

# **Pneumatic Drinking System (PDS) Control Installation and Operators Manual**

PDS<sup>™</sup> 4 & 8 Station (Part No. 52430-X)



## **Limited Warranty**

Chore-Time Group, a division of CTB, Inc. ("Chore-Time") warrants new CHORE-TIME Cage and Cage Watering Components manufactured by Chore-Time to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of installation by the original purchaser ("Warranty"). If such a defect is determined by Chore-Time to exist within the applicable period, Chore-Time will, at its option, (a) repair the Product or Component Part free of charge, F.O.B. the factory of manufacture or (b) replace the Product or Component Part free of charge, F.O.B. the factory of manufacture. This Warranty is not transferable, and applies only to the original purchaser of the Product.

#### CONDITIONS AND LIMITATIONS

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, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. CHORE-TIME shall not be liable for any direct, indirect, incidental, consequential or special damages which any purchaser may suffer or claim to suffer as a result of any defect in the Product. Consequential or Special Damages as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs, and operational inefficiencies. Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and CHORE-TIME shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

- · Modifications made to the Product not specifically delineated in the Product manual.
- · Product not installed and/or operated in accordance with the instructions published by the CHORE-TIME.
- · All components of the Product are not original equipment supplied by CHORE-TIME.
- Product was not purchased from and/or installed by a CHORE-TIME authorized distributor or certified representative.
- Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration, accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.
- Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.
- Product was used for any purpose other than for the care of poultry and livestock.

The Warranty and Extended Warranty may only be modified in writing by an officer of CHORE-TIME. CHORE-TIME shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.

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## **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.
- Very small numbers near an illustration (i.e., 1257-48) are identification of the graphic, not a part number.
- Note: The original, authoritative version of this manual is the English version produced by CTB, Inc. or any of its subsidiaries or divisions, (hereafter collectively referred to as "CTB"). Subsequent changes to any manual made by any third party have not been reviewed nor authenticated by CTB. Such changes may include, but are not limited to, translation into languages other than English, and additions to or deletions from the original content. CTB disclaims responsibility for any and all damages, injuries, warranty claims and/or any other claims associated with such changes, inasmuch as such changes result in content that is different from the authoritative CTB-published English version of the manual. For current product installation and operation information, please contact the customer service and/or technical service departments of the appropriate CTB subsidiary or division. Should you observe any questionable content in any manual, please notify CTB immediately in writing to: CTB Legal Department, P.O. Box 2000, Milford, IN 46542-2000 USA.

## **Safety Information**

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

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

#### Safety–Alert Symbol



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

## **Understanding Signal Words**

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



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



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



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

## **Safety Instructions**

## Follow Safety Instructions

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices.

Keep safety signs in good condition. Replace missing or damaged safety signs.

## **Decal Descriptions**

## **DANGER: Electrical Hazard**

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

Ground all electrical equipment for safety.

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

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

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



## General

## **Support Information**

All Pneumatic Drinking System (PDS<sup>TM</sup>) Controls are designed to control water line regulators in a Chore-Time Nipple Watering System. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury.

This manual is designed to provide comprehensive planning and installation information. The Table of Contents provides a convenient overview of the information in this manual.

## **Product Configurations**

The Chore-Tronics 3 Auto Adjust PDS<sup>™</sup> Control (Part No. 56039-X) is available in 4, 8, 16, and 32 Station.

The 12-32 PDS Controls (Part No.54373-X) are available up to 32 Stations in station increments of 4 (ie. 12, 16, 20...).

The 4 and 8 Station PDS Controls (Part No. 52430-X) are available in a 4 and 8 Station.

For all PDS Control Models, each station is capable of controlling up to two (2) individual Chore-Time water regulators. For example a 4 station control can regulate and flush up to 8 individual water regulators.

## System Layout

## **Multiple House Layout**

Air can be run from a central location to supply multiple houses. Air lines can consist of Chore-Time tubing (Part number 45895-500), which will supply a sufficient air supply, or PVC plumbing.



#### Figure 1.(4 House Layout)

Below are examples of the Chore-Time Nipple Watering system layouts. These are to be used to show different methods for installing the PDS<sup>TM</sup> system.

#### **Broiler System Layout**



## ∞ Layer System Layout

# 1/4" PDS<sup>TM</sup> Connector Tee (Part No. 45894) 1/4" O.D. PDS<sup>TM</sup> Tubing (Part No. 45895)

Figure 3.One Line/One Regulator

#### Two Water Lines per Tier, Two Regulators Per Tier

One Water Line Per Tier, One Regulator Per Tier



## Two Lines Per Tier, One Regulator Per Tier (Versa<sup>®</sup> Plus and Vike<sup>™</sup> Systems)



Figure 5.Versa<sup>®</sup> Plus and Vike<sup>™</sup> Systems

## Installation

## Pressure Sensor location (for 56039-X PDS™ Systems)

There should be one Pressure Sensor installed per PDS<sup>™</sup> Control.

