MANUAL: G-Force Nozzle

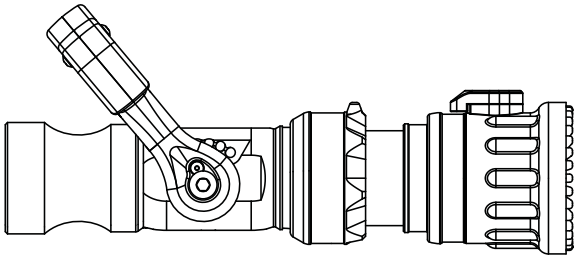
Fixed, Selectable, Automatic and Automatic with Flow Limiting

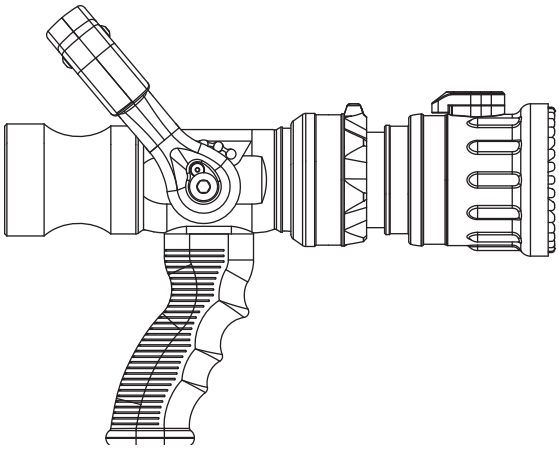
INSTRUCTIONS FOR SAFE OPERATION AND MAINTENANCE

⚠WARNING **Read Instruction Manual before use. Operation of this nozzle without understanding the manual and receiving proper training can be dangerous and is a misuse of this equipment. Call 800-348-2686 with any questions.**

NOTICE **This Instruction Manual is intended to familiarize firefighters and maintenance personnel with the operation, servicing, and safety procedures associated with the G-Force nozzle.**

NOTICE **This manual should be kept available to all operating and maintenance personnel.**





⚠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 upon 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.

FEMSA

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

G-Force by: TASK FORCE TIPS

3701 Innovation Way, Valparaiso, IN 46383-9327 USA
800-348-2686 • 219-462-6161 • Fax 219-464-7155

Table Of Contents

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 standard Z535.6-2006, the definitions of the four signal words are as follows:

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

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

⚠ CAUTION — **CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.**

NOTICE — **NOTICE is used to address practices not related to personal injury.**

2.0 SAFETY

The Task Force Tips G-Force nozzles are designed to provide excellent performance under most fire fighting conditions. Their rugged construction is compatible with the use of fresh water (see section 3.0 for saltwater use) as well as fire fighting foam solutions.

⚠DANGER

An inadequate supply of nozzle pressure and/or flow will cause an ineffective stream and can result in injury, death, or loss of property. See flow graphs in section 4.0 or call 800-348-2686 for assistance.

⚠WARNING

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

⚠WARNING

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

⚠WARNING

Nozzle reaction will vary as supply conditions change: such as opening or closing other nozzles, hose line kinks, changes in pump settings, etc. Changes in spray pattern or flushing will also affect nozzle reaction. The nozzle operator must always be prepared in the event of these changes. Failure to restrain nozzle reaction can cause firefighter injury from loss of footing and/or stream protection.

⚠WARNING

If nozzle gets out of control or away from operator, retreat from nozzle immediately. Do not attempt to regain control of nozzle while flowing water. Injury from whipping can occur.

⚠WARNING

Water is a conductor of electricity. Application of water on high voltage equipment can cause injury or death by electrocution. The amount of current that may be carried back to the nozzle will depend on the following factors:

- **Voltage of the line or equipment**
- **Distance from the nozzle to the line or equipment**
- **Size of the stream**
- **Whether the stream is solid or broken**
- **Purity of the water[1]**

1 The Fire Fighter and Electrical Equipment, The University of Michigan Extension Service, Fourth Printing 1983. Page 47

⚠WARNING

Improper use of foam can result in injury or damage to the environment. Follow foam manufacturer's instructions and fire service training to avoid:

- **Using wrong type of foam on a fire. i.e. Class A foam on a Class B fire.**
- **Plunging foam into pools of burning liquid fires.**
- **Causing environmental damage.**
- **Directing stream at personnel.**

⚠WARNING

There is a wide variety of foam concentrates. Each user is responsible for verifying that any foam concentrate chosen to be used with this unit has been tested to assure that the foam obtained is suitable for the purpose intended.

⚠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. Assure that:

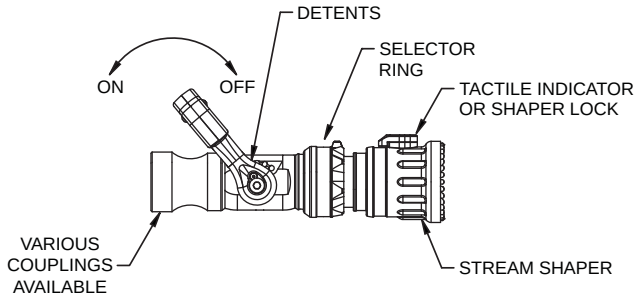
- **Application rate is sufficient (see NFPA 11 or foam manufacturer's recommendations).**
- **Enough concentrate is on hand to complete task (see NFPA for minimum duration requirements).**
- **Foam logistics have been carefully planned. Allow for such things as:**
  - **o Storage of foam in a location not exposed to the hazard it protects.**
  - **o Personnel, equipment, and technique to deliver foam at a rapid enough rate.**
  - **o Removal of empty foam containers.**
  - **o Keeping clear path to deliver foam as hoses, other equipment, and vehicles are deployed.**

⚠CAUTION

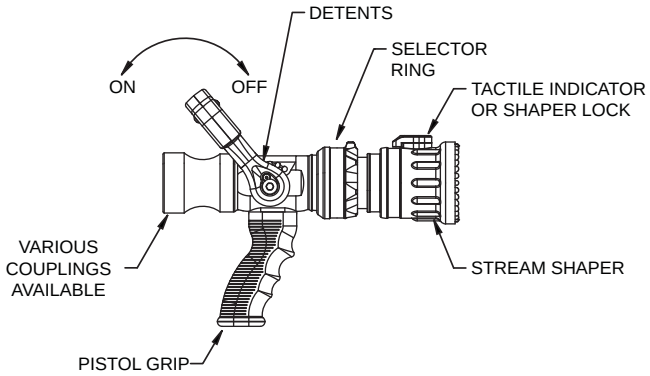
Water streams are capable of injury and damage. Do not direct water stream to cause injury or damage to persons or property.

