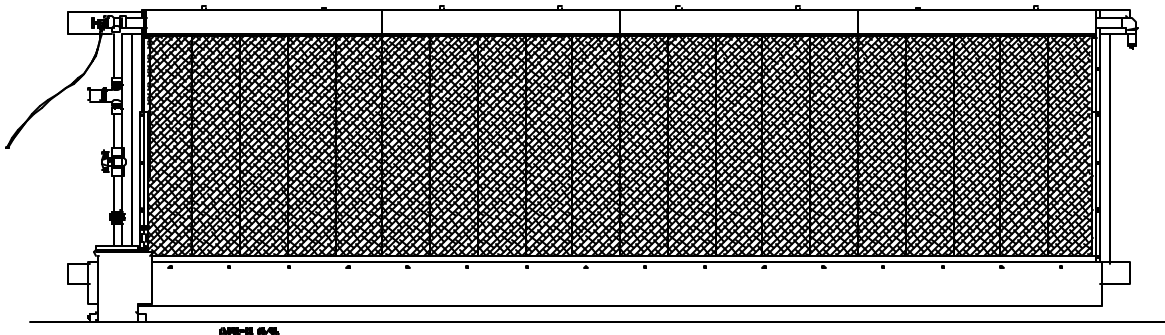
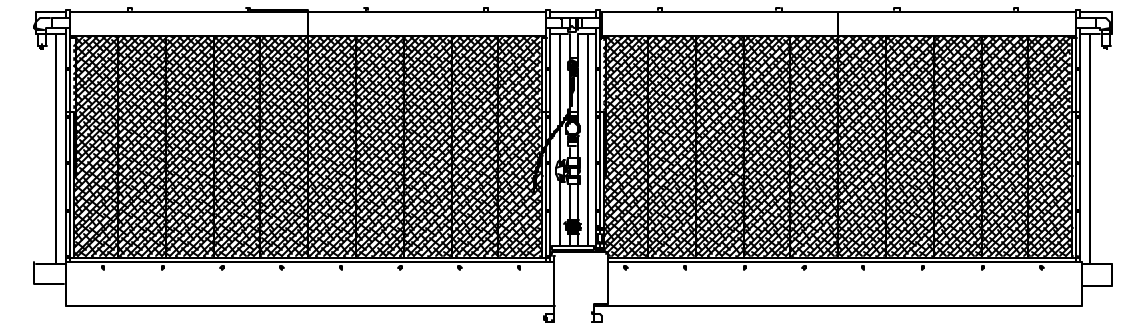


Turbo Cool™

6" Recirculating Evaporative Cooling Installation & Operator's Instruction Manual



Chore-Time Warranty

Chore-Time Equipment ("Chore-Time") warrants each new Chore-Time product manufactured by it to be free from defects in material or workmanship for one year from and after the date of initial installation by or for the original purchaser. If such a defect is found by the Manufacturer to exist within the one-year period, the Manufacturer will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement. Labor costs associated with the replacement or repair of the product are not covered by the Manufacturer.

Conditions and Limitations

1. The product must be installed by and operated in accordance with the instructions published by the **Manufacturer or Warranty will be void.**
2. Warranty is void if **all components** of the system are not original equipment supplied by the **Manufacturer.**
3. This product must be purchased from and installed by an authorized distributor or certified representative thereof or the Warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under the Warranty.
5. This Warranty applies only to systems for the care of poultry and livestock. Other applications in industry or commerce are not covered by this Warranty.

The **Manufacturer** shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to suffer as a result of any defect in the product. "**Consequential**" or "**Special Damages**" as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.

THIS WARRANTY CONSTITUTES THE MANUFACTURER'S ENTIRE AND SOLE WARRANTY AND THIS MANUFACTURERE EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSES SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Chore-Time Distributors are not authorized to modify or extend the terms and conditions of this Warranty in any manner or to offer or grant any other warranties for Chore-Time products in addition to those terms expressly stated above. An officer of CTB, Inc. must authorize any exceptions to this Warranty in writing. The Manufacturer reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

Effective February 2000

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Thank You

The employees of Chore-Time Equipment would like to thank your for your recent Chore-Time purchase. If a problem should arise, your Chore-Time distributor can supply the necessary information to help you.

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***Legend: C = Customer (end user), D = Distributor (sales), I - Installer of equipment**

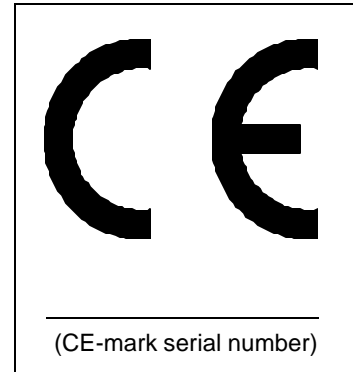
Support Information


The Turbo-Cool 6" Recirculating Evaporative Cooling System is designed to help cool livestock and poultry houses. The system is shipped unassembled. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury.

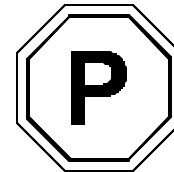
This manual is designed to provide installation, operation, and parts listing information. The Table of Contents provides a convenient overview of the information in this manual. The Table of Contents also specifies which pages contain information for the sales personnel, installer, and consumer (end user).

IMPORTANT: CE stands for certified Europe. It is a standard which equipment must meet or exceed in order to be sold in Europe. **CE** provides a benchmark for safety and manufacturing issues. **CE is required only on equipment sold in Europe.**

Chore-Time Equipment recognizes CE Mark and pursues compliance in all applicable products. *Fill in the CE-Mark serial number in the blank space provided for future reference.*



The  symbol represents Planning. The intent is to draw attention to important planning issues **before** the equipment is installed.



Distributor and Installer Information

Please fill in the following information about your Product.
Keep this manual in a clean, dry place for future reference.

Distributor's Name _____

Distributor's Address _____

Distributor's Phone _____ **Date of Purchase** _____

Installer's Name _____

Installer's Address _____

Installer's Phone _____ **Date of Installation** _____

System Specifications _____

Safety Information

Caution, Warning and Danger Decals have been placed on the equipment to warn of potentially dangerous situations. Care should be taken to keep this information intact and easy to read at all times. Replace missing or damaged safety signs.

Using the equipment for purposes other than specified in this manual may cause personal injury and or damage to the equipment.

Safety–Alert Symbol

This is a safety–alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury. This equipment is designed to be installed and operated as safely as possible...however, hazards do exist.



Signal Words

Signal words are used in conjunction with the safety–alert symbol to identify the severity of the warning.

DANGER indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



DANGER

WARNING indicates a potentially hazardous situation which, if not avoided, **COULD** result in death or serious injury.



WARNING

CAUTION indicates a hazardous situation which, if not avoided, **MAY** result in minor or moderate injury.



CAUTION

DANGER: Electrical Hazard

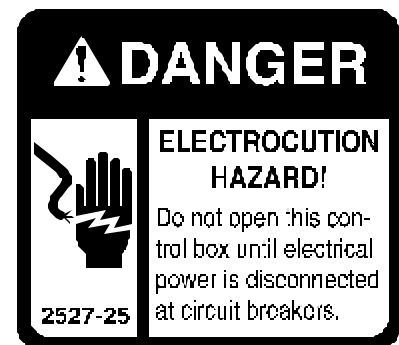
Disconnect electrical power before inspecting or servicing equipment unless maintenance instructions specifically state otherwise.

Ground all electrical equipment for safety.

All electrical wiring must be done by a qualified electrician in accordance with local and national electric codes.

Ground all non-current carrying metal parts to guard against electrical shock.

With the exception of motor overload protection, electrical disconnects and over current protection are not supplied with the equipment.



Tools Required for Installation

Socket Wrench · 1/2" & 5/16" Sockets · Drill and 5/16" Drill Bit · 1/2" Wrench · Teflon Tape

PVC Cement · Utility Knife · Saw

Technical Information



Required water supply:
2.5 gpm per 100 sq. ft. of pad at 110°F 20% Relative Humidity

Supply water pressure:
8 - 140 psi

Water Quality:
6 - 9 PH, salt concentration less than 40,000 ppm

Design Airflow:
Munters Celdek & Glacier Core 45°/15° pad-- 425 cfm/sq. ft.
Munters Mi-T-Cool-- 500 cfm/sq. ft.

Submersible Pump Options								
Pump Part No.	Model	HP	Electrical Specifications					Maximum Pad Length
			Volts	HZ	PH	Start Amps	Run Amps	
38480	6CIA	3/10	220	50	1	7	5	40
38480	6CIA	3/10	230	60	1	7	5	50
44060	6E-CIM	1/3	230	60	1	7	4.8	50
42986	9E-CIM	4/10	230	60	1	9	6	60
42987	10E-CIM	1/2	208/240	60	1	20	5	70
42987	10E-CIM	1/2	208/240	50	1	20	5	35

Important! Chore-Time Equipment strongly recommends that a good alarm system should be installed in confinement buildings to warn of power failure and high temperature.

Chore-Time Equipment also recommends that an alternate power source be available for confinement buildings in case of power failure.

Planning Information

System Layout:

The Sump Assembly may be installed at either end of the system or in the middle.