The Pressure Sensor should be installed close to a Stand Tube, preferably no more than one Nipple Pipe away. This will help ensure an accurate reading.



## Mounting

#### Chore-Tronics<sup>®</sup> 3 Auto-Adjust PDS<sup>™</sup> (56039-X) Control Mounting

Locate the control in a convenient location where it can easily be seen and adjusted. Fasten the control to the wall through the four holes in the corners with #10 Flat Head Wood Screws. (Not **Supplied**).



Figure 7.Chore-Tronics 3 PDS<sup>™</sup> Mounting

#### 12-32 Station PDS™ (54373-X) Control Mounting

Locate the control in a convenient location where it can easily be seen and adjusted.

Fasten the PDS<sup>™</sup> Control and the Timer Control to the wall. Use #10 Flat Head Wood Screws. (Not Supplied) to Mount the PDS<sup>™</sup> Control using the four holes in the corners as shown.

Connect the PDS<sup>™</sup> Control and the Timer Control together with liquid tight connectors and Conduit (not supplied), to allow wires to be run between them.



Figure 8. Chore-Tronics 3 PDS<sup>TM</sup> Mounting

#### 4 and 8 Station (52430-X) PDS™ Control Mounting

Locate the control in a convenient location where it can easily be seen and adjusted. Fasten the control to the wall through the four holes in the corners with #10 Flat Head Wood Screws. (Not Supplied)



Figure 9.4 & 8 Station PDS™ Mounting

## Air Supply

**Caution!** <u>DO NOT</u> FLUSH DRINKER LINES WITH PDS<sup>TM</sup> CONTROL unless drinker lines are pressurized with water! Damage may occur if this caution is not followed.

#### Connecting the compressed air supply (All Models)

Air compressor (not supplied) guidelines to operate the system.

- All air compressors must have a minimum rating to run 4 times per hour for 5 minutes each run.
- One (1) PDS<sup>TM</sup> Control 2 gallon minimum recommended air supply tank.
- Two (2) four (4) PDS<sup>TM</sup> Controls 5 gallon minimum recommended air supply tank.
- Five (5) six (6) PDS<sup>TM</sup> Controls 10 gallon minimum recommended air supply tank.
- Air regulator with 1/4" fitting.
- Air /water separator.

**Note:** The PDS<sup>TM</sup> Control operates between 6 & 12 psi [41.37 kPa & 82.74 kPa]. Most air Regulators supplied with air compressors will not effectively regulate air pressure at this low pressure. Failure to regulate pressure will result in damage to components.

- 1. Install an Air Regulator and an Air Separator after the Air Compressor.
- 2. Connect the air supply to the incoming pressure line on the PDS<sup>™</sup> control.
- 3. Verify that the PDS<sup>™</sup> Control has an Air Pressure reading between 6 & 12 psi [41.37 kPa & 82.74 kPa] (See Figure 10.)



Figure 10.Pressure Gauge

## Air supplied to the 52430-X & 54373-X PDS<sup>™</sup> Controls

•BEFORE connecting the compressed air supply to the Control, turn the red adjustment knob clockwise (Decrease) until the knob stops turning (See Figure 11.)



Figure 11.Adjustment Knob

#### Tubing

See Figure 3. on page 8 through Figure 5. on page 9 for typical tubing diagrams.

**Note:** For Versa<sup>®</sup> Plus and Vike<sup>tm</sup> Systems with two pipes per tier Chore-Time recommends two regulators per station of the PDS control split between two cage rows as shown in **Figure 5.** to prevent overfill of the drain when flushing.

Each Station may be used to supply air to two regulators. Controlling more than 2 regulators per station may overdraw water supply.

- 1. Remove the Air Station Plugs (See Figure 12.) and attach the Tubes to the stations.
- 2. Route the regulator tubing with a drip loop so any condensation in the air lines will not run into the control. (See Figure 13.)
- 3. Route the Tubing across the ceiling and down the water supply hoses that supply the regulators.





4. Connect the Tubing to the air supply connection of the regulators (See Figure 14.).



Figure 14. Air Supply to Regulator

**Note:** If not all stations are being used, ensure that the un-used stations are plugged or compressor over cycling may result.

## Wiring

## Chore-Tronics<sup>®</sup> 3 Auto-Adjust PDS<sup>™</sup> Control (56039-X) Wiring



Warning: Electric shock can cause severe injury or death. Make sure power supply is turned OFF before connecting power wires. All electrical connections and wiring runs must be made according to local building codes.

