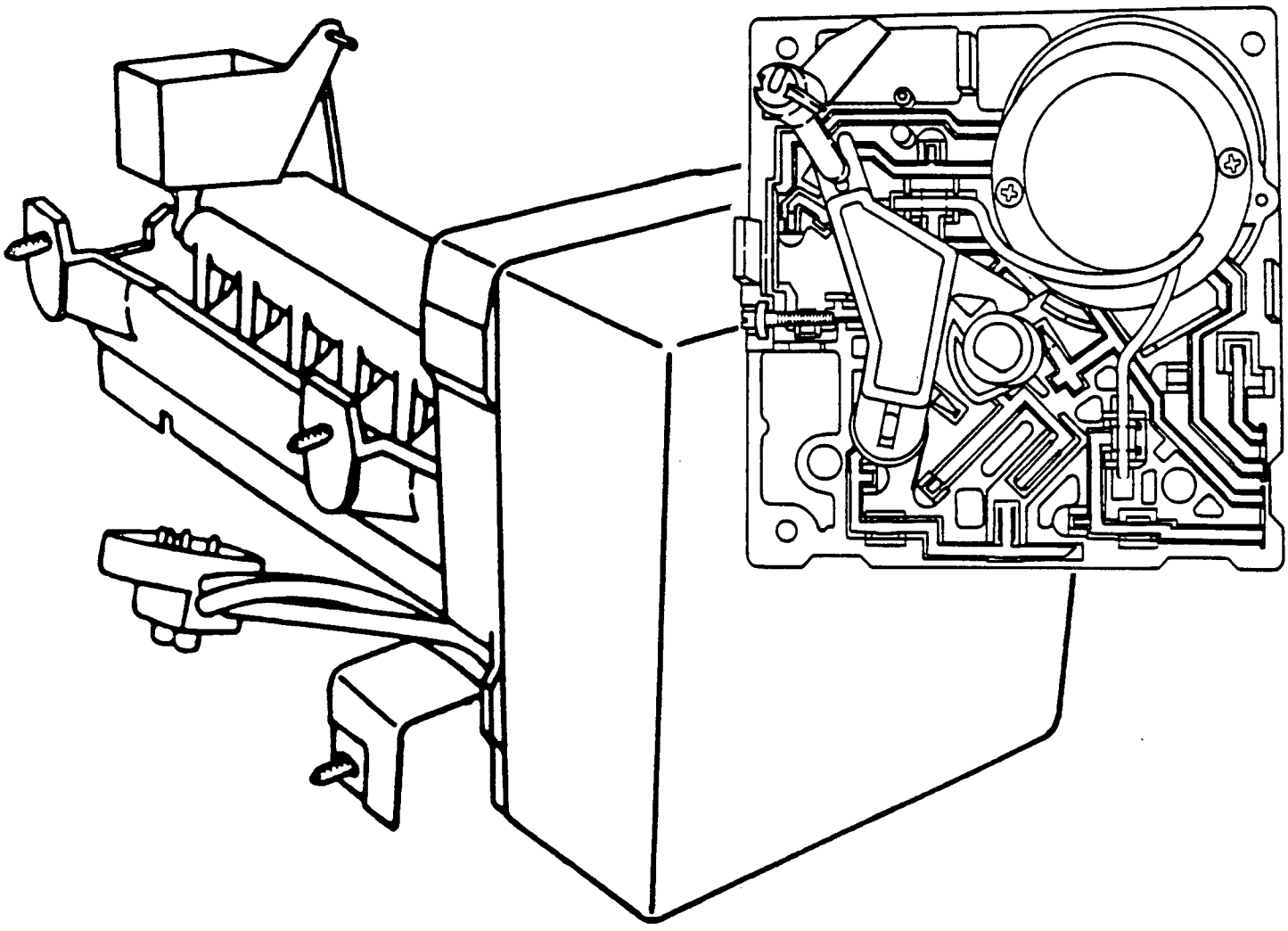
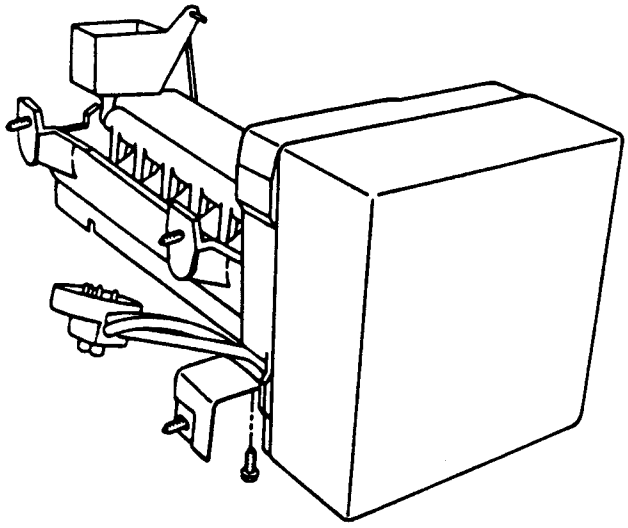
INGLIS LIMITED

TECHNICAL INFORMATION



THE NEW MODULAR ICE MAKER

the redesigned compact ice maker



Although the ice maker looks about the same from the outside, some significant electrical design changes have been made behind the cover and in the control box area.

