



The best just got better

MODELS T-23 THROUGH T-2175

ASSEMBLY INSTRUCTIONS



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A. BASIN SECTION:

- T-23 thru T-260 consist of one (1) piece; T-270 thru T-2175 consists of six (6) pieces
- Bolt the Basin Sections loosely together until basin is ready to be fiberglassed, (See Assembly Drawings pertaining to the size tower being assembled).
- In rare cases, assembly holes in a segment of the F.R.P. basin do not align with an adjacent section. Ensure that matching numbers or letters marked on the sections are correct, and then drill new holes so sections align properly.
- Place assembled Cold Water Basin on concrete slab or piers, ensuring basin has been leveled, then completely tighten all bolts.
- Ensure that all pipe connections in basin are facing in proper direction for piping to equipment before securing basin to slab or piers.

B. FIBERGLASS APPLICATION:

- Clean and dry all joints, seams, and feet in preparation for fiberglassing.
- Make sure that the Fiberglass Matting is clean and dry.
- Resin, Fiberglass Matting, Cardboard Leg Covers and Catalyst are furnished by Cooling Tower Systems, Inc.
- Follow the directions for fiberglassing very carefully in following tables:

**Try to avoid applying fiberglass when the ambient temperature is below 60° Fahrenheit*

Ambient Air Temperature	60 F	70 F	80 F	90 F
OZ. of Catalyst per gallon	2.25	1.75	1.00	0.75

NOTE: Work with small amounts of Resin and Catalyst, and apply quickly, because as the temperature increases, Set-Up time of the mixture is faster. Mix a small amount at first to see what your Set-Up time and mixture should be.

- Stir the Resin Mixture approximately 45 seconds.
- Start applying a light coat of Resin Mixture with a paint brush along the seams, extending 2" (inches) on either side. Work out any bubbles in resin.

- **Applies Only to Model T-270 thru T-2175:**

For 'legs' begin by applying a light coat of resin around leg openings and over width of cardboard covers. Then apply one (1) piece of fiberglass. Apply resin over fiberglass matting, making sure matting is saturated thoroughly with all air bubbles having been worked out. Let application dry and then repeat the same procedure a second time.

- Center the first layer of 4" (inch) Chopped Matting over the seam with paint brush. Press matting into first layer of the mixture over the matting and first application as uniformly as possible, extending resin for another 2" (inches), past the edge of matting. Allow mixture to cure for short time, consecutive layers may be applied before first layer has completely cured.
- Proceed to second and final layer of mixture and matting to the Basin Sections and the Sump Section using Step 3 thru Step 5. Allow this to dry for three (3) to six (6) hours, depending upon temperature.

C. STAND PIPE:

- Insert the Stand Pipe in the Stand Pipe base, applying pipe cement to tapered end, ensuring that the pipe is level. Refer to Assembly Drawing pertaining to model you are assembling

D. FILL SUPPORTS:

- Connect Support Stopper to Stand Pipe and connect Fill Supports to Stopper.
- On larger models, the additional number of Fill Supports will be attached to Casing Assembly and are to be loosely assembled.

E. P.V.C. FILL:

- The fill is in layers and in some cases, the layers are installed in segments and should be installed as level as possible.
- Locate and place the fill sections on the fill support structure, per the attached Fill Distribution Drawing.
- Make sure to center the first fill layer around the Stand Pipe, then install the second layer being sure to align the center of each new fill section over the seam of the lower section.
- Place plywood on top of the Fill Sections to protect the Fill while installing the Distribution, (Sprinkler Head), to top of the Stand Pipe. Plywood does not apply to smaller models. (See applicable drawing).
- Connect the Distribution Pipes, (Sprinkler Pipe Assembly), to the Sprinkler Head and connect the Tension Wires and Turnbuckles to the Center Post, making sure the assembly is level.

F. CASING ASSEMBLY: (SEE CORRESPONDING ASSEMBLY DRAWING)

- Make sure that all matching letters on each panel match with the connecting panel before bolting.

- When possible, assemble all Casing Sections into one (1) assembly, leaving the bolts loose. Lower the complete Casing Assembly. Push in and compact the Fill Sections so the Casing Assembly can slide onto the Casing Supports.
- If a crane is available, while tower is being assembled, the casing can be completely assembled with motor, motor base and fan assembly installed, and then hoisted into position following directions as in (B) above.
- After Casing Section has been lowered onto Casing Supports, tighten fill and Casing Supports. Ensure that everything is level! After completing the supports, tighten all casing panels.

