The following is intended to provide the basic instructions for operating a Renegade 5000 gpm nozzle. Read and understand these operating instructions before use.

**PRODUCT RATINGS**
- Flow: 5000 gpm at 80 psi
- Maximum Pressure: 200 psi/14 bar
- Minimum Voltage at motor: 12 Volt Motor: 10 volts at 10 amps
  - 24 Volt Motor: 20 volts at 5 amps
- Maximum Motor Current Draw: 12 Volt Motor: 3.3 amps
  - 24 Volt Motor: 1.6 amps

**PRODUCT WARNINGS**
- **WARNING:** Charge all lines slowly to facilitate a controlled water pressure build-up during start-up. Open and close water supply slowly. Rapid opening will produce a sudden thrust. Rapid opening and closing can cause water hammer. Have your monitor properly supported to control the reaction force created by the stream.

- **WARNING:** Ensure the Renegade is aimed in a direction that is safe, prior to flowing.

**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 fire fighting foams only. Not recommended for use with salt water. After use with foam or salt water, flush with fresh water.
- **CAUTION:** For firefighting use only.
- **CAUTION:** The nozzle is configured for optimum performance. Do not alter in any manner.
- **CAUTION:** 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 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 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, plus tested by qualified nozzle technicians, prior to placing it back in service.

OPERATING INSTRUCTIONS
To change the spray angle, push the toggle switch to either SS (straightstream) or fog.

DETERMINING FLOW
In determining flows or attempting to achieve specific flows with an automatic nozzle, it is important to understand that:

The Renegade Nozzle closely maintains 80 P.S.I. nozzle pressure over the nozzle’s operating range. Consequently, you can use the following formula to determine given flows:

\[
EP = FL + NP \pm (\text{loss or gain due to elevation})
\]

EP = Engine Pressure
FL = Friction loss for plumbing and appliance loss at the desired GPM
NP = Nozzle Pressure

NOTE: Loss or gain due to elevation = approximately 1/2 P.S.I. per foot of height difference between the nozzle and the pump.

With an Renegade Nozzle, assign 80 P.S.I. nozzle pressure at all times.

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 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.