



SECTION 5


COMPONENT ACCESS AND REMOVAL

COMPONENT ACCESS AND REMOVAL


This section explains how to access and remove model UC-15I cosmetic, mechanical and sealed system components. An attempt has been made to arrange these procedures in such a way as to simulate which components would need to be removed first in order to gain access to other components. When following a component removal procedure, it may be necessary to reference another component removal procedure listed earlier in this section.

<i><u>This section is arranged as follows:</u></i>	<i><u>Page:</u></i>
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NOTE: Before continuing, please take note of the WARNINGS and CAUTIONS below.

 **WARNING**

TO AVOID ELECTRIC SHOCK, POWER TO THE UNIT MUST BE DISCONNECTED WHENEVER ACCESSING AND/OR REMOVING COMPONENTS POWERED BY ELECTRICITY OR COMPONENTS NEAR OTHER ELECTRICAL COMPONENTS.

 **CAUTION**

- If removing or disconnecting door hinge assemblies, remember they are spring loaded and may recoil quickly when released.
- If working in the compressor area, remember that compressor and tubing may be hot.
- If working on or around the condenser, remember that condenser fins and fan blade are sharp.

Exterior Components

Kickplate Removal

The kickplate is held in place with four screws, two along each side. To remove the kickplate, extract the screws and pull the kickplate forward. (See Figure 5-1)

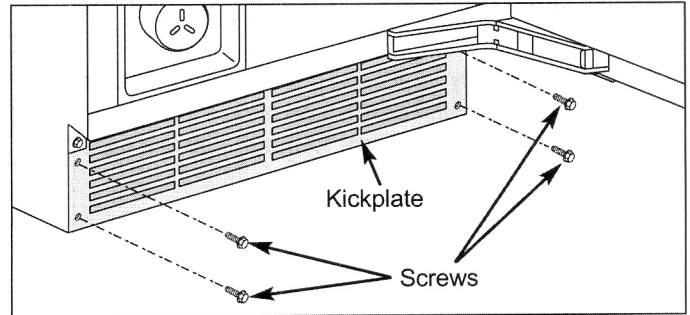


Figure 5-1. Kickplate Removal

Door Panel Removal

The handle-side panel mounting bracket is attached to the back side of the door panel with screws. The tabs of the handle-side bracket then slide into slots in the face of the door. Screws passing through the top and bottom panel mounting brackets, from back to front, into the door panel hold the panel tight to the door.

To remove a door panel (See Figure 5-2):

1. Open the door, then extract the door panel mounting screws from bottom and top brackets.
2. Slide panel towards the hinge side to disengage the handle-side bracket from slots in face of door.

Door Panel Mounting Brackets and Door Hinge Cover Removal

The top and bottom panel mounting brackets, as well as the door hinge cover are attached to the face of the door with screws.

To remove a panel bracket or door hinge cover, the door panel will need to be removed first. Then, extract the bracket or hinge cover mounting screws and pull the bracket or hinge cover from the face of the door (See Figure 5-2).

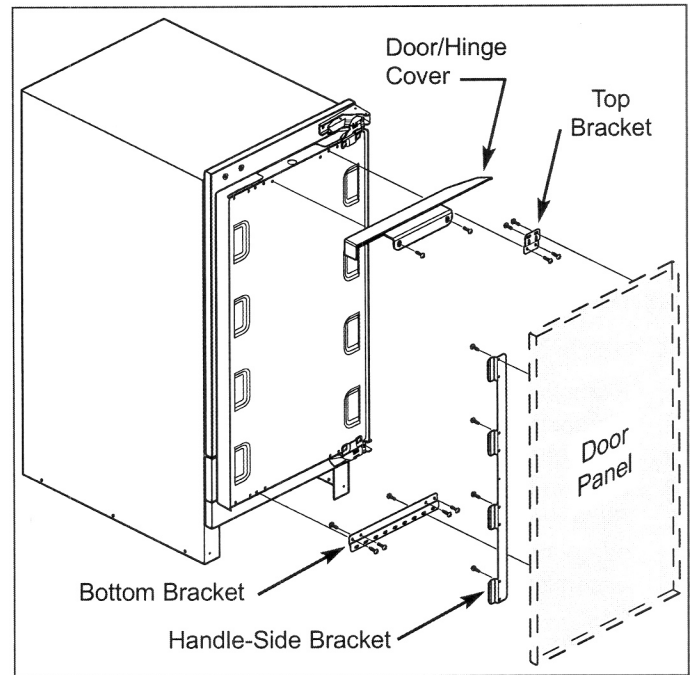


Figure 5-2. Panel Mount Hardware & Upper Door/Hinge Cover Removal

Door Gasket Removal

The door gasket has a rib on its back side that fits into a channel in the door liner.

To remove the door gasket, open the door and pull the gasket from the channel in the door liner (See Figure 5-3).

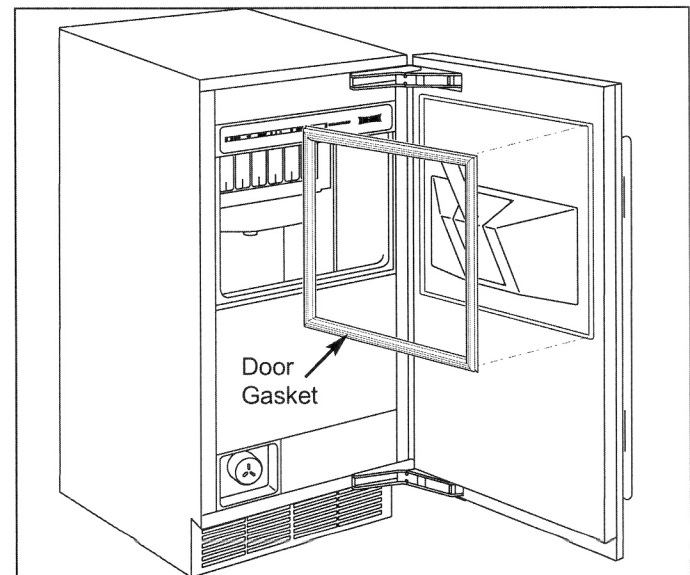


Figure 5-3. Door Gasket Removal

Door Assembly Removal

The door assembly is attached to the top and bottom hinge assemblies with screws passing through the hinge assemblies, from front to back, into the face of the door.

To remove the door (See Figure 5-4):

1. Remove the door panel.
2. Extract the door mounting screws from the bottom and top hinge assemblies, then pull the door from the unit.

NOTE: To remove the door with the hinges, see Hinge Assembly Removal instructions below, following steps 3 through 5 for both hinges.

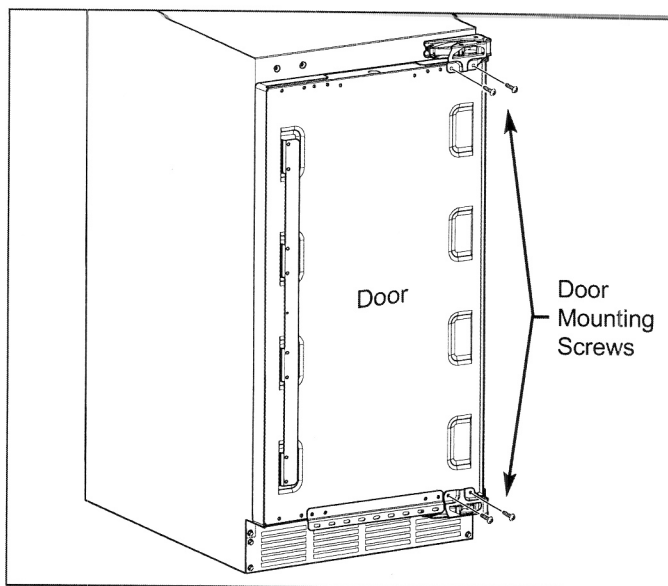


Figure 5-4. Door Removal

Hinge Assembly Removal

The hinges are secured to the unit with screws that pass through the hinge assembly, a hinge spacer behind each hinge, and into the cabinet frame.

