the lever and gently shift the weight to the desired location. After moving each side slide weight to this position, lower the lever into the channel in the weight.

# Machine Operation

## ANGLE ATTACHMENTS

The angle attachments angles the cutting head and blade or carbide shank to where the material comes up the easiest. Lower is usually the best.

### MOUNTING ANGLE ATTACHMENT

- Disconnect machine from power source.
- Tilt machine back.
- Securely block machine up (See Figure M).
- Insert desired cutting head or carbide shank into the angle attachment.

NOTE: CUTTING HEAD OR CARBIDE SHANK SHOULD FREELY SWIVEL IN THE ANGLE ATTACHMENT. THIS MOVEMENT ALLOWS THE BLADE TO STAY IN CONTACT WITH THE FLOOR. GREASE MAY NEED TO BE APPLIED TO THE SHAFT OF THE ATTACHMENT BEFORE INSERTING.

- Secure with Retainer Cap (See Figure N)
- Mount angle attachment onto the cutting head support (See Figure O).
- Securely tighten all five mounting bolts.



FIG. K



FIG. L

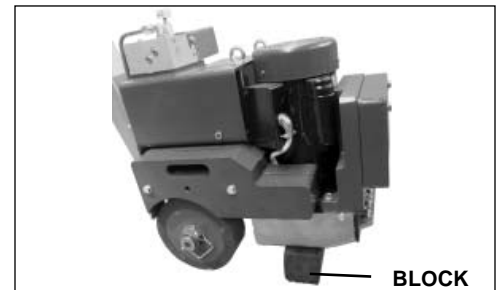


FIG. M

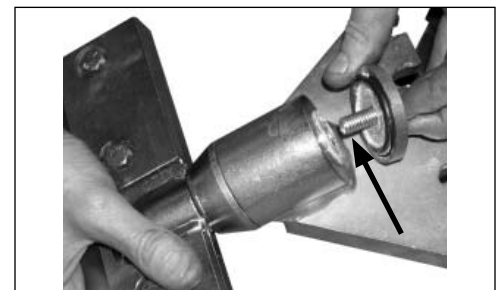


FIG. N



FIG. O

# Machine Operation

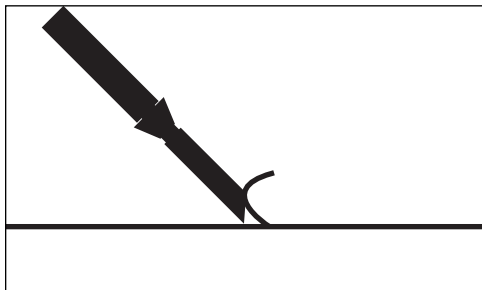


FIG. P

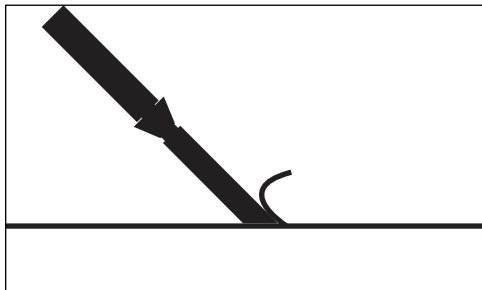


FIG. Q



FIG. R

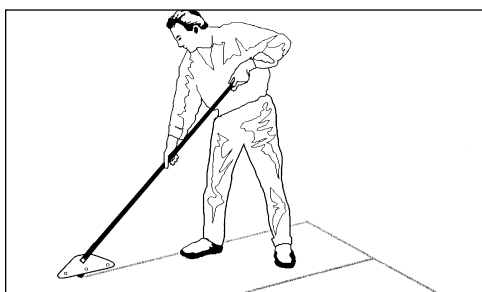


FIG. S

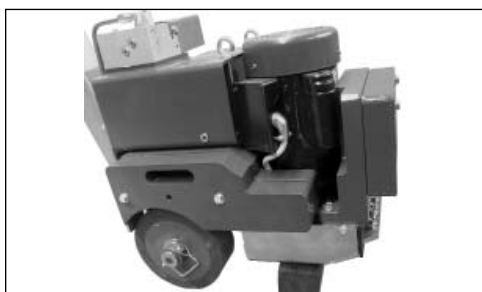


FIG. T

## PREPARING MACHINE FOR JOB

### BLADE SETTING

Note: The 6280HD is designed for soft goods and most hard good removal applications.

- 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 (Figure P). Bevel down for wood (Figure Q).
- KEEP BLADES SHARP. 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.
- Wood or wood like floors: pound down or remove any nails or metal obstruction to avoid blade damage.
- Blades can be offset in cutting head for easier access to toe kicks or removal along the wall (See Figure R).
- Sheet vinyl, solid vinyl, rubber tile, urethane or PVC sheet roofing, will need to be scored for best removal results. Nationals #584 Scoring Tool (See Figure S). Score flooring to the width of the blade.
- Self scoring blades are available in a number of sizes. These blades eliminate the need for pre-scoring material. Depending upon the type of material being removed and the sharpness of the blade and scoring wings, the self scoring blades may make it harder to control the machine. Keep scoring wings sharp at all times.

### BLADE CHANGING

1. Place a block under the front of the machine as shown in Figure T, using a flat piece of 2 x 4 or something similar.
2. Use supplied extended "T" wrench or a 7/32 Allen wrench with at least a 3" extension to keep hand safely away from the sharp edge of the blade. Loosen four (4) allen head bolts. It is not necessary to remove bolts.
3. Place blade into cutting head, sliding all the way back to the bolts. If the blade is wider than the cutting head, center blade to head. If blade is smaller than the cutting head, first pass blade should be mounted in center of the cutting head. After first pass is made, blade can be offset in head to allow wheels to keep even contact with the floor and allow easy access to the wall.
4. Hand tighten the bolts.



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

# Machine Operation

## BLADE SHARPENING

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

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

- 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.
- Using a good quality fine tooth hand file, use 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 resharpen 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 a self-scoring blade sharp (Figure V). Use a file on the "wing" edge. Sharpen the flat part of the blade, the same way as described above.

## TYPES OF TEAROUTS

### REMOVAL MATERIALS

**VCT Tile:** Never use a blade wider than the size of the tile being removed. If material still does not come up clean or machine jumps on top of material, reduce blade size or use a smaller portion of the blade.

**Pure Vinyl Rubber Tile:** Material will need to be scored down to 10 to 12" (25.4 to 30.5 cm) for proper removal. Self scoring blades can be used with some materials. A 10" (25.4 cm) blade is recommended for this application.

**Ceramic:** Carbide shanks are most effective at removing ceramic. On small random block styles of tile, pre-breaking may not be necessary. Open an area large enough for machine or blade to fit in, or start from a doorway. Keep work area clean to keep good wheel contact with floor. Use slow speed.

**Direct Glued Carpet:** Can be done with either self scoring blades or pre-score carpet to blade width prior to stripping with #584 Scoring Tool. Pre-scored carpet makes machine easier to control and blades stay sharper longer. Blades up to 16" wide can be used. Normally 12" to 14" (30.5 to 35.5 cm) blades are used on direct glued carpet, secondary backed, unitary, double glued, vinyl foam, urethane foam. Latex foams usually come up easier with a 16" (40.6 cm) blade.

**Wood:** A 3" x 6" (7.6 to 15.25 cm) .250 Extra Heavy Duty Blade in a 6" (15.25 cm) Cutting Head usually will work the best. The blade should be as flat as possible with the bevel up. Bending up the corners of the blade will help prevent the blade from digging into the floor. A carbide shank will sometimes work with the material. Approach angle should be at a 45° angle to the board; this avoids from digging into the wood and hanging up at the seams. In many instances, it is necessary to pre-score the wood floor prior to removing with scraper.

**Thin coatings:** Use razor blades with a Razor Blade Cutting Head or a Carbide Shank. Experiment to see which method works the best for the job application. It is important to keep the blade and carbide tips sharp.

**Rescrape:** Use razor blades with a Razor Blade Cutting Head or a .062 standard blade. Experiment to see which method works the best for the job application. It is important to

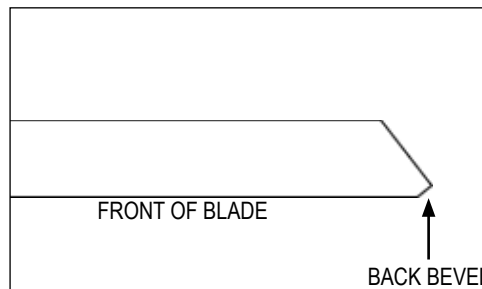


FIG. U

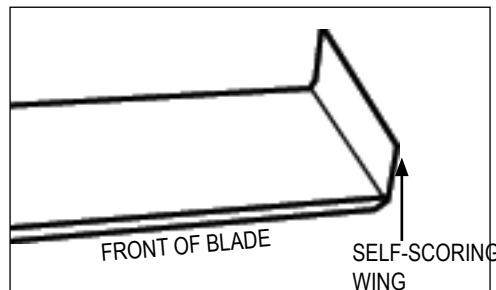
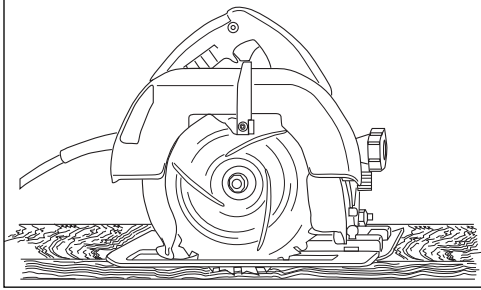
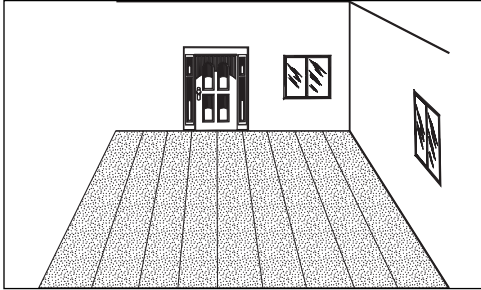


FIG. V

# Machine Operation



**FIG. W**



**FIG. X**

keep the blade sharp. Use a sharper angle of attack if necessary.

## SUBFLOOR SURFACES

**Glued Hard Wood Flooring:** A 10" (25.4 cm) blade is recommended for regular adhesive, a 6" (15.25 cm) blade for epoxy. For proper removal of hardwood flooring (plank solid, plank laminated, parkay laminated), flooring must be scored to blade width. This is done by using a circular saw set at a depth of 99% of the thickness of the board, just missing the subfloor surface when on concrete (See Figure W). A chalk line for scoring lines can be used across the floor the width of the blade (See Figure X). A ripping guide attached to the saw can be used to eliminate chalk line marks. Open an area large enough to fit machine or start from a doorway. It is important to keep all debris cleaned up for maximum performance of machine. True Parkay flooring scoring is not necessary. It will come up in small pieces.

**Wood:** When working over plywood sub-flooring, try to run machine in the same direction as the grain in the wood. Blade works best bevel down. On solid wood floors like plank, run in the same direction as the plank, not perpendicular to grain or plank. Removing the front counter weight or weights will help on all soft surfaces.

**Concrete:** When working on concrete slab, position blade bevel up for best performance, especially when cleaning adhesive. On occasion, bevel down gives better blade life. Test each job for best performance.

**Gibcrete and Soft Poured Flooring:** Position blade bevel down to create a better wearing surface, although bevel up may work if front counter weight is removed.

