INSTALLATION AND OPERATION MANUAL

AUTEC TIRE SHINER

AUTEC, Inc.
2500 West Front Street
Statesville, NC 28677

1-800-438-3028
www.autec-carwash.com

EQUIPMENT SPECIFICATIONS:

Electrical	120VAC, 5A power
	+/- 24VDC power
	24 -250V AC or DC control signal from carwash or POS
Pneumatic	10 SCFM @ 100 PSI

SHIPMENT PACKING LIST

1x	Driver Side Applicator	1x	5 gal Wonder Tire
1x	Passenger Side Applicator	200'	3/8 Clear Braid Hose
1x	Chemical / Air Delivery Panel	100'	5/16" Red Air Tubing
1x	Electrical Control Box	100'	5/16" Blue Air Tubing
1x	Photo-Eye Set	200'	5/16" Black Air Tubing
2x	Bell Switch Kit	1x	Fittings / Hose Clamp Kit
2x	Bolt / Anchor Kit		

REQUIRED INSTALLATION TOOLS AND SUPPLIES

Hammer Drill with 1/2" Drill bit
Sledge Hammer
Fasteners (to secure panel to wall)
Set of Standard Combo Wrenches
Screw Gun
Measuring Tape
Safety Goggles
Standard Screw Drivers
Torpedo Level

INSTALLATION INSTRUCTIONS (APPLICATORS)

- Open all boxes and verify that you have all the required components as well as all your installation material.

- Locate the area where the Tire Shiner Applicators will be installed and make sure there is enough room for both units when they both fully retracted or fully extended. Position each Applicator in the wash bay according to the **OPERATION ENVELOPE** shown in Figure 1.

- Position the Passenger Side Applicator **83 1/2"** from the **WASH BAY CENTER LINE** to the **back of the Applicator base plate.** Using 1/2" anchor bolt, secure the applicator to the floor to the bay. Level both bases as needed using shims or washers.

- Position the Driver Side Applicator **167"** from the **back of the Passenger Side Applicator base plate to the back of the Driver Side Applicator Base Plate** as shown**.** Using 1/2" anchor bolt, secure the applicator to the bay floor. Level both bases as needed using shims or washers.

- Assemble both Photo-Eyes stands and mount (facing each other) on the plate provided on the stand connecting rail. The photo-eye emitter should be located on the shorter stand.

- Secure hose for 1st bell switch to the floor at the entrance end as shown in Figure 1. The bell hose should be approximately 18" in from the entrance lead-in when the arms are fully extended out towards the center of the bay. The bell hose can be positioned on either the driver or passenger side of the bay.

- Secure hose for 2nd bell switch to the floor at exit end angled as shown in Figure 1. The bell hose should be at an approximate 45-degree angle tangent to the arc formed by the path of the end of the applicator arm. The bell hose can be positioned on either the driver or passenger side of the bay.

