



STYLE 1703 1" TURBOJET® TIP OPERATING INSTRUCTIONS

The following is intended to provide the basic instructions for operating a 1" Turbojet tip.

PRODUCT WARNINGS

- Maximum operating pressure 580 psi/40 bar.
- Not for use on electrical fires.
- At pressures below 100 psi, the nozzle will have reduced flow and reach. Be sure you have enough flow and pressure for the situation (See ISFTA and NFPA manuals for guidelines).
- Open and close twist shut-off slowly. Rapid opening will produce a sudden thrust. Rapid opening or closing can cause water hammer.
- If any tags or bands on the nozzle are worn or damaged and cannot be easily read, they should be replaced.
- The amount of flow to a nozzle is controlled at the pump, not at the nozzle. Therefore, unanticipated increases and decreases in flow can occur without the knowledge of the nozzle operator. This can cause serious consequences (i.e. too little flow to extinguish the fire, or increased reaction force which the nozzle operator may be unable to handle).
- Pulsing the shutoff can be accomplished with the Style 1703 Turbojet tip. However, you must assure that all equipment used with the nozzles can withstand the resulting peak pressures and that the fire fighter is aware and can effectively support the sudden change in nozzle reaction when pulsing.

GENERAL INSTRUCTIONS

- Not recommended for use with salt water.
- After use with foam, or salt water, flush with fresh water.
- Have enough firefighters on the line to safely control the reaction force created by the stream.
- Turbojet nozzles are labeled for the flow and pressure at which they are set.
- Charge all lines slowly to facilitate a controlled water pressure build-up during start-up.
- For firefighters use ONLY.
- For use with water or standard fire fighting foams ONLY.
- Do not use a Turbojet tip as a shut-off when testing hose.
- Ensure your Turbojet is properly matched to your eductor.
- Do not use your Turbojet to throttle flow with an eductor in the line. This can cause the eductor to shut down.
- Do not use Turbojet nozzles in portable hose holders.
- Ensure the Turbojet is aimed in a direction that is safe, prior to operating.
- Do not use the Turbojet as a forcible entry tool.
- Ensure that the thread on the nozzle swivel is matched to the thread on the hose connection.
- Do not overtighten the nozzle onto the hose connection.
- The nozzle is configured for optimum performance. Do not alter in any manner.
- Throttling the shutoff will adversely affect the stream performance of the nozzle.

OPERATING GUIDELINES

SHUTOFF

- Tips with a twist shutoff.
To open: Rotate the pattern sleeve/bumper counterclockwise.
To close: Rotate the pattern sleeve/bumper clockwise.

NOZZLE

- To change the spray pattern rotate the pattern sleeve/bumper. Rotate it clockwise for straight stream (designated by a I) and counterclockwise for wide fog (designated by a V).
- Turbojet tips have multiple flow settings indicated on the flow control ring. To change the flow rate, slowly rotate the flow control ring to the required setting and adjust your engine to provide 100 psi at the inlet of the nozzle.
- To determine the required engine pressures, use the following formula: Engine pressure (EP) = Friction loss (FL) + Nozzle pressure (NP) + pressure loss or gain due to elevation ($\frac{1}{2}$ psi per foot of height difference).
- To flush the nozzle, rotate the flow control ring counterclockwise to the FLUSH setting. Rotate back to the required setting when obstruction is flushed.

NOTE: Changing the flow control ring without adjusting the pressure will affect your actual flow rate — i.e, if you change to a higher flow setting, your inlet pressure will decrease and your flow will be less than shown on the flow control ring. If you change to a lower flow setting, your inlet pressure will increase and your flow will be more than shown on the flow control ring.

Changing the flow changes the reaction force.

Pump curves, hose size and length, elevation, etc., will affect actual results.

MAINTENANCE

- Your nozzle should be inspected prior 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 nozzle.
 - Dropping nozzle from a height where damage is incurred.
 - Prolonged exposures to temperatures above +130° F, or below -25° F.
 - Operating in a corrosive environment.
 - Other misuse that might be unique to your specific fire fighting environment.

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

- Controls that are either 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, then tested by qualified nozzle technicians, prior to placing it back into service.

- 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, if applicable, may need to be replaced. This can be accomplished by purchasing the appropriate Akron repair parts. Use qualified maintenance mechanics or return the nozzle to Akron Brass for repair.
- Regularly check the baffle screw to be sure it is tight.



PHONE: 330.264.5678 or 800.228.1161 | FAX: 330.264.2944 or 800.531.7335 | akronbrass.com

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