



Extend-A-Gun RC3 & RC4

Remote Control Telescoping Waterway for Deck Mounted Monitors

INSTRUCTION FOR SAFE INSTALLATION, OPERATION, AND MAINTENANCE

⚠ DANGER

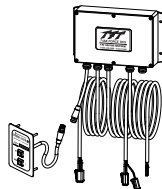
Understand manual before use. Operation of this device without understanding the manual and receiving proper training is a misuse of this equipment. Obtain safety information at tft.com/serial-number.

This equipment is intended for use by trained and qualified emergency services personnel for firefighting. All personnel using this equipment shall have completed a course of education approved by the Authority Having Jurisdiction (AHJ).

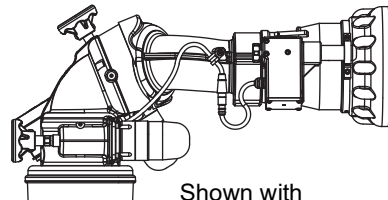
This instruction manual is intended to familiarize firefighters and maintenance personnel with the operation, servicing, and safety procedures associated with this product. This manual should be kept available to all operating and maintenance personnel.

CONTROL BOX

(complete with 10 ft (3m) of power & communication cable for connection to monitor communication link & power, 12 ft (3.6m) of cable for connection to RC monitor, and 12 ft (3.6m) of cable for connection to Extend-A-Gun RC motor)



OPTIONAL PUSHBUTTON STATION
(complete with 12 ft (3.6m) of cable for connection to control box)



Shown with
Monsoon RC Monitor
and Master 2000 Nozzle.
(Monitor, Nozzle, and
Mounting Brackets not included)

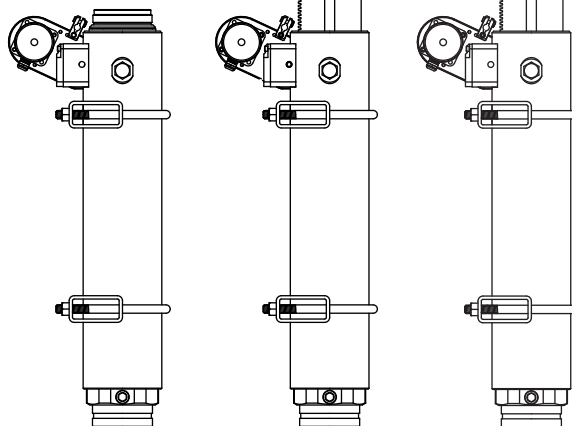
MONITOR COMPATIBILITY

XGA-Series Models:

- Tornado RC
- Hurricane RC
- Monsoon RC
- Typhoon RC

XGJ-Series Models:

- FLEX RC



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DANGER

PERSONAL RESPONSIBILITY CODE

The member companies of FEMSA that provide emergency response equipment and services want responders to know and understand the following:

1. **Firefighting and Emergency Response are inherently dangerous activities** requiring proper training in their hazards and the use of extreme caution at all times.
2. **IT IS YOUR RESPONSIBILITY** to read and understand any user's instructions, including purpose and limitations, provided with any piece of equipment you may be called on to use.
3. **IT IS YOUR RESPONSIBILITY** to know that you have been properly trained in Firefighting and/or Emergency Response and in the use, precautions, and care of any equipment you may be called upon to use.
4. **IT IS YOUR RESPONSIBILITY** to be in proper physical condition and to maintain the personal skill level required to operate any equipment you may be called upon to use.
5. **IT IS YOUR RESPONSIBILITY** to know that your equipment is in operable condition and has been maintained in accordance with the manufacturer's instructions.
6. Failure to follow these guidelines may result in death, burns or other severe injury.

Fire and Emergency Manufacturers and Service Association, Inc.
PO Box 147, Lynnfield, MA 01940 • www.FEMSA.org



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| TASK FORCE TIPS FIRE FIGHTING EQUIPMENT | | MANUAL: Remote Control (RC) Monitor Electrical Controls | |
|---|--|---|--|
| | | Supplemental instructions for use with RC Monitor Manual | |
| INSTRUCTIONS FOR INSTALLATION, SAFE OPERATION AND MAINTENANCE | | | |
| ! DANGER Intended manual safety use. Operation of this device without understanding the manual and receiving proper training is a misuse of this equipment. Obtain safety information at www.tfi.com/remotecontrol | | | |
| SECTION 3.0 General Information and Specifications | | SECTION 4.8 Single Switch Monitor Operator Station (VE-51) | |
| SECTION 4.0 Electrical Controls Installation and Operation | | SECTION 4.10 Remote Administration Interface Control (VE-5000) | |
| SECTION 4.1 Monitor Mounted Operator Station | | SECTION 4.11 Monitor Position Display (VE-5075) | |
| SECTION 4.2 Panel Mount Operator Station (VE-505) | | SECTION 4.12 Remote Auxiliary Function Interface Control (VE-50500) | |
| SECTION 4.3 Panel Mount With Display Operator Station (VE-507) | | SECTION 4.13 Electric RC Monitor Aerial Truck Installation | |
| SECTION 4.4 Remote Station (VE-CT-40) | | SECTION 4.14 Emergency Interface Control (VE-CAN) | |
| SECTION 4.5 Monitor Operator Station With Display (VE-CT-40-DS) | | SECTION 4.15 Ethernet Interface Control | |
| SECTION 4.6 Monitor Operator Station (VE-50) | | SECTION 4.16 Electric Neutral Adapter | |
| SECTION 4.7 Wireless Operator Station (VE-500) | | SECTION 4.17 Voice Key (VE-5000) | |
| SECTION 4.8 Cigarette Operator Station (VE-50) | | SECTION 5.0 Troubleshooting | |

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LIY-500 Remote Control (RC)
Monitor Electrical Controls

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1.0 MEANING OF SAFETY SIGNAL WORDS

A safety related message is identified by a safety alert symbol and a signal word to indicate the level of risk involved with a particular hazard. Per ANSI Z535.6, the definitions of the four signal words are as follows:



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE is used to address practices not related to physical injury.

2.0 SAFETY



The stream exiting a nozzle is very powerful and capable of causing injury and property damage. Make sure the nozzle is securely attached and pointing in a safe direction before water is turned on. Do not direct water stream to cause injury or damage to persons or property.



The Extend-A-Gun may be used only in either the fully raised or fully lowered position. The unit may become damaged if the water is turned on in any position other than fully extended or retracted.



Damage may occur if the truck drives under a low hanging object while the Extend-A-Gun RC is extended. Shutting off the water downstream of an Extend-A-Gun in the raised position traps water preventing retraction. Drain water from the piping and retract the Extend-A-Gun RC before moving the apparatus.

Pressurizing a retracted waterway with closed shutoffs or caps on the monitor discharge disables waterway extension. Relieving pressure trapped in the waterway will restore the lift function.

3.0 GENERAL INFORMATION

The Extend-A-Gun RC is a remote controlled telescoping waterway designed to maximize firefighter safety while expanding the capabilities of deck mounted Master Stream devices. Its function is to elevate a mounted Master Stream device above other equipment on the apparatus, providing greater clearance and freedom of movement to the device. Operators control elevation, both to and from the storage position, through any of the connected operator stations. The Extend-A-Gun RC features a hard coat anodized aluminum finish, built in sensor for connection to “monitor raised” light, and waterproof electronics. The Extend-A-Gun RC is available 3” or 4” diameter waterways with either 12” or 18” limits of travel.

3.1 MONITOR COMPATIBILITY

The TFT FLEX RC series monitors operate on J1939 CANbus protocol, while other TFT RC monitors operate on RS485 protocol. Because of this difference, a CANbus ready series of Extend-A-Gun RC products is available to operate with the FLEX RC monitor. When ordering an Extend-A-Gun RC to be installed with a FLEX RC monitor, an XGJ-series must be ordered. All other RC monitors use XGA-series Extend-A-Gun models. Dimensions, overall appearance, and installation remain the same for the XGJ and XGA- series Extend-A-Gun models.

3.2 SPECIFICATIONS

| MODEL | EXTEND-A-GUN RC3 | EXTEND-A-GUN RC4 |
|--|------------------------------------|-----------------------|
| Waterway Size | 3” (76mm) | 4” (102mm) |
| Maximum Flow | 1250 gpm (4800 l/min) | 2000 gpm (7600 l/min) |
| Maximum Pressure | 200 psi (13.8 bar) | |
| Lifting Capability | 100 lbs (46 kg) | |
| Lifting Speed | 6 sec | |
| Lowering Speed | 12 sec | |
| Nominal Operating Voltage | 12 or 24 VDC (auto sense) | |
| Maximum Voltage | 32 VDC | |
| Operating Temperature Range | -30°F to +120°F (-34°C to +49°C) | |
| Current Draw Lifting | 8 amps @ 12 VDC, 4 amps @ 24 VDC | |
| Current Limit | 18 amps @ 12 VDC, 9 amps @ 24 VDC | |
| Current at Rest | 1/4 amp @ 12 VDC, 1/8 amp @ 24 VDC | |
| Recommended Fuse or Circuit Breaker Size | 20 amp @ 12 VDC, 10 amp @ 24 VDC | |
| Travel | 12” (305mm) or 18” (457mm) | |

Table 3.2

3.3 USE WITH SALT WATER

Use with salt water is permissible provided the equipment is thoroughly cleaned with fresh water after each use. The service life of the equipment may be shortened due to the effects of corrosion, and is not covered under warranty.

