SCOTSMAN DRAIN PUMP KIT A36399-020

Kit Contents:

- 5 Wire X 5 Pin (Female) Quick Connect Plug
- 5 Pin (Male) X 3 Spade (Female) X 3 Pin (Female) Quick Connect Harness
- Updated Wiring Diagram Sticker
- Drain Pump Locating Bracket
- 10' 3/8" I.D. Discharge Hose (Containing Check Valve)
- Preformed Tube (P/N 02-3369-02): 3/4" I.D. X 1/4" I.D. X ½" I.D. (STRAIT)
- Preformed Tube (P/N 02-3369-01): 3/4" I.D. X 1/4" I.D. X ½" I.D. (90 DEG.)
- Pressure Switch
- Pressure Switch Mounting Bracket

Small Parts Envelope:

- RED, Jumper Wire
- Wire Nut
- 2 Christmas Tree Fasteners
- 1/4" FPT X 3/8" HOSE BARB ELBOW
- 4 Bump Stops
- Rachet Clamp
- 3/8" Hose Coupling
- Tie Wrap
- Discharge Hose Locating Clamp
- Canoe Pin Fastener
- 2 #4 Screws
- 5/32" X 1/4" Hose Coupling
- 6" 5/32" Hose

INSTALLATION INSTRUCTIONS

PURPOSE:

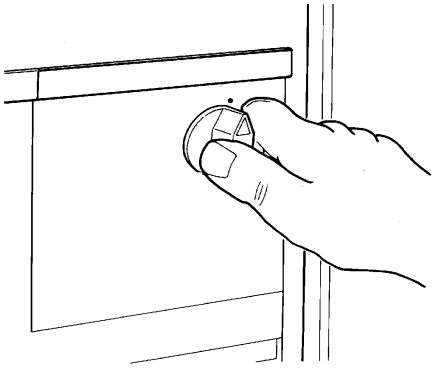
This kit may be used for service replacement on a unit with an existing drain pump, or to convert a gravity drain unit to a drain pump model. These instructions cover the installation of a drain pump into the SCOTSMAN DC33 Home Ice Cube Machine. Instructions are included for different unit configurations that exist with the DC33. Select the instructions that apply to the configuration being serviced. Read the instructions carefully and proceed step by step.

All Models:

1. Turn the On/Off Switch/Bin Level Control to the OFF position.

2. Remove the control box cover and kick plate and set them aside.

3. Determine type of installation.



Switch Unit Off

All units with an existing pump:

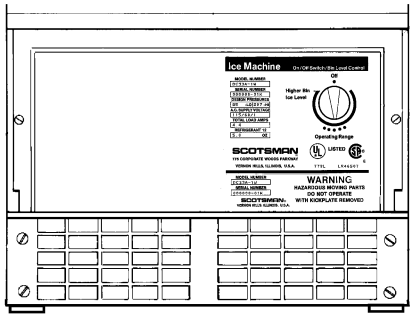
If the drain pump is capable of pumping out water:

1. Disconnect the electrical plug to the inlet water valve coil and advance the unit's timer to HARVEST.

2. Turn the unit's ON/OFF/ BIN LEVEL CONTROL knob to the Operating Range (ON) position until the drain pump is heard "sucking air" or shortly after no water is seen in storage bin.

This will pump out most of the water that may be contained in the ice storage bin, connecting hoses, or the pump itself.

3. Return the control knob to the OFF position.



Remove Kick Plate & Control Box Cover

Check Current Pump Type

If this kit is being used to replace an existing drain pump...

- and the unit is fitted with a pump which already **has** a (5) pin quick connect plug leading to it; unplug it, and go to step # 12 in ELECTRICAL PREPARATION. Next proceed to PLUMBING PREPARATION, then finally INSTALLATION.
- and the unit is fitted with a pump of the earlier type which were "hard wired" directly into the control box **without** a (5) pin quick connect leading to it, the plug provided in the kit will need to be added. Begin with step #1 in ELECTRICAL PREPARATION, then proceed to PLUMBING PREPARATION and finally INSTALLATION.

All units without a drain pump:

If the purpose of this kit is to **add a drain pump to a DC33 "A" gravity drain model** follow each step in ELECTRICAL PREPARATION, beginning with step #1. Next proceed to PLUMBING PREPARATION and finally INSTALLATION.