2.1 VARIOUS MODELS AND TERMS

The G-Force nozzle is available in several different models and inlet connections. Basic body styles are shown in figure 2.1A



NOZZLE WITH VALVE



NOZZLE WITH VALVE & INTEGRAL PISTOL GRIP

Other options are:

- Fixed rubber, fixed aluminum or stainless steel spinning fog teeth.
- Shaper tactile indicator with or without detent (see section 5.2.2)
- Shaper lock out lever (see section 5.2.3)

Four flow options are available. All four use the selector ring for flush control. The flow options are:

- Fixed flow (see section 4.1)
- Selectable flow (see section 4.2)
- Automatic (see section 4.3)
- Automatic with Flow Limiting (see section 4.4)

2.2 NOZZLE COUPLINGS

Many inlet couplings such as NH (National Hose) or BSP (British Straight Pipe) can be specified at time of order.

⚠CAUTION

Nozzle must be properly connected. Mismatched or damaged threads may cause nozzle to leak or uncouple under pressure and could cause injury.

⚠CAUTION

Dissimilar metals coupled together can cause galvanic corrosion that can result in the inability to unscrew the threads or complete loss of thread engagement over time. Per NFPA 1962 (1998 edition), if dissimilar metals are left coupled together an anti-corrosive lubricant should be applied to the threads. Also the coupling should be disconnected and inspected at least quarterly.

2.3 MECHANICAL SPECIFICATIONS

Maximum inlet pressure with valve shut off	560 psi	40 bar
Operating temperature range of fluid	33 to 120º F	1 to 50º C
Storage temperature range	-40 to 150º F	-40 to 65º C
Materials used	Aluminum 6000 series hard anodized MIL8625 class 3 type 2, stainless steel 300 series, nylon 6-6, nitrile rubber, Torlon 4301 PAI	

3.0 USE WITH SALTWATER

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

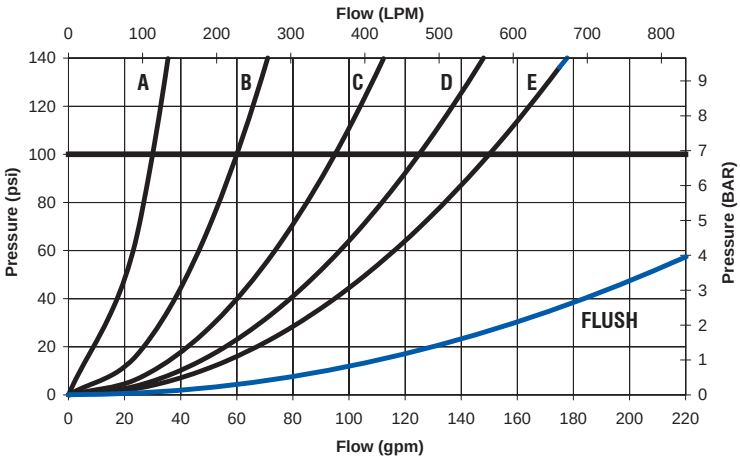
4.0 FLOW CHARACTERISTICS

4.1 FIXED FLOW

A fixed flow G-Force nozzle has one fixed discharge orifice and a flush setting. A fixed flow G-Force is flush able with the selector ring.

4.2 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. Figure 4.2A shows flow and pressure graphs for the G-Force Selectable nozzles.



FIXED GALLONAGE

570 l/min @ 700 kPa (7 bar) — 150 GPM @ 100 PSI

E

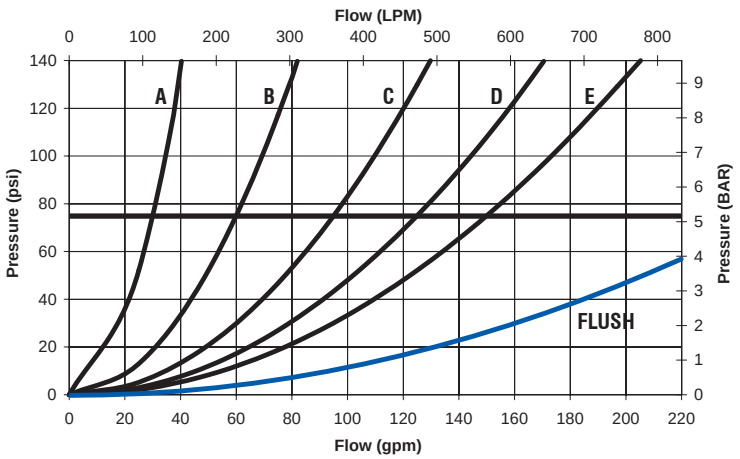
SELECTABLE GALLONAGE

30 60 95 125 150 GPM @ 100 PSI

110 230 360 470 570 l/min @ 700 kPa (7 bar)

100 200 300 400 500 l/min @ 500 kPa (5 bar)