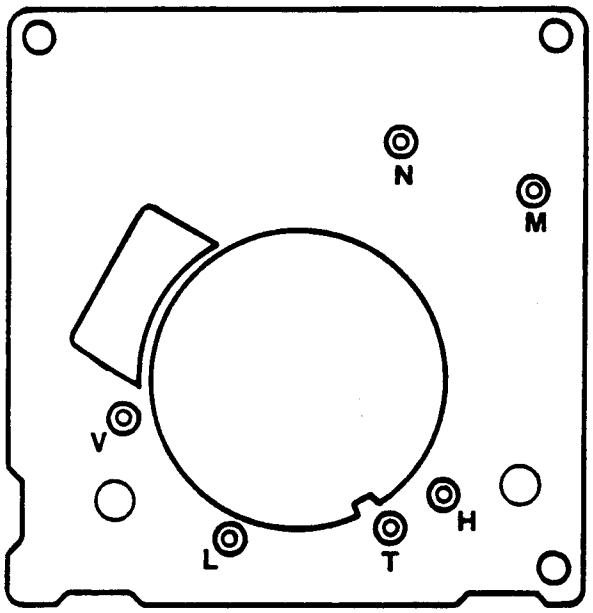
The design of this ice maker allows all of the components to be tested without removing the ice maker or moving the refrigerator away from the wall to access the water valve.

Remove the cover and you will see the test points identified on the module.

N = Neutral side of line
M = Motor connection
H = Heater connection
T = Thermostat connection
L = L1 side of line
V = Water valve connection

NOTE: Read this manual completely before doing any testing or adjusting.

The test holes are identified as "N," "M," "V," etc.



testing procedur(

Ice Maker Plugged In To Power
Shut-Off Arm Down-Freezer Cold

- Test points L & N will verify 120 volts to Ice Maker module.

  (Make sure your test probes go into the test points 1/2".)

- Test points T & H will verify if the bimetal thermostat is open or closed.

  Short T & H with an insulated piece of wire (14 ga.) to run the motor. If the motor doesn't run, replace the module assembly.

  If the motor runs, replace the bimetal thermostat.

- If you leave the jumper in for a half of a revolution, you can feel the heater in the mold heat up. if it's good.

  Remove the jumper and the water valve will be energized in the last half of the revolution.

  (Make sure that the freezer temperature is cold enough to close the bimetal.)

  NOTE: Do not short any contacts other than those specified. Damage to ice maker can result.

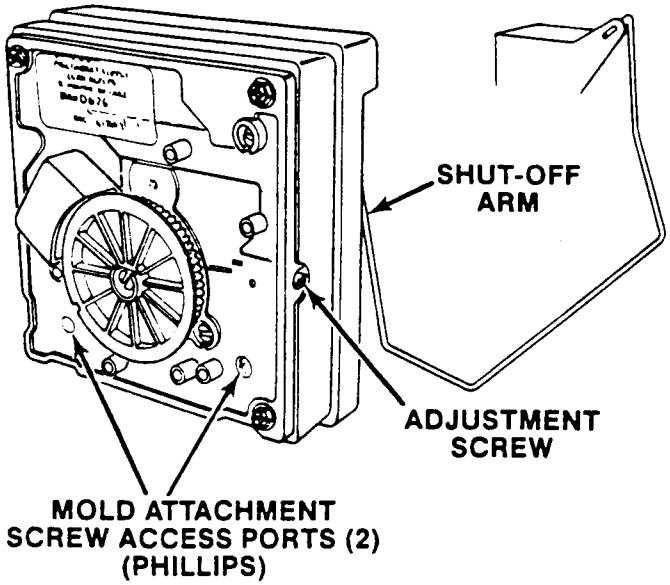
Ice Maker Unplugged

- Test points L & H will check the resistance of the heater (72 ohms). Replace the mold and heater assembly if not near this value (+ or - 10 ohms).

  (Ejector blades should be at the end of the cycle position.)

service procedures

COVER—
Pull water adjustment knob first and snap off cover. Index knob and reinstall in same position for same water fill.



MODULE, MOTOR AND SUPPORT ASSEMBLY—
Insert phillips driver in access ports in module. Loosen both screws. Disconnect shut-off arm. Pull mold from support assembly. To remove module only, remove 3 phillips screws and pull module out of housing.

