



PSZ133KWA

Propane Autoscrubber

Failure to read and understand this manual before operating this machine or performing service on this machine may result in injury to the operator or nearby personnel or result in damage to the machine or nearby property. Each operator must be trained in the operation of this machine before being allowed to use it. Contact Amano Pioneer Eclipse Customer Service at 1-800-367-3550 or 1-336-372-8080 or an authorized Amano Pioneer Eclipse Distributor to inquire about training or to request a replacement manual.

La falta de leer y de entender este manual antes de usar esta máquina o de realizar servicio en esta máquina puede dar lugar a lesión al operador o al personal próximo o a resultado en daño a la máquina o propiedad próxima. Cada operador debe ser entrenado en la operación de esta máquina antes de ser permitido utilizarla. Ponerse en contacto con el servicio de Amano Pioneer Eclipse 1-800-367-3550 o 1-336-372-8080 o un distribuidor autorizado por Amano Pioneer Eclipse para investigar sobre el entrenamiento o para solicitar un manual.

Manquer de lire et de comprendre ce manuel d'utilisation avant l'utilisation de cette machine ou avant faire de maintenance sur la machine peut être résulter en blessure à l'opérateur ou au personnel proche ou peut endommagé la machine ou la propriété proche. Chaque utilisateur doit être entraîné dans l'opération de cette polisseuse avant l'utilisation. Veuillez contacter le service après-vente de Amano Pioneer Eclipse à 1-800-367-3550 ou 1-336-372-8080 et/ou un distributeur de Amano Pioneer Eclipse pour vous renseigner concernant l'entraînement ou pour obtenir un autre manuel.



Pioneer Eclipse®

**FOR YOUR SAFETY IF YOU SMELL GAS:**

1. Open window.
2. Don't touch electrical switches.
3. Extinguish any open flame.
4. Immediately call your gas supplier.

**FOR YOUR SAFETY**

***Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.***

***Record This Important Information***

Date of Purchase \_\_\_\_\_

Purchased From \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_ Contact \_\_\_\_\_

Machine Model \_\_\_\_\_

Machine Serial Number \_\_\_\_\_

Engine Type \_\_\_\_\_

Engine Serial Number \_\_\_\_\_

***Important Phone Numbers***

Medical Emergency \_\_\_\_\_

Police \_\_\_\_\_

Fire Department \_\_\_\_\_

In this Operation Manual you will find three statements that you must read and observe to ensure safe operation of this machine.

**DANGER!** indicates that the possibility of severe bodily injury or death can occur if **DANGER!** statements are ignored. Read and observe all **DANGER!** statements included in the Operation Manual and attached to the machine.

**WARNING!** indicates that the possibility of bodily injury to the operator and other people can occur if **WARNING!** statements are ignored. Read and observe all **WARNING!** statements included in the Operation Manual and attached to the machine.

**CAUTION!** indicates that the possibility of damage to the machine or other property can occur if **CAUTION!** statements are ignored. Read and observe all **CAUTION!** statements included in the Operation Manual and attached to the machine.



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# Safety Precautions

Anyone operating the machine should read the following carefully and be informed of potentially dangerous operating conditions. Operators should be familiar with the location and use of all safety devices on the machine. Do not use the machine if it is not in proper operating condition, and report any damage or operation faults immediately.

**DANGER!** Operate this machine only in a well-ventilated area. It is the responsibility of the machine operator, machine owner, and site manager to ensure that the air exchange system where the machine is to be used is in compliance with local building codes and is operating properly. Failure to operate this machine in a well-ventilated area could lead to sickness, injury or death from carbon monoxide (CO) exposure.

**DANGER!** This machine emits CO which is a colorless, odorless, non-irritating gas. The first symptoms of CO exposure include headache, drowsiness, dizziness and nausea. If you should experience any of these symptoms while operating this machine, shut off the machine and go outside to get fresh air. Have the machine tested for CO emissions by a qualified service technician before using it again.

**DANGER!** Prolonged or high exposure to CO may result in vomiting, confusion, and collapse in addition to loss of consciousness and muscle weakness. If such symptoms occur, call 911 for emergency medical attention. If you have experienced these symptoms, do not operate this machine or any other propane machine again until cleared by a physician. Excessive exposure to CO can result in death.

**DANGER!** Propane is a highly flammable fuel. If you smell propane, shut off the machine immediately and take it outside the building. Do not use the machine again until the propane leak has been corrected by a qualified service technician. Do not use or allow another person to use an ignition source such as a cigarette lighter near the propane machine. Do not smoke near the propane machine. Do not vent a propane cylinder inside a building. Do not store propane cylinders inside a building.

**DANGER!** This machine has parts including the pad/brush assemblies that can cause severe injury if these parts are contacted while they are moving. Do not allow any part of the body or clothing to come in contact with these parts while they are moving. Do not try to change the pads/brushes while the machine is running. Do not allow other people to come near the machine while it is in operation. Do not allow the machine to run unattended. Do not leave the machine in a place where unauthorized or untrained personnel could use the machine. Do not run the machine with the pads/brushes off center, damaged or missing. Do not operate the machine if the machine has loose parts.

**WARNING!** Modifications or alterations to this machine

can lead to personal injury or damage to the machine. Do not make unauthorized modifications or alterations to this machine. Amano Pioneer Eclipse assumes no liabilities for injury or damage resulting from an unauthorized modification or alteration to the machine. Any unauthorized modification or alteration to this machine voids all warranties.

**WARNING!** The muffler and the engine become hot enough while the machine is in operation, and for a long time after the machine is shut off, to cause severe burns. Do not touch these parts of the machine until they have cooled.

**WARNING!** Injury can occur to the eyes and body while using the machine. Safety goggles, safety shoes, and safety clothing are recommended while operating the machine.

**WARNING!** Continuous exposure to high noise levels can cause hearing loss. Hearing protection is recommended while the machine is in operation.

**WARNING!** Machine vibration may cause tingling or numbness in the fingers or hands. Gloves are recommended to reduce machine vibration. If tingling or numbness persists, shut off the machine. If the vibration is caused by loose parts such as an off center pad/brush, adjust or tighten these parts before using the machine again.

**WARNING!** Flammable materials can cause an explosion or fire. Do not use flammable materials in tanks.

**WARNING!** Flammable materials or reactive metals can cause an explosion or fire. Do not pick up.

**CAUTION!** Overfilled cylinders can damage fuel regulators. Do not overfill the cylinder. If the regulator freezes, stop the burnisher and carry the propane cylinder outside the building.

**CAUTION!** Overheating can be caused by a dirty engine filter.

**CAUTION!** Overheating can be caused by insufficient or low oil. Check oil before each use, and fill or change as needed.

**CAUTION!** Never over-fill with oil. Over-filling could cause irreparable damage to the engine.

**CAUTION!** Overheating can be caused by dirty oil. Check oil before each use and change regularly following recommended maintenance schedule.

**CAUTION!** Do not engage starter for more than 10 seconds. Allow a 60 second cool-down period for second failed start-up attempt.

**CAUTION!** Perform all recommended scheduled maintenance. Regular maintenance of your propane powered floor machine is necessary to keep it in safe working condition.

**CAUTION!** Do not operate machine unless trained and authorized. Do not operate machine unless you have read and understand the operation manual. Do not operate machine in flammable or explosive areas.

**CAUTION!** Before starting machine ensure all safety devices are in place and functioning properly. Before starting machine check for proper operation.

**CAUTION!** When using machine, go slowly on inclines or slippery surfaces. Use care when operating machine in reverse. Follow all manufacturers instructions on chemical product containers when handling, mixing, or using chemical products.

**CAUTION!** When servicing machine, stay clear of moving parts. Do not wear loose clothing when working on machine. Block machine wheels before raising or jacking up machine. Use hoist stands that will support the weight of the machine. Empty tanks before jacking up or raising machine. Wear eye and ear protection when using pressurized air or water. Disconnect battery connections before servicing machine. Use only replacement parts supplied by Amano Pioneer Eclipse or a Amano Pioneer Eclipse Authorized Distributor or Service Center.

**CAUTION!** When loading or unloading machine onto or off a truck or trailer, turn machine OFF. Only use a truck or trailer that will support the weight of the machine to transport. Do not push the machine onto or off a truck or trailer unless the load height is 15 in (380mm) or less from the ground. Use a winch. Block machine wheels when transporting. Tie the machine down securely to truck or trailer when transporting. Empty tanks before transporting.

## ***This machine is manufactured for commercial use only.***

This machine is designed and manufactured for indoor use in scrubbing dirt and dust from hard floor surfaces. Amano Pioneer Eclipse does not recommend use of this machine in any environment other than an indoor environment.

Propane powered floor equipment is designed and manufactured for commercial floor cleaning only. These machines are designed to clean most modern types of floors including composition tile, stone, marble, terrazzo, and resilient floor covering, and some coated wood floors.

Even though NFPA 58 8-4.5 says ..."these machines shall be permitted to be used in buildings frequented by the public, including the times when such buildings are occupied by the public," Amano Pioneer Eclipse suggests usage when occupancy of a given work area is minimal.

## ***These machines should not be used:***

- in nursing homes, hospitals, day-care centers, etc.
- by unqualified or untrained personnel.
- unless properly maintained and adjusted.
- on areas with obstructions such as thresholds, floor outlet boxes, etc.
- in areas where loose tile or other objects are present.
- in rooms without proper ventilation.

## ***Refueling and Storage of Fuel Cylinders***

Amano Pioneer Eclipse uses the 20 lb. capacity aluminum or steel Safe-Fill® cylinder which meets the DOT 4E240 standards. These cylinders are also listed by UL. Filling should be done **ONLY** by a qualified propane dealer. **FILL THROUGH THE SERVICE VALVE ONLY.** A properly filled cylinder should not exceed 80% of the rated capacity.

**DO NOT** attempt Safe-Fill cylinder repair. Return the cylinder to your propane dealer if repair is necessary. Please note that DOT regulations prohibit shipping of cylinders after the cylinder has been filled with propane.

When not in use, cylinders always should be stored outside in an upright position in a secure, tamper-proof, steel mesh storage cabinet. This cabinet may be located next to the building but with at least five feet (1.5 m) of space between the cabinet and the nearest building opening (door or window).

The National Fire Protection Association (NFPA) Standard for Storage and Handling of LP Gas is the appropriate authority for safe propane use. A copy of this publication is available through the National Fire Protection Association in Quincy, MA (1-800-344-3555).

## ***Canadian Safety Regulations***

1. A sign indicating "NO SMOKING" shall be permanently displayed at the storage area. The sign shall be in accordance with the sign required in Clause 10.12.3 of CAN/CGA-B149.2-M91, Propane Installation Code.
2. When the cylinder is attached to the floor maintenance machine for use, the operator shall not leave the unit unattended except for short periods of time such as rest stops, washroom or meal stops.
3. The requirements of 1.10.1 (e) and (g) do not apply in industrial buildings.
4. A floor maintenance machine shall only be used in buildings:
  - a) provided with continuous mechanical ventilation that removes the products of combustion to the outdoors of not less than 300 CFM for each 10,000 Btu-hr input or fraction thereof.
  - b) provided with natural ventilation of not less than 300 CFM for each 10,000 Btu-hr input or fraction thereof, based on a maximum of one quarter air exchange per hour for the net building volume.
5. The owner of a floor maintenance machine shall ensure



that the operator has participated in a course authorized by the manufacturer of the unit on the safe handling of propane and the safe operation of the machine.

6. The owner of a floor maintenance machine shall ensure that the unit is maintained in accordance with the manufacturer's recommended maintenance procedures in a safe operating condition and the owner shall maintain a record of the maintenance for a period of two years.
7. Before transporting a floor maintenance machine, the cylinder shall be securely fastened with the system valve closed, and the cylinder shall be located in a well ventilated space.

## ***Operator Responsibility***

The operator is responsible for performing the recommended daily maintenance and checkups of the machine to keep it in good working condition. The operator must inform the service mechanic or supervisor when recommended maintenance procedures are required as proscribed in the MAINTENANCE section of this manual.

**Read this manual carefully before operation this machine.**

**FOR SAFETY:** Do not operate machine before reading and understanding the operation manual.

Check the machine for shipping damage.

Keep your machine regularly maintained by following the maintenance information in this manual. We recommend taking advantage of a service contract from your Amano Pioneer Eclipse Authorized Distributor or Service Center.

Order parts and supplies only from an Authorized Amano Pioneer Eclipse Distributor. Use the parts illustration section of your manual when ordering parts.

During and after operation, perform the recommended daily and hourly procedures outlined in the ***Maintenance Chart***.

## ***Test for Operator-Ear Sound Pressure Level***

Amano Pioneer Eclipse measures and rates the operator-ear sound pressure level for hand-guided floor treatment and floor cleaning machines for industrial use. All tests are performed in accordance with European Machinery Directive (98/37/EC).

- Outdoor test area consists of a flat open space free from effects of signboards, buildings or hillsides for at least 15m (50 ft) from the center of the test surface. Indoor tests are conducted in a semi-anechoic or sound deadening room.
- The test surface is a single sheet of floor covering at least 1 m (3.3 ft) wider and longer than the equipment being tested. In order to not affect the sound reading, the observer taking readings is at least 2 m (6.6 ft.) from the equipment being tested, or standing directly behind the operator.
- All machines are tested while stationary and centered on the test surface. With the traction drive in neutral (where applicable) the test is conducted with the machine at maximum engine or motor speed as specified by the manufacturer.
- The operator is located in the normal operating position with the microphone or meter supported independent of the machine, 1,68 m (66 in) above the test surface, 25 cm (10 in) to the right and left centerline of the operators position, and 20 cm (8 in) to the rearmost point of the handle, with the handle in the most forward position.
- The sound level meter is observed for a minimum of 5 seconds or until a stabilized reading is obtained. The maximum repeatable sound level observed during the test at each microphone position is recorded and documented.

## ***Test for Hand-Arm Vibration at the Grip Surface of Hand-Guided Machinery***

Amano Pioneer Eclipse measures and rates the vibration at the machine-hand contact surface of hand-guided machines that are provided with handles in accordance with European Machinery Directive (98/37/EC).

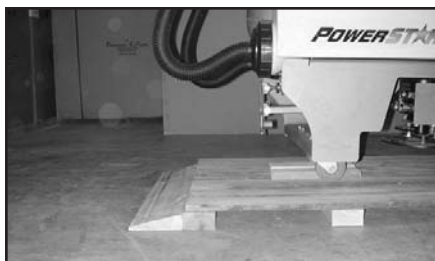
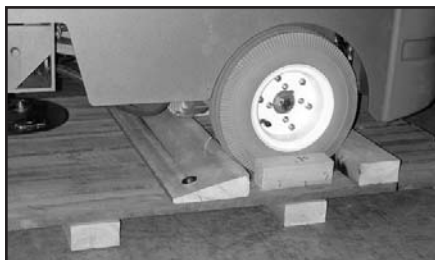
- The Test area consists of a flat open floor area that allows the machine to be operated normally.
- The transducer is mounted firmly at a point halfway along the length of the handle where the handle would normally be held.
- Machines are tested while stationary, with all mechanisms necessary for the equipment to perform its intended functions engaged and the traction drive in neutral (if applicable). The machine will be tested at maximum engine or motor speed as specified by the manufacturer of the subject machine.
- The measurements are recorded from the dominant axis.

# Machine Preparation

## Unpacking the Machine

The machine is shipped boxed on a wooden pallet. To unpack machine:

1. Cut and remove black bands holding the box to the pallet.
  2. Remove staples attaching the box to the platform at the bottom edge of the box.
  3. With two people, one at either end of box, lift box straight up and off machine.
  4. Remove loose accessories from the top of machine.
  5. Cut and remove the two sets of bands across the top of the machine.
  6. Open the engine cover by unfastening the two black latches on the top of machine and tilting the body forward to expose the engine compartment.
  7. Cut and remove the bands between the hydraulic tank and engine.
  8. Remove all accessories on and under machine, and set aside. Attach solution and recovery hoses to side of machine. Remove squeegee (unattached) from palette and set aside.
  9. Using a 7/16 wrench or socket, or adjustable wrench, remove the two lag screws attaching the central wheel block to the pallet.
  10. Move the block to the back of the pallet and place on the floor, aligned to form a ramp for the machine.
  11. Connect the battery. Sight-check coolant and hydraulic levels. See page 6.
- NOTE:** If the machine was shipped by air freight, add engine oil.
12. Close engine cover.
  13. The Safe-Fil cylinder shipped with the machine is empty. Attach a filled cylinder to the machine.
  14. Start the machine, and pull back on the drive bar slowly to propel the machine in reverse off the pallet.



## Checking the Oil Level

Machines shipped by overland freight are shipped with the correct amount of oil in the engine. Air freight shipments require the machine to be shipped empty of oil and will include a separate container of oil to fill the machine.

**ALWAYS CHECK OIL BEFORE USING THE MACHINE. USE ONLY SPECIFIED KAWASAKI BRAND OIL IN THE MACHINE.**

Make sure the machine is level when checking oil. When filling a "dry" scrubber with oil or changing the oil, add 3.8 U.S. pints (1.8 liters) if the oil filter is replaced or 3.17 U.S. pints (1.5 liters) if the oil filter is not changed.

## Oil Level Inspection

1. Place the machine on a level surface and check the oil level.
2. Clean the area around the dipstick before removing it.
3. Remove the dipstick and wipe it with a clean cloth.
4. Insert the dipstick into the filler tube but do not screw it in, then check the oil level.
5. The oil level should be between the "FULL" and "ADD" marks on the dipstick.
6. If the oil level is near or below the "ADD" mark, remove the oil filler cap and add enough engine oil to bring oil level to the "FULL" mark.
7. If the oil level is too high, remove the excess oil through the oil drain hose.



**CAUTION:** Do not fill above the "FULL" mark. Excess oil will cause a smoking condition, and may cause the engine to overheat.



## Checking the Coolant Level

1. Place the machine on a level surface.
2. Remove the radiator cap by turning it counterclockwise and check the coolant level in the radiator.
3. Coolant level must be maintained to the first step (pressure cap sealing seat) of the filler neck.
4. If the amount of coolant is insufficient, fill the radiator to the bottom of the radiator filler neck with coolant, and reinstall the cap by turning it clockwise.

**CAUTION:** For refilling, add a 1:1 mixture of coolant and soft water. Adding water alone dilutes the coolant and may result in corrosion of the aluminum engine parts. The diluted coolant can attack the aluminum engine parts. In an emergency, soft water can be added. However, the diluted coolant must be returned to the correct mixture ratio within a few days.

**CAUTION:** Soft or distilled water must be used with the antifreeze in the cooling system. Use a 1:1 mixture of soft water and coolant. If hard water is used in the system, it causes scales accumulation in the water passages, and considerably reduces the efficiency of the cooling system.

If coolant must be added often, there is probably leakage in the cooling system. Check the system for leaks (see "Visual Leak Inspection" in the engine service manual).

## Connecting the Battery

The machine is shipped with the battery disconnected.

1. Connect the positive (RED) battery cable FIRST.
2. Connect the negative (BLACK) battery cable LAST.

## Filling the Safe-Fill Fuel Cylinder

Amano Pioneer Eclipse uses the 20 lb. capacity aluminum Safe-Fill cylinder which meets the D.O.T. 4E240 standards. These cylinders are also listed by UL. Filling should be done **ONLY** by a qualified propane dealer. A properly filled cylinder should not exceed 80% of the rated capacity.

DO NOT attempt Safe-Fill cylinder repair. Return the cylinder to your propane dealer if repair is necessary. Please note that DOT regulations prohibit shipping of cylinders after the cylinder has been filled with propane.

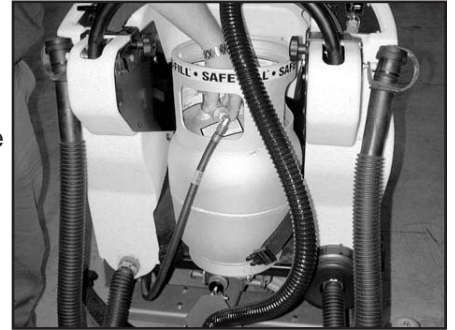
## Installing the Safe-Fill Fuel Cylinder

Place the Safe-Fill cylinder on the cylinder platform at the back of the machine. Connect the fuel hose coupling to the service valve by turning to the right (clockwise).

**HAND TIGHTEN ONLY.** Make sure

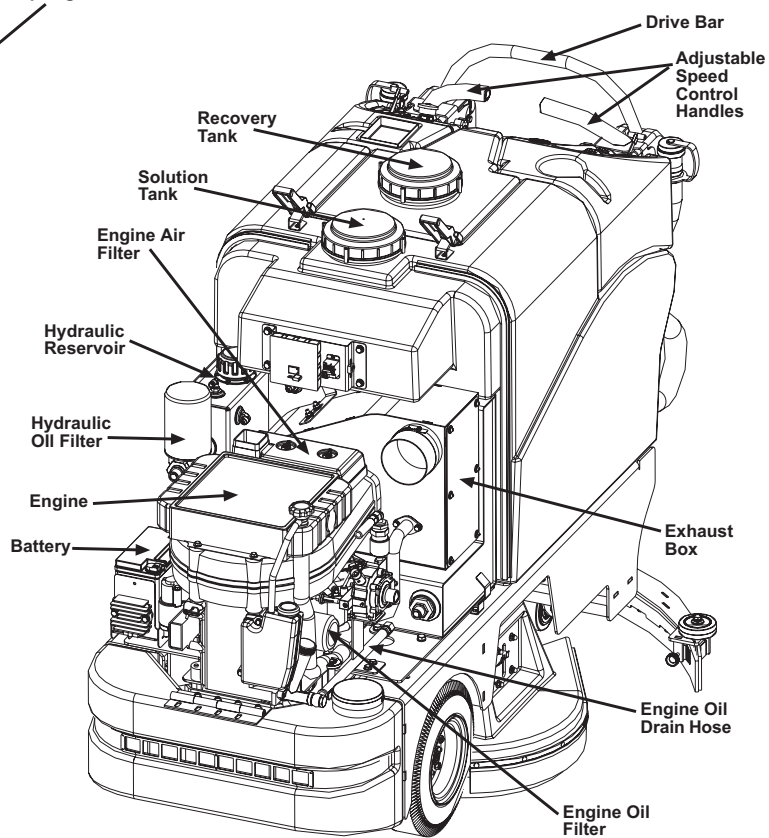
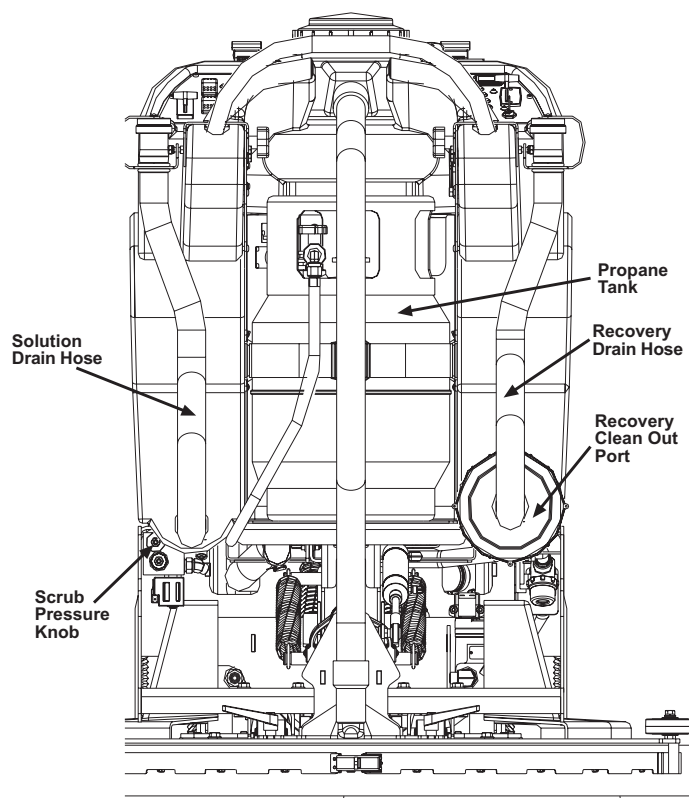
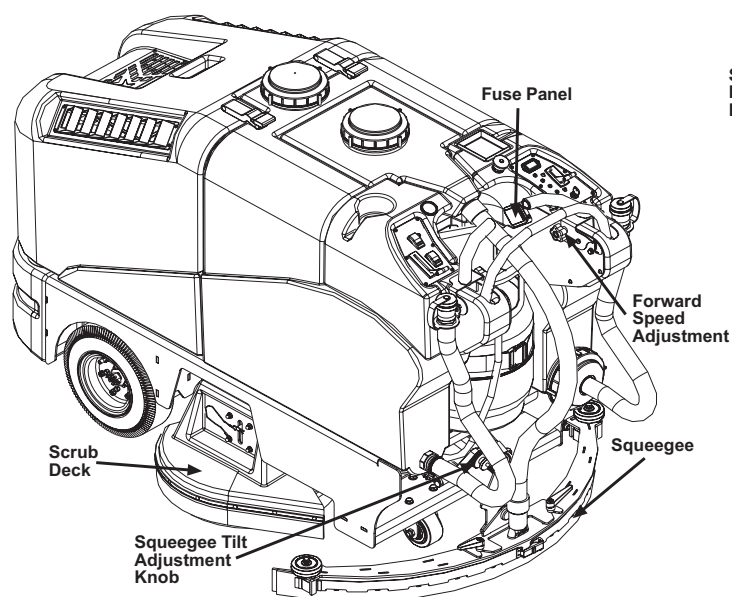
coupling is not cross threaded and check for leakage by noting any propane odors immediately after cylinder is connected. Next, connect the two ends of the tank strap to one another and secure strap end to the velcro.

**TO REMOVE THE SAFE-FILL CYLINDER,** reverse the above procedure. Always connect or change cylinders in a well ventilated area.

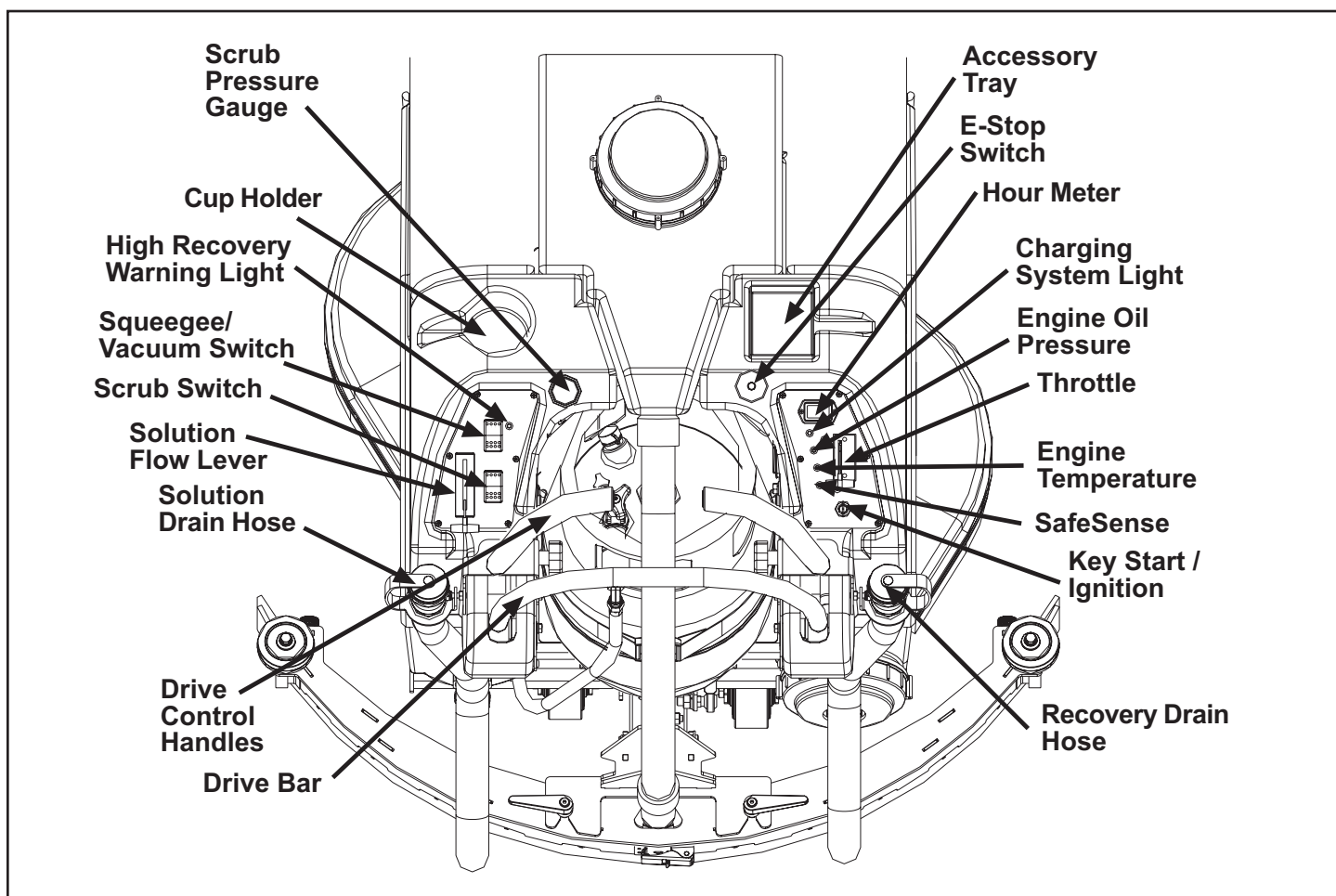


# Machine Operation

## Machine Components



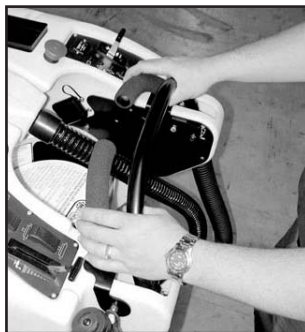
## Controls and Instruments



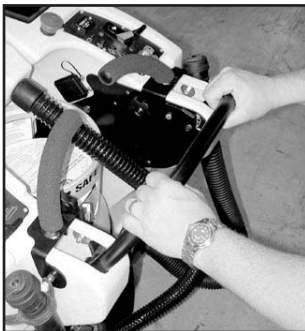
### Drive Control Handles

The Drive Control Handles and Drive Bar control machine speed and direction.

