5110 ELECTRIC RIDE-ON SCRAPER

SERVICE MANUAL

Read Manual Before Servicing Machine

403762 Rev A

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Specifications

Product Specifications					
Width	**Length**	**Height**	**Empty Weight**	**Fully Weighted**	**Removable Weight**
24.5” (62.2 cm)	52” (132.1 cm)	49” (124.5 cm)	1190 lbs (539.7 kg)	1465 lbs (664 kg)	350 lbs (158 kg)
Run Time	**HP**	**Speed**	**Sound Level**	**RPM**	**Voltage**
24 hours	Two 1.5 HP motors	up to 113 ft./min (up to 34.4 m/min)	94-97 dB(A)	1725	115

Machine Variants				
Region	**Serial Number**	**Power / Frequency**	**Body Panels**	**Slide Plate**
Domestic	5110-10XXXX	120 / 60	Silver Vein	Manual Lift
International	5110-11XXXX	230 / 50	Silver Vein	Manual Lift

GENERAL RULES FOR SAFE OPERATION

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

Personal

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

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

Keep hands away from all moving parts and tooling.
Wear gloves when changing tooling. Remove tooling when machine is not in use and/or lower cutting head to the floor.

Do not force equipment.
Equipment will perform best at the rate for which it was designed. Excessive force only causes operator fatigue, increased wear, and reduced control.

Environment

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

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

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

Maintenance & Repairs

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

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

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

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

Equipment

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

Ensure accessories are properly installed and maintained.
Do not permanently remove a guard or other safety device when installing an accessory or attachment.

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

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

Avoid accidental starting; store idle equipment.
When not in use, ensure that the machine is unplugged and breaker is set to OFF. Store in a dry, secured place. Remove tooling when storing, and keep away from children.

Safety

Scraping

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

Inspect work area for potential hazards prior to operation.

Observe location of electrical supplies and extension cords.
Do not allow cutting heads to come into contact with any electrical supply or extension cord.

Operator must be seated before starting machine and should stay seated until motor has stopped running.
This machine is equipped with a safety switch under the seat, which requires the operator to be seated before the machine can be operated. Do not attempt the start-up procedure without first being seated on the machine.

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

HYDRAULIC SAFETY

Maintaining a Safe Work Environment

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

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

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

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

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

- **Mechanical:** Hydraulic fluid creates movement, which means some equipment may move. Observe surroundings and equipment at all times.
- **Moisture:** Do not use in wet or high moisture conditions.
- **Electrical:** Faulty wiring can be an electrical hazard. A regular preventive maintenance program should always include a wiring check. If applicable, disconnect battery before serving.
- **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 130ºF or 55°C), shut off machine and allow it to cool.

Hydraulic Fluid

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

Maintenance Schedule

Maintenance to be performed	Interval					
	Daily	250 hrs	1000 hrs	2000 hrs	After initial 100 hrs	After initial 500 hrs
Inspect extension cord for damage	●					
Check wheels, caster and wheel motors for build up; and clean	●					
Check hydraulic oil level	●					
Inspect all safety devices (e-stop, backup beeper, seat switch)	●					
Inspects for leaks (hoses and fittings)	●					
Grease front caster wheel			●			
Replace the hydraulic return line oil filter		●			●	
Replace in-tank strainers				●		
Replace hydraulic fluid			●			●

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

Troubleshooting Guide

Problem	Cause	Solution
Machine will not start.	Seat safety switch is disengaged.	Ensure operator is seated.
	Emergency stop (E-Stop) switch is disengaged.	Twist E-Stop so that it is in the “POWER ON” position.
	“Start” button did not fully engage.	Firmly press down green start button.
	Wire harness is disconnected.	Connect wire harness.
Machine doesn’t run as long as it used to.	Motor fan cover plugged with dust or debris.	Blow out fan cover after each job.
Machine is making rattling noises.	Loose hardware on machine.	Inspect and tighten bolts as needed.
Fluid is leaking from machine.	Hose connections/or fittings have loosened through normal use.	Tighten hydraulic hoses and fittings as needed.
	Pin hole in the hoses.	Replace affected hose.
	Oil and/or oil filter are old.	Replace oil and oil filter yearly on machine.
Tires/Wheel motors make a slight clicking noise.		Normal noise with proper operation.
Machine is jerky or jumpy.	New operator.	Additional time is required to become familiar with machine.
	Control levers are being moved too quickly.	Operate control levers with wrist resting on knees for additional support or purchase arm rest.
Coupling leaks at thread or seat.	Missing or damaged O-rings.	Check for missing or damaged O-rings; replace if necessary.
	Damaged threads due to misalignment or improper seat angle.	Correct seat angle. Check for thread damage; replace if necessary.
	Over or under torquing.	Only hand-tighten hardware.
Any issues concerning the electrical box.		Must be serviced by NFE (Brooklyn Park); cannot be serviced in the field. Contact tech services for assistance.
Any issues not listed above.		Contact NFE to speak with a technician.

Maintenance

CAUTION: ALWAYS DISCONNECT BATTERY BEFORE MAINTAINING.

SLIDE PLATE REMOVAL (FIGURE AB)

1. Disconnect machine from power.
2. Remove slide plate pin, cutting head bolt, cylinder, and slide plate.

OR

1. Disconnect machine from power.
2. Disconnect hydraulic lines from cylinder. A small amount of oil leak out of lines, place rag below line to catch fluid. Cap lines or bleed into a container. Wipe up spillage immediately.
3. With lines removed, loosen slide plate bolts. Hold slide plate at the top of the cylinder.
4. Remove slide plate, cylinder, and lower cutting head support.

CAUTION: SLIDE PLATE WILL DROP TO THE FLOOR WHEN SLIDE PLATE SECURING BOLTS ARE DISENGAGED. KEEP HANDS AND FEET OUT FROM UNDERNEATH SLIDE PLATE, FAILURE TO DO SO COULD CAUSE SEVERE BODILY INJURY.

