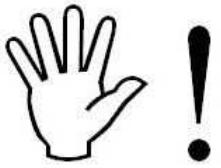
Instruction Manual

P/N 30-3313
Water/Methanol Injection V3 Nozzle Kit
Includes 250cc, 500cc, & 1000cc Atomizing Pintles



STOP!

THIS PRODUCT HAS LEGAL RESTRICTIONS.
READ THIS BEFORE INSTALLING/USING!

THIS PRODUCT MAY BE USED SOLELY ON VEHICLES USED IN SANCTIONED COMPETITION WHICH MAY NEVER BE USED UPON A PUBLIC ROAD OR HIGHWAY, UNLESS PERMITTED BY SPECIFIC REGULATORY EXEMPTION.

IT IS THE RESPONSIBILITY OF THE INSTALLER AND/OR USER OF THIS PRODUCT TO ENSURE THAT IT IS USED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. IF THIS PRODUCT WAS PURCHASED IN ERROR, DO NOT INSTALL AND/OR USE IT. THE PURCHASER MUST ARRANGE TO RETURN THE PRODUCT FOR A FULL REFUND.

THIS POLICY ONLY APPLIES TO INSTALLERS AND/OR USERS WHO ARE LOCATED IN THE UNITED STATES; HOWEVER CUSTOMERS WHO RESIDE IN OTHER COUNTRIES SHOULD ACT IN ACCORDANCE WITH THEIR LOCAL LAWS AND REGULATIONS.

WARNING!

Improper installation and/or adjustment of this product can result in major engine/vehicle damage. For technical assistance visit our dealer locator to find a professional installer/tuner near you.

Note: AEM holds no responsibility for any engine damage or personal injury that results from the misuse of this product, including but not limited to injury or death caused by the mishandling of methanol.

IMPORTANT SAFETY NOTICE REGARDING METHANOL

AEM *strongly* recommends that users never exceed a 50% methanol concentration when using any AEM Water/Methanol system or component.

All AEM water/methanol injection systems and components (pump, lines, fittings, filter, flow sensor, tank, and nozzles) are 100% chemically compatible with methanol. However, for safety reasons we strongly recommend that users never use more than a 50% methanol concentration in our systems.

Methanol is a toxic and highly flammable chemical. 100% methanol ignites easily and burns vigorously with an almost undetectable flame. Methanol can be absorbed through the skin, and even small amounts can cause blindness or even death. Using this fluid at high pressures, without dilution, in an under-hood environment with nylon lines and push-to-connect fittings is very unsafe. The performance advantages of using greater than 50% methanol concentrations are small, if they exist at all. However, the safety issues are very real and far outweigh any perceived benefit of running high concentrations of methanol.

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INSTALLATION

Nozzle Selection

This injection kit includes three differently sized atomizing pintles that cover a very large range of horsepower levels. Use the following chart to select the appropriate pintle for your power level. The kit comes with the 500cc pintle already preassembled.

HP	Fuel Flow N/A (.5 BSFC)	Fuel Flow F/I (.7 BSFC)	W/M Flow N/A	W/M Flow 5–10psi Boost	W/M Flow 10–25psi Boost	W/M Flow 25+psi Boost
150	788	1101	95	220	275	330
200	1050	1469	126	294	367	441
250	1313	1836	158	367	459	551
300	1575	2203	189	441	551	661
350	1838	2570	221	514	642	771
400	2100	2937	252	587	734	881
450	2363	3304	284	661	826	991
500	2625	3671	315	734	918	1101
550	2888	4038	347	808	1010	1212
600	3150	4406	378	881	1101	1322
650	3413	4773	410	955	1193	1432
700	3675	5140	441	1028	1285	1542
750	3938	5507	473	1101	1377	1652
800	4200	5874	504	1175	1469	1762
850	4463	6241	536	1248	1560	1872
900	4725	6608	567	1322	1652	1983
950	4988	6976	599	1395	1744	2093
1000	5250	7343	630	1469	1836	2203

Nozzle
250
500
1000
1000 + 500
1000 + 1000

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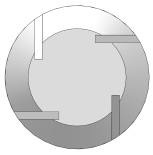
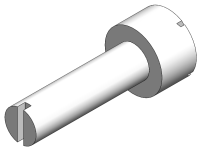
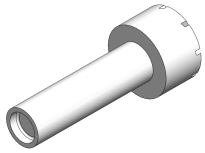
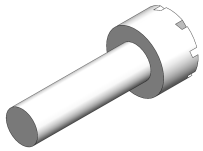
Nozzle Assembly

The nozzles are serviceable and can be disassembled for cleaning. If you find excessive debris in the screen, check your tank for contamination.