A B C D E



FIXED GALLONAGE

570 l/min @ 500 kPa (5 bar) — 150 GPM @ 75 PSI

E

SELECTABLE GALLONAGE

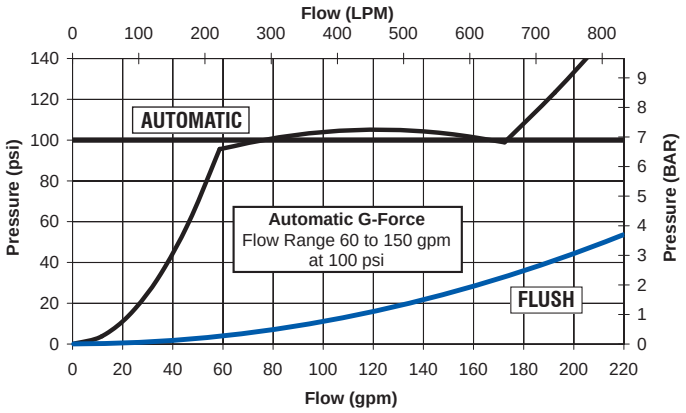
30 60 95 125 150 GPM @ 75 PSI

110 230 360 470 570 l/min @ 500 kPa (5 bar)

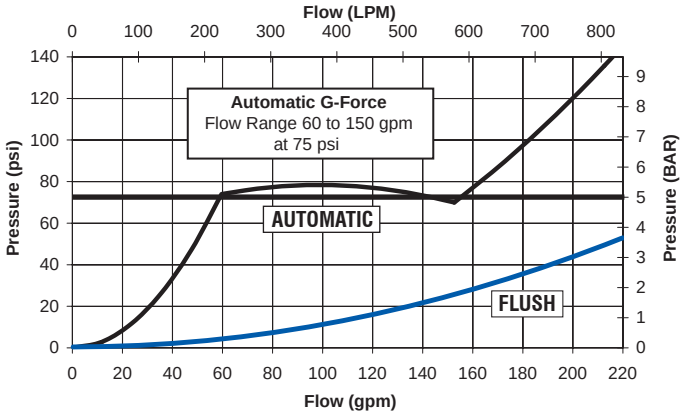
A B C D E

4.3 AUTOMATIC

The G-Force is available with automatic pressure control and flush setting. Flow range and performance is shown in figure 4.3A.



230 - 570 l/min @ 700 kPa (7 bar) ▲ AUTOMATIC 60-150 GPM @ 100 PSI

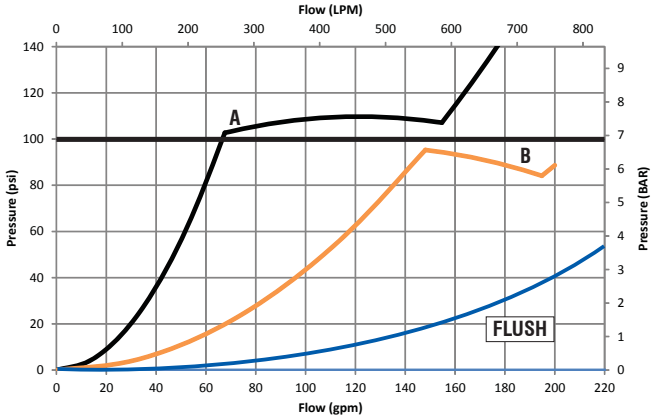


230 - 570 l/min @ 500 kPa (5 bar) ▲ AUTOMATIC 60-150 GPM @ 75 PSI

Figure 4.3A G-Force Automatics

4.4 AUTOMATIC WITH FLOW LIMITING

The Automatic G-Force with flow limiting gives the utmost in flexibility. Settings on the selector ring change the automatic nozzle's maximum opening so that water can be conserved (with a small maximum opening). There are also selections that increase the nozzle's initial opening so a larger amount of water can be flowed at low pressure and flush setting. Figure 4.4A. shows the performance of the G-Force Automatic with flow limiting, at low pressure and a flush setting.

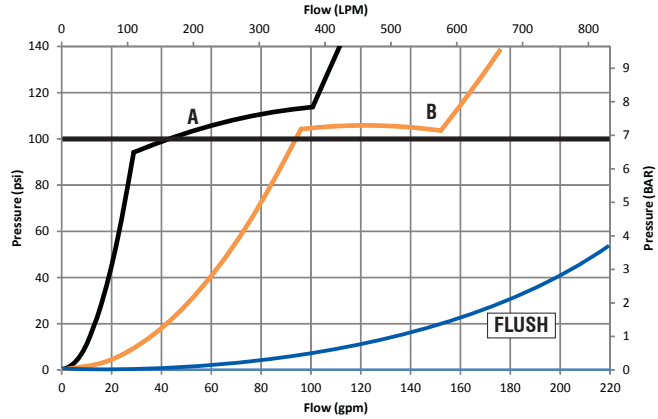


AUTOMATIC 60-150 AUTO GPM @ 100 PSI

A B

AUTOMATIC 250-570 AUTO l/min @ 700 kPa (7 bar)

A B

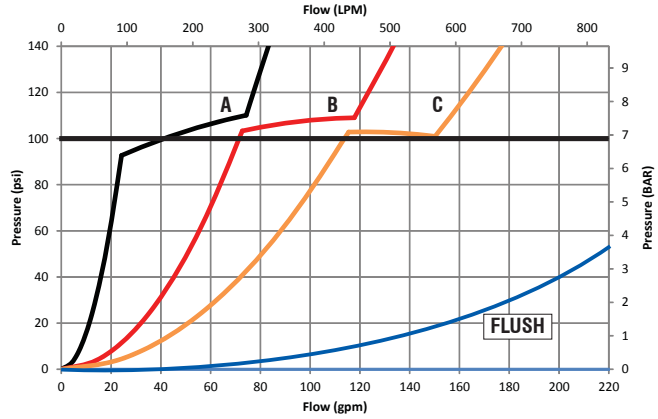


30-95 95-150 GPM @ 100 PSI

A B

100-360 360-570 l/min @ 700 kPa (7 bar)

