



Floor Watering Systems Operator's Manual

with

Installation Instructions

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Operating Recommendations

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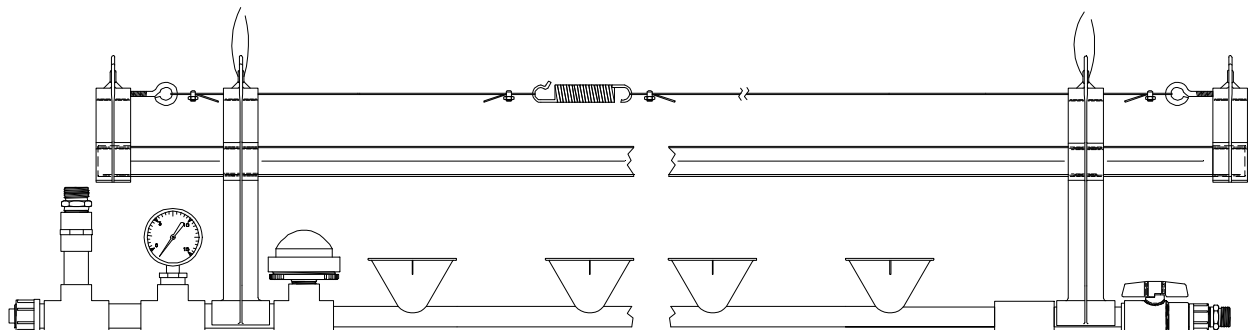
Parts List

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Troubleshooting Guide

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Maintenance Information



MW838-8 2/89

MW838E32

June 1995

WARRANTY INFORMATION

Chore-Time equipment warrants each new product manufactured by it to be free from defects in material or workmanship for one year from the date of initial installation by the original purchaser. If such a defect is found by Chore-Time to exist within the one year period, Chore-Time 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.

Additional extended warranties are herewith provided to the original purchaser as follows:

1. RLX Fans, less motors, for three years from date of installation.
- *2. Poultry feeder pans that become unusable within five years from date of installation. Warranty prorated after three years usage.
3. MEAL-TIME® Hog Feeder pans that become unusable within five years of installation.
4. Rotating centerless augers, excluding applications involving High Moisture Corn (exceeding 18%), for ten years from date of installation. Note: MULTIFLO® and applications involving High Moisture Corn are subject to a one year warranty.
5. Chore-Time manufactured roll-formed steel auger tubes for ten years from date of installation.
- *6. Laying cages that become unusable within ten years. Warranty prorated after three years usage.
- *7. ULTRAFLO® Auger and ULTRAFLO® Feed Trough (except ULTRAFLO® Trough Liners) are warranted for a period of five (5) years from date of original purchase against repeated breakage of the auger or wear-through of the feed trough.

Conditions and limitations:

1. The product must be installed and operated in accordance with instructions published by Chore-Time or warranty will be void.
2. Warranty is void if all components of a system are not supplied by Chore-Time.
3. This product must be purchased from and installed by an authorized Chore-Time dealer 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 this 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.

Chore-Time shall not be liable for any consequential or special damage which any purchaser may suffer or claim to have suffered 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 CHORE-TIME'S ENTIRE AND SOLE WARRANTY AND CHORE-TIME EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Any exceptions to this warranty must be authorized in writing by an officer of the company. Chore-Time reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

*See separate "WARRANTY ADDITION" as to these products

CHORE-TIME EQUIPMENT, A Division of CTB, Inc.
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***Legend: C = Customer • D = Distributor • I = Installer**

IMPORTANT

Check shipment for damages and shortages.

All claims for damages or shortages resulting from shipment must be filed with the carrier.

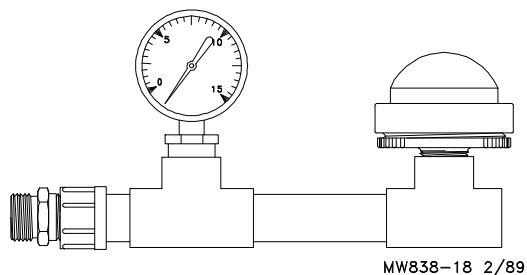
All parts should be ordered by part number and description as given in the parts lists in this instruction manual.

All parts are billed when shipped.

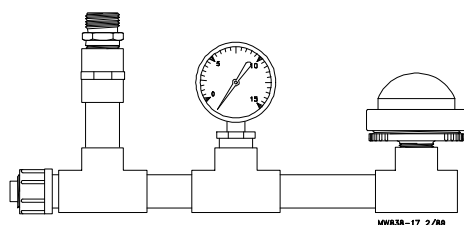
If a returned part is defective and within warranty, credit will be allowed against billing.

Repair parts information for PVC Floor Watering Systems is available on pages 19 through 27.

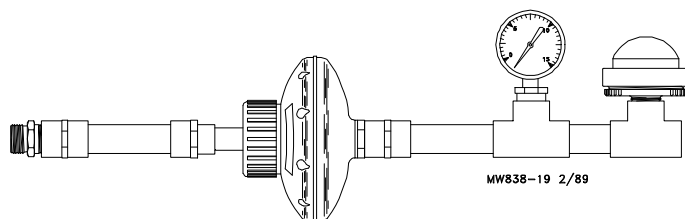
Various Inlets, Outlets, and optional hook-ups are available for full and partial house brooding, mid-line hook-ups, overhead plumbing or other variations to suit the application. Typical installations are shown.



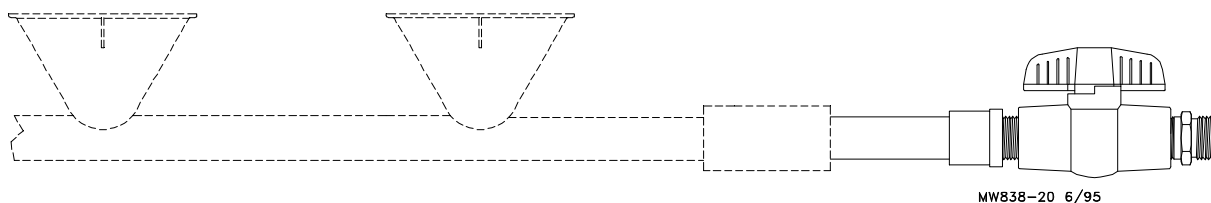
25665 Inlet Assembly (Standard) contains a pressure gauge so that individual line pressures can be monitored. It is also used with the 25666 Continuous Outlet Assembly for partial-house brooding.



25667 Extended Inlet Assembly has a vertical extension pipe for where it is desired to raise the inlet hose above the bird level such as for turkeys. It may only be used with the 8072 Deluxe Cage Control Panel and overhead plumbed systems.



25668 Inlet Hanger Assembly w/Regulator is for use only with the 9275 Filter Control Panel. It contains a regulator and pressure gauge for regulating the individual water line pressure.



25666 Continuous Outlet Assembly is for use where the waterer line must be interrupted to get around a partition or for partial-house brooding. It contains a shut-off valve to shut off water to the section not being used. It is used with a hose to go around the partition and a 25665 Inlet Assembly to continue the waterer line. Cup and Pipe Assembly and Coupler are shown for reference only (not included in 25666 Continuous Outlet Assembly).

Prior to the Installation

It is extremely important to maintain good water quality with any watering system. Good water quality maximizes performance of the equipment, minimizes maintenance and repair, and increases the life of the system.

Pump the well for two days prior to hookup of the system to clear sand, mud, or debris. CHORE-TIME recommends a water test by a reputable water treatment company in the area. Water treatment and/or extra filtration may be required, depending on the water test results.

Incoming water pressure must be 40 p.s.i. (275 kPa) or higher for use with CHORE-TIME equipment.

Incoming water supply should be at least a 1" (25 mm) diameter incoming line (preferably PVC) from a single well. If there are two or more supply wells, the incoming line should be larger. Also, depending on the distance from the well(s) to the Control Panel, larger lines may be necessary.

Installation Instructions

It is suggested that at the beginning of each step, the installer should take time to "lay out" the large parts--channels, pipes, etc.--in the approximate location where they will be used. Hardware, tools, and small components can be conveniently carried in a carpenter's apron. This way they will be at hand when needed.

The following installation procedure is recommended.

1. Control Panel Installation
2. Install the suspension system, Adjustment Levelers, Hangers, and Inlet and Outlet Hanger Assemblies.
3. Install Channel Sections.
4. Install the Cup and Pipe Assemblies.
5. Install hose from the Control Panel to waterer lines.
6. Install Anti-Roost System.

Control Panel Installation

The Filter Control Panel is used to remove foreign material from the incoming water, and if necessary, add medication to the water.

The Regulator and Gauge Assembly is used to reduce the water pressure out of the Filter Control Panel. Adjust the operating pressure as recommended in the Quick Reference Sheet.

The Multiple Outlet Kit is used to provide additional hose hook-ups to supply the waterer lines.