Lower Cutting Head Support Removal

1. Lower slide plate so cutting head hinge pin (D) is below machine bottom. Retighten.
2. Loosen both cutting head pin set screws (C) at the base of the lower cutting head support (hinge area).
3. Drive cutting head hinge pin (D) out using a punch and hammer.
4. Remove cylinder securing hex head bolt.

LEAK MAINTENANCE

All fittings on this machine are O-ring style.

1. Disconnect machine from power.
2. If a leak is detected, tighten fitting with the proper wrench size. Do not over-tighten. Over-tightening could damage to O-rings.

CHECK OIL LEVEL

Check fluid level in the fill hole on the right side of the frame, in front of the rear wheel.

1. Remove filler plug. Oil should be visible 2” below hole.
2. Reinsert plug.

CHANGE OIL

1. Disconnect machine from power.
2. Drain fluid by removing the drain plug from side of tank.

CAUTION: THIS UNIT CONTAINS 23 LITERS OF FLUID. MAKE SURE YOU HAVE THE PROPER SIZE CONTAINERS TO CATCH FLUID.

3. Replace drain plug.
4. Remove filler plug.
5. Add oil into the filler plug hole until visual 2” below hole.

CHANGE/REMOVE HOSE

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

CHANGE WHEEL MOTOR

1. Disconnect machine from power.
2. Block up machine to remove wheel.
3. Remove wheel.
4. Remove oil lines from wheel motor. A small amount of oil will run out of the lines. Drain into a container. Wipe up spills immediately.
5. Remove four 1/2” wheel motor securing nuts.
6. Pull out on wheel motor to remove.

REMOVE/REPLACE FOOT PEG

1. Insert a socket wrench into foot peg and secure bolt head.
2. Remove nut.
3. Remove bolt and foot peg.
4. Replace foot peg before operating machine. Do not operate machine without foot pegs.

CHANGE PUMP

1. Open hood to expose pump.
2. Disconnect hydraulic lines.
3. Remove two 5/16” pump securing bolts.
4. Remove pump by pulling pump straight out from pump motor.

CHANGE VALVE

1. Disconnect machine from power (charger or battery).
2. Lift hood all the way back, resting on the hood bumpers.
3. Remove hoses from valve body. Have a container ready to catch leakage from lines.
4. Take notice of angle of valve fittings.
5. Remove two 5/16-18” bolts securing valve body.

CHANGE MOTOR

1. Disconnect motor from power.
2. Lift hood and secure in place.
3. Remove pump.
4. Loosen screws and nuts.
5. Raise motor; disconnect electrical connections.
6. Remove and replace motor.

Maintenance

CHANGE HYDRAULIC CYLINDER

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

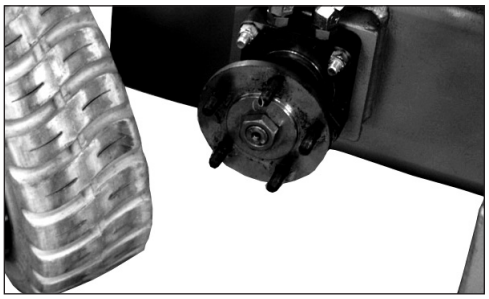


FIG. 1

CHANGE REAR WHEEL (FIG. 1)

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

CHANGE CASTER

Keep clean and free of debris; ensure it can move freely.

1. Give a shot of grease in grease fitting on caster every month to keep caster moving freely.
2. To remove caster, machine will need to be raised. Push the cylinder lift lever forward to lower and adjust the angle of the cutting head to jack up the machine. Block up machine with wooden block. Remove four bolts, pull caster off and clean/ replace as needed.
3. Replace caster.
4. Pull caster toward rear of machine; re-place and tighten the four bolts.
5. Lower the machine.

SEAT REPLACEMENT

1. Rotate hood to bumper stops.
2. Remove four nuts securing seat rails.
3. Replace seat; screw on nuts.

CLEAN WHEEL MOTOR BUILD-UP

1. Inspect the wheel motor and wheel motor hub for debris build-up (best accessed from back of machine). Remove any strands of carpet and use compressed air (not high pressure) to clean out dust or glue build-up. If any build-up cannot be removed this way, complete the following steps to remove the wheel hub.
2. Raise the front of the machine up by lowering the front cutting head down all the way, or by using 2 ton jack. Place blocks under the fork lift cup.
3. Slowly raise the cutting head until the machine is resting on the blocks and the wheel on the side that is blocked up is raised off the ground.
4. Remove the cotter pin and loosen the center wheel hub nut.
5. To loosen the wheel from the wheel motor shaft you might need to hit the steel rim from the inside with a rubber mallet.
6. Remove the wheel and remove the build up off of the wheel motor shaft.
7. Re-mount the wheel hub, making sure that the keyway matches on the motor shaft. Tighten down the wheel hub nut to press fit in the wheel hub.
8. Re-insert the cotter pin.
9. Lower the cutting head to raise the machine back off the blocks.
10. Repeat the process for the opposite side if needed.