A B

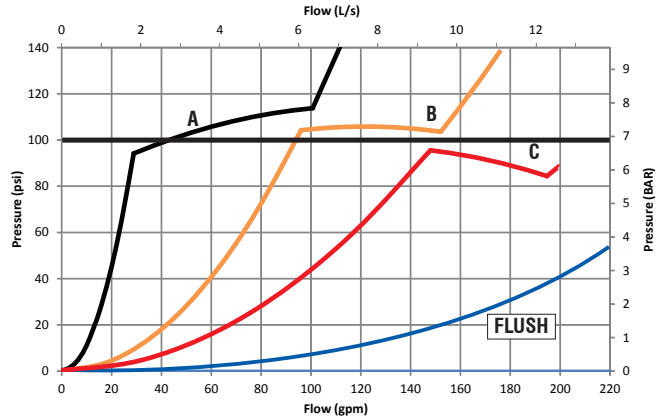


30-70 70-110 110-150 GPM @ 100 PSI

A B C

100-270 270-430 430-570 700 kPa @ 7 bar

A B C



1.7 - 6 6 - 9.5 AUTO L /s @ 700 kPa (7 bar)

A B C

4.4 AUTOMATIC WITH FLOW LIMITING (continued)

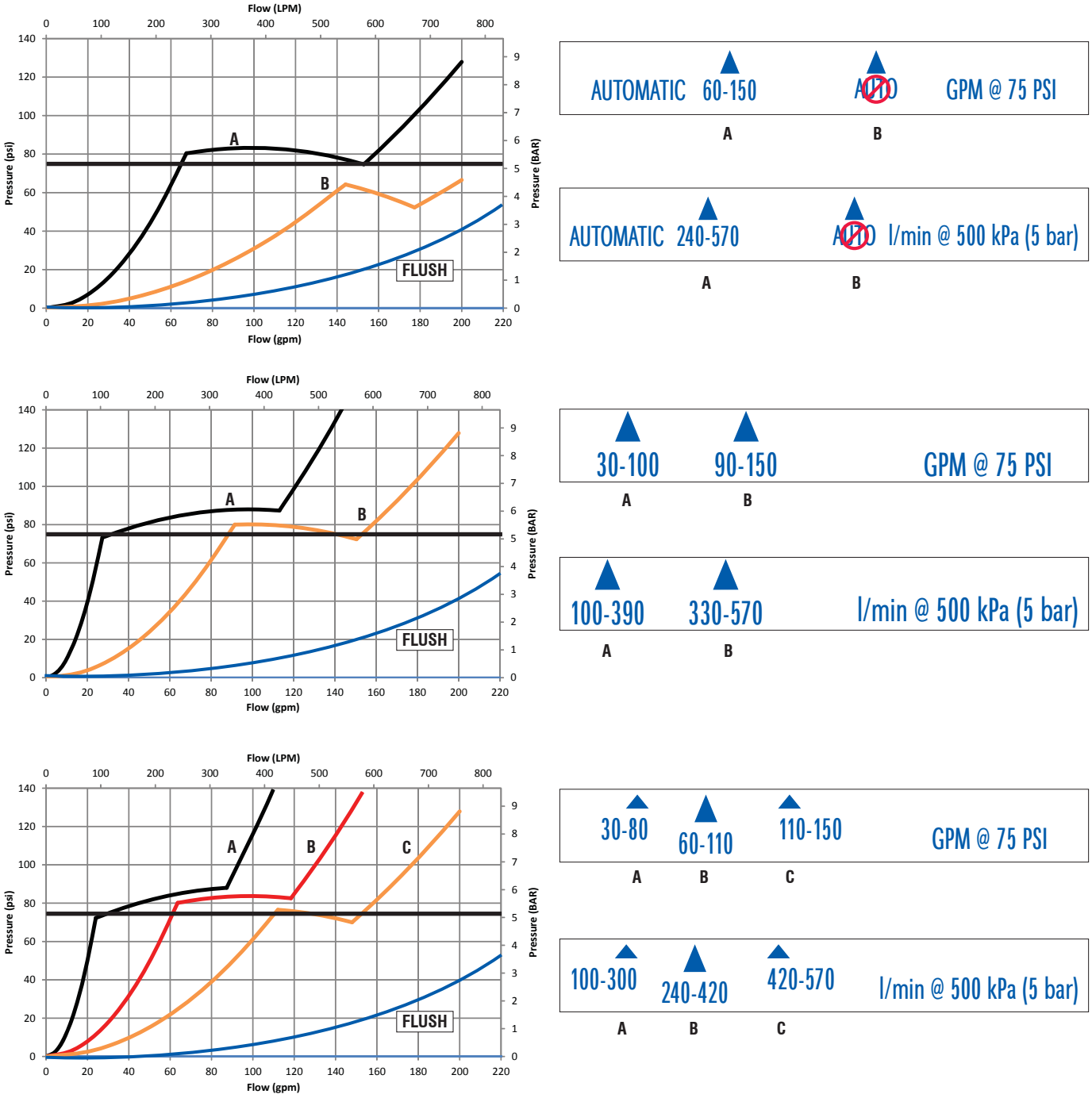
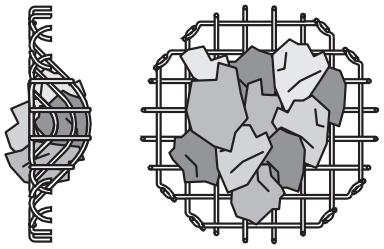


Figure 4.4A G-Force Automatic With Flow Limiting

4.5 FLUSH CONTROL

Small debris passes though the debris screen 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 selector ring counterclockwise (as viewed from behind the nozzle) to the flush position. Rotate the selector ring out of flush to continue normal operations. The nozzle operator must be prepared for a change in nozzle reaction when going into or returning from flush.