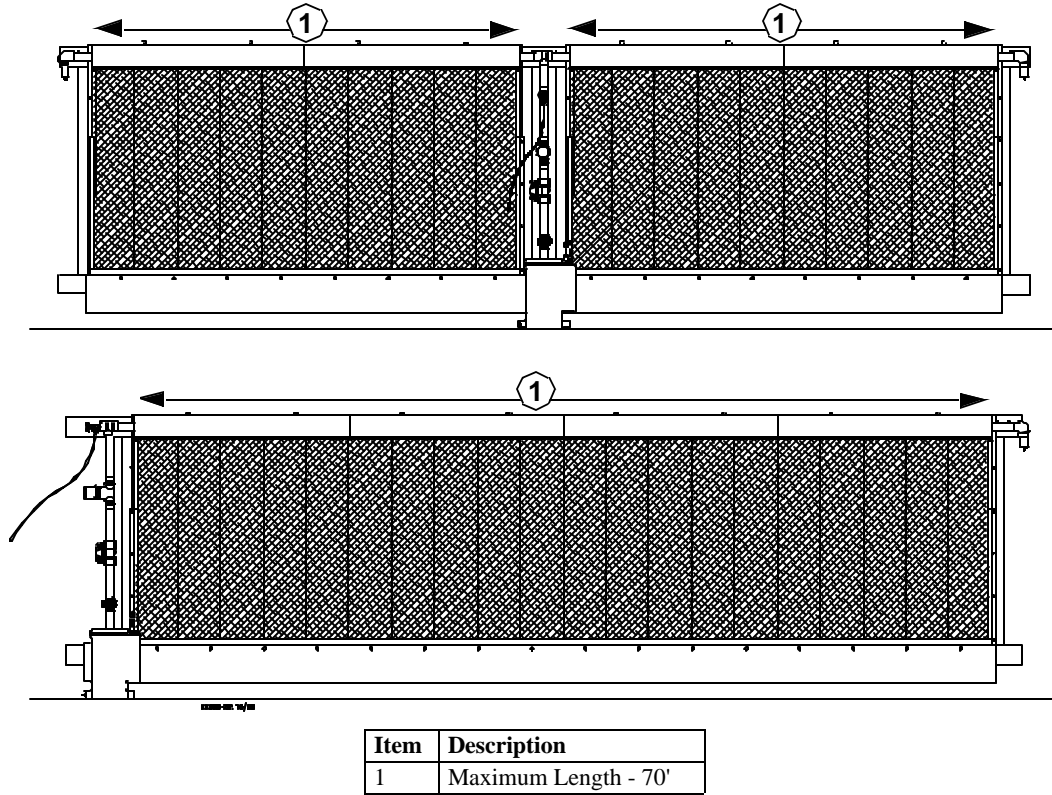


Figure 1. Optional Sump locations

The maximum length of Cooling Pad on either side of the Sump Assembly is 70', if the cooling system is longer than 70' the sump must be installed in the middle of the system.

The maximum amount of slope is 1-1/2" [38 mm] per system. The sump end must be level with, or lower than the rest of the trough.

Framing Information

Figure 2 shows two options for installing the cooling pad relative to the tunnel curtain and provides information for the Evaporative Cooling System opening with Sump on either end. See **Figure 3** for opening information for Evaporative Cooling System with Sump in the middle

It is recommended to frame the Pad opening using treated lumber.

1. Determine the location of the bottom stringer. See **Figure 2, Item 3**.

Use screws to secure the bottom stringer to the studs. The lower Stringer must be capable of supporting 30 lbs/ft [45 kg/m] plus 3 lbs/ft [4 kg/m] for each foot of Cooling Pad Height.

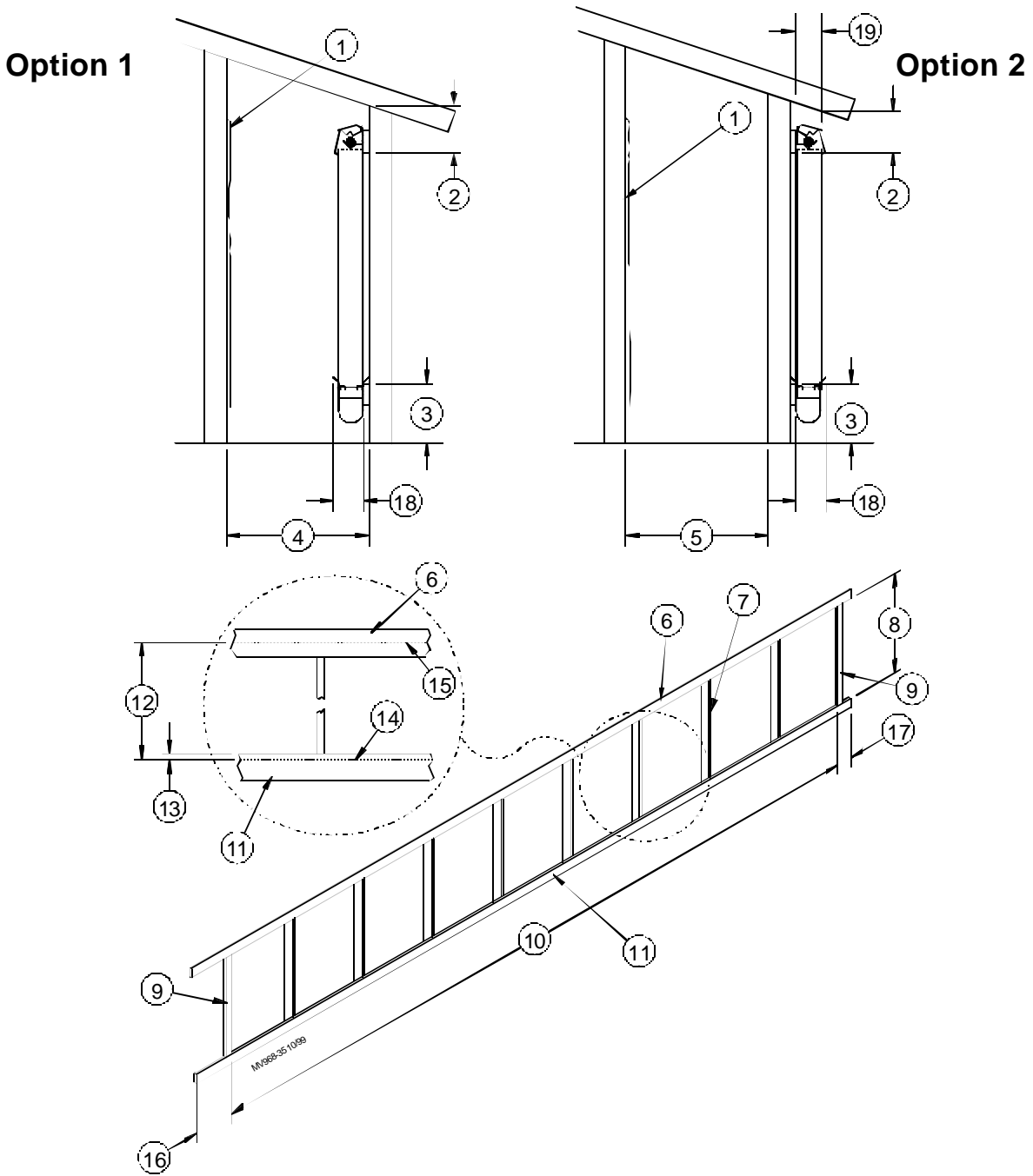
Example: A 6' Cooling Pad requires a Stringer capable of supporting 30 lbs/ft + 3 lbs/ft x 6' = 48 lbs/ft.

2. Determine the location of the top stringer. See **Figure 2, Item 8**. The distance between the top and bottom stringers should be approximately 1-1/2" [38 mm] less than the height of the Evaporative Cooling Pads.

Example: For a 60" [1524 mm] tall Evaporative Cooling Pad the distance between the stringers would be 60" [1524 mm] - 1-1/2" [38 mm] = 58-1/2" [1486 mm].

Note: **The slope (if any) of the top stringer must be the same as the bottom stringer.**

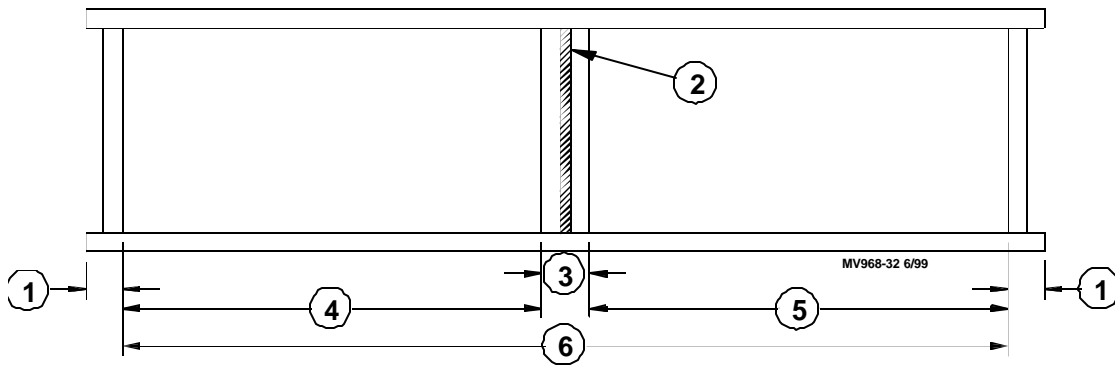
3. Snap a chalk line on the lower stringer at the locations specified in **Figure 2, Item 13**. This chalk line will determine the location of the lag screws for the Trough Supports.
4. Snap a chalk line on the top stringer at the locations specified in **Figure 2, Item 12**. This chalk line will determine the location of the Splash Plate lower holes.