**Forward:** Push the drive bar forward. The further you push the bar forward, the faster the machine will go.

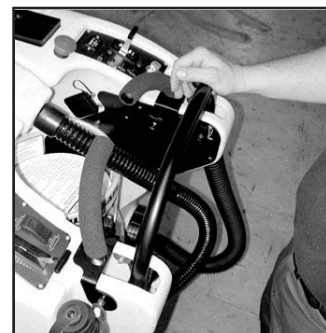


**Reverse:** Pull the drive bar back toward you.



**Turning:** Ease back on the drive bar and push the machine in the direction of the turn holding the rigid handle grips firmly.

**Stop:** Release the drive bar. The machine will automatically brake to a stop.



### Adjusting Forward Speed

The angle of the handle grips can be adjusted to limit the maximum forward speed. To reduce the maximum speed, loosen the handle grip adjustment knobs and reposition the handle grips, then retighten the adjustment knobs. This adjustment limits the movement of the drive bar and allows for more comfortable operation at slower speeds.





## Engine Ignition Switch

The PowerStar features a keyswitch ignition.

**Start:** Turn the key all the way to the right to engage the engine starter motor. Release the key when the engine starts.

**Off:** Turn the key to the left or OFF position.

**NOTE:** Start the engine with the throttle in the IDLE position and return the throttle to the idle position before stopping the engine.



## Engine Throttle

The engine throttle lever controls the engine speed. For operation, push the lever all the way forward. Pull the lever back for idle position.

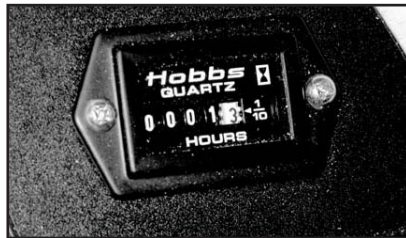
**BEST PRACTICE:** While scrubbing, the throttle should be placed in the FULL position.

Move the throttle to the IDLE position when starting or stopping the engine.



## Hour Meter

The hour meter records the number of hours the machine has been powered ON. The hour meter reading is used to mark recommended maintenance intervals and is useful when servicing the machine.



## E-Stop Switch

The emergency stop switch is provided for added safety. Press the RED knob to stop the engine.



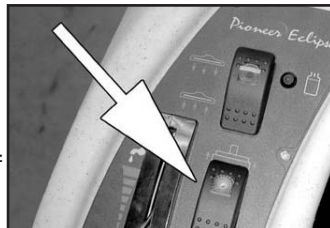
## Scrub Switch

The scrub switch controls the scrubbing operation.

**Lower brushes and start scrubbing:** Press the top of the switch.

**Raise brushes and stop scrubbing:** Press the bottom of the switch.

**NOTE:** The scrub brushes will not begin to turn until the drive handle is engaged by pushing forward or pulling backward.



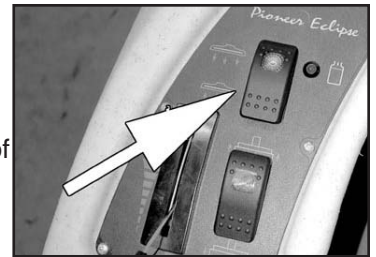
## Squeegee/Vacuum Switch

The squeegee switch controls the squeegee and the vacuum system.

**Lower squeegee and start vacuum:** Press the top of the switch.

**Raise squeegee and stop vacuum:** Press the bottom of the switch.

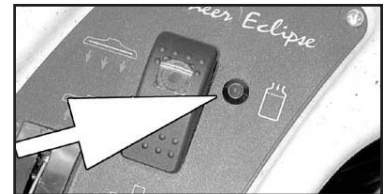
**NOTE:** The squeegee will raise automatically when the machine is placed in reverse. The squeegee will lower again when the drive bar is engaged and the machine begins to move forward.



## High Recovery Warning Light

The high recovery warning light alerts the operator when the recovery tank is full. When the red light illuminates, the tank is full of recovered solution and must be emptied before proceeding.

**NOTE:** If the High Recovery Warning Light remains lit for 60 seconds, the vacuum system will shut off automatically.



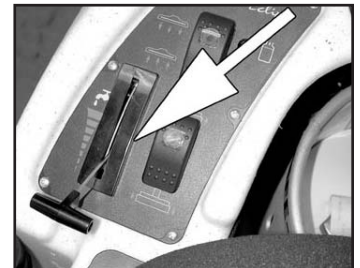
## Solution Flow Lever

The solution flow lever controls the volume of solution flow to the floor.

**Increase:** Push the lever forward.

**Decrease:** Pull the lever backward.

**NOTE:** A solenoid valve dispenses the solution to the scrub head. The valve opens when the Scrub Switch is on and the Drive Bar is engaged in forward or reverse. The solenoid closes automatically and stops solution flow after a 2 second delay if the machine is not moving.



## Scrub Pressure Gauge

The scrub pressure gauge indicates the hydraulic down pressure applied to the scrub deck. For normal scrubbing, the indicator should be in the green shaded positions. For very aggressive scrubbing or stripping, the indicator should be in the orange shaded positions.



## Scrub Pressure Adjustment Knob

The scrub pressure adjustment knob is located under the solution tank drain.

The scrub pressure adjustment knob increases or decreases the hydraulic pressure to the scrub deck cylinder as reflected by the pressure gauge reading.

**Increase Scrub Down Pressure:** Rotate the knob clockwise.

**Decrease Scrub Down Pressure:** Rotate the knob counterclockwise.

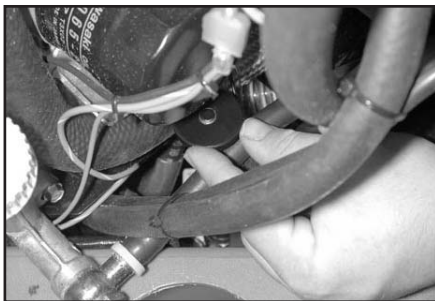
## Brake Adjustment/Release Knob

This machine is equipped with dynamic braking in the hydraulic propel circuit. The amount of braking or deceleration of the unit is adjustable. The braking action can also be disengaged when the machine needs to be pushed or towed.

**Increase braking:** Rotate the knob counterclockwise.

**Decrease braking:** Rotate the knob clockwise.

**Release brake:** Continue to rotate knob clockwise until machine can be pushed freely.



## Fuse Panel

The machine's electrical circuit is protected by fuses which stop the flow of current in the event of a circuit overload. Once a fuse blows, it must be replaced. If the overload that caused the fuse to fail is still present, the new fuse will fail and the problem must be corrected.

The fuse panel is located to the right and above the LP fuel tank.

Refer to the chart below to identify fuse locations and the electrical components they protect.



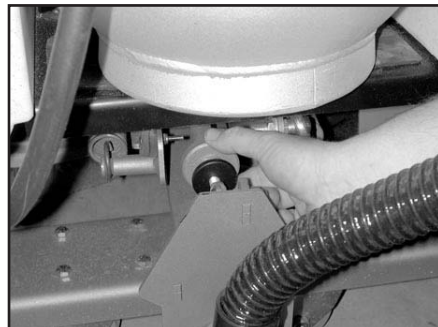
## Squeegee Deflection Adjustment

The top link of the squeegee mechanism can be lengthened or shortened to adjust the squeegee deflection along the length of the squeegee.

**Increase deflection:**

Loosen jam knob and rotate the link clockwise.

**Decrease deflection:** Loosen jam knob and rotate the link counterclockwise.



## Fuse Location and Protection

<u>Fuse</u>	<u>Rating</u>	<u>Protects</u>
1	7.5 amp	Scrub Head
2	7.5 amp	Vacuum
3	7.5 amp	Forward/Reverse
4	7.5 amp	Float Switch/Recovery Shutdown
5	7.5 amp	EcoSense Emission System



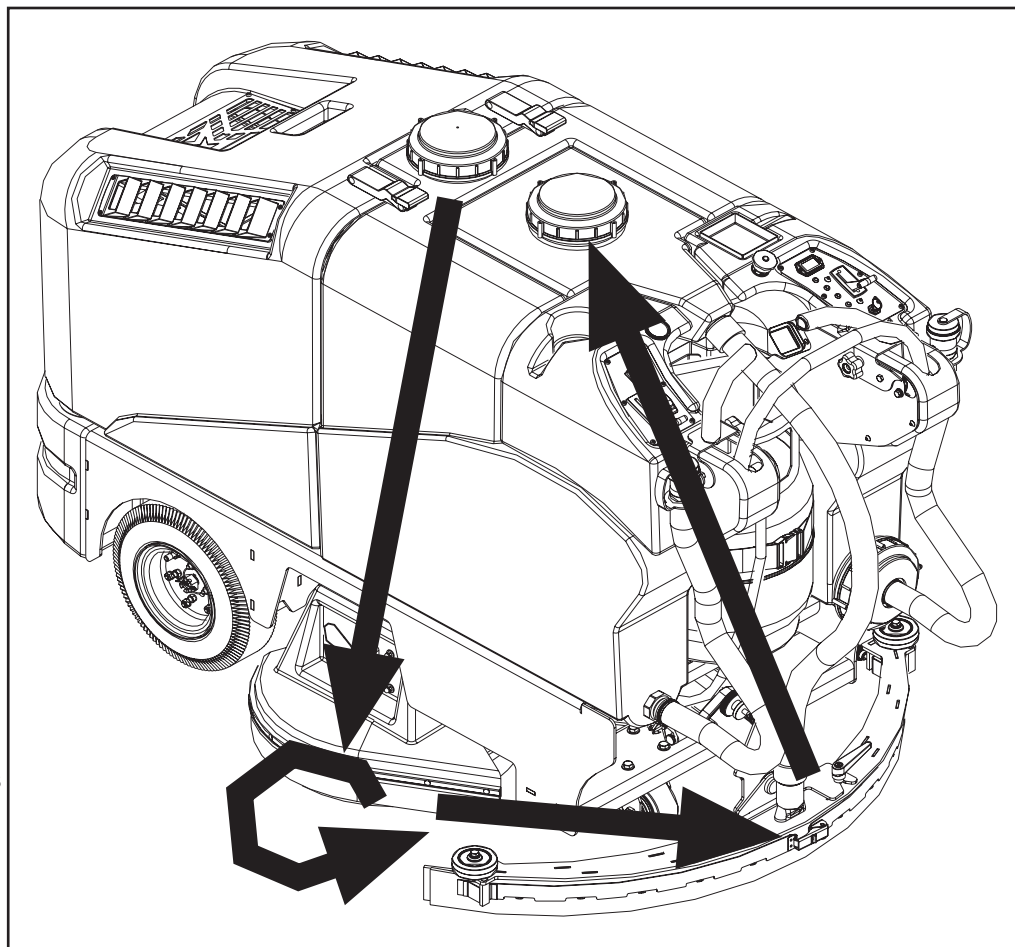
## How the Machine Works

The scrub components of the machine are:

- solution tank
- scrub brushes or pads
- squeegee
- vacuum fan
- recovery tank

Chemical product and water are mixed or dispensed into the solution tank. From the solution tank the cleaning solution flows through a solution valve to the scrub brushes or pads. The brushes or pads distribute solution and scrub the floor. As the machine moves forward, the squeegee catches the dirty solution, which is then vacuumed up and drawn into the recovery tank.

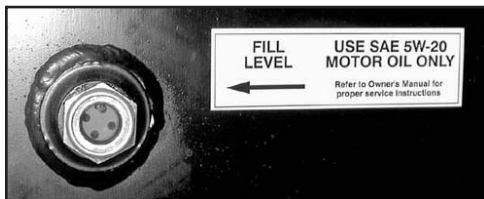
The Drive Bar and Control Handles control the direction and speed of the machine in forward or reverse. Push the drive bar forward to propel the machine forward. Pull back on the handle to propel the machine in reverse.



## Pre-Operation Checklist

Before operating the machine:

- Check the engine oil level. Add oil if needed. Refer to *Machine Preparation*.
- Check the engine coolant level. Add coolant if needed. Refer to *Machine Preparation*.
- Check the engine air filter. Clean or replace if needed.
- Check the Hydraulic Reservoir Sight Gauge to make sure enough oil is in the reservoir. Refer to *Hydraulic System*.



- Inspect the screen over the engine radiator and clean off any debris or dust buildup.



- Check under the machine for leaks.



- Check the squeegee for proper deflection. Check the squeegee blade for wear, rounded edges, nicks, or cuts.



- Check the condition of the scrubbing pads or brushes. Make sure they are mounted correctly to the brush driver.



## Safe-Fill Fuel Cylinder

Amano Pioneer Eclipse uses the 20 lb. Capacity Safe-Fill cylinder that meets US DOT 4E240 standards. These cylinders are also listed by UL. ONLY a qualified propane dealer should fill a propane cylinder. A properly filled cylinder should not exceed 80% of the rated capacity.

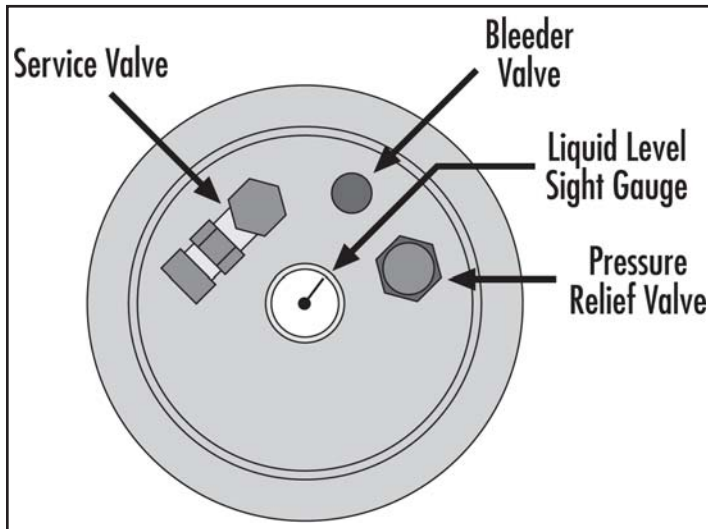
### Installing the Safe-Fill Fuel Cylinder

Place the Safe-Fill cylinder on the cylinder platform at the back of the machine. Connect the fuel hose coupling to the service valve by turning to the right (clockwise). **HAND TIGHTEN ONLY.** Make sure the coupling is not cross-threaded and check for leakage by noting any propane odors immediately after cylinder is connected.



**NOTE:** Always connect or change cylinders in a well-ventilated area.

### Safe-Fill Cylinder Head Layout



## Starting the Machine

1. Complete your pre-operation check.
2. Turn propane service valve counter-clockwise to open.

**NOTE:** ALWAYS OPEN THE SERVICE VALVE SLOWLY TO ALLOW PRESSURE TO EQUALIZE IN THE HOSES. OPENING THE SERVICE VALVE TOO QUICKLY MAY CAUSE THE FLOW CHECK VALVE TO ENGAGE, LIMITING FUEL FLOW.

3. With the engine throttle lever in the idle position, engage the starter by turning the keyswitch to the starting position for approximately 5 seconds. If the engine does not start, release the key switch for 10 seconds, then try again for another 5 seconds.



4. After the engine has started, move the throttle forward approximately halfway and allow the engine to warm up for 30 seconds. For optimum performance when working, operate the machine at the full throttle position.

**NOTE:** This machine is equipped with the EcoSense emission monitoring system and catalytic muffler. The EcoSense light will NOT be illuminated as long as the machine is running safely.

If the carbon monoxide levels exceed a pre-set service level, the RED LED service light will start flashing. The machine will shut down after the RED light has flashed continuously for one minute.

**WARNING!** Catalytic mufflers require a few minutes to warm up before effectively removing harmful emissions. Make sure of proper ventilation during this warm-up period!

## Filling the Solution Tank

1. Start the machine and move to the dispenser station or other filling site.
2. Put the throttle in the idle position and turn the unit off by turning the key-switch off.

3. Open the solution tank cover and fill from a dispenser with cleaning solution. If hand-mixing chemical products, fill approximately 80% of the solution tank with water. Pour the required amount of cleaning chemical product into the solution tank fill opening. Continue filling the solution tank to 1 inch (25 mm) below the bottom of the solution fill opening.



**NOTE:** Always read and follow manufacturers label instructions for use and handling of chemical products.

**NOTE:** Floor condition, water condition, amount of soilage, types of soilage, and pad/brush action all play an important role in determining the type and dilution ratio of cleaning chemical product. For specific recommendations, contact your Amano Pioneer Eclipse Authorized Distributor.

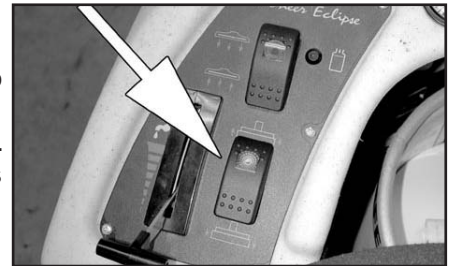
**WARNING:** Flammable materials can cause an explosion or fire. Do not use flammable materials in tanks.

## Normal Scrubbing

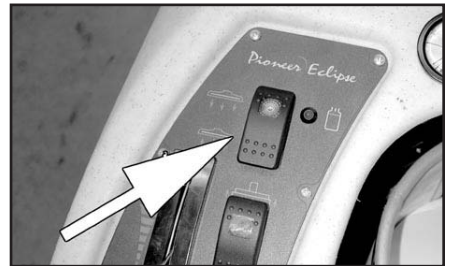
- Pick up trash and oversized debris before scrubbing. Pick up pieces of wire, string, etc., which could become wrapped around the scrub brush and damage the machine.
- Plan the scrubbing in advance. Try to arrange long runs with minimum stopping and starting. Do an entire floor or section at one time.
- Try to scrub as straight a path as possible. Avoid bumping into posts or scraping the sides of the machine. When scrubbing dead end aisles, start at the closed end of the aisle and scrub your way out. Overlap the scrub paths by a few inches (centimeters).
- If you experience unacceptable scrubbing performance, stop scrubbing and refer to **Machine Troubleshooting**.

1. Start the machine and drive to the area to be scrubbed.

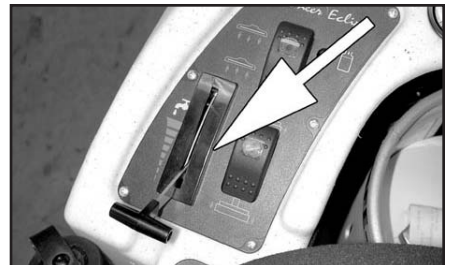
2. Press the top of the scrub switch to activate the scrubbing function. The scrub brushes will lower and turn on automatically when the machine moves.



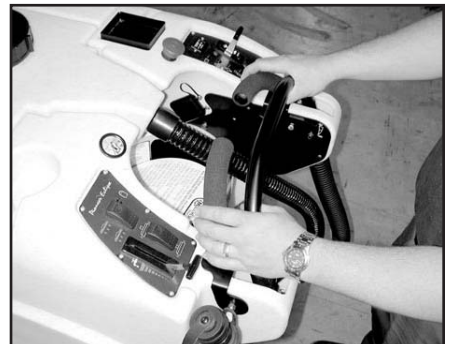
3. Press the top of the vacuum switch. The squeegee automatically lowers and the vacuum system turns on.



4. Adjust the solution flow to the floor as needed.



5. Push the drive bar forward to drive the machine forward and scrub as required.



**WARNING:** Flammable materials or reactive metals can cause an explosion or fire. Do not pickup.



## Double Scrubbing

Double scrubbing is a method for removing heavy floor accumulations. Double scrubbing is most often used during a Scrub & Recoat procedure or on floors which are heavily soiled due to inclement weather. Double scrubbing is performed by making two or more passes over the area to be cleaned with the machine.

1. First, make a pass over the area scrubbing (brushes ON) with the squeegee up (vacuum OFF). This dispenses the solution over the area and allows the solution to soak on the floor.

**CAUTION!** Move slowly on inclines and slippery surfaces.

2. Turn ON the vacuum system. The squeegee will lower to the floor and begin picking up dirty solution.
3. Make a final pass scrubbing with the squeegee down.

## Stop Scrubbing

1. Release the drive bar.
2. Press the bottom of the scrub switch to stop scrubbing and raise the scrub brushes.
3. Propel the machine forward to pick up any solution left on the floor.
4. Press the bottom of the squeegee switch to stop the vacuum and raise the squeegee.

## Draining & Cleaning the Tanks

When you are finished scrubbing, the solution and recovery tanks should be drained and cleaned. When the recovery full light illuminates signaling a full recovery tank, the recovery tank should be drained and cleaned. The solution tank then can be filled again for additional scrubbing.

1. Stop scrubbing. See **Stop Scrubbing**.
2. Drive the machine to the designated drain and refill area.
3. Turn the unit off.

**CAUTION!** Before leaving the machine unattended or servicing machine, stop on a level surface, and turn off machine.

4. Remove the recovery tank drain hose from the mounting clip.



5. Remove the recovery tank drain hose plug while holding the hose up above the top of the machine, then slowly lower the drain hose to the floor drain or sink.



6. Check the solution tank, and empty any remaining solution with the solution tank drain hose. Rinse the solution tank.

7. Remove the recovery tank lid and demisting filter



8. Rinse off the demisting filter.

9. Remove the cleanout port from the back of the recovery tank.



10. Flush out the inside of the recovery tank with clean water.



**NOTE:** DO NOT use steam to clean the tank. Excessive heat can damage the tanks and components.

**NOTE:** When flushing the recovery tank with clean water, avoid getting water in the vacuum intake tube.

**TIP:** Remove the vacuum hose from the squeegee tool and install it over the intake tube to cover it while cleaning.



11. When the recovery and solution tanks have completely drained, replace the demisting filter and recovery tank cap. Replace the clean-out port cap. Replace the drain hose caps and secure the drain hoses on the mounting clips.

## Operation on Inclines

Drive the machine slowly on inclines.

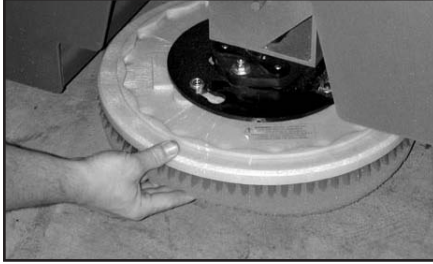
**CAUTION!** When using the machine, go slowly on inclines and slippery surfaces.

The maximum rated climb and descent incline is 8°.

## Post Operation Checklist

Turn the machine OFF and perform the following checks:

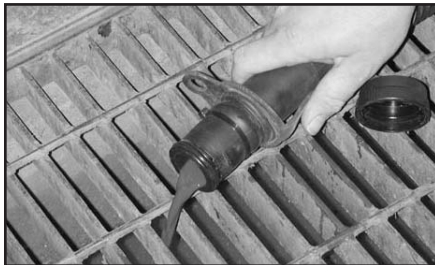
- Check for wire, string, or twine wrapped around the scrub brushes or pads.



- Check the squeegee for wear or damage.



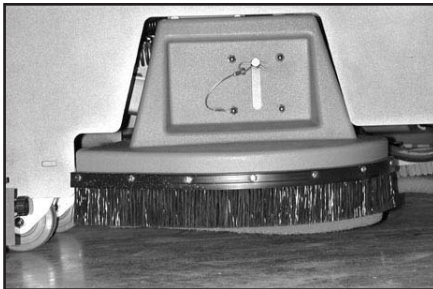
- Drain and clean the tanks.



- Check the vacuum hoses for obstructions.



- Check for any machine leaks.





## Machine Troubleshooting

Problem	Possible Cause	Remedy
Machine trails water during scrubbing; has poor or no water pickup	Worn squeegee blades	Rotate or replace squeegee blades
	Squeegee out of adjustment	Adjust squeegee
	Vacuum hose blocked	Flush vacuum hoses
	Demisting screen dirty/blocked	Clean demisting screen
	Squeegee dirty/blocked	Clean squeegee; remove debris
	Vacuum hose damaged/disconnected	Reconnect vacuum hose at squeegee and recovery tank; replace hose
Vacuum fan does not activate	Recovery tank full	Empty and rinse recovery tank
	Recovery tank filled with foam	Empty and rinse recovery tank; use proper dilution; change chemical product; add a defoamer
	Vacuum fan fuse blown	Replace fuse
Solution flow inadequate or no solution flow	Solution tank empty	Fill solution tank
	Solution control cable snapped/out of adjustment	Adjust cable; replace cable
	Solution flow adjusted to low or off	Push the solution flow lever forward to increase flow
	Solution supply lines blocked/clogged	Flush solution supply lines
	Solution filter blocked/clogged	Clean solution filter
	Solution solenoid stuck/plugged	Clean solenoid; replace solenoid
Machine exhibits poor scrubbing performance	Pads or brushes dirty	Remove debris or string/twine from pads/brushes; clean pads/brushes; replace pads/brushes
	Cleaner or pad/brush improper	Use chemical product recommended by Pioneer Eclipse Distributor
	Pads or brushes worn down	Replace pads/brushes
	Scrub brush motor fuse blown	Replace fuse
Machine is hard to start	Propane cylinder opened too quickly	Close valve; open valve slowly
	Spark plug or head bolts loose	Check Engine Guide for torque; contact Pioneer Eclipse Certified Technician
	Head gasket blown	Replace gasket; contact Pioneer Eclipse Certified Technician
	Vacuum insufficient	Contact Pioneer Eclipse Certified Technician
	Coil, air gap out of adjustment	Adjust coil, gap; contact Pioneer Eclipse Certified Technician
	Oil low	Check oil; add or change oil
Machine will not start	Spark plug gap incorrect	Adjust gap to .025/.0635cm; contact Pioneer Eclipse Certified Technician
	Fuel tank empty	Install full (80% capacity) Safe-Fill cylinder
	Head gasket blown	Replace gasket; contact Pioneer Eclipse Certified Technician
	Vacuum insufficient	Contact Pioneer Eclipse Certified Technician
	Spark Plug defective	Replace spark plug; contact Pioneer Eclipse Certified Technician
	Coil defective	Replace coil; contact Pioneer Eclipse Certified Technician
	Air filter dirty	Clean or replace air filter
	Oil low	Check oil; add or change oil
	SafeSense fuse blown	Replace fuse
	Wires broken or disconnected	Check/reconnect/replace wires; contact Pioneer Eclipse Certified Technician
Engine lacks power	Head gasket leaking	Replace gasket; contact Pioneer Eclipse Certified Technician
	Vacuum insufficient	Contact Pioneer Eclipse Certified Technician
	Governor out of adjustment	Adjust governor; contact Pioneer Eclipse Certified Technician
	Compression lacking; worn rings or dirty air filter	Check/replace rings; clean/replace air filter
Engine stops running	Air filter dirty – SafeSense shut down	Clean/replace air filter
	Exhaust emissions reading above safe levels – SafeSense shut down	Clean/replace air filter; contact Pioneer Eclipse Certified Technician
	Fuel tank empty	Install full (80% capacity) Safe-Fill cylinder
	Oil low	Check oil; add or change oil
	Engine overheating; blocked cooling fins or radiator	Service cooling system; contact Pioneer Eclipse Certified Technician
	Oxygen sensor disconnected	Connect sensor; contact Pioneer Eclipse Certified Technician

# Maintenance

Operation	Interval								
	Daily	Every 20 Hrs	Every 25 Hrs	Every 50 Hrs	Every 100 Hrs	Every 200 Hrs	Every 300 Hrs	Every 400 Hrs	Every 1000 Hrs
Empty/Clean Solution & Recovery Tanks	●								
Inspect/Clean Recovery Sensor	●								
Clean Demisting Screen	●								
Clean Solution Delivery Filter			●						
Check and add engine oil	●								
Check and add coolant	●								
Check for oil or coolant leakage	●								
Check radiator for dust	●								
Check for loose/missing nuts or screws	●								
Tighten nuts and screws					●				
Clean air cleaner element				inspect					
Change engine oil		● first			●				
Clean/re-gap spark plugs					●				
Change oil filter		● first				●			
Change air cleaner paper element							●		
Change spark plugs							●		
Inspect radiator & hoses *						●			
Check engine speeds *							●		
Check/adjust valve clearance *							●		
Check fuel lines *							●		
Valve maintenance *							●		
Clean combustion chamber *							●		
Change coolant								●	
Check/add hydraulic oil	●								
Change hydraulic oil filter								●	
Change hydraulic oil									●
Lubricate rear casters					●				
Check for squeegee damage/wear	●								
Check squeegee deflection	●								
Check/lubricate squeegee linkage			●						
Check pads/brushes for damage/wear	●								
Check/lubricate scrub deck linkage			●						
Inspect brush skirts	●								

\* These items must be performed with the proper tools and training. Contact a Pioneer Eclipse Factory Certified Technician unless you have the proper equipment and mechanical proficiency.

## Lubrication

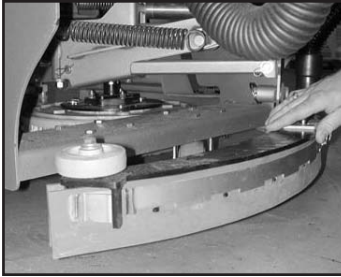
### Rear Casters

Each of the two rear casters has one grease fitting on the caster swivel. Lubricate each caster with a grease gun every 100 hours of machine operation.