# Blades

## STANDARD BLADE (FIGURE Y)

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            |
| 136   | 5" X 8" BLADE  | .062            |
| 147   | 4" X 6" BLADE  | .062            |
| 148   | 5" X 6" BLADE  | .062            |

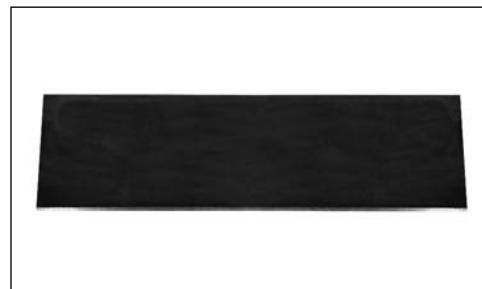


FIG. Y

## BLADES WITH SLOTS (FIGURE Z)

| PART# | DESCRIPTION               | THICKNESS (IN.) |
|-------|---------------------------|-----------------|
| 130-S | 3" X 10" BLADE WITH SLOTS | .062            |
| 131-S | 3" X 16" BLADE WITH SLOTS | .062            |

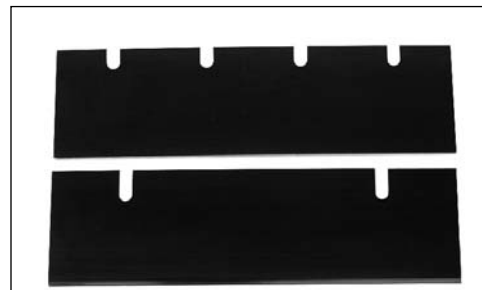


FIG. Z

## DOUBLE EDGE BLADES (FIGURE AA)

| PART# | DESCRIPTION                | THICKNESS (IN.) |
|-------|----------------------------|-----------------|
| 130-D | 3" X 10" DOUBLE EDGE BLADE | .062            |
| 147-D | 4" X 6" DOUBLE EDGE BLADE  | .062            |
| 148-D | 5" X 6" DOUBLE EDGE BLADE  | .062            |

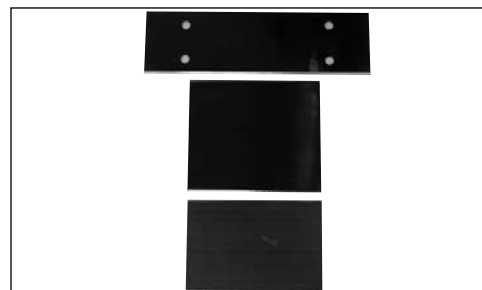


FIG. AA

## PREMIUM HIGH TEMPERED BLADES (FIGURE BB)

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"X6" PREMIUM HIGH TEMPERED BLADE  | .062            |
| 7050-201 | 3"X8" PREMIUM HIGH TEMPERED BLADE  | .062            |
| 7050-202 | 3"X10" PREMIUM HIGH TEMPERED BLADE | .062            |
| 7050-203 | 3"X12" PREMIUM HIGH TEMPERED BLADE | .062            |
| 7050-204 | 3"X14" PREMIUM HIGH TEMPERED BLADE | .062            |



FIG. BB

## HEAVY DUTY BLADES (FIGURE CC)

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.) |
|-------|---------------------------|-----------------|
| 6281  | 3" X 8" HEAVY DUTY BLADE  | .094            |
| 6282  | 3" X 14" 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            |
| 6240  | 4" X 6" HEAVY DUTY BLADE  | .094            |

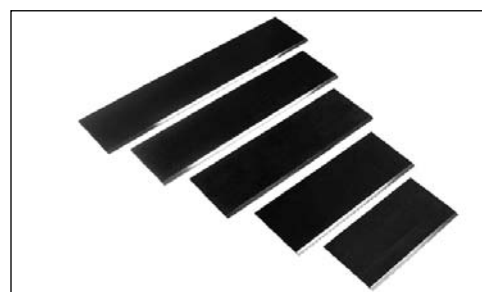


FIG. CC

# Blades

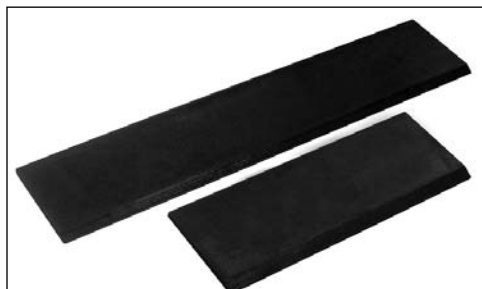


FIG. DD

## EXTRA HEAVY DUTY BLADES (FIGURE DD)

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            |
| 6270  | 1 1/2" X 3" EXTRA HEAVY DUTY BLADE | .0250           |
| 6271  | 3" X 6" EXTRA HEAVY DUTY BLADE     | .0250           |
| 6273  | 3" X 11" EXTRA HEAVY DUTY BLADE    | .0250           |



FIG. EE

## SELF-SCORING BLADES (FIGURE EE)

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.) |
|---------|-----------------------------|-----------------|
| 6255-BU | 4" X 6" SELF-SCORING BLADE  | .062            |
| 6257-BU | 3" X 9" SELF-SCORING BLADE  | .062            |
| 6258-BU | 3" X 12" SELF-SCORING BLADE | .062            |
| 6259-BU | 3" X 14" SELF-SCORING BLADE | .062            |
| 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            |

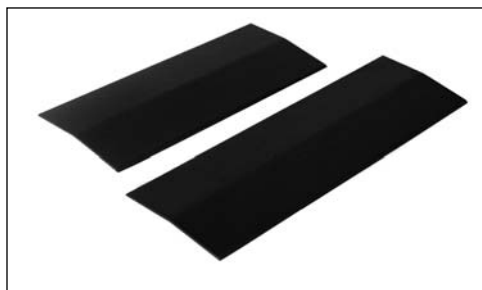


FIG. FF

## INCREASED ANGLE BLADES (FIGURE FF)

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            |

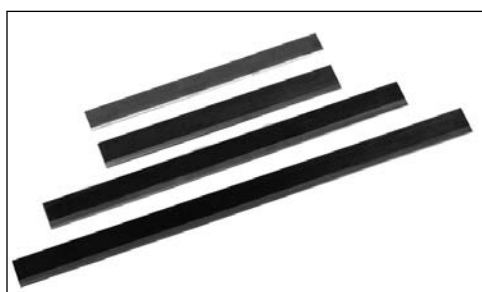


FIG. GG

## 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.) |
|--------|-----------------------------------------|-----------------|
| 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. HH

## CARBIDE SHANK (FIGURE HH)

The ultimate for tough removals. Works well for ceramics, wood & thick epoxy.

| PART#  | DESCRIPTION           | THICKNESS (IN.) |
|--------|-----------------------|-----------------|
| 7281-2 | 2" X 6" CARBIDE SHANK | .375            |
| 7281-4 | 4" X 6" CARBIDE SHANK | .375            |
| 7281-6 | 6" X 6" CARBIDE SHANK | .375            |



# Machine Maintenance



**WARNING:** ALWAYS UNPLUG MACHINE BEFORE MAINTAINING.

## WHEEL CLEANER ADJUSTMENT

1. Loosen wheel cleaner with 9/16" wrench (See Figure II).
2. Slide cleaner up to face of wheel until it touches but DOES NOT dig into wheel surface.
3. Retighten firmly.
4. Over tightening wheel cleaner will damage wheel.

## WHEEL REMOVAL

1. Examine back of wheels for built-up debris.
2. Remove yarn build up.
3. Unplug machine.
4. Lay machine on its side.
5. Use provided 3/16" allen wrench.
6. Remove Axle Pin (See Figure JJ).
7. Remove wheel securing screw. (See Figure JJ).
8. Remove wheel securing cap.
9. Wheel will slide off. Watch for keyway key. DO NOT LOSE.
10. Remove wheel spacer. This should be inspected at regular intervals.

## ADDING OR CHANGING HYDRAULIC FLUID

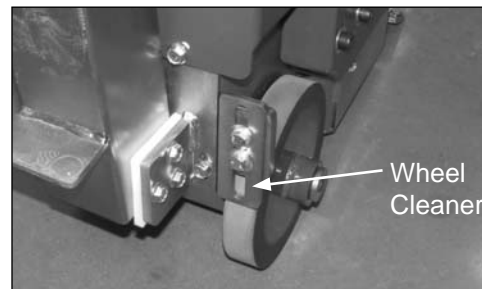
1. Occasionally clean the Filler Port Cap filter to remove debris.
2. Change or add fluid when needed and/or at least once a year under normal conditions. Check fluid level if there has been a leak, damaged or ruptured hose or a loose fitting. Fluid should be level with bottom of Tank Plug Hole (See Figure KK).
3. To add fluid, unscrew Filler Port Cap from top of machine (See Figure LL).
4. To change fluid, remove Filler Port Cap. Remove drain plug from side of machine (See Figure LL). A container approximately two gallons in size will be needed to drain fluid into (fluid will not be removed from hoses).
5. Machine has a straining system, but add fluid through a filter or funnel with a screen to keep fluid clean.
6. Use Texaco Rando 46 Hydraulic Oil Light, stock #6280-1 or comparable.

## INSPECTION OF INTERNAL PARTS

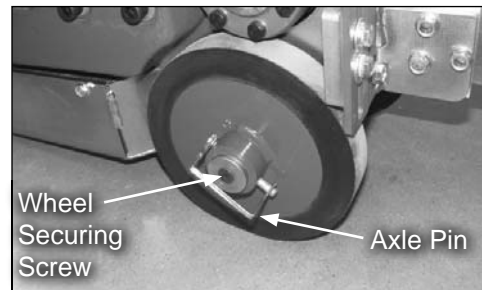
Visual inspection of internal parts can be done without draining tank.

1. Remove two lifting bail eyebolts and the two bolts from the back of the tank.
2. Carefully lift tank 3" to 4" (7.6 to 10 cm).
3. Using a flashlight, inspect drive chain, hoses, front seal on motor, and suction and pressure line on pump.
4. If service is necessary, follow procedure for tank removal.

**NOTE:** Figures II through LL are shown without sliding side weights for clarity.



**FIG. II**



**FIG. JJ**



**FIG. KK**



**FIG. LL**

# Machine Maintenance

---



**FIG. MM**

## TANK REMOVAL

Removing the tank will be necessary to repair the pump or to replace or service internal hoses.

1. Drain tank by removing top Filler Port Cap and Drain Plug on side of machine (See Figure LL). A container approximately two gallons in size will be needed to drain fluid into.
2. Replace Drain Plug and Filler Port Cap.
3. Remove two lifting bail eyebolts and the two bolts from the back of the tank.
4. Disconnect return line on back of tank, carefully lift tank 3" to 4" (7.6 to 10 cm) and disconnect suction line. Tank can now be removed.

## POWER CORD

- If power cord is damaged, it must be replaced by National or its service agent, or a similar qualified person in order to avoid a hazard.

## ON/OFF SWITCH

- Connect as shown in wiring diagram (see Page 35).

# Troubleshooting Guide

| Problem                                        | Cause                                                             | Solution                                                                                                                                                      |
|------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No Forward or Reverse                          | a. Check wheel pins<br>b. Check belt                              | a. Check to make sure wheel pins are in the wheels<br>b. Check belt by removing front cover and inspecting                                                    |
| Motor shuts off or will not start              | Electric box needs reset                                          | Press reset button located on electric box on motor.                                                                                                          |
| Wheels do not turn when machine is under power | Axle pins out of place                                            | Check axle pins and make sure they are in place                                                                                                               |
| Motor Problems (humming etc.)                  |                                                                   | a. Press reset button<br>If problem persists<br>b. Take fan cover off and unscrew 4 bolts to take the fan off. Clean starter switch with emery board or cloth |
| Shank doesn't fit into angle attachment        | a. Burrs inside angle attachment<br>b. Damage to shank insert end | a. File with round file until burrs are gone<br>b. Remove damage w/ file or hand grinder. Replace shank if necessary.                                         |

