

STINGER

EQUIPMENT



QUAD-AER OPERATOR'S MANUAL

Introduction

Thank you for purchasing this Stinger Equipment, Inc. product. This manual will explain the safety, maintenance, and operation of your unit.

Safety

- All operators should read the product manual in its entirety before operating. All operators must be properly trained on the controls and their functions.
- All safety equipment, shields, and covers must remain in place and free of any defects. Do not use this equipment if any guards or safety decals are not in place.
- Perform an inspection of the unit before each use. Ensure all fasteners are secure, the tires are properly inflated, and engine oil level is correct.
- Do not use this unit on a slope of more than 20 degrees.
- Do not use if the terrain exceeds skill or comfort level.

Refueling the unit:

- Use an OSHA approved fuel can.
- Do not fuel while the unit is running or hot.
- Absolutely no smoking while refueling.
- Refuel only outside and on level ground.
- Do not overfill the unit.
- Secure the fuel cap.



This Symbol means: **ATTENTION! TAKE NOTICE!**
Your attention is needed to ensure your safety and the safety of those around you. This symbol is followed by a signal word describing the level of hazard. Throughout this manual and on all equipment you will see these safety labels.

Signal word definitions:



DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury. It may also be used to alert against unsafe practices or property damage.

Maintenance

Turn the unit off and remove key. Disconnect the negative battery cable and remove spark plug before performing any maintenance.

Hydraulic System

- Hydraulic fluid level should be checked daily.

Hydraulic Fluid Level Check Procedures:

1. Place unit on level ground. Locate the site glass on the hydraulic tank. (See figure 1)
 2. Oil level should be half way up the glass. If not, please refer to the hydraulic fluid change procedure for adding additional oil to the system.
- We recommend you change the hydraulic fluid and filter after the first 50 hours of use and then whichever comes first at least once/year or every 200-250 hours of use.



Figure 1



Figure 2

Hydraulic Fluid and Filter Change Procedures:

1. Remove thigh pad.
2. Clamp the return line above the filter with a pair of smooth tooth locking pliers. (See figure 2)
3. Remove the hydro filter.
4. Remove the locking pliers and catch the oil in a 13+ quart container and properly recycle or dispose of according to your local laws.
5. Remove the fill cap. (See figure 3)
6. Install a new hydro filter (Stinger P/N: 40-1807 or 40-4017 for Gen 3 QA3600). Rub a small amount of new oil on the O-ring of the new filter prior to installing.
7. Add synthetic 15W-50 (QA3000 - up to 6 qts / QA3600 - up to 12 qts) and reinstall fill cap. (Note: may take less if unit was not completely evacuated) Watch the site glass when filling and do NOT overfill.
8. Start the engine at a low RPM and make slow, small, and calculated moves with the control levers as the hydro system pressurizes. Cycle tines up and down. Check fluid level again!
9. Reinstall thigh pad.



Figure 3



Use caution as steering and speed can be erratic until the hydro system is fully pressurized.

Belt

Inspect the engine belt every 200 hours for signs of wear.

Main Belt and Auxiliary Belt Replacement Procedure:

1. Loosen the idler pulley bolt to release belt pressure. The timing belt has a secondary bolt that needs to be loosened to allow the tension arm to swing freely.
2. Take note of the belt orientation and pathway before removing and discarding the old belt. (See figure 4)
3. Replace with new belt as needed.
4. Apply tension with the idler pulley and tighten bolt. The timing belt tension arm has a location for a $\frac{1}{2}$ " drive breaker bar to be installed. Pull the breaker bar with 20 ft-lb of force and tighten bolts. Remove the breaker bar.



Figure 4

Engine

- Run unleaded gasoline with an octane rating of 86 or higher and 10% or less ethanol.
- Check engine oil level on level ground daily.
- Change engine fluid and filter after the first 50 hours of use and then every 100 hours of use.
- Refer to the engine manufacturer owner's manual for the specific oil type that is recommended.
- Clean/replace the air filter per engine manufacturer owner's manual.
- See supplemental engine manufacturer booklet for additional maintenance procedures and requirements.

