

034MOTORSPORT

AEM 2.7T Plug-in Methanol Injection Guide

This guide is provided to help facilitate the install of your 034Motorsport/AEM 2.7T Plug n Play Methanol Injection kit.

Tools Required

Flathead Screwdriver

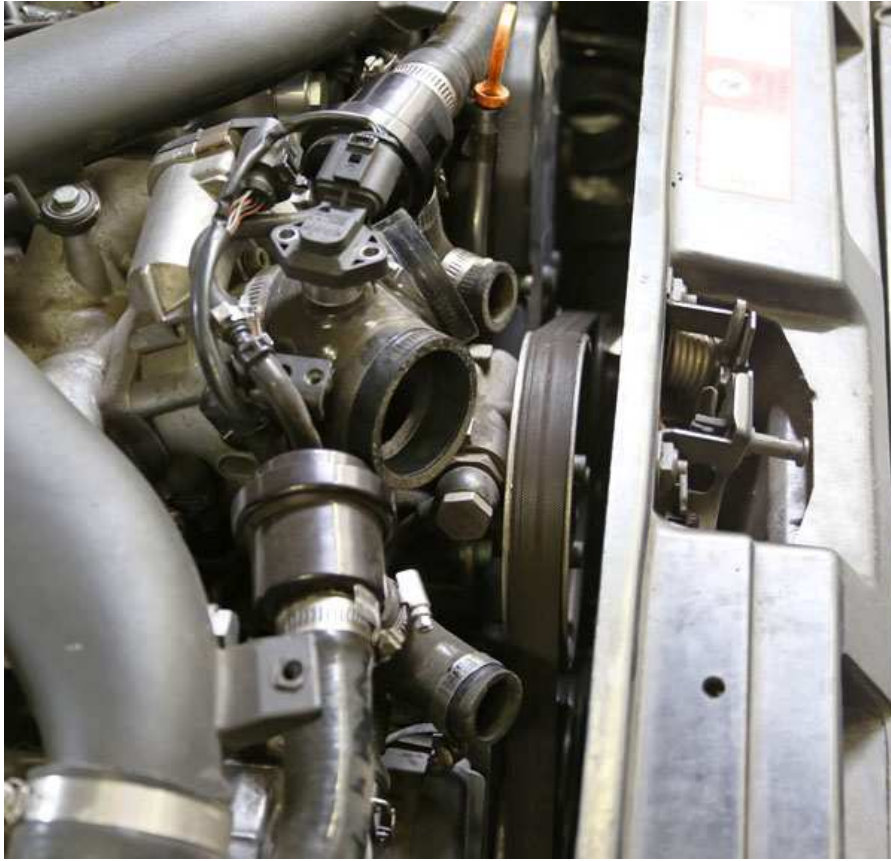
13mm, 10mm, and 8mm sockets with your turning device of choice attached

Razor (be careful)

Drill

9/16" Drill bit for aforementioned drill (be even more careful)

The first step is to remove your original bi-pipes . This can be done by loosening the hoseclamps on the upper intercooler hose to bi-pipe (@bottom of the bi-pipe), loosening the clamps at the bi-pipe to throttle body boot, and removing the hoseclamps securing your diverter valves to your bipipes. The diverter valves do not need to be removed from the y-pipe hose, but we suggest you do so for additional room.



Bi-Pipes Removed

Once you have removed your stock bi-pipes, it is time to choose the location of your methanol pump. The most common location is on the driver's (left) side of the engine bay, directly in front of the ABS pump. Depending on your exact year of 2.7T, there are variances to this area and some models may need additional trimming or modification in order for the methanol pump to clear the hood. If you desire you methanol pump to be located elsewhere, you can still use this guide as a reference.



With the pump in your desired location, secure it (ziptie or hose clamp).



Use the provided Heavy Duty Zip Tie

Next, install the nozzles into the bi-pipes. Using the supplied 034Motorsport 90 degree nozzle adapters, reassemble the 2 piece nozzles ensuring they are nice and tight to the 90 degree fitting (approx 5 Ft/lbs). Install them into the bungs on your 034Motorsport bi-pipes, positioning the nozzle body up towards the throttle body boot like in the picture.



With the nozzles installed in both bi-pipes, it is easier to push the lines into the nozzles while the bi-pipes are out of the vehicle. Choose your desired location for the T-fitting (we chose near the throttle body), then add 8-10" extra length to your measurement to be safe, and cut the lines. The lines should be cut with a razor as the fittings rely on a very uniform and straight edge to make a good seal.