Note: No backup battery needed! All timer settings are stored indefinitely in memory.

Note: Do Not move Relay Switches to "Manual" or "Auto" for the PDS<sup>™</sup> Regulator Increase/Decrease until you have checked all the PDS<sup>™</sup> Settings and finished the Startup section on page 21.





Pneumatic Drinking System (PDS) Control

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#### **Pressure Sensor Wiring**

The Pressure Sensor can be connected to any one of the Analog Inputs on the CT3 I/O Board.



Figure 17. Pressure Sensor Wiring

## 4 and 8 Station PDS<sup>™</sup> (52430-X) Control to CHORE-TRONICS<sup>®</sup>



**Warning**: Electric shock can cause severe injury or death. Make sure power supply is turned OFF before connecting power wires. All electrical connections and wiring runs must be made according to local building codes.

When using CHORE-TRONICS<sup>®</sup> to monitor water consumption, flush water can be omitted from the total. To do this connect one wire to common and one wire to MV both in the Timer Control. Run these two wires to a 24VAC Coil Relay (not supplied), from the relay run the two wires to the Chore-Tronics control, (See Figure 18.) Chore-Time has a 3 pole (only one pole is needed), 24 Volt relay available. (Part No. 56577-24)



Internal Wiring



Figure 19. 4 and 8 Station Internal Wiring

## 12-32 Station PDS<sup>™</sup> Control (Part No.54373-X) Wiring



Warning: Electric shock can cause severe injury or death. Make sure power supply is turned OFF before connecting power wires. All electrical connections and wiring runs must be made according to local building codes.

#### **Timer Control Wiring**

Connect the power source to the Timer Control according to the Timer Control Installation Manual.

**Surge Protection and Grounding**: The Timer Control is equipped with built-in electrical surge protection. For this system to function, you must properly ground the Control.



**Warning**: The ESP-LXME Control must be properly surge protected and grounded. Failure to do so could result in failure of the Control and voiding the warranty.

**Connect Power Source**: The Timer Control has an internal transformer that reduces supply voltage (120 VAC in U.S. models; 230 VAC in international models to 24 VAC. You will need to connect power supply wires to the transformer's three wires. (Line, Neutral, Ground)

## Timer Control to PDS<sup>™</sup> Control Wiring

The Timer Control Modules are connected to the Terminal Strip in the PDS<sup>™</sup> Control by wires (18AWG minimum) routed through the connecting conduit (Not Supplied) (See Figure 20.) Connect each Module in turn to the appropriate terminal in the PDS<sup>™</sup> Control. Number 1 on the first Timer Control Module will be connected to the number 1 on the PDS<sup>™</sup> Control. This will be repeated until all the module terminals are connected to the PDS<sup>™</sup> Terminals.



Figure 20.Timer Control to PDS™ Wiring

## Connection to Chore-Tronics<sup>®</sup> 1 Control

When using a Chore-Tronics<sup>®</sup> 1 Control to monitor water consumption, flush water can be omitted from the total. To do this connect one wire to common and one wire to MV both in the Timer Control. Run these two wires to a 24VAC Coil Relay (not supplied), from the relay run the two wires to the Chore-Tronics<sup>®</sup> Control, **(See Figure 21.).** Chore-Time has a 3 pole (only one pole is needed), 24 Volt Relay available. (Part No. 56577-24)





## Connection to Chore-Tronics<sup>®</sup> 2, 3, and Catalyst<sup>®</sup>

If a PDS Control is being used to automatically flush water lines, then the Control can ignore pulses coming from the Water Meter(s) while flushing is taking place. If this option is used then a dry contact relay must be connected to one of the Digital (DI) Inputs of the IO Board. The coil of the relay should be energized whenever the Control begins its flushing sequence.



Figure 22.Timer Control to ChoreTronics<sup>®</sup> 2, 3, and Catalyst<sup>®</sup> Wiring

## Start Up

## Step 1: Charging the Lines



Before compressed air is connected to the Regulator, the drinker lines should be charged with water. This can be done by turning the selector knob on each Regulator to the "ON" position.

## Step 2: Water Column Gauge Calibration

#### (52430-X, & 54373-X PDS Control Models)

- •Using the PDS Control Adjustment Knob (See Figure 11. on page 12), bring the line to 14" water column as measured at regulator stand tube.
- •Pop off plastic cover and turn calibration screw till arrow points to 14" (See Figure 23.). Re-attach Cover.
- •Chore-Time recommends to verify calibration after each flock.

