

### INTRODUCTION

**TASK FORCE TIPS AUTOMATIC:** The nozzle you have purchased is your primary tool in the battle against fire. It has been manufactured with great care to give you the finest performance possible. All components are of top quality and extremely rugged. With occasional inspection and attention it will serve you for many years. This publication is intended for those who prefer to perform service on their own equipment. Factory service is available and encouraged and in most cases seldom exceeds 24 hours in our facility. Factory serviced equipment is serviced by experienced technicians, and fully tested before being returned. Repair charges for non-warranty items are usually minimal, and all equipment is promptly returned after servicing. Task Force Tips assumes no liability, expressed or implied for damage to equipment or injury to personnel that is a result of user service or improper usage, beyond that of repair or replacement. **IMPORTANT:** After any maintenance or service, always check nozzle for proper operation per **INSPECTION CHECKLIST** and flow characteristics in "MANUAL: HAND-HELD AUTOMATIC NOZZLES" (LIN-030).

### GENERAL INFORMATION

**THREADED JOINTS** have been secured using Loctite brand thread locking adhesive #271. Disassembly requires a minimal application of heat with an oxyacetylene torch to break the bond. The threads should be heated to approximately 450 degrees F. Excessive heat application will cause damage to adjacent seals and labels. Replacement parts must be reinstalled using Loctite #271, or equivalent. Small vials of Loctite for field service are available; order Part # V5010, Loctite Mini Dispenser.

**LUBRICANTS:** If parts are disassembled in an area where O-rings are present, reassemble using **DOW #44 High Temperature Light Silicone Grease** on all O-rings and surfaces that the O-rings contact. Call Dow Corning® Corp. at 800-447-4700 for the name of your nearest distributor. The grease is also available through TFT as item number VSA-105.

**LABEL REPLACEMENT:** If labels become damaged, remove old labels with a razor knife. Remove adhesive with acetone or methyl ethyl ketone. Surface must be clean, dry and free from grease. Carefully apply new label.

**ORDERING PARTS:** Always specify the serial number of the nozzle when ordering parts. The number is found on the raised rim of the SHAPER GUIDE [56]. Be sure to use complete DESCRIPTION and ORDER #, as printed on parts list. All requests for couplings must specify thread size. Pricing information will be given at time of order.

### COUPLING AND BASE SERVICE PROCEDURE

Tools Required:

1/8" Allen (hex) Wrench	5/16" Allen (hex) Wrench
Loctite #271 Thread Locking Adhesive	Oxyacetylene Torch

**GENERAL:** Occasional replacement of hose gaskets is recommended. Replace GASKET GRABBER [18] if severe impact has caused damage. Coupling service kits which include all hardware and Loctite are available for all standard 1.5 or 2.5 inch couplings.

couplings. Special configurations or model changes to a nozzle can be made by selecting the desired coupling or base. Couplings with special or standard threads are interchangeable and may be exchanged on new nozzles. Please specify desired threads when ordering.

**COUPLING AND BLITZ BASE REMOVAL:** All couplings and blitz bases are retained with a ball race and set screw. Heat and then remove the 1/4-28 SOCKET SET SCREW [5, 14 or 20] from the coupling using a 1/8" Allen wrench. Turn coupling so that hole faces down and rotate coupling back and forth to allow 3/16" STAINLESS STEEL BALLS [4, 15 or 17] to drop out. When all the balls are out of the groove, the coupling can be removed. Remove GASKET GRABBER [18] debris screen from the coupling.

**NOTE:** On couplings [6, 10, 12 and 13], O-RING 141 [7] will be found adjacent to the GASKET GRABBER [18]. On coupling [2], O-RING 151 [3] is used. Replace and grease the proper O-Ring before installing the coupling.

**COUPLING AND BLITZ BASE INSTALLATION:** Insert the GASKET GRABBER [18] debris screen into the coupling, raised end pointing toward the front of the nozzle. Put the coupling onto the mating part and load the correct number of balls into the ball groove (SEE PARTS LIST ON EXPLODED VIEW OF NOZZLE TO DETERMINE CORRECT NUMBER OF STAINLESS STEEL BALLS [4, 15 or 17] FOR YOUR COUPLING). Insertion of the balls is easier if the coupling is rotated slightly back and forth as the balls are loaded. Loctite and install proper 1/4-28 SOCKET SET SCREW [5, 14 or 20]. The set screw should be flush with the surface of the coupling. If the coupling is difficult to turn, or feels rough when turned, the set screw is in too far. Back set screw off a turn or so and try again. If the feel is still not correct, recheck the number of balls in the coupling. On TIP ONLY COUPLINGS and BLITZ BASES run the screw into the slot on the ball groove until it bottoms out without applying pressure.