SHUT-OFF ARM—
Pull out from white bushing. Reinsert to full depth. See page 5 for detailed procedure.

MOLD & HEATER—
Remove module and support assembly. Install on new mold & heater assembly.

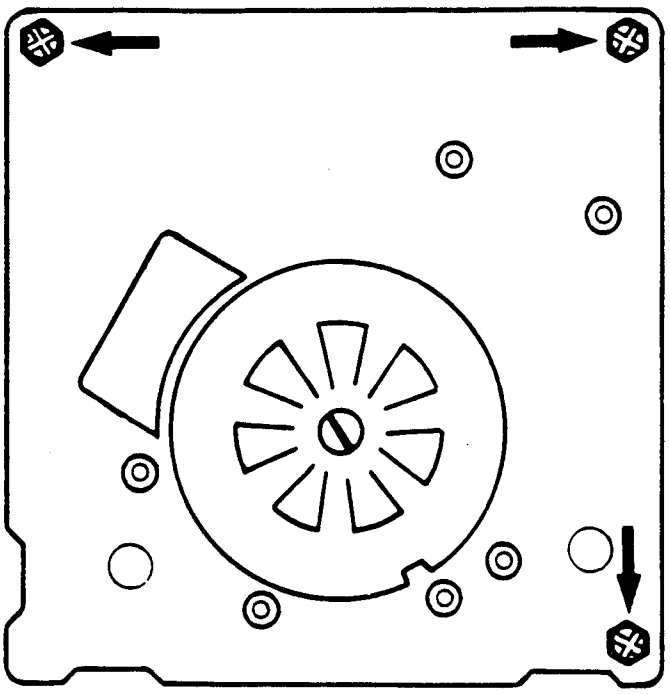
BIMETAL—
Remove module and support assembly. Pull out retaining clips with bimetal. See page 4 for detailed explanation.

FILL CUP—
Remove module and support assembly. Remove ejector blades and shut-off arm. Pull fill cup up from mold. See page 6 for complete procedure.

EJECTOR BLADES OR STRIPPER—
Remove module and support assembly. When reinstalling ejector blades, realign "D" coupling with module cam.

accessing the control box

To remove motor and contact assembly from control box, take out 3 screws (arrows) and pull free after disconnecting the shut-off arm.