G. MOTOR AND FAN ASSEMBLY: (SEE CORRESPONDING ASSEMBLY DRAWING)

- Ensure that plywood is still in place to protect fill while installing the Fan Assembly. This *only* applies to larger towers.
- Assemble Motor support Frame, as shown in Assembly Drawing. (See applicable drawing).
- Install motor to Motor Support Frame *before* installing Fan Assembly.
- For T-23 thru T-2175, mount Motor Base, Ref# 16-03, and Motor, Ref# 16-01, to Casing Section. Install Fan Blade Hub, Ref# 17-00 and #17-02, and install Key, Ref# 16-03, to Motor Shaft, then tighten locknut, Ref# 16-04 and Ref# 16-05.
- Install Fan Blades, Ref#17-02, on Models T-270 thru T-2175, using U-bolts, nuts and washers. Set Fan Blade pitch angle, using pitch angle indicator stamped on Fan Hub. Pitch angle will be furnished with assembly instructions for each cooling tower. Fan Blade Pitch settings only apply to units with fans that ship disassembled. Assemble Fan Guard Panels to Motor Frame *after* clearance of Fan Blades has been checked.

H. FINAL ASSEMBLY PRIOR TO START UP:

- Install Overflow (See applicable drawing)
- Install Water Make-Up Assembly, Ref# 02-06, 02-08, 02-12A & Ref# 02-13.
- Install Suction Strainer over Suction Outlet.
- Install Hand Hole Cover.
- Install Air Inlet Louvers (See applicable drawing)

I. START UP:

- Ensure all nuts and bolts are securely tightened.
- Fill Cold Water Basin and check for leaks.
- Ensure Float level is set.

- Ensure Fan and Motor rotates freely and check for correct Fan Rotation.
- Rotate Sprinkler Arms by hand to ensure they rotate smoothly. Check Operating and Service Manuals for correct number of R.P.M.'s.

CAUTIONS DURING OPERATION:

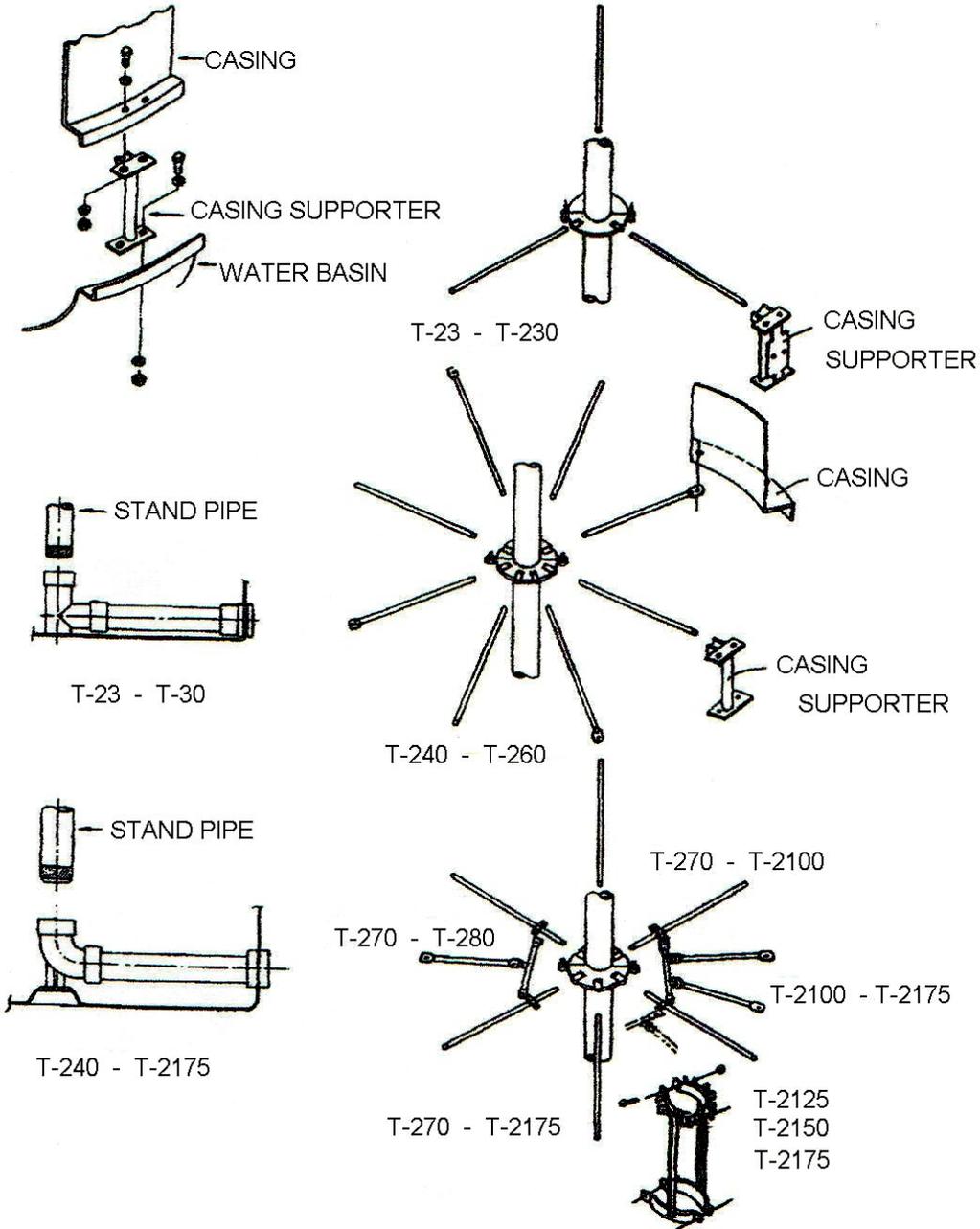
- After a long shutdown, scale or sludge will stick to the rotating section of the sprinkler head and impede smooth revolution. In such cases, rotate the sprinkler by hand.
- If any foreign matter mixes in the circulating water the holes of the sprinkler pipes can be blocked by them. Since this will cause reduction in tower efficiency, dismantle the sprinkler pipes and clean them.
- Normally, it is enough to wipe the casing with rags. When it becomes excessively soiled, wash it with soapy water and then flush with fresh water. Never Use Volatile Agents in Cleaning!
- Regular cleaning of the suction strainer of the water basin is necessary.
- Scrub the water basin when it becomes dirty. Flush any dirt out through the drain by hose.

OFF-SEASON SHUTDOWNS:

- Drain the entire circulating water off the tower and its piping.
- Clean the Inside and outside of the water basin and the casing.

OPERATION AFTER A LONG PERIOD SHUTDOWN:

- Follow instructions listed for "Cautions Prior to Operation".



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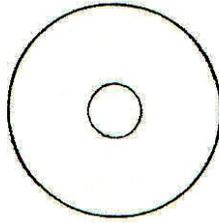
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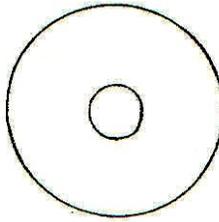
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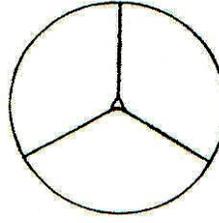
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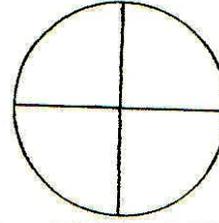
T-230 - T-260



