

**MODULAR ICEMAKER**

All 700-2 Series units utilize a modular icemaker. The icemaker is designed to be replaced, however, an understanding of its cycle of operation is necessary in order for a technician to make a proper diagnosis.

**Modular Icemaker Operation**

When the icemaker thermostat rises to its setpoint, the thermostat closes. At this time, the current now has a path through the thermostat to the motor. The motor is energized, the drive gear, from the module, starts to rotate. The drive gear is in contact with the lower gear. (See Figure 6-1.) As the drive gear rotates, these contacts from the module engage a contact (A) on the upper plate to generate the icemaker cycle.

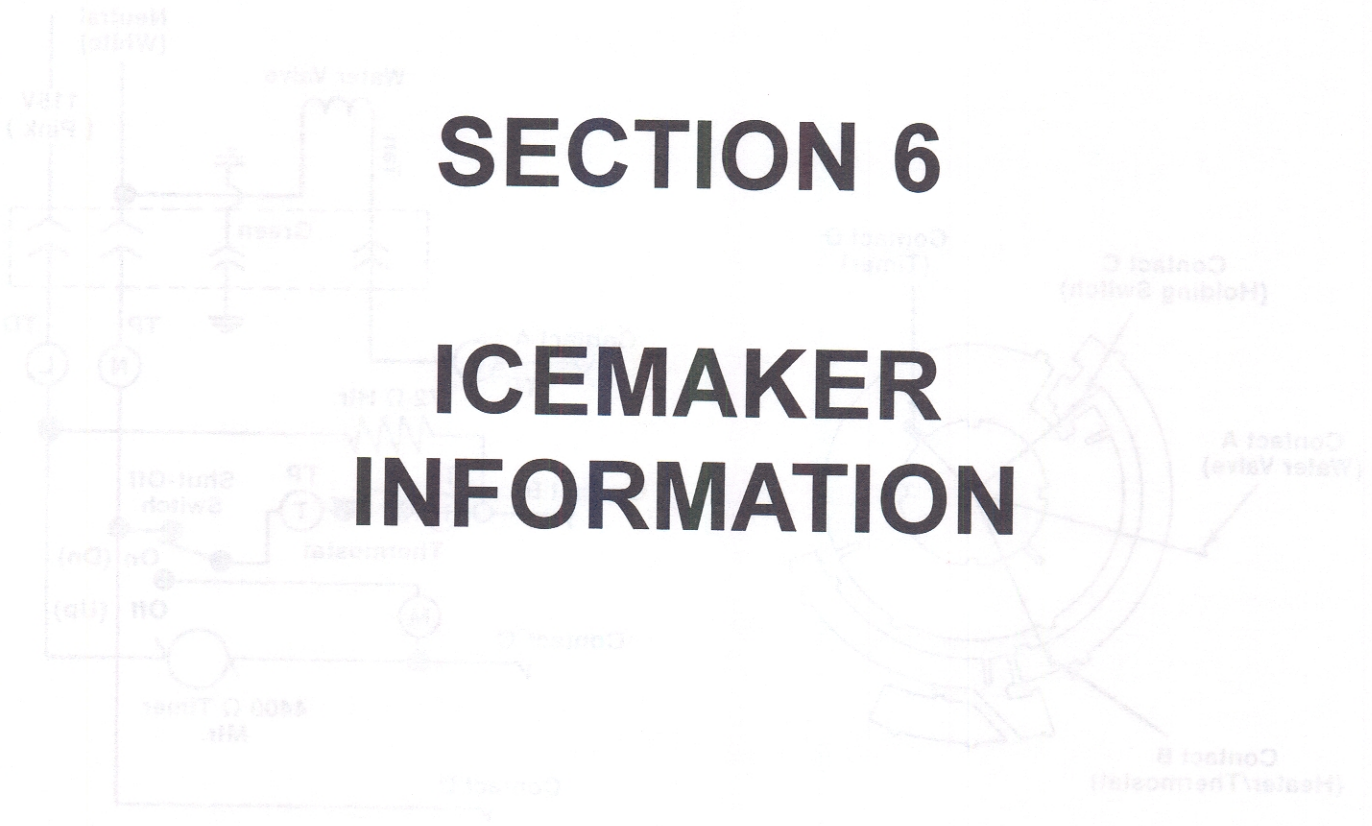


Figure 6-1: Modular Icemaker Electrical Schematic

# SECTION 6

# ICEMAKER INFORMATION

## MODULAR ICEMAKER

All 700-2 Series units utilize a "modular icemaker." The icemaker operation is not complex, however, an understanding of its cycle of operation is necessary in order for a serviceman to make a proper diagnosis.