Parts List and Diagrams

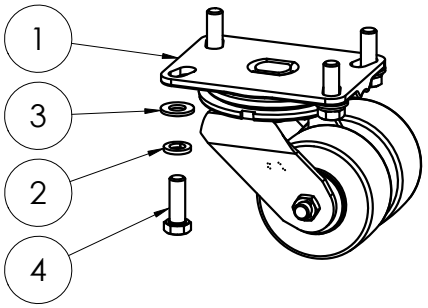
EXTERNAL

	PART#	DESCRIPTION	QTY
1	5110-111	SEAT, RIDE-ON	1
2	5700-102	E-STOP SWITCH ASSEMBLY	1
3	N/A	SEE REAR WHEEL ASSEMBLY	
4	5200QL-25-SV	PANEL, RIGHT, SILVER VEIN	1
5	5200QL-26-SV	PANEL, LEFT, SILVER VEIN (NOT SHOWN)	1
6	5200QL-27	MAIN BASE (NOT SHOWN)	1
7	403131-SV	COVER, HINGED TOP, SILVER VEIN	1
8	5110-215	GUIDE, EXTENSION CORD	1
9	5110-216	CORD GUIDE BRACKET	1

	PART#	DESCRIPTION	QTY
10	402969	BOLT, TRILOBULAR, 5/16-18 X 1.25, FLANGED HEX HEAD (NOT SHOWN)	4
11	2900-101	HOLD DOWN, REAR (NOT SHOWN)	1
12	2900-102	LATCH, REAR (NOT SHOWN)	1
13	5200-30-SV	DOGHOUSE, WELDMENT, SILVER VEIN	1
14	N/A	SEE TOOLING ASSEMBLY	
15	N/A	SEE FOOT PEG ASSEMBLY	
16	N/A	SEE WEIGHT ASSEMBLY	
17	5200QL-28-SV	COVER, BATTERY, SILVER VEIN	1

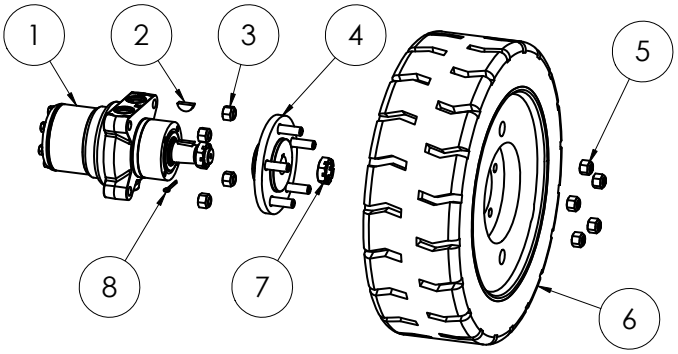
CASTER WHEEL ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5200-194	Caster, Double Gray	1
2	73403	Washer, Split lock 1/2	4
3	73424	Washer, Flat, Zinc SAE 1/2	4
4	73427	Bolt, Hex Head Cap 1/2-13x1-1/2	4

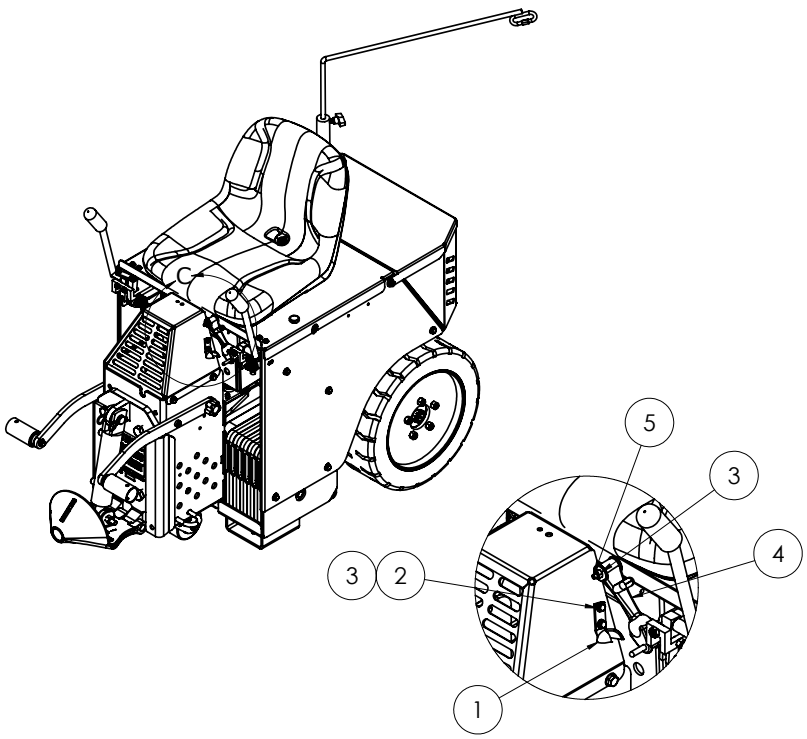


REAR WHEEL ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	400133	Motor, Wheel, Hydraulic, 10mm	1
2	73047	1/4 x 1 Woodruff Key	1
3	73402	Nut, Nylock 1/2-13	4
4	5110-117	Wheel, Hub	1
5	73430	Nut, NyLock 1/2-20	5
6	5110-405	Wheel, Rim and Tire, 18"	1
7	5110-117-2	Hub Nut	1
8	401433	Pin, Cotter 1/8 x 1.75	1



HOOD CATCH ASSEMBLY



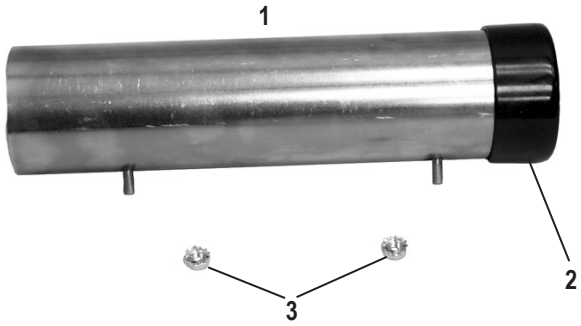
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5200QL-34	BRACKET, REVERSE CATCH	1
2	73027	Bolt, Wizlock, 1/4-20 X 3/4	4
3	73008	Nut, Nylock 1/4-20	3
4	5200QL-31	Lever, Hood	1
5	73023	1/4-20x2.0 HHCS	1

