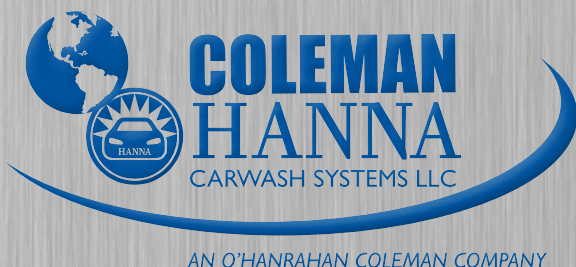




Versa Arch

Service Manual



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1.0 Introduction

Hanna's Versa Arch is designed to deliver water or chemical solution to the vehicle where and when needed. This makes the versa arch frame interchangeable in a variety of configurations for specific applications.

This is the latest arch developed to be cost effective, simple to install, and easy to maintain. With a height of 104" and a width of 124" the versa arch allows for placement of diaphragm operated check valve assemblies. These assemblies allow instant shut-off, and prevent chemical solution for draining of the arch between applications while nylon jets add both versatility and long life.

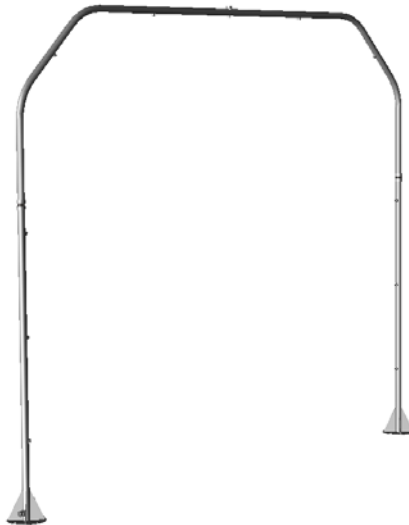


Figure 1-1. *Hanna Versa Arch Frame (Without Jets)*

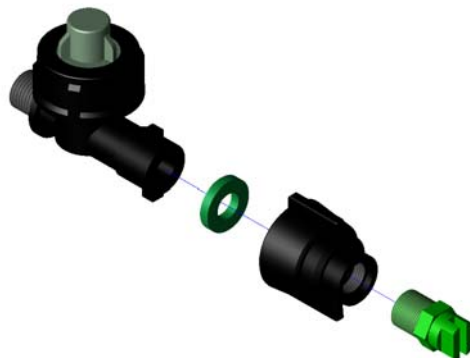


Figure 1-2. *Typical Jet Assembly for the Versa Arch*

1.1 Design Features

1.1.1 Frame

Built of a tubular stainless steel structure, the frame has a simplistic design built to withstand corrosion and movement. A durable finned base holds the structure down attached by ½” anchor bolts.

1.1.2 Pre-Wet/Final Rinse Nozzle Kit

This kit can utilize either fresh water or reclaimed water for the purpose of wetting or rinsing the automobile before or after cleaning operations. Generally, pre-wet and final rinse operations can utilize reclaimed water. Most operators prefer fresh for final/spot free rinse operations.

If reclaimed water is used for rinsing operations, additional Hanna equipment will be required. In which case, filtered water is pumped from the reclaim tanks, through the arch valving when energized, and through the arch cycle to the vehicle. Many states require the use of reclaim water systems for conservation purposes and can be accomplished through the Hanna line of equipment.

1.1.3 Chemical Solution Nozzle Kit

The Versa Arch is designed to work with any solution pump station; however, we recommend that either a Flojet pump or Dosatron Dispenser is used. When supplied from Hanna Car Wash Systems, these solution pumps are equipped with solenoid valves mounted on the inlet to the pump. By placing the valve at this location, we have eliminated the potential for the pumps to “lock-up” during normal operation. This is why the arch is supplied without a solenoid valve. If you should have any issues with your solution pumping station or Versa Arch, please verify the location of your solenoid valve.

1.1.4 Spot Free Nozzle Kit

If a Reverse Osmosis generating system is used, a spot free nozzle kit may be the best recommendation for this configuration. This water is specially cleaned and ionized to rinse the vehicle without spotting. Generally, when Reverse Osmosis is used, additional drying agents are necessary. Plastic valving and plumbing are recommended when using RO water. The RO system provides water through the arch valving when energized, to the vehicle.

1.1.5 Soap Foamer Nozzle Kit

Foaming applicators such as soap and polish foamer arches, require the use of an injector or pumping station, in addition they require pressurized air.