**TIP ONLY BASE SERVICE:** The TIP ONLY BASE [34] is retained on the TIP ONLY BARREL ASSEMBLY [54] by threads which are retained by Loctite. Apply heat to the knurled rib nearest the front of the nozzle. Damage to seals and labels can be reduced by protecting them with a wet cloth. The TIP ONLY BASE [34] can now be unscrewed. Remove and replace O-RING 143 [35]. Clean all threads, apply Loctite to threads and screw together.

**BOLT-ON PISTOL GRIP REMOVAL:** PISTOL GRIP [31] is held on by a SOCKET HEAD CAP SCREW [32]. Remove screw with a 5/16" Allen wrench. To reinstall, clean thread and apply Loctite #271. Tighten screw to 20 ft-lbs.

**NOTE:** On nozzles manufactured before 11/01/94, the pistol grip is bolted on from the top. For removal procedures, consult factory at 800-348-2686.

### VALVE SERVICE PROCEDURE

Tools Required:

3/32" Allen (hex) Wrench	7/32" Allen (hex) Wrench
Loctite #271 Thread Locking Adhesive	Oxyacetylene Torch

### VALVE DISASSEMBLY SEQUENCE

**HANDLE REMOVAL:** Heat and remove all screws [36, 38 and 40] on the HANDLE ASSEMBLY [37] using a 7/32" Allen wrench. The handle can now be removed.

SLIDER AND SEAL REMOVAL: Heat and remove #10-32 x 1/4 SOCKET SET SCREWS [45] from the VALVE ASSEMBLY [44] using a 3/32" Allen wrench. Unscrew front portion of nozzle from valve. SLIDER [48] can now be pulled out from the front of valve. Remove and discard O-RINGS [46,47 and 35].

### VALVE ASSEMBLY SEQUENCE

SLIDER AND SEAL INSTALLATION: Insert SEALS [46,47 and 35] into the proper grooves in the valve body. Lubricate SEALS and SLIDER with silicone grease. Push SLIDER [48] into the valve body.

HANDLE INSTALLATION: Insert DETENT SPRINGS [41] and DETENT FOLLOWERS [42] into the handle lugs, then snap the handle into place with offset holes FORWARD. Carefully align the groove on SLIDER [48] with offset hole in handle. Apply Loctite to the SAFETY SCREW [36] and start into offset hole which is closest to the front end of the valve. Screw down into engagement with groove in slider until head of screw is flush with handle. Repeat procedure for CAM SCREW [38]. Apply Loctite to (2) HANDLE SCREWS [40] and insert through the lower holes on handle. Thread each into corresponding center trunnion hole. Tighten HANDLE SCREWS [40] securely. Handle should click firmly and smoothly into all detent positions. Per NFPA #1964 section 2-3.5, force to move handle should be between 3 and 16 lbs applied at top center of handle.

VALVE SHUTOFF ADJUSTMENT: Shutoff sealing of valve is adjusted by the threads between the valve body and the front portion of the nozzle. While holding the HANDLE ASSEMBLY [37] against stops in the OFF position, screw front end into the valve body until contact with the valve plug is felt. Open handle to ON position to remove contact. Screw together 1/12 turn further to give the valve shutoff compression. Loctite and replace #10-32 x 1/4 SOCKET SET SCREWS [45]. Thread in both #10-32 x 1/4 SOCKET SET SCREWS [45] until they bottom out without applying pressure. In an alternating fashion, continue turning in set screws until tight.

VALVE ADJUSTMENT FOR SEVERE COLD: To help prevent hose line freezing in cold climates, the valve may be adjusted for intentional leakage by unscrewing the front end slightly. The valve may then be returned to normal adjustment during warm weather as stated above.

