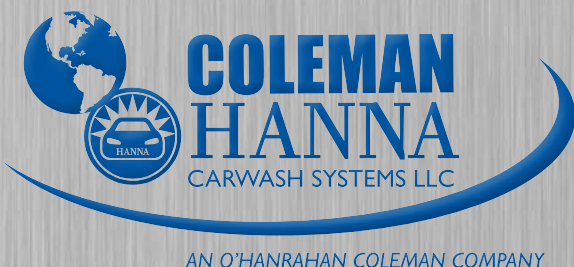




# Water Wizard Arch

## *Service Manual*



5842 W 34th St, Houston, TX 77092  
1.800.999.9878 • 1.713.683.9878  
[www.colemanhanna.com](http://www.colemanhanna.com)



Find us on Facebook:  
[/ColemanHannaCarwash](https://www.facebook.com/ColemanHannaCarwash)

## 1.0 Installation

The following information is a recommended means for installation of the Hanna Water Wizard Arch. Check for the local utilities, making sure of proper access location and supply sizing. If anything must be changed, do so prior to the day of installation. Deficiencies discovered at the time of installation will greatly increase time spent before startup.



**Figure 1-1. *The Hanna Water Wizard Arch in Action***

## 1.1 Setup

This section goes over the required tools, product checks, and safety precautions needed to continue to the installation of the product.

1. Read this manual prior to opening crates or installing equipment.
2. Carefully open crates and identify the individual parts for assembly using the enclosed checklist. If there are any missing parts, notify your Hanna distributor immediately.



**WARNING: IF USING A FORKLIFT TO INSTALL EQUIPMENT MAKE SURE TO FOLLOW OSHA AND GENERAL SAFETY RULES AND REGULATIONS TO ENSURE PERSONAL SAFETY.**

3. Place the framework in the wash bay as shown on the layout drawing (available on if purchased with system). Make sure the framework is facing the correct direction for vehicle travel. When all pieces for your configuration have been set in place, take the time to recheck the packing lists.
4. Make sure all of the necessary tools are on-hand before work is begun.
  - Set of ratchets/wrenches to secure bolts, nuts, air/fluid connections, anchors, etc.
  - A mason drill to set the pilot holes for the anchor bolts.
  - Large hammer to insert the anchor bolts to the ground.
  - Ratchet to tighten anchor bolts.
  - A power grinder to remove excess material from the anchor bolts.
  - Rivet gun to install stainless steel skins.
  - Tube cutters for poly connections.
  - A long flat rounded plastic applicator for applying decals.



## 1.2 Structure Installation

5. Begin installation by assembling the three main sub assemblies of the component. Using the 8 bolts, 8 nuts, and 16 washers provided, secure the sections of the Wizard arch together so that it is standing up. Note: Sandwich the washer's between the framework of the arch. Do not use two washers for one side of the nut/bolt assembly.
6. Situate the structure so that it's perfectly over centerline of the carwash. Please refer to your M1 drawing to locate and reference where the centerline is to your system.
7. Double check for accuracy before anchoring the base plates. If centered correctly, there will be **80 inches** from the edge of the base plate on each side of the Arch to the centerline. Make sure that there is at least **4 feet of clearance** from the entrance and exit side of the Wizard Arch. This is so that the comments in front of and behind the arch are not interfered with.
8. Once situated, drill the pilot holes for the anchor bolts, drive them into the ground, tighten and grind of the excess threads.
9. If Stainless steel skins have not been purchased, proceed to section 1.3 in the installation guide.
10. To install the skins, align the holes on the stainless skins to the ones on the structure frame. Using the rivet gun attach the skins to the structure. Make sure that the corner pieces are place on the outer layers ash shown in figure 1.2

