



## STYLE 3351 TUCKAWAY™ ELECTRIC MONITOR INSTALLATION, OPERATING, AND MAINTENANCE INSTRUCTIONS

The following is intended to provide the basic instructions for installation, operation and maintenance of the TuckAway electric monitor, and to assist in attaining the best possible performance from the unit. Read and understand these operating instructions before use.

### TOOLS REQUIRED

- Utility Knife
- Medium Phillips screwdriver
- Small Phillips screwdriver
- Electrician's pliers (multipurpose, stripping and crimping)
- Medium flat screwdriver
- Small flat screwdriver
- 1/2 inch hex head wrench

### PRODUCT RATINGS

Maximum Motor Current Draw:

12 volt versions	14.0 amps each for elevation and rotation motors 3.0 amps for nozzle pattern motor
24 volt versions	7.5 amps each for elevation and rotation motors 1.5 amps for nozzle pattern motor

Normal Operating Current: (Depending on operating conditions—pressure, flow, etc.)

12 volt versions	3.0 to 10.0 amps each for elevation and rotation motors 0.7 amps for nozzle pattern motor
24 volt versions	2 - 5 amps each for elevation and rotation motors 0.4 amps for nozzle pattern motor

Minimum Voltage: **(Truck engine must be operating for proper voltage requirement.)**

- All 12 volt motors: 11.5 volts while operating
- All 24 volt motors: 23 volts while operating

Maximum Flow: 1000 gpm (3800 lpm)

Maximum Pressure: 200 psi (14 bar)

### PRODUCT WARNINGS

- ⚠ WARNING: For fire fighting use only by trained fire fighters.
- ⚠ WARNING: Charge the unit slowly. Rapid charging may cause a pressure surge that has the potential to cause an injury, or damage the monitor.
- ⚠ WARNING: DO NOT stow or deploy the TuckAway monitor while flowing. Pressing the stow or deploy buttons causes the nozzle to move automatically and the water stream may cause damage to equipment or injury to personnel could result.
- ⚠ WARNING: Aim the unit in a safe direction before pumping water through it. (i.e. Away from power lines)
- ⚠ WARNING: Although the logic circuit board includes a water-resistant coating, it is important to keep water out of the control and logic boxes. Prolonged exposure to water will cause damage. When the cover of the control or logic box is removed, check that the O-ring under the cover is intact and free of dirt and debris.

- △ WARNING: Do not use the electric controls when the override cranks are being used or are in position for use.
- △ WARNING: Replace the identification tags if they should become worn or damaged.
- △ WARNING: DO NOT exceed the maximum pressure or flow ratings of the monitor. Exceeding these ratings may lead to an injury or may cause damage to the monitor.
- △ WARNING: DO NOT install shutoffs on the outlet of the TuckAway electric monitor. Shutoffs increase the potential for pressure surges due to water hammer, which have the potential to cause an injury or damage the monitor.
- △ WARNING: Drain the TuckAway monitor after use to prevent “freeze damage”.
- △ WARNING: Ensure the thread on the nozzle swivel matches the thread on the monitor outlet. Do not over tighten the nozzle onto the unit.
- △ WARNING: The TuckAway monitor, nozzle, logic box, control box, tether controller, and field adjustable stops are made for optimal performance. Do not alter in any manner.
- △ WARNING: Ensure that the TuckAway is returned to the stow position after use.
  
- △ WARNING: Make the connection of the vehicle and auxiliary battery the final step.

## **MECHANICAL MONITOR ATTACHMENT**

- △ WARNING: INSUFFICIENT STRUCTURAL SUPPORT CAN LEAD TO FAILURE, WHICH HAS POTENTIAL TO CAUSE AN INJURY. THEREFORE, ADDITIONAL STRUCTURAL SUPPORT AT THE INLET OR AT THE INLET ELBOW (Figure 1) MAY BE REQUIRED. (Contact Akron Brass Customer Service for assistance.)

The TuckAway monitor is to be mounted on the waterway with Crash Rescue Installation Instructions.