To remove a door hinge assembly (See Figure 5-5):

1. Remove the door panel.
2. Remove the door.
3. Extract outer most hinge screw from hinge bracket.
4. Loosen the screw at keyhole slot of hinge bracket.
5. Slide hinge assembly toward hinge side of unit until screw head clears the keyhole slot, then pull hinge assembly from the unit.

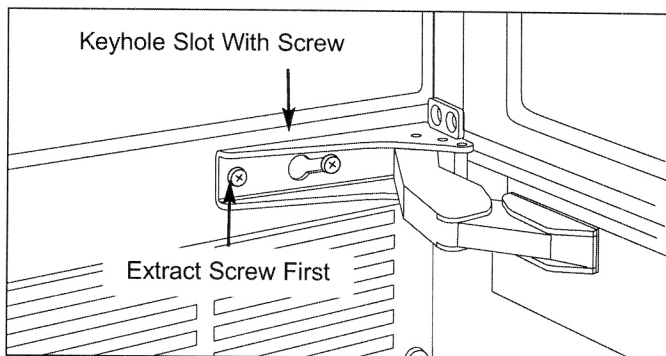


Figure 5-5. Hinge Removal
Bottom Hinge Shown

Trim Plate / Slide Cover Bracket Removal

The trim plate / slide cover bracket is held in place by screws passing through the front flanges of the side panels into the bracket. There are also screws that pass up through the trim plate and slide cover into the filter panel.

To remove the trim plate and slide cover bracket, the kickplate, door and lower hinge assembly must be removed first, then (See Figure 5-6):

1. Extract the screws that hold the bracket to the side panels and filter panel.
2. Lean the bracket forward, then pull the bracket from behind the side panels and remove from unit.

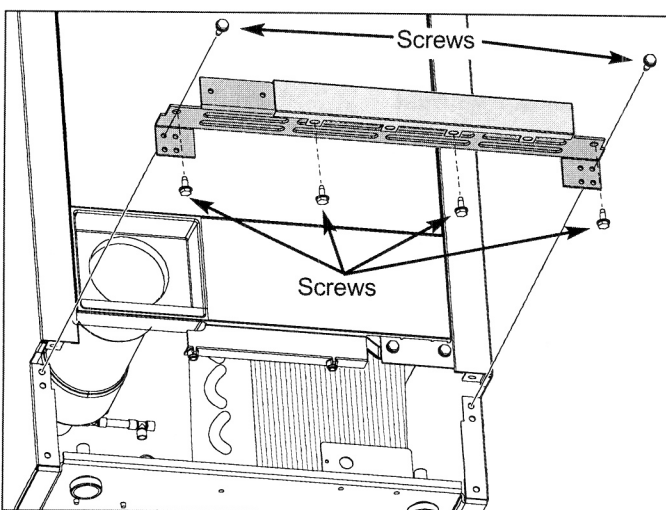


Figure 5-6. Trim Plate / Slide Cover Removal

Water Filter Panel Removal

The water filter panel is captivated between the trim plate / slide cover bracket and the front of the cabinet body.

To remove the water filter panel, first remove the kick-plate, door, lower hinge assembly and trim plate and slide cover bracket. Then, (See Figure 5-7):

1. Extract the water filter
2. Slide filter panel down and pull it away from unit.

Top Cover Removal

To remove the top cover (See Figure 5-8):

1. Extracting two screws along the back of cover.
2. Lift back edge of the top cover up slightly.
3. Pull top cover towards rear of unit until the retaining clips at front disengage from top cover, then lift it off of the unit.

Upper Back Panel Removal

The upper back panel is attached to the rear of the unit with screws around its perimeter.

To remove the upper back panel, remove the unit's top cover first, then extract the screws securing the back panel to the rear of the unit (See Figure 5-9).

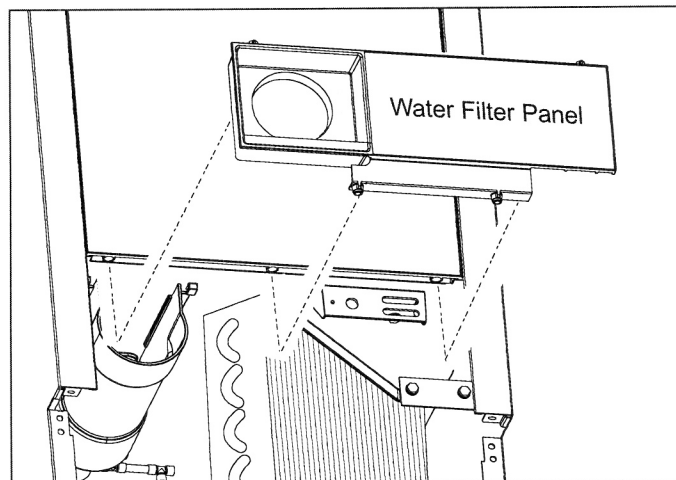


Figure 5-7. Water Filter Panel Removal

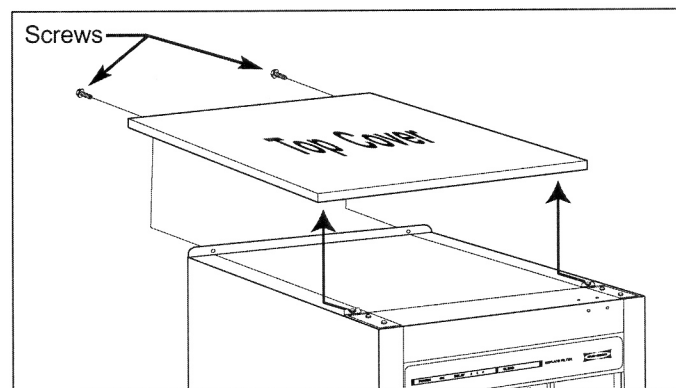


Figure 5-8. Top Cover Removal

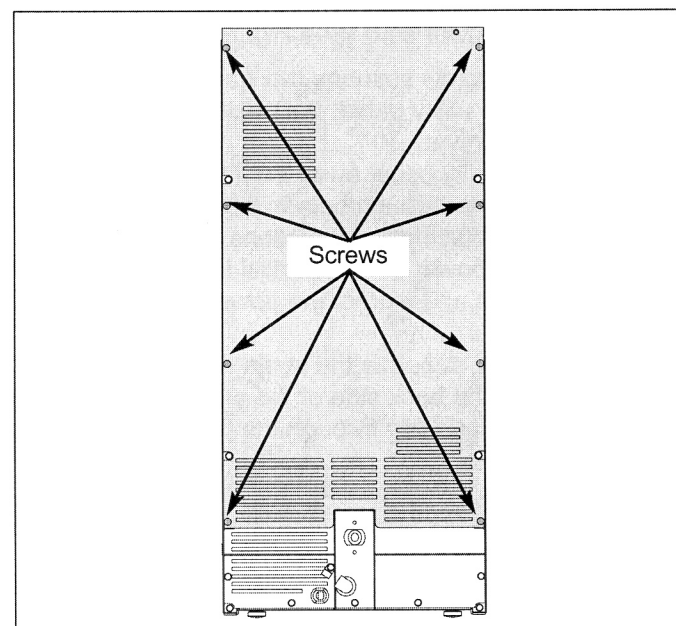


Figure 5-9. Upper Back Panel Removal

Lower Back Utility Panel Removal

The lower back utility panel is attached to the rear of the unit with screws.