3.4 PARTS IDENTIFICATION

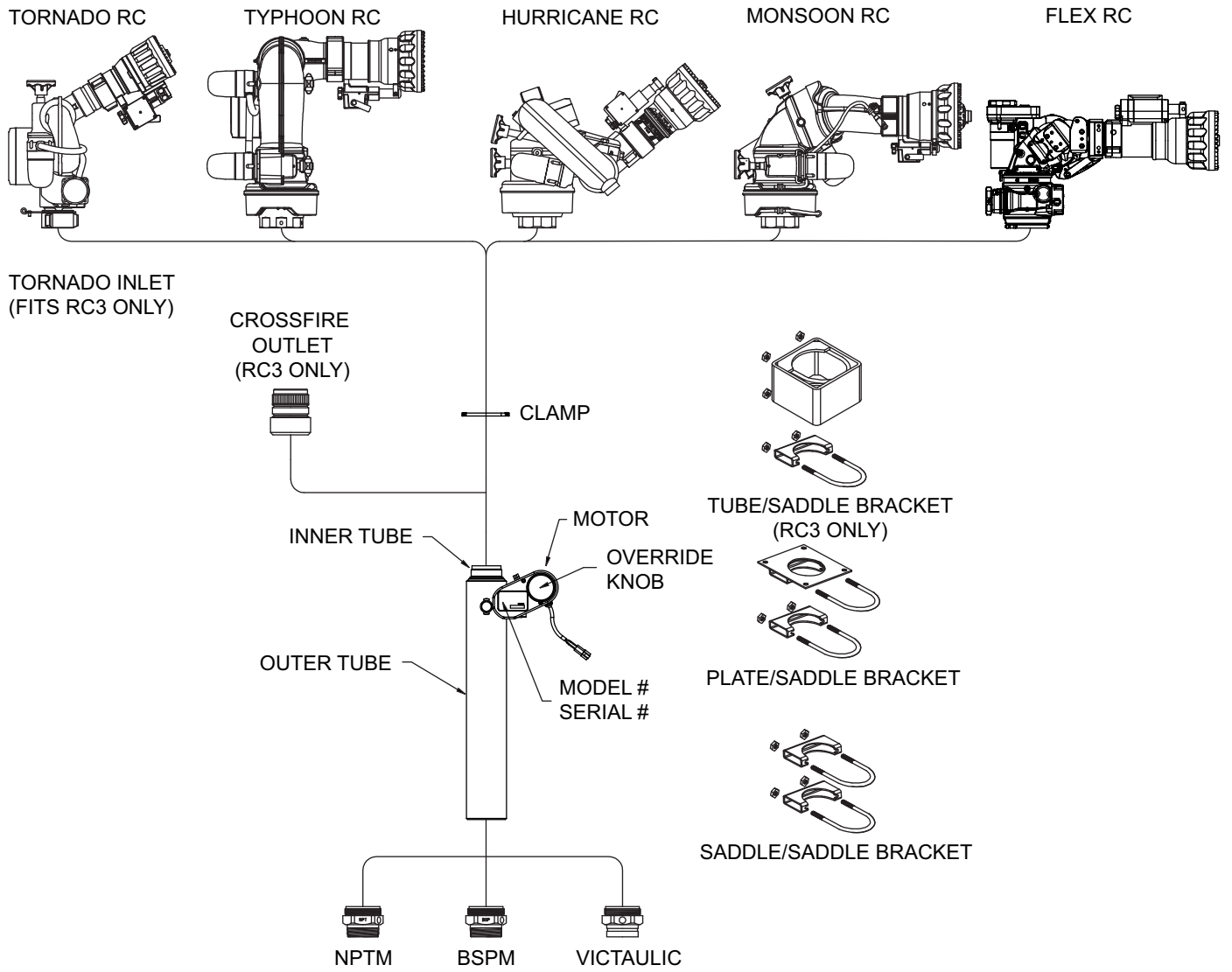


Figure 3.4

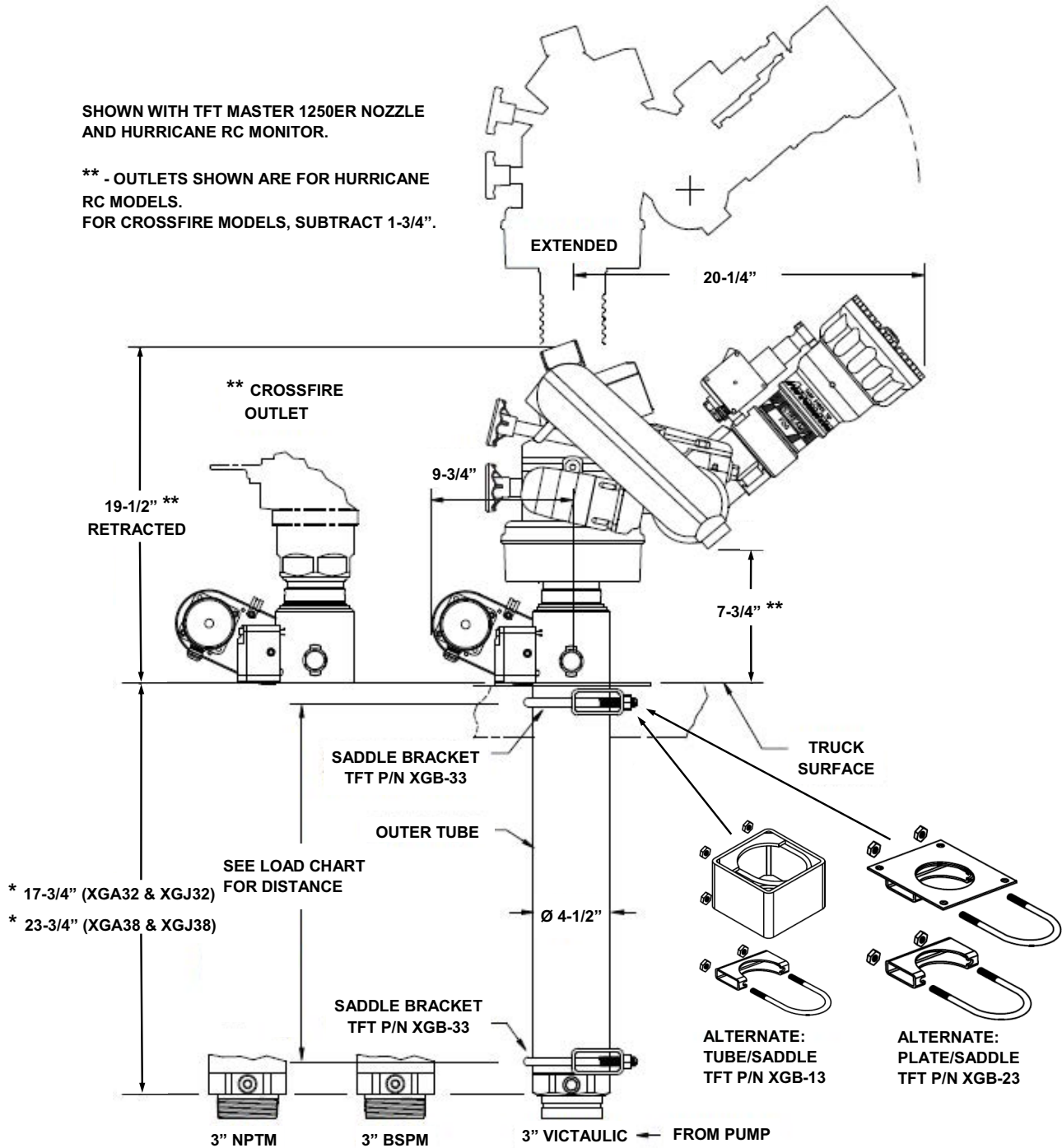
3.5 DIMENSIONS

EXTEND-A-GUN™ RC3

3" Remote Controlled Telescoping Waterway
 XGA32 & XGJ32: 12" Travel • XGA38 & XGJ38: 18" Travel

SHOWN WITH TFT MASTER 1250ER NOZZLE
 AND HURRICANE RC MONITOR.

** - OUTLETS SHOWN ARE FOR HURRICANE
 RC MODELS.
 FOR CROSSFIRE MODELS, SUBTRACT 1-3/4".



* - POSITION ADJUSTABLE BY U-BOLTS IN MOUNTING TUBE.

Figure 3.5A

3.4 DIMENSIONS (CONTINUED)

EXTEND-A-GUN™ RC4

4" Remote Controlled Telescoping Waterway
 XGA42 & XGJ42: 12" Travel • XGA48 & XGJ48: 18" Travel

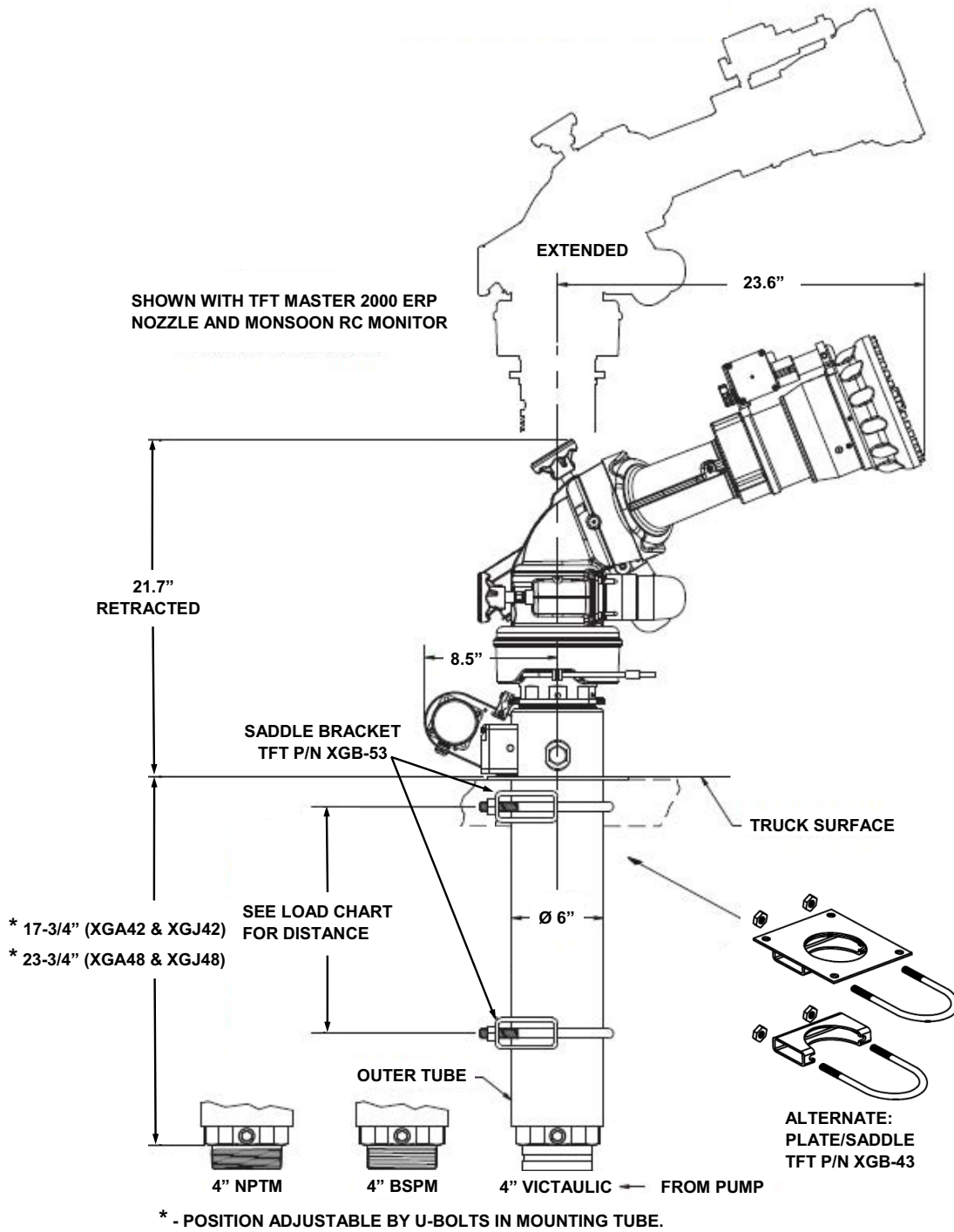
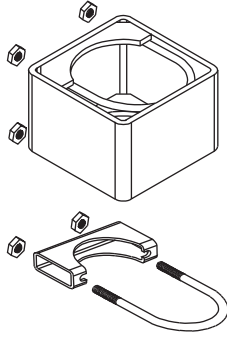


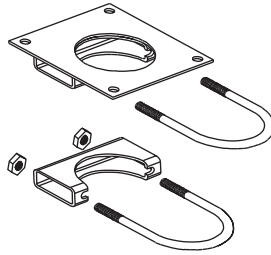
Figure 3.5B

4.0 BRACKET SETS

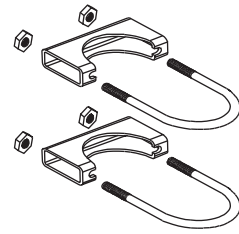
For safe dependable service, the Extend-A-Gun MUST be securely mounted. To make the Extend-A-Gun as versatile as possible, three mounting bracket kits are offered. Each kit has a different upper bracket. The lower bracket is the same in all three.



