



Frozen Delight - Delivered Just Right!
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ULTRA-2 MEMBRANE SWITCH TESTING

The Ultra-2 machine uses a flat “membrane” switch assembly that contains all the switches to control the machine. These switches can and do fail over time – they are, after all, simply a set of moving parts. When a switch does not change a setting, is intermittent, or even if an automatic setting does not occur as planned the membrane switch may need to be replaced. The following is a set of instructions for testing the membrane switch before deciding to replace it.

Note: These instructions are designed for persons comfortable and experienced using hand tools and electrical testing equipment. You must follow the safety instructions herein. It is possible to cause harm to yourself or your machine even if you follow the safety procedures but make an error or do not use basic caution necessary for properly using these tools and performing these basic procedures. Margarita Guys assumes no responsibility for any actions you take or the results from those actions. Read all instructions before beginning.

Test Procedures:

Tools Needed: ¼" hex nut wrench, flat blade screwdriver, continuity tester (VOM or DMM), thin piece of wire

1. **Disconnect the machine from the power source.** Place the machine on a solid surface where you have clear access to all sides of the machine. Keep hands and tools outside of the machine.
2. Remove right and left side panels by partially unscrewing the two ¼" hex head nuts on the bottom of each side panel then pulling the bottom of the panel away from the machine and then pull the panel down and away.
3. Remove the plastic lower drip tray by simply pulling straight away from machine.
4. Remove the front panel by removing the two flat head machine screws on each side of the bottom back of the panel (these screws had been hidden by the installed side panels) and then remove the single ¼" hex head machine screw on the bottom front of the panel (this screw had been hidden by the installed lower drip tray). The membrane switch is still connected to the machine, so carefully pull the panel down and away from the machine to view the flat ribbon cable and connector.

NOTE: Before continuing, check carefully that the ribbon cable is properly connected to the control board and not a pin off in either direction. If a pin is not connected, detach the plug, properly align the pins, the reattach the plugs.

5. **Note the orientation of the wire colors** (needed for replacement) and then unplug the connector and remove the front panel. **NOTE:** The black wire should correspond to the #1 printed on the clear portion of the cable (the widest of the metal lines in the clear ribbon cable or leftmost as you look at the front of the switch).

6. Check for continuity of the switches using pin #7 as common.

From Pin #	To Pin #	Comment	Note Your Results
7	1	Shield – No continuity	
7	2	Left Auger	
7	3	I/O (On/Off)	
7	4	Not Used	
7	5	Left ICE/CHILL/OFF	
7	6	ULTRA	
7	8	GOURMET	
7	9	Not Used	
7	10	ICE	
7	11	Right Auger	
7	12	Right ICE/CHILL/OFF	

Turn your Volt-Ohm-Meter on, set it to resistance and touch both test leads together – the meter should read zero (no resistance). If it does not your meter or leads are not operating (VOMs have a battery, check the battery and then check the leads.) When you know you have an operational meter, connect one test lead to pin #7 on the switch connector and the other test lead to pin #2. You may need a small piece of thin wire to make contact inside the connector – do not use a large wire and force it into the connector as you will damage the metal connections inside the connector. The meter should read infinity (usually all the way to the left on an analog meter with a dial and needle or a single “1” or “OL” on a digital meter), and then when you push the Left Auger button the meter should read zero. Repeat this procedure for each of the switches in the chart above.

