

# TROUBLE SHOOTING GUIDE, DOWNEASTER SPREADERS

## ENGINE, BRIGGS & STRATTON / HONDA TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	
<b>Engine Will Not Crank, or is hard to start</b>	Battery lead connections are loose. Battery charge low or discharged. Battery amperage too low.	Fuse in wiring harness blown. Starting cable connectors loose. Connectors corroded or worn. Starter/Solenoid malfunctioning.
<b>Cranks - Will Not Start</b>	Air cleaner wet, or clogged. Fuel tank empty. Fuel hose kinked, pinched. Fuel filter clogged. Fuel valve shut off Water in fuel, stale fuel. Wrong type fuel (Diesel).	Choke on, flooding hot engine. Spark plug wire disconnected. Wrong type of spark plug. Electrical clutch engaged Cranking speed too slow to start. Spark plug loose. Low or no compression.
<b>Runs Rough On Low &amp; Will Not Accelerate and/or lacks power</b>	Air cleaner wet, or clogged. Bad Spark plug or gapped incorrect. Engine not properly warmed up. Running out of fuel. Old gas Choke is partially closed. Carburetor needs adjustment or service. Low idle set too low	Low idle fuel setting too lean. Electric clutch dragging. Air filter is clogged. Valves are not sealing properly. Piston rings are not sealing properly. Head loose or head gasket blown or damaged. Water in fuel
<b>Backfires on Full Throttle</b>	Air cleaner wet, or clogged. Water contaminated fuel. Running out of fuel. Fuel mixture too rich or too lean.	Throttle or choke improperly set. Dirty carburetor needs cleaning. Leaking, worn valves in engines.
<b>Blowing fuses</b>	Regulator-Rectifier burned out. Leads pinched causing shorting.	Alternator stator shorted.
<b>Electric clutch will not engage</b>	Wrong Regulator-Rectifier used. Wiring wrong or not grounded.	Faulty clutch Low or no voltage to clutch
<b>Stops on High Idle</b>	Running out of fuel. Running out of oil in crankcase. Key switch malfunctioning.	Spark plug lead loose. Carburetor out of adjustment
<b>Hot - Will Not Restart</b>	Air cleaner wet, or clogged. Closed choke flooding engine. Fouled spark plug.	Kill lead shorting out. Ran out of fuel. Lost compression.
<b>Cannot Reach High Idle RPM (No Load)</b>	Air cleaner wet, or clogged. Choke not completely opened. Throttle control cable clip loose. Throttle control improperly installed. Fuel filter or line clogged. Fuel inlet line too small.	Fuel running low. Foreign material in carburetor. Carburetor out of adjustment. Spark plug gapped wrong causing intermittent firing. Drive system binding.
<b>Engine knocks.</b>	Carburetor is set too lean. Engine has overheated. Carbon buildup in combustion chamber.	Flywheel is loose. Connecting rod is loose or worn. Cylinder is excessively worn.
<b>Engine vibrates excessively.</b>	Engine is not mounted securely.	Check platform and engine mounting fasteners

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## GENERAL TROUBLESHOOTING, GASOLINE ENGINE SERIES

SYMPTOM	POSSIBLE CAUSE	
Controller has no power	Controller internal fuse blown (faulty / damaged valve coil on gas-hydraulic models, causing blown fuse)	Power supply harness connections loose or corroded
Controller has power but conveyor or spinner does not operate	Faulty clutch faulty ground in harness, or platform loose of corroded power wire faulty rocker switch	keyway missing at gearbox shaft roller chain not attached (faulty / damaged valve coil on gas-hydraulic models)
Noisy operation	Bent shaft, drive or idler Bearings need lubrication Foreign object in conveyor	Faulty bearings Spinner disc unbalanced engine mounting loose, causing vibration
Material not exiting discharge chute	Conveyor discharge clogged Material bridging inside hopper	feed gate malfunction, or not open enough Inverted Vee not installed
Conveyor does not operate	Auger is jammed by a foreign object, or frozen material Shear bolts broken on shaft coupler	Damaged gearbox Shaft key missing from gearbox/auger coupling (faulty / damaged valve coil on gas-hydraulic models)
Conveyor operates erratically	Shaft key missing from gearbox/auger coupler Shear bolts broken on shaft coupler Bent shaft, drive or idler	Electric motor defective (faulty / damaged valve coil on gas-hydraulic models)
Noisy operation	Bent shaft, drive or idler Bearings need lubrication Foreign object in conveyor	Faulty bearings Spinner disc unbalanced
Spinner disc not turning	Chain disconnected or loose Spinner disc jammed faulty bearings bearings need grease	Keyway missing roller chain binding/faulty (faulty / damaged valve coil on gas-hydraulic models)