ELECTRICAL PREPARATION:

1. Disconnect the electrical power supply to the unit by either unplugging the unit's power cord or turning off the circuit breaker.

2. If the unit is already fitted with a pump which is "hard wired" directly into the control box, disconnect any wires in the control box that go to the pump, and pull the cord attached to the pump out of the control box.

Locate the (5) wire quick disconnect plug from the kit and route the loose wire end thru the grommeted hole on the left side of the control box up to the shrink wrapped portion of the harness. See figure A.

3. IMPORTANT: <u>If converting a gravity drain model to a pump model</u>, move the black power cord wire from the bin level control to LO1 on the terminal board and install the RED jumper wire supplied in the kit between the empty post on the bin level control and LO1.

4. Place the green wire of the harness under the ground screw on the control box.

5. Connect the red wire of the harness to the LO1 terminal strip on the terminal board.

6. Connect the white wire of the harness to the LO2 terminal strip on the terminal board.

7. Disconnect the black inlet water solenoid wire and the black hot gas solenoid wire from LO3 on the terminal board and cut off the spade connector ends.

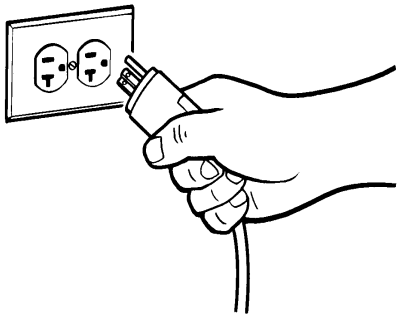
8. Strip the wires about a 1/3 of an inch, then use the wire nut supplied in the kit to connect the yellow wire of the harness to the black inlet water solenoid and black hot gas solenoid wires described. Secure the wire nut with electrical tape.

9. Connect the black wire of the harness to the LO3 terminal strip on the terminal board.

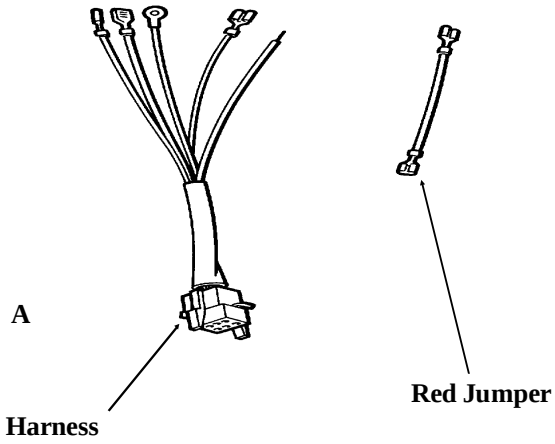
10. Referring to the wiring diagram in these instructions, recheck all electrical connections for the above disconnect plug.

11. The electrical power supply to the unit can now be turned on, however the ON/OFF/BIN LEVEL CONTROL should remain in the OFF position.

12. Place the updated electrical wiring diagram sticker provided in the kit over the existing one.



Disconnect Electrical Power



PLUMBING PREPARATION:

If converting a DC33A (gravity drain) to a pump drain:

Remove and discard all hoses, fittings, hose clamps, and locating straps in the drain line downstream of the barbed bin drain fitting or drain TEE. See figure B & C.

For units with an existing "reservoir" style pump:

1. Begin removing the existing drain pump by removing any shipping screws or straps, see figure D.

NOTE: All factory installed drain pumps have either a screw or strap to hold the pump in place during shipping. Once removed they are no longer needed as the attachment is not required for operation.

2. Loosen the clamp and disconnect the drain pumps inlet hose leading back to the bin drain, or drain TEE. See figure D.

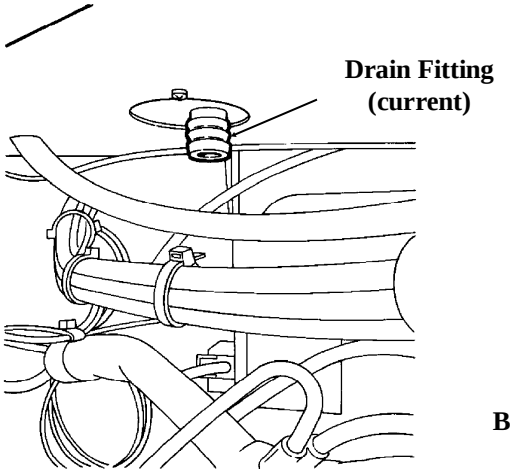
BE PREPARED FOR A CONSIDERABLE AMOUNT OF WATER TO FLOW FROM THE HOSE IF WATER IS PRESENT IN THE ICE STORAGE BIN.

