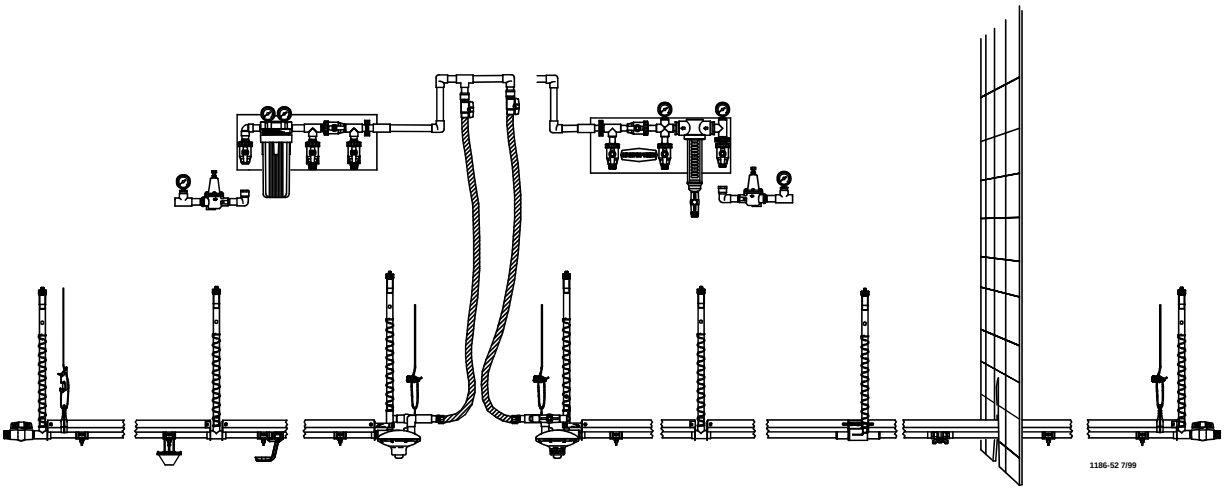
CHORE-TIME®

Nipple Watering
Installation & Operator's Instruction Manual



September 1999 **MW1186E**

Chore-Time Warranty

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.

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.

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Contents

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

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General

Support Information

This manual is designed to provide comprehensive planning, 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 ordered 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.***

CE

_____

(CE-mark serial number)

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 _____

_____

About This Manual

The intent of this manual is to help you in two ways. One is to follow step-by-step in the order of assembly of your product. The other way is for easy reference if you have questions in a particular area.

Important ! **Read ALL instructions carefully before starting construction.**

Important ! **Pay particular attention to all SAFETY information.**

- *Metric measurements are shown in millimeters and in brackets, unless otherwise specified.* " " equals inches and " ' " equals feet in English measurements.
  Examples:
  1" [25.4]
  4' [1 219]
- Optional equipment contains necessary instructions for assembly or operation.
- Major changes from the last printing will be listed on the back cover.

- This Planning Symbol is used in areas where planning needs to take place before construction continues.
- Very small numbers near an illustration (*i.e.*, 1257-48) are identification of the graphic, not a part number.

Tools for Installation

1. Regular Screwdriver
2. Locking Pliers
3. File
4. Saw to cut PVC Tubes
5. Screw-Hook Driver
6. Bolt Cutters or Hack Saw
7. PVC Cleaning Solvent
8. Electrical Drill and Drill Bits
9. Another Person to help

General Information

It is extremely important to maintain good water quality. Good water quality maximizes performance of the equipment, minimizes maintenance and repair, and increases the life of the system. The water should be free of foreign particles.

Pump the well 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.

CHORE-TIME recommends an incoming water pressure between 40 p.s.i. *[2.9 kg/cm^2]* minimum and 125 p.s.i. *[8.8 kg/cm2]* maximum for use with the 29950 Control Panel and 35308 Step Regulator. A pressure of 45 p.s.i. *[3.2 kg/cm^2]* is best.

For every 28" *[711 mm]* drop in height, water pressure increases one pound. Measure the operating pressure at the water line height.

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 supply line should be larger. Also depending on the distance from the well(s) to the Filter Control Panel, larger lines may be required.

The suspension system must be correctly installed to insure proper operation of the system. This manual includes the suspension installation information.

The CHORE-TIME Nipple Drinker is available with Nipples spaced 6" *[150 mm]*, 8" *[200 mm]*, 10" *[250 mm]*, 12" *[300 mm]*, 15" *[380 mm]*, 20" *[508 mm]*, or 24" *[610 mm]* on the 10' *[3 m]* pipe.

Water lines up to 400' *[122 m]* may be supplied using (1) Inlet Assembly. Water lines over 400' *[122 m]* must be split in the center of the house and supplied with (2) Inlet Assemblies. However the management of the lines over 250' *[76 m]* becomes more critical. They must be kept very level, flushed, and cleaned several times per flock.

The CHORE-TIME Nipple Drinker is available with the standard Support Channel for broiler applications. The Chore-Time Nipple Drinker is also available with the heavy Support Channel for pullets and breeders. Figure 1 shows the difference between the standard and heavy Support Channel with and standard and Button Nipple Assemblies.

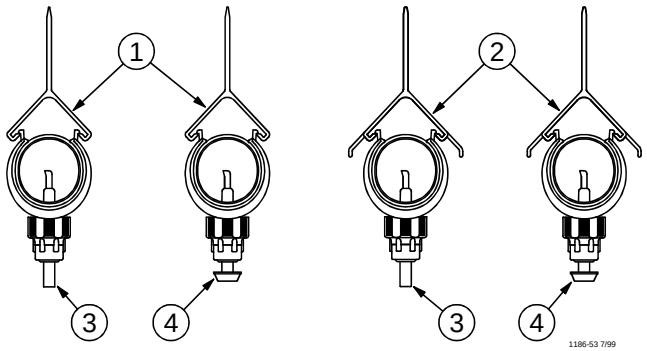


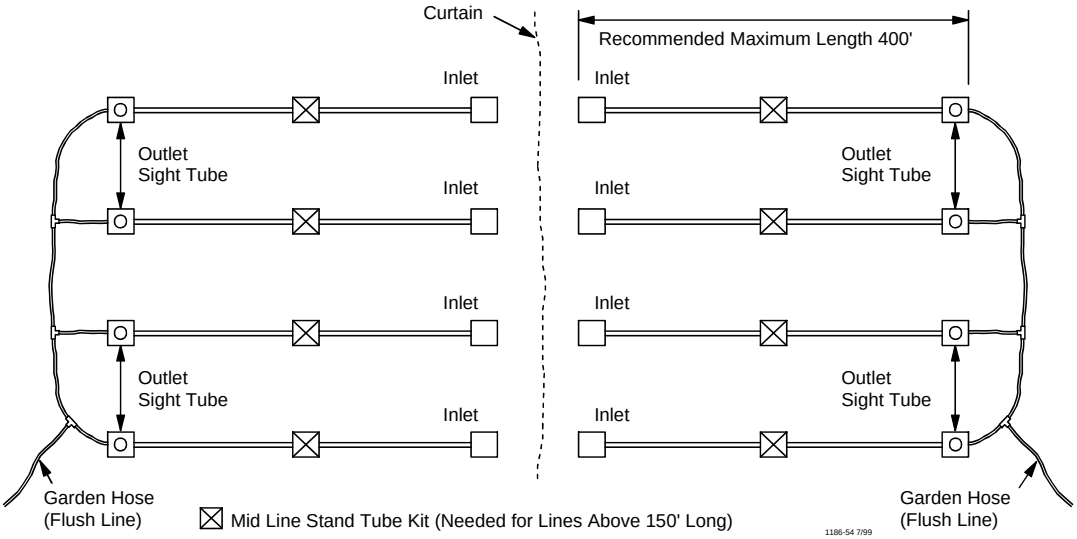
Figure 1. Various Drinker Styles (Side View)

Item	Description
1	Standard Support Channel
2	Heavy Duty Support Channel
3	Standard Nipple Assembly
4	Button Nipple Assembly

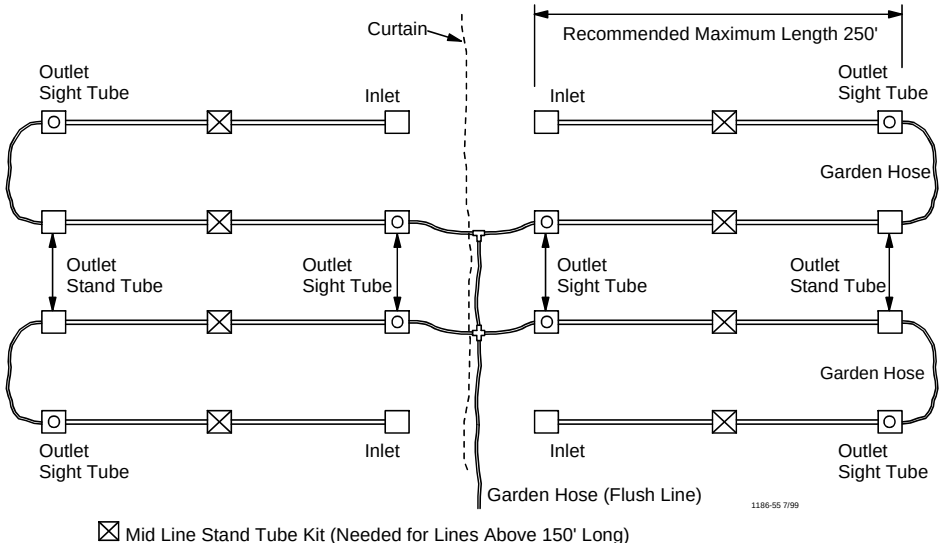
Planning the System Layout

The diagrams below reflect approved system layouts. Use these diagrams as guidelines. Your system layout may be different.

Preferred Layout

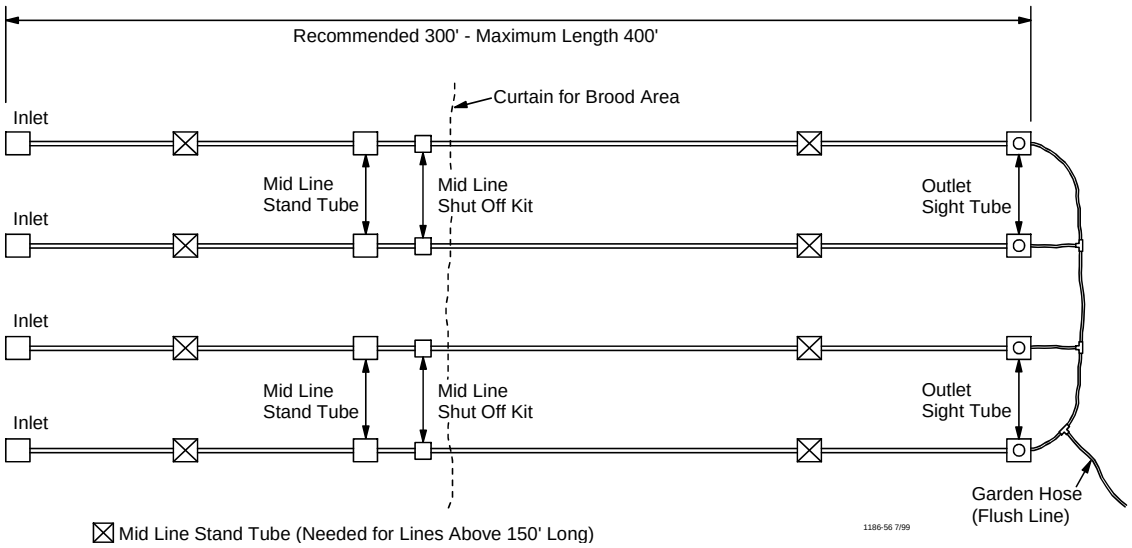


Alternate Layout #1



Planning the System Layout (continued)

Alternate Layout #2



Suspension System Installation

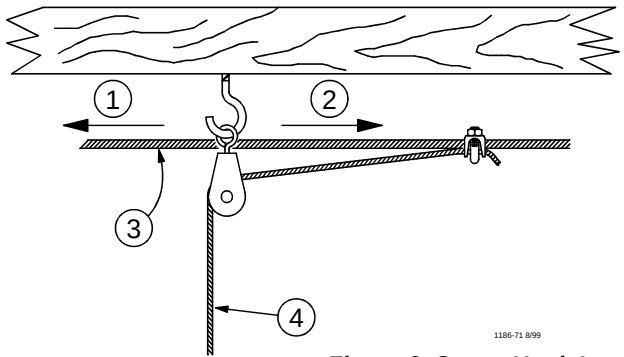
The following installation instructions are for standard installations. For Partial House Brooding, the sections can be winched separately or together. Install each section as a separate section.

