



STYLE 3578 STREAMMASTER™ INSTALLATION, OPERATING, AND MAINTENANCE INSTRUCTIONS (€ Version Available)

The following is intended to provide the basic instructions for installation, operation and maintenance of the StreamMaster 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 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

Mass: 39 lbs. (17.7 kg)

Maximum Flow: 2000 gpm (7600 lpm)

Maximum Pressure: 200 psi (14 bar)

Noise Emission: 95 DL @ 1m with maximum flow

PRODUCT WARNINGS

⚠ 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 StreamMaster 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.

⚠ WARNING: Aim the unit in a safe direction before pumping water through it. (i.e. Away from power lines)

- ⚠ WARNING: Although the circuit board includes a water-resistant coating, it is important to keep water out of the control box and logic box. Prolonged exposure to water will cause damage.
- ⚠ WARNING: When the cover of the control box or logic box is removed, check that the O-ring under the cover is intact and free of dirt and debris.
- ⚠ WARNING: The StreamMaster monitor uses current limiting for both the monitor and nozzle. Use only appropriate Akron Brass Company nozzles.
- ⚠ WARNING: Do not use the electric controls when the override cranks are being used or are in position for use.
- ⚠ WARNING: Make the connection of the vehicle and auxiliary battery the final step.
- ⚠ 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 monitor. Shutoffs increase the potential for pressure surges due to water hammer, which have the potential to cause an injury or damage to the monitor.
- ⚠ WARNING: The StreamMaster monitor, nozzle, logic box, control box, tether controller, and field adjustable stops are made for optimal performance. Do not alter in any manner.
- ⚠ WARNING: The StreamMaster monitor was designed for use with the Akromatic nozzle. Use of any other nozzle could affect the speed or operation of the unit and should be tested before being put into service.
- ⚠ WARNING: The StreamMaster monitor contains moving parts. Keep hand, finger and objects away from pinch points (Figure 1).
- ⚠ WARNING: Disconnect power and disable flow before maintenance.
- ⚠ WARNING: Keep all personnel out of the Danger Zone (Figure 2), in front of the outlet of the monitor when the water source is attached. Dangerous flow velocities can cause serious injury.
- ⚠ WARNING: Not designed for explosive environments.



GENERAL INSTRUCTIONS

- Review the instructions, wiring diagram, component layout and rotational stops diagram before installing this unit. This unit operates on 12 volt DC or 24 volt DC depending on the unit chosen. All electrical current flows through the wires. The monitor does not act as a ground. The wires from the control boxes can be cut to the length for the application plus 10 inches (See STEP 2). Do not extend the wires from the logic box to the monitor.
- The optional auxiliary battery is used for power failures and to ensure that the proper voltage and current are maintained at the logic box when using a smaller gauge wire (12 Awg) for the power leads (vehicle battery). If the optional auxiliary battery is used, do not extend the auxiliary battery wires. This will ensure that the proper voltage and current are maintained at the monitor for it to operate properly. The optional battery is automatically recharged by the truck electrical system through the positive (auxiliary battery) and ground connections on the circuit board (Figure 6). The vehicle battery connections must have power turned on whenever the truck is running so that the battery can be recharged properly. If possible, connect the positive (vehicle battery) wire directly to the main vehicle battery or main master switch. A diode in the logic box will prevent the optional auxiliary battery from feeding current back into the main truck system.
- Not recommended for use in salt water applications.
- For firefighting by trained firefighters only.
- For use with water or standard fire fighting foams only. After use with foam, flush with fresh water.
- Do not use the StreamMaster nozzle as a forcible entry tool.
- Drain the StreamMaster monitor and nozzle after use to prevent "freeze damage".
- Ensure that the thread in the nozzle swivel matches the thread on the StreamMaster outlet. Do not overtighten the nozzle onto the StreamMaster.

MECHANICAL MONITOR ATTACHMENT

The Monitor is to be mounted on the waterway with eight 5/8 inch bolts and nuts of grade five minimum and suitable washers with a minimum of six threads engagement. The front of the monitor in Figure 2 is considered to be point 4 and is above the identification tag. The bolts must be tightened in a criss cross pattern progressively increasing tightening torque to a maximum of 100 foot pound dry.

NOTE: Not recommended to mount on a raised flange or have a butterfly valve between the flanges. This may cause damage to the monitor's flange when tightening the bolts.

THE ROTATIONAL AND ELEVATION STOPS SET THE BOUNDARIES FOR THE AREA IN WHICH THE MONITOR IS ALLOWED TO TRAVEL AND MEETS THE REQUIREMENTS OF THE NFPA. The upper row controls the right travel, and the lower row controls the left travel. The angles for the rotational stops are with respect to the "reference direction" illustrated in Figure 2. The monitor is shipped with the upper row stop at point 3 which stops the monitor at 90° right, clockwise and the lower row stop at point 5 which stops the monitor at 90° left, counterclockwise. All other positions are achieved by switching the factory set stops and the plugs in the desired stop location. Both the stops and the plugs have a 1/2 inch hex head. Refer to Figure 2 to determine which stop location is needed for the desired right, clockwise or left, counterclockwise rotation. The elevation stop sets the upper and lower limits of the elevation. The monitor is shipped with the upper limit at 45° or 90° above horizontal (mounted vertically) and the lower limit at 45° below horizontal to meet NFPA. All other vertical positions are achieved by switching plugs and stops to the desired locations as indicated in Figure 4.