3. Disconnect the vent tube at the drain pump (where applicable), the vent tube is not needed for the new pump, but it may be left in place. See figure D.

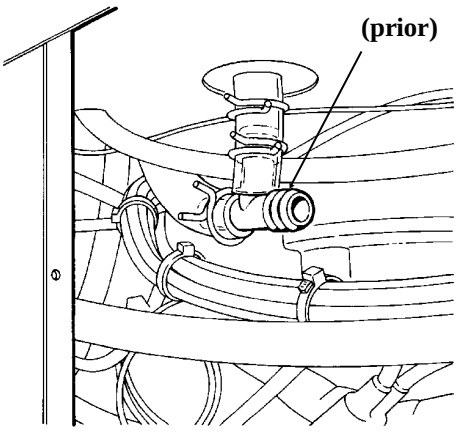
4. Disconnect the discharge hose from the pump by cutting it approximately 3 inches from the hose end, at the point where the hose bends over the top of the metal pump cover see figure D.

5. The drain pump should now be entirely disconnected; remove the pump.

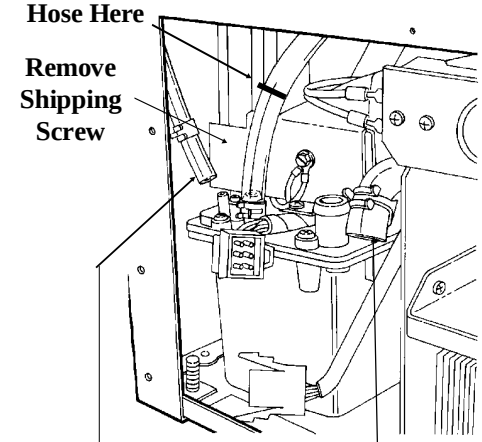
6. Reach in the unit, (loosen the clamp where applicable) and remove the connecting inlet hose between the bin drain or drain TEE and the drain pump inlet. The hose and it's clamps may be discarded as they will not be reused.



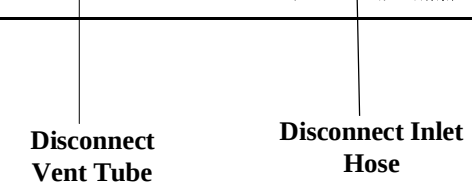
B



C



D



INSTALLATION:

1. The first step of installation is to route the discharge hose.

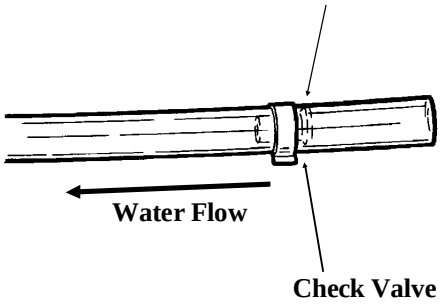
- If this kit is being used for converting a gravity drain model to a pump drain, the unit will require removal from any built in installation to route the pump's discharge line.
- If the kit is being used to replace a failed pump, on a unit already set up as a pump model, the existing discharge line may be utilized with some modification. However, whenever possible it is recommended that the entire length of the supplied hose be used. As the supplied hose avoids any discharge line modifications; connections, etc., as well as having a thicker wall making the hose much more resilient to kinking.

2. Find the new discharge hose supplied with the kit, and locate the end containing the check valve. The check valve will be at the end of the hose which must connect to the drain pump's barbed discharge elbow, or outlet see figure E.

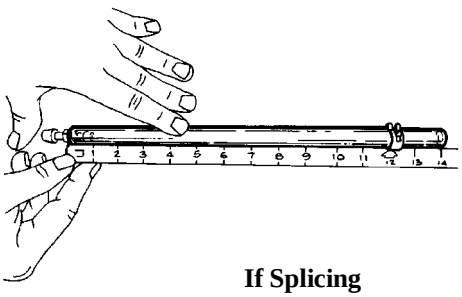
If an existing discharge hose **must** be used,

- A. Cut the supplied hose at approximately 14" inches from the end of the hose containing the check valve, see figure F.
- B. Using the 3/8" double barbed connector supplied in the kit, splice the short section of the supplied hose (containing the check valve) to the end of the existing hose, as seen in figure G. Note that the check valve is at the free end of the hose.
- C. Be sure to push both hose ends at the connector are pushed past the barbs until they stop against the square center collar of the connector.

