

INFINITY 4000 HYDRAULIC SYSTEMS TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	TEST PROCEDURE
Electric Pump Motor will not run	1. No power to motor	#1 Check circuit breaker and GFI. If GFI is tripped, reset. If it won't reset, open motor canister lid and check for moisture. #2 Check for power at the motor junction box.
	2. Damaged Touch Pad or key switch	To test, bypass the key switch or touch pad by isolating the motor control wires (small gray cable with six 22 gauge wires at the motor). Disconnect all six wires and isolate them from each other. Try to run the motor by touching the red wire to the green and then the black wire to the green. If the motor runs then test the key switch or touch pad. To test Key switch, follow directions on picture #1. To test Touch pad, follow direction on picture # 3.
	3. Damaged sensor	Isolate sensor wires. With sensor wires isolated from sensor, attempt to run motor in both directions. If motor runs the sensor is probably bad. Test sensor. If sensor is closed (has continuity) replace. See picture #2.
	4. Damaged circuit board	To test, Follow direction on picture #6. Repair or replace as needed.
	5. Damaged capacitor on the motor.	Hydraulic pump motors all have a capacitor mounted to the top surface of the motor. If this goes bad the motor will make a humming sound when you try to run it but it will not start up. If this is the case, replace the capacitor. See Picture # 5
	6. Damaged motor	For 110 volt units test motor by connecting L1(hot wire) to wires 1,3, & 8. Connect L2(neutral wire) to wires 2, 4, & 5. For 220 volt units test motor by connecting L1(hot wire) to wires 1. Connect L2(neutral wire) to wires 2, 3, & 8. Connect wires 4 & 5 together. Note: Hydraulic pump motors only run in one direction. If motor does not run, contact the factory.

Motor will not automatically stop when cover is fully closed or fully open.

7. Sensor wires broken or disconnected #1 Check wire connection.
#2 Test sensor extension wires for continuity between motor and sensors.
8. Damaged sensor Test continuity. Sensors are normally open and will not show continuity unless placed over a magnet. See picture # 2.
9. Magnets missing or not placed in proper position. Adjust position of magnets in cover or replace magnets if missing..
10. Damaged circuit board Test control board sensor function by connecting the green and blue or green and brown low voltage sensor wires coming from the motor canister while the motor is running. The motor should shut off. Reverse the motor direction and try the green and blue or green and brown. The motor should shut off in this direction. Note: the green wire is a common wire. If motor does not shut off in both direction, replace circuit board. See picture #5.

Pinhole Motor runs only in one direction

11. Damaged sensor Disconnect each sensor and try running Motor. If motor runs, replace sensor.
12. Broken key switch or touchpad **For key switch**, test each contact block for continuity. See picture #1
Note: key must be held in the on position and tested in both directions.
For touchpad, test touchpad. See picture # 3.
13. Damaged solenoid Some older hydraulic units have two solenoids. The newer ones have only one. Each solenoid has a coil with only two wires coming out of it. To test, connect power (110 or 220 depending on the rating) to those two wires. The solenoid should activate and that will move the center pin in the solenoid. You will here a clicking noise. If this does not occur then either the coil is bad or the pin is jammed. To check the pin, remove the solenoid from the unit and use a small screw driver to push on the pin. It is spring loaded so it should push in and then spring back if it does not do this then replace the solenoid. Picture #5.

	14. Damaged circuit board	To test, Follow direction on picture #6. Repair or replace as needed.
Motor continues to run when key switch is disengaged.	15. Broken key switch or Touchpad	For key switch , with the key switch off test each contact block for continuity. If there is continuity with the switch off, replace that contact block. See picture #1 For touchpad , test touchpad. See picture # 3.
	16. Wires shorted between key switch and motor canister or touchpad and motor canister	Disconnect key switch or touchpad wires at motor and touch wires together. Green to red direction A and green to black direction B. See picture #5.
	17. Damaged circuit board	To test, Follow direction on picture #7. Repair or replace as needed.
Motor runs but cover does not move	18. Pressure relief valve set to low.	Turn pressure relief valve clockwise. See picture #4
	19. Hydraulic fluid level is to low.	Check fluid level and fill if necessary
	. Damaged solenoid	See #5
Motor runs on its own. "Ghost runs".	20. Intermittent short in key switch or touchpad wiring.	Test continuity of wiring from key switch or touchpad green wire to black and red wire. If continuity is found, replace wires.
Cover surges as it opens and closes	21. Hydraulic fluid has been contaminated with water	Check fluid for a foamy surface. Drain and refill tank if necessary
	22. Hydraulic fluid level is to low.	Check fluid level and fill if necessary.