Parts List and Diagrams

BACKUP BEEPER ASSEMBLY

	PART#	DESCRIPTION	QTY
1	5200-116	BACK-UP BEEPER ASSEMBLY	1
2	73020	BOLT, WIZLOCK 1/4-20X5/8	2

INSTRUCTION TUBE

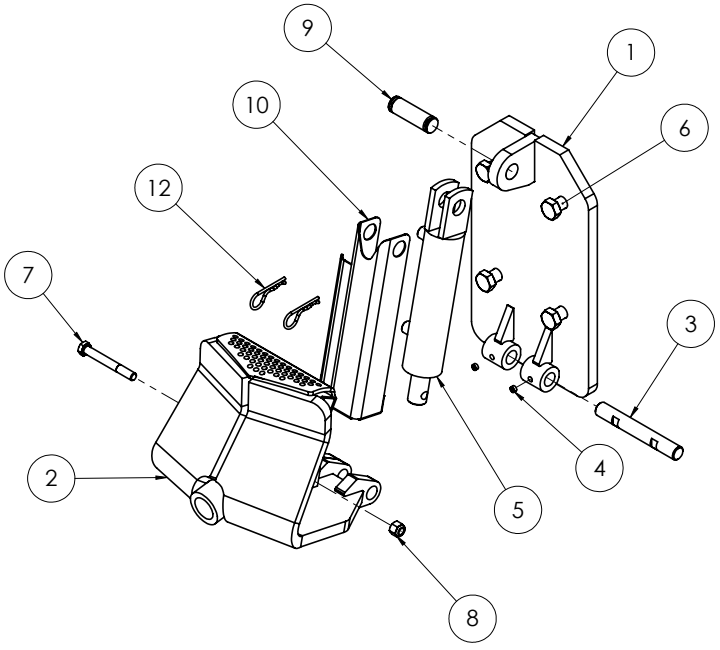


	PART#	DESCRIPTION	QTY
1	70602	TUBE, INSTRUCTION MANUAL	1
2	70603	CAP, INSTRUCTION TUBE	1
3	74425	NUT, KEPS LOCK 10-32	2

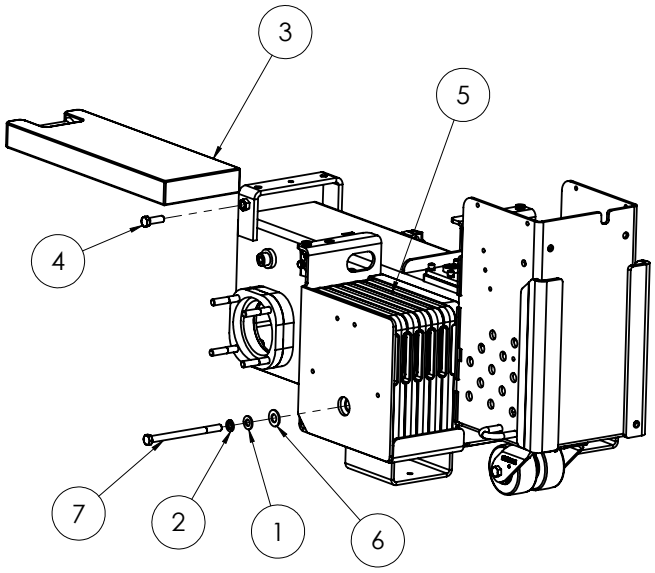
MANUAL SLIDE PLATE

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	402410	Slide Plate, Steel, Manual Adjustment	1
2	402440	Tooling Holder, Weldment	1
3	401429	Pin, Lower Cutting Head Support	1
4	401876	SSS, 3/8-24 x .25, Black Oxide	2
5	5110-250	Cylinder NN16	1
6	73605	Bolt, Hex Head, Grade 8, 3/4-10x1-1/2	4
7	400132	Bolt, Hex Head, 1/2-13 x 4, Grade 8	1
8	73402	Nut, Nylock 1/2-13	1
9	402576	Pin, Cylinder/Guard, Upper	1
10	402574	Shield, Cylinder	1
11	400296*	Gasket, EPDM Foam	1
12	73536	5/8 Hitch Pin Clip	2

*-NOT SHOWN

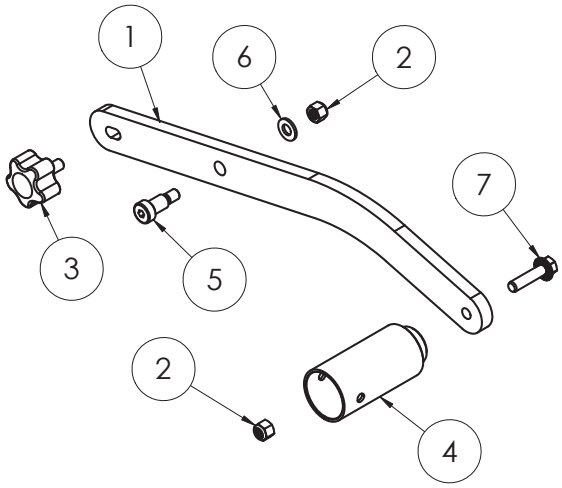


WEIGHTS



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	73424	Washer, Flat, Zinc SAE 1/2	6
2	73403	Washer, Split lock 1/2	6
3	5110-404	Bottom Weight	1
4	73427	Bolt, Hex Head Cap 1/2-13x1-1/2	1
5	74854	Weight, Pocket, Cast, Ride On	10
6	73531	Washer, Flat Zinc, SAE 5/8	2
7	73414	Bolt, HHCS, 1/2-13x7	2