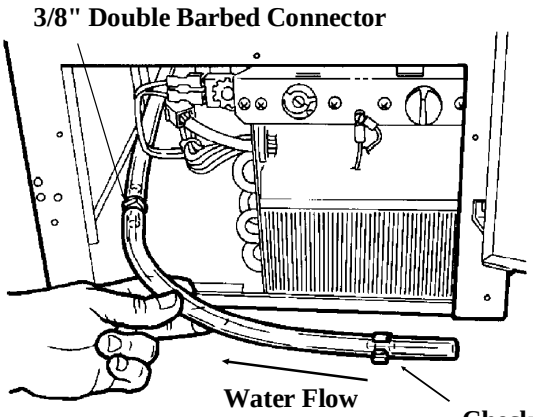
IMPORTANT: THE CHECK VALVE HAS A ONE WAY ONLY FLOW, IT MUST BE INSTALLED IN THE CORRECT DIRECTION OF FLOW! See Figures E, G and H. INCORRECT FLOW DIRECTION OR FAILURE TO USE THE CHECK VALVE WILL RESULT IN DRAIN PUMP MALFUNCTION.



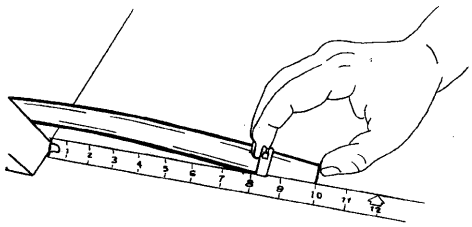
E



F

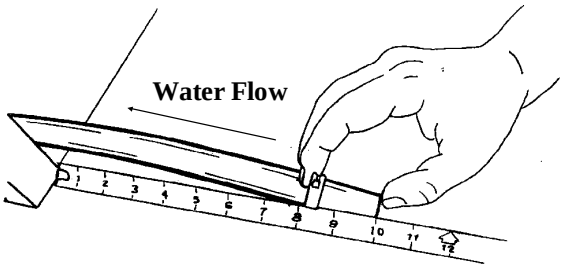


G



H

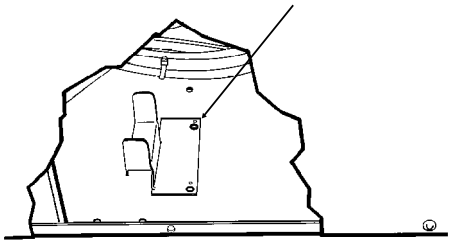
3. Route the discharge hose **or** make the splice allowing approximately 10" inches of hose extending out past the front of the unit. Cut the existing hose at the double barbed connector to adjust to this length if needed. Check to ensure the installed valve's flow direction is the same as in figure H.



H

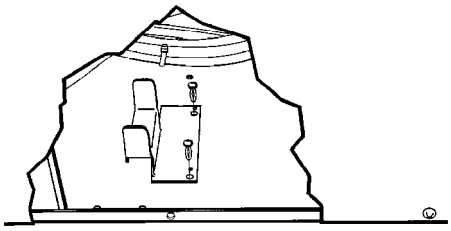
4. Take the drain pump locating bracket supplied in the kit and fasten it to the unit's base by inserting the (2) Christmas tree fasteners provided through the larger set of holes on the locating bracket and down through the holes in the unit's base, as shown in figure I, and J. Position the discharge hose between the locating bracket and outer wall of the cabinet .