Assembly Instructions:

1. Select your atomizing pintle of choice using the nozzle selection table. Once you have decided on the size of the pintle for your application, use the table below to help you identify the correct pintle.

Pintle Size	250cc	500cc	1000cc
Picture (Pintle Head)			
Picture (Pintle Stem)	Slot 	Cupped End 	Flat 

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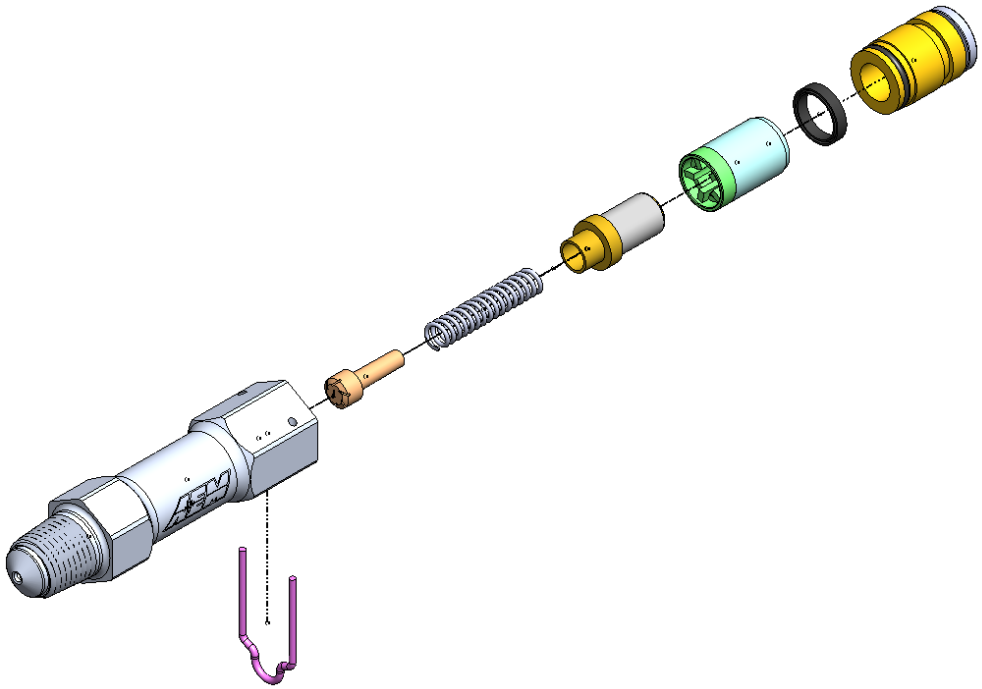
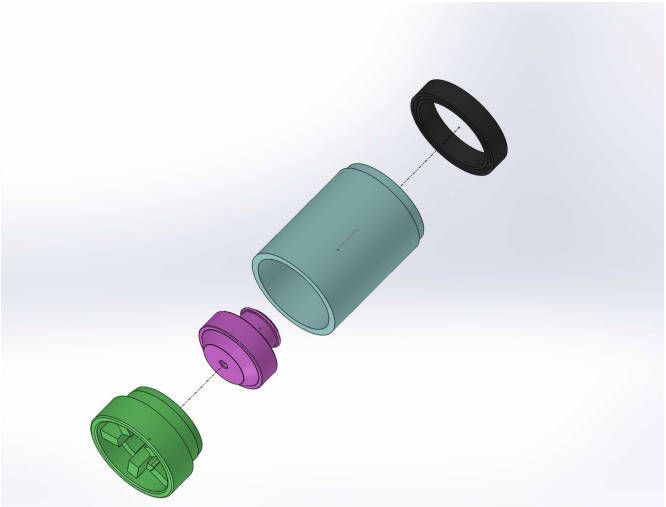
2. The diagram below shows the assembly/disassembly process.

IMPORTANT: Inspect the check valve and check valve seal for any damage before reassembly. Damaged internals may cause the nozzle to leak, which could result in catastrophic engine damage.



3. In case the check valve comes apart during disassembly, the diagram below shows how the check valve snaps together. No adhesive is required. The actual EPDM valve will not come out of the valve body.