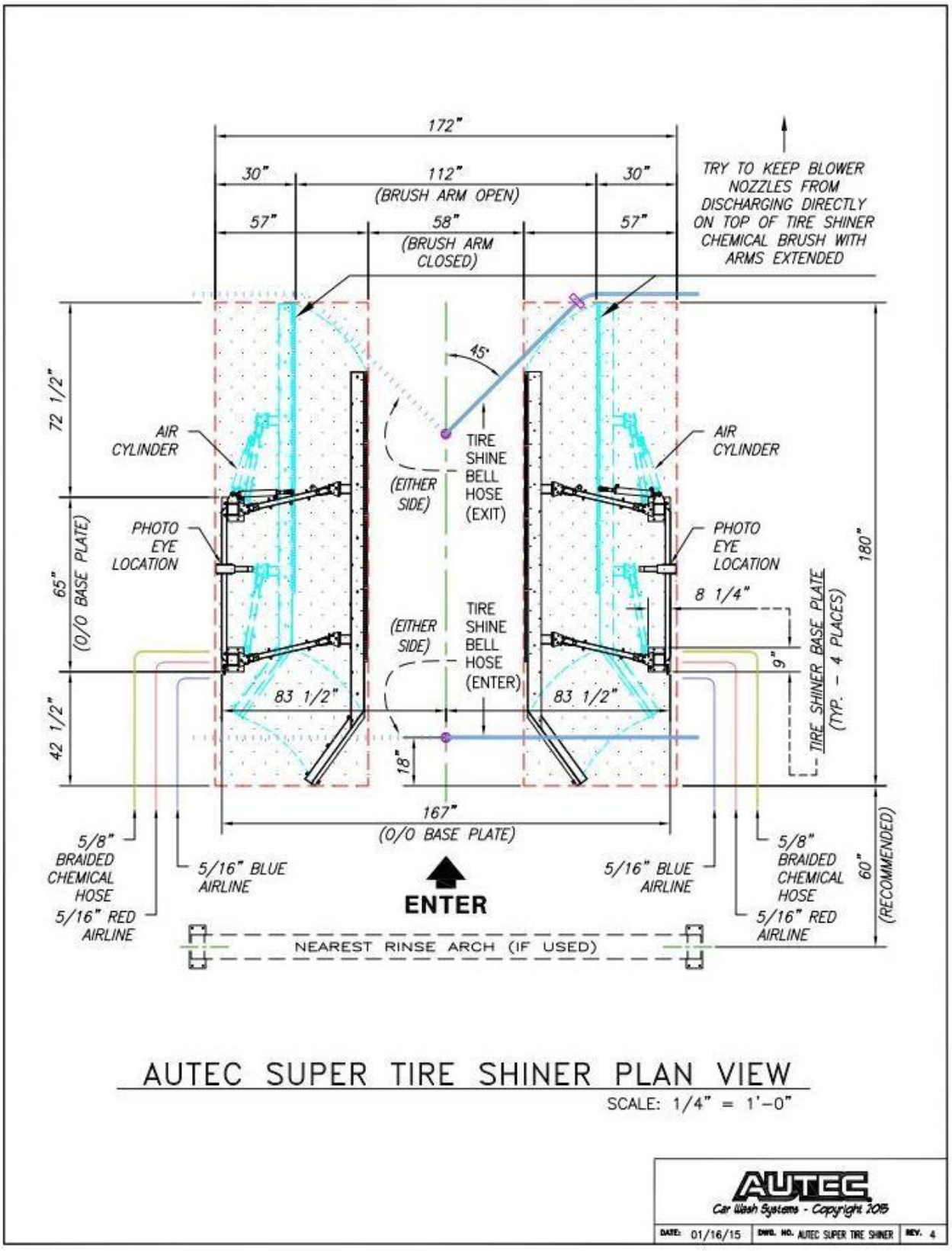


FIGURE 1 – BAY LAYOUT

INSTALLATION INSTRUCTIONS (CHEMICAL / AIR PANEL)

- The **Chemical/Air Delivery Panel** (Figure 3) requires Compressed Air at 100 PSI and capable of at least 10 SCFM.

- Mount the Chemical/Air Delivery Panel in the equipment room or on any wall in a **CLEAN AND DRY AREA.** Secure the panel with the bottom at 40" off the floor to allow sufficient room for a 55 Gallon drum to be stored underneath.

- Pull two **3/8" ID CLEAR BRAIDED HOSES** (ONE PER APPLICATOR) from the Chemical Delivery Panel to the wash bay. Connect one hose from **LEFT** side of the **CHEMICAL METERING PUMP** outlet to the **APPLICATOR CHEMICAL INLETS** located on the entrance side stand of the **DRIVERSIDE APPLICATOR**. Repeat the same procedure for the other applicator.

- Pull and connect one **5/16" BLACK AIRLINE TUBING** from the left **2-WAY SOLENOID AIR VALVE** to the **APPLICATOR CHEMICAL INLETS** located on the entrance side stand of the **DRIVERSIDE APPLICATOR**. Repeat the same procedure for the other applicator.

- Pull and connect one **5/16" RED AIRLINE TUBING** from the **4 WAY SOLENOID AIR VALVE** (left side bottom fitting) to the wash bay, **BETWEEN THE TWO APPLICATORS** and tee off to **EACH APPLICATOR** at the entrance base plate. Connect to the fitting with the red tubing continuing to the air cylinder.

- Pull and connect **ONE 5/16" BLUE AIRLINE TUBING** from the **4 WAY SOLENOID AIR VALVE** (right side bottom fittings) to the wash bay, **BETWEEN THE TWO APPLICATORS** and tee off to **EACH APPLICATOR** at the entrance base plate. Connect to the fitting with the blue tubing continuing to the air cylinder.

- Set the **CHEMICAL SUPPLY CONTAINER** underneath the **CHEMICAL/AIR DELIVERY PANEL.** Connect **the SUCTION LINE** from the Chemical Pumps and run line into **CHEMICAL SUPPLY CONTAINER** making sure the **BLUE CHECK VALVE** is attached to the end of the **SUCTION LINE**.

- Connect **5/16" TUBING** to **DUMP SOLENOID VALVE MANIFOLD** and run back into the **CHEMICAL SUPPLY CONTAINER**.

- Secure all the tubing with plastic ties and ensure that none of the air or chemical lines interfere with the motion of each Applicator.

- Connect incoming air supply to the **MAIN AIR REGULATOR**.

INSTALLATION INSTRUCTIONS (CONTROL PANEL)

- The **Tire Shiner Control Panel** (Figure 8) requires one 120V, 5A power supply and one control circuit coming from the Carwash PLC or controller.

- Mount the Control Panel within 24" either above or beside the Chemical/Air Delivery Panel.

