

INFINITY 4000 ELECTRICAL SYSTEMS TROUBLE SHOOTING GUIDE

Baldor .84 Horse Power Gear Motor and Electrical Systems
Used 2003 through 2005

PROBLEM	CAUSE	TEST PROCEDURE
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. Sensor may need to be reset. This is only for systems with the single sensor control board (used between early 2004 through 2005)	To reset, find the motor control wires (small gray cable with six 22 gauge wires at the motor). Touch the brown wire to the green wire and then flip the power breaker off for ten seconds. Reset the power breaker and again touch the brown wire to the green wire. Try operating the cover again.
	3. 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 # 6.
	4. 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.
	5. Damaged circuit board	To test, isolate motor control wires (small gray cable with six 22 gauge wires). 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 motor hums replace the circuit board. If nothing happens bypass circuit board and test the motor. See picture #3.
	6. Bad thermal switch in motor.	Test for continuity between the # 4 wire and the wire marked with a J. See picture # 4.

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

7. Damaged motor To test motor, connect L1(hot wire) to wires 1,5. Connect L2(neutral wire) to wires 4,8. Leave J wire disconnected. This will make motor run in one direction. To Reverse motor interchange wires 5 & 8. See picture #3. If motor does not run, contact the factory.
8. Sensor wires broken or disconnected #1 Check wire connection.
#2 Test sensor extension wires for continuity between motor and sensors.
9. Damaged sensor Test continuity. Sensors are n.o. and will not show continuity unless placed over a magnet. See picture # 2.
10. Magnet missing or not placed in proper position. Adjust position of magnet in cover or replace magnet if missing.

11. Damaged circuit board **For dual sensor units.** With the motor running, connect the white and blue or white and brown low voltage sensor wires coming from the motor canister. The motor should shut off. Reverse the motor direction and try the white and blue or white and brown. The motor should shut off in this direction. Note: the white wire is a common wire. If motor does not shut off in both directions, replace circuit board. See picture #5.
For single sensor units. With the motor running for at least eight seconds, connect the green and brown low voltage sensor wires coming from the motor canister. The motor should shut off. Reverse the motor direction and try the same process. If motor does not shut off in both directions, replace circuit board. Note: the green wire is common for sensor and key switch or touchpad. It must stay connected through this process.

Motor runs only in one direction

12. Damaged sensor Disconnect sensor and try running Motor. If motor runs, replace sensor.
13. Broken key switch or touchpad **For key switch,** test each contact block for continuity. See picture #1.
Note: The key must be held in the 'on' position and tested in both directions.
For touchpad, test touchpad. See picture # 6.

	14. Damaged circuit board	To test bypass circuit board and test motor. To test motor, connect L1(hot wire) to wires 1,5. Connect L2(neutral wire) to wires 4,8. Leave J wire disconnected. This will make the motor run in one direction. To Reverse motor interchange wires 5 & 8. See picture #3. If motor runs in both directions control board is probably damaged. See picture #3.
	15. Damaged motor	If in step 14 the motor only runs in one direction then the motor has a damaged start winding or capacitor. Contact the factory.
Motor continues to run when key switch is disengaged.	16. 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 # 6.
	17. Damaged circuit board	To test see picture #7.
	18. 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.
Motor runs for one second, but will not continue to run	19. Amp sensor is triggering the motor to shut down	Check the trim pots on the control board to see if they are not turned up to the appropriate level. If they are fully clockwise and the problem persists, remove the amp sensor chip. See picture # 8.
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.
Motor hums in 1 direction	21. Loose wires connecting circuit board	Check wire connections in motor canister. Loose or disconnected wires should be suspect.
	22. Short in circuit board	Disconnect power and access circuit board on top of motor canister. Check for moisture. Dry circuit board if wet and activate motor . See picture #5. Replace circuit board if motor hums.

Motor hums in both directions

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| 23. Damaged or disconnected capacitor | Check capacitor connections. Check capacitor pressure relief hole. See Picture #9. |
| 24. Centrifugal switch not working | Check for continuity between motor wire #5 and #8. If there isn't continuity the switch needs to be repaired or replaced. For testing see Picture #4 and substitute wire #5 and #8 for the J and #4 leads. |
| 23. Damaged circuit board | Test control board. See picture # 7 |

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 motor, connect L1(hot wire) to wires 1,5. Connect L2(neutral wire) to wires 4,8. Leave J wire disconnected. This will make motor run in one direction. To Reverse motor interchange wires 5 & 8.



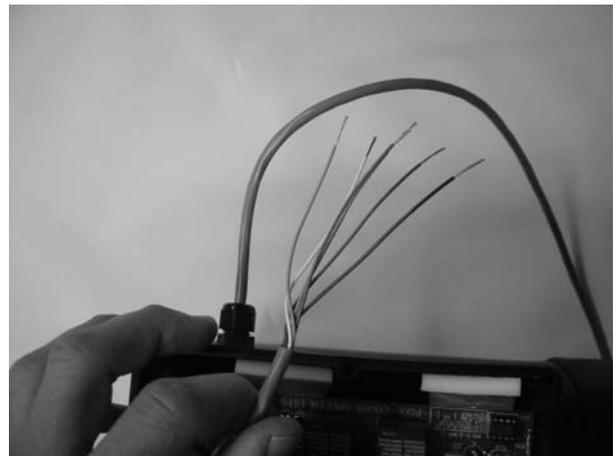
Picture #3

To test the thermal, disconnect the #4 wire and the wire marked J. Using a multi meter check for continuity between these two leads. If there is continuity the thermal is good. If there is not continuity then bypass the thermal by capping off the #4 wire and connecting the wire that was connected to the #4 wire (the white wire from the 5 pin connector) to the wire marked J. Now the J, white, and black wires are connected together.



