

## **G-Force Selectable Nozzle Model GDPC3F2F**

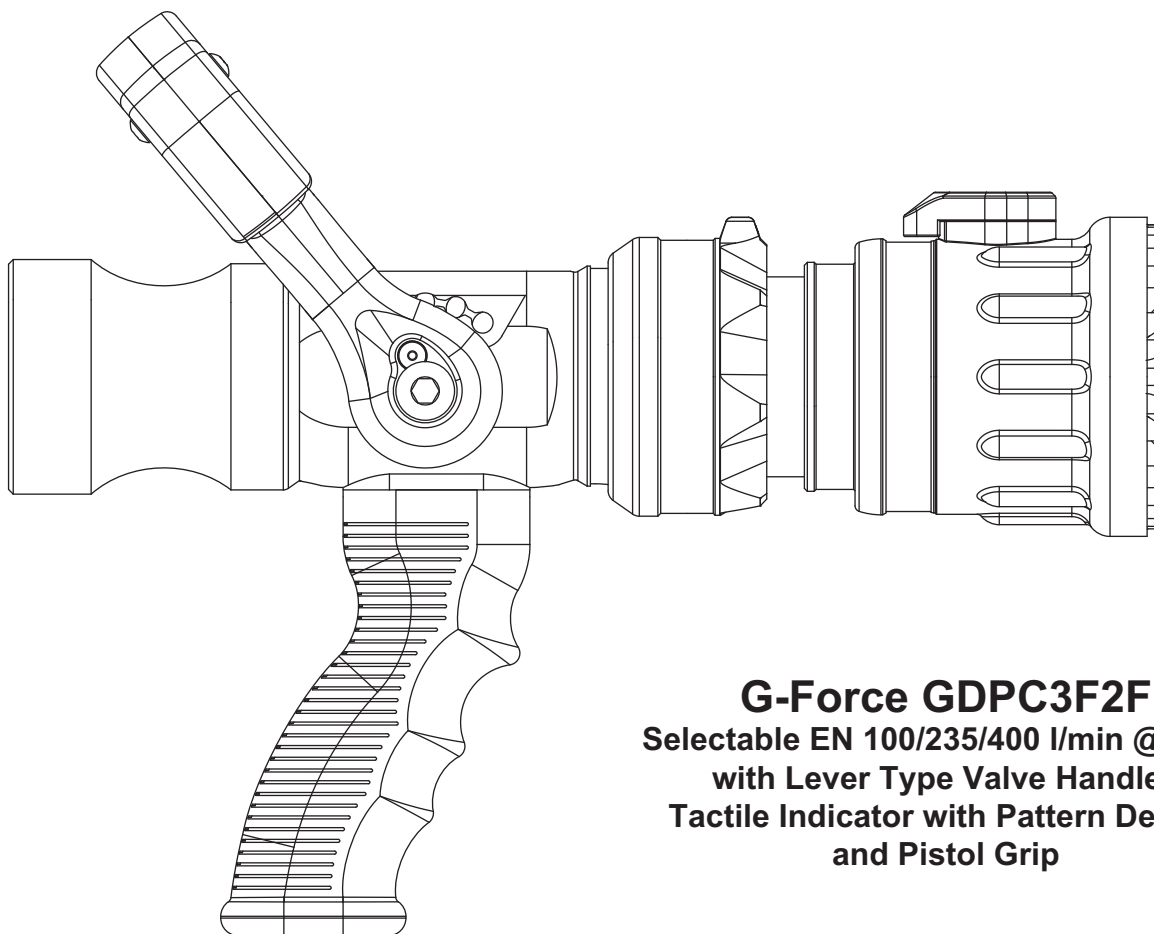
### **INSTRUCTION FOR SAFE OPERATION AND MAINTENANCE**

#### **⚠ WARNING**

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](http://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.