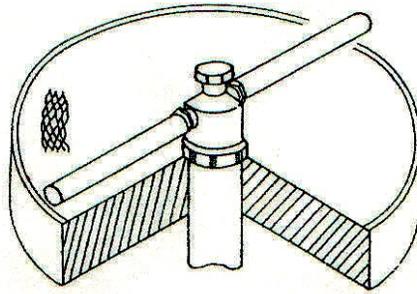
T-270 - T-280



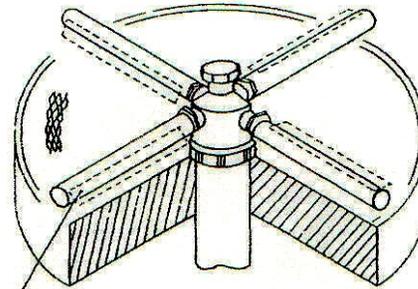
T-2100 - T-2125



T-2150 - T-2175

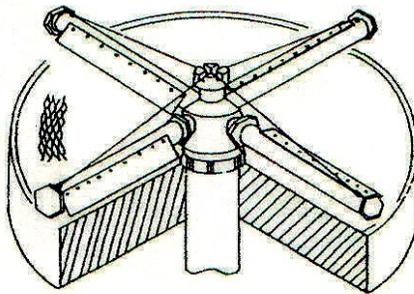


T-230

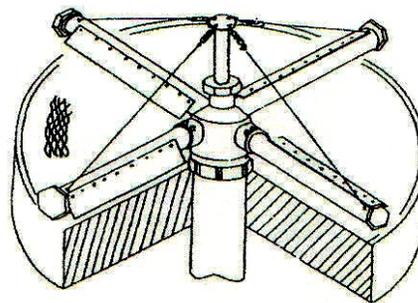


T-230 - ONLY

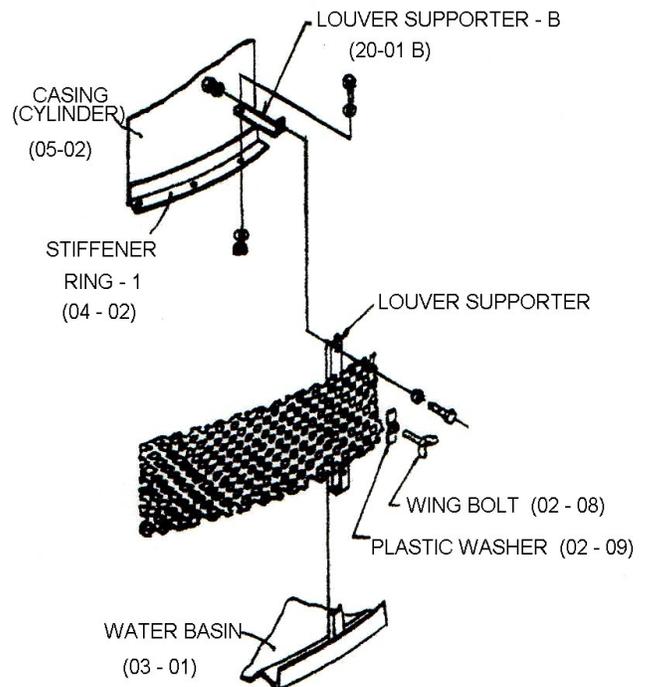
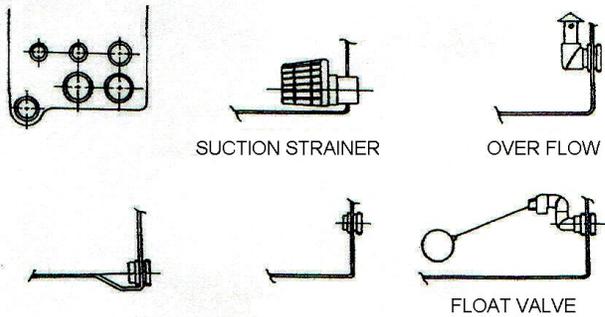
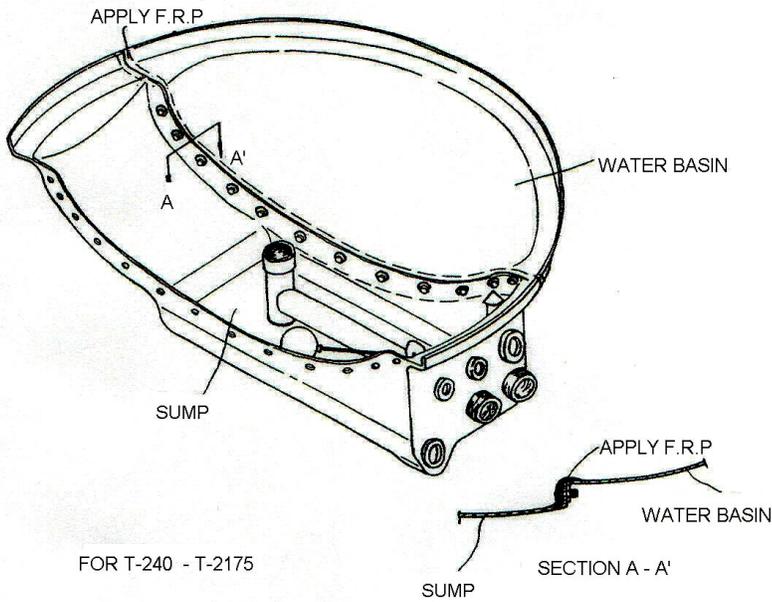
T-250 - T-230