TUBE/SADDLE BRACKET SET
 XGB-13 (3" Extend-A-Gun)
 N/A (4" Extend-A-Gun)
 Figure 4.0A



PLATE/SADDLE BRACKET SET
 XGB-23 (3" Extend-A-Gun)
 XGB-43 (4" Extend-A-Gun)
 Figure 4.0B



SADDLE/SADDLE BRACKET SET
 XGB-33 (3" Extend-A-Gun)
 XGB-53 (4" Extend-A-Gun)
 Figure 4.0C

Task Force Tips strongly recommends that Extend-A-Gun be installed using the bracket sets sold by Task Force Tips that are designed for this purpose. The Task Force Tips bracket sets are designed to fit the Extend-A-Gun outer tube very closely to prevent distortion of the outer tube and to give it adequate support.

4.2 SELECTION OF STRUCTURAL SUPPORT ON FIRE TRUCKS

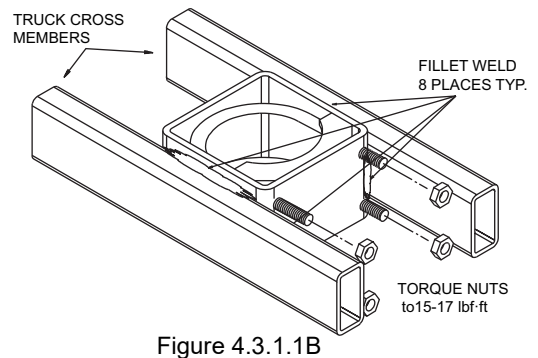
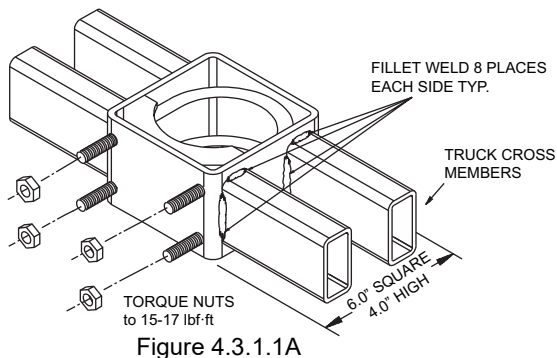
When the Extend-A-Gun is in the extended position, the nozzle reaction force can exceed 3000 lbs. These loads are transferred directly to the mounting brackets and the structural members to which they are attached. It is crucial that the structural members selected can withstand these forces.

4.3 BRACKET INSTALLATION

4.3.1 TUBE BRACKET INSTALLATION (EXTEND-A-GUN RC3 ONLY)

This kit contains a six inch square steel tube with two U-bolts to be used as the upper bracket, and a saddle bracket similar to a heavy duty muffler clamp for the lower bracket. Both brackets must be used. This kit is designed for factory installation on new equipment. The tube bracket is welded onto the truck tubular framework as shown on the Tube Bracket Welding Diagram. (see section 4.3.1.1) The lower bracket, as shown in the Saddle Bracket Welding Diagram (see section 4.3.2.1), is welded to an additional support and clamped as low as possible on the bottom of the Extend-A-Gun tube. Make sure the welds are capable of withstanding the forces shown on the SIDE LOADS AT MOUNTING POINTS worksheet. (see section 5.0) The Extend-A-Gun may be installed in the brackets after the truck is painted. Use Loctite supplied in the kit on U-bolt threads. Torque the nuts on the U-bolts used in the tube (upper) to 15-17 lbf-ft. Torque the nuts on the U-bolts used in the saddle (lower) to 36-40 lbf-ft.

4.3.1.1 TUBE BRACKET WELDING



4.3.2 SADDLE BRACKET INSTALLATION

This kit contains two steel saddle brackets and U-bolts, and is designed for factory installation on new equipment. Both brackets must be used. To minimize stress, the brackets should be as far apart as possible when clamped to the Extend-A-Gun tube. The welds must be able to withstand the forces shown on the SIDE LOADS AT MOUNTING POINTS worksheet. (see section 5.0) The Extend-A-Gun may be installed in the brackets after the truck is painted. Use Loctite supplied in the kit on U-bolt threads. Torque the nuts used on the U-bolts to 36-40 lbf-ft.

4.3.2.1 SADDLE BRACKET WELDING

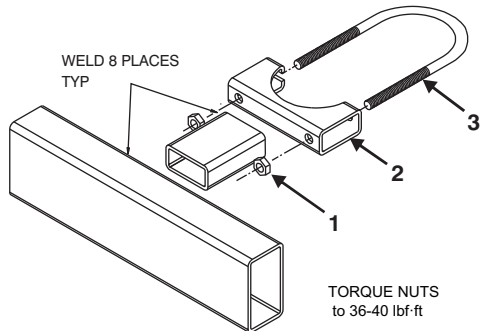


Figure 4.3.2.1A

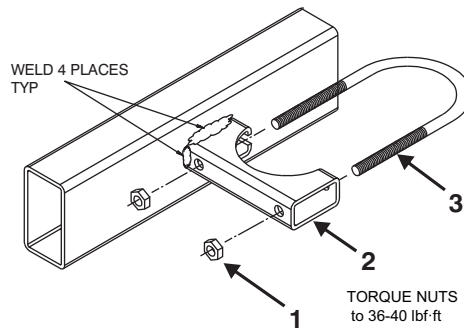


Figure 4.3.2.1B

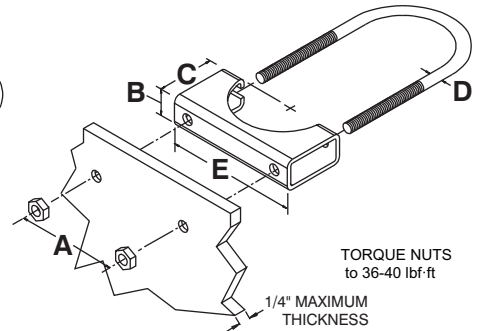


Figure 4.3.2.1C

4.3.3 PLATE BRACKET INSTALLATION

This kit may be used in either new or retro-fit installations. The top plate with its bracket may be bolted above or below an existing deck.

The lower saddle bracket is installed as shown in the Saddle Bracket Welding Diagram. (see section 4.3.2.1) Both brackets must be used. To minimize stress, the brackets should be as far apart as possible when clamped to the Extend-A-Gun tube.

Refer to the SIDE LOADS AT MOUNTING POINTS worksheet (see section 5.0) to ensure the mounting points can withstand these forces. Use Loctite® supplied in the kit on U-bolt threads. Torque the nuts used on the U-bolts to 36-40 lbf-ft.

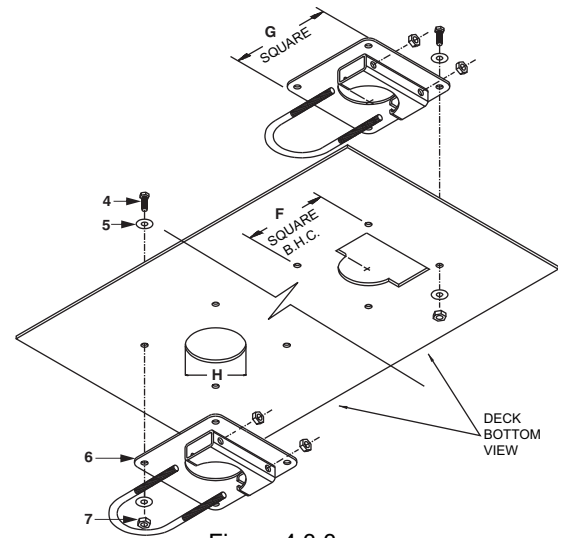


Figure 4.3.3

| MODEL | EXTEND-A-GUN RC3 | | EXTEND-A-GUN RC4 | |
|-----------------------------|------------------|-----------------|------------------|-----------------|
| TORQUE U-BOLTS | 30-40 lbf-ft | (49-54 N·m) | 70-80 lbf-ft | (95-108 N·m) |
| A = Center Distance | 5.0" | (127mm) | 6.54" | (166mm) |
| B = Height | 1.5" | (38mm) | 2.0" | (51mm) |
| C = Width | 3.0" | (76mm) | 4.0" | (102mm) |
| D = U-Bolt Size | 1/2-13 UNC | | 5/8-11 UNC | |
| E = Length | 6.0" | (152mm) | 9.0" | (228mm) |
| F = Square Pattern on Plate | 7.5" | (191mm) | 9.5" | (241mm) |
| G = Plate Length and Width | 9.0" x 9.0" | (288mm x 288mm) | 11.0" x 11.0" | (279mm x 279mm) |
| H = Hole Diameter | 4-5/8" | (117mm) | 6-1/4" | (159mm) |
| 1 = Hex Nut (2 rqd) | VT50-13NT | | VT62-11NT | |
| 2 = Saddle Bracket | XG486 | | XG488 | |
| 3 = U-Bolt | XG476 | | XG477 | |
| 4 = Deck Bolt | 1/2-13 Hex Bolt | | 1/2-13 Hex Bolt | |
| 5 = Washer | 1/2" I.D. | | 1/2" I.D. | |
| 6 = Plate Bracket | XG485 | | XG487 | |
| 7 = Deck Nut | 1/2-13 Hex Nut | | 1/2-13 Hex Nut | |

Table 4.3.3

5.0 RC3 AND RC4 SIDE LOADS AT MOUNTING POINTS WORKSHEET

An interactive version of this worksheet is available at tft.com.



Reaction forces generated by master stream flows are capable of causing injury and property damage if not properly supported. The Extend-A-Gun must be securely mounted to rigid truck structural members.

Before installing the Extend-A-Gun, qualified persons MUST determine the forces that will be exerted and select suitable structural members and bracket mounting locations.

- Nozzle reaction force which can be as high as 900 lbf (400 kg) for 3" models and 1500 lbf (680 kg) for 4" models.
- The forces acting on the mounting brackets when the Extend-A-Gun is in the extended position are higher than the forces in a normal deck gun installation.

Use SIDE LOADS AT MOUNTING POINTS worksheets for calculations

- Install the upper and lower brackets as far apart as possible to minimize the amount of stress on the brackets.

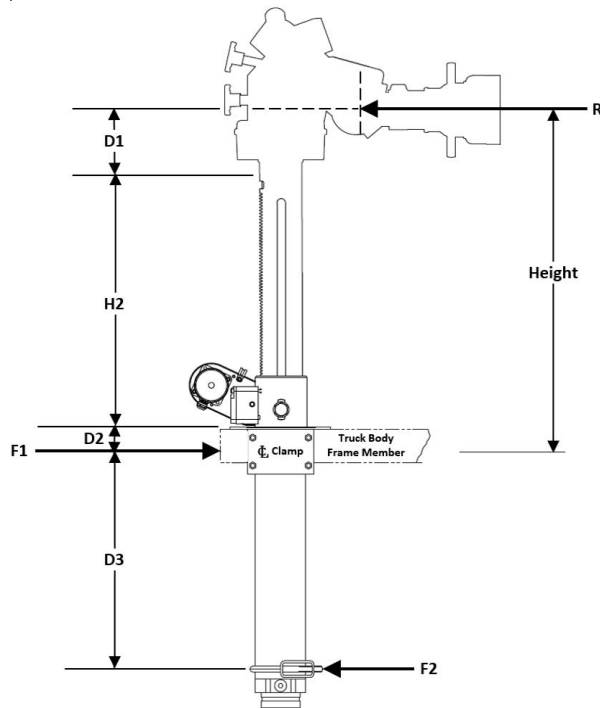
Qualified individuals should install mounting brackets, Extend-A-Guns and monitors.