Item	Description
1	Curtain
2	6.5" [165.1 mm] Minimum Clearance
3	14-1/2" [368 mm] Minimum Clearance
4	30" - 36" [762 - 914 mm] Walkway

Item	Description
11	2 x 6" [38 x 140 mm] Bottom Stringer
12	Pad Height plus 2-3/4" [70 mm]
13	1-1/4" [32 mm]
14	Bottom Stringer Chalk Line
15	Top Stringer Chalk Line
16	17" [432 mm] for Sump Assembly
17	6" [152 mm] for Trough End
18	7-1/2" [191 mm]
19	6" [152 mm]

Figure 2. Framing overview diagram (Sump at either end)



Item	Description
1	3" [76 mm] Minimum Clearance for Trough End Cap
2	Cover this opening
3	14" [356 mm]
4	1/2 Total System Length rounded to nearest 5' increment
5	Remainder of Total System Length
6	Total System Length plus 14" [356 mm]

Note: See Figure 2 for all other framing information

Figure 3. Frame opening dimensions for Sump in middle

Evaporating Cooling System Installation

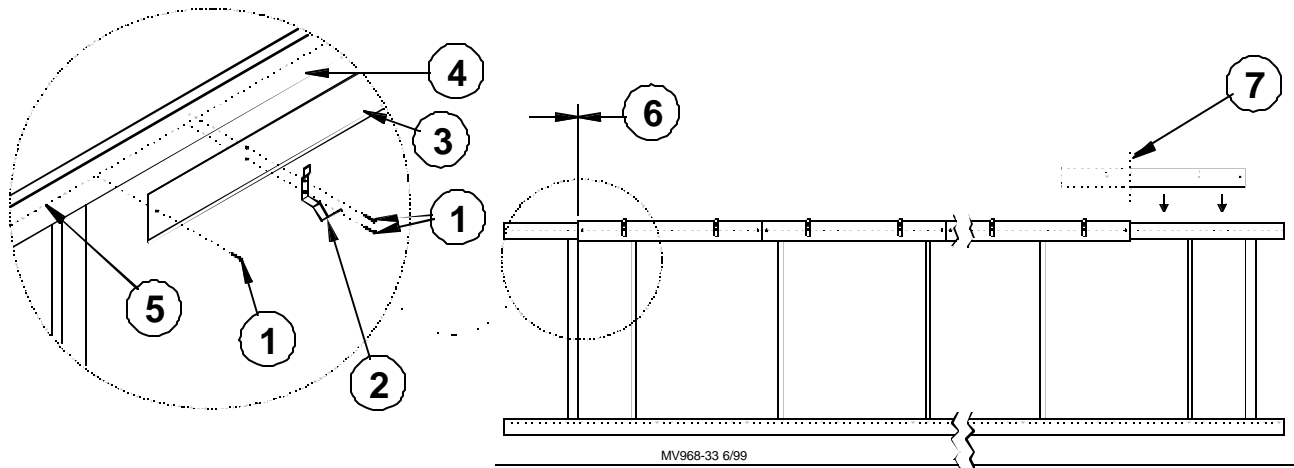
Splash Plate and Pipe Hanger Installation

Note: The end holes in the Splash Plate must align with the chalk line and the end of the first Splash Plate must be flush with the inside of the end framing. See Figure 4.

Secure the Splash Plates to the upper stringer, using a 10x1-1/4" screw at each end.

Secure the Pipe Hangers to the stringer, through the Splash Plate, using (4) 10x1-1/4" screws. The lower hole in the Pipe Hanger should align with the chalk line on the stringer.

Hang remaining Splash Plates butting them tightly end to end. If the last Splash Plate is too long to fit within the end framing, cut as shown in **Figure 4**.



Item	Description
1	10 x 1-1/4" Screw
2	Pipe Hanger
3	Splash Plate
4	Upper Stringer
5	Chalk Line
6	Flush with edge of end framing
7	Cut here if too long

Figure 4. Splash Plate & Pipe Hanger Installation

Sump Installation

Install a Platform (not supplied) to support the Sump 13-1/4" (337 mm) below the Chalk Line on the Bottom Stringer. See **Figure 7**.

Determine which side of the Sump will need to be modified before installation. If the Sump is to be installed to the right of the Trough, the left side of the Sump will need to be cut at the indicated cut line. If the Sump is to be installed to the left of the Trough, the right side of the Sump will need to be cut at the indicated cut line. To install the sump in the middle of the system, cut both Trough End Caps off the Sump. See **Figure 5**.

NOTE: The end(s) that are cut off will be used for the Trough End Cap(s).

Decide which side of the Sump will be used for the drain and cut off the end.

NOTE: Make cut for one drain only.

Install the 1-1/2" Drain Plug.

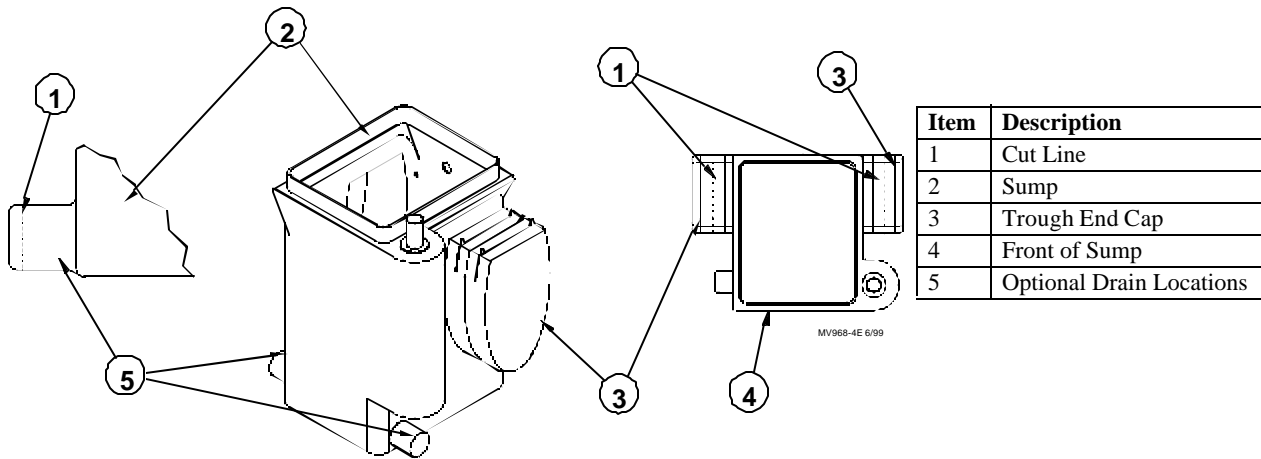


Figure 5. Cutting the Sump

Slide Trough Inserts into place on the end of the Sump that will be attached to the Trough and in the Trough End Cap. Place the self adhesive tape around the ends with the inserts.

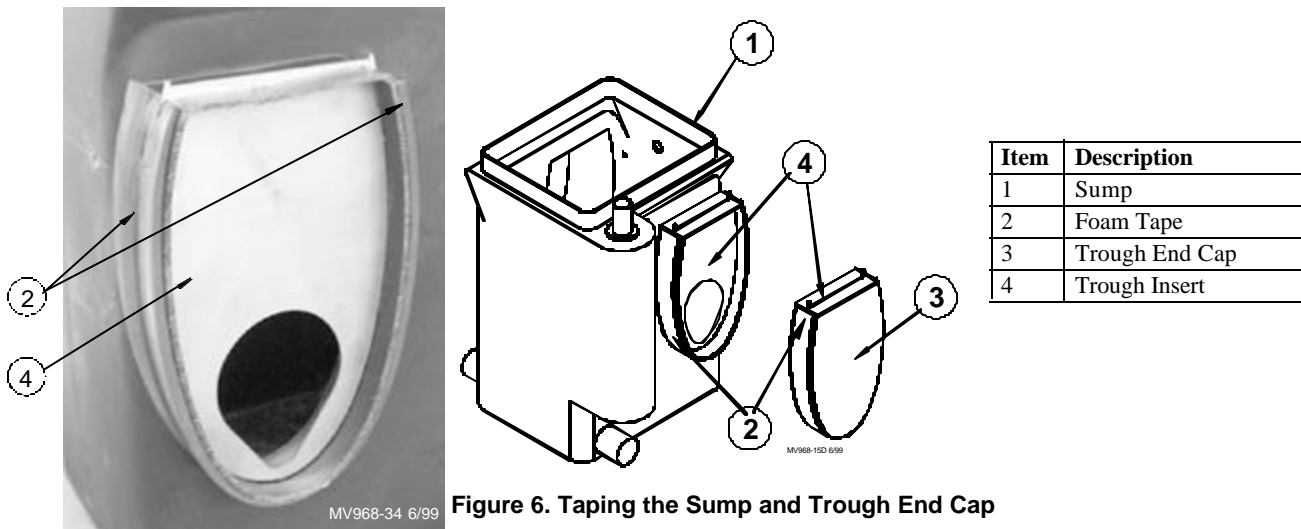


Figure 6. Taping the Sump and Trough End Cap

Align the two 1/4" holes in the rear of the Sump with the two 1/4" holes in the Sump Support. Attach the Sump and Sump Support to the Bottom Stringer with the two 1/4x1-1/2" Lag Screws. The Lag Screws should line up with the chalk line on the Bottom Stringer and the edge of the Sump should line up with the edge of the framed opening.

