Maytag Services Training Bulletin

Product: New Electronic Control   **Date: August 1, 2005**

IntelliDial Electronic Laundry Controls

A new line of electronic controls, "IntelliDial", hits the Sales Floor in August. The new controls will be used on Maytag high end top load washers and gas and electric dryers. The new control system uses a solid state timer and encoder (logic) switches in place of the electro-mechanical timer and switches used in the past. The IntelliDial electronic timer control rotates in either direction without the need to pull out or push in the CSK (Cycle Selection Knob). LED indicator lights around the CSK illuminate as the knob is turned to indicate the cycle choices. A row of LED lights under the CSK illuminate to show the status of the machine as it progresses through the cycle.
One washer and one dryer control circuit board is used for all models. These circuit boards are loaded at the time of manufacture with the software needed to support a variety of product models. A control membrane specific to each model determines which portion of the preloaded software is used. A primary encoder switch connects the model specific membrane to the control circuit board. A conventional two position water level pressure switch is used to determine water level.
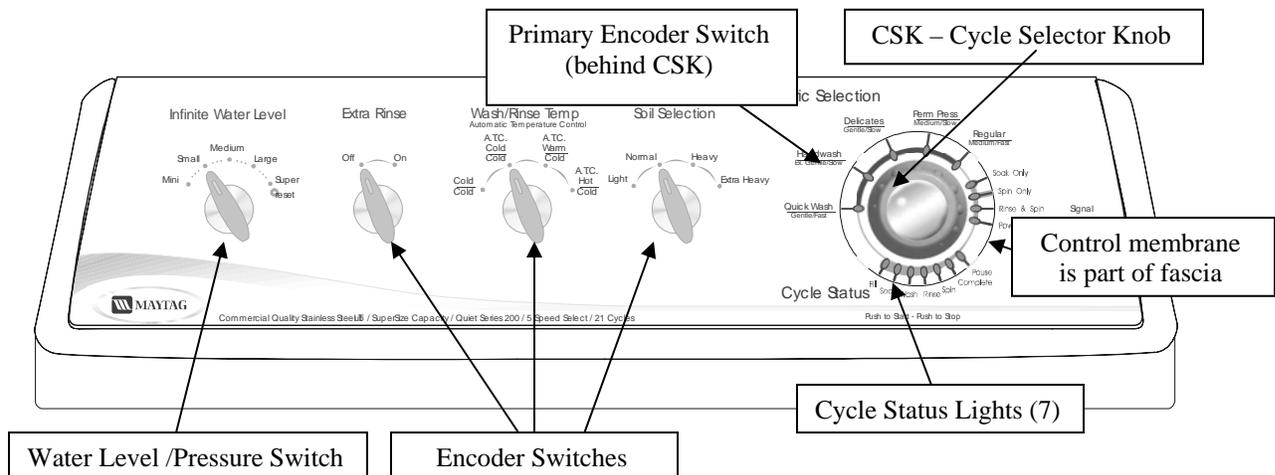
Note: Always refer to the Technical Data Sheet shipped with the product for detailed service information for the model you are servicing