# Complete Parts List

| PART# | DESCRIPTION                                         | QTY | PART# | DESCRIPTION                              | QTY |
|-------|-----------------------------------------------------|-----|-------|------------------------------------------|-----|
| 1     | 6254-1 FEMALE CONNECTOR ONLY, 4729C                 | 1   | 54    | 6280HD-107 BASE PLATE                    | 1   |
| 2     | 6254-2 MALE PLUG ONLY, 5266C                        | 1   | 55    | 6280HD-108 PUMP DRIVE BELT               | 1   |
| 3     | 6280-1 HYDRAULIC FLUID, GALLON                      | 2   | 56    | 400329 DRIVE WHEEL COMPLETE WITH BEARING | 1   |
| 4     | 6280-7 TANK MOUNTED STRAINER                        | 1   | 57    | 6280HD-112 WHEEL SPACER                  | 2   |
| 5     | 6280-104 AXLE SPROCKET                              | 1   | 58    | 6280HD-131 ECCENTRIC KEY                 | 1   |
| 6     | 6280-104A AXLE SPROCKET KEY                         | 1   | 59    | 6280HD-138 MAIN BOTTOM COVER             | 1   |
| 7     | 6280-112 WHEEL CAP                                  | 2   | 60    | 6280HD-139 REAR COVER                    | 1   |
| 8     | 6280-113S PUMP SPLINED                              | 1   | 61    | 6280HD-145 FRONT COVER                   | 1   |
| 9     | 6280-116A PUMP SHAFT SPLINED                        | 1   | 62    | 6280HD-146 FRONT COUNTERWEIGHT           | 1   |
| 10    | 6280-119 PUMP SPACER                                | 1   | 63    | 6280HD-146A ADD-ON FRONT COUNTERWEIGHT   | 1   |
| 11    | 6280-120 SUCTION HOSE                               | 1   | 64    | 6280HD-150 VALVE BLOCK ASSEMBLY          | 1   |
| 12    | 6280-125 IDLER ASSEMBLY COMPLETE                    | 1   | 65    | 6280HD-151 FILTER                        | 1   |
| 13    | 6280-125W IDLER MOUNTING BRACKET & PIN              | 1   | 66    | 6280HD-162 HYDRAULIC TANK                | 1   |
| 14    | 6280-126A IDLER BEARING CAP                         | 1   | 67    | 6280HD-164-1 VALVE BLOCK COVER           | 1   |
| 15    | 6280-147-1 STARTER SWITCH                           | 1   | 68    | 6280HD-165 WHEEL CLEANER                 | 2   |
| 16    | 6280-148 MOTOR FAN COVER                            | 1   | 69    | 6280HD-167 HANDLE BODY                   | 1   |
| 17    | 6280-148A MOTOR FAN COVER SCREW                     | 3   | 70    | 6280HD-167C HANDLE COVER                 | 1   |
| 18    | 6280-149 MOTOR FAN                                  | 1   | 71    | 6280HD-167D HANDLE CAP                   | 1   |
| 19    | 6280-150 CAPACITOR COVER                            | 1   | 72    | 6280HD-180 LOWER MOTOR HOSE              | 1   |
| 20    | 6280-152 MOTOR JUNCTION BOX ONLY                    | 1   | 73    | 6280HD-181 PUMP HOSE                     | 1   |
| 21    | 6280-152-1 MOTOR JUNCTION BOX COVER ONLY            | 1   | 74    | 6280HD-182 UPPER MOTOR HOSE              | 1   |
| 22    | 6280-152-3 MOTOR JUNCTION BOX COVER GASKET ONLY     | 1   | 75    | 6280HD-183 PUMP HOSE TO BLOCK HOSE       | 1   |
| 23    | 6280-152-4 MOTOR JUNCTION BOX GASKET                | 1   | 76    | 6280HD-200 MOTOR JUNCTION BOX            | 1   |
| 24    | 6280-156R RIGHT UPPER MAIN BODY                     | 1   | 77    | 6280HD-202 MOTOR CAPACITOR (RUN)         | 2   |
| 25    | 6280-156L LEFT UPPER MAIN BODY                      | 1   | 78    | 6280HD-203 MOTOR CAPACITOR (START)       | 1   |
| 26    | 6280-168 POWER CORD                                 | 1   | 79    | 6280HD-204 CAPACITOR COVER               | 1   |
| 27    | 6280-170 HANDLE BAR                                 | 2   | 80    | 6280HD-204A CAPACITOR COVER GASKET       | 1   |
| 28    | 6280-170A HANDLE BAR GRIP                           | 2   | 81    | 6280HD-210 SOLENOID 115 VOLT             | 1   |
| 29    | 6280-175 HUBBLE TWIST LOCK FEMALE PLUG 110 VOLT     | 1   | 82    | 6280HD-212 SPEED CONTROL CARTRIDGE       | 1   |
| 30    | 6280-176 HUBBLE TWIST LOCK MALE PLUG 110 VOLT       | 1   | 83    | 6280HD-225 HYDRAULIC MOTOR               | 1   |
| 31    | 6280-178 POWER CORD STRAIN RELIEF                   | 1   | 84    | 6280HD-228 DRIVE CHAIN                   | 1   |
| 32    | 6280-179 MOTOR SPACER RING                          | 1   | 85    | 6280HD-400 ECCENTRIC                     | 1   |
| 33    | 6280-206 FORWARD/REVERSE SWITCH                     | 2   | 86    | 70609 SWITCH CAP                         | 2   |
| 34    | 6280-207 ON/OFF SWITCH                              | 1   | 87    | 70810 CUTTING HEAD VIBRATION ISOLATOR    | 9   |
| 35    | 6280-208A SPEED CONTROL KNOB ONLY                   | 1   | 88    | 71072 1/2" ID BEARING                    | 2   |
| 36    | 6280-221 HYDRAULIC MOTOR CONNECTOR                  | 2   | 89    | 71115 1 X 2 X 1/2 BEARING                | 4   |
| 37    | 6280-223 HYDRAULIC MOTOR SHAFT KEY                  | 1   | 90    | 71118 1" ID FLANGE BEARING               | 1   |
| 38    | 6280-225 HYDRAULIC MOTOR SPACER                     | 1   | 91    | 71128 1 1/8" BEARING                     | 2   |
| 39    | 6280-226 HYDRAULIC MOTOR MOUNTING BRACKET           | 1   | 92    | 71129 1.18" ID, 2.44" OD BEARING         | 2   |
| 40    | 6280-229 DRIVE CHAIN MASTER LINK ASSEMBLY           | 1   | 93    | 71132 1 1/4" BEARING                     | 1   |
| 41    | 6280-230 SIDE WEIGHT RIGHT                          | 2   | 94    | 71141 1-7/16" ID BEARING                 | 1   |
| 42    | 6280-241 SIDE WEIGHT LEFT                           | 2   | 95    | 72362 MOTOR 115 VOLT, 1.5 HP             | 1   |
| 43    | 6280-301 FRONT TRANSPORT WHEEL ONLY                 | 1   | 96    | 72461 THERMO-OVERLOAD SWITCH             | 1   |
| 44    | 6280-1152A PUMP SHAFT SNAP RING                     | 1   | 97    | 72801 HOSE FITTING                       | 2   |
| 45    | 6280HD-1 CUTTING HEAD BASE PLATE                    | 1   | 98    | 73002 1/4-20 SPLIT WASHER                | 15  |
| 46    | 6280HD-14 PUMP DRIVE ASSEMBLY                       | 1   | 99    | 73003 1/4-20 X 5/8 BUTTON HEAD SCREW     | 1   |
| 47    | 6280HD-15 PUMP SHEAVE ONLY                          | 1   | 100   | 73009 1/4-20 HEX NUT                     | 1   |
| 48    | 6280HD-17 PUMP SHEAVE RETAINER W/ SET SCREWS        | 1   | 101   | 73010 1/4-20 X 1/4 SET SCREW             | 1   |
| 49    | 6280HD-102 SNAP RING 1-1/8                          | 2   | 102   | 73012 1/4-20 X 3/8 SET SCREW             | 4   |
| 50    | 6280HD-103 DRIVE AXLE                               | 1   | 103   | 73016 1/4-20 X 5/8 HEXHEAD BOLT          | 4   |
| 51    | 6280HD-104 AXLE SPROCKET ONLY (KEY SOLD SEPARATELY) | 1   | 104   | 73018 1/4-20 X 3 HEXHEAD BOLT            | 3   |
| 52    | 6280HD-105L AXLE BEARING SUPPORT, LEFT              | 1   | 105   | 73019 1/4-20 X 3/4 HEXHEAD BOLT          | 12  |
| 53    | 6280HD-105R AXLE BEARING SUPPORT, RIGHT             | 1   | 106   | 73101 1/8 SPACER                         | 1   |
|       |                                                     |     | 107   | 73201 3/8-16 X 1 HEXHEAD BOLT, GRADE 5   | 8   |

# Complete Parts List

| PART# | DESCRIPTION | QTY                                                    | PART# | DESCRIPTION | QTY       |                                           |    |
|-------|-------------|--------------------------------------------------------|-------|-------------|-----------|-------------------------------------------|----|
| 108   | 73203       | 3/8 FLAT WASHER                                        | 8     | 132         | 73412     | 1/2-13 X 4-1/2 HEXHEAD BOLT               | 2  |
| 109   | 73204       | 3/8 SPLIT WASHE                                        | 8     | 133         | 73418     | 1/2-20 X 1 HEXHEAD BOLT                   | 9  |
| 110   | 73206       | 3/8-16 X 1-1/4 HEXHEAD BOLT                            | 3     | 134         | 74402     | 10-32 X 3/8 SET SCREW                     | 1  |
| 111   | 73211       | 3/8-16 WIZLOCK NUT                                     | 11    | 135         | 74508     | 6-32 X 1/2 PHILLIPS HEAD MACHINE<br>SCREW | 10 |
| 112   | 73215       | 3/8 EXTERNAL LOCK WASHER                               | 1     | 136         | L37       | CAUTION SHARP BLADE LABEL                 | 1  |
| 113   | 73217       | 3/8-16 X 3/4 LOWHEAD BOLT                              | 9     | 137         | L49       | POWER CORD LABEL                          | 1  |
| 114   | 73218       | 3/8-24 X 3/4 HEXHEAD BOLT, GRADE 5                     | 1     | 138         | L95C      | FORWARD LABEL                             | 1  |
| 115   | 73219       | 3/8-16 X 5 HEXHEAD BOLT                                | 4     | 139         | L95D      | REVERSE LABEL                             | 1  |
| 116   | 73220       | 3/8-16 X 3 HEXHEAD BOLT                                | 2     | 140         | L95E      | SPEED CONTROL LABEL                       | 1  |
| 117   | 73222       | 3/8-16 X 1 WIZLOCK BOLT                                | 9     | 141         | L95F      | WARNING FLUID LEAK LABEL                  | 1  |
| 118   | 73223       | 3/8-16 X 1-1/4 WIZLOCK BOLT                            | 1     | 142         | L95G      | FLUID LEVEL LABEL                         | 1  |
| 119   | 73228       | 3/8-16 X 8 EYE BOLT                                    | 2     | 143         | L95H      | CAUTION DO NOT RUN LABEL                  | 1  |
| 120   | 73245       | 3/8-16 X 1-1/2 WIZLOCK BOLT                            | 2     | 144         | L95J      | 110 VOLT LABEL                            | 1  |
| 121   | 73260       | 3/8 90° CABLE CONNECTOR                                | 1     | 145         | L95K      | RAMP LABEL                                | 2  |
| 122   | 73270       | 3/8 X 3 PIN                                            | 1     | 146         | L141      | MADE IN USA LABEL                         | 1  |
| 123   | 73304       | 5/16 WAVY WASHER                                       | 2     | 147         | L175      | NATIONAL LABEL, SMALL                     | 1  |
| 124   | 73306       | 5/16-18 X 1/2 HEXHEAD BOLT                             | 2     | 148         | L177      | STOCK NUMBER LABEL                        | 1  |
| 125   | 73310       | 5/16-18 X 7/8 SOCKET HEAD CAP SCREW,<br>RIGHT, GRADE 5 | 2     | 149         | L186      | ON/OFF SWITCH LABEL                       | 1  |
| 126   | 73311       | 5/16-18 X 1 SOCKET HEAD CAP SCREW,<br>LEFT, GRADE 5    | 6     | 150         | L187      | REMOVE COUNTERWEIGHTS LABEL               | 1  |
| 127   | 73314       | 5/16-18 X 3/8 FLAT HEAD CAP SCREW                      | 2     | 151         | L188      | CAUTION GENERAL INFO LABEL                | 1  |
| 128   | 73318       | 5/16-18 X 5/8 WIZLOCK BOLT                             | 8     | 152         | L189      | ASBESTOS LABEL                            | 1  |
| 129   | 73330       | 5/16 X 2 PIN                                           | 1     | 153         | L190      | BLADE SETTING LABEL                       | 1  |
| 130   | 73402       | 1/2-13 NYLOCK NUT                                      | 2     | 154         | L223      | PATENT NUMBER LABEL                       | 1  |
| 131   | 73405       | 1/2-20 STAR WASHER                                     | 9     | 155         | 6280-401B | WRENCH, ALLEN, 7/32                       | 1  |