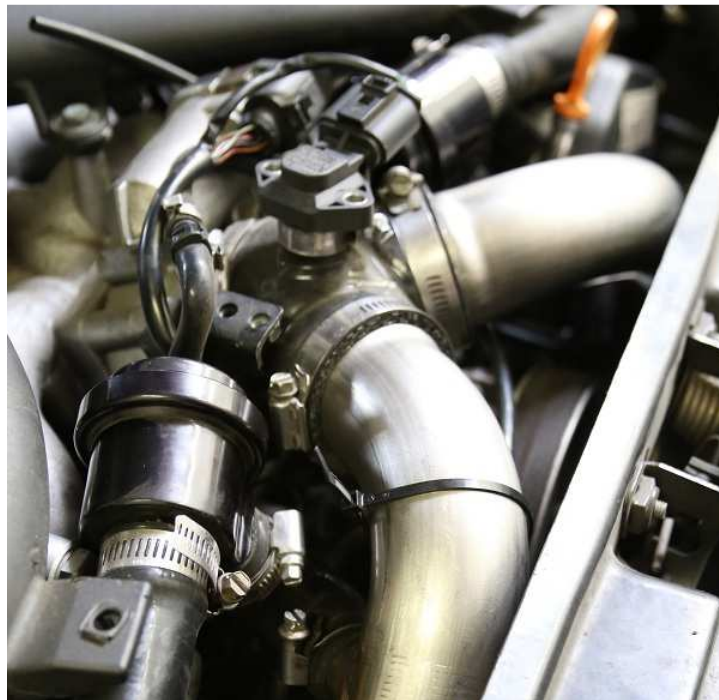
Install the new bi-pipes into the vehicle. On the driverside, you must ensure the bi-pipe fully rests against the timing belt cover so as to avoid contact with the fan blades. Before tightening the clamps for the driverside bi-pipe, pull the upper intercooler hose and bottom of the bi-pipe together and "preload" the hose so that the natural position of the bi-pipe is to sit against the timing belt cover (under the round nub). If you cannot secure the bi-pipe against the timing cover with the hose position, please use the provided heavy duty zipties to secure the bi-pipe away from the fan blades. There is a metal coolant return line line behind the bi-pipe down near the intercooler hose that can be used as an anchor point.





Driverside Bi-Pipe Installed

Make sure you have your 90 degree diverter valve hose installed on the new bi-pipes, and then clamp the bi-pipe securely at the throttle body boot. As always, make sure the clamping surfaces of the bi-pipe are 100% clean of any oils, as well as being full seated into your throttle body boot. The passenger side pipe installs in the same fashion but there is no worry of clearing fan blades. Zipties should be used to keep the methanol lines away from items such as the fan blades and the power steering pulley.



Determine the final location of your T-fitting and cut the lines to length. From the T-fitting, route a new single hose to your pump. Remember, measure twice, cut once. We chose a direct routing to reduce the amount of volume that is in use for a faster reacting system. If you are using the AEM Failsafe, install the flow sensor between the T- fitting and the pump, preferably as close to the T-fitting as possible.



T or Y Fitting Located Under Y-Pipe Near Throttle Body

Using a 9/16" drill bit, drill a hole into the very top of your washer reservoir like in the below picture. Using your remaining 1/4" hose, feed it down the hole, snaking it to the very bottom of your washer reservoir and ensuring it doesn't get caught up on the way down (approx 24").



Make sure you cut the bottom of your hose at a 45 degree angle so that it does not get starved against your reservoir. Cut the length of hose so that it is 1/2" below the top of the reservoir. Next, push the hose into the bottom of the provided AEM bulkhead and then tighten the bulkhead fitting into your drilled hole; you can reach in from the filler cap of the reservoir to screw on the nut for the bulkhead fitting. Run hose from the reservoir bulkhead fitting to your pump. Once again, make sure your length of hose allows some "give" in case of movement between pump and engine.

Since the AEM Methanol Controller requires a boost pressure reference for accurate meth delivery, we also need to run a boost reference line to the AEM methanol controller. If you already have an existing line run (to a boost gauge, for example) this can be used. In this case, the easiest installation is to simply cut your existing line inside the ECU box, splitting the manifold pressure line to both your boost gauge and your methanol controller.

If you do not have an existing boost gauge line, you will need to use the provided nylon T-fitting, cut the vacuum line from your Fuel Pressure Regulator to your Intake Manifold, and route the provided rubber vacuum line back to the methanol controller in the ECU box.



To gain access to the ECU box, remove the 8mm bolts (don't forget the one in the back). Next, carefully disconnect and remove your ECU (or remove the metal bracket holding the ECU down and move the ECU out of the way). Your AEM methanol controller will be placed towards the passenger side of where the ECU sits.

The methanol kit is now physically installed, minus the harness section.