Accessing Controls
To access the control components begin by removing three screws across the top of the control console
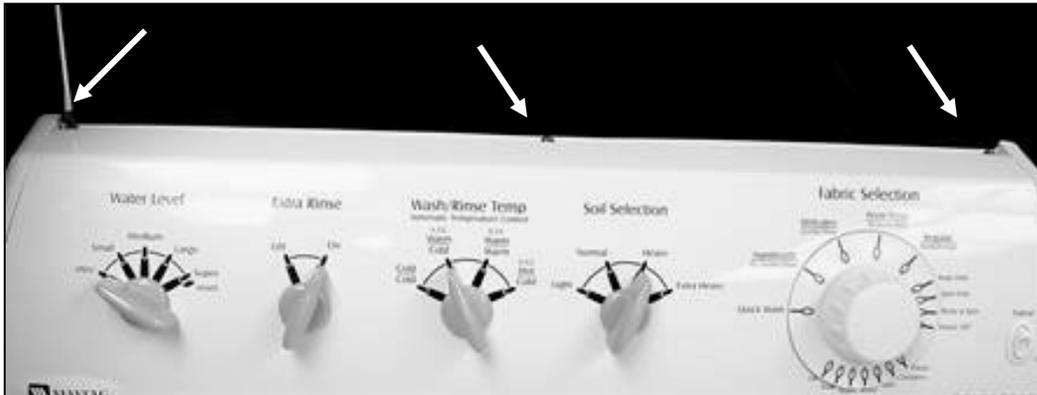
The control console can be rolled out and down for front serviceability
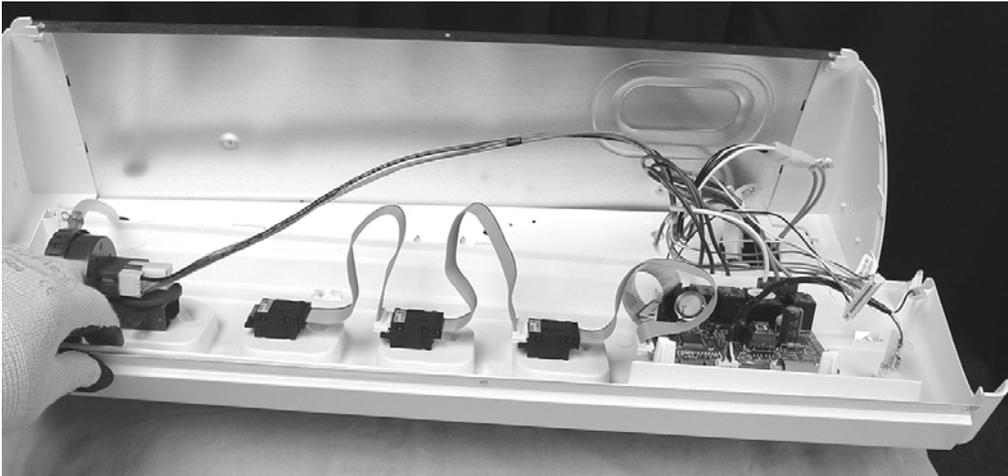
Remove the hose to the pressure switch to ease positioning of the console

Component Identification

Pressure Switch

Control Circuit Board

Signal Switch

Rotary encoder switches are
connected with ribbon connectors

Primary encoder is located in
front of the control circuit board
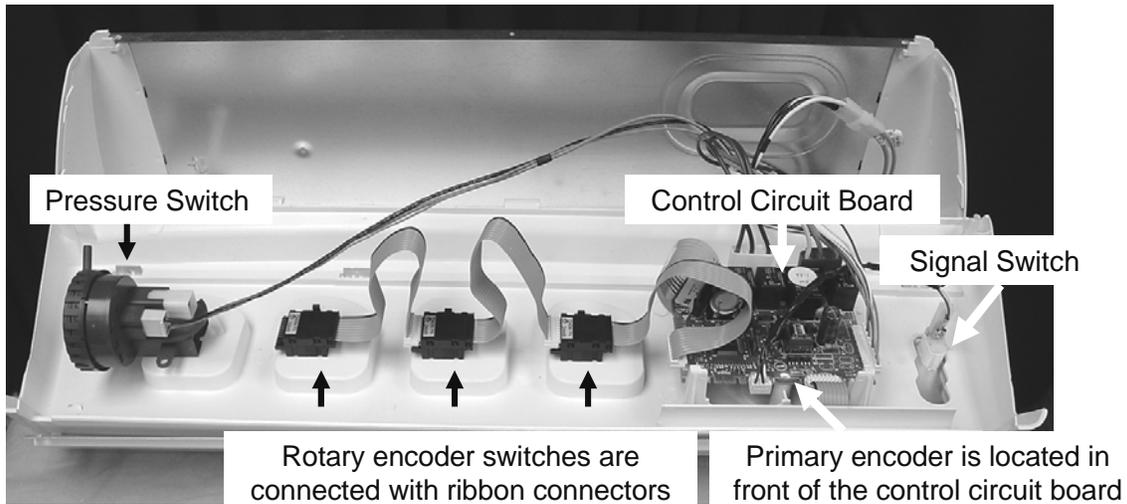
Rotary encoder switches are used for option selection
A primary encoder is used for cycle selection
A convention pressure switch is used to control water level