Calibration Screw

#### Step 3: Air Leak Test

Figure 23. Water Column Gauge

Check each PDS control for air leaks with the water column gauge at 14 inches [35.6 cm].

#### To check for air leaks:

- •Pinch the incoming air supply tube to shut off the incoming air pressure.
- •Watch the air pressure gauge on the control (See Figure 23.). The gauge should not drop any more than 2 psi [13.79 kPa] in 1 minute.
- •If the air pressure does drop faster than 2 psi [13.79 kPa] in 1 minute, refer to the "TroubleShooting" on page 27.

#### Step 4: Setting the Regulators Drinker Line Minimum Water Column

1.Disconnect the Main Air Hose from the air compressor.

- 2. Turn on the water to the drinker lines.
- 3.Adjust each Regulator to the water column minimum you want.
- 4.Re-connect the main air hose.



Figure 24.Regulator Adjustment

## **Flushing The System**

## **Minutes to Flush and Total Line Capacity**

The time it takes to completely change the water in a 3/4" drinker line is dependent on the flush flow rate. This flow rate can easily be estimated by putting the regulator into flush and timing how long it takes to fill a container of known volume at the drain end of the line. Once this time is determined use the formula below to calculate the flow rate in gallons or liters per minute and see Tables below to determine the estimated flush time in minutes for your specific line length.

Volume of Container (Gallons or Liters) = Flow Rate in Gallons or Liters per Minute Seconds to Fill Container Divided by 60

For example, if it takes 185 seconds to fill a 5 gallon container the resulting flow rate would be 1.6 GMP.

$$\frac{5 \text{ Gallons}}{185/60} = \frac{5}{3.08}$$

1.6 Gallons per Minute.

						Wate	r Line Length	in feet						
			100'		200'	300'	400'	500'	600'	700'	800'			
	1		3.4		6.8	10.2	13.6	17.0	20.4	23.8	27.2			
ıte	2		1.7		3.4	5.1	6.8	8.5	10.2	11.9	13.6			
fint te	3		1.1		2.3	3.4	4.5	5.7	6.8	7.9	9.1			
er N Ra	4		0.9		1.7	2.6	3.4	4.3	5.1	6.0	6.8			
low b	5		0.7		1.4	2.0	2.7	3.4	4.1	4.8	5.4			
ullor F	6		0.6		1.1	1.7	2.3	2.8	3.4	4.0	4.5			
ß	7		0.5		1.0	1.5	1.9	2.4	2.9	3.4	3.9			
	8		0.4		0.9	1.3	1.7	2.1	2.6	3.0	3.4			
						Es	timated Flush	Time in Minu	ites					
		To C 3.4	tal Line apacity Gallons	To C 6.8	otal Line Capacity 3 Gallons	Total Line Capacity 10.2 Gallons	Total Line Capacity 13.6 Gallons	Total Line Capacity 17.0 Gallons	Total Line Capacity 20.4 Gallons	Total Line Capacity 23.8 Gallons	Total Line Capacity 27.2 Gallons			
		Gallons of water in one foot of 3/4" Chore-Time water pipe=.034 Water Line Length in Meters												
			30m		60m	90m	120m	150m	180m	210m	240m			
	4		3.2		6.3	9.5	12.7	15.8	19.0	22.2	25.3			
	6		2.1		4.2	6.3	8.4	10.6	12.7	14.8	16.9			
	8		1.6		3.2	4.7	6.3	7.9	9.5	11.1	12.7			
	10	)	1.3		2.5	3.8	5.1	6.3	7.6	8.9	10.1			
2	12	2	1.1		2.1	3.2	4.2	5.3	6.3	7.4	8.4			
te	14	L I	0.9		1.8	2.7	3.6	4.5	5.4	6.3	7.2			
Ra	16	5	0.8		1.6	2.4	3.2	4.0	4.7	5.5	6.3			
low	18	3	0.7		1.4	2.1	2.8	3.5	4.2	4.9	5.6			
H	20	)	0.6		1.3	1.9	2.5	3.2	3.8	4.4	5.1			
	22	2	0.6		1.2	1.7	2.3	2.9	3.5	4.0	4.6			
	24	L I	0.5		1.1	1.6	2.1	2.6	3.2	3.7	4.2			
	26	5	0.5		1.0	1.5	1.9	2.4	2.9	3.4	3.9			
	28	3	0.5		0.9	1.4	1.8	2.3	2.7	3.2	3.6			
	30	)	0.4		0.8	1.3	1.7	2.1	2.5	3.0	3.4			
							Estimated F	lush Time in N	linutes					
			Total Lin Capacit 12.7 Lite	ne ty ers	Total Lin Capacity 25.3 Liter	e Total Li Capacit rs 38.0 Lite	ne Total Lin ty Capacit ers 50.6 Lite	ne Total Lir y Capacit 63.3 Lite	ne Total Lin y Capacity 76.0 Liter	e Total Line Capacity rs 88.6 Liters	Total Lin Capacity 101.3 Liters			
			Liters of w	vater i	in one meter	of 3/4" (1.90 cr	n) Chore-Time w	ater pipe=.422	•					

Estimated flush times above are to completely exchange the water in the pipe. The water line length must include the length of the supply line from the water source to completely exchange the water. The flush time to stimulate bird drinking may be less, depending on the frequency of flushes.