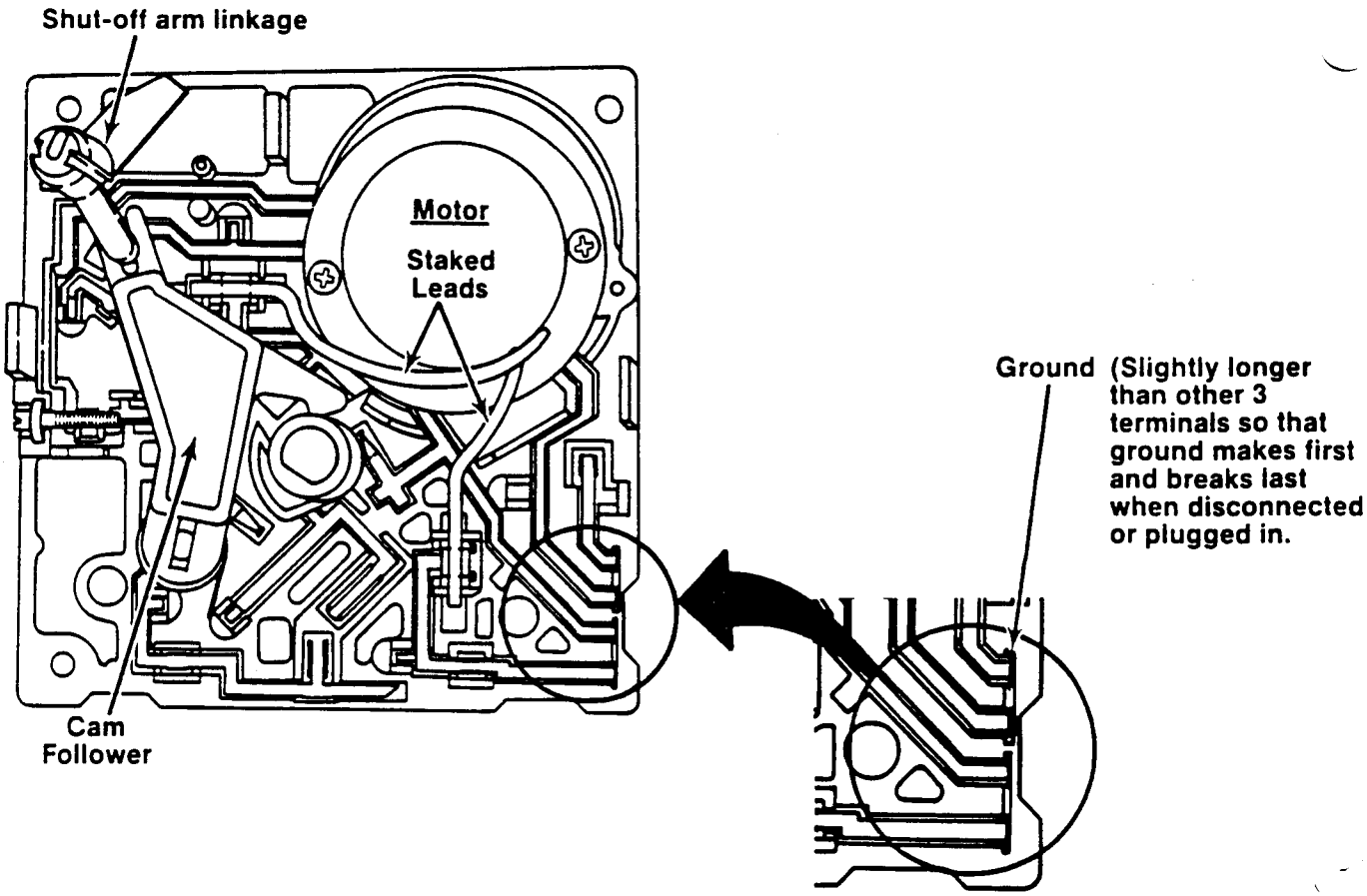
—CAUTION—

NEVER ROTATE THE BLADE OR THE DRIVE GEAR . . . IT WILL RUIN THE MAIN ASSEMBLY. (There are several switches which will jam if manually turned counterclockwise and the gears will be destroyed if turned clockwise.) If you need to advance the ice maker into the cycle, use a jumper to bridge H to T and unless the motor is defective, it will run. (The shut-off arm must be in the on position.)

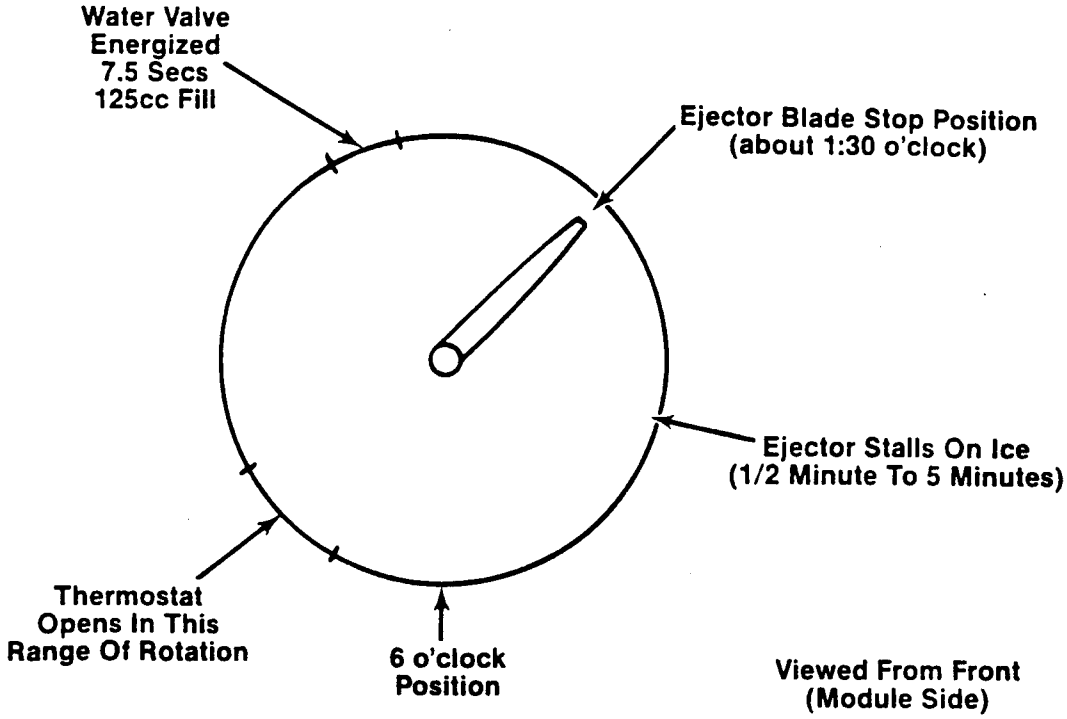
NOTE: There are several slotted shafts on the motor assembly board. Do not under any circumstances insert a screwdriver and attempt to turn these shafts. The slots are to permit assembly only.