Caution: Always be static aware when handling electronic control circuit boards. Make sure to discharge any static charge you may be carrying to ground

To remove the control board:

Remove the cycle selector knob; be careful not to damage the encoder or fascia when removing

Use a small diameter wire looped under
the cycle selector knob to remove
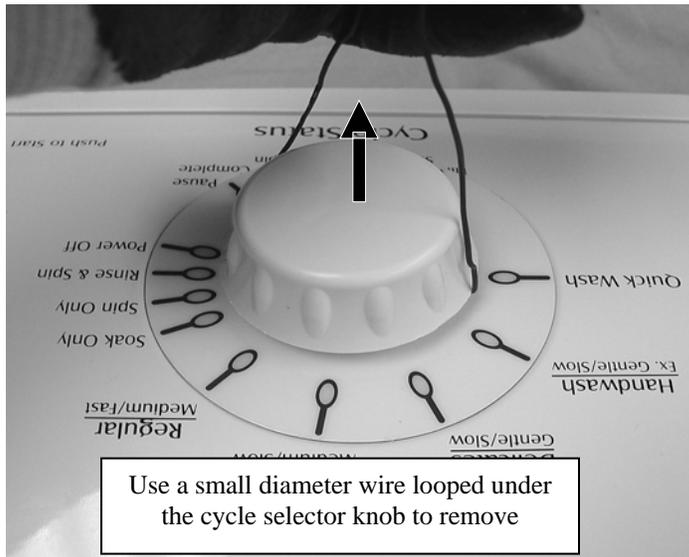