## Flushing Recommendations

#### **Multiple House Application:**

Well capacity typically limits the number of water lines that can be flushed at one time. Flushing should be staggered so 2 lines per well supply are flushed at the same time.

#### Flushing for Sediment, Air Locks, and Cleaning

Start by flushing several times per flock. Watch the water coming out of the ends of the water lines. If the water is clean with little or no air you can flush less often. If the water is discolored and has sediment, you should ensure a proper filtration treatment is in place and that the filters are replaced regularly. The sediments could react with medications, vaccines, and electrolytes. They will also hamper the effects of disinfectants and cleaners.

#### Flushing After Introduction of Water Treatment or Bird Health Products

After running any type of medication, disinfectant, electrolyte, vitamin, or vaccine the lines must be thoroughly flushed. See "Flushing The System" on page 22 for estimated flush times. Some products or treatments may require longer flushing time to be completely removed from the water lines.

#### Flush to Stimulate Birds to Drink

In periods of hot weather flushing will provide cool, fresh water.
 As birds mature, additional flushing can stimulate the birds to drink more water.

#### Flushing 4 and 8 Station (52430-X) PDS™

Refer to the Timer Control manual for specific programing details.

Single stations or multiple stations may be manually flushed at any time. Refer to **Operating the Sprinkler Timer** section in the Timer Control manual.

When birds go out it is a good idea to turn the Timer Control to the off position and turn the adjustment knob on the PDS<sup>TM</sup> Control to the minimum setting.

## Flushing 4-32 Station (54373-X) PDS<sup>™</sup>

Refer to the Timer Control Instruction Manual for specific programing details.

The Timer Control has the capacity to have four individual programs: "A", "B", "C" and "D".

Single stations or all stations may be manually flushed at any time.

When birds go out it is a good idea to turn the Timer Control to the System off position and turn the adjustment knob on the PDS<sup>™</sup> Control to the minimum setting.

Each program can have up to eight daily start times. As long as there are start times entered for stations in a particular program that program will run. To maintain multiple programs in the Control without all of them running, all the start times in the



Figure 25. Flushing 52430-X



Figure 26. Flushing 54373-X

undesired programs must be set to off. The unused programs (except the start times) are retained but will not run until the start times are re-entered. This allows you to program one, two or three separate flushing sequences. For example, one for summer and one for winter or one for brooding and one for finishing.

## Chore-Tronics<sup>®</sup> 3 (56039-X) PDS<sup>™</sup> Setup Screens & Operation

Attention! Refer to the Chore-Tronics 3 Manual MT2398 to learn about how to navigate screens of the Chore-Tronics 3 Control.

## **Analog Inputs Setup Screens**

Corresponds to Analog Input chosen in Figure 17. on page 16 -

House Temperature Spare Temperature Outside Temperature Aux Temperature Static Pressure Relative Humidity Potentiometers Bird Scale	5 0 1 0 1 1 0 1 1 0 1 0 2	CO2 Sensor Drinker Pressure PDS Air Pressure Drinker Temperal	ture	0 9 1 9 1
Admin		7 Mar 2017	10:31:21	Age 19

Setup / Analog Inpo	uts / Drinker P				House
Sensor	Board	Input	Value Correct	ion	
1 IOM16 0	•	1 .	#		
Sensor Calibration		Zero Level High Level	#	0	
Add	Remove				
Add	Remove				

Drinker Pressure Sensor Setup

## PDS<sup>™</sup> Regulator Setup Screen

Corresponds to relay chosen in Figure 16. on page 15-

	20 20				8	?
Output Type	Nbr of	Outputs				
Cool Pads		Combined Inlets	0	Light Clocks	<ul> <li>✓ 1</li> </ul>	
Cool		Sidewall Inlets	<ul><li>✓</li></ul>	Water Clocks	0	
Tunnel Fans	✓ 3	Ceiling Inlets	<ul><li>✓</li></ul>	Feed Clocks		
Stir Fans		Main Curtains		Spare Clocks	✓ 1	
Exhaust Fans	2	Tunnel Inlets	<ul><li>✓</li></ul>	Feeder Window		
ariable Fans	0	PDS Regulator	2 1	Backup	✓ 1	
Heat Zones	2	$\checkmark$		PDS Flushing	✓ 1	
Spare Temp	0					
Sprinklers						
min	/	/	7 Mar 2017	14:27:55 A	Age	19