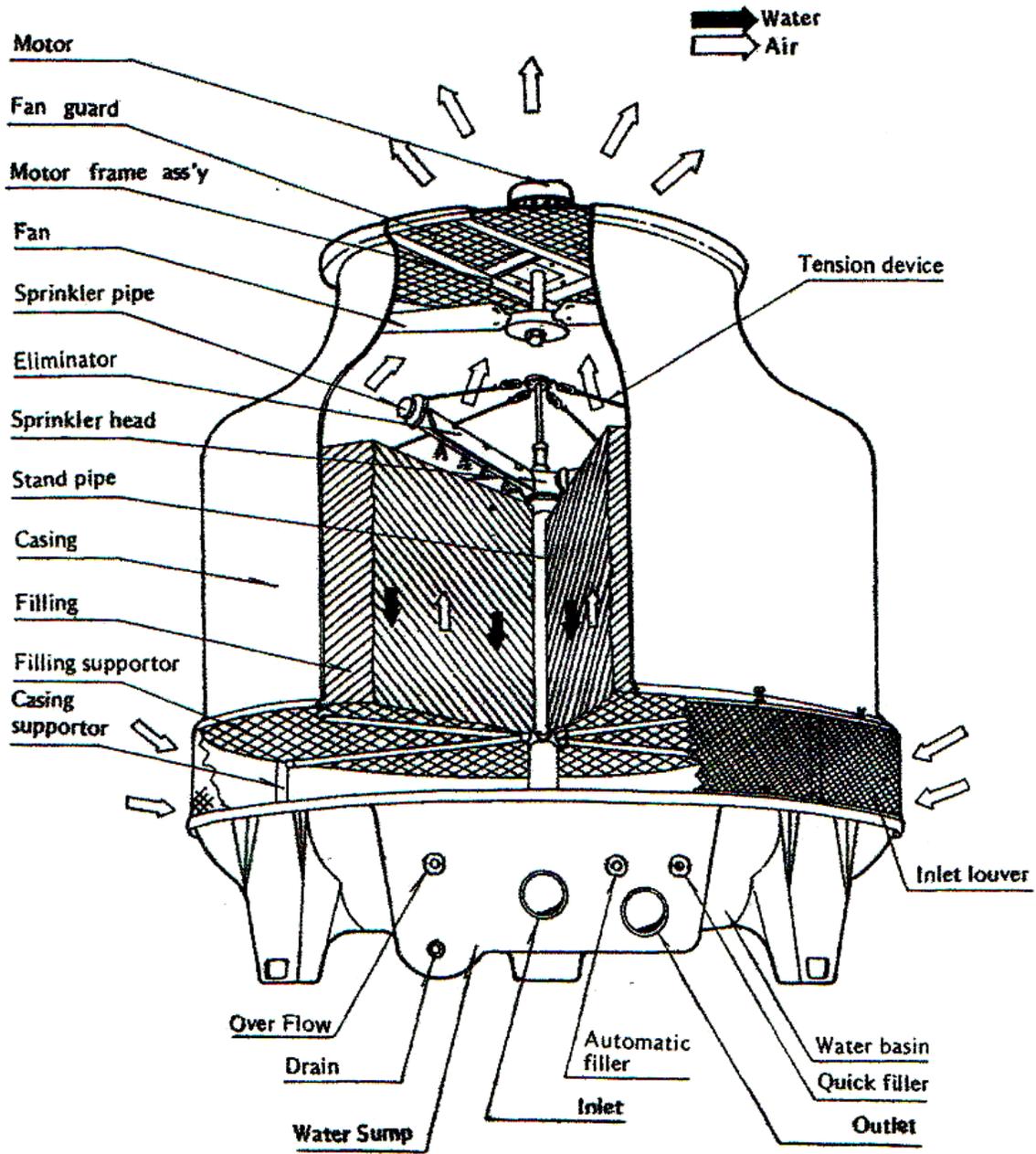


T-240 - T-260



T-270 - T-2175





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