MECHANICAL ATTACHMENT OF CONTROLLER AND LOGIC BOX

A. CONTROLLER AND TETHER CONNECTOR ATTACHMENT

Pump panel cut out and mounting hole dimensions are given in Figure 3. The controller and tether connector should be installed in the pump panel prior to electrical connection to the logic box.

B. LOGIC BOX ATTACHMENT

The StreamMaster logic box must be mounted close enough to the monitor to allow the 8 ft. monitor wiring harness sufficient slack to allow the monitor to travel through its full range. The logic box overall dimensions and mounting hole dimensions are given in Figure 5.

WARNING: Do not extend the monitor wiring harness.

ELECTRICAL INSTALLATION INSTRUCTIONS

A. CONTROLLER, JOYSTICK OR TETHER CONNECTOR ELECTRICAL ATTACHMENT

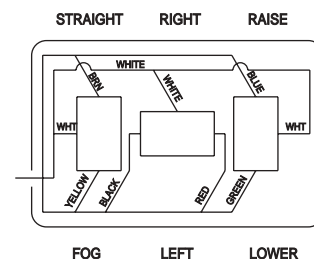
These instructions are for attaching the controller, joystick or the tether connector to the logic box. The controller, joystick and tether connector are supplied with 8 ft. of cable.

STEP 1 If the control box includes an attached cable skip to STEP 6.

STEP 2 Determine the length of #20-7 cable needed, add 10 inches, then cut. For example, if a five foot length of cable is needed, add 10 inches and cut the cable 5 foot 10 inches long.

STEP 3 Remove the cable grip nut and washer from the control box and put it on the cable with the threads facing the box. On the same end of the cable remove 4 inches of the outer casing of the cable and strip back 3/8 inch from each of the 7 wires.

STEP 4 Take the 7 ring terminals from the plastic bag and crimp them on the 7 wires. Remove the four control box cover screws and set the control box cover aside. Thread the 7 wires through the cable grip attached to the control box and attach them to the proper terminals. Tighten the cable grip nut and washer on the cable to the cable grip on the control box to secure the cable. Reattach control box cover and secure with the four screws.



- STEP 5** Remove the cable grip nut from the plastic bag and put it on the other end of the cable with the threads facing out. Remove 6 inches of the outer cover and strip back 3/8 inch from each of the 7 wires.
- STEP 6** Remove the 6 logic box cover screws and set the logic box cover aside. Thread the 7 wires through the upper or lower control hole in the logic box (see component layout, Figure 5). Thread the cable grip washer and cable grip nut with the threads facing the box on the cable. 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.

NOTE: *The lower control and upper control wires must be attached to the correct terminals for the lower control to override the upper control. The one attached to the Master terminal will have the overriding capabilities.*

Adjust the DIP switch settings as needed. (Refer to the description below.)

B. 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 ability to use a 6-conductor controller for the Stow controller instead of 10-conductor.

ON - Enables the 6-wire Stow controller

OFF - Disable the 6-wire Stow controller

Switch 2 - Allows the Stow and Deploy switch to be a momentary or a maintain switch.

ON - Requires JOG (maintain) to Stow or Deploy (No Learn mode if DIP 2 is ON)

OFF - Momentary switch to start the Stow or Deploy sequence (factory set)

Switch 3 - Lowers the monitor during the Deploy sequence for 2.5 seconds.

ON - Deploys for 2.5 seconds (factory set)

OFF - Will not Deploy the 2.5 seconds

Switch 4 - Lowers the monitor during the Deploy sequence for 3.75 seconds.

ON - Deploys for 3.75 seconds

OFF - Will not Deploy 3.75 seconds (factory set)

Note: If Switch 3 and 4 are both ON the monitor will lower for 5 seconds during the Deploy sequence.

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)

Switch 6 - **Reserved for Factory**

Switch 7 - Allows the user to choose between the Learned positions or the Default positions.

ON - Stow at the Learned position (factory set)

OFF - Stow in the default position only

Switch 8 - Allows the user to turn the Learn mode ON or OFF

On - Enables Learn mode programming (factory set)

OFF - Disable the Learn mode, the user cannot reprogram a new setting

C. MONITOR WIRING HARNESS ATTACHMENT

These instructions are to attach the monitor wiring harness to the logic box.

STEP 7 Remove the cable grip nut from the logic box for the wiring harness cable. **DO NOT REMOVE THE CABLE GRIP.** Put the cable grip nut on the wiring harness cable with the threads facing out. Put the cable through the correct logic box cable grip (see component layout, Figure 5) so the cable grip nut will grab the outer cover of the cable. Tighten the cable grip nut and attach the individual wires to the proper terminals (see wiring schematic Figure 6).

D. BATTERY ATTACHMENT

The battery connections should be the last connection made.

STEP 8 **AUXILIARY BATTERY** - Remove the logic box cable grip nut for the auxiliary battery and place it on the battery (#16-3) cable with the threads facing out. Thread the cable through the cable grip nut until the cable grip will grab the cable. Tighten the cable grip and attach the individual wires to the proper terminals (see wiring schematic Figure 6).

NOTE: Auxiliary Battery is not intended to operate the monitor.

STEP 9 **VEHICLE BATTERY** - Remove the logic box cable grip nut for the vehicle battery and place it on the battery cable (#10-2 or #12-2 depending on length) with the threads facing out. Thread the cable through the cable grip until the cable grip nut will grab the cable. Tighten the cable grip nut and attach the individual wires to the proper terminals (see wiring schematic Figure 6). Reattach the logic box cover and secure with the 6 screws.