- Wire the Chemical Metering Pump and Air Solenoid Valves from the Chemical/Air Panel to the appropriate terminals in the Control Panel per the schematic shown in Figure 5.

- Connect control circuit from Carwash PLC or Controller per schematic.

- Connect 24VDC power source from Carwash Control Panel or other external source per schematic.
- Connect Bell Switch and Photo-eyes to Control Panel per schematic.

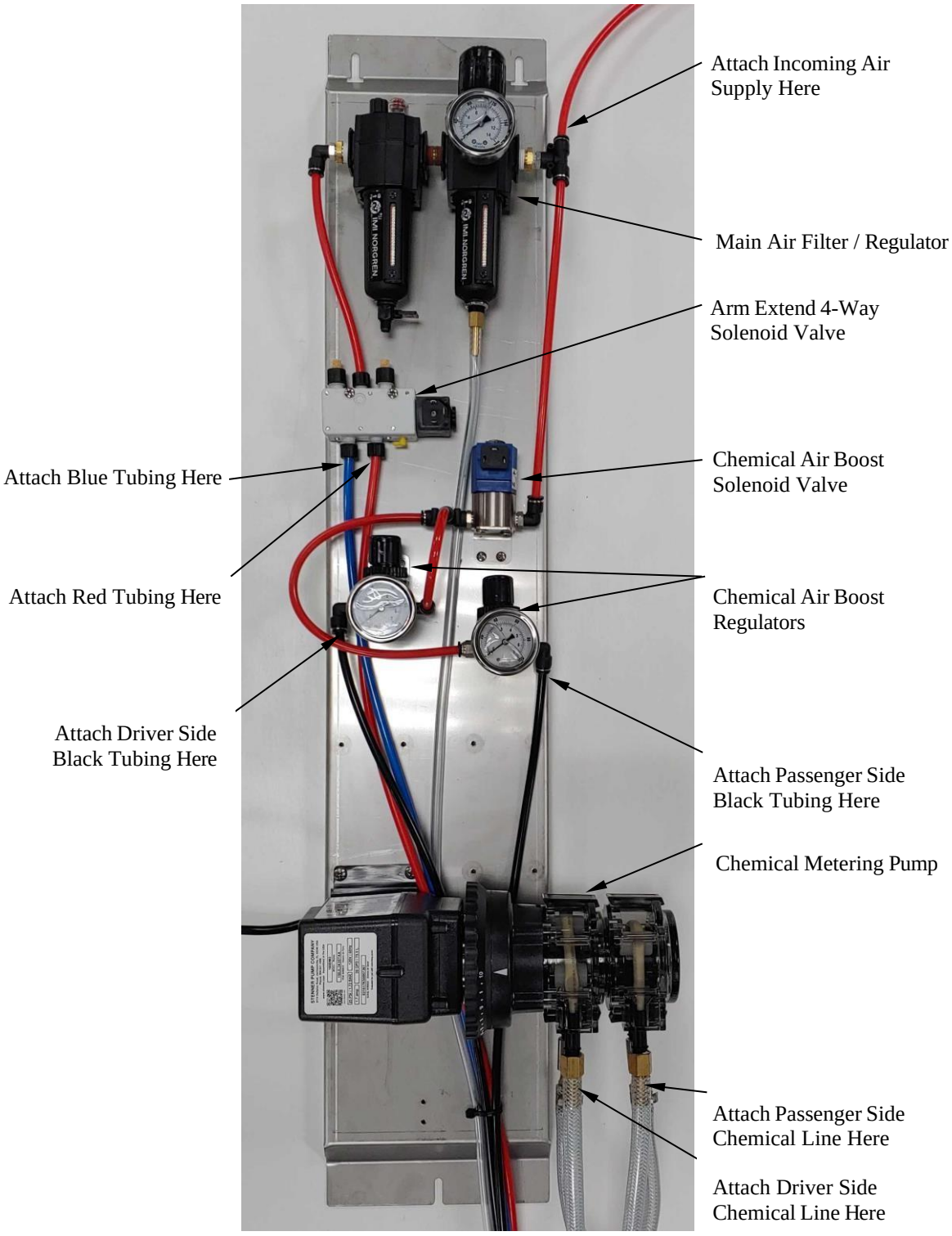