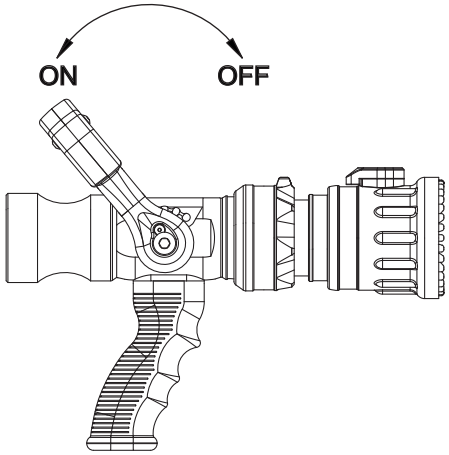
⚠WARNING **Large amounts or pieces of debris may be unflushable and can reduce the flow of the nozzle resulting in an ineffective flow. In the event of a blockage, it may be necessary to retreat to a safe area, uncouple the nozzle and remove debris.**

5.0 NOZZLE CONTROLS

5.1 FLOW CONTROL

5.1.1 LEVER TYPE FLOW CONTROL

On models that use a lever type valve handle, the nozzle is shut off when the handle is fully forward. The valve handle has 5 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

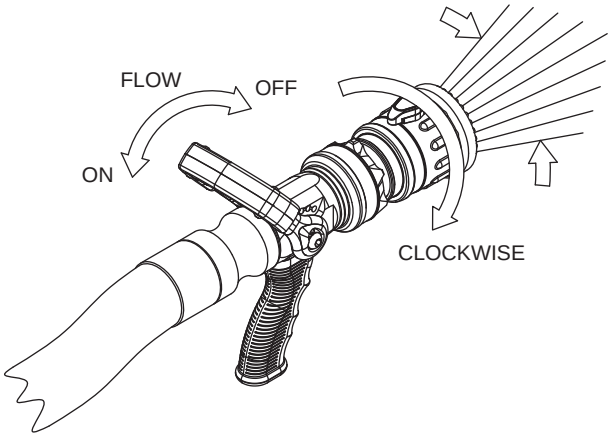


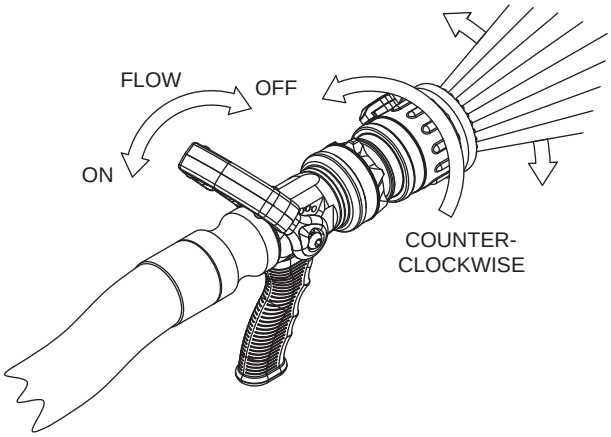
5.2 PATTERN CONTROL ADJUSTMENT

5.2.1 PATTERN CONTROL

TFT's G-Force has 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.

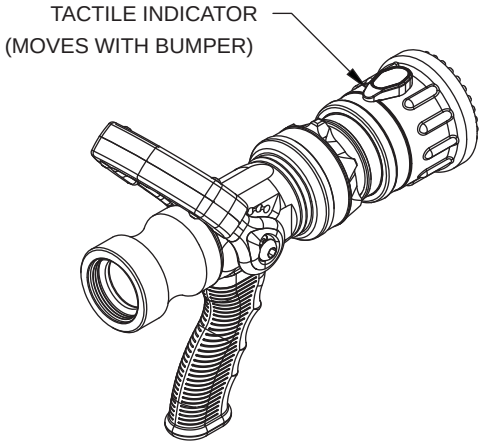
Since the stream trim point varies with flow, the stream should be "trimmed" after changing the flow to obtain the straightest and farthest reaching stream. To properly trim the stream, first open the pattern to narrow fog. Then close the stream to parallel to give maximum reach. **Note: Turning the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





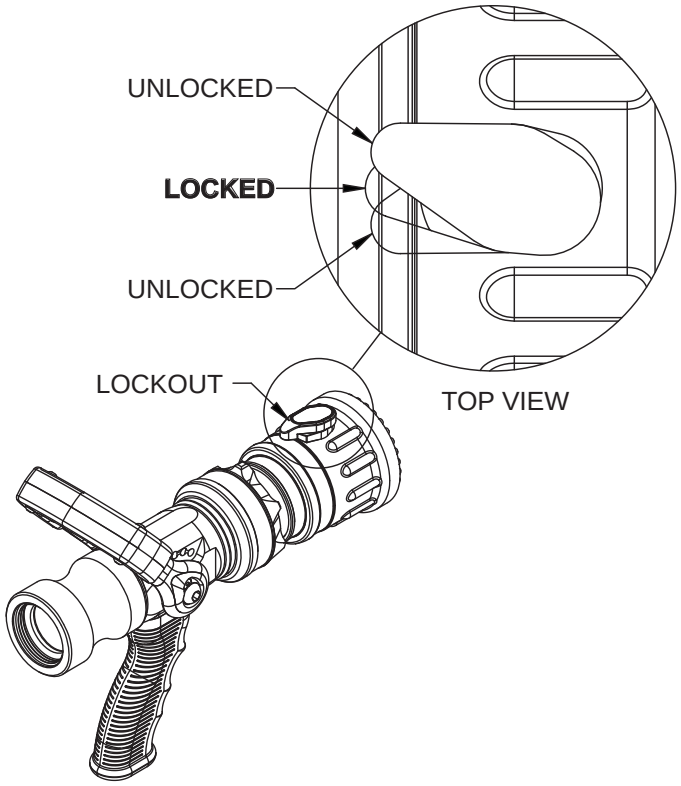
5.2.2 SHAPER TACTILE INDICATOR

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 then by sight. The fog angle can be adjusted (see section 5.2.4) so that a desired fog angle is achieved when the tactile indicator in 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).



5.2.3 SHAPER LOCK OUT LEVER

The G-Force has an optional shaper lock out lever that locks the shaper in a set position. Various stream patterns are possible. User can specify with order. If not specified, default position at partial fog. When locked, the lever will be on top of the nozzle. Moving a lever unlocks the shaper for normal pattern adjustment. When rotating the shaper, the shaper will automatically become locked when the lock out lever moves to the top of the nozzle.



