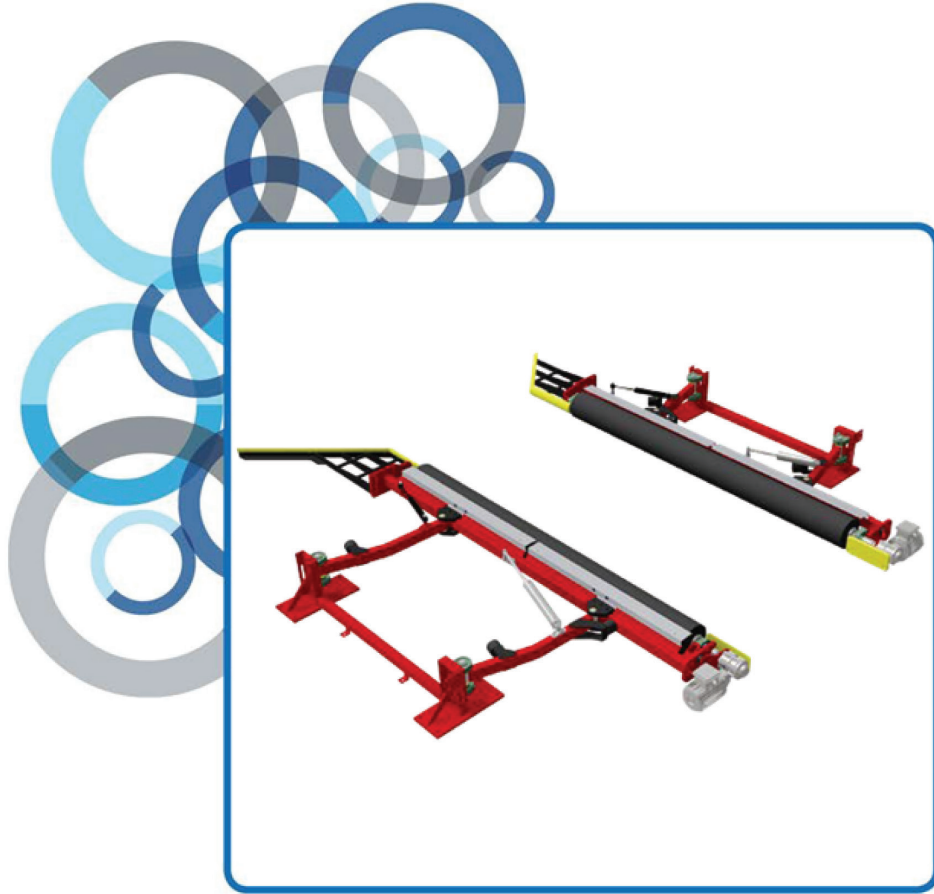


TIRE SEAL TGB300 OWNER'S MANUAL



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Lifetime Warranty

Equipment manufactured by SONNY'S ENTERPRISES, INC. is warranted to be free from defect in material and workmanship. Welded metal framework and other non-moving, non-wearable fabricated metal components manufactured by SONNY'S are warranted for the life of the equipment to the original purchaser. Fabricated metal wearable surface and moving components manufactured by SONNY'S are warranted for a period of one (1) year to the original purchaser of the equipment.

All components assembled to SONNY'S equipment that are manufactured by others are warranted by the appropriate manufacturer and subject to that manufacturer's limited warranty. Contact SONNY'S for the specific information on other component manufacturer's warranty terms. All new cloth shipped with new SONNY'S equipment is warranted for a period of one (1) year or 80,000, whichever occurs first.

This warranty is not assignable or transferable. The warranty period begins the first day following installation or 30 days from the original invoice date, whichever occurs first. The Seller's liability shall be limited to repair or replacement of materials found to be defective within the warranty period. In the event of repair or replacement this limited warranty is noncumulative. The Purchaser must supply the Seller with immediate written notice when any defects are found. The Seller shall have the option of requiring the return of defective material to establish the Purchaser's claim. Neither labor nor transportation charges are included in this warranty. Transportation damage claims are to be submitted to the carrier of the damaged materials.

This warranty is based upon the Purchaser's reasonable care and maintenance of the warranted equipment. It does not apply to any equipment which has been subject to misuse, including neglect, accident or exposure to harsh chemicals or chemicals that react violently with: water, organic acids (e.g. acetic acid), inorganic acids (e.g. hydro-fluoric acid), oxidizing agents (e.g. peroxides), and metals (e.g. aluminum). Chemicals corrosive to: aluminum alloys, carbon steel, and other metals. Nor does it apply to any equipment which has been repaired or altered by anyone not so authorized by SONNY'S. Further, the equipment must be properly installed with proper accuracy of all specified plumbing, electrical, and mechanical requirements. This warranty does not apply to normal wear and tear or routine maintenance components.

EXCEPT AS EXPRESSLY STATED HEREIN, SONNY'S SHALL NOT BE LIABLE FOR DAMAGES OF ANY KIND IN CONNECTION WITH THE PURCHASE, MAINTENANCE, OR USE OF THIS EQUIPMENT INCLUDING LOSS OF PROFITS AND ALL CLAIMS FOR CONSEQUENTIAL DAMAGES. THE LIMITED WARRANTY EXPRESSED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. SONNY'S NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION HEREWITH.

Customer Service

	Voice	Fax	Email
Installation or Operation Issues:	800-327-8723	800-495-4049	Sonnys-Support@SonnysDirect.com
Parts and Supplies:	800-327-8723	954-720-9292	CustomerService@SonnysDirect.com
Sales Inquiries:	800-327-8723	800-495-4049	Sales@SonnysDirect.com

You can also visit the web at www.SonnysDirect.com.

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Safety Information

The equipment described in this manual is powered by potentially lethal electrical voltages. It is vitally important to follow all safety precautions described in this manual. Failure to follow these precautions can result in injury or possibly death. The following paragraphs describe the safety information contained in the manual.

Symbols Used in This Manual



DANGER

The **DANGER** symbol indicates a hazardous situation which, if not avoided, could result in severe injury or death.



CAUTION

The **CAUTION** symbol indicates a hazardous situation which, if not avoided, could result in minor injury or damage to the equipment.



NOTE

The **Note** symbol indicates an important step or tip that leads to best results, but is not safety or damage related.

General Safety Precautions

- ① All employees must be thoroughly trained in safe operation and standard maintenance practices. All employees must review this entire manual monthly.
- ① Do not enter the wash tunnel when the equipment is operating. Death or dismemberment may occur.
- ① Do not wear loose fitting clothing or jewelry around moving equipment. Do not allow any part of your body or other objects (including ladders, hoses or tools) to come in contact with moving equipment. Entanglement may result causing death or dismemberment.
- ① Do not leave a ladder or any other items such as wash down hoses or tools in the wash tunnel while equipment is running. Vehicle damage and injury, including death, can occur.
- ① Always exercise caution when walking (never run) through the wash tunnel as there may be slippery conditions. Be careful so you do not bump into or trip over equipment.
- ① Only those employees specifically instructed and trained by the location management are permitted to enter the wash tunnel to perform inspections or maintenance. At least two qualified maintenance people must be present when performing equipment repairs or preventive maintenance.
- ① Do not perform any maintenance or work on equipment unless you first perform Lock-Out Safety Precautions. All electrically powered equipment must have manually operated disconnects capable of being locked in the "OFF" position. Equipment that has been "locked out" for any reason must be restarted only by the person who performed the "lock out" operation.

General Safety Precautions - Cont.

- ① When working on any equipment that is higher than your shoulders, always use a fiberglass ladder that is in good condition.
- ① Do not attempt to repair or adjust any pressurized liquid or pneumatic part, hose, pipe or fitting while that equipment is in operation.
- ① Electrical connections and repairs must be performed by a Licensed Electrician Only.
- ① Emergency “STOP” buttons must be well marked and their location and proper use reviewed with all personnel. Any activated “STOP” button must be reset only by the person who activated it. Clear the wash tunnel of any people, ladders, hoses, tools and other loose items before restarting the equipment. An audible device must sound to warn people that the equipment is starting.
- ① Do not operate any piece of equipment that requires safety covers with those covers removed or improperly installed. Do not operate any piece of equipment if any component of that piece is suspected to be defective or malfunctioning.
- ① Store all cleaning and washing solutions and oils in a well-ventilated area. Clean up fluid spills immediately to prevent hazardous safety conditions. Be certain to follow all safety procedures on SDS Sheets for each chemical product used.
- ① All hydraulic and electric systems in the wash tunnel equipped with a torque relief or overload should be checked and set at the minimum amount that will allow for proper functionality under normal washing conditions.
- ① No unauthorized people should ever be permitted in the wash tunnel or near the equipment at any time.

CAUTION

When a piece of equipment must be in operation during inspection or maintenance, one qualified technician must stay at the power disconnect switch while another qualified technician performs the inspection or maintenance.

1. Introduction

1.1 General

This Manual contains information that is vital to the successful installation, operation and maintenance of your SONNY'S vehicle washing equipment. Please read, and understand, the full contents of this manual before installation and operation of the equipment. Keep this booklet in a location where it may be used for ongoing reference.

THANK YOU FOR YOUR CONFIDENCE IN SONNY'S!!!

1.2 Product Specifications

- ◆ Automatic operation triggered by the car wash equipment controller
- ◆ Aluminum frame and hangers
- ◆ Designed to operate in the drip space of conveyor car washes
- ◆ Bristle Brush application with 108" (9') brushes
- ◆ Bristle Brush application with 96" (8') brushes
- ◆ Control panel complete with 2 air driven solution pumps
- ◆ Each side has split solution delivery manifolds for solution delivery savings
- ◆ 3 inch half round plastic entrance guides are standard on both sides
- ◆ Air over oil control for smoother retract and extend functions
- ◆ 4 bolt mounting spindle type brush
- ◆ Grease-able bearings throughout
- ◆ 14 ft. 6 in. (175") of tunnel length required for passenger side brush 8' unit
- ◆ 13.1 ft. (157") of tunnel length required for driver side brush 8' unit
- ◆ 15 ft. 2 in. (183") of tunnel length required for passenger side brush 9' unit
- ◆ Allows for an additional 3- 5 inches of vehicle clearance

2. Installation

2.1 Utilities Requirements

CAUTION

Utilities interconnection and the materials required for interconnection to sonny's equipment are the responsibility of the customer ! Perform all trades work to all applicable local and national codes!

 **NOTE**

Although building codes have been considered in developing all drawings, verification of site-specific conditions and compliance with federal, state and local building codes is the exclusive responsibility of the customer and/or architect and engineer.

Electrical **CAUTION**

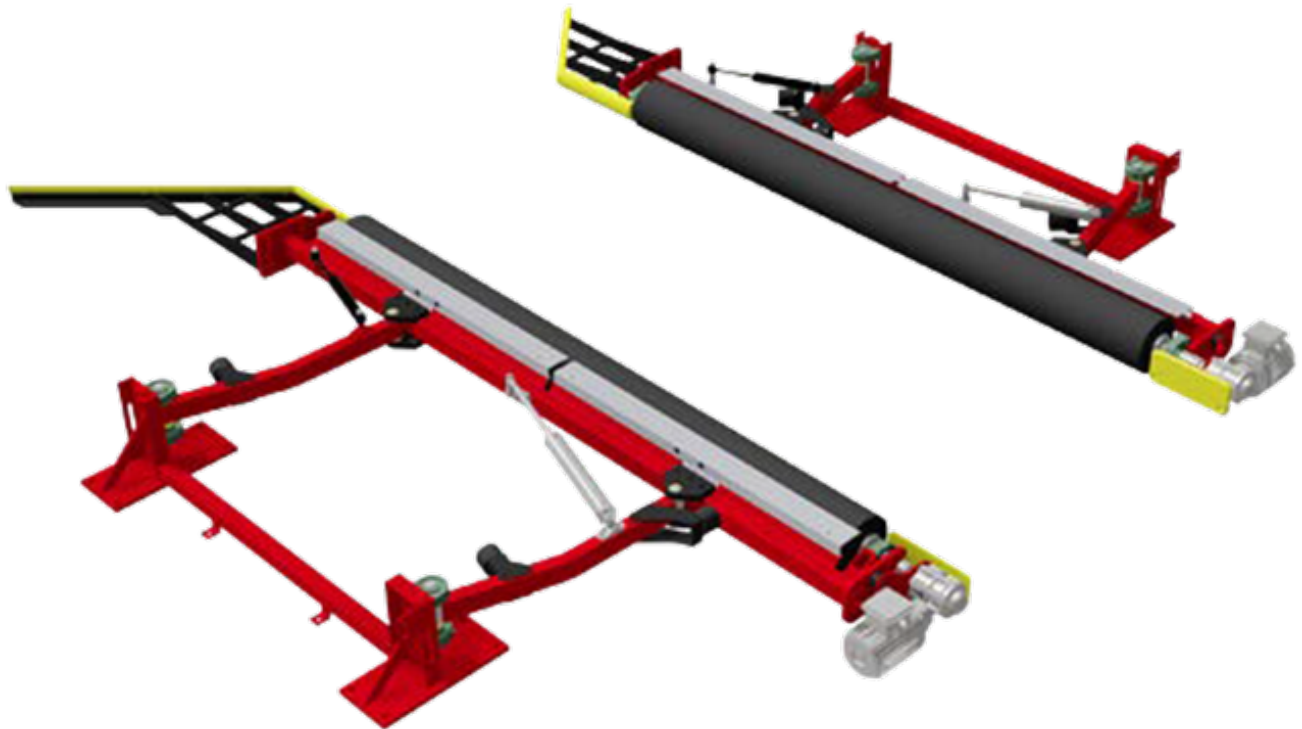
Be certain that the solenoid coil voltage (24VAC OR 110VAC) on the three solenoid valves as ordered from Sonny's is compatible with the tunnel equipment controller output voltage !!!