## FRONT END SERVICE PROCEDURE

#### Tools Required:

3/16" Allen (hex) Wrench	Oxyacetylene Torch
7/32" Allen (hex) Wrench	Bench Vice
.015 Feeler Gage (HD563) (TH502)	Shaper Removal Jig
Loctite #271 Thread Locking Adhesive	Strap Wrench

**NOTICE:** The pressure control unit is part of the BARREL ASSEMBLY [50 or 54]. This unit is factory calibrated and sealed. Service on this unit **MUST** be performed at the factory using special tooling and equipment. In the unlikely event that this unit should need service, please return the complete nozzle to the factory for repairs OR replace the entire BARREL ASSEMBLY [50 or 54]. **DO NOT ATTEMPT TO DISASSEMBLE THE PRESSURE CONTROL UNIT!** Task Force Tips will assume NO liability for damage or injury resulting from attempts to disassemble or repair the pressure control unit.

## FRONT END DISASSEMBLY SEQUENCE

BAFFLE REMOVAL: Heat and remove the END SCREW [67] using a 7/32" Allen wrench. Pull BAFFLE [66] off the shaft. Remove and discard the O-RING [65] from the shaft.

SHAPER REMOVAL: The rubber bumper is permanently bonded onto the shaper as a single unit, SHAPER WITH BUMPER [64]. Grip rear portion of the nozzle in service fixture (TH502) held in a bench vise. Direct a hot narrow flame around the rear portion of

of the SHAPER WITH BUMPER [64]. Heat for approximately 20 seconds, being careful not to damage the rubber bumper or labels (a wet cloth around these areas will help). Use a strap wrench to unscrew the SHAPER WITH BUMPER [64] from the SHAPER GUIDE [56]. Remove the SHAPER WITH BUMPER [64]. Inside the SHAPER WITH BUMPER [64] are (46) 3/16" DELRIN BALLS [63], some of which may fall free as it is removed. If SHAPER WITH BUMPER [64] is to be reused, clean ball track and replace O-RING 336 [62].

SHAPER GUIDE REMOVAL: The SHAPER GUIDE [56] does not need to be removed in order to service the BAFFLE [66] or BARREL CONE [61]. To service the SHAPER GUIDE [56], heat and remove (2) 3/8-24 x 3/8 DOG POINT SCREWS [52] with a 3/16" Allen wrench. The SHAPER GUIDE [56] can now be removed.

BARREL CONE SUB-ASSEMBLY REMOVAL: Heat and remove (2) 3/8-24 x 3/8 DOG POINT SCREWS [52] from the BARREL ASSEMBLY [50 or 54] using a 3/16" Allen wrench. Place the BARREL CONE [61] face down on the work surface. Pull the BARREL [50 or 54] up and clear of the BARREL CONE [61]; (4) spring loaded pins will be visible in the back of the barrel cone. Remove (4) FLUSH PINS [58] and (4) FLUSH SPRINGS [60]. Remove and replace O-RING 224 [57].

## FRONT END ASSEMBLY SEQUENCE

BARREL CONE INSTALLATION: Insert (4) FLUSH PINS [58] and (4) FLUSH SPRINGS [60] into holes. Lubricate O-RING 224 [57] and O-RINGS 228 [53]. Slide the BARREL ASSEMBLY [50 or 54] down onto the BARREL CONE [61]. Apply Loctite to the (2) 3/8-24 x 3/8 DOG POINT SCREWS [52] and start into BARREL ASSEMBLY [50 or 54]. Turn in both screws until they bottom gently into their slots. Back each screw out 1/2 turn. Check barrel cone for smooth sliding action. If binding is felt, then readjust DOG POINT SCREWS [52].

SHAPER GUIDE INSTALLATION: Slide the new SHAPER GUIDE [56] into place. Apply Loctite to the (2) 3/8-24 x 3/8 DOG POINT SCREWS [52]. Screw them into the SHAPER GUIDE until contact is felt. Finally, back each screw out 1/2 turn.

SHAPER INSTALLATION: Install O-RING 336 [62] in the groove nearest the fog teeth inside the SHAPER WITH BUMPER [64]. Grease the O-RING and ball groove heavily. Place (46) 3/16" DELRIN BALLS [63] into the greased ball groove. Apply Loctite to male threads on the outside of the SHAPER GUIDE [56]. Start shaper onto the shaper guide threads and screw down until threads bottom. Per NFPA #1964 section 2-3.6, torque required to rotate shaper should be between 6 and 86 in-lbs.