FIGURE 2 – CHEMICAL / AIR PANEL

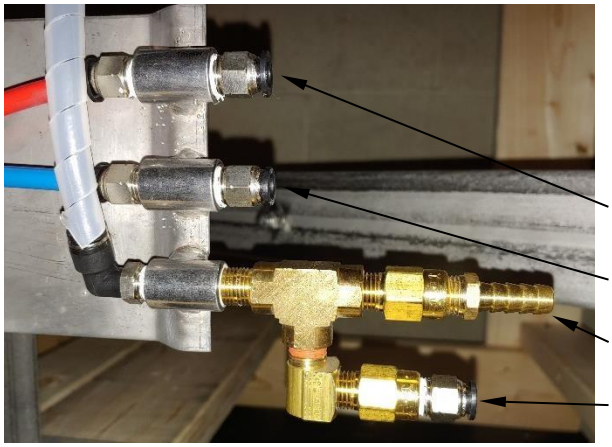


FIGURE 3 – CHEMICAL / AIR CONNECTIONS ON APPLICATIOR ARMS

FIGURE 4 – AIR CYLINDER FLOW CONTROL VALVE

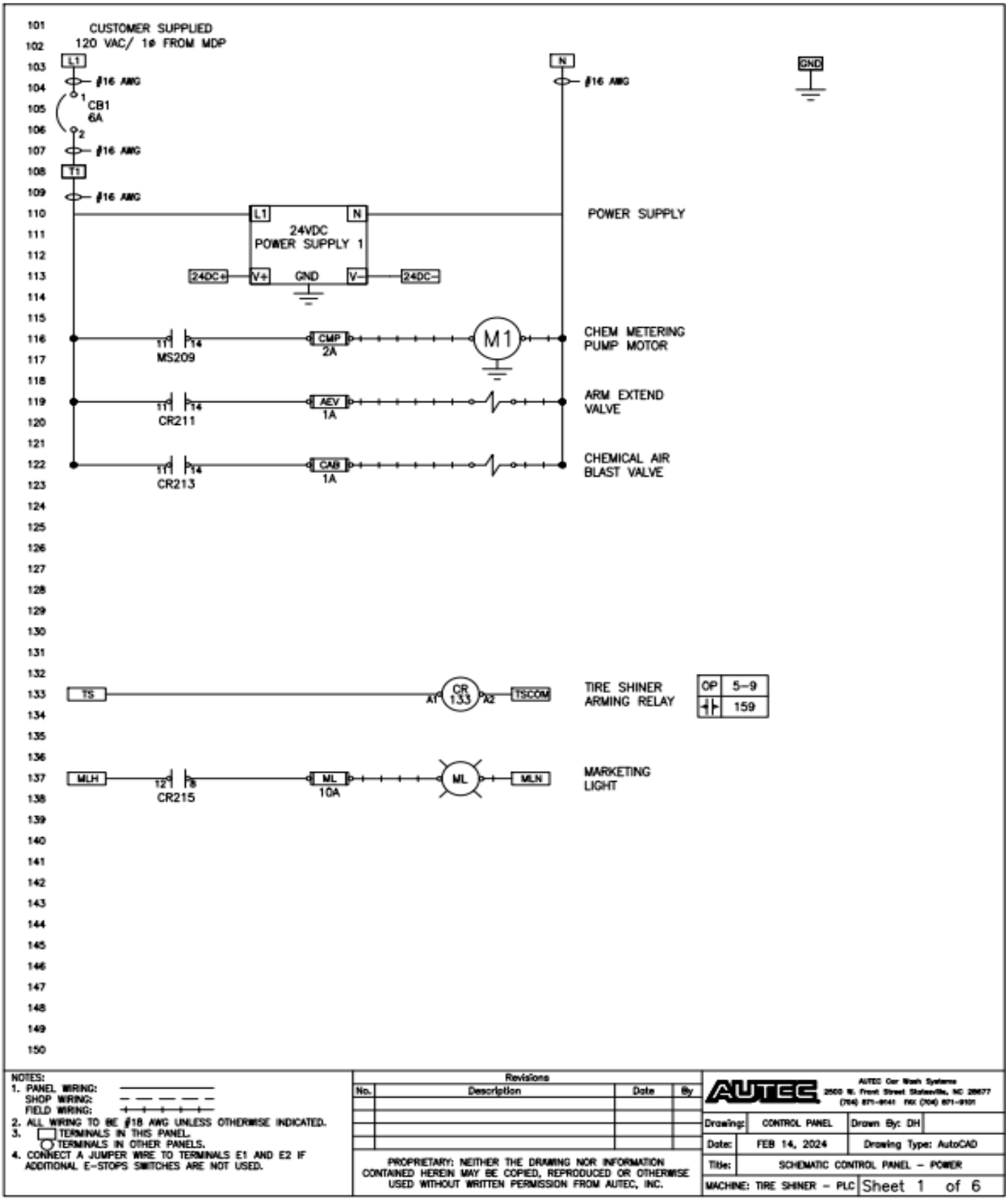