Remove the five edge connectors attached to the control circuit board
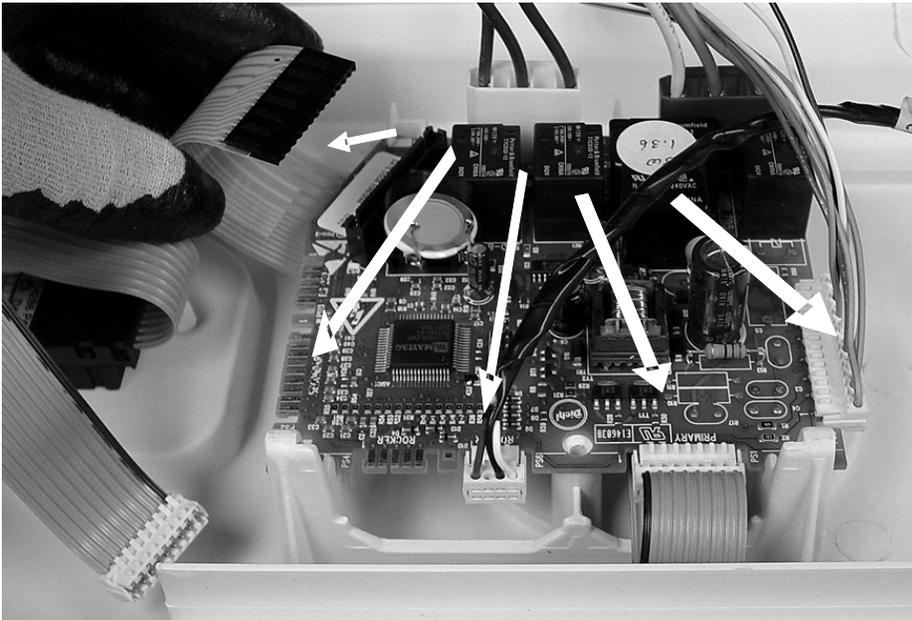
Unplug the red and white wire connectors from the board. When installing make sure to follow the color code printed on the control board
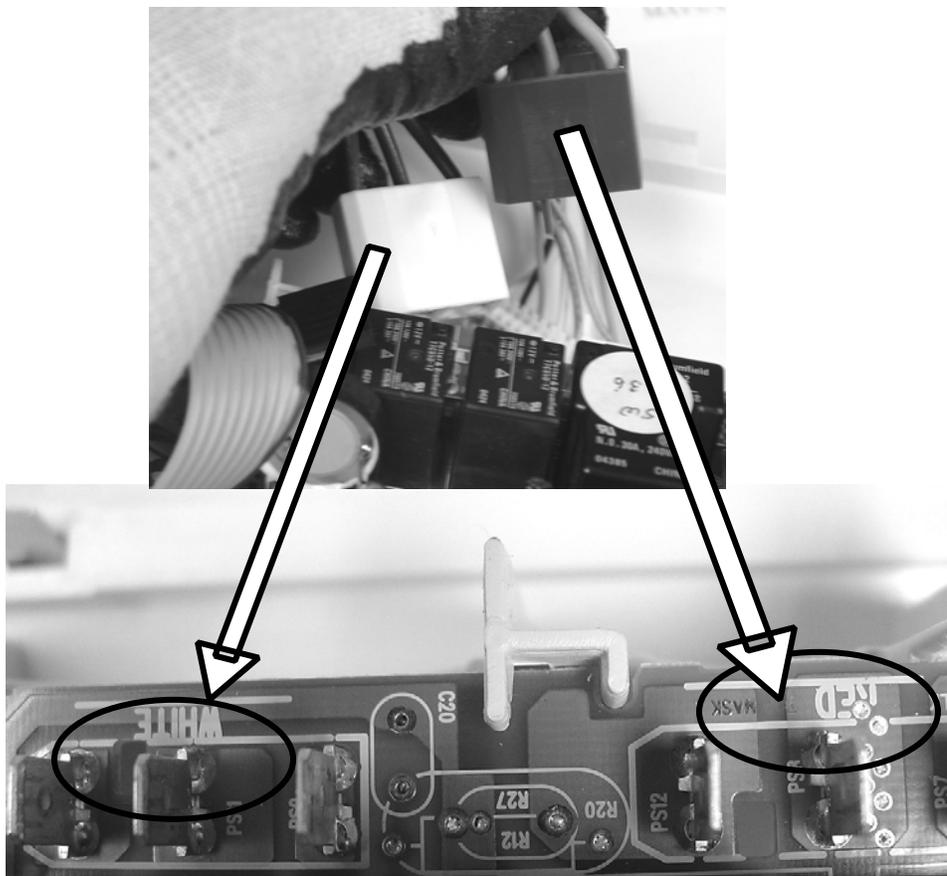
Depress the two locks and lift out the control circuit board. Make sure to insert the board into the slots provided in the console when installing the board