**G-Force GDPC3F2F**  
Selectable EN 100/235/400 l/min @ 6 bar  
with Lever Type Valve Handle,  
Tactile Indicator with Pattern Detent,  
and Pistol Grip

# 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.

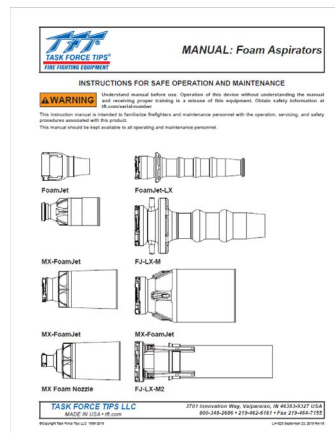
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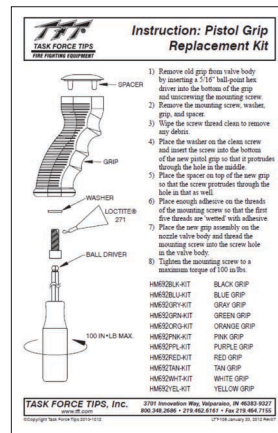
**FEMSA**

## SUPPORTING MATERIALS

The following documents contain supporting safety and operating information pertaining to the equipment described in this manual.



LIA-025  
Manual: Foam Aspirators



LTT-108  
Instruction: Pistol Grip Replacement Kit

## TABLE OF CONTENTS

- 1.0 MEANING OF SAFETY SIGNAL WORDS
- 2.0 SAFETY
- 3.0 GENERAL INFORMATION
  - 3.1 PART IDENTIFICATION
  - 3.2 SPECIFICATIONS
  - 3.3 NOZZLE COUPLINGS
  - 3.4 USE WITH SALT WATER
- 4.0 FLOW CHARACTERISTICS
  - 4.1 SELECTABLE FLOW
- 5.0 NOZZLE CONTROLS
  - 5.1 FLOW CONTROL
    - 5.1.1 LEVER TYPE FLOW CONTROL (SLIDE VALVE)
  - 5.2 PATTERN CONTROL
    - 5.2.1 SHAPER TACTILE INDICATOR
    - 5.2.2 FOG ANGLE ADJUSTMENT
    - 5.2.3 FLUSH CONTROL
- 6.0 USE WITH FOAM
  - 6.1 FOAM ASPIRATING ATTACHMENTS
- 7.0 COLOR CODED HANDLE COVER AND PISTOL GRIPS
- 8.0 WARRANTY
- 9.0 MAINTENANCE
  - 9.1 FIELD LUBRICATION
  - 9.2 FIELD LUBRICATION (SLIDE VALVE AND PATTERN CONTROLS)
  - 9.3 SERVICE TESTING
  - 9.4 REPAIR
- 10.0 EXPLODED VIEWS AND PARTS LISTS
- 11.0 OPERATION AND INSPECTION CHECKLIST

## 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



An inadequate supply of pressure and/or flow will cause an ineffective stream and can result in injury or death. Choose operating conditions to deliver adequate fire suppression. See flow graphs.



This equipment is intended for use by trained personnel for firefighting. Use of this equipment for other purposes may involve hazards not addressed by this manual. Seek appropriate guidance and training to reduce risk of injury.



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.



Failure to restrain nozzle reaction can cause injury from loss of footing and/or stream protection. Opening and closing other nozzles, hose line kinks, changes in pump settings, nozzle pattern, or flushing will cause changes in nozzle reaction. Nozzle operator must always be prepared in the event of these changes.



If nozzle gets out of control while flowing, violent whipping motion will occur. Serious injury or death could result. Retreat from the nozzle immediately. Do not attempt to regain control of nozzle while flowing.



Application of water or foam solutions on energized electrical equipment could cause electrocution. Serious injury or death could result. Assume circuits are energized until confirmed to be de-energized. Do not apply water or foam to energized electrical equipment.



The stream exiting a nozzle is 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.



To prevent mechanical damage, do not drop or throw equipment.

### 3.0 GENERAL INFORMATION

The Task Force Tips G-Force GDPC3F2F nozzle is designed to provide excellent performance under most fire fighting conditions. The rugged construction is compatible with the use of fresh water as well as fire fighting foam solutions. The compact 1.0" size has selectable flow rates of 100/235/400 L/min @ 6 bar.