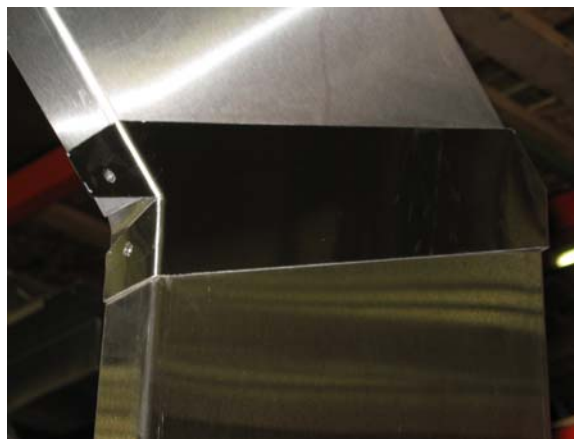


Figure 1-2. *Skins and Skin Corner Brace*

11. Using water and a broad, dull plastic edge, apply the decal to the stainless legs. First align the decal face down to the metal so that it's perfectly square to the edges. While holding the decal in place, smooth over the applicator paper with water and the plastic edge so the entire surface of the decal is covered. Once applied, wait about 5 seconds and pull the applicator paper off.
12. Refer to figure 1.3 to see an example of applied decal.



Figure 1-3. *Decal on the Leg of the Wizard Arch*

### 1.3 Pneumatic Connections

This section covers the needed connections to make sure that all air connections are properly installed

13. From the pneumatic panel shown in figure 1.6, connect the two restrict hoses from the pneumatic panel to one of the bottom cylinders of the Hanna Water Wizard Arch. The cylinder assembly looks like the one shown in figure 1-4.
14. The use of two different colors of hoses is proffered when installing, one color for each port function on the pneumatic valve board.
15. A 4-way hose connection cross will be used for each port function. Each 4-way cross fitting will have only one color designated to it. One connection goes to the valve board and three other connections each of the cylinders on one side. Each cylinder will use two different hose colors (one for each pneumatic function).



Figure 1-4. *Cylinder Assembly*

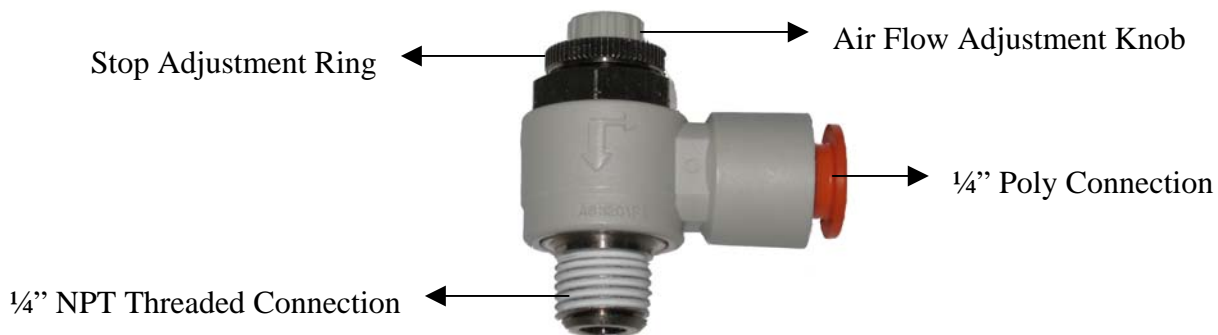


Figure 1-5. *Pneumatic Air Restrictor Valve*

16. During runtime, use the pneumatic flow adjuster on the cylinder to create a smoother retracts. Turning the airflow adjustment knob shown in figure 1.5 does this. Use the stop adjustment ring to limit how much the air flow can be adjusted.

