Manitowoc® Parts & Service Communicator

Subject: Flake & Chiplet Ice Machine Re-Build Kit

An Evaporator Re-Build Kit is now available for out of warranty Flake and Chiplet Ice Machine evaporators. Defective in warranty evaporators must be replaced, the warranty does not allow re-building. There are kits for different sized evaporators as well evaporators that may need the auger changed.

- **Evaporators can only be re-built with the kit.**
- **When an evaporator is disassembled all parts must be replaced.**
- **Parts are not available individually, only in kit form.**

Included in the kit is a special tool that is required for disassembly/reassembly. The tool is used for bearing removal, proper seating of bearings and water seal. For complete instructions see back of page.

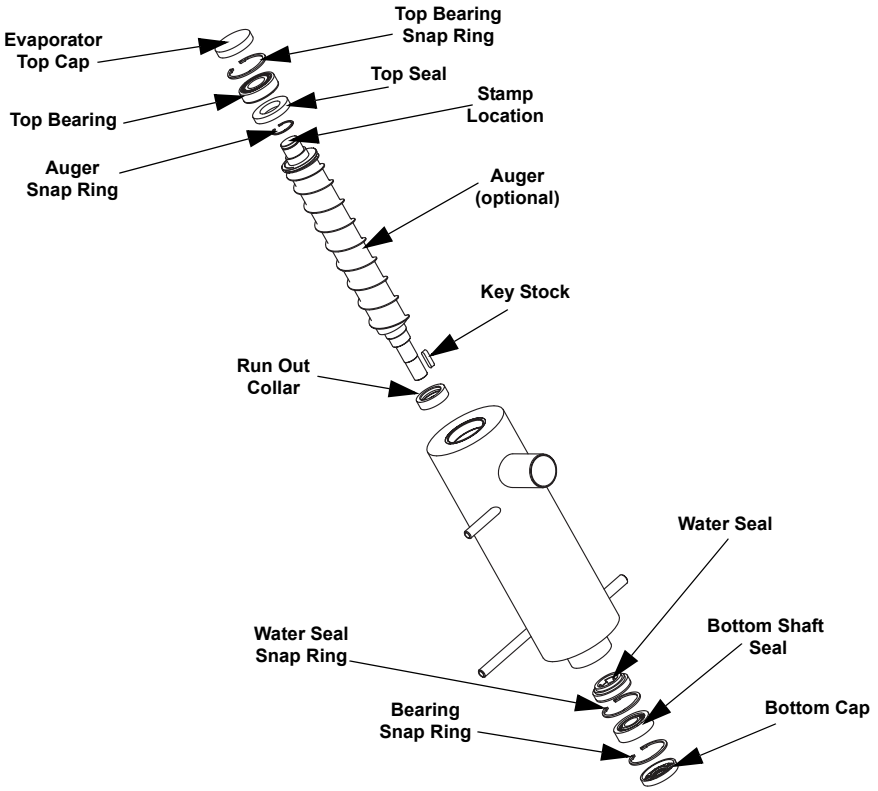
Identifying Correct Kit:

The augers inside of the evaporators are stamped with a letter, the letter indicates the date (A=2000, B=2001, C=2002, etc.). Remove the top cap on the auger and wipe off the grease to see the stamped letter. Use the chart below to determine the proper kit.

Re-Build Kit Part Numbers				
	Stamped A or B		All Others	
Model	Re-Build Kit	Re-Build Kit with Auger	Re-Build Kit	Re-Build Kit with Auger
QF400	76-0166-3	76-0167-3	76-0166-3	76-0167-3
QC700	76-0168-3	76-0169-3	76-0166-3	76-0169-3
QF800	76-0168-3	76-0170-3	76-0166-3	76-0170-3
QF2300	76-0171-3	76-0172-3	76-0171-3	76-0172-3

Contents of the Re-Build Kit:

Identified parts shown in drawing are included in the re-build kit.