NOTES:

- To fully remove the lower utility panel, the water inlet tube will need to be disconnected from the house supply line.
- The power cord passes through a strain relief bushing in the utility panel. These directions allow for the power cord to remain attached to the utility panel.

To remove the utility panel (See Figures 5-10 & 5-11):

1. Pull the drain hose from the drain tube.
2. Turn the drain tube until its tabs can be pushed into the compressor area.
3. Extract the screw securing the water inlet line tube clamp to the lower utility panel.
4. Extract the utility panel mounting screws.
5. Pull lower utility panel away from unit while feeding water inlet tube through hole in panel; stop when power cord electrical connections become taught.
6. Disconnect power cord electrical leads from the unit wire harness.
7. Extract the power cord grounding screw and pull lower utility panel from back of unit.

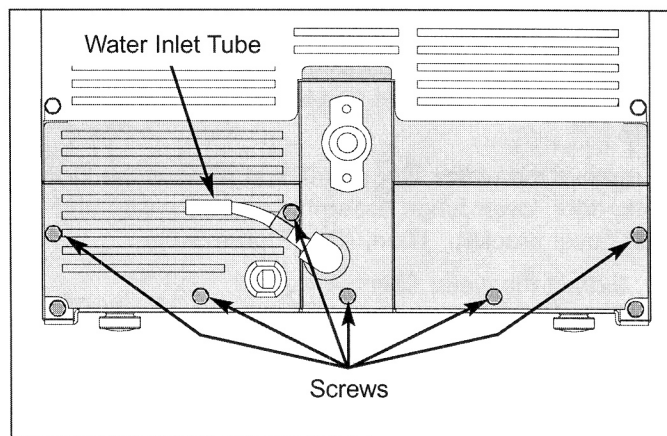


Figure 5-10. Lower Rear Panel Removal

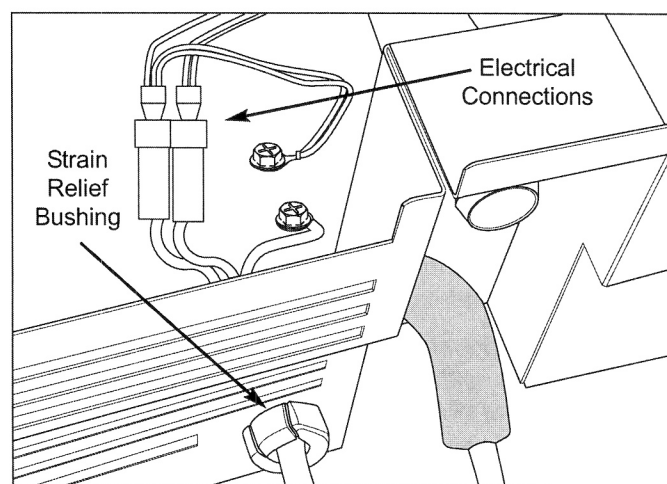


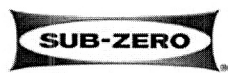
Figure 5-11. Power Cord Removal

Power Cord Removal

The power cord passes through a strain relief bushing in the lower utility panel.

To remove the power cord (See Figure 5-11):

1. Extract the screw securing the water inlet line tube clamp to the utility panel, then extract the panel mounting screws.
2. Pull lower utility panel away from unit while feeding water inlet line through hole in panel; stop when the power cord electrical connections become taught.
3. Disconnect power cord electrical leads from the unit wire harness and extract the power cord grounding screw.
4. With a pliers, squeeze the strain relief bushing together at the back side of the utility panel while pushing the bushing through the hole in the panel.



Front Top Rail Removal

The front top rail slides down behind the left and right outer side panels and is secured with screws at each end that pass down through the rail into the cabinet frame.

To remove the front top rail, the door, upper hinge assembly and top cover must be removed first, then (See Figure 5-12):

1. Extract the screws from each end of the top rail.
2. Grasp the top rail from both sides and pull upward.

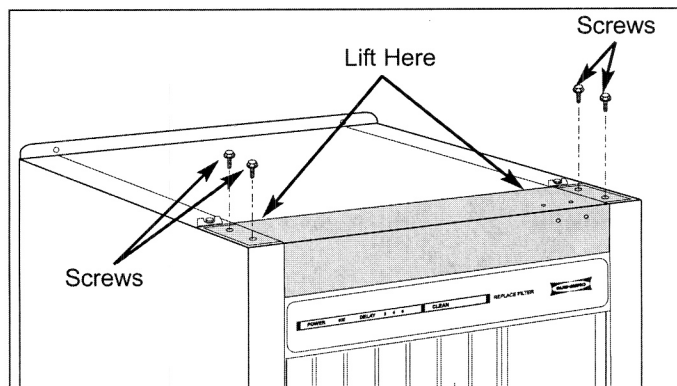


Figure 5-12. Front Trim Rail Removal

Components Below Top Cover

The control box, water shutter assembly and splash shield are all accessible only after removing the unit's top cover. The control box contains the user interface board, main control board, transformer, bin light fixture and switch.

Splash Shield Removal

The splash shield is held in place with the same screw that secures the control box cover. To remove the splash shield, the top cover will first need to be removed, then extract the screw and lift the splash shield straight up (See Figure 5-13):

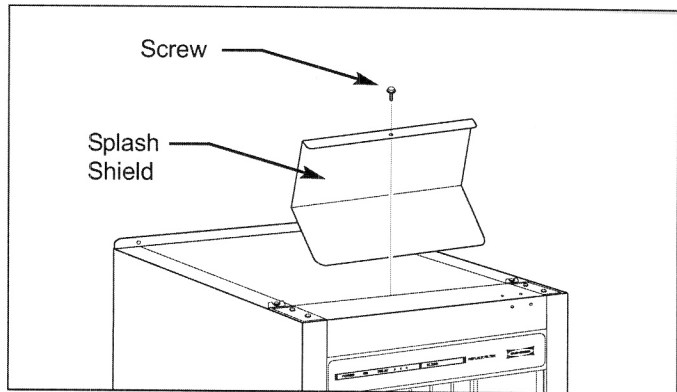


Figure 5-13. Splash Shield Removal

Water Shutter Assembly Removal

The water shutter assembly (consisting of evaporator cover, water paddles and paddle rod) is designed to keep the spraying water from escaping the evaporator/spray bar enclosure. A steel rod which supports the water shutters sits in grooves molded into the evaporator cover.

To remove the water shutter assembly, the top cover will need to be removed first, then (See Figure 5-14):

1. Reach inside bin area and pull evaporator/spray bar enclosure forward approximately 1/2" (13 mm).
2. Grasp both ends of evaporator cover and lift assembly straight up.
3. The rod and paddles can now be pulled from the grooves in the evaporator cover.

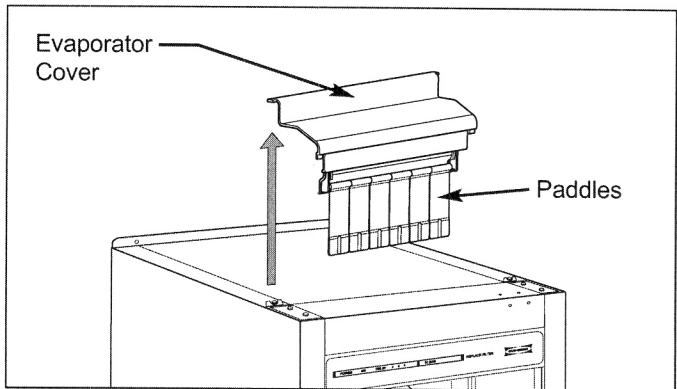


Figure 5-14. Water Shutter Assy Removal

Control Box Cover Removal

The control box cover is concealed by the unit's top cover. It is held in place with its front edge under the front trim rail and a screw that passes through the splash shield and the cover, into the back mounting hole in the control box.