FOOT PEGS



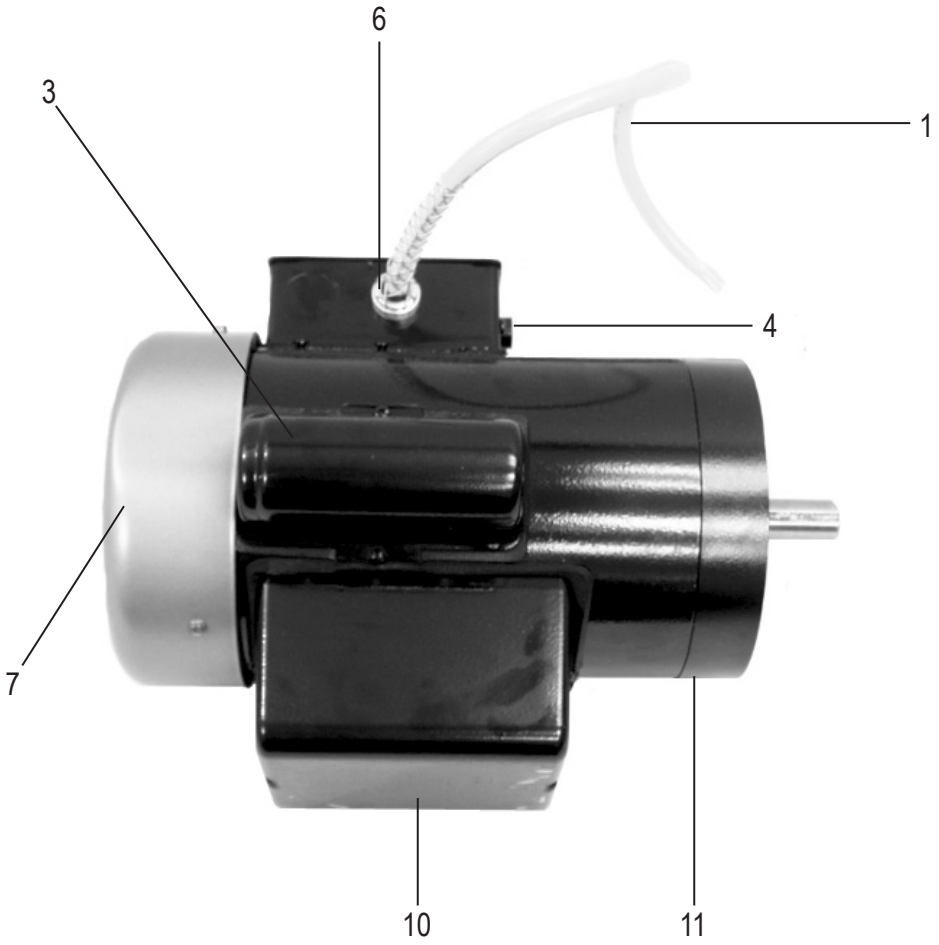
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	402298	Bracket, Pivot, Footrest	1
2	73207	NUT, NYLOCK, 3/8-16	2
3	401999	Knob, Adjustable, 3/4"	1
4	5110-180	Peg, Foot	1
5	402460	Bolt, Shoulder, .500 x .75, 3/8-16	1
6	73263	WASHER,FLAT SAE ZINC 3/8	1
7	73238	Bolt, Flange 3/8-16x1-1/2	1

FRONT WHEEL ASSEMBLY

	PART#	DESCRIPTION	QTY
1	5110-100	TRANSPORT WHEEL	1
2	5110-100W	CASTER ASSY, 5”, TRANSPORT WHEELS	2

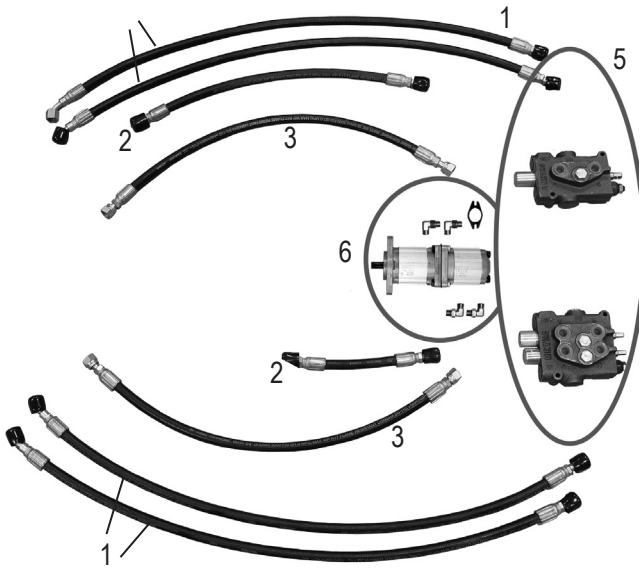
Parts List and Diagrams

MOTOR PARTS



	PART#	DESCRIPTION	QTY		PART#	DESCRIPTION	QTY
1	5110-168	MOTOR POWER CORD	1	**7**	5110-185	MOTOR FAN COVER	1
2	5110-174	SINGLE CAPACITOR 125 VAC (NOT SHOWN)	1	**8**	5110-186	MOTOR FAN (NOT SHOWN)	1
3	5110-175	SINGLE CAPACITOR COVER	1	**9**	5110-187	CAPACITOR 240 VAC (NOT SHOWN)	2
4	5110-176A	OVERLOAD SWITCH	1	**10**	5110-188	DOUBLE CAPACITOR COVER	1
5	5110-177	HUBBLE TWIST LOCK MALE PLUG	1	**11**	72366	MOTOR 115/230 VOLT, 1-1/2 HP, 1725 RPM	2
6	5110-178	STRAIN RELIEF	1	**12**	401438	PLUG, MALE EU1-16P (NOT SHOWN)	1