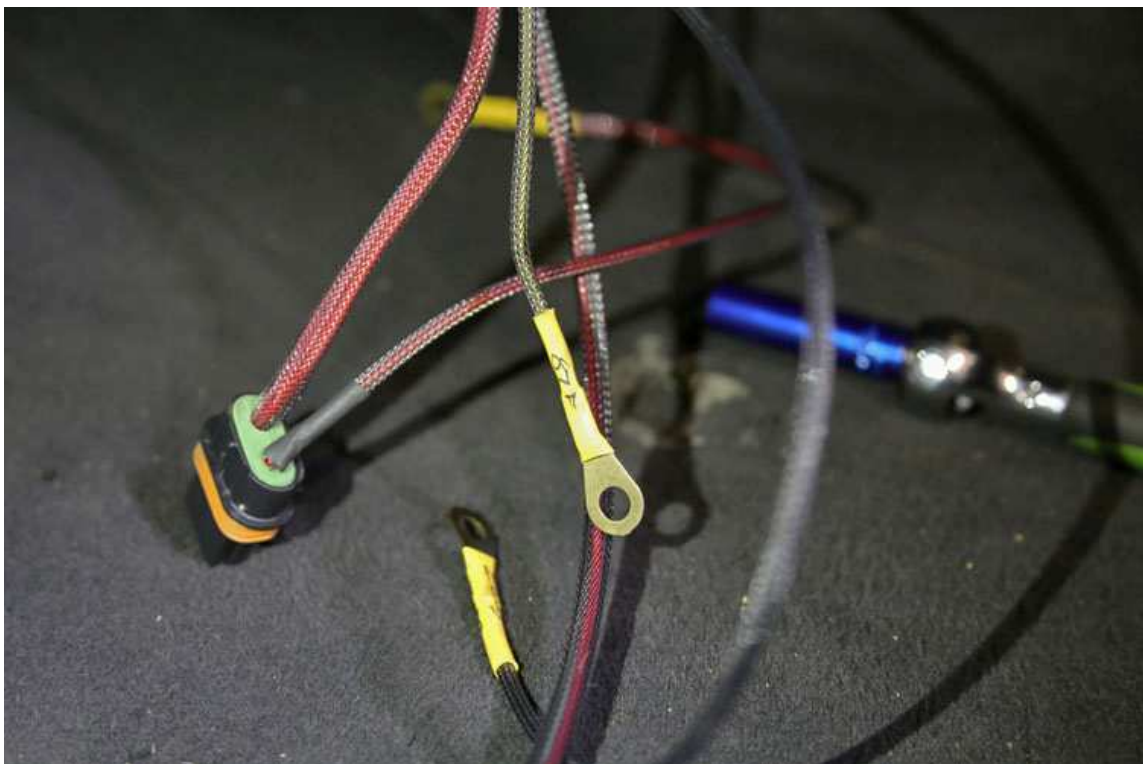
The basic Methanol Injection harness can be installed quickly and easily and is labeled for convenience. First, remove the 8mm bolts from your ECU box (don't forget the one in the very back). Carefully remove your ECU from the ECU box in order to gain more room. At the back of your ECU box are different colored plugs; remove the plug farthest to the left (closest to the passenger side); it is white. They can be wiggled free while pulling up. This will gain you more room to pass the harness into the cabin through the firewall.

Remove your kick panel from under your dash inside the cabin; this is achieved by removing the four 8mm bolts (2 on top, either side of the steering wheel, one under and against the foot well, and one behind the fuse panel fascia. **(PICTURE)**). If you'd like, you can remove the OBDII port and light from the kick panel so that the kick panel can be removed entirely from the vehicle (they use simple tabs to pop out).

Now from in the ECU box, the majority of the harness needs to be passed through into the cabin (except for the controller, the long section that terminates in a 2-pin female connector, labeled Pump Power, and the 4-pin female connector. The best access point into the cabin is the left most corner in the ECU box next to where the white connector was removed (as seen in the picture below), and it helps to have a flashlight shining up from inside the cabin to illuminate your passageway. Remove the fuse & holder cover from the harness for additional clearance.