Switch does not close when pushed:

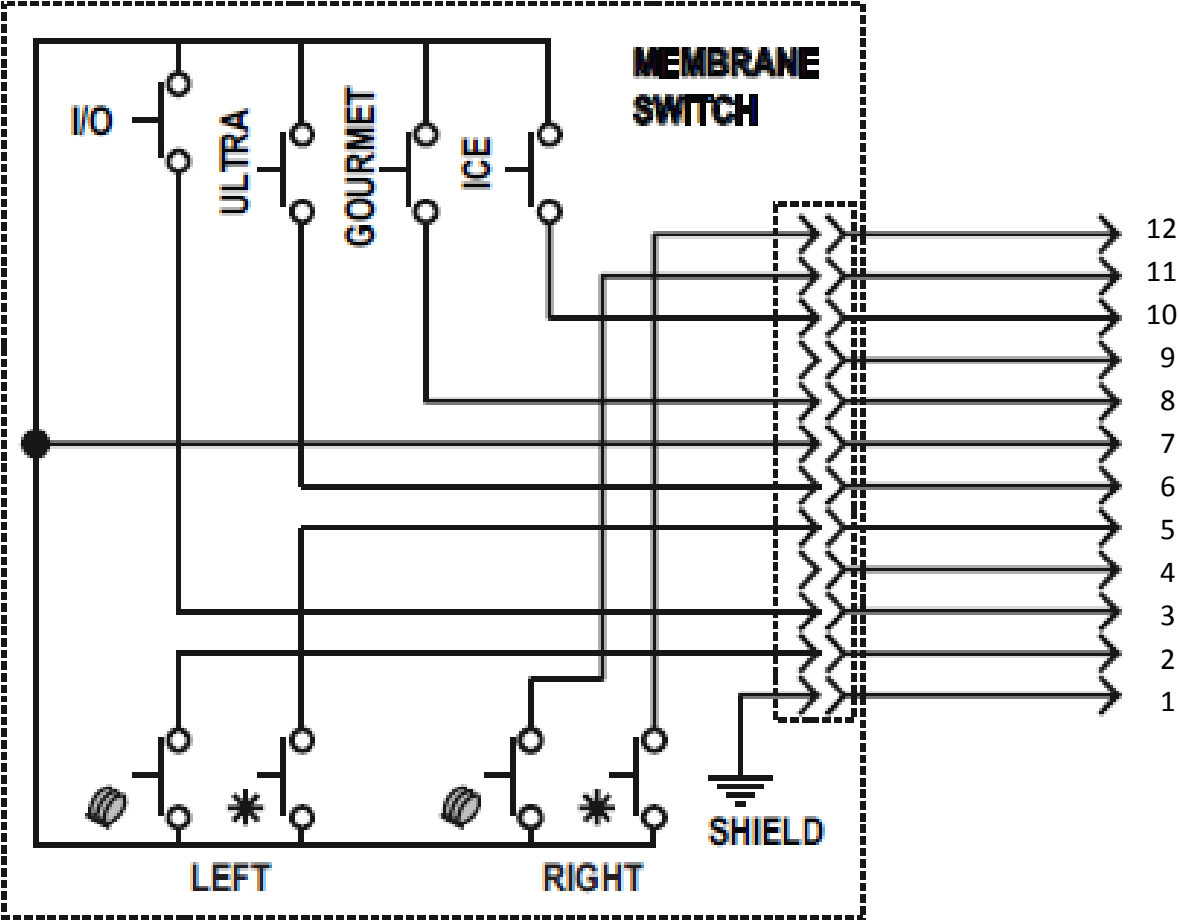
If you find that a switch does not close when it is pushed (meter reading goes to zero), the membrane switch assembly must be replaced because that switch will not send a signal to the main computer when it is pressed.

Switch is closed when it is not pushed:

If you find a switch is closed even if it is not pushed (meter reading zero without the switch being pushed), the membrane switch assembly must be replaced because the switch is stuck and acting like it is always being pushed. If a switch is stuck closed, it may cause programming to be over-ridden. For example, if you have set the machine to go into Night

mode at Midnight and stay in Night mode for seven hours, the machine should automatically switch back to Ice at 7 AM. If the machine stays in Chill after 7 AM and you have double checked your programming, the ICE switch for that hopper might be stuck closed.

ULTRA-2 MEMBRANE SWITCH WIRING DIAGRAM



Snowflake (ICE/CHILL/OFF) = *

Auger = 