BAFFLE INSTALLATION: Install a new O-RING [65] onto the end of the shaft. Push the BAFFLE [66] onto the shaft. Place two .015 thick feeler gages (HD563) between the BAFFLE [66] and the BARREL CONE ASSEMBLY [61] on opposite sides of the BAFFLE [66]. Be sure that the BARREL CONE [61] is in straight stream by rotating the SHAPER WITH BUMPER [64] forward. Apply Loctite to the END SCREW [67] threads and screw into the shaft with a 7/32" Allen wrench until baffle contacts feeler gages. Light drag should be felt evenly on both feeler gages. Allow Loctite to set for 1 hour before flowing water. Always flow test after any adjustment to baffle. Nozzle should flow 50 GPM at 80 PSI and 250 GPM at 110 PSI.

## PROBLEMS

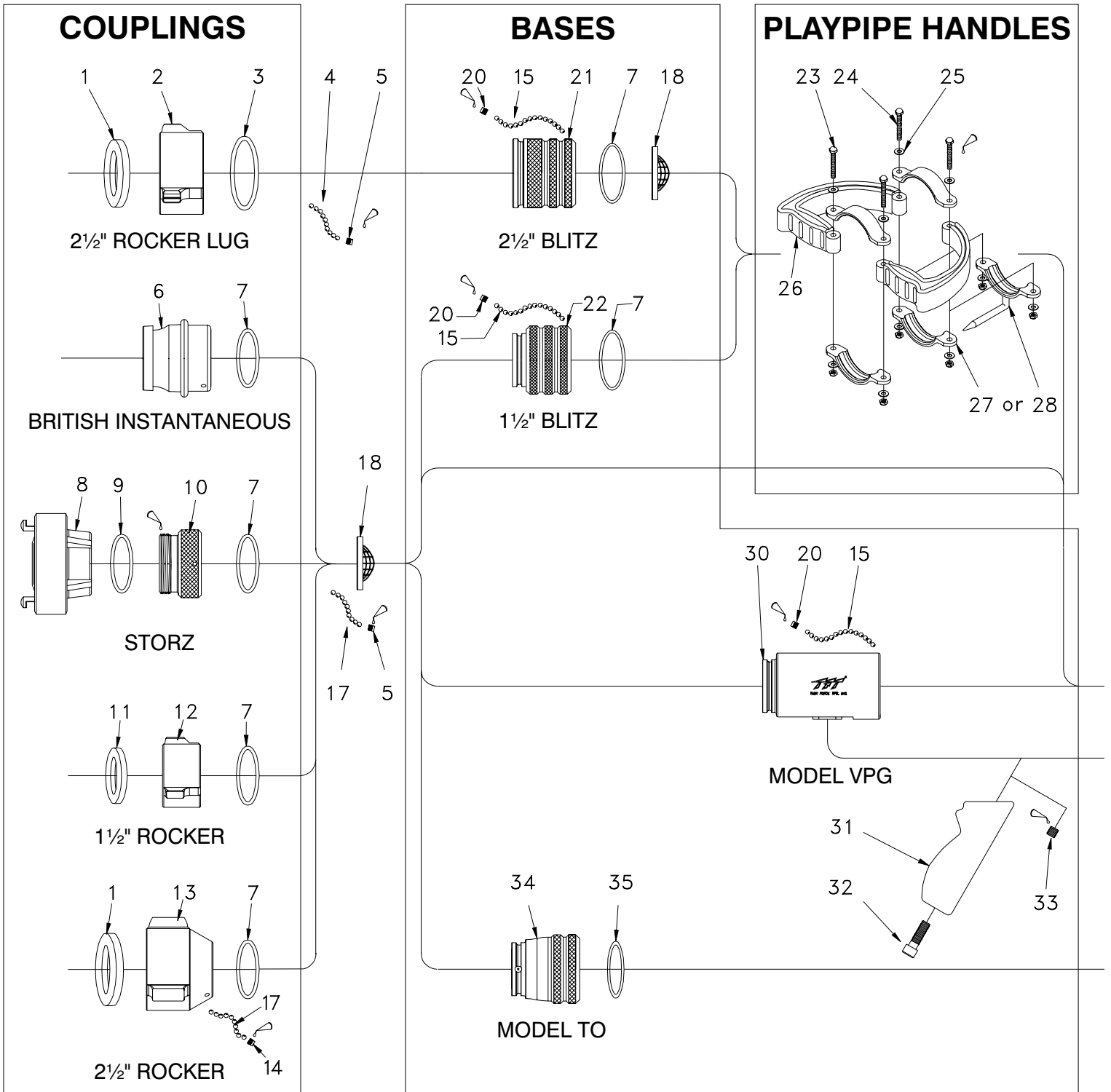
If you have any questions or problems, please feel free to call for assistance.