1. Determine where the water line is to be installed. 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. For installations using wood trusses, the standard screw hook or the optional Ceiling Hook may be used to hold the pulley Assemblies.

   For installations using steel trusses, the Ceiling Hooks are available to hold the pulley Assemblies.

   Screw Hook Installations: Install screw hooks along the line at 8’ *[2.4 m]* or 10’ *[3 m]* intervals.

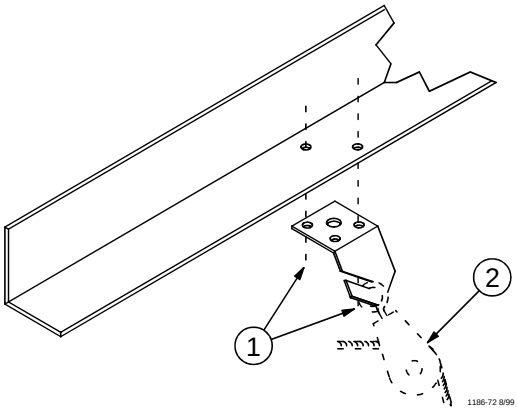
   Screw the threads all the way in to prevent bending. The opening of the hooks must point away from the direction the cable pulls. See **Figure 2**.



Item	Description
1	Screw Hook Opening
2	Direction of Cable pull
3	1/8" [3 mm] Cable
4	3/32" [2 mm] Cable

Figure 2. Screw Hook Installation (side view)

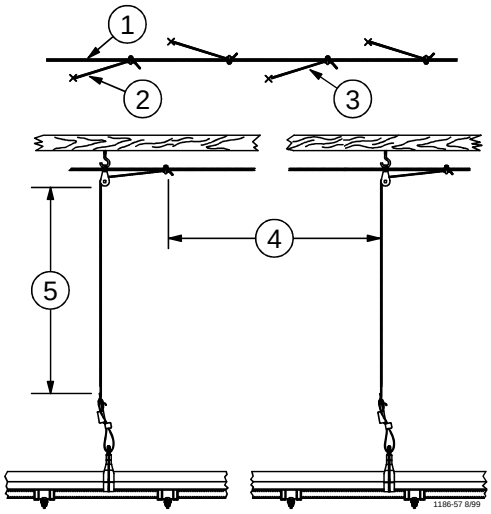
Ceiling Hook Installations: Install Ceiling Hooks along the line at 8' *[2.4 m]* or 10' *[3 m]* intervals. If the Ceiling Hook is to be secured with bolts or self-tapping screws, install as shown in **Figure 3**. The Ceiling Hooks may be welded in place, if desired, instead of bolting.



Item	Description
1	Secure with bolts and nuts or self-taping screws
2	Swivel Pulley

Figure 3. Ceiling Hook Installation (side view)

Note: If the distance the waterer is to be raised is greater than the distance between the pulleys, offset the pulleys from each other approximately 3" *[75 mm]*.



Item	Description
1	1/8" *[3 mm]* Winch Cable
2	Screw Hook Location
3	Drop Cable or Cord
4	Distance of Cable Trevel
5	Distance Water Line is to be Raised

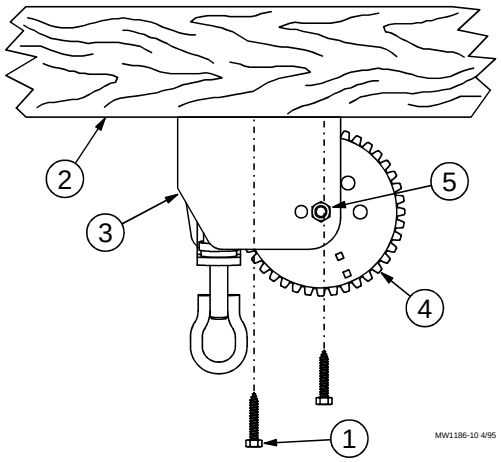
Figure 4. Offset the Screw/Ceiling Hooks (side view)

3. After the Screw Hooks or Ceiling Hooks have been secured to the trusses, install the pulley assemblies as shown in **Figures 2 & 3**. Make sure the Screw Hooks or Ceiling Hooks are pointing in the proper direction (opposite the winch).

4. Mount the Split Drum Winch as shown in **Figure 4**. Mount the winch to the ceiling or on a 2x8" *[50x200 mm]* board spanning at least two rafters for support. Use at least (4) 1/4" lag screws (not supplied) to secure winch to support.

   For systems less than 150' *[46 m]*, the manual winch may be used in place of the split drum winch.

5. Bolt the winch to the bracket, as shown in **Figure 5**.



Item	Description
1	1/4" Lag Bolts
2	Ceiling
3	Winch Mounting Bracket
4	Winch
5	Secure the Winch to the Winch Mounting Bracket using supplied Bolt, Washer, and Nut

Figure 5. Winch Mounting (side view)

6. Attach one end of the 3/16" *[4.8 mm]* cable to the winch as shown in **Figure 6**. Unroll the cable along the length of the water line.

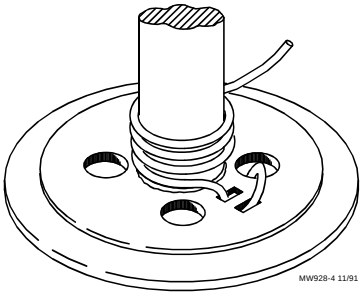


Figure 6. Cable Wrap on Drum

7. Cut a section of the 3/32" *[2.3 mm]* cable or cord for each suspension drop. The cable or cord should be approximately three feet *[91 cm]* longer than the distance from the floor to the ceiling so that it can be attached at the top and bottom.

   Route the cable or cord around the Swivel Pulley and attach to the main cable, using a clamp.

8. Cable drop installations: Install an Adjustment Leveler on each drop line. See **Figure 7A**.

   Cord drop installations: Install a Cord Adjuster on each drop line. See **Figure 7B**.

   "S" Hooks, not supplied, may be installed on the cable loop formed by the Adjustment Leveler.

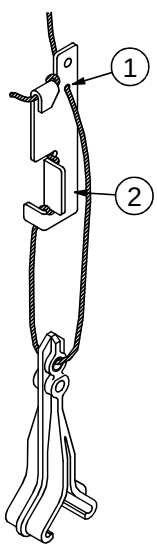


Figure 7A. Cable Drop Installation

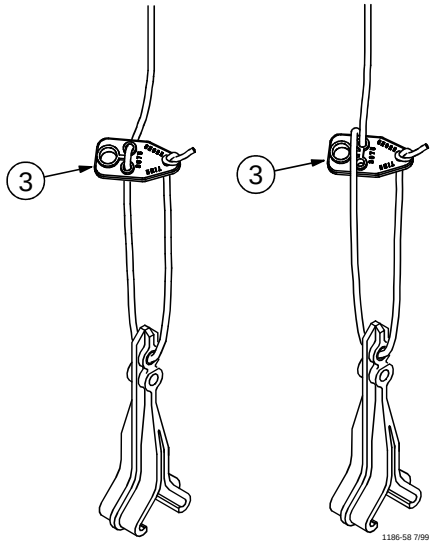


Figure 7B. Cord Drop Installation

Item	Description
1	Use the small hole for 3/32" *[2 mm]* Cable
2	Cable Adjustment hanger
3	Cord Adjuster

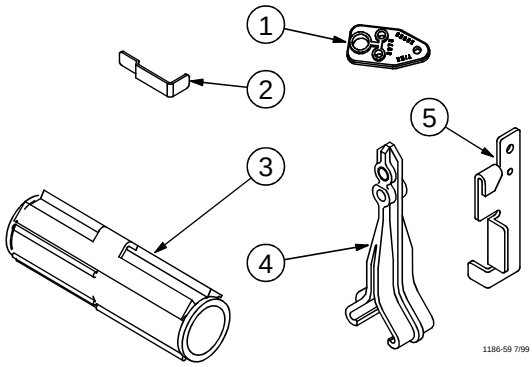
Helpful Hint:It may be necessary to fasten a weight to the end of the main cable to maintain tension while connecting the drop lines, etc.

Assembling and Hanging the Water Line

Raise the suspension to a convenient working height.

A nail apron may be used to carry Hangers, Connectors, Expansion Joints, Keys, Adjustment Levelers, or Cord Adjusters.

Figure 8 identifies several of the primary components used with the Nipple Waterer.



Item	Description
1	Cord Adjuster
2	Key
3	Coupler
4	Hanger
5	Adjustment Leveler

Figure 8. Nipple Waterer Components

Assemble and install the Inlet Assembly, as shown in **Figure 9**.

1. Install the thread-to-slip fitting in the side of the Inlet Assembly. Make sure the teflon tape is properly wrapped around the threads prior to installation. Do not use oil-based pipe compound.
2. Locate a Hanger (item #5) on the water pipe, as shown in **Figure 9**.

   Slide the first water pipe into the fitting. Use PVC cement to secure in place.
3. Install the Inlet Bracket, as shown in **Figure 9**. Use the hole in the Inlet Bracket as a template to determine hole location in Support Channel. Use hardware supplied to secure the Inlet Bracket to the Support Channel.
4. The Stand Tube is supplied with the Inlet Assembly.

   Slide the Stand Tube Assembly down onto the Inlet Assembly, as shown in **Figure 9**.
5. The inlet end components must be supported by a suspension drop line, as shown in **Figure 9**.