FIGURE 5 – CONTROL PANEL SCHEMATIC

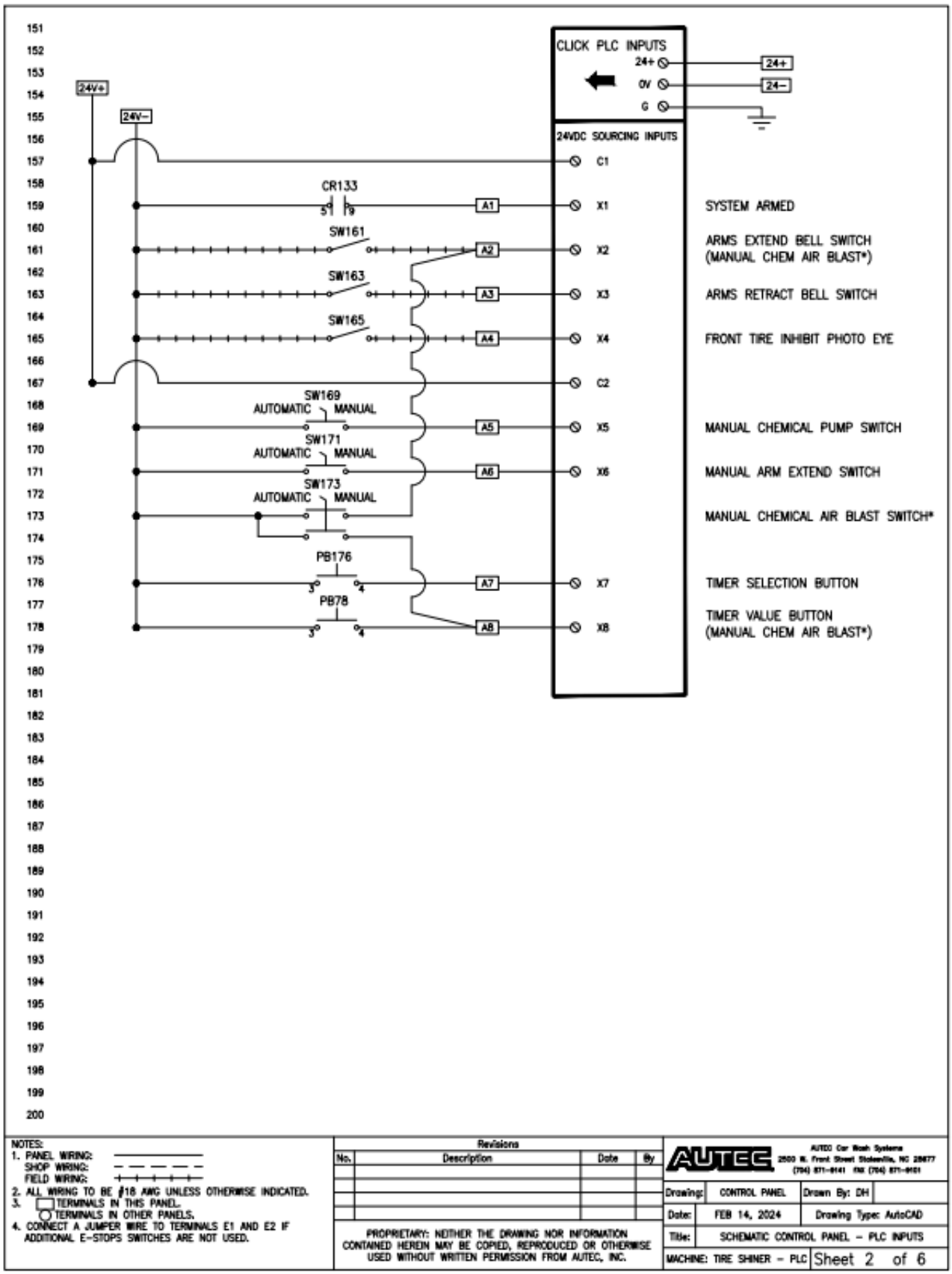


FIGURE 6 – CONTROL PANEL SCHEMATIC

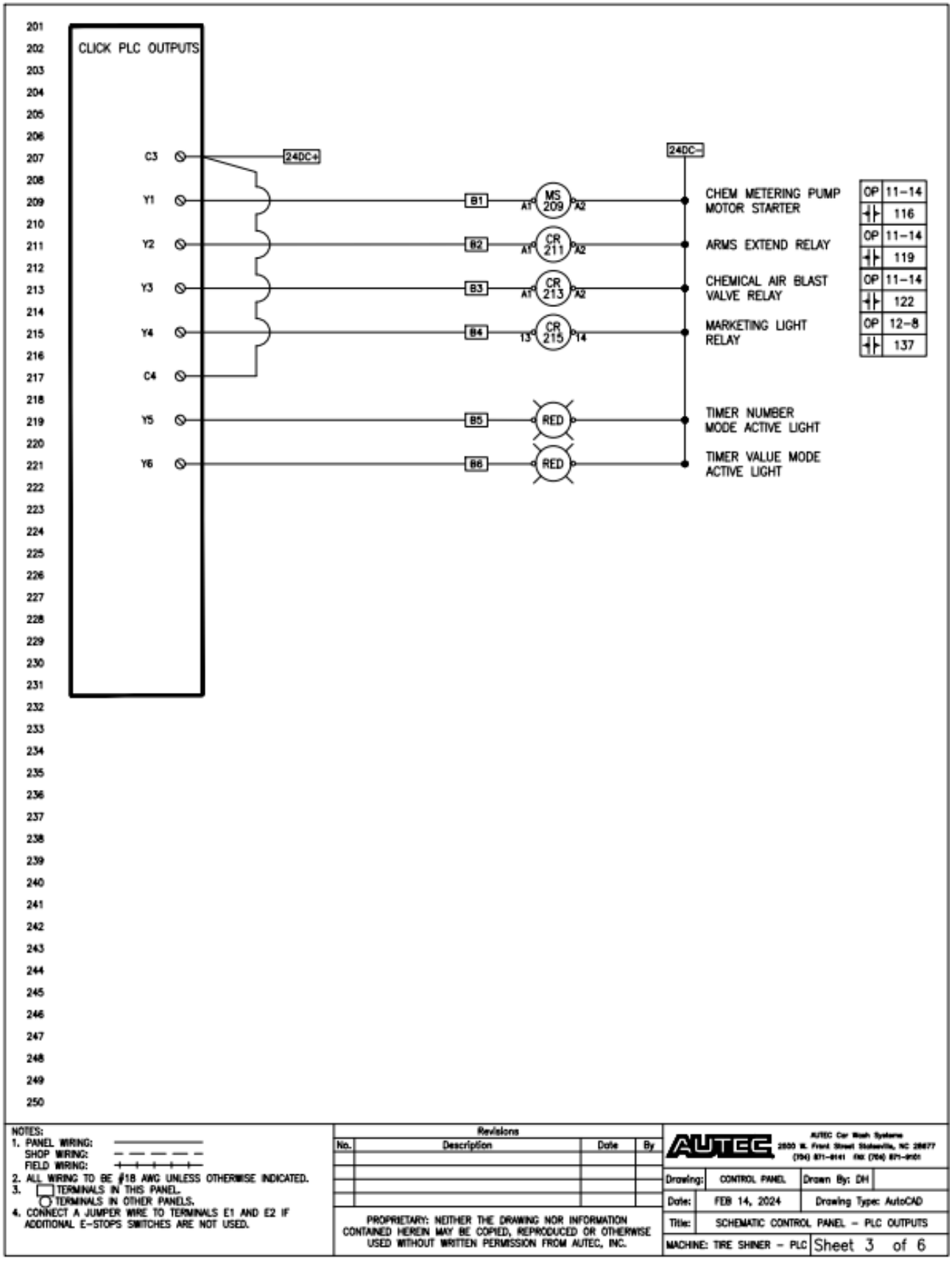
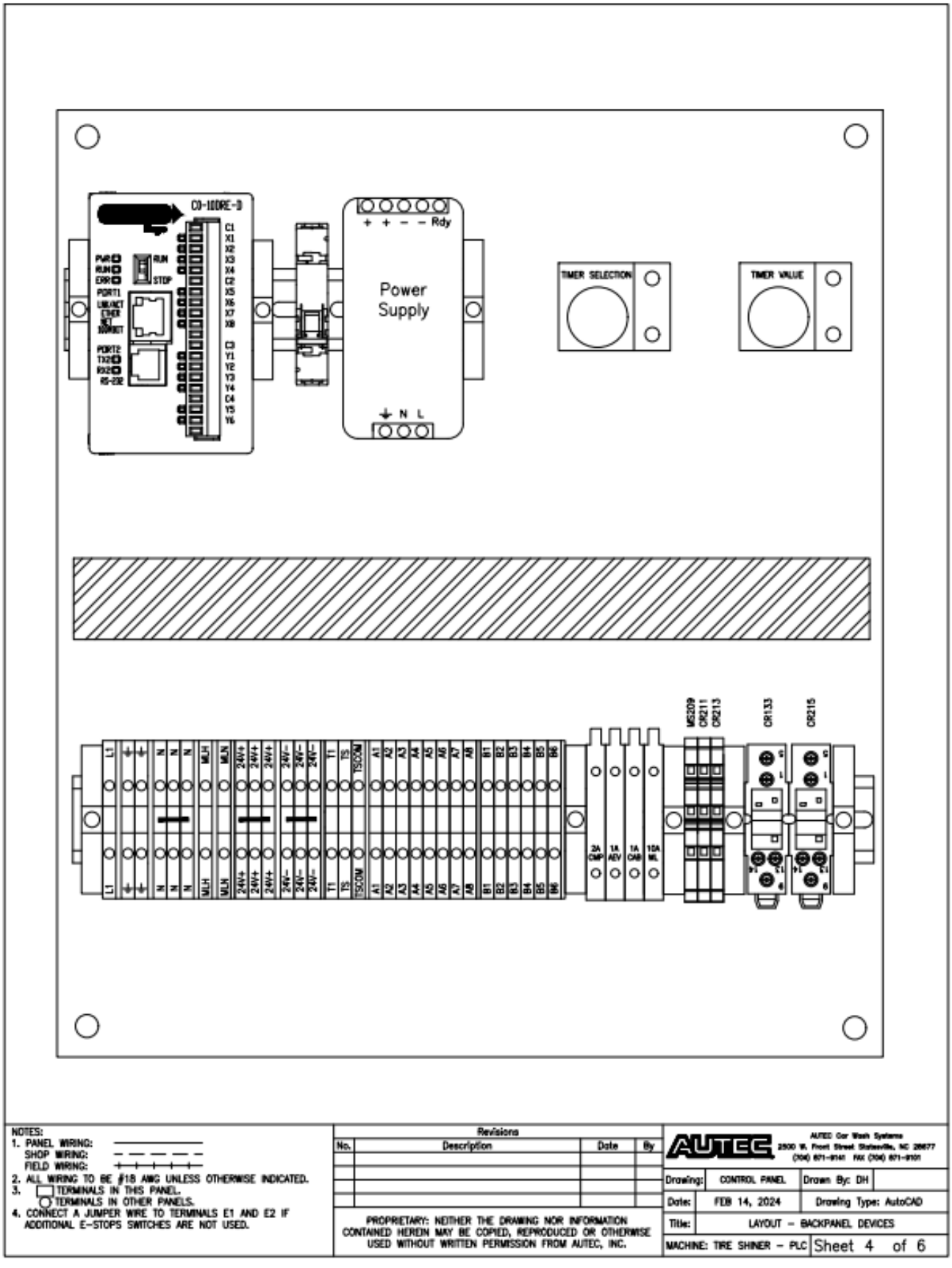