Assigning PDS<sup>™</sup> Regulator Adjustment Relays

## PDS<sup>™</sup> Flushing Setup Screen

etup / Outputs /	Equipped & I	Numbers			Ho	ouse 1
	8				R	?
Output Type	Nbr of	Outputs				
Cool Pads		Combined Inlets	0	Light Clocks		1
Cool		Sidewall Inlets	✓ 1	Water Clocks		0
Tunnel Fans	✓ 3	Ceiling Inlets	✓ 1	Feed Clocks		0
Stir Fans		Main Curtains		Spare Clocks		1
Exhaust Fans	2	Tunnel Inlets	✓ 1	Feeder Window		0
Variable Fans		PDS Regulator	☑ 1	Backup		1
Heat Zones	2			PDS Flushing		1
Spare Temp	0					
Sprinklers	0					
dmin			7 Mar 201	7 14:27:55 A	ge	19

Flushing water is automatically not included in CT3 water count. No setup or external relay required.

## Flushing

- 1. Number of Stations
- 2. Enter the time of Flush
- 3. Run Time per Station





## **Regulator Set Point**





Edit the Regulator Set Point. The increase or Decrease Relay will turn on and off until the setting is reached. (+ or - 1 inch).





If you want to change water column height automatically with bird age you can set that up in this screen.

#### **Regulator Set Point using Curve**

## Maintenance

•Keep the control box lid closed. The control is not capable of operating in a dusty environment. The loading regulator vents into the control box. When the control box is closed, the positive internal air pressure keeps dust out.

•Clean inside and outside of the water line stand tubes at least once a week.

# TroubleShooting

Correction				
1. Water Off.				
2. Defective or plugged Regulator.				
3. Regulator plumbed backwards.				
4. Stand Tube Cap plugged (not venting).				
1. Stand Tube Cap plugged (not venting).				
2. Air line to Regulator pinched.				
1. Regulator seat worn or foreign object in seat area.				
2. Stand Tube Cap plugged (not venting).				
3. Air Loading Unit putting out too high pressure (defective solenoid).				
1. Shut off or pinch off all lines going to the individual controls to find				
which house is the problem.				
2. Open one line at a time until you find one that causes the compres-				
sor tank to lose air more quickly.				
3. See correction for house leak below.				
1. Shut off the incoming air line to the control and watch the small				
INCOMING PRESSURE GAUGE. If the control holds pressure, the				
leak is between the air source and that house.				
2. With the incoming air off and the gauge indicates that there is a 2				
PSI drop or more within 1 minute, the problem is in the control, lines,				
or regulators.				
3. Shut off or pinch off all lines going out to the regulators and the				
incoming line. If the control loses pressure, the problem is inside the				
control. See control unit leak below.				
4. If the unit holds pressure, release one line at a time to isolate the				
cause of the leak.				
5. Test line connections and regulator for leaks.				
1. Warning! Turn Power off at the Breaker!				
2. Check the vent hole in the red cover of the Air Loading				
Unit, (See Figure 27.) Put soapy water over the hole. A small				
amount of air coming out is normal (bubble should grow				
slowly over several seconds.				
3. Put soapy water on all internal hose connections to find				
leak.				



TroubleShooting

## Part Numbers



		56039-4	56039-8	56039-16
Item	Description		Part No.	
1	CT3 PDS Bottom Plate	55744-1	55744-1	55744-16
2	CT3 PDS Top Plate	55743	55743	55743
3	Power Supply Cover	56111	56111	56111
4	Motorized 4 Station Airloader	56380-4		
	Motorized 8 Station Airloader		56380-8	56380-8
5	24 Volt 12 AC Transformer	56045	56045	56045
6	65W Power Supply	49649	49649	49649
7	Motor Control	56048	56048	56048
8	CT3 PDS Flush LED Board	56049	56049	56049
9	CT3 PDS Flush Relay Board	56047	56047	56047
10	CT3 PDS Electric Box	56043-2	56043-2	56043-1
11	30 PSI Pressure Guage	56095	56095	56095
12	Control Box Pivot	30863	30863	30863
13	Control Box Latch	30862	30862	30862
14	14 x 16 Electrical Box Lid	42683	42683	42683
15	Neoprene Seal	34767	34767	34767
16	3 Pole Terminal Strip	34925-3	34925-3	34925-3
17	Terminal Strip	34925-8	34925-8	34925-8
18	Nylon Display Spacer	43383	43383	43383
19	4-40 HX Nut	3511	3511	3511
20	Compressible .05" Spacer	43381	43381	43381
21	6-20 x .375 Ph. SFTP Screw	46011	46011	46011
22	6-32 x .75 PH SFTP Screw	47593	47593	47593
23	4-40 x .25 PH Mach. Screw	57183-1	57183-1	57183-1
24	3.15 Grounding Rail	43384-2	43384-2	43384-2
25	8 x .375 HXWH Screw	13019	13019	13019
26*	1/4" OD x 1/8" ID Flex. Tubing	48574	48574	48574
27	8 Station Airloader			44452
28	1x1 Aluminum Hinge	49482	49482	49482
29	10-24 Kepnut	27725	27725	27725
30	1/8 Female Pipe Adapter	48586	48586	48586
32	Bulkhead Fitting	56382	56382	56382
	*These Items so	old in feet.		