# Parts List and Diagrams

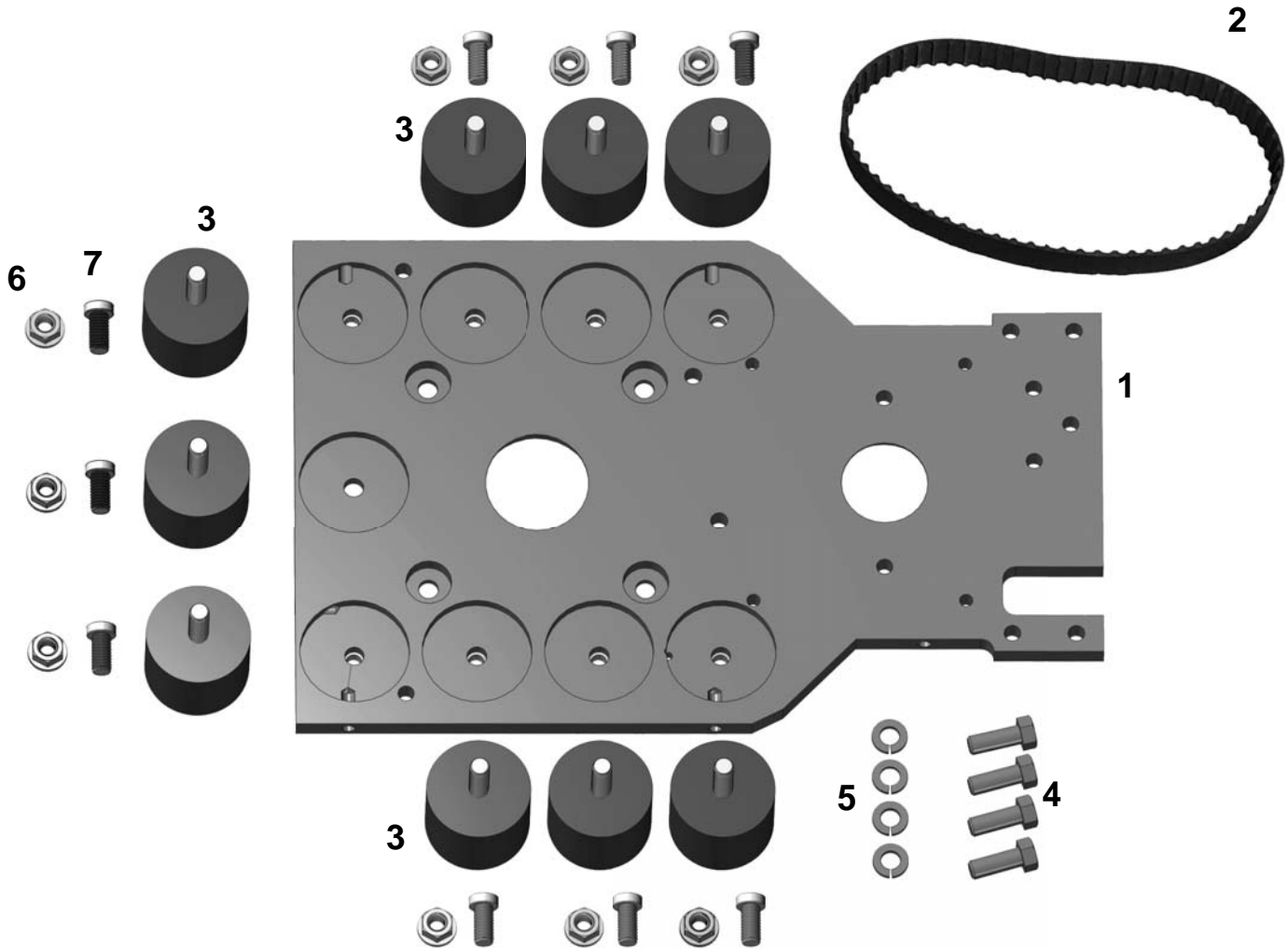
## EXTERNAL PARTS



| PART# | DESCRIPTION | QTY                        | PART# | DESCRIPTION | QTY   |                             |   |
|-------|-------------|----------------------------|-------|-------------|-------|-----------------------------|---|
| 1     | 74853-SV    | WEIGHT, SIDE               | 2     | 6           | 73203 | 3/8 FLAT WASHER             | 6 |
| 2     | 74851       | WEIGHT, SLIDE              | 2     | 7           | 73219 | 3/8-16 X 5 HEXHEAD BOLT     | 4 |
| 3     | 401564      | COUNTERWEIGHT, FRONT, CAST | 1     | 8           | 73228 | 3/8-16X8 EYE BOLT           | 2 |
| 4     | 6280HD-165  | WHEEL CLEANER              | 1     | 9           | 73245 | 3/8-16 X 1-1/2 WIZLOCK BOLT | 2 |
| 5     | 73019       | 1/4-20 X 3/4 HEXHEAD BOLT  | 4     | 10          | 73270 | 3/8 X 3 PIN                 | 1 |

# Parts List and Diagrams

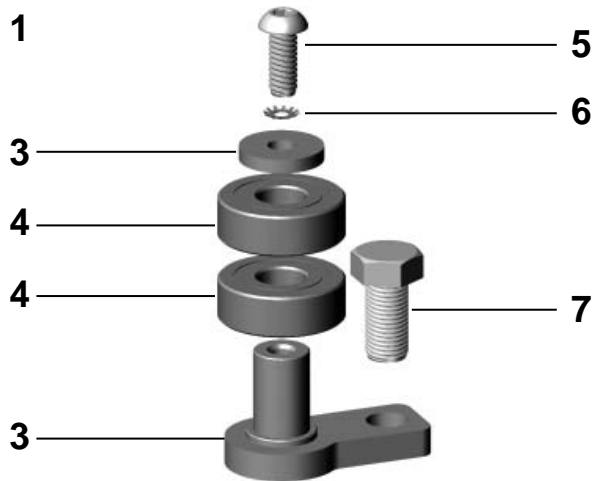
## BASE PLATE PARTS



| PART# | DESCRIPTION                           | QTY | PART# | DESCRIPTION                     | QTY |
|-------|---------------------------------------|-----|-------|---------------------------------|-----|
| 1     | 6280HD-107 BASE PLATE                 | 1   | 5     | 73204 3/8 SPLIT WASHER          | 4   |
| 2     | 6280HD-108 PUMP DRIVE BELT            | 1   | 6     | 73211 3/8-16 WIZLOCK NUT        | 9   |
| 3     | 70810 CUTTING HEAD VIBRATION ISOLATOR | 9   | 7     | 73217 3/8-16 X 3/4 LOWHEAD BOLT | 9   |
| 4     | 73201 3/8-16 X 1HEXHEAD BOLT, GRADE 5 | 4   |       |                                 |     |

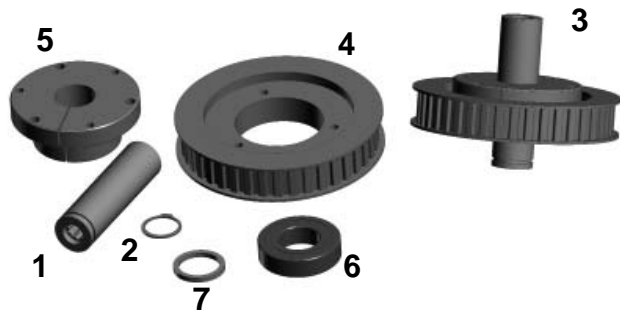
# Parts List and Diagrams

## IDLER ASSEMBLY PARTS



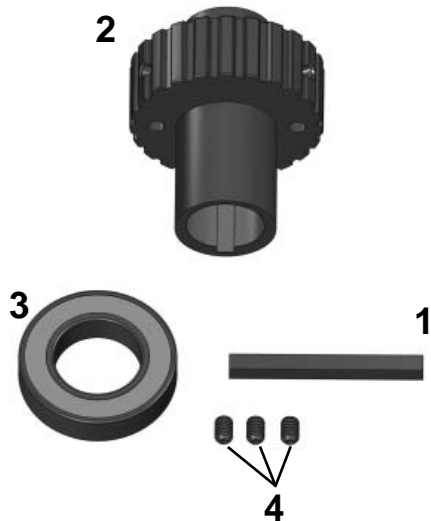
|   | PART#     | DESCRIPTION                        | QTY |
|---|-----------|------------------------------------|-----|
| 1 | 6280-125  | IDLER ASSEMBLY COMPLETE            | 1   |
| 2 | 6280-125W | IDLER MOUNTING BRACKET & PIN       | 1   |
| 3 | 6280-126A | IDLER BEARING CAP                  | 1   |
| 4 | 71072     | 1/2" ID BEARING                    | 2   |
| 5 | 73003     | 1/4-20 X 5/8 BUTTON HEAD SCREW     | 1   |
| 6 | 73215     | 3/8 EXTERNAL LOCK WASHER           | 1   |
| 7 | 73218     | 3/8-24 X 3/4 HEXHEAD BOLT, GRADE 5 | 1   |

## PUMP DRIVE ASSEMBLY PARTS



|   | PART#     | DESCRIPTION                        | QTY |
|---|-----------|------------------------------------|-----|
| 1 | 6280-116A | PUMP SHAFT SPLINED                 | 1   |
| 2 | 6280-103A | PUMP SHAFT SNAP RING               | 1   |
| 3 | 6280HD-14 | PUMP DRIVE ASSEMBLY                | 1   |
| 4 | 6280HD-15 | PUMP SHEAVE ONLY                   | 1   |
| 5 | 6280HD-17 | PUMP SHEAVE RETAINER W/ SET SCREWS | 1   |
| 6 | 71115     | 1 X 2 X 1/2 BEARING                | 1   |
| 7 | 73101     | 1/8 SPACER                         | 1   |

## ECCENTRIC ASSEMBLY PARTS



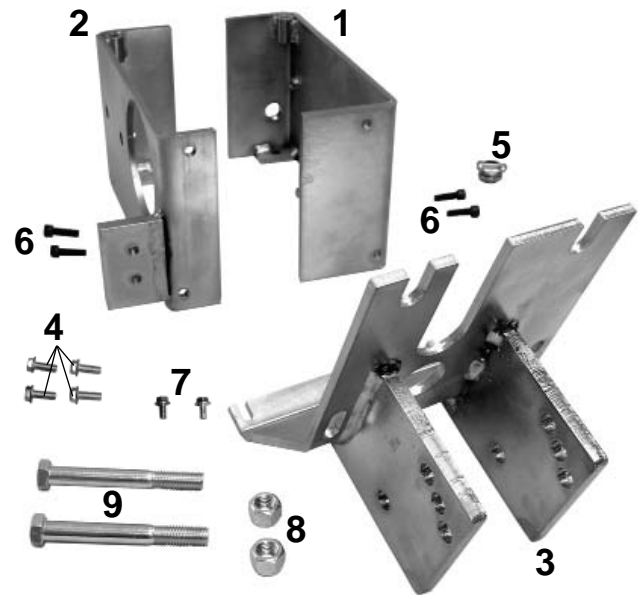
|   | PART#      | DESCRIPTION            | QTY |
|---|------------|------------------------|-----|
| 1 | 6280HD-131 | ECCENTRIC KEY          | 1   |
| 2 | 6280HD-400 | ECCENTRIC              | 1   |
| 3 | 71132      | 1 1/4" BEARING         | 1   |
| 4 | 73012      | 1/4-20 X 3/8 SET SCREW | 3   |