NOTE: To supply enough current to operate the monitor properly, adequate wire size is critical.

OPERATING INSTRUCTIONS

A. CONTROLLER OPERATION

The controller is used to control the monitor and nozzle.

1. To deploy the monitor for use:

Lift the safety cover on the STOW/DEPLOY switch and push the toggle switch up and release.

Note: Some models may not be equipped with a deploy switch. The Deploy Function will only lower the monitor. See DIP Switch 3 and 4.

2. To stow the monitor after use:

Lift the safety cover on the STOW/DEPLOY switch and push the toggle switch down and release.

Note: Some models may not be equipped with a deploy switch.

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.

THE LOWER CONTROL BOX FUNCTIONS WILL OVERRIDE THE UPPER CONTROL BOX FUNCTIONS IN COMPLIANCE WITH THE REQUIREMENTS OF THE NFPA STANDARD. NOTE: THE LOWER CONTROL AND UPPER CONTROL WIRES MUST BE ATTACHED TO THE CORRECT TERMINALS FOR THE LOWER CONTROL (MASTER) TO OVERRIDE THE UPPER CONTROL (SLAVE). NONE OF THE FUNCTIONS CAN BE CONTROLLED FROM THE UPPER CONTROL BOX WHEN ANY OF THE SWITCHES ON THE LOWER CONTROL BOX ARE ACTIVATED.

B. EMERGENCY STOP DURING DEPLOY OR STOW

If it is necessary to immediately stop the StreamMaster monitor during the deploy or stow sequence, activate any switch on the control panel and the unit will stop moving (E-Stop). To continue operation after an emergency stop, operate any switch or press the Stow or Deploy switch to continue the sequence.

C. MANUAL OVERRIDE CONTROLS

The manual override control is to be used only when the power to the monitor is off. A 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.

⚠ 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.

D. LEARN MODE

The learn mode allows the operator to teach the monitor a new final position for the nozzle in the stowed position.

To learn a new stowed position:

1. Start with the monitor in a deployed position.
2. Press and hold the Stow button. The monitor will stow into the default stowed position. If at any point you release the Stow button, you must start over.
3. When the monitor comes to a stop, continue holding the stow button and operate the up or down button to the desired elevated position, then operate the left or right button to the desired rotation position.
4. Release the Stow button, this will be the new stowed position.

Note: There is no learn mode for the Deploy Function. See DIP Switch 3 and 4.

E. FAULT CODES

Your StreamMaster monitor comes with built in diagnostic tools. On the controller for stow is a small LED indicator. The primary function of the LED indicator is to indicate whether the monitor is stowed or deployed. The LED indicator also functions as a Fault Indicator.

Deployed: The light will repeatedly flash twice as the unit is deploying. When the fully deployed position is reached the light will stop flashing and remain on.

NOTE: As soon as the deploy sequence begins, the light in the cab will turn on.

Stowed: When the fully stowed position is reached the LED indicator will go out.

NOTE: The light in the cab will also go out when fully stowed.

Fault Code 1: Fault code 1 is represented when the light flashes continually. If the EEPROM on the circuit board is faulty, Fault 1 will occur.

Correction: *The circuit board must be replaced*

Fault Code 2: Fault code 2 is normal during the deploy sequence and is represented when the light repeatedly flashes twice. Code 2 is not a fault, but occurs when the deploy button is pressed and automatically ends when the fully deployed position is reached.

Operation of any switch while flashing twice will cause the monitor to go into E-stop mode. (See Fault Code 3)

Fault Code 3: Fault code 3 is represented when the light repeatedly flashes 3 times. This fault code indicates an emergency stop (E-stops) occurred during stow or deploy. If any switch is pushed during the stow or deploy sequence all movement will stop and Fault 3 will flash.

Correction: *Operate any switch or press the Stow or Deploy switch to continue the sequence.*

Fault Code 4: Fault code 4 is represented when the light repeatedly flashes 4 times. If the Deploy or Stow switch is pushed and the monitor is prevented from rotating. Fault 4 will occur.

Correction: Check for an obstruction by the monitor. Remove the obstruction. Operate any switch or press the Stow or Deploy switch to continue the sequence.

Fault Code 5: Fault code 5 is represented when the light repeatedly flashes 5 times. If the Stow or Deploy switch is pushed and the monitor is prevented from elevating, Fault 5 will occur.

Correction: Check for an obstruction by the monitor. Remove the obstruction and operate any switch or press the Stow or Deploy switch to continue the sequence.

MAINTENANCE INSTRUCTIONS

Your StreamMaster monitor and nozzle should be inspected prior to and after each use to ensure it is in good operating condition. Periodically, an unanticipated incident occurs 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 StreamMaster nozzle hit a fixed object during operation or transportation.
- Any 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.