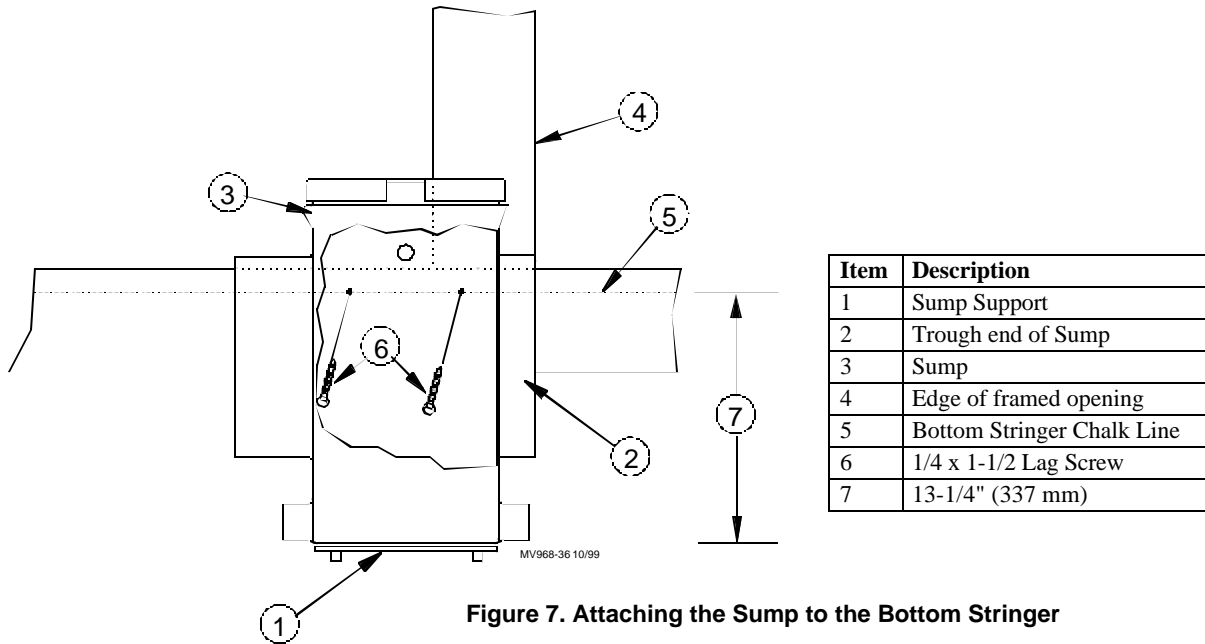


Figure 7. Attaching the Sump to the Bottom Stringer

Trough Installation

Uncoil the Trough Material. Note the location of the holes in the Trough. Orient the Trough with the top hole to the left of the bottom hole. See **Figure 8, Item 6**

Hang the Trough from the Bottom Stringer beginning with one end of the Trough Material against the sump. Hang the Trough and Trough Supports using the provided 1/4 x 1-1/2" Lag Screws. The chalk line and the holes in the Trough Material provide the position for each of the Trough Supports. Repeat the process until all of the Trough Supports are installed. Wipe the inside of the Trough at each end to remove debris that may prevent sealing.

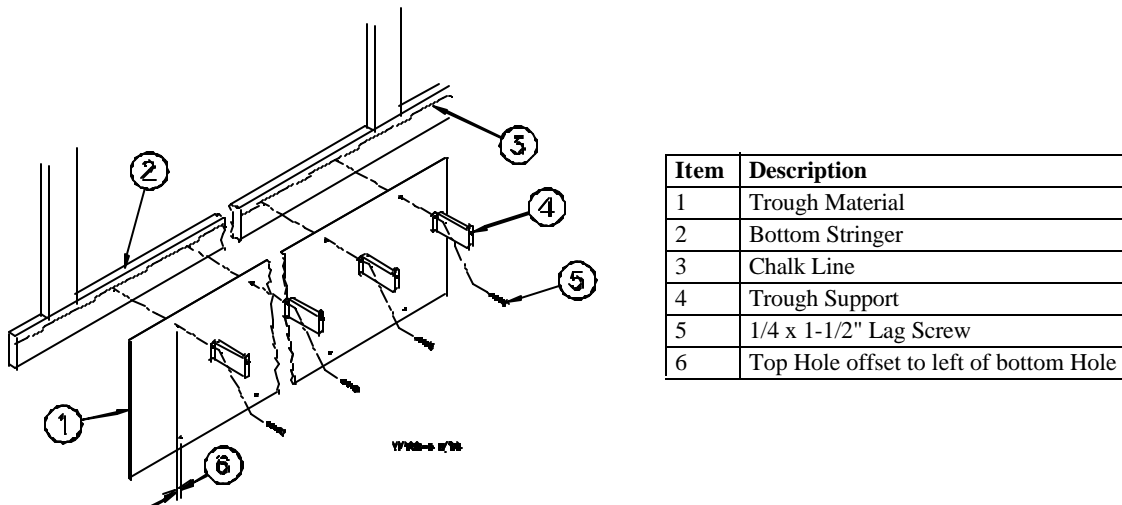
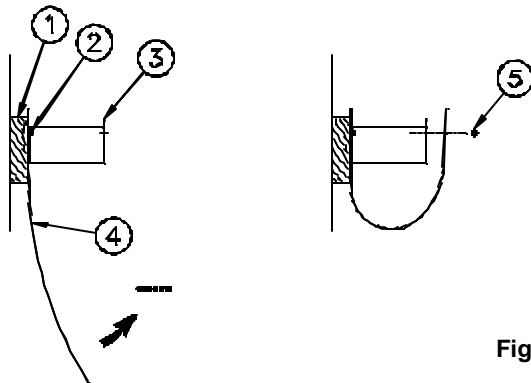


Figure 8. Installing the Trough

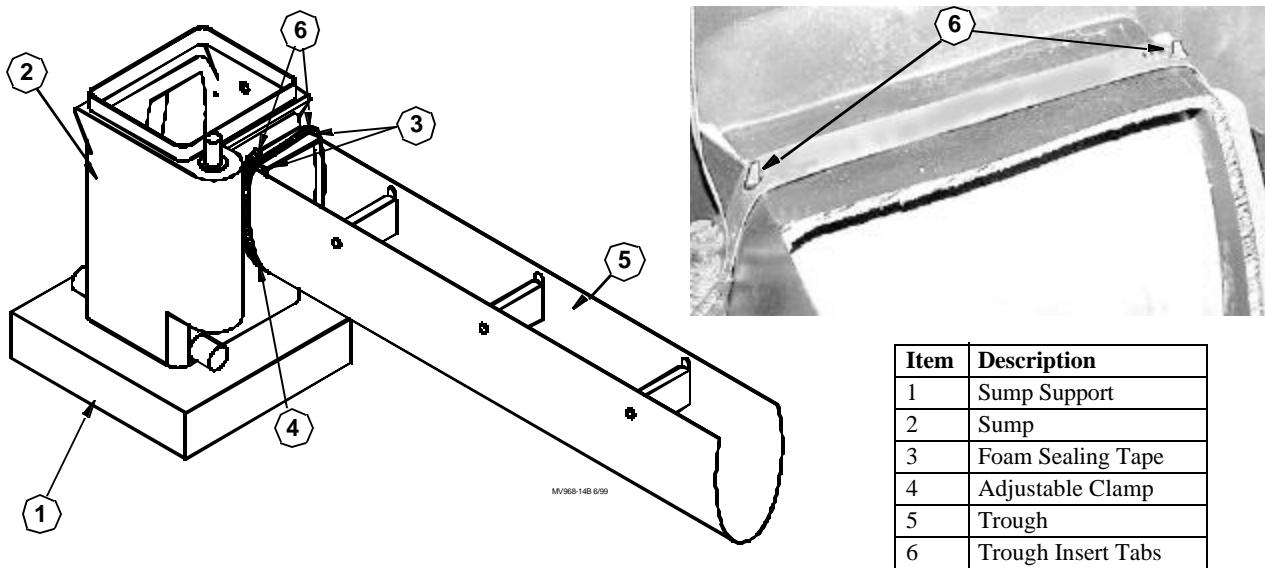
Form the Trough into a "U" shape as shown in **Figure 9** and fasten the Trough to the Trough Support using the 1/4" Drive Rivets. Insert the 1/4" Drive Rivet through the hole in the Trough and the Trough Support. Use a hammer to hit the 1/4" Drive Rivet head to lock it in place. Repeat the process for each Trough Support.



Item	Description
1	Bottom Stringer
2	1/4 x 1-1/2" Lag Screw
3	Trough Support
4	Trough Material
5	1/4" Drive Rivet

Figure 9. Forming the Trough

At the Sump end use an Adjustable Clamp to fasten the Trough to the Sump. The trough should butt up against the sump. Align holes in the clamp with tabs on the trough insert. Tighten the clamp over the metal trough insert. Be sure to orient the Adjustable Clamp as shown in **Figure 10**.



Item	Description
1	Sump Support
2	Sump
3	Foam Sealing Tape
4	Adjustable Clamp
5	Trough
6	Trough Insert Tabs

Figure 10. Attaching the Trough to the Sump

Use the Trough End Cap, that was cut from the Sump, to plug the open end of the Trough. Align the holes in clamp with tabs on the trough insert. Tighten clamp over the metal trough insert. Be sure to orient the Adjustable Clamp as shown in **Figure 13**.

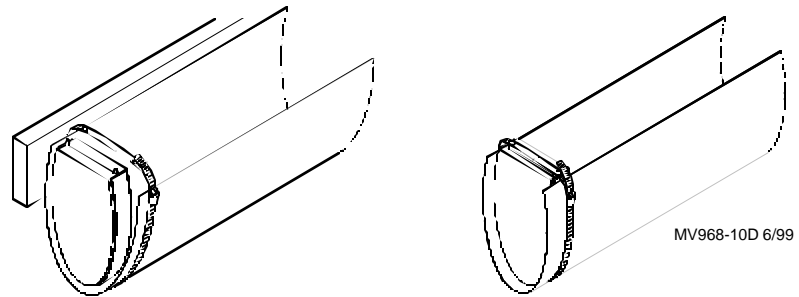
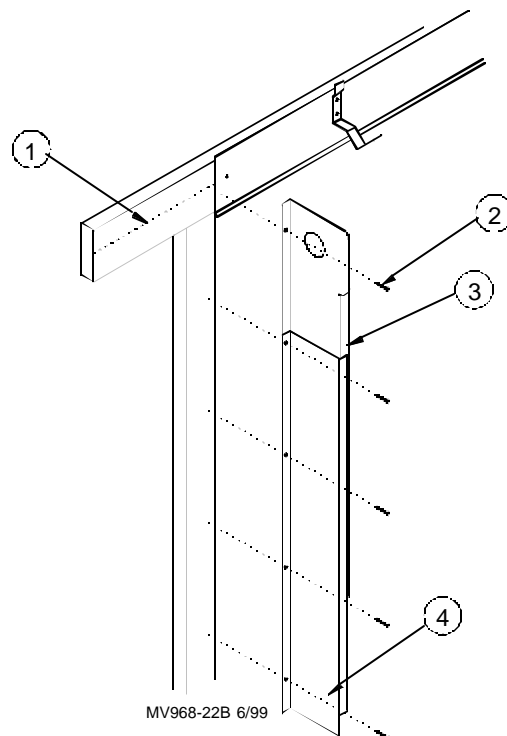


Figure 11. Installing the Trough End Cap

End Panel Installation

Install the End Panels flush with the inside of the opening (at both ends).