## **ROTATIONAL STOPS**

The rotational stops set the boundaries for the area that the monitor is allowed to travel. The monitor is shipped with a stop in location 2 which gives a 90° clockwise and 90° counter-clockwise rotation (See Figure 4). The 45° clockwise and 45° counter-clockwise rotation is achieved by adding stops in location 1 & 3 and a plug in location 2. Both the plugs and the stops have a 1/2" hex head. Refer to Figure 4 to determine which stop location is needed for the desired rotation.

## **VERTICAL STOP**

The vertical stop will limit the elevation of the outlet. The monitor is shipped with a vertical elevation of 45° below horizontal.

## **MECHANICAL ATTACHMENT OF LOGIC BOX**

The TuckAway logic box must be mounted close enough to the monitor to allow the wiring harness to reach the monitor. The logic box overall dimensions and mounting hole dimensions are given in Figure 5.

## **ELECTRICAL INSTALLATION INSTRUCTIONS**

### **A. DIP SWITCH SETTINGS**

The DIP switches are located in the logic box on the circuit board.

The switches are factory set at:

	1	2	3	4	5	6	7	8
On								
Off	•	•	•	•	•	•	•	•

Switch 1 - Allows the monitor to be inverted.

ON - For inverted mount

OFF - For normal mount

- Switch 2 - Allows auto oscillation at different ranges.  
ON - For  $\pm 45^\circ$  oscillation  
OFF - For  $\pm 20^\circ$  oscillation
- Switch 5 - Allows the nozzle to return to straight stream during the Stow sequence.  
ON - Returns the nozzle to straight stream during the Stow sequence  
OFF - Leaves nozzle pattern set where last used (factory set)

## B. MONITOR AND VEHICLE BATTERY ELECTRICAL ATTACHMENT

These instructions are for attachment of the monitor wiring harness (TB2, TB4) and the vehicle battery (TB1).

- ⚠ WARNING:** The recommended wire size for the vehicle battery power lead (TB1) is 10 AWG wire. If smaller diameter wiring is used, no less than 12 AWG, a minimum 11.5 volts is needed at the power leads (TB1) when under a load (operating).
- STEP 4** Remove the cable grip nut for the appropriate cable from the logic box (See Figure 5), DO NOT REMOVE THE CABLE GRIP. Thread the cable grip nut on the correct cable with the threads facing out.
- STEP 5** Loosen the 4 logic box cover screws and set the logic box cover aside. Thread the cable through the correct logic box cable grip (See Figure 5). Pull enough cable through the cable grip to ensure a good fit. Tighten the cable grip nut and attach the individual wires to the proper terminals (see wiring diagram, Figure 6). Reattach the logic box cover and secure with the 6 screws.

## OPERATING INSTRUCTIONS

### A. STARTUP

1. Upon initial installation of a logic box or after maintenance (disassembly/reassembly) of the unit, the mechanical unit may NOT be synchronized with the logic box (i.e. the electronics may point left while the mechanical unit points right).
2. Hold either the LEFT or RIGHT switch ON until it passes center.
3. Then hold the DOWN switch ON until the end of travel is reached. If the unit will not move DOWN, use the UP switch instead, until the end of travel is reached. In either case, continue holding the switch ON at the end of travel while momentarily turning the Auto Level switch ON, then releasing the Auto Level switch. Release the DOWN or UP switch.
4. The unit will now be synchronized and will allow full motion in all directions (as set via the DIP switches).

### B. PANEL CONTROLLER OPERATION

The panel controller is used to control the monitor and nozzle.

1. To deploy the monitor for use:  
Press and release Auto Level or Down.
2. To stow the monitor after use:  
Press and release Park.
3. To change the horizontal monitor position toward the right or left:  
Press the proper toggle switch toward "RIGHT" or "LEFT" respectively, as labeled on the controller, until the desired position is reached.
4. To change the vertical monitor nozzle position upward or downward:  
Press the proper toggle switch toward "RAISE" or "LOWER" respectively, as labeled on the controller, until the desired position is reached.

5. To change the nozzle pattern toward the straight stream or fog position:  
Press the proper toggle switch toward “STRAIGHT” or “FOG” respectively, as labeled on the controller, until the desired nozzle position is reached.
6. Auto Oscillate - Press and release to toggle on or off. Left or right will also stop it.
7. Auto Level - Press and release to toggle on or off. Up or down will also stop it.