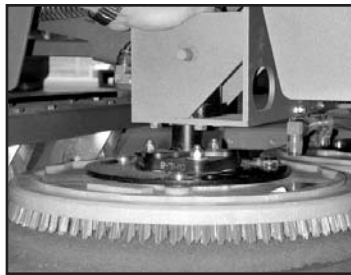
### Squeegee Linkage

The squeegee linkage allows the squeegee to swing smoothly, raise and lower. The bronze bushings in the squeegee linkage require no grease fittings. Inspect the linkage daily for proper function.



### Scrub Deck Linkage

The scrub deck linkage features bronze bushings with no grease fittings. Inspect the linkage daily for proper function.



## Scrub Head

### Scrub Head Skirt

The scrub head contains skirts to control over-spray from the scrub brushes. Check the skirt for damage or wear daily.



### Leveling the Scrub Head

The top link of the scrub deck linkage is adjustable. This link is factory set so the brushes make level contact with the floor.



### Scrub Brushes and Pads

Check the scrub brushes or pads daily for wire or string tangled around the brush or drive hub. The brushes and padholders also should be checked for any damage and wear. Replace the disk brushes if large amounts of the bristles are missing, or if bristles are worn down to less than 1/4 inches (6 mm) .



Cleaning pads must be placed on pad drivers. A pad holder holds the cleaning pad in place. Clean pads immediately after use with soap and water. Do not wash the pads with a pressure washer. Hang pads to dry.

**NOTE:** Always replace brushes and pads in sets.

Otherwise one brush or pad will be more aggressive than the other, resulting in ineffective cleaning or damage to the floor.

### Replacing Brushes or Pads

1. Turn the machine power off.
2. Remove the brush skirts.
3. With one hand holding the flexible drive, rotate the brush/pad driver toward the front of the machine. The brush/pad driver will snap free from the spring holder on the flexible drive and drop off the hub.



## ***Solution System***

### **Solution Tank**

The solution tank stores the cleaning solution.

Empty and rinse the solution tank after every use. If deposits form on the bottom of the tank, rinse the tank with a strong blast of warm water. The tank can be flushed through the fill opening and top access hole.



### **Solution Filter**

The solution delivery system has a filter between the solution tank and the flow control ball valve. The filter is located on the right side of the machine just above the scrub brush along the inside of the frame rail.

Remove the screen from the filter and clean every 25 hours.



## ***Recovery System***

### **Recovery Tank**

The recovery tank stores recovered solution. The recovery tank should be drained and cleaned after every use. The outside of the tank can be cleaned with vinyl cleaner.



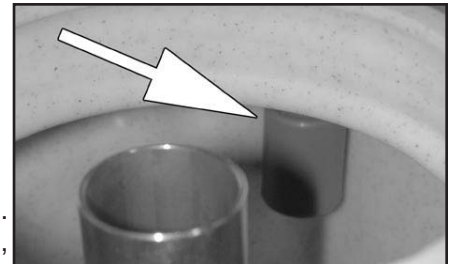
### **Demisting Screen**

A demisting filter is located under the recovery tank top access cap. Remove the demisting screen at every tank draining and flush off any buildup of debris.



### **High Recovery Sensor**

The high recovery sensor is mounted in the recovery tank near the top and toward the left rear of the tank. It is accessible from the recovery tank top cap. At each tank cleaning, rinse off the sensor housing.





## Squeegee

The squeegee assembly channels water into the vacuum fan suction. The front blade channels the water, and the rear blade wipes the floor.

Check the squeegee blades daily for damage and wear. Rotate or replace either of the squeegee blades if the leading edge is torn or worn halfway through the thickness of the blade.

The squeegee can be adjusted for leveling and deflection. The deflection and leveling of the squeegee blades should be checked daily, or when scrubbing a different type of floor.

The squeegee assembly can be removed from the squeegee pivot to prevent damage during transport of the machine.

### Removing the Squeegee Assembly

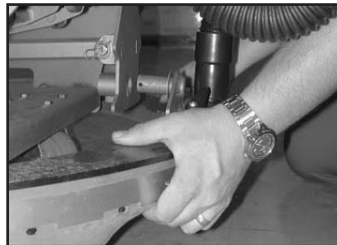
1. Turn the machine off.
2. Remove the squeegee suction hose from the squeegee.



3. Remove the retaining pin from the front of the squeegee swivel mount.



4. Pull the squeegee off the machine.



To install, reverse the procedure.

### Adjusting Squeegee Blade Deflection.

Deflection is the amount of curl the squeegee blade has when the machine moves forward with the squeegee lowered to the floor. The best results are achieved when the squeegee wipes the floor dry with a minimum amount of deflection.

1. Loosen the Jam Nut on each of the casters and adjust the casters all the way up to get them out of the way.
2. With the engine running in the idle position and the Squeegee Hose disconnected from the Squeegee tube, turn the vacuum on so the squeegee will lower.
3. While moving forward very slowly reach down and turn the Squeegee Angle Adjustment Knob clockwise or counterclockwise as needed to get a uniform flare on the rear squeegee blade. When satisfied with this adjustment, tighten the jam nut on this arm.
4. Lower the casters by turning the Caster Adjustment Knob clockwise. They should just make light contact with the floor when the squeegee is down and working. An alternate method for making the initial adjustment height for the casters is to place the squeegee on a flat surface and lower the casters to a height of 10 mm from the floor (this is with the squeegee blades upright and not flared).
5. Attach the squeegee pickup hose and operate the unit. Make fine adjustments as required.

### Replacing or Rotating Squeegee Blades.

The squeegee has two blades: front and back. Each blade has four wiping edges. For longer squeegee life, all four edges can be used before squeegee replacement is required.

To rotate use through all edges, start with one wiping edge. To use the next wiping edge, rotate the blade end-for-end (lengthwise). To use the next wiping edge, rotate the top edges down, bottom edges up. To use the last edge, rotate the blade end-for-end (lengthwise).

Replace any worn or damaged squeegee blades. No tools are required to replace squeegee blades. Two retention knobs clamp the front blade in place. An over-center latch holds the rear blade in place.



## Hydraulic System

This machine is equipped with a hydraulic drive system. The hydraulic system holds 8 gallons (30,3 L) of SAE 5W-20 motor oil.

### Checking the Hydraulic Oil

With the machine on a flat surface, check the Hydraulic Reservoir Sight Gauge to make sure enough oil is in the reservoir. The background of the sight gauge is white; any oil in the gauge will color the gauge. The hydraulic system has sufficient oil if any oil is showing in the gauge.



### Adding Hydraulic Oil

If additional oil is required, remove the silver Hydraulic Reservoir fill cap. Watching the gauge, slowly and carefully add SAE 5W-20 motor oil to the fill line indicated. After filling, the gauge should read just full, with little or no white at the top.

### Changing the Hydraulic Oil Filter

The hydraulic system uses a one-piece canister oil filter. To change, unscrew the filter and remove. Replace with a new filter. Check the hydraulic reservoir sight gauge and add oil if needed.

### Changing the Hydraulic Oil

Amano Pioneer Eclipse recommends draining the hydraulic system and changing the oil every 1000 hours of operation. Only Amano Pioneer Eclipse authorized personnel, trained and certified in hydraulic systems, should perform the hydraulic oil change.

## Fuel System

The fuel system works from vacuum created by the engine running. Turning the fuel cylinder service valve ON pressurizes the system to the fuel lock. When the switch is engaged, fuel will flow to the carburetor once the engine develops oil pressure.

### Adjusting the Regulator

**NOTE:** The regulator and carburetor have been factory pre-set and should not require any modification. Only Amano Pioneer Eclipse authorized personnel, trained and certified in propane systems, should modify or adjust the system or its setting.

NFPA 58 8-1.4 states, "In the interest of safety, each person engaged in installing, repairing, filling, or otherwise servicing an LP-Gas engine fuel system shall be properly trained in the necessary procedures."

## Hose and Fuel Connections

### Inspection

1. Inspect hoses for abrasions and other signs of wear; replace all worn or damaged hoses.
2. Check for gas leaks by spreading soapy water solution around all the connections while the service valve is turned ON and the fuel system is pressurized.

### Fixing Leaking Joints

1. Uncouple bad joint and clean it. Apply pipe sealing compound (Loc-Tite Pipe Sealant with Teflon or equivalent) to the clean joint.
2. Recouple the joint finger tight plus 1/2 turn.
3. Recheck for leaks using soapy water solution. Watch for bubbles at the joint with the fuel cylinder service valve turned on and the fuel system pressurized.

## Engine Maintenance

### Radiator Cooling Fin Maintenance

Refer to Engine Manufacturer's Service Manual.

### Head Bolt Maintenance

Refer to Engine Manufacturer's Service Manual.

### Changing Oil

Change oil after first 20 hours of operation. Thereafter change oil every 100 hours.

1. Check that there is oil in the crank case.
  2. Start and warm up the engine so the oil will drain easily (approximately 5 minutes). Stop the engine.
  3. Open the machine hood.
  4. Place a suitable container beside the machine. Loosen the drain plug. Place the drain hose into the pan. Remove drain plug, allowing oil to drain completely.
- WARNING:** Be careful with hot oil being drained. It may be hot enough cause severe burns.
5. Remove oil fill cap. Slowly add 3.8 U.S. pints (1,8 liters) if the oil filter is replaced or 3.17 U.S. pints (1,5 liters) if the oil filter is not changed. To maintain engine life and warranty, use only Kawasaki oil (PE # KA999691655).
  6. Check oil level with dip stick in oil fill cap. Add additional oil if necessary.
  7. Replace fill cap. Hand tighten only.

DO NOT OVERFILL AND  
NEVER RUN ENGINE LOW ON OIL!

**IMPORTANT:** WHEN CHECKING OIL, REMOVE DIPSTICK, CLEAN, REINSERT INTO THE FILLER NECK, BUT DO NOT SCREW IT IN, THEN CHECK THE OIL LEVEL. ALWAYS MAKE SURE THE MACHINE IS SITTING LEVEL WHEN CHECKING OIL.

## Body Maintenance

The body may be cleaned with a damp cloth to remove dust and scuff marks. More stubborn scuff marks on the tank exterior can be removed with a vinyl cleaner.

## Battery Maintenance

The battery supplied with this machine is a sealed, gelled electrolyte, maintenance free type. It never needs servicing.

When battery replacement becomes necessary, the replacement should have the same specifications as the original. Contact Amano Pioneer Eclipse Customer Service at 1-800-367-3550 or 1-336-372-8080.

To replace:

1. Remove the propane fuel cylinder from the machine.
2. Disconnect battery cables from terminals. Always disconnect the BLACK cable first.
3. Remove battery hold-down clamp.
4. Lift old battery out and replace with new battery.
5. Reinstall hold-down clamp.
6. Connect the RED positive battery cable first.  
Connect the BLACK negative battery cable last.

Dispose of old battery in the proper manner. Most auto parts stores accept used batteries for recycling.

### PROPOSITION 65 WARNING

- Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm.
- Batteries also contain other chemicals known to the State of California to cause cancer.
- Wash hands after handling.

### SAFETY INSTRUCTIONS RECHARGEABLE BATTERY

#### ! DANGER !

ALL BATTERIES CONTAIN CORROSIVE ACIDS AND PRODUCE EXPLOSIVE GASES DURING RECHARGING

GAS EXPLOSION  
CAN CAUSE  
BLINDNESS OR INJURY  
SHIELD EYES

BATTERY ACID  
CAN CAUSE  
BLINDNESS OR  
SEVERE BURNS

Do not make direct contact between battery terminals as this can cause an explosion or fire.

Batteries should not be stored in a discharged state.

Keep charger away from children. Only adults should recharge batteries.

Use only the charger provided by the equipment manufacturer.

Do not recharge batteries upside down.

Charging produces explosive gasses. Charge battery in a well ventilated area away from sparks, flames and smoking.

Disconnect charger from battery after 24 hours.

**INTERNAL**  
TAKE MILK, EGG WHITES, AND  
WATER.  
**DO NOT INDUCE VOMITING.**

**EXTERNAL**  
FLUSH IMMEDIATELY FOR  
15 MINUTES IF ACID GETS  
IN EYES OR ON SKIN.

**CALL PHYSICIAN IMMEDIATELY**

## Machine Storage

Only authorized, trained personnel should have access to propane cylinders and machines.

1. Remove propane fuel cylinder when not in use and store it outside in a storage cage in accordance with NFPA Section 5 or Subsection 9.5.2 of CAN/CGA B149.2. Do not release or bleed propane inside the building. Please consult your local Fire Marshal to ensure that you are in compliance with local fire codes.
2. Store machine away from objects that may fall and damage it.
3. Never store machine or fuel cylinders near an open flame or heat producing device.
4. Make sure machine is cleaned properly and tanks are emptied before storing.
5. Never store machine with cylinders installed, or store spare cylinders in an enclosed van or trailer.
6. Store machine in a dry location, temperature not to exceed 120°F (50° C).

## Repacking the Machine

Refer to **Unpacking** and repack machine using original packing materials and container.

## Transporting the Machine

When transporting a propane powered floor machine with the fuel cylinder installed, the cylinder should be securely fastened with the service valve closed and the machine should be secured in the vehicle. Any propane fuel cylinders not installed should be securely fastened to avoid movement and damage. The service valves should be closed. Never store machine with cylinders installed, or store spare cylinders in an enclosed van or trailer. It is a good practice to check propane cylinders for overfilling before transporting them. If overfilled, correct before loading them in the vehicle by venting the excess propane outside in a safe area using the fixed liquid level gauge.

## Hydraulic Brake Adjustment

This machine is equipped with dynamic braking in the hydraulic propel circuit. The brake is factory set and under normal conditions requires no adjustment. A brake adjustment knob is located in the engine compartment to release braking action in case the machine needs to be pushed or towed.

### Increase braking:

Rotate the knob  
counterclockwise.

### Decrease braking:

Rotate the knob  
clockwise.

### Release brake:

Continue to rotate  
knob clockwise until  
machine can be pushed freely.



# Machine Specifications - PSZ133KWA

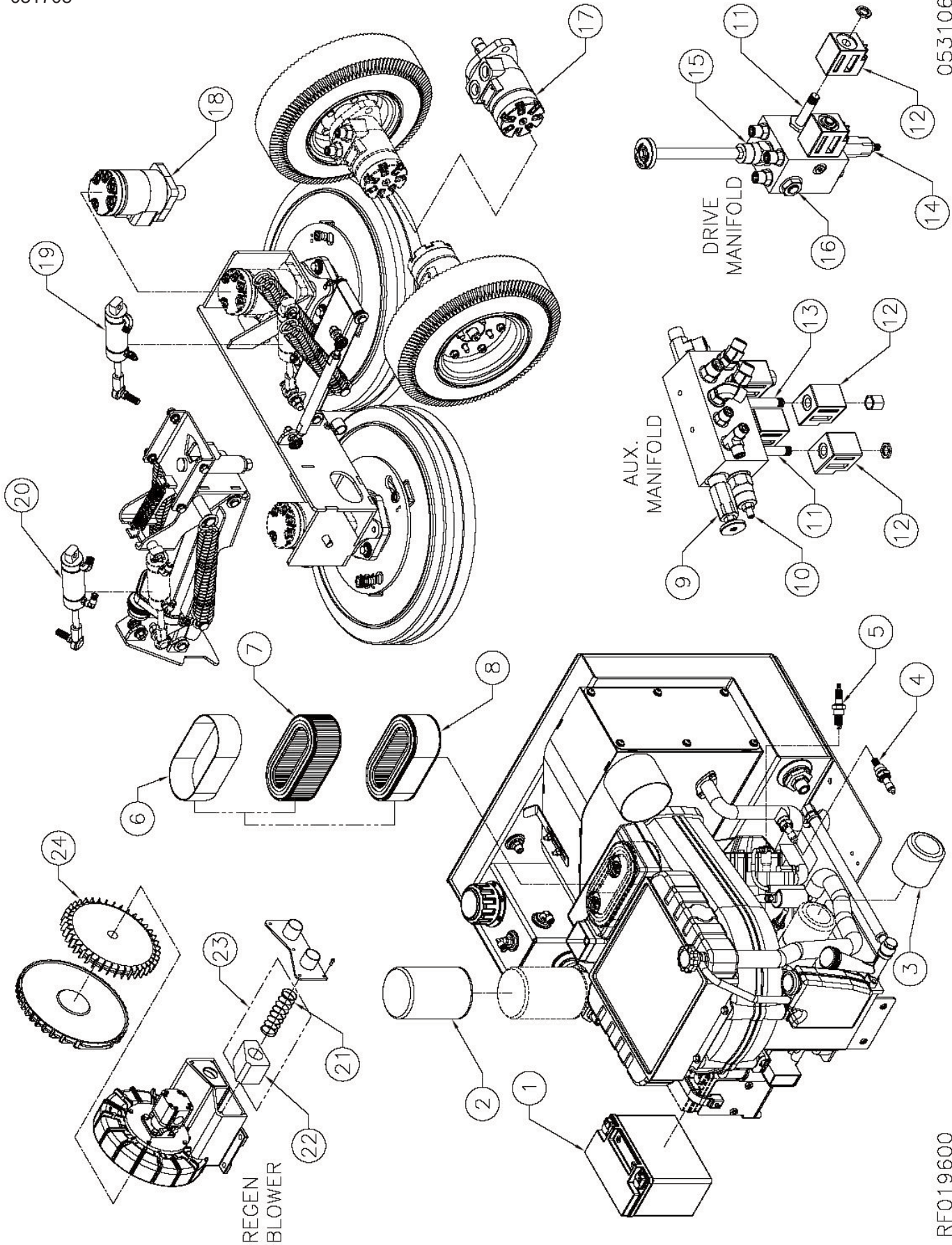
SCRUBBING RATE:	33,000 ft <sup>2</sup> /hr (3066 m <sup>2</sup> /hr)
CLEANING WIDTH:	33 in (84 cm)
PADS/BRUSHES:	2 x 17 in (43 cm)
SQUEEGEE WIDTH:	46 in (107 cm)
SOLUTION TANK :	35 US gal (132.5 liter)
RECOVERY TANK :	35 US gal (132.5 liter)
ENGINE:	Kawasaki 16 HP water-cooled
ENGINE SPEED:	3100 RPM
WHEEL MOTOR:	2 hydraulic motors, 200 rpm
PUMP:	Dual hydraulic pump
VACUUM FAN:	Re-generative blower, hydraulic
NOISE LEVEL:	<80 dBA
VIBRATION LEVEL:	Less than 2.5 m/s <sup>2</sup>
WEIGHT:	860 lb (390 kg)
LENGTH:	66 in (168 cm)
WIDTH:	26 in (66 cm)
HEIGHT:	46.5 in (118 cm)



# Service & Replacement Parts - PSZ133KWA

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RF019600

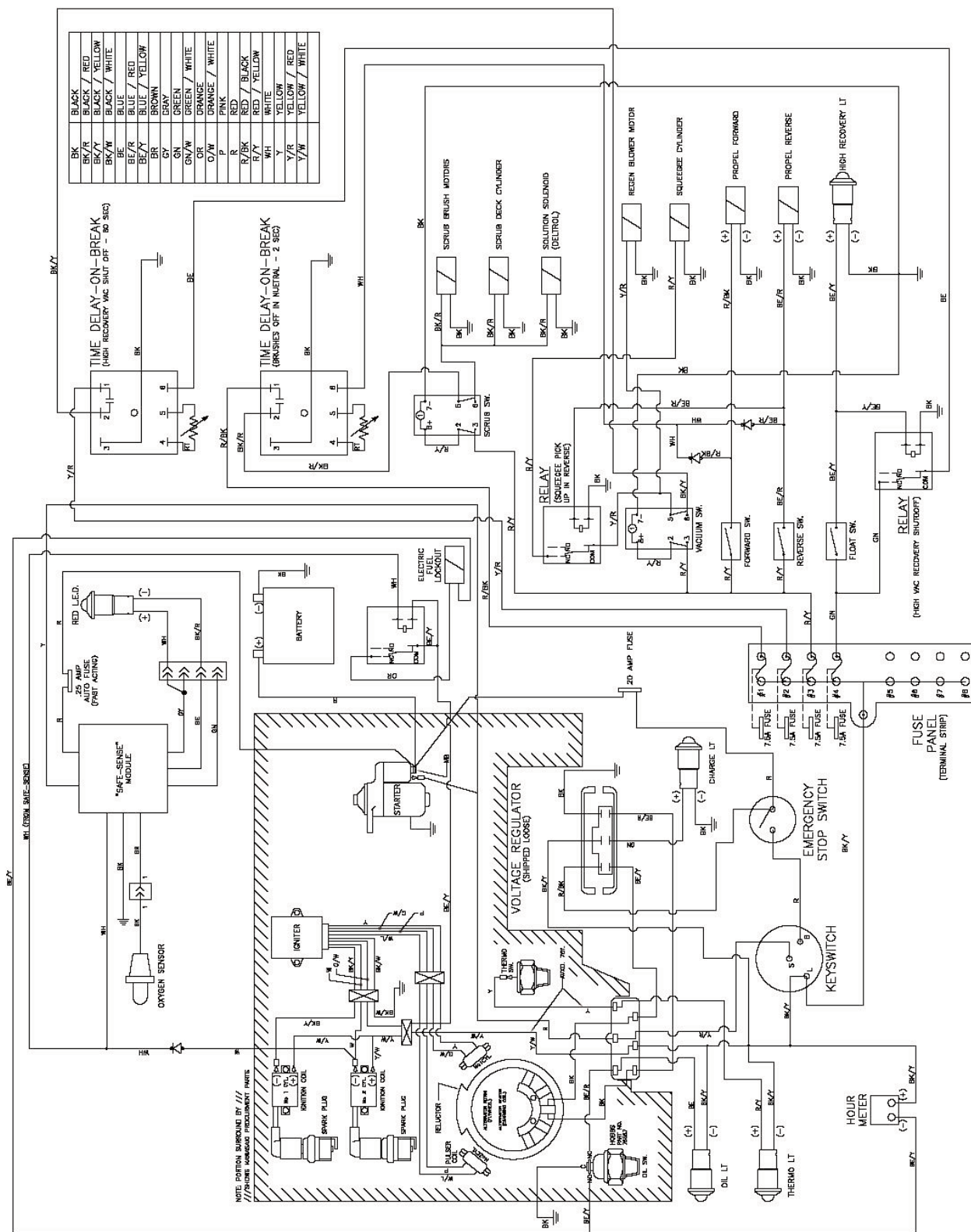
## Service & Replacement Parts - PSZ133KWA

Ref. Part #	Description	Qty.
1 MP120800	BATTERY, DEKA, SEAMATE, AGM	1
2 MP142900	FILTER, REPLACEMENT, S-28	1
3 KA490652078	FILTER, OIL (FH500V & FD501V)	1
4 MP018000	SENSOR, OXYGEN	1
5 KA920702112	PLUG, SPARK, NKG, BPR4ES	2
6 KA110132134	ELEMENT, FOAM, AIR FILTER	1
7 KA110132206	FILTER, ELEMENT, AIR, KAWASAKI	1
8 KA110292018	ELEMENT, FILTER, AIR, PAPER, ASM.	1
9 MP191900	VALVE, REDUCING, PRESSURE	1
10 MP191800	VALVE, RELIEF, CARTRIDGE, 36/25	1
11 MP191200	VALVE, HYDRAULIC, CARTRIDGE, 3-WAY	4
12 MP191300	COIL, REPLACEMENT, SOLENOID	6
13 MP191700	VALVE, HYDRAULIC, CARTRIDGE, 2-WAY	2
14 MP191500	VALVE, RELIEF, CARTRIDGE, 20/15	1
15 MP191600	VALVE, COUNTERBALANCE	1
16 MP191400	VALVE, CHECK	2
17 MP191100	SEAL, MOTOR, DRIVE, WHEEL, KIT	2
18 MP191000	SEAL, MOTOR, BRUSH SCRUB, KIT	2
19 PS017300	CYLINDER, HYD., SCRUB, ASM.	1
20 PS016400	CYLINDER, HYD., SQUEEGEE, ASM. SERIAL # 62419 AND EARLIER	1
20a PS017500	CYLINDER, HYD., SQUEEGEE, RT, ASM. SERIAL # 62420 AND LATER	1
21 MP252200	SPRING, PORT, BLOWER, REGEN	2
22 MP252300	FOAM, PORT, BLOWER, REGEN	4
23 SA018200	BLOWER, REGENERATIVE, SERVICE KIT	1
24 MP260600	IMPELLER, REGEN, REPLACEMENT	1
25 MP322900	SHIM, .650 I.D. x .906 O.D. x .005 T (NOT SHOWN)	



FOR MACHINES SERIAL NUMBER 62233 AND EARLIER

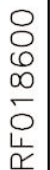
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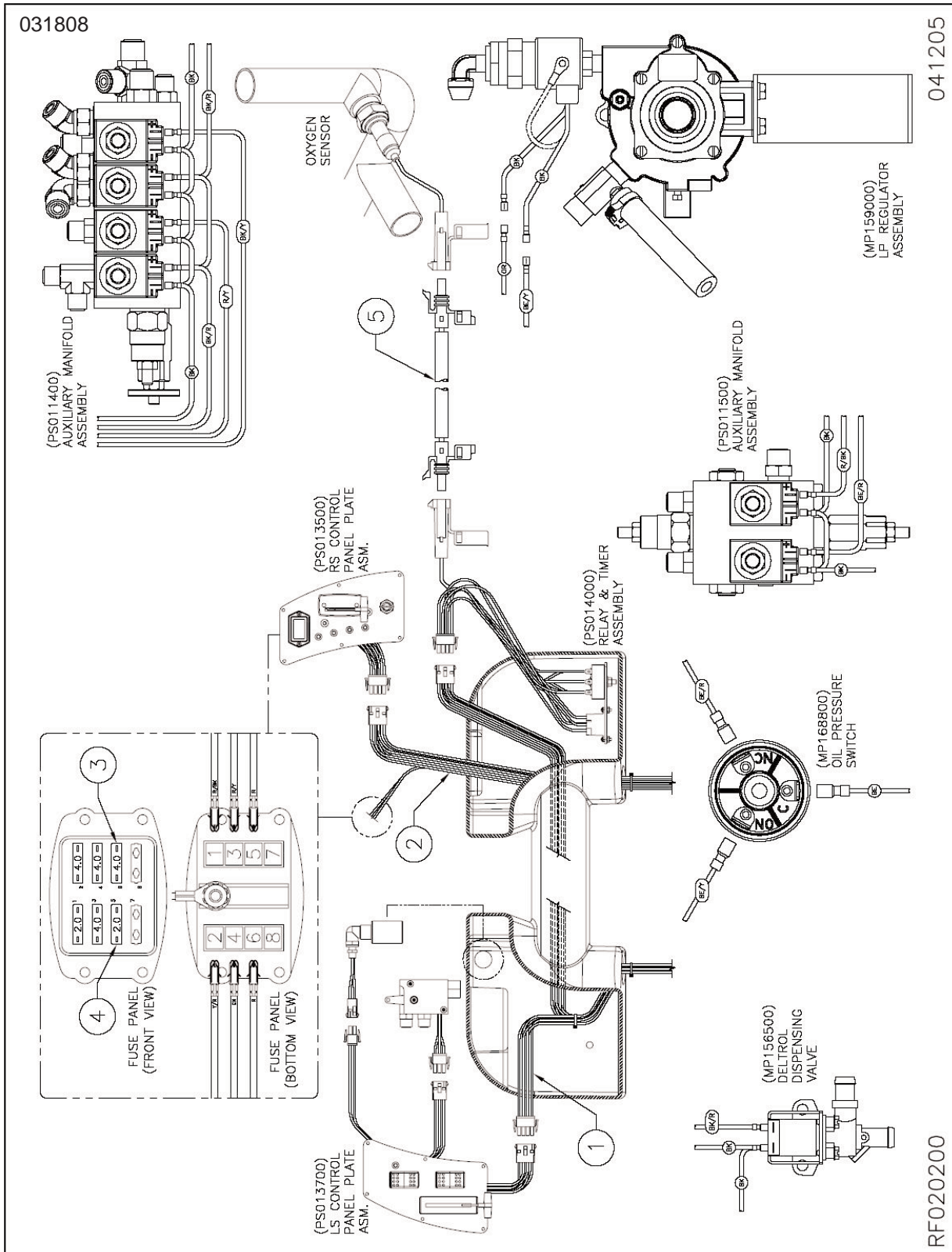
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FOR MACHINES SERIAL NUMBER 62420 AND LATER