1. Locate the top mounting hole (in the flange of the Upper End Panels) on the chalk line. This will properly align the hole for the Distribution Pipe with the Pipe Hangers. See **Figure 12**. Secure the Upper End Panels to the top stringer using the 10x1-1/4" Screws, as shown in **Figure 12**.
2. The Lower End Panels should overlap on the outside of the Upper End Panels to provide proper watershed.
3. Align mounting holes in the upper and lower end panels and secure the end panels to the frame using the 10x1-1/4" Screws.



Item	Description
1	Chalk Line on top stringer
2	10 x 1-1/4" S.S. Screw
3	Upper End Panel
4	Lower End Panel

Figure 12. End Panel Installation

Distribution Pipe Installation

1. Set a Distribution Pipe on the Pipe Hangers above the inlet end of the Trough.

Note: The belled end must be away from the sump end. See Figure 13.

2. Assemble the Distribution Pipes by inserting the straight end of one pipe into the belled end of another. It is not necessary to glue the Distribution Pipes together.

IMPORTANT: The spray holes, in the Distribution Pipes, MUST all be aligned and pointing straight up.

3. Verify that the spray holes are in alignment, then install a 10 x 1/2" S.S. Screw at each bell to secure the pipes together.
4. **Sump End:** The distance from the End Panel to the end of the pipe bell should be approximately 10-1/2" [26.6 cm]. See Figure 13, Item 9

The Pipe should extend past the opposite end End Panel.

5. Install a 1/4 x 1/2" Screw in each spray hole that falls outside the End Panels (at either end).
6. **Bleed-Off Valve and sediment trap installation:** At the end of the Distribution Pipe, opposite the sump end, install the PVC fittings as shown in Figure 13. Use two pieces of 1-1/2" PVC pipe cut 6"-12" long. For systems with the Sump in the center of the system, Bleed-Off Valve fittings are installed only at one end of the Distribution Pipe.
7. **Bleed-Off Hose:** Route the Bleed-Off Hose to a drain for waste water. **Do not** run the Bleed-Off Hose back into the Trough..

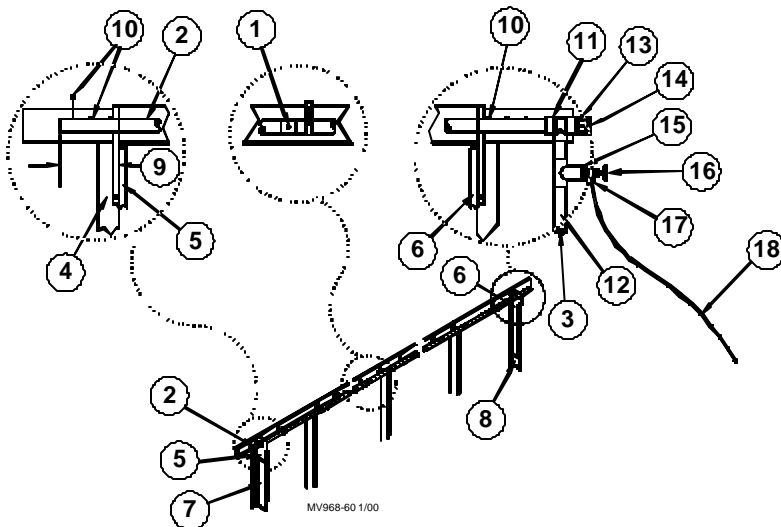


Figure 13. Distribution Pipe Installation

Item	Description
1	10 x 1/2" S.S. Screw
2	5' Distribution Pipe
3	1-1/2" Mechanical Gripper Plug
4	Framing
5	Upper End Panel (R.H)
6	Upper End Panel (L.H.)
7	Lower End Panel (R.H.)
8	Lower End Panel (L.H.)
9	10-1/2" [26.6 cm] Approximately
10	1/4 x 1/2" Screw
11	2" x 1-1/2" PVC Tee
12	1-1/2" PVC Pipe Sediment Trap
13	Adapter, 2" PVC SPIG x FIPT
14	Plug 2" PVC MPT
15	Bushing Reducer 1-1/2" x 3/4"
16	3/4" Water Bleed-off Valve
17	Hose Barb Cap
18	1/4" Bleed-off Hose

End Panel Support Installation



Figure 14. End Panel Support Installation

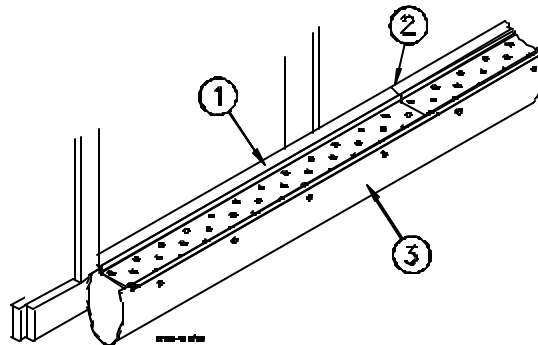
Install the End Panel Support using #10 x 1-1/4 screws, as shown **Figure 14**. The End Panel Supports hold the End Panels perpendicular to the Top Stringer.

Pad Support Installation

Set the Pad Supports on the Trough Supports, as shown in **Figure 15**. The front edge of the Trough should be captured inside the cavity on the front of the Pad Support.

Butt the Pad Supports end to end, beginning at one End Panel. It may be necessary to trim the length of the last Pad Support. The Pad Supports should extend to both End Panels.

Note: Sump components and End Panels not shown for clarity.

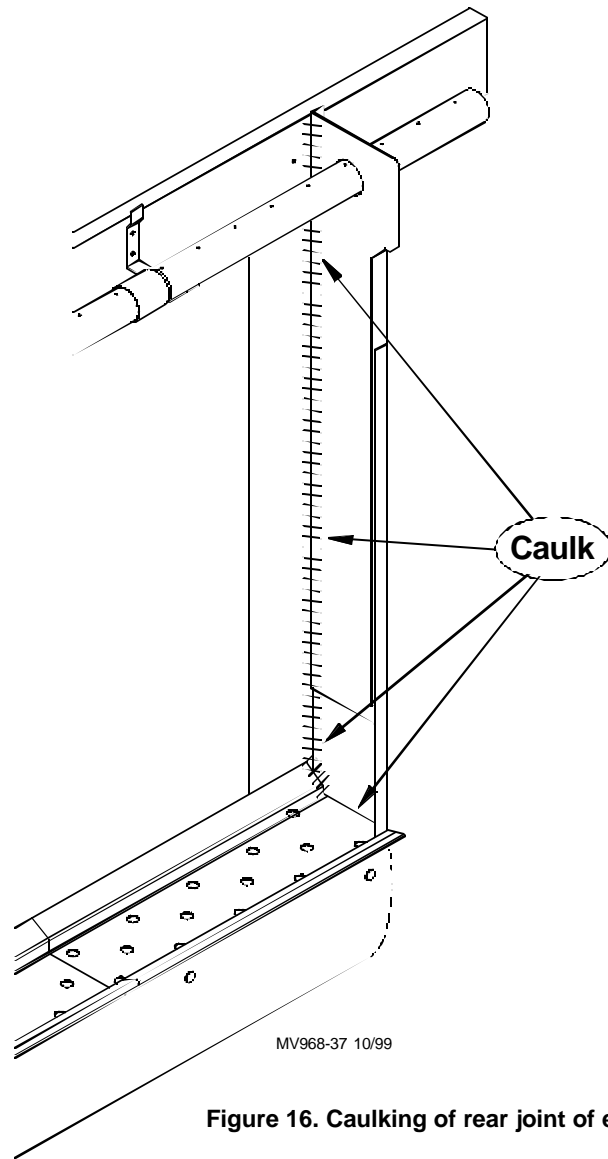


Item	Description
1	Pad Support
2	Pad Supports butted together
3	Trough

Figure 15. Pad Support Installation

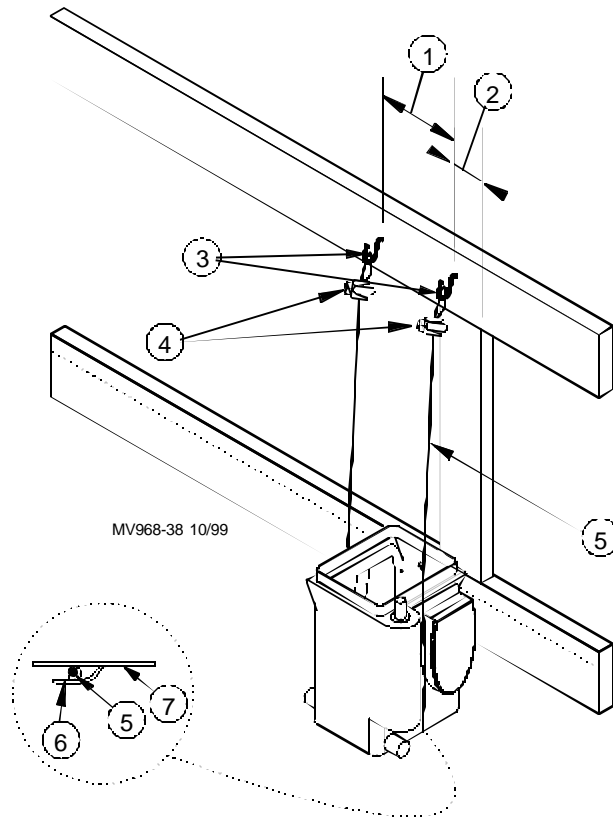
Caulking of End Panel

Fill the joint at the rear of each end panel with caulking (not supplied) as shown in **Figure 16** below.