#### C. EMERGENCY STOP DURING DEPLOY OR STOW

If it is necessary to immediately stop the TuckAway monitor during the deploy or stow sequence, activate any switch on the control panel and the unit will stop moving. To complete the stow or deploy sequence after an emergency stop, activate and release the stow/deploy toggle switch. This will automatically continue the stow/deploy sequence. Be sure to completely deploy the monitor before flowing water.

If the deploy was started using the “Down” switch, press and hold either Down or Auto Level to complete deploy or press and release Park to stow the unit.

#### D. MANUAL OVERRIDE CONTROLS

The manual override control is to be used only when the power to the monitor is off. A single override crank with a 1/4" hex drive is provided and attached to the monitor for use on both the horizontal and vertical override controls. To use the manual override, insert the hex drive end of the override crank into the hexagon shaped hole on the shaft end opposite the motor. Rotate the override crank in the desired direction to aim the monitor. The crank is not intended for use while flowing water, but rather to stow a non-working monitor for transport to repair facilities.

**⚠ WARNING:** When the override crank is no longer in use, put it back in the storage position. Do not use the electric controls when the override crank is being used or is in position for use.

#### E. CHANGE OVER TO INVERTED MOUNTING

1. Position the unit in the deployed state.
2. Turn ON DIP Switch 1 in the logic box.
3. Swap the stop and the plug on the inlet elbow (Figure 2).
4. Remove the Auto Level switch assembly and reinstall it on the opposite side of the motor housing.
5. Invert the unit and mount onto vehicle. When inverted, the letter “T” (for top) cast on the inlet elbow will be on the bottom side.

## MAINTENANCE INSTRUCTIONS

Your TuckAway monitor and nozzle should be inspected prior to and after each use to ensure it is in good operating condition. Periodically, an unanticipated incident may occur where the unit is misused in a manner that is inconsistent with standard operating practices. A partial list of potential misuses includes:

- Operating above the maximum rated pressure or flow.
- Prolonged exposure to temperatures above 130°F, or below -25°F.
- Operating in a corrosive environment.
- Having the TuckAway nozzle hit a fixed object during operation or transportation.
- Other misuse that might be unique to your specific environment.

Also, there are many “tell tale” signs that indicate repair is in order, such as:

- Controls that are either inoperable or difficult to operate.
- Excessive wear
- Poor discharge performance
- Water leaks.

If any of the above situations are encountered, the TuckAway monitor should be taken out of service, repaired, and tested by a qualified technician before placing back in service.