Use Larger Holes in Bracket for Pins



Left Side View

I

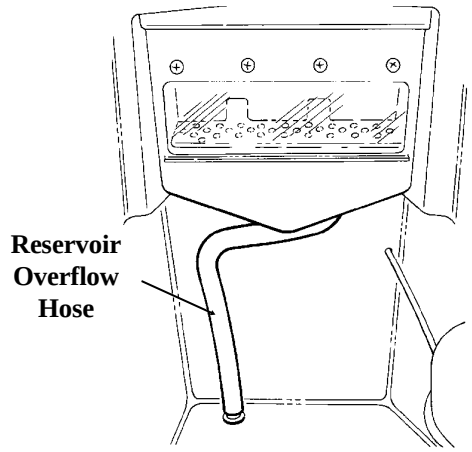


Left Side View

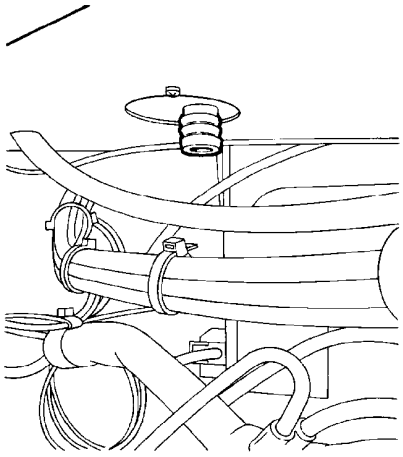
J

5. Identify which drain system style the unit contains. This can be done by either a quick visual orientation, or observing the unit's serial number.

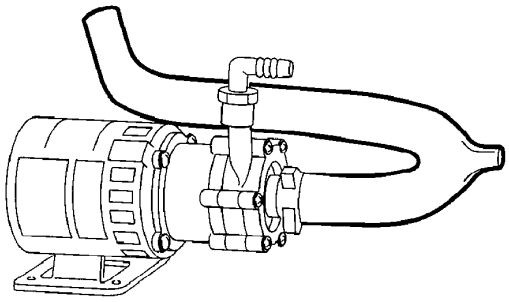
- If the unit's reservoir overflow hose is routed inside the ice storage bin and terminates at a barbed bin drain fitting that protrudes down into the unit's lower cabinet area, as seen in figure K and L, the unit has a current style drain system. In this case connecting hose 02-3369-01 will be used to connect the drain pump to the barbed bin drain, see figure M. This hose applies to units with a serial number of 735675-12Z (DC33A) and 736508-12Z (DC33PA) and later.



K



L



M

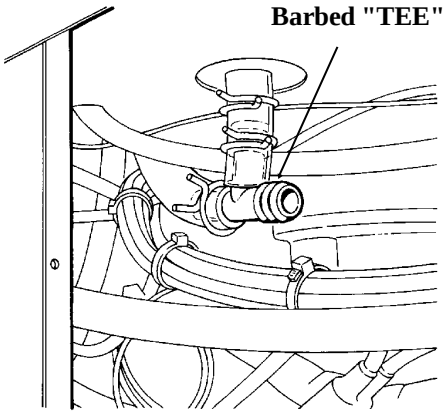
- If the unit's reservoir overflow hose is routed outside the storage bin and connects to a barbed TEE in the unit's lower cabinet area, just beneath the ice storage bin drain, as shown in figure N, connecting hose 02-3369-02 will be used as shown in figure O. The presence of the drain "TEE" indicates an earlier style drain system, used on units produced prior too the above mentioned serial numbers.

6. Attach the appropriate white preformed hose to the pump inlet, pushing it on the connection until the stops against the shoulder of the pump housing. Using the rachet clamp secure the hose.

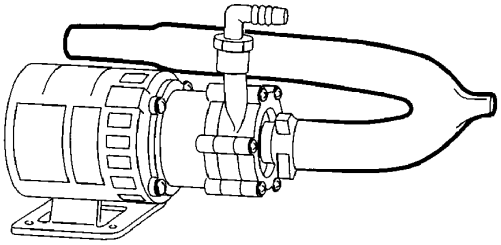
IMPORTANT: CHECK TO ENSURE THE CLAMP IS HOLDING THE TUBE SECURELY ON THE PUMP INLET BY TUGGING LIGHTLY ON THE HOSE. TIGHTEN ADDITIONALLY WITH PLIERS IF NECESSARY!

7. Thread the barbed discharge fitting to the threaded outlet on the pump stopping on the final turn with the barbed elbow facing forward as shown in figure P, WITH A MAXIMUM OF ONE THREAD SHOWING. No thread sealant is necessary, however EXTREME CARE SHOULD BE TAKEN NOT TO OVER TIGHTEN THE FITTING.