Cable Installation

- Install screw hooks, cable and cable clmps as shown in **Figure 17** below.
- Hook cable tabs on the sump support
- Tension the cable so bottom of sump is level.

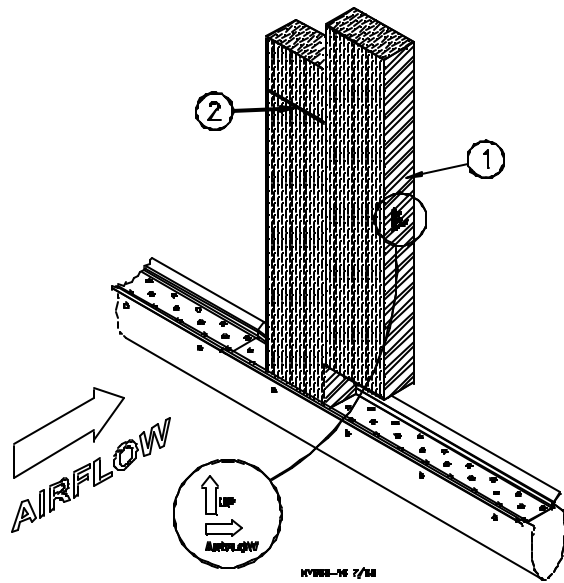


Item	Description	Part No.
1	11" spacing between hooks	
2	1.5" from outer edge of 2x4 to first hook	
3	Screw Hook	1214
4	Cable Clamps	14898
5	Support Cable	44582
6	Tab in Sump Support	
7	Sump Support	44512

Figure 17. Sump Support Cable Installation

Evaporative Cooling Pad and Cover Installation

- Beginning at one end, set the Evaporative Cooling Pads on the Pad Supports. See **Figure 18**. The top of the Pads should be against the Splash Plate and directly below the Distribution Pipe.
- Make sure the Pads are properly oriented.
- **MUNTERS Pads:** Refer to the directional arrows on the side of the pads.
- **GLACIER Pads:** May have a blue stripe which indicates the top end of pads and the air inlet side of the pads.
- If no stripe is present, refer to **Figure 19** to determine the proper pad orientation based on the direction of the pad flutes vs. direction of incoming air flow.
- Begin installing pads at either end.
- Make sure the first pad is against the End Panels.
- Push Pads tightly together and keep as vertical as possible.



Item	Description
1	Munters Pad
2	Glacier Pad

Figure 18. Pad Installation

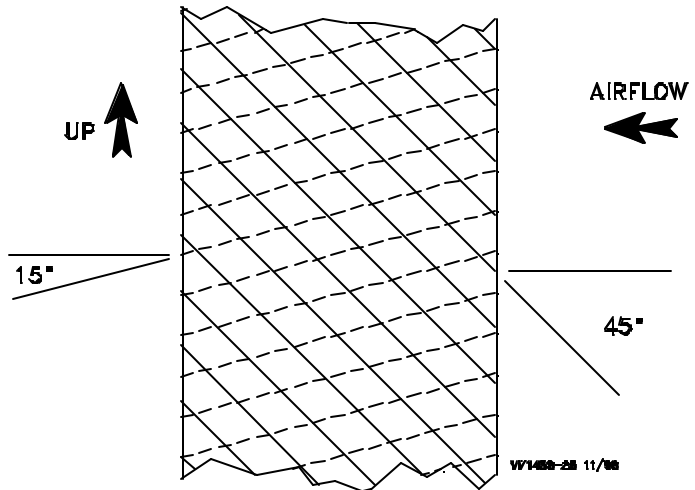
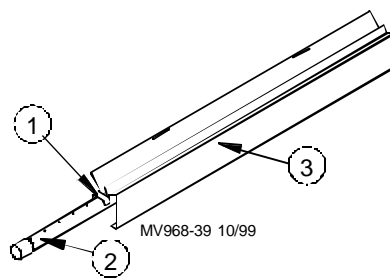


Figure 19. Pad Orientation (cut-away view of side of Pad)

- Set the Covers on the Pipe Hangers, as shown in **Figure 21**, Step 1.
- Slide the Cover Locks onto the Pipe Hangers, as shown in **Figure 21**, Step 2.
- If a hole in the Distribution Pipe aligns with a seam between covers install a Jet Deflector over the hole as shown in **Figure 20**.
- Repeat steps 1-3 until all the Evaporative Cooling Pads are installed. The Covers should butt end to end.
- The Evaporative Cooling Pads may be trimmed as required using a handsaw, to fit inside the End Panels.



Item	Description
1	Jet Deflector
2	Distributiun Pipe
3	Cover

Figure 20. Jet Deflector

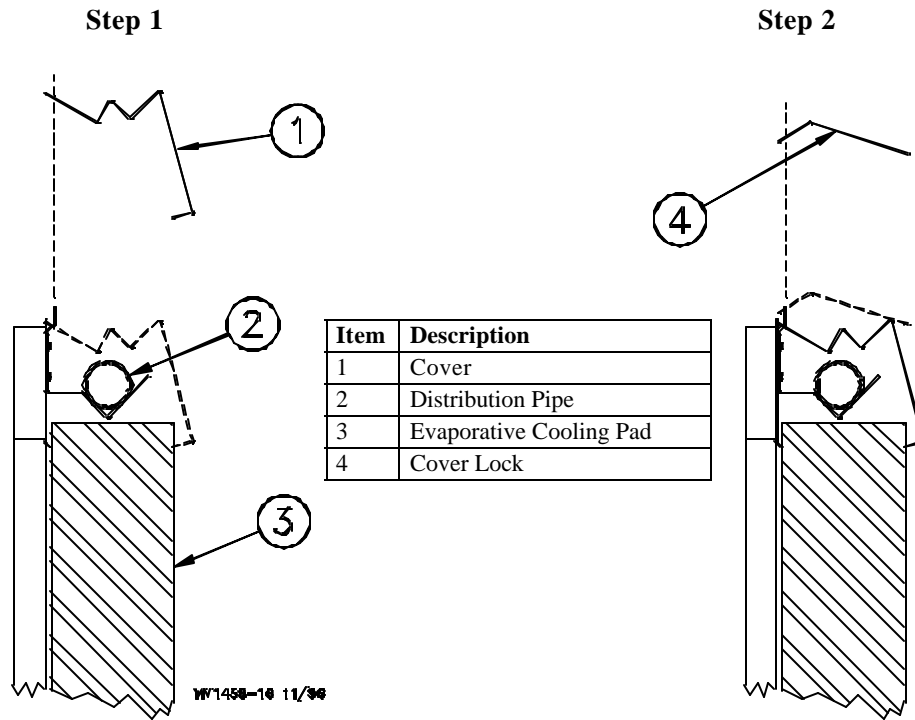


Figure 21. Cover and Cover Lock Installation

- If the last Cover is too long, trim the Cover as shown in **Figure 22** and overlap it with the previous Cover. Use (2) 10x1/2" Screws to join the Covers together.

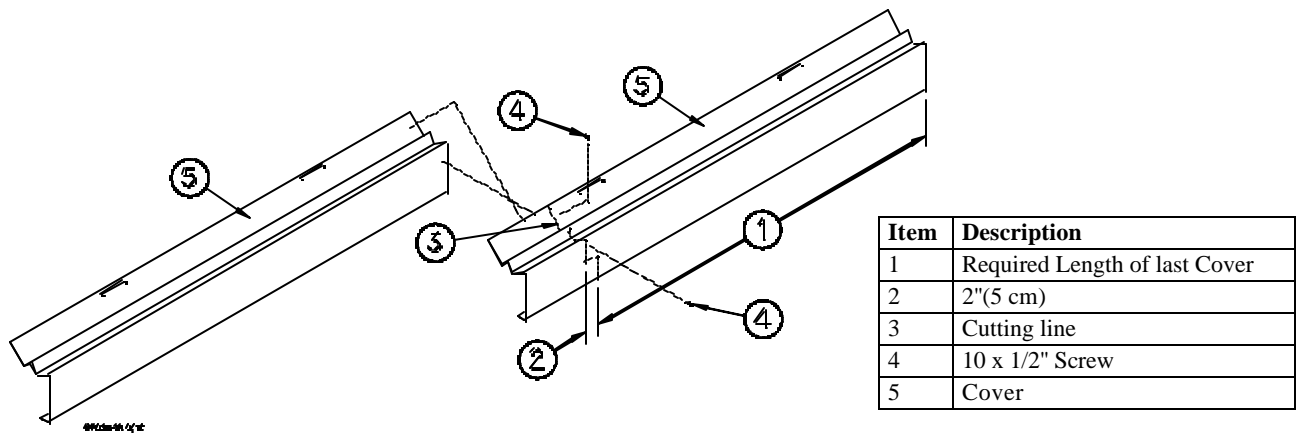


Figure 22. Cover Trimming and Assembly

Sump Components Installation

Assemble the Sump Components as shown in **Figure 23**, beginning at the Pump. The lengths of 1-1/2" PVC Pipe **Item 6** will vary depending on desired Valve height, pad height, etc.

Use teflon tape on threads as required. Use PVC glue on slip connections.

Attach an electrical plug (not supplied) to the Sump Pump electrical cord.