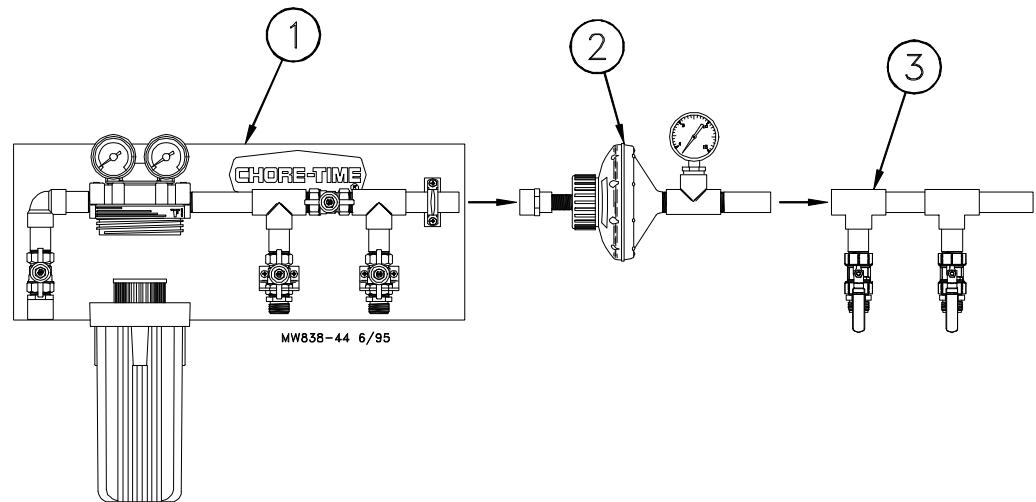
The Filter Control Panel and associated modules should be installed in a convenient location where incoming and outgoing water supply lines can be easily run. The Filter Control Panel must be out of the reach of birds.

The Filter Control Panel is shipped secured to a Mounting Board. The Mounting Board and Filter Control Panel should be secured to a wall or post using lag bolts (not supplied).

The Regulator and Gauge Assembly is shipped un-assembled. Assemble the Regulator and Gauge Assembly components as specified in the instruction (MW1076) shipped with the kit.

The Multiple Outlet Hook-Up Kit is shipped un-assembled. Assemble the components to build a kit, as shown in **Figure 1**. If additional hook-ups are required, they must be ordered separately.

Connect the Regulator and Gauge Assembly to the Filter Control Panel, as shown in **Figure 1**. To avoid air pockets in the system, do not route connecting hoses over objects higher than the Control Panel.



Key	Description
1	Part No. 9275: Filter Control Panel (shipped assembled)
2	Part No. 9042: Regulator and Gauge Module (shipped un-assembled)
3	Part No. 35484: Multiple Outlet Hook-Up Kit (shipped un-assembled)

Figure 1. Control Panel Installation (front view)

Important

Chore-Time recommends an incoming water pressure between 40 p.s.i. (275 kPa) minimum and 125 p.s.i. (859 kPa) maximum for use with the Control Panel.

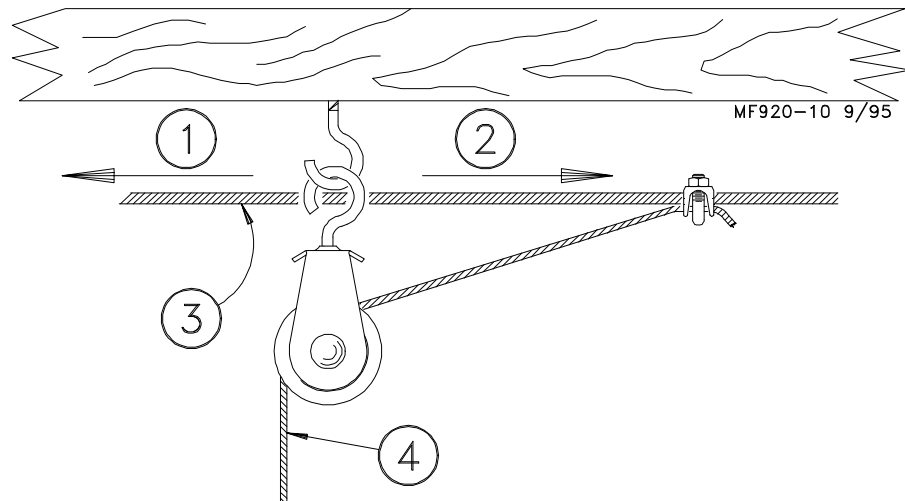
NOTE: FAILURE TO USE PIPE CUTTERS TO CUT THE CHORE-TIME PVC FLOOR WATERING PIPE WILL VOID THE WARRANTY COVERAGE. THE PIPE CUTTERS MUST BE PURCHASED LOCALLY.

For every 28" (711 mm) drop in height, water pressure increases 1 p.s.i. (7 kPa). Therefore, if the Control Panel must be mounted at a different height than the waterer line, this factor must be considered when setting operating pressures at the control panel. Measure the operating pressure at the valve height.

Suspension System Installation

The following installation instructions are for standard installations. For Partial House Brooding the sections can be winched separately or together. Treat each section as a standard installation and install as below.

1. Determine where the waterer line is to be installed and suspended. Mark a straight line on the ceiling or rafters at this point using string or chalk line, or winch cable temporarily attached with staples or nails.
2. Install screw hooks along the line at 8' (2.4 m) intervals. An 8' (2.4 m) cable drop spacing is preferred but other spacings up to 10' (3 m) may be used. Existing winching can be used if it is in good condition and has no less than 1/8" (3.1 mm) main cable. Screw the threads all the way in to prevent bending. The opening of the hooks must point away from the direction the cable pulls. **See Figure 2.**

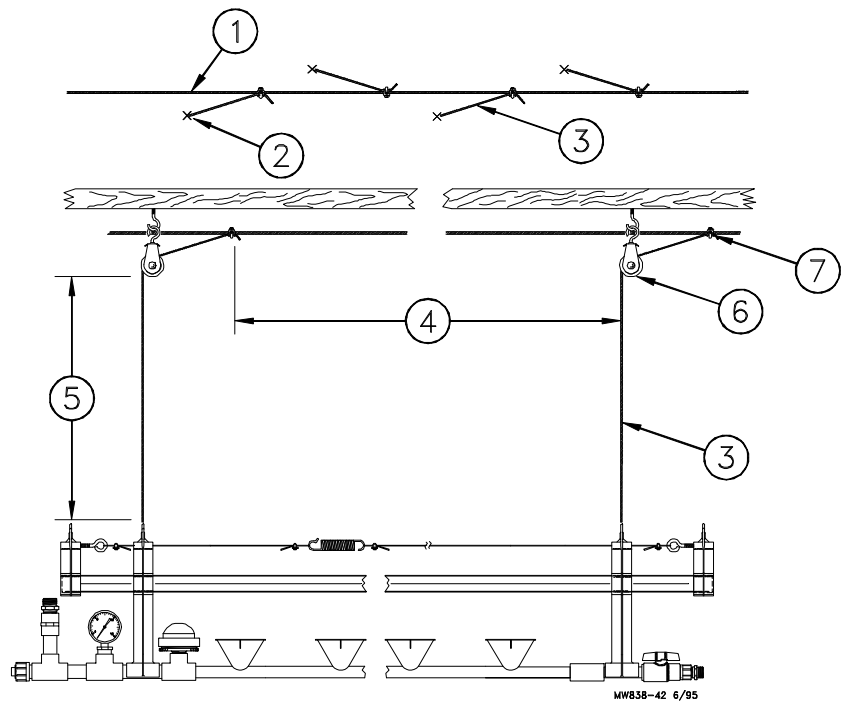


Key	Description
1	Screw Hook opening facing opposite direction of cable travel
2	Winch End
3	3/16" Winch Cable
4	3/32" Drop Cable

Figure 2. Screw Hook Installation

If the distance the waterer is to be raised is greater than the distance between drops, stagger the hooks three inches (76 mm) to each side to prevent the cable clamps from catching on the pulleys. **See Figure 3.**

3. Mount the Manual Winch Bracket as shown in **Figure 4**. Mount the Winch on a stud wall or post, or on a 2x8" (50x200 mm) board spanning at least two rafters for support.



Key	Description
3	Drop Cable
1	Winch Cable
2	Screw Hook Location
4	Distance Between Drops (8' or 2.4 m)
5	Distance Waterer is to be raised
6	Pulley
7	Cable Clamp

Figure 3. Stagger the Screw Hooks, if necessary, to avoid interference.



Figure 4. Mounting the Manual Winch

4. Bolt the winch to the bracket and attach one end of the 1/8" (3.1 mm) cable to the winch as shown in **Figure 5**. Unroll the 1/8" (3.1mm) cable along the length of the waterer line.

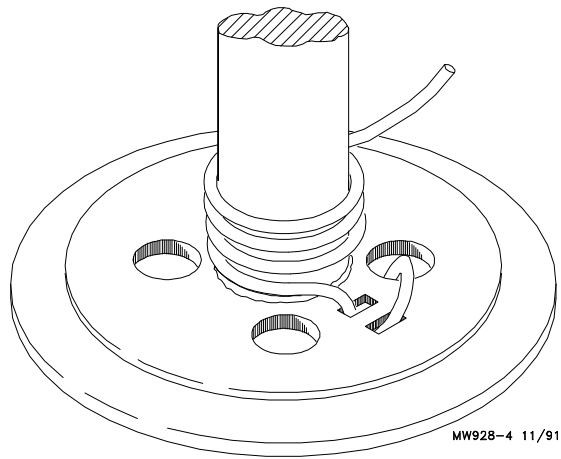
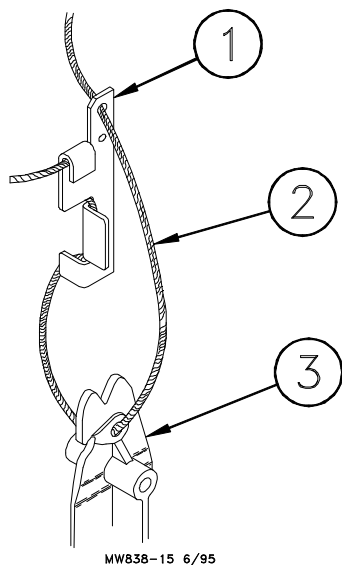


Figure 5. Attach Cable to Winch Drum.