FIGURE 7 – CONTROL PANEL SCHEMATIC



NOTES:
1. PANEL WIRING: ——— SHOP WIRING: — — — — — FIELD WIRING: +—+—+—+
2. ALL WIRING TO BE #18 AWG UNLESS OTHERWISE INDICATED.
3. □ TERMINALS IN THIS PANEL. ○ TERMINALS IN OTHER PANELS.
4. CONNECT A JUMPER WIRE TO TERMINALS E1 AND E2 IF ADDITIONAL E-STOPS SWITCHES ARE NOT USED.

Revisions			
No.	Description	Date	By

AUTEC

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Drawing:	CONTROL PANEL	Drawn By: DH	
Date:	FEB 14, 2024	Drawing Type: AutoCAD	
Title:	LAYOUT – BACKPANEL DEVICES		
MACHINE: TIRE SHINER – PLC	Sheet 4 of 6		

FIGURE 8 – CONTROL PANEL LAYOUT

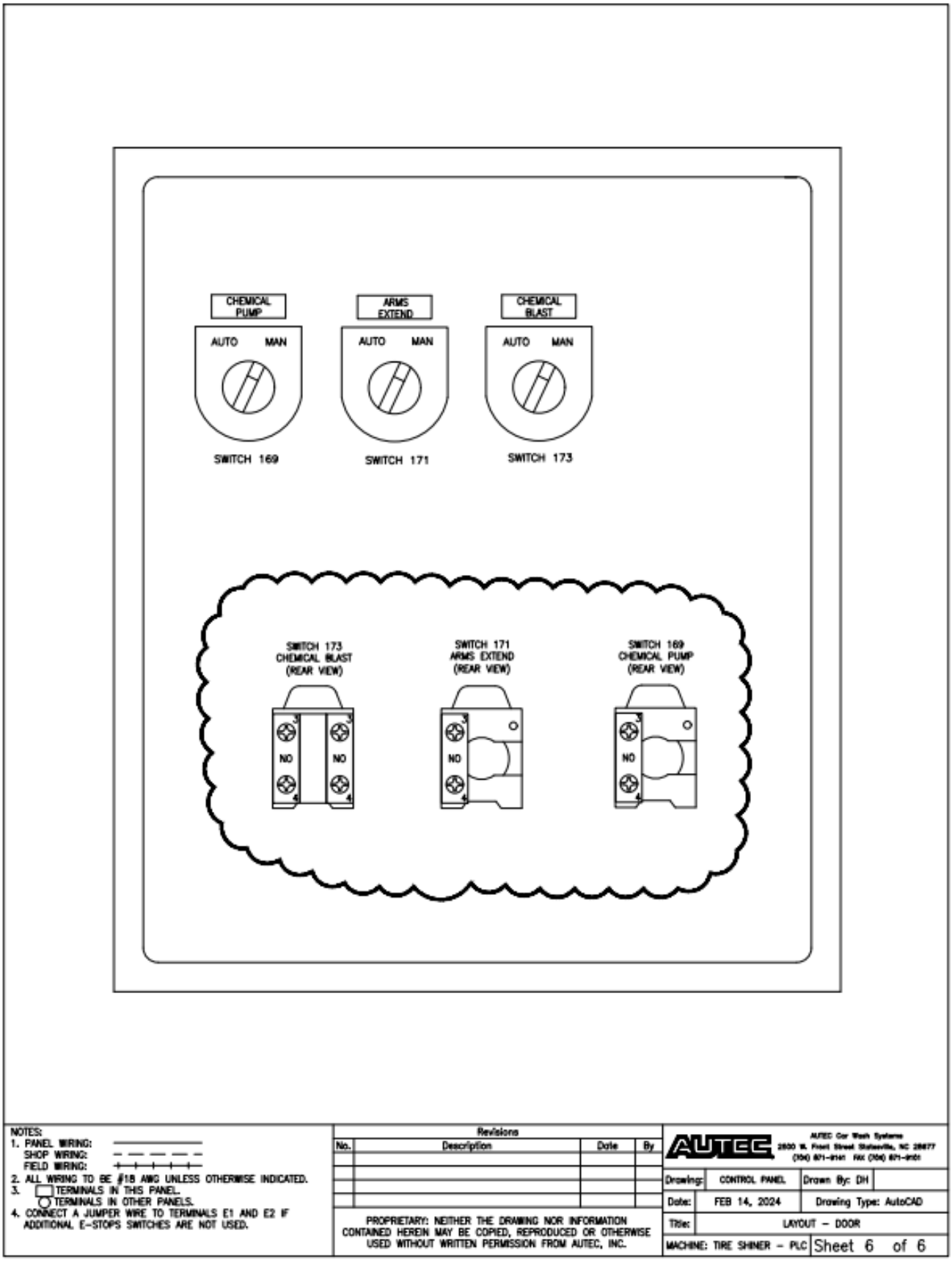

FIGURE 9 – CONTROL PANEL DOOR LAYOUT

After making sure the 6A Circuit Breaker in the Control Panel is toggled down to the OFF position, connect the 120V, 5A power circuit to the Control Panel per schematic. Leave the 6A circuit breaker off until later.

START-UP INSTRUCTIONS

- Close the two flow control fittings on the Air Cylinder on each applicator by turning clockwise. Reopen each flow control fitting by turning counterclockwise **4 FULL TURNS.**

- Turn ON the air supply to the **CHEMICAL/AIR DELIVERY PANEL** and slowly raise the air pressure at the **MAIN AIR REGULATOR TO 30 PSI**. Check for air leaks and verify that both **APPLICATORS** are retracted to the fully open position. If one of the applicators is **EXTENDED** shut off the air supply to the Panel, bleed the air from the system and switch air lines.

- Make sure both the **ARMS EXTEND SWITCH** (SW171) and the **CHEMICAL PUMP SWITCH** (SW169) on the front of the Control Panel Enclosure is switched to the AUTO position and then turn on the main 6A Circuit Breaker in the Control Panel.

- Turn the **ARMS EXTEND SWITCH** to manual and verify that both Arms extended. Check for air leaks and then return the switch to the AUTO position and verify arms retract back to the fully open position. Arms should extend and retract in a smooth motion taking about 1.5 – 2 seconds to fully extend or retract. If necessary, adjust the flow controls on the air cylinders until arms travel at the desired speed.