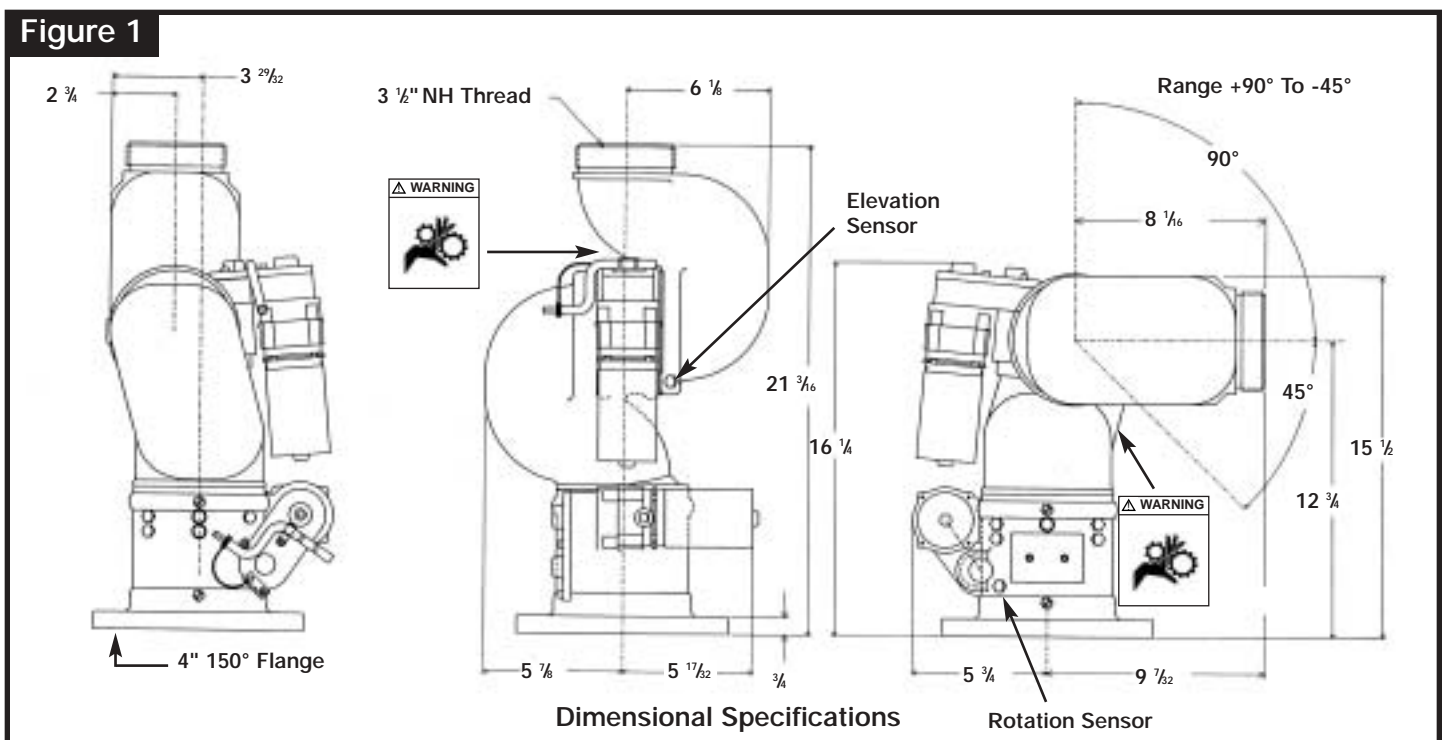
If any of the above situations are encountered, the StreamMaster monitor should be taken out of service, repaired, and tested by a qualified technician before placing back in service.

MOTOR REPLACEMENT

To replace either the horizontal or vertical rotational motors:

1. Disconnect Power from the unit.
2. Loosen and remove the four socket screws (Item 4 on the Parts List) from the gearbox housing (52).
3. Slowly remove the motor assembly (59) and gearbox housing (52) from the unit.

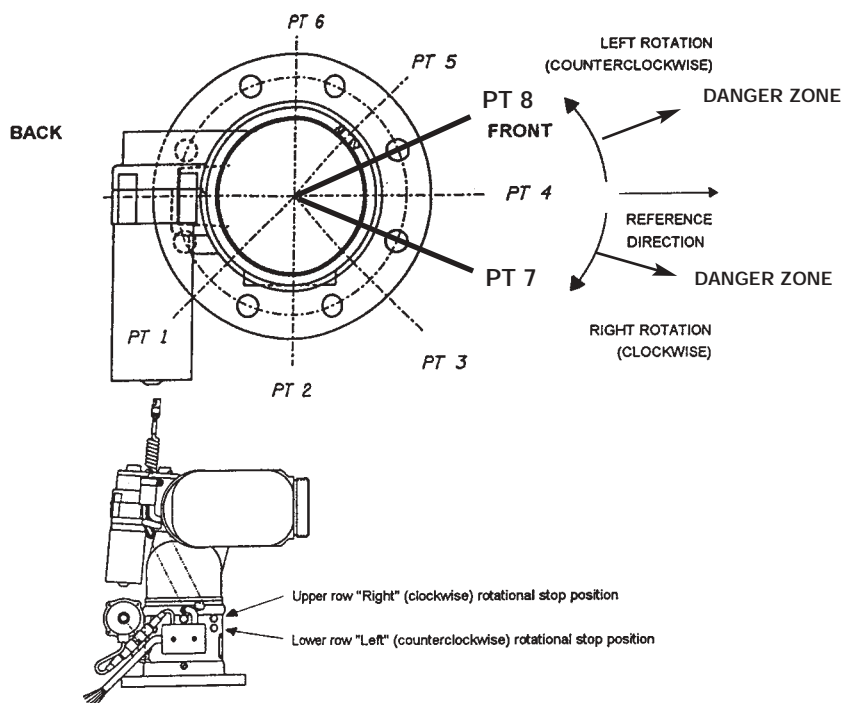
IMPORTANT: Make sure the internal gear, (Item 47 on the Parts List), remains in place, (hold with a screwdriver), to avoid gear alignment problems.