- The Extend-A-Gun must be securely mounted to rigid truck support members.
- Do not use flanges or pipe made from plastic for monitor mounting.
- Inferior welding or poor plate installation could result in serious injury or equipment damage.
- Torque all fasteners to specified values.

I certify I have accurately and completely worked through the *Extend-A-Gun RC3 & RC4 Side Load Worksheet* prior to Extend-A-Gun installation.

NAME: _____

DATE: ____ / ____ / ____



D1: Distance from the center of the monitor elevation joint to the bottom of the threads in the monitor inlet

H2: Distance from the bottom threads in the monitor inlet to the bottom of the reducer housing

D2: Distance from the bottom of the reducer housing surface to the center of the upper mounting bracket

F1: Force exerted on the upper mounting bracket

D3: Distance from the center of the upper mounting bracket to the center of the lower mounting bracket

F2: Force exerted on the lower mounting bracket

Height: Desired distance from the center of the upper bracket to the center of the stream

R: Nozzle reaction force

- 1) Determine the value of **H2** using the table below.

H2 = inches [in]

| Model | XGA32 & XGJ32 3" Waterway 12" Extension | XGA42 & XGJ42 4" Waterway 12" Extension | XGA38 & XGJ38 3" Waterway 18" Extension | XGA48 & XGJ48 4" Waterway 18" Extension |
|-------|---|---|---|---|
| H2 | 15.7" | 15.7" | 22.6" | 22.6" |

- 2) Determine the value of **D1** for you installation. Values of **D1** for the most common installations are listed in the table below.
Note: D1 varies between monitors as well as monitor inlet options. Verify the value of D1 is correct before using it for calculations.

D1 = inches [in]

| D1 for Most Common Installations | | | | | |
|----------------------------------|---------------------------|-------------------------|-------------------------|-------------------------|----------------------|
| Task Force Tips CROSSFIRE | Task Force Tips Hurricane | Task Force Tips Monsoon | Task Force Tips Tornado | Task Force Tips Typhoon | Task Force Tips FLEX |
| D1 = 2" | D1 = 6" | D1 = 13" | D1 = 13" | D1 = 19" | D1 = 11" |

- 3) Locate the value of **D1** on the appropriate side load chart for your installation and select a desired installation **Height**.
Note: There are four side load charts, one corresponding to each combination of waterway diameter and extension height. These side load charts are located on the following pages.

- 4) Locate the value of **D2** on the appropriate side load chart corresponding to the selected installation **Height**.

$$D2 = \boxed{} \text{ inches [in]}$$

- 5) Determine the value of **D3** for the proposed installation.

$$D3 = \boxed{} \text{ inches [in]}$$

- 6) Calculate the forces that will be exerted on the mounting brackets by the force of nozzle reaction with the proposed installation.

- 6A) Calculate the moment arm about the lower mounting bracket, **L**, by adding together **D1**, **D2**, **D3**, and **H2**:

$$L = D1 + D2 + D3 + H2$$

$$L = \boxed{} + \boxed{} + \boxed{} + \boxed{}$$

$$L = \boxed{} \text{ inches [in]}$$

- 6B) Determine **R** using the same side load chart referenced in *Step 3*.

$$R = \boxed{} \text{ pound-force [lbf]}$$

- 6C) Calculate the torque exerted about the lower bracket by multiplying together **L** and **R**:

$$M = L \times R$$

$$M = \boxed{} \times \boxed{}$$

$$M = \boxed{} \text{ pound-foot [lbf}\cdot\text{ft]}$$

- 6D) Calculate the force on the upper bracket by dividing **M** by **D3**:

$$F1 = M / D3$$

$$F1 = \boxed{} / \boxed{}$$

$$F1 = \boxed{} \text{ pound-force [lbf]}$$

- 6E) Calculate the force on the lower bracket by subtracting **R** from **F1**:

$$F2 = F1 - R$$

$$F2 = \boxed{} - \boxed{}$$

$$F2 = \boxed{} \text{ pound-force [lbf]}$$

- 7) Verify the forces calculated in Step 6 are **LESS THAN** the maximum ratings for **F1** and **F2** listed in the table below.

| Model | RC3 XGA32 3" Waterway 12" Extension | RC4 XGA42 4" Waterway 12" Extension | RC3 XGA38 3" Waterway 18" Extension | RC4 XGA48 4" Waterway 18" Extension |
|--------|---|---|---|---|
| F1 Max | 3100 lbf | 5000 lbf | 3100 lbf | 5000 lbf |
| F2 Max | 2200 lbf | 3500 lbf | 2200 lbf | 3500 lbf |

The proposed installation **MUST** be capable of withstanding forces of these magnitudes.

If either value for **F1** and **F2** exceed the maximum rating, **DO NOT PROCEED WITH INSTALLATION**.

Select new values for installation **Height** and **D3** and repeat *Step 6* until the values for **F1** and **F2** fall below the maximum rating.

5.1 12" EXTEND-A-GUN RC3 (XGA32 & XGJ32 SERIES) LOAD CHART

3" WATERWAY WITH 12" EXTENSION

R= Maximum Nozzle Reaction 900 LBF

NOTE: F1 **MUST** be less than 3100 lbf. F2 **MUST** be less than 2200 lbf.

The proposed installation **MUST** be capable of withstanding forces of this magnitude.

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 1 | 1 | 18 | 8 | 14 |
| | 2 | 19 | 8 | 13 |
| | 3 | 20 | 9 | 12 |
| | 4 | 21 | 9 | 11 |
| | 5 | 22 | 9 | 10 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 2 | 1 | 19 | 8 | 14 |
| | 2 | 20 | 9 | 13 |
| | 3 | 21 | 9 | 12 |
| | 4 | 22 | 9 | 11 |
| | 5 | 23 | 10 | 10 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 3 | 1 | 20 | 9 | 14 |
| | 2 | 21 | 9 | 13 |
| | 3 | 22 | 9 | 12 |
| | 4 | 23 | 10 | 11 |
| | 5 | 24 | 10 | 10 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 4 | 1 | 21 | 9 | 14 |
| | 2 | 22 | 9 | 13 |
| | 3 | 23 | 10 | 12 |
| | 4 | 24 | 10 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 5 | 1 | 22 | 9 | 14 |
| | 2 | 23 | 10 | 13 |
| | 3 | 24 | 10 | 12 |
| | 4 | 25 | 11 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 6 | 1 | 23 | 10 | 14 |
| | 2 | 24 | 10 | 13 |
| | 3 | 25 | 11 | 12 |
| | 4 | 26 | 11 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 7 | 1 | 24 | 10 | 14 |
| | 2 | 25 | 11 | 13 |
| | 3 | 26 | 11 | 12 |
| | 4 | 27 | 11 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 8 | 1 | 25 | 11 | 14 |
| | 2 | 26 | 11 | 13 |
| | 3 | 27 | 11 | 12 |
| | 4 | 28 | 12 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 9 | 1 | 26 | 11 | 14 |
| | 2 | 27 | 12 | 13 |
| | 3 | 28 | 12 | 12 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 10 | 1 | 27 | 11 | 14 |
| | 2 | 28 | 11 | 13 |
| | 3 | 29 | 12 | 12 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 11 | 1 | 28 | 12 | 14 |
| | 2 | 29 | 12 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 12 | 1 | 29 | 12 | 14 |
| | 2 | 30 | 13 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 13 | 1 | 30 | 13 | 14 |
| | 2 | 31 | 13 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 14 | 1 | 31 | 13 | 14 |
| | 2 | 32 | 13 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 15 | 1 | 32 | 13 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 16 | 1 | 33 | 14 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 17 | 1 | 34 | 14 | 14 |

5.2 12" EXTEND-A-GUN RC4 (XGA42 & XGJ42 SERIES) LOAD CHART

4" WATERWAY WITH 12" EXTENSION

R= Maximum Nozzle Reaction 1500 LBF

NOTE: F1 **MUST** be less than 5000 lbf. F2 **MUST** be less than 3500 lbf.

The proposed installation **MUST** be capable of withstanding forces of this magnitude.

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 1 | 1 | 18 | 8 | 15 |
| | 2 | 19 | 9 | 14 |
| | 3 | 20 | 9 | 13 |
| | 4 | 21 | 9 | 12 |
| | 5 | 22 | 10 | 11 |
| | 6 | 23 | 10 | 10 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 2 | 1 | 19 | 9 | 15 |
| | 2 | 20 | 9 | 14 |
| | 3 | 21 | 9 | 13 |
| | 4 | 22 | 10 | 12 |
| | 5 | 23 | 10 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 3 | 1 | 20 | 9 | 15 |
| | 2 | 21 | 9 | 14 |
| | 3 | 22 | 10 | 13 |
| | 4 | 23 | 10 | 12 |
| | 5 | 24 | 11 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 4 | 1 | 21 | 10 | 15 |
| | 2 | 22 | 10 | 14 |
| | 3 | 23 | 10 | 13 |
| | 4 | 24 | 11 | 12 |
| | 5 | 25 | 11 | 11 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 5 | 1 | 22 | 9 | 15 |
| | 2 | 23 | 10 | 14 |
| | 3 | 24 | 11 | 13 |
| | 4 | 25 | 11 | 12 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 6 | 1 | 23 | 10 | 15 |
| | 2 | 24 | 11 | 14 |
| | 3 | 25 | 11 | 13 |
| | 4 | 26 | 12 | 12 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 7 | 1 | 24 | 11 | 15 |
| | 2 | 25 | 11 | 14 |
| | 3 | 26 | 12 | 13 |
| | 4 | 27 | 12 | 12 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 8 | 1 | 25 | 11 | 15 |
| | 2 | 26 | 12 | 14 |
| | 3 | 27 | 12 | 13 |
| | 4 | 28 | 12 | 12 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 9 | 1 | 26 | 12 | 15 |
| | 2 | 27 | 12 | 14 |
| | 3 | 28 | 12 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 10 | 1 | 27 | 12 | 15 |
| | 2 | 28 | 12 | 14 |
| | 3 | 29 | 13 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 11 | 1 | 28 | 12 | 15 |
| | 2 | 29 | 13 | 14 |
| | 3 | 30 | 13 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 12 | 1 | 29 | 13 | 15 |
| | 2 | 30 | 13 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 13 | 1 | 30 | 13 | 15 |
| | 2 | 31 | 13 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 14 | 1 | 31 | 14 | 15 |
| | 2 | 32 | 14 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 15 | 1 | 32 | 14 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 16 | 1 | 33 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 17 | 1 | 34 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 18 | 1 | 35 | 15 | 15 |

5.3 18" EXTEND-A-GUN RC3 (XGA38 & XGJ38 SERIES) LOAD CHART

3" WATERWAY WITH 18" EXTENSION

R= Maximum Nozzle Reaction 900 LBF

NOTE: F1 **MUST** be less than 3100 lbf. F2 **MUST** be less than 2200 lbf.

The proposed installation **MUST** be capable of withstanding forces of this magnitude.