## GENERAL TROUBLESHOOTING, GAS/HYDRAULIC SERIES

<p style="text-align: center;"><i>No engagement of hydraulic valve on self contained models.</i></p>	<p style="text-align: center;"><i>Controller internal fuse blown (faulty / damaged valve coil on gas-hydraulic models, causing blown fuse) Faulty valve coil / overheating.</i></p>	<p style="text-align: center;"><i>Coil should not draw over 5 amps, replace if does. When replacing coil, do not over tighten! <b><u>Replace coil YEARLY.</u></b></i></p>
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## GENERAL TROUBLESHOOTING, WIRELESS CONTROLLER ( ALSO SEE PAGES 63, 64 )

SYMPTOM	POSSIBLE CAUSE	
No power to wireless box.	check fuse and on / off switch	Bad connection at battery.
LED light on, but wireless box does not work.	Remote battery dead.	Remote box is faulty
Program Remote	<p>1. Using a paper clip, press create button on rear of transmitter. Blue light will flash. Press <b>START, STOP, THROTTLE UP, THROTTLE DOWN, CLUTCH</b>, in that order, and wait until blue light stops blinking before proceeding.</p> <p>2. Press and hold button in upper left side of box until light goes out. Press same button for 1 sec., light will begin to blink. Push <b>START</b> button on remote for 1 sec., then push button in upper left of wireless box to lock remote to the box.</p>	
Engine will not start	Using a voltmeter, test the yellow wire to the solenoid for power while holding the <b>START</b> button	
Engine will not turn off	Test black wire for ground, while holding <b>STOP</b> button.	
Throttle not working	Using a voltmeter, test the red & brown wires for ground, then push <b>THROTTLE UP</b> button and test brown wire for pos (+), then push <b>THROTTLE DOWN</b> button and test red wire for pos (+)	
Clutch not working	Using a voltmeter, test the wire wires pos (+), while holding the <b>CLUTCH</b> button. Make sure no other electrical components, such as work lights, or strobes, are spliced into this circuit. This will cause box to overheat under the additional amperage.	

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## VARIABLE SPEED CONTROLLER & ELECTRIC CONVEYOR SERIES

**ATTENTION:** The Omega 1030 controller is designed to operate single stage salt spreaders with positive and negative wires from the controller, to the spreader motor. This controller features "Jackhammer" start-up, to make sure the spreader starts, in the case of a jam or frozen material. This cycle is 5 seconds and is normal, every cycle, operation along with "Guardian" current management, to protect your vehicle from dangerous current spikes. The "Blast" feature will send full voltage (top speed) to spinner for \_ seconds.

SYMPTOM	POSSIBLE CAUSE	
Controller has no power	Controller not turned ON Controller internal or external fuse blown	Power supply harness connections loose or corroded
Controller has power but conveyor does not operate	Conveyor harness is not connected to controller Spinner harness connection at rear bumper or electric motor is loose or corroded	Conveyor speed setting is set too low Conveyor harness damaged
Controller has power but spinner does not operate	Spinner harness is not connected to controller Spinner harness connection at rear bumper or electric motor is loose or corroded	Spinner speed setting is set too low Controller internal fuse blown Spinner harness damaged
Conveyor operates erratically	Loose or corroded conveyor harness connections Conveyor speed setting is set too low Shaft key missing from gearbox/auger coupler Electric motor defective	Shear bolts broken on shaft coupler Defective electric motor Conveyor harness damaged Bent shaft, drive or idler
Conveyor turns on and off	Circuit breaker / Fuse overheating or faulty. Loose chain or bad link.	Shear bolts broken on shaft coupler Broken or missing crossbars
Spinner operates erratically	Circuit breaker / Fuse overheating or faulty. Loose or corroded spinner harness connections Spinner speed setting is set too low	Defective electric motor Spinner harness damaged
Conveyor does not operate	Shear bolts broken on shaft coupler Variable speed controller not functioning properly Auger is jammed by a foreign object, or frozen material	Damaged gearbox Electric motor defective Shaft key missing from gearbox/auger coupling
Noisy operation	Bent shaft, drive or idler Bearings need lubrication Foreign object in conveyor	Faulty bearings Spinner disc unbalanced
Material not exiting discharge chute	Conveyor discharge clogged Material bridging inside hopper	feed gate malfunction, or closed Inverted Vee not installed
Spinner disc not turning	Electric motor faulty Spinner disc jammed faulty bearings bearings need grease	Variable speed controller not functioning properly Keyway missing roller chain binding/faulty
Speed Control overload light on	Grease spinner bearings, using only wheel bearing viscosity grease, while spinner is turned on.	Love joy (coupler) and spinner shaft are misaligned
Circuit breaking tripping and/or motor is drawing too many amps	Feed gate door not open enough, causing build up pressure (open door and install salt flap) Inverted V deflector not installed Conveyor pintle chain and / or Roller chains too tight, causing strain. ( <i>chain should be 1/2" above center crossbar</i> )	Drive bearings not properly greased or seized. Spinner shaft bent or spinner bearings seized Flip chute shaft misaligned, causing drive strain on motor(s) Faulty motor and/or motor internal bearings.