- ◆ The Customer's Electrician is to provide and install control wiring from the tunnel equipment controller for one programmable function to the junction box on the tire shiner control panel. See Figure #5 in Dimensions Section. The function is to provide for applicators retract through the four way solenoid valves on the control panel and power to the timer. The timer will power three way solenoid valve on the control panel for solution pumps for the number of seconds set on the timer. The Customer's Electrician is to provide materials and install 208VAC or 230VAC or 460VAC, 3-phase, 60Hz power to the electric motor on the hydraulic power pack or VFD panel from a properly sized three pole circuit breaker and motor starter with three thermal overloads.
- ◆ Where applicable, The Customer's Electrician is to provide materials and install 208VAC or 230VAC or 460VAC, 3-phase, 60Hz power to the electric motor on the hydraulic power pack or VFD panel from a properly sized three pole circuit breaker and motor starter with three thermal overloads.

Pneumatic

- ◆ The Customer's Plumber is to provide and install a ½ inch compressed air line (approximately 6 CFM at maximum load) from the air compressor to the ½ inch FPT inlet port on the main inlet air manifold on the tire shiner control panel. See Figure #3 in Dimensions Section. The Customer's Plumber is to provide and install a 3/8 inch compressed air line (1.5CFM @ 100PSI) from the Air Compressor to the supplied Air-Driven Pump Station for Foamer Chemical Application functions.

3. Equipment Measurements



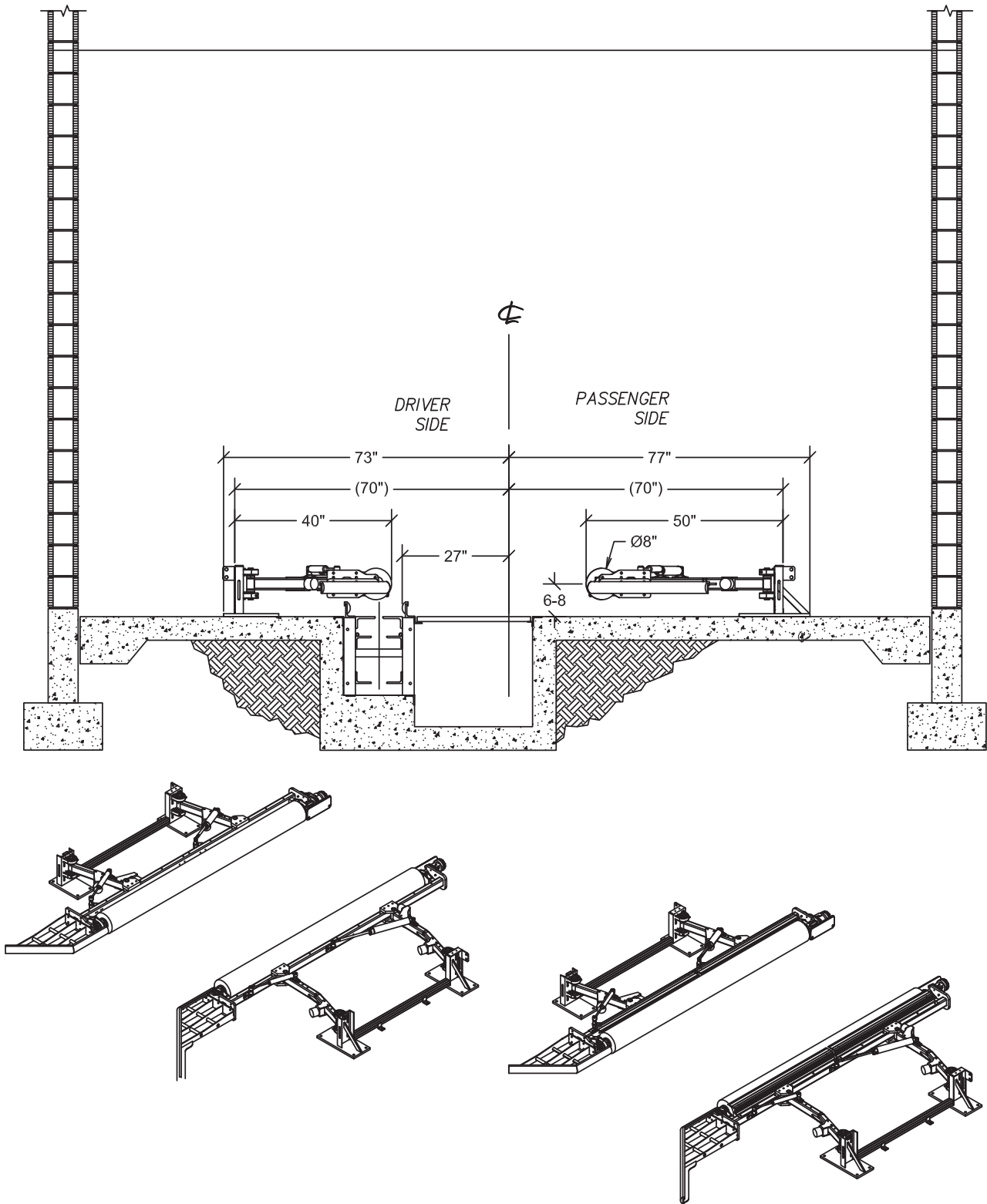


Figure 1. Conveyor Center Line - Sheet 1

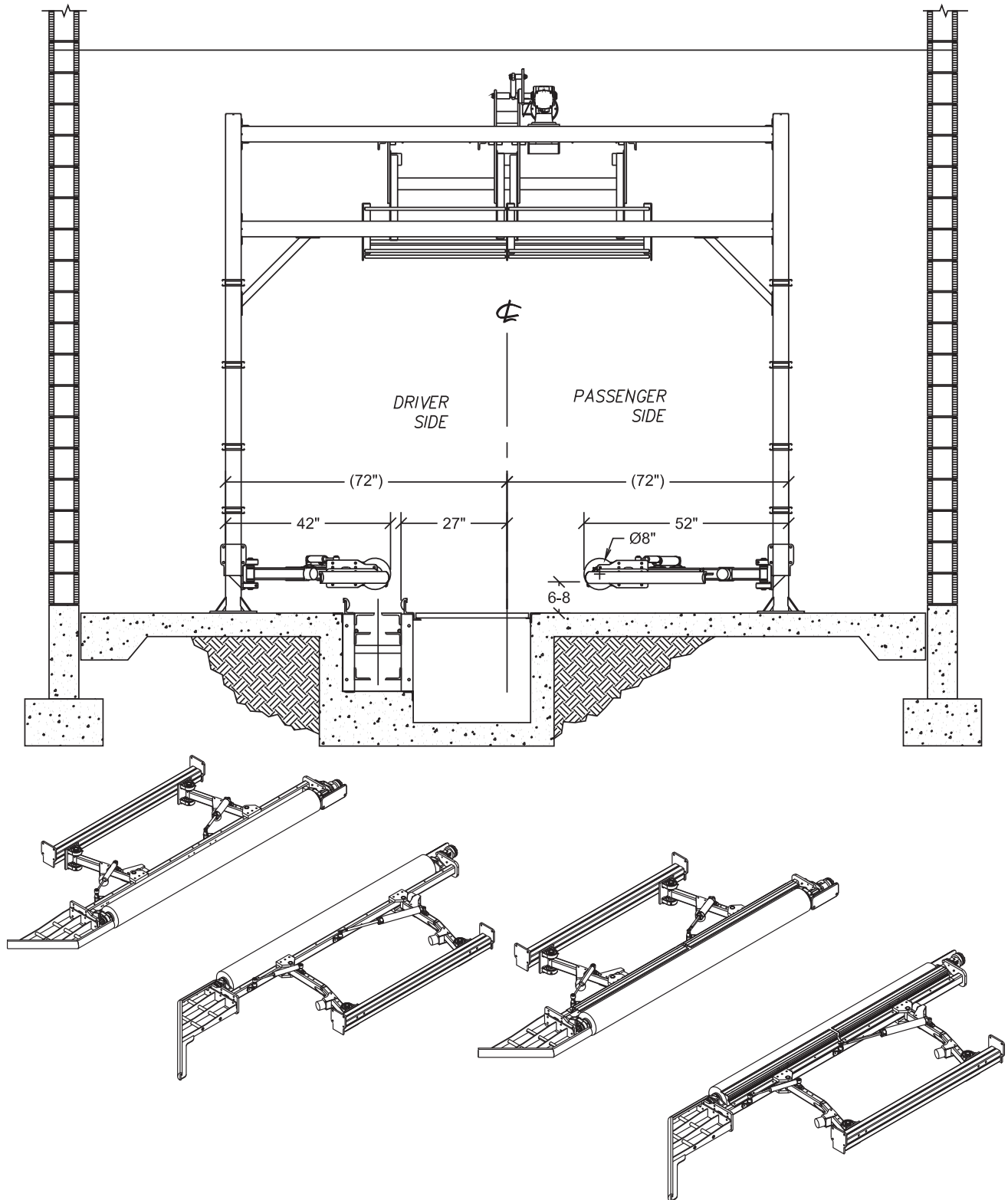


Figure 2. Conveyor Center Line - Sheet 2

3.1 Tire Seal 8 foot Stand Alone

- ◆ Total tunnel length of conveyor needed for the driver side is 157”.
- ◆ Total tunnel length of conveyor needed for the passenger side is 183”.
- ◆ Width measurement is 88” when the arms are fully retracted from the exit UHMW motor cover (see Figure 2, Sheet 1).
- ◆ Width measurement is 51” fully extended when measuring the width from the exit end UHMW covering the motor (see Figure 2, Sheet 2).

! NOTE

Please make sure to cut the conveyor angle so the exit end UHMW sits flush with the conveyor rail.