Tracking Adjustment

Forward Adjustment:

1. Slide the rod end clip up (figure 5) and gently pull rod away from the hydrostatic motor.
2. Turn the rod end clockwise to increase or counterclockwise to decrease speed on that side.



Figure 5

Reverse Speed Limiter:

1. Loosen bolt (See figure 6) and slide stop forward to decrease or backwards to increase reverse travel speed.
2. Retighten bolt.



Figure 6

Unit Operation

Starting and Stopping the Engine

1. Pull the choke knob up to apply the choke. Used typically when the engine is cold. (See figure 7) If equipped with EFI, skip this step.
2. Turn the ignition key to position II until the engine starts and then release the key. (See figure 7)
3. Turn off the choke by pushing the choke knob down. If equipped with EFI, skip this step.
4. Allow the unit to warm up and slide the throttle forward to the desired RPM. 3600 MAX RPM! You can use a lower RPM to slow the unit.

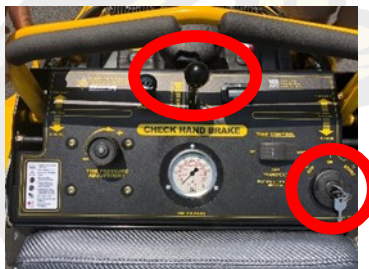


Figure 7



Figure 8

Tines

The tine position switch (see figure 8) allows for 2 different operating styles and the ability to lock the tines in the UP position for transport. In the UP position the tine assembly will remain up unless the foot pedal is depressed. In TRANSPORT mode, the foot switch is deactivated and the tines will remain up. In the DOWN position, the tines will remain in the ground until the foot pedal is depressed. Traditionally, having the tines default in the UP position is most common. Using the default DOWN position can be advantageous for users that typically do larger properties.

Tine Depth

Tine depth is determined by the amount of down pressure. For deeper cores, turn the pressure up using the regulator shown in figure 9. Lower pressures will result in shallower cores. Tine pressure should be adjusted according to soil conditions. Never increase pressure to the point that the rear tires are off of the ground. This can lead to unsafe operation and could cause bodily harm.



Figure 9

Unit Operation

1. Put the operator platform down! Step on the platform careful not to hit the foot switch. DO NOT OPERATE UNIT WITH THE PLATFORM IN THE UP LOCKED POSITION! Serious bodily harm can occur.
2. Release the parking brake as shown in figure 10. Tire damage can occur if the parking brake is not released.
3. Push both steering controls forward to move the unit forward. The more pressure applied, the greater the speed.
4. Pulling back on both steering controls will put the unit in reverse.
5. Reduce the speed of the left or right steering control while moving forward or backward to turn left or right.
6. Always set parking brake before stepping off of or turning off the unit.



Figure 10

Usage

1. Lower the aeration tines into the ground by holding the foot pedal down (figure 11) or switching the 3-way tine position switch to the DOWN position.
2. Lock the tines in the up position by switching the 3-way tine position switch to TRANSPORT.
3. Tines can remain in the ground when making wide gentle turns. For sharper turns and 180's, the tines must be lifted prior to turning. Raising the tines will prevent turf damage.
4. Always lift tines prior to transporting and crossing over concrete, tree roots, and other hard surfaces.