The chemical solution and pressurized air are provided to the arch through the arch valving when energized. They are then mixed together at the foam generator on the arch. The foam generator then creates foaming micro-bubbles. This foam travels through the arch where it is applied to the vehicle.

1.1.6 Foaming Nozzle kit

A simplified alternative to the Soap Foamer Nozzle kit is the Foaming Nozzle Kit. This kit does not require a foaming generator, nor does it require a powered air supply. These special designed nozzles allow for air to flow through the tips to create the needed micro-bubbles as solution flows through it. Eleven of these nozzles are required for the Versa Arch assembly.



Figure 1-3. Foaming Nozzle

1.1.7 Flood Kit

The Flood Kit is designed to provide high volume cleaning along the sides and top of the vehicle. It also provides the wash owner/operator to remove heavy mud and icy road buildup from the automobile. This versa arch configuration is virtually maintenance free as there are no moving parts. The flood jets can handle fresh or reclaim water. With the stainless structure of the arch frame and durable brass jets, the total assembly offers both beauty and convince.



Figure 1-4. Flood Jet

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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.*

3.0 Installation

The following information is a suggested means for installation of the Hanna Versa Arch. It is understandable not all installations are the same, nor accomplished with the same ease. Therefore, many of your own ideas, experiences, and installation tricks are encouraged and should be implemented.

Prior to the actual installation an on-site visit and observations are recommended. This is especially true if the location is other than new and/or not of Hanna design. 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 delay the project.

3.1 Installation Requirements

- Water Per Nozzle:
 - ❑ **Pre-Wet:** 1.5 GPM @ 40 PSI
 - ❑ **Chemical Solution:** 1.0 GPM @ 40 PSI
 - ❑ **Spot Free:** 0.6 GPM @ 40 PSI
 - ❑ **Soap Foamer:** 0.6 GPM @ 40 PSI
 - ❑ **Flood Jet:** 4 GPM @ 40 PSI

- Hydraulic: None.

- Dimensions:
 - ❑ **Height:** (104 in.)
 - ❑ **Length:** (8 in.)
 - ❑ **Width:** (124 in.)

3.2 General Requirements

Before getting started, you must find the proper location for your Versa Arch. We recommend a minimum of 1 foot of clear area for proper operation of the system. The clear area is defined as any space that allows the component to operate freely, but will not interfere with or be interfered with by other devices.

3.3 Versa Arch Installation

1. Read this manual prior to opening crates or installing equipment.

NOTE: *It is highly recommended that anti-seize compound be used with all threads when assembling the stainless steel components to eliminate galling for the threads. Light oil will not work for this application, as when parts are disassembled after the oil has dried, galling will occur.*

2. Carefully open crates and identify the individual parts for assembly using the enclosed check list. If there are any missing parts, notify your Hanna distributor immediately.
3. Place the framework in the wash bay as shown on the layout drawing (see frame drawing in the back of the manual). When all pieces for your configuration have been set in place, take the time to recheck all the layout dimensions using your conceptual drawing.
4. Make sure the centerline is properly aligned with the equipment. See your equipment layout drawing (commonly referred to as an M-1 drawing).
5. Make sure the distance from entrance end of conveyor to equipment is correct as shown on the equipment layout drawing (M-1).
6. Use the appropriate sealing compound for threaded parts according component purpose of operation.
7. Install proper connections parts to the header weldment.
8. Install the header arch weldment, being careful to follow the layout drawings. Use one spacer and one close nipple for each leg weldment connecting to the header.
9. Anchor the support legs to the floor using 1/2 in. diameter.
10. Make sure the components are assembled correctly and leveled.
11. Connect water and chemical lines as needed according to arch application
12. Operate the Versa Arch. Check for water and/or chemical leaks during operation



WARNING: FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF HOSE, TUBING, FITTINGS, ASSEMBLIES, OR RELATED ACCESSORIES CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE.

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4.0 Parts and Maintenance

4.1 General Maintenance

The Versa Arch requires periodic inspection and maintenance. However, there are only a few items that should be inspected on a regular basis.