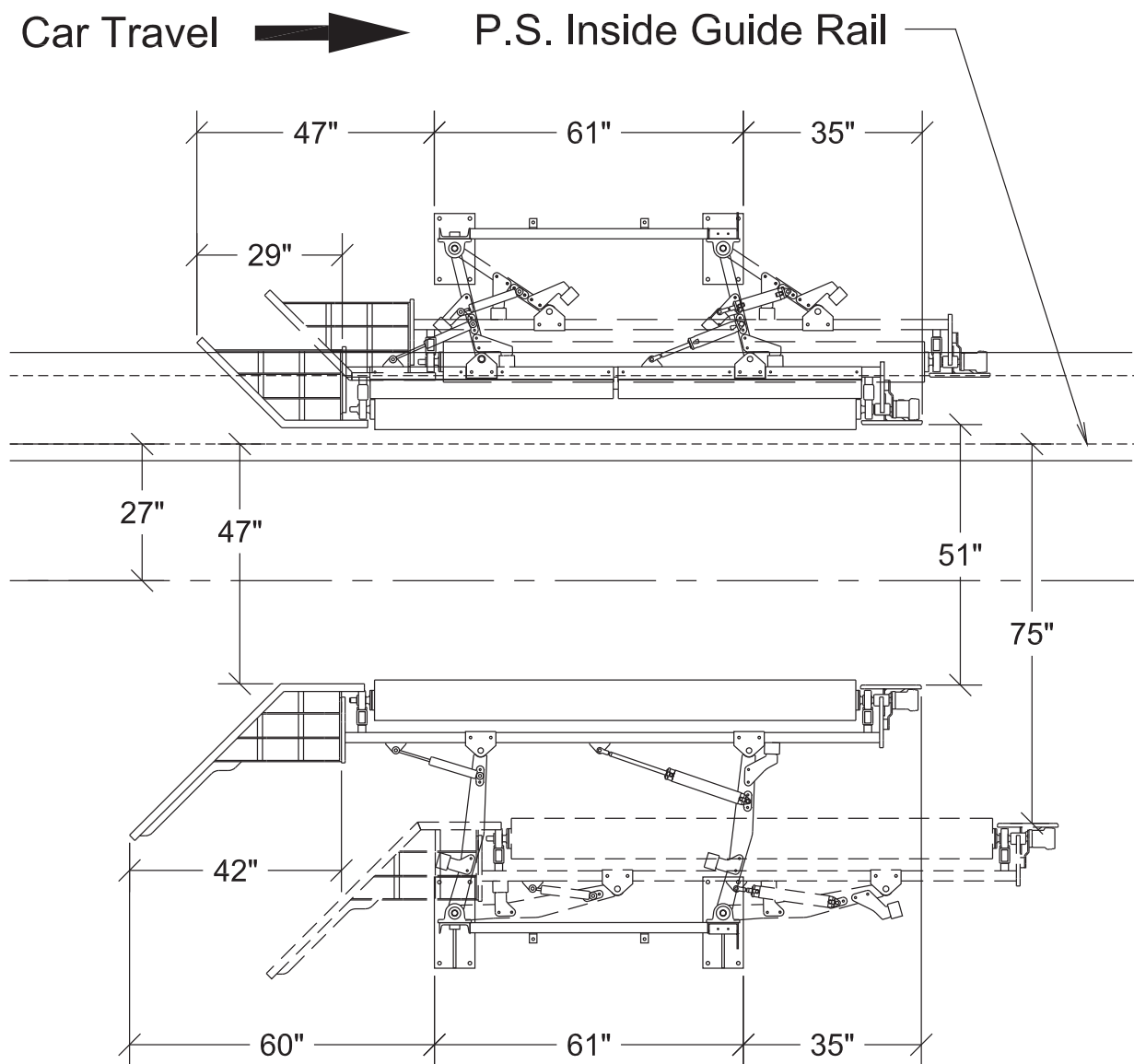


Figure 2. Tire Seal 8 Foot Stand Alone - Sheet 1

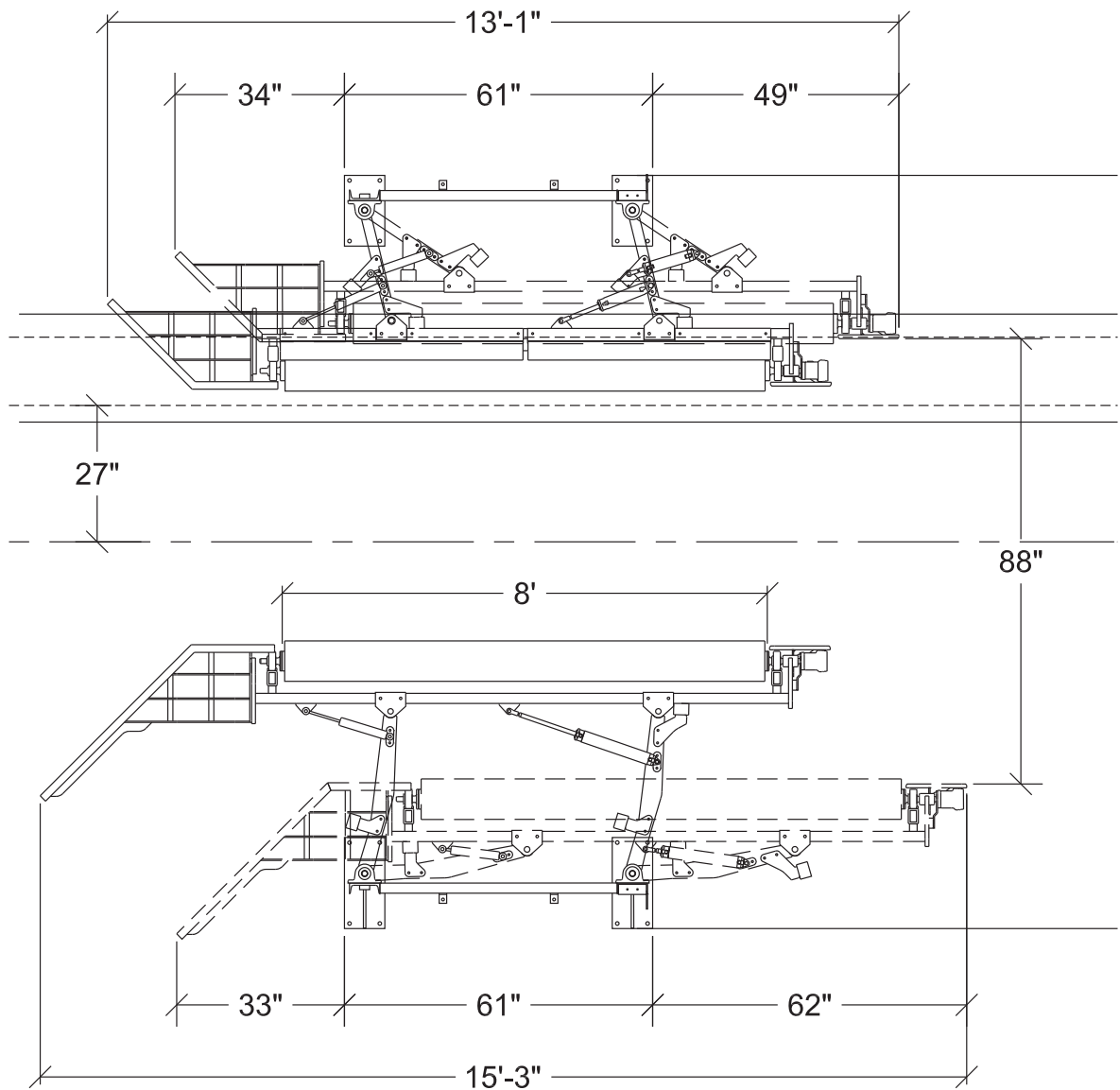


Figure 2. Tire Seal 8 Foot Stand Alone - Sheet 2

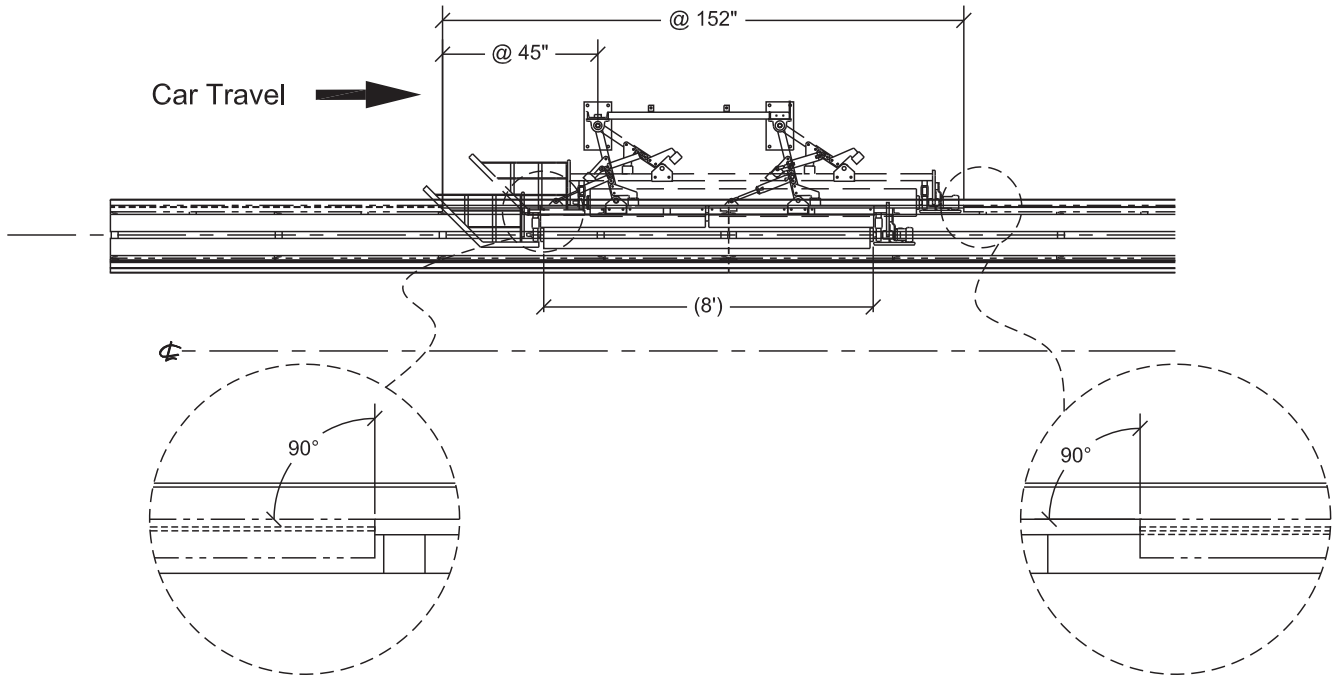


Figure 3. Tire Brush/Seal (8 Foot) Cut-Out Driver Side

3.2 Tire Seal 9 Foot Stand Alone

- ◆ Total tunnel length of conveyor needed for the driver side is 167”.
- ◆ Total tunnel length of conveyor needed for the passenger side is 194”.
- ◆ Width measurement is 91” when the arms are fully retracted from the exit UHMW motor cover (see figure 4, sheet 3).
- ◆ Width measurement is 54” fully extended when measuring the width from the exit end UHMW covering the motor (see figure 4, sheet 4).

