

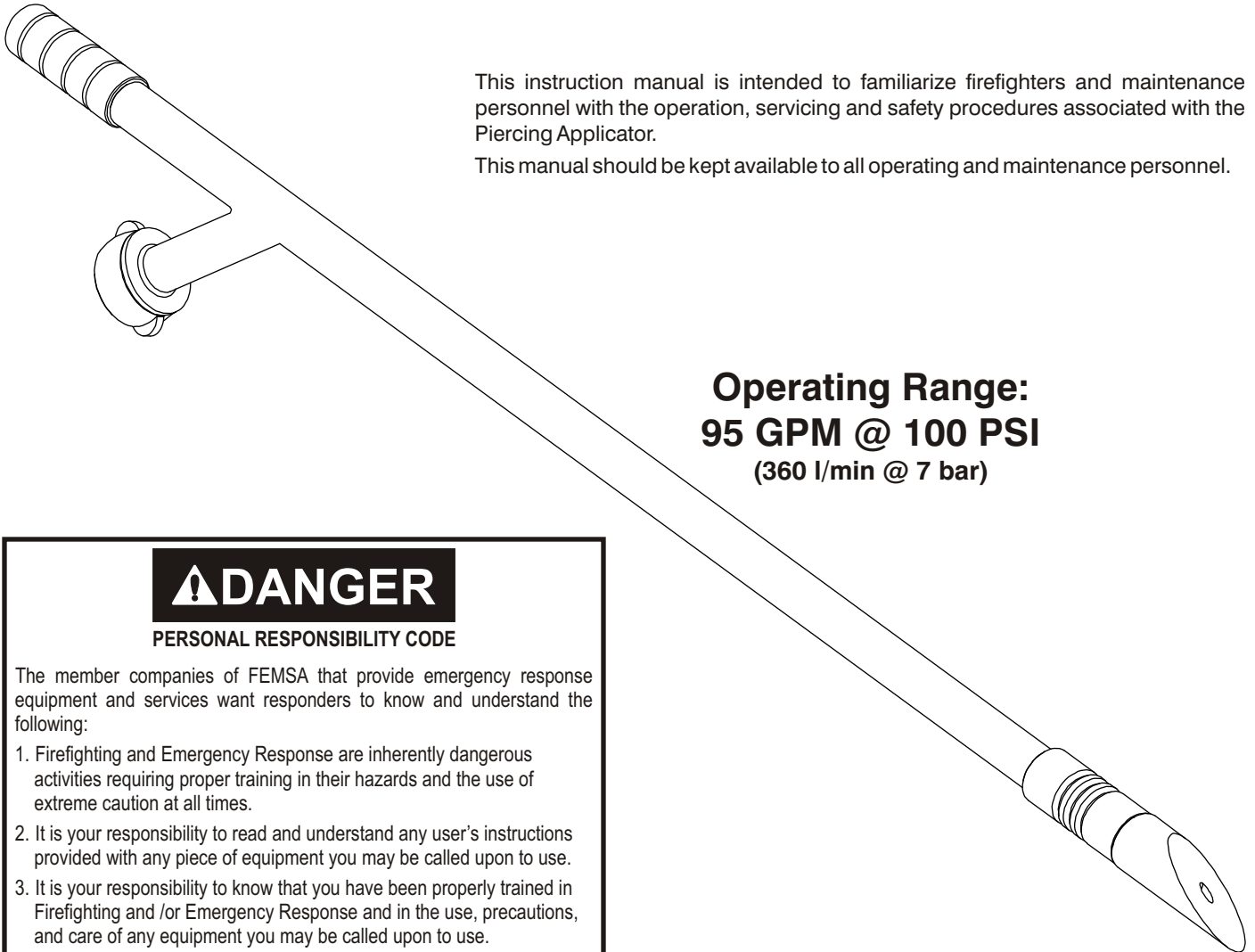


MANUAL: Piercing Applicator

INSTRUCTIONS FOR SAFE OPERATION AND MAINTENANCE

WARNING

Read instruction manual before use. Operation of this device without understanding the manual and receiving proper training is a misuse of this equipment. A person who has not read and understood all operating and safety instructions is not qualified to operate the Piercing Applicator.



This instruction manual is intended to familiarize firefighters and maintenance personnel with the operation, servicing and safety procedures associated with the Piercing Applicator.