# Parts List and Diagrams

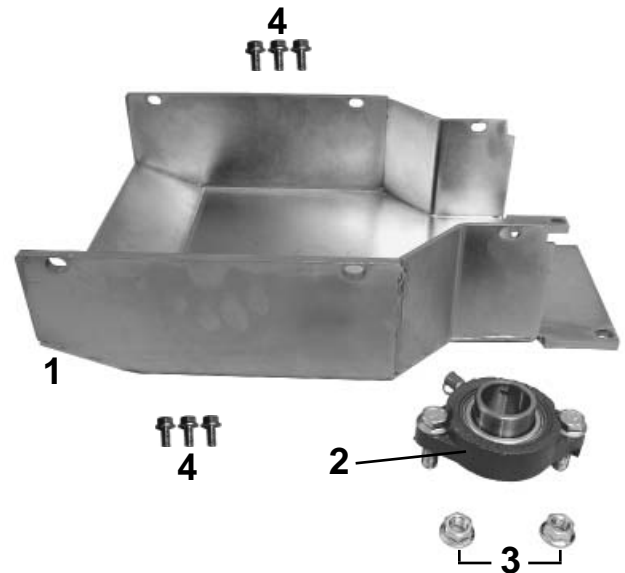
| PART# | DESCRIPTION                             | QTY |
|-------|-----------------------------------------|-----|
| 1     | 6280-156R RIGHT UPPER MAIN BODY         | 1   |
| 2     | 6280-156L LEFT UPPER MAIN BODY          | 1   |
| 3     | 6280-139 REAR COVER                     | 1   |
| 4     | 73222 3/8-16 X 1 WIZLOCK BOLT (TANK)    | 4   |
| 5     | 73260 3/8 90° CABLE CONNECTOR           | 1   |
| 6     | 73311 5/16-18 X 1 SOCKET HEAD CAP SCREW | 4   |
| 7     | 73318 5/16-18 X 5/8 WIZLOCK BOLT        | 2   |
| 8     | 73402 1/2-13 NYLOCK NUT                 | 2   |
| 9     | 73412 1/2-13 X 4-1/2 HEXHEAD BOLT       | 2   |

## BODY PARTS



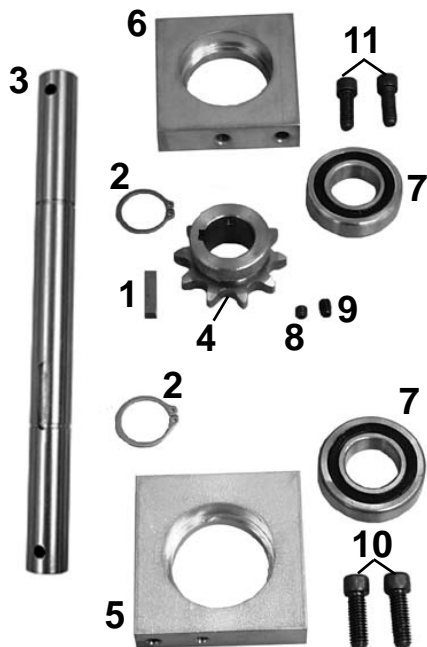
| PART# | DESCRIPTION                      | QTY |
|-------|----------------------------------|-----|
| 1     | 6280HD-138 MAIN BOTTOM COVER     | 1   |
| 2     | 71118 1" ID FLANGE BEARING       | 1   |
| 3     | 73211 3/8-16 WIZLOCK NUT         | 2   |
| 4     | 73318 5/16-18 X 5/8 WIZLOCK BOLT | 6   |

## BOTTOM COVER PARTS



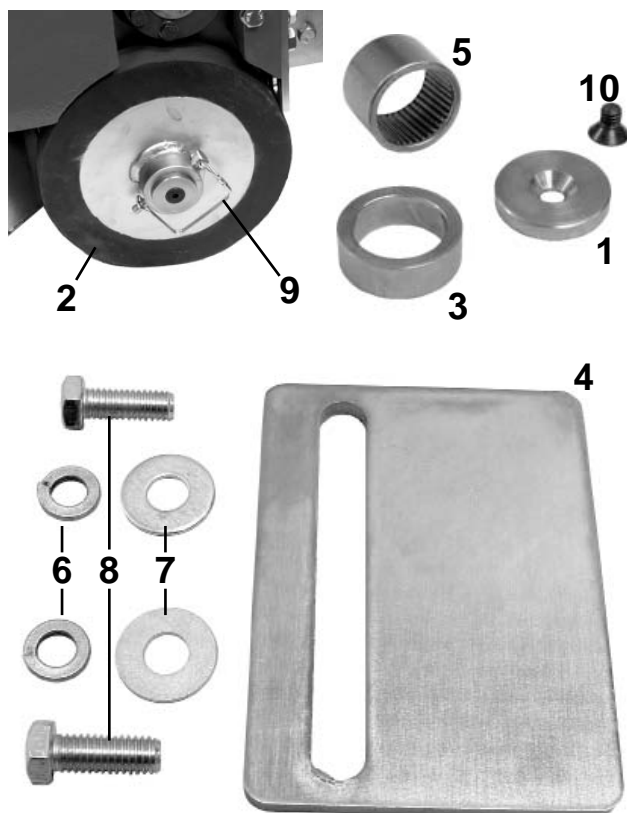
# Parts List and Diagrams

## AXLE ASSEMBLY PARTS



| PART# | DESCRIPTION                                               | QTY |
|-------|-----------------------------------------------------------|-----|
| 1     | 6280-104A AXLE SPROCKET KEY                               | 1   |
| 2     | 6280HD-102 AXLE SNAP RING 1-1/8                           | 2   |
| 3     | 6280HD-103 DRIVE AXLE                                     | 1   |
| 4     | 6280HD-104 AXLE SPROCKET ONLY (KEY SOLD SEPARATELY)       | 1   |
| 5     | 6280HD-105L AXLE BEARING SUPPORT, LEFT                    | 1   |
| 6     | 6280HD-105R AXLE BEARING SUPPORT, RIGHT                   | 1   |
| 7     | 71128 1 1/8" BEARING                                      | 2   |
| 8     | 73010 1/4-20 X 1/4 SET SCREW                              | 1   |
| 9     | 73012 1/4-20 X 3/8 SET SCREW                              | 1   |
| 10    | 73310 5/16-18 X 7/8 SOCKET HEAD CAP SCREW, RIGHT, GRADE 5 | 2   |
| 11    | 73311 5/16-18 X 1 SOCKET HEAD CAP SCREW, LEFT, GRADE 5    | 2   |

## WHEEL PARTS

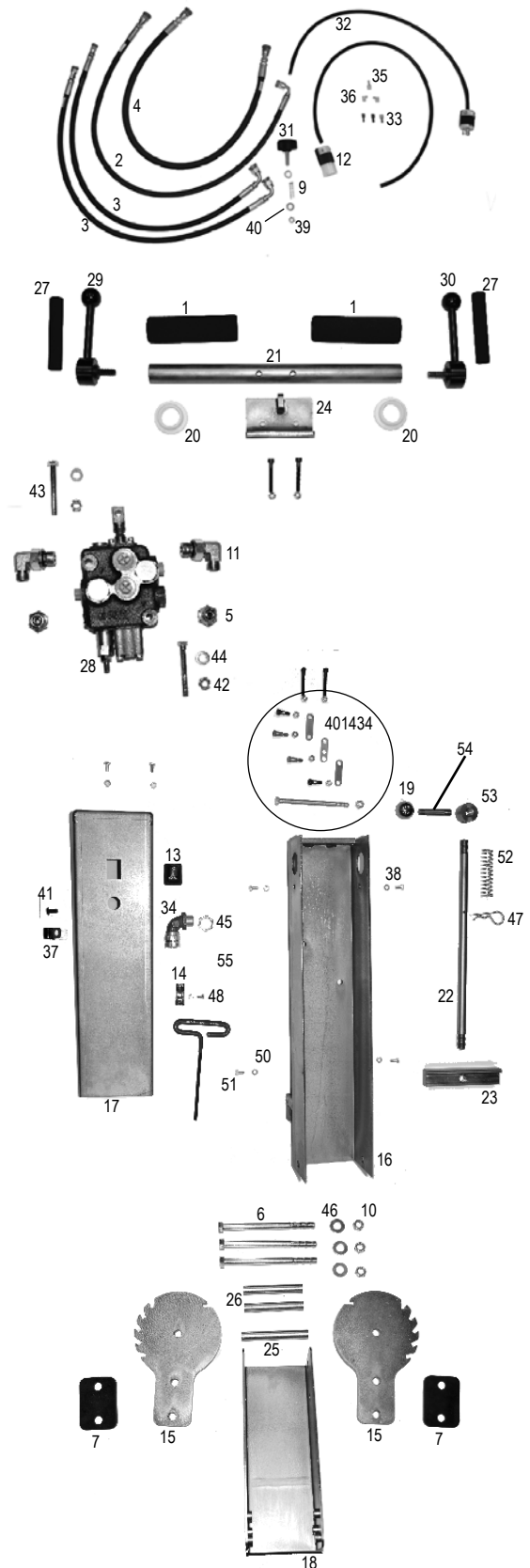


| PART# | DESCRIPTION                             | QTY |
|-------|-----------------------------------------|-----|
| 1     | 6280-112 WHEEL CAP                      | 2   |
| 2     | 400329 DRIVE WHEEL COMPLETE W/ BEARING  | 1   |
| 3     | 6280HD-112 WHEEL SPACER                 | 2   |
| 4     | 6280HD-165 WHEEL CLEANER                | 2   |
| 5     | 71129 1.18" ID, 2.44" OD BEARING        | 2   |
| 6     | 73201 3/8-16 X 1 HEXHEAD BOLT, GRADE 5  | 4   |
| 7     | 73203 3/8 FLAT WASHER                   | 4   |
| 8     | 73204 3/8 SPLIT WASHER                  | 4   |
| 9     | 73270 3/8 X 3 PIN                       | 1   |
| 10    | 73314 5/16-18 X 3/8 FLAT HEAD CAP SCREW | 2   |