		56039-4	56039-8	56039-16
Item	Description		Part No.	
33	1/8" PDS Tee Connector	45894	45894	
34	Ouick Connect Terminal	7241	7241	7241
35	CT3 Power Cable	53292-1	53292-1	53292-1
36	CT3 Incoming Power Cable	53333-1	53333-1	53333-1
37	CT3 PDS Wiring Harness	56039W	56039W	56039W
38	Airloader Wiring Harness	56380W	56380W	56380W
39	6-32 x .375 PH Screw			4402-4
40	1/8" PDS Cross Connector			56397
41	CT3 PDS Decal	2529-1176	2529-1176	2529-1176
42	PDS Direction Decal	2526-564	2526-564	2526-564
43	Terminal Strip Decal 1-4	2526-569	2526-569	2526-569
44	Ground Symbol Decal	2527-63	2527-63	2527-63
45	Ribbon Cable Clamp	50130	50130	50130
46	Terminal Strip Decal 5-8			2526-570
47	Terminal Strip Decal 9-12			2526-571
48	Terminal Strip Decal 13-16			2526-572
49	Input Power Decal	2526-428	2526-428	2526-428
51	Airloader Standoff Plate			56556
52	Air Station Plug	55837	55837	55837
53	Terminal Mount Bracket	57021-8	57021-8	57021-8
54	Low Voltage Hole Decal	2527-92	2527-92	2527-92
55	High Voltage Hole Decal	2527-93	2527-93	2527-93
56	#10 Lock Washer	305	305	305
57	Plug	54319-2		
58***	Diaphram	35891	35891	35891
59	Pressure Sensor	56120	56120	56120
60	Midline Air Remover	52273-5	52273-5	52273-5
61**	4-24 x .375 Phil. PH Screw	35493	35493	35493
62**	F to C Board (Not shown)	49815	49815	49815
63**	10 Pin 400mm Flat Ribbon Cable	49746	49746	49746
64**	SSRS Board Spacer	48742	48742	48742
65**	6-32 x .50 Ph. SFTP Screw	35367	35367	35367
*These **Inclu ***Incl	Items sold in feet. ded with Control but not shown. uded in 56380-X (Item 4)			

ຮ (56039-32) Chore-Tronics<sup>®</sup> 3 Auto-Adjust PDS<sup>™</sup>



MW2467C

		56039-32
Item	Description	Part No.
1	CT3 PDS Electric Box	56398
2	CT3 PDS Bottom Plate	56400
3	CT3 PDS Cover Plate	56399
4	90 deg. Tip Plate	56401
5	Motorized 8 Station Airloader	56380-8
6	8 Station Airloader	44452
7	24 Volt 12 AC Transformer	56045
8	65W Power Supply	49649
9	Power Supply Cover	56111
10	CT3 PDS Flush Relay Board	56047
11	CT3 PDS Flush LED Board	56049
12	15 x 22 Electrical Box Lid	51467
13	Motor Control	56048
14	4 Pole 1.71 Terminal Strip	34925-4
15	3 Pole Terminal Strip	34925-3
16	Bulkhead Fitting	56382
17	1x1 Aluminum Hinge	49482
18	3.15 Grounding Rail	43384-2
19	6-32 x .375 PH Screw	4402-4
20	4-40 x .25 PH Mach. Screw	57183-1
21	6-20 x .375 Ph. SFTP Screw	46011
22	6-32 x .75 PH SFTP Screw	47593
23	8 x .375 HXWH Screw	13019
24	Nylon Display Spacer	43383
25	4-40 HX Nut	3511
26	Compressible .05" Spacer	43381
27	Diaphram	35891
28	30 PSI Pressure Guage	56095
29	1/8 Female Pipe Adapter	48586
30	Neoprene Seal	34767
31	10-24 Kepnut	27725
32	Control Box Pivot	30863
	*These Items sold in f	eet.