- Turn the **CHEMICAL PUMP SWITCH** to MANUAL and observe the chemical being pulled through the suction lines feeding both pump inlets. Keep the pump running until both 3/8" hoses are primed and full and a steady stream of chemical is coming out of each nozzle manifold across both applicators. Turn the **CHEMICAL PUMP SWITCH** back to AUTO to turn the pumps off.

- Using a sprayer or a bucket filled with tire shiner solution; soak each **APPLICATOR BRUSH** until both sides are well **saturated with tire shine product**.

OPERATIONAL TESTING

Activate the control signal from the Carwash Controller and make sure the Tire Shiner functions correctly as follows:

1. The Tire Shiner is armed when it receives a signal on input TS, however the arms will not extend until an input is received by the Start Bell Switch.

2. The Chemical Air Boost Solenoid Valve will activate for the duration of the Chemical Application Timer (timer TR2 preset to 7 seconds) to spray chemical onto the top of the brushes.

3. After the Chemical Application Timer expires, the Chemical Metering Pump will activate for the duration of the Metering Pump Timer (preset to 30 seconds) to refill the chemical line on each application brush arm.

4. When the Start Bell Switch is triggered, the arms will fully extend for the duration of the Tire Shiner Duration Timer (preset to 1 minute).

5. The Tire Shiner will remain extended until the Tire Shiner Duration Timer expires, or the Tire Shiner Stop Bell Switch is activated while the photo-eye is unblocked. As long as the photo-eye is blocked by a vehicle, the bell switch will not shut off the Tire

Shiner. Once the rear of the vehicle clears the photo-eye, the rear tire of the vehicle should trigger the Stop Bell Switch to turn off the Tire Shiner.