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 1 | 1 | 25 | 11 | 20 |
| | 2 | 26 | 11 | 19 |
| | 3 | 27 | 11 | 18 |
| | 4 | 28 | 12 | 17 |
| | 5 | 29 | 12 | 16 |
| | 6 | 30 | 13 | 15 |
| | 7 | 31 | 13 | 14 |
| | 8 | 32 | 13 | 13 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 2 | 1 | 26 | 11 | 20 |
| | 2 | 27 | 11 | 19 |
| | 3 | 28 | 12 | 18 |
| | 4 | 29 | 12 | 17 |
| | 5 | 30 | 13 | 16 |
| | 6 | 31 | 13 | 15 |
| | 7 | 32 | 13 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 3 | 1 | 27 | 11 | 20 |
| | 2 | 28 | 12 | 19 |
| | 3 | 29 | 12 | 18 |
| | 4 | 30 | 13 | 17 |
| | 5 | 31 | 13 | 16 |
| | 6 | 32 | 13 | 15 |
| | 7 | 33 | 14 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 4 | 1 | 28 | 12 | 20 |
| | 2 | 29 | 12 | 19 |
| | 3 | 30 | 13 | 18 |
| | 4 | 31 | 13 | 17 |
| | 5 | 32 | 13 | 16 |
| | 6 | 33 | 14 | 15 |
| | 7 | 34 | 14 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 5 | 1 | 29 | 12 | 20 |
| | 2 | 30 | 13 | 19 |
| | 3 | 31 | 13 | 18 |
| | 4 | 32 | 13 | 17 |
| | 5 | 33 | 14 | 16 |
| | 6 | 34 | 14 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 6 | 1 | 30 | 13 | 20 |
| | 2 | 31 | 13 | 19 |
| | 3 | 32 | 13 | 18 |
| | 4 | 33 | 13 | 17 |
| | 5 | 34 | 14 | 16 |
| | 6 | 35 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 7 | 1 | 31 | 13 | 20 |
| | 2 | 32 | 13 | 19 |
| | 3 | 33 | 14 | 18 |
| | 4 | 34 | 14 | 17 |
| | 5 | 35 | 15 | 16 |
| | 6 | 36 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 8 | 1 | 32 | 13 | 20 |
| | 2 | 33 | 14 | 19 |
| | 3 | 34 | 14 | 18 |
| | 4 | 35 | 14 | 17 |
| | 5 | 36 | 15 | 16 |
| | 6 | 37 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 9 | 1 | 33 | 14 | 20 |
| | 2 | 34 | 14 | 19 |
| | 3 | 35 | 15 | 18 |
| | 4 | 36 | 15 | 17 |
| | 5 | 37 | 15 | 16 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 10 | 1 | 34 | 14 | 20 |
| | 2 | 35 | 15 | 19 |
| | 3 | 36 | 15 | 18 |
| | 4 | 37 | 15 | 17 |
| | 5 | 38 | 16 | 16 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 11 | 1 | 35 | 15 | 20 |
| | 2 | 36 | 15 | 19 |
| | 3 | 37 | 15 | 18 |
| | 4 | 38 | 16 | 17 |
| | 5 | 39 | 16 | 16 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 12 | 1 | 36 | 15 | 20 |
| | 2 | 37 | 15 | 19 |
| | 3 | 38 | 16 | 18 |
| | 4 | 39 | 16 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 13 | 1 | 37 | 15 | 20 |
| | 2 | 38 | 16 | 19 |
| | 3 | 39 | 16 | 18 |
| | 4 | 40 | 17 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 14 | 1 | 38 | 16 | 20 |
| | 2 | 39 | 16 | 19 |
| | 3 | 40 | 17 | 18 |
| | 4 | 41 | 17 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 15 | 1 | 39 | 16 | 20 |
| | 2 | 40 | 17 | 19 |
| | 3 | 41 | 17 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 16 | 1 | 40 | 17 | 20 |
| | 2 | 41 | 17 | 19 |
| | 3 | 42 | 18 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 17 | 1 | 41 | 17 | 20 |
| | 2 | 42 | 18 | 19 |
| | 3 | 43 | 18 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 18 | 1 | 42 | 18 | 20 |
| | 2 | 43 | 18 | 19 |
| | 3 | 44 | 18 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 19 | 1 | 43 | 18 | 20 |
| | 2 | 44 | 18 | 19 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 20 | 1 | 44 | 18 | 20 |
| | 2 | 45 | 19 | 19 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 21 | 1 | 45 | 19 | 20 |
| | 2 | 46 | 19 | 19 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 22 | 1 | 46 | 19 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 23 | 1 | 47 | 20 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 24 | 1 | 48 | 20 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 25 | 1 | 49 | 20 | 20 |

5.4 18" EXTEND-A-GUN RC4 (XGA48 & XGJ48 SERIES) LOAD CHART

4" WATERWAY WITH 18" EXTENSION

R= Maximum Nozzle Reaction 1500 LBF

NOTE: F1 **MUST** be less than 5000 lbf. F2 **MUST** be less than 3500 lbf.

The proposed installation **MUST** be capable of withstanding forces of this magnitude.

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 1 | 1 | 25 | 11 | 21 |
| | 2 | 26 | 11 | 20 |
| | 3 | 27 | 12 | 19 |
| | 4 | 28 | 12 | 18 |
| | 5 | 29 | 13 | 17 |
| | 6 | 30 | 13 | 16 |
| | 7 | 31 | 14 | 15 |
| | 8 | 32 | 14 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 2 | 1 | 26 | 11 | 21 |
| | 2 | 27 | 12 | 20 |
| | 3 | 28 | 12 | 19 |
| | 4 | 29 | 13 | 18 |
| | 5 | 30 | 13 | 17 |
| | 6 | 31 | 14 | 16 |
| | 7 | 32 | 14 | 15 |
| | 8 | 33 | 14 | 14 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 3 | 1 | 27 | 12 | 21 |
| | 2 | 28 | 12 | 20 |
| | 3 | 29 | 13 | 19 |
| | 4 | 30 | 13 | 18 |
| | 5 | 31 | 14 | 17 |
| | 6 | 32 | 14 | 16 |
| | 7 | 33 | 14 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 4 | 1 | 28 | 12 | 21 |
| | 2 | 29 | 13 | 20 |
| | 3 | 30 | 13 | 19 |
| | 4 | 31 | 14 | 18 |
| | 5 | 32 | 14 | 17 |
| | 6 | 33 | 14 | 16 |
| | 7 | 34 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 5 | 1 | 29 | 13 | 21 |
| | 2 | 30 | 13 | 20 |
| | 3 | 31 | 14 | 19 |
| | 4 | 32 | 14 | 18 |
| | 5 | 33 | 14 | 17 |
| | 6 | 34 | 14 | 16 |
| | 7 | 35 | 15 | 15 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 6 | 1 | 30 | 13 | 21 |
| | 2 | 31 | 14 | 20 |
| | 3 | 32 | 14 | 19 |
| | 4 | 33 | 14 | 18 |
| | 5 | 34 | 15 | 17 |
| | 6 | 35 | 15 | 16 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 7 | 1 | 31 | 14 | 21 |
| | 2 | 32 | 14 | 20 |
| | 3 | 33 | 14 | 19 |
| | 4 | 34 | 15 | 18 |
| | 5 | 35 | 15 | 17 |
| | 6 | 36 | 16 | 16 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 8 | 1 | 32 | 14 | 21 |
| | 2 | 33 | 14 | 20 |
| | 3 | 34 | 15 | 19 |
| | 4 | 35 | 15 | 18 |
| | 5 | 36 | 16 | 17 |
| | 6 | 37 | 16 | 16 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 9 | 1 | 33 | 14 | 21 |
| | 2 | 34 | 15 | 20 |
| | 3 | 35 | 15 | 19 |
| | 4 | 36 | 16 | 18 |
| | 5 | 37 | 16 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 10 | 1 | 34 | 15 | 21 |
| | 2 | 35 | 15 | 20 |
| | 3 | 36 | 16 | 19 |
| | 4 | 37 | 16 | 18 |
| | 5 | 38 | 17 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 11 | 1 | 35 | 15 | 21 |
| | 2 | 36 | 16 | 20 |
| | 3 | 37 | 16 | 19 |
| | 4 | 38 | 17 | 18 |
| | 5 | 39 | 17 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 12 | 1 | 36 | 16 | 21 |
| | 2 | 37 | 16 | 20 |
| | 3 | 38 | 17 | 19 |
| | 4 | 39 | 17 | 18 |
| | 5 | 40 | 17 | 17 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 13 | 1 | 37 | 16 | 21 |
| | 2 | 38 | 17 | 20 |
| | 3 | 39 | 17 | 19 |
| | 4 | 40 | 17 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 14 | 1 | 38 | 17 | 21 |
| | 2 | 39 | 17 | 20 |
| | 3 | 40 | 17 | 19 |
| | 4 | 41 | 18 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 15 | 1 | 39 | 17 | 21 |
| | 2 | 40 | 17 | 20 |
| | 3 | 41 | 18 | 19 |
| | 4 | 42 | 18 | 18 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 16 | 1 | 40 | 17 | 21 |
| | 2 | 41 | 18 | 20 |
| | 3 | 42 | 18 | 19 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 17 | 1 | 41 | 18 | 21 |
| | 2 | 42 | 18 | 20 |
| | 3 | 43 | 19 | 19 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 18 | 1 | 42 | 18 | 21 |
| | 2 | 43 | 19 | 20 |
| | 3 | 44 | 19 | 19 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 19 | 1 | 43 | 19 | 21 |
| | 2 | 44 | 19 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 20 | 1 | 44 | 19 | 21 |
| | 2 | 45 | 20 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 21 | 1 | 45 | 20 | 21 |
| | 2 | 46 | 20 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 22 | 1 | 46 | 20 | 21 |
| | 2 | 47 | 20 | 20 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 23 | 1 | 47 | 20 | 21 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 24 | 1 | 48 | 21 | 21 |

| D1 | D2 | Height | D3 Min | D3 Max |
|----|----|--------|--------|--------|
| 25 | 1 | 49 | 21 | 21 |

6.0 CONTROL BOX INSTALLATION

The Extend-A-Gun RC assembly contains a control box that houses the electronics to control the electric motor and optional panel mount operator station. The panel mount operator station installation is not required if using RC monitor operator stations for control. To install the control box, simply mount the control box and connect the wires. The RC Extend-A-Gun is designed to operate on 12 VDC or 24 VDC.

The control box is provided with the following cables:

| CABLE | **LENGTH | PURPOSE |
|-------------------------------------|---------------|--|
| 14-gauge Power and Communication | 10 ft. (3m) | For connection to the power source and RC monitor communication link |
| 14-gauge Motor | 12 ft. (3.6m) | For connection to the Extend-A-Gun RC motor |
| 14-gauge Power and Communication | 12 ft. (3.6m) | For connection to the RC monitor mounted on top of the Extend-A-Gun RC |



This device is not rated as ignition proof, explosion proof, or intrinsically safe. Use only in locations with adequate ventilation and no hazard of flammable vapor buildup.



The control box provides electrical braking to keep the Extend-A-Gun RC from lowering too quickly even with no power supplied. Do not operate the Extend-A-Gun RC disconnected from the control box to avoid damage and possible injury.

6.1 CONTROL BOX MOUNTING

Select proper control box location. The enclosure is designed to be surface mounted. Refer to the figure below for mounting hole dimensions.