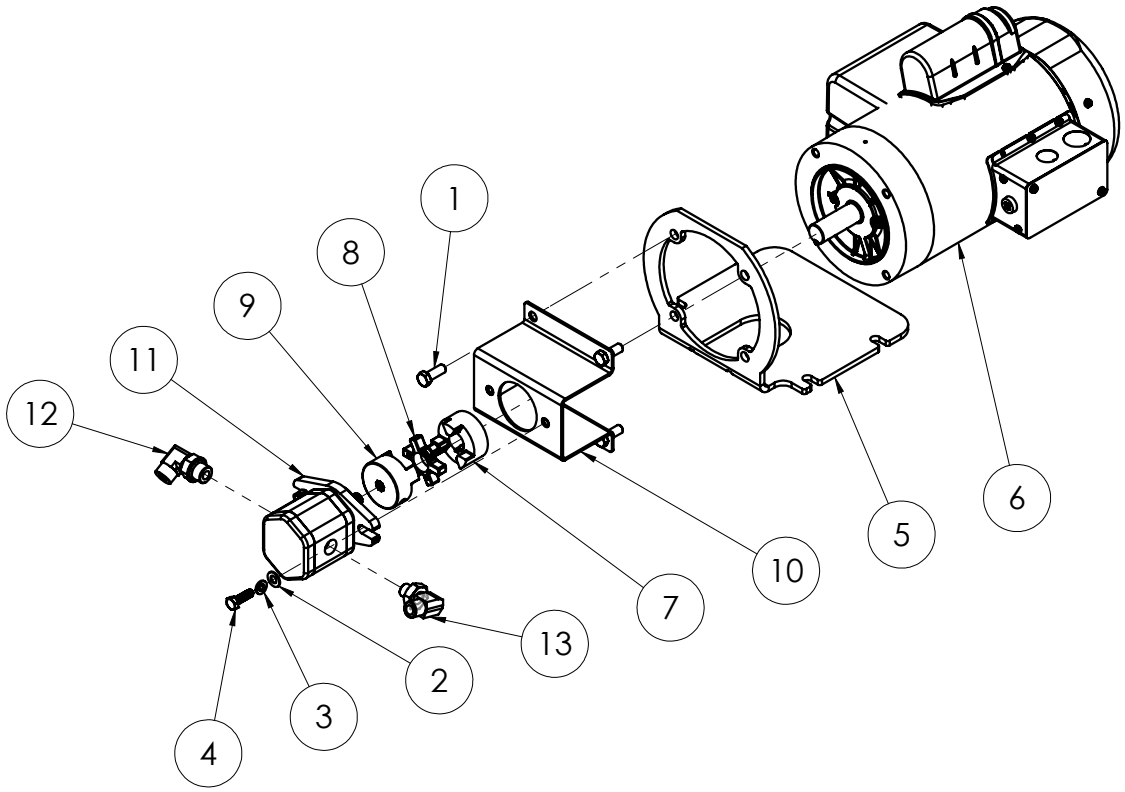
SPOOL AND HOSE



	PART#	DESCRIPTION	QTY
1	5200-261	HOSE, WHEEL MOTOR	4
2	5700-72	HOSE, HYDRAULIC, 3/8 X 26, F/F	2
3	5700-76	HOSE, HYDRAULIC, 3/8 X 21, F/F	2
4	70351	HOSE, HYDRAULIC, 3/8 X 10, F/90F (NOT SHOWN)	1
5	SEE CONTROL LEVER (MANUAL LIFT) PARTS		
6	SEE GEAR PUMP ASSEMBLY		
7	5110-114-2	WHEEL MOTOR FITTING	4
8	5700-70	T-FITTING (NOT SHOWN)	1
9	5700-77	SUCTION HOSE ASSEMBLY (NOT SHOWN)	1
10	5700-81	SUCTION LINE (NOT SHOWN)	1
11	5110-157	PLUG, DRAIN-FILLER (NOT SHOWN)	2
12	6280-162G	MAGNET, TANK (NOT SHOWN)	2
13	401635	HOSE, HYDRAULIC, 3/4 X 29, F/90F (NOT SHOWN)	1