5. Install a 3004 Pulley on each screw hook.
6. Cut a section of the 3/32" (2.3 mm) cable for each suspension drop. The Cable should be approximately two feet (609 mm) longer than the distance from floor to ceiling so that it can be attached at the top and bottom. Use a 6428 Cable Clamp to attach the Drop Cable to the overhead 1/8" (3.1 mm) cable. Feed the other end of the cable through each pulley.
7. If Adjustment Levelers are to be used, thread the cable as shown in **Figure 6**.

Note: It may be helpful to hang a weight on the end of the line opposite the winch, temporarily, until the waterer line is suspended.



Key	Description
1	Adjustment Leveler
2	Drop Cable
3	Hanger

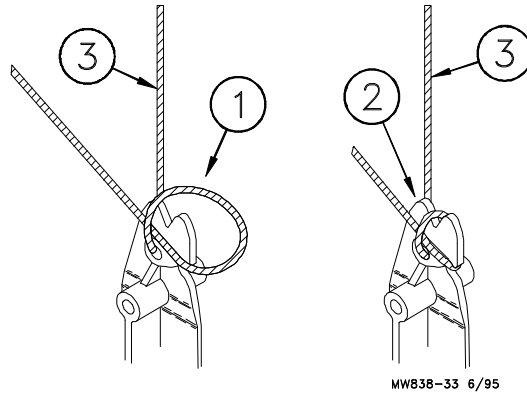
Figure 6. Adjustment Leveler Installation

Hanger and Channel Installation

NOTE: If the suspension was installed on 8' (2.4 m) centers, the Hangers are to be installed on 4' (1.2 m) centers.

If the suspension was installed on 10' (3 m) centers, the Hangers are to be installed on 5' (1.5 m) centers.

1. It is possible to suspend the system, without using Adjusting Levelers, by wrapping the cable as shown in **Figure 7**.

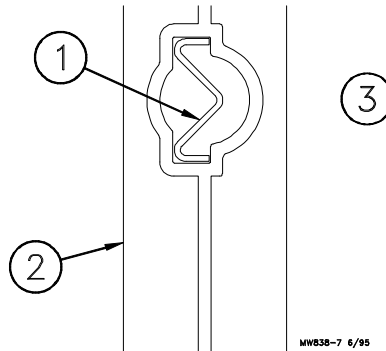


Key	Description
1	Step 1: Loosely route the cable as shown.
2	Step 2: Pull the cable tight to secure to Hanger.
3	Drop Cable routed to main cable.

Figure 7. Suspending the system without Adjustment Levelers.

NOTE: IT IS CRITICAL THAT EACH HANGER IN THE INDIVIDUAL LINES BE INSTALLED IN THE SAME DIRECTION. SEE **Figure 8**.

Install Adjustment Levelers and Hanger on all the drop lines in the system. Keep the Hangers as level to the floor as possible. Use the winch to adjust the height to a comfortable working level.



Key	Description
1	Channel
2	Hanger
3	Notice: The Channels must be installed in the Hangers as shown to allow free movement during expansion and contraction.

Figure 8. Channel Installation (side view).

2. Beginning at the incoming end of the line, slide the Channel into the Hanger. The Channel should be allowed to extend 6" (152 mm) past the inlet end drop line. **See Figure 10.**

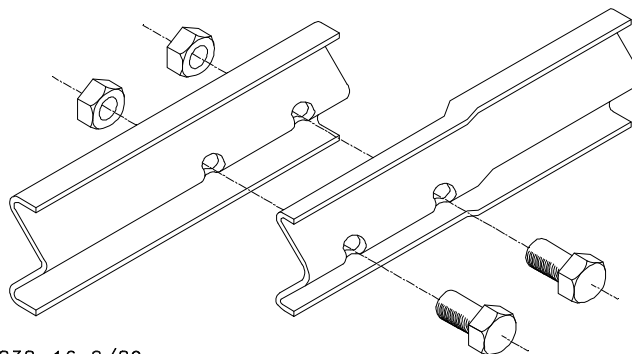
NOTE: The Channels must be installed so that the outside bend of the center "V" is toward the larger, round opening. **See Figure 8.** This will allow the hardware to pass through the Hangers without interference, during expansion and contraction.

3. The Channels are belled at one end to allow them to easily fit the next Channel. Use the 1/4-20 hardware to fasten the Channels together. **See Figure 9.**

DO NOT SECURE THE CHANNEL TO THE HANGERS IN ANY WAY.

4. Install Channels to the outlet end of the line.

It may be necessary to cut the last Channel to length so that it extends past the end hangers approximately 6" (152 mm).



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Figure 9. Bolt the Channels together.

Cup and Pipe Installation

The PVC Floor Waterer System provides lines of cups with 12" (304 mm), 16" (406 mm), 24" (609mm), 30" (762 mm), 40" (1.01 m), 48" (1.21 m), 60" (1.52 m), 80" (2.03 m), or 96" (2.43 m) spacings. **Each cup provides adequate water for 50 birds.**

Several different Inlet End Assemblies are available.

1. Use PVC cement to glue the Inlet Assembly to the first section of Cup and Pipe Assembly, as shown in **Figure 10.** **MAKE SURE THE CUPS AND DOME AIR RISER ARE IN-LINE BEFORE THE GLUE HARDENS.**

Key	Description
1	Gently, snap the waterer line into the Hanger. Do Not Glue at this time.
2	Glue Cup and Pipe Assembly to the Inlet Assembly here.
3	Make sure the Cups are in line with the Dome Air Riser.
4	Channel
5	Hanger

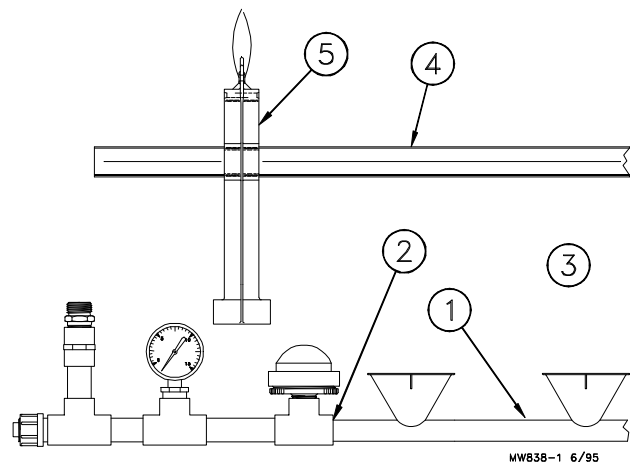


Figure 10. Inlet Assembly Installation

2. The first Hanger will be located on the short section of pipe (nipple) just in front of the Dome Air Riser. See **Figure 10**.

To install the pipe on the Hanger, apply pressure to the pipe to snap it up into the Hanger. Do not apply PVC cement at this time.

If the 25668 Inlet Hanger Assembly w/Regulator is to be used, refer to the parts list for the assembly diagram. It will be necessary to add an additional Hanger to provide the necessary support. The additional Hanger should be installed on the short section of pipe just prior to the Regulator. The additional Hanger does not need a suspension drop line attached.

If the 25669 Inlet Hanger Assembly w/Regulator is to be used, it will be necessary to remove the Hanger on the first drop line, since a Hanger is factory installed.

3. Snap the first Cup and Pipe Assembly into the Hangers above it.

NOTE: While installing the pipe into the Hangers, a cup may fall at the same location as the Hanger. If this occurs, install the Hanger to either side of the cup approximately 2" (50 mm). No adjustments need to be made to the location of the suspension drop line.

4. Install another section of Cup and Pipe on the next few Hangers.
5. Use a coupling (supplied) to glue the sections of Cup and Pipe together. Do not install a Dome Air Riser on this joint.

MAKE SURE THE CUPS ON EACH PIPE ARE IN-LINE, BEFORE THE GLUE HARDENS.

Directions for Use of PVC Cement

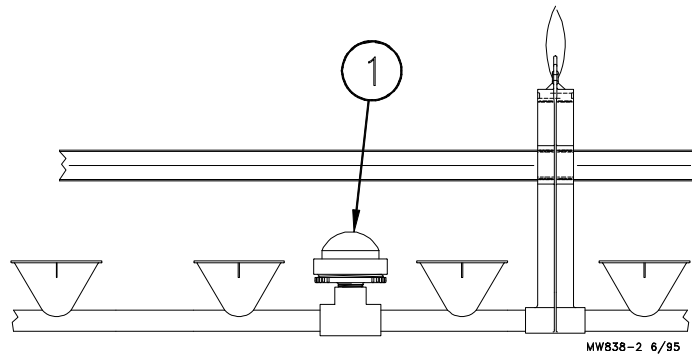
Follow directions on the container of PVC Cement for safe handling and best results.

1. Be sure pipe is cut off squarely. Remove dirt and burrs from outside and inside of the pipe ends.
2. Dry fit all parts before cementing. Pipe should fit into coupler, elbow, or valve without applying excess force.
3. Surfaces to be joined should be clean and dry -- free from all dirt, oil, and grease.
4. Apply cement to both surfaces to be joined. Apply cement sparingly but evenly over the entire surface, leaving no bare spots.
5. Quickly join the two PVC components, giving them a twisting motion to bring the joint into alignment as the parts are pushed together.
6. Keep light pressure on the joint for a few seconds to allow the joint to harden.

Important

Take special care to prevent dirt and foreign objects from getting into the water pipes.

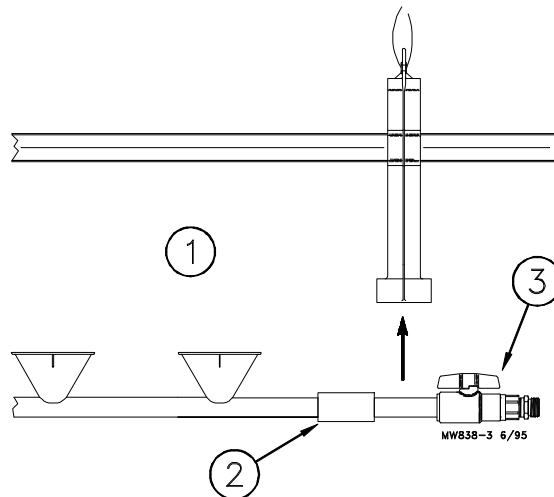
6. Hang the next section of Cup and Pipe.
- Install a Dome Air Riser at this joint, as shown in **Figure 11**.