5.2.4 STREAM PATTERN POSITION ADJUSTMENT

Typically the G-Force is factory set with the tactile indicator or lock out lever in the top position for a partial fog stream pattern. The stream pattern can be adjusted while keeping the tactile indicator or lock out lever on top by following the steps in figure 5.2.4A:

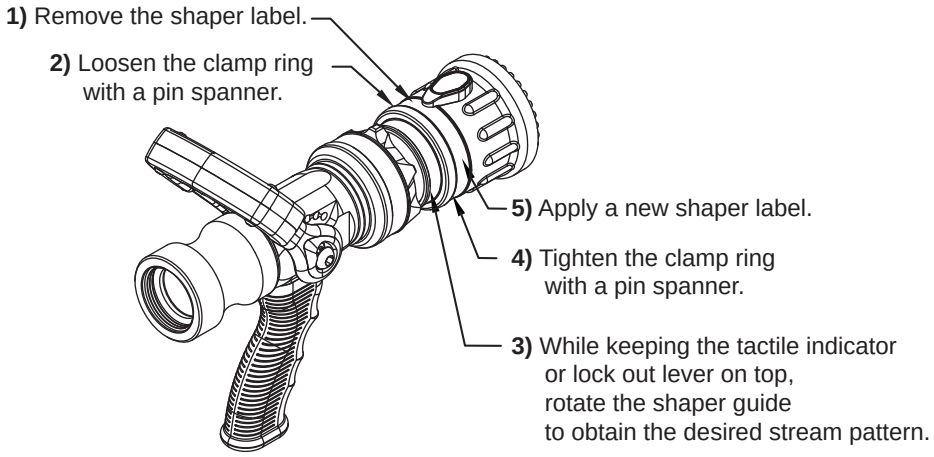


Figure 5.2.4A Stream Pattern Adjustment

6.0 USE WITH FOAM

The G-Force nozzle may be used with foam solutions. Refer to fire service training 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. Assure that: Application rate is sufficient (see NFPA 11 or foam manufacturer's recommendations); Enough concentrate is on hand to complete task (see NFPA for minimum duration time requirements); Foam logistics have been carefully planned. Allow for such things as: Storage of foam in a location not exposed to the hazard it protects; Personnel, equipment and technique to deliver foam at a rapid enough rate; Removal of empty foam containers; Clear path to deliver foam, as hoses and other equipment and vehicles are deployed.**

⚠WARNING **Improper use of foam can result in injury or damage to the environment. Follow foam manufacturer's instructions and fire service training to avoid: Using wrong type of foam on a fire, i.e. Class A foam on a Class B fire; Plunging foam into pools of burning liquid fuels; Causing environmental damage; Directing stream at personnel.**

⚠WARNING **There is a wide variety of foam concentrates. Each user is responsible for verifying that any foam concentrate chosen to be used with this unit has been tested to assure that the foam obtained is suitable for the purpose intended.**

6.1 FOAM ASPIRATING ATTACHMENTS

To increase the expansion ratio, Task Force Tips MX Foamjet (model FJ-MX-G) multi-expansion attachment or LX Foamjet (model FJ-LX-G) low expansion attachment may be used with G-Force nozzles. These foam tubes attach and detach quickly from the nozzle. Note: As expansion ratio is increased, the reach of the nozzle will be decreased due to the greater amount of bubbles in the stream and their ability to penetrate the air. Generally the 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. See Foamjet instruction manual for specific information.

7.0 USE OF G-FORCE NOZZLES

IT IS THE RESPONSIBILITY OF THE INDIVIDUAL FIRE DEPARTMENT OR AGENCY TO DETERMINE PHYSICAL CAPABILITIES AND SUITABILITY FOR AN INDIVIDUAL'S USE OF THIS EQUIPMENT.

Many factors contribute to the extinguishment of a fire. Among the most important is delivering water at a flow rate sufficient to absorb heat faster than it is being generated. The flow rate depends largely on the pump discharge pressure and hose friction loss. It can be calculated using a hydraulic equation such as:

PDP = NP+FL+DL+EL

For additional information on calculating specific hose layouts, consult an appropriate fire service training manual, such as IFSTA, or A Guide to Automatic Nozzles, or call TFT's "Hydraulics Hotline" at 800-348-2686.

See www.tft.com for flow rates at various pump pressures.

PDP = Pump discharge pressure in PSI
NP = Nozzle pressure in PSI
FL = Hose friction loss in PSI
DL = Device loss in PSI
EL = Elevation loss in PSI

8.0 FIELD INSPECTION

TFT's G-Force is designed and manufactured to be damage resistant and require minimal maintenance. However, as the primary fire fighting tool upon which your life depends, it should be treated accordingly.

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

⚠WARNING **Nozzle must be inspected for proper operation and function according to the inspection checklist on last page before each use. Any nozzle that fails inspection is dangerous to use and must be repaired before using.**

Performance tests shall be conducted on the G-Force nozzle 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 nozzle. 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.

⚠CAUTION **Any alterations to the nozzle and its markings could diminish safety and constitutes a misuse of this product.**

All Task Force Tip nozzles are factory lubricated with high quality silicone grease. This lubricant has excellent washout resistance and long term performance. If your department has unusually hard or sandy water, the moving parts 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 signs of damage. IF THE NOZZLE IS OPERATING CORRECTLY, THEN NO ADDITIONAL LUBRICATION IS NEEDED. Any nozzle that is not operating correctly should be immediately removed from service and the problem corrected.

9.0 REPAIR

Factory service is available with repair time seldom exceeding one day in our facility. Factory-serviced nozzles are repaired by experienced technicians to original specifications, fully wet tested, and promptly returned. Repair charges for non-warranty items are minimal. Any returns should include a note as to the nature of the problem and whom to reach in case of questions.

Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service.

Repair kits and repair parts are stocked for immediate shipment. Contact the factory or visit the web site at www.tft.com for parts lists, exploded views, test procedures and trouble shooting guides.

10.0 COLOR CODED VALVE HANDLE AND PISTOL GRIP

The TFT G-FORCE 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. A colored handle cover set will be sent upon receipt of the warranty card by TFT. Your department's name can also be engraved on the covers (see warranty card for more information).