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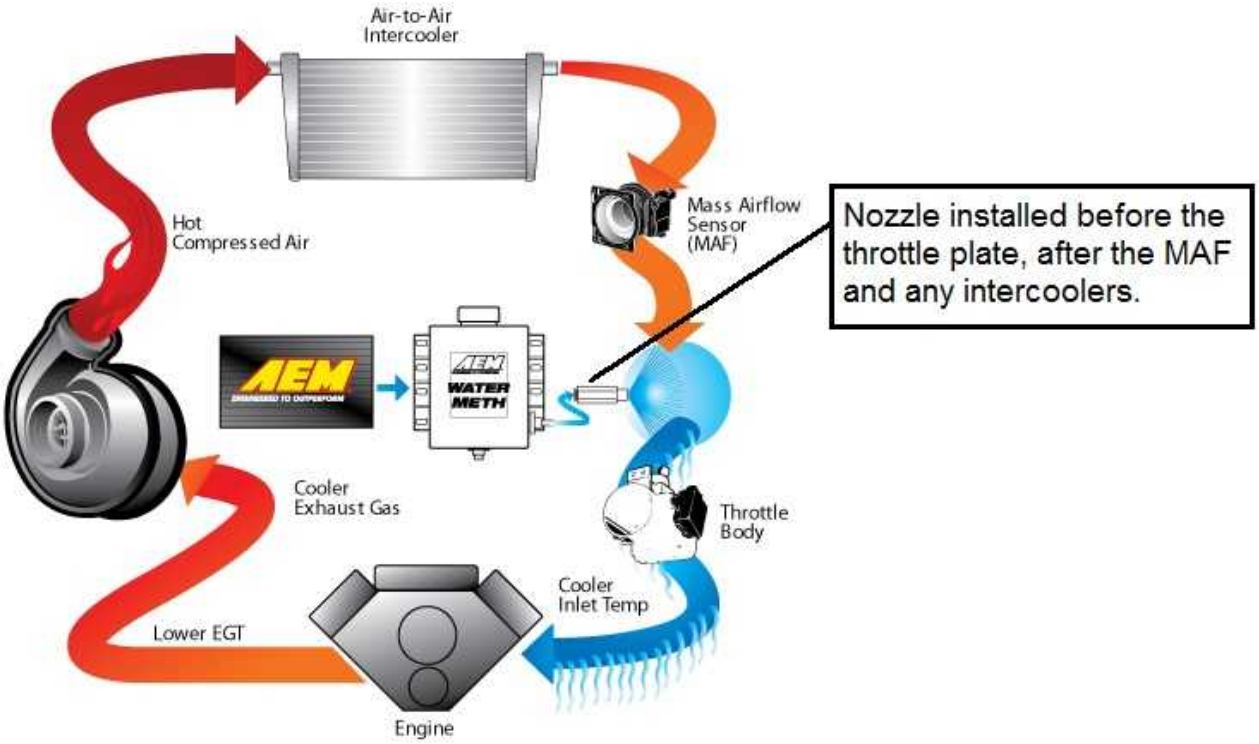
Nozzle Mounting

Select the location where the nozzle will be installed. **Nozzle <u>must</u> be mounted such that it is higher than the tank.** ***Failure to do so may lead to fluid leaking into the intake tract due to gravity or siphoning, which may result in engine damage.*** Nozzle must be mounted ***before*** the throttle plate. Nozzle should also be mounted ***after*** the MAF sensor, if present. Nozzle must also be mounted ***after*** any intercoolers. In most instances, mounting the nozzle 6–8” ahead of the throttle body provides an excellent combination of air charge cooling and combustion control.



In most instances, the air charge piping can be drilled and tapped for 1/8” NPT to directly mount the nozzle. If using thin walled tubing it’s suggested that a bung be welded to the piping. Mounting hole should be tapped deep enough to allow the end of the nozzle to be nearly flush with the interior of the intake once the nozzle is fully installed.

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OPTIONAL SYSTEM UPGRADES

Water/Methanol Injection FAILSAFE Device – AEM P/N 30-3020/30-3020M

Actively monitors the entire flow curve independent of pressure, continuously collecting flow vs. injection rate data so that any deviation from your established flow curve will trigger an alarm output that can be used to reduce boost or timing, change maps, add fuel, trigger a two-step, or perform practically any action you choose to save your engine. It is PC programmable (with USB connectivity) which eliminates the guesswork when setting min/max threshold parameters. **HIGHLY RECOMMENDED** for all water/methanol injection systems.

Water/Methanol Injection Filter – AEM P/N 30-3003

Inline filter that uses a micronic mesh screen to filter out particles as small as 40 microns. Allows a cleaner flow of water/methanol into the injection pump, lines, and nozzles increasing overall system longevity. Injection filter is **HIGHLY RECOMMENDED** when using the AEM water/methanol injection flow gauge.

Additional Nozzle Kit – AEM P/N 30-3315

Includes one complete nozzle, three pintle sizes (one is preinstalled), one retaining clip, and the necessary hardware to run a second nozzle in your injection system.

5-Gallon Tank – AEM P/N 30-3320

Upgrade to a 5-gallon tank to maximize your fluid holding capacity. Includes level sensor and mounting hardware.