4.1.2 Weekly Maintenance

- ✓ Inspect the jets to insure that any accumulated chemical is removed and that the jet is not plugged. Plugged jets are commonly a result of improperly mixed chemical solutions or insufficient filtering of the incoming water supply.
- ✓ Remove the jet blockage if necessary
- ✓ Check if arch is anchored properly in the tunnel
- ✓ Check spray nozzles for wear

4.1.3 Monthly Maintenance

- ✓ Inspect the wiring to the valving if installed on the arch for signs of deterioration, wear, or chafing. Repair as necessary.
- ✓ Inspect the overall plumbing of the arch for leaks or other signs of deterioration

4.2 Visual Guide of Parts Used

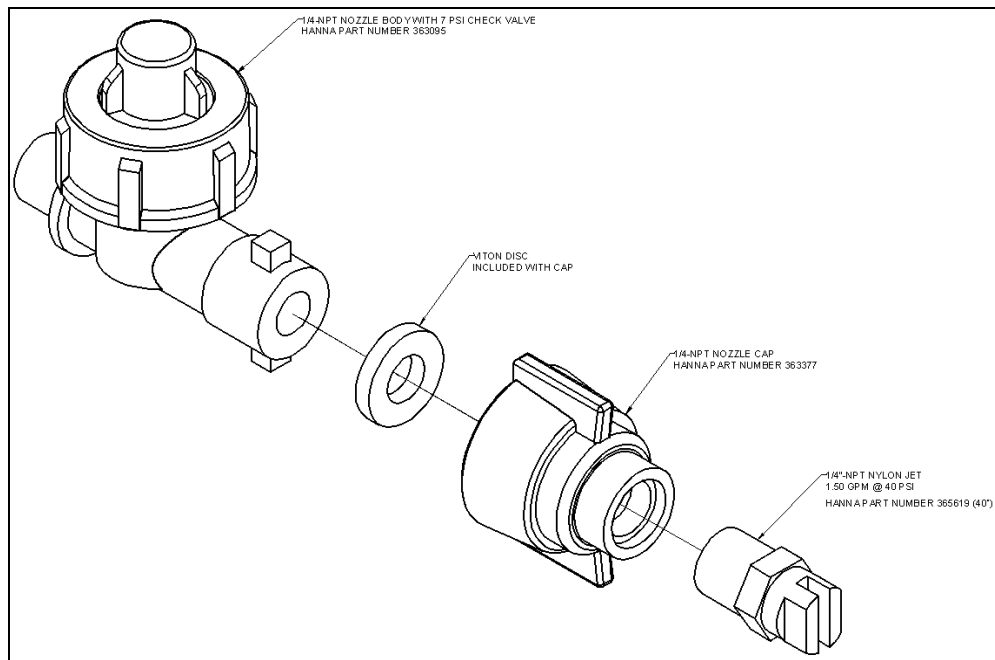


Figure 4-1. 813937 - Pre Wet Kit

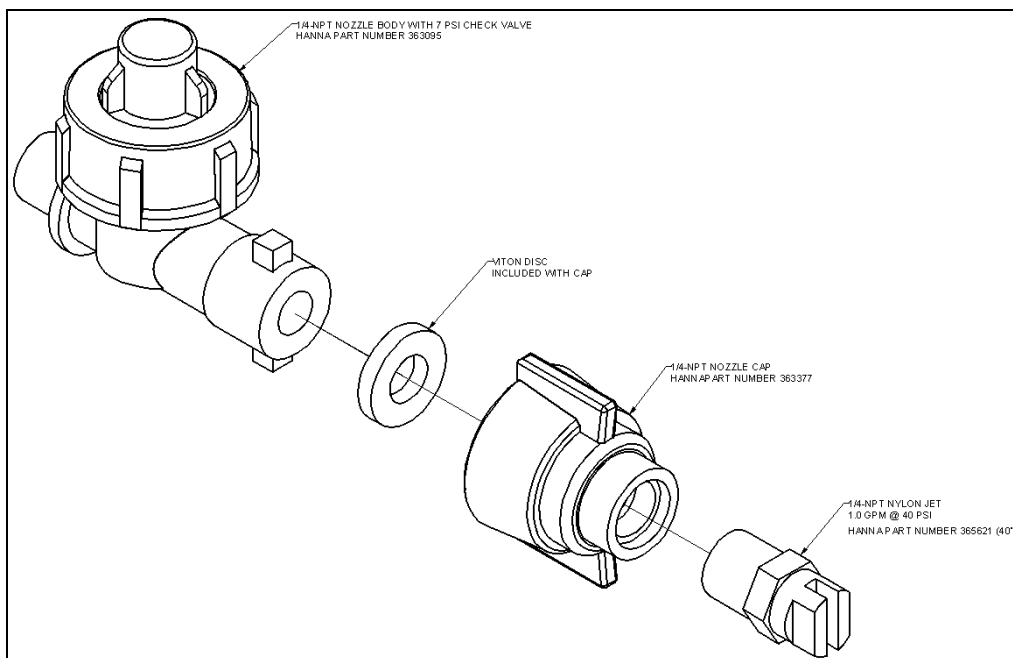


Figure 4-2. 813938 - Chemical Solution Kit

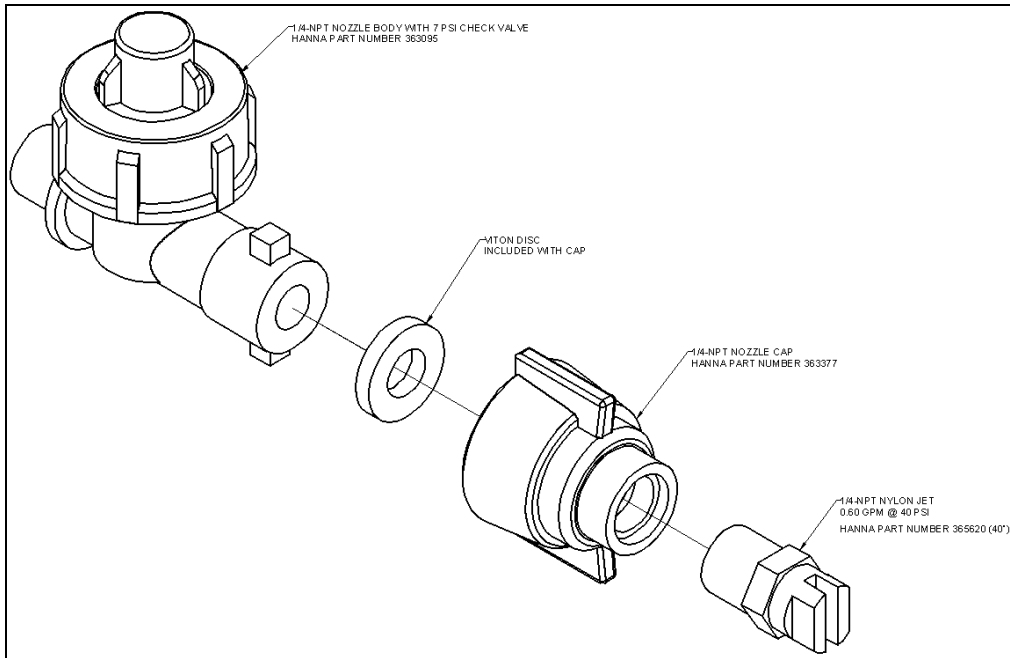


Figure 4-3. 813939 - Spot Free Kit

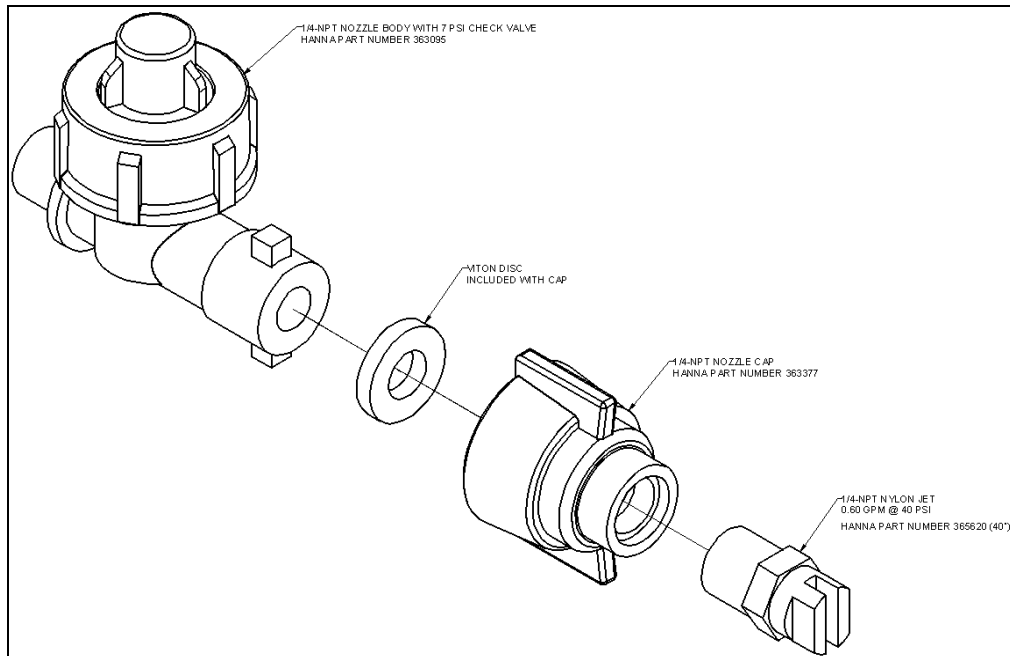