To remove the control box cover, the unit's top cover must first be removed, then (See Figure 5-15):

1. Extract control box cover mounting screw.
2. Lift back of cover up slightly, pull toward rear of unit, then lift it up off of control box.

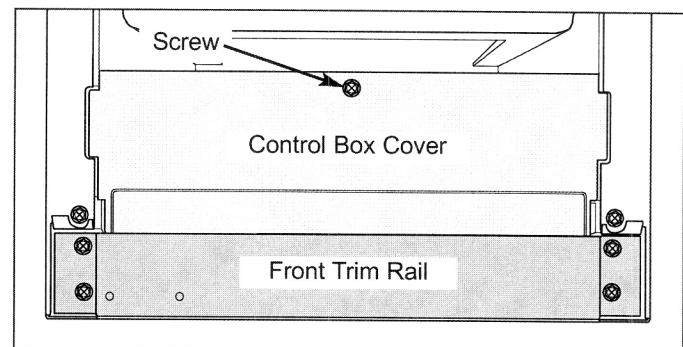


Figure 5-15. Control Box Cover Removal

User Interface Board Removal

To remove the user interface board, the top cover and control box cover must be removed first, then (See Figure 5-16):

1. Disconnect all electrical leads from user interface board at Molex connector.
2. With one hand, flex the front panel away from user interface board; with other hand, pull board upward until user interface board is free from retainer clips.

Filter Indicator Removal

To remove the filter indicator, the top cover and control box cover must be removed first, then (See Figure 5-17):

1. Disconnect indicator leads from main control board.
2. Pull filter indicator out of its installation position and up out of control box.

Transformer Removal

To remove the transformer, the top cover and control box cover must be removed first, then (See Figure 5-17):

1. Disconnect ground wire from the transformer wire harness and transformer leads from main board.
2. Extract transformer mounting screws and lift transformer from control box.

Light Fixture Removal

To remove the light fixture, the top cover and control box cover must be removed first, then (See Figure 5-18):

1. Disconnect wire leads from main control board.
2. Pinch top of fixture while lifting it from the bottom of control box.

Main Control Board Removal

To remove the main control board, the top cover and control box cover must be removed first, then (See Figure 5-18):

1. Disconnect all wires from the control board.
2. Extract the control board mounting screws and lift board from bottom of control box.

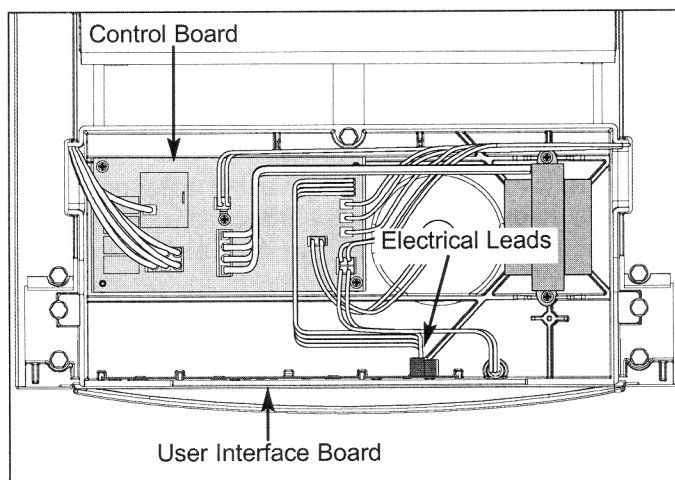


Figure 5-16. Control Box Components

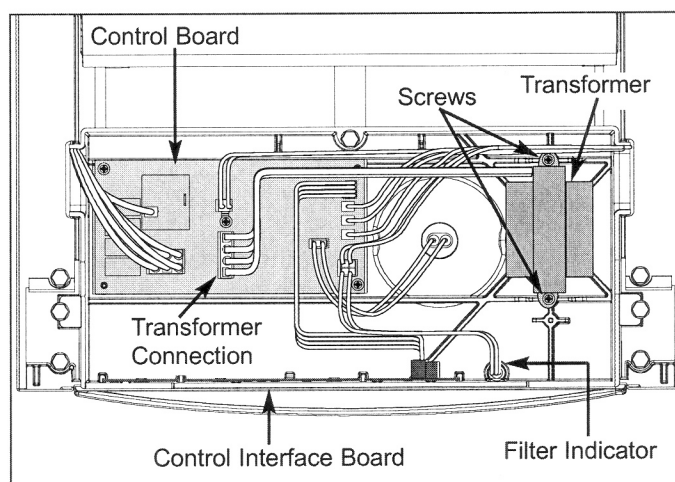


Figure 5-17. Control Box Components

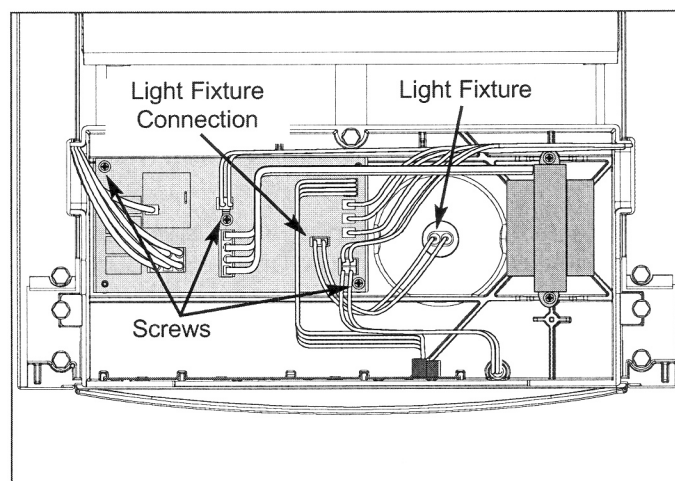


Figure 5-18. Control Box Components

Interior Components

Water Paddle Removal

The water paddles reduce the spraying water escaping the evaporator compartment. A steel rod which supports the water paddles sits in grooves molded into the evaporator cover.

NOTE: Also see *Water Shutter Assembly Removal* under Components Below Top Cover.

To remove the water paddles (See Figure 5-19):

1. Grasp both ends of water paddle assembly.
2. Lift one end of water paddle assembly up while pivoting forward.
3. After first end is disengaged, pull other end forward to disengage rod from groove and pull assembly from bin area.

NOTE: The individual water paddles will slide off steel rod unless held at both ends while removing.

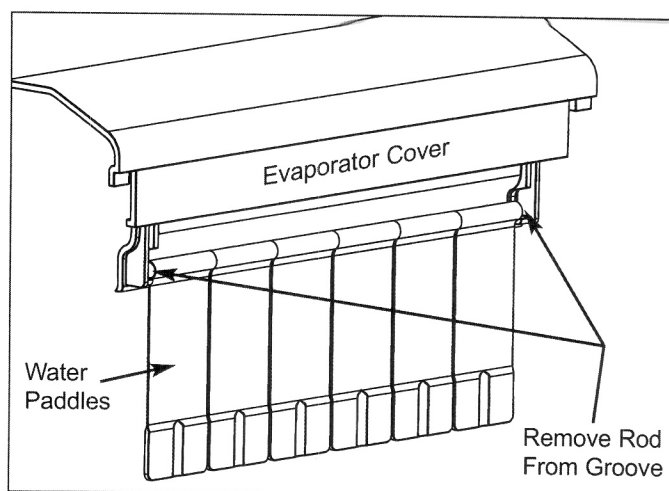


Figure 5-19. Water Paddle Removal

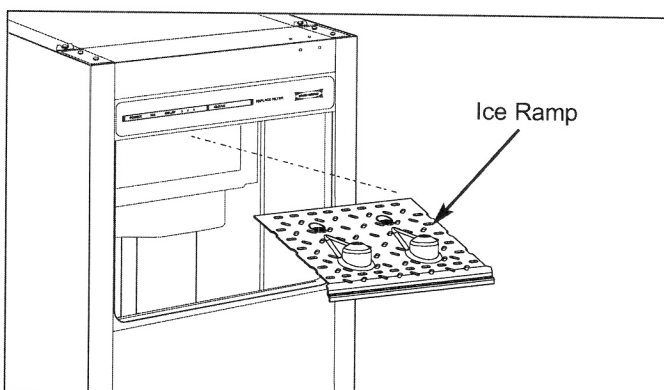


Figure 5-20. Ice Ramp Removal

Ice Chute Removal

The ice chute is positioned over the spray nozzles and allows the ice to easily fall into the bin.