Key	Description
1	Install a Dome Air Riser at every-other joint in the line.

Figure 11. Dome Air Riser Installation

7. Hang the next section of Cup and Pipe, using a coupler to connect it to the waterer line.
8. Continue hanging and connecting Cup and Pipe Assemblies to the outlet end of the line.
- REMEMBER to install a Dome Air Riser at every other joint!
9. The last section of Cup and Pipe may need to be cut so that when a coupling and Outlet Assembly is installed, the Hanger can be positioned in the location shown in **Figure 12**.

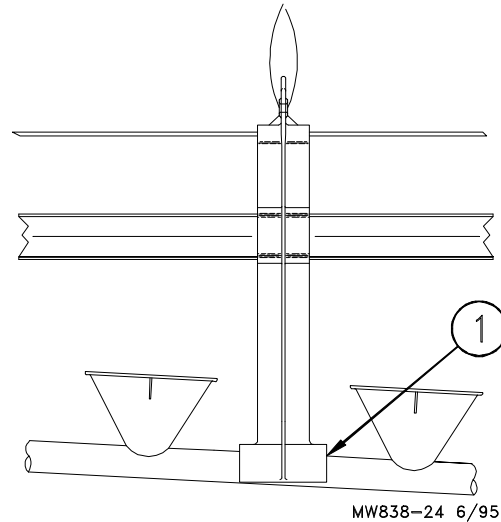


Key	Description
1	Glue Cup and Pipe Assembly to the Outlet Assembly, using a Coupler.
2	Coupler
3	Outlet Assembly

Figure 12. Outlet Assembly Installation

10. Begin gluing the Hangers to the Cup and Pipe Assemblies at either end of the waterer line. Glue as follows:
 - GENTLY, bend the Cup and Pipe Assembly away from the bottom of the Hanger, to provide an opening. See **Figure 13**.
 - Using an oil can filled with PVC cement, pump two squirts of cement between the Hanger and the Cup and Pipe Assembly.

- Allow the pipe to fit back in the Hanger. MAKE SURE THE CUPS ARE UPRIGHT BEFORE THE GLUE HARDENS.
- Repeat this procedure on both sides of each Hanger on the waterer line.



Key	Description
1	Apply PVC Cement here (on both sides of Hanger). Hint: Use an oil can, filled with PVC Cement, to easily direct cement under the Hanger.

Figure 13. Glue Hangers in place on Cup and Pipe Assembly

11. Install the pressure gauge shipped with the Inlet Assembly on the tee joint at the inlet. Use teflon tape to seal the joint. See **Figure 14**.
After the installation, the gauge should be positioned directly under the channel for maximum protection.

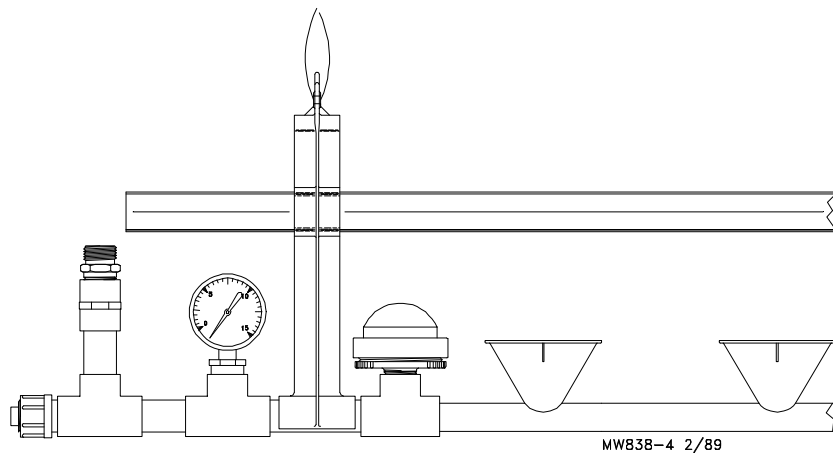


Figure 14. Glue Hangers in place on Cup and Pipe Assembly

Anti-Roost Installation

Figure 15 shows an installed Anti-Roost system, refer to it as necessary.

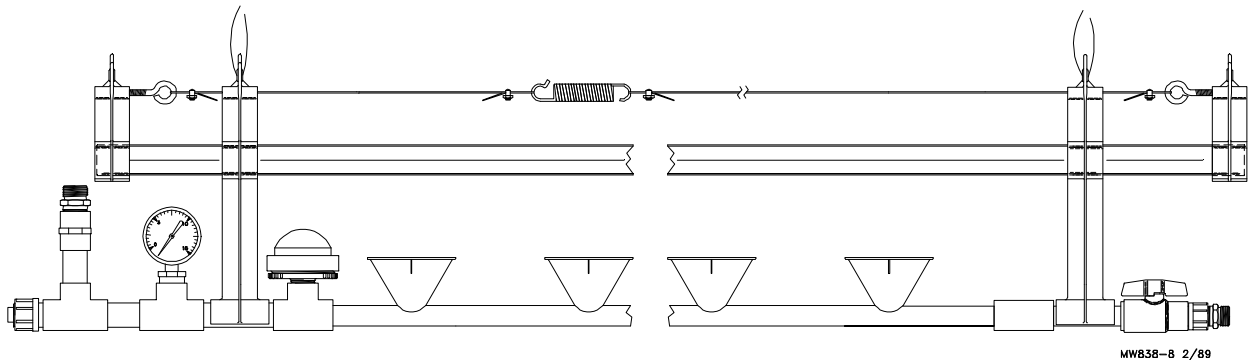
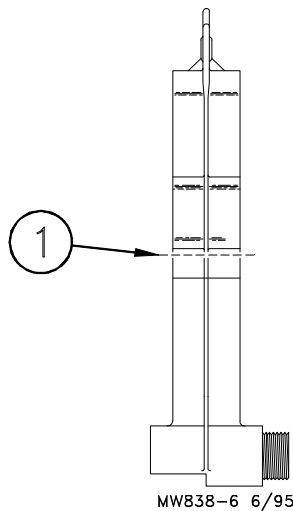


Figure 15. Glue Hangers in place on Cup and Pipe Assembly

1. Cut a Threaded Hanger in the location shown in **Figure 16**. A hacksaw may be used to cut the Hanger. The lower portion of the Hanger will not be used, and may be discarded.

It will be necessary to cut a Threaded Hanger for each inlet and outlet end in the system.



Key	Description
1	Use hacksaw to cut here. Discard lower portion of Hanger

Figure 16. Cut Hanger for Anti-Roost System

2. Thread an eyebolt into the eye in the top of the Hanger, as shown in **Figure 15**.
3. Install the Hanger end of the Channel. Do not fasten the Hanger to the Channel in any way, the cable will hold the Hanger in place when it is installed.
4. Thread the cable through the hole in the top of the Hangers.
5. Thread the cable through the eyebolt, making a loop, and clamp, using a split-bolt cable clamp.
6. The spring should be installed near the center of the Anti-Roost line, at least 2' (610 mm) from the closest Hanger.

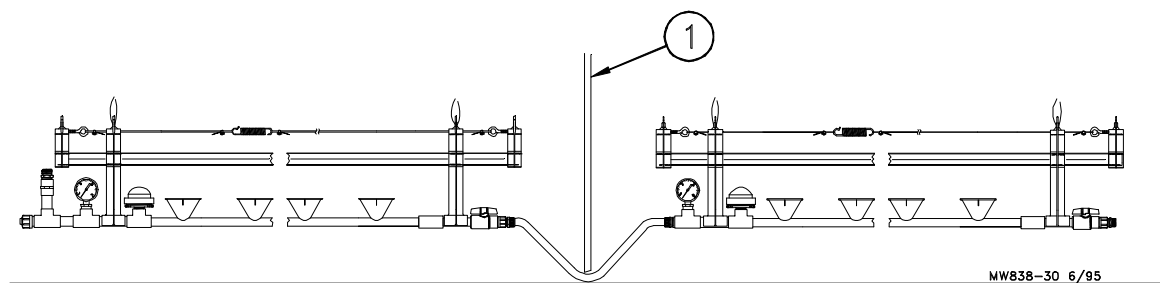
Cut the cable in the desired spring location and install, using split-bolt cable clamps.

7. Thread the cable through the eyebolt, making a loop, and loosely clamp, using a split-bolt cable clamp.
Put 1/2" to 1" (12 to 25 mm) of stretch in the spring so there is adequate tension on the cable. If the Channel begins to buckle, reduce the amount of tension.
Tighten the cable clamp to hold the stretch.
8. Mount the Poultry Trainer on a secure post or wall near the waterer line.
THE ANTI-ROOST SYSTEM MUST BE GROUNDED THROUGH THE POULTRY TRAINER. The channels must be grounded to the poultry trainer ground connection for best operation.
Chore-Time recommends operating the Anti-Roost system on a separate circuit so it can be shut-off with a switch at the door. This will help prevent the birds from becoming flighty.

Partial House Brooding

To partial house brood with the Chore-Time PVC Floor Watering System, install the line in two or more sections-- each with inlet and outlet assemblies. Place the curtain, if used, between the two sections of the line. Use a section of hose to attach the 25666 Continuous Outlet Hanger Assembly of one line to the 25665 Inlet Hanger Assembly of the second section.