11608



# Wiring Connection Group - PSZ133KWA



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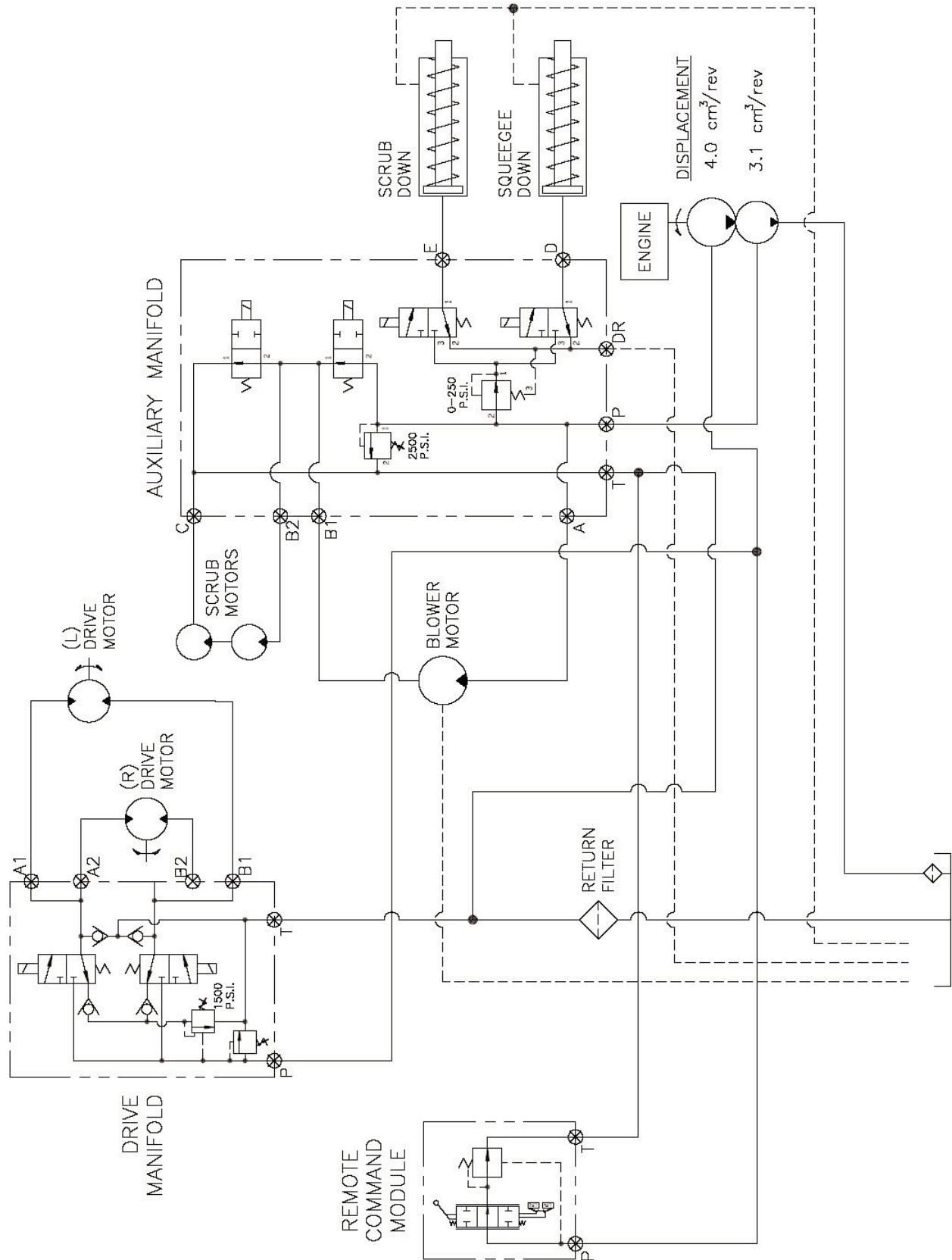
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RF020200

Ref. Part #	Description	Qty.
1 PS013900	HARNESS, AUX., BASIC, Z1	1
2 PS014300	HARNESS, ENGINE, BASIC, Z1	1
3 MP192200	FUSE, 4.0 AMP	4
4 MP192100	FUSE, 2.0 AMP	2
5 PS014500	WIRE, SAFESENSE, OXY SENSR	1

# Hydraulic Schematic- PSZ133KWA

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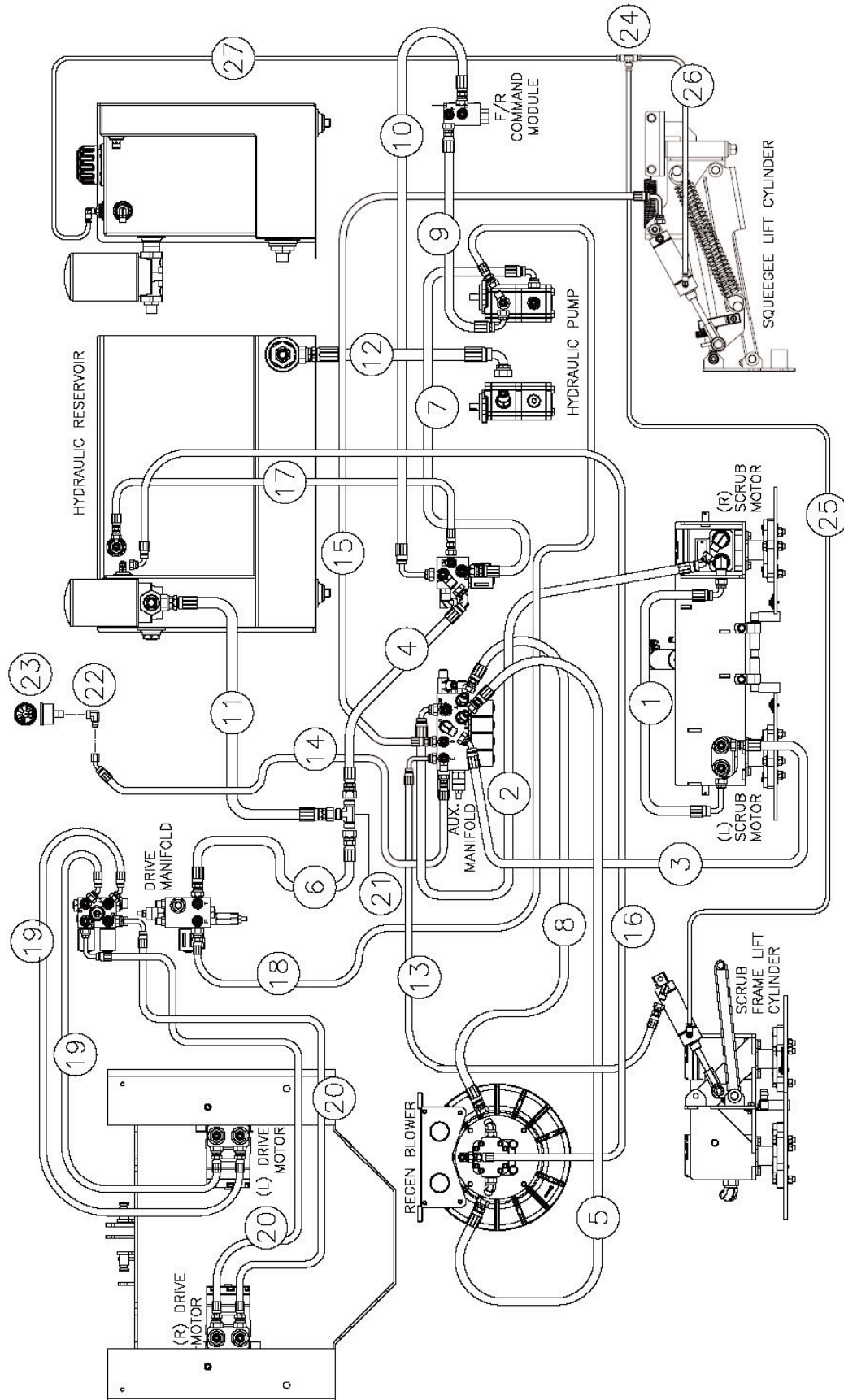
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## Hydraulic Hose Connection Group - PSZ133KWA

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RF018900

052005

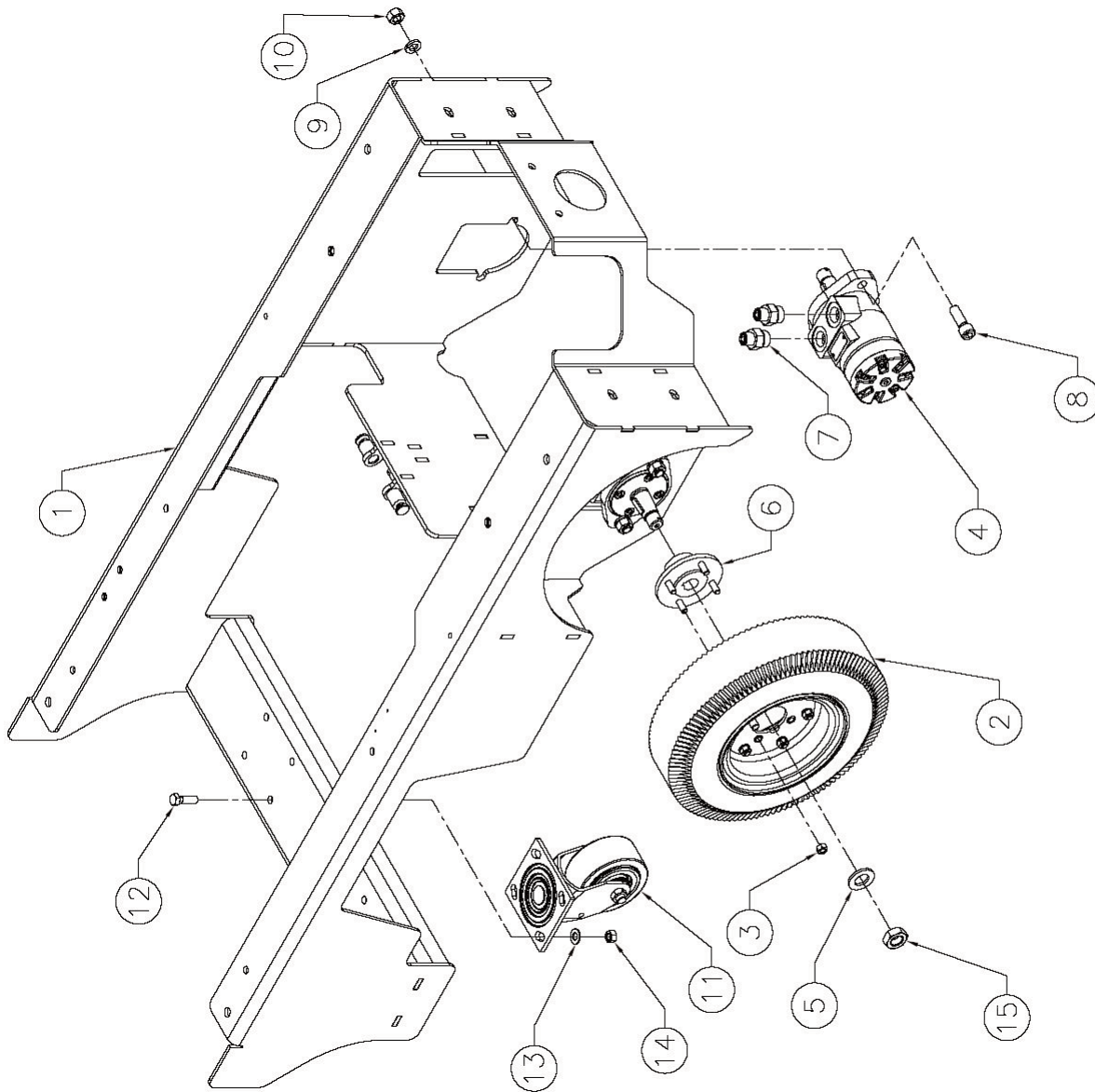
## ***Hydraulic Hose Connection Group - PSZ133KWA (Continued)***

Ref. Part #	Description	Qty.
1 MP161400	HOSE, HYDRAULIC, 19", ASM.	1
2 MP161500	HOSE, HYDRAULIC, 24.5", ASM.	1
3 MP161600	HOSE, HYDRAULIC, 17", ASM.	1
4 MP161700	HOSE, HYDRAULIC, 49", ASM.	1
5 MP161800	HOSE, HYDRAULIC, 36", ASM.	1
6 MP161900	HOSE, HYDRAULIC, 13", ASM.	1
7 MP162000	HOSE, HYDRAULIC, 37", ASM.	1
8 MP162100	HOSE, HYDRAULIC, 32", ASM.	1
9 MP162200	HOSE, HYDRAULIC, 74.5", ASM.	1
10 MP162300	HOSE, HYDRAULIC, 41.5", ASM.	1
11 MP162400	HOSE, HYDRAULIC, 26", ASM.	1
12 MP162500	HOSE, HYDRAULIC, 19", ASM.	1
13 MP162600	HOSE, HYDRAULIC, 26", ASM.	1
14 MP162700	HOSE, HYDRAULIC, 55", ASM.	1
15 MP162800	HOSE, HYDRAULIC, 30", ASM.	1
16 MP162900	HOSE, HYDRAULIC, 38", ASM.	1
17 MP163000	HOSE, HYDRAULIC, 62", ASM.	1

Ref. Part #	Description	Qty.
18 MP163100	HOSE, HYDRAULIC, 16", ASM.	1
19 MP163200	HOSE, HYDRAULIC, 15", ASM.	2
20 MP163400	HOSE, HYDRAULIC, 25", ASM.	2
21 MP170800	FITTING, HYD., 8 ORFS, UNION TEE	1
22 MP189200	FITTING, HYD, 1/8" NPT x 4 JIC, 90 DEG	1
23 MP178400	GAUGE, PRESSURE, INDUSTRIAL	1
24 MP171100	FITTING, AIR, 1/4" TUBE, UNION TEE	1
25 MP184200	TUBING, NYLON, 1/4" OD w/.035" WALL	1
26 MP184200	TUBING, NYLON, 1/4" OD w/.035" WALL	1
27 MP184200	TUBING, NYLON, 1/4" OD w/.035" WALL	1

## Frame & Wheel Group - PSZ133KWA

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RF019000

## Frame & Wheel Group - PSZ133KWA

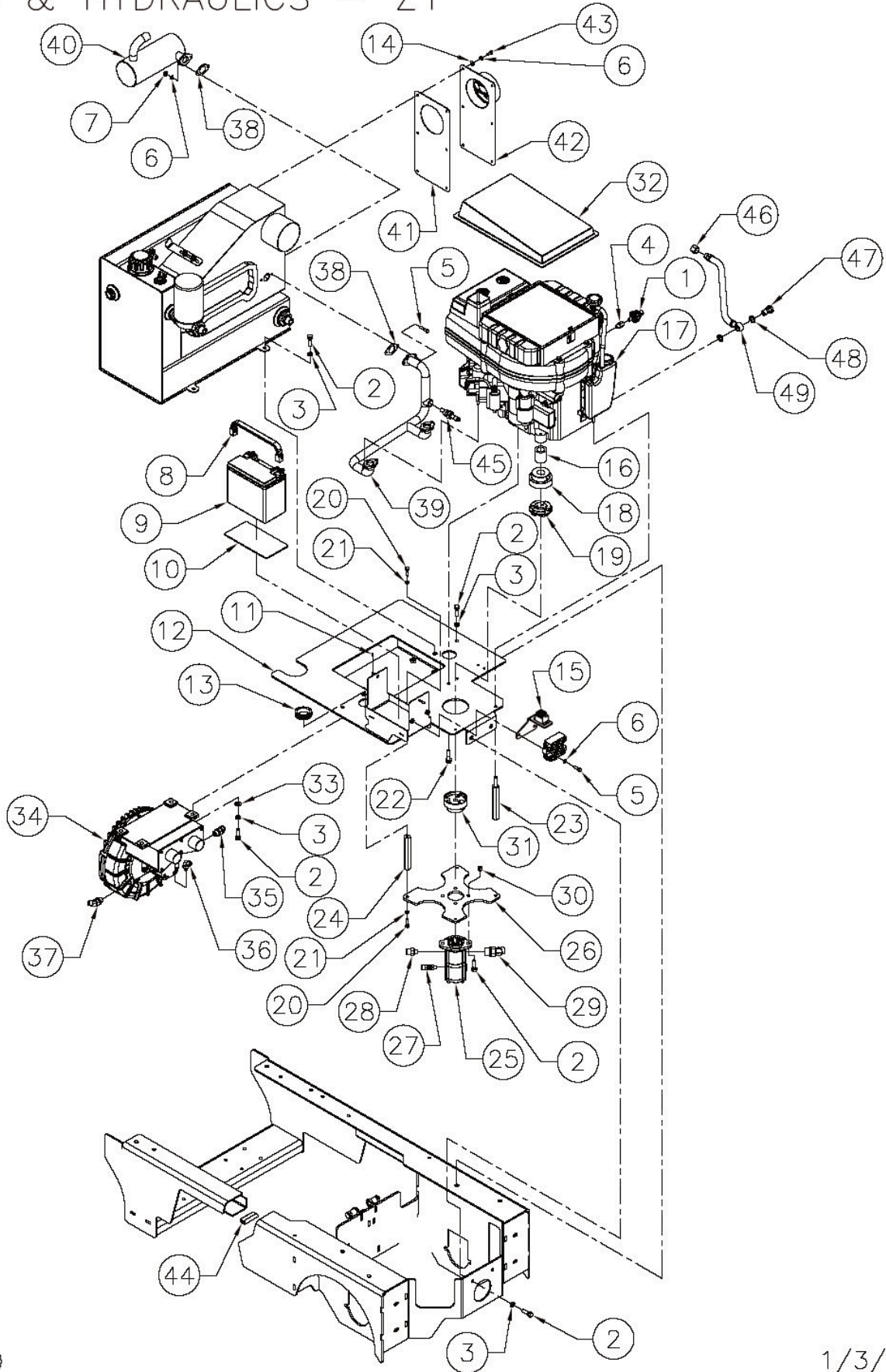
Ref. Part #	Description	Qty.
1 PS003100	WELDMENT, FRAME	1
2 MP143900	WHEEL, 13", GREY, FILLED, FOAM	2
3 NB040700	NUT, CONE, UN-LOCKING, 5/16-24 UNF	8
4 MP144000	MOTOR, DRIVE, HYDRAULIC	2
5 NB018600	WASHER, FLAT, 3/4"	1
6 MP144200	HUB, WHEEL, WELDMENT	2
7 MP170000	FITTING, HYD, 6 ORFS x 10 STR, O-RING	4
8 NB041800	BOLT, SOCKET HD, 1/2-13 x 1-1/2"	4
9 MX1105	WASHER, LOCK, 1/2"	4
10 NB8960	NUT, HEX, 1/2-13 UNC	4
11 MP275900	CASTER, SWIVEL, 4", W/ SEAL	2
12 NB6044	BOLT, HEX, 3/8-16 UNC x 1-1/4"	8
13 NB9267	WASHER, FLAT, 5/16"	8
14 NB3267	NUT, LOCK, NYLON, 3/8-16 UNC	8
15 NB045700	NUT, LOCK, 3/4-16, UNF, NYLON	2



## Power Group (Engine) - PSZ133KWA

### POWER & HYDRAULICS – Z1

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RF018700

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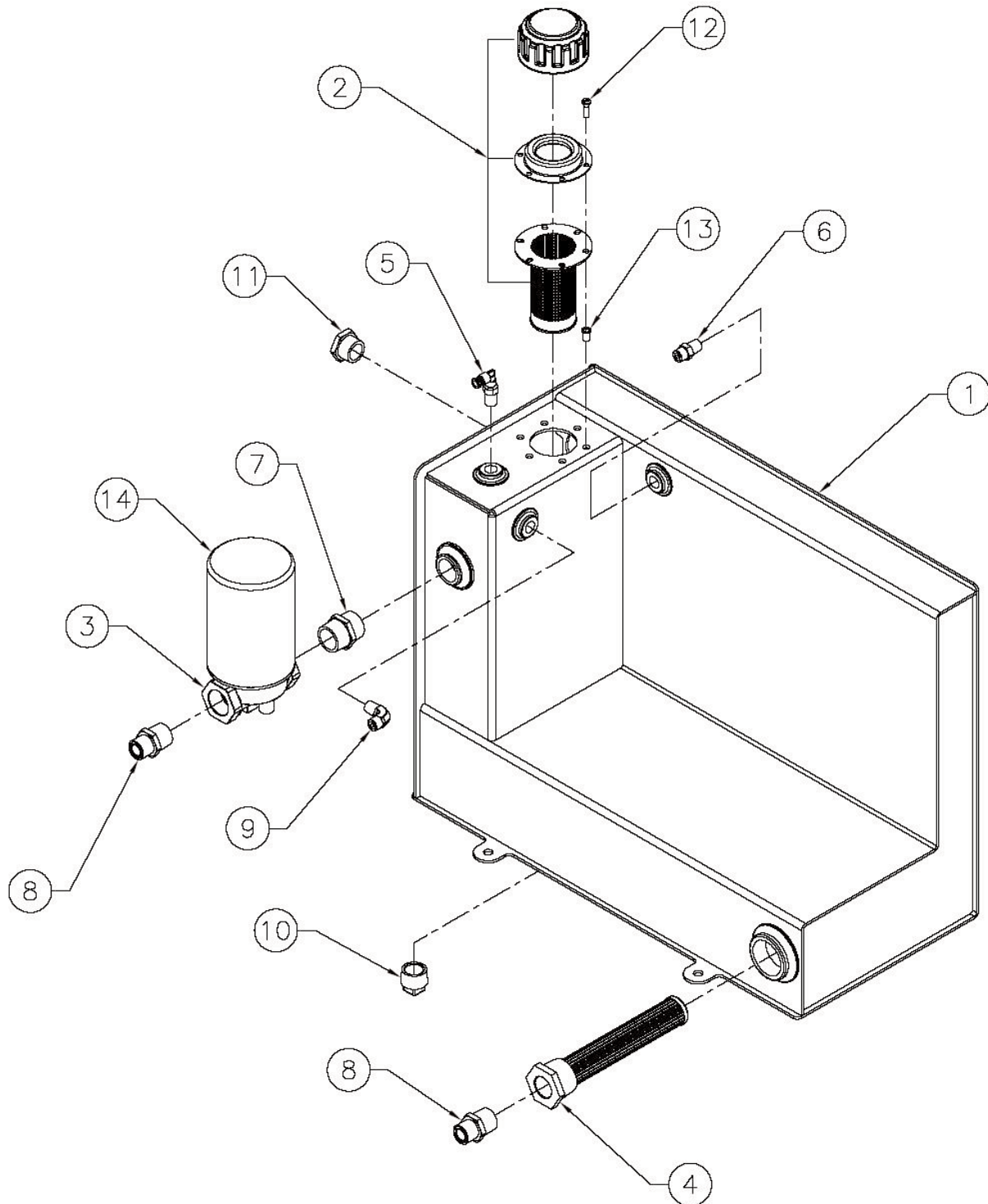
## Power Group (Engine) - PSZ133KWA

Ref. Part #	Description	Qty.
1 MP168800	SWITCH, PRESSURE D.C., BLADE TERM.	1
2 NB6044	BOLT, HEX, 3/8-16 UNC x 1-1/4"	12
3 MX1075	WASHER, LOCK, 3/8"	10
4 MP044800	ADAPTER, CONVERSION, BSPT/NPT, 1/8" x 1/8"	1
5 NB6530	BOLT, HEX, 1/4-20 UNC x 1"	4
6 NB6110	WASHER, LOCK, 1/4"	10
7 MX1045	NUT, HEX, 1/4-20 UNC	2
8 MP171600	STRAP, TARP, 9-1/2"	1
9 MP120800	BATTERY, DEKA, SEAMATE, AGM	1
10 MP120700	PAD, BATTERY	1
11 NB026500	PIN, COTTER	2
12 PS005900	WELDMENT, BRACKET, MOUNT, ENGINE	1
13 NB043700	GROMMET, 1-1/2" ID, 3/16" GROOVE, 2-1/8" OD	1
14 NB3350	WASHER, FLAT, 1/4"	6
15 PS027900	BRACKET, RETAINER, COVER, ENGINE, PAINTED	1
16 MP255300	BOLT, HEX, 1/4-20 UNC x 5/8"	1
17 MP013000	ENGINE, KAWASAKI, 16 HP, WATER	1
18 MP144600	COUPLING, HALF, 1"	1
19 MP144800	COUPLING, INSERT	1
20 NB6545	BOLT, HEX, 5/16-18 UNC x 1"	6
21 NB6111	WASHER, LOCK, 5/16"	6
22 NB3104	BOLT, HEX, M8 x 1.25 x 30	2
23 MP160300	STANDOFF, MALE / FEMALE	2
24 MP160200	STANDOFF, FEMALE / FEMALE	2
25 MP176200	PUMP, HYDRAULIC	1
26 MP181900	PLATE, MOUNT, PUMP, PAINTED	1

Ref. Part #	Description	Qty.
27 MP169400	FITTING, HYD, 6 ORFS x 6 STR, O-RING, RUN TEE	1
28 MP169500	FITTING, HYD, 6 ORFS x STR, O-RING	1
29 MP169100	FITTING, HYD, 10 ORFS x 8 STR, O-RING, 45 DEG	1
30 NB3267	NUT, LOCK, NYLON, 3/8-16 UNC	2
31 MP176000	COUPLING, HALF, 1/2"	1
32 KA1403721369HP	- SCREEN, TOP, KAWASAKI, FH501	1
33 NB9267	WASHER, FLAT, 5/16"	4
34 MP144900	BLOWER, REGENATIVE, ASM.	1
35 MP170200	FITTING, HYD, 6 ORFS x 8 STR, O-RING, 45 DEG	1
36 MP170300	FITTING, HYD, 4 ORFS x STR, O-RING 90 DEG	1
37 MP169600	FITTING, HYD, 6 ORFS x STR, O-RING, 45 DEG.	1
38 KA110602079	GASKET, MUFFLER	2
39 MP163600	MANIFOLD, EXHAUST	1
40 MP207800	MUFFLER, CATALYTIC	1
41 GP003800	MAT, INSULATION, END CAP, AIRBOX	1
42 GP003900	PLATE, COVER, END, AIRBOX, PAINTED	1
43 NB3001	SCREW, BH, 1/4-20 UNC x 3/4", BLK	6
44 IN1015	TRIM, BATTERY TRAY	2.5"
45 MP018000	SENSOR, OXYGEN	1
46 MP182300	PLUG, CAP, 11/16-16 UN	1
47 MP182400	BOLT, BANJO, M16	1
48 MP182200	WASHER, SEALING, M16	2
49 MP182100	DRAIN, OIL, ASM.	1

## Hydraulic Reservoir - PSZ133KWA

031808



RF014300

101307

## Hydraulic Reservoir - PSZ133KWA

Ref. Part #	Description	Qty.
1 PS001500	WELDMENT, RESERVOIR, HYDRAULIC	1
2 MP142700	BREATHING, FILLER, ASM.	1
3 MP142800	MOUNT, FILTER, OIL	1
4 MP144500	STRAINER, INLET, MOUNTED, TANK	1
5 MP170900	FITTING, AIR, 1/4" TUBE / 1/4" NPT, 90 DEG SWIVEL	1
6 MP170600	FITTING, HYD, 4 ORFS / 1/4" NPT	1
7 MP153500	NIPPLE, HEX, BRASS, 3/4" NPT	1
8 MP169000	FITTING, HYD, 10 ORFS / 3/4" NPT	2
9 MP170700	FITTING, HYD, 4 ORFS / 1/4" NPT, 90 DEG	1
10 NB041000	PLUG, SQUARE HEAD, 3/4" NPT	1
11 MP143000	PLUG, SIGHT, LEVEL, OIL, 3/4" NPT	1
12 MX1025	SCREW, PAN HD, 10-24 X 3/4	6
13 NB009700	INSERT, 10-24, COMPRESSION T YPE, AVK	6
14 MP142900	FILTER, OIL, HYDRAULIC (REPLACEMENT)	1