### 3.1 PART IDENTIFICATION

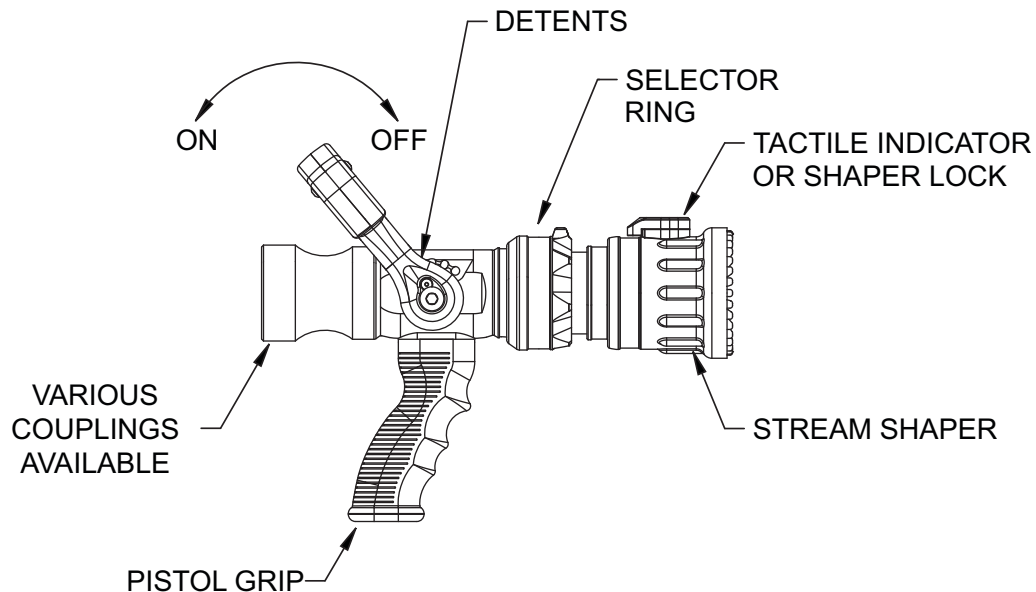


Figure 3.1

### 3.2 SPECIFICATIONS

|   |  |
|---|--|
| <b>Body Size</b>  | <b>1.0"</b>  |
| <b>Maximum operating pressure (with valve shut off)</b> | 370 psi / 25.5 bar   |
| <b>Operating temperature range of fluid</b>             | 33 to 120°F / 1 to 50° C   |
| <b>Storage temperature range</b>                        | -40 to 150°F / -40 to 65° C  |
| <b>Materials used</b>                                   | Aluminum 6000 series hard anodized MIL8625 class 3 type 2, stainless steel 300 series, nylon 6-6, nitrile rubber |

Figure 3.2

### 3.3 NOZZLE COUPLINGS

NH (National Hose) threads are standard on all nozzles. Other threads such as NPSH (National Pipe Straight Hose) may be specified at time of order.

#### ⚠ CAUTION

Mismatched or damaged waterway connections may cause equipment to leak or uncouple under pressure. Failure could result in injury. Equipment must be mated to matched connections.

#### ⚠ CAUTION

Dissimilar metals coupled together can cause galvanic corrosion that can result in the inability to uncouple the connection, or complete loss of engagement over time. Failure could cause injury. Per NFPA 1962, if dissimilar metals are left coupled together, an anti-corrosive lubricant should be applied to the connection and the coupling should be disconnected and inspected at least quarterly.