Figure 4-4. 813940 - Soap Foamer Kit

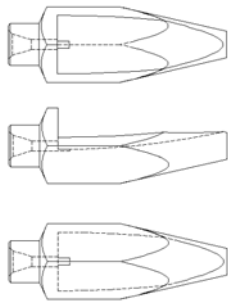


Figure 4-5. 813941 - Flood Kit



Figure 4-7. 806963 - Foam Generator

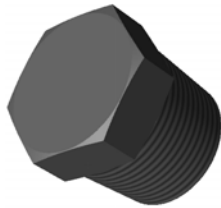


Figure 4-8. 361151 - SCH 80 PVC Plug $\frac{3}{4}$ "MPT



Figure 4-9. 813935 - Spacer

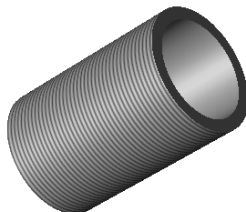


Figure 4-10. 620995 - SS Nipple 1"Close



Figure 4-11. 814098 - Foaming Nozzle Assy.

4.3 Packing Lists

813865 - Versa Arch Frame Assembly

Item	Part	Description	Qty.
1	813856	HEADER WELDMENT	1
2	813858	LET WELDMENT	2
3	620995	NPL SS 1" CLOSE 304SS SCH40	2
4	813935	SPACER	2
5	361151	PLUG PVC 3/4" T SCH80	2

806955 - Install Kit

Item	Part	Description	Qty.
1	621162	PVC NIPPLE 3/4" CLOSE SCH80	2
2	361214	ELBOW PVC 3/4" 90DEG THREADED SCH80	1
3	324764	DEMA VALVE 416-P	1
4	330985	HOSE BARB NYLON 3/4 X 3/4 HSXMPT	2
5	039487	CLAMP SCREW IDEAL 6816	2
6	024604	1/2" POLY FLO FOR AIR	12
7	312256	HOSE 3/4" DBL BRAID WATER	12
8	194258	BOLT ANCHOR KWIK 1/2" X 3-3/4"	8