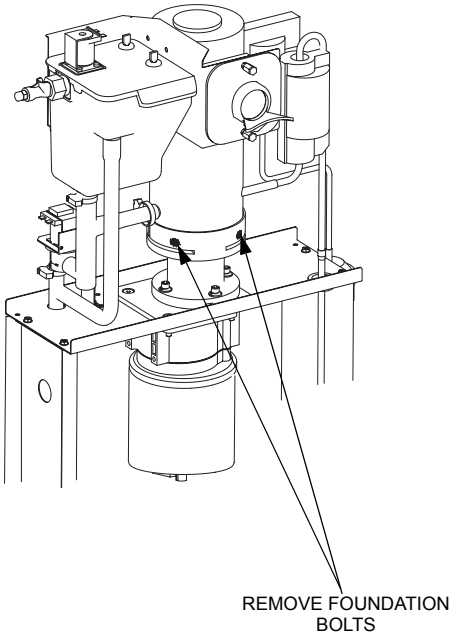
SV2002

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REMOVE EVAPORATOR

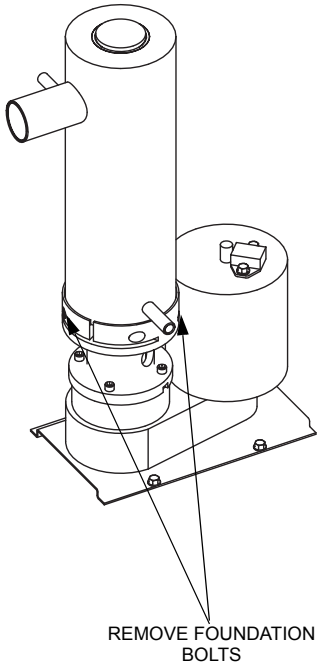
QF400

1. Disconnect power and water supply to the ice machine and drain all water from the reservoir and evaporator.
2. Remove water level probes, water reservoir cover, float valve, water reservoir and drain tubing (refer to Component Removal in the Flake / Chiplet Service Manual).
3. Recover refrigerant and disconnect refrigeration tubing from evaporator.
4. Remove foundation-coupling bolts.
5. Lift evaporator out of foundation coupling and remove from ice machine.



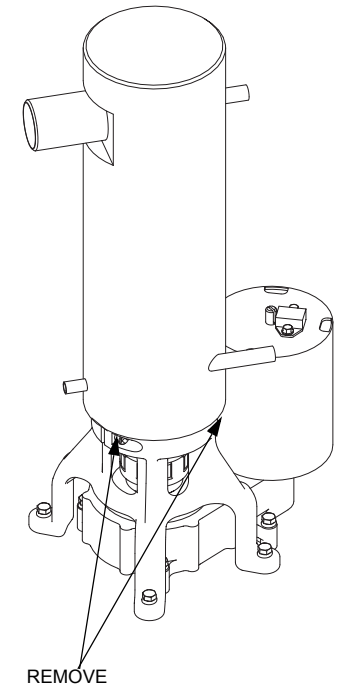
QC700/QF800

1. Disconnect power and water supply to the ice machine and drain all water from the reservoir and evaporator.
2. Remove water level probes, water reservoir cover, float valve, water reservoir, ice chute, and drain tubing (refer to Component Removal in the Flake / Chiplet Service Manual).
3. Recover refrigerant and disconnect refrigeration tubing from evaporator.
4. Remove foundation-coupling bolts.
5. Lift evaporator out of foundation coupling and remove from ice machine.



QF2200/QF2300

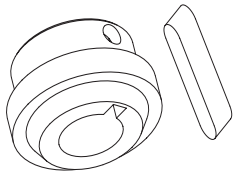
1. Disconnect power and water supply to the ice machine and drain all water from the reservoir and evaporator.
2. Remove reservoir retaining pin, water reservoir, ice chute, and drain tubing (refer to Component Removal).
3. Recover refrigerant and disconnect refrigeration tubing from evaporator.
4. Remove foundation-coupling bolts.
5. Lift evaporator out of foundation coupling and remove from ice machine.