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

For standardization NFPA 1901 (A-4-9.3) recommends the following color code scheme:

Preconnect #1 or Bumper Jump Line	Orange
Preconnect or discharge #2	Red
Preconnect or discharge #3	Yellow
Preconnect or discharge #4	White
Preconnect or discharge #5	Blue
Preconnect or discharge #6	Black
Preconnect or discharge #7	Green
Foam Lines	Red w/ White border (Red/White)

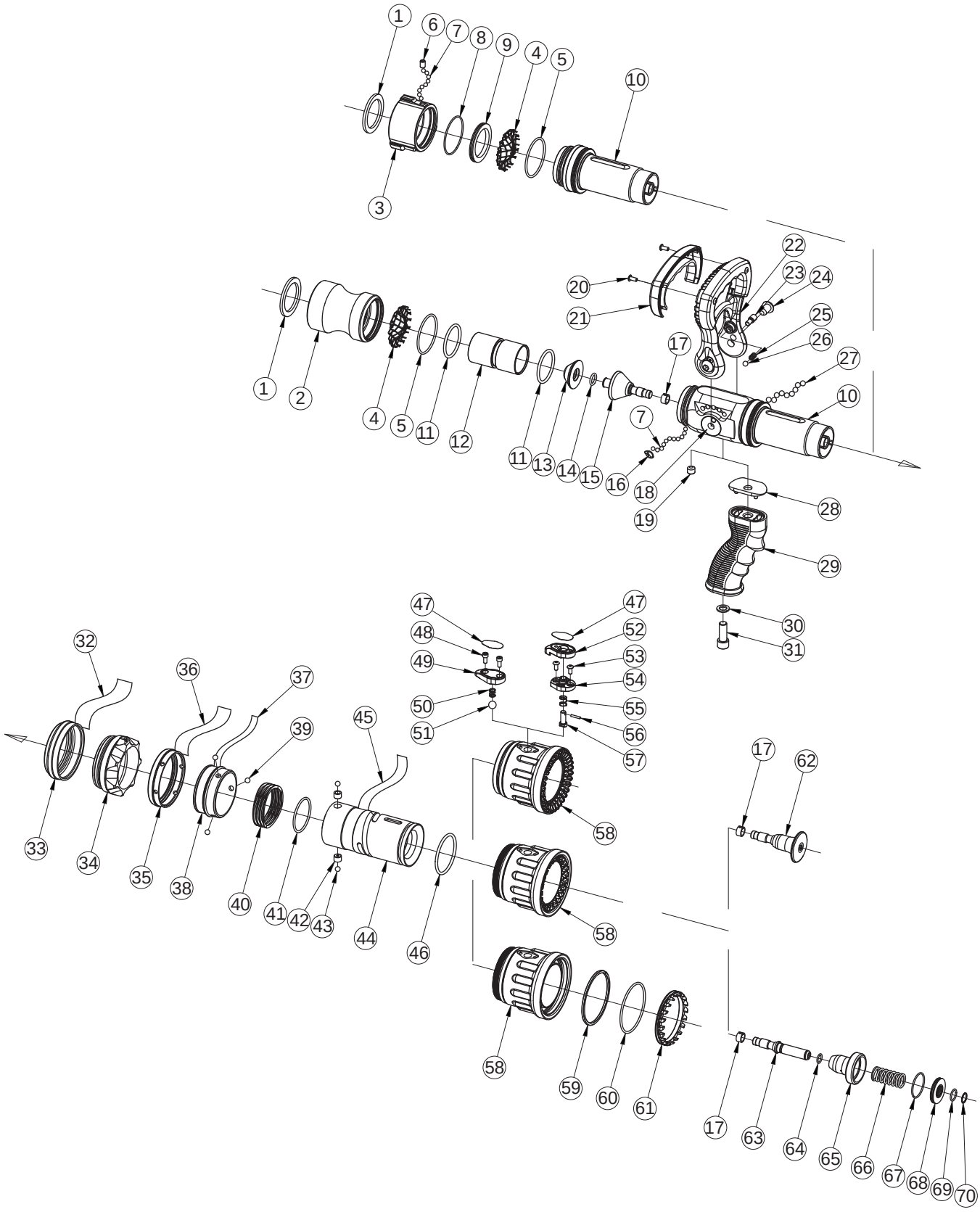
Other Colors Available:

- Gray
- Pink
- Purple
- Tan

11.0 ANSWERS TO YOUR QUESTIONS

We appreciate the opportunity of serving you and making your job easier. If you have any problems or questions, our toll-free "Hydraulics Hotline", 800-348-2686, is normally available to you 24 hours a day, 7 days a week.