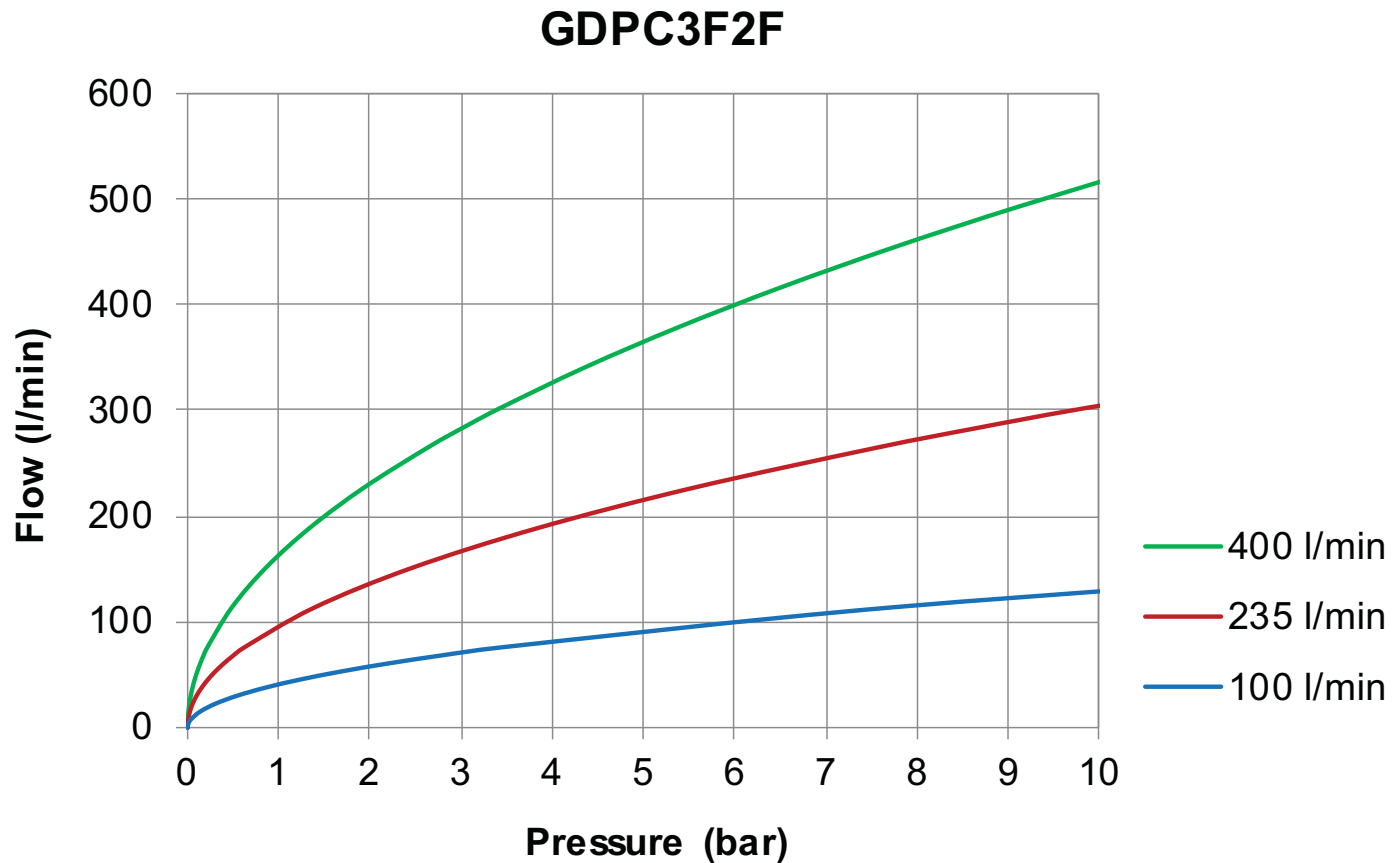
### 3.4 USE WITH SALT WATER

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.

## 4.0 FLOW CHARACTERISTICS

### 4.1 SELECTABLE FLOW

A selectable G-Force nozzle has several fixed discharge orifices and a flush setting. A particular orifice is selected by rotating the selector ring.



| (l/min) | Reach (meters) |        |      |
|---------|----------------|--------|------|
| Flow    | Straight       | Narrow | Wide |
| 100     | 18             | 8      | 3    |
| 235     | 31             | 12     | 6    |
| 400     | 38             | 15     | 8    |

Figure 4.1

## 5.0 NOZZLE CONTROLS

### 5.1 FLOW CONTROL

#### NOTICE

Control valves must be opened slowly to eliminate unnecessary strain on the hose and couplings, and reduce pressure surges.

#### NOTICE

Nozzles attached to an in-service hose shall be stored in the off position.

#### 5.1.1 LEVER TYPE FLOW CONTROL (SLIDE VALVE)

On models that use a lever type valve handle, the nozzle is shut off when the handle is fully forward. Slide valve models have detented flow positions. These detent positions allow the nozzle operator to regulate the flow of the nozzle depending on the need or what can be safely and effectively handled. TFT recommends the use of a pistol grip for easier handling. For additional stress reduction, a hose rope or strap may also be used. This permits more effective use and ease of advancement, while minimizing strain and fatigue.