**2800 East Evans Avenue, Valparaiso, IN 46383-6940**  
**800-348-2686 • Fax 219-464-7155 • <http://www.tft.com>**

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# HANDLINE NOZZLE

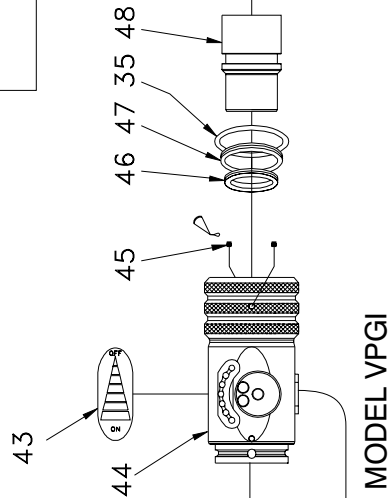
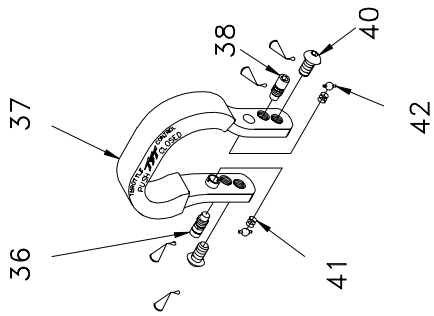
Maintenance and Service Procedure  
For models manufactured after 1983



# HANDLINE NOZZLE

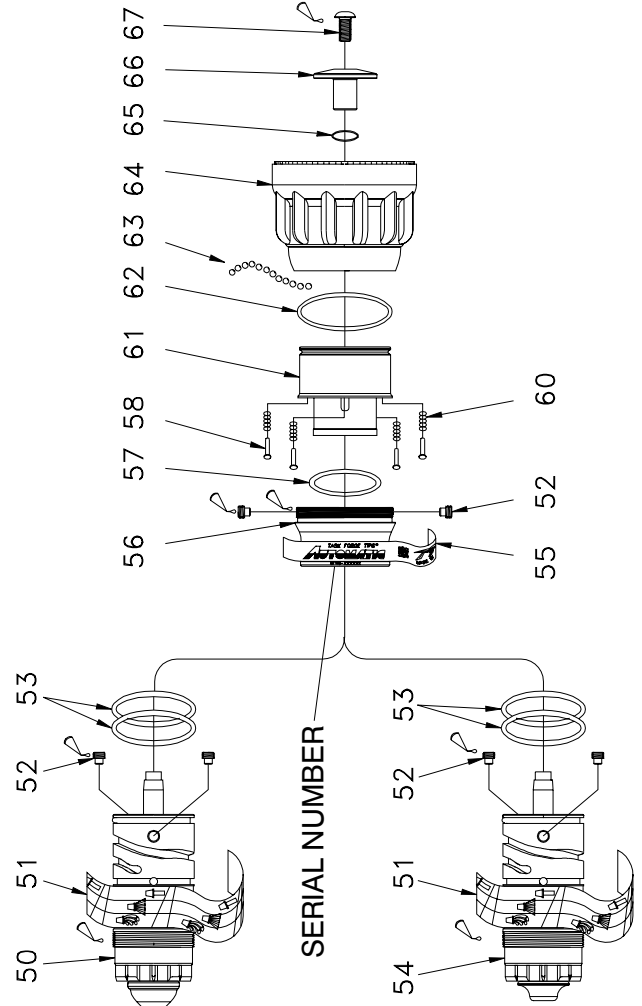
Maintenance and Service Procedure  
For models manufactured after 1983