NOTE: There are no repairable or replaceable components in the module. Unless you are replacing the module, there should be no need to remove it when diagnosing or repairing the ice maker.

module components



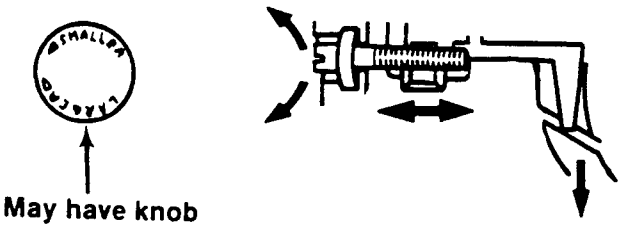
what happens during blade rotation



NOTE: Do not test if blades are past rest position.

water fill adjustment

Turning the water level adjustment screw will move the contact in its relationship with the contact ring segment. This causes the contact to vary the time that the water valve is energized, since the contact ring is tapered at the end of the fill time.



May have knob

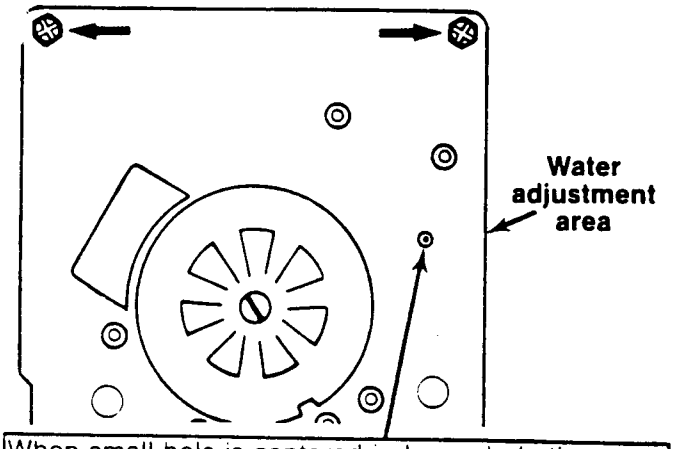
Turning the knob or screw clockwise increases fill; counterclockwise decreases the fill amount.

Only one revolution is possible with the cover on due to a stop molded on cover.

360° will affect fill by 40cc. 180° varies the fill by 20cc.

Further adjustment could damage module.

If water valve adjustment screw falls out, just put it back in and align the hole in the hole as shown.



When small hole is centered in larger hole the water fill adjustment is for 7.5 seconds fill time (normal).

Note: Some ice makers will have a water adjustment knob. Pull off the knob to remove cover. Be sure to replace knob in same setting position.

water problems

Water quality can cause ice makers to fail, or produce unacceptable cubes. If mineral content or sand is a problem, the screen in the fill valve can restrict, or a particle of sand can keep the valve from seating properly. Results will be small crescents (or no ice) flooding of the ice container if the water valve does not close.

Mineral content can also lime up the mold, causing wicking of water over the mold and poor cube release. Silicone is applied at the upper edges, around fill cup & stripper.

temperature problems

Temperatures in the freezer section which average above the normal of 0° ± 5° will slow the production of ice. Complaints of inadequate crescent production may be corrected by simply setting the freezer to a colder temperature. The thermostat cycling temperature in this 1-revolution ice maker is 17° + or -3. Obviously, the ice will be well frozen when these temperatures are achieved but cycling time will be slowed if the freezer temp is not cold enough to achieve these mold temperatures easily.

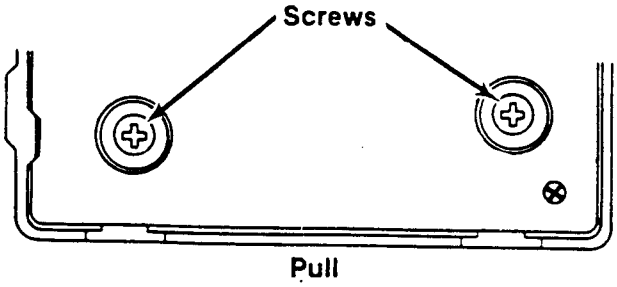
NOTE: Only the thermostat, mold, with heater & wiring harness are replaceable. Any other failure (including the motor) requires replacement of the module assembly. If you are replacing the mold assembly, it comes with a new mold heater installed.

External plastic parts are also replaceable.

A failed mold heater requires complete replacement of the mold and mold heater assembly.

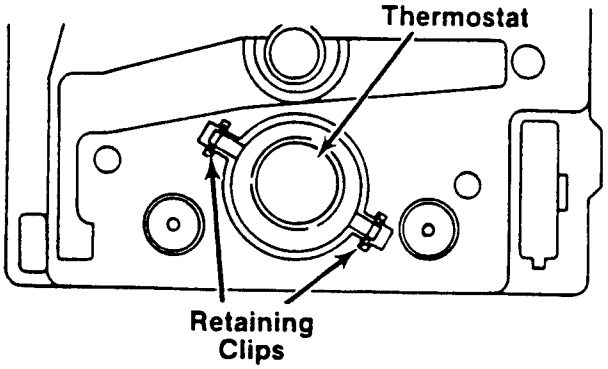
to service thermostat

If the thermostat is diagnosed as defective, it can be removed and replaced easily. Remove the control box from the mold by taking out two Phillips screws.