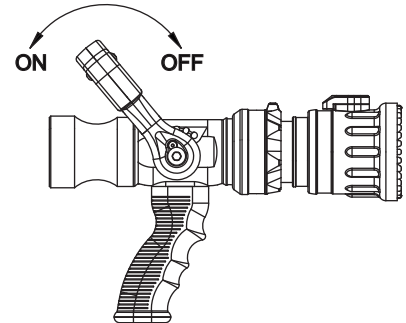


Figure 5.1.1

### 5.2 PATTERN CONTROL

TFT nozzles have full pattern control from straight stream to wide fog. Turning the stream shaper clockwise (as seen from the operating position behind the nozzle) moves the shaper to the straight stream position. Turning the shaper counterclockwise will result in an increasingly wider pattern.

Since the stream trim point varies with flow, the stream should be “trimmed” after changing the flow to obtain the straightest and farthest reaching stream. To properly trim the stream, first open the pattern to narrow fog. Then close the stream to parallel to give maximum reach. Turning the shaper further forward will cause stream crossover and reduce the effective reach of the nozzle.

#### WARNING

The nozzle reaction is greatest when the shaper is in the straight stream position. Sudden changes in pattern can cause changes in reaction, leading to loss of footing or an out of control nozzle. The nozzle operator must be prepared for a change in reaction as the pattern is changed.

#### CAUTION

Dents or nicks in the nozzle tip can seriously affect the stream reach or pattern, which may increase the risk of injury due to exposure. Care must be taken to avoid dents or nicks in the nozzle tip.

#### NOTICE

Turning the shaper further forward will cause stream crossover and reduce the reach of the nozzle.

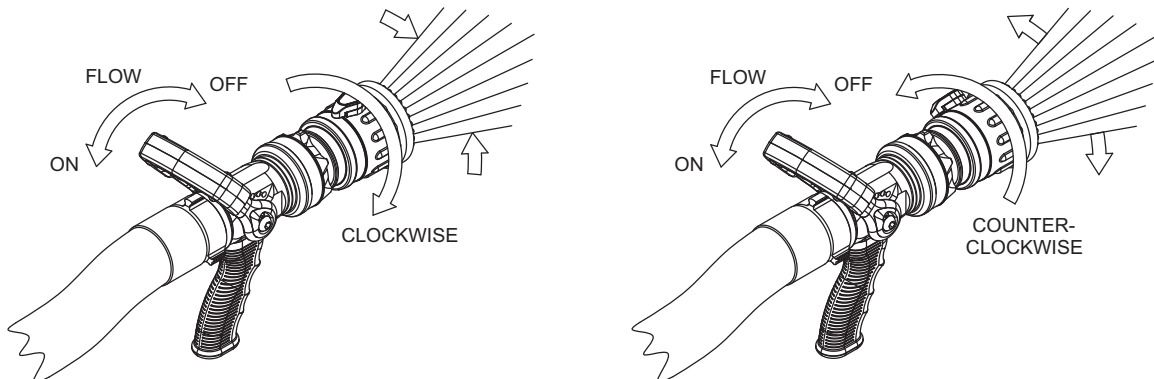


Figure 5.2

### 5.2.1 SHAPER TACTILE INDICATOR

The G-Force has a tactile indicator on the stream shaper. The tactile indicator allows the stream shaper position (and fog angle) to be determined by feel rather than by sight. The fog angle can be adjusted ([see section 5.2.2](#)) so that the desired fog angle is achieved when the tactile indicator is on top of the nozzle. The G-Force has an optional detent to aid in returning to a known fog angle. NOTE: The fog angle will change as flow and pressure change (becoming wider with increased flow).

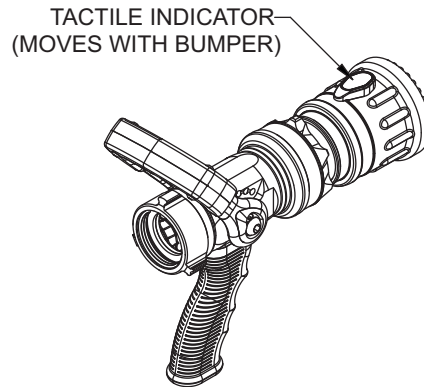


Figure 5.2.1

### 5.2.2 FOG ANGLE ADJUSTMENT

Typically, the G-Force is factory set with the tactile indicator in the top position for straight stream. The fog angle can be adjusted while keeping the tactile indicator on top by following the steps in ([see Figure 5.2.2](#)). If the fog angle is changed/adjusted, a new shaper label is needed.