		56039-32
Item	Description	Part No.
33	Control Box Latch	30862
34	Quick Connect Terminal	7241
35	1/8" PDS Cross Connector	56397
36	Ribbon Cable Clamp	50130
37*	1/4" OD x 1/8" ID Flex. Tubing	48574
38	PDS 32 Wire Assembly	56039-32W
39	CT3 Incoming Power Cable	53333-2
40	CT3 Power Cable	53293-2
41	Airloader Wiring Harness	56380W-1
43	Input Power Decal	2526-428
44	PDS Direction Decal	2526-564
45	Ground Symbol Decal	2527-63
46	Terminal Strip Decal 1-4	2526-569
47	Terminal Strip Decal 5-8	2526-570
48	Terminal Strip Decal 9-12	2526-571
49	Terminal Strip Decal 13-16	2526-572
50	Terminal Strip Decal 17-20	2526-573
51	Terminal Strip Decal 21-24	2526-574
52	Terminal Strip Decal 25-28	2526-575
53	Terminal Strip Decal 29-32	2526-576
54	CT3 PDS Decal	2529-1203
56	Airloader Standoff Plate	56556
57	Air Station Plug	55837
59	Pressure Sensor	56120
60	Midline Air Remover	52273-5
61**	F to C Board (Not shown)	49815
62**	10 Pin 400mm Flat Ribbon Cable	49746
63**	SSRS Board Spacer	48742
64**	6-32 x .50 Ph. SFTP Screw	35367
	*These Items sold in feet. **Included with Control but not sl	iown.



		52430-4	52430-8	
Item	Description	Part No	Part No	
1	120V Timer Control	52412-1	52412-2	
2	Hinge	49482	49482	
3	Water Column Gauge	44029	44029	
4	Air Pressure Gauge	56095	56095	
5	Control Plate	52411	52411	
6	Control Decal	2529-939	2529-939	
7	1/8" Female Pipe Adapter	48586	48586	
8	Control Box (14 x 16)	52455	52455	
9	Air Station Plug	55837	55837	
10	Max Pressure Decal	2526-437	2526-437	
11	#6-20 x 5/8" Pan Hd Screw	48577	48577	
12	Airloader W/Adjustment Knob	48837	48584	
13	Control Box Latch Pivot	30863	30863	
14	Control Box Latch	30862	30862	
*15	1/4" O.D. Tubing	48574	48574	
16	Control Box Lid	42683	42683	
17	Bulkhead Fitting	56382	56382	
*19	1/8" Diameter Seal	34767	34767	
20	PDS <sup>™</sup> Terminal Strip Decal (5-8)		2526-570	
21	PDS <sup>TM</sup> Terminal Strip Decal (1-4)	2526-569	2526-569	
*Item sold in Feet.				

## **≅** 4-32 (54373-X) Station PDS<sup>™</sup>







Item	Description	Part No.		
1	Control Box	48583		
	Control Box Machined (-28, 28R,-32, -32R)	48583-1		
2	Lower PDS <sup>TM</sup> Plate	46333-1		
3	Diaphragm	35891		
4	8 Station Airloader	44452		
5	4 Station Airloader	44451		
6	8 Station Airloader W/Knob	48584		
7	Seal	34767		
8	Flexible Hose	48574		
9	Nipple Cap Plug	54319-2		
10	Control Box Lid	42683		
11	Control Box Latch	30862		
12	Control Box Latch Pivot	30863		
13	PSI Gauge	54373		
14	Water Column Gauge	44029		
15	Panel Hinge	49482		
16	PDS <sup>™</sup> Control Decal	2529-812		
17	Front Plate	46334-1		
18	1/8" Cross Connector	56397		
19	Hose Adapter	48586		
20	Air Station Plug	55837		
21*	8 Station Multiple Timer Control	57896-8		
22*	4 Station Module	57897-4		
23*	8 Station Module	57897-8		
25	1/8" PDS Connector Tee	45894		
*These components are individually boxed.				

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

## **Miscellaneous Parts**



Item	Description	Part No
1	1/8" PDS Tee Connector	45894
2	1/8" Coupling	45893
3	1/4" PDS Tubing	45895-500
4	24 Volt Relay	56577-24

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# MADE TO WORK.

## **BUILT TO LAST.<sup>®</sup>**

#### **Revisions to this Manual**

Page No.	Description of Change	Eco
Various	Updated with new Timer Control information	40158
	Several changes to all PDS Control Models.	

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

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