# Parts List and Diagrams

| PART# | DESCRIPTION                                    | QTY |
|-------|------------------------------------------------|-----|
| 1     | 400024 GRIP, FOAM, 1"                          | 2   |
| 2     | 400031 HOSE, 40" AX04 1J9HY 4 4 X 1JSHY 6 4    | 1   |
| 3     | 400032 HOSE, 33" AX04 106HY 04 04 X 1J9HY 6 4  | 2   |
| 4     | 400033 HOSE, 36" AX06 1JSHY 6 6 X 1JSHY 6 6    | 1   |
| 5     | 400034 FITTING, FF1231 06 08                   | 2   |
| 6     | 400056 BOLT, HEX HEAD 1/2-13X6-1/2             | 3   |
| 7     | 400077 GASKET, HANDLE                          | 2   |
| 8     | 400097 WRAP, KEVLAR (25' ROLL)                 | 2   |
| 9     | 400098 SPRING, 1 1/2 X 1/2                     | 0.5 |
| 10    | 400348 NUT, 1/2-13 NYLOCK THIN                 | 3   |
| 11    | 5280-118 FITTING, 90 DEGREE                    | 2   |
| 12    | 401588 CORD, HANDLE, KOMMANDER                 | 1   |
| 13    | 6280-207 SWITCH, ON/OFF                        | 1   |
| 14    | 6280-404 HOLDER, BLADE WRENCH                  | 1   |
| 15    | 6280-600 PLATE, INDEX, HANDLE                  | 2   |
| 16    | 6280-601 WELDMENT, UPPER HANDLE                | 1   |
| 17    | 6280-602 COVER, UPPER HANDLE                   | 1   |
| 18    | 401629 HANDLE, LOWER, RACK PINS                | 1   |
| 19    | 6280-606 HANDLE, BALL                          | 1   |
| 20    | 6280-607 BUSHING, HANDLE BAR                   | 2   |
| 21    | 6280-608 WELDMENT, HANDLE BAR                  | 1   |
| 22    | 6280-610 ROD, ADJUSTMENT, LARGE                | 1   |
| 23    | 6280-611 LOCK, ADJUSTMENT BAR                  | 1   |
| 24    | 6280-613 BRACKET, VALVE CONNECTOR              | 1   |
| 25    | 6280-618 TUBE, SPACER, LONG                    | 1   |
| 26    | 6280-619 TUBE, SPACER, SHORT                   | 2   |
| 27    | 70623 GRIP, FOAM                               | 2   |
| 28    | 70624 VALVE, SINGLE SPOOL, TAPERED             | 1   |
| 29    | 70636 LEVER, ADJUSTABLE, RIGHT HAND            | 1   |
| 30    | 70637 LEVER, ADJUSTABLE, LEFT HAND             | 1   |
| 31    | 70638 KNOB, ADJUSTABLE                         | 1   |
| 32    | 72556 WIRE, 12/3, 2.5MM, BLACK, CE             | 6   |
| 33    | 72799 DISCONNECT, 22-18 GAUGE, NYLON, QUICK    | 3   |
| 34    | 401682 CONNECTOR, 1/2", 90 DEGREE              | 1   |
| 35    | 72818 DISCONNECT, NYLON, 16-14 GAUGE (31512)   | 1   |
| 36    | 72819 CONNECTOR, FEMALE, PUSH ON, 90 °         | 2   |
| 37    | 72873 CLAMP, CABLE 3/8                         | 1   |
| 38    | 73091 WASHER, FLAT, ZINC, SAE 1                | 4   |
| 39    | 73066 NUT, HEX JAMB 3/8-16                     | 1   |
| 40    | 73263 WASHER, FLAT, ZINC, SAE 3/8              | 2   |
| 41    | 73301 BOLT, BUTTON HEAD SOCKET CAP 5/16-18X1/2 | 1   |
| 42    | 73322 NUT, NYLOCK 5/16-18                      | 4   |
| 43    | 73327 BOLT, HEX HEAD CAP 5/16-18X2 1/2         | 2   |
| 44    | 73351 WASHER, FLAT SAE ZINC 5/16               | 1   |
| 45    | 73401 NUT, STRAINING RELIEF, STEEL, 1/2"       | 1   |
| 46    | 73424 WASHER, FLAT, ZINC SAE 1/2"              | 3   |
| 47    | 73536 PIN, HITCH CLIP 5/8"                     | 1   |
| 48    | 74406 SCREW, PHILLIPS PAND HEAD 10-32X3/8      | 1   |
| 49    | 74413 WASHER, INTERNAL LOCK #10                | 1   |
| 50    | 74619 WASHER, SPLIT LOCK M6                    | 6   |
| 51    | 74630 BOLT, HEX HEAD CAP M6-12 8.8             | 6   |
| 52    | 92800-12 SPRING, ADJUSTMENT, 3.5"              | 1   |
| 53    | 92800-98 ROD, ADJUSTMENT, SHORT                | 1   |
| 54    | 92800-99 ROD, ADJUSTMENT                       | 1   |
| 55    | 73334 BOLT, HEX HEAD CAP 5/16-18X1-1/2         | 2   |

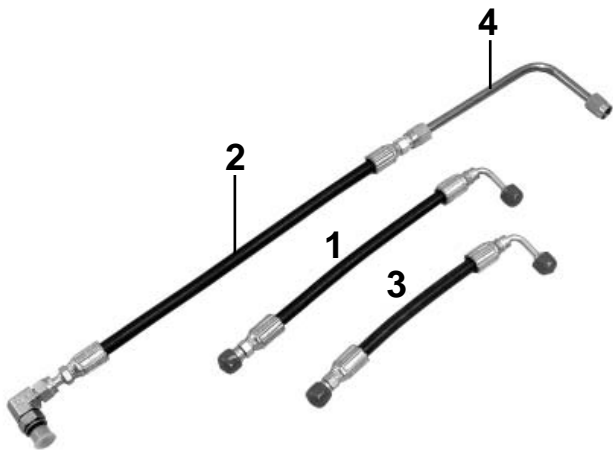
## HANDLE ASSEMBLY



# Parts List and Diagrams

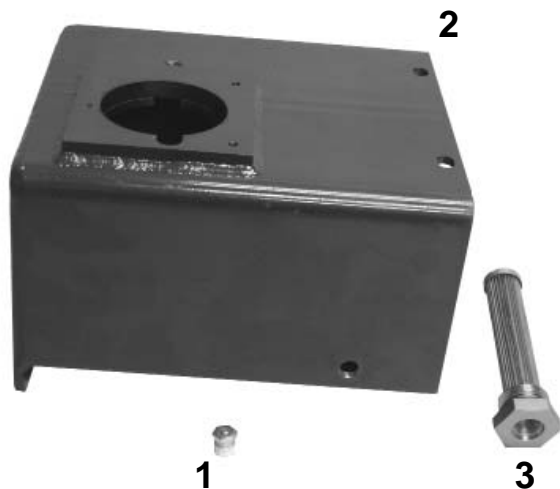
## HOSE PARTS

|   | PART#      | DESCRIPTION             | QTY |
|---|------------|-------------------------|-----|
| 1 | 6280HD-180 | LOWER MOTOR HOSE        | 1   |
| 2 | 6280HD-181 | PUMP HOSE               | 1   |
| 3 | 6280HD-182 | UPPER MOTOR HOSE        | 1   |
| 4 | 6280HD-183 | PUMP HOSE TO BLOCK HOSE | 1   |



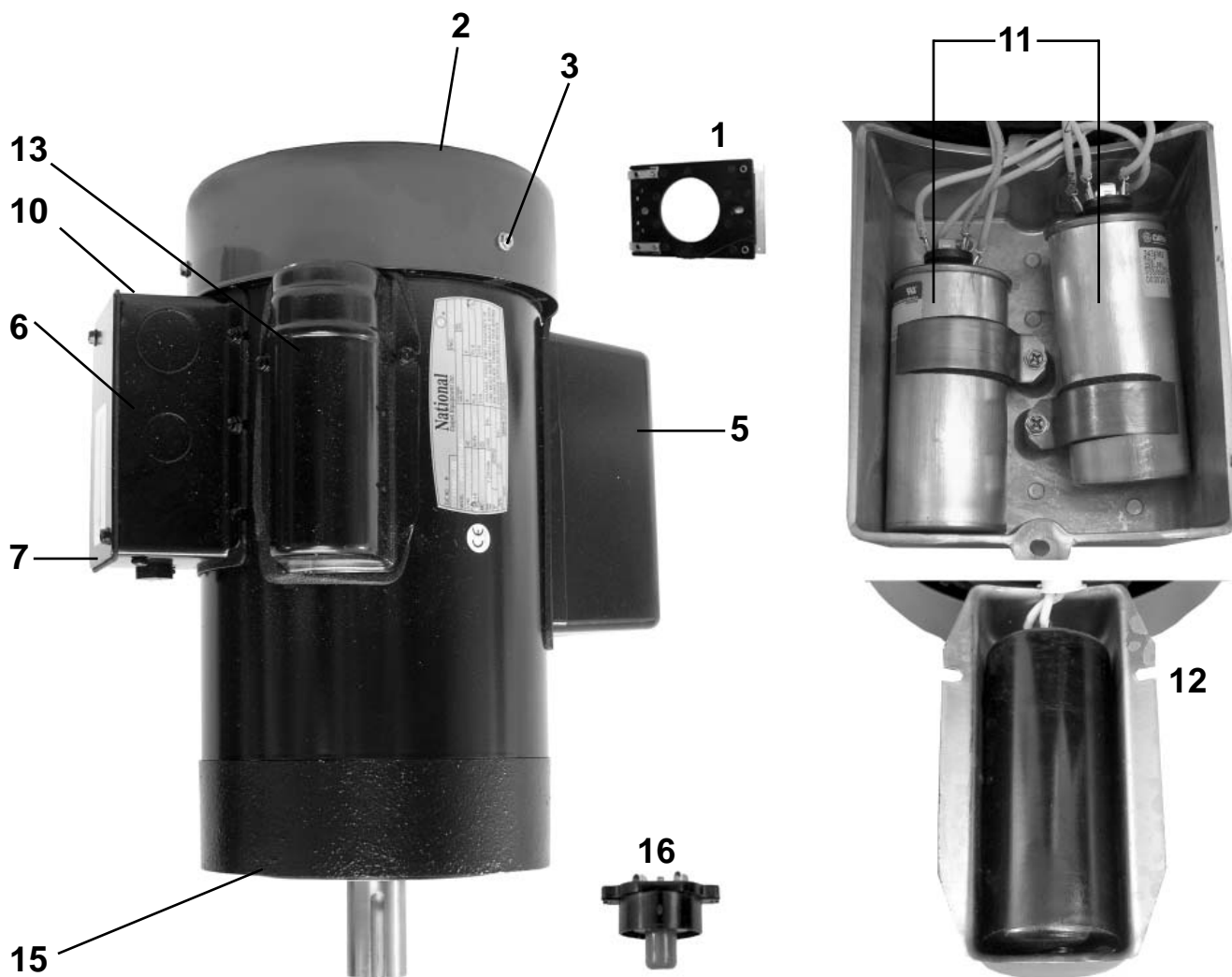
## TANK PARTS

|   | PART#      | DESCRIPTION               | QTY |
|---|------------|---------------------------|-----|
| 1 | 6280-161B  | FILLER CAP VENT PLUG ONLY | 1   |
| 2 | 6280HD-162 | HYDRAULIC TANK            | 1   |
| 3 | 70601      | TANK MOUNTED STRAINER     | 1   |



# Parts List and Diagrams

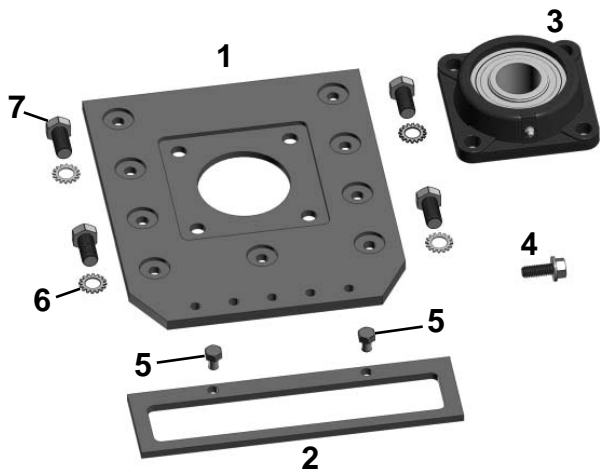
## MOTOR PARTS



| PART# | DESCRIPTION                                     | QTY | PART# | DESCRIPTION                                  | QTY |
|-------|-------------------------------------------------|-----|-------|----------------------------------------------|-----|
| 1     | 6280-147-1 STARTER SWITCH                       | 1   | 10    | 6280HD-200 MOTOR JUNCTION BOX                | 1   |
| 2     | 6280-148 MOTOR FAN COVER                        | 1   | 11    | 6280HD-202 MOTOR CAPACITOR (RUN)             | 2   |
| 3     | 6280-148A MOTOR FAN COVER SCREW                 | 3   | 12    | 6280HD-203 MOTOR CAPACITOR (START)           | 1   |
| 4     | 6280-149 MOTOR FAN (NOT SHOWN)                  | 1   | 13    | 6280HD-204 CAPACITOR COVER                   | 1   |
| 5     | 6280-150 CAPACITOR COVER                        | 1   | 14    | 6280HD-204A CAPACITOR COVER GASKET           | 1   |
| 6     | 6280-152 MOTOR JUNCTION BOX ONLY                | 1   | 15    | 72362 MOTOR 115 VOLT, 1.5 HP                 | 1   |
| 7     | 6280-152-1 MOTOR JUNCTION BOX COVER ONLY        | 1   | 16    | 72461 THERMO-OVERLOAD SWITCH                 | 1   |
| 8     | 6280-152-3 MOTOR JUNCTION BOX COVER GASKET ONLY | 1   | 17    | 74508 6-32 X 1/2 PHILLIPS HEAD MACHINE SCREW | 10  |
| 9     | 6280-152-4 MOTOR JUNCTION BOX GASKET            | 1   |       |                                              |     |