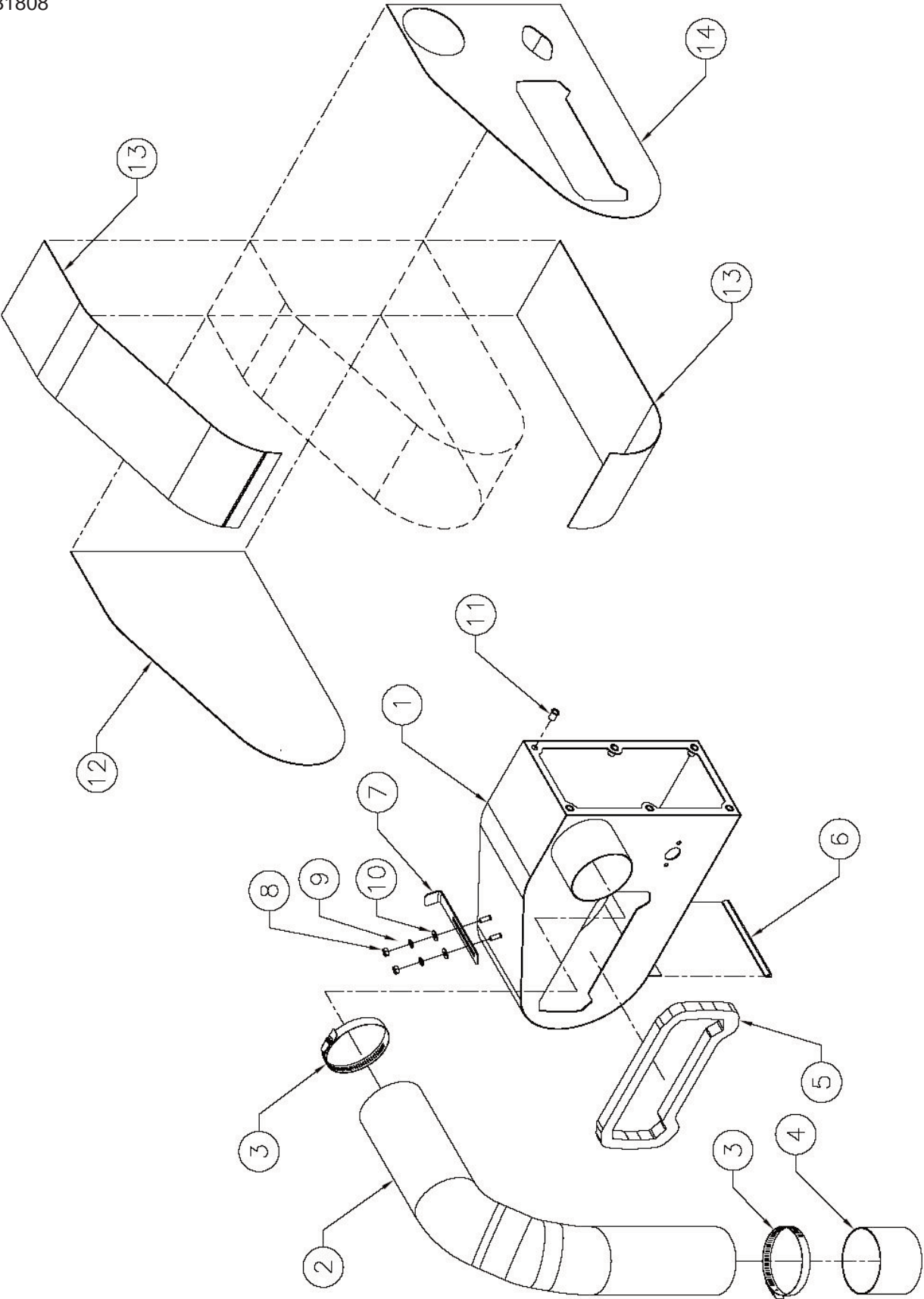


**Airbox - PSZ133KWA**

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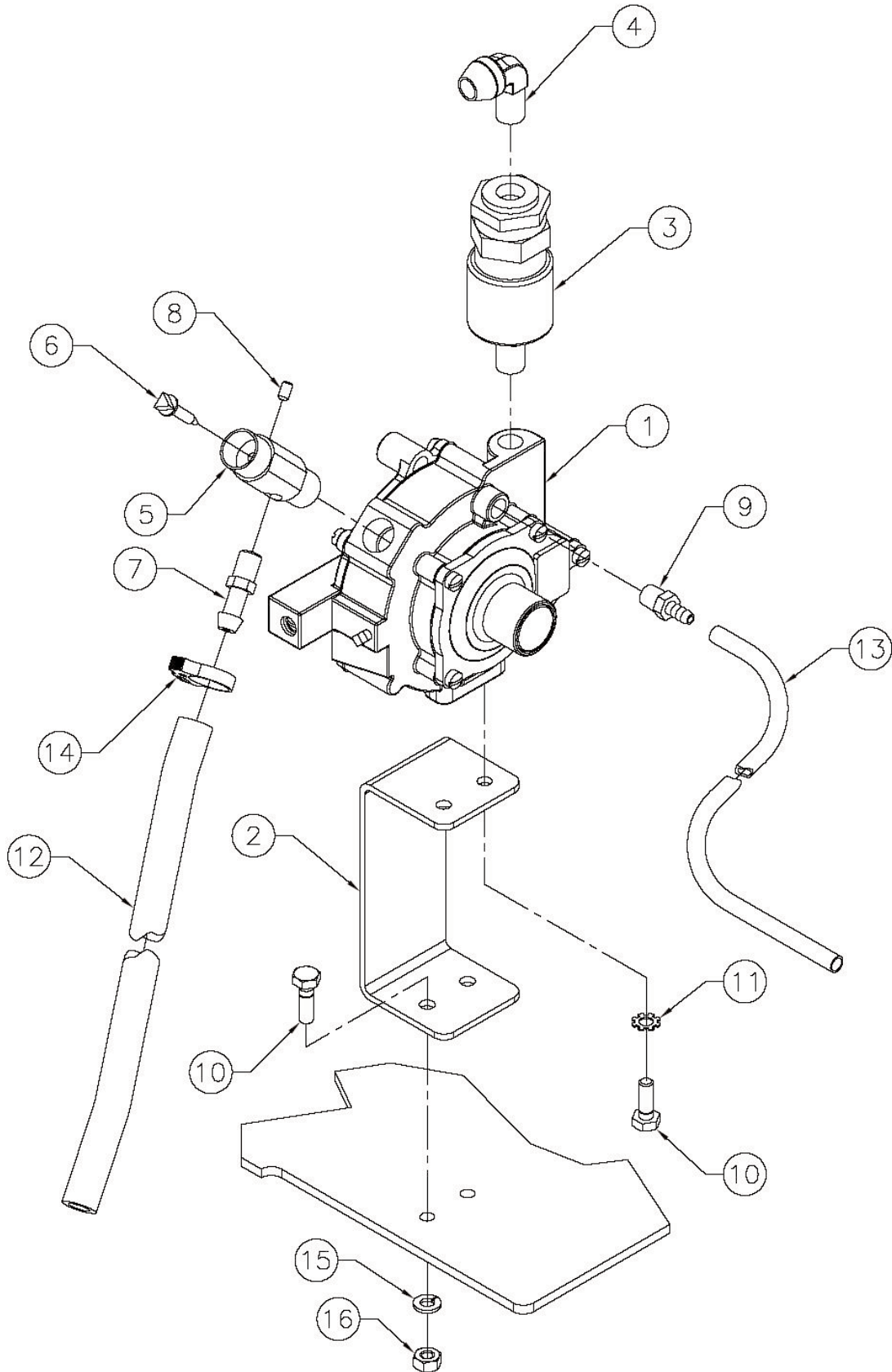


## Airbox - PSZ133KWA

Ref. Part #	Description	Qty.
1 PS008100	AIRBOX, WELDMENT	1
2 PS008400	HOSE, EXHAUST, 4"	1
3 NB043200	CLAMP, HOSE, 3-9/16" MIN - 4-1/2" MAX	2
4 PS008200	TUBE, PORT, EXHAUST, PAINTED	1
5 PS001900	GASKET, AIRBOX	1
6 MP139800	EDGING, WEAR, SKIRT, STEEL	1
7 MP175500	BRACKET, ADJUSTMENT, AIRBOX	1
8 MX1045	NUT, HEX, 1/4-20 UNC	2
9 NB6110	WASHER, LOCK, 1/4"	2
10 NB3350	WASHER, FLAT, 1/4"	2
11 NB6501	INSERT, 1/4-20 UNC, COMPRESSION TYPE	6
12 PS010800	MAT, INSULATION, REAR, AIRBOX	1
13 PS010900	MAT, INSULATION, LINER, AIRBOX	2
14 PS010700	MAT, INSULATION, FRONT, AIRBOX	1

## LP Regulator - PSZ133KWA

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RF014500

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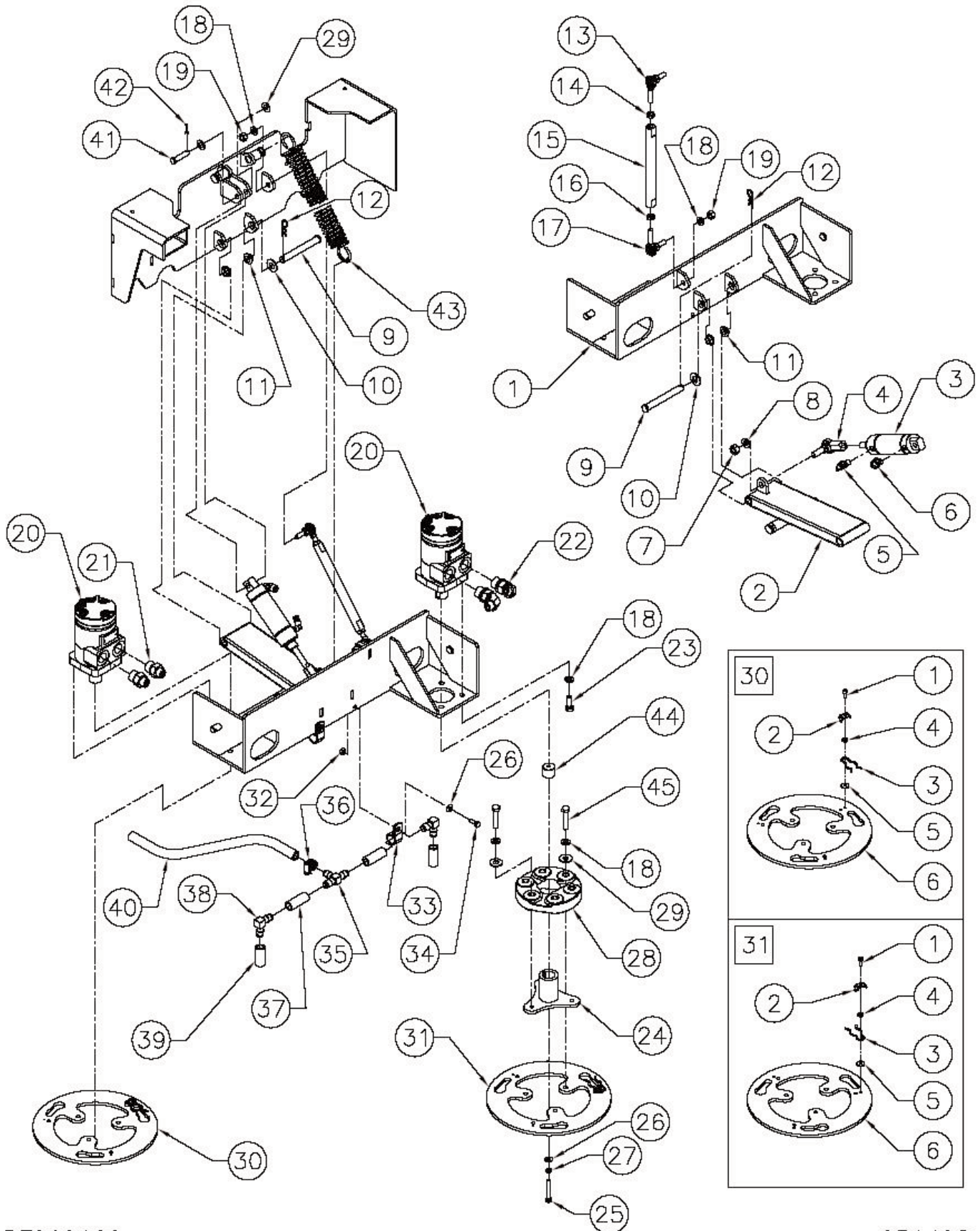
## ***LP Regulator - PSZ133KWA (CONTINUED)***

Ref. Part #	Description	Qty.
1 MP245100	REGULATOR, BEAM, T60	1
2 MP172700	BRACKET, REGULATOR, LP	1
3 MP317500	FUELOCK, 12V, ASM.	1
4 MP4330	FITTING, 49 x 6, REG TO FUELOCK	1
5 MP015100	FITTING, FUEL, ADJUSTMENT	1
6 MP017300	SCREW, ADJUSTING, FUEL	1
7 MP018900	HOSE, BARB, 1/8" NPT, 3/8" HOSE CONNECT	1
8 NB005200	SCREW, SET, #10-24 x 5/16", NYLON TIP	1
9 MP019500	HOSE, BARB, 1/8" NPT, 1/4" HOSE BARB	1
10 NB003200	BOLT, HEX, 1/4-20 x 5/8"	4
11 MX1115	WASHER, STAR LOCK, 1/4"	2
12 NB2470	FUEL, LINE, 3/8" LENGTH - 45"	1
13 NB2460	HOSE, VACUUM, 5/32" LENGTH -48"	1
14 NB7282	CLAMP, HOSE, NO. 38	1
15 NB6110	WASHER, LOCK, 1/4"	2
16 MX1045	NUT, HEX, 1/4-20 UNC	2



# Scrub Deck Group - PSZ133KWA

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RF019100

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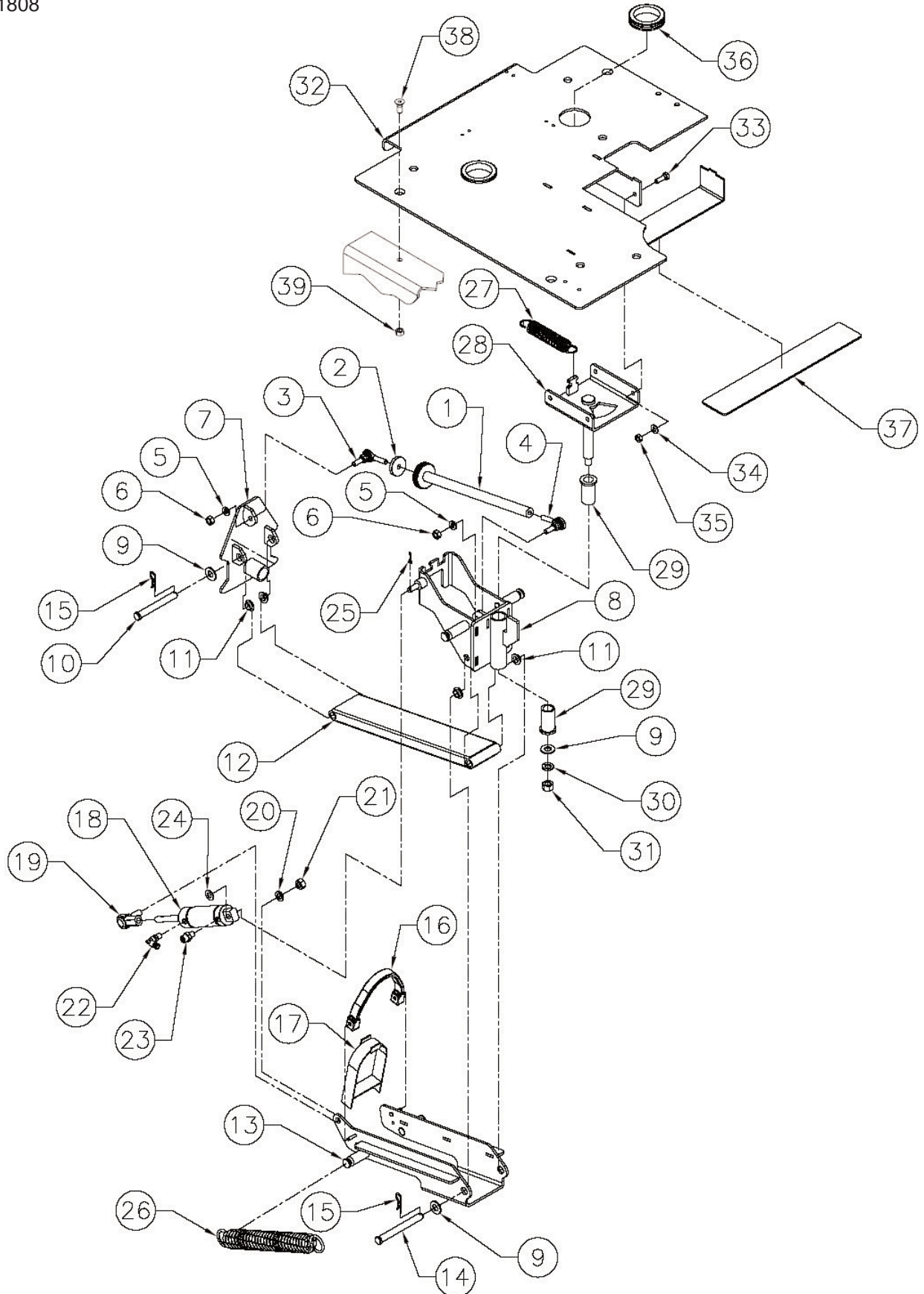
## Scrub Deck Group - PSZ133KWA

Ref. Part #	Description	Qty.
1 PS001200	FRAME, SCRUB, WELDMENT	1
2 PS007600	ARM, LIFT, FRAME, SCRUB, WELDMENT	1
3 MP143500	CYLINDER, HYDRAULIC, 1-1/2" BORE x 2" STROKE	1
4 MP178300	ROD, END, FEMALE, RH, 7/16-20 UNF w/STUD	1
5 MP171000	FITTING, AIR, 1/4" TUBE x 1/8" NPT, 90° SWIVEL	1
6 MP170500	FITTING, HYDRAULIC, 4 ORFS x 1/8" NPT, 90°	1
7 NB039600	NUT, HEX, 7/16-20 UNF	1
8 NB043500	WASHER, LOCK, 7/16"	1
9 NB039703	PIN, CLEVIS, 1/2" x 4"	2
10 NB017100	WASHER, FLAT, 1/2"	2
11 MP165400	BUSHING, FLANGED, BRONZE, 1/2" ID x 1/4" L	4
12 NB025600	PIN, PRESTO, 3/32" x 1-5/8", SS	2
13 MP156800	END, ROD, TIE, W/ STUD, 3/8-24 UNF, LH	1
14 NB042000	NUT, JAM, 3/8-24 UNC, LH	1
15 MP156700	ARM, ADJUSTMENT, FRAME, SCRUB	1
16 NB042200	NUT, JAM, 3/8-24 UNC, RH	1
17 MP156600	END, ROD, TIE, W/ STUD, 3/8-24 UNF, RH	1
18 MX1075	WASHER, LOCK, 3/8"	22
19 NB9540	NUT, HEX, 3/8-24 UNF	2
20 MP143800	MOTOR, SCRUB, HYDRAULIC	2
21 MP170000	FITTING, HYD, 6 ORFS x 10 STR, O-RING	2
22 MP170100	FITTING, HYD, 6 ORFS x 10 STR, O-RING, 90°	2
23 NB6042	BOLT, HEX, 3/8-16 x 1"	8
24 PS028700	HUB, DRIVER, PAD, TALL, WELD	2
25 NB039400	BOLT, HEX, 1/4-20 UNC x 1 3/4"	2
26 NB3350	WASHER, FLAT, 1/4"	4
27 NB6110	WASHER, LOCK, 1/4"	2
28 MP317700	COUPLING, FLEXI, TALL, 96mm B.C.	2
29 NB3450	WASHER, FLAT, 3/8"	14
30 MP201200	PLATE, CLUTCH, LS, 1-PIN, ASM.	1

Ref. Part #	Description	Qty.
30_1 NB060500	SCREW, SOCKET HD, #10-24 x 1/2", SS	1
30_2 MP098700	RETAINER, HITCH PIN, PLATE, CLUTCH	1
30_3 NB024100	PIN, HITCH, EXTERNAL	1
30_4 NB060600	WASHER, NYLON, .200" ID x .437" OD x .115" TH	1
30_5 NB060700	WASHER, NYLON, .218" ID x .625" OD x .062" TH	1
30_6 MP317800	PLATE, ATTACHMENT, HEAD	1
31 MP201300	PLATE, CLUTCH, RS, 1-PIN, ASM.	1
31_1 NB060500	SCREW, SOCKET HD, #10-24 x 1/2", SS	1
31_2 MP098700	RETAINER, HITCH PIN, PLATE, CLUTCH	1
31_3 NB024100	PIN, HITCH, EXTERNAL	1
31_4 NB060600	WASHER, NYLON, .200" ID x .437" OD x .115" TH	1
31_5 NB060700	WASHER, NYLON, .218" ID x .625" OD x .062" TH	1
31_6 MP317800	PLATE, ATTACHMENT, HEAD	1
32 NB3275	NUT, LOCK, NYLON, 1/4-20 UNC	2
33 NB8130	CLAMP, 3/4" ID, RETAINER	2
34 NB019100	BOLT, HEX, 1/4-20 UNC x 3/4"	2
35 MP165200	FITTING, TEE, PP 1/2" x 1/2" HB	1
36 NB043300	CLAMP, HOSE, 1/2" MIN - 29/32" MAX	1
37 PS017700	HOSE, TEE TO ELBOW, C. FEED, 1/2" ID	2
38 MP165300	FITTING, ELBOW, PP 1/2" x 1/2" HB	2
39 PS009100	HOSE, ELBOW TO BRUSH, 1/2" ID	2
40 PS008900	HOSE, VALVE TO TEE, 1/2" ID	1
41 NB039701	PIN, CLEVIS, 3/8" x 1-5/8"	1
42 NB026500	PIN, COTTER	1
43 MP150800	SPRING, EXTENSION, 1-1/2" OD x 7"	2
44 MP322500	SPACER, NYLON, .281" ID x .990" OD x .800" L	2
45 NB024500	SCREW, CAP, 3/8 x 1 3/4	12

# Squeegee Lift Group - PSZ133KWA

031808



RF014700

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## Squeegee Lift Group - PSZ133KWA

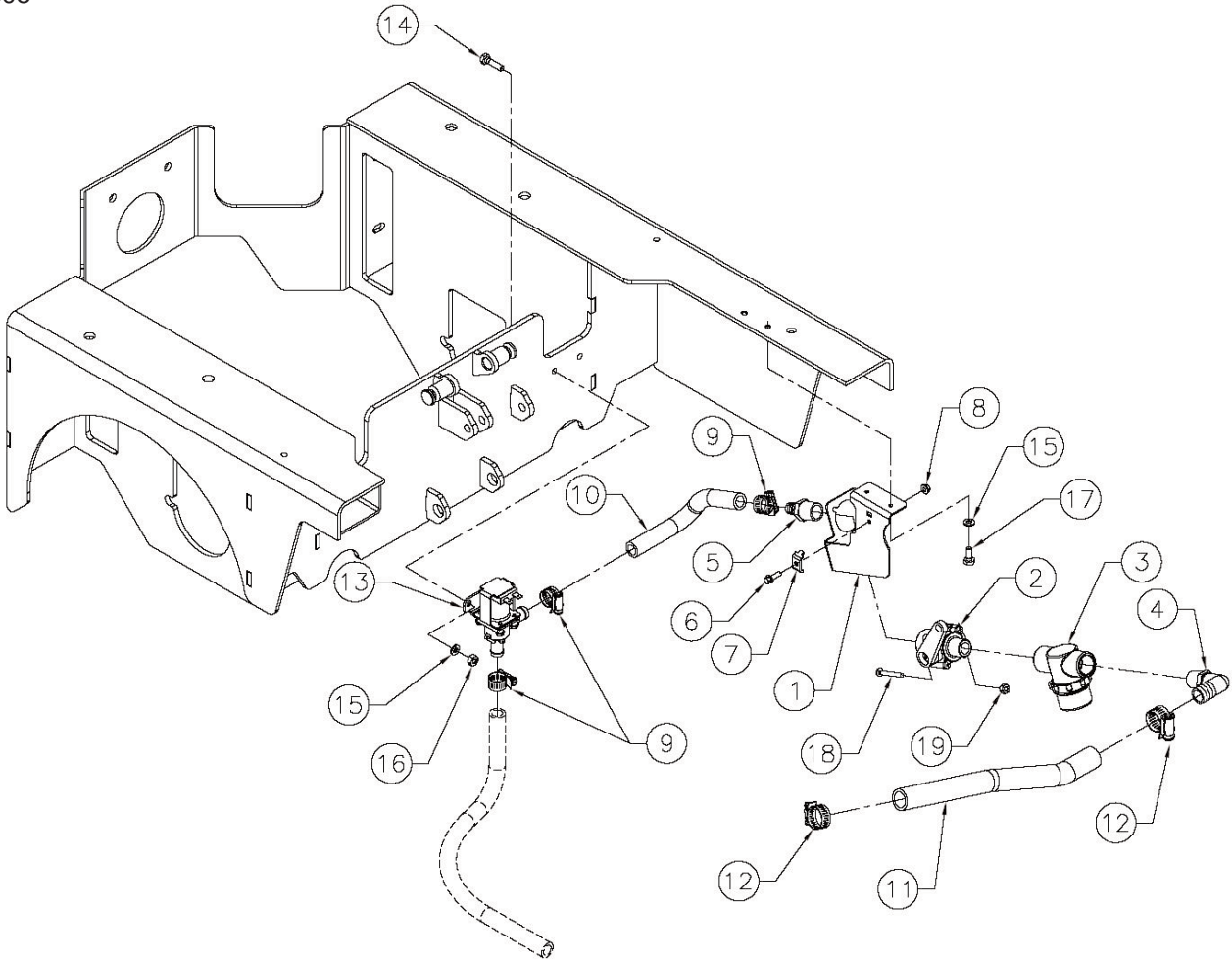
Ref. Part #	Description	Qty.
1 MP149600	ARM, ADJUSTMENT, SQ., WELDMENT	1
2 MP181600	NUT, JAM, ADJUST., SQUEEGEE, PAINTED	1
3 MP156600	END, ROD, TIE, w/STUD, 3/8-24 UNF, RH	1
4 MP156800	END, ROD, TIE, w/STUD, 3/8-24 UNF, LH	1
5 MX1075	WASHER, LOCK, 3/8"	2
6 NB9540	NUT, HEX, 3/8-24 UNF	2
7 MP175200	PLATE, LEVELING, SQUEEGEE, WELDMENT	1
8 MP150000	SWIVEL, SQUEEGEE, WELDMENT	1
9 NB017100	WASHER, FLAT, 1/2"	3
10 NB039703	PIN, CLEVIS, 1/2" x 4"	1
11 MP165400	BUSHING, FLANGED, BRONZE, 1/2" ID x 1/4" L	4
12 MP149400	ARM, LIFT, SQUEEGEE, WELDMENT	1
13 MP150600	BRACKET, LIFT, SQUEEGEE, WELDMENT	1
14 NB039704	PIN, CLEVIS, 1/2" x 4-1/2"	1
15 NB025600	PIN, PRESTO, 3/32" x 1-5/8", SS	2
16 MP171700	STRAP, TARP, 5-1/2"	1
17 MP235500	BRACKET, PRESSURE, DOWN, SQ., WELD	1
18 MP143500	CYLINDER, HYDRAULIC, 1-1/2" BORE x 2" STROKE	1
19 MP178300	ROD, END, FEMALE, RH, 7/16-20 UNF w/STUD	1

Ref. Part #	Description	Qty.
20 NB043500	WASHER, LOCK, 7/16"	1
21 NB039600	NUT, HEX, 7/16-20 UNF	1
22 MP171000	FITTING, AIR, 1/4" TUBE x 1/8" NPT, 90° SWIVEL	1
23 MP170500	FITTING, HYDRAULIC, 4 ORFS x 1/8" NPT, 90° SERIAL # 62419 AND EARLIER	1
23a MP208900	FITTING, HYD., 4 ORFS x 1/8" NPT SERIAL # 62420 AND LATER	1
24 MX1080	WASHER, FLAT, 3/8"	1
25 NB026500	PIN, COTTER	1
26 MP150800	SPRING, EXTENSION, 1-1/2" OD x 7"	2
27 MP154100	SPRING, EXTENSION, 1" OD x 4"	1
28 MP173700	PIVOT, SQUEEGEE, WELDMENT	1
29 MP150100	BUSHING, FLANGED, BRONZE, 3/4" ID x 2" L	2
30 MX1105	WASHER, LOCK, 1/2"	1
31 NB8960	NUT, HEX, 1/2-13 UNC	1
32 PS002800	PLATE, FRAME, REAR, WELDMENT	1
33 NB6545	BOLT, HEX, 5/16-18 UNC x 1"	4
34 NB9267	WASHER, FLAT, 5/16"	4
35 NB3265	NUT, LOCK, NYLON, 5/16-18	4
36 NB043800	GROMMET, 2" ID, 3/16" GROOVE, 2-3/4" OD	2
37 MP153800	PAD, STOP, DEAD, DECK, SCRUB	1
38 NB044500	SCREW, SOCKET, FLAT, C/S, 3/8-16 UNC x 1"	4
39 NB3267	NUT, LOCK, NYLON, 3/8-16 UNC	4



## Solution Delivery Group - PSZ133KWA

031808



RF019200

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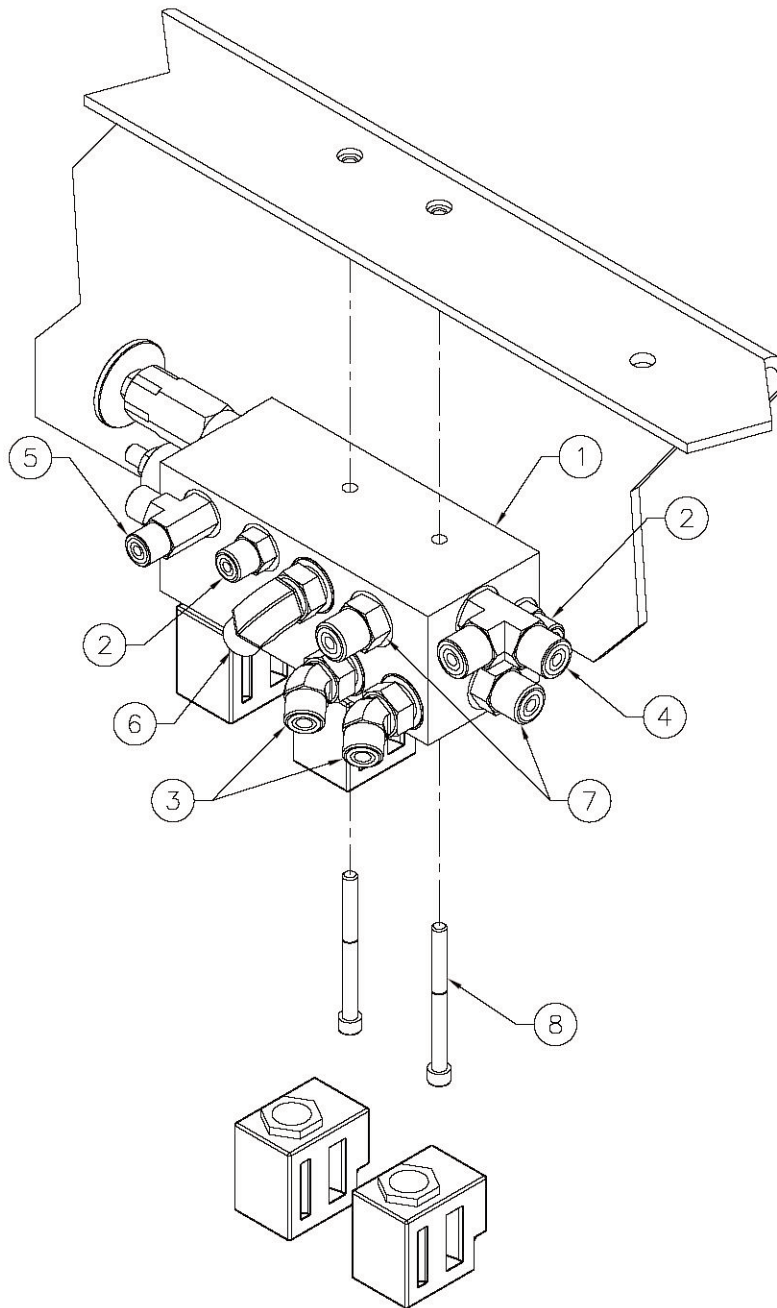
Ref. Part #	Description	Qty.
1 MP156000	BRACKET, MOUNT, VALVE	1
2 MP156100	VALVE, BALL, TWO-WAY, 1/2" FNPT x 1/2" MNPT	1
3 MP154000	STRAINER, INLET, 1/2" FNPT x 1/2" FNPT	1
4 MP164000	FITTING, ELBOW, PE, 3/4" HB x 1/2" MNPT	1
5 MP164100	FITTING, ADAPTER, PE, 1/2" HB x 1/2" MNPT	1
6 OBD5018	BOLT, HEX, M5 x 18, w/SPRING WASHER	1
7 MP098700	RETAINER, HITCH, PIN, PLATE, CLUTCH	1
8 NIG5055	NUT, FLANGE, 5MM	1