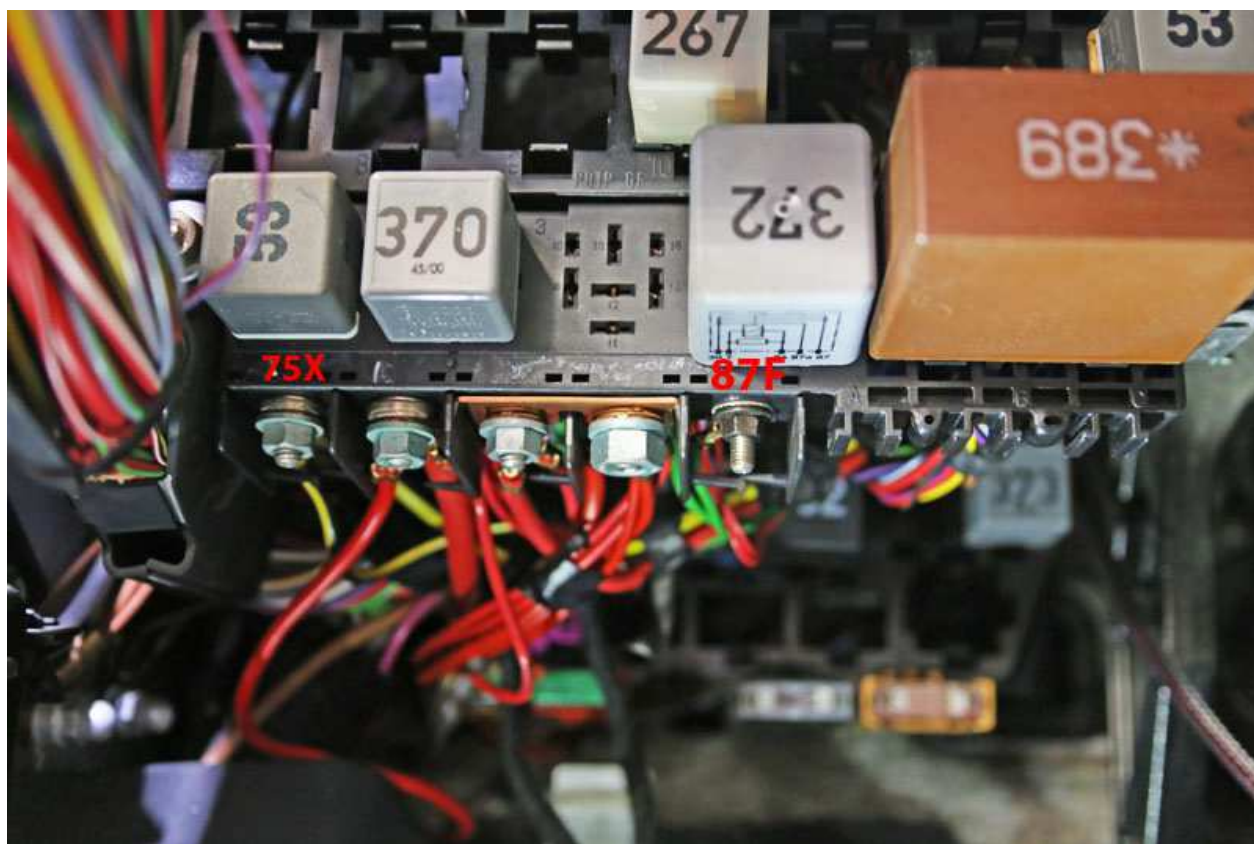


From inside the cabin, reach up under the steering wheel, find your harness you have begun to pass through, and gently pull the rest of it till you have enough slack. If you have trouble with this step, pause, take a deep breath, and evaluate the situation. There is enough room to get it through, but it may take a few attempts. Do not force or rush this step; damage to the harness or controller can occur.



All Wires are Labeled for Convenience

There are 3 labeled wires with ring terminals: one labeled 75X, one 87F, and one labeled as Ground. The 75X goes to the 75X terminal (as seen in the picture below), the 87F to the 87F, and the ground goes to any good chassis ground, such as the one we chose near the fuse panel. Then, locate the Status LED portion of the harness and route that to your desired location. The Status LED will instruct you to the performance of your Methanol Injection kit.



Your Vehicle Should Have the 75X and 87F Labeled. If Not, Use the Above Picture For Reference



Location of Ground Behind Fuse Panel Cover

Zip tie the wires away from the pedals and reinstall your kick panel once you have installed the 3 ring terminals and your LED. Back in the engine bay, route the line with the 2-pin female connector out of the ECU box towards your methanol pump (it is labeled "PUMP POWER"). We chose to run ours down the fender as it keeps it moderately hidden.



Finally, your reservoir with your methanol solution and check for leaks in the reservoir; remember, both AEM and 034Motorsport never recommend using more than 50% methanol in your 50/50 solution of methanol/water. Failure to follow this recommendation can result in damage to your methanol kit, damage to your vehicle, or even serious injury. Methanol burns clear and has a very low flash point, so exercise extreme caution if you mix your own solution and avoid all open flames, etc. Many companies offer safer premixed methanol/water solutions such as Boost Juice.

After checking for leaks in your reservoir, it is time to test the system to make sure the harness is properly installed and there are no leaks in the rest of the system. Remove the Pump Output line from the methanol pump and using some spare leftover hose, run a temporary line from the Pump Outlet to a bucket or container of sorts. The test procedure simply involves pushing and holding down the "TEST" button on the methanol controller. The pump should begin to run as you hold the button down with a pen or small screwdriver, and will slowly raise pressure until full power. If the pump expels fluid from your test line, you have success. If you do not hear the pump or see fluid being pumped out, go back and recheck you have properly installed the harness under the kick panel, make sure the pump itself is plugged in to the harness, and make sure you have reconnected your battery and there are no leaks in the lines.