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

Operating Range:
95 GPM @ 100 PSI
(360 l/min @ 7 bar)

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 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.



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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 standard Z535.4-1998 the definitions of the three signal words are as follows:

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

▲ WARNING WARNING indicates a potentially 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.

2.0 GENERAL INFORMATION

The Task Force Tips Piercing Applicator is designed to deliver water or foam solutions to areas inaccessible to the fire fighter. It is primarily constructed of chrome-plated stainless steel and brass and features a hardened Chromium-Molybdenum steel point for driving through concrete block, mobile homes, drywall, hay bails, or other barriers. If necessary, the handle at the rear of the nozzle may be struck with a hammer or flat head axe to drive it through a barrier. A series of impinging jets near the tip apply a dense fog pattern. A swivel coupling with 1.5" NH (38mm) female hose thread is standard (National Hose Threads per NFPA #1963).

The applicator is intended to be used with a shutoff valve on the inlet of the applicator.

▲ 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.

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

▲ CAUTION Do not couple aluminum to brass. Dissimilar metals coupled together can cause galvanic corrosion that can result in inability to unscrew threads or complete loss of thread engagement.

3.0 SAFETY

▲ WARNING The heavy piercing tip is capable of inflicting serious injury or damage if dropped or applied with force. The Piercing Applicator is NOT suitable for use as a pry bar under any circumstance.

▲ WARNING Water is a conductor of electricity. Application of water and/or foam solutions on energized electrical 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

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

▲ WARNING Penetrating a wall or other barrier may place the Piercing Applicator in close proximity to exposed electrical wiring or equipment. Failure to disable electrical service prior to use could result in electrocution causing serious injury or death.

▲ 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.

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

4.0 USE WITH SALT WATER

Use with salt water 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.

5.0 FLOW CHARACTERISTICS

At 100 PSI (7 Bar) pressure, the piercing applicator nozzles flow 95 ± 5 GPM (360 L/min). Water or foam solution shoots radially in uniform jets all around the circumference of the tip. A ball shut off valve connected to the piercing applicator by a short length (approximately 6' to 8') of hose is recommended for easier insertion of the piercing applicator.

⚠ 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. Call 800-348-2686 for assistance.

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

⚠ WARNING Large amounts or pieces of debris 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 nozzle and remove debris.

6.0 FOAM USAGE

The Task Force Tips Piercing applicator is ideal for use with Class A and AFFF Class B foams. 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. Always flush the nozzle thoroughly with water after foam use.

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.*

⚠ 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.

⚠ 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.

7.0 FIREGROUND USE

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 is being generated. The flow rate depends largely on the pump discharge pressure and hose friction loss. The pump discharge pressure may be found by use of the chart on the last page. It can also be calculated using a hydraulic equation such as:

$$\text{PDP} = \text{NP} + \text{FL} + \text{DL} + \text{EL}$$

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

For additional information on calculating specific hose layouts, consult an appropriate fire-service training manual, A Firefighters Guide to Nozzles published by Task Force Tips, or call TFT's "Hydraulics Hotline" at 800-348-2686, request document #LTT-110.

8.0 INSPECTION AND MAINTENANCE

The Piercing Applicator is 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.

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

- None of the nozzle jets are clogged
- There is no obvious damage such as missing, broken or loose parts, etc
- The coupling is tight and leak free

▲WARNING

Before each use nozzle must be inspected for proper operation and function according to inspection criteria above. Any nozzle that fails inspection is dangerous to use and must be repaired before using. Operating a nozzle that fails any part of the inspection is a misuse of this equipment.

▲WARNING

Performance tests shall be conducted on the Piercing Applicator after a repair, or anytime a problem is reported to verify operation in accordance with Task Force Tips test procedures. Consult factory for the procedure that corresponds to the model of the nozzle. Any equipment which fails the related test criteria should be removed from service immediately. Equipment can be returned to the factory for service and testing.

▲CAUTION

Any alterations to the piercing applicator constitutes a misuse of this product and could diminish safety.

9.0 WARRANTY

Task Force Tips, Inc., 2800 East Evans Avenue, Valparaiso, Indiana 46383-6940 ("TFT") warrants to the original purchaser of its Piercing Applicator Nozzle ("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 2800 East Evans Avenue, Valparaiso, Indiana 46383-6940, 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.

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