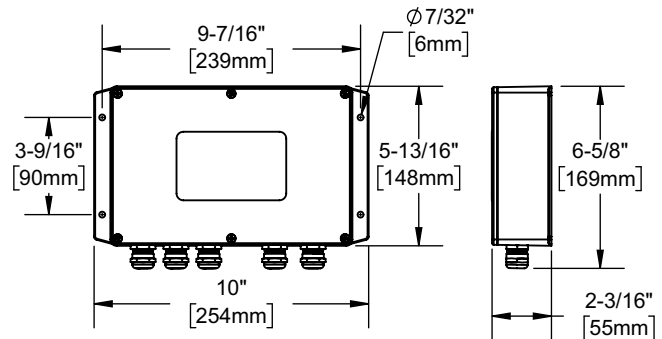


Figure 6.1

6.2 PANEL MOUNT OPERATOR STATION MOUNTING (OPTIONAL)

Select proper operator station location. The operator must be able to view Extend-A-Gun RC operation while operating up/down buttons. A depth of 3" (75mm) is required behind the panel. Refer to the figure below for panel space requirements and hole placement dimensions. Install supplied cable clamp to relieve strain on push button wires.

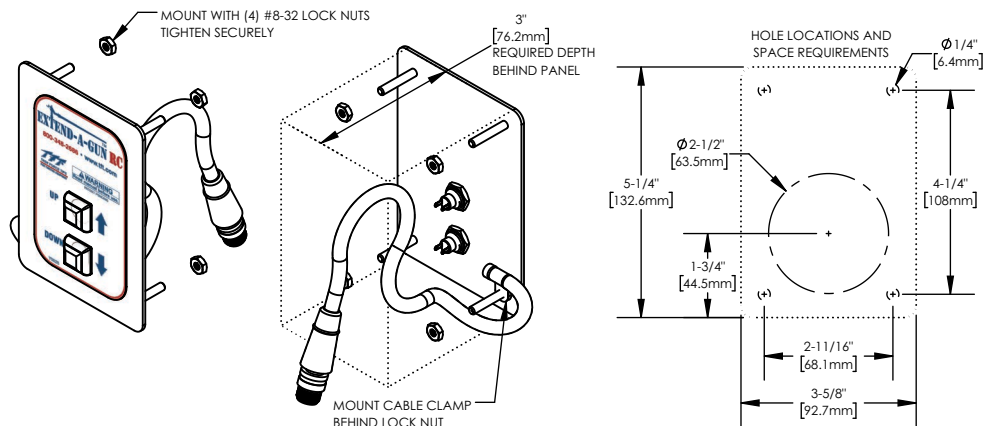


Figure 6.2

6.3 CONTROL BOX WIRING

NOTICE

An inadequate power supply will limit the ability of the Extend-A-Gun RC to fully extend. The Extend-A-Gun RC may be used only in the fully raised or fully lowered position. To avoid damage, flow water only when the Extend-A-Gun RC is fully extended or retracted. Check installation to insure that a minimum voltage of 10 VDC is present when motor is running.

To avoid excessive voltage drop at the control box, do not lengthen factory supplied cables. Voltage supplied to Extend-A-Gun RC should not fall below 10 VDC when the unit is in operation. Contact factory for longer cable lengths.

NOTICE

Always disconnect power before installing or servicing electrical components. Failure to do so could cause damage to the circuit boards.

The power supply for the Extend-A-Gun RC will need to be connected to a protected circuit from the truck power distribution center. The waterproof control box is factory sealed. The box should not be opened unless to service the circuit board.

- Good mechanical connections on the wires are absolutely necessary and should be checked periodically.
- Poor electrical connections are a fire hazard and can cause intermittent operation or power loss to the Extend-A-Gun RC.
- Be careful to route cables in a protected area away from high heat sources.
- Always use grommets whenever wires pass through holes to prevent damage.
- Secure cables close to control box with plastic wire tie or cable clamp to relieve stress on the cables.

After mounting control box Extend-A-Gun RC, and RC monitor refer to the figure for wiring connections.

Refer to RC monitor manuals (LIY-500) section 2 for connecting to communication link.

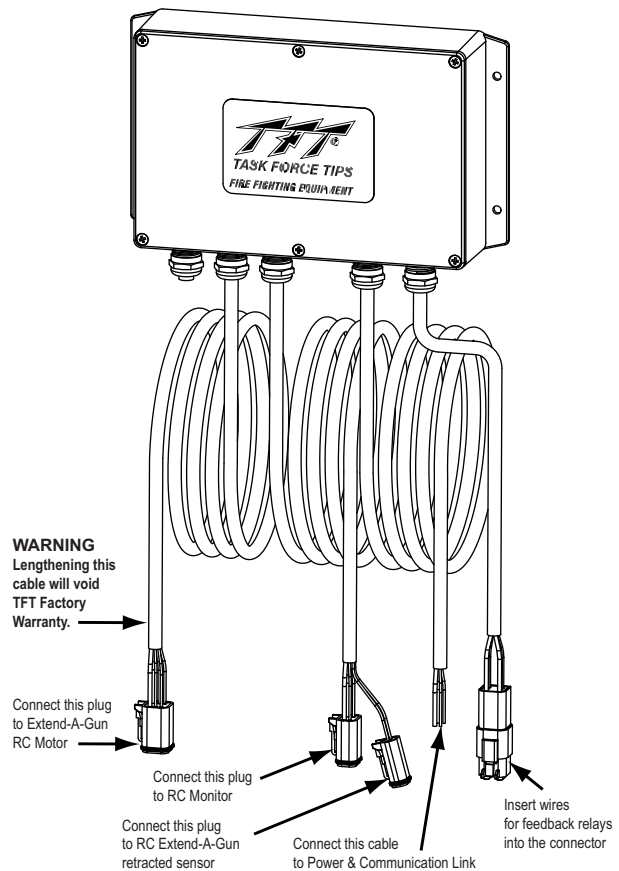


Figure 6.3

6.4 CIRCUIT BOARD CONFIGURATION

The TFT Extend-A-Gun RC circuit board can be configured in a number of different ways using the dip switch located in the upper left hand corner of the circuit board as depicted in the figure below.

DIP SWITCH 1 (AUX BUTTON OPERATION)

- OFF POSITION (DEFAULT) - Extend-A-Gun RC will respond to the AUX1 button on the TFT RC monitor operator station.
- ON POSITION - Extend-A-Gun RC will respond to the AUX2 button on the TFT RC monitor operator station.

DIP SWITCH 2 (EXTEND-A-GUN POSITION INDICATOR RELAY)

- OFF POSITION (DEFAULT) - Energizes the relay only when the Extend-A-Gun RC is in the EXTENDED position.
- ON POSITION - Energizes the relay when the Extend-A-Gun RC is either in the EXTENDED or RETRACTED position.

DIP SWITCH 3 (“AT PARK” INTERLOCK)

- OFF POSITION (DEFAULT) - Extend-A-Gun RC will send the “PARK/STOW” command to TFT RC monitors and wait for the monitor to complete the park sequence before retracting.
- ON POSITION - Enables the Extend-A-Gun RC to retract without the monitor being in the “At Park/Stow” position. **NOTE-This setting should only be used in installations where clearance around the Extend-A-Gun RC is not an issue.**

DIP SWITCH 4 (MONITOR INTERLOCK)

- ON POSITION (DEFAULT) - Disables all TFT RC monitor movement when the Extend-A-Gun RC is in the RETRACTED position. **NOTE-This setting should be used when the monitor space is confined in the retracted position.**
- OFF POSITION - Allows monitor movement while the Extend-A-Gun RC is in the RETRACTED position.

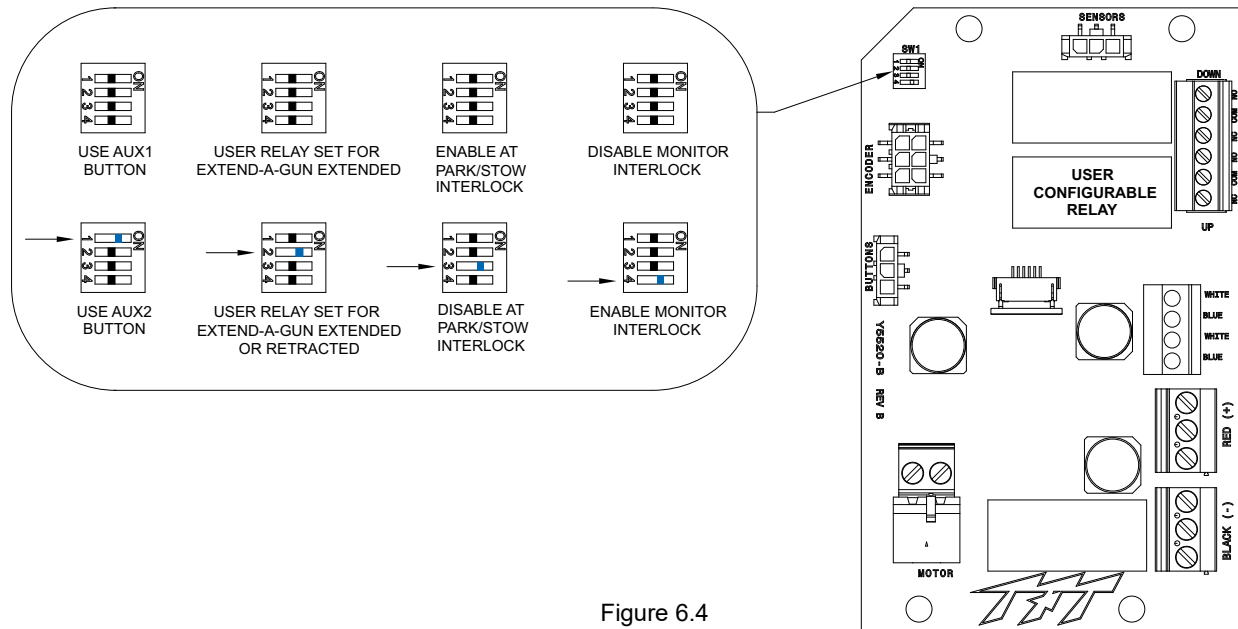


Figure 6.4

6.5 VERIFY PROPER VOLTAGE AND OPERATION

The TFT Extend-A-Gun RC has built in circuit protection to guard against a circumstance where the unit's movement is blocked before reaching its full travel limits. Without this circuitry the motor would stall, overheat, and could be permanently damaged. This circuit works by detecting the increase in electrical motor current that occurs when the motor stops turning at the end stops or if the travel is blocked by an obstruction. Low voltage due to improper wire gauge, poor connections, or a weak battery may affect the operation of the Extend-A-Gun RC motor protection.

Once installation and all connections are complete, follow these steps to verify proper voltage and operation:

1. Apply power to control box
2. Press UP button (if available) or AUX1 button from any TFT RC monitor operator station. Extend-A-Gun RC should fully extend.
3. Once Extend-A-Gun RC motor stops, attempt to turn the manual override knob counterclockwise to verify that the motor has been disengaged from the circuit. If the motor cannot be turned by hand, this indicates that the motor has not been disengaged from the circuit and electrical power is still applied. If this occurs, the most likely cause is the voltage supplied to the Extend-A-Gun RC is too low.
4. Press DOWN button (if available) or AUX1 button from any TFT RC monitor operator station. Extend-A Gun RC should fully retract**.

**** If the Extend-A-Gun RC is connected to a TFT RC monitor, the RC monitor must be in the "PARK/STOW" position before the Extend-A-Gun RC will retract. Pressing DOWN (if available) or AUX1 button will automatically command the RC monitor to PARK/STOW.**

The Extend-A-Gun RC can also be retracted by pressing the P (PARK) button on any TFT RC monitor except FLEX RC. For FLEX RC, press the STOW button. The RC monitor will perform the PARK/STOW procedure and then the Extend-A-Gun RC will automatically go down.