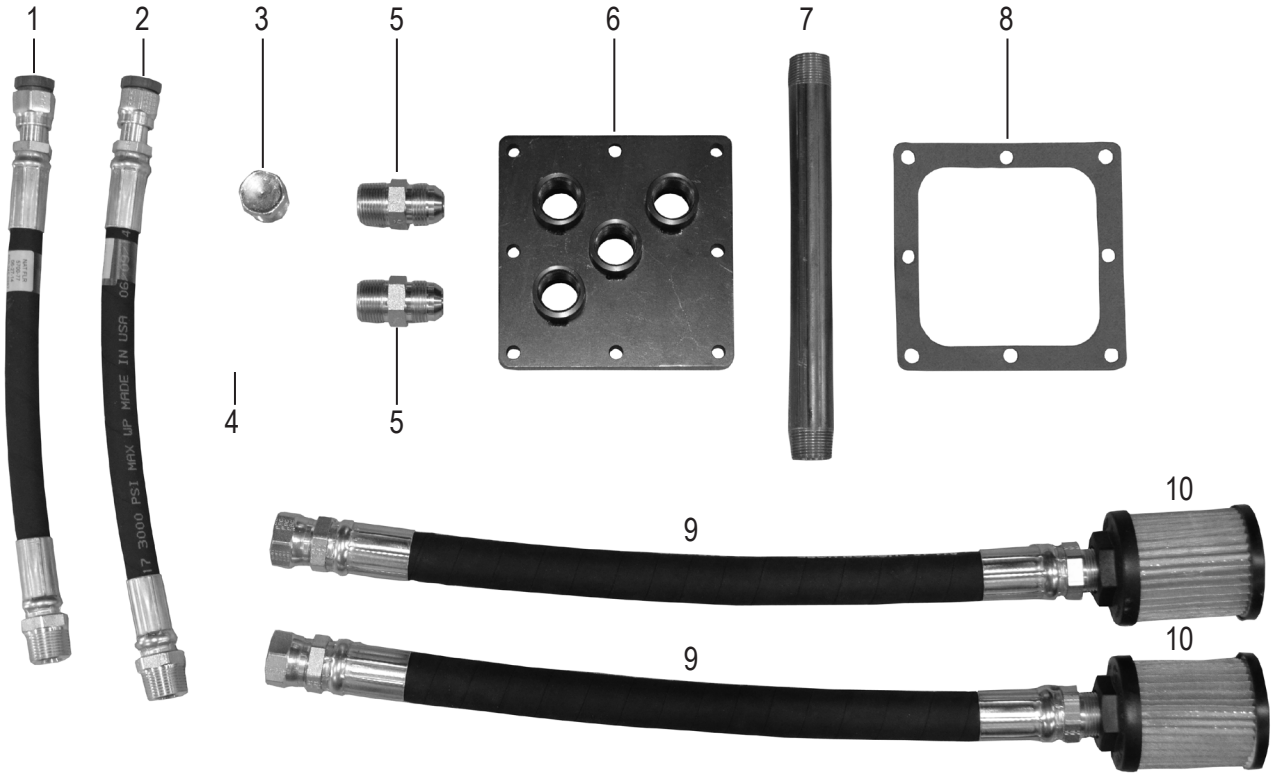
Parts List and Diagrams

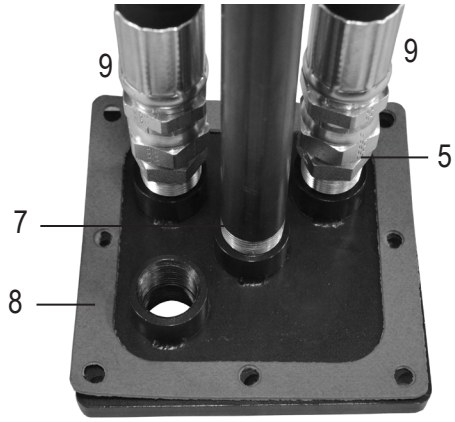
PUMP ASSEMBLY

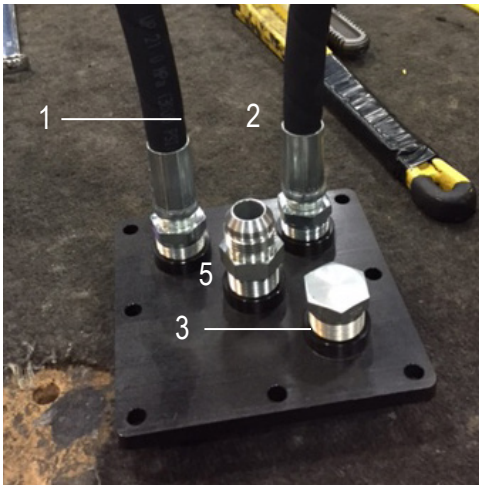


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	73201	Screw, Hex Head Cap, 3/8-16 x 1	12
2	73351	Washer, Flat, 5/16, SAE	4
3	73303	Washer, Split Lock 5/16	4
4	73307	5/16-18 X 1.00 HHCS	4
5	5110-200	5110 Motor Mount	2
6	72366	Motor, 1-1/2HP, 115 Volt, 1725R	2
7	70952	Coupler, Lovejoy, 7/8 Bore, 3/16 x 3/32 Keyway	2
8	70953	Spider	2
9	70951	Coupler, Lovejoy, Splined	2
10	5110-6D	Bracket, Mounting, Pump, 3.08	2
11	6280-113S	Pump, Spline, #4	2
12	6280-118	Fitting, Suction Hose to Pump	2
13	72816	Fitting, Elbow, 90 Deg. 3/8	2

