Snow Performance SNO-210-BRD

Snow Performance Stage 2 Boost Cooler™ Forced Induction Progressive Water-Methanol Injection Kit

MODEL: SNO-210-BRD

1. Introduction

This manual provides comprehensive instructions for the installation, operation, and maintenance of your Snow Performance Stage 2 Boost Cooler™ Forced Induction Progressive Water-Methanol Injection Kit. This system is designed to enhance engine performance and efficiency in forced induction applications by precisely injecting a water-methanol mixture.

Kit Contents:

- 300 PSI UHO Pump
- 3-Quart Tank
- Adjustable Progressive VC-50 Controller/Harness
- (1) 1-foot, (1) 2-foot, (1) 5-foot Stainless Steel Braided Lines
- Boost Line/Required Hardware
- Required 4AN Fittings
- SP Decal
- Self-Sealing Level Sensor
- Snow Performance Hypersonic Water-Methanol Nozzles/High Flow Check Valve

2. Safety Information

Read all instructions carefully before installation and operation. Failure to follow safety guidelines may result in property damage, injury, or death.

- Always disconnect the vehicle's battery before beginning any electrical work.
- Ensure the vehicle is cooled down before working on engine components.
- Wear appropriate personal protective equipment, including eye protection and gloves.
- Water-methanol mixtures are flammable. Handle with care in a well-ventilated area, away from open

flames or sparks.

- Secure all lines and electrical connections to prevent interference with moving parts or heat sources.
- If unsure about any installation step, consult a qualified automotive technician.

3. Components Overview

Familiarize yourself with the main components of your water-methanol injection kit.

Figure 3.1: Overview of the Snow Performance Stage 2 Boost Cooler kit, showing the tank, pump, controller, lines, and fittings.

Figure 3.2: The 3-quart fluid reservoir tank, designed to hold the water-methanol mixture.

Figure 3.3: The VC-50 progressive controller with its associated wiring harness, used for adjusting injection parameters.

4. Setup and Installation

Proper installation is crucial for the performance and reliability of your water-methanol injection system. It is recommended that installation be performed by a qualified professional.

1. **Tank Mounting:** Select a secure location for the 3-quart tank, ensuring it is easily accessible for refilling and away from extreme heat. Mount the tank using the provided hardware.
2. **Pump Installation:** Mount the 300 PSI UHO pump in a location that is protected from road debris and heat, preferably below the tank for gravity feed. Ensure the pump is securely fastened.
3. **Nozzle Placement:** Install the Hypersonic Water-Methanol Nozzles into the intake tract after the intercooler and before the throttle body. Ensure proper sealing with the 4AN fittings.