To remove the ice chute, grab protruding spray hole on one end, lift up and pull forward out of evaporator/spray bar enclosure (See Figure 5-20)

NOTE: When reinstalling ice chute, it must be firmly positioned over the spray bar, with the front edge inside the water trough. Spray nozzles must align with the spray holes or spray water will fall into the bin.

Water Trough Drain Tube and Standpipe/Overflow Tube Removal

To remove the drain tube and overflow tube (See Figure 5-21):

1. At top of drain tube, disengage tube clamp teeth and remove clamp from tube and water trough nipple.
2. Pull drain tube up out of bin drain.
3. Pull drain tube and standpipe/overflow tube down out of water trough (water in the trough will drain into the bin).
4. Remove standpipe/overflow tube from drain tube by pulling.

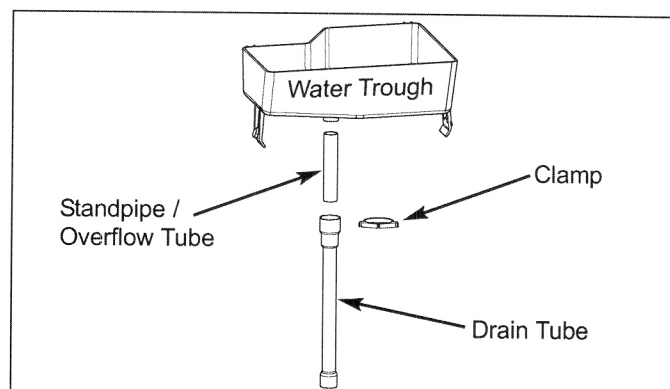


Figure 5-21. Drain Tube & Overflow Tube Removal

Water Trough Removal

To remove the water trough (See Figure 5-22):

1. Depress tabs on right and left side of the water trough.
2. Allow front of trough to drop as you pull forward to disengage the rear pins, then pull from bin.

Spray Bar Assembly Removal and Disassembly

To remove the spray bar assembly, the ice chute and water trough will need to be removed first, then (See Figure 5-23):

1. At water pump outlet, disengage tube clamp teeth and remove clamp from tube and pump outlet, then pull tube up off of pump outlet.
2. Lift spray bar assembly up and pull forward out of evaporator/spray bar enclosure.
3. With spray bar assembly removed, disengage clamp from tube at spray bar inlet, then pull tube from spray bar.
4. Unscrew water nozzles from spray bar.
5. Pull nozzle inserts out from spray bar outlets.

NOTES:

- The spray bar also disassembles for easy cleaning.
- When reassembling, apply food grade lubricant to spray bar components when necessary.

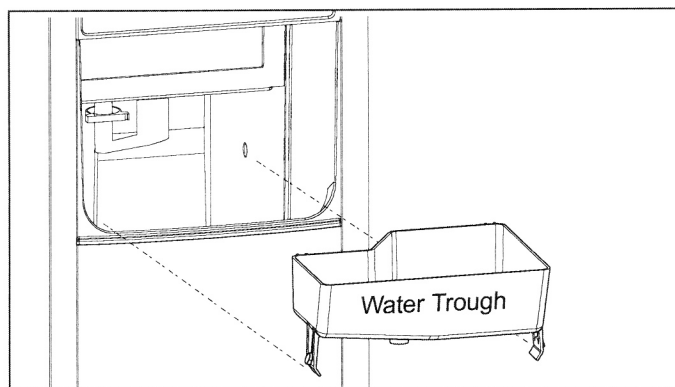


Figure 5-22. Water Trough Removal

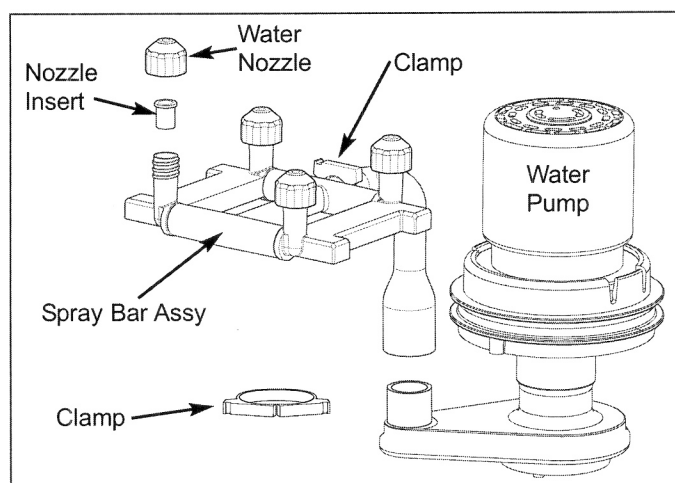


Figure 5-23. Spray Bar Removal & Disassembly

Water Pump Removal

To remove the water pump, first remove the ice chute, water trough and spray bar assembly, then (See Figure 5-24):

1. From inside ice bin, extract the mounting screw and eccentric washer securing water pump to upper bin liner.
2. Grasp pump and pull straight down until water pump disengages and electrical connector is visible, then disconnect electrical leads.
3. Extract grounding screw and wire from top of pump and pull pump from bin.

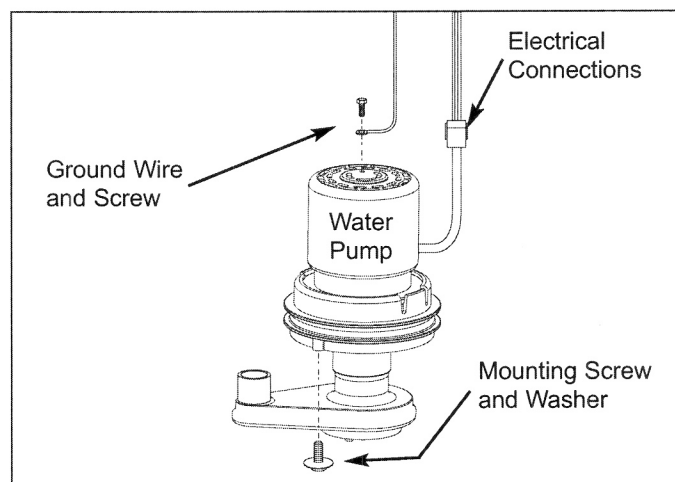


Figure 5-24. Water Pump Removal

Compressor/Condenser Area Components

Water Valve Removal

The water valve is located on the lower left front of the unit behind the kickplate, and is secured to the mounting bracket with a screw.

To remove the water valve, first remove the kickplate, then (See Figure 5-25):

1. Turn water supply off.
2. Disconnect water lines from front of valve by pushing collar around tube in while pulling tube away from valve.
3. Extract screw securing water valve to mounting bracket and pull valve forward.
4. Disconnect electrical connection from rear of valve.
5. Disconnect water lines from back of valve by pushing collar around tube in while pulling tube away from valve.