Line sections may be suspended using one winch; or separate independent suspensions can be used. **Figure 17** shows an example of a PVC floor watering line adapted for a house with curtain and partial house brooding. **NOTE:** Satellite drinker units for use in conjunction with brooders can be ordered as optional equipment for the PVC Floor Watering System.



Key	Description
1	Curtain

Figure 17. Partial House Brooding.

Connecting Hose Installation

Install the hoses from the waterer lines to the control panel outlets or overhead supply. Be careful hose does not kink when waterers are raised off the floor.

Start-Up Procedure

- flush all lines at maximum pressure
- be sure filters are installed correctly
- check that the cups sit upright
- check for any leaking or dripping pipe connections
- check that Float Balls are installed in brooding area
- clean all dirt out of cups
- flush all air out of lines
- maintain house temperature above freezing or drain lines and cups completely.

Maintenance of the Floor Watering System

CHORE-TIME Floor Watering System components require very little maintenance; the various components are designed and molded from PVC plastic to provide maximum service with minimal maintenance. Routine maintenance, however, will help guarantee good service and prolong the life of the equipment.

When the system is new, monitor water pressures closely. This will be helpful in determining whether dirt particles, sand, or other particles are present in the water supply. It will also help determine frequency of filter cartridge cleaning and/or replacement.

Check the water filter periodically and clean as necessary. Use the pressure gauges on the control panel as guidelines. When pressure drops across the filter, it's time to clean or replace the filter cartridge. It's a good idea to keep extra filter cartridges on hand.

CHORE-TIME recommends a 20 micron cartridge. Replacement Cartridges are available from CHORE-TIME (Order Part No. 7723).

While in operation, flush the system thoroughly every 8 weeks (minimum) to remove algae or trash that builds up in the lines. **NOTE THAT THIS IS MINIMUM!** Some installations may require more frequent maintenance.

If algae growth becomes a problem, CHORE-TIME recommends use of a bleach solution; see the "Recommendations and Guidelines" section for details.

Walk lines daily to monitor water level in cups. If adjustment is required, make the necessary pressure adjustments at the pressure regulator.

For additional information, see the "Operator's Troubleshooting Guide" in this manual.

MAINTENANCE BETWEEN BATCHES

- flush all air out of the lines
- flush each line at full pressure for ten minutes to remove deposits and sediments
- check pressure drop across water filter--clean or replace if necessary
- check pressure gauges, regulators, and shut off valves for proper operation
- maintain house temperatures above freezing or drain lines and cups completely
- Also, spot check dome air risers periodically. Replace diaphragms that are "ballooned" or stretched.

Recommendations and Guidelines for Operation

The CHORE-TIME Floor Watering System requires a minimum incoming water pressure of 40 p.s.i. (275 kPa) to the Control Panel Regulators. **THIS IS THE MINIMUM PRESSURE.** Recommended pressure is 40 to 60 p.s.i. (275 to 412 kPa).

For best operation, set the pressure at the Control Panel according to the recommendations below. Check the pressure gauge at the waterer line to see that this pressure is achieved at the valves. Elevation differences between the two locations may require adjustment of the control panel pressure setting to achieve the desired pressure at the valves. Twenty-eight inches (71 cm) of water column equals one pound pressure.

Operation During Grow-out

WEEK 1 Start birds with Float Balls on all cups in brooding area. Set line pressure at 3-5 p.s.i. (20-34 kPa) on systems with short triggers and large float balls. Set pressure at 2-3 p.s.i. (14-20 kPa) on systems with spring valves and large float balls. Water lines should be resting on the litter for easy access by the birds.

WEEK 2 Remove Float Balls at 7 to 10 days of age. Reduce pressure to 3-4 p.s.i. (20-34 kPa) for several days to allow easy triggering of the valves. Begin to raise the line off the floor. Keep the lip of the cup even with the bird's back.

WEEK 3 to full age. Maintain proper water cup height throughout the grow-out. After 4 weeks, maintain water pressure at 6-8 p.s.i. (41-55 kPa). **If a lower water level is desired on large birds, increase the water pressure slightly.**

It should never be necessary to operate above 8 p.s.i. (55 kPa).

Water Quality

Water Quality is very important for proper operation of the system. Consider the following:

Hardness- (Calcium and Magnesium) above 200 ppm (parts per million) a water softener should be used.

PH - under 6.5 a neutralizing filter is recommended.

Iron - above 0.5 ppm (parts per million) should be treated with a water softener, a mechanical filtration system, or chlorination depending on raw water hardness.

Precautions

1. Do not over chlorinate. The maximum concentration is 5 ppm (parts per million) for extended periods and 10 ppm for flushing only. Do not chlorinate 2 days before or after medication is used.

To Chlorinate: Mix a stock solution of 3/4 ounces of household chlorine bleach (5% Sodium Hypochlorite) per gallon, or 5.9 ml of bleach per liter, of water. Set the proportioner to dispense at a rate of one ounce per gallon or 7.8 ml per liter.

2. Some vitamins and medications are syrup type liquids or are sugar based. Avoid these types of compounds. These compounds may leave a slimy deposit on the valve seals preventing them from sealing properly.
3. Some pumps and/or special purpose gas injectors may add excessive air to the water supply. For proper operation of the system in these cases, an Air Remover Kit is recommended to remove excess air from the system. Contact your local CHORE-TIME distributor.

Valve Repair

CHORE-TIME does not recommend servicing valve assemblies due to potential damage to valve components during disassembly and assembly.

CHORE-TIME recommends replacing any malfunctioning valve that cannot be corrected by flushing the lines or triggering the valve.

The following Repair Guidelines are given in case immediate field repair is necessary and replacement valves are not available.

Valve Disassembly

Figure 18 shows the valve components. Refer to it as required to disassemble and repair valves.

1. Using a pair of pliers, gently smash the Trigger until it can be easily removed from the "O" Ring Pin.
2. Turn the Valve upside down on a wood surface and push down on the Valve Body so the "O" Ring Pin forces the Bottom Insert out. Be careful not to bend the "O" Ring Pin.
3. Push the "O" Ring Pin out through the bottom of the Valve Body.

Inspect the Parts

1. Inspect the "O" Ring for trash and any deformity: such as being flat, cut, or fitting too loosely on the shaft. Replace if necessary.
2. Check the inside of the Valve Body for trash and rinse with water.

Discoloration of the Reverse Check Pin or "O" Ring Pin is an indication of poor water quality.

Valve Reassembly

1. Drop "O" Ring Pin into Valve Body.
2. Using the Valve Assembly Tool, position the Valve Body upright on the assembly tool with the "O" Ring Pin sticking out of the orifice.
3. Insert the Deflector and new Trigger onto the "O" Ring Pin. Be sure that the cupped side of the Deflector faces down towards the Valve Body.
4. Holding the Trigger with the Trigger Assembly Tool, tap on the Trigger with a small hammer until the space between the Trigger and the Valve Body is approximately 1/16" (1.5 mm) with the "O"-Ring Pin pulled tight. See **Figure 18**.
5. Press Bottom Bushing into bottom of the Valve Body.

Key	Description
1	1/16" (1.5 mm)
2	Trigger Assembly Tool
3	Valve Assembly Tool

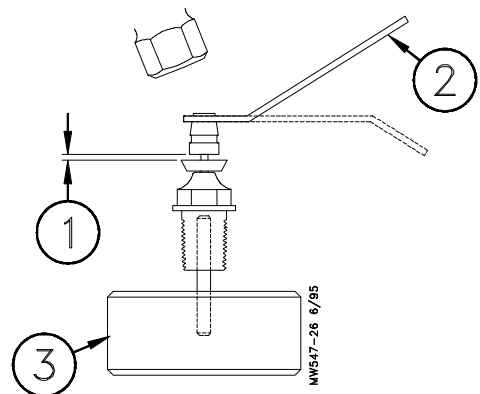


Figure 18. Valve Repair Diagram

Installation of Optional Water Meters

CHORE-TIME offers two optional water meters for installations where it is desirable to monitor usage. Installations and parts information for each unit is shown below.

Install the Water Meter on the incoming line where it can be easily checked to monitor water usage. The Water Meter requires use of two brass water meter connectors. Order these components separately according to the following parts information. They are not supplied with the water meter.

The water meter also requires two PVC couplers to install the meter in the incoming 3/4" (19 mm) PVC line. Use 3/4" (19 mm) Female Thread Adapter, Chore-Time part number 8160. Be sure to use teflon pipe tape at all threaded connections.

NOTE: Both Water Meters have an arrow on the outside of the casting. The water meter **MUST** be installed so that water flows through the unit in the direction indicated.

13228-L (Liter) & 13228-G (Gallon) Water Meter (Plastic)

The Water Meter must be installed with water flow in the direction shown by the arrow on the side of the casting! See **Figure 19**.

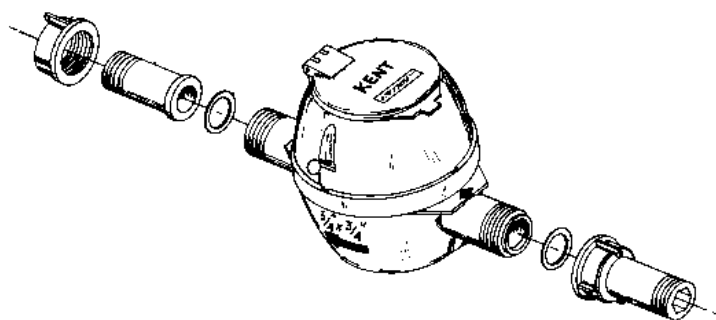


Figure 19. Water Regulator

13227 Water Meter and Connectors (Brass)

This unit is rated at 1300 gallons or 4920 liters per hour delivery and the digital counter displays usage in U.S. gallons.

The water meter must be installed horizontally, with the hinged lid upward. Water flow must be in the direction shown by the arrow on the side of the casting! See **Figure 20**.