Ref. Part #	Description	Qty.
9 NB043300	CLAMP, HOSE, 1/2" MIN - 29/32" MAX	3
10 PS008800	HOSE, VALVE TO VALVE, 1/2" ID	1
11 PS008700	HOSE, SOL. TANK TO VALVE, 3/4" ID	1
12 NB029900	CLAMP, HOSE, 1", SS	2
13 MP156500	VALVE, DISPENSING, DELTROL	1
14 NB6535	BOLT, HEX, 1/4-20 UNC x 3/4"	2
15 NB6110	WASHER, LOCK, 1/4"	4
16 MX1045	NUT, HEX, 1/4-20 UNC	2
17 NB003200	BOLT, HEX, 1/4-20 UNC x 5/8"	2
18 NB027500	SCREW, #10-24, SS	2
19 NB030700	NUT, LOCK, #10, SS	2

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## Auxiliary Manifold - PSZ133KWA

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RF019300

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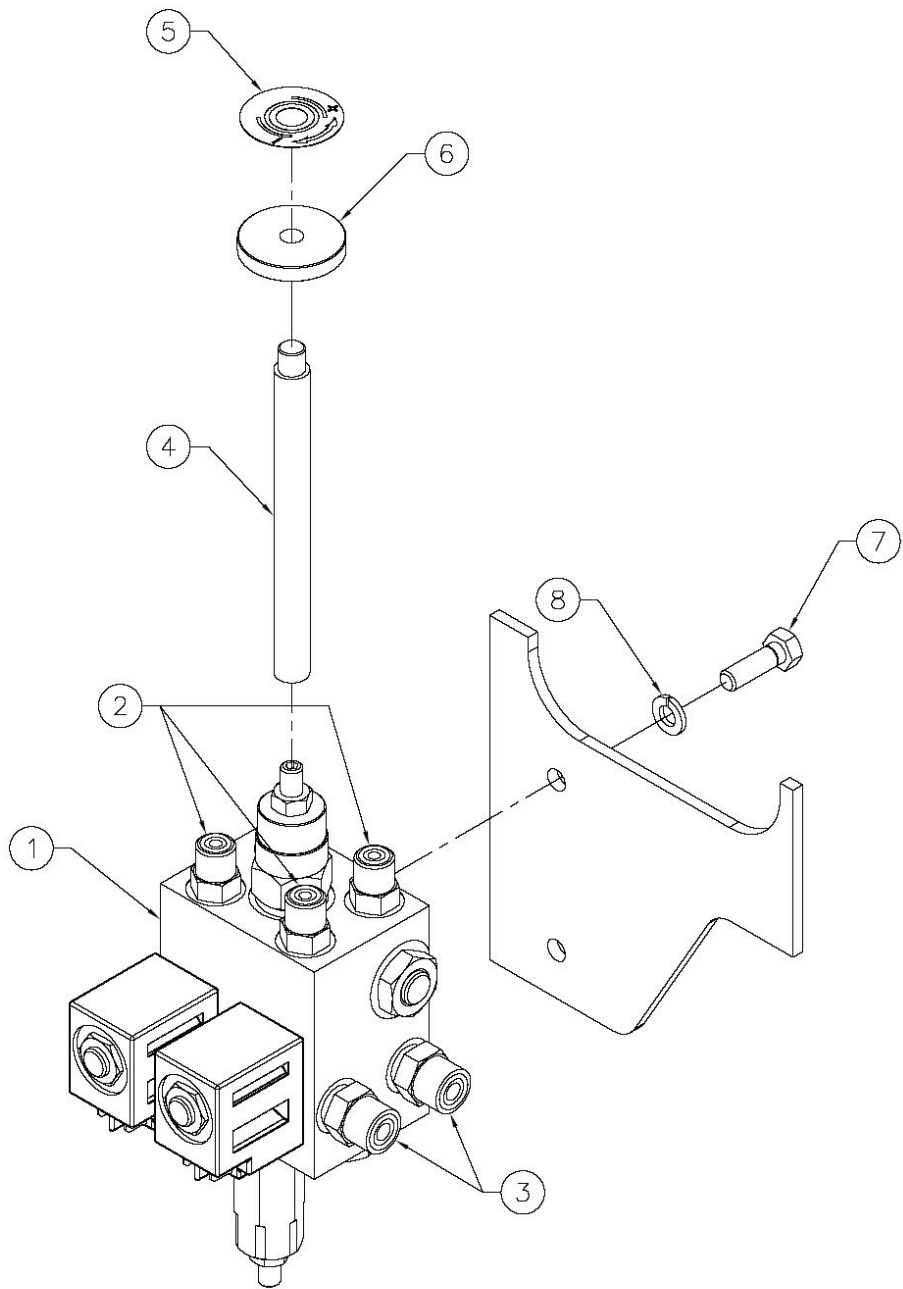
Ref. Part #	Description	Qty.
1 MP144300	MANIFOLD, AUXILIARY	1
2 MP169800	FITTING, HYD, 4 ORFS x STR, O-RING	2
3 MP169600	FITTING, HYD, 6 ORFS x STR, O-RING, 45 DEG.	2
4 MP169400	FITTING, HYD, 6 ORFS x 6 STR, O-RING, RUN TEE	1
5 MP169900	FITTING, HYD, 4 ORFS x STR, O-RING, RUN TEE	1

Ref. Part #	Description	Qty.
6 MP169700	FITTING, HYD, 6 ORFS x STR, O-RING, 90 DEG.	1
7 MP169500	FITTING, HYD, 6 ORFS x STR, O-RING	2
8 NB043400	BOLT, SOCKET HD, 1/4-20 UNC x 2-3/4"	2

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**Drive Manifold - PSZ133KWA**

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RF019400

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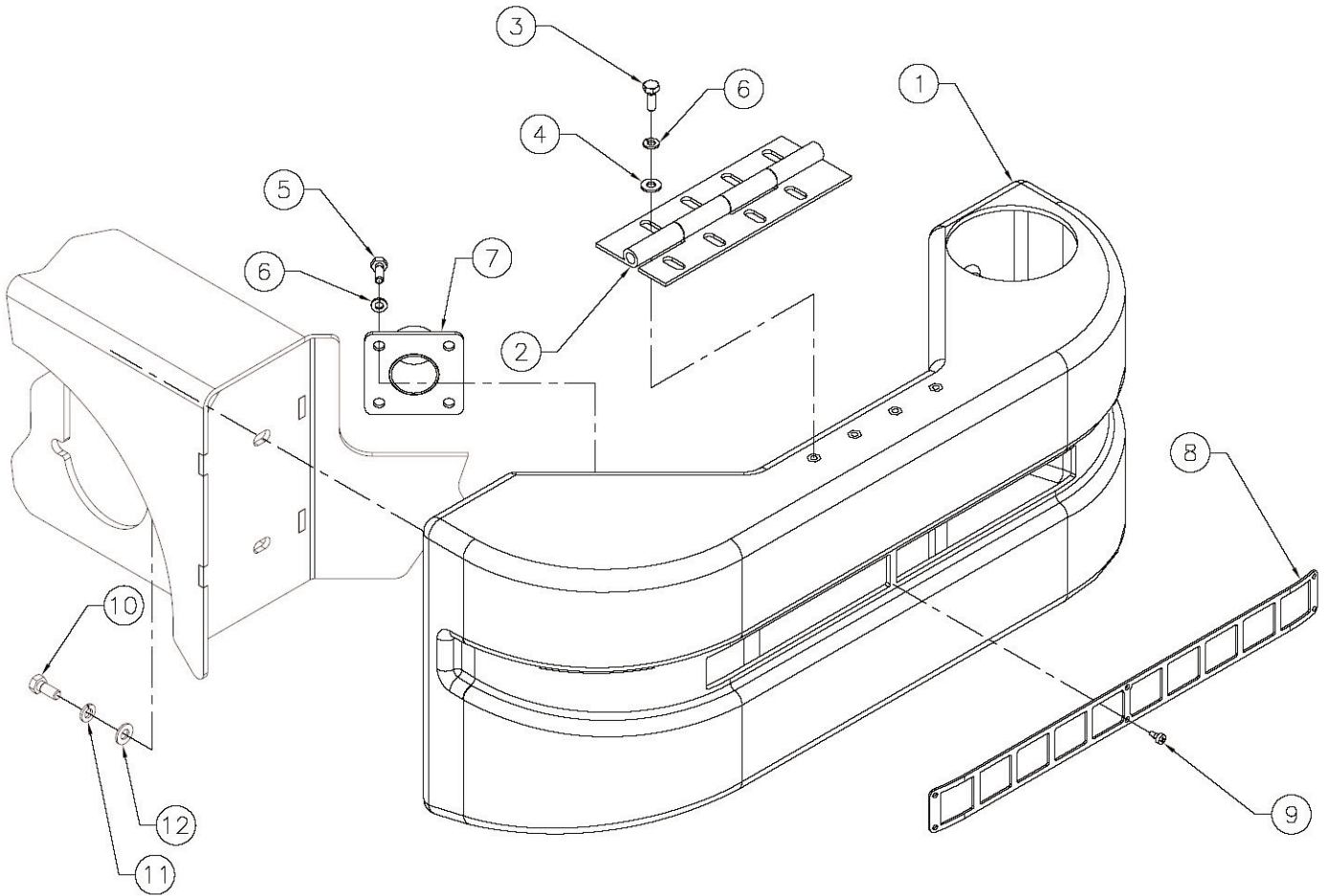
Ref. Part #	Description	Qty.
1 MP144400	MANIFOLD, DRIVE, HYDRAULIC	1
2 MP169800	FITTING, HYD, 4 ORFS x STR, O-RING	4
3 MP170400	FITTING, HYD, 6 ORFS x 4 STR, O-RING	2
4 MP184600	EXTENSION, ADJUSTMENT, BRAKE	1

Ref. Part #	Description	Qty.
5 MP184500	DECAL, ADJUSTMENT, BRAKE	1
6 MP181600	NUT, JAM, ADJUST., SQUEEGEE, PAINTED	1
7 NB9745	BOLT, HEX, 5/16-18 UNC x 3/4"	2
8 NB6111	WASHER, LOCK, 5/16"	2

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## Front Bumper - PSZ133KWA

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RF015000

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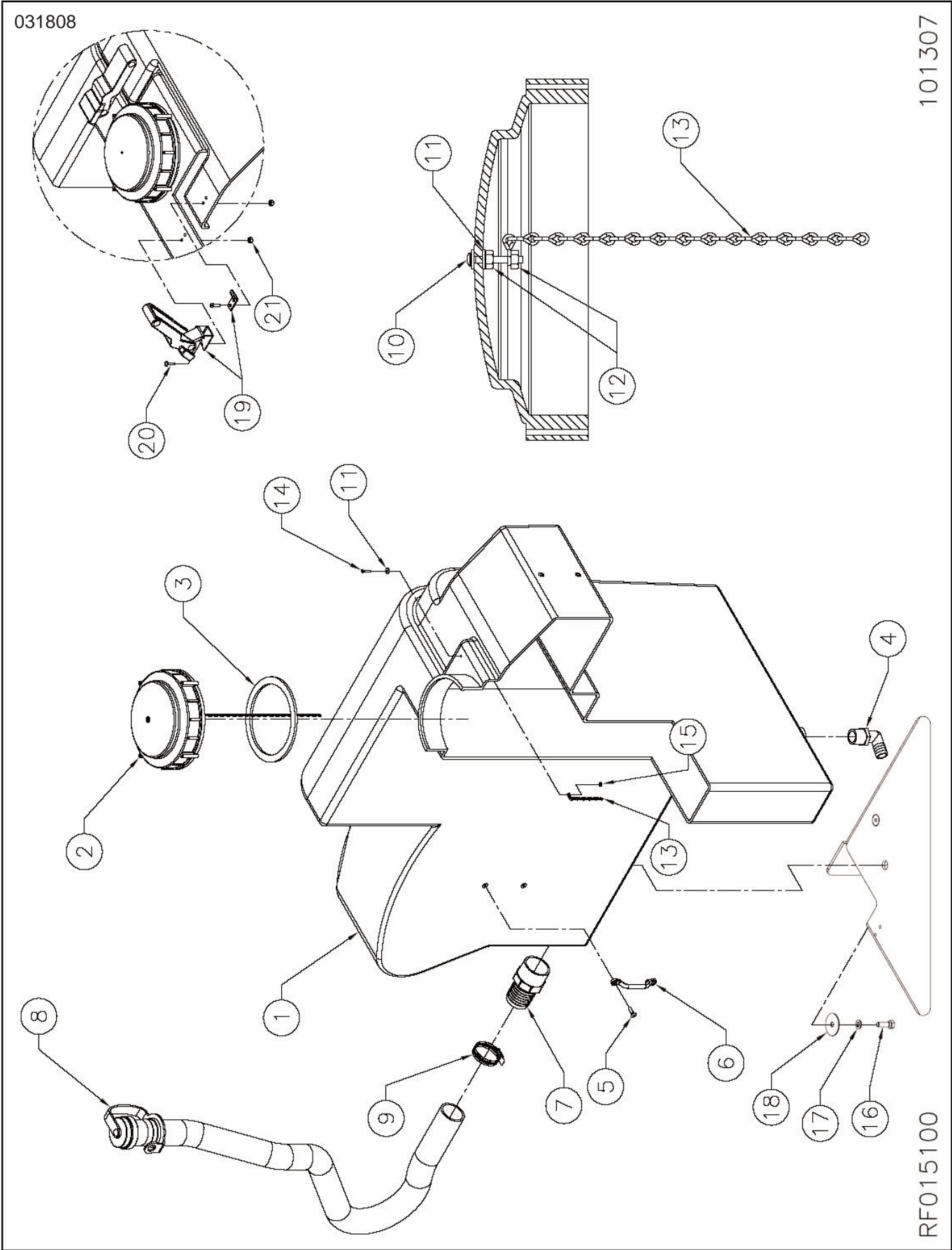
Ref. Part #	Description	Qty.
1 MP154200	BUMPER, FRONT	1
2 MP127700	HINGE, STAINLESS STEEL, 8" x 3"	1
3 NB019100	BOLT, HEX, 1/4-20 UNC x 3/4"	4
4 NB3350	WASHER, FLAT, 1/4"	4
5 NB003200	BOLT, HEX, 1/4-20 UNC x 5/8"	4
6 NB6110	WASHER, LOCK, 1/4"	8
7 MP154300	PLATE, NIPPLE, EXHAUST, WELDMENT	1

Ref. Part #	Description	Qty.
8 MP182000	GRILLE, BUMPER, PAINTED	1
9 NB043600	SCREW, PH, HI-LO, #8 x 3/8"	6
10 NB9745	BOLT, HEX, 5/16-18 UNC x 3/4"	4
11 NB6111	WASHER, LOCK, 5/16"	4
12 NB9267	WASHER, FLAT, 5/16"	4

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**Solution Tank - PSZ133KWA**



## Solution Tank - PSZ133KWA

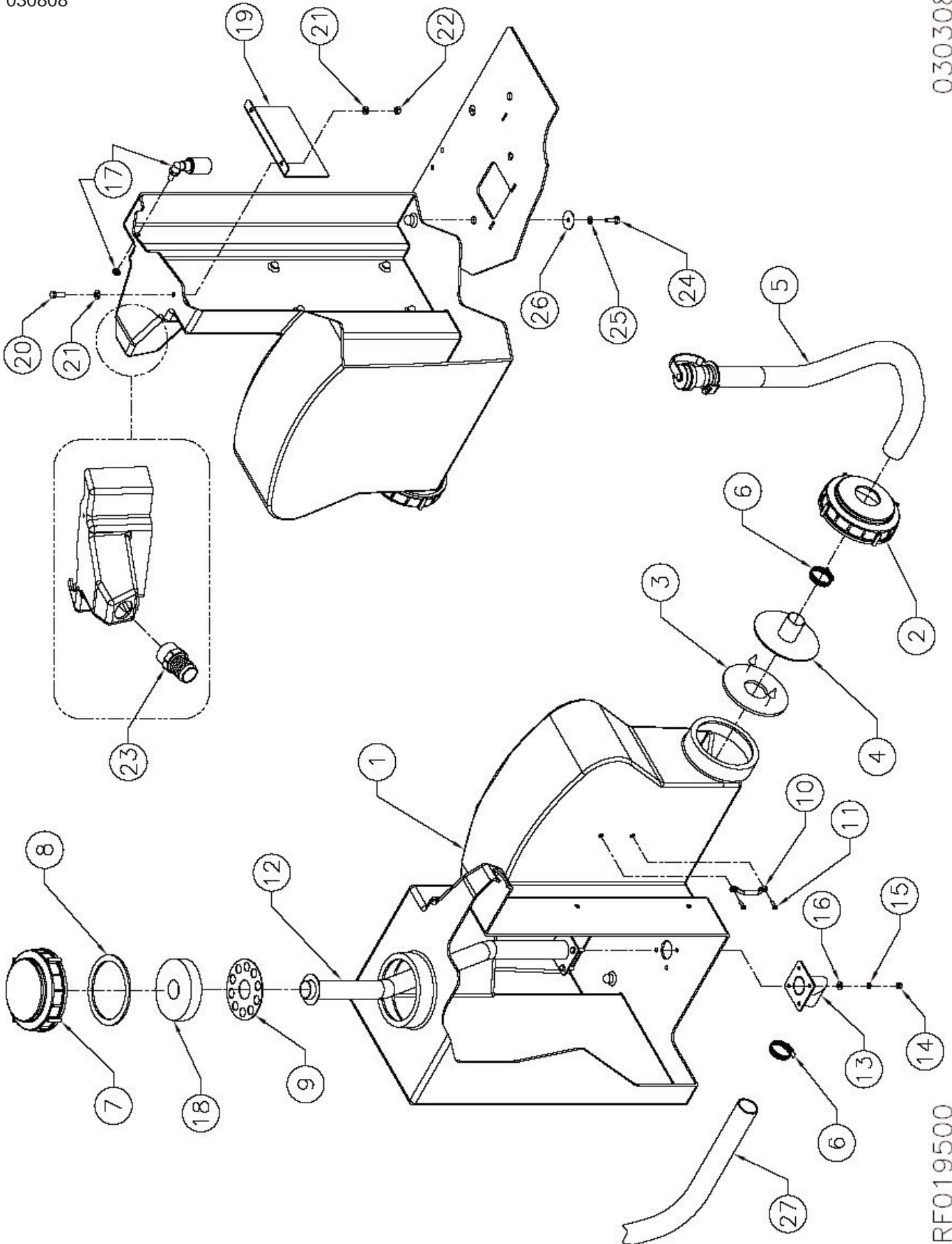
Ref. Part #	Description	Qty.
1 PS005300	TANK, SOLUTION	1
2 MP166600	CAP, SCREW, 6", SOLUTION	1
3 MP152800	GASKET, FLAT, EDPM, CAP, SCREW, 6"	1
4 MP163900	FITTING, ADAPTER, PE, 3/4" HB x 3/4" MNPT	1
5 NB010400	SCREW, OVAL HEAD, #10-24 UNC x 5/8"	2
6 RV009500	LOOP, FOOTMAN	1
7 MP120200	FITTING, ADAPTER, 1-1/2" HB x 1-1/2" MNPT	1
8 MP183600	HOSE, DRAIN, CLEAR, 36"	1
MP322800	PLUG, CAP W/ STRAP (NOT SHOWN)	1
9 NB033400	CLAMP, BREEZE, 1-1/2"	1
10 NB027100	SCREW, #6-32 x 1", SS	1
11 NB027300	WASHER, FLAT, #6, SS	3
12 NB034500	NUT, LOCK, #6-32, SS	2
13 MP183500	CHAIN, #16, STAINLESS, SINGLE JACK	18"
14 NB006900	SCREW, MACHINE, SLOTTED, #4-40 x 5/8"	1
15 NB007000	NUT, LOCK, NYLON, #4-40	1
16 NB9745	BOLT, HEX, 5/16-18 UNC x 3/4"	3
17 NB6111	WASHER, LOCK, 5/16"	3
18 NB9505	WASHER, FLAT, 5/6" x 1-1/2"	3
19 MP166000	LATCH, DRAW	2
20 NB041200	SCREW, PAN HD, #8-32 x 3/4"	8
21 NB9725	NUT, LOCK, NYLON, #8-32	8

**FOR MACHINES WITH SERIAL #62233 AND EARLIER CALL  
AMANO PIONEER ECLIPSE CUSTOMER SERVICE**

# Recovery Tank - PSZ133KWA

030808

030308



RF019500

## ***Recovery Tank - PSZ133KWA***

Ref. Part #	Description	Qty.
1 PS001300	TANK, RECOVERY	1
2 MP167000	CAP, SCREW, 6", RECOVERY	1
3 MP171200	GASKET, LID, RECOVERY	1
4 MP171300	TUBE, CLEANOUT, WELDMENT	1
5 MP183600	HOSE, DRAIN, CLEAR, 36"	1
MP322800	PLUG, CAP W/ STRAP (NOT SHOWN)	1
6 NB033400	CLAMP, BREEZE, 1-1/2"	2
7 MP183800	CAP, SCREW, 6", TOP, RECOVERY	1
8 MP152800	GASKET, FLAT, EDPM, CAP, SCREW, 6"	1
9 MP209400	PLATE, DIFFUSION, FILTER	1
10 RV009500	LOOP, FOOTMAN	1
11 NB010400	SCREW, OVAL HD, #10-24 UNC x 5/8"	2
12 MP153200	TUBE, VACUUM, WELDMENT	1
13 MP153400	ELBOW, VACUUM, WELDMENT	1
14 MX1045	NUT, HEX, 1/4-20 UNC	4
15 NB6110	WASHER, LOCK, 1/4"	4
16 NB3350	WASHER, FLAT, 1/4"	4
17 SA017700	SWITCH, FLOAT, REPLACEMENT, ASM.	1
18 PS028400	FILTER, WHITE, TANK, RECOVERY	1
19 MP209100	BRACKET, BAFFLE, DIFFUSION	1
20 NB025000	BOLT, HEX, 5/16-18 x 1-1/2", SS	2
21 NB031500	WASHER, 5/16", BONDED NEOPRENE	4
22 NB026300	NUT, LOCK, 5/16", SS	2
23 MP120200	FITTING, ADAPTER, 1-1/2" HB x 1-1/2" MNPT	1
24 NB9745	BOLT, HEX, 5/16-18 UNC x 3/4"	4
25 NB6111	WASHER, LOCK, 5/16"	4
26 NB9505	WASHER, FLAT, 5/6" x 1-1/2"	4
27 PS017600	HOSE, INTAKE, REGEN	1

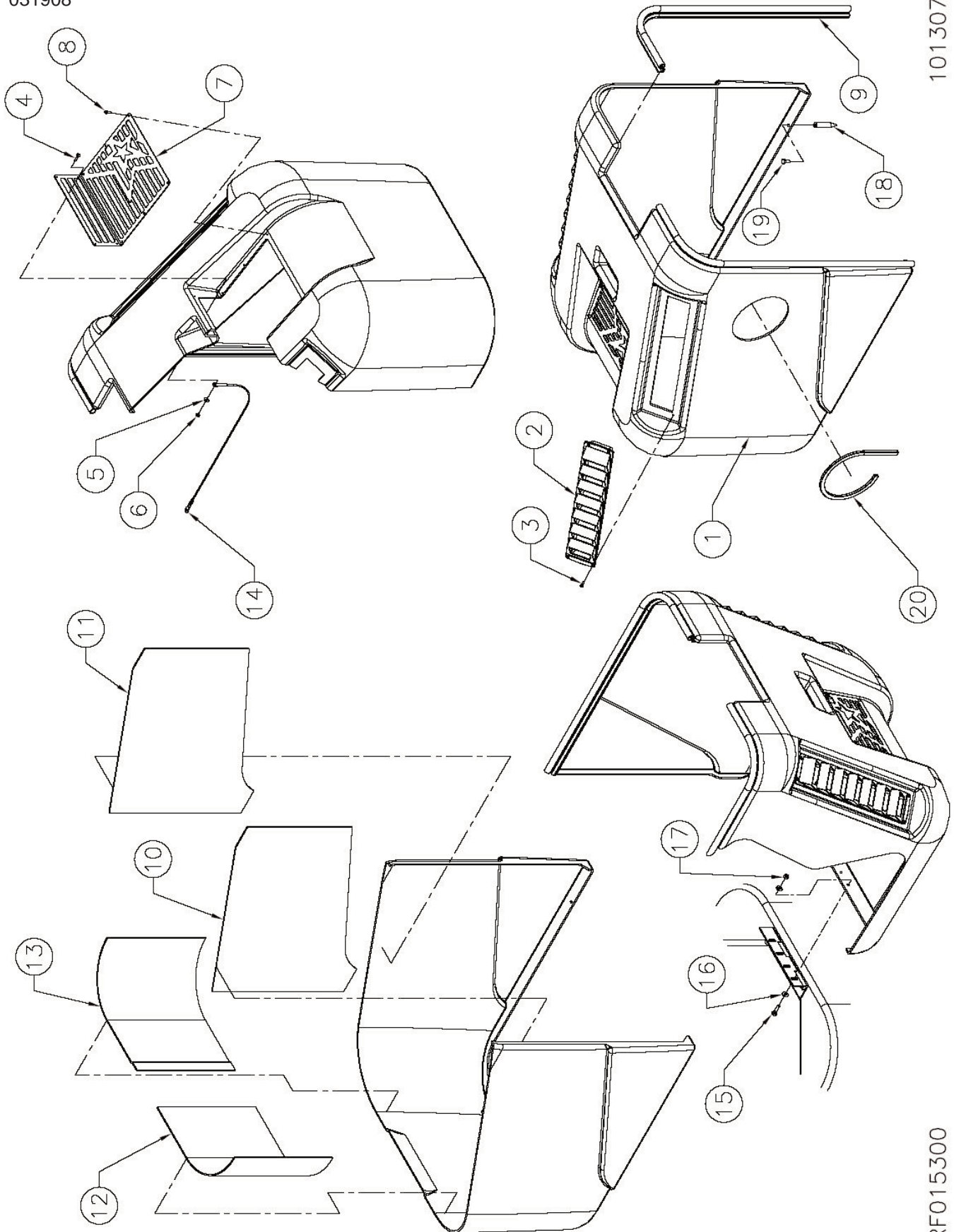
**FOR MACHINES WITH SERIAL #62419 AND EARLIER CALL  
AMANO PIONEER ECLIPSE CUSTOMER SERVICE**