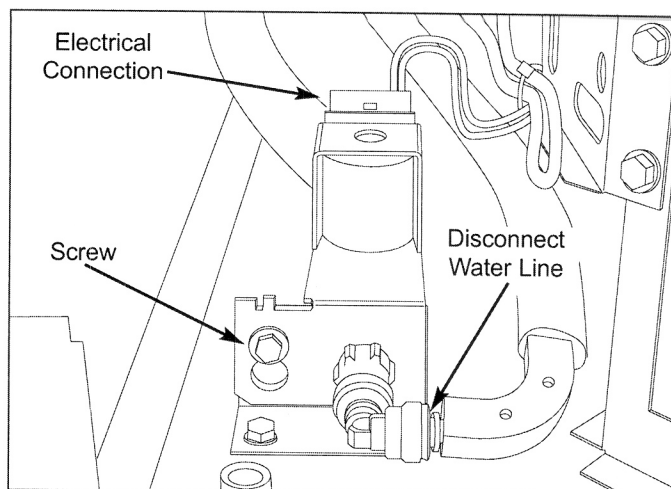


Figure 5-25. Water Valve Removal

Water Filter Enclosure and Head Removal

The water filter enclosure has flanges that engage four tabs on the bottom of the ice bin. Screws secure the water filter head to the bottom of the ice bin. The water inlet line connects to the right side of the head, and the water line exiting the head runs to the water valve.

To remove the water filter enclosure and head, first remove the kickplate, door, lower hinge assembly, trim plate, slide cover bracket and water filter panel. Then, (See Figure 5-26):

1. Turn water supply off.
2. Remove enclosure by pressing in on both sides just below rear tabs and pushing towards rear of unit until enclosure is free of tabs, then pull forward.
3. Disconnect water inlet line from right side of water filter head by pushing collar around tube toward head while pulling tube away from head.
4. Extract screws securing water filter head to bottom of ice bin.
5. Pull water filter head forward and disconnect outlet line from left side of head by pushing collar around tube toward head while pulling tube away from head.

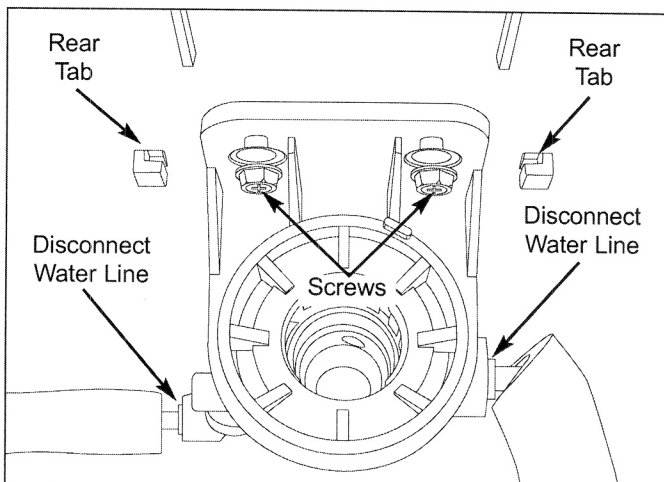


Figure 5-26. Water Valve Head Removal

Ice Bin Level (Thermostat) Switch Removal

The ice bin level switch is located on the lower right front of the unit behind the kickplate, secured to a bracket with a nut. The thermostat capillary tube runs from the rear of the switch to the back of the unit, then up to a hole in the foam and into the back of the bin thermostat sensing tube on the left side of the bin.

To remove the ice bin level switch, first remove the kickplate and upper back panel, then (See Figure 5-27):

1. Disconnect electrical leads from ice bin level switch.
NOTE: It is recommended to label the wire leads to assist in proper re-connection.
2. Extract nut that secures ice bin level switch to bracket.
3. At rear of unit, remove silicone sealant that seals capillary tube to foam.
4. Inside ice bin, remove silicone sealant at each end of thermostat sensing tube.
5. Push thermostat sensing tube toward rear of bin and out through hole in foam, then pull ice bin level switch from front of unit.

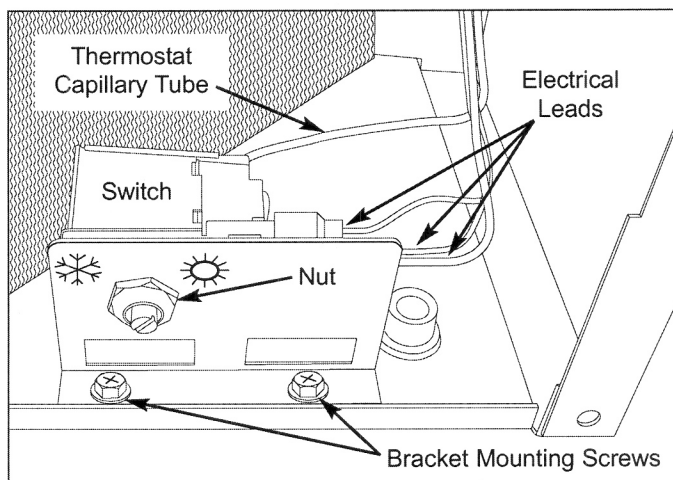


Figure 5-27. Ice Bin Level Switch Removal

Hot Gas Valve Solenoid Removal

The hot gas valve solenoid is attached to the top of the hot gas valve body with a screw.

To remove the hot gas valve solenoid, first remove the upper back panel and lower back utility panel from the rear of the unit, then (See Figure 5-28):

1. Disconnect solenoid electrical leads.
2. Extract solenoid mounting screw and lift solenoid from valve body.

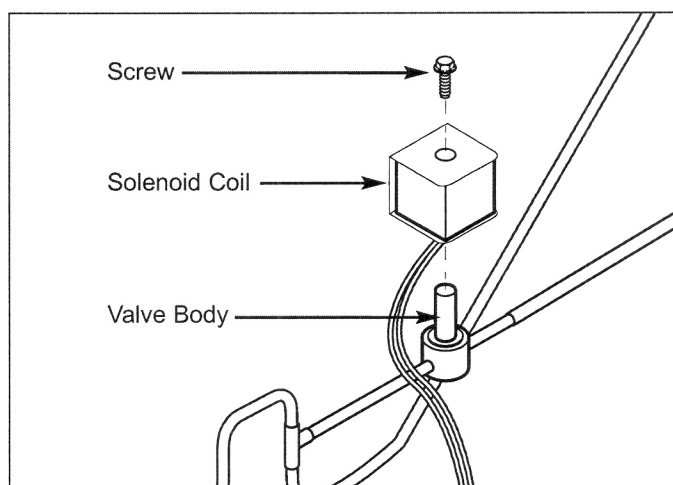


Figure 5-28. Hot Gas Valve Solenoid Removal

Drain Pump Assembly Removal (UC-15IP & UC-15IPO Only)

The drain pump assembly is located behind the condenser at the right rear corner of the compressor area, adhered to the tray with double-stick tape.

To remove the drain pump assembly, first remove the upper back panel and lower back utility panel from the rear of the unit, then (See Figure 5-29):

1. Disconnect inlet, discharge and vent tubes from top of drain pump.
2. Pry pump assembly up from tray, then pull it toward rear of unit until electrical leads are exposed.
3. Disconnect electrical leads and pull drain pump assembly from unit.

