



Before using this equipment,
study and understand entire
Owner's Manual.

Serial Number _____

38 Special Pump Trailer Mounted Skid Mounted Skid Steer Pressure Test Procedure Manual



**38 Special Pump
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INTRODUCTION

The 38 Special Pump® is a self-contained, portable, robust machine built to deliver grout, mortar, or concrete on the job site. The HP38SS model is ruggedly built and can be transported via skid steer. The HP38SS is powered utilizing the skid steer hydraulics. The HP38SM is mounted on a sturdy frame complete with four outrigger legs and a 37HP Kohler engine. Additionally, the HP38 is equipped with a hitch, a drop leg jack, safety chains, single axle and protected rear lighting. The HP38SM and HP38 units are equipped with a rear-mounted tool box for storage of clamps, tools, and clean out fittings. Store this manual in the manual canister, mounted on the inside of the engine enclosure, for quick reference of operating, cleaning, and maintenance procedures.

GENERAL INFORMATION





Illustrations throughout this manual are representative and may show details or components that may not be the same as your machine. Continuing machine design improvements may cause changes not included in this manual. The information in this document is subject to change without any prior notice.

ABOUT THIS MANUAL

This document is provided with the 38 Special Pump® to inform the equipment owner/operator how to correctly adjust and/or replace the rotor-stator. It is the responsibility of the equipment owner/operator to make sure anyone who operates this machine understands these procedures. If you do not understand any items mentioned in this procedure, please contact the dealer where this product was purchased or the manufacturer at the number listed throughout this manual. If you have any suggestions about how to make this manual easier to understand, contact the manufacturer. Keep this procedure document with the HP38 operations and parts manuals for quick access. This document should be wherever this piece of equipment is being used and make it available to any operators.

SAFETY INFORMATION

The following safety symbols and signal words will be used throughout this manual and on the product, for your safety and the safety of others, please become familiar with their meaning and heed their warnings.

	This symbol, either used alone or with a signal word, is used to call your attention to instructions involving your safety and/or the safety of others. Failure to follow these instructions will likely result in personal injury or death.
 DANGER	This signal word is used to identify a hazard which, if not avoided, will result in death or serious injury.
 WARNING	This signal word is used to identify a hazard which, if not avoided, could result in death or serious injury.
 CAUTION	This signal word is used to identify a hazard which, if not avoided, could result in minor or moderate injury.
NOTICE	This signal word is used to identify a hazard which, if not avoided, could result in property or equipment damage. It also may be used for special instructions related to performance, maintenance or general items.

To prevent serious injury or death, thoroughly read and understand all aspects of this manual. Ensure safety practices discussed in this chapter are put into practice when operating the 38 Special Pump®. This chapter is NOT all-inclusive. It is the responsibility of each operator to abide by all other safety precautions implemented by the company, owner of the equipment, state, federal and local government.

SAFETY PRECAUTIONS

Required Personal Protective Equipment (PPE)

The use of PPE is critical to safe operation and well-being of the operator. The following PPE and information (this list is not all-inclusive) should be used in the safe operation of the 38 Special Pump®:

- Jewelry removed (especially necklaces and rings)
- Long hair tied back
- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields, or goggles
- Hearing protection
- Safety-toed footwear
- Occupational Safety and Health Administration (OSHA)-approved hard hats
- National Institute for Occupational Safety and Health (NIOSH)-approved ventilation masks when dust is present
- Protective gloves
- Rubber boots and rubber gloves when performing clean out procedures



General

- Make sure anyone operating the 38 Special Skid Steer, Skid Mounted, or Trailer Pump is thoroughly familiar and understand its operation. Keep all unauthorized and untrained personnel, especially children, away from the machine.
- For your safety and the safety of others, replace any missing or damaged warning decals by contacting the manufacturer at 1-800-417-9272.
- Never operate machine with the safety grate, guards, or safety devices removed or open. Do not alter any safety guards.
- Be sure any clothing you wear does not have strings, fringes, or other external tightening means that could be caught in moving parts.
- Keep all body parts, clothing, jewelry, and solid objects away from all moving parts.
- Never perform any work on the machine while it is running. Before working on or cleaning the unit, turn the ignition key off and disconnect the negative battery cable.
- Never operate the machine when under the influence of alcohol, drugs, or medications.
- Do not use the 38 Special concrete pump for anything other than its designed purpose of masonry grout, SCC(Self-Consolidating Concrete), small diameter (up to 3/8-in.) media (pea gravel), shotcrete, slurry, and light-weight concrete.
- Mixes with crushed aggregate are not recommended and may cause material separation.
- Stay clear of moving parts while the machine is in operation.
- Operate machine only in a properly vented environment.
- Wear a mask and avoid breathing dust produced while using the machine. Dust may contain crystalline silica and may cause serious health problems.
- Always know the location of nearest fire extinguishers, first aid kit, and phone with first-responder contact numbers in case of emergency.