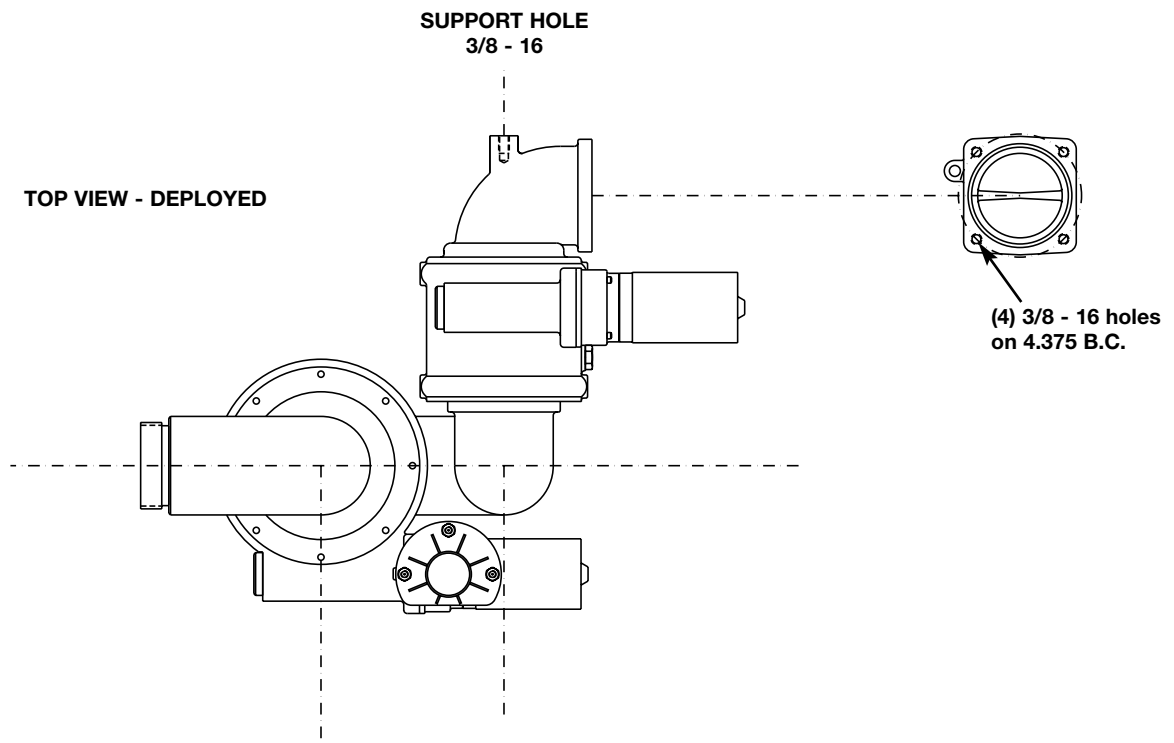
#### A. MOTOR REPLACEMENT

To replace the rotation or elevation motor:

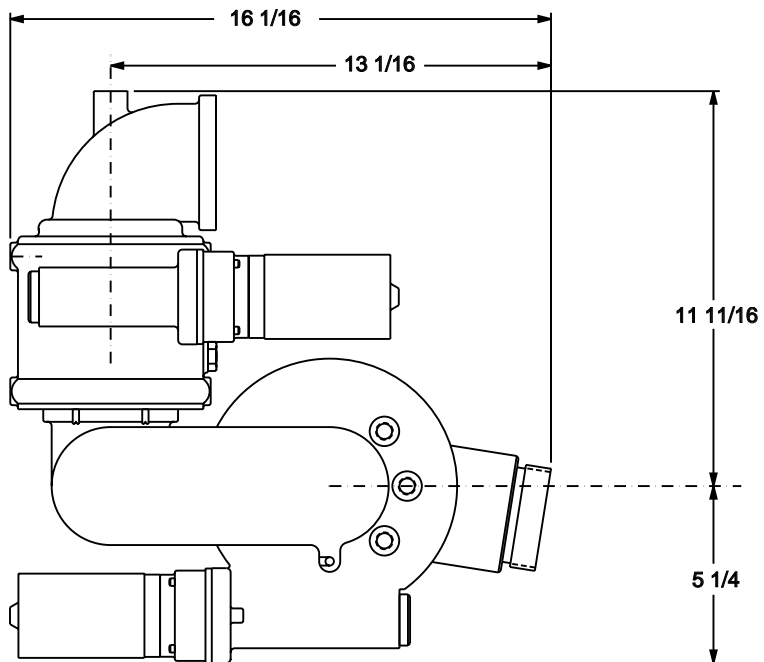
1. Disconnect power from the unit.
2. Loosen and remove the 4 socket screws from the gearbox housing
3. Slowly remove the motor assembly and gearbox housing from the unit.
4. Loosen and remove the 4 socket head cap screws from the inside of the gearbox housing that hold the housing and the motor assembly together.
5. Remove the gearbox housing from the motor assembly.
6. Replace the O-Ring seals on the gearbox housing.
7. Attach the new motor assembly to the gearbox housing, making sure all 4 screws are tight.
8. Install the motor and gearbox housing assembly to the unit making sure all 4 socket screws are tight. It may be necessary to rotate the motor slightly to get the motor gear to line up with the gears inside the gearbox. Hint: Use the override crank manual.
9. Restore power to the unit.
10. Test the operation of the unit.

Call Akron Brass Technical Service if any problems are encountered.