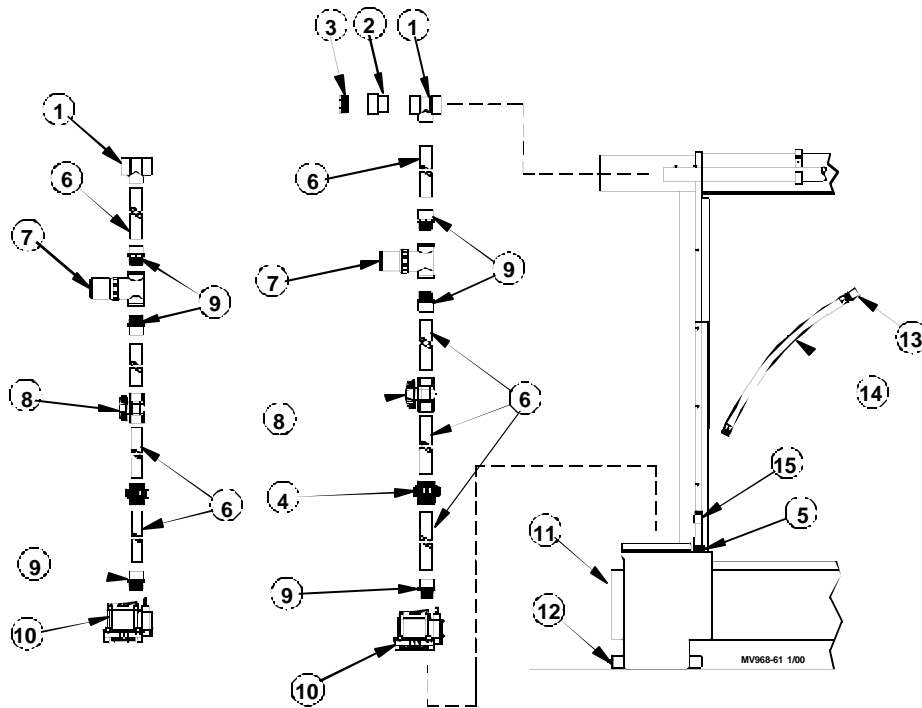
Note: For pumps with water level safety switch make sure the vent hose inside the electrical cord is not obstructed.

Route the 1/4" Black Bleed Off Hose to a drain for waste water. Do not run the bleed off hose back into the sump or trough.

Flush all dirt from the water supply lines. Install the Garden Hose to the water supply and connect to the inlet on the Sump.

Sump in Center

Sump on End



Item	Description
1	1-1/2 x 2 x 2" PVC Tee
2	Adapter, 2" PVC Spig x Fipt
3	Plug 2" PVC Pipe MPT
4	1-1/2" Union
5	Water Level Adj. Hose Clamp
6	1-1/2" PVC Pipe
7	Strainer
8	1-1/2" PVC Valve
9	1-1/2" PVC Adapter

Item	Description
10	Sump Pump
11	Sump
12	1-1/2" Mechanical Gripper Plug
13	Garden Hose to 3/4" Pipe Adapter
14	Water Supply Inlet Hose
15	Sump Water Inlet

Figure 23. Distribution Pipe Installation

System Start-Up

1. Partially fill Trough with water.
2. Flush dirt and debris from the Trough by removing the Sump Drain Plug.
3. Refill system with water. Adjust water level by loosening the Water Level Hose Clamp and raising the Float Assembly to the beginning water level of 10" to 11" [254 mm to 279 mm].

Note: After the system runs for a while and turns off the water level will rise 1.5-2.0" above the level it was initially set at.

4. Open the valve in the pump discharge pipe.
5. Flush dirt and debris out of the Distribution Pipe by running the Pump with the 1-1/2" Expansion Plug removed from the end of the Distribution Pipe. Replace the 1-1/2" Expansion Plug in the Distribution Pipe.
6. With the Sump Pump running, adjust the 1-1/2" Ball Valve so the height of the water jets is 3-1/2" to 5" [89 mm to 127 mm] above the top of the Distribution Pipe.
7. If bleed-off is to be used, Adjust the Bleed Off Valve to a flow rate of .25 gpm per 100 sq ft. of Evaporative Cooling Pad.

The correct amount of bleed-off depends on the amount of minerals and chemicals in the water.

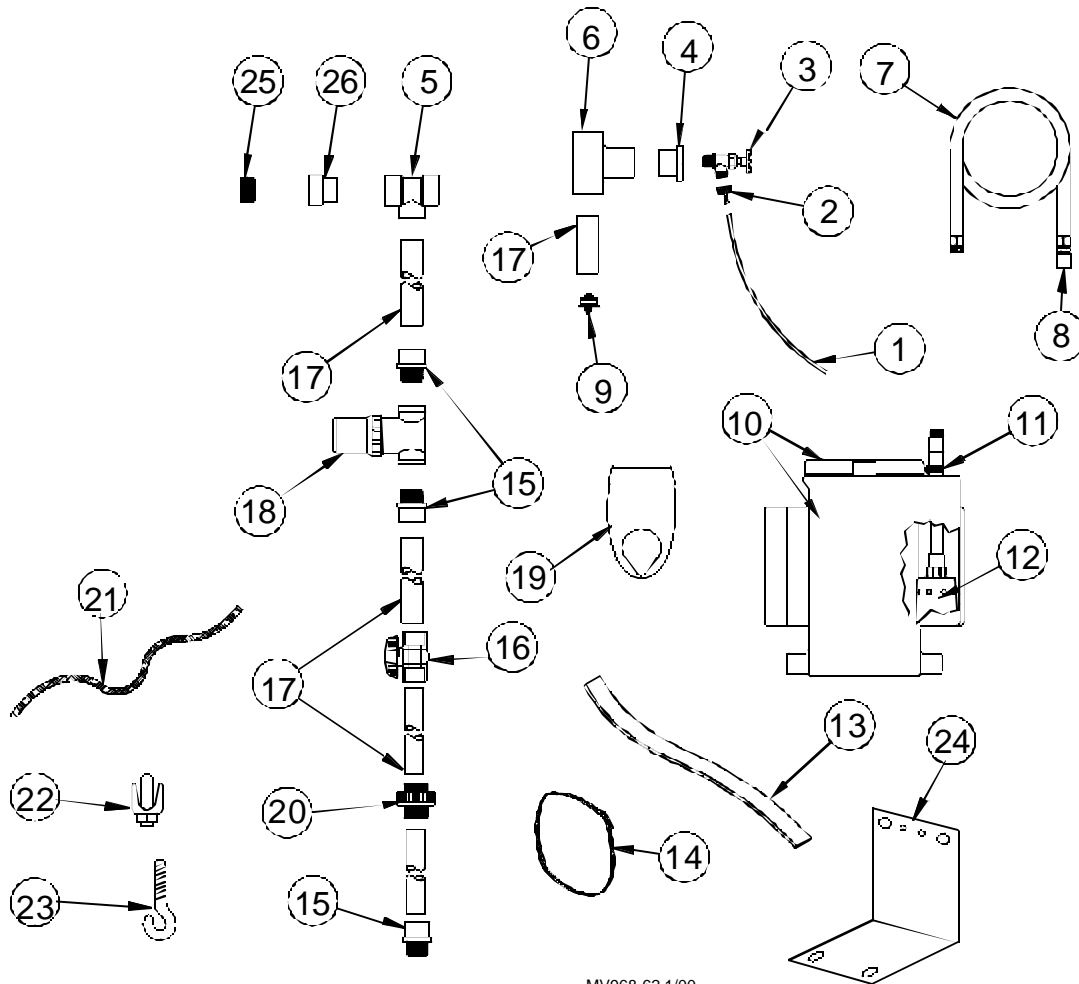
The bleed off rate can be adjusted over time, but should be maintained high enough to prevent deposits on the face of the Evaporative Cooling Pad.

System Operation & Maintenance

1. Reduce the mineral and chemical build-up in water by;
 - a). Bleeding water off the system. Begin by adjusting the Bleed-Off Valve to drain .25 gpm/100 sq ft. of Cooling Pad while the Pump is running. Increase the bleed-off rate if minerals build up on the face of the Cooling Pad
 - b). Draining all the water from the system once a week during operating season. Increase the frequency if minerals build up on the face of the Cooling Pad.
2. Shade the pads as much as possible to minimize algae growth.
3. Allow the pads to dry out completely once every 24 hours to kill algae.
4. Reduce the number of times the pad is wetted and dried out each day to maximize pad life.
5. Clean the strainer regularly to maintain a sufficient supply of water to the pads.
6. Periodically check the jets of water from the top of the Distribution Pipe. The jets should spray approximately 3-1/2" to 5" [89 mm to 127 mm] straight upward.
7. Keep the Distribution Pipe holes free of debris. Use a 5/32" drill bit to clean plugged holes. Clogged holes may cause dry streaks and lead to clogging of the pad.
8. Every three months, the entire water system should be drained, disinfected and flushed to help prevent algae growth.
9. If algae cannot be controlled by shading, disinfecting and using the Bleed Off Valve, a quaternary amine can be added to the water to prevent algae growth, do not use chlorine, bromine or any oxidizing biocide.
10. Regularly flush the Distribution Pipe by removing the 1.5" plug at the end of the pipe and allowing the pump to run.
11. Periodically, gently hose and brush deposits from the face of the pads.
12. Completely drain the system for winter storage. Remove the Sump Drain Plug. Remove the Pump.
13. Avoid contaminants such as dust, fertilizers, and harsh cleaners.
14. The pH of the water being circulated through the system should be maintained at between 6 and 9 to prevent premature pad softening.
15. Check that Cooling Pads are installed correctly. See **Figure 21** and **Figure 22**.
16. Periodically check and clean the Screen on the inlet of the Water Float Valve. If the Water Float Valve fails to shut off the flow of water, disassemble and clean the valve. Check that the holes in the center of the Valve Diaphragm and Housing are not plugged with debris.