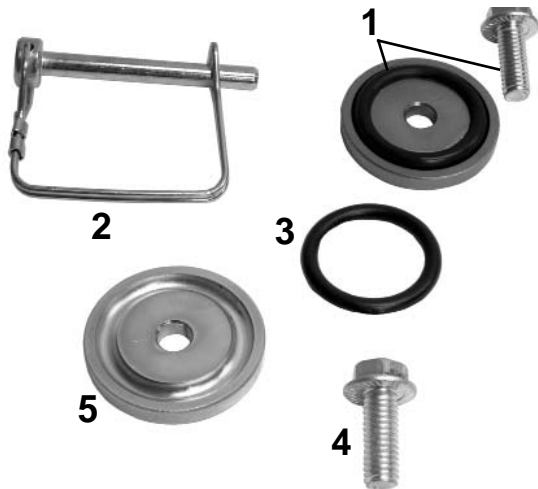
# Parts List and Diagrams

## CUTTING HEAD PARTS



|   | PART#      | DESCRIPTION                          | QTY |
|---|------------|--------------------------------------|-----|
| 1 | 6280HD-1   | CUTTING HEAD BASE PLATE              | 1   |
| 2 | 6280HD-145 | FRONT COVER                          | 1   |
| 3 | 71141      | 1-7/16" ID BEARING                   | 1   |
| 4 | 73222      | 3/8-16 X 1 WIZLOCK BOLT (BASE PLATE) | 5   |
| 5 | 73306      | 5/16-18 X 1/2 HEXHEAD BOLT           | 2   |
| 6 | 73405      | 1/2-20 STAR WASHER                   | 9   |
| 7 | 73418      | 1/2-20 X 1 HEXHEAD BOLT              | 9   |

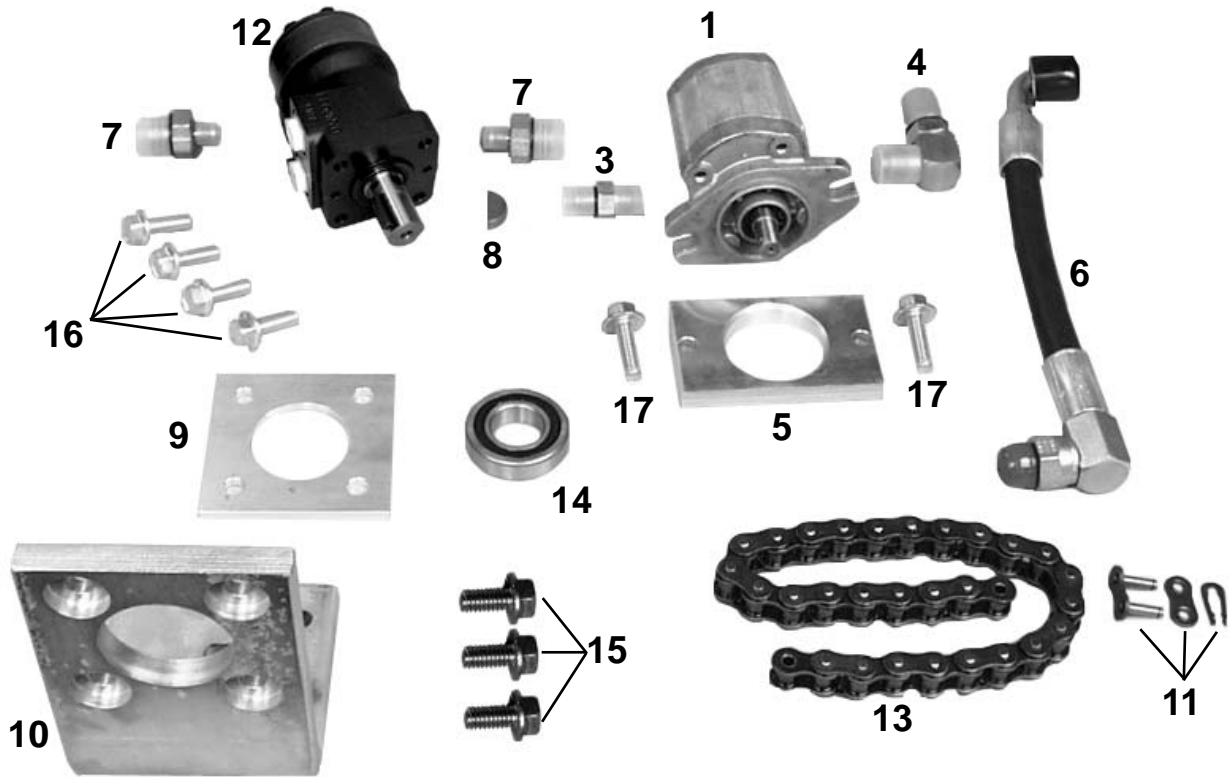
## WHEEL SECURING PARTS



|   | PART#   | DESCRIPTION               | QTY |
|---|---------|---------------------------|-----|
| 1 | 7280-4  | RETAINER CAP ASSEMBLY     | 1   |
| 2 | 73330   | 5/16 X 2 PIN              | 1   |
| 3 | 7280-2  | RETAINER CAP O-RING       | 1   |
| 4 | 7280-4A | RETAINER CAP HEXHEAD BOLT | 1   |
| 5 | 7280-4B | RETAINER CAP ONLY         | 1   |

# Parts List and Diagrams

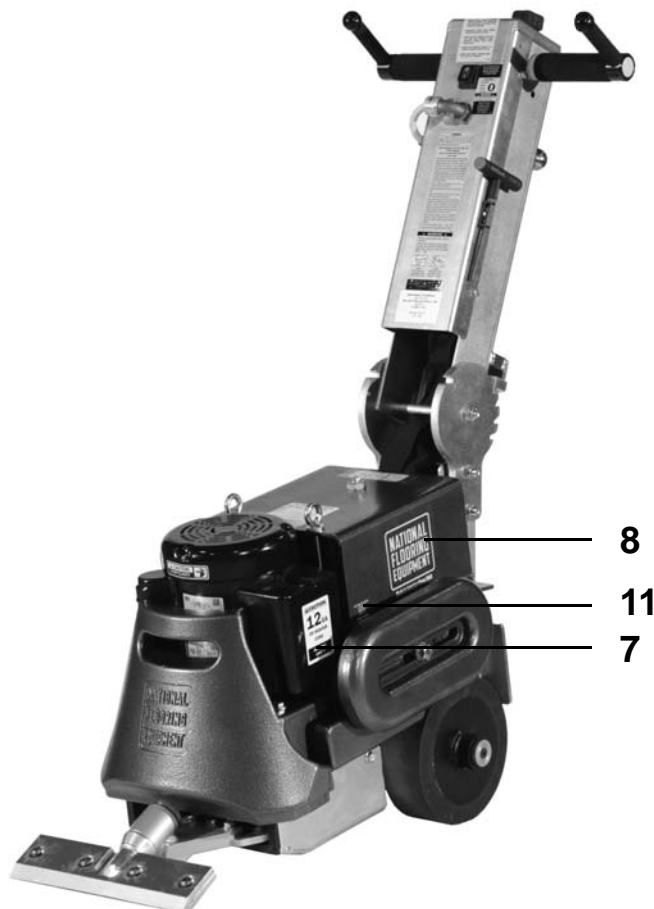
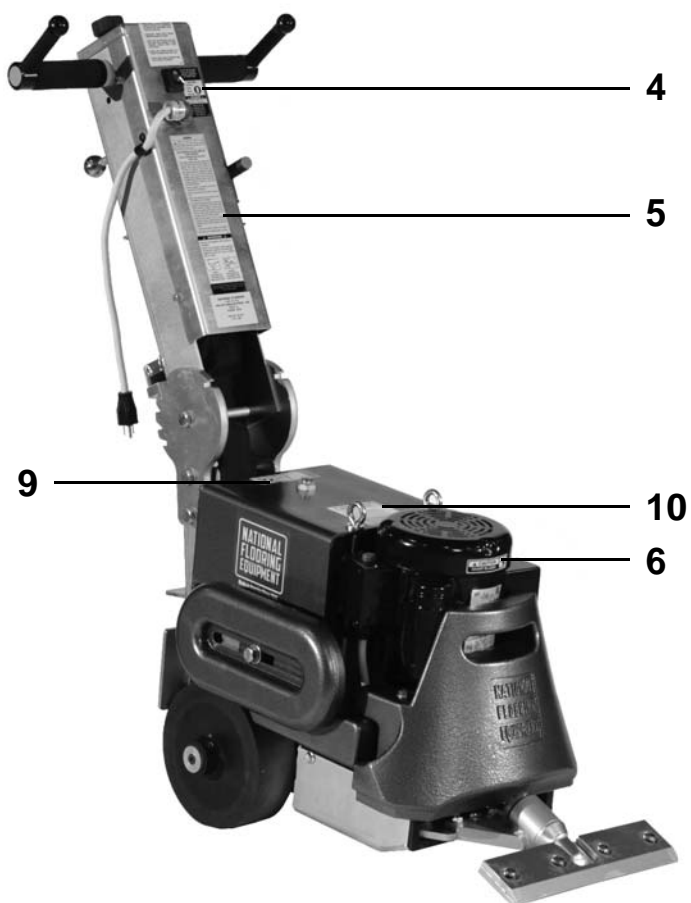
## INTERNAL PARTS



| PART# | DESCRIPTION                              | QTY | PART# | DESCRIPTION                               | QTY |
|-------|------------------------------------------|-----|-------|-------------------------------------------|-----|
| 1     | 6280-113S PUMP SPLINED                   | 1   | 10    | 6280-226 HYDRAULIC MOTOR MOUNTING BRACKET | 1   |
| 2     | 6280-113-1 SEAL KIT (NOT SHOWN)          | 1   | 11    | 6280-229 DRIVE CHAIN MASTER LINK ASSEMBLY | 1   |
| 3     | 6280-117 PRESSURE HOSE TO PUMP CONNECTOR | 1   | 12    | 6280HD-225 HYDRAULIC MOTOR                | 1   |
| 4     | 6280-118 SUCTION HOSE TO PUMP CONNECTOR  | 1   | 13    | 6280HD-228 DRIVE CHAIN                    | 1   |
| 5     | 6280-119 PUMP SPACER                     | 1   | 14    | 71115 1 X 2 X 1/2 BEARING                 | 1   |
| 6     | 6280-120 SUCTION HOSE                    | 1   | 15    | 73206 3/8-16 X 1-1/4 WIZLOCK BOLT         | 3   |
| 7     | 6280-221 HYDRAULIC MOTOR CONNECTOR       | 2   | 16    | 73222 3/8-16 X 1 WIZLOCK BOLT             | 4   |
| 8     | 6280-223 HYDRAULIC MOTOR SHAFT KEY       | 1   | 17    | 73223 3/8-16 X 1-1/4 WIZLOCK BOLT         | 2   |
| 9     | 6280-225 HYDRAULIC MOTOR SPACER          | 1   |       |                                           |     |

