T09 & T11
SAND GUZZLER

Read Completely before operating the Sand Guzzler Pump.



Installation:

Connect the hydraulic hoses so as to make the impeller rotate in a clockwise rotation as viewed from the top of the pump.

- Dig a ditch from the well being drilled to a small pit just outside the bore hole. Set the Sand Guzzler in the pit deep enough for the mud to cover the hydraulic motor.
- The mud in the pit will rise and fall during normal operation. The speed should be adjusted so as to make the pump run about 100 RPM faster than needed to pump all the drilling fluid.
- The Sand Guzzler can run dry. There are no seals or bearings in the mud. The air will discharge from the SAND GUZZLER automatically while operating.
- *Caution: Keeps hands away from the impeller. Serious injury or death can occur.*

Hydraulic Hoses:

The case will drain through the discharge side of the motor. The motor can be reversed momentarily when needed to clear a rock or clog.
If the return line pressure exceeds 350 psi, the shaft seal will be pushed out and will leak oil. Use a case drain if more than 350 psi. The SAND GUZZLER pump will run best at about 2200 RPM 15-20 gpm. The faster the pump turns the faster the housing will wear. The SAND GUZZLER can be run as fast as 3000 RPM and will take up to 3000 psi. Do not over pressure the motor. The motor will slow if damaged from over pressure.

Hydraulic Motor:

Tibban Part #: SG001001
Max. RPM 3000
Max. PSI: 3000
20 GPM @ 3000 RPM
15 GPM @ 2300 RPM
7.8 GPM @ 1200 RPM

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Trouble Shooting the SAND GUZZLER

Operation:

Pump is turning but pumping little or no mud.

1. Check the rotation of the impeller. The Sand Guzzler will pump a small amount of mud if turning in reverse. The impeller rotation should be turning clockwise as viewed from the top of the hydraulic motor. The rotation can be seen by looking at the splasher plate though the opening under the hydraulic motor. Swap the hydraulic hoses to change rotation.
2. Rotation is correct. Check for obstructions in the mud hose or pump discharge. The pump will spray mud out the inlet when clogged. Take the hose loose from the far end and place it back in the pit. Start the pump to see if the mud flows. If there is good flow and still will not lift the mud, Check the connection from the end of the hose to the tank or shaker inlet or other 90 elbow.
3. Motor may be damaged if the system pressure is capable of more than 3000 psi. See hydraulic trouble shooter for more hydraulic info.

Pump is operating but the pit overflows.

1. Check the depth of the pit. The top of the hydraulic motor should be at grade or deeper. The mud needs to be able to rise inside of the pump far enough to push the air out the top of the pump.
2. Make sure the inlet is not clogged with rocks too large to inter the pump.
3. Increase the pump RPM. 15 GPM hydraulic minimum
4. Check the mud flow. The pump may be at its maximum rated flow.

Pump suddenly stopped pumping.

1. Check for a rock lodged in the impeller. A rock can sometimes be cleared by reversing the motor for a short time.

Check the hydraulic pressure. Place a gauge in the pressure side of the hydraulic hose. There should be more than 1500 psi when the pump is under full load. If the hydraulic pressure is low see hydraulic trouble shooter.

Caution: Keeps hands away from the impeller while connected to hydraulic pressure. Serious injury or death can occur.

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Hydraulic Hoses:
Use a case drain if the return line pressure will exceed 350 psi. The case will drain through the discharge side of the motor if less than 350 psi. The motor can be reversed momentarily when needed to clear a rock or clog. A case drain should be used if the return hydraulic pressure exceeds 350 psi. A case drain is a hose from the case port on the rear of the motor to the hydraulic reservoir. The hydraulic discharge hose should be routed back to the hydraulic tank with no obstruction between. The Motor shaft seal will withstand up to 350 PSI of return back pressure. If the return line pressure exceeds 350 psi, the shaft seal will be pushed out and will leak oil. The pressure on the shaft seal can be measured at the case drain port on the motor. The port size is #8 O-ring. Use a 600 psi gauge. If using quick disconnects for the hydraulic oil, ½" size is recommended. Use at least ½" hose to the inlet and at least ½" hose for the outlet. The SAND GUZZLER pump will run best at about 2200 RPM. The faster the pump turns the faster the housing will wear. The SAND GUZZLER can be run as fast as 3000 RPM and will take up to 3000 psi of hydraulic oil.