814098 - Foaming Nozzle

Item	Part	Description	Qty.
1	365586	VITON GASKET	11
2	361143	NOZZLE CAP	11
3	363095	NOZZLE BODY 1/4" CHECK VALVE	11
4	368062	8002 FOAMING JET	11

813937 - Pre-Wet/Final Rinse Kit

Item	Part	Description	Qty.
1	363095	NOZZLE BODY 1/4" THREAD	11
2	363377	NOZZLE BODY CAP TREADED W/ GASKET	11
3	363262	JET 1/4" 65-15	3
4	365619	JET 1/4" 40-15	8

813938 - Chemical Solution Kit

Item	Part	Description	Qty.
1	363095	NOZZLE BODY 1/4" THREAD	11
2	363377	NOZZLE BODY CAP TREADED W/ GASKET	11
3	363261	JET 1/4" 6510	3
4	365621	JET 1/4" 4010	8

813939 - Spot Free Nozzle Kit

Item	Part	Description	Qty.
1	363095	NOZZLE BODY 1/4" THREAD	11
2	363377	NOZZLE BODY CAP TREADED W/ GASKET	11
3	363258	JET 1/4" 6506	3
4	365620	JET 1/4" 4006	8

813940 - Soap Foamer Kit

Item	Part	Description	Qty.
1	363095	NOZZLE BODY 1/4" THREAD	11
2	363377	NOZZLE BODY CAP TREADED W/ GASKET	11
3	363095	JET 1/4" 6506	11
4	806963	FOAM GENERATOR ASSEMBLY	1