If a low voltage situation to the Extend-A-Gun RC is suspected, the wiring needs to be checked for proper gauge for the installed length of wire, and proper termination. Ensure that the power source supplying the Extend-A-Gun RC and grounding is adequate (other electrical loads on a shared circuit with the Extend-A-Gun RC may cause a low-voltage situation).

In addition to motor damage, low voltage could cause the unit to not extend and retract properly or fully.

7.0 RETRACTED AND EXTENDED RELAY WIRING

The Extend-A-Gun RC contains a magnetic switch that is connected to a DOWN relay inside the control box. The magnetic switch and DOWN relay are energized when the Extend-A-Gun RC is in the retracted position.

The control box also contains a USER relay which can be configured for the installer's needs ([see section 6.4](#)). For example, to electrically lock out a water valve so water cannot be turned on until the Extend-A-Gun RC is fully extended. When configured for Extend-A-Gun RC "Extended", the USER relay will be energized when the Extend-A-Gun RC is in the extended position.

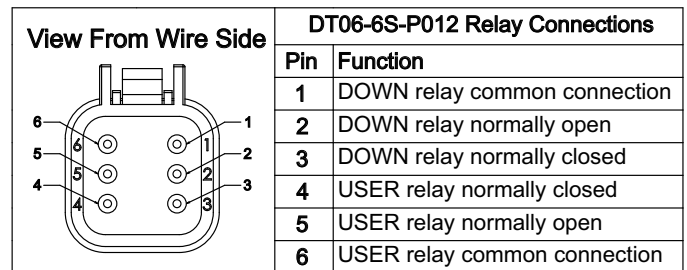


Figure 7.0

The Extend-A-Gun RC control box includes a cable that is pre-connected to the internal relays for easier access and to prevent the waterproof seal from being damaged from improper re-installation of the lid. The 6-conductor wire and receptacle includes a Deutsch DT06-6S-P012 6-position plug. There are easily removable sealing plugs inserted into each wire position to prevent water from entering the connector when there is no wire inserted into the connector position. Use size 16 contacts for all positions. Maximum allowed current draw through relay contacts is 10 amps. The connector pin configuration is shown as viewed from the wire side of the 6-position plug.

7.1 INDICATOR LIGHT MOUNTING & WIRING

Many installations will use the DOWN relay for the MONITOR EXTENDED warning light or the DOOR OPEN circuit.

1. Drill a 1/2" diameter hole in the dashboard for the panel light. Leave enough room for a 1-13/16" diameter label around the light or a 2" wide x 1-1/2" high label next to the light.
2. Apply one of the two warning labels and push the panel light through the hole in the dash.
3. Remove the seal plugs from the DOWN relay normally closed (pin 3) and DOWN relay common connection (pin 1) positions on the 6-position plug connected to the USER/DOWN Relay cable.
4. Connect the terminals on the panel light to DOWN normally closed position (pin 3) on the 6-pin plug and chassis ground.
5. Connect a wire from the DOWN relay common connection (pin 1) position on the 6-pin plug to the red voltage supply wire.

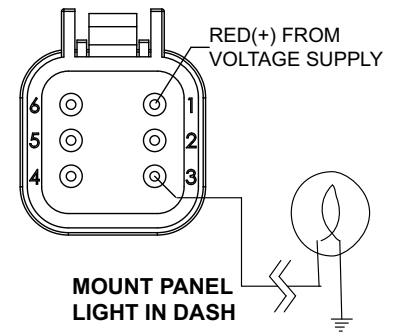


Figure 7.1

A set of warning labels is provided.

Attach the warning labels in the following areas:



Figure 7.0

8.0 MOUNTING THE MONITOR



WARNING Injury or damage can occur from an inadequately supported monitor. The mounting must be capable of supporting the nozzle reaction force which can be as high as 1500 lbs.

Task Force Tips monitors may be mounted directly on the Extend-A-Gun. Monitors are attached to the Extend-A-Gun by a threaded joint with an O-ring seal. The joint between the Extend-A-Gun and monitor is locked rotationally by a two piece clamp rotational lock.

8.1 TWO PIECE CLAMP ROTATIONAL LOCK INSTALLATION

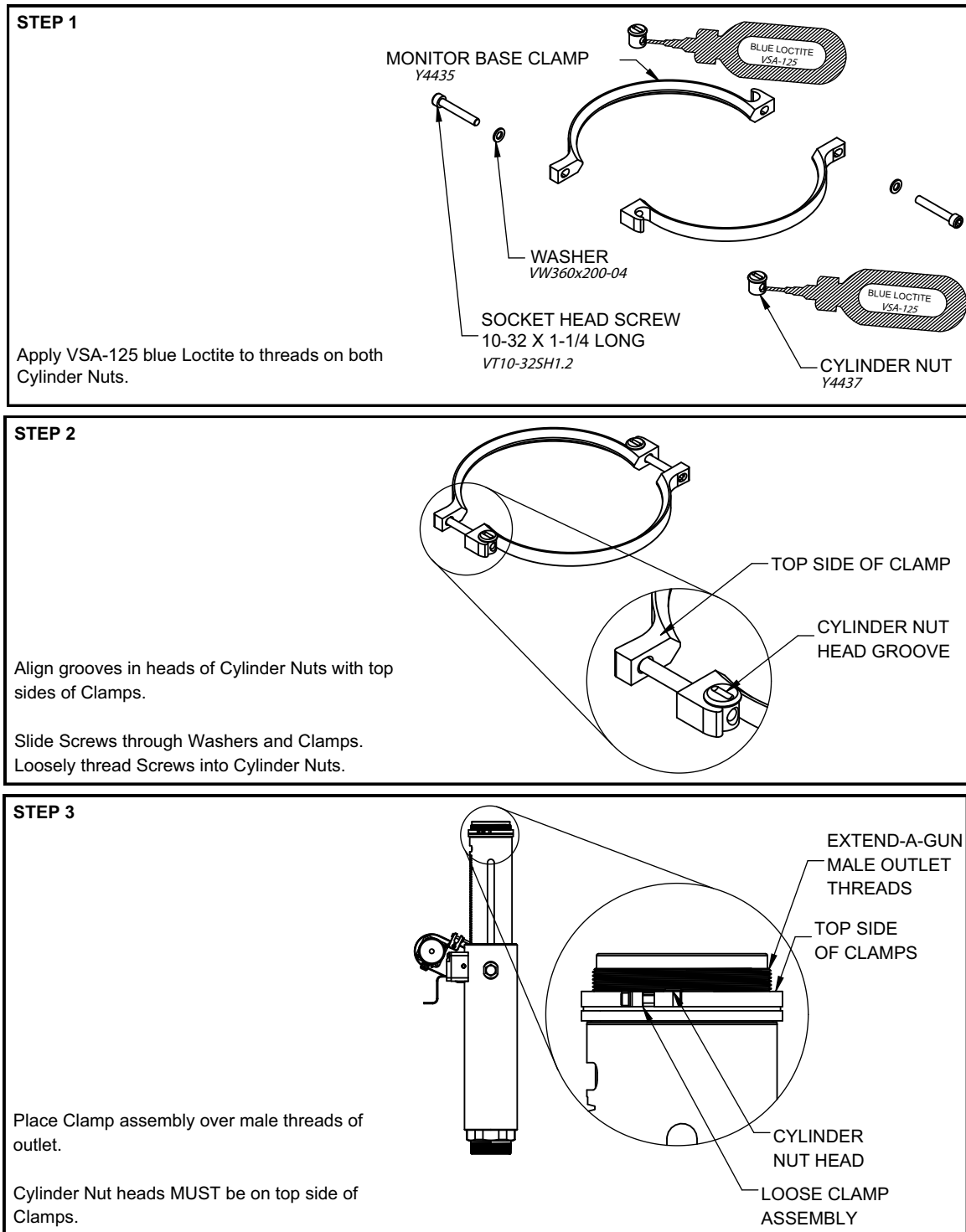


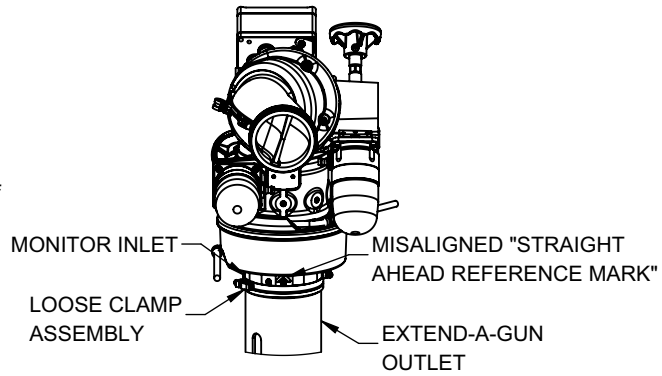
Figure 8.1A

STEP 4

Screw monitor onto Extend-A-Gun until monitor base bottoms out against Extend-A-Gun outlet.

Threaded joint seals with an O-ring and will leak if monitor base bottoms out on Clamp assembly instead of Extend-A-Gun outlet.

Do not use pipe dope or Loctite on threads. Use of thread locking compounds is unnecessary and will make removal difficult.

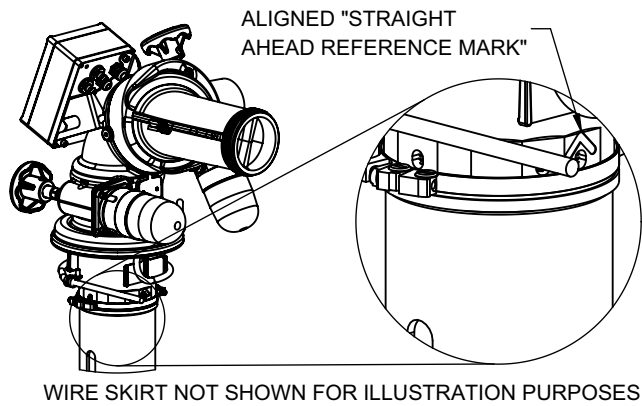


STEP 5

Unscrew monitor base from Extend-A-Gun outlet until "Straight Ahead Reference Mark" is facing desired direction. *

Monitor may be unscrewed up to one full rotation from bottomed-out condition. Monitor will leak if unthreaded more than one rotation (360°) from bottomed-out condition.

* "Straight Back Reference Mark" on Hurricane RC monitors.



STEP 6

Rotate clamps to desired position and tighten Screws until finger tight. Maintain equal spacing between Clamp ends.

Tighten Screws one additional turn using a 5/32" (4mm) hex wrench. Alternate Screws each half-turn.

To avoid damage to the monitor, ensure Clamps do not interfere with RC monitor Power/Com cable and that Screws are not overtightened.

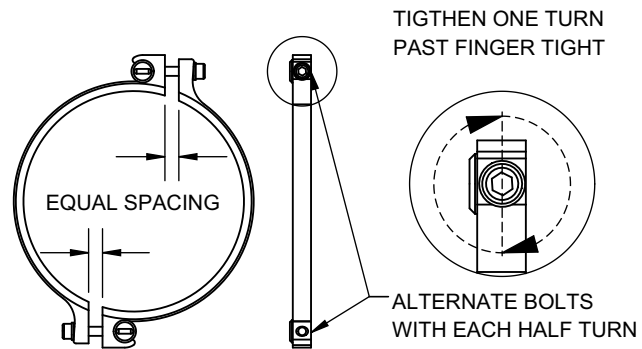


Figure 8.1B

9.0 USE OF DRAIN

The Extend-A-Gun comes with a $\frac{3}{4}$ " NPT hole in the inlet. This is designed to be used as a drain or plugged if a drain is used elsewhere. A drain must be employed to remove excess water from the system. This prevents freezing and allows the unit to be parked.