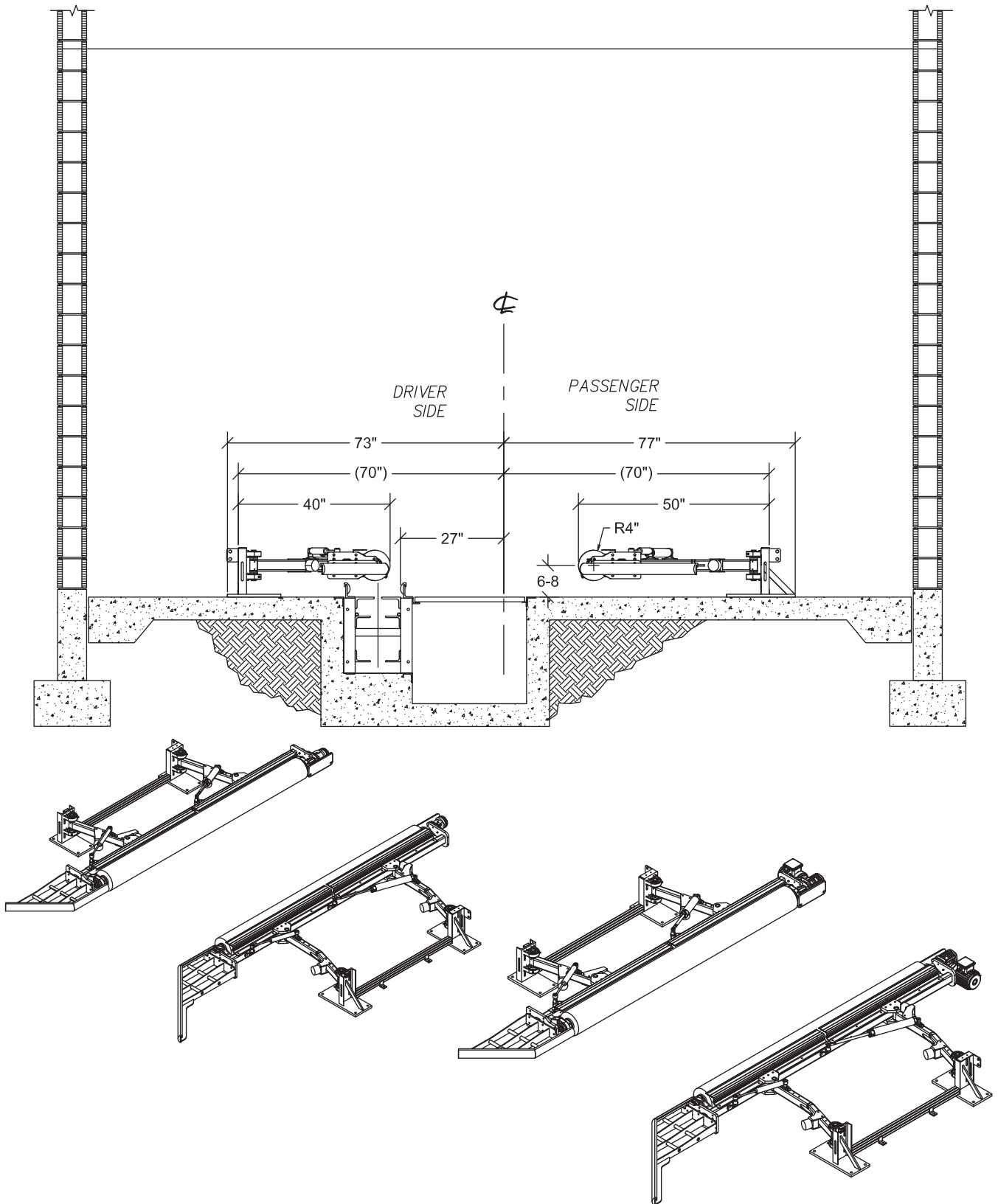


Figure 4. Tire Seal 9 Foot Stand Alone - Sheet 1

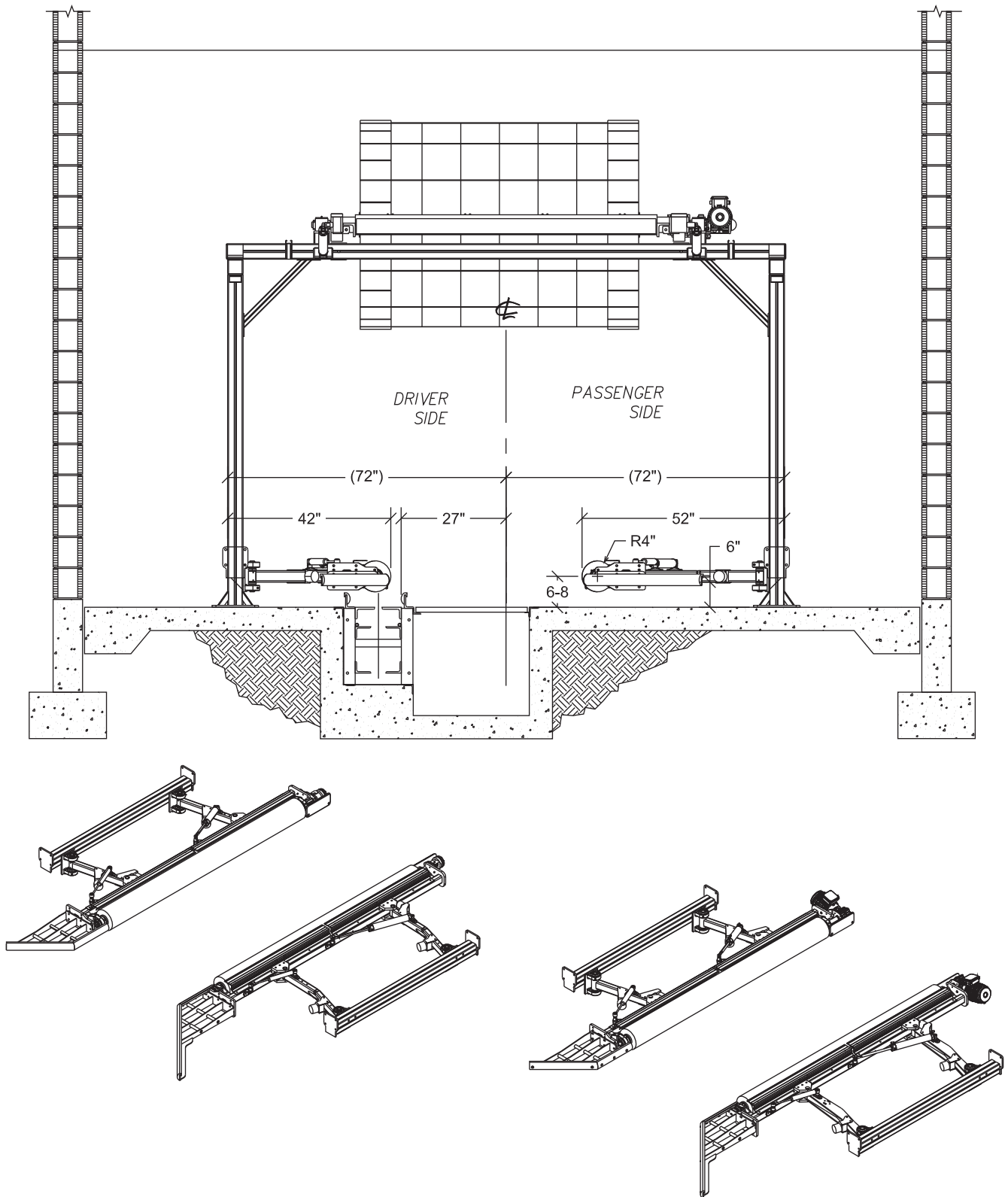


Figure 4. Tire Seal 9 Foot Stand Alone - Sheet 2

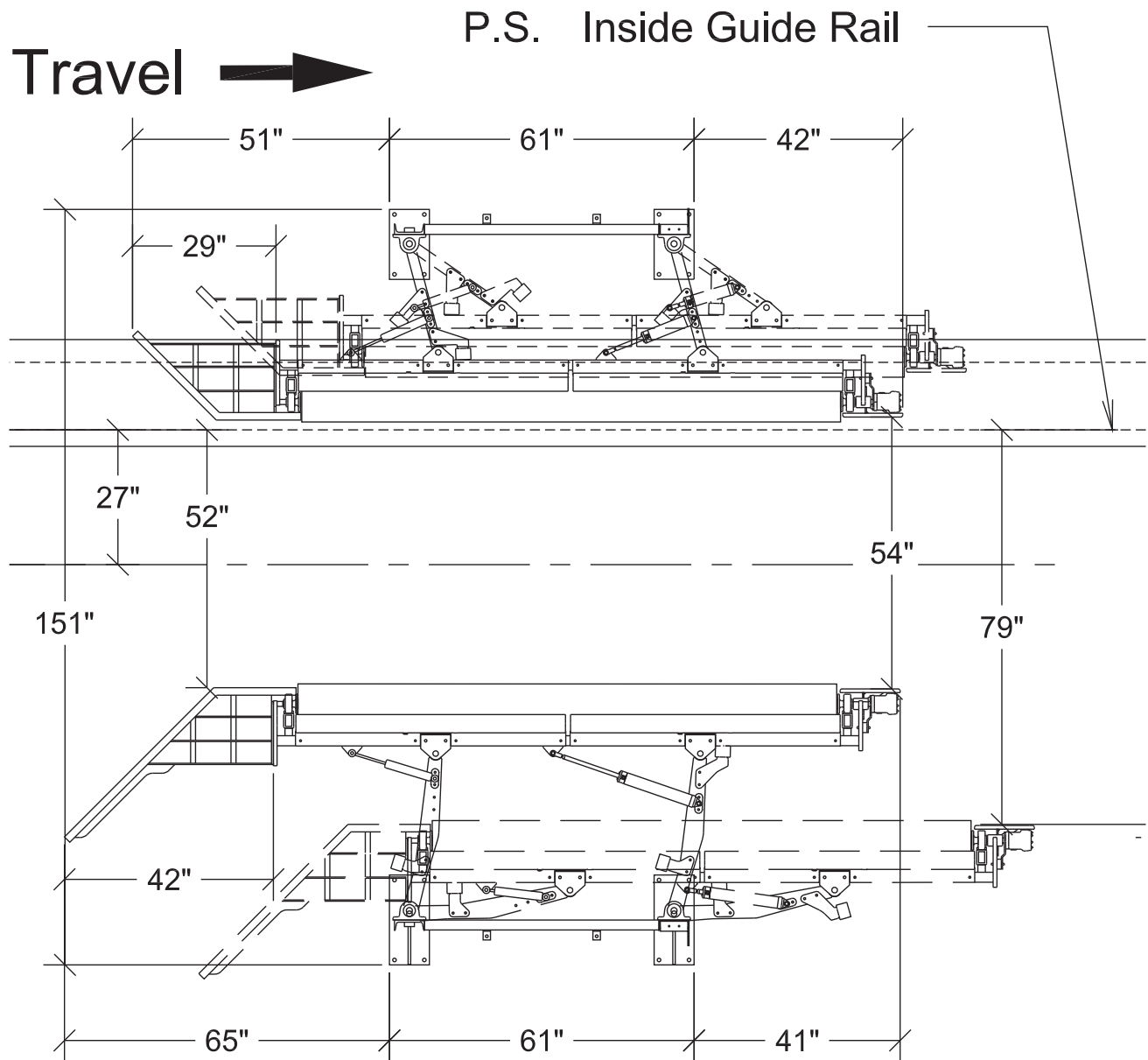


Figure 4. Tire Seal 9 Foot Stand Alone - Sheet 3

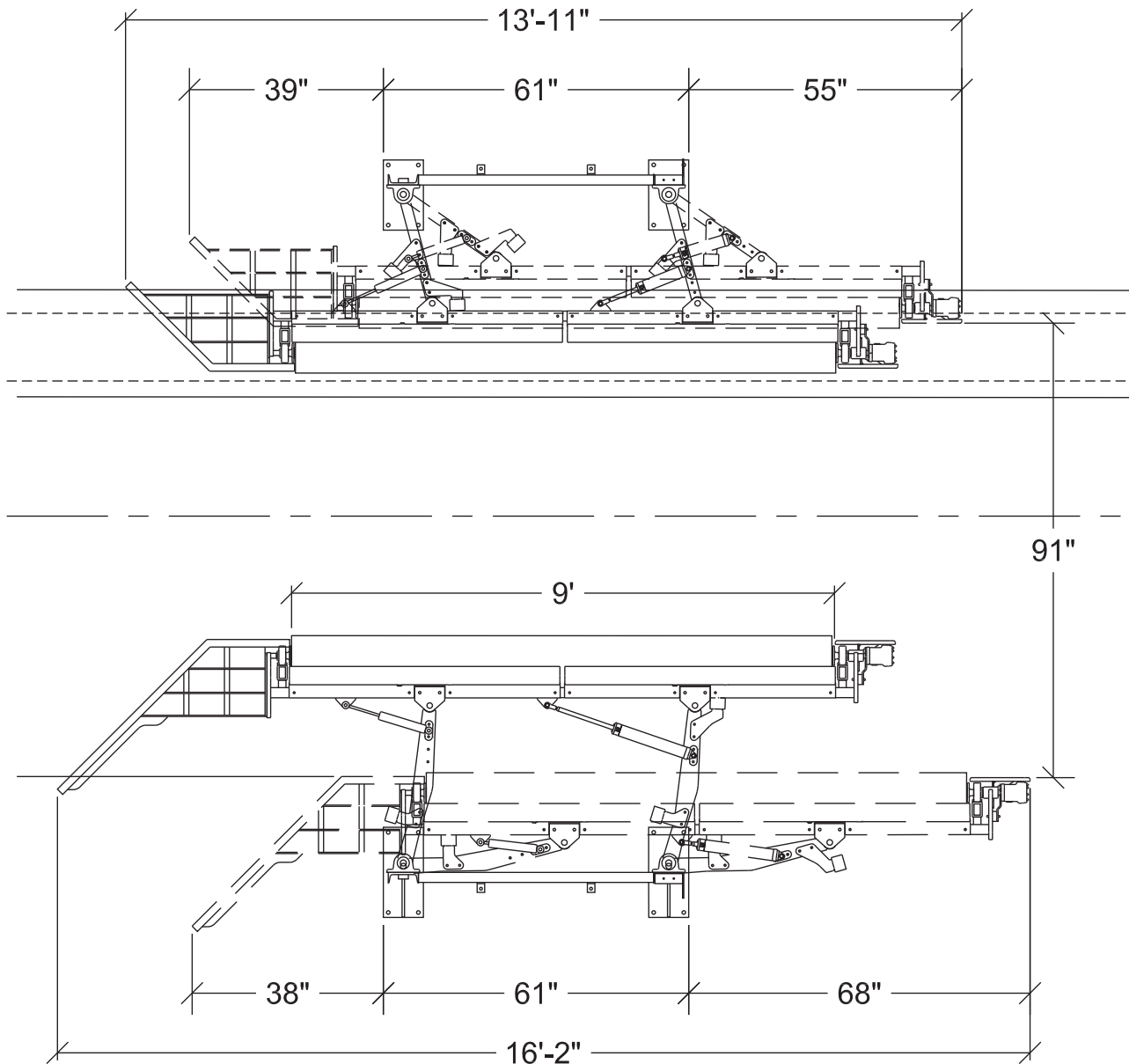


Figure 4. Tire Seal 9 Foot Stand Alone - Sheet 4

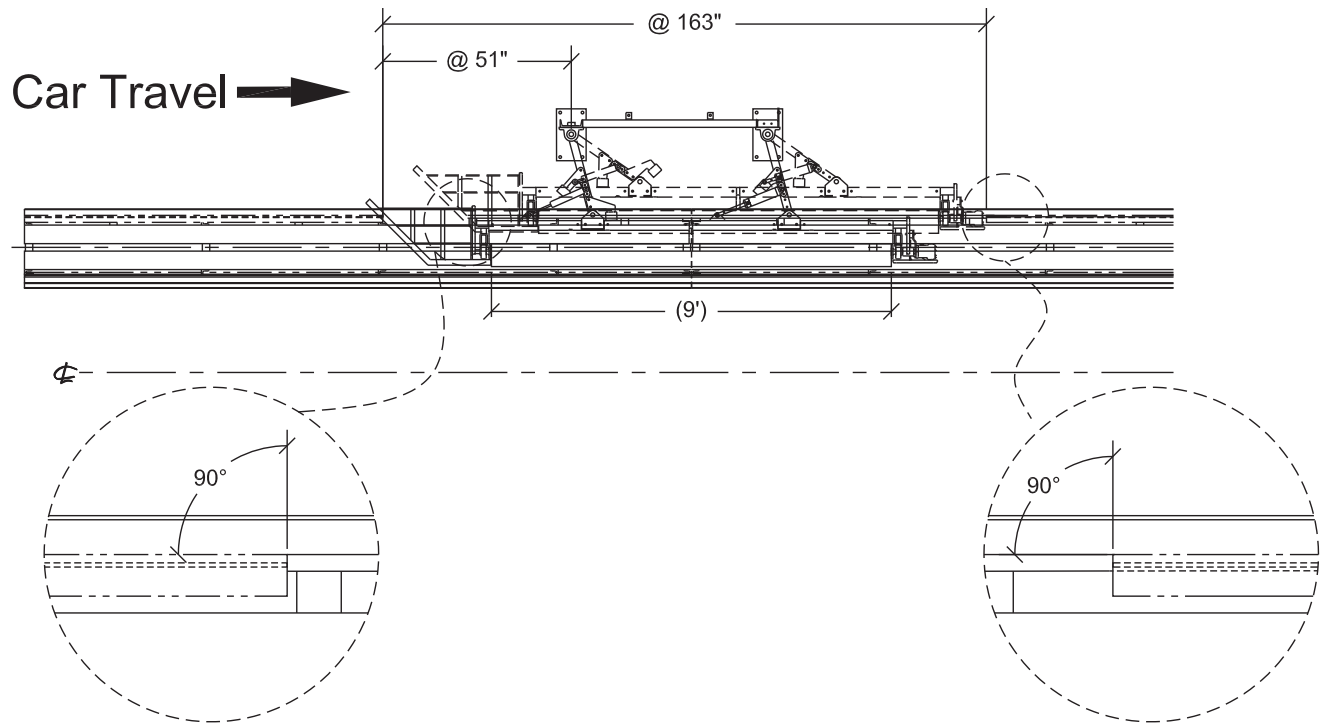


Figure 5. Tire Seal 9 Foot Cut-Out Driver Side

4. Equipment Installation

4.1 Requirements

Time requirement listed assumes no problems are encountered.

Tools	Consumables
Safety Glasses	Anti-seize compound
1/2" Drive Ratchet Set	Marine grease
1/2" Drive Socket Set	
Standard Combo Wrenches	Workforce
Large Standard Screwdriver	Three (3) persons
Tape Measure	
1' Hammer Drill	Time
3 lb. Sledge Hammer	1.50 to 3.00 hours

4.2 Installation

1. Determine where the Brushes are to be installed.
2. Sweep any debris from where the Brushes will sit.
3. Set the Brushes in place.
4. Tie the Passenger side unit temporarily in its full retracted position. Passenger side measure 74" inches from the outer edge of the plastic angle that protects the hydraulic brush drive motor to the inside of the conveyor inside guide rail.
5. Secure the passenger side exit base plate with one floor anchor.
6. Square the frame by using the pillow block bearing mounting channels that are welded to the base plates as the reference.
7. When the unit is square complete the base plates anchoring.
8. Untie the cord and allow the passenger side unit to extend toward the center of the wash tunnel.
9. Adjust the hanger heights equally so that the center of the brush is 6.5" from the floor.
10. The Driver side unit entrance base plate is to be placed 13 inches closer to the exit of the car wash than the passenger side entrance base plate.
11. With the brush hangers fully extended measure 5 inches from the entrance and exit tips of the brush to the inside of the conveyor inside guide rail.
12. Square the driver side unit in the same manner as that used for the passenger side unit. Mark the floor for proper base plate placement.
13. Mark the conveyor outside guide rail for cutting with the driver side unit fully extended and full retracted.
14. Remove the driver side unit and cut the conveyor outside guide rail where it was previously marked and anchor the driver side unit in the marked floor position.
15. Adjust the driver side brush height so that the rotating brush will have minimal contact with conveyor pusher rollers and no contact with vehicle wheel covers.