Hydraulic Motor:
9" Pump uses Cross 50M 1.5 CID
11" Pump uses Cross 50M 1.5 CID
Max. RPM 3000
Max. PSI: 3000 Continuous
20 GPM Maximum

1.5 CID
20 Gallons per minute at 3000 RPM
15 Gallons per minute at 2300 RPM
8 Gallons per minute at 1200 RPM

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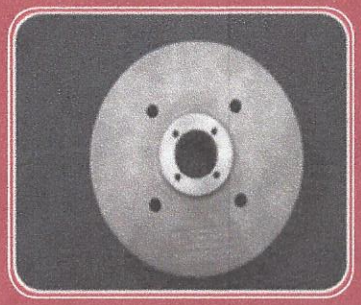
Sand Guzzler Assembly Instructions

Tools Required for Assembly

- 3/16" Allen Wrench
- 5/32" Allen Wrench
- ¾" Socket Wrench
- 7/16" Socket Wrench
- ½" Socket Wrench
- Loctite or other brand of thread locker
- Torque Wrench

Assembly Step by Step Instructions



Step 1

- Take Impeller and place on work surface Impeller side face down, smooth side up.

Step 2 *If using Polly Impeller please skip this step.

- Install Splined Hub into Impeller by placing Hub into center hole of impeller with splined side up.
- Insert 5/16 x 1" Flat Head Socket Bolts through hub into the threaded holes of the impeller & tighten in a X pattern using a 3/16" Allen Wrench. Then check that all bolts are securely tightened to insure flush mounting.
- Torque Spec: 13 lb-ft.

Step 3

- Put Impeller assembly aside
- Put Top Plate on work surface with the top face up.

Step4

- Take the Splasher plate groove side up.
- Slide Splasher Plate between the opening of the Top Plate until the Splasher plate is in the center hole of the Top Plate.

Step 5

- Place the Top Plate & Splasher Plate onto the Impeller Assembly with the Hub side up. The Splasher Plater will slide onto the lip (spline) of the Hub.
- Make sure the holes in the Splasher Plate align with the threaded holes on the Hub.

Step 6

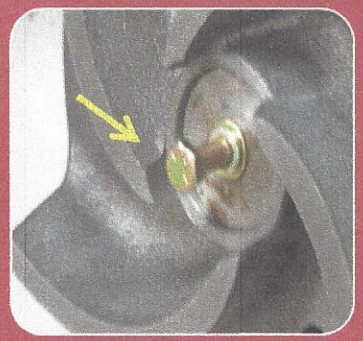
- Apply a generous amount of Thread Locker to the ¼" x ½" Flat Head Socket Bolts.
- Place bolts through the Splasher Plate into the threaded holes on the hub.
- Tighten the first bolt then the second with a 5/32 Allen Wrench.
- Check bolts to ensure they are properly tightened.
- Torque Spec: 6.3 lb-ft.

Step 7

- Place the Hydraulic Eaton motor spline side up onto your work surface.
- Slide Hub Spacer groove side down onto the spline of the motor.

Step 8

- Pick up assembled Top Plate/Impeller Spline side down, Impeller side up & place on spline of the Eaton motor.
- When putting the two together align the spline grooves till Hub slips on motor



Step 9

- Place a 5/16" Lock Washer onto a 5 /16" x 2" Grade 8 Bolt followed by a 5/16" Flat washer and insert it into the middle hole on the impeller side as shown in picture.
- Tighten with a ½" socket wrench.
- Once bolt is tightened spin the impeller to make sure the splasher plate is not bound to the top plate.
- Torque Spec: 13 lb-ft.

Step 10

- Hold Motor & Impeller together while flipping over till the Impeller side is on the work surface.

Step 11

- Rotate the Top Plate to align the threaded holes of the top plate with the holes on the motor mount.

Step 12

- Use two ½" x ½" Bolt, two ½" Lock Washer, & two ½" Flat washer to secure the motor to the top plate. Use a ¾" socket wrench to tighten the bolts 1 at a time then check that both bolts are securely tightened.
- Torque Spec: 57 lb-ft.

Step 13 (Old Style Pumps Only)

- Install two ¼" x 3/4" Bolts into the remaining threaded holes into the top plate.
- Use a 7 1/16" socket wrench to tighten the bolts.
- Torque Spec: 6.3 lb-ft.

Step 14

- Put sand Guzzler housing on work surface.

Step 15

- Place the Top Plate/Impeller/Motor assembly onto the pump housing.
- Align the holes on the Top Plate with the threaded holes on the pump housing.
- *Note- Ensure the case drain is facing in the desired direction.

Step 16

- Install eight 5/16" x 1", eight 5/16" Lock Washer, and eight 5/16" Flat Washer through the Top Plate into the threaded holes of the pump housing.
- Tighten with a ½" Socket Wrench in a star pattern until all bolts are tight.
- *Note- When assembling a T11 Sand Guzzler it requires 12 Bolts, Lock Washer, & Flat Washer in the same size as above.
- Torque Spec: 13 lb-ft.

This is what your assembly should look like after completed.

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