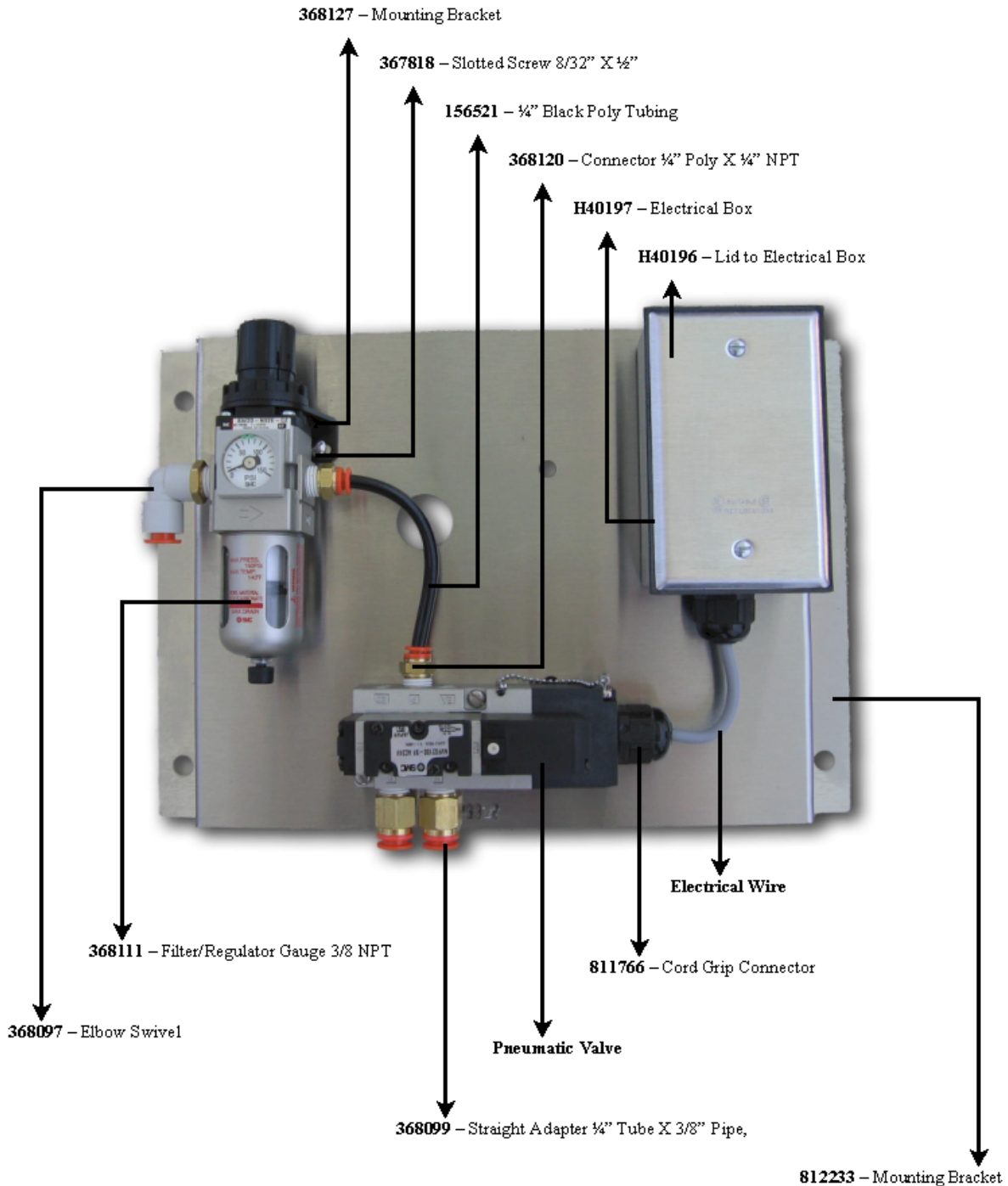


Figure 1-6. Water Wizard Pneumatic Panel

## 1.4 Hydraulic Connections

This section covers the hydraulic requirements and connections needed. To operate the Hanna Wizard arch.

17. A **0.3 GPM** flow rate is required out of one priority valve from the hydraulic unit. **30 RPM** is the recommended rotation speed of each motor, which is established from the priority valve on the hydraulic unit.
18. The motors are connected in a series style circuit. One end of one of the motors at the base will have the hydraulic feed line, and the other end of the motor at the opposite end will have the return hydraulic line. All hydraulic motor ports in between will be connected in a daisy-chain fashion. See figure 1-7 to see what these motor ports look like on the Hanna Water Wizard Arch.



Figure 1-7. *Hydraulic Motor with Ports*



## 1.5 Water Connections

This section will cover water requirements and connections needed to operate the Hanna Water Wizard Arch.

19. A **Dual Level Pumping Station** will be required to supply enough water volume and pressure to operate this device. **800-900 PSI** must be pumped out of each of the two motors from the station at a flow of **18 GMP per motor**. The gauge shown on figure 1-8 can measure pressure.



Figure 1-8. *Water Pressure Gauge*

20. Connect the two water lines at the feeds located at the top of the arch. There will be one feed per pump from the Dual Pumping Station.