## SLIDE VALVE



MODEL VPGI

## FRONT END



SERIAL NUMBER

# HANDLINE NOZZLE

## Maintenance and Service Procedure For models manufactured after 1983

### PARTS LIST

Ref#	Description	QTY	ORDER #	Ref#	Description	QTY	ORDER #
1	2.5" Coupling Gasket	1	V3190	30	Pistol Grip Body	1	H692
2	2.5" Rocker Lug Coupling	1	P197*	31	Pistol Grip	1	HM690
3	O-ring 151	1	VO-151	32	Pistol Grip Bolt - 1.20 Long	1	HM637
4	3/16 SS Balls	48	V2120	33	3/8-24 x 3/8 Socket Set Screw	1	VT37-24SS375
5	1/4-28 x 3/16 Socket Set Screw	1	VT25-28SS187	34	Tip Only Base	1	H670
6	2.5" BIC Coupling	1	H687	35	O-ring 143	1	VO-143
7	O-ring 141	1	VO-141	36	Safety Screw	1	H635
8	52mm Storz Coupling	1	H686	37	Valve Handle	1	H620
9	O-ring 134	1	VO-134	38	Cam Screw	1	H630
10	2.0" BSP Male Swivel	1	H685	40	Handle Screw	2	H645
11	1.5" Coupling Gasket	1	V3130	41	Detent Spring	2	H770
12	1.5" Rocker Lug Full Time Coupling	1	H694*	42	Detent Follower	2	H615
13	2.5" Rocker Lug Coupling	1	P198*	43	Valve Label	1	H750
14	1/4-28 x 1/4 Socket Set Screw	1	VT25-28SS250	44	Stuffed H600 Valve Body	1	H900S
15	3/16 SS Balls	37	V2120	45	#10-32 x 1/4 Socket Set Screw	2	VT10Y32S250
17	3/16 SS Balls	38	V2120	46	QuadX-4326	1	VOQ-4326
18	1.5" Hard Gasket Grabber	1	H730-60D	47	QuadX-4225	1	VOQ-4225
20	1/4-28 x 3/8 Socket Set Screw	1	VT25-28SS375	48	Slider	1	H660
21	2.5" Blitz Base	1	H675	50	Barrel Assembly - Standard	1	H810
22	1.5" Blitz Base	1	H674	51	Barrel Label (Included in Barrel Ass'y)	1	H740
23	1/4-20 Acorn Nut - Stainless	8	VT25E20AC	52	3/8-24 x 3/8 Dog Point	4	H515
24	1/4-20 x 2" Stud - Stainless	4	VT25-20SD2.0	53	O-ring 228 (Included in Barrel Ass'y)	2	VO-228
25	1/4 Washer #AN960C416	8	VW500X265-63	54	Barrel Assembly - Tip Only	1	H820
26	Playpipe Handle	2	P220	55	Name Label	1	H745
27	Blitz Bracket	4	H676	56	Shaper Guide	1	H510
28	Blitz Bracket w/ Hook	1	H677	57	O-ring 224	1	VO-224
				58	Flush Pins	4	H790
				60	Flush Springs	4	H780
				61	Barrel Cone	1	H520
				62	O-ring 336	1	VO-336
				63	3/16 Delrin Ball	46	V2115
				64	Shaper with Bumper	1	H500
				65	O-ring 013	1	VO-013
				66	Baffle	1	H561
				67	End Screw	1	H550

\* - SPECIFY THREAD

#### REPAIR KITS

Shaper Kit	H940-KIT	Handle Kit	H950-KIT
Valve Seal Kit	H960-KIT	Front End Seal Kit	H965-KIT

For complete list of service fixtures and repair kits, see document #LOT-013. (Nozzle Repair Kits and Service Fixtures)

# FIELD LUBRICATION PROCEDURE — USE THIS PROCEDURE ONLY IF THE NOZZLE CONTROLS BEGIN TO TIGHTEN

All Task Force Tips nozzles are factory lubricated with high quality silicone grease. This lubricant has excellent washout resistance and long term performance in fire fighting nozzles. If your department 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 LUBRICATION IS NEEDED.** Any nozzle that is not operating correctly should be immediately removed from service.