Parts Lists and Kits

Sump Kit Part No. 41480



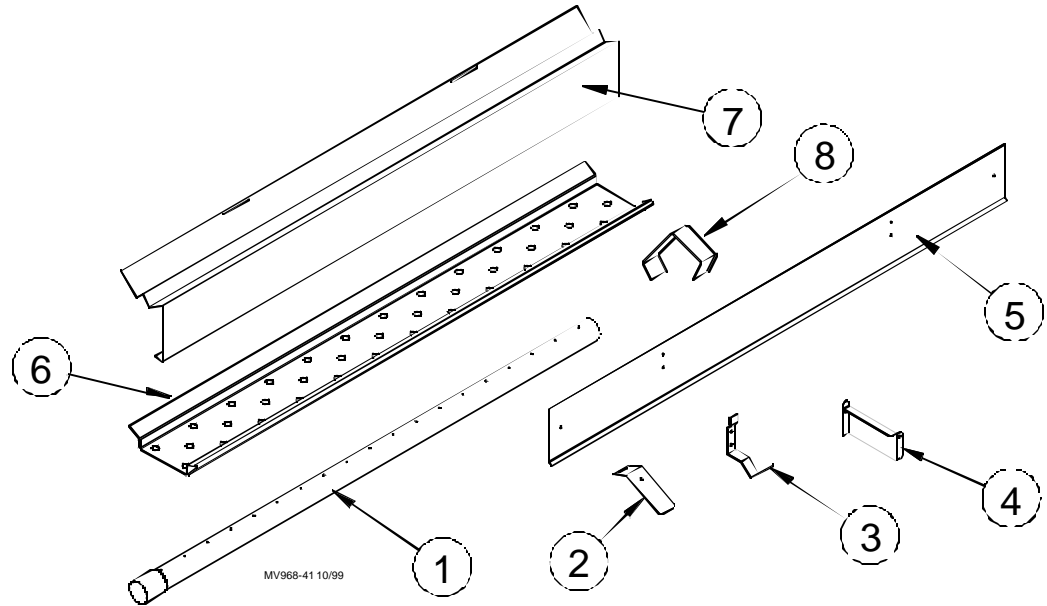
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Item	Description	Part No.	Qty
1	1/4" Black Bleed Off Hose	14454-144	1
2	Hose Barb Cap	24111	1
3	3/4" Bleed-off Valve	9255	1
4	1-1/2" x 3/4" Reducer Bushing	38672	1
5	1-1/2 x 2" x 2" PVC Tee	41427	1
6	1-1/2" PVC Tee	38618	1
7	Hose	36654	1
8	Garden Hose to 3/4" Pipe Adp.	14605	1
9	1-1/2" Drain Plug	38476	2
10	Turbo Cool Sump	44601	1
11	1-1/2" SS Hose Clamp	3651	1
12	Water Float Valve	40478	1
13	1-1/2 x 24" Foam Tape	41708-2	2
14	10" SS Hose Clamp w/Holes	44375	2

Item	Description	Part No.	Qty
15	1-1/2" PVC Adapter	38627	3
16	1-1/2" PVC Valve	44039	1
17*	1-1/2 x 5' PVC Pipe	38677	2
18	Strainer	38731	1
19	Trough Insert	44038	2
20	1-1/2" Union	44040	1
21	Cable 15'	44528	1
22	Cable Clamp	14898	2
23	Screw Hook	1214	2
24	Sump Support	44512	1
25	Plug 2" PVC MPT	45749	2
26	Adapter 2" PVC Spig x FIPT	45748	2

* The 5' PVC Pipe is not supplied with the 6" Evaporative Cooling End Kit. It is included with the 6" Evaporative Cooling End Panels Kit (Part No. 41482)

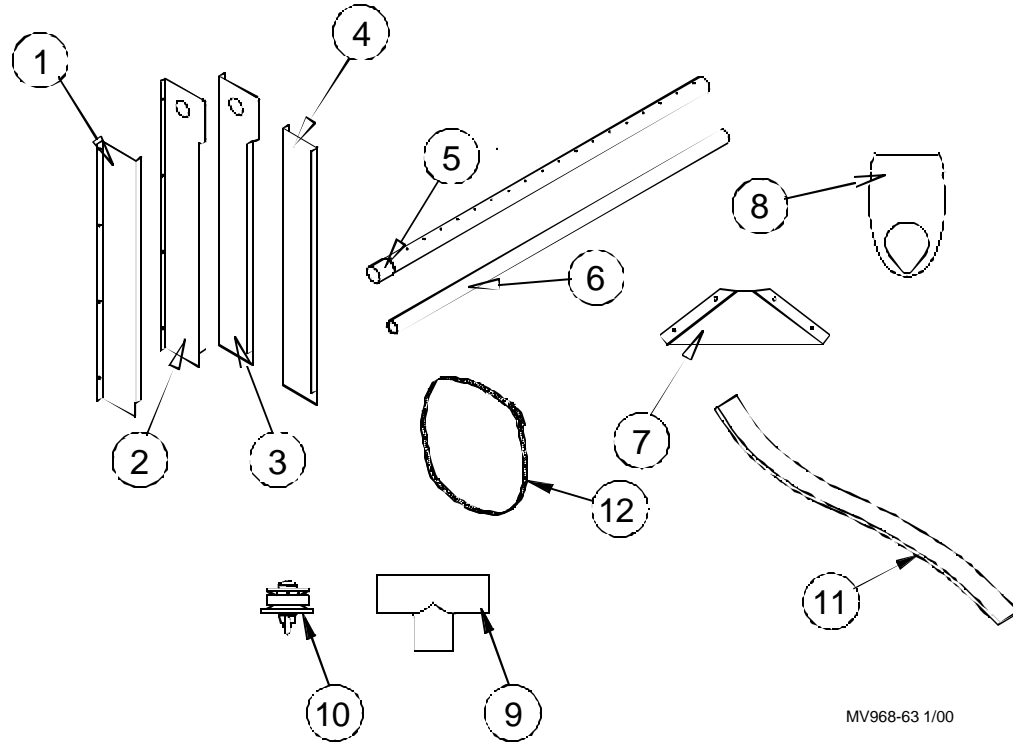
Distribution Kit Part No's. 41481-5 and 41481-20



Item	Description	Part No.	Qty 5'	Qty 20'
1	2 x 5' Distribution Pipe	41333	1	4
2	Cover Lock	38352	2	8
3	Pipe Hanger	38351	2	8
4	Trough Support	41345	4	16
5	Splash Plate	38357	1	4
6	Pad Support	41344	1	4
7	Evaporative Pad Cover	38355	1	4
8	Jet Deflector	44526	1	4
--	1/4 x 1-1/2" SS Lag Screw	41561	4	16
--	10 x 1-1/4" SS Screw	36703	6	24
--	10 x 1/2" SS Screw	38613	1	4
--	1/4" Drive Rivet	45697	4	16

*The 41481-5 Distribution Kit includes appropriate components for a 5' evaporative cooling line. The 41481-20 Distribution Kit includes components for a 20' evaporative cooling line.

End Panel Kit Part No. 41482 and Center Panel Kit Part No. 42622

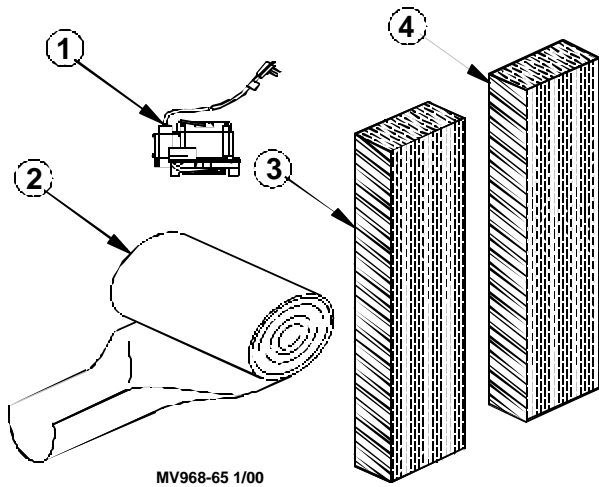


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Item	Description	Part No.	Quantity	
			End Panel Kit	Center Panel Kit
1	Evap. End Lower Panel (L.H.)	38733-2	1	1
2	Evap. End Upper Panel (L.H.)	38356-2	1	1
3	Evap. End Upper Panel (R.H.)	38356-1	1	1
4	Evap. End Lower Panel (R.H.)	38733-1	1	1
5	2 x 5' Distribution Pipe	41333	1	----
6	1-1/2 x 5' PVC Pipe	38677	2	----
7	End Panel Support	44391	2	2
8	Trough Insert	44038	----	2
9	2" x 2" x 1-1/2" PVC Tee	41427	----	1
10	1-1/2" Drain Plug	38476	----	1
11	2 x 24" Foam Tape	41708-2	----	2
12	10" Stainless Steel Hose Clamp	44375	----	2
--	10 x 1/2" SS Screw	38613	5*	----
--	10 x 1-1/4" SS Screw	36703	23*	18
--	1/4 x 1-1/2" SS Lag Screw	41561	7*	----
--	1/4" Drive Rivet	45697	5	----
--	1/4 x 1/2" Screw	21119	15*	----

*Includes at least 5 extra pieces to cover any lost hardware.

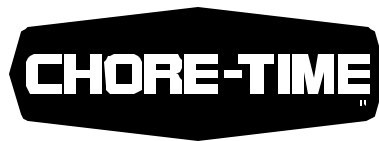
Miscellaneous Components



Item	Description	Part No.
1	Pump (see chart on page 6)	-----
2*	PP Black Trough	42044-X
3	Cooling Pads: Munters Celdek 45°/15°	
	3 foot	38624-3
	4 foot	38624-4
	5 foot	38624-5
	Cooling Pads: Munters Mi-T-Cool 45°/15°	
	3 foot	38751-3
	4 foot	38751-4
	5 foot	38751-5
4**	Cooling Pads: Glacier 45°/15°	
	3 foot	38752-3
	4 foot	38752-4
	5 foot	38752-5
	6 foot	38752-6

*Round up to the nearest 5' Trough lengths are available from 5' to 120' Example: 42044-100 is a 101' roll of Trough, 42044-50 is a 51' roll of trough.

**Blue mark or line is not present on all Glacier Cooling Pads.



**Made to work.
Built to last.**

Revisions to this Manual

Page No.	Description of Change
	Minor corrections have been such as drawing updates, and added detail on some parts listings.

Contact your nearby Chore-Time distributor or representative for additional parts and information.

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