(Front of Black Housing)

Pull the housing free of the mold, and you will see the thermostat on mold side.

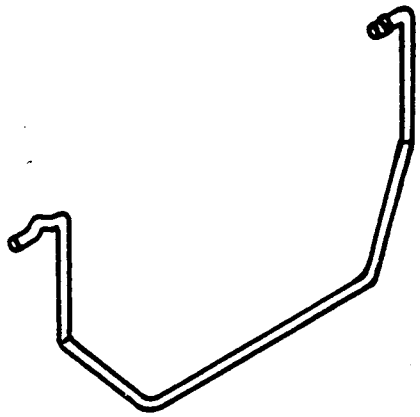


Using needle nose pliers, grasp one of the thermostat clips and pull out. Press in new thermostat, making sure that pins are properly indexed. Using this procedure, it is not necessary to remove the electrical assembly. If you are replacing the module, transfer the clips to the new mold support. (Use new thermal bonding material.)

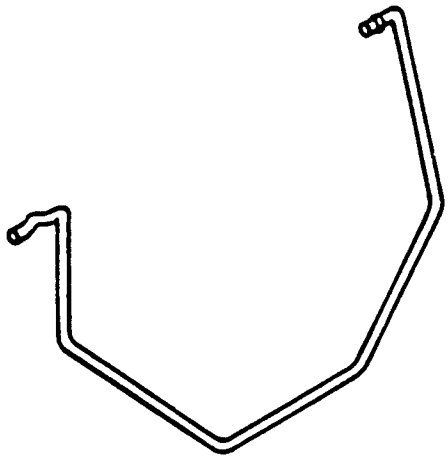
shut off arms

SHUT OFF ARM SIZES

SHORT ARM—REGULAR I/M



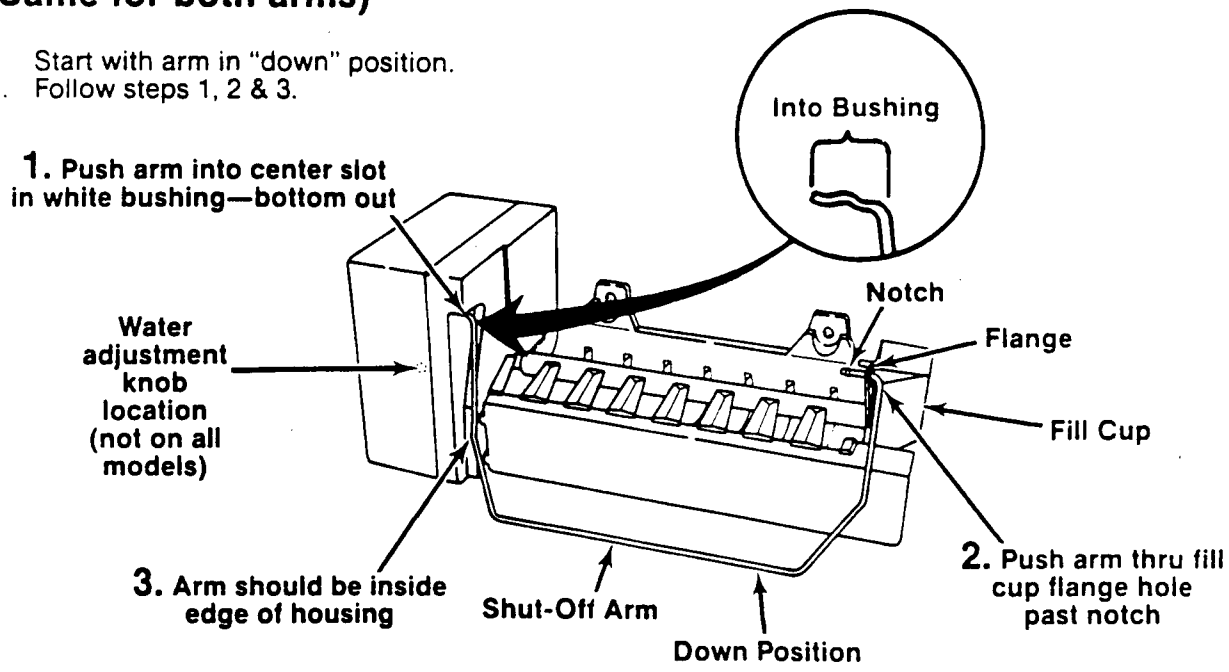
LONG ARM—DISPENSER MODELS



Make sure you select the correct arm

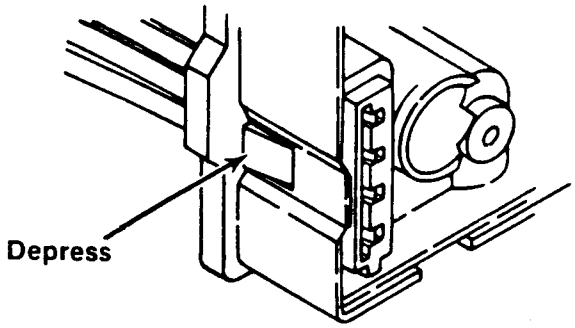
INSTALLATION PROCEDURE (Same for both arms)