**Figure 1**

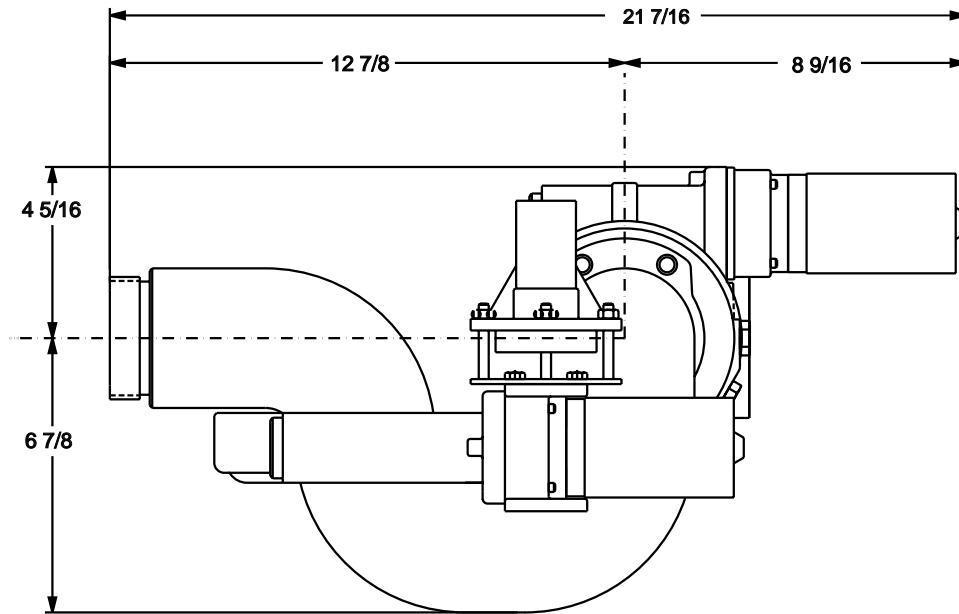


**TOP VIEW - STOWED**



**Figure 2**

**SIDE VIEW - DEPLOYED**



**SIDE VIEW - STOWED**

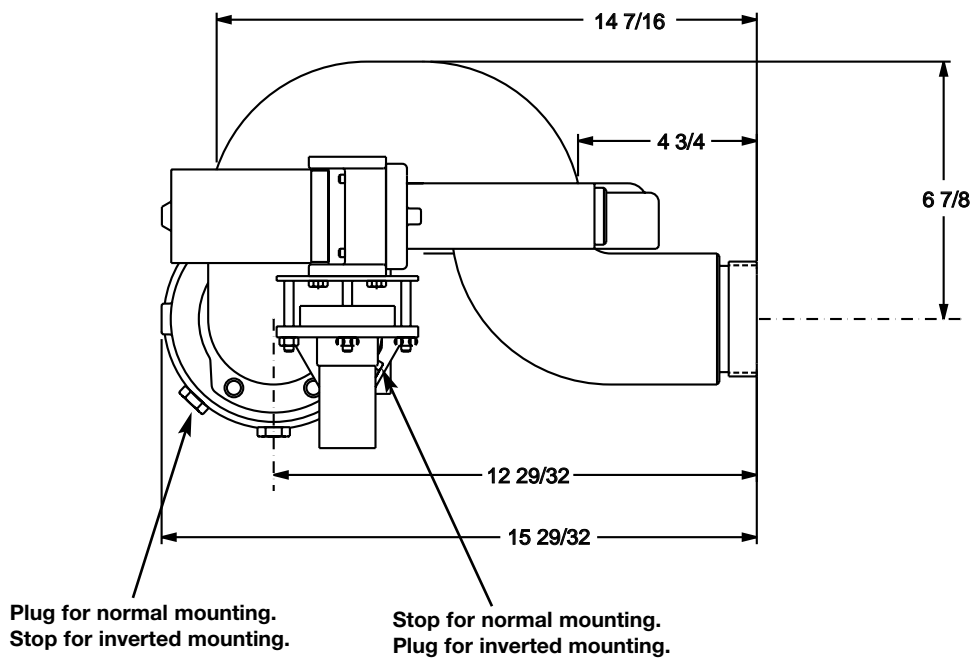
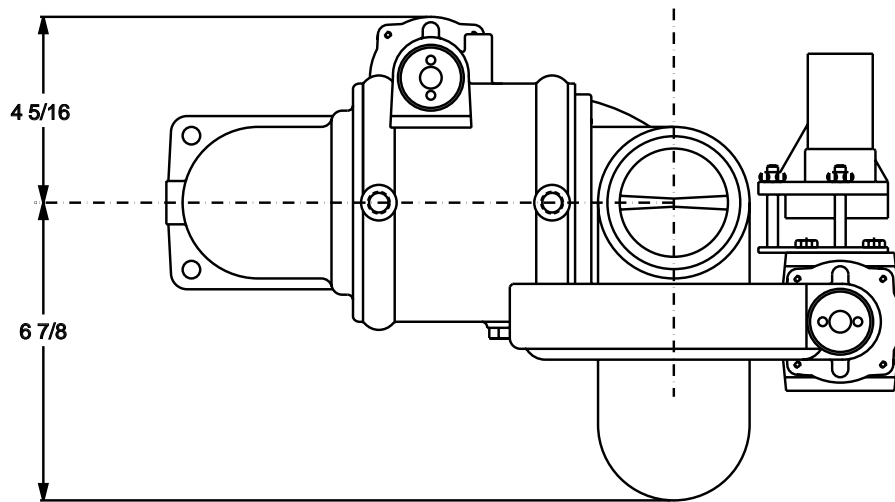
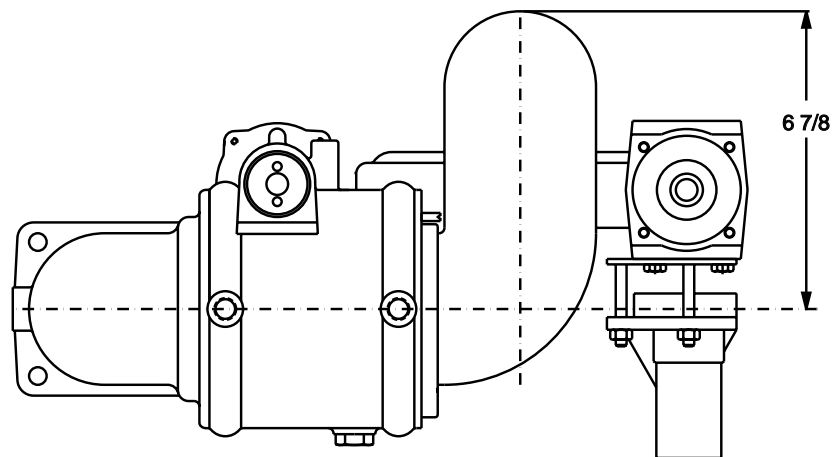