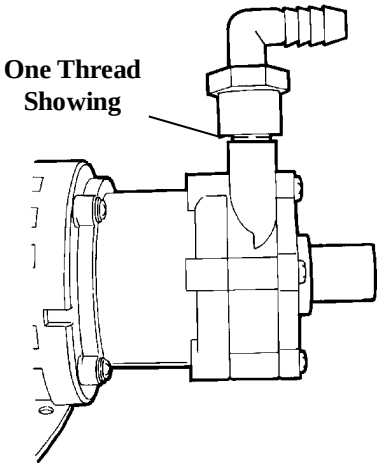
8. Stick the (4) self-adhesive mounting pads to the base of the pump as shown in figure Q.



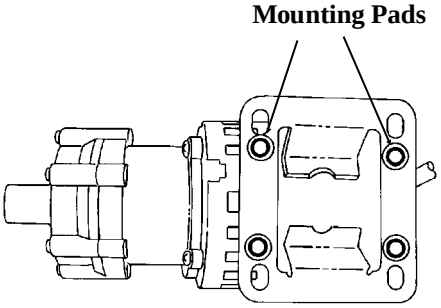
N



O



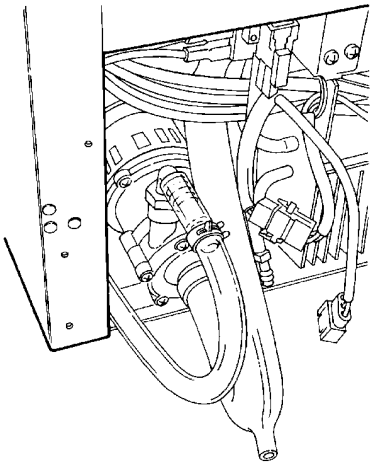
P



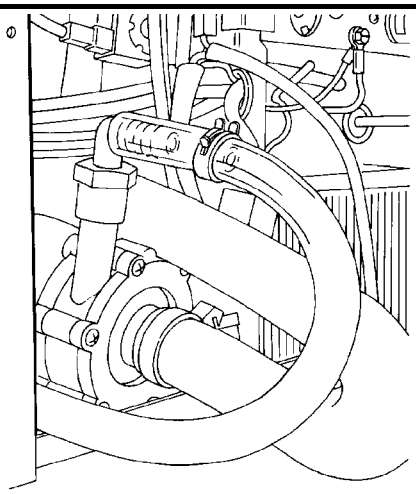
Bottom View of Pump

Q

9. With the drain pump assembly part way in the cabinet as shown in figure R, connect the discharge hose to the barbed discharge elbow. Push the hose until it stops against the elbow of the fitting. The hose must cover all the barbs on the fitting. No hose clamp is needed provided the supplied hose is used. Note how the discharge line is routed first toward the front of the unit, then turns 180 degrees toward the back, as seen in figure S.

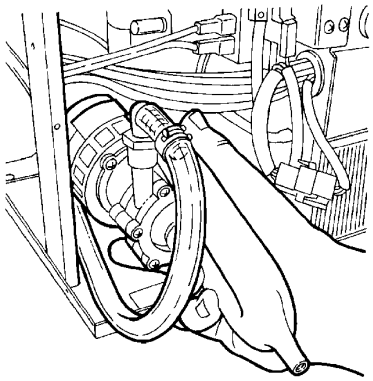


R



S

10. Holding the pump assembly as seen in figure T, insert the assembly into the drain pump locating bracket as shown in figure U. This is most easily accomplished by first working the pump back to the bracket then raising the pump's motor over the bracket while tilting the front end down at the same time, and then lowering the pump into the bracket, see figure V. Check that the pump is resting flat on its base and in the pump locating bracket. Also check that no refrigeration tubes are coming in contact with the pump, as this may lead to possible noise or abnormal wear of the tubing.