4. Loosen and remove the four socket head capscrews (51) from the inside of the gearbox housing that hold the housing and the motor assembly together.
5. Remove gearbox housing (52) from the motor assembly (59).
6. Replace both o-ring seals (50 & 53) on the gearbox housing (52).
7. Attach the new motor assembly (59) to the gearbox housing (52) making sure all four screws (51) are tight.
8. Install the motor and gearbox housing assembly to the unit making sure all four 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.
9. Restore power to the unit.
10. Test the operation of the unit.

Call Akron Brass Customer Service Department if any problems are encountered.

Figure 2



**STREAMMASTER
ROTATION FOR EACH STOP COMBINATION**

Upper Row

Lower Row

CW / CCW	1	2	3	4	5	6	7	8	NO STOP
1	78 / 168	78 / 213	78 / 258	45 / 270	0 / 270	78 / 33	67.5 / 270	22.5 / 270	78 / 270
3	180 / 0	135 / 0	90 / 0	45 / 0	0 / 0	315 / 0	67.5 / 0	22.5 / 0	348 / 0
4	180 / 45	135 / 45	90 / 90	45 / 45	0 / 45	303 / 33	67.5 / 45	22.5 / 45	303 / 45
5	180 / 90	135 / 90		45 / 90	0 / 90	258 / 33	67.5 / 90	22.5 / 90	258 / 90
6	180 / 135	135 / 135	90 / 135	45 / 135	0 / 135	213 / 33	67.5 / 135	22.5 / 135	213 / 135
7	180 / 22.5	135 / 22.5	90 / 22.5	45 / 22.5	0 / 22.5	315 / 22.5	67.5 / 22.5	22.5 / 22.5	325.5 / 22.5
8	180 / 67.5	135 / 67.5	90 / 67.5	45 / 67.5	0 / 67.5	280.5 / 33	67.5 / 67.5	22.5 / 67.5	280.5 / 67.5
NO STOP	180 / 168	135 / 213	90 / 258	45 / 303	0 / 348	315 / 33	67.5 / 280.5	22.5 / 325.5	N/A

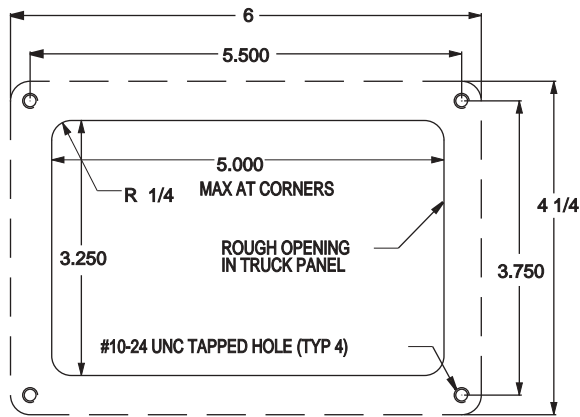
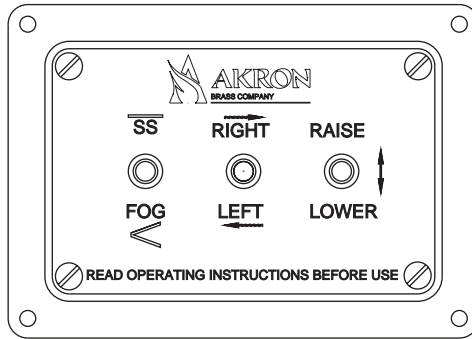
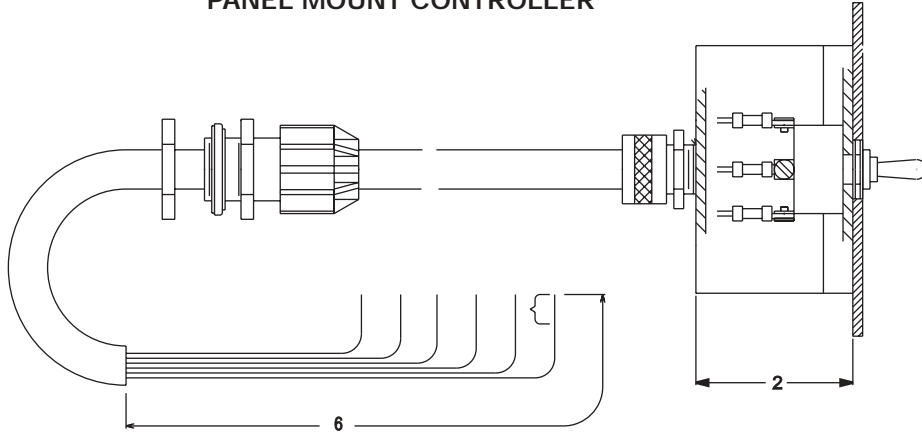
Factory Set Stops

NOTE: There is no lower row for point 2 due to the location of the wiring harness.

Each possible combination is listed and a maximum of 348 degrees can be achieved for total rotation. The factory will set the stops at Lower Row point 5 and Upper Row point 3. This will give a rotation of 90 degrees clockwise (CW) and 90 degrees counterclockwise (CCW) for a total rotation of 180 degrees.

