



**PTUNING**  
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## INSTALLATION MANUAL

### PTUNING FR-S/BRZ Water Methanol Injection System

2013+ Scion FR-S | 2013+ Subaru BRZ

Part#: PTP-ENG-90055





**READ THIS FIRST:** Please read the entire installation manual before proceeding. Engine damage may occur if any component within these instructions is improperly installed. This installation should only be performed by a trained specialist who is familiar with the automobile's mechanical system. Performance Tuning, Inc. (PTUNING) or any of its distributors cannot be held responsible for damages as a result of negligent or improper installation. This oil cooler system can be installed using common tools and automotive procedures. If in doubt, please contact PTUNING's technical support staff at 703-257-1728, between the hours of 10:00AM and 5:00PM EST, Monday through Friday.

Remove the water methanol injection (WMI) system from its packaging and inspect for any obvious physical damage. All kit components are thoroughly inspected and carefully packaged prior to shipment from the factory. If any shipping damage is evident, contact your supplier and request that they process a claim with the shipper involved. Be sure to review the parts list on page three to verify that you have all necessary system components to proceed. If any components in the parts list are missing, contact PTUNING's customer service staff.

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. PTUNING reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

**IMPORTANT:** Please refer to the supplied AEM manual for instructions on how to test the unit after installation of the WMI system.

**SAFETY REQUIREMENTS:** It is recommended to follow these precautions.

- Always wear safety glasses & gloves.
- Turn the ignition switch to the OFF position & disconnect the battery.
- Always use properly rated jack stands when working under the vehicle.
- Prevent unexpected vehicle movement by using wheel chocks and/or parking brake.
- Operate the vehicle only in well ventilated areas.
- Do not smoke or use flammable items near or around the vehicle's