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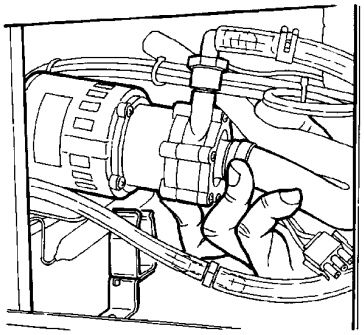
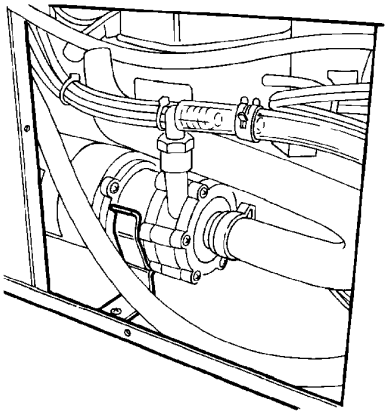
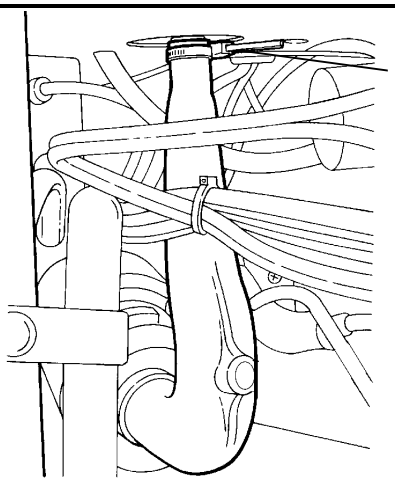


U



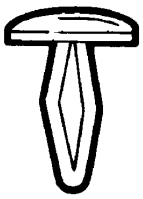
V

11. Loop and start the tie wrap supplied, then reach into the unit and place the loop over the free end of the white preformed hose. Connect the free end of the white preformed hose to the ice storage bin drain or drain TEE. Push the hose on the fitting until it stops to ensure it has passed over all the fittings barbs, as shown in figure W. Secure the hose by tightening the tie wrap.



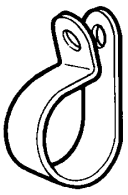
W

12. Find the discharge line locating clamp and (white) canoe pin supplied in the kit (see figures X and Y). Using the pin attach the clamp to the upright metal support to locate and secure the discharge hose as shown in figure Z. Note the direction the clamp is facing.



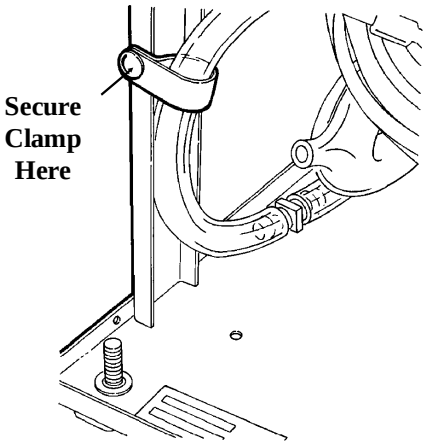
Canoe Pin

X



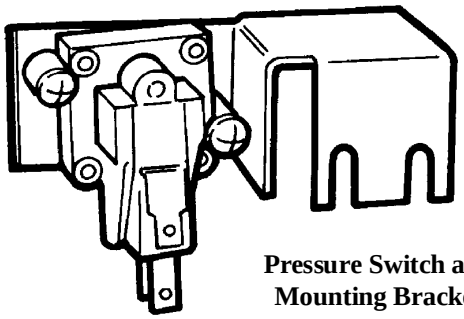
Discharge Line Locating Clamp

Y



Z

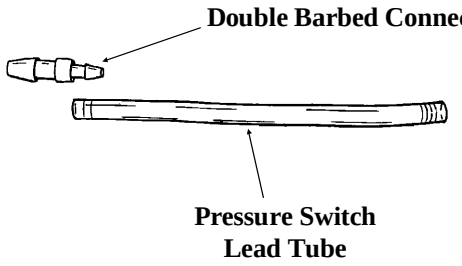
13. Locate the pressure switch, pressure switch mounting bracket and (2) # 4 screws supplied in the kit. Using the screws mount the switch to the bracket as shown in figure AA.



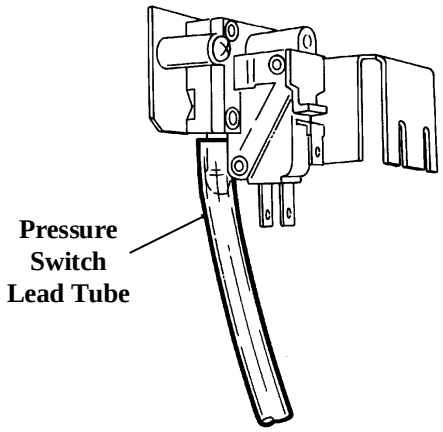
Pressure Switch and Mounting Bracket

AA

14. Find the 5/32" x 6" pressure switch lead tube and the small 5/32" x 1/4" double barbed connector provided in the kit, see figure BB. Place one end of the 5/32" tube over the smaller end of the connector, and connect the other end of the 5/32" tube to the barbed connection on the pressure switch as shown in figure CC. Push the tube on both barbed connectors until it stops.