SV3017

Disassembly

1. Remove spline hub and key stock. Sand shaft smooth where setscrew contacted shaft.



SPLINE HUB AND KEY STOCK

2. Remove evaporator top cap and grease from top of evaporator.
3. Remove top snap ring (big clip). (QF2300 Only - also remove spring shim.)
4. Drive auger shaft out through top of evaporator by placing wooden 2 x 4 on floor and tap auger shaft on 2 x 4.
5. Remove run-out collar (remove from bottom or run-out collar will be on the auger).
6. Remove bottom shaft seal.
7. Remove lower bearing snap ring. (QF2300 Only - also remove bearing shim.)
8. Drive out bottom bearing (QF2300 Only - also drive out second bearing shim) with bearing removal tool (top to bottom).
9. Remove water seal snap ring.
10. Remove water seal (top to bottom).
11. Remove snap ring from top of auger.
12. Remove top bearing with a bearing puller.
13. Remove top seal.

Cleaning after Disassembly

Inspect auger and check for damage to the following areas:

- Top bearing seat
- Top shaft seal area
- Bottom bearing seat
- Bottom seal area

Replace auger if bearings or seals are damaged

Clean the following with 460 grit emery cloths to remove contamination (new augers do not have to be cleaned):

- Auger Shaft
- Auger flights (both sides - top and bottom)

Do not clean the cutting head with sand paper. The cutting head self-cleans due to ice shear - emery cloth will dull the cutting edge. Sand the auger with emery cloth until all scale is removed.

Evaporator Barrel Cleaning:

Assemble wheel stack on mandrel. Drill and shaft extension are required. Use speeds less than 200 rpm, slower = better. Keep moving up and down; do not stop in one spot.

Scotch-Brite Disc for Cleaning:

Disc is larger than inside diameter of barrel for even contact.
2” Disc used on models QF400, QC700, and QF800.
4” Disc used on QF2300.
Clean thoroughly with multiple passes of disc and clean cloths. Thoroughly clean water inlet and ice outlet to complete the cleaning of the barrel.

Reassembly

Note: Upper bearing has dust seal. Bottom bearing does not have dust seal. Bearing seating tool and grease are included with kit.

1. Grease top shaft seal and install on auger.
2. Imprinted text on bearing must face up. Install top bearing, press on both inner/outer bearing race with special tool to seat.
3. Install run-on sleeve onto bottom of auger (taper must face seal).
4. Grease top and bottom bearing race.
5. Install auger into barrel from top down.
6. Install inner and outer snap rings at top bearing.
7. Seat upper bearing, use dead blow hammer to drive auger up and seat upper bearing on snap rings.
8. Install water seal use special tool to apply even pressure.
9. Install water seal snap ring use special tool to compress seal and seat snap ring.
10. Bottom bearing assembly (QF2300 Only - one bearing shim must be installed before bearing.) Roller thrust bearing is directional. Imprinted text on bearing race must face down, towards bottom of evaporator. The wider of the two races must face up, towards the evaporator.
11. Hand-pack bearing in grease and drive in place with special tool.
12. Install snap ring in bottom. (QF2300 Only - before installing snap ring, install bearing backup spring.)
13. Pack top cover with grease and install.
14. Install bottom seal. Work any air out from under the seal being careful not to cut the seal or score the shaft.
15. Hand-turn auger to check operation. You can see the first shoulder of the auger, when it is correctly installed.
16. Install key stock.
17. Install splined hub. (Must be flush with shaft.)
18. Evacuate and recharge. Refer to procedures in the Flake / Chiplet Service Manual.
19. Torque foundation bolts to 195-205 inch lbs.
20. Reassembly components removed in Step 2 of Remove Evaporator.
21. Reconnect power and water supply.
22. Test run ice machine.