Figure 3

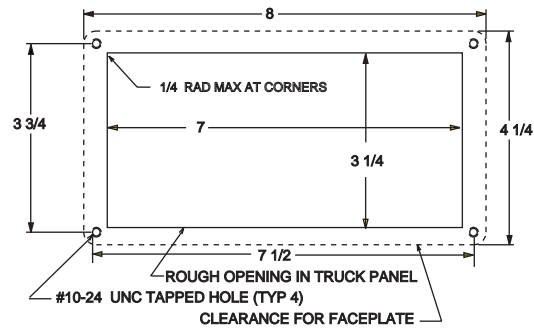
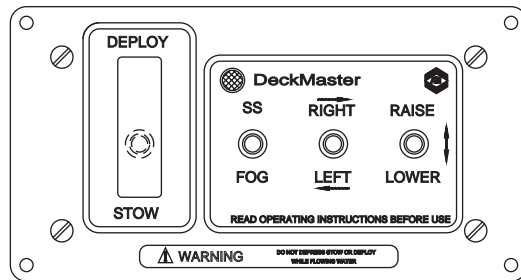
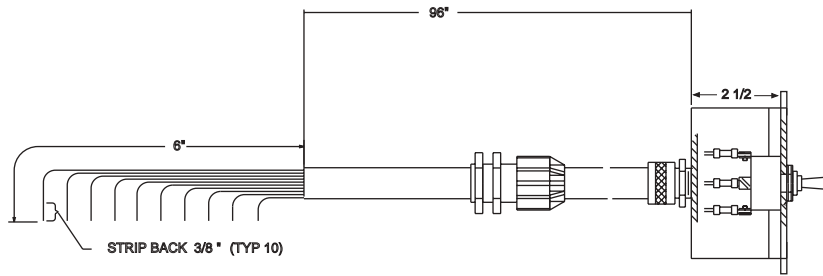
PANEL MOUNT CONTROLLER



TRUCK PANEL CUT OUT DIMENSIONS

Figure 3A

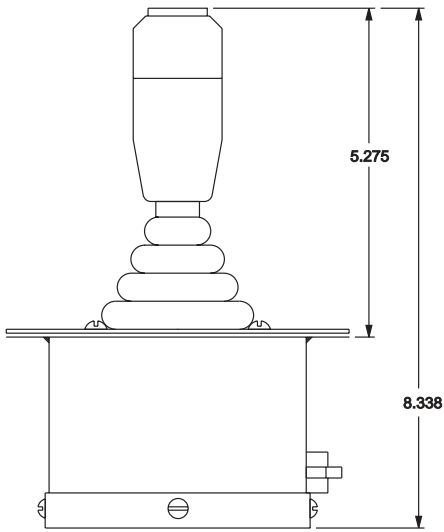
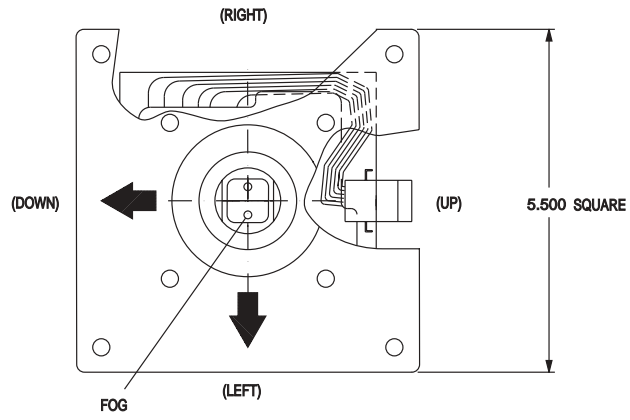
PANEL MOUNT CONTROLLER FOR STOW



TRUCK PANEL CUTOUT DIMENSIONS

Figure 3B

JOYSTICK



TETHER CONNECTOR

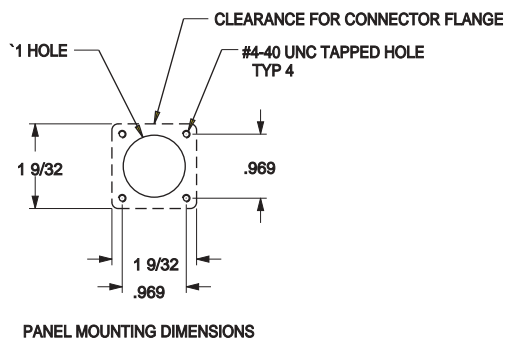
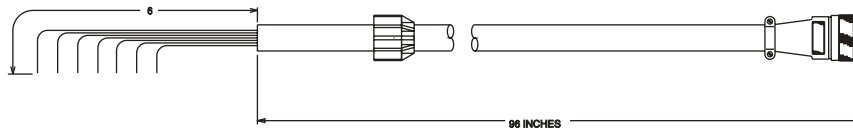


Figure 4

ELEVATION STOPS

The elevation stop position and their corresponding stop/plug configurations are shown in the table below. The **hole location** for the plug/stop is referred to by an angle from the horizontal. The **outlet angle** is the angle trajectory (from horizontal) the water will flow from the StreamMaster unit.

HOLE LOCATION				LOWER OUTLET ANGLE	UPPER OUTLET ANGLE
15°	0°	-45°	-60°		
P	PS	S	P	-45°	45°
P	PS	P	S	-45°	30°
S	PS	P	P	-30°	90°
P	PS	P	P	-45°	90°
S	PS	P	S	-30°	30°
S	PS	S	P	-30°	45°

P=PLUG S=STOP PS=PERMANENT STOP

Factory Set Stops

Note that the permanent stop must remain installed. If this stop is removed, the outlet will go past vertical and the gear will run out of travel.

There are six options for the customer to use. This is achieved with 3 plugs, 1 permanent stop, and 2 stops provided (the unit will be assembled with the permanent stop in 0° location, 1 stop in the -45°, and plugs in the remaining 15° and -60° locations). The parts kit will contain 1 stop and 1 plug.