DAILY PRESSURE TEST

!! IMPORTANT PROCEDURE !!

The pre-start pressure test check is a crucial part of pre-operation checks and must be performed daily before pump operations can begin. This test is to ensure the correct operation of the rotor-stator and to prevent unnecessary wear on the rotor-stator.

Daily Pre-operation Pressure Test

- Start the engine and let idle.
- Securely install the pressure test rig on the output flange.
- Shut the ball valve on the pressure test rig.
- Fill the hopper to a water level that is approximately 1" above the inner outlet opening. Add approximately 1 tablespoon of a mild dish soap for every gallon of water. This provides a level of lubrication for the dry rotor and stator making it easier to break free without damage.
- Slowly adjust the throttle lever increasing the engine revs to maximum.
- Set the speed control on the pump control panel to approx. 50%, then push the toggle switch to the "FWD" position and observe the auger rotating inside the hopper in the forward direction. The forward direction can be verified by briefly and quickly opening and closing the ball valve on the pressure test rig to ensure water from the hopper is being pumped out of the unit.
- With the ball valve closed observe the psi indicated on the pressure test rig gauge. 150 psi is the recommended operating range. If the indicated psi is below 100 then adjustments to the stator housing clamp is necessary.

Stator Housing Clamp Adjustment

Step 1: Remove stator cover.

Step 2: With the engine running as described in the previous section loosen the bolts indicated by the number 3. Start at one end and tighten the adjusting bolts as indicated by the number 1 in the picture below. Tighten stator housing bolts evenly to adjust the pressure on the pressure test rig. 1/4 to 1/2 turn each at a time is a good place to start.

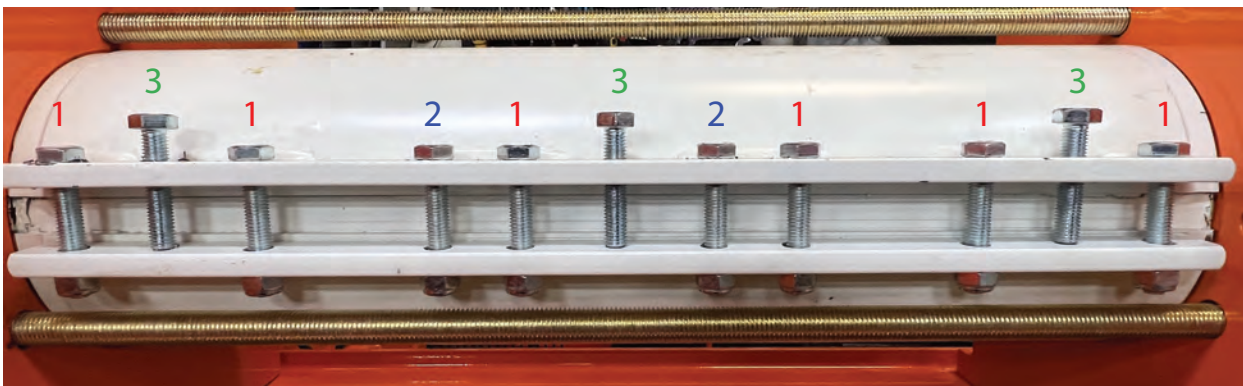
Step 3: Observe the pressure on the gauge. If psi is below 150 then repeat step 1.

NOTE: Nuts and bolts adjusted during step 1 may become loose as they are tightened along the length of the stator housing clamp. These need to be re-tightened (snug) before repeating step 1.

Step 4: Once 100 psi is observed, tighten the bolts indicated by the number 2 in the picture below. These bolts should be made snug before tightening to match step 1.

Step 5: Tighten the bolts as indicated by the number 3 in the picture below. These are set bolts and should be tightened slightly pass snug. This will prevent the stator housing clamp from changing without adding additional pressure.

Do not overtighten adjustment bolts. If the engine is noticed "bogging down" during the adjustment procedure, then the rotor-stator is becoming too tight to operate efficiently. If bogging down is noticed during the adjustment procedure or 10psi cannot be achieved the rotor-stator needs to be replaced.



DAILY PRESSURE TEST

Shut Down

Step 1: Turn off pump and reduce engine RPM to idle for 3-5 minutes.

Step 2: Turn off engine.

Step 3: Open ball valve on test rig to drain. Remove expansion plug to drain hopper.

Step 4: Remove test rig from outlet.

Step 5: Replace expansion plug in hopper.