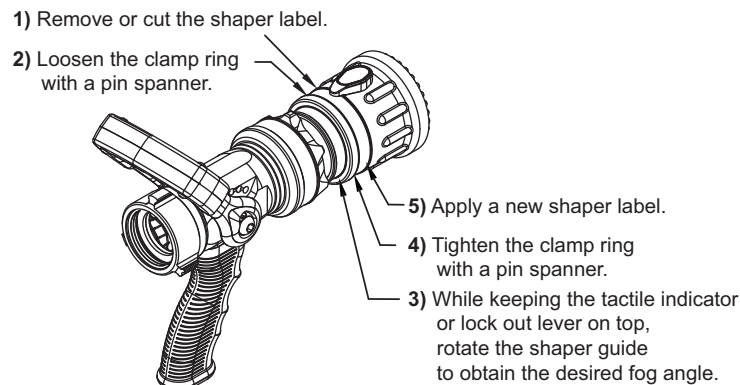


Figure 5.2.2

### 5.2.3 FLUSH CONTROL

Small debris passes through the debris screen (if so equipped) and may get caught inside the nozzle. This trapped material will cause poor stream quality, shortened reach, and reduced flow. To remove small debris, the nozzle may be flushed as follows:

- While still flowing water, rotate the shaper counterclockwise (as viewed from behind the nozzle) to the flush position. (increased resistance will be felt on the SHAPER as the nozzle goes into flush) This will open the nozzle allowing debris to pass through.
- During flush the nozzle reaction will decrease as the pattern becomes wider and the pressure drops. The nozzle operator must be prepared for an increase of nozzle reaction when returning the nozzle from the flush position to retain control of the nozzle.
- Rotate the shaper out of flush to continue normal operations.

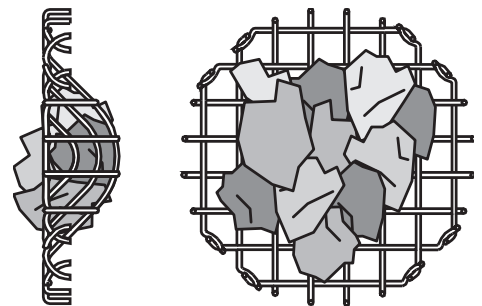


Figure 5.2.3



**Large amounts or pieces of debris may be unflushable and can reduce the flow of the nozzle resulting in an ineffective flow. In the event of a blockage, it may be necessary to retreat to a safe area, uncouple the nozzle and remove debris.**

## 6.0 USE WITH FOAM

The nozzle may be used with foam solutions. Refer to fire service training by the Authority Having Jurisdiction (AHJ) for the proper use of foam.



**WARNING** For Class B fires, lack of foam or interruption in the foam stream can cause a break in the foam blanket and greatly increase the risk of injury or death. Follow procedures established by the AHJ for the specific fuel and conditions.



**WARNING** Improper use of foam or using the wrong type of foam can result in illness, injury, or damage to the environment. Follow foam manufacturer's instructions and fire service training as directed by the AHJ.



**WARNING** Use of compressed air foam (CAF) with hand held nozzles can cause sudden surges in nozzle reaction force resulting in risk of injury or death from loss of footing or hose whipping. Be prepared for sudden changes in nozzle reaction caused by:

- Slug loading (Loss of foam concentrate sends slugs of air and water into the nozzle)
- Sudden release of built-up pressure in the hose when opening a nozzle

### 6.1 FOAM ASPIRATING ATTACHMENTS

Multi-expansion or low expansion aspirating attachments may be used with nozzles to increase the expansion ratio. These foam tubes attach and detach quickly from the nozzle. As expansion ratio is increased, the reach of the nozzle will decrease due to the greater amount of bubbles in the stream and their ability to penetrate the air. Generally, the straight stream reach with foam is approximately 10% less than with water only. Actual results will vary based on brand of foam, hardness of water, temperature, etc. For specific information, see LIA-025 (MANUAL: Foam Attachments for TFT Nozzles).

| FOAMJET               | MODEL NUMBER |
|-----------------------|--------------|
| 1.0" G-Force MX       | FJ-UMX       |
| 1.0" G-Force LX Long  | FJ-LX-U      |
| 1.0" G-Force LX Short | FJ-GD        |

Table 6.1

## 7.0 COLOR CODED HANDLE COVER AND PISTOL GRIPS

Nozzles with lever type valve handles are supplied with black valve handle covers and pistol grips. The handle covers and pistol grips are available from TFT in various colors for those departments wishing to color code the nozzle to the discharge controls.