Depress the two locks

Lift out the board
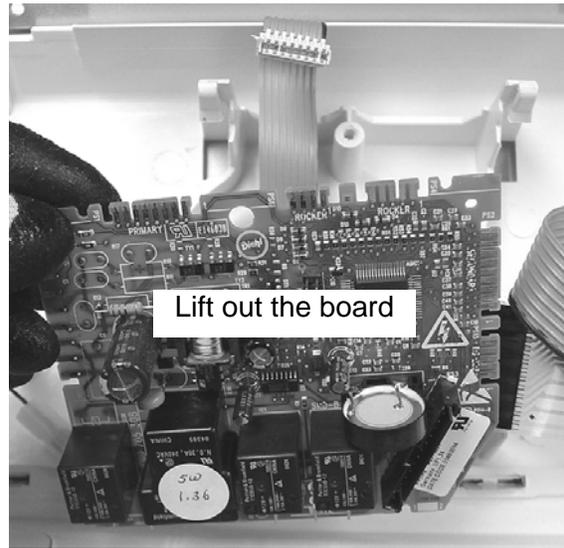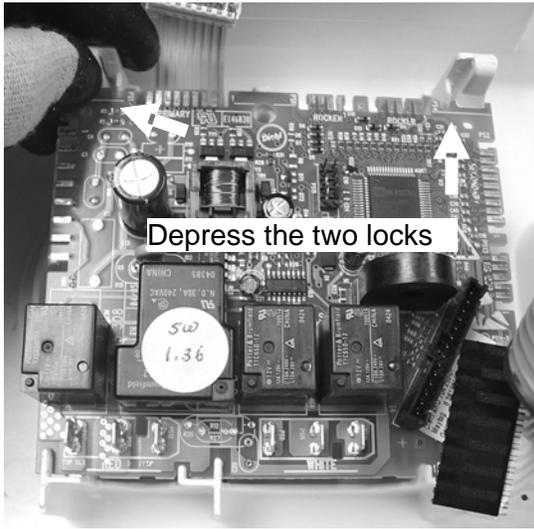
To remove any encoder or the pressure switch
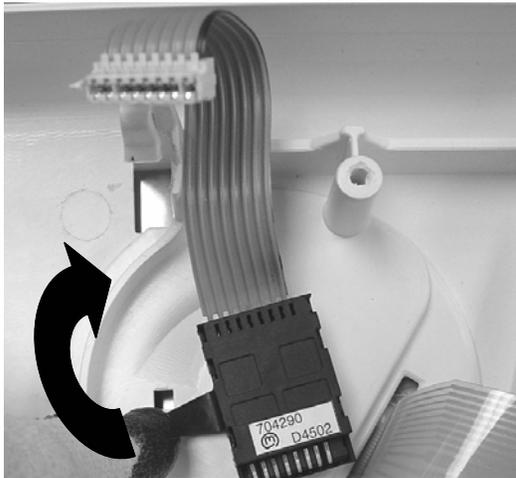
To remove any encoder or the pressure switch, release lock and rotate switch clockwise ¼ turn

Options Encoder
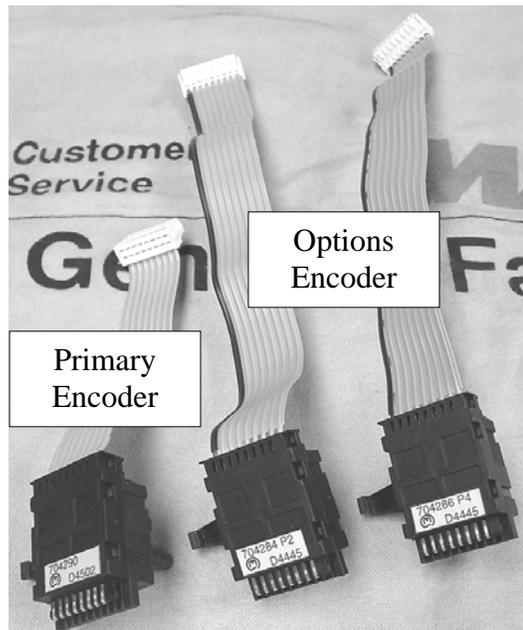
Primary Encoder

The encoders can be easily identified – The primary encoder used with the control circuit board has the short ribbon connector. Option encoders are labeled P2, P3, P4 or P5 to correspond with the selections available.

