## **SNOW PLOW PUMP TROUBLESHOOTING**

## **BEFORE YOU CALL FOR HELP:**

Understanding basic plow pump diagnostics and repair can help plow drivers troubleshoot in the field before calling for backup. This training tool identifies four key areas to troubleshoot and the simple repairs that can be made to avoid costly downtime. More complicated diagnoses should be left to an experienced mechanic.



|   | PROBLEM   | DIAGNOSTIC CHECK  | SOLUTION  |
|---|---|---|---|
|   | Pump motor does<br>not run.                           | Check power/ground and control cables.  | Connect/double-check cables are connected.  |
|   |   | Check for power to the solenoid by testing for voltage between the battery-side large terminal and check ground.                    | If voltage is not present between one large terminal and ground, the cable between the battery and solenoid is disconnected or broken and must be replaced.   |
| 0 |   | Check for voltage between the other large terminal of the solenoid and ground while jumping power to the small activation terminal. | If NO voltage is present, solenoid has failed and must be replaced. If voltage is present, wire from small terminal of solenoid to ground may be disconnected or broken.  |
|   |   | Test power to the controller by checking for voltage at the controller plug by using the power and ground wires.                    | If NO voltage is present, power from a fuse in the fuse box may be disconnected. Check to all fuses and replace if a fuse is blown. If voltage is present, check to make sure the controller wiring connection is seating properly and that the controller switch is turned on. |
| 2 | Pump chatters when raising plow or extending wing(s). | Check LIFT solenoid valve.  | If the LIFT solenoid valve is not opening completely, replace the solenoid.   |
|   |   | Hydraulic fluid low.  | Add hydraulic fluid. Fill reservoir to recommended level.   |







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|---|---|--|--|
| 3 | Plow will not lower.  | Check power/ground cables and control cables are connected properly.   | Connect.   |
|   |   | Test power to the controller by checking voltage between the power wire and ground wire at the controller connector. | If NO voltage is present, power from a fuse in the fuse box may be disconnected. Check to all fuses and replace if a fuse is blown. If voltage is present, check wiring and the controller switch. |
| 4 | Plow will not raise<br>or raises slowly<br>(pump motor runs). | Check hydraulic fluid level, which might be low.   | Hydraulic fluid level should be filled to manufacturer's specs listed in owner's manual.   |
|   |   | Check power/ground cables and control cables are connected properly.   | Connect.   |
|   |   | Load test battery.   | Replace battery if weak or defective.  |

## **REPAIR SAFETY KIT**

- ☐ Traffic cones, triangles or flares
- ☐ Fire extinguisher
- ☐ Spare safety vest
- ☐ Spare safety glasses
- ☐ Spare ear plugs
- ☐ First aid kit
- ☐ Flashlight Place inside wool sock or other insulated material to sustain battery.

- ☐ Scoop shovel Use for digging out tires if you get stuck on snow or ice.
- ☐ Tow strap Use to tow your vehicle out of an area. Do not use it to tow other vehicles.
- ☐ Ice scraper/snow brush combination
- ☐ Spare windshield wiper blade(s)
- ☐ Tool box or bag Include necessary wrenches, sockets and spare parts.
- $\square$  Jumper cables or portable jump starter

- ☐ Bag of traction sand or salt Use if you get stuck on snow or ice.
- ☐ Windshield washer fluid
- ☐ De-icing spray
- ☐ Fuel line additive
- ☐ Fuel anti-freeze for gasoline engines
- ☐ Fuel anti-gel for diesel engines