### Modular Icemaker Operation

When the icemaker thermostat has sensed temperatures of 17°F, the thermostat closes. At this time, the current now has a path through the thermostat to the motor. The motor is linked with the drive gear. From the module, there are copper contacts that ride on copper strips on the backside of the drive gear. (See Figure 6-1) As the drive gear rotates, these contacts from the module will make or break a circuit (track) to the copper strips to generate the icemaker cycle.

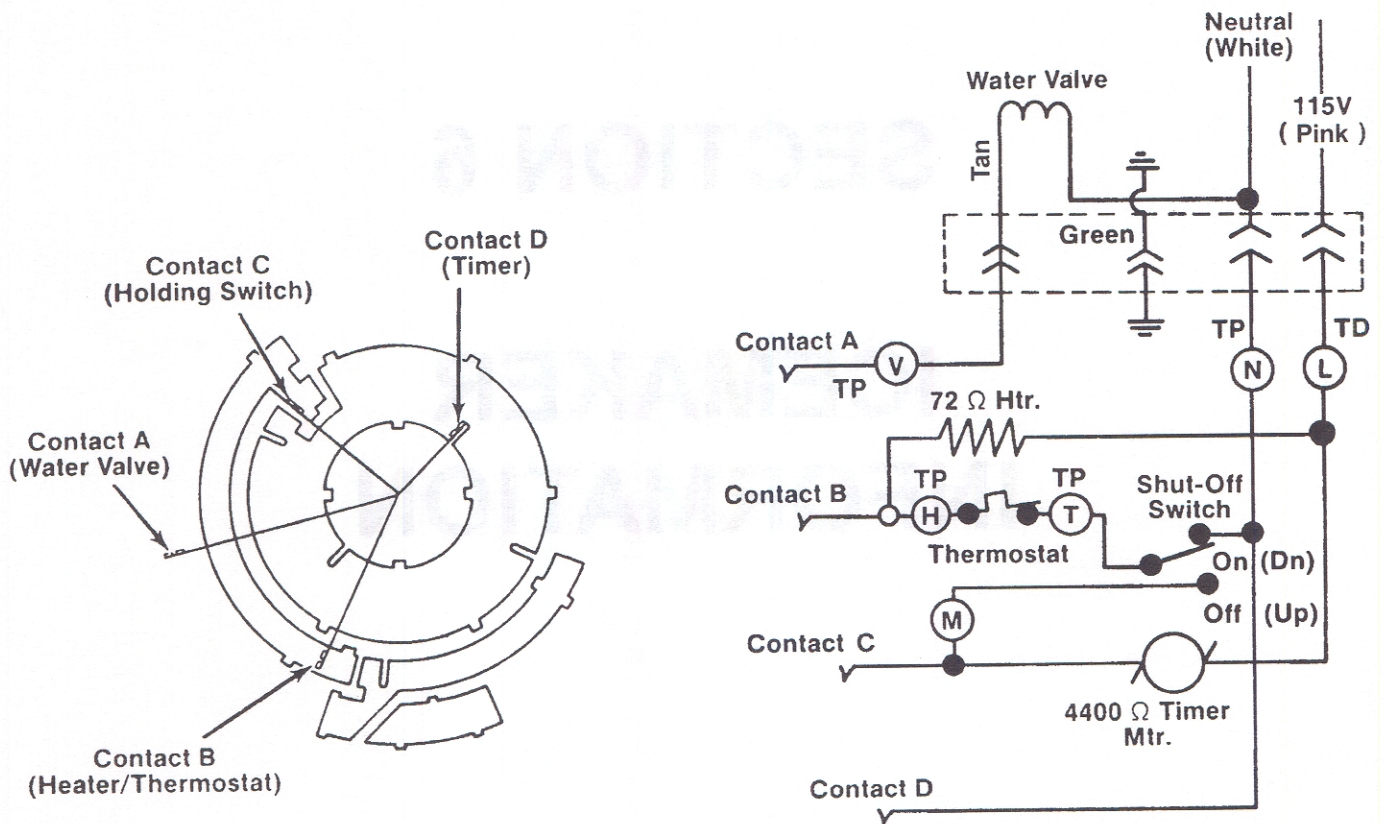


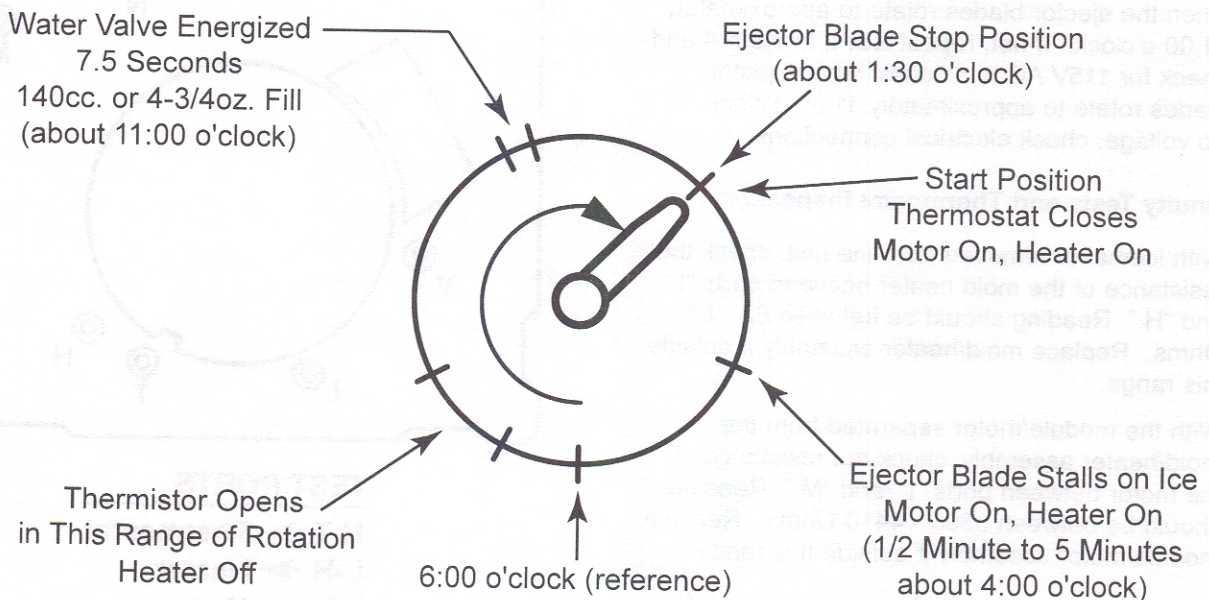
Figure 6-1. Modular Icemaker Electrical Schematic

**Additional Icemaker Operation Notes**

- NOTE 1:** The ICE ON/OFF key at the control panel activates the icemaker system. If "ICE" is not displayed on the LCD, the icemaker system is OFF.
- NOTE 2:** To allow ice to freeze fully and reduce effects of low water pressure, the electronic control system disables the icemaker system for 45 minutes after each ice harvest. (This applies to Tall Units ONLY.) To bypass the 45 minute dwell, press the ICE key to switch the ice making system OFF, then press the ICE key again to cycle the ice making system back ON.
- NOTE 3:** The ice bucket activates a switch when in place. If the ice bucket is not in proper position, ice production will stop.
- NOTE 4:** The icemaker shut-off arm must be in the "down / on" position in order for the icemaker to operate.
- NOTE 5:** The icemaker relay on the control board also controls the fill tube heater and water valve.

**What Happens During Ejector Blade Rotation**

Figure 6-2 represents a view of the ejector blade from the front (or module side) of the icemaker. This diagram indicates what happens during the rotation of the ejector blade and will assist the Service Technician in diagnosing icemaker problems



**Figure 6-2. Ejector Blade Rotation Diagram**

## MODULAR ICEMAKER TEST PROCEDURES

Perform the following tests if the icemaker is thought to be defective. See Figure 6-3 for icemaker test port locations. Test 1 through 5 are performed with 115V AC supplied to the icemaker, so read the "WARNING" below and the "additional Ice Production Notes" on the previous page before proceeding.