16. Run and connect the 1/2 inch PRESSURE line from the Hydraulic Power Pack to the 1/2 inch male pipe thread fitting on the BLACK high pressure hose on the bulkhead fitting of the tire shiner.
17. Run and connect the 1/2 inch RETURN line to the Hydraulic Power Pack to the 1/2 inch male pipe thread fitting on the ORANGE high pressure hose on the bulkhead fitting of the tire shiner.
18. Rotation of the Brushes is toward the tire and downward.
19. Mount the panel on the equipment room wall that faces the wash tunnel at a point as close as possible to the in-tunnel tire shine applicators.
20. Run and connect the solution feed lines to the tire shiners on both sides.
21. Run and connect the air feed lines to the retract cylinder and reservoirs on both sides. Normally open port on Mac valve to the front (rod end) of air cylinder. Normally closed side of Mac valve to the top of oil bottle, bottom of oil bottle to back of air cylinder.

⚠ NOTE

Please make sure to cut the conveyor angle so the exit end UHMW sits flush with the conveyor rail.

4.3 Guide Rail Installation

1. Align the guide rail horizontally with the tire brush main beam.
2. Choose the desired height for the guide rail by selecting the single hole of the guide rails and align it to one of the four holes that are on the main beam.
3. Once your preferred height is selected, affix the guide rail to the main beam with the hardware provided. Align the other guide rail holes horizontally with the main beam holes and tighten.

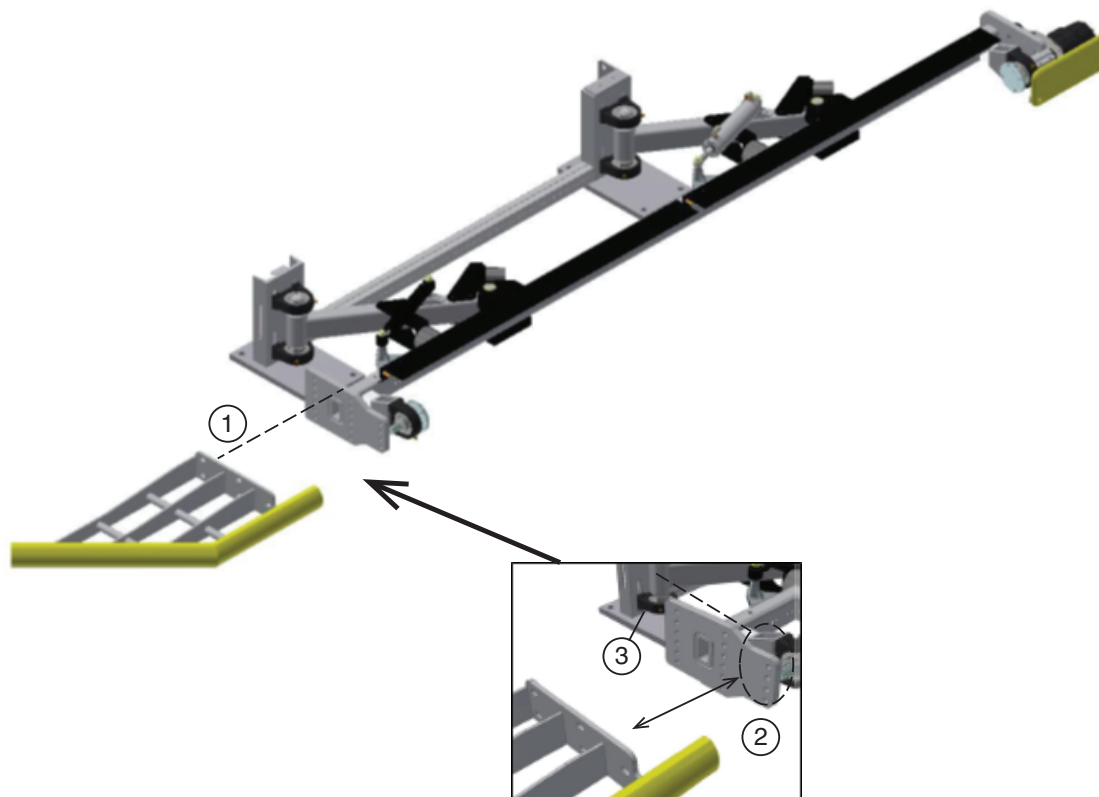


Figure 6. Guide Rail Installation

4.4 Hydraulic Hose Installation

1. Remove and discard the hydraulic motor line feed plugs.
2. Using the BLACK hose as your feed line and the RED hose as your return line, securely tighten the hoses to the motor, using the top port of the motor as your feed line and the bottom port as the return.
3. Once the hoses are installed to the power pack, securely turn on the power pack to verify the rotation of the brush. The brush should be spinning downward.

NOTE

If the rotation of the brush is incorrect, turn off the power pack, release the pressure and switch the hydraulic lines.

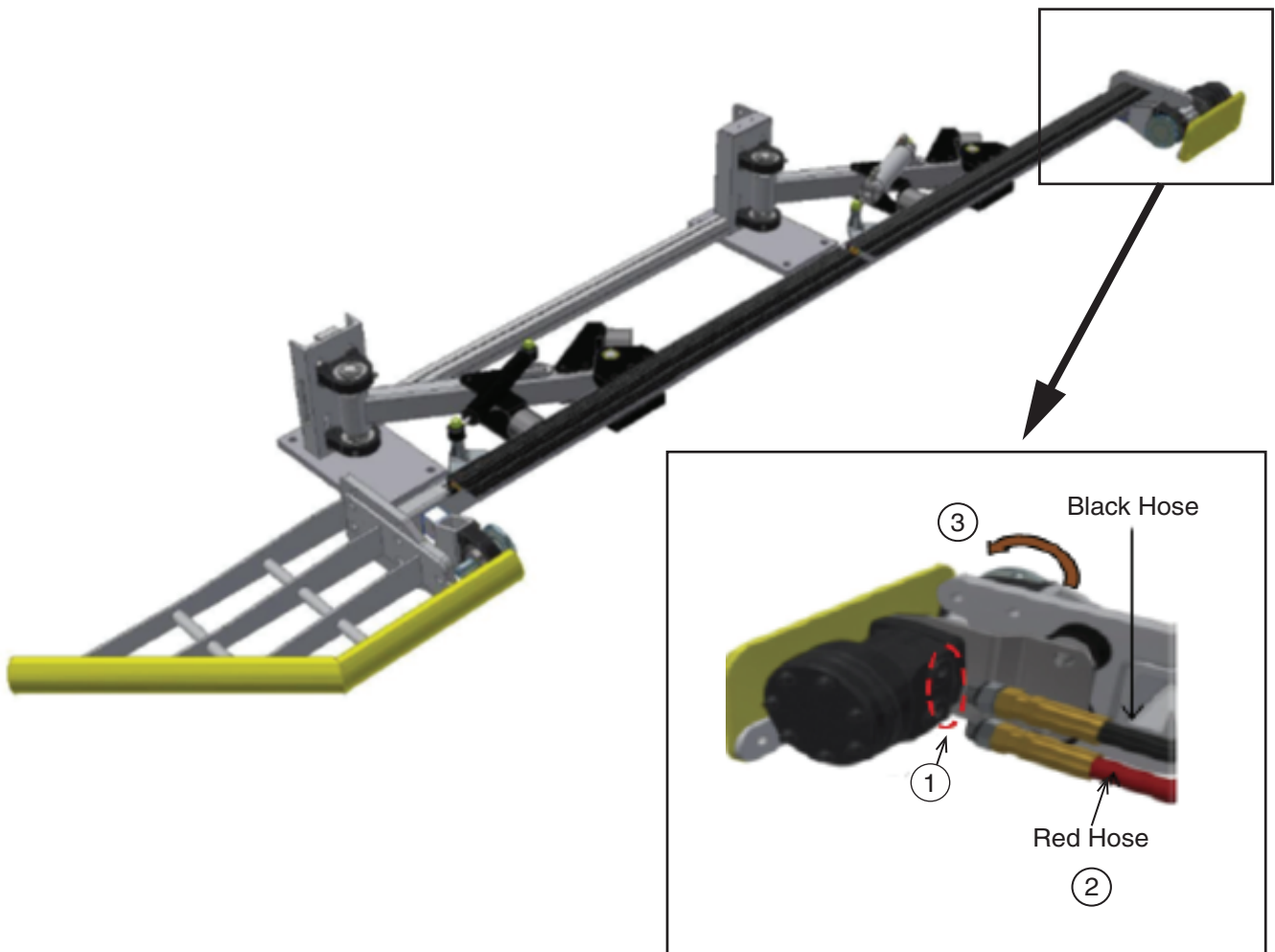


Figure 7. Hydraulic Hose Installation

4.5 Brush Installation

1. Mount the brush assembly by attaching one end of the brush to the brush motor side spindle.
2. Loosen the bearing set screw to the spindle.
3. Mount the other end of the brush assembly to the idle spindle and tighten.
4. Check the alignment of the brush to be in the middle. If it needs to be aligned, loosen the motor side bearing set screw to loosen the spindle, and then position the brush to be even at both ends. Once it is centered tighten the set screws for both bearings.