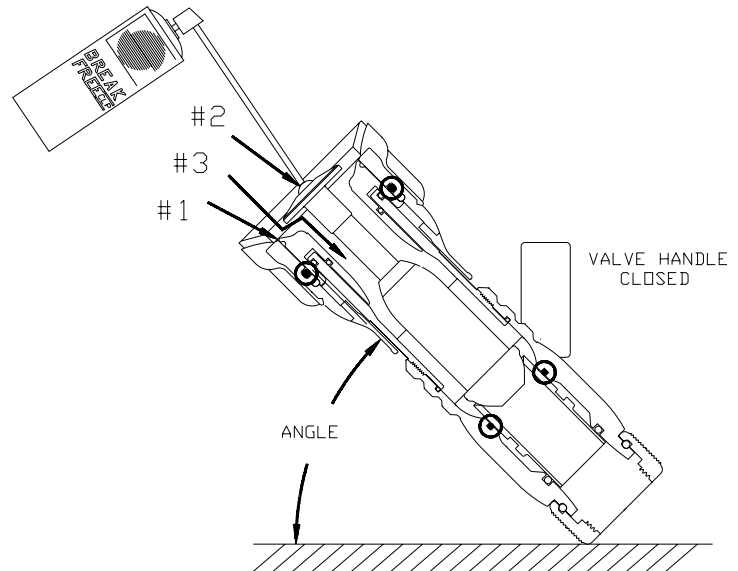
Field use of Break Free CLP (spray or liquid) lubricant will help to restore the smooth and free operation of the nozzle. However, these lubricants do not have the washout resistance and long term performance of the silicone grease. Therefore, continued re-application of Break Free CLP will be needed on a regular basis. **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.

The nozzle can be returned to the factory for a complete checkup and relubrication with silicone grease.

## PART ONE — 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 5 second burst in these areas:

- #1 FRONT PATTERN CONTROL SEAL**  
Spray between the pattern control and the barrel cone.
- #2 PRESSURE CONTROL UNIT**  
Spray down the center of the end screw.
- #3 FRONT SLIDER SEAL**
  - a) Rotate shaper into FLUSH position.
  - b) Spray down the front end of the nozzle to dribble lubricant into the clearances between the slider and the valve body.

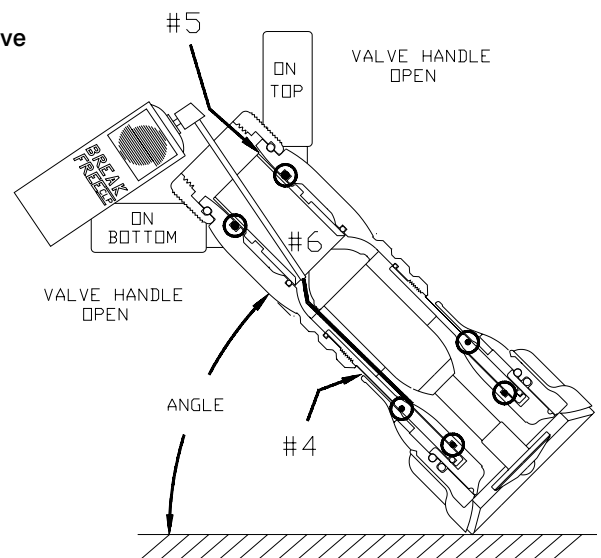


While holding nozzle at the angle, wait 30 seconds for the lubricant to penetrate into the clearances. Cycle the valve handle and rotate the shaper from straight stream to full flush several times, and then proceed to the next section.

## PART TWO — 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 5 second burst in these areas:

- #4 REAR SHAPER SEAL**  
Spray down the clearance between the label and the shaper guide.
- #5 REAR SLIDER SEAL**  
Spray into the clearance between the slider and the valve body.
- #6 FLUSH MECHANISM SEAL**
  - a) With the handle on the top, spray down into the nozzle. The aerosol extension tip will help direct the spray into the clearance leading to the O-ring.
  - b) Rotate nozzle so the valve handle is on the bottom and spray another 5 second burst.
- #7 DETENTS IN THE HANDLE**  
Spray a small amount on the detent followers located in the handle.



While holding nozzle at the angle, wait 30 seconds, then 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 AND FREE OPERATION OF ALL THE MOVING PARTS, THEN FACTORY SERVICE IS NEEDED. Call the 24-HOUR HOT LINE 800-348-2686.**