### ⚠ WARNING

**TESTS 1 THROUGH 5 ARE PERFORMED WITH 115V AC SUPPLIED TO THE ICEMAKER. CARE MUST BE TAKEN WHEN PERFORMING THESE TESTS TO AVOID SEVERE PERSONAL INJURY OR DEATH.**

#### Voltage Tests

1. Check for 115V AC between ports "L" and "N". Make sure test probes go into test ports 1/2".
2. Strip 1/2" of insulation from each end of a 3" piece of insulated 14 gauge wire to create a jumper/test wire. Insert the stripped ends of this jumper/test wire into ports "T" and "H" to bypass the thermostat.

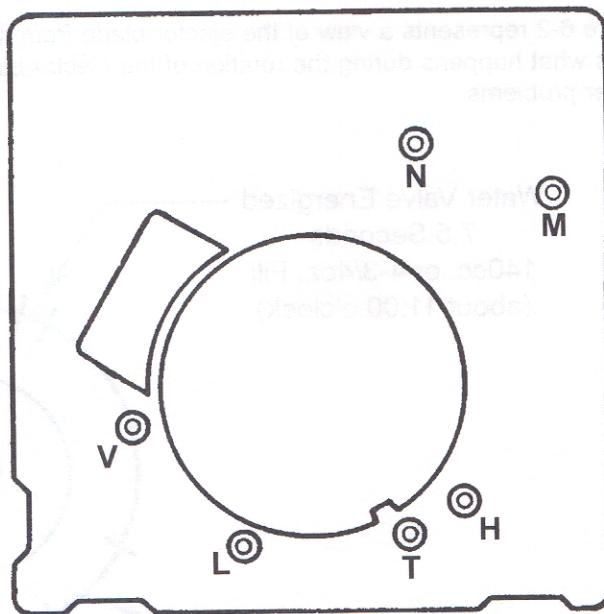
**NOTE:** Do not place the jumper/test wire between any other ports as this will damage the icemaker.

If the motor doesn't run, replace the module/motor assembly.

3. Leave the jumper/test wire in until the ejector blades rotate to approximately 8:00 o'clock. The mold heater should heat up. If not, see test 5 below.
4. Remove the jumper/test wire when the ejector blades reach the 8:00 o'clock position. The water valve should energize for 7.5 seconds when the ejector blades rotate to approximately 11:00 o'clock. If not, repeat test 2 through 4 and check for 115V AC to solenoid when ejector blades rotate to approximately 11:00 o'clock. If no voltage, check electrical connections.

#### Continuity Tests and Thermostat Inspection

5. With icemaker removed from the unit, check the resistance of the mold heater between ports "L" and "H." Reading should be between 62 - 82 Ohms. Replace mold/heater assembly if outside this range.
6. With the module/motor separated from the mold/heater assembly, check the resistance of the motor between ports "L" and "M." Reading should be between 3390 - 4410 Ohms. Replace module/motor assembly if outside this range.
7. If icemaker passes tests 1 through 6, check for adequate supply of Thermal-Mastic on icemaker thermostat. If little or no Thermal-Mastic, apply Thermal-Mastic to thermostat. If adequate supply is present, replace thermostat.
8. See General Troubleshooting Guide if icemaker passes tests 1 through 7.



#### TEST PORTS

- H-T ➔ Thermostat
- L-H ➔ Heater
- L-M ➔ Motor
- L-N ➔ 115V AC
- V-N ➔ Valve

Figure 6-3. Icemaker Test Ports

**NOTE:** Never attempt to turn the icemaker ejector blades by hand. Doing so will damage the icemaker

### WATER FILL ADJUSTMENT

The water valve should energize for approximately 7.5 seconds. This should supply 140cc. of water to the icemaker, or approximately 4.75oz. If this is not the case, the fill amount can be adjusted with the water fill adjustment screw. (See Figure 6-4)

To increase the fill amount, turn the water fill adjustment screw counterclockwise. To decrease the fill amount, turn the water fill adjustment screw clockwise. A 360° turn will affect the fill by 40cc. A 180° turn will effect the fill by 20cc.