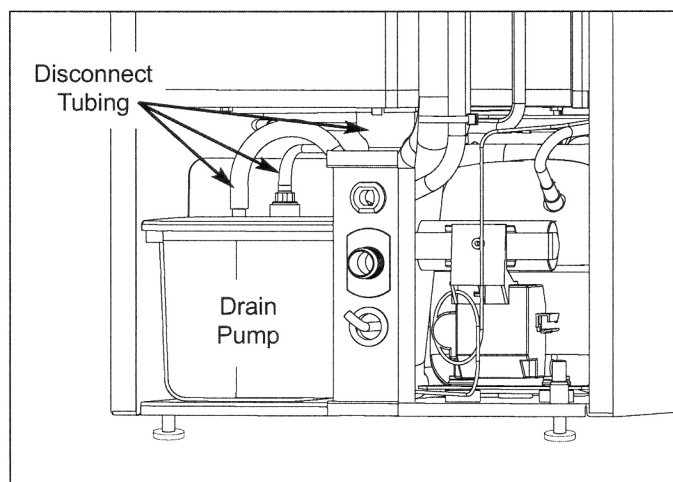


Figure 5-29. Drain Pump Removal

Liquid Line Thermistor Removal

The liquid line thermistor plugs directly into the control board, with its leads running to the right, then toward the rear of the unit under the top flange of the right side panel, down the back of the unit to the condenser discharge/liquid line where it is held to the tubing with a tube clamp. Foam insulation is then wrapped around the thermistor and tubing, secured with cable ties.

To remove the liquid line thermistor, first remove the top cover, control box cover, upper back panel and lower back utility panel (if a pump model, also remove the drain pump at this time), then (See Figure 5-30):

1. At top of unit, unplug thermistor from control board.
2. At condenser discharge tube, cut cable ties securing insulation over thermistor and remove insulation.
3. Loosen tube clamp and pull thermistor from clamp, then work it up toward top of unit, and out from under top flange of right side panel toward front of unit.

NOTE: When reinstalling thermistor, it must be attached to the condenser outlet with the tube clamp, and the insulation must be reapplied around the thermistor with cable ties.

Condenser Fan Motor Assembly Removal

The condenser fan motor is secured with screws that pass through the fan motor mounting bracket and into the condenser side brackets.

To remove the condenser fan motor assembly, first remove the kickplate, door, lower hinge assembly, trim plate, slide cover bracket, water filter panel, back panel and lower back utility panel (if a pump model, also remove the drain pump at this time), then (See Figure 5-31):

1. Disconnect fan motor electrical leads.
2. Extract screws securing condenser fan motor mounting bracket to each condenser side bracket.
3. Pull fan motor assembly from compressor area.
4. Extract screws securing fan motor to mounting bracket, then motor from mounting bracket.

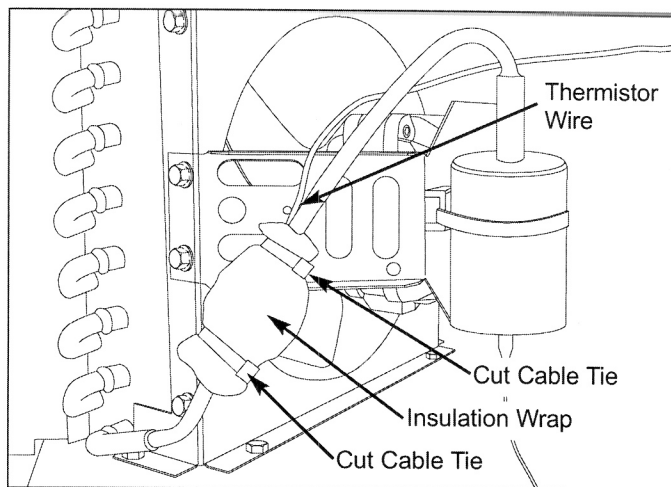


Figure 5-30. Liquid Line Thermistor Removal

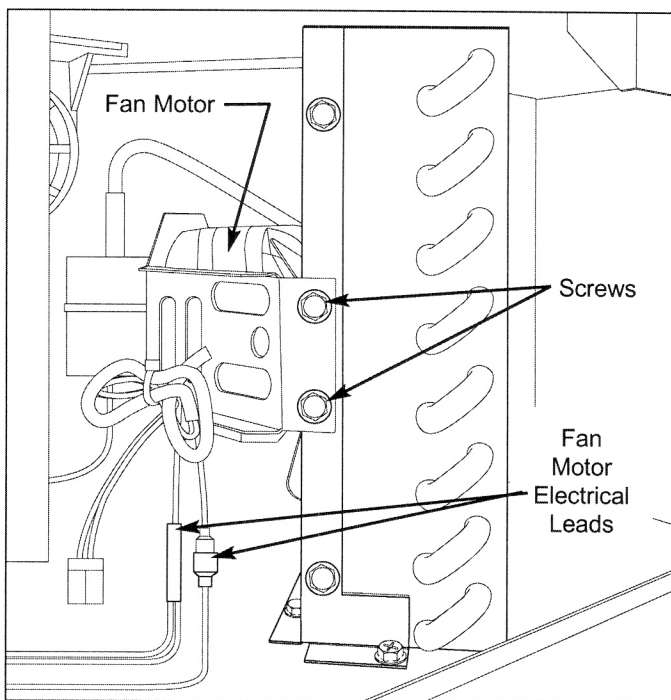


Figure 5-31. Condenser Fan Motor Removal

Sealed System Components

Hot Gas Valve Removal

The hot gas valve is attached to the compressor discharge line, after a T-connector. The outlet of the valve is the hot gas tube that runs up to the evaporator.

To remove the hot gas valve, first remove the kickplate, back panel and lower back utility panel, then after capturing the refrigerant from the sealed system (See Figure 5-32):

1. Disconnect solenoid electrical leads.
2. Using a tube cutter, cut valve inlet and outlet tubes approximately 1" from valve body.

NOTE: Do not sweat tubing apart. Doing so will induce moisture into the sealed system.

3. Lift valve assembly from compressor area.

NOTE: Always replace the filter-drier when opening the sealed system for service.

High-Side Filter-Drier Removal

The high-side filter-drier is attached between the condenser outlet and the capillary tube, located behind the condenser assembly.

To access the high-side filter-drier, To remove the high-side filter-drier, first remove the kickplate, back panel and lower back utility panel, then after capturing the refrigerant from the sealed system (See Figure 5-33):

1. Using a tube cutter, cut drier inlet tube approximately 1" from drier.
2. Using a file, score a line around the capillary tube approximately one inch from filter-drier, then fatigue the capillary tube at this point until it separates.

NOTES:

- Do not sweat tubing apart. Doing so will induce moisture into the sealed system.
- After capillary tube separates, check tubing for internal burrs. If burrs exist, repeat step 2.

3. Lift filter-drier from compressor area.

NOTE: Always replace the filter-drier when opening the sealed system for service.