SUCTION ASSEMBLY & FILTER



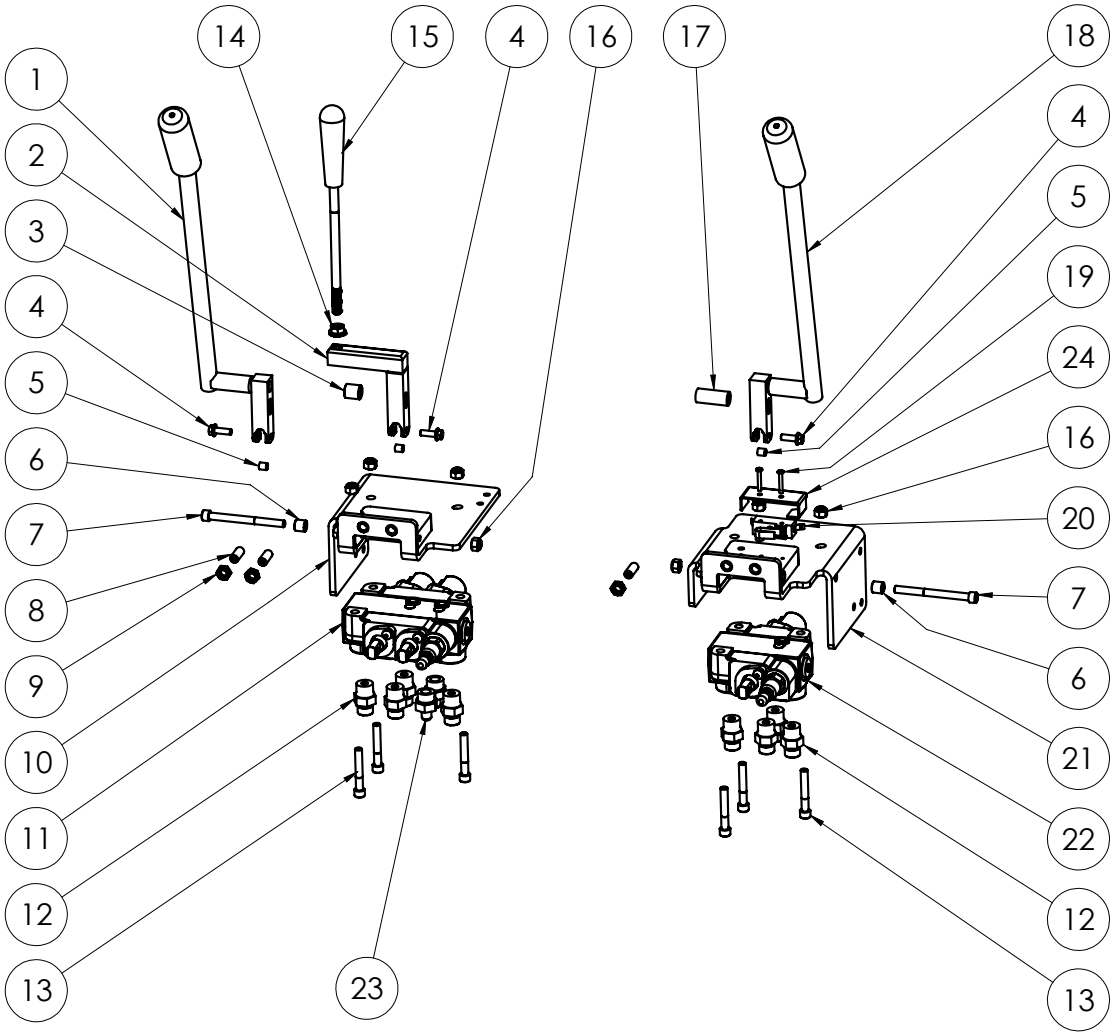




	PART#	DESCRIPTION	QTY		PART#	DESCRIPTION	QTY
1	5700-77	ASSEMBLY, HOSE	1	**10**	5110-237	FILTER, SCREEN	2
2	5700-81	HOSE, SUCTION LINE	1	**11**	73310	SCREW, SHC, 5/16-18 X 7/8	8
3	5700-67	PLUG, TANK	1	**12**	73303	WASHER, SPLIT LOCK, 5/16	8
4	70653	FITTING, 90 DEGREE	1	**13**	5700-65	FILTER	1
5	70652	FITTING	3	**14**	5700-66	HEAD	1
6	401574	PLATE, SUCTION	1	**15**	70612	BRACKET	1
7	70655	PIPE, MALE, 10” X 3/4	1	**16**	5700-64	FITTING, FILTER	1
8	5700-93	GASKET	1				
9	400099	HOSE, SUCTION, 1/2” X 20” W/ FITTING	2				

Parts List and Diagrams

CONTROL LEVER



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	402416	Assembly, Valve Handle, Right	1
2	401797	Bracket, Universal, Lever	1
3	401408	Spacer, Round, .323 X .625 X .675	1
4	73027	Bolt, Wizlock, 1/4-20 X 3/4	3
5	401604	Bushing, Lever, Hydro Valve	3
6	402227	Sleeve, Take-up, Valve Brkt	2
7	73321	Bolt, SHCS, 5/16-18x3.5	2
8	73227	Screw, Set 3/8-24x1	3
9	73235	Nut, Hex Jam 3/8-24	3
10	401796	Bracket Wldt, Valve, RH	1
11	401832	Valve, Metered, Dual Spool, Low PSI	1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
12	400034	Fitting, FF1231-06-08	8
13	73320	Bolt, Socket Head Cap 5/16-18x2	6
14	73211	Nut, Flange, Serrated, 3/8-16	1
15	5700-60	Handle, Valve Adjustment	1
16	73322	Nut, Nyloc, 5/16-18	7
17	401947	Spacer, Round, .323 X .625 X 1.455	1
18	402415	Assembly, Valve Handle, Left	1
19	74517	Screw, PPH-MS, 6-32x1	2
20	403064	Switch, Back-up Beeper	1
21	401795	Bracket Wldt, Valve, LH	1
22	401833	Valve, Metered, Single Spool, Low PSI	1
23	400137	Fitting, 1/2 - 1/4, JIC	2
24	402949	Cover, Switch, Back-Up	1

Warranty

National Flooring Equipment Inc. (referred to as “the Company”) warrants that each new unit manufactured by The Company, to be free from defects in material and workmanship in normal use and service for a period of twelve (12) months from date of shipment from the Company. For administrative ease, will honor warranty for a period of fifteen (15) months from date of shipment from the company. Accessories or equipment furnished and installed on the product by the Company but manufactured by others, including but not limited to: engines, motors, electrical components, transmissions etc., shall carry the accessory manufacturers own warranty. Battery warranties are prorated over the warranty period. Customer is responsible for the inspection of equipment / parts upon delivery. Freight damages reported beyond authorized time frame will not be honored.

The Company, at its determination of defect, will repair or replace any product or part deemed to be defective in material or workmanship within specified warranty time period. All product determinations and / or repairs will take place at the designated Company repair facility, or at a certified warranty location designated by the Company. The Company will coordinate and be responsible for all freight expenses associated with valid warranty claims. Freight and shipping expenses associated with abuse or misuse will be back charged to the Distributor/Customer. The Company reserves the right to modify, alter or improve any part / parts without incurring any obligation to replace any part / parts previously sold without such modified, altered or improved part / parts. In no event shall the seller or manufacturer of the product be liable for special, incidental, or consequential damages, including loss of profits, whether or not caused by or resulting from the negligence of seller and / or the manufacturer of the product unless specifically provided herein. This warranty shall not apply to any products or portions there of which have been subjected to abuse, misuse, improper installation or operation, lack of recommended maintenance, electrical failure or abnormal conditions and to products which have been tampered with, altered, modified, repaired, reworked by anyone not approved or authorized by the Company or used in any manner inconsistent with the provisions of the above or any instructions or specifications provided with or for the product. Any and all unauthorized onsite warranty work conducted by unauthorized personnel or any outside person(s), is not covered by the Company unless the work has been pre-authorized by a predetermined manufacturer representative. This excludes wearable parts and/or consumables.

Defective or failed material or equipment shall be held at the purchaser’s premises until authorization has been granted by the Company to return or dispose of defective products. Products returned for final inspection must be returned with a manufacturer authorized Return Material Authorization (RMA). Any unauthorized return of equipment will be declined at the dock by the Company. Any non-approved items returned with approved returned items are subject to rejection and will not be credited. Credit will be issued for material found to be defective upon the Company’s inspection based on prices at time of purchase.

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: _____

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