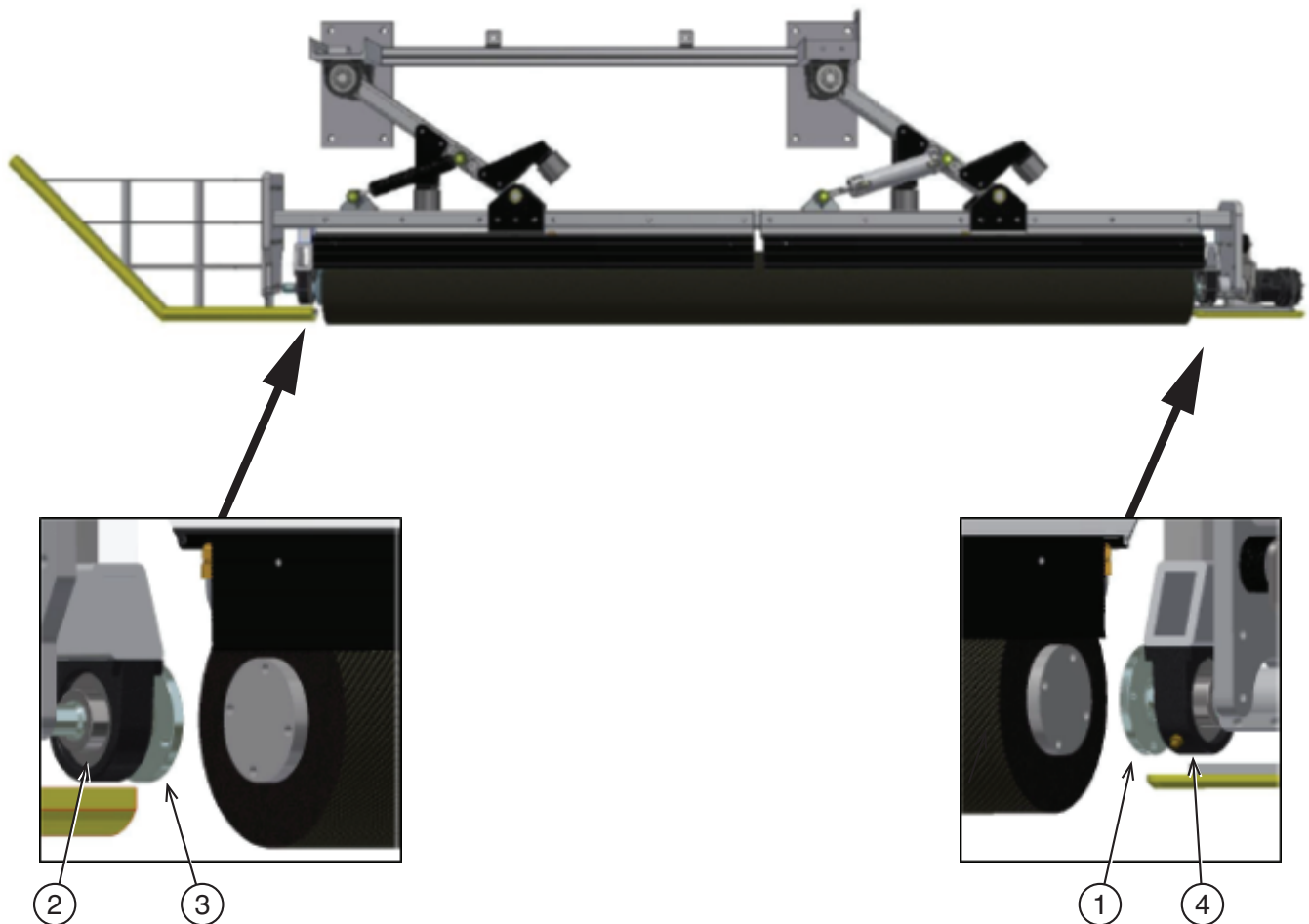


Figure 8. Brush Installation

5. Tire Seal Air Installation

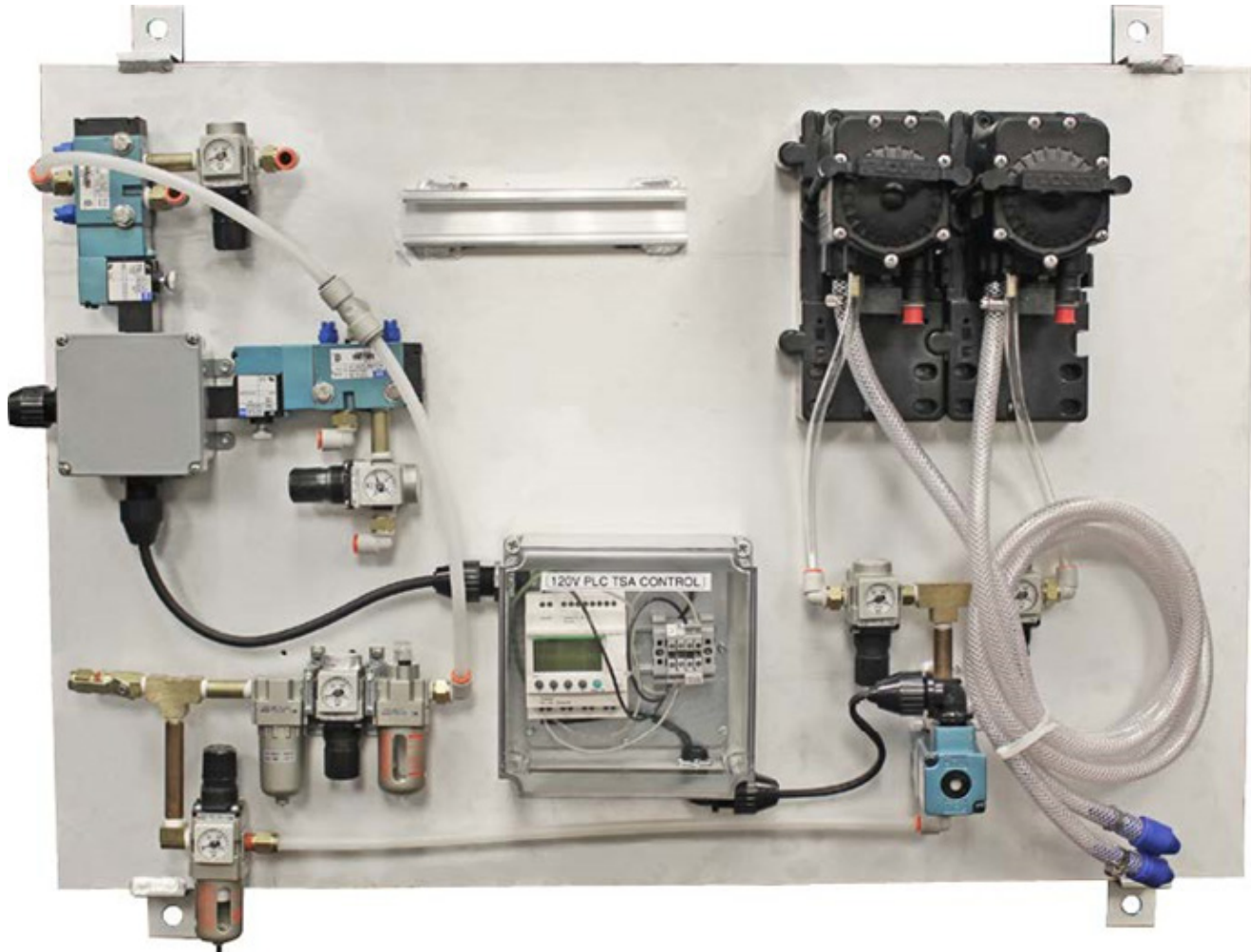


Figure 9. Tire Seal Air Panel

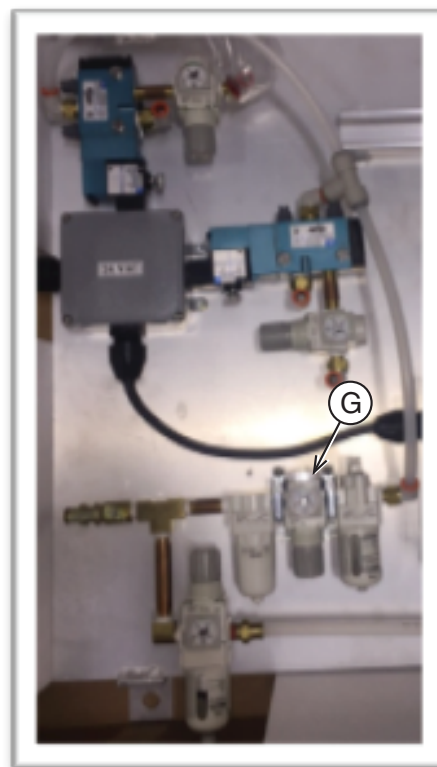
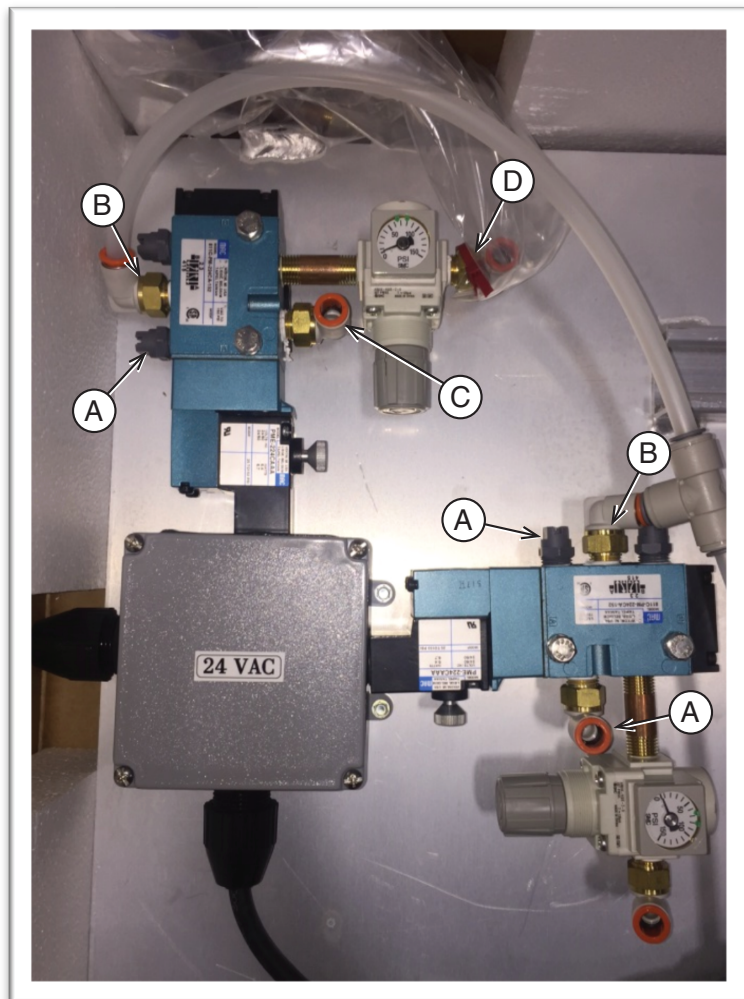


Figure 10. Mac Valve Connections and Pressures

Item	Description	Pressure Settings
A	Exhaust Port	
B	Air In Port for FRL	
C	Connection going to front of the DS cylinder	
D	Connection going to DS oil reservoir top	Extend pressure set to 15-40psi
E	Connection going to PS oil reservoir top	Extend pressure set to 20-50psi
F	Connection going to front of the PS cylinder	
G	FRL Base Regulator	Retract Pressure set to 60PSI

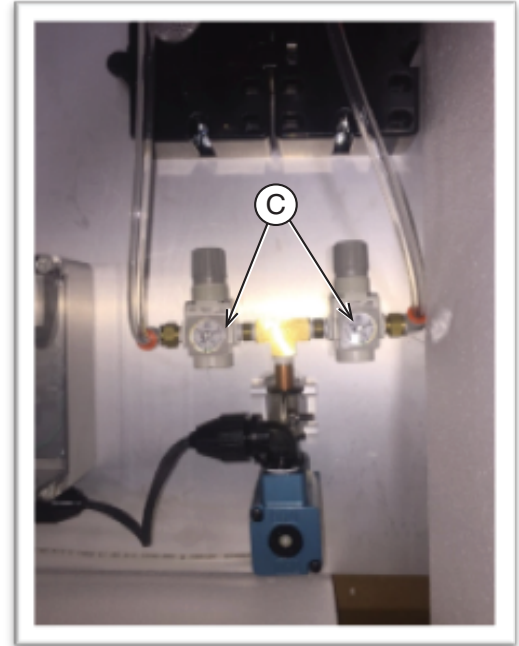
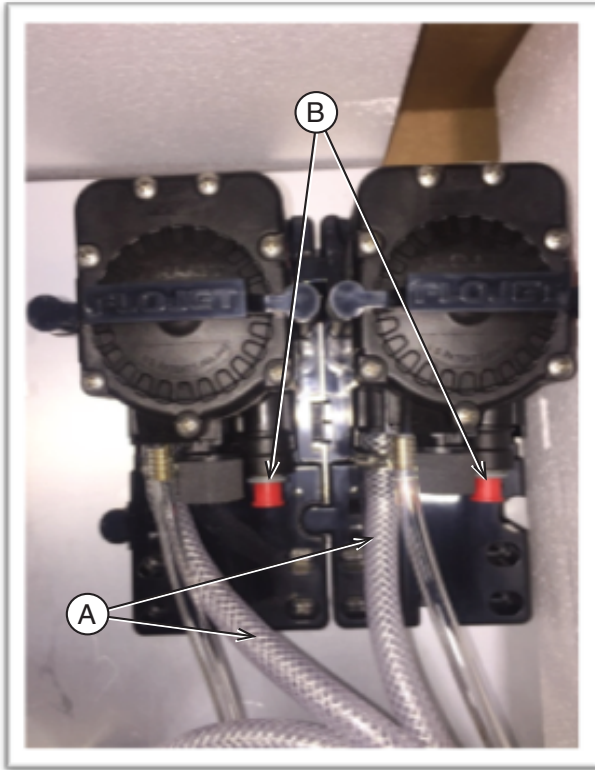
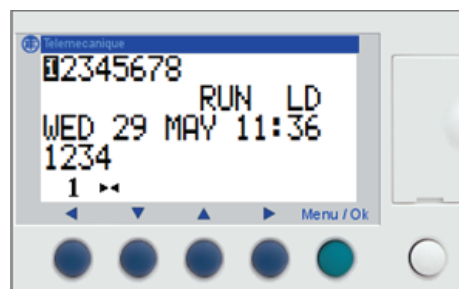
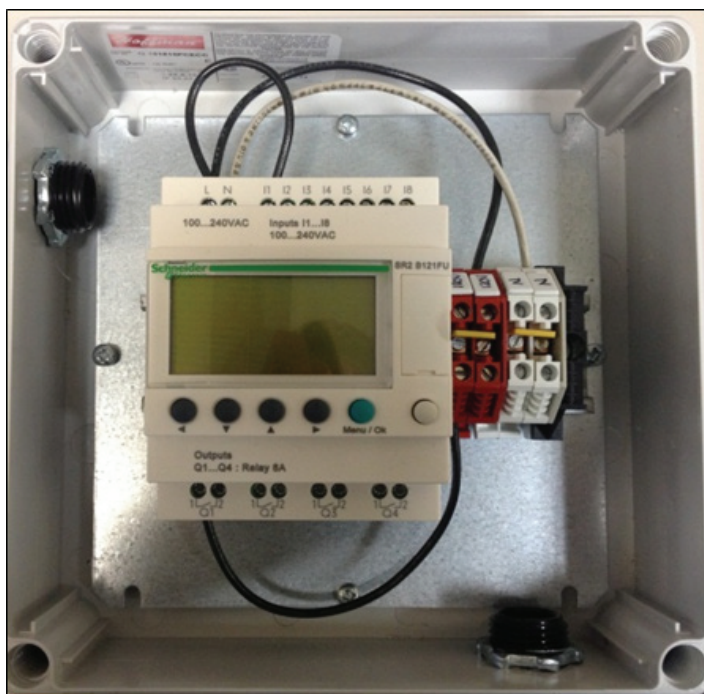


Figure 11. G57 Pump Connections and Pressures

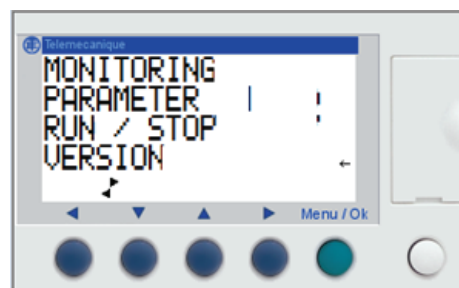
Item	Description	Pressure Settings
A	Chemical pump feed lines	
B	Chemical pump discharge lines	
C	G57 Pump Chemical regulators	Set to 40-70PSI
D	Base regulator to G57 pump chemical regulator	Set to 60-70PSI

6. PLC (Zelio) Programming

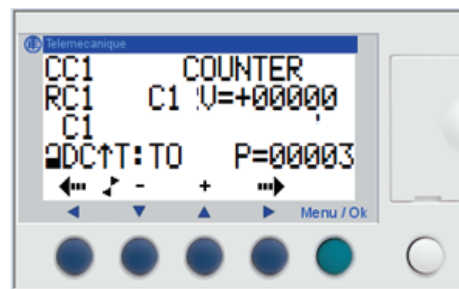
1. Switch on the 24 VAC power from the controller to turn on the PLC.
2. PLC needs to be in the Main Screen A.
3. Press Menu/OK (green button) to go to Screen B.
4. Press the Arrow Down until PARAMETER flashes then press OK to go to the next Screen C.