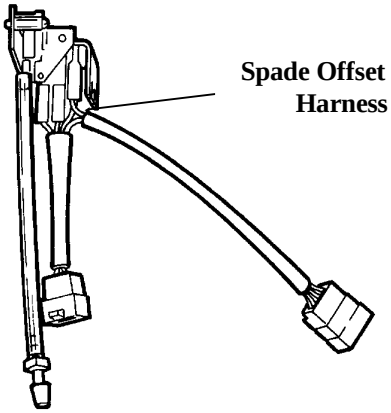


BB



CC

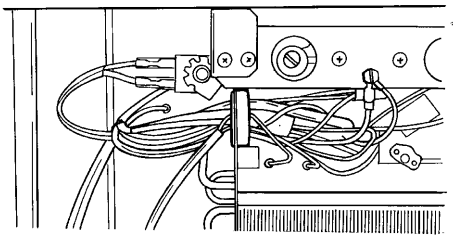
15. Take the service wire harness provide in the kit and connect the (3) spade offset plug of the harness to the offset spade terminals on the pressure switch. See figure DD.



DD

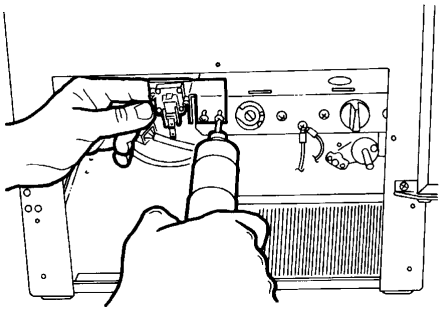
16. Loosen but do not remove the two screws located furthest to the left on the control bar, see figure EE.

On some older models only one screw is present, this will suffice.



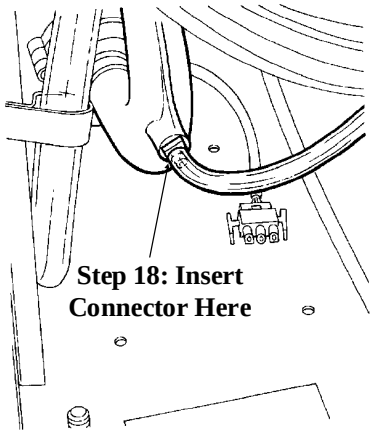
EE

17. Taking the pressure switch and bracket assembly slide the slotted portion of the bracket behind the loosened screw heads as seen in figure FF, and re-tighten the two screws.



FF

18. Connect the free 1/4" end of the connector to the 1/4" takeoff hole in white preformed tube as shown in figure GG. Push the connector into the takeoff hole until it stops against the square center collar of the connector.



Step 18: Insert Connector Here

GG

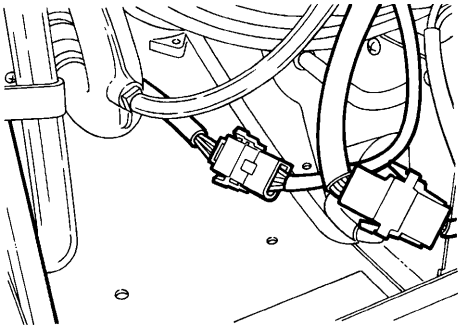
19. Connect the (3) pin quick connect plug on the wire harness to its mate leading to the drain pump motor, see figure HH.

20. Connect the (5) pin plug of the harness to its mate leading to the control box. Check all electrical connections for good contact.

With the unit plugged in and the ON/OFF/BIN LEVEL CONTROL knob in the <u>OFF</u> position, pour several quarts of water into the bin. The drain pump should turn on and pump the water out, cycling the pump on and off several time during the process until the water has reached the off level. This cycling is normal as the pump out rate of the drain pump is greater than the rate the storage bin drain will allow to pass.

21. While the pump is discharging the water THOROUGHLY check the entire drain system for any leaks.

22. Once the drain pump has finished pumping out the water manually advance the unit's timer to the HARVEST mode and turn the ON/OFF/BIN LEVEL CONTROL knob ON, to the required operating range setting for the application.



HH

Wiring Diagram