12.0 DRAWINGS AND PART LISTS



INDEX	DESCRIPTION	QTY	ITEM #
1	GASKET - 1.5" HOSE COUPLING	1	V3130
2	COUPLING 1.5"BSP STRETCH	1	G691B
	COUPLING 1.5"NH		G690N
	COUPLING 1.5"NPSH		G690I
	SWIVEL 2.0"BSP MALE		G693
	SWIVEL 2.5"BIC MALE		G694
3	COUPLING NFTS 1.5"NH	1	G698N
	COUPLING NFTS 1.5"NPSH		G698I
4	GASKET GRABBER	1	G606
5	VO-RING-134	1	VO-134
6	1/4-28 X 3/8 SOCKET SET SCREW	1	VT25-28SS375
7	3/16" SS BALL	34	V2120
8	VO-RING-032	1	VO-032
9	NFTS ADAPTER	1	G602
10	VALVE BODY	1	G600
11	VO-RING-222	2	VO-222
12	SLIDER	1	G605
13	VALVE ELEMENT	1	G611
14	VO-RING-111	1	VO-111
15	VALVE PLUG HOLDER	1	G610
16	PORT PLUG	1	B770
17	CENTERING BUSHING	2	G612
18	DISK	2	G615
19	3/8-16 X 5/16 SOCKET SET SCREW	1	VT37-16SS312
20	8-14 X 3/8 PUSHTITE BUTTON HEAD	4	VT08-14PT375
21	HANDLE COVER, BLACK	2	HM625
22	VALVE HANDLE	1	G620
23	CAM PIN	2	G616
24	HANDLE SCREW	2	HM645
25	DETENT SPRING	2	HM770
26	.243" TORLON BALL	2	VB243TO
27	1/8" ACETAL BALL	56	VB125AC
28	GRIP SPACER F100	1	HM693-F
29	PISTOL GRIP, BLACK	1	HM692-BLK
30	WASHER	1	VM4901
31	3/8-16 X 1 SOCKET HEAD SCREW	1	VT37-16SH1.0
	INDEX RING LABEL		
32	30/60/95/125/150GPM @ 100PSI		G641S0L
	110/230/360/470/570 LPM 700 KPA		G641S0LM
	30/60/95/125/150 GPM @ 75 PSI		G641S1L
	110/230/360/470/570 LPM 500 KPA		G641S1LM
	100/200/300/400/500 LPM 500 KPA		G641S2LM
	150 GPM @ 100 PSI		G641S5L
	150 GPM @ 75 PSI		G641S6L
	AUTOMATIC		G641A0L
	AUTOMATIC		G641A1L
	PULSING 0/100/150 LPM, AUTO 250, 6 BAR		G641L5L
	AUTO 7 BAR 100-360, 360-570 LPM		G641L5LM
	AUTO 75 PSI 30-100, 90-150 GPM		G641L6L
	AUTO 5 BAR 100-390, 330-570 LPM		G641L6LM
	AUTO 100 PSI 30-70, 70-110, 110-150 GPM		G641L7L
	AUTO 7 BAR 100-270, 270-430, 430-570 LPM		G641L7LM
	AUTO 75 PSI 30-80, 60-110,110-150 GPM		G641L8L
	AUTO 5 BAR 100-300, 240-430, 420-570 LPM		G641L8LM
	AUTO 100 PSI 60-150 GPM, LOW (150 I.O.)		G641L9L
	AUTO 7 BAR 250-570 LPM, LOW (570 I.O.)		G641L9LM
	AUTO 75 PSI 60-150 GPM, LOW (150 I.O.)		G641L10L
	AUTO 5 BAR 240-570 LPM, LOW (570 I.O.)		G641L10LM

INDEX	DESCRIPTION	QTY	ITEM #
33	SUBRING	1	G640
	INDEX RING		
34	30/60/95/125/150 GPM @ 100 PSI	1	G641S0
	30/60/95/125/150 GPM @ 75 PSI		G641S1
	AUTOMATIC		G641A0
	AUTO 360/570 LPM @ 700 KPA		G641L5
	AUTO 390/570 LPM @ 500 KPA		G641L6
	AUTO 270/430/570 LPM @ 700 KPA		G641L7
	AUTO 300/430/570 LPM @ 500 KPA		G641L8
	AUTO 250/570 LPM LOW 700 KPA		G641L9
	AUTO 240/570 LPM LOW 500 KPA		G641L10
35	CLAMP RING	1	G656
36	CLAMP RING LABEL	1	G656L
37	SHAPER GUIDE LABEL	1	G655L
38	SHAPER GUIDE	1	G655
39	.243" TORLON BALL	3	VB243TO
40	FLUSH SPRING	1	G626
41	VO-RING-130	1	VO-130
42	CAM BALL SEAT	2	G624
43	.243" TORLON BALL	2	VB243TO
44	BARREL, SHAPER DETENT	1	G625
	BARREL, SHAPER LOCK-OUT		G627
45	BARREL LABEL	1	G625L
46	VO-RING-225	1	VO-225
47	TACTILE INDICATOR LABEL	1	G657L
48	8-32 X 3/8 SOCKET HEAD SCREW	2	VT08-32SH375
49	TACTILE INDICATOR	1	G657
50	DETENT SPRING	1	H770
51	3/8" TORLON BALL	1	VB375TO
52	SHAPER LATCH LEVER	1	G659
53	8-32 X 3/8 BUTTON HEAD SCREW	2	VT08-32BH375
54	SHAPER LATCH BASE	1	G658
55	SPRING	1	G662
56	DOWEL PIN	1	VP094X.50
57	LOCK PIN	1	G660
58	FIXED RUBBER TEETH SHAPER WITH BUMPER	1	G650
	FIXED METAL TEETH SHAPER WITH BUMPER		G654
	SPINNING TEETH SHAPER WITH BUMPER		G651
59	O.D. WEAR RING	1	G653
60	VO-RING-143	1	VO-143
61	SPINNING TEETH	1	G652
62	FIXED BAFFLE	1	G630
63	AUTOMATIC SHAFT	1	G633
64	VO-RING-012	1	VO-012
65	AUTOMATIC BAFFLE	1	G632
66	CONTROL SPRING 100 PSI	1	G635-100
	CONTROL SPRING 75 PSI / 5 BAR		G635-75
67	VO-RING-025	1	VO-025
68	SUBBAFFLE	1	G634
69	VO-RING-013		VO-013
70	SMALLEY RING	1	VR4225

13.0 INSPECTION CHECKLIST

Nozzle must be inspected before each use for proper operation and function according to this checklist. Check that:

1. There is no obvious damage such a missing broken or loose parts, damaged labels, etc.
2. Coupling is tight and leak free.
3. Valve handle moves freely though full range and shuts off flow.
4. Index ring moves smoothly to all positions including flush.
5. Nozzle flow is adequate as indicated by pump pressure and nozzle reaction.
6. Shaper turns freely and adjusts pattern through full range.
7. Shaper detent (if so equipped) operates smoothly and positively.
8. Shaper lock out lever (if so equipped) releases and engages smoothly.

⚠WARNING **Any nozzle failing any part of the inspection checklist is unsafe and must have the problem corrected before use. Operating a nozzle that fails any of the above inspections is a misuse of the equipment.**

14.0 WARRANTY

Task Force Tips, Inc., 3701 Innovation Way, Valparaiso, Indiana 46383-9327 USA (“TFT”) warrants to the original purchaser of its G-Force series nozzles (“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.

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.