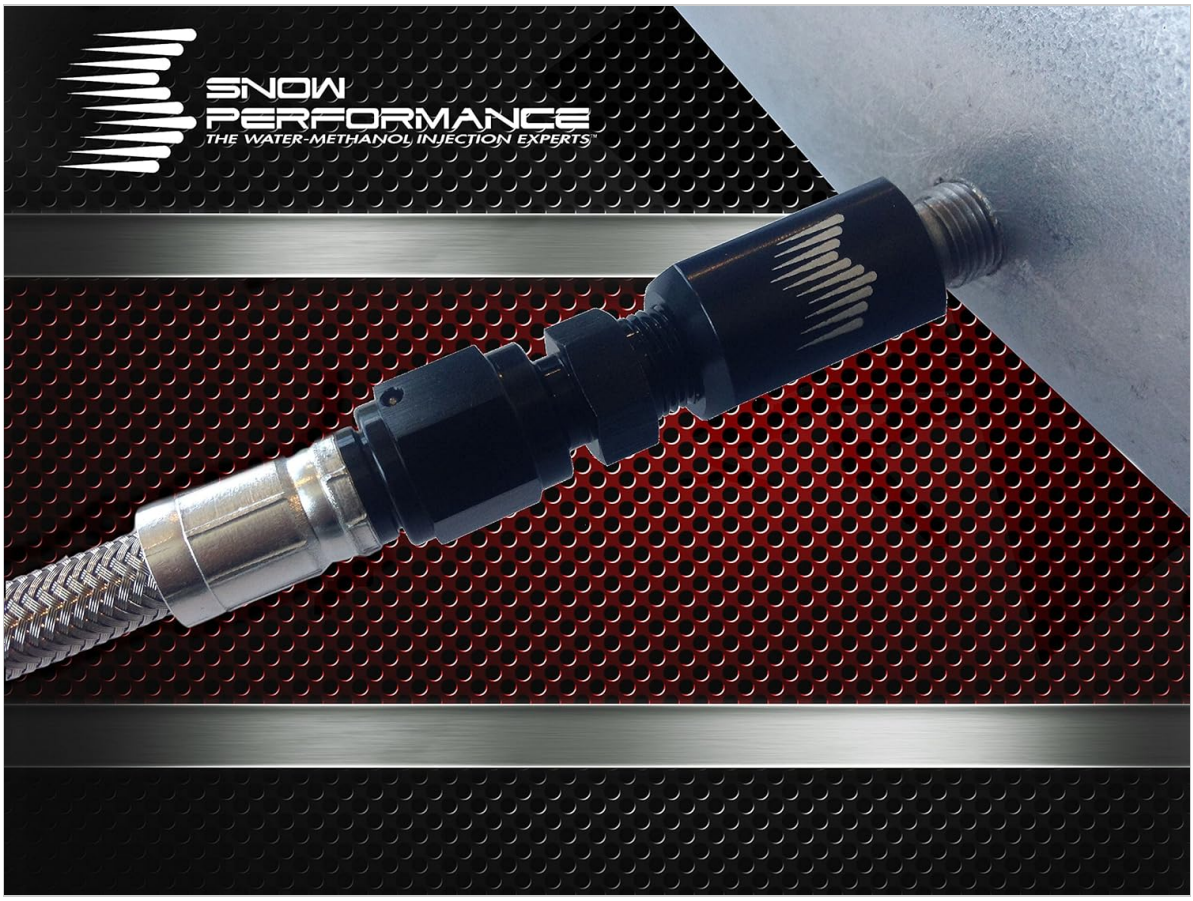

Figure 4.1: Detail of a water-methanol nozzle connected to a stainless steel braided line with 4AN fittings.

4. **Line Routing:** Route the stainless steel braided lines from the tank to the pump, and from the pump to the nozzles. Use the provided 4AN fittings for all connections. Ensure lines are secured, free from kinks, and away from moving parts or high-heat areas.
5. **Controller Wiring:** Connect the VC-50 controller harness according to the detailed wiring diagram provided in the separate wiring supplement (not included in this general manual). This includes power, ground, boost signal, and pump connections. The controller allows for adjustable boost-activated progressive water-methanol delivery.
6. **Level Sensor:** Install the self-sealing level sensor into the tank and connect it to the controller for low-level monitoring.

5. Operating Instructions

Once installed, the system operates automatically based on the settings configured on the VC-50 controller.

1. **Fluid Filling:** Fill the 3-quart tank with a suitable water-methanol mixture. Ensure the mixture is 100% methanol resistant. Do not use pure water or pure methanol unless specifically recommended for your application.
2. **Controller Adjustment:** The VC-50 controller allows you to set the boost pressure at which injection begins and the rate at which it progresses. Refer to the controller's specific manual for detailed programming instructions.

Figure 5.1: Example of the Snow Performance controller integrated into a vehicle's dashboard, displaying operational status.

3. **System Activation:** The system will activate automatically when the engine reaches the programmed boost threshold, progressively injecting the water-methanol mixture.
4. **Low Level Monitoring:** The self-sealing level sensor will alert you when the fluid level in the tank is low, indicating a need for refill.

6. Maintenance

Regular maintenance ensures optimal performance and longevity of your water-methanol injection system.

- **Fluid Level Check:** Regularly check the water-methanol fluid level in the tank and refill as needed.
- **Nozzle Inspection:** Periodically inspect the nozzles for any blockages or buildup. Clean them if necessary using a suitable solvent.
- **Line and Fitting Inspection:** Check all lines and 4AN fittings for leaks, wear, or damage. Tighten any loose connections.
- **Pump Functionality:** Listen for the pump's operation during system activation. Any unusual noises or lack of operation may indicate an issue.
- **Electrical Connections:** Ensure all electrical connections to the pump, controller, and sensor are secure and free from corrosion.

7. Troubleshooting

This section addresses common issues you might encounter with your water-methanol injection system.

Problem	Possible Cause	Solution
No fluid injection	Empty tank, clogged nozzle, pump malfunction, electrical issue, controller setting	Refill tank, clean/replace nozzle, check pump wiring/function, verify controller settings, check fuses
Low injection pressure	Low fluid level, pump issue, leak in lines, clogged filter	Refill tank, inspect pump, check all lines/fittings for leaks, clean/replace filter
System not activating	Incorrect controller settings, faulty boost signal, electrical issue	Review controller settings, verify boost signal connection, check power/ground connections
Fluid leaks	Loose fittings, damaged lines, faulty components	Tighten all 4AN fittings, inspect lines for damage and replace if necessary, check component integrity

For issues not covered here, or if troubleshooting steps do not resolve the problem, contact Snow Performance customer support.

8. Specifications

- **Model Number:** SNO-210-BRD
- **Pump Pressure:** 300 PSI (UHO Pump)
- **Tank Capacity:** 3 Quarts
- **Line Type:** Stainless Steel Braided Line
- **Fittings:** 4AN
- **Controller:** Adjustable Progressive VC-50
- **Methanol Resistance:** 100% Methanol Resistant Components
- **Item Weight:** Approximately 8.5 pounds
- **Product Dimensions:** Approximately 19.8 x 12.7 x 4.5 inches

9. Warranty Information

For detailed warranty information regarding your Snow Performance Stage 2 Boost Cooler™ kit, please refer to the warranty documentation included with your product packaging or visit the official Snow Performance website. Warranty terms and conditions are subject to change by the manufacturer.

10. Support

If you require further assistance with installation, operation, or troubleshooting, please contact Snow Performance customer support directly. Have your model number (SNO-210-BRD) and purchase information ready when contacting support.
Manufacturer: Snow Performance