

TIPS & TROUBLESHOOTING

Pump Systems

Before working on your planter or drill

DANGER: When storing or working on the planter always install cylinder stops or place the planter on stands to prevent personal injury or damage to the attachments.

PLEASE: Read instructions completely and verify all package contents before beginning installation

PRIOR TO USE

Sometimes filings and crud will be left over in the pump system and fertilizer tubes from the manufacturing process

FLUSH SYSTEM WITH WATER

Use water to flush out your entire pump system and fertilizer tubes. This will clean out all the crud and filings left over from the manufacturing process.
This will also test for leaks.

PRESSURE RECOMMENDATIONS

	minimum PSI	maximum PSI
ELECTRIC PUMP	12	30
HYDRAULIC OR PISTON PUMP	15	60

TEMPERATURE & FLOW RATE

Cleanliness, viscosity, and temperature affect the flow rate

TEMPERATURE CONSIDERATIONS

When your air temperature drops at night, your fertilizer temperature will drop too. This causes your fertilizer to be colder in the morning than it is in the afternoon.

Cold fertilizers cause system pressure to increase. This increase in system pressure causes reduced fertilizer flow and increased electrical current draw.

Use the largest orifice possible when operating in colder weather conditions.

OFF-SEASON CARE

Fertilizer will crystallize and can cause damage to components of the pump system if it is not properly winterized

WATER

Upon completion of planting season, we recommend the entire pump system be flushed out with clean water. After flushing, drain the water.

RV FLUID

Recreational Vehicle (RV) antifreeze can also be used to flush and drain the system. Some customers will store the system with RV fluid.

OILS / VEGETABLE OILS

DO NOT use oils or vegetable oils to winterize your system. This can ruin some of its internal components.

CABLES

GX2 SYSTEMS

Always **put the Y cable at the controller**, NOT at the pumps.

Run 2 cables, one to each pump. DO NOT run 1 cable and then Y off it to the other pump.

BATTERY CONNECTIONS

Always go to the 12v battery on the tractor with your power cable from the controller.

Check ground wires and positive wires on batteries to ensure they're not corroded.

Clean all battery cables.

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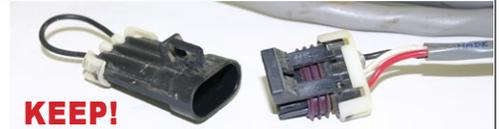
VOLTAGE

Voltage must be at least 12 volts at the pumps or at the controller, depending on what the tractor voltage is.

If you have low voltage (below 12v), check your battery and alternator. These must be good.

RUN HOLD

When using a remote Run Hold whisker switch connection, you will need to remove the relay termination plug from one of the ManX controller's cables. **KEEP this relay termination plug.** We recommend tie-strapping it right there to the cables.



Check Run Hold switch to make sure it is activated. Reconnect relay termination plug for troubleshooting.

TETHER the Run Hold and Magmount to your equipment.

MANX CONTROLLER

STATUS INDICATOR LIGHTS

LIGHT ON STEADY	☀	Unit is turned on and operating normally.
STEADY FLASHING	☀ ☀ ☀ ...	Unit in HOLD. Check Run Hold jumper or remote switch for correct operation.
1 FLASH, PAUSE	☀ ● ☀ ● ☀ ● ...	Open circuit detected. Check motor connections for open.
2 FLASH, PAUSE	☀ ☀ ● ☀ ☀ ● ☀ ☀ ● ...	Output short circuit detected. Check motor wiring.

NOTE: Cycle power with the controller ON/OFF switch to clear a fault code.

ORIFICES

FILINGS AND CRUD IN TUBES AND PUMP SYSTEM	USE WATER TO FLUSH your entire fertilizer application system and the fertilizer tubes out before use and before installing injector orifices. This will clean out all the crud and filings left over from the manufacturing process and also test for leaks.
2X2 FERTILIZER TUBES ARE PLUGGING	Use 50 or 80 mesh filters ahead of the orifices to keep them from plugging.
INJECTOR ORIFICE WILL NOT THREAD INTO 2X2 FERTILIZER TUBE	Use a 5/16-24 standard tap threader to clean out the tube's threads. During the manufacturing process, filings and crud can get lodged in the threads.
RUNNING MORE THAN 1 ORIFICE	We normally recommend using only 1 orifice under pressure when running 7-15 lbs of pressure. However, using 2 orifices under pressure can be beneficial because it will help eliminate fertilizer splatter or misting/volatilization of fertilizer. If using 2 orifices, we recommend you: <ul style="list-style-type: none"> • Use the correct size orifice above the rows for high (ex. 15-30 psi) pressure volumes. • Use a larger orifice (2-3 times the size) below (where the fertilizer is being placed), creating 5-7 lbs pressure to stream fertilizer into the soil. NEVER use 2 of the SAME SIZE orifices in your system! It is not possible to get the correct pressure using same sized orifices.
SQUEEZE PUMPS	DO NOT run orifices with squeeze pumps. This cannot be done because squeeze pumps do not put out enough pressure for an orifice system. Squeeze pumps only put out 2-3 pounds of pressure.