When testing the key switch, check both contact blocks for continuity with a multi meter. The key should be in the on position for the contact block you are checking. The meter should be placed with one lead on each side of the contact block. If you don't have continuity replace the contact block.



Picture #1

The sensors are normally open which means you should not have continuity between the wires. If there is continuity replace the sensor. If a magnet is placed directly over the sensor it should change to show continuity.



Picture #2

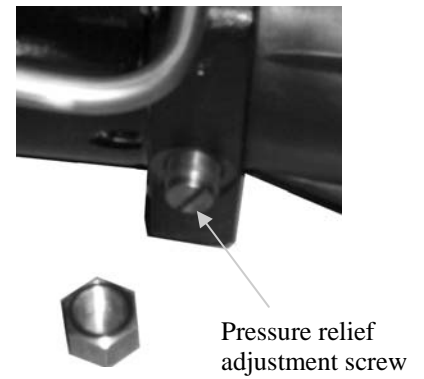
To test the touch pad, first check to see if the LED light is on. It should be red. If this is not on then check for +5 VDC between the white and green wires. Fix bad connection if needed. Once light is on enter the user code. With this code entered there should be a green light. When the green light is on push the open button and check for continuity between the green and black wires. Then push the close button and check for continuity between the red and green wires. If in both cases you get continuity then the touchpad is good. If in either case there is not continuity then replace the touchpad.



Picture #3

Wires to test

To adjust the pressure relief valve, remove the cap and turn the screw. To increase the pressure turn the screw in the clockwise direction. To decrease the pressure turn the screw in the counterclockwise direction.

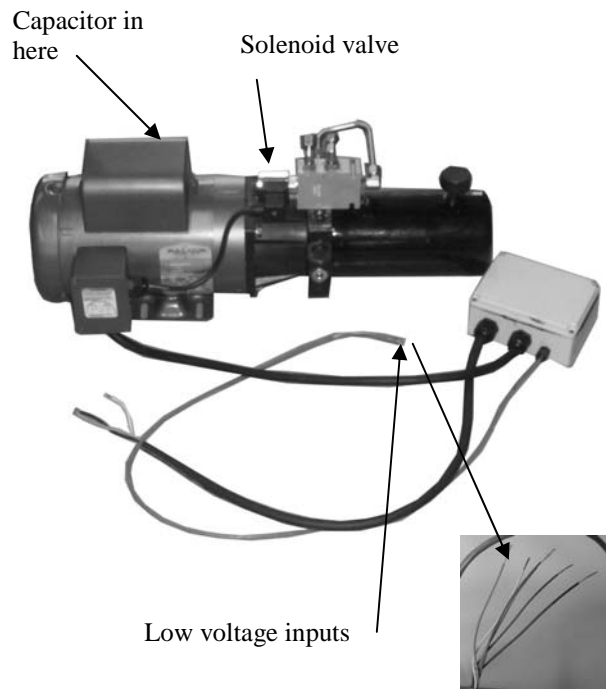


Picture #4

The hydraulic solenoid has two wires running to each coil. One is for hot and the other is neutral. When the control is energized power is sent to the hot wire and the coil is on. When this happens there is a slight clicking noise. This switches the position of the inner pin redirecting the flow of the hydraulic fluid.

The small grey cable coming from the control is the low voltage inputs. By touching green to red or green to black the motor will run. By touching brown to green or blue to green while the motor is running will act as a sensor and shut the motor off.

The capacitor is inside the metal cover on the top of the motor.



Picture #5

To test control board: First connect power to power wires. With the red and green low voltage wires together. Check for power between the white and red motor wires. You should have power. Next check for power between white and yellow and white and blue. You should only get power on either the yellow or the blue. Next disconnect the green and red low voltage wires and connect the green and black low voltage wires. Again Check for power between the white and red motor wires. You should have power. Next check for power between white and yellow and white and blue. You should only get power on the wire that when previously checked didn't have power. Either the yellow or the blue. Finally check for continuity between the wire that doesn't have power on it and the black motor wire. This will be either black to yellow or black to blue. It should have continuity. If all these things check out then the board is correctly switching the power to the motor.