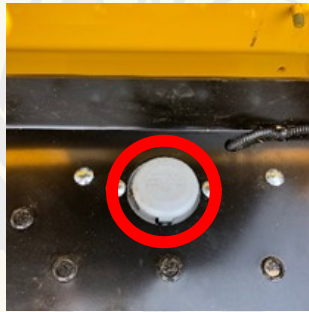


Figure 11



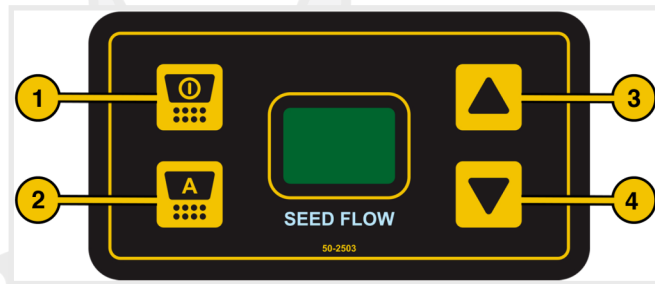
Always consider what might be below the turf prior to aerating. Does the property have underground utilities, invisible dog fence, low voltage lighting, irrigation, etc.?

Calling 811 or a private locate services is strongly recommended and maybe the law. Take appropriate actions to prevent damages



**Know what's below.
811 before you dig.**

SeedBox Controls (if equipped)



1. ON/Off - Turns seed flow on and off manually. (1)
2. AUTO – Toggles auto mode on and off. (2)
3. Up Arrow – increase seed flow setting. (3)
4. Down Arrow – decrease seed flow setting. (4)

Modes

MANUAL – seed flow is turned on and off with power button (1)

AUTO – seed flow is active only when the tines are down (2)

Brightness

Brightness – Hold AUTO (2) and UP (3) or DOWN (4) to increase or decrease display brightness respectively

Usage

1. Remove the ignition key.
2. Fill the hopper with seed and fasten lid down.
3. Replace the key and turn on.
4. Utilize the seed chart to determine seed gate setting for your seed type.
5. Use the arrows (3 & 4) to adjust what setting is displayed.
6. Perform a seed audit over the first 1,000 sq. ft. of each new seed variety to ensure correct coverage.
7. Note: the seed chart is a baseline reference point. Variations in seed blends, operator styles, and humidity need to be accounted for in the seed flow setting.

Display Codes

- "ON" flashes indicated manual mode is on.
- "OF" indicates all modes are off.
- "1-50" number indicates seed flow setting.
- "AU" indicates Auto mode activated.
- "88" indicates the seed gate is jammed.

Quad Aer Trouble Shooting

Turn unit off before any troubleshooting

Tines won't go up/down

1. Turn pressure knob to the right.
2. Check UP/TRANSPORT/DOWN switch position.
3. Set tines to default down.
4. With the unit off, check the aux belt.
5. With the unit off, check the gear pump and engine pulley.

Ensure key stock is present in the pulley

1. Check relay under the ignition key. The relay should click when the foot pedal is depressed.
2. Ensure wiring harness has a good connection with the UP/TRANSPORT/DOWN switch and electronic valve body.
3. Pressure check gear pump should be 800 PSI Replace if faulty.
4. Replace lift cylinder.

Foot switch doesn't work

1. Check UP/TRANSPORT/DOWN switch position.
2. Check plug connection at the footswitch. Remove any debris if present.
3. Check relay under the ignition key. The relay should click when the foot pedal is depressed.
4. Check both fuses by the engine.
5. Replace the footswitch or the UP/TRANSPORT/DOWN switch.

Tines bending or breaking

1. Some tines breaking are common in the ordinary course of operation.
2. Eliminate tight turns with the tines in the ground.

Whine or clicking from hydraulic pumps

1. Check hydraulic oil level.
2. Allow unit to reach operating temperature.
3. Inspect hydro pump fan shroud for debris.
4. Inspect hydro pump fan shroud and fan for clearance.

SeedBox Trouble Shooting

Seed flow stopped

1. Check Controller for "88" code signaling a jam in the seed gate.
2. With the unit off, inspect the seed gate for damage or debris.
3. Unbolt the actuator from the seed gate. Manually move the seed gate left and right to ensure proper operation.
4. With the actuator unbolted, turn the seedbox on and check the actuator for proper operation.

Board is blank

1. Check both of the fuses by the engine.
2. Check the relay by the engine.
3. Check the connection between the control board and the wiring harness.
4. Check the connection between the 12v lead on the machine and the seedbox harness.

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