I. Start with arm in "down" position.
II. Follow steps 1, 2 & 3.



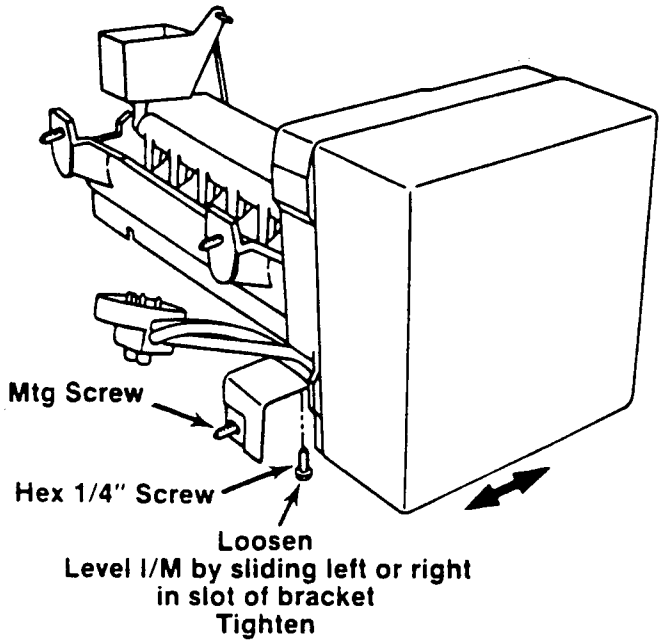
to service harness

To remove the wiring harness, depress the retaining tab and pull the plug free.



leveling of icemaker

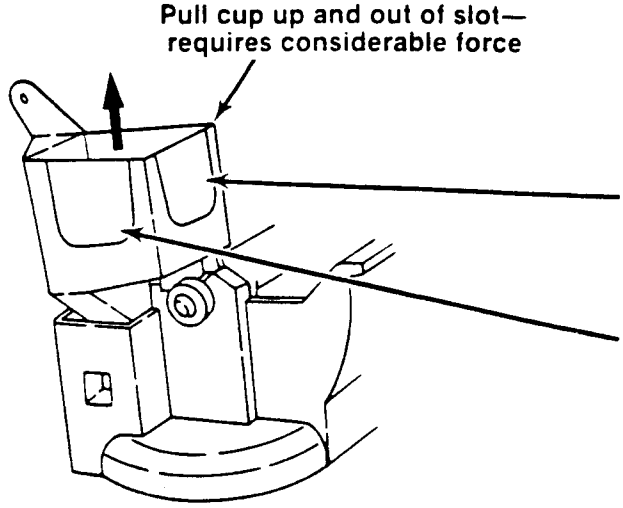
ASSURES UNIFORM ICE CRESCENTS



Make sure refrigerator is level front to back. (Adjust legs or rollers.)

removing & replacing fill cup

To remove fill cup you must separate mold and blade from module housing. Remove blade from fill cup.



The appropriate "break-out" plug needs to be removed from the fill cup for your specific model. Check old ice maker.

Side-by-Side Models: remove "break-out" from fill cup *facing side wall.*

Top freezer and bottom freezer models: remove "break-out" from fill cup *facing rear wall* of freezer.

other information

Motor connectors can be damaged if leads are removed.

The motor is available only as part of the complete module assembly.

1 revolution of blade takes 3 minutes (+ stall time on ice).

Bench test cord can be made from cabinet socket.

Tan & black wires on socket plug are the water valve leads.