The machine control circuit board is equipped with diagnostic software to aid in troubleshooting. The first step to access any test is to enter the **Service Mode**

Entering the "Service Mode"

	Rotate the Cycle Selector Knob (CSK) to the "***Power Off***" position and **press** (All LED's will be off). **Note:** If the machine is in operation, you must press the CSK to first pause the unit (Pause light illuminates) and then rotate the knob to the Power Off position and press
	Rotate the Cycle Selector Knob clockwise past "***Power Off***" **twice** and stop at "***Regular***". LED's will illuminate as the knob is rotated. (If the knob is inadvertently turned past "Regular" the control will not go into the Service Mode and the procedure must be started from the beginning.)
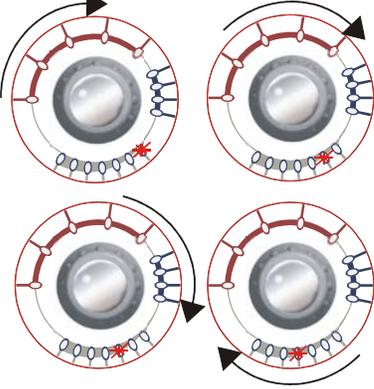
Fabric Selection ... (diagram)	Rotate the Cycle Selector Knob counterclockwise one revolution back to "**Regular**" and **press**. ▪ The Power Off LED will begin blinking. ▪ Status lights will illuminate indicating the model I.D. ▪ The Rinse & Spin LED will blink if there are service codes stored in the memory other than a power interruption ▪ The Regular LED will illuminate (Note: If the knob is inadvertently turned past "Regular" the control will not go into the Service Mode and the procedure must be started from the beginning.) .

Exit Service Mode

Fabric Selection ... (diagram)	▪ Rotate the Cycle Selector Knob to **Power Off** and press **Or,** ▪ Allow 10 minutes for auto exit after last switch movement. **Or,** ▪ Disconnect Power to the washer. **Note:** The above actions terminate Service mode but not the advertising mode

Display Model ID

Fabric Selection ... (diagram)	A sequence of illuminated cycle status LED's below the CSK is used to determine the Model ID of the product. A chart (included with this information) must be used to interpret the light pattern. The Model ID indicator light pattern is always displayed when the Service Mode is first entered. Once in the Service Mode. Rotate the Cycle Selector Knob to **Hand wash** and press to access this feature.

Model ID Chart – The chart below is used to determine the Model ID from the sequence of Status LED's illuminated. The model ID must match the machine you are servicing.

Washer Model Number	Binary Code	0 Fill	4 Soak	2 Wash	1 Rinse	4 Spin	2 Complete	1 Pause
MAV546E	43	○	●	○	○	○	●	●
MAV5920AGW (INT)	44	○	●	○	○	●	○	○
MAV508DE, MAV551E	45	○	●	○	○	●	○	●
MAV5757, MAV5858	46	○	●	○	○	●	●	○
MAV5920E	47	○	●	○	○	●	●	●
NAV8805	53	○	●	○	●	○	●	●
		Illuminated Status Lights under CSK Indicate Binary Code						

Display/Clear Service Codes

Enter Service Mode then set Rotary Cycle Selection Knob to "**Rinse & Spin**". ***Press*** knob

- Tap CSK to view all codes. Codes are displayed newest to oldest. Machine beeps three times after last service code is displayed.
- To clear codes **press** and **hold** Rotary Cycle Selection Knob until machine beeps twice. Rinse & Spin LED stops blinking.
(Switch must be depressed approximately 5 seconds)
- Refer to chart for Service Codes.

Service Code Chart

Error Discription	Binary Code	64 Fill	32 Soak	16 Wash	8 Rinse	4 Spin	2 Complete	1 Pause
Model ID unknown, Default to model 31	31	○	○	●	●	●	●	●
Switch 3, left of the encoder, failed to read a valid value at startup	28	○	○	●	●	●	○	○
Switch 2, left of the encoder, failed to read a valid value at startup	26	○	○	●	●	○	●	○
Switch 1, left of the encoder, failed to read a valid value at startup	25	○	○	●	●	○	○	●
Incorrect rotary switch position detected	24	○	○	●	●	○	○	○
Fill time less than 2 seconds	22	○	○	●	○	●	●	○
Fill time exceeds 18 minutes	21	○	○	●	○	●	○	●
Motor Thermal protector open	19	○	○	●	○	○	●	●
Motor Thermal protector opened more than 5 times	18	○	○	●	○	○	●	○
Thermistor possibly shorted	17	○	○	●	○	○	○	●
Thermistor possibly open	16	○	○	●	○	○	○	○
Thermistor value out of range	15	○	○	○	●	●	●	●
Power Failure detected	1	○	○	○	○	○	○	●
No Codes	0	○	○	○	○	○	○	○
		Match the status light pattern to the error discription						