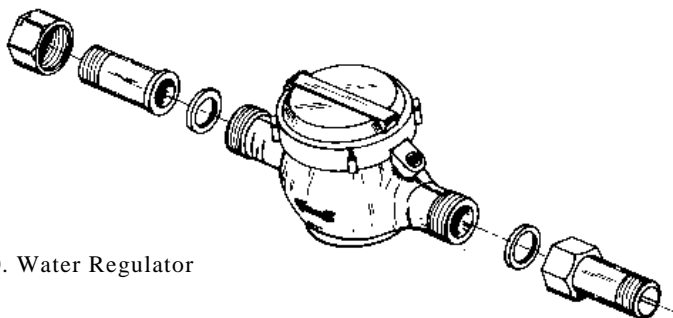


Figure 20. Water Regulator

Satellite Drinker

The CHORE-TIME SATELLITE Drinker is available for use with the Chore-Time Floor Watering System to provide water to chicks from newly hatched through 7-10 days of age. See **Figure 21**. The SATELLITE Drinker is used on the floor, usually with overhead brooders, to give birds access to water without leaving the brooding areas. The unit has a capacity of 100 birds per cup--i.e. an 8 cup unit will provide adequate water and access for 800 birds.

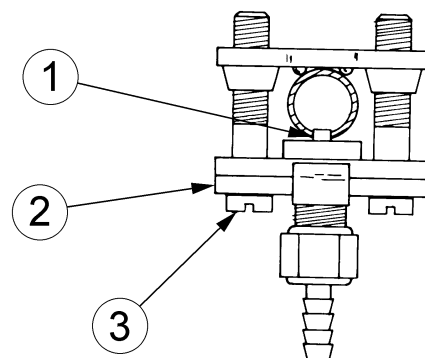


Figure 21. Satellite Drinker System Overview.

Satellite Drinker Installation

1. Determine the location of the SATELLITE Drinker in relation to the floor watering system and overhead brooder.
2. Drill 9/32" (7.2) mm hole in the side of the floor waterer tube. Attach the pipe saddle over the hole drilled in the waterer line. Install the two assembly screws and tighten securely to seal the unit in place. See **Figure 22**.
IMPORTANT: Clean drilling chips or dirt by flushing lines.
3. Snap a float ball onto the trigger in each cup. This automatically controls water level in the cups when starting new chicks and helps birds learn to operate the trigger valves more easily.
4. Fill the system with water and flush it to remove air pockets and drilling chips.

Key	Description
1	Drill a 9/32" (7.2 mm) hole in the water pipe.
2	Pipe Saddle
3	Do not over tighten.



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Figure 22. Satellite Drinker Installation.

Satellite Drinker Operation

Position the SATELLITE drinker close around the edges of the brooder. All cups, including the waterer lines, should be placed directly on the ground for easy access by the chicks.

Do not fill cups too early before chicks are housed, as water becomes warm and stale. Water must be available when the chicks are housed, so just prior to this is a good time to check and fill water lines. Many companies recommend delay feeding of newly housed birds up to three hours to encourage birds to find water before they begin to eat. Watch birds carefully to see that they are finding the water.

Operate the system at 6-8 p.s.i. (41-55 kPA) for newly hatched birds. This pressure may vary due to many variables--i.e. types of regulators, well pressure, side of lines, water consumption, and other factors. After observing the system, raise or lower pressure to obtain best result. Remember that the float ball does most of the work, keeping cups full of water, as the birds grow and become more aggressive it may be necessary to increase pressure slightly to lower the water level in the cup.

The birds behavior will generally indicate how the system is functioning. **If water level is too low in the cups, decrease pressure. If cups are too full, increase pressure.** Always allow sufficient time after an adjustment to observe the flock.

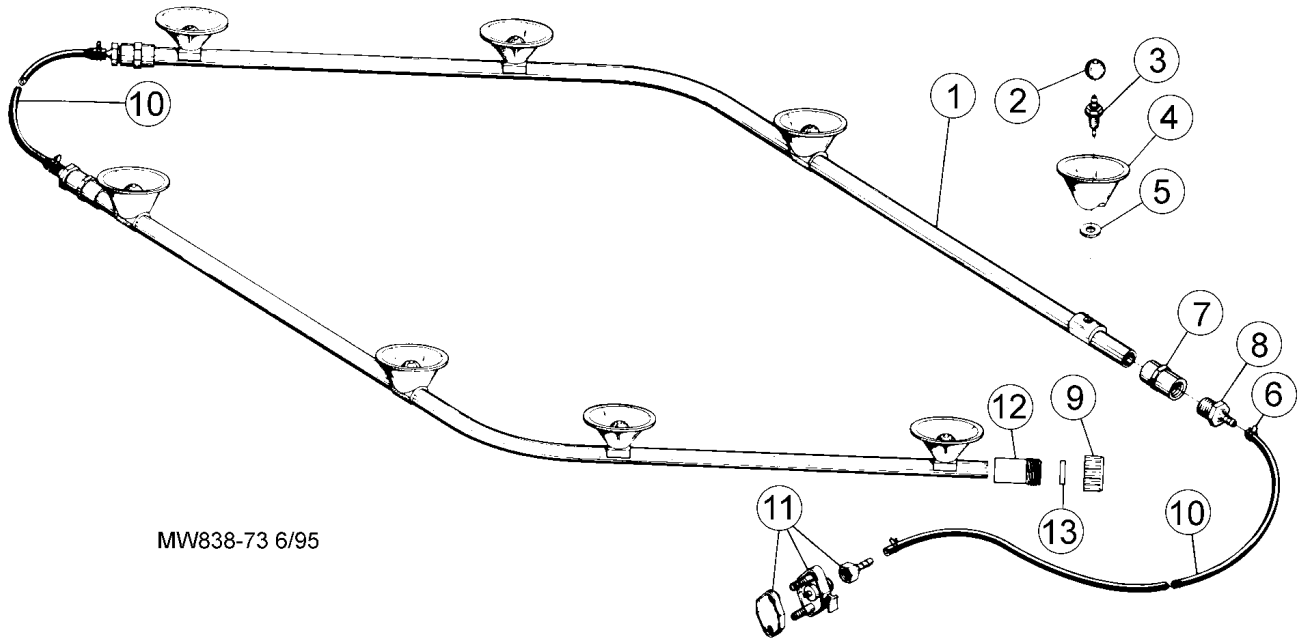
At 7-10 days of age, remove the Satellite units and store. Shut water off at the slide valve on the pipe saddle. **DO NOT REMOVE PIPE SADDLE FROM THE WATER LINE.**

Satellite Drinker Maintenance

Clean the Satellite drinker cups as needed by picking up a section of the drinker and flipping it forward and backward to remove litter and debris from the cups. The drinker line can be easily cleaned with compressed air from a portable air tank. If this is used, use an air jet orifice larger than .090" (2.28 mm) to keep from blowing the float ball off the trigger. A small garden spray tank filled with water and a small amount of disinfectant (if desired) may also be used to clean the drinker cups.

Clean and disinfect the Satellite Drinker and drain the unit thoroughly when not in use. Units should be hung for storage when not in use. After every two or three flocks, completely flush the units by removing the hose barbs and/or end plugs from the Satellite sections. Clean Satellite Drinker Tubes thoroughly inside and outside and disinfect. This will control algae, bacteria, dirt and particles in the line and extend the life of the unit.

Satellite Drinker



The parts drawing above illustrates use of the 24420-5 and 24420-6 units--both 4 cups models--one with the adapter and one with an end plug.

<u>Key</u>	<u>Description</u>	<u>Standard Valve Parts List</u>	<u>Spring Valve Part No.</u>
1	Satellite Unit		
	-2 cups with (1) Hose Adapt. Barb, (1) Hose Adapt. Cap	24420-2	24420-2SV
	-2 cups with (2) Hose Adapt. Barb	24420-1	24420-1SV
	-3 cups with (1) Hose Adapt. Barb, (1) Hose Adapt. Cap	24420-4	24420-4SV
	-3 cups with (2) Hose Adapt. Barb	24420-3	24420-3SV
	-4 cups with (1) Hose Adapt. Barb, (1) Hose Adapt. Cap	24420-6	24420-6SV
	-4 cups with (2) Hose Adapt. Barb	24420-5	24420-5SV
	-6 cups with (1) Hose Adapt. Barb, (1) Hose Adapt. Cap	24420-8	24420-8SV
	-6 cups with (2) Hose Adapt. Barb	24420-7	24420-7SV
2	Float Ball		
	Large Snap-On	24054	24054
	Small Snap-On	25026	25026
	Drop In	26134	26134
3	Valve Assembly	24525	25200
4	Polyethylene Cups	7672	7672
5	Gasket	7602	7602
6	Hose Clamp	9088-1	9088-1
7	1/2" PVC Female Adapter	7601	7601
8	1/2 x 1/4" Hose Barb	7308	7308
9	Hose Cap	9811	9811
10**	1/4" Tubing	14454-144	14454-144
11**	Pipe Saddle	9087	9087
12	.75 NH Male Adapter Fitting	25098	25098
13	Washer	7147	7147
--**	Valve Plug (No Hole)	24780-GNH	24780-GNH