# Engine Cover - PSZ133KWA

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RF015300

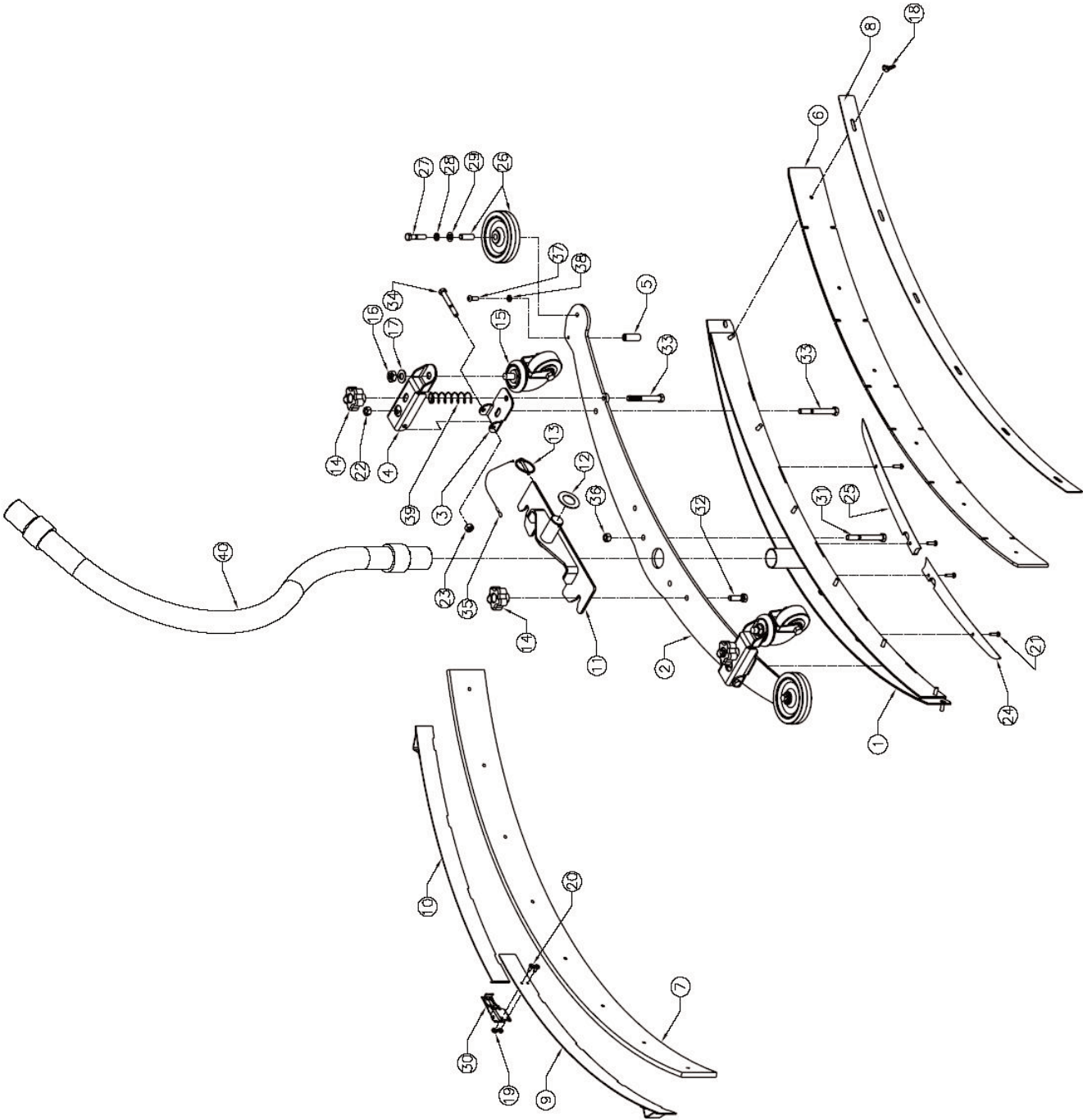
## Engine Cover - PSZ133KWA

Ref. Part #	Description	Qty.
1 PS002300	COVER, ENGINE	1
2 MP153600	LOUVERS, PLASTIC, PROFILE, LOW	2
3 NB041100	SCREW, CS, HI-LO, #8 x 3/4", BLK	8
4 NB041200	SCREW, PAN HEAD, #8 x 3/8"	2
5 NB9645	WASHER, FLAT, #10	2
6 NB9725	NUT, LOCK, #8-32, NYLON	2
7 PS002700	GRILLE, COVER, ENGINE	1
8 NB043600	SCREW, PH, HI-LO, #8 x 3/8"	8
9 MP165800	SEAL, TRIM CO-EXTRUDED	2
10 PS011000	MAT, INSULATION, LS, ENGINE COVER	1
11 PS011100	MAT, INSULATION, RS, ENGINE COVER	1
12 PS011200	MAT, INS., FRONT, LEFT, ENGINE, COVER	1
13 PS011300	MAT, INS., FRONT, RIGHT, ENGINE, COVER	1
14 MP167100	LANYARD, COVER, ENGINE	2
15 NB6530	BOLT, HEX, 1/4-20 UNC x 1"	4
16 NB3350	WASHER, FLAT, 1/4"	8
17 NB3275	NUT, LOCK, NYLON, 1/4-20 UNC	4
18 MP207900	PIN, RETAINER, COVER, ENGINE	2
19 NB019100	BOLT, HEX, 1/4 - 20 UNC X 3/4"	2

Squeegee (45") - PSZ133KWA

031908

121907



RF015400

## Squeegee (45") - PSZ133KWA

Ref. Part #	Description	Qty.	Ref. Part #	Description	Qty.
1 PS019400	SQUEEGEE, BOTTOM, 45" WELDMENT	1	20 NB007400	BOLT, PHILLIPS PAN HD, #8-32 x 1/2	2
2 PS017801	PLATE, TOP, SQUEEGEE, FINISHED, 45"	1	21 NB049100	SCREW, BH, 10-24 X 7/8, SS	4
3 PS018001	BASE, BRACKET, CASTER, PAINT.	2	22 NB3267	NUT, LOCK, 3/8 NC	2
4 PS018101	BRACKET, CASTER, PAINTED	2	23 NB3265	NUT, LOCK, 5/16-18 NC	2
5 PS018300	PIN, CLAMPING, SQUEEGEE	2	24 PS019600	CHANNEL, SQUEEGEE, PLASTIC, LEFT	1
SA020700	CLAMP, SQUEEGEE, 45", CONVERSION KIT	1	25 PS019700	CHANNEL, SQUEEGEE, PLASTIC, RIGHT	1
6 PS018900	RUBBER, SQUEEGEE, FRONT, 45"	1	26 MP233100	WHEEL, 4" X 7/8" PERFORMA, FLAT GRAY	2
7 PS019000	RUBBER, SQUEEGEE, REAR, 45"	1	27 NB025000	BOLT, HEX, 5/16-18 X 1 1/2", SS	2
8 PS018600	STRAP, RETAINER, SQUEEGEE, FRONT, 45"	1	28 NB6111	WASHER, LOCK, 5/16"	2
9 PS019200	STRAP, RETAINER, SQUEEGEE, REAR, RS, WELD, 45"	1	29 NB9267	WASHER, FLAT, 5/16"	2
10 PS019300	STRAP, RETAINER, SQUEEGEE, REAR, LS, WELD, 45"	1	30 MP259000	LATCH, DRAW, HANDLE, W/EXPOSED BASE	1
11 MP148900	BRACKET, MOUNT, SQUEEGEE, WELDMENT	1	31 NB051700	BOLT, HEX, 3/8-16 X 3, SS	2
12 MP165500	WASHER, THRUST, 1" ID X 1-3/4" OD	1	32 NB051800	BOLT, HEX, 3/8-16 X 1-1/4, SS	2
13 NB043000	PIN, LYNCH, 3/16" DIA. X 1-9/16" L	1	33 NB051900	BOLT, HEX, TAP, 3/8-16 X 3-1/2, SS	4
14 RV005100	KNOB, HANDLE	4	34 NB052000	BOLT, HEX, 5/16-18 X 2-1/2, SS	2
15 MP012801	CASTER, 2-1/2", REAR, 3/4" STEM	2	35 MP066900	LANYARD, CABLE, 6"	1
16 NB014600	NUT, LOCK, 1/2-13	2	36 NB9310	NUT, LOCK, JAM, 3/8-16	2
17 NB017100	WASHER, FLAT, NARROW, 1/2"	2	37 MP311900	SPRING, COMPRESSION, .761 ID X 3" LONG	2
18 NB033600	NUT, WING, 1/4-20, SS	6			
19 NB9725	NUT, LOCK, 8-32, NYLON	2			

### Optional Squeegee Rubber

Ref. Part #	Description	Qty.
1 PS020000	SQUEEGEE, RUBBER, GUM, RED, FRONT, 45"	1
2 PS020100	SQUEEGEE, RUBBER, NEOPRENE, RED, FRONT, 45"	1
3 PS020200	SQUEEGEE, RUBBER, LINATEX, RED, FRONT, 45"	1
4 PS020300	SQUEEGEE, RUBBER, GUM, RED, REAR, 45"	1
5 PS020400	SQUEEGEE, RUBBER, NEOPRENE, RED, REAR, 45"	1
6 PS020500	SQUEEGEE, RUBBER, LINATEX, RED, REAR, 45"	1

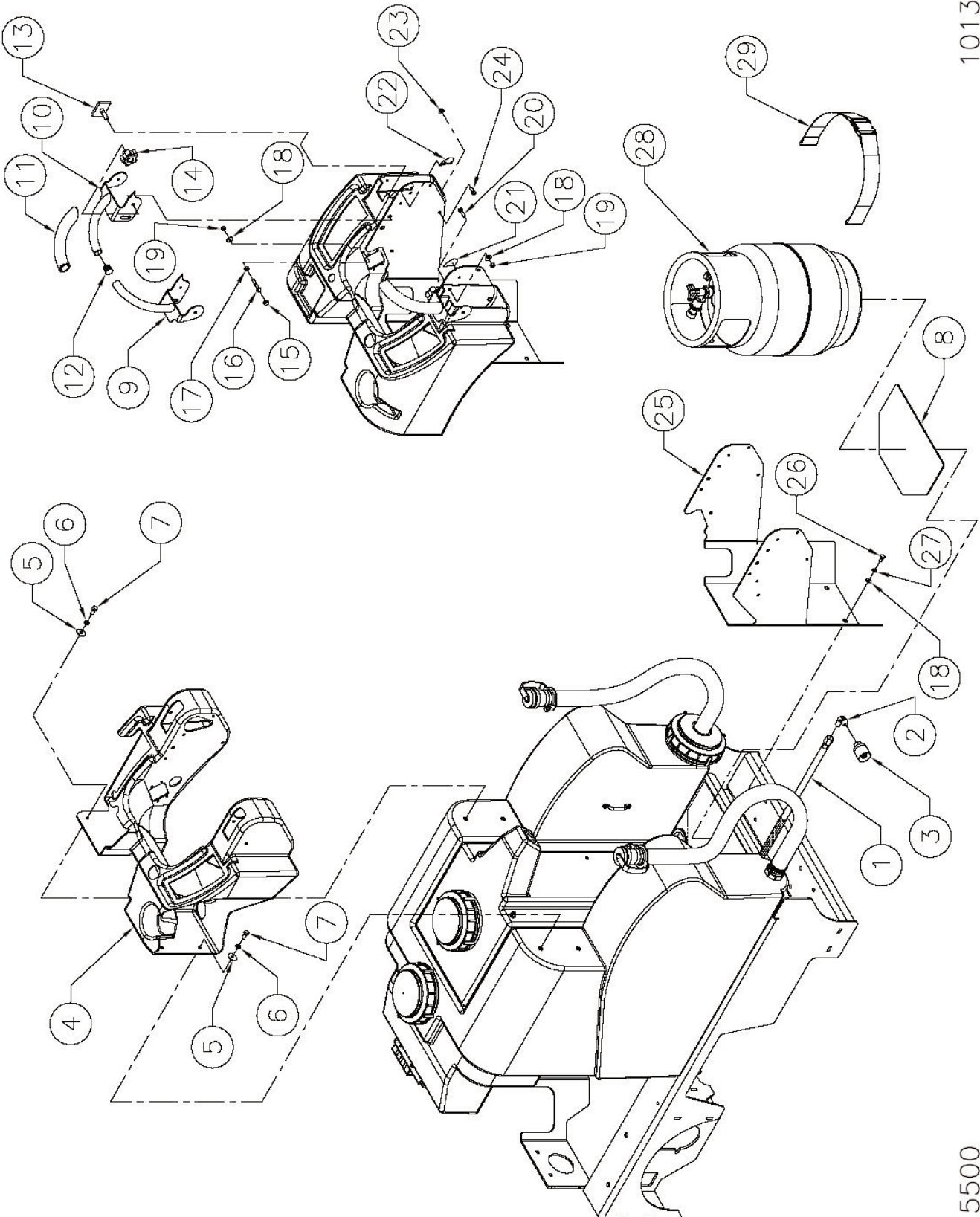
**FOR MACHINES WITH SERIAL #65252 AND EARLIER CALL  
AMANO PIONEER ECLIPSE CUSTOMER SERVICE**



# Control Panel / Bulkhead Group - PSZ133KWA

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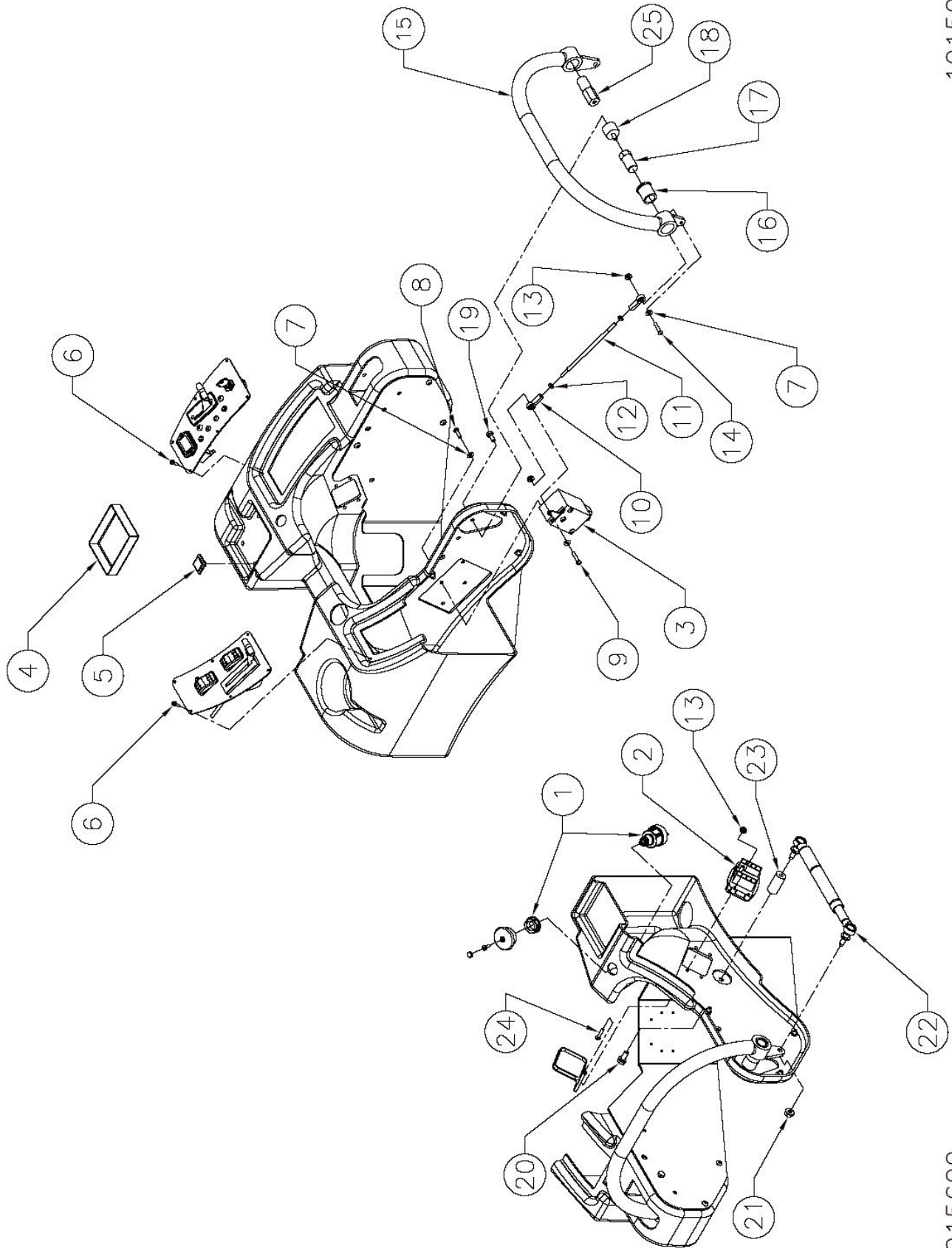
RF015500

## Control Panel / Bulkhead Group - PSZ133KWA

Ref. Part #	Description	Qty.
1 MP195900	HOSE, FUEL, LP, 100" ASM.	1
2 MP4330	FITTING, 49 x 6, REG TO FUELOCK	1
3 MP4500	COUPLER, QUICK REGO, FEMALE	1
4 PS000800	PANEL, CONTROL	1
5 NB9505	WASHER, FENDER, 5/16" x 1-1/2"	4
6 NB6111	WASHER, LOCK, 5/16"	4
7 NB9745	BOLT, HEX, 5/16-18 UNC x 3/4"	4
8 MP153900	PAD, TANK, LP	1
9 PS009200	GRIP, CONTROL PANEL, LS, WELDMENT	1
10 PS009500	GRIP, CONTROL PANEL, RS, WELDMENT	1
11 MP179800	GRIP, FOAM, POWERSTAR	2
12 MP179900	CAP, END, GRIP	2
13 MP178700	SPACER, GRIP, WELDMENT	2
14 RV005100	KNOB, HANDLE	2
15 NB4000	CAPLUG, .312 x 1/2", YELLOW	2
16 NB9000	BOLT, HEX, 1/4-20 UNC x 1-1/2"	2
17 MX1045	NUT, HEX, 1/4-20 UNC	2
18 NB006400	WASHER, FLAT, 1/4" x 1-1/4"	10
19 NB3275	NUT, LOCK, NYLON, 1/4-20 UNC	6
20 NB6530	BOLT, HEX, 1/4-20 UNC x 1"	4
21 MP181200	DECAL, CONTROL, SPEED, LS	1
22 MP181300	DECAL, CONTROL, SPEED, RS	1
23 NB9545	NUT, FLANGE, 1/4-20	6
24 NB049000	BOLT, BH, 1/4-20 x 3/4", SS	6
25 PS010500	BULKHEAD, PANEL, CONTROL, PAINTED	1
26 NB019100	BOLT, HEX, 1/4-20 UNC x 3/4"	4
27 NB6110	WASHER, LOCK, 1/4"	4
28 MP021702	CYLINDER, SAFETY FILL, UNPAINTED, w/DEC.	1
29 MP108100	STRAP, TANK, MEAN MACHINE	1

# Operational Controls - PSZ133KWA

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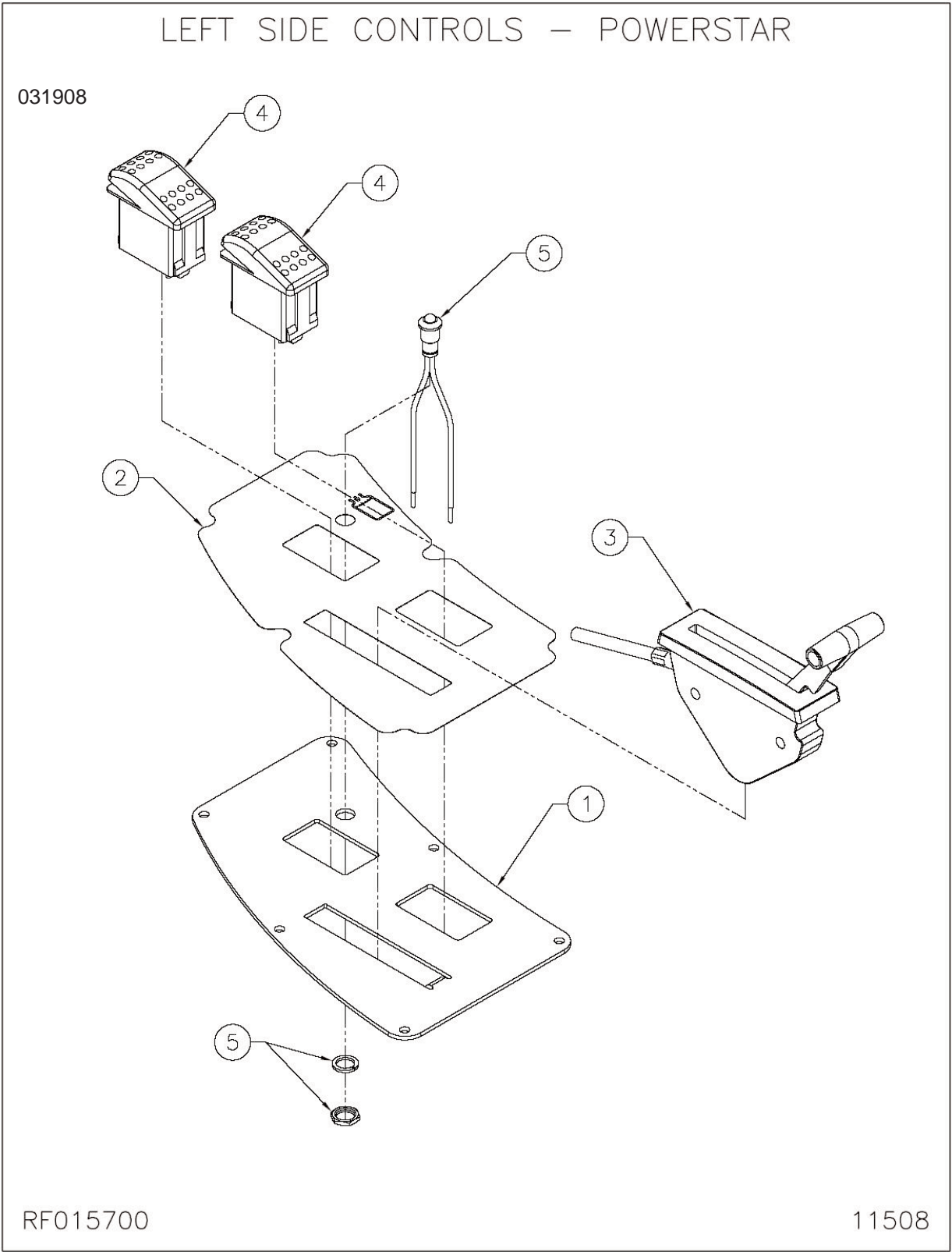
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RF015600

## Operational Controls - PSZ133KWA

Ref. Part #	Description	Qty.
1 MP151700	SWITCH, STOP, EMERGENCY	1
2 MP151800	BLOCK, FUSE, ATC, TERMINAL, REAR	1
3 MP142600	MODULE, COMMAND, REMOTE	1
4 MP182500	TRAY, DEBRIS	1
5 MP8310	VELCRO, HOOK, STUDS	4
6 NB043600	SCREW, PH, HI-LO, #8 x 3/8"	12
7 NB9645	WASHER, FLAT, #10	4
8 NB049200	SCREW, BH, #10-24 x 5/8", SS	2
9 NB049100	SCREW, BH, #10-24 x 7/8", SS	1
10 MP151100	END, ROD, FEMALE, #10-32 UNF	2
11 MP151200	ROD, LINKAGE, STEERING (SN 62233 AND EARLIER)	1
MP237500	ROD, LINKAGE, F/R (SN 62420 AND LATER)	1
12 NB006600	NUT, KEPS, #10-32	2
13 NB9510	NUT, SPIN LOCK, #10-24	6
14 NB049100	SCREW, BH, #10-24 x 7/8", SS	1
15 PS001100	HANDLE, CONTROL, F/R, WELDMENT	1
16 MP152400	BEARING, FLANGED, BRONZE, 3/4" ID X 1-1/8" LONG	2
17 MP152300	PIN, PIVOT, STEERING	1
18 MP152200	MOUNT, VIBRATION, RND, 1/4-20 x 1/2"	1
19 NB049300	BOLT, FLANGE, HEX, 1/4-20 UNC x 1/2", ZINC	2
20 OWB8020	BOLT, HEX, M8 x 16	1
21 NB3105	NUT, FLANGE, M8 x 1.25	1
22 MP152100	DAMPER, SELF-CENTERING, 12 lb LIGHT	1
23 MP152000	SPACER, SPRING, RETURN	1
24 NB5350	SCREW, MACHINE, TH, 10-24 X 1	4
25 MP193300	PIN, PIVOT, RS, F/R	1

**LS Control Panel Group - PSZ133KWA**



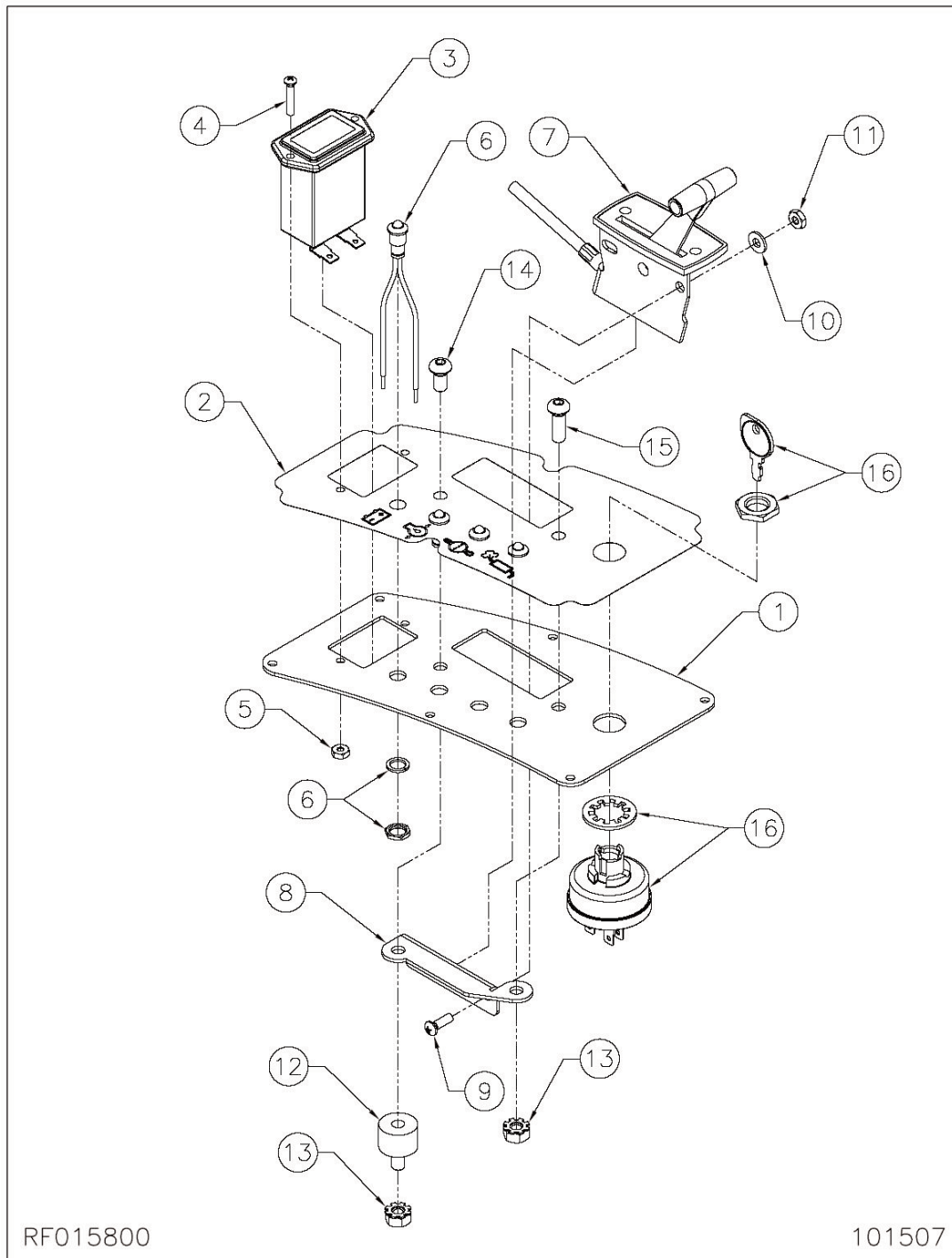
Ref. Part #	Description	Qty.
1 PS010100	PLATE, PANEL, CONTROL, LS, PAINTED	1
2 PS007700	DECAL, CP, POWERSTAR, LEFT	1
3 MP154400	CABLE, FEED, SOLUTION	1

Ref. Part #	Description	Qty.
4 MP209700	SWITCH, ROCKER, 36V, DPST	2
5 MP154500	LIGHT, L.E.D., 12V, RED	1



## RS Control Panel Group - PSZ133KWA

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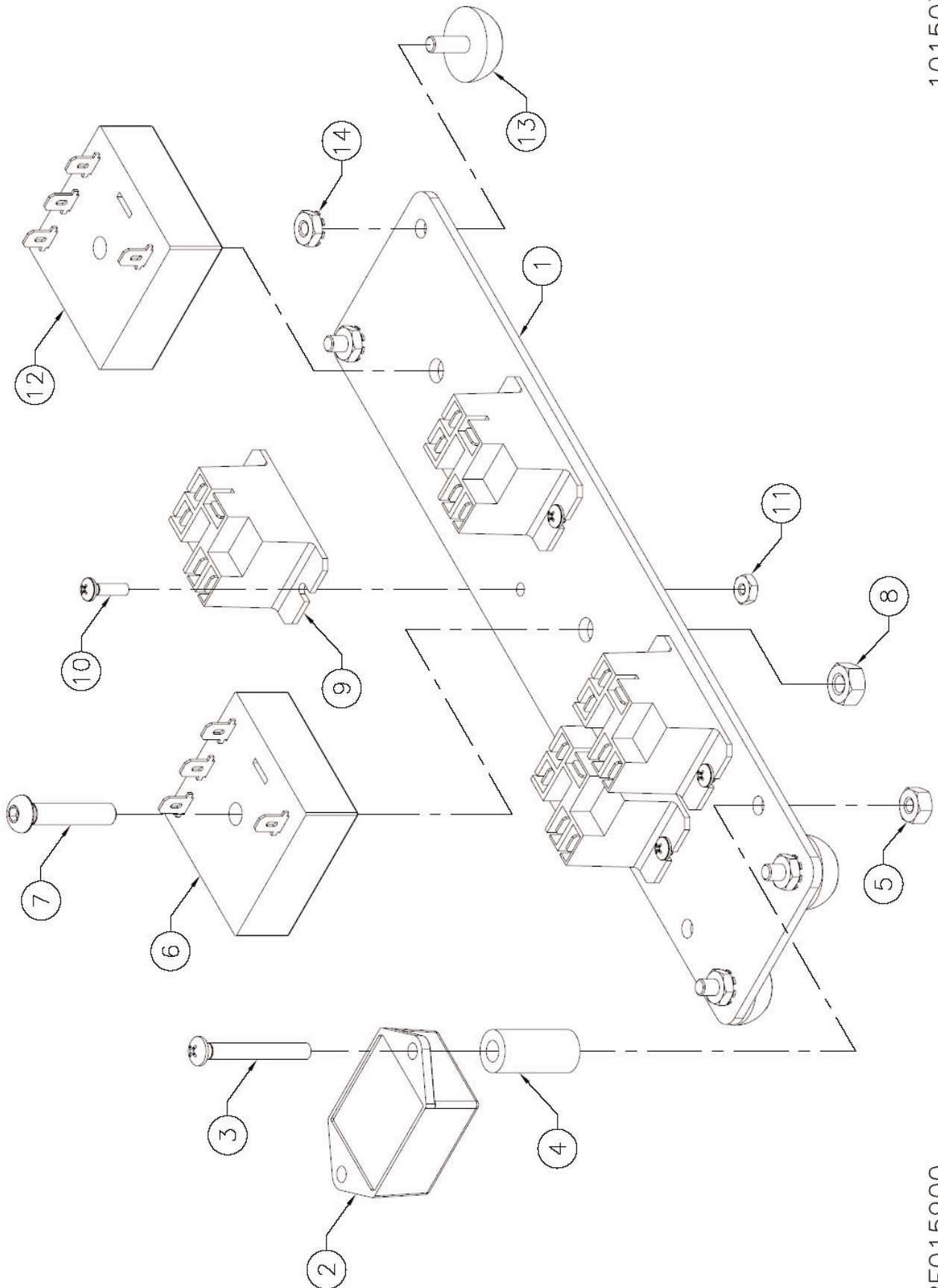
Ref. Part #	Description	Qty.
1 PS010200	PLATE, PANEL, CONTROL, RS, PAINTED	1
2 PS007800	DECAL, CP, POWERSTAR, RIGHT	1
3 MP280800	METER, HOUR, DIGITAL, SENDEC	1
4 NB9200	SCREW, PAN HD, #6-32 x 5/8"	2
5 NB020800	NUT, LOCK, NYLON, #6-32	2
6 MP154500	LIGHT, L.E.D., 12V, RED	4
7 MP154700	CABLE, THROTTLE, ENGINE	1
8 MP181500	BRACKET, MOUNTING, THROTTLE, PAINTED	1