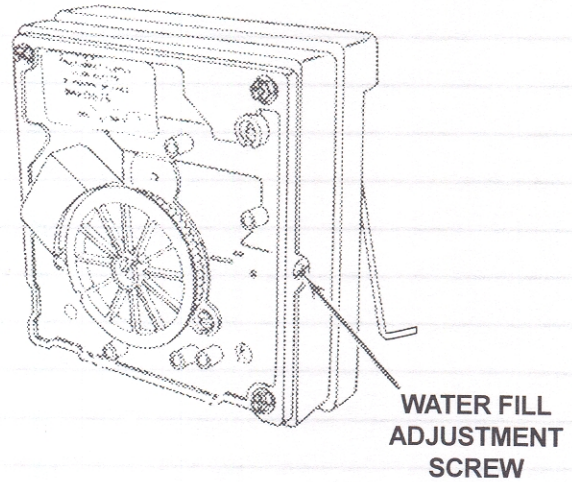


Figure 6-4. Water Fill Adjustment

### ICEMAKER DISASSEMBLY

#### Module/Motor Assembly Removal

To remove the module/motor assembly, first remove the cover and the shut-off arm. Then, extract the module/motor assembly mounting screws and pull the module from the support. (See Figure 6-5)

#### Mold/Heater Assembly Removal

To remove the mold/heater assembly, first remove the cover and the shut-off arm. Insert a Phillips head screwdriver into the access holes and extract the screws. Then, pull the mold/heater assembly from the support. (See Figure 6-5)

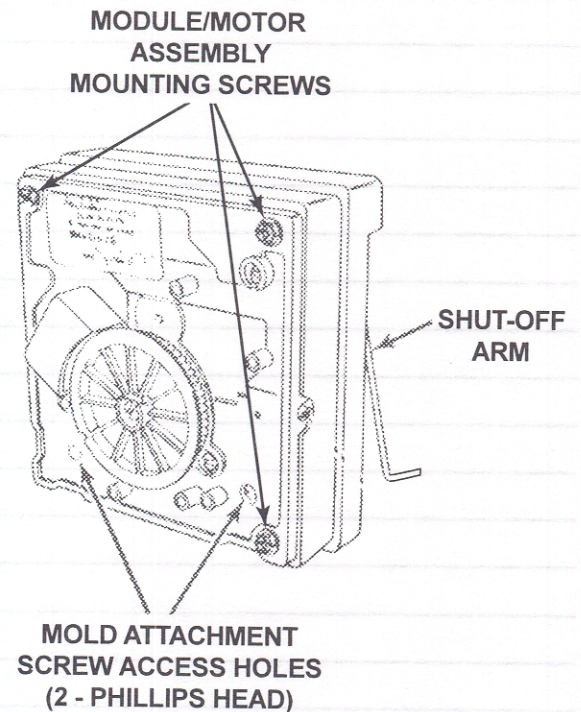


Figure 6-5. Icemaker Component Removal

#### Ejector Blades and/or Ice Stripper Removal

To remove the ejector blades and/or ice stripper, first remove the cover and the shut-off arm and disconnect the mold/heater assembly from the support. (See Figure 6-5) Then, pull the ejector blades and/or ice stripper from the mold.

#### Icemaker Thermostat Removal

To remove the icemaker thermostat, first remove the cover and the shut-off arm and disconnect the mold/heater assembly from the support. (See Figure 6-5) Then, use a needle-nose pliers to grasp one of the retaining clips and pull out. (See Figure 6-6)

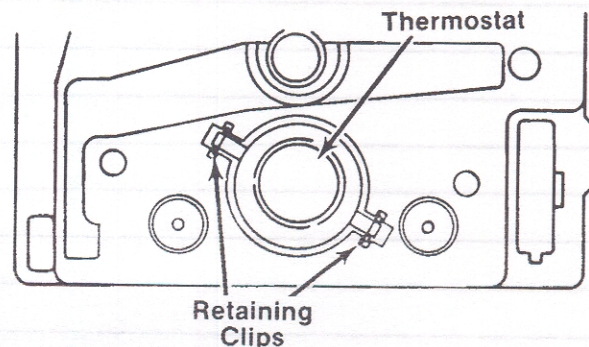


Figure 6-6. Thermostat Retaining Clips