Main Screen A



Main Screen B



Parameter Screen C

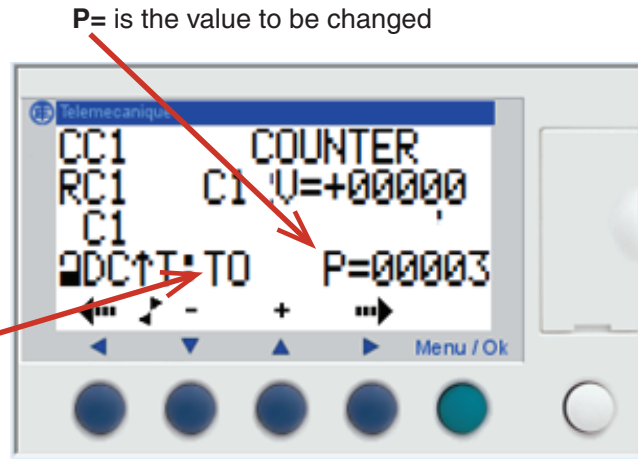
Figure 12. PLC Programming - Sheet 1

5. To change the value of one of these parameters. Press the DOWN or UP Arrow key to get to the next parameter.
6. Using the LEFT or RIGHT Arrow keys, you can move the cursor to the parameter value and edit it.
7. Once Edited, press the Menu/OK button. Then, the following screen will show up asking to confirm the changes.

CC1 Editing

Edit this value to set how many cars need to be counted in order for the G57 pump solenoid to be energized (default value is every 3 cars).

NOTE: If this field is changed from TO to FROM, the PLC programming will not work!



TT2 Editing

Edit this value to set the time that the G57 pump solenoid is turned on (default value is 2 seconds).

NOTE: T= is the parameter value to be changed.
e.g. 002.5 = 2.5 seconds.
None of the other values are changed.

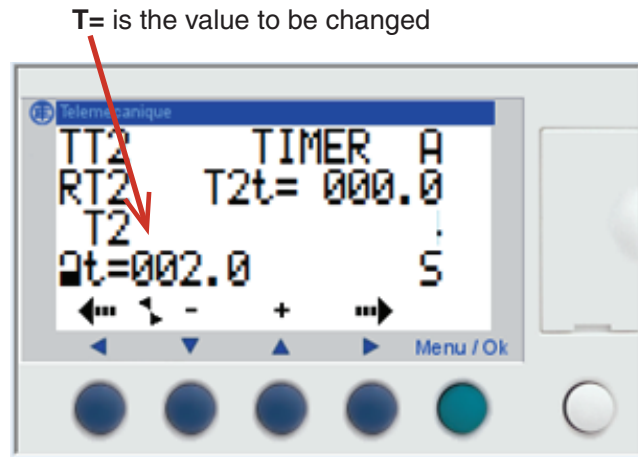


Figure 12. PLC Programming - Sheet 2

6.1 Relay Connection

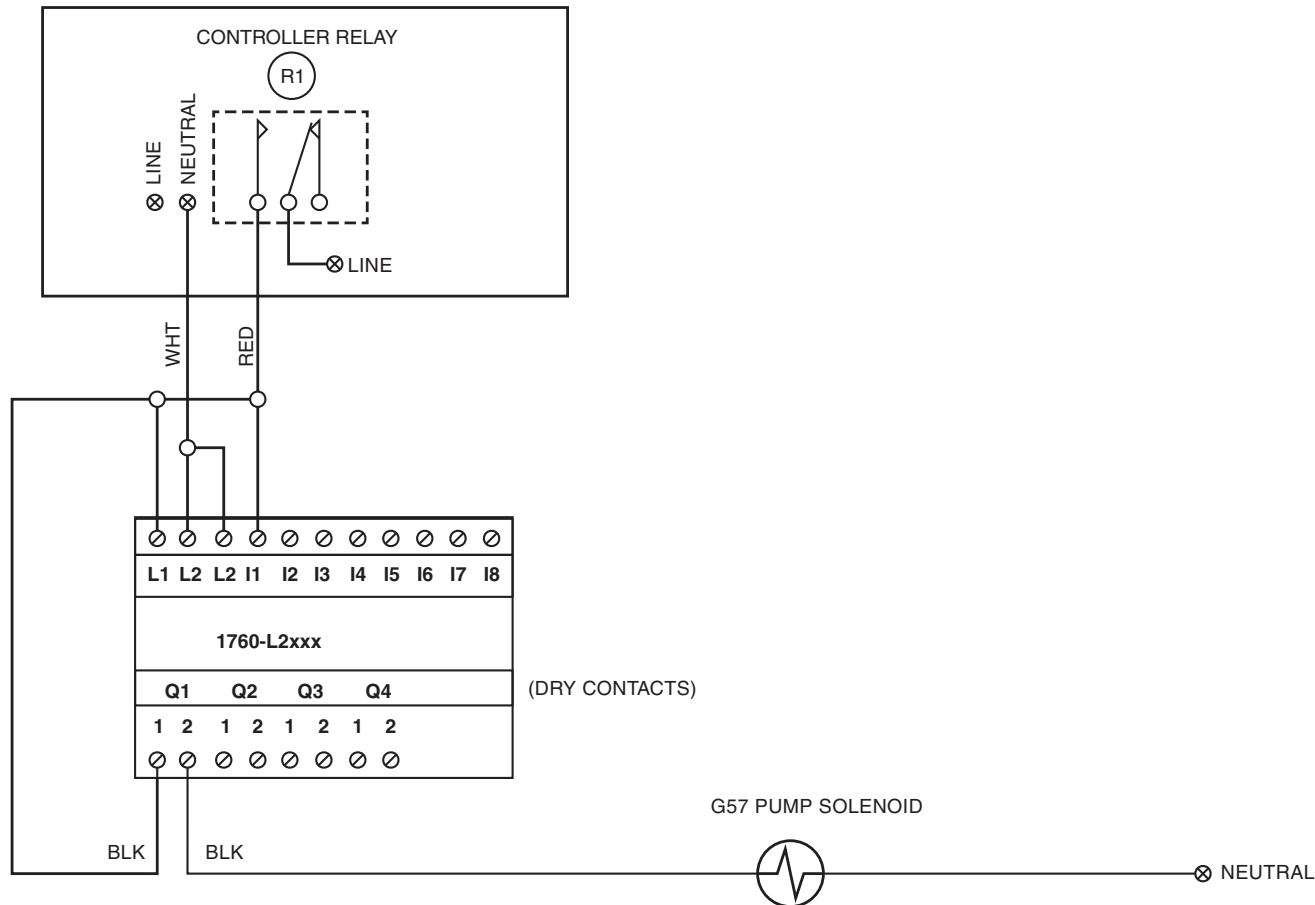


Figure 13. Relay Connection Diagram

7. Adjustments and Testing

7.1 Prepare New Brush for On-Line Operation

1. Manually override the Flo-Jet pumps on the control panel by pressing the left arrow on the PLC or energizing the 3-way air solenoid valve on the control panel. Allow the pumps to run until 1 to 2 gallons of Tire Shine product have been delivered to each applicator unit (Driver Side and Passenger Side) in the wash tunnel.
2. Adjust the equipment programmer functions for the Tire Shiner to sequential operation and allow product to be delivered to approximately 20 consecutive vehicle washes. Fine tune the extend air regulator pressure settings on the driver side and passenger side until the brush compress to surround each tire.
3. With the tire shiner in the fully extended position adjust the hanger height so that the vertical center of the brush is 6.5 inches above the floor.

7.2 Normal On-line Adjustments

1. Ensure rubber bumper on the driver side is adjusted so the plastic guide on the brush lines up with the plastic guide on the conveyor.

2. Set-up air regulator settings on the tire shiner control panel should be 80PSI for the main regulator, 40 to 70PSI for the solution pumps air regulators, 15-40PSI on the driver side wash pressure air regulator, 20-50PSI on the passenger side wash pressure air regulator. 60PSI on the retract air regulator. These settings may be adjusted for "fine tuning" of the equipment operation.
3. Both brushes should rotate downward on the vehicle tires at 40-60RPM.
4. The solution pump solenoid valve should be set to operate for 1 to 4 seconds. This setting will be made at the timer mounted in the timer box. The Tire Shiner equipment is volume sensitive. That is, when more vehicles purchase the service the solution requirement per vehicle is less in a day's car washing volume.
5. Chemical timer comes preset as a starting point. Actual settings may vary. The desired chemical usage is between 2-5 oz. per car. To increase or decrease chemical, press the + or the - button to increase seconds (above and below the 4 column). The higher the percentage of sales the less chemical is needed. See Figure #5 in Dimensions Section.

7.3 Speed and Torque Adjustment (Hydraulic)

1. The speed can be adjusted on the flow control for the power pack.
2. To increase the speed move the handle on the flow control closer to the number 10.
3. To decrease the speed move the handle on the flow control closer to the number 1.
4. The torque must be set prior to operation and should be set between 600 and 900 PSI. For information on how to set the torque please refer to the Hydraulic Power Pack Manual.

7.4 Speed and Torque Adjustment (Electric)

1. The speed can be adjusted on the Variable Frequency Drive (VFD).
2. To increase the speed adjust the Hertz on the VFD to a higher number.
3. To decrease the speed adjust the Hertz on the VFD to a lower number.
4. The Overload on the Motor Starter protector(s) must be set at the lowest level to allow for operation. Adjust the amps in accordance with motor(s) name plate.

8. General Operation

The Tire Shine applicator system is intended to provide programmable on-line, automatic, delivery of Tire Shine product to the four tires of passenger vehicles.

When the Tire Shiner equipment is at rest with the conveyor stopped or no vehicle has been programmed to accept this service with the conveyor running, the driver side and passenger side units are both retracted away from the center of the wash tunnel and the pumping system is off.

When the Tire Shiner equipment has been programmed to provide the tire shine service the driver side and passenger side units extend to the center of the wash tunnel at the chosen time and Tire Shine solution is delivered to the brush on the units to wipe the product on to the passing tires of the vehicle. If the next vehicle in line has also purchased the Tire Shine service the equipment will remain extended and ready to deliver the application process. If the next vehicle in line has not purchased the Tire Shine service the equipment will retract from the center of the wash tunnel and the solution pumping system will turn off.

8.1 Wrap Around Washer Operation

With the brushes rotating (with the direction of vehicle travel and at proper RPM) the vehicle front bumper

contacts the driver side brush first and then the passenger side brush. The brushes move evenly across the front of the vehicle, each washing one half of the front, and gear around the front fenders to maintain steady contact while cleaning the sides of the vehicle.

As the rear of the vehicle approaches the brushes they individually gear themselves around the rear fenders so that each brush washes one half of the vehicle rear vertical surfaces. As the vehicle departs the wraparound brush area the brushes are fully extended toward the center of the wash tunnel ready to accept another vehicle for washing.

NOTE: Proper cloth penetration on flat vehicle surfaces should be 3 to 4 inches. As the wraparounds gear around corners, such as fenders, cloth penetration may be greater, but not deeper than half the distance to the aluminum brush core.

8.2 Wrap Retract Operation

When selected by the Operator's remote Programmer push button station the wraparound brushes will retract from the center of the wash tunnel toward the tunnel outer walls. This can be done individually if one solenoid is used for each arm.

This is accomplished, when the push button is pressed, by completing an electrical circuit through the equipment Programmer to pass single phase power at the preset pulse count of the Programmer to the retract air solenoid valve. The air solenoid valve now opens and allows compressed air to pass through to the rod end port of each air cylinder causing the brush hangers to retract.

9. Preventive Maintenance

CAUTION

FOR THE FIRST MONTH OF OPERATION CHECK ALL HYDRAULIC FITTINGS FOR TIGHTNESS EACH WEEK. PERFORM THIS INSPECTION TO THE SCHEDULE SHOWN BELOW AFTER THE FIRST MONTH OF OPERATION.

Frequency	Check/Action
Daily	Prep the brush for use, by overriding the solution timer and applying excess chemical to brush.
	Check all lines and fittings for leaks. Repair, or replace, as needed.
	Check the brush for tears, damage, grease, oil, or foreign objects and clean the brush if necessary using high water pressures only, no chemicals .
	Check retract/extend for proper operation, check for smoothness and correct application pressure.
	Check for sufficient chemical for the day's use.
Weekly	Grease all rotational bearings on the brush.
	Spray lubricant on the clevis pins on both ends of the retract cylinders.
	Check fluid in reservoir(s) and fill to $\frac{3}{4}$ when retracted as necessary. Spray lubricant on the clevis pins on both ends of the retract cylinders.
Monthly	Grease all pivotal bearings on the hanger frame work, 16 bearings total.
	Inspect all hardware and fittings for tightness.
Semi-Annually	Check SS Manifold for clogging and brush for wear. Brush may be flipped to extend usable lifespan.
	If fluid in reservoir(s) is contaminated drain, purge and refill.