Ref. Part #	Description	Qty.
9 NB007400	BOLT, PHILLIPS, PAN HD, #8-32 x 1/2"	2
10 NB9720	WASHER, FLAT, #8	2
11 NB9725	NUT, LOCK, #8-32, NYLON	2
12 IN3510	MOUNT, TYPE S, 1/4-20	1
13 NB9845	NUT, KEPS, 1/4-20	2
14 NB019200	SCREW, BH, 1/4-20 x 3/8"	1
15 NB3001	SCREW, BH, 1/4-20 x 3/4"	1
16 MP199000	SWITCH, KEY	1

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### ***Relay and Timer Group - PSZ133KWA***

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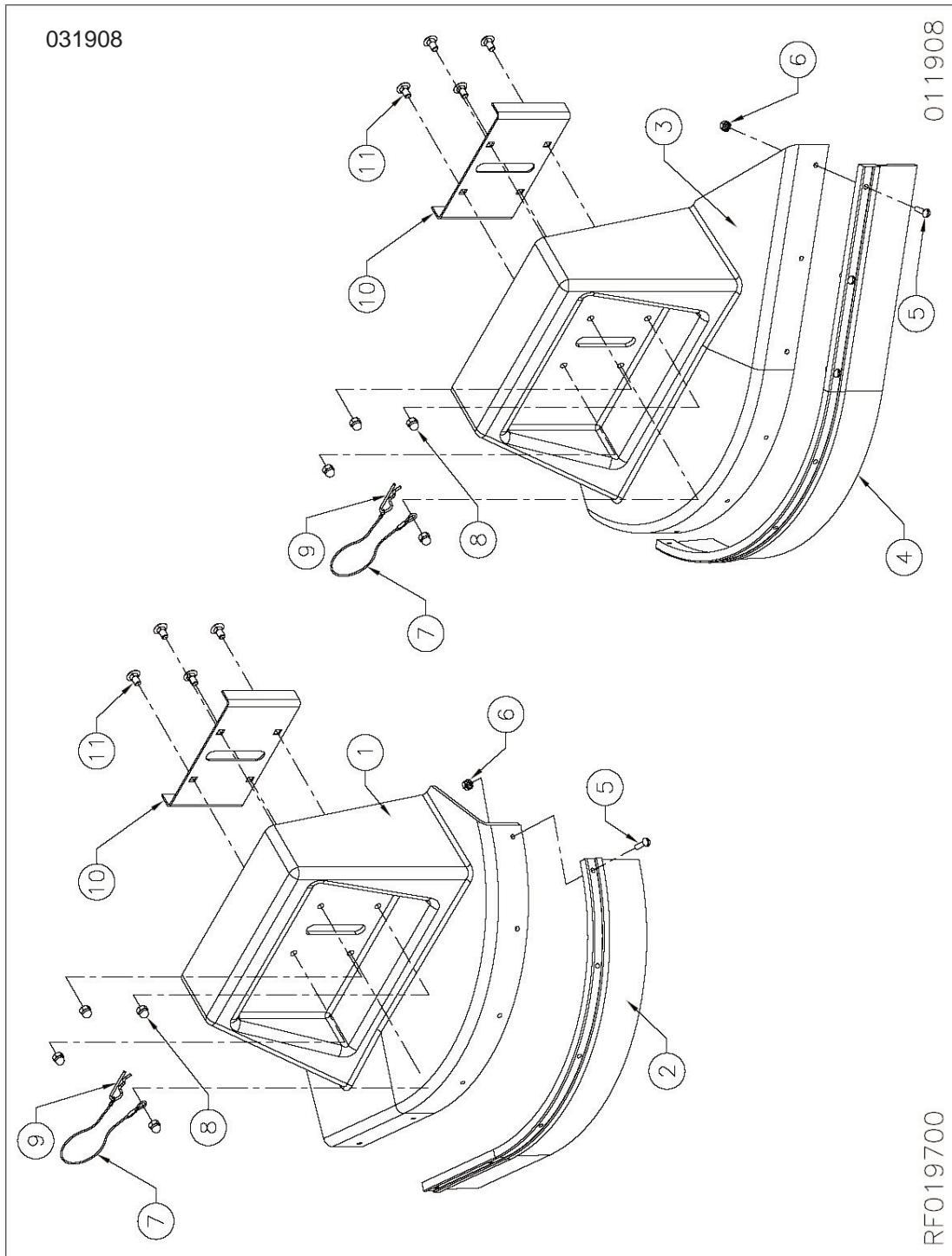
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### ***Relay and Timer Group - PSZ133KWA (Continued)***

Ref. Part #	Description	Qty.
1 PS015600	PLATE, RELAY & TIMER, PNTD	1
2 PS014200	MODULE, ECOSENSE, BASIC, ASM, Z1	1
3 NB027500	SCREW, #10-24 X 1-1/2", SS	2
4 NB008600	SPACER, NYLON, 0.50 OD, 0.25 ID, 1.00 L	2
5 NB9510	NUT, SPIN LOCK, #10-24	2
6 MP151600	MODULE, TIMING, FIXED, 2 SEC	1
7 NB9319	SCREW, BH, 1/4-20 X 1-1/4"	2
8 NB3275	NUT, LOCK, NYLON, 1/4-20	2
9 MP151500	RELAY, BOARD, CIRCUIT, PRINTED, 12V	4
10 NB9200	SCREW, PAH HD, #6-32 X 5/8"	8
11 NB020800	NUT, LOCK, NYLON, #6-32	8
12 MP235400	MODULE, TIMING, FIXED, 10 SEC	1
13 MP192300	FOOT, VIBRATION, W/#10-32 STUD	4
14 NB006600	NUT, KEPS, #10-32	4

## Splash Skirt Group - PSZ133KWA



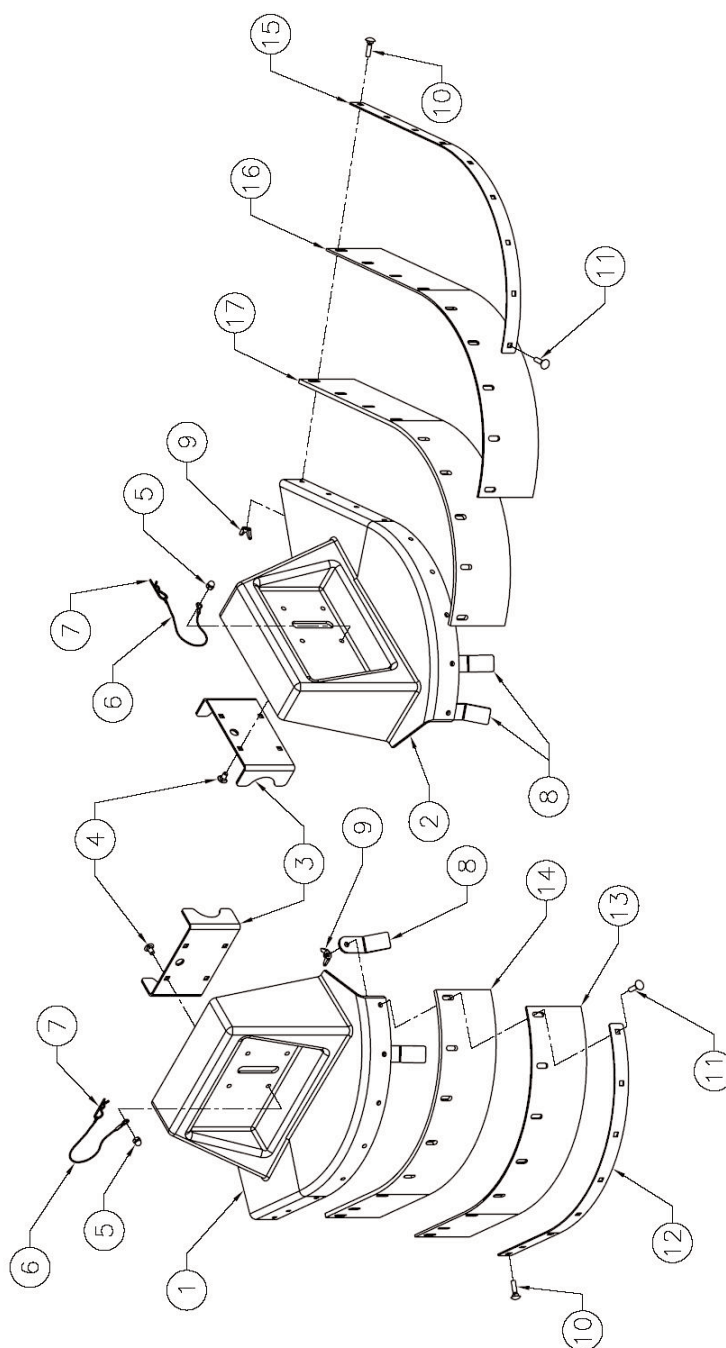
Ref. Part #	Description	Qty.
1 PS000500	SKIRT, SPLASH, SIDE, RIGHT	1
2 PS000700	EXTRUSION, BRUSH, SKIRT, SPLASH, LS	1
3 PS000100	SKIRT, SPLASH, SIDE, LEFT	1
4 PS000300	EXTRUSION, BRUSH, SKIRT, SPLASH, LS	1
5 NB040400	SCREW, PAN HEAD, #10-32 UNF x 3/4"	16

Ref. Part #	Description	Qty.
6 NB006600	NUT, KEPS, #10-32	16
7 MP066900	LANYARD, CABLE, 6"	2
8 NB042600	NUT, ACORN, 1/4-20 UNC	8
9 NB025600	PIN, PRESTO, 3/32 x 1-5/8", SS	2
10 PS000400	BRACKET, RETAINER, SKIRT, SPLASH	2
11 NB042500	BOLT, CARRIAGE, 1/4-20 UNC x 1/2" 8	

## Optional Splash Skirt Squeegee Kit - PSZ133KWA

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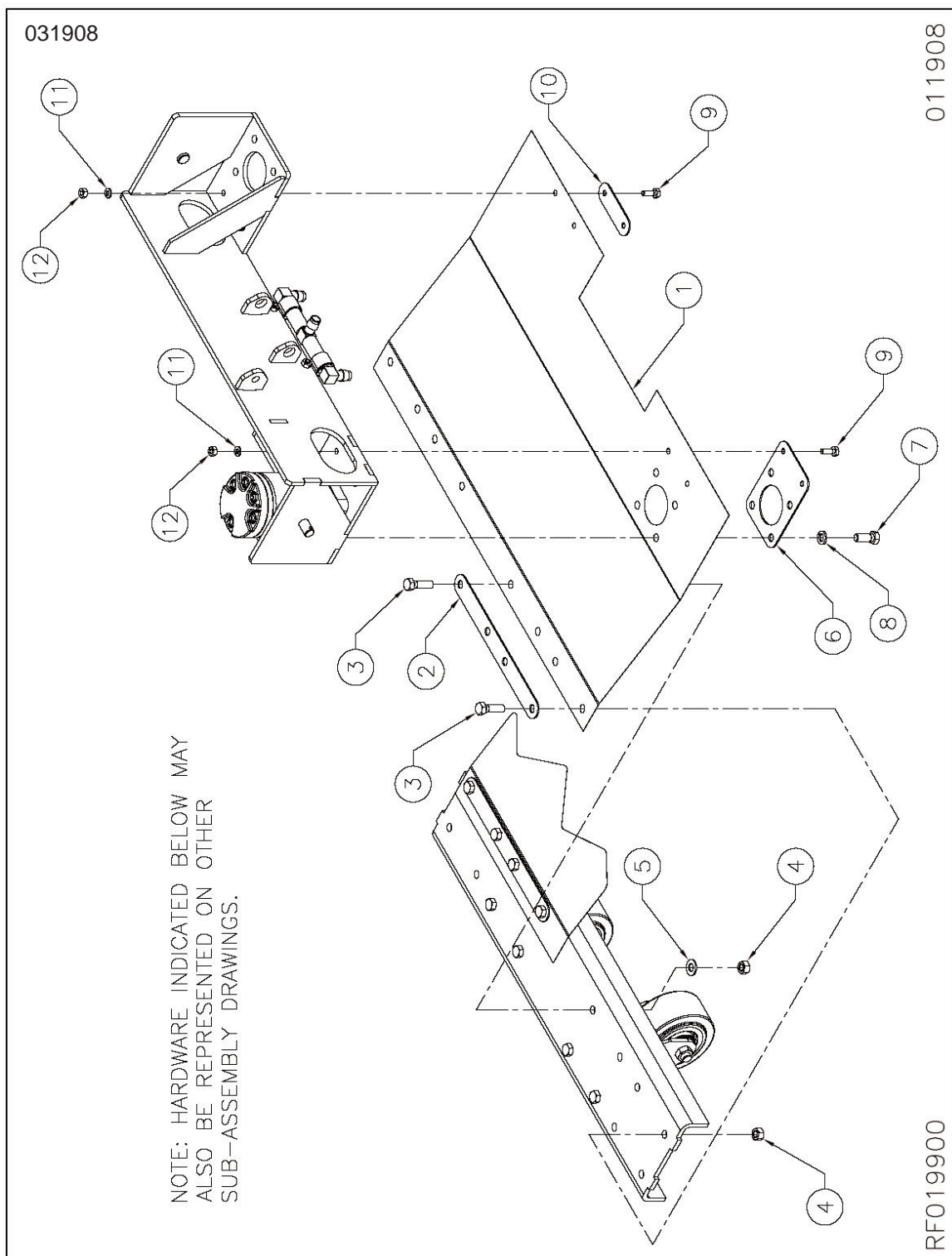
Ref. Part #	Description	Qty.
1 PS000500	SKIRT, SPLASH, SIDE, RIGHT	1
2 PS000100	SKIRT, SPLASH, SIDE, LEFT	1
3 PS013000	BRACKET, MOUNT, SIDE, SQGEE	2
4 NB042500	BOLT, CARRIAGE, 1/4-20 UNC X 1/2"	8
5 NB042600	NUT, ACORN, 1/4-20 UNC	8
6 MP066900	LANYARD, CABLE, 6"	2
7 NB025600	PIN, PRESTO, 3/32 X 1-5/8", SS	2
8 PS013200	BRACKET, FLARE, SQUEEGEE	4
9 NB033600	NUT, WING, 1/4-20, SS	17
10 NB045200	BOLT, CARRIAGE, 1/4-20 UNC X 1", SS	13

Ref. Part #	Description	Qty.
11 NB045300	BOLT, CARRIAGE, 1/4-20 UNC X 1-1/4", SS	4
12 PS012900	STRAP, RETAINER, SQ., RS	1
13 PS013400	SQUEEGEE, RUBBER, OUTSIDE, RS	1
14 PS012800	SQUEEGEE, RUBBER, SKIRT, RS	1
15 PS012600	STRAP, RETAINER, SQ., LS	1
16 PS013300	SQUEEGEE, RUBBER, OUTSIDE, LS	1
17 PS012500	SQUEEGEE, RUBBER, SKIRT, LS	1

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# Rear Splash Skirt - PSZ133KWA

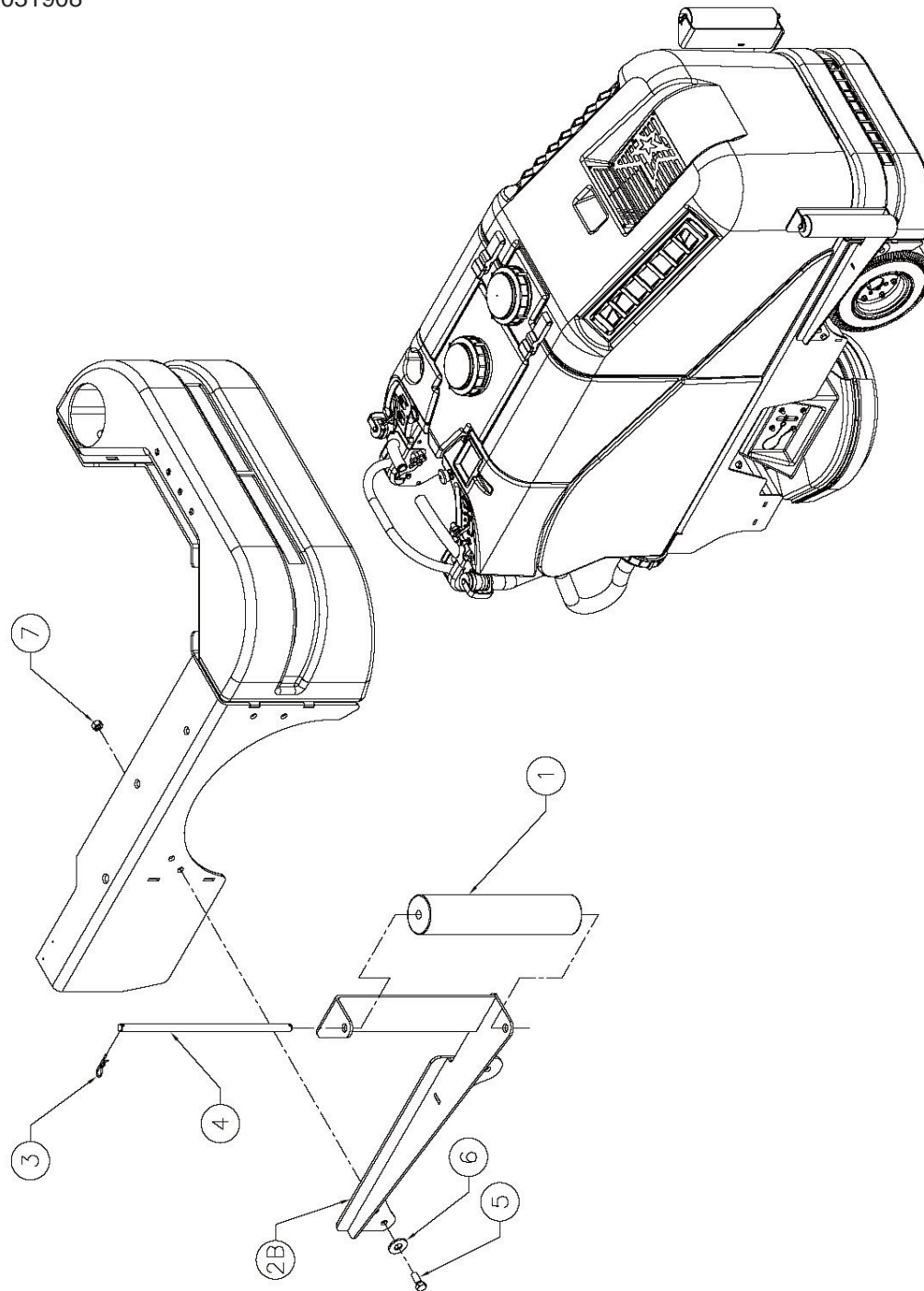


Ref. Part #	Description	Qty.
1 MP207400	SKIRT, SPLASH, REAR	1
2 MP207500	STRAP, SKIRT, SPLASH, REAR	2
3 NB6044	BOLT, HEX, 3/8-16 UNC X 1-1/4"	4
4 NB3267	NUT, LOCK, 3/8-16 UNC	8
5 NB9267	WASHER, FLAT, 5/16"	4
6 MP207700	PLATE, SKIRT, SPLASH, RS	1

Ref. Part #	Description	Qty.
7 NB6042	BOLT, HEX, 3/8-16 UNC X 1"	4
8 MX1075	WASHER, LOCK, 3/8"	4
9 NB019100	BOLT, HEX, 1/4-20 UNC X 3/4"	4
10 MP207600	STRAP, SKIRT, SPLASH, LS	1
11 NB6110	WASHER, LOCK, 1/4"	4
12 MX1045	NUT, HEX, 1/4-20 UNC	4

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Ref. Part #	Description	Qty.
1 MP230900	ROLLER, 2 1/2" X 12", URETHANE	2
2A PS016500	BRACKET, MOUNTING, ROLLER, LS, WELD	1
2B PS016600	BRACKET, MOUNTING, ROLLER, RS, WELD	1
3 NB025600	PIN, PRESTO, 3/32" X 1 5/8", SS	4

Ref. Part #	Description	Qty.
4 MP23100	PIN, CLEVIS, HEADLESS, 1/2" X 13"	2
5 NB6042	SCREW, CAP, 3/8 - 16 X 1"	8
6 NB3450	WASHER, FLAT, 3/8"	8
7 NB3267	NUT, LOCK, 3/8 - 16 UNC	8

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## 17" BRUSH AND PAD OPTIONS

1	<b>PART #</b>	MP178800	17" PAD DRIVER w/ PAD CENTER-LOK	
	<b>PART DESCRIPTION</b>	PADHOLDER, 17" TUFTED, w/ LUGS		
2	<b>PART #</b>	MP179000	OFFERS THE DURABILITY OF GRIT BRUSHES WITH MINIMUM AGGRESSION. FOR DAILY SCRUBBING OF A VARIETY OF TILES, MARBLE, TERRAZZO, AND NON-SLIP EPOXY FINISHES.	<b>BRISTLE COLOR:</b> GRAY
	<b>PART DESCRIPTION</b>	BRUSH, 17" MAL-GRIT LITE, TUFF-BLOCK, w/ LUGS		
3	<b>PART #</b>	MP178900	AN AGGRESSIVE BRUSH FOR GENERAL SCRUBBING OR STRIPPING FINISHES FROM HARD SURFACES. EFFECTIVELY CLEANS WIDE GROUT LINES	<b>BRISTLE COLOR:</b> BLACK
	<b>PART DESCRIPTION</b>	BRUSH, 17" MAL-GRIT, TUFF-BLOCK, w/ LUGS		
4	<b>PART #</b>	MP179100	THE MOST AGGRESSIVE GRIT. THIS HEAVY GAUGE NYLON WITH LARGE GRIT IS USED FOR STRIPPING HEAVILY SOILED FLOORS, SUCH AS CONCRETE FLOORS IN AN INDUSTRIAL SETTING.	<b>BRISTLE COLOR:</b> ORANGE
	<b>PART DESCRIPTION</b>	BRUSH, 17" MAL-GRIT XTRA, TUFF-BLOCK, w/ LUGS		
5	<b>PART #</b>	MP240300	A MULTI-PURPOSE DRIVER THAT HAS A SPECIAL DRIVER FACE MATERIAL WHICH PROVIDES SUPERIOR HOLDING POWER ON EITHER DIAMOND DISCS OR PADS	
	<b>PART DESCRIPTION</b>	DRIVER, DISC, TUFF-BLOCK, 17"		
6	<b>PART #</b>	PD003017	A LIGHT DUTY SCRUBBING PAD	<b>PAD COLOR:</b> RED
	<b>PART DESCRIPTION</b>	PAD, 17", LIGHT CLEANING - RND		
7	<b>PART #</b>	PD004017	A MEDIUM DUTY SCRUBBING PAD	<b>PAD COLOR:</b> BLUE
	<b>PART DESCRIPTION</b>	PAD, 17", DEEP SCRUB - RND		
8	<b>PART #</b>	PD005017	A LONG LASTING, HEAVY DUTY STRIPPING PAD	<b>PAD COLOR:</b> BLACK
	<b>PART DESCRIPTION</b>	PAD, 17", STRIP - RND		
9	<b>PART #</b>	PD009017	A HIGHLY ABRASIVE PAD FOR MAXIMUM STRIPPING POWER	<b>PAD COLOR:</b> DARK BLUE
	<b>PART DESCRIPTION</b>	PAD, 17", SUPER STRIP - RND		

**PSZ133KWA**

## ***Limited Warranty***

**PowerStar Autoscrubber**

### **POWERSTAR WARRANTY:**

The PowerStar Autoscrubber is warranted to be free of defects in materials and workmanship for a period of three (3) years from the date of purchase by the original owner apart from the EXCLUSIONS and EXCEPTIONS noted below.

### **TO QUALIFY FOR THIS WARRANTY:**

- 1) Machine must be registered at the time of purchase on a form provided by Amano Pioneer Eclipse® Corporation. Your Amano Pioneer Eclipse Distributor is responsible for the registration of your machine. Please cooperate with your Distributor in supplying necessary information on the card.
- 2) The machine must have been purchased from Amano Pioneer Eclipse or an authorized Amano Pioneer Eclipse Distributor.
- 3) This warranty extends to the original purchaser only and is not transferable to subsequent owners.

### **EXCLUSIONS:**

- 1) Parts that fail through normal wear by reason of their characteristics including, but not limited to, brushes, pads, squeegees, skirts, spark plugs, air filters, oil filters, etc., are not warranted.
- 2) Parts affected by misuse, neglect, abuse or improper maintenance are not warranted.

### **EXCEPTIONS:**

- 1) The engine is warranted, except for the valve train noted below, for four (4) years provided that Kawasaki approved oil is used each time the oil is changed or added to the crankcase. Written records are required to show that Kawasaki approved oil was used. PowerStar Autoscrubbers shipped by overland freight have the correct amount of Kawasaki approved oil added to the engine before shipping.
- 2) The Engine is warranted, except for the valve train noted below, for two (2) years if Kawasaki approved oil is not used each time the oil is changed or added to the crankcase.
- 3) The engine valve train is warranted by Amano Pioneer Eclipse for one (1) year.
- 4) Batteries are warranted by the battery manufacturer for one (1) year.
- 5) Rotational molded parts and the machine frame are warranted for five (5) years.

### **THE OBLIGATION OF AMANO PIONEER ECLIPSE CORPORATION:**

- 1) The obligation of Amano Pioneer Eclipse under this warranty is limited to repairing or replacing, at its option, any part which is proven to be defective in material or workmanship under normal use for the applicable period stated above.
- 2) Warranty repairs will be made by your Amano Pioneer Eclipse Distributor without charge for parts and labor.
- 3) Parts repaired or replaced under this warranty are warranted only during the balance of the original warranty period. All defective parts replaced under these warranties become the property of Amano Pioneer Eclipse.
- 4) All defective parts must be returned to an Authorized Amano Pioneer Eclipse Distributor for credit.

### **WARRANTY SERVICE:**

To obtain warranty service, take your machine and proof of purchase to any authorized Amano Pioneer Eclipse Distributor. Amano Pioneer Eclipse will not reimburse expenses for service calls or travel. For the Distributor in your area, call Amano Pioneer Eclipse Customer Service Department at 800-367-3550 or 1-336-372-8080. If you are dissatisfied with the service that you receive, call or write Amano Pioneer Eclipse Customer Service Department for further assistance.

### **DISCLAIMER OF CONSEQUENTIAL:**

AMANO PIONEER ECLIPSE DISCLAIMS ANY RESPONSIBILITY FOR LOSS OF USER TIME OF THE AMANO PIONEER ECLIPSE MACHINE OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGE EXCEPT AS STATED IN THE WARRANTY APPLICABLE TO EACH MACHINE. EXCEPT AS STATED IN SUCH WARRANTIES, THE COMPANY DOES NOT OTHERWISE WARRANT ANY MACHINE AND NO WARRANTY, EXPRESS, IMPLIED OR STATUTORY IS MADE BY THE COMPANY.

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**Machine Directive 98/37/EC as amended by Directive 89/392/EEC, Directive 91/368/EEC, Directive 93/44/EEC, and by Directive 93/68/EEC; EMC Directive 89/336/EEC, rectified by 389LO336R(01) and amended by 91/263/EED, 92/31/EEC and 93/68/EEC.**

**Low Voltage directive 73/23/EEC amended by 93/68/EEC.**

**Article #** \_\_\_\_\_

**Serial #** \_\_\_\_\_

**DOM:** \_\_\_\_\_

***Built in NC, USA***