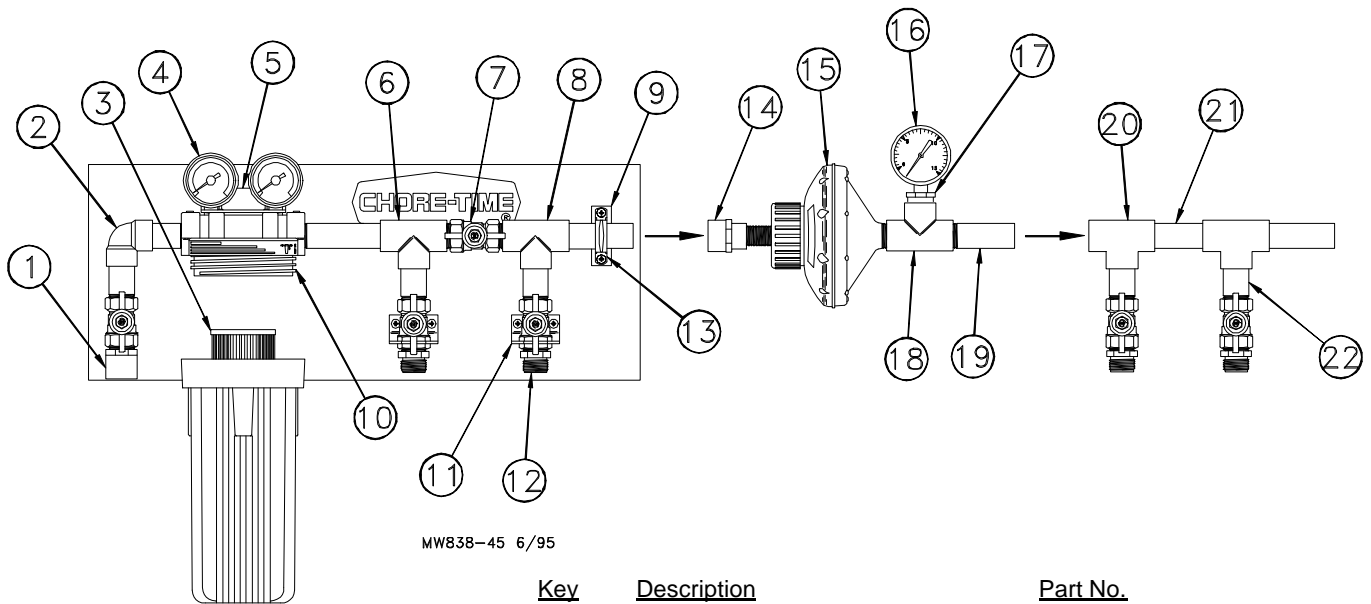
**These parts are optional items and must be ordered separately.

NOTE: Items 2 through 9, 12, and 13 are components of Key (item) 1.

NOTE: Items 9, 12, and 13 may be ordered as an assembly under Part No. 25099.

NOTE: Items 7 & 8 may be ordered as an assembly under Part No. 9440.

Filter Control Panel



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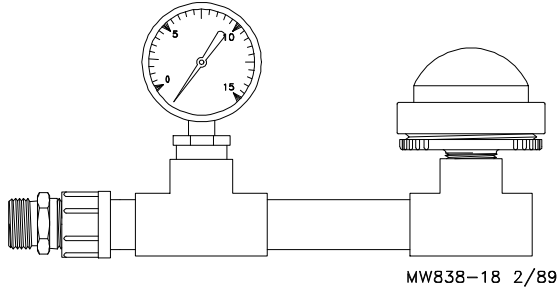
<u>Key</u>	<u>Description</u>	<u>Part No.</u>
1*	3/4" PVC Male Adapter	9229
2*	Filter Inlet Assembly	35306
3*	Filter Cartridge (20 micron)	7723
4*	High Pressure Water Gauge	7718
5*	Filter Mounting Bracket	35302
6*	Filter Outlet Assembly	35304
7*	3/4" Quarter Turn Valve	29623
8*	Medicator Outlet Assembly	35305
9*	Standoff Block	35300
10*	Water Filter	35309
11*	Medicator Connector Brace	35307
12*	3/4" Nylon Male Adapter	7543
13*	Plastic Conduit Clamp	35301
14**	3/4 x 1/2 Adapter	7539
15**	Regulator	13455
16**	Pressure Gauge	7717
17**	3/4 x 1/4 Bushing	7786
18**	3/4" PVC Tee	7541
19**	3/4" PVC Pipe	7531-1
20***	3/4" PVC Tee (sxsxs)	7538
21***	3/4 x 3-1/2" PVC Pipe (sxs)	9205-5
22***	3/4 x 2-1/2" PVC Nipple (sxt)	7531-9

*These components may be ordered as an assembly under CHORE-TIME Part No. 9275.

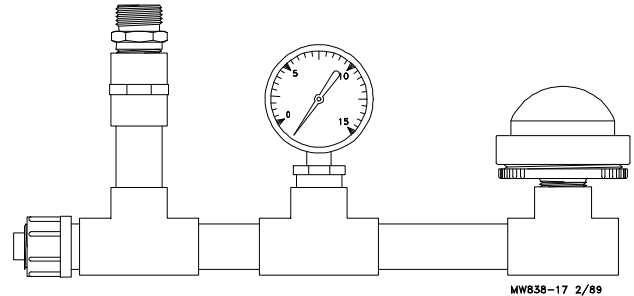
**These components may be ordered as an assembly under CHORE-TIME Part No. 9042.

***These components may be ordered as an assembly under CHORE-TIME Part No. 35484.

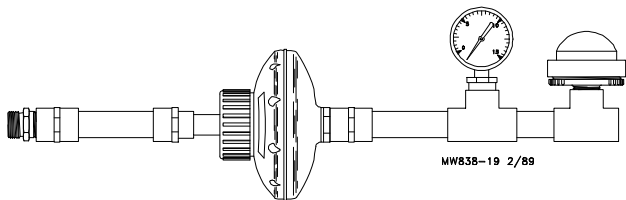
Mid-line Hookup, Inlet, and Outlet Assemblies



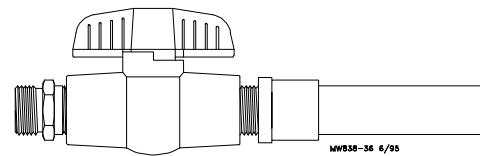
25665 Standard Inlet Assembly



25667 Extended Inlet Assembly

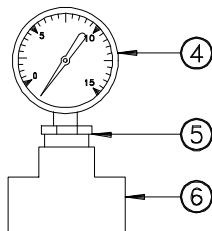
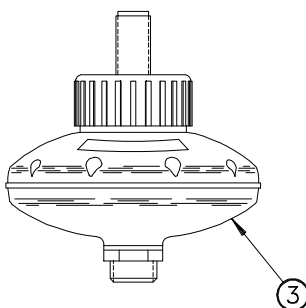
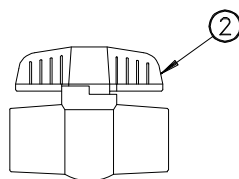
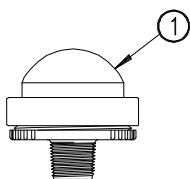