10. Parts

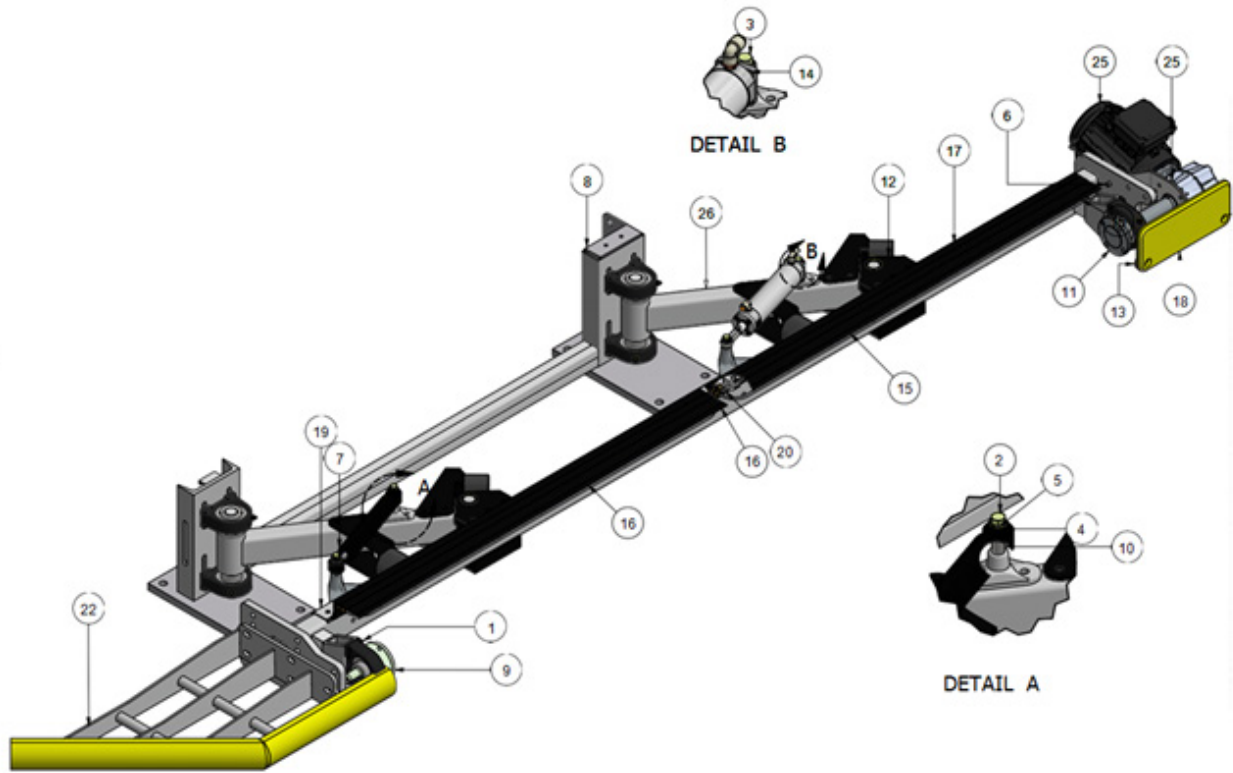


Figure 14. Tire Seal Driver Side Parts Breakdown

Item No.	Qty.	Part Number	Description
1	2	10005251	AMI Bearing 2 Bolt UCTB207-20CEP BLKBULK
2	2	10011238	Bolt, Hex 7/16-14 x 2.50 Zc 43C250HCS8Y
3	2	10011239	Bolt, Hex 7/16-14 x 1.75 Zn 43C175HCS8Y
4	5	10011240	Washer, Flat, 7/16 Zc Ch G8 SAE
5	4	10011241	Washer, Lock, 7/16 Zc Ch G8
6	2	10011894	Vibration Damping Mount, M/M 3/8-16
7	1	20001595	Shock, Hanna for Wrap 180 24in Frame
8	1	20002809	Tire Brush AI Floor Mount Base DS
9	1	20004174	Spindle Flange 1-1/4in Shaft x 1in End
10	2	20011932	Sleeve Spacer, Retract Buff N Dry
11	1	20014369	Spindle, TBG300 Electric Flender Style
12	4	20014374	Bearing Plate Assy, 1.25in Bore
13	1	20014385	Tire Brush Guide Rail Exit Weld
14	1	20014396	Sleeve Spacer, 7/16 ID 3/4in Long
15	1	20014406	Tire Seal, Left Manifold Assy.
16	1	20014407	Tire Seal, Right Manifold Assy.
17	1	20014437	Tire Brush Main Beam, Universal Weldment
18	1	20014442	Tire Brush, Exit Guide Plate UHMW
19	2	20014479	Tire Seal Hinge, 19in w/ Mounting Holes
20	2	20014480	Tire Seal Hinge, 23in w/ Mounting Holes
21	2	20015012	TBG300 Beam Bracket Machined
22	1	20015554	Tire Brush Guide Rail DS Assy
23	4	20015675	Tire Seal Thrust Plastic Spacer
24	1	20015701	Tire Brush, Cylinder 6in Assy
25	1	20015704	11:1 Flender Motor Assy DS
26	2	20015708	Tire Brush, Arm DS Assy

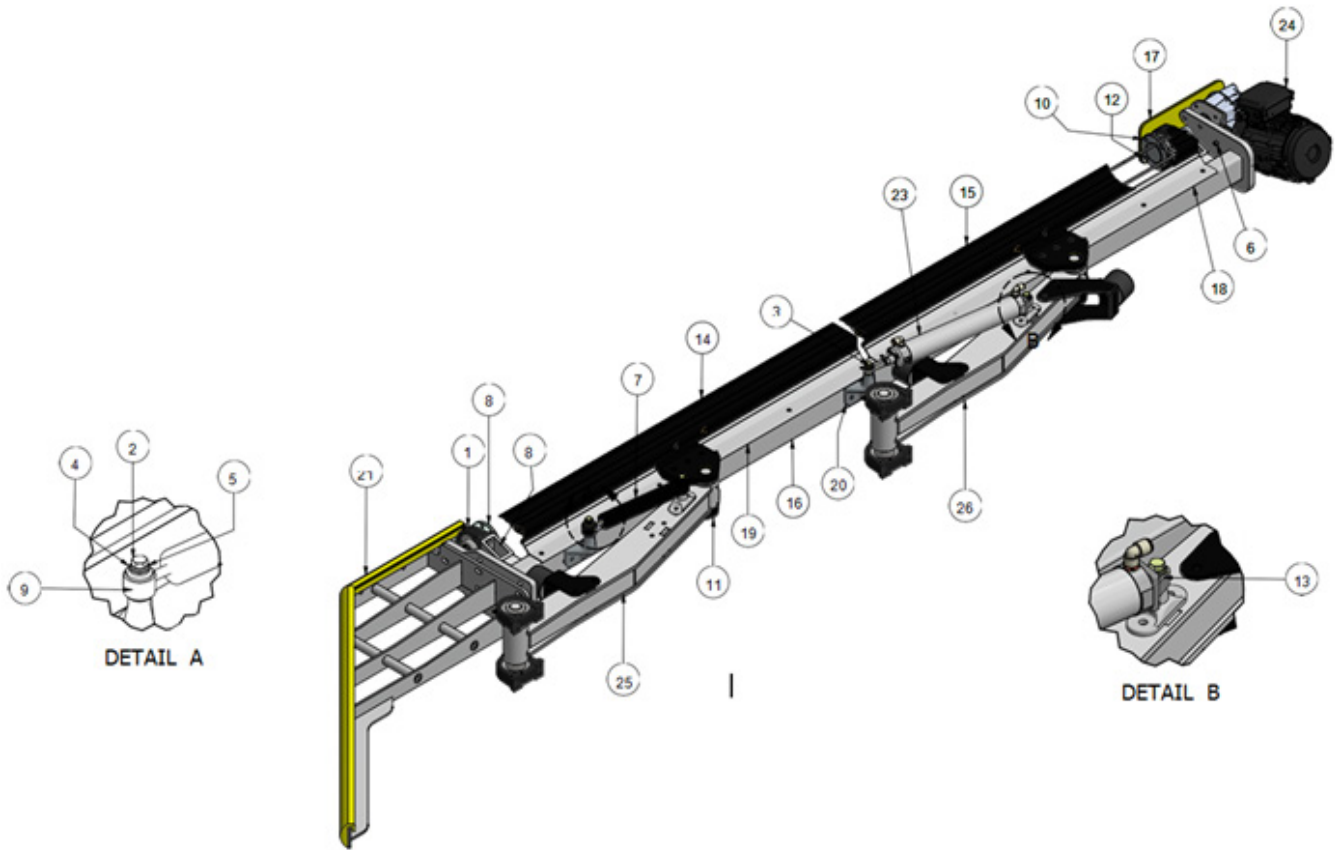


Figure 15. Tire Seal Passenger Side Parts Breakdown

Item No.	Qty.	Part Number	Description
1	2	10005251	AMI Bearing 2 Bolt UCTB207-20CEP BLKBULK
2	2	10011238	Bolt, Hex 7/16-14 x 2.50 Zc 43C250HCS8Y
3	2	10011239	Bolt, Hex 7/16-14 x 1.75 Zn 43C175HCS8Y
4	5	10011240	Washer, Flat, 7/16 ZcCh G8 SAE
5	4	10011241	Washer, Lock, 7/16 ZcCh G8
6	2	10011894	Vibration Damping Mount, M/M 3/8-16
7	1	20001595	Shock, Hanna for Wrap 180 24in Frame
8	1	20004174	Spindle Flange 1-1/4in Shaft x 1in End
9	2	20011932	Sleeve Spacer, Retract Buff N Dry
10	1	20014369	Spindle, TBG300 Electric Flender Style
11	4	20014374	Bearing Plate Assy, 1.25in Bore
12	1	20014385	Tire Brush Guide Rail Exit Weld
13	1	20014396	Sleeve Spacer, 7/16 ID 3/4in Long
14	1	20014406	Tire Seal, Left Manifold Assy.
15	1	20014407	Tire Seal, Right Manifold Assy.
16	1	20014437	Tire Brush Main Beam, Universal Weldment
17	1	20014442	Tire Brush, Exit Guide Plate UHMW
18	2	20014479	Tire Seal Hinge, 19in w/ Mounting Holes
19	2	20014480	Tire Seal Hinge, 23in w/ Mounting Holes
20	2	20015012	TBG300 Beam Bracket Machined
21	1	20015557	Tire Brush Guide Rail PS Assy
22	4	20015675	Tire Seal Thrust Plastic Spacer
23	1	20015702	
24	1	20015705	11:1 Flender Motor Assy PS
25	1	20015711	Tire Brush, Arm PS Ent Assy
26	1	20015712	Tire Brush, Arm PS Ext Assy



Figure 16. TSA 4 Way Mac Valve Manifold Parts List

Part Number	Description	Qty.
10006351	Mac, Val 811CPM-114CA152 4Way C120VAC	2
10001055	Nipple 28-145 Brass 1/4in MPT x 2in Lgth	2
10004089	SMC AR20K-N02E-Z-B 1/4in Reg/Gauge L-R	2
10001217	Hypro Nozzle 1/4in MPT 65° 10 Blue	4
10000628	Nipple 3861.077 PVC80 1/2in Kynar PVDF	2
10002001	SMC KQ2L11-35AS Elbow 3/8' T x 1/4' MPT	6



Figure 17. TSA Panel FRL Assembly Parts List

Part Number	Description	Qty.
10001055	Nipple 28-145 Brass 1/4in MPT x 2in Lgth	1
10002282	Connector 20-058 3/8in Tube x 1/4in MPT	2
10005219	SMC AW20-N02E-CZ-B Filt Reg w/Gauge 1/4'	1
10006016	SMC AC20-E3T001B Modular 1/4in FPT	1
10002604	Ball Valve, 2Way Brass 1/4in F x 1/4in M	1
10001776	Tee 28-025 Brass 1/4in FPT	1
10002574	Nipple 40-026 Brass 1/4in MPT x 4in Lgth	1
10001273	Elbow 28-157S Brass St Short 1/4in FPT	1
10002001	SMC KQ2L11-35AS Elbow 3/8' T x 1/4' MPT	1

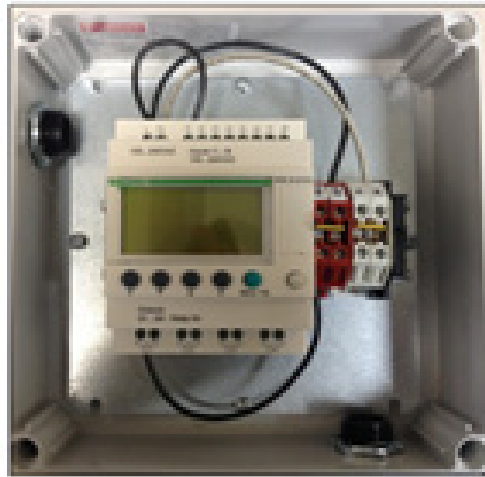


Figure 18. TSA Control Box W/Zelio PLC Parts List

Part Number	Description	Qty.
10006735	Enclosure Clear 6in x 6in x 5in	1
10004149	Strain Relief 1/2in 90° 0.250-0.400	1
10003515	Strain Relief 1/2in Straight 0.250-0.400	1
20014076	Zelio, 100~240VAC, Tire Shine, Programmed	1
20014077	Zelio, 24VAC, Tire Shine, Programmed	1



Figure 19. TSA 3way Mac Valve Manifold Parts List

Part Number	Description	Qty.
10004089	SMC AR20K-N02E-Z-B 1/4in Reg/Gauge L-R	1
10004090	SMC AR20K-N02E-RZ-B 1/4in Reg/Gauge R-L	1
10006087	Mac, Val 225B-111CA 3Way C120VAC	1
10004149	Strain Relief 1/2in 90° 0.250-0.400	1
10002574	Nipple 40-026 Brass 1/4in MPT x 4in Lgth	1
10001776	Tee 28-025 Brass 1/4in FPT	1
10000789	Nipple 28-212 Hex 1/4in MPT x 1/4in MPT	2
10002001	SMC KQ2L11-35AS Elbow 3/8' T x 1/4' MPT	3



Figure 20. G57 Pump Parts List

Part Number	Description	Qty.
10007373	Flojet G573145 Pump Viton® 1/2 PushLock	2
10003801	Flojet 20982-100A Single Mount Bracket	2
10005638	Clear Braided Hose 3/8in ID x 19/32in OD	1
10003359	Hydro, Foot Valve Blue Viton® No Weight	2
20002384	Tubing Poly, 3/8in 100PSI Natural 500ft	1
10007672	Tubing, Poly 3/8in Clear 500ft	1
10002562	Zsi, Cush-A-Clamp 010NS014 5/8in I.D. SS	3