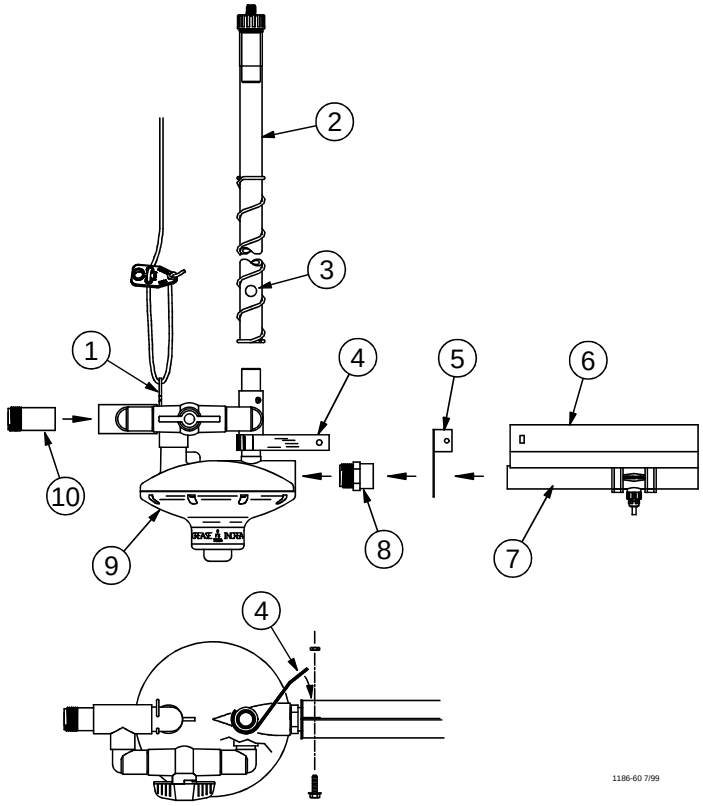


Figure 9. Inlet End Components

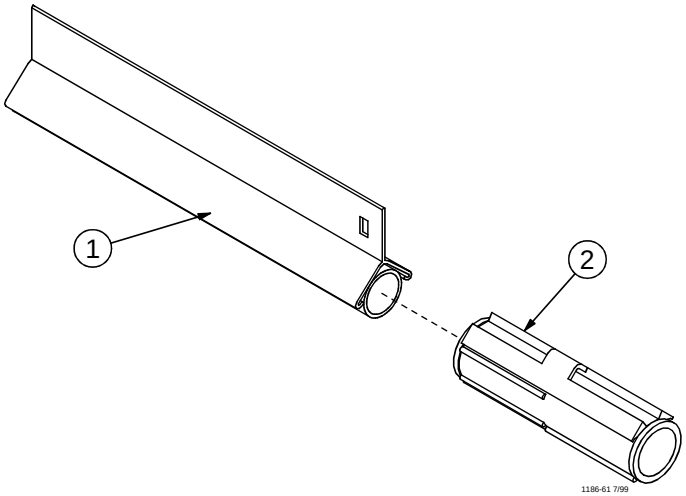
Item	Description
1	Regulator Hanger
2	Stand Tube Assembly
3	Stand Tube Float
4	Inlet Bracket
5	Hanger

Item	Description
6	Support Channel
7	Water Pipe
8	Threat-to-Slip Fitting
9	Inlet Regulator
10	Male Adapter Fitting

Install Coupling Liner Assembly on the end of the water pipe, as shown in **Figure 10**. Insert the pipe until it contacts the Stop Rib inside the Coupling Liner Assembly.

Note: It may be necessary to lubricate the inside of the Coupler Liner with soapy water to allow for easy installation.

Insert the next pipe into the other end of the Coupling Liner Assembly until it contacts the Stop Rib inside the Coupling Liner Assembly.



Item	Description
1	Support Channel
2	Coupling Liner Assembly

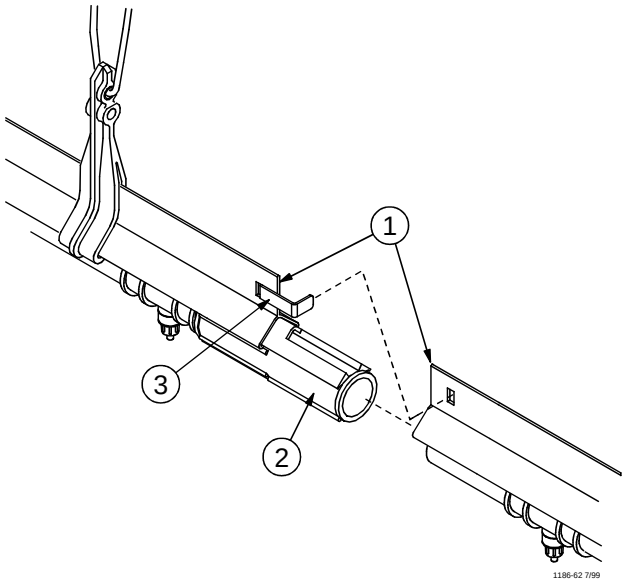
Figure 10. Coupling Liner Assembly Installation

Make sure the water pipes are fully inserted into the Coupling Liner Assembly.

Note: The Support Channels will be butted against each other when the Coupling Liner is properly installed.

Insert the Key into the first Support Channel, as shown in **Figure 11**. Insert the tab of the Key through the hole in the second Support Channel. Once installed, bend the tab to secure it in place. This will prevent the water lines from separating at the joints.

Install a Hanger, as shown in **Figure 11**, at each Drop Line location.



Item	Description
1	Support Channel
2	Coupling Liner Assembly
3	Key

Figure 11. Securing the Water Line together

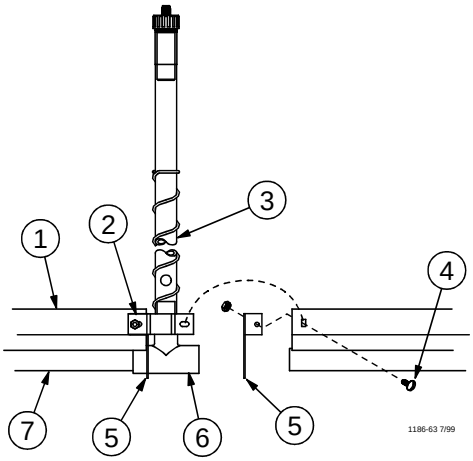
One Mid Line Stand Tube is required for every 150' *[46 m]* of Nipple Waterer Line. See **Figure 12**.

Slide a Hanger over the first side of the Tee to have the water pipe installed. Make sure the flat flange with the hole is toward the Support Channel.

Insert the water pipe into the tee. The water pipe should be glued in the tee using PVC cement.

Secure the Hanger to the Support Channel using the 10-24 stainless steel truss head screw and lock nut, supplied.

Repeat this procedure on the opposite side of the Mid Line Stand Tube Kit.



Item	Description
1	Support Channel
2	Channel Support Bracket
3	Mid Line Stand Tube
4	Stainless Steel 10/24 Hardware
5	Hanger
6	Mid Line Stand Tube Tee
7	Water Pipe

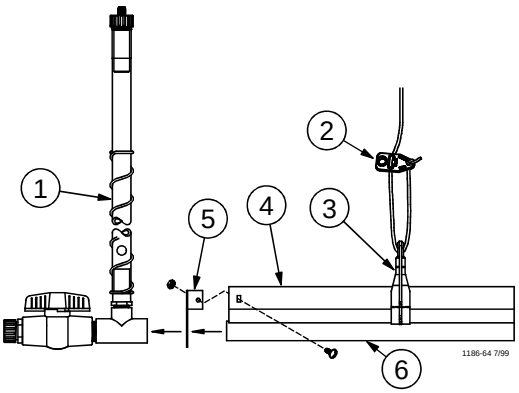
Figure 12. Mid Line Stand Tube Installation

The Outlet Assembly is shipped completely assembled.

The outlet end must be located directly under a suspension drop line. This may require adding an additional suspension drop line or cutting the last section of water to stop directly under an existing drop line.

Install the Outlet Assembly, as shown in **Figure 13**. Make sure the Hanger is properly oriented on the Outlet Assembly Tee prior to securing the water line with PVC cement.

Secure the Hanger to the Support Channel, as shown in **Figure 13**. If the water line was shortened to terminate under a suspension drop line, it may be necessary to drill a hole in the Support Channel for the 10-24 stainless truss head screw and lock nut. The Hanger may be used as a template to determine proper hole location.



Item	Description
1	Stand Tube Outlet Assembly
2	Cord Adjuster
3	Hanger
4	Support Channel
5	Hanger
6	Water Pipe

Figure 13. Outlet Assembly Installation

Optional Equipment: The Mid Line Shut-Off Valve may be located at any convenient location along the water line, except next to a joint.

Determine the desired location for the Mid Line Shut-Off Valve.

Use a flat screw driver to carefully pry 3 or 4 Saddles away from the Support Channel. This will allow easy access to the water pipe for cutting.

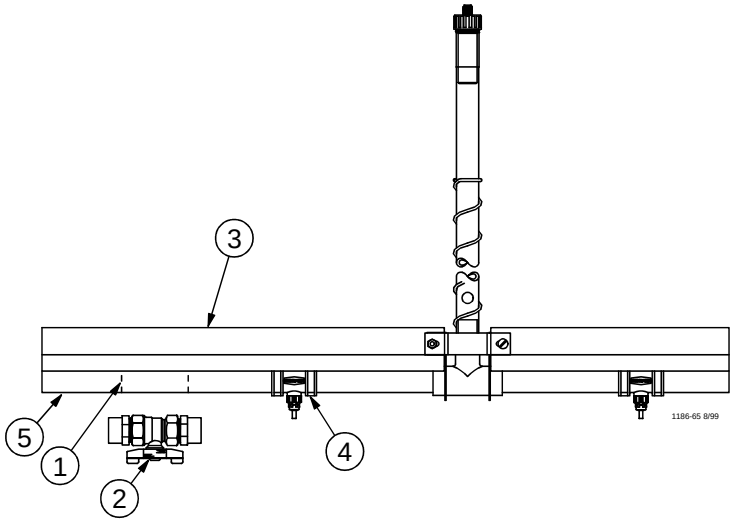
Use PVC pipe cutters to cut a section out of the water pipe. See **Figure 14**. The Shut-Off Valve may be used as a template to determine the required size of the cut.

Apply PVC cement to the couplers on the Mid Line Shut-Off Valve Assembly.

Install the Mid Line Shut-Off Valve on the water line.

Reinstall the Saddles, previously loosened, in the Support Channel.

Note: Chore-Time recommends installing a Mid Line Stand Tube at the first joint preceding a Mid Line Shut-Off Valve to insure proper air removal from the water line.



Item	Description
1	Cut-out section of Water Pipe
2	Mid Line Shut Off Valve
3	Support Channel
4	Saddle
5	Water Pipe

Figure 14. Mid Line Shut-Off Valve Installation

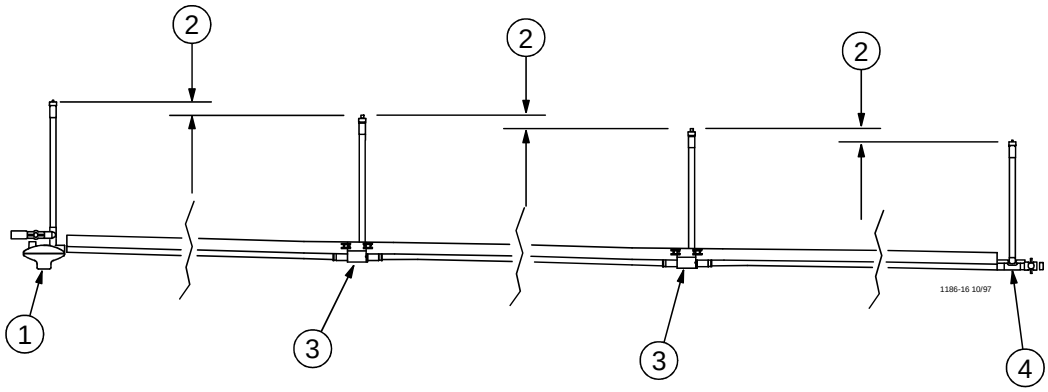
Optional Equipment: The *Slope Compensator* is used in houses that have a gradual slope over the length of the system. The Slope Regulator allows the water pressure to be re-adjusted along the line.

The inlet end of the Slope Compensator must be at the top of the slope. Arrow must point in direction of waterflow. Do not attempt to push water uphill.

The maximum amount of drop between the Inlet Assembly and the Slope Compensator, or between two Slope Compensator, or between the Slope Compensator and the Outlet Assembly is 4 inches *[100 mm]*. See **Figure 15**.

The maximum number of Slope Compensator used on any one water line is six.

The maximum amount of slope over any water line is 28 inches *[71 cm]* of drop. See **Figure 15**.