# Parts List and Diagrams

## LABELS

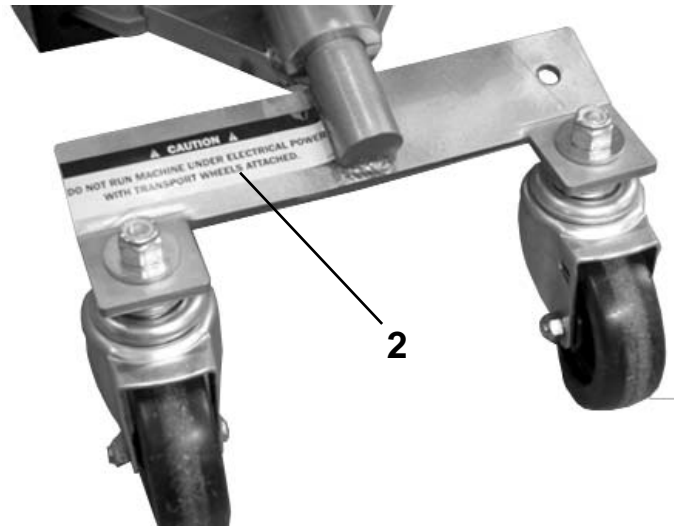
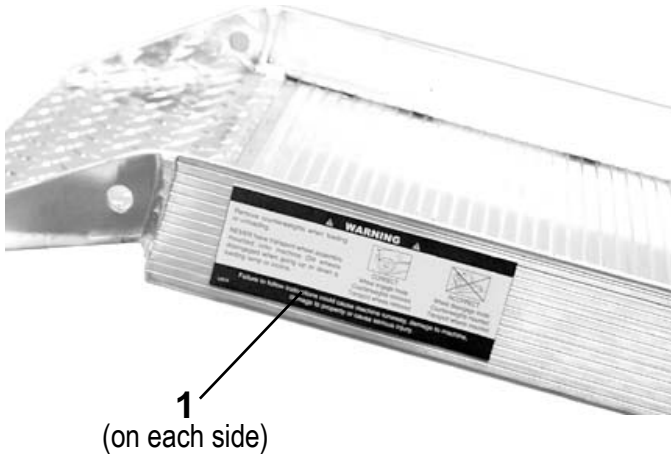


| PART# | DESCRIPTION | QTY                                  | PART# | DESCRIPTION | QTY  |                       |   |
|-------|-------------|--------------------------------------|-------|-------------|------|-----------------------|---|
| 1     | L95F        | WARNING FLUID LEAK LABEL (NOT SHOWN) | 1     | 7           | L49  | POWER CORD LABEL      | 1 |
| 2     | L95G        | FLUID LEVEL LABEL (NOT SHOWN)        | 1     | 8           | L175 | NATIONAL LABEL, SMALL | 1 |
| 3     | L95J        | 110 VOLT LABEL (NOT SHOWN)           | 1     | 9           | L177 | STOCK NUMBER LABEL    | 2 |
| 4     | L186        | ON/OFF SWITCH LABEL                  | 1     | 10          | L190 | BLADE SETTING LABEL   | 1 |
| 5     | L188        | CAUTION GENERAL INFO LABEL           | 1     | 11          | L223 | PATENT NUMBER LABEL   | 1 |
| 6     | L37         | CAUTION SHARP BLADE LABEL            | 2     |             |      |                       |   |



# Parts List and Diagrams

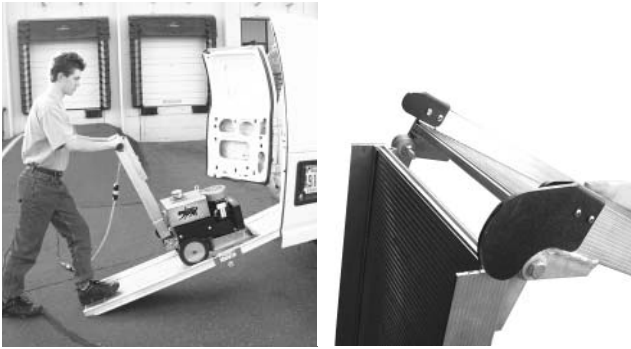
## LABELS (CONT'D)



| PART#  | DESCRIPTION | QTY | PART#  | DESCRIPTION              | QTY |
|--------|-------------|-----|--------|--------------------------|-----|
| 1 L95K | RAMP LABEL  | 2   | 2 L95H | CAUTION DO NOT RUN LABEL | 1   |

# Parts List and Diagrams

## LOADING RAMP



Durable light weight construction. Folds for easy transportation and storage.

- 6251 Loading Ramp
- 6251-1 Replacement Pinch Point Guard (Set)

## TRANSPORT WHEELS



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

- 6280HD-250 Transport Wheels
- 6280-301 Replacement Wheel Only
- 73330 Securing Pin Only

## 50' POWER CORD



50' 12 Gauge Power Cord

- 6254 50' Power Cord

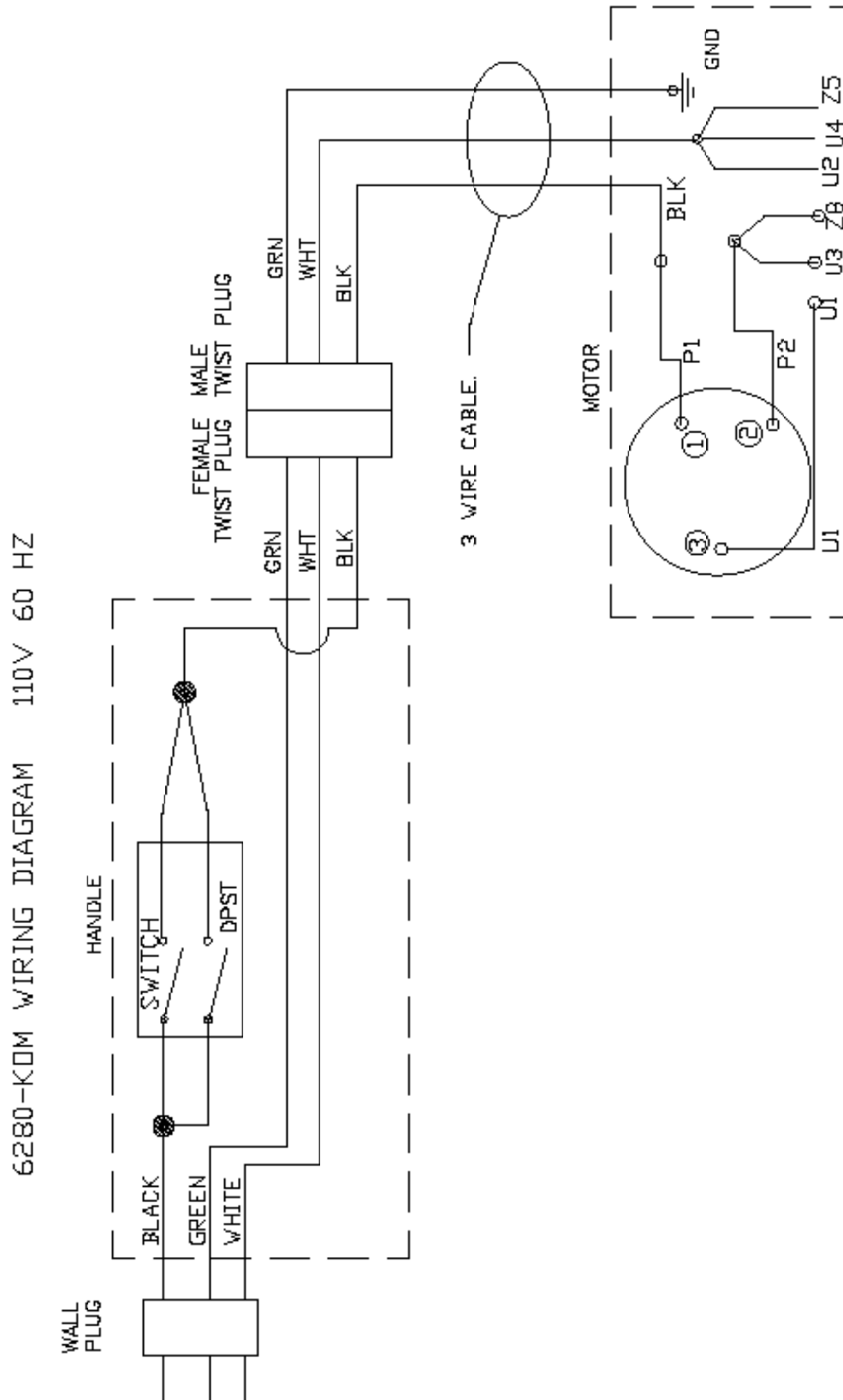
## STARTER PACKAGE

|   | PART#     | DESCRIPTION         | QTY |
|---|-----------|---------------------|-----|
| 1 | 6280-401B | WRENCH, ALLEN, 7/32 | 1   |



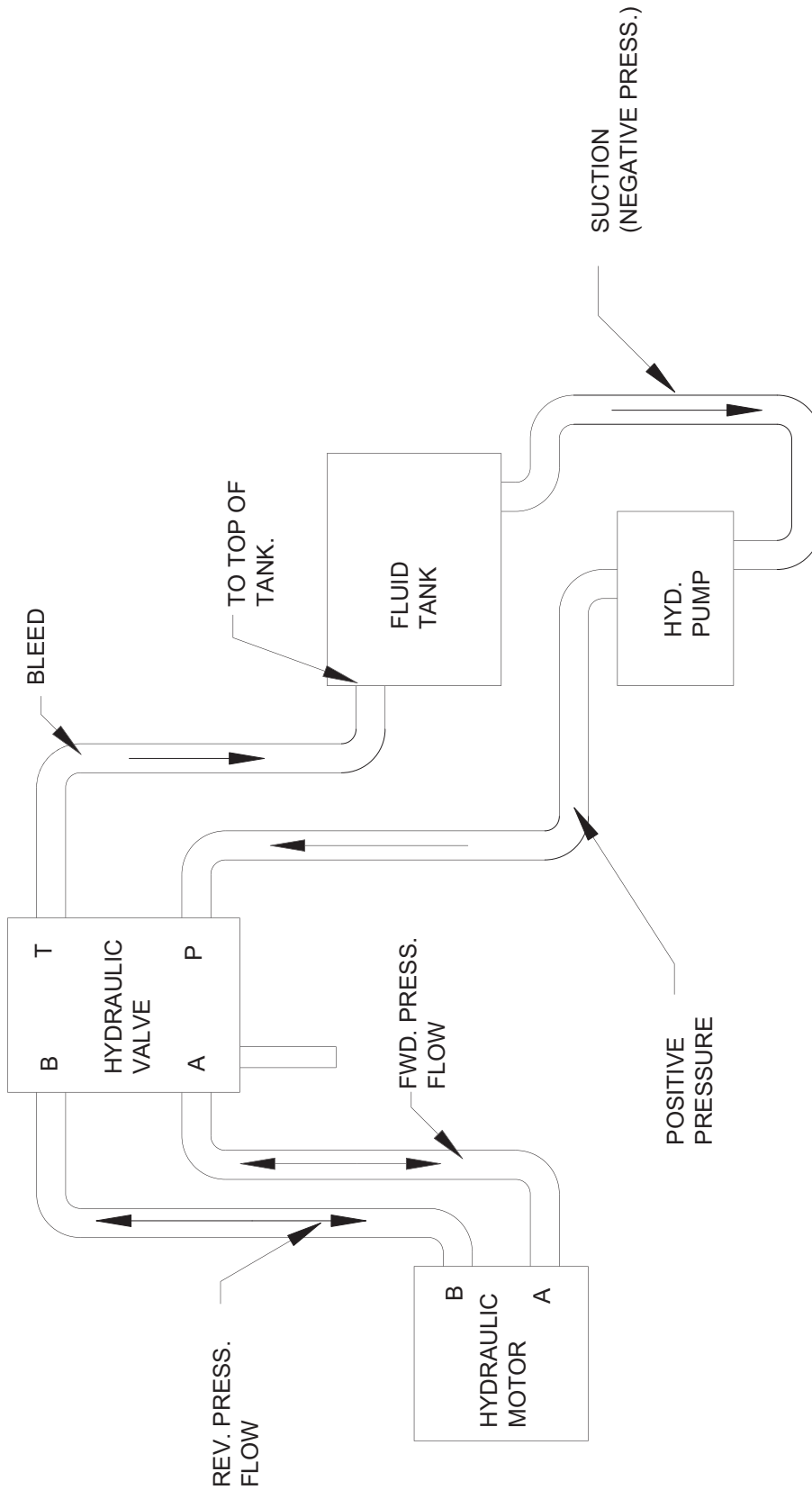
# Parts List and Diagrams

## 6280HD WIRING DIAGRAM



# Parts List and Diagrams

## 6280HD HYDRAULIC LINE LAYOUT



# 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

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## CHEVRON HD 22 - 68 - HYDRAULIC FLUID (CONTINUED)

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) 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 or recycle if 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                 |
| NTP - 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.



# Guarantee

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National Flooring Equipment, Inc. (National) warrants to the first consumer/purchaser that this National brand product 6280HD Heavy Duty Self-Propelled Walk Behind Scraper 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 6280HD Heavy Duty Self-Propelled Walk Behind Scraper 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.  
Toll-free 800-245-0267 • Phone 763-315-5300 • Fax 800-648-7124 • Fax 763-535-8255  
Web Site: [www.nationalequipment.com](http://www.nationalequipment.com) • E-Mail: [info@nationalequipment.com](mailto:info@nationalequipment.com)