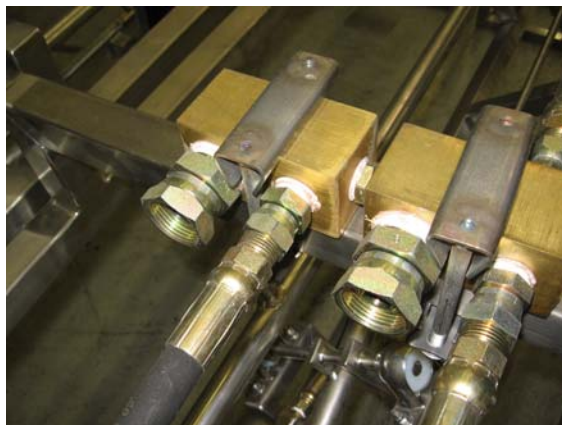


Figure 1-9. *Water Ports on the Top of the Arch*

## 1.6 Startup

21. Before running, it is very important that the water piping is flooded without the brass jets connected. Using the dual pump saturation, force through a liberal amount of water at normal running pressure. This is important to prevent any possibility of jet clogging. Flushing out the system will free the pipes of any loose debris that may have been lodged during the manufacturing process or through transit.
22. Once the Wizard arch has been properly flushed screw in the brass jets to the Water Wizard structure
23. Connect the pneumatic solenoid to the proper function on the tunnels controller. Make sure that the pneumatic, hydraulic, and water solenoid are all safely and accurately connected to the tunnel controller so the device is timed to turn on according the conveyor speed.

This page is intentionally left blank.

## 2.0 Safety

Keep the following safety rules in mind when installing and using Hanna Car Wash Systems Equipment:

**NOTE:** *Always follow local and national trade codes when installing any equipment.*

- Always disconnect power from any electrical device or component prior to servicing.
- Unplug the unit or use proper lock-out procedures so that no one can inadvertently turn the power on while you are working on that equipment.
- Use caution when maintaining any piece of equipment.
- Wear protective clothing and eyewear when using power tools.
- Direct discharge of high-pressure water and chemicals away from you and other persons, or direct it into approved containers.
- Keep equipment clean for proper operation.
- Keep hands or any body parts away from equipment while in operation.
- If you need to disassemble a part for service or repair, re-assemble equipment according to instructions.
- Be sure all components are firmly screwed or latched into position.
- Observe safety and handling instructions of the chemical manufacturers.
- Wear protective clothing and eyewear when dispensing or working with chemicals or other potentially hazardous materials.



## 2.1 Cautions, Warnings, and Notes

Throughout this manual there are various messages concerning safety – please heed these warnings!

### 2.1.1 Cautions

Cautions warn against a potential hazard that, if not avoided, may result in minor or moderate injury. Caution signs also alert against unsafe practices that may cause property damage.



**CAUTION:**

### 2.1.2 Warnings

Warning messages warn against a potential hazard that, if not avoided, may result in serious injury or death.



**WARNING:**

### 2.1.3 Notes

Note means reader take note. Notes contain helpful suggestions.

**NOTE:** *This parameter should NOT be changed when attempting to make system adjustments.*



**Jim Coleman Company/Hanna Car Wash Systems**

*Main Office*

5842 West 34<sup>th</sup> Street  
Houston, TX 77092

800-999-9878 • 713-683-9878 • Fax: 713-683-9624  
[www.jcolemanco.com](http://www.jcolemanco.com)

*Hanna Division Office*

7905 Blankenship Dr.  
Houston, TX 77055

866-683-6615 • 713-683-6615 • Fax: 713-590-6630  
[www.hannacarwash.com](http://www.hannacarwash.com)



**Jim Coleman Company/Hanna Car Wash Systems**

*Main Office*

5842 West 34<sup>th</sup> Street  
Houston, TX 77092

800-999-9878 • 713-683-9878 • Fax: 713-683-9624  
[www.jcolemanco.com](http://www.jcolemanco.com)

*Hanna Division Office*

7905 Blankenship Dr.  
Houston, TX 77055

866-683-6615 • 713-683-6615 • Fax: 713-590-6630  
[www.hannacarwash.com](http://www.hannacarwash.com)