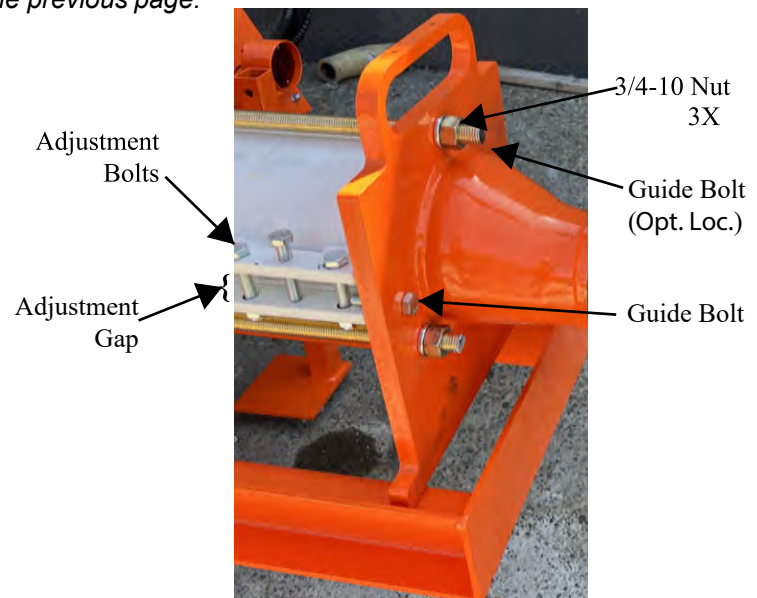
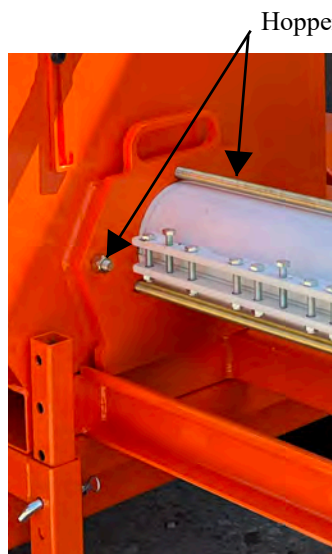
ROTOR-STATOR REPLACEMENT

Rotor-Stator Replacement

- Turn off the engine and tag out the engine.
- Remove the two 3/4-10 bolts that attach the rotor-stator assembly to the hopper.
- Remove the rotor-stator cover.
- Remove the 3/4-10 nuts and washers on the end of each threaded rod (3 places).
- Remove the nozzle end plate welded assembly.
- Remove the worn rotor-stator.
- When installing the new rotor-stator make sure the rotor is aligned with the end of the auger shaft and fully seated against it.
- Replace the nozzle end plate welded assembly carefully aligning it with the 3 threaded rods. Before fully seating the plate assembly against the rotor-stator rotate the rotor-stator until the adjustment gap in the stator housing is aligned with guide bolt in the plate assembly. The guide bolt prevents the stator housing from rotating. **NOTE: The guide bolt can be installed on either side of the welded plate assembly depending on the configuration of the rotor-stator from the manufacturer.**
- Reinstall the nuts on the threaded rods and tighten evenly as much as possible to apply even pressure against the rotor-stator.
- Evenly tighten the adjustment bolts along the stator housing.
- *Reference the pre-operation pressure test guideline on the previous page.*
- Once the hydraulics have been engaged observe the stator housing to see if it has rotated. If any rotation has occurred, then turn off the engine. If the stator housing adjustment flange is resting against the guide bolt, then rotate the flange away from bolt. *The guide bolt should remain approximately in the center of the adjustment gap.*
- Evenly tighten the nuts on the threaded rods to apply more pressure against the stator housing. Once the stator housing no longer rotates the pressure test can begin.

NOTE: It is possible to over-tighten the threaded rods to the point where it flexes the front rotor-stator plate and effects the sealing of the O-ring.

- Refer to the Stator Housing Clamp Adjustment from the previous page.
- Once 100 psi has been reached, continue to let the pump run at 50% with engine revs at max for 20 - 30 minutes. This will allow the stator housing to seat against the hopper and nozzle end plate assembly. During this time continue to monitor the pressure while checking for and tightening hardware that may loosen during this extended test run.
- Refer to Shut Down Procedure on the previous page.



NOTE – DO NOT operate the driveshaft in reverse for periods longer than a few seconds. Reverse is used to break free and to depressurize the pumping hoses in the event of a blockage.

NOTE – DO NOT operate the rotor-stator without either soapy water or material in the pumping hopper. Doing so can cause premature wear and/or damage to the rotor-stator.