



## OPERATING INSTRUCTIONS

### 1½" TURBOJET® NOZZLES & TIPS

The following is intended to provide the basic instructions for operating a Turbojet nozzle. Read and understand these operating instructions before use.

#### PRODUCT RATINGS:

Maximum Pressure: 230 psi/16 bar.

#### PRODUCT WARNINGS:

- ⚠ WARNING: Charge all lines slowly to facilitate a controlled water pressure build-up during start-up. Open and close slowly. Rapid opening will produce a sudden thrust. Rapid opening and closing can cause water hammer. Have enough firefighters on the line to safely control the reaction force created by the stream.
- ⚠ WARNING: At pressures below that indicated on the label, the nozzle will have reduced flow and reach. Be sure you have enough flow and pressure for the situation (See IFSTA and NFPA manuals for guidelines).
- ⚠ WARNING: Do not use the Turbojet nozzle in portable hose holders.
- ⚠ WARNING: Ensure the Turbojet is aimed in a direction that is safe, prior to opening the shutoff bale.
- ⚠ WARNING: Do not use the Turbojet as a forcible entry tool. Doing so may damage it or make it inoperable.
- ⚠ WARNING: Ensure the thread on the nozzle swivel is matched to the thread on the hose connection.
- ⚠ WARNING: Do not use a Turbojet tip as a shut-off when testing hose.
- ⚠ WARNING: When operating at lower pressures the hose can kink more easily. A kink in the hose chokes off the flow, which may result in inadequate flow for the situation.

#### PRODUCT CAUTIONS:

- ⚠ CAUTION: If any tags or bands on the nozzle are worn or damaged and cannot be easily read, they should be replaced.
- ⚠ CAUTION: For use with fresh water or standard firefighting foams only. Not recommended for use with salt water. After use with foam or salt water, flush with fresh water.
- ⚠ CAUTION: For firefighter use only.
- ⚠ CAUTION: When using with an eductor, make sure the nozzle is properly matched to the eductor. If they are not, the nozzle flow, pressure, and reach may be reduced or the eductor may shutdown. Do not throttle your Turbojet with an eductor in the line. This can cause the eductor to shut down.
- ⚠ CAUTION: Do not overtighten the nozzle onto the hose connection.
- ⚠ CAUTION: The nozzle is configured for optimum performance. Do not alter in any manner.
- ⚠ CAUTION: Do not expose the pistol grip or shutoff handle to Trichlorethylene or Trichlorethane. these chemicals can weaken the parts and make the nozzle inoperable over time.
- ⚠ CAUTION: Your nozzle should be inspected prior to and after each use, to ensure it is in good operating condition. Periodically, an unanticipated incident may occur where the nozzle is used in a manner that is inconsistent with standard operating practices and those listed in IFSTA. A partial list of potential misuses follows:
  - Operating above maximum rated pressure and flow.
  - Not draining, and allowing water to freeze inside the nozzle.
  - Dropping the nozzle from a height where damage is incurred.
  - Prolonged exposure to temperatures above +130 degrees F, or below -25 degrees F.
  - Operating in a corrosive environment.
  - Other misuse that might be unique to your specific fire fighting environment.

There are many “tell tale” signs that indicate nozzle repair is in order, such as

- Controls that are inoperable or difficult to operate.
- Excessive wear.
- Poor discharge performance.
- Water leaks.

If any of the above situations are encountered, the nozzle should be taken out of service and repaired, plus tested by qualified nozzle technicians, prior to placing it back in service.

## A. OPERATING INSTRUCTIONS

### BALL SHUTOFF

- Open and close slowly.
- To open: Pull the handle toward the inlet.
- To close: Push the handle towards the outlet.

### TIP WITH TWIST SHUTOFF

- Open and close slowly.
- To Open: Rotate the pattern sleeve / bumper counterclockwise to the desired spray angle. Note: The tip opens in a straight stream pattern.
- To Close: Rotate the pattern sleeve / bumper clockwise until it closes.

### NOZZLE & TIP

- To change the spray angle rotate the pattern sleeve/bumper. Rotate it clockwise for straight stream and counterclockwise for wide fog.
- To flush the nozzle, rotate the flow control ring counterclockwise to the FLUSH setting. Rotate slowly back to the required setting when obstruction is flushed.
- Turbojet nozzles have various flow settings indicated on flow control ring. To change the flow rate, slowly rotate the flow control ring to the required setting and adjust your engine to provide the rated pressure at the inlet of the nozzle.
- To determine the required engine pressures to achieve the flow setting, use the following formula: Engine pressure (EP)= Friction Loss (FL) + Nozzle Pressure (NP) + pressure loss or gains due to elevation (1/2 psi per foot of height difference).

### FOR USE WITH CAFS

- For optimal CAFS Bubble Structure place the TurboJet pattern in straight stream and turn the Selection Ring to FLUSH.

## B. MAINTENANCE

- Under normal conditions, periodically flushing the nozzle with clean water and cleaning grit and dirt from around exterior moving parts will allow the nozzle to operate as designed.
- Over time the seals and turbine teeth may need replaced. This can be accomplished by purchasing the appropriate Akron repair kit. Use Qualified maintenance mechanics or return the nozzle to Akron Brass for repair.
- Regularly check the baffle screw to be sure it is tight
- Use low temp Lubriplate on metal parts and Parker O-Ring lubricant on O-Rings.



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