Handle covers are replaceable by removing the four screws that hold the handle covers in place. Use a 3/32" hex key when removing and replacing screws. Pistol grip is replaceable by following TFT instruction sheet LTT-108.

For standardization NFPA 1900 recommends the following color code scheme:

|                            |                                 |                         |
|----------------------------|---------------------------------|-------------------------|
| Preconnect #1 or Jump Line | Orange                          | Other Colors Available: |
| Preconnect #2              | Red                             | - Gray                  |
| Preconnect #3              | Yellow                          | - Pink                  |
| Preconnect #4              | White                           | - Purple                |
| Preconnect #5              | Blue                            | - Tan                   |
| Preconnect #6              | Black                           |                         |
| Preconnect #7              | Green                           |                         |
| Foam Lines                 | Red w/ White Border (Red/White) |                         |

## 8.0 WARRANTY

Go to [tft.com](http://tft.com) for all warranty information.

## 9.0 MAINTENANCE

TFT products are designed and manufactured to be damage resistant and require minimal maintenance. However, as the primary firefighting tool upon which your life depends, it should be treated accordingly. To help prevent mechanical damage, do not drop or throw equipment.

## 9.1 FIELD LUBRICATION

All Task Force Tips nozzles are factory lubricated with high quality silicone grease. This lubricant has excellent wash out resistance, providing long term performance. If your agency has unusually hard or sandy water, the moving parts of the nozzle may be affected. Foam agents and water additives contain soaps and chemicals that may break down the factory lubrication.

The moving parts of the nozzle should be checked on a regular basis for smooth and free operation, and for signs of damage. IF THE NOZZLE IS OPERATING CORRECTLY, THEN NO ADDITIONAL LUBRICANT IS NEEDED. Any nozzle that is not operating correctly should be immediately removed from service. The nozzle can be returned to the factory at any time for a complete checkup and re-lubrication with silicone grease.

The field use of Break Free CLP (spray or liquid) lubricant will help to temporarily restore the smooth and free operation of the nozzle. These lubricants do not have the washout resistance and long-term performance of the silicone grease. Once Break Free CLP is applied, re-application will be needed on a regular basis until the nozzle can be returned to the factory for a complete checkup and re-lubrication with silicone grease.

### **CAUTION**

Aerosol lubricants contain solvents that can swell O-Rings if applied in excess. The swelling can inhibit smooth operation of the moving parts. When used in moderation, as directed, the solvents quickly evaporate without adversely swelling the O-Rings.

## 9.2 FIELD LUBRICATION (SLIDE VALVE AND PATTERN CONTROLS)

### PART 1 - COUPLING DOWN

Position the nozzle at a 45 degree angle with the COUPLING END DOWN. CLOSE the valve handle and set the pattern to STRAIGHT STREAM. Then, spray a short burst into these areas:

#### #1 FRONT PATTERN CONTROL SEAL

Spray between the pattern control and the barrel.

#### #2 FRONT SLIDER SEAL

1. Rotate the shaper into FLUSH position.
2. Spray down the front end of the nozzle to dribble lubricant into the clearances between the shaper and the valve body.

While holding the nozzle at an angle, wait 30 seconds for the lubricant to penetrate into the clearances. Cycle the valve handle and rotate the shaper from straight stream to full flush several times, and then proceed to the next section.

### PART 2 - COUPLING UP

Position the nozzle at a 45 degree angle with the BUMPER END DOWN. OPEN the valve handle and set the pattern to FLUSH. Then, spray a short burst into these areas:

#### #3 REAR SHAPER SEAL

Spray down the clearance between the label and the shaper guide.