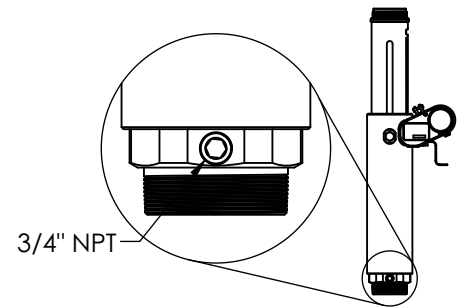


Figure 9.0

WARNING

Equipment may be damaged if frozen while containing significant amounts of water. Such damage may be difficult to detect visually. Subsequent pressurization can lead to injury or death. Any time the equipment is subject to possible damage due to freezing, it must be tested and approved for use by qualified personnel before being considered safe for use.

10.0 OPERATING INSTRUCTIONS

WARNING

The Extend-A-Gun must be lowered in the park position before the truck is driven or moved. Damage or injury may occur if the truck drives under a low hanging object, while the Extend-A-Gun is extended.

NOTICE

The drive train will extend and retract only when there is no water pressure. If the buttons are pushed while under water pressure, the current limiting will engage and prevent the Extend-A-Gun RC movement. This prevents damage to the unit.

10.1 USING THE EXTEND-A-GUN RC AS PART OF A MONITOR SYSTEM

To EXTEND the Extend-A-Gun RC:

1. Make certain the valve to the monitor is closed.
2. Press and release the "UP/AUX1" button on any RC monitor operator station or the panel mount operator station. The tube will automatically extend fully and then stop.
 - A. Pressing the button while the Extend-A-Gun RC is in motion will cause the motor to switch directions.
 - B. This system is controlled with current limiting. When the Extend-A-Gun RC is being raised, the unit is provided with maximum allowable current to lift and still protect the mechanism from damage when an obstruction is encountered.
3. Move the monitor to the desired position.
4. Open valve to monitor.

To RETRACT the Extend-A-Gun RC:

CAUTION

Clear all personnel and obstructions away from the Extend-A-Gun RC before lowering. This unit relies on electronic braking and may lower quickly in the event of a failure. Damage or injury could result from crushing.

1. Make certain the valve to the monitor is closed.
2. On systems connected to the RC monitor communication link, return the monitor to its park position.
 - A. At the completion of the PARK/STOW pattern, the Extend-A-Gun RC will automatically retract.
3. To manually retract, press and release the "DOWN/AUX1" button on any RC monitor operator station or the panel mount operator station. The tube will automatically retract completely, and then stop.
 - A. Pressing the button while the Extend-A-Gun RC is in motion will cause the motor to switch directions.
 - B. This system is controlled with current limiting. When the Extend-A-Gun RC is being lowered, the current is reduced and the unit is slowed down. This provides a safer lowering of the unit and prevents a crushing injury in case someone is under the unit when it is lowered. (Note: Monitor will automatically perform PARK/STOW pattern if not at the "AT PARK/STOW" position.)

10.2 MANUAL OVERRIDE

Each Extend-A-Gun RC is equipped with an override knob. In the event of power loss, turn the knob clockwise to raise the tube, or counterclockwise to lower it.

10.2.1 REMOVING THE MANUAL OVERRIDE KNOB

The manual override knob may be removed if desired. When the knob is removed, the unit can be moved using a 1/2" (13mm) wrench or socket on the exposed hex key.

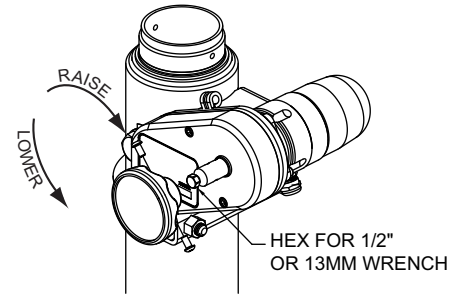


Figure 10.2.1

10.3 INDICATOR LIGHT

The Extend-A-Gun has a built in switch to control an indicator light on the truck dashboard showing that the Extend-A-Gun is in the extended position. This is to help prevent damage that would occur if the deck gun hits a low overhanging object. Do not move the truck with the Extend-A-Gun in the extended position.

10.4 OPERATION BELOW FREEZING TEMPERATURES

The apparatus that the Extend-A-Gun is mounted to may be stored in sub-freezing conditions. Ice on or around the gear rack or tubes may prevent the Extend-A-Gun from extending. If the Extend-A-Gun does not extend due to a frozen condition, it may still be used in the retracted position.

10.5 CONTINUOUS OPERATIONS

The Extend-A-Gun RC is designed to produce a short burst of maximum lifting power. Raising and lowering the Extend-A-Gun multiple times over a short period (more than 1 cycle per minute) causes heat to quickly build up in the motor. As the heat increases, the efficiency decreases, thus reducing power and speed. Do not raise the Extend-A-Gun more than one time per minute.

10.6 CURRENT LIMITING

NOTICE

The Extend-A-Gun RC has current limiting capability which stops the motor if an obstruction is encountered. The Extend-A-Gun RC must be installed as instructed using the correct controls and electrical boxes. Failure to do so will result in damage to the electric motor and loss of current limiting controls.

The drive train is protected by a current limiting setting. When the Extend-A-Gun RC is being raised, the unit is provided with maximum allowable current to lift and still protect the mechanism from damage when an obstruction is encountered. When the Extend-A-Gun RC is being lowered, the drive is programmed to run at a slower speed and the current limit is reduced.

11.0 WARRANTY

Task Force Tips LLC, 3701 Innovation Way, Valparaiso, Indiana 46383-9327 USA ("TFT") warrants to the original purchaser of its products ("equipment"), and to anyone to whom it is transferred, that the equipment shall be free from defects in material and workmanship during the five (5) year period from the date of purchase for mechanical components, and the two (2) year period from the date of purchase for electrical components. TFT's obligation under this warranty is specifically limited to replacing or repairing the equipment (or its parts) which are shown by TFT's examination to be in a defective condition attributable to TFT. To qualify for this limited warranty, the claimant must return the equipment to TFT, at 3701 Innovation Way, Valparaiso, Indiana 46383-9327 USA, within a reasonable time after discovery of the defect. TFT will examine the equipment. If TFT determines that there is a defect attributable to it, TFT will correct the problem within a reasonable time. If the equipment is covered by this limited warranty, TFT will assume the expenses of repair.

If any defect attributable to TFT under this limited warranty cannot be reasonably cured by repair or replacement, TFT may elect to refund the purchase price of the equipment, less reasonable depreciation, in complete discharge of its obligations under this limited warranty. If TFT makes this election, claimant shall return the equipment to TFT free and clear of any liens and encumbrances.

This is a limited warranty. The original purchaser of the equipment, any person to whom it is transferred, and any person who is an intended or unintended beneficiary of the equipment, shall not be entitled to recover from TFT any consequential or incidental damages for injury to person and/or property resulting from any defective equipment manufactured or assembled by TFT.

It is agreed and understood that the price stated for the equipment is in part consideration for limiting TFT's liability. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you.

TFT shall have no obligation under this limited warranty if the equipment is, or has been, misused or neglected (including failure to provide reasonable maintenance) or if there have been accidents to the equipment or if it has been repaired or altered by someone else.

THIS IS A LIMITED EXPRESS WARRANTY ONLY. TFT EXPRESSLY DISCLAIMS WITH RESPECT TO THE EQUIPMENT ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. THERE IS NO WARRANTY OF ANY NATURE MADE BY TFT BEYOND THAT STATED IN THIS DOCUMENT.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

11.1 MAINTENANCE

The Extend-A-Gun requires little maintenance. The Extend-A-Gun should be kept clean and free of dirt. All controls should be checked for freedom of movement and proper operation before each use. Any inoperable or damaged parts should be repaired or replaced immediately. Consult factory for recommended service procedure.

11.2 LUBRICATION

The Extend-A-Gun is permanently lubricated on the cup seal. If lubricant has been removed during service, apply a thin film of White Lithium Grease on seal surfaces.

12.0 TROUBLE SHOOTING

| SYMPTOM | POSSIBLE CAUSE | REMEDY |
|-------------------------------|---|--|
| Leaks | Debris or damage in seal area | Clean out debris or replace damaged parts |
| Binding, Erratic Operation | Low Voltage (see below) | See Below |
| Does Not Raise | Low voltage due to: - wire gage too small - wire length too long - poor connection - inadequate apparatus electrical system Mechanical Binding - damage to chain drive | Check connections and wiring (see section 6.3) Verify voltage is above 10 volts at the control box, while operating Use manual override to verify mechanical operation. Consult Factory |
| Does Not Lower | Low voltage due to: - wire gage too small - wire length too long - poor connection - inadequate apparatus electrical system Mechanical Binding - damage to chain drive Monitor not in PARK/STOW position | Check connections and wiring (see section 6.3) Verify voltage is above 10 volts at the control box, while operating Use manual override to verify mechanical operation Perform Monitor PARK/STOW operation Consult Factory |

Table 12.0

12.1 REPAIR

Factory service is available. Factory serviced equipment is repaired by experienced technicians, wet tested to original specifications, and promptly returned. Call TFT service department at 1-800-348-2686 to troubleshoot and, if needed, directions for return. A return for service form can also be obtained at tft.com/Support/Returning-an-Item-for-Service.

Repair parts and service procedures are available for those wishing to perform their own repairs. Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service. Contact the factory or visit the web site at tft.com for parts lists, exploded views, test procedures and troubleshooting guides.

Performance tests shall be conducted on the equipment after a repair, or anytime a problem is reported to verify operation in accordance with TFT test procedures. Consult factory for the procedure that corresponds to the model and serial number of the equipment. Any equipment which fails the related test criteria should be removed from service immediately. Troubleshooting guides are available with each test procedure or equipment can be returned to the factory for service and testing.



It is the responsibility of service technicians to ensure the use of appropriate protective clothing and equipment. The chosen protective clothing and equipment must provide protection from potential hazards users may encounter while servicing equipment. Requirements for protective clothing and equipment are determined by the Authority Having Jurisdiction (AHJ).



Any alterations to the product or its markings could diminish safety and constitutes a misuse of this product.



All replacement parts must be obtained from the manufacturer to assure proper performance and operation of the device.

13.0 EXPLODED VIEW AND PARTS LIST

Exploded view and parts list are available at tft.com/serial-number.

14.0 OPERATION AND INSPECTION CHECKLIST

BEFORE EACH USE, the Extend-A-Gun must be inspected to this checklist:

1. There is no obvious damage such as missing, broken or loose parts, damaged labels, etc.
2. All controls move freely and operate properly.
3. The Extend-A-Gun operates freely without binding throughout its range of travel.
4. There are no leaks when the Extend-A-Gun is flowing water.

BEFORE BEING PLACED BACK IN SERVICE, the Extend-A-Gun must be inspected to this list:

1. All controls and adjustments are operational.
2. There are no broken or missing parts.
3. There is no damage to the Extend-A-Gun or attached monitor that could impair safe operation (e.g. detents, cracks, corrosion, or other defects).
4. The waterway is clear of obstructions.
5. The Extend-A-Gun is clean and markings are legible.



Equipment failing any part of the checklist is unsafe for use and must have the problem corrected before use or being placed back into service. Operating equipment that has failed the checklist is a misuse of this equipment.