Item	Description
1	Inlet Assembly
2	4" *[100 mm]* Max. Slope
3	Slope Compensator
4	Outlet Assembly

Figure 15. Slope Compensator Assembly Installation

Filter 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 Step Down Regulator and Gauge Assembly is used to reduce the water pressure supplying the Filter Control Panel. Adjust the operating pressure as recommended in the Nipple Waterer Quick Reference Sheet. See page 31.

The Filter Control Panel and Step Down Regulator should be installed in a convenient location where incoming and outgoing water supply lines can be easily run. The 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 wall or post using lag bolts (not supplied).

The Step Down Regulator and Gauge Assembly is shipped un-assembled. Assemble the Step Down Regulator and Gauge Assembly components as specified in the instruction (MW1052) shipped with the kit.

Connect the Step Down Regulator and Gauge Assembly to the Filter Control Panel, as shown in **Figure 16**.

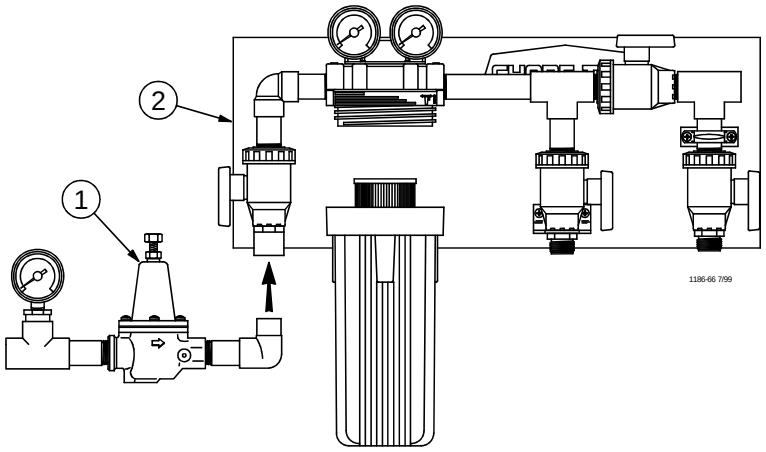


Figure 16. Control Panel Installation

Item	Description
1	Part No. 35308: Step Down Regulator and Gauge Kit (shipped un-assembled)
2	Part No. 9275: Filter Control Panel (shipped assembled)

Flushable Filter Control Panel Installation

(optional alternative to the standard Filter Control Panel)

The Flushable Filter Control Panel is used to remove foreign material from the incoming water, and, if necessary, add medication to the water. This Control Panel features a filter that may be removed, cleaned, then reinstalled.

Two versions of the Filter Control Panel are available.

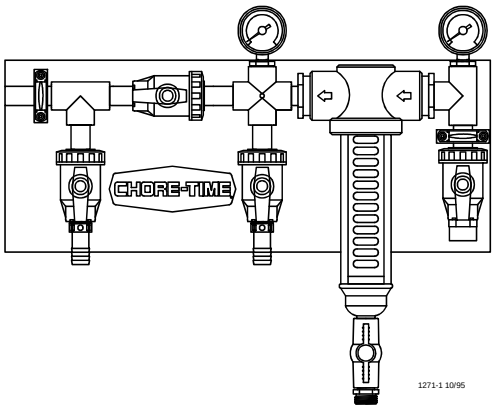
The low pressure version is designed to accommodate gravity flow systems with 5 - 10 p.s.i *[34.5 - 69.0 kPa]*. Do not exceed 15 p.s.i. *[103.4 kPa]* with this Control Panel, or damage will occur to the gauges.

Systems with 11+ p.s.i. *[75.8+ kPa]* should use the high pressure Control Panel and a Step Down Regulator (order separately).

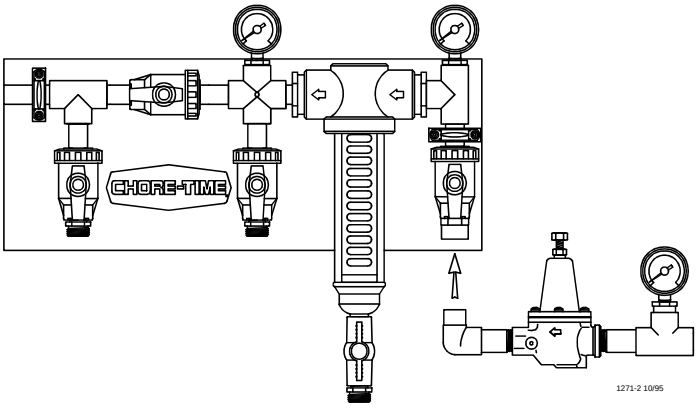
The Filter Control Panel should be installed in a convenient location where incoming and outgoing water supply lines can be easily run. The control panel must be out of the reach of birds.

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

The Gauge Assembly is shipped un-assembled. Assemble the Gauge Assembly components as specified in the instruction (MW1052) shipped with the kit.



Low Pressure Control Panel
Part Number 36802-1
(5-10 p.s.i. *[34.5 - 69.0 kPa]*)



High Pressure Control Panel
Part Number 36802-2
(11+ p.s.i. *[75.8+ kPa]*)

Anti-Roost Installation

Pullet and breeder applications require the Anti-Roost System to be installed. This prevents the birds from setting on the water line.

Figure 18 shows an overview of the Anti-Roost System. Notice that each length of water line between Inlet Assemblies, Mid Line Stand Tubes, Outlet Assemblies, etc., are separate Anti-Roost lines connected with jumper wires.

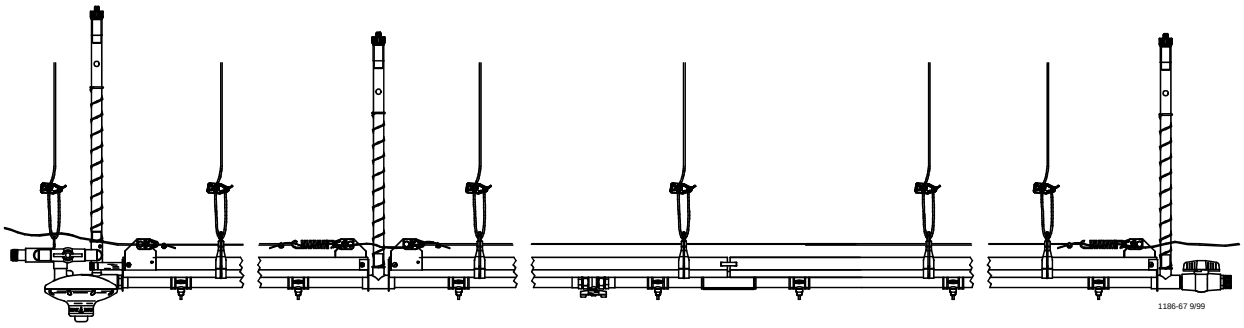


Figure 18. Anti-Roost System Overview

1. Make certain that an Anchor Plate with Adjustment Leveler is installed at the beginning and end of each anti-roost line. See **Figure 19**.
2. Install a GRAY Hanger every 30" *[762 mm]* on systems using 10’ *[3 m]* suspension.

   Install a GRAY Hanger every 32" *[813 mm]* on systems using 8’ *[2.4 m]* suspension.
3. Beginning at the first GRAY Hanger, thread the shocker cable the full length of the anti-roost line. Allow approximately 24" *[610 mm]* extra and cut the cable.
4. Create a small loop with the cable and a cable clamp.
5. Connect the cable loop to the Adjustment Leveler/Anchor Plate.
6. Install a spring on the Adjustment Leveler/Anchor Plate near the Inlet Assembly.
7. Pull the cable taught and create a small loop with the cable and a cable clamp.
8. Connect the cable to the spring.
9. The spring should be stretched to an overall length of approximately 8" *[203 mm]*. Adjust as required.
10. Repeat the above procedure on each of the anti-roost lines.
11. Use a short section of Shocker Wire to connect individual anti-roost lines at each Mid Line Stand Tube, Air Remover, etc.
12. Secure the Poultry Trainer to a wall or post near the water line.

    Chore-Time recommends wiring the Poultry Trainer into separate electrical circuit that can be switched at the door.

    Refer to the instructions supplied with the Poultry Trainer for wiring information.

    Note: Make sure that the Support Channel is attached to ground (to insure proper operation of the Poultry Trainer). See **Figure 19**.

It will be necessary to install a jumper wire at Stand Tube, Inlet Assemblies, etc., to insure the ground circuit. See **Figure 19**.

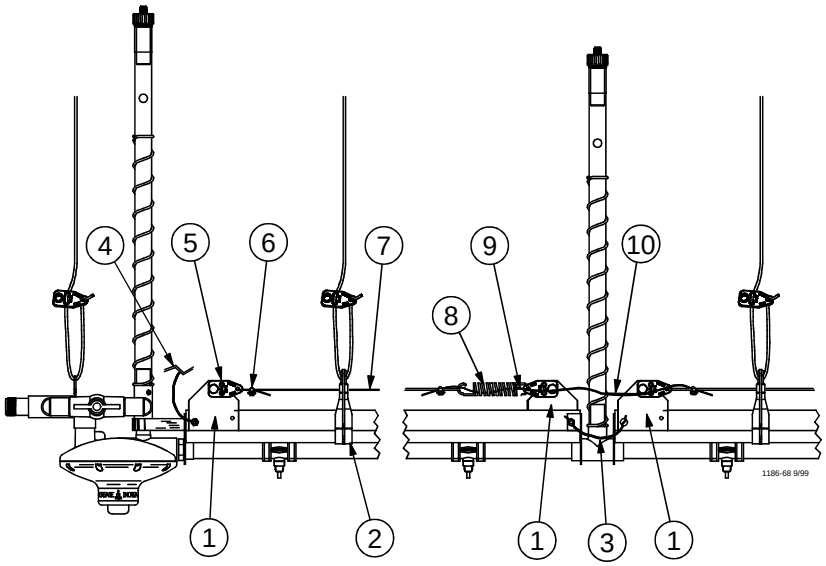


Figure 19. Anti-Roost Components

Item	Description
1	Anchor Plate
2	Support Channel Hanger (Gray)
3	Ground Wire Jumper (not supplied)
4	Route to Ground
5	Adjustment Leveler
6	Cable Clamp
7	Shocker Cable
8	Extension Spring
9	Route Shocker Cable through Center of Spring
10	Jumper Wire

Installing the Flush System

The flush system provides convenient one-man system purging.

CHORE-TIME recommends flushing one line at a time to most thoroughly clean each line.

The Flush Kit includes the required components to flush (4) water lines. The hose must be purchased locally.

Install the Flush components as shown in **Figure 20**.

1. Measure and cut the hose to the required lengths for your individual system. Notice that the hose must exit through the building wall between 48" *[121 cm]* and 60" *[152 cm]* above floor level. Slope houses require exiting at approximately 60" *[152 cm]*.