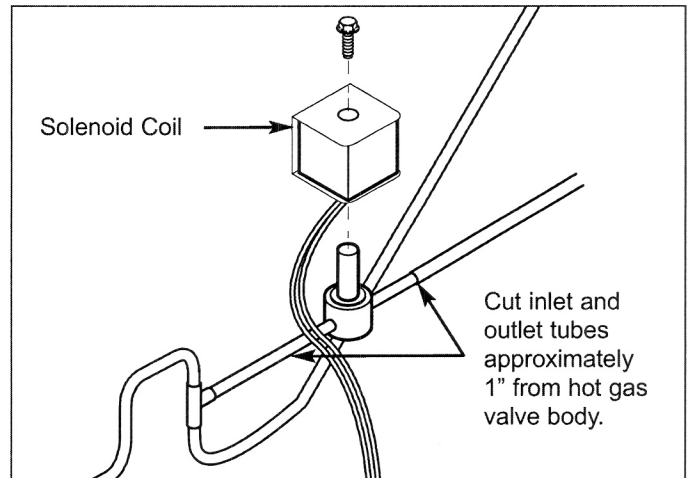


Figure 5-32. Hot Gas Valve Removal

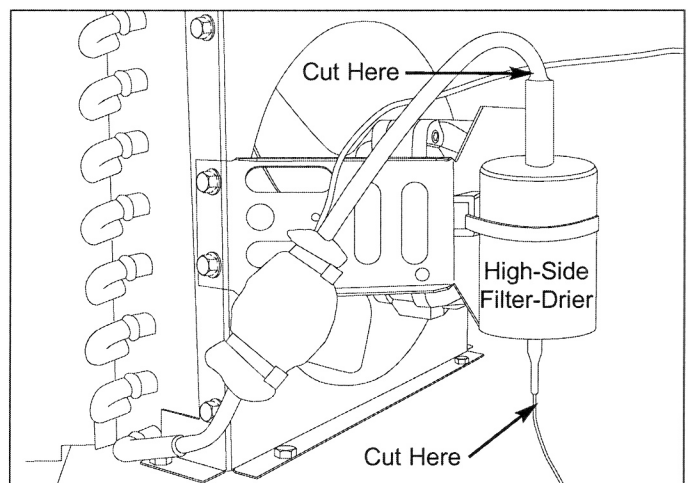


Figure 5-33. High-Side Filter-Drier Removal

Compressor Removal

The compressor sits on four grommets that are positioned over four tabs protruding up from the unit tray; cotter pins are then inserted through holes at the top of the tabs, above the compressor base and grommets.

To remove the compressor, first remove the kickplate, door, lower hinge assembly, trim plate, slide cover bracket, water filter panel, back panel and lower back utility panel, then after capturing the refrigerant from the sealed system (See Figure 5-34):

1. Remove electrical's cover and capacitor mounting assembly by inserting a flat-bladed screwdriver under capacitor and prying under tab while pulling cover toward rear of unit and down, then push cover down to release it from tabs on compressor.
2. Pull cover and capacitor away from compressor, then disconnect wire leads from compressor electrical's.
3. Using a tube cutter, cut suction and discharge tubes approximately 1" from compressor stubs.

NOTE: Do not sweat tubing apart. Doing so will induce moisture into the sealed system.

4. Extract cotter pins from above compressor grommets, then lift compressor up off of unit tray and pull toward rear of unit.

NOTE: Always replace the filter-drier when opening the sealed system for service.

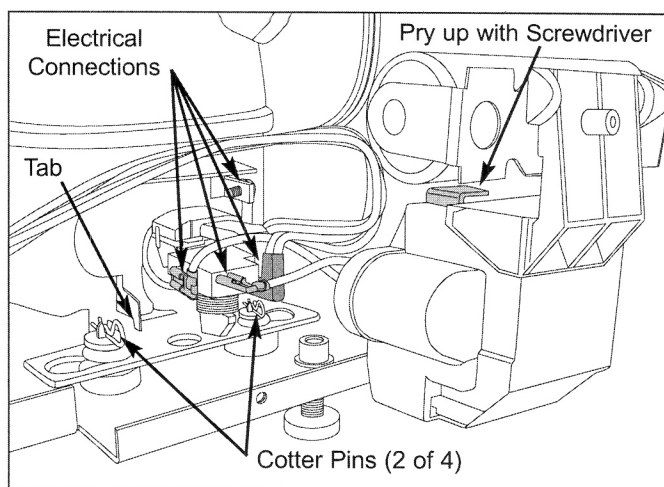


Figure 5-34. Compressor Removal

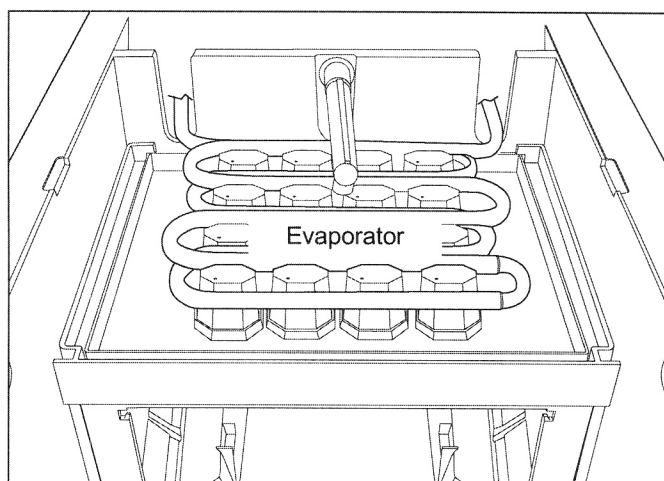


Figure 5-35. Evaporator Removal (Top/Front View)

Evaporator/Heat Exchanger Assembly Removal

The evaporator is located at the top of the machine under the top cover, atop the evaporator/spray bar enclosure, with the heat exchanger running down the back of the unit.

To remove the evaporator/heat exchanger assembly, first remove the kickplate, top cover, fill tube clamp, fill tube, back panel and lower back utility panel, then after capturing the refrigerant from the sealed system (See Figure 5-35):

1. Using a tube cutter, cut suction tube approximately 1" from compressor stub; cut hot gas tube approximately 1" from hot gas valve body; cut drier inlet tube approximately 1" from drier.

NOTE: Do not sweat tubing apart. Doing so will induce moisture into the sealed system.

2. Lift evaporator assembly from top of evaporator/spray bar enclosure.

NOTE: Always replace the filter-drier when opening the sealed system for service.

Condenser Removal

The condenser has a mounting bracket that is secured with screws to the condenser. The mounting bracket is then secured to the unit base tray with screws along the flange of the mounting bracket.

To remove the condenser, first remove the kickplate, door, lower hinge assembly, trim plate, slide cover bracket, water filter panel, back panel and lower back utility panel, then after capturing the refrigerant from the sealed system (See Figure 5-36):

1. Cut condenser inlet and outlet tubes approximately 1" from condenser stubs.

NOTE: Do not sweat tubing apart. Doing so will induce moisture into the sealed system.

2. Remove fan motor mounting bracket.
3. Extract screws securing flange of the condenser side brackets to the unit base tray.
4. Remove condenser from unit.

NOTE: Always replace the filter-drier when opening the sealed system for service.

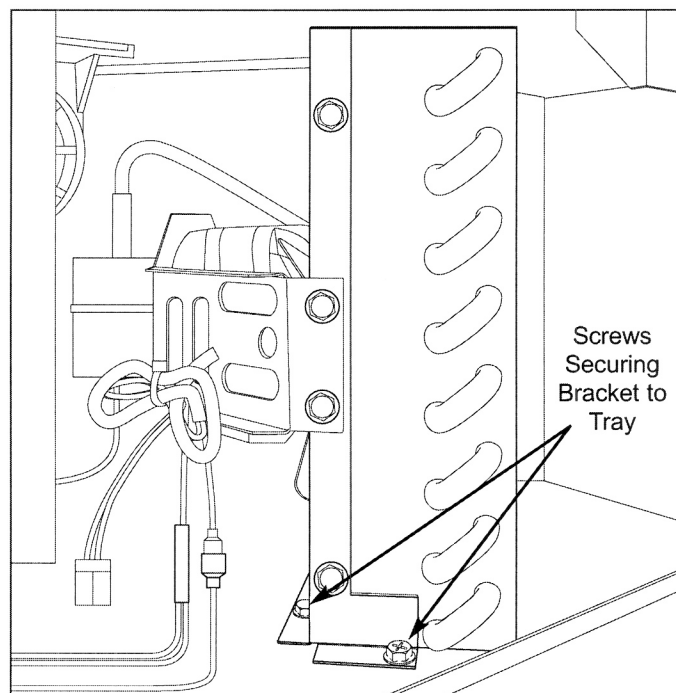


Figure 5-36. Condenser Removal (Front View)