specifications

MOLD HEATER—185 Watts, 72 ohms

THERMOSTAT (BIMETAL)—Close 17° ± 3°
Open 32° ± 3°

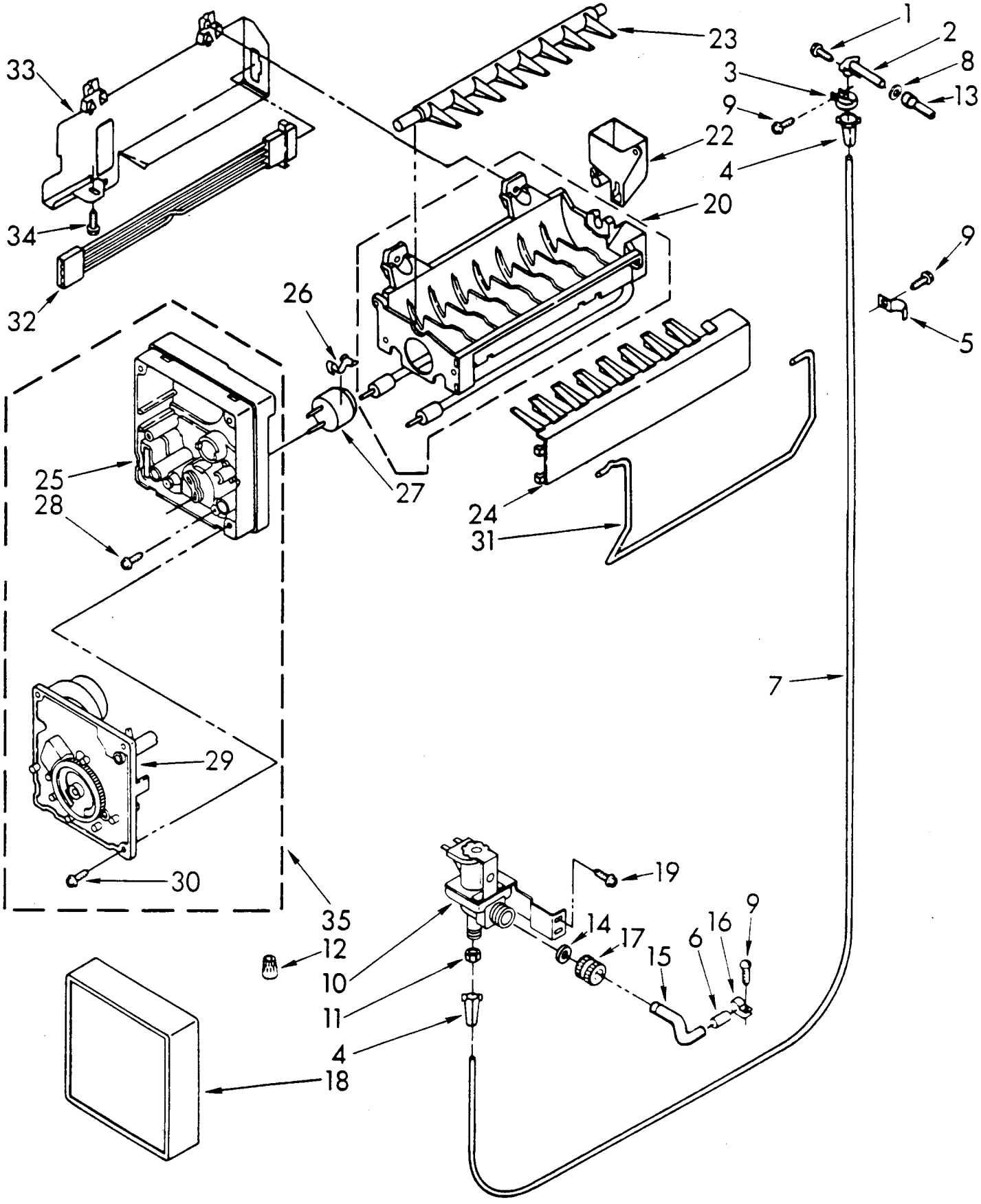
WATER FILL—125cc, 7.5 sec.

MOTOR—3 Watts, 4400Ω

MODULE—Stamped circuit, Plug-in connectors

CYCLE—One revolution (ejects & water fill)

ICEMAKER PARTS



ICEMAKER PARTS

Illus. No.	DESCRIPTION
1	Screw, 8 x 1/2
2	Fitting, Water Tube
3	Clamp, Tube
4	Insert, Tube
5	Clamp, Tube
6	Dampener
7	Tube, Water
8	Seal Gasket
9	Screw, 8 x 1/2
10	Valve, Solenoid
11	Nut, Compression
12	Connector, Wire
13	Tube, Water Inlet
14	Washer
15	Tube, Inlet Valve
16	Clamp, Tube
17	Nut, Valve
18	Cover
19	Screw, 8-32 x 1/2 (2)
20	Mold & Heater (Assembly) (Also Order 542638 Silicone Grease)
22	Bearing & Inlet
23	Ejector
24	Ice Striper
25	Support
26	Retainer, Thermostat
27	Thermostat (Also Order 542639 Cement Alumilastic)
28	Screw, 10-32 x 43/64
29	Module & Motor Assembly
30	Screw, 8-18 x 11/16
31	Shut Off Arm
32	Harness, Wiring
33	Heat Shield
34	Screw, 8-32 x 27/64
35	Module Assembly (Includes Items 25, 28, 29 & 30)