25668 Inlet Hanger Assembly w/Regulator



25666 Continuous Outlet Assembly

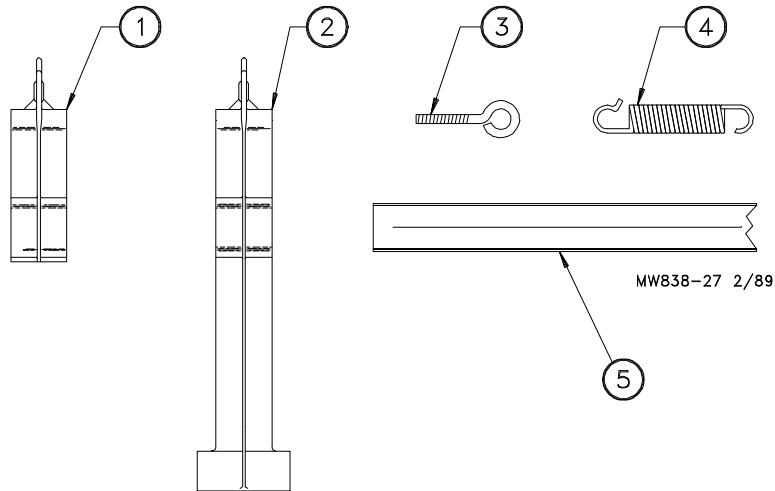
Miscellaneous Components



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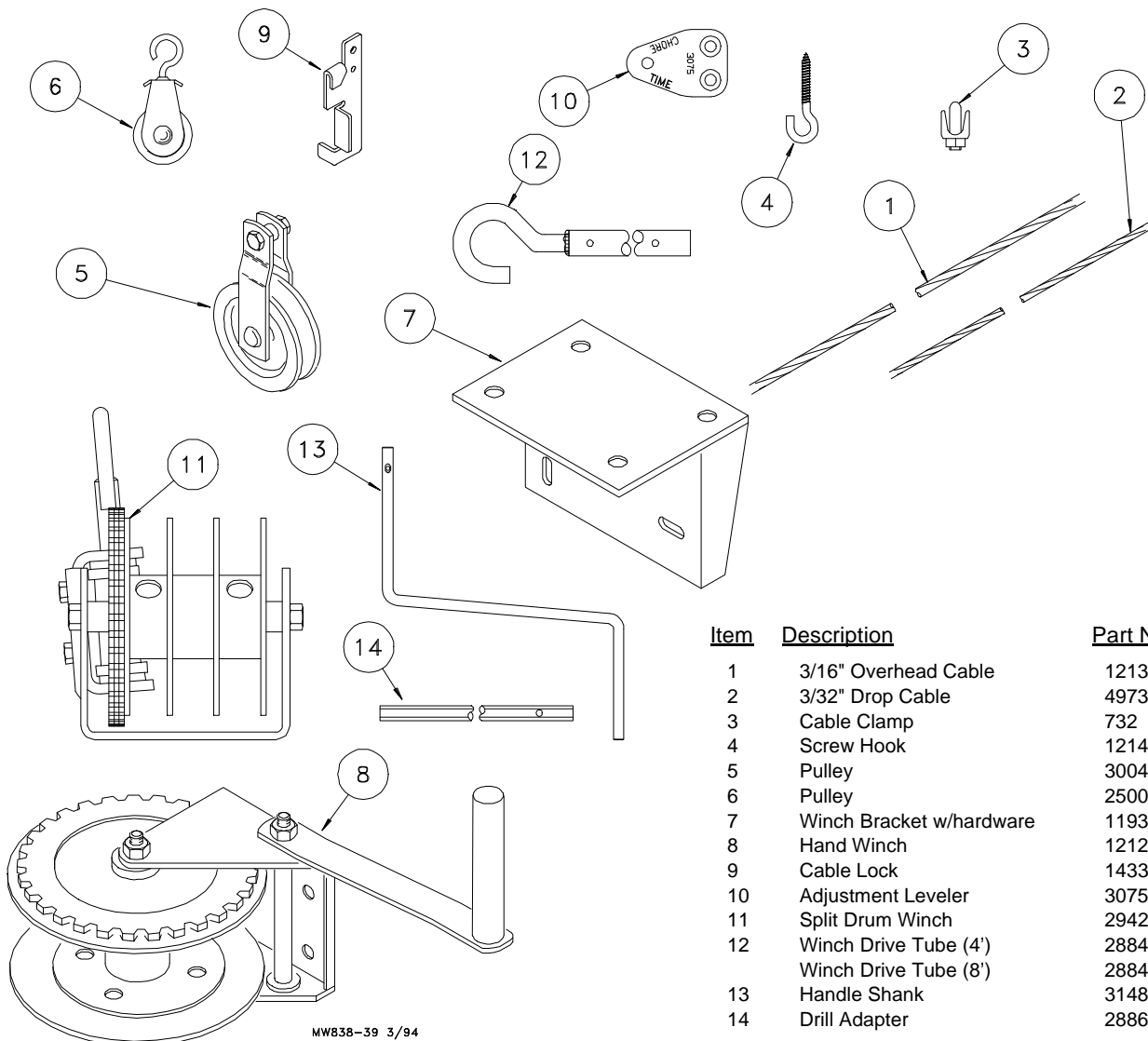
<u>ITEM</u>	<u>DESCRIPTION</u>	<u>PART NO.</u>
1	Dome Air Riser	7719
2	Ball Valve	35781
3	Pressure Regulator	13455
4	Low Pressure Gauge	27722
5	Reducer Bushing	7789
6	3/4" Tee	7541

Anti-Roost System Components



Item	Description	Part No.
1	Short Threaded Hanger	25021
2	Short Hanger (broilers) Long Hanger (turkeys)	24985 25262
3	"1" Bolt	1928
4	Spring	25353
5	Channel (10')	24980
--	Anti-Roost Cable	1922

Suspension System Components



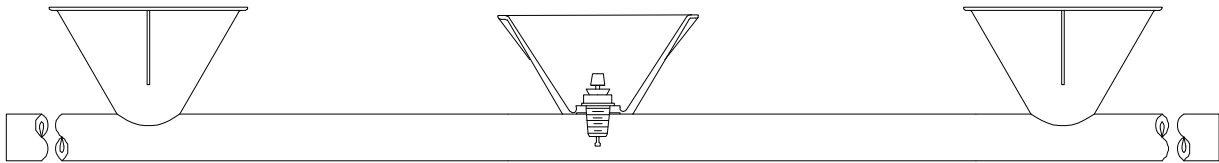
Item	Description	Part No.
1	3/16" Overhead Cable	1213
2	3/32" Drop Cable	4973
3	Cable Clamp	732
4	Screw Hook	1214
5	Pulley	3004
6	Pulley	2500
7	Winch Bracket w/hardware	1193
8	Hand Winch	1212
9	Cable Lock	14337
10	Adjustment Leveler	3075
11	Split Drum Winch	29428
12	Winch Drive Tube (4')	2884-1
13	Winch Drive Tube (8')	2884-2
14	Handle Shank	3148
15	Drill Adapter	2886

PVC Floor Pipe Assemblies

<u>Description</u>	<u>Small Cup Part No.</u>	<u>Med. Cup Part No.</u>	<u>Large Cup Part No.</u>
10 Cup, 12" Spacing--10' pipe	27429-10	27430-10	27431-10
7 Cup, 17" Spacing--10' pipe	27429-7	27430-7	27431-7
5 Cup, 24" Spacing--10' pipe	27429-5	27430-5	27431-5
4 Cup, 30" Spacing--10' pipe	27429-4	27430-4	27431-4
3 Cup, 40" Spacing--10' pipe	27429-3	27430-3	27431-3
2 Cup, 60" Spacing--10' pipe	N.A.	N.A.	27431-2

*The numbers listed include the standard valve, for Spring Valves, add a "SV" suffix to the part number. Ex. 27429-7SV.

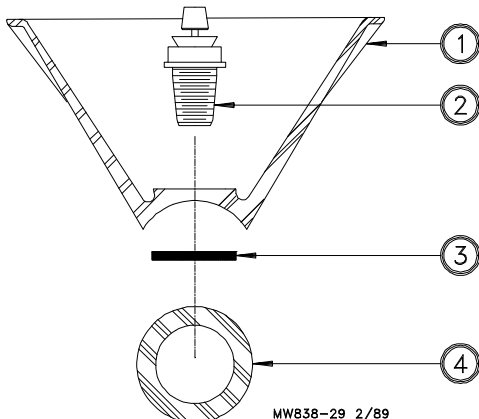
Floor Pipe Assemblies include . . .



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Cup Components

<u>Item</u>	<u>Description</u>	<u>Part No.</u>
1	Cup (small)	7672
	Cup (medium)	25299
	Cup (large)	27627-3
2	1/8" NPT Valve Assembly	24525
3	Plastic Valve Gasket	7602
4	PVC Floor Water Pipe	----

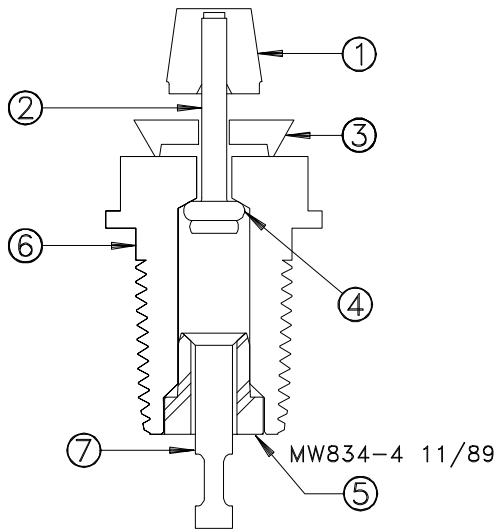


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Use ONLY
Authorized

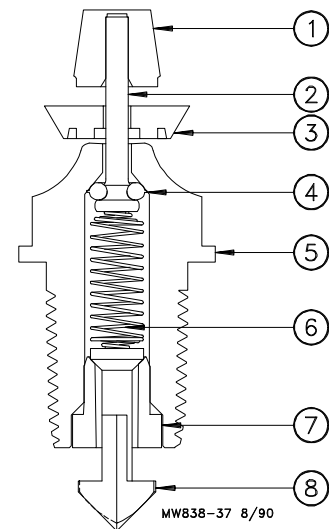


Replacement Parts.



24525 Valve Components

ITEM	DESCRIPTION	PART NO.
1	Trigger	24524
2	"O" Ring Pin	14999
3	Deflector	7599
4	"O" Ring	24037
5	Bottom Insert	24597
6	Valve Body 1/8 NPT	24780-B
7	Reverse Check Pin	7596
-	"O" Ring and Pin Assembly	24526

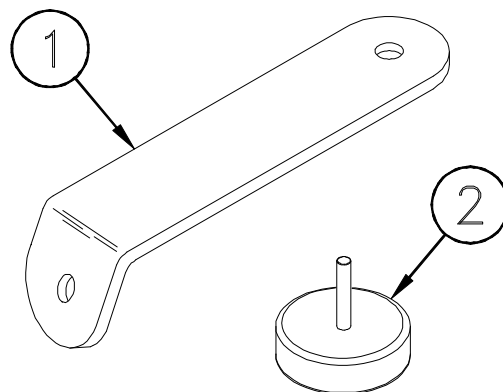


25200 Spring Valve Components

ITEM	DESCRIPTION	PART NO.
1	Trigger	24524
2	"O" Ring Pin	14999
3	Deflector	7599
4	"O" Ring	24037
5	Valve Body 1/8 NPT	25777-3
6	Spring	25818
7	Bottom Insert	24597
8	Reverse Check Pin	25153
-	"O" Ring and Pin Assembly	24526

Assembly Tools

ITEM	DESCRIPTION	PART NO.
1	Trigger Assembly Tool	24623
2	Valve Assembly Tool	13617
-	PVC Cement (gallon)	6303-1
-	PVC Cement (pint)	6303-2



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Troubleshooting Guidelines

All cups running over:

- Check for pressure drop from water supply
- Water Filter Clogged
- Check for proper pressure regulator setting
- Check that control valves are fully opened
- Supply hoses pinched

Sections of cups running over:

- Check for air in lines

Individual cups running over:

- Usually trash in the valve. Trigger valve to flush particles out of valve. Repeat as necessary.

Birds not getting enough water:

- Restricted flow (see above)
- Pressure set too high on young birds
- Waterer lines adjusted too high

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Made to work.
Built to last.

Contact your local CHORE-TIME distributor or representative for additional information or parts.

Please have the following information available when you call:

1. Year the system was purchased
2. Line length and cup spacing
3. Trigger length and color of valve components

P.O. Box 2000, Milford, Indiana 46542-2000 U.S.A.

Phone: 219-658-4101