Figure 3

END VIEW - DEPLOYED



END VIEW - STOWED



**Figure 4**

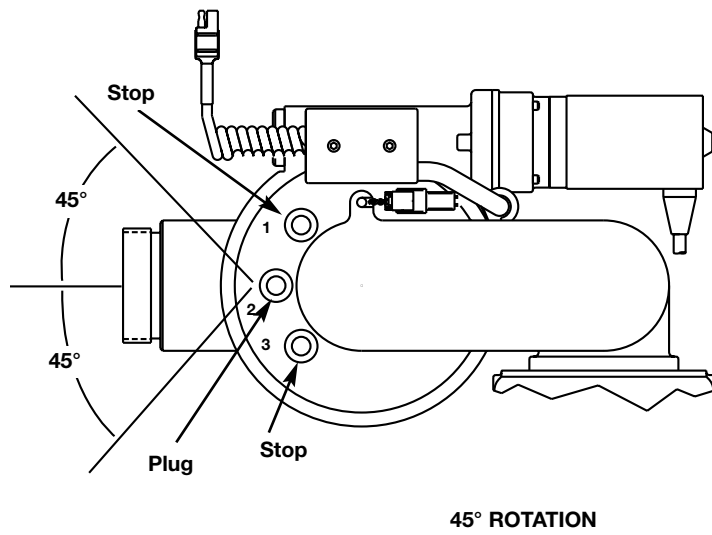
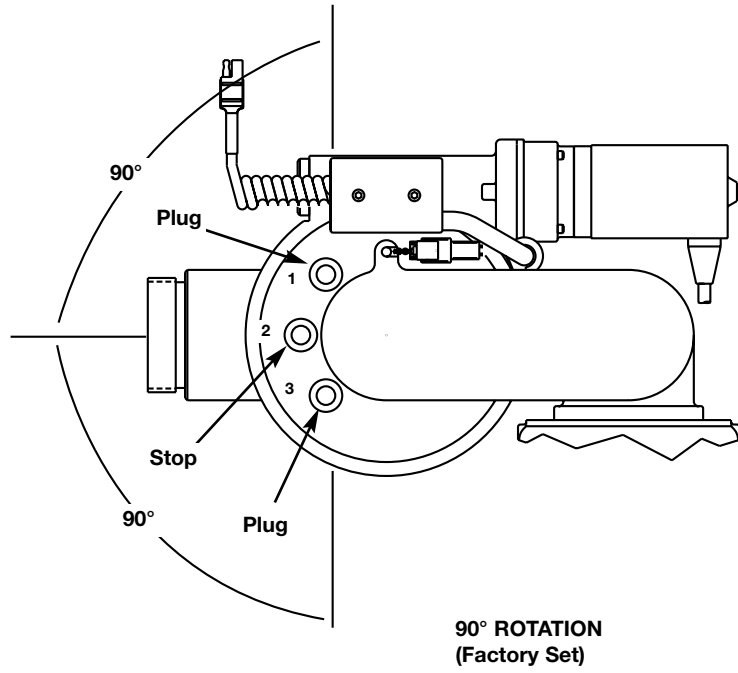
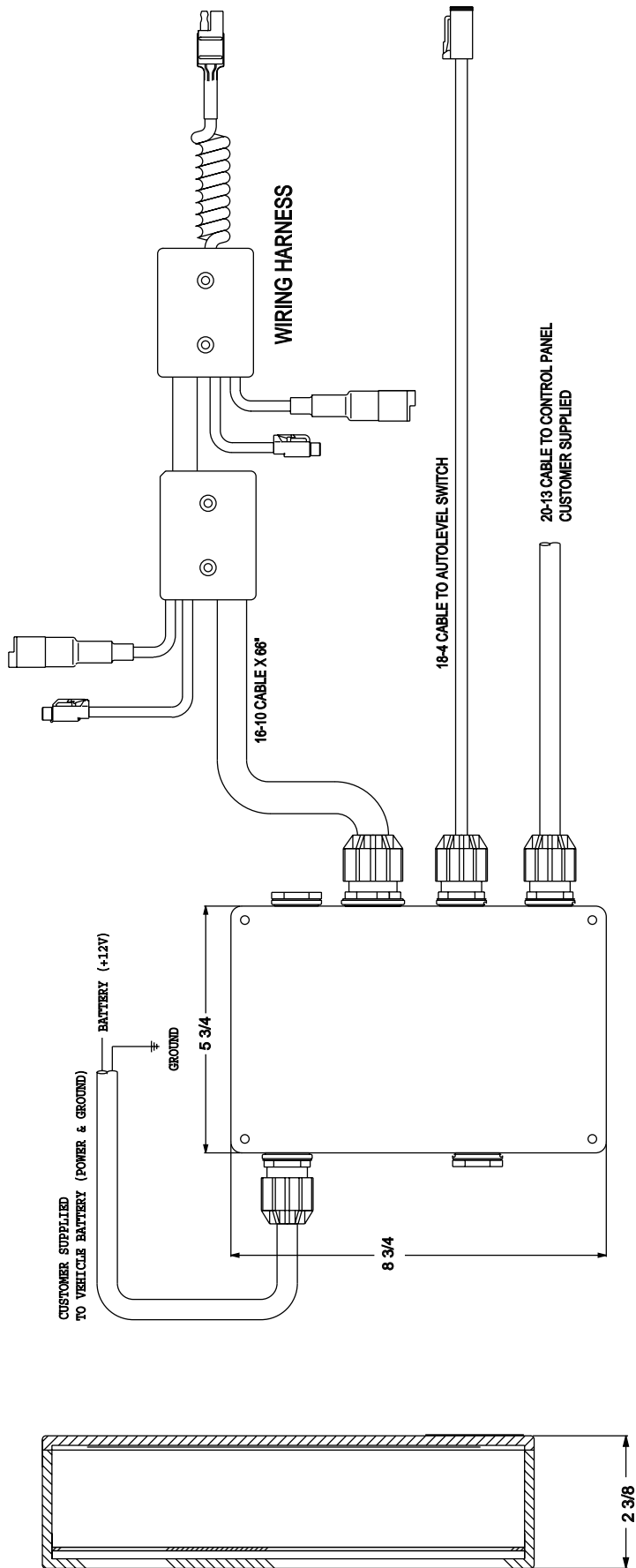


Figure 5







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