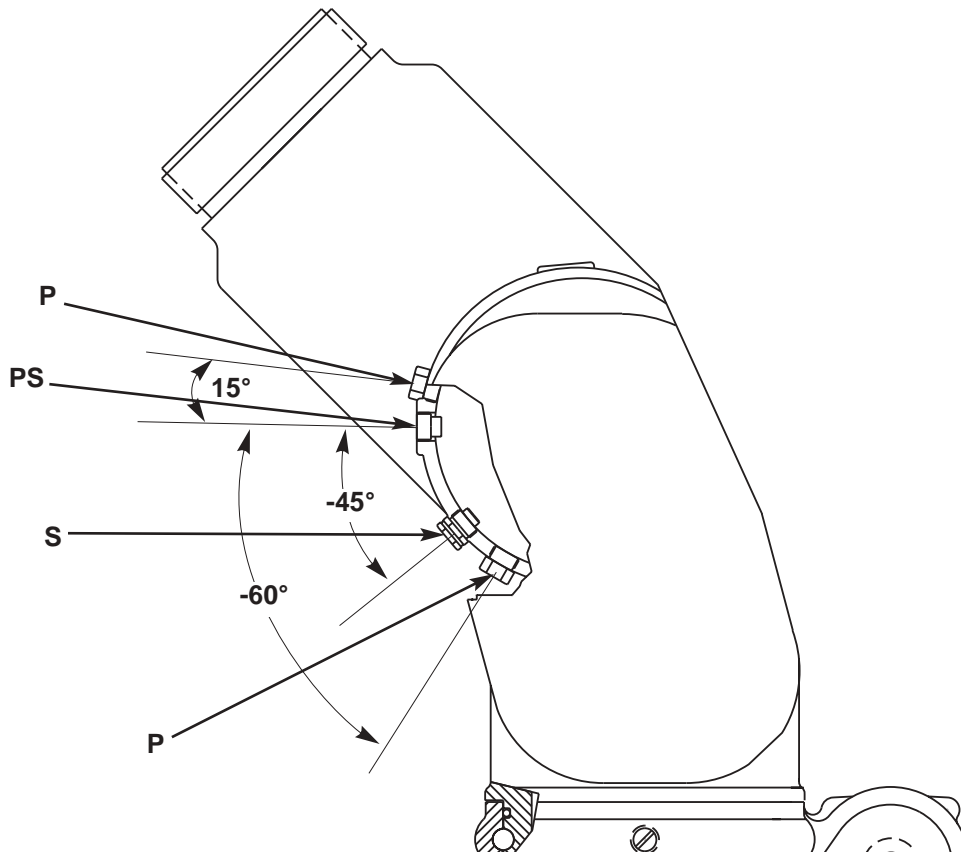
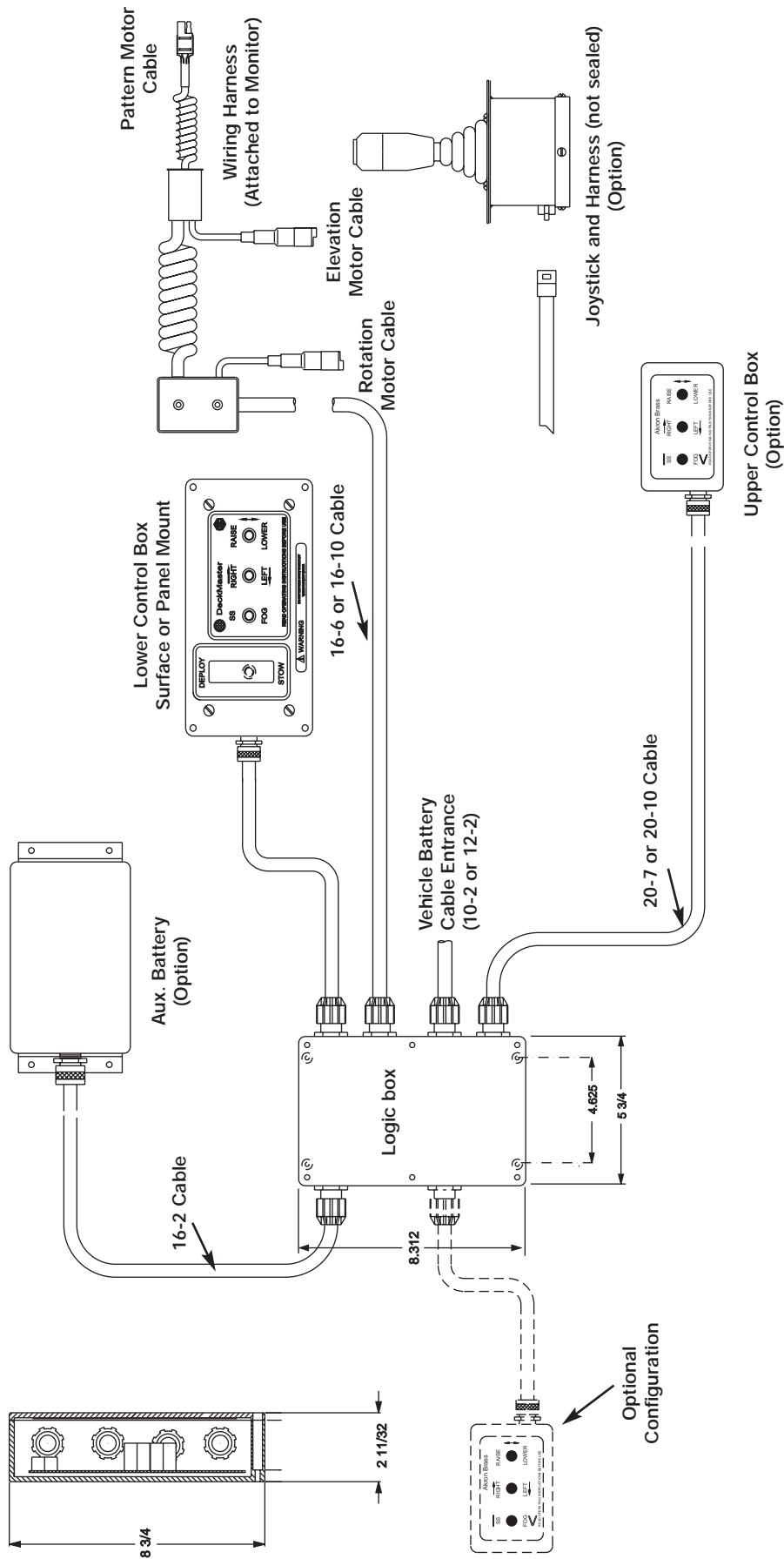