#### #4 REAR SLIDER SEAL

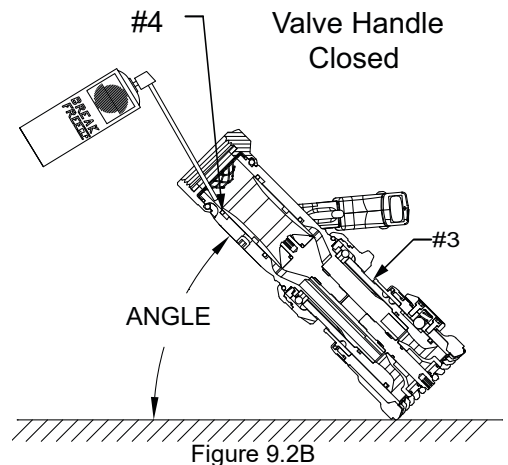
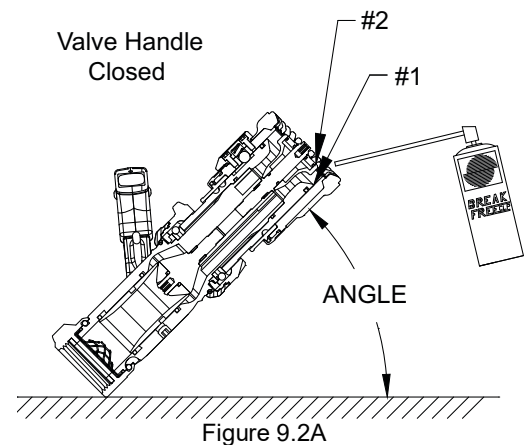
Spray down the clearance between the slider and the valve body.

#### #5 FLUSH MECHANISM SEAL

1. With the handle on top, spray down into the nozzle. The aerosol extension tip will help direct the spray into clearances leading to the O-ring.
2. Rotate the nozzle so the valve is on the bottom and spray another short burst.

While holding the nozzle at an angle, wait 30 seconds for the lubricant to penetrate into the clearances. Cycle the valve handle several times. Rotate the pattern control from straight stream to full flush several times. The pattern control should move freely and easily. The barrel cone should move forward to within 1/16" of the baffle before the shaper reaches straight stream position. Wipe off excess lubricant.

**IF THIS PROCEDURE DOES NOT RESTORE SMOOTH OPERATION OF THE IMPULSE TRIGGER SYSTEM, THEN FACTORY SERVICE IS NEEDED. • 24-HOUR HOT LINE — 800-348-2686 • tft.com**



### 9.3 SERVICE TESTING

In accordance with NFPA 1962, equipment must be tested a minimum of annually. Units failing any part of this test must be removed from service, repaired and retested upon completion of the repair.

### 9.4 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](http://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](http://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.**

### 10.0 EXPLODED VIEWS AND PARTS LISTS

Exploded views and parts lists are available at [tft.com/serial-number](http://tft.com/serial-number).

## 11.0 OPERATION AND INSPECTION CHECKLIST

**BEFORE EACH USE**, the nozzle must be inspected to this checklist:

1. There is no obvious damage such as missing, broken or loose parts, damaged labels etc.
2. Waterway is clear of obstructions
3. Coupling is tight and leak free
4. Valve operates freely through full range and regulates flow
5. "OFF" position shuts off fully and flow is stopped
6. Nozzle flow is adequate as indicated by pump pressure and nozzle reaction
7. Shaper turns freely and adjusts pattern through full range
8. Nozzle smoothly moves into full flush and out of flush with normal flow and pressure restored
9. Shaper detent (if so equipped) operates smoothly and positively.

**BEFORE BEING PLACED BACK IN SERVICE**, nozzles must be inspected to this checklist:

1. All controls and adjustments are operational
2. Shut off valve (if so equipped) closes off the flow completely
3. There are no broken or missing parts
4. There is no damage to the nozzle that could impair safe operation (e.g. dents, cracks, corrosion or other defects)
5. The thread gasket is in good condition
6. The waterway is clear of obstructions
7. Nozzle is clean and markings are legible
8. Coupling is tightened properly
9. Shaper is set to desired pattern
10. Shutoff handle (if so equipped) is stored in the OFF position



**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.**