Picture #4

To test the auto shutoff feature on the dual sensor circuit boards, start the motor running (Green to red direction A and green to black direction B), connect the white and brown low voltage sensor wires coming from the motor canister to shut off direction A. Reverse the motor direction and try the white and blue to shut off direction B. Note: the white wire is a common wire. If the motor does not shut off in both direction, re-



Picture #5

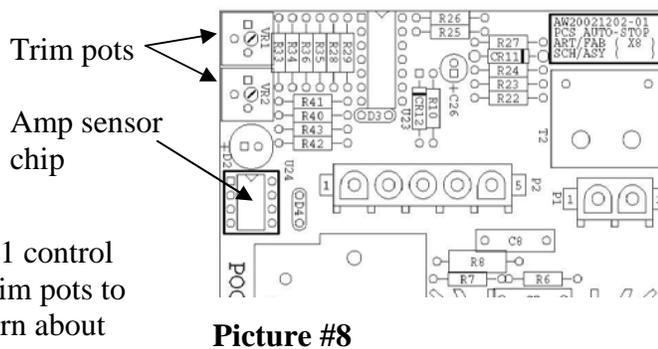
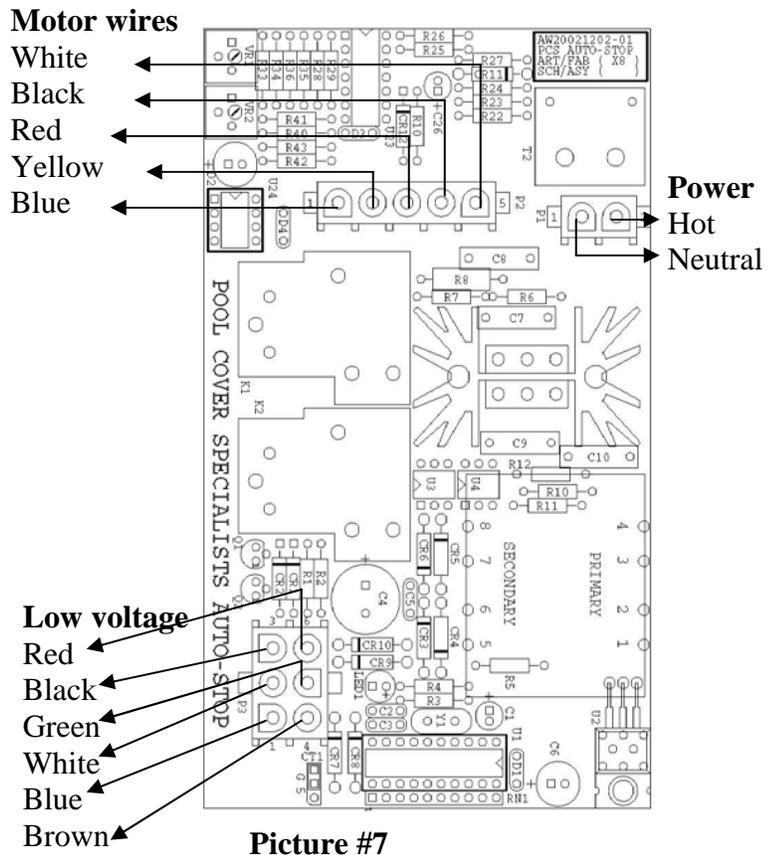
To test the touch pad, first check to see if the LED light is on. It should be red. If it is not on, check for +5 VDC between the white and green wires. Fix bad connection if needed. Once the light is on, enter the user code. With this code entered there should be a green light. When the green light 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 #6

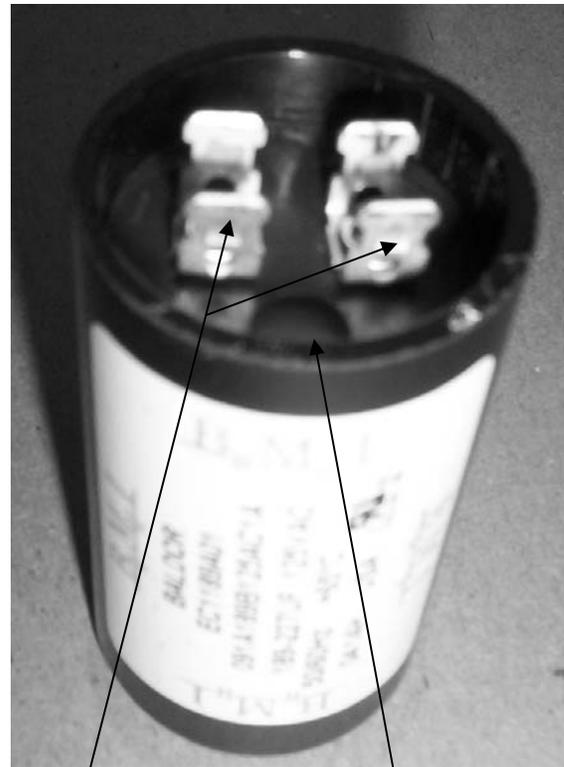
Wires to test

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.



Trim pots are on the back side of the 10711 control board. For maximum motor torque turn trim pots to the fully clockwise position. They only turn about three quarters of one revolution from minimum to maximum. If the trim pot turns more than this it is damaged. If controller still shuts down after one second in either direction then remove the amp sensor chip. This will bypass the amp sensor.

If pressure relief hole on capacitor is open then the capacitor needs to be replaced. In this case it is also good to check the centrifugal switch to see if it is disengaging when the motor starts. This is usually the reason for the capacitor being damaged.



Capacitor connection clips

Capacitor pressure relief hole

Picture # 9