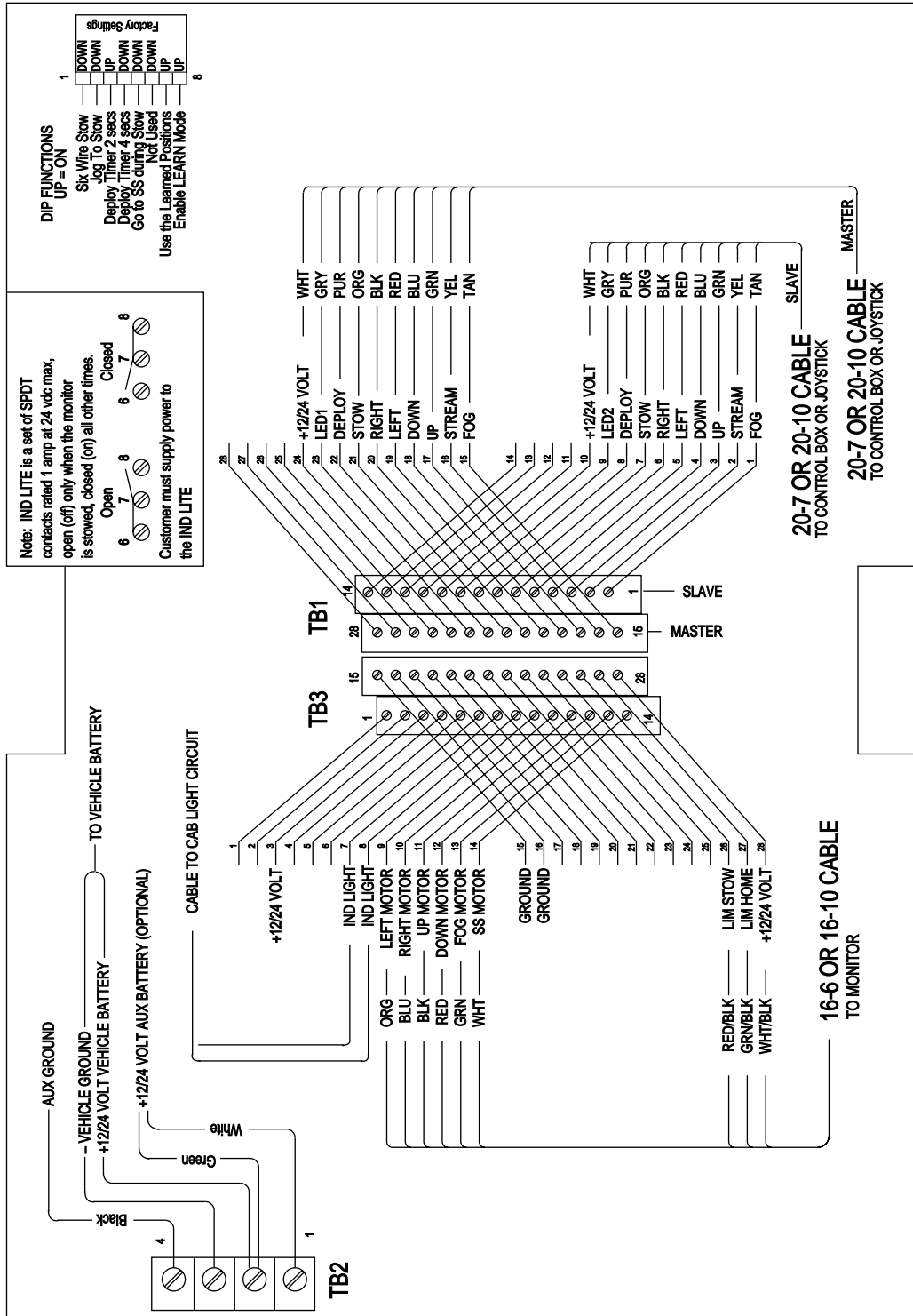
Figure 5



ELECTRICAL COMPONENT LAYOUT

Controller Symbols	
—	Straight Stream
<	Fog
←	Right
↑	Up
←	Left
↓	Down

Figure 6





ISO 9001 REGISTERED COMPANY

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Available in Canada through AKRON MANUFACTURING COMPANY
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REVISED 01/04

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