Console Switch Test

	Enter Service Mode then set Cycle Selection Knob to "*Delicate*" and **press** knob. • Power Off LED blinks. • Pause and Delicates LED's are illuminated.
	There are 32 detent positions in one complete revolution of the primary encoder. Rotate the Cycle Selection Knob clockwise or counterclockwise to check. Note: The status lights under the CSK will illuminate in a specific pattern as the CSK is rotated.
	Press the Cycle Selection Knob to activate the test for the rotary switches. The test begins with the rotary switch imediately to the left of the Cycle Selection Knob. Rotate the switch in either direction. The LED's illuminate around the bottom of the Cycle Selection Knob for each switch position. **NOTE:** Any attempt to move a knob or switch other than the one being tested results in a chirp sound.
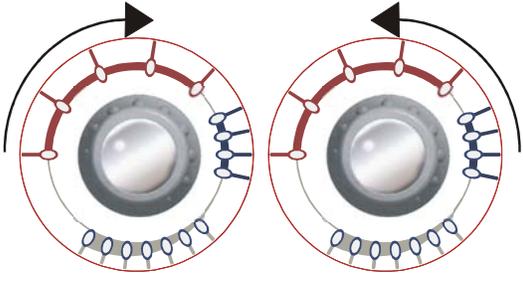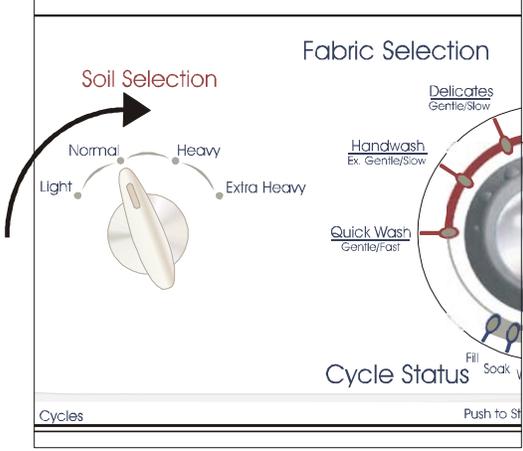
Press the Cycle Selection Knob. The test continues with the switch immediately to the left of the previous switch tested. Repeat rotating the switch and monitoring the LED's around the bottom of the Cycle Selection Knob. Continue **pressing** the Cycle Selection Knob for each switch tested right to left untill all rotary switches are tested.

NOTE: The Water Level Switch is not included in this test.

- After the last rotary switch is tested the next time the Cycle Selection Knob is **pressed** the test will continue with the rocker switches. Continue **pressing** the Cycle Selection Knob and testing switches until the last switch is tested. When all switche have been tested the "**Complete**" LED will illuminate.

Service Cycle Test

Once in the **Service Mode**, Rotate the CSK to **Regular** and press to enter the washer service cycle:	
▪ Hot water fill valve will energize.	Fill & Wash LEDS illuminate
▪ Tap CSK–Cold water valve will energize	Fill& Rinse LEDS illuminate
▪ Tap CSK–Selected wash temperature fill	Fill& Wash & Rinse LEDS illuminate
▪ Tap CSK– Agitate slow	Wash LED illuminates
▪ Tap CSK – Agitate Fast	Wash LED blinking
▪ Tap CSK – Spin Slow	Spin LED illuminates
▪ (there will be a slight delay until motor stops)	
▪ Tap CSK – Spin Fast	Spin LED blinking
▪ Tap CSK – Cycle Complete	Complete LED illuminates
▪ Tap CSK – Exit to Service Mode	
(Note: Press CSK until Pause LED begins blinking to pause the Service Cycle Test)	