813941 - Flood Kit

Item	Part	Description	Qty.
1	368030	JET FLAT BRASS 1/4"-5040	11



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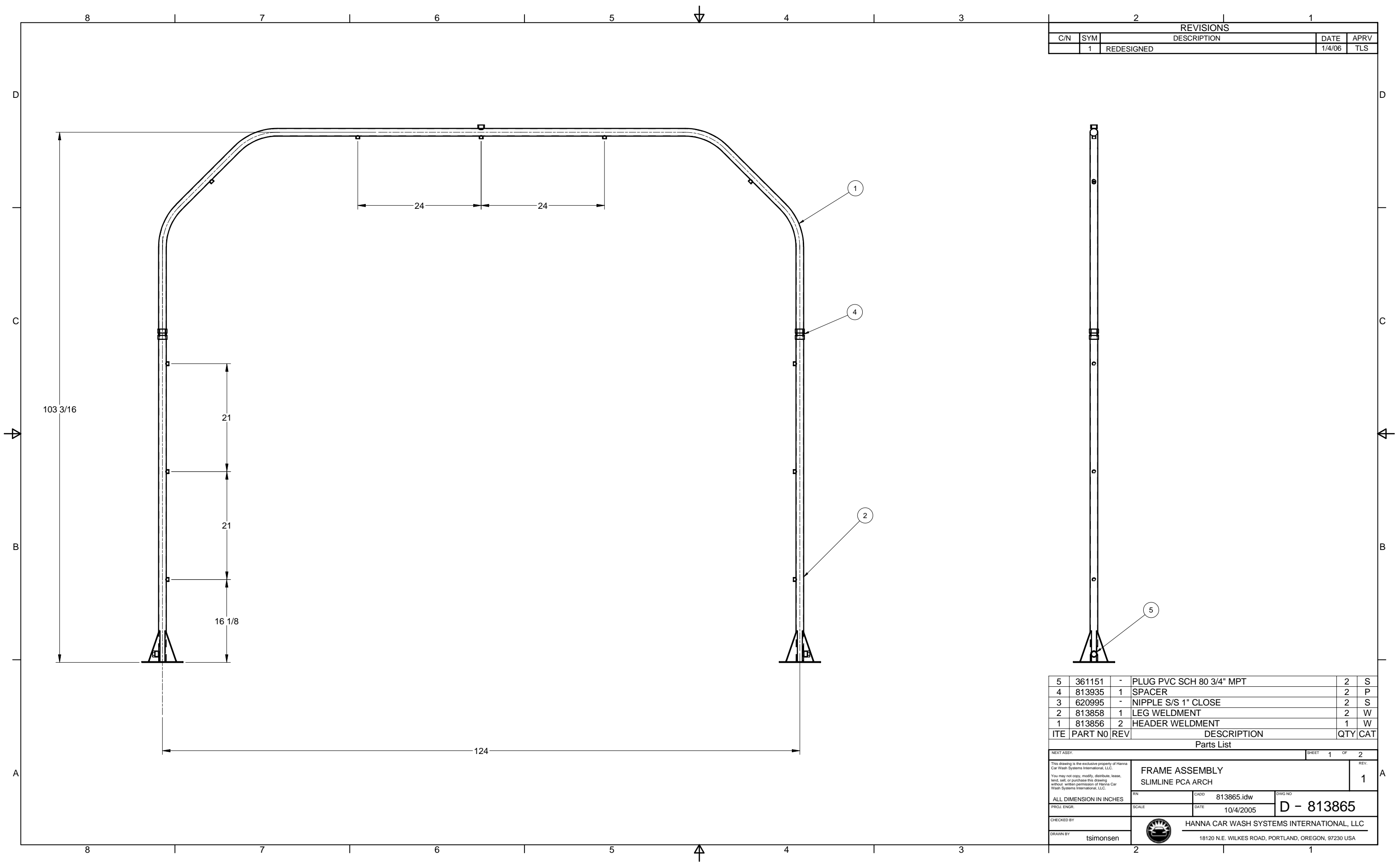
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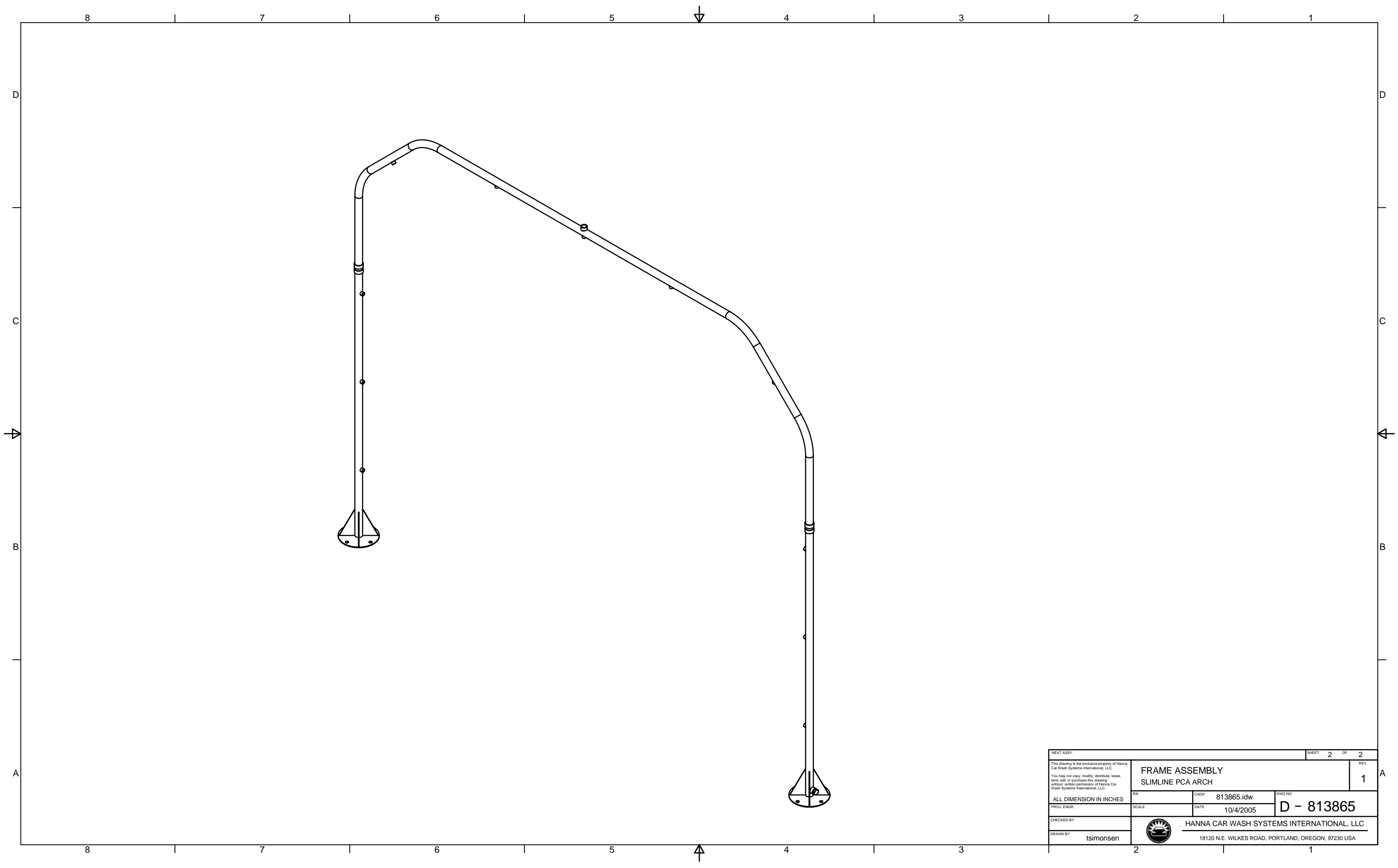
REVISIONS				
C/N	SYM	DESCRIPTION	DATE	APRV
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ITE	PART NO	REV	DESCRIPTION	QTY	CAT
5	361151	-	PLUG PVC SCH 80 3/4" MPT	2	S
4	813935	1	SPACER	2	P
3	620995	-	NIPPLE S/S 1" CLOSE	2	S
2	813858	1	LEG WELDMENT	2	W
1	813856	2	HEADER WELDMENT	1	W

Parts List

NEXT ASSY:		SHEET 1 OF 2	
<small>This drawing is the exclusive property of Hanna Car Wash Systems International, LLC. You may not copy, modify, distribute, lease, lend, sell, or purchase this drawing without written permission of Hanna Car Wash Systems International, LLC.</small>			
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DRAWN BY	18120 N.E. WILKES ROAD, PORTLAND, OREGON, 97230 USA		



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DRAWN BY	tsimonsen <small>18120 N.E. WILKES ROAD, PORTLAND, OREGON, 97230 USA</small>			