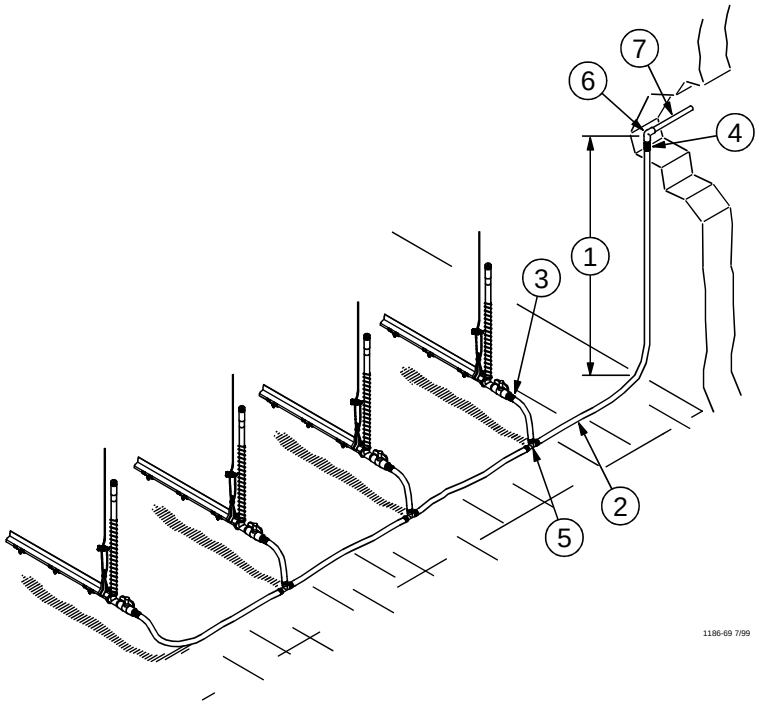


Figure 20. Flush System Component Layout Diagram

Item	Description
1	Approximately 48" *[1219 mm]* to 60" *[1524 mm]* above floor level
2	3/4" Hose
3	Female Hose Coupler
4	3/4" Hose Barb / 3/4" Threaded Fitting Assembly
5	3/4" Tee
6	3/4" Elbow (Thread to Slip)
7	3/4" PVC Pipe (must not be angled down)

2. Slide Female Hose Couplers into the end of the (4) hoses to be directly connected to the Outlet Assembly. Secure with hose clamps. See **Figure 21**.

3. Install the (3) Tees at the locations shown using hose clamps supplied. See **Figure 21**.

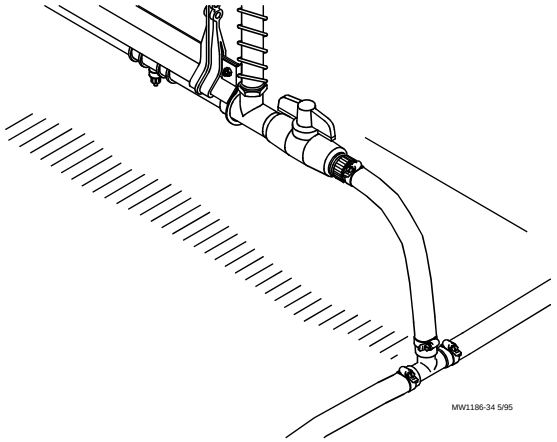


Figure 21. Flush System Component Connection Diagram

4. Install the 3/4 in. Hose Barb to 3/4 in. Pipe Thread Fitting in the end of the drain hose exiting up the side wall of the building. See **Figure 22**.

5. Thread the 3/4 in. Elbow onto the 3/4 in. Fitting. See **Figure 22**.

6. Slip a straight 3/4 in. PVC Pipe into the 3/4 in. Elbow. Secure using PVC cement.

Note: A siphon will be created if the 3/4 in. PVC pipe is angled down after exiting the building. Do not install a pipe or hose outside the building.

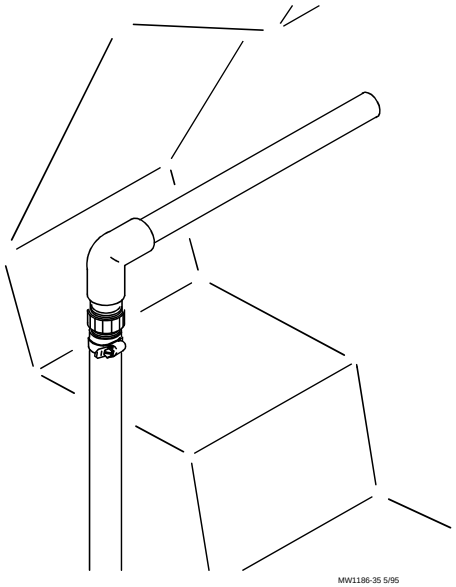
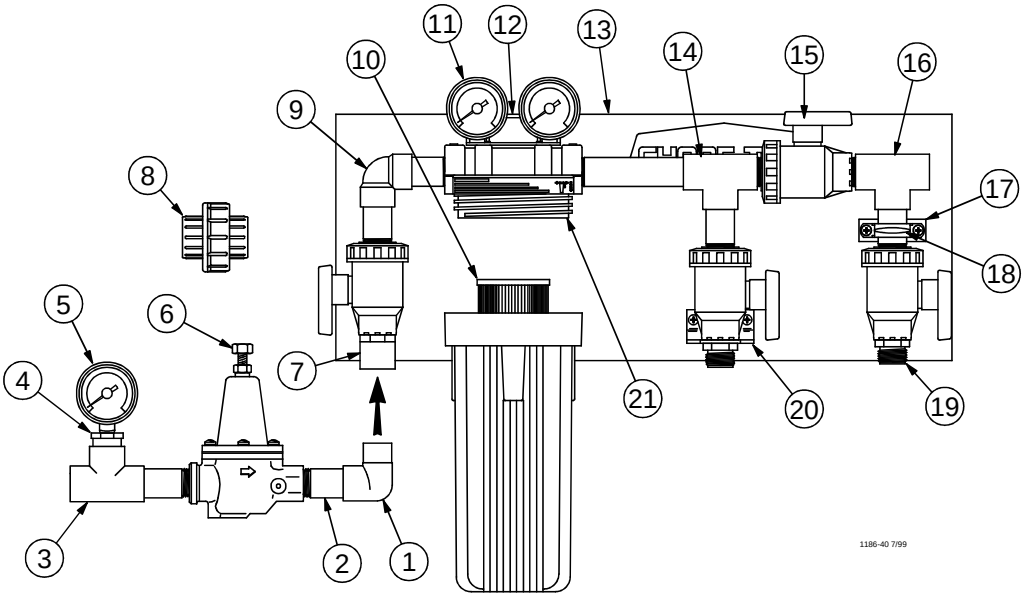


Figure 22. Flush System Component Connection Diagram

Parts Listing

Filter Control Panel with Step Regulator

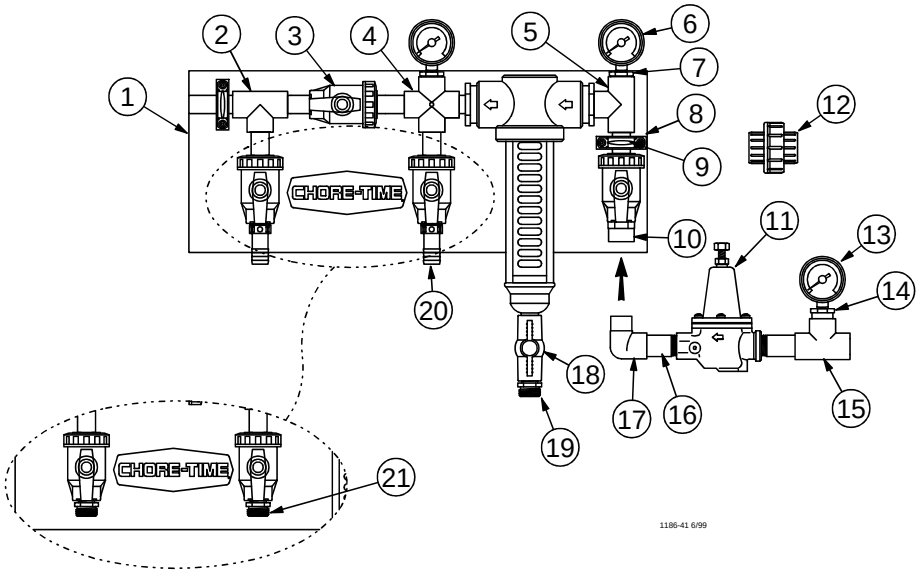


Item	Description	Part No.
1*	3/4" PVC Street Ell	30138
2*	3/4" Threaded PVC Nipple	7531-1
3*	3/4" PVC Tee	7538
4*	3/4x1/4 Reducer Bushing	7789
5*	High Press. Water Gauge	7718
6*	Regulator	29951
7**	3/4" PVC Male Adapter	9229
8*	Union	8137
9**	Filter Inlet Assembly	35306
10**	10 Micron Filter Cartridge (optional) 20 Micron Filter Cartridge (standard) 100 Micron Filter Cartridge (optional)	13145 7723 9278
11**	High Press. Water Gauge	7718
12**	Filter Mounting Bracket	35302
13**	Mounting Board	35303
14**	Filter Outlet Assembly	35304
15**	3/4" Quarter Turn Valve	36720
16**	Medicator Outlet Assembly	35305
17**	Standoff Block	35300
18**	Plastic Conduit Clamp	35301
19**	3/4" Nylon Adapter	7543
20**	Meditator Connector Brace	35307
21**	Water Filter	35309

*These components may be ordered as an assembly under Part No. 35308.

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

Flushable Filter Control Panel
(Low Pressure Part No.: 36802-1 • High Pressure Part No.: 36802-2)



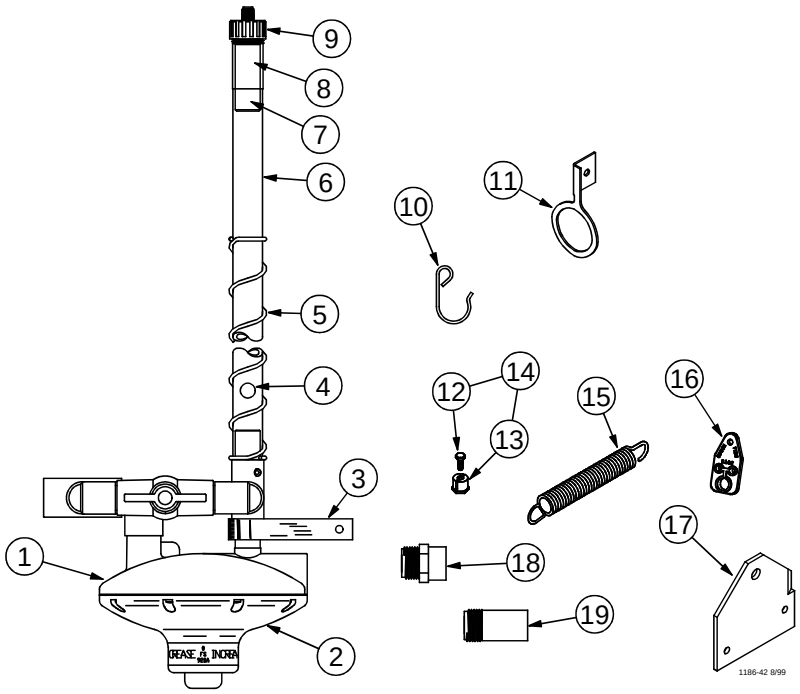
Item	Description	Low Press. Part No.	High Press. Part No.
1	Mounting Board	35303	35303
2	Medicator Outlet Assembly	36805	36805
3	3/4 in. Valve	36720	36720
4	3/4 in. Cross	7536	7536
5	Filter Inlet Assembly	36803	36803
6	Pressure Gauge	27722	7718
7	3/4 in. x 1/4 in. Reducer Bushing	7789	7789
8	Standoff Block	35300	35300
9	3/4 in. Plastic Conduit Clamp	35301	35301
10	3/4 in. PVC Male Adapter	9229	9229
11*	Step Regulator	29951	- - - -
12*	Union	8137	- - - -
13*	High Pressure Gauge	7718	- - - -
14*	3/4 in. x 1/4 in. Reducer Bushing	7789	- - - -
15*	3/4 in. PVC Tee (SxSxS)	7538	- - - -
16	3/4 in. Threaded PVC Nipple	7531-1	- - - -
17	3/4 in. PVC Street Ell	30138	- - - -
18	1/2 in. Ball Valve	34961	34961
19	Nylon Adapter	29141	29141
20	3/4 in. Barb x 3/4 in. Pipe Adapter	- - - -	29422
21	3/4 in. Male Adapter	7543	- - - -

These parts may be ordered separately, if needed:

Description	Part No.
1/2 Pint PVC Cement	6303-3
Valve Repair Kit (for 3/4 in. Valves)	36804
Filter Repair Seal Kit	36807
Replacement 140 Mesh Filter	36809
Flushable Filter Assembly	36810

*Items 11 - 15 are not included with the Flushable Filter Control Panel. They may be ordered separately as an assembly under Part No. 35308.

Chore-Time Nipple Inlet Assembly



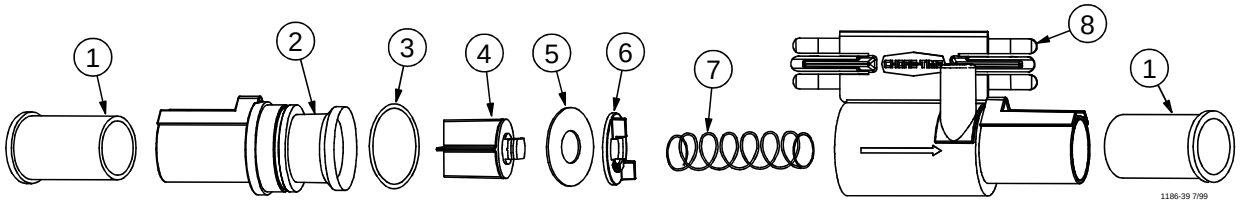
Item	Description	29145-2 Part No.	29145-3 Part No.
1*	Regulator Top with Manifold	41652	41652
2*	Regulator Assembly	30591	30591
3*	Stand Bracket	33900	33900
4*	Stand Tube Float	37142	37142
5	Stand Tube Spring	29408-1	29408-1
6	Flexible Tubing	29421-1	29421-1
7	PVC Bushing	30581	30581
8	Male Adapter Fitting	25098	25098
9	Vent Cap Assembly	38458	38458
10	Regulator Hanger	33891	33891
11	Hanger	35481	35481
12	#10-24 x 3/8 Hex Head Machine Screw	- - - -	1951
13	#10-24 Slotted Nut	- - - -	1840
14	Cable Clamp	- - - -	1826
15	Extension Spring	- - - -	25353
16	Adjustment Leveler	3075	3075
17	Anchor Plate	42807	42807
18	Taped Adapter	34100	34100
19	Male Adapter Fitting	25098	25098

Standard Equipment: Use the 29145-2 Nipple Inlet Assembly.

Heavy Channel applications: Use the 29145-3 Nipple Inlet Assembly. This includes components required for the anti-roost system.

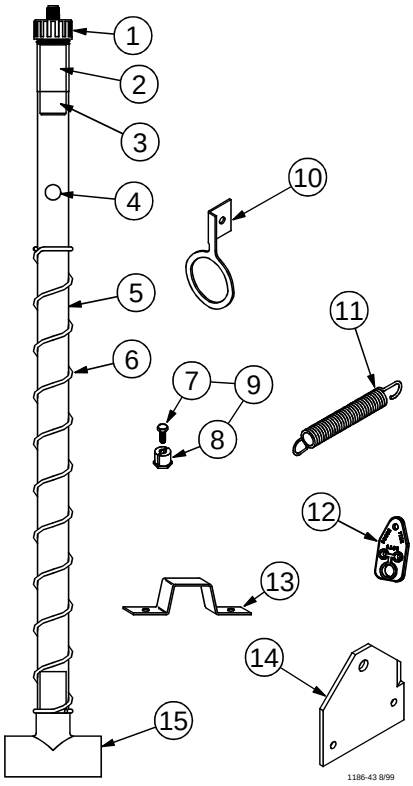
*These components may be ordered as an assembly under Part No. 33898.

Slope Compensator Assembly
Part Number 36500-3



Item	Description	Part No.
1	Half Liner	36501
2	Inlet Compensator	44259
3	O Ring	44015
4	Plunger Compensator	36503
5	Rubber Seal (1.500 x 0.040)	36502
6	Washer Retainer Compensator	37890
7	Slope Spring Comp.	37182-1
8	Outlet (w/ Fin, Vent) Compensator	40902-1
-	Stand Tube Assy (Not Shown)	39245

Mid Line Stand Tube Assembly



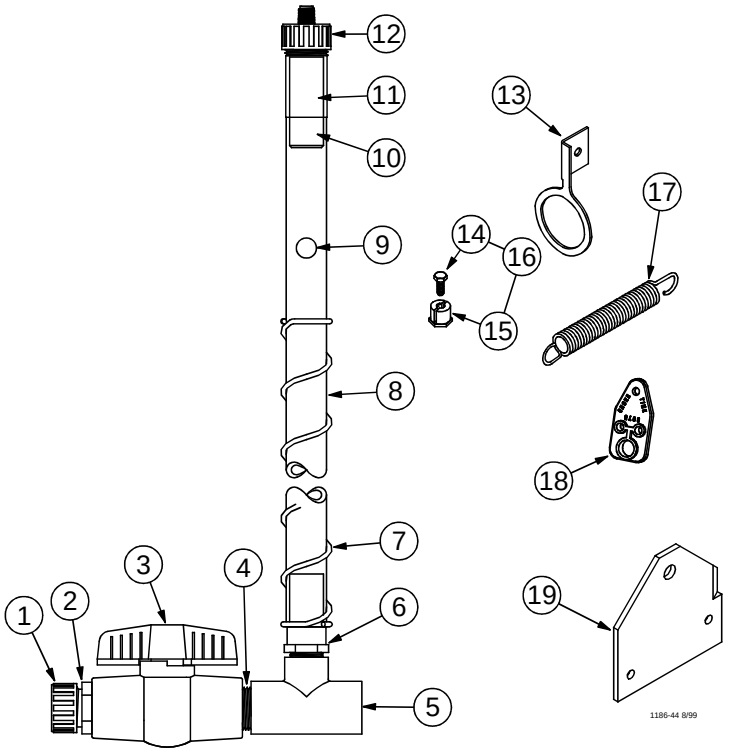
Item	Description	35777-1 Part No.	35777-2 Part No.
1*	Breather Cap Assembly	38458	38458
2*	3/4 in. Male Adapter	25098	25098
3*	PVC Bushing	30581	30581
4*	Blue Ball	37142	37142
5*	Flexible Tubing	29421-1	29421-1
6*	Stand Tube Spring	29408-1	29408-1
7	#10-24 x 3/8 Hex Head Machine Screw	- - - -	1951
8	#10-24 Slotted Nut	- - - -	1840
9	Cable Clamp	- - - -	1826
10	Hanger	35481	35481
11	Extension Spring	- - - -	25353
12	Adjustment Leveler	3075	3075
13	Channel Support Brkt.	34398	34398
14	Anchor Plate	- - - -	42807
15*	3/4 x 1/2 Tee	34401	34401

*These components may be ordered as a Stand Tube Assembly under Part No. 33898.

Standard Equipment: Use the 35777-1 Mid Line Stand Tube Assembly.

Heavy Channel applications: Use the 35777-2 Mid Line Stand Tube Assembly. This includes components required for the anti-roost system.

Stand Tube Outlet Assembly



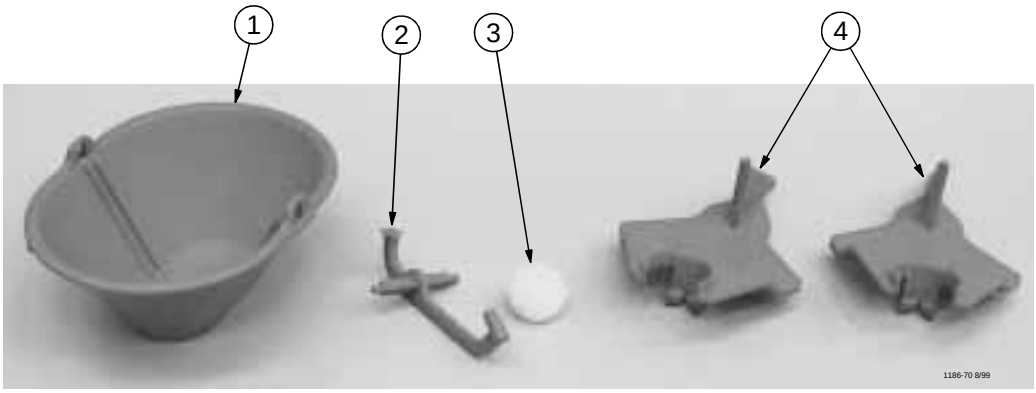
Item	Description	35779-1 Part No.	35779-2 Part No.
1	Hose Cap (incl. washer)	9811	9811
2	3/4 in. Nylon Adapter	7543	7543
3	3/4 in. Valve	35781	35781
4	Threaded Pipe	7531-4	7531-4
5	Reducing Tee	34777	34777
6	Adapter Assembly	34404	34404
7*	Spring	29408-1	29408-1
8*	Flexible Tubing	29421-1	29421-1
9*	Stand Tube Float	37142	37142
10*	PVC Bushing	30581	30581
11*	Male Adapter Fitting	25098	25098
12*	Vent Cap Assembly	29598	25598
13	Hanger	35481	35481
14	#10-24 x 3/8 Hex Head Machine Screw	- - - -	1951
15	#10-24 Slotted Nut	- - - -	1840
16	Cable Clamp	- - - -	1826
17	Extension Spring	- - - -	25353
18	Adjustment Leveler	3075	3075
19	Anchor Plate	- - - -	42807

*These components may be ordered as a Stand Tube Assembly under Part No. 33898.

Standard Equipment: Use the 35779-1 Stand Tube Outlet Assembly.

Heavy Channel applications: Use the 35779-2 Stand Tube Outlet Assembly. This includes components required for the anti-roost system.

Nipple Waterer Mini Drinker
Part Number 35412

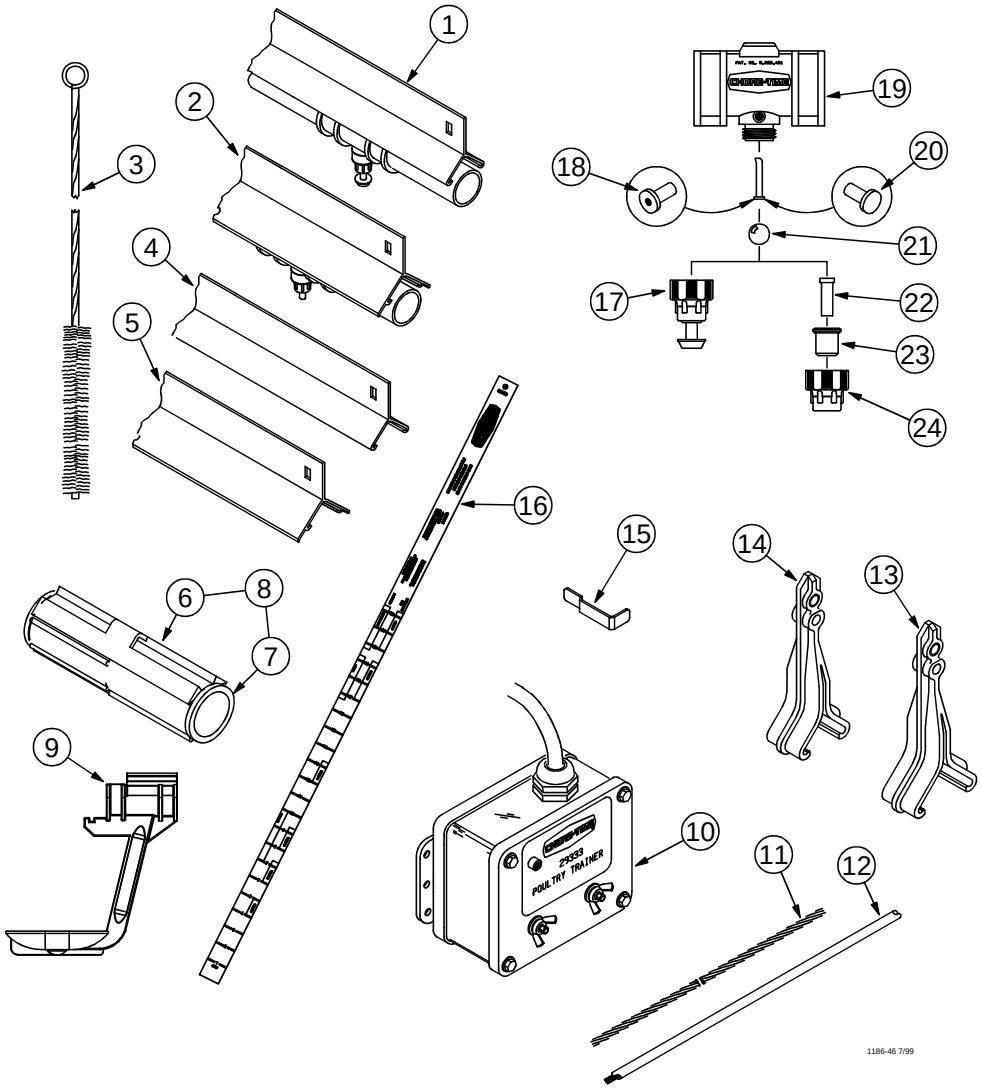


Item	Description	Part No.
1	Mini Drinker Bowl	34790
2	Pivot Arm	34791
3	Float Ball (small)	25026
4	Mounting Bracket (2 req'd)	34792

Nipple Waterer Miscellaneous Components

Item	Description	Standard Flow Part No.	High Flow Part No.	Reduced Flow Part No.
1	Standard Channel Nipple Drinker Assembly			
	6 in. spacing (24 Nipples)	34261-1	38253-1	
	8 in. spacing (15 Nipples)	34261-2	38253-2	
	10 in. spacing (12 Nipples)	34261-3	38253-3	
	12 in. spacing (10 Nipples)	34261-4	38253-4	
	15 in. spacing (8 Nipples)	34261-5	38253-5	
	20 in. spacing (6 Nipples)	34261-6	38253-6	
	24 in. spacing (5 Nipples)	34261-7	38253-7	
	6 in. spacing (24 Button Nipples)	34261-1B	38253-1B	
	8 in. spacing (15 Button Nipples)	34261-2B	38253-2B	
	10 in. spacing (12 Button Nipples)	34261-3B	38253-3B	
	12 in. spacing (10 Button Nipples)	34261-4B	38253-4B	
	15 in. spacing (8 Button Nipples)	34261-5B	38253-5B	
	20 in. spacing (6 Button Nipples)	34261-6B	38253-6B	
	24 in. spacing (5 Button Nipples)	34261-7B	38253-7B	
2	Heavy Channel Nipple Drinker Assembly			
	6 in. spacing (24 Nipples)	34844-1	35772-1	43260-1
	8 in. spacing (15 Nipples)	34844-2	35772-2	43260-2
	10 in. spacing (12 Nipples)	34844-3	35772-3	43260-3
	12 in. spacing (10 Nipples)	34844-4	35772-4	43260-4
	15 in. spacing (8 Nipples)	34844-5	35772-5	43260-5
	20 in. spacing (6 Nipples)	34844-6	35772-6	43260-6
	24 in. spacing (5 Nipples)	34844-7	35772-7	43260-7
	6 in. spacing (24 Button Nipples)	34844-1B	35772-1B	
	8 in. spacing (15 Button Nipples)	34844-2B	35772-2B	
	10 in. spacing (12 Button Nipples)	34844-3B	35772-3B	
	12 in. spacing (10 Button Nipples)	34844-4B	35772-4B	
	15 in. spacing (8 Button Nipples)	34844-5B	35772-5B	
	20 in. spacing (6 Button Nipples)	34844-6B	35772-6B	
	24 in. spacing (5 Button Nipples)	34844-7B	35772-7B	
3	Pipe Brush	29465		
4	Support Channel (standard)	35482-1		
5	Support Channel (heavy)	35483-1		
6	PVC Coupling	34318		
7	Coupling Liner	34319		
8	Coupling Liner Assembly	35763		
9	Drip Cup	36591		
10	Poultry Trainer	29333		
11	Charger Wire (165 ft.) Charger Wire (330 ft.)	28994-165 28994-330		
12	1/16 in. Charger Cable	1922		
13	Support Channel Hanger (heavy, gray)	33824-2		
14	Support Channel Hanger (standard, gray)	33824-1		
15	Support Channel Key	35480		
16	Broiler Management Stick	35750		
17	Trigger Button Cap Assembly	33623		
18	Flow Control Pin (Hi-Flow)	34889		
19	Saddle Body	35457		
20	Flow Control Pin (Standard Flow)	34799		
21	Stainless Steel Ball	29117		
22	Nipple Stem	29119		
23	Nipple Insert	29470		
24	Low Pressure Cap	29121		

Nipple Waterer Miscellaneous Components



Items 23 & 24 may be ordered as an assembly under Part No. 29463.

Items 18, 19, 21-24 may be ordered as an assembly under Part No. 36135-1.

Items 17, 18, 19, and 21 may be ordered as an assembly under Part No. 36135-1B.

Items 19 & 20-24 may be ordered as an assembly under Part No. 36136-1.

Items 17, 19, 20, and 21 may be ordered as an assembly under Part No. 36136-1B.

Miscellaneous Kits and Components

Flush Manifold Kit Part

Number 34532

Description	Part No.	Qty
Ell and Pipe Assembly	34533	1
3/4" Adapter Assembly	34534	1
3/4" Insert Tee	34535	3
Rubber Washer	7147	4
3/4" Hose Barb	40649	4
3/4" Hose Female Fitting	40648	4

Miscellaneous Hose Components

Description	Part No.	Qty
Hose Coupling Kit		
Female 3/4" Hose	7812	4 sets
Female 1/2" Hose	7812-1	4 sets
Female 3/8" Hose	7812-2	4 sets
3/4" NPT x 3/8" Hose	37141	1
3/8" I.D. Coil Hose	37143	100' *[30.5 m]*
3/8" Nylon Hose Clamp	37144	1

Mid Line Shut-Off Kit

Part Number 29658

Description	Part No.
3/4" Quarter Turn Valve	29623
3/4" PVC Male Adapter	9229

Mid Line Shut-Off Kit with Flush

Part Number 34939

Mid Line Shut-Off Kit with Flush and Shocker Components

Part Number 34939-1

Water Medicator

Description	Part No.
Chemilizer (1 - 100 Ratio)	41778-1
Chemilizer (1 - 128 Ratio)	41778-2

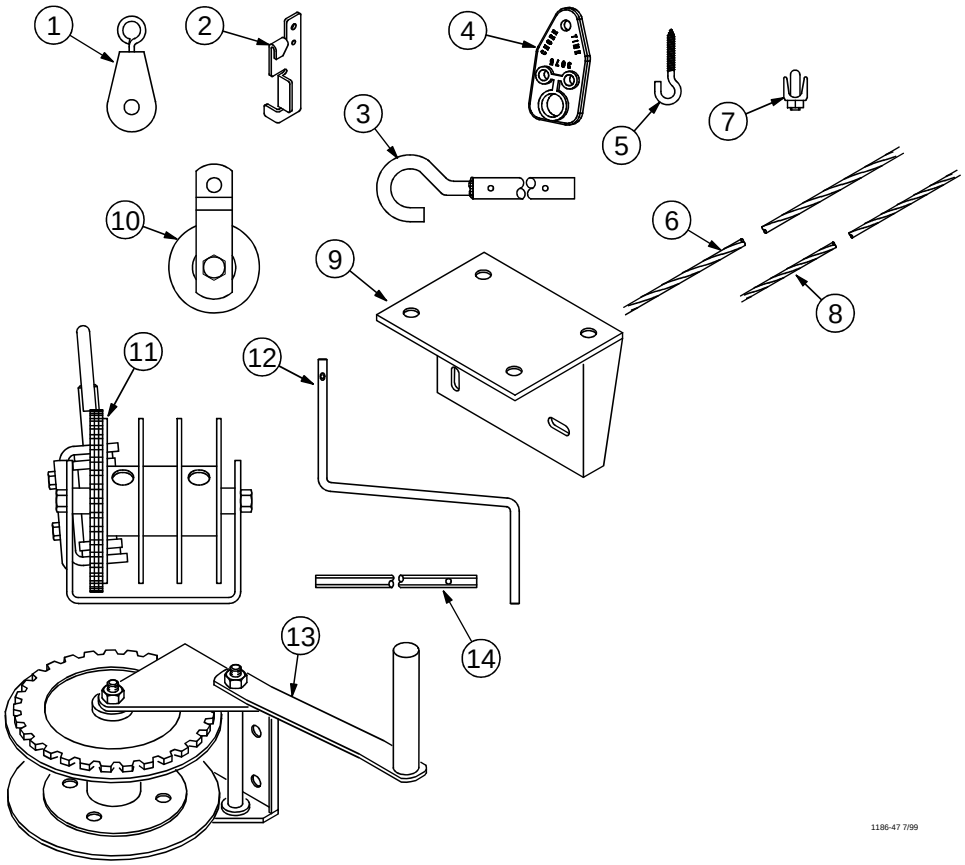
Water Meters

Description	Part No.
3/4" Water Meter with Connectors (Liter)	13228-L
3/4" Water Meter with Connectors (Gallon)	13228-G

Low Pressure Regulator Repair Kit

Description	Part No.
Diaphragm and Seat	34379
Regulator Top with Manifold	41652

Suspension System Components



Item	Description	Part No.
1	Pulley w/Swivel Hook	44577
2	Cable Lock (for cable)	14337
3	Winch Drive Tube (4 ft.) Winch Drive Tube (8 ft.)	2884-1 2884-2
4	Adjustment Leveler (for rope)	3075
5	Screw Hook (standard) Screw Hook (large)	1214 2041
6	1/8 in. Overhead Cable	27975
7	1/8 in. Cable Clamp	14898
8	3/32 in. Drop Cable	4973
9*	Winch Bracket w/hardware	1193
10	Pulley	44596
11	Split Drum Winch	29428
12	Handle Shank	3148
13**	Hand Winch	1212
14	Drill Adapter Shaft	3151
--	1/8 in. Rope	9247

*Winch Bracket to be used with Hand Winch only.

**Hand Winch is recommended for systems up to 150 ft. (46 m) only.

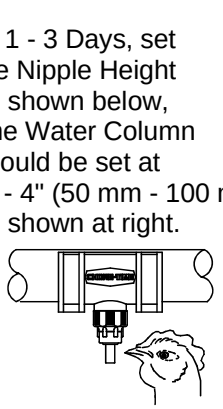
Chore Time Nipple Watering Quick Reference Sheet

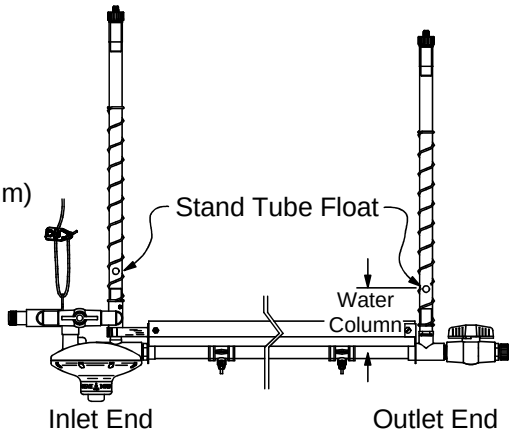
Note: **The floor conditions are a good indication of adequate or deficient water supply. If the floors are wet the water column may be too high, if the floors are dry the water column may be too low. These are general guidelines, your particular environment may require different adjustments.**

Important **Do not exceed 25 p.s.i 172 kPa at the Inlet at any time.**

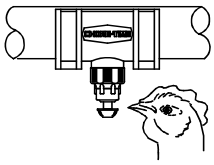
1 - 3 Days

At 1 - 3 Days, set the Nipple Height as shown below, The Water Column should be set at 2" - 4" (50 mm - 100 mm) as shown at right.



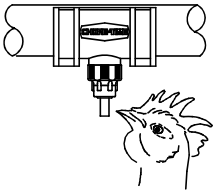


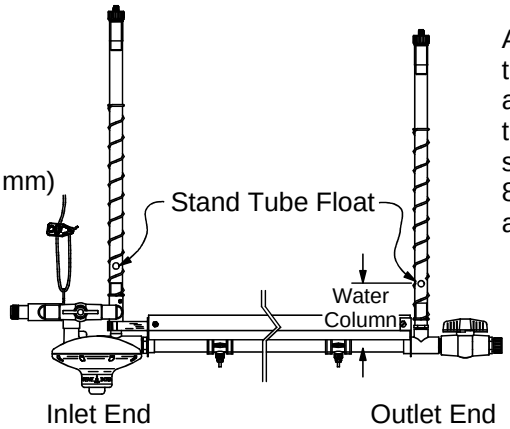
At 1 - 3 days, set the Nipple Height as shown below, the Water Column should be set at 4" - 6" (100 mm - 150 mm) as shown at left.



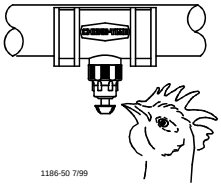
3 - 21 Days

At 3 - 21 Days, set the Nipple Height as shown below, The Water Column should be set at 4" - 8" (102 mm - 203 mm) as shown at right.



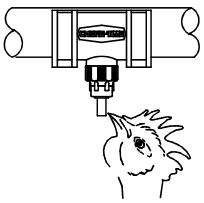


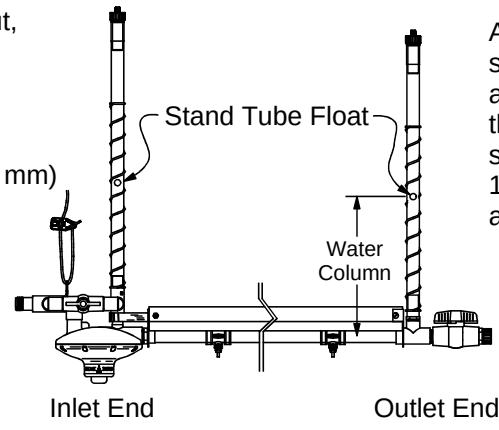
At 3 - 21 days, set the Nipple Height as shown below, the Water Column should be set at 8" - 14" (203 mm - 355 mm) as shown at left.



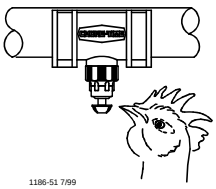
21 Days - Grow-Out

At 21 Days to Grow Out, set the Nipple Height as shown below, The Water Column should be set at 8" - 22" (200 mm - 560 mm) as shown at right.





At 21 Days to Grow Out, set the Nipple Height as shown below, the Water Column should be set at 14" - 22" (355 mm - 560 mm) as shown at left.



Operational Guidelines

Topic	Recommendations
Initial Start-Up Procedure	1. Thoroughly flush the water lines. 2. Set incoming water pressure to 15 - 25 p.s.i. *[103 - 172 kPa]* at the Step Regulator on the Filter Control Panel. 3. Level the shavings under the water line to eliminate high/low spots. 3. Adjust the Inlet Regulators on the lines so the Stand Tube Float corresponds to the drawing on page 30. Make sure there is water at the Outlet Sight Tube and air is bled from the line. Indicator Ball should be visible during operation. 5. Check Outlet Assemblies and Stand Tubes to make sure water is passing throughout the system.
Bird Placement Procedure	Immediately before birds are housed, brush the Nipples with a broom to form water droplets on the Nipples
Operation During Bird Grow Out	If wet floors begin to develop under the drinker lines, increase ventilation and add additional heat to dry the litter. the floor conditions are a good indication of adequate or deficient water supply. If the floors are wet, the water column may be too high. If the floors are dry, the water column may be set to low.
Maintenance Between Batches	Flush each line at full pressure for 5 minutes to remove deposits and sediments. Check pressure drop across water filter - clean or replace if necessary. Check Regulator, Shut-Off Valves, Stand Tube(s), and Coupling Liner Assemblies for proper operation. Adjust the Cable Levelers so that the water lines are level. Maintain house temperature above freezing or drain the lines thoroughly. Drain Inlet(s).
Precautions	Do not over Chlorinate. The maximum concentration is 2.5 ppm (parts per million) for extended periods and 5 ppm for flushing only. If medication or other chemicals are added to the water, flush the lines immediately after use, then chlorinate, as specified. Allow at least 24 hours before adding additional chemicals (such as iodine, citric acid, etc.) or vitamins to the water.

Troubleshooting Guidelines

Problem	Cause	Solution
Nipples are leaking	Internal parts improperly assembled.	Disassemble and reassemble parts correctly.
	Foreign material preventing proper valve operation.	Disassemble valve, clean, and reassemble. Replace Valve components and Saddle if leaks persist.
Leaking above Cap Assembly	Cap not properly tightened.	Tighten Cap on Saddle.
	Damaged Saddle.	Replace Saddle, Nipple may not need to be replaced.
Leaking between Saddle and PVC Pipe	Damaged Saddle.	Replace Saddle, Nipple may not need to be replaced.
Leaking at Coupler Liner Assembly	Damaged (flexible) Coupler Liner or PVC Coupler.	Replace Coupler Liner and/or PVC Coupler.
Leaking or damaged Inlet Assembly	Danaged component or improperly glued component.	Replace damaged or defective component(s). It may be necessary to order a union to reconnect the Inlet components.
Stand Tube not working properly	Depending on water quality and management techniques, the Stand Tube may require more frequent cleaning.	1. Remove Hose Cap on top of Stand Tube. 2. Use a brush (available through Chore-Time) to thoroughly clean the Stand Tube. 3. Bend the flexible tube to allow the water and/or foreign material to exit the tube. 4. Clean and reassemble the components and check for proper water level.

Guide to Cleaning Water Lines

Important **Chore-Time strongly recommends a regular cleaning program to eliminate water line contaminants.**

Standard Cleaning Procedure

1. Mix the cleaning solution as indicated below.
2. Fill watering system with solution.
3. Allow solution to remain in lines 1 to 3 hours.
4. Flush system with clean water using high pressure.
5. Check filters, valve, and nipples for clogging from debris.
6. Adjust regulator pressure to normal operating pressure.

Regular Maintenance

The Watering System should be cleaned one day every two weeks during the production cycle using a proportioner and one of the following stock solutions. Set the proportioner at 1 oz. (30 ml.) stock solution to 128 oz. (3785 ml.) of water.

1. Vinegar stock solution = 64 fl. oz. (1893 ml.) white household vinegar + 64 fl oz. (1893 ml.) water
2. Citric Acid stock solution = 1 pack (205 gm) citric acid + 128 fl. oz. (3785 ml.) water.

End of Grow Out Cleaning

A chlorine solution should run through the watering system, using a proportioner, at 1 fl. oz. (30 ml.) stock solution to 128 fl. oz. (3785 ml.) water. The solution should be administered during one of the last 3 days of the grow out. This cleans the whole system including the Nipple Drinkers and sterilizers the entire system for the next grow out cycle.

1. Chlorine stock solution = 1 fl. oz. (30 ml.) 5-1/4% bleach (or similar source of 5-1/4% sodium hyperchlorite) + 128 fl. oz. (3785 ml.) water. This solution will yield about 2 PPM chlorine in the drinkers with average water. **Do not** exceed this level for an extended period of time (otherwise, damage to the system may occur).

Between Flocks

The Watering System should thoroughly cleaned between flocks. A stronger cleaning solutions may be used since birds will not be drinking the water. It is important to thoroughly flush the system (after 1 to 3 hours) with clean water to prevent storing high concentrates of cleaning solution in the watering system until the next flock is placed.

Use one of the following stock solutions for cleaning the system between flocks. Set the proportioner at 1 oz. of stock solution to 128 oz. (3785 ml.) water.

1. Vinegar stock solution = 128 fl. oz. (3785 ml.) white household vinegar.
2. Citric Acid stock solution = 4 pack (205 gm) citric acid + 128 fl. oz. (3785 ml.) water.

Water Quality

Hardness

Hardness is the calcium and magnesium content of a water supply. These minerals are responsible for scaling that forms in hot water heaters, plumbing lines, humidifiers, dishwashers and all other water using appliances. Waters containing hardness minerals are generally classified as:

Soft Water	0 to l.0 GPG
Slightly Hard Water	1.1 to 3.5 GPG
Moderately Hard Water	3.6 to 7.0 GPG
Hard Water	7.1 to 10.5 GPG
Very Hard Water	10.6 GPG or greater

IRON

Iron, when present in amounts of 0.3 ppm or higher, can cause a yellow or rusty appearance in water. It can also cause staining of clothing and water fixtures. Iron is to be found in two forms, clear (dissolved) or red (oxidized) water iron. Water refiners are capable of removing both types of iron. Higher amounts of iron may require Further treatment.

IRON BACTERIA

Iron bacteria are found in water supplies containing clear water iron. They use the clear water iron as a source of energy, and at the same time, convert the iron to the red water state.These bacteria are not considered a health hazard, but can plug plumbing lines, fixtures and appliances, and promote localized corrosion and impart a taste and/or color to water. Effective treatment requires shock chlorination of all plumbing lines prior to the installation of any equipment. This is followed by the installation of a chemical feed pump feeding chlorine to eliminate the bacteria, and a clarifying filter to remove the residue.

ACID WATER

The acid content of a water supply is measured and reported to terms of pH units. Acid waters cause staining of plumbing fixtures and corrosion of plumbing systems which may necessitate expensive repairs. Waters having a pH of less than 6.8 are considered acidic. A pH of 6.0 to 6.7 indicates a moderately acidic supply and should be treated with a neutralizing filter. A pH of 4.0 to 5.9 is considered extremely acidic and should be treated with a chemical feed pump feeding neutralizing compound.

AGGRESSIVE/CORROSIVE WATER

Aggressiveness of water is measured by the stability index (a calculation from several factors in a water supply). A stability index of 7.5 or higher indicates the water may have corrosive tendencies. This type of corrosion may attack plumbing and fixtures causing rusty or blue/green stains. The use of a phosphate crystal cartridge will help to eliminate this problem.

TASTE and COLOR

Objectionable tastes and/or odors can be dissolved minerals and gases, organic contamination, or from chlorination. Treatment requires the installation of taste and odor tank filter for the whole house or a taste and odor cartridge filter for individual faucets.

HYDROGEN SULFIDE

Hydrogen sulfide is a dissolved gas common to some water supplies. It is detected by a rotten egg taste and/or odor of the water. Proper treatment requires the installation of a chemical feed pump system feeding household chlorine bleach, followed by a sediment filter to remove the precipitation.

SAND, SILT or SEDIMENT

Sand, silt or sediments are found in many water supplies. It is usually detected by a cloudy or hazy appearance when the water is first drawn. Treatment requires the installation of a sediment filter to remove the particles.

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Made to work.
Built to last.

Revisions to this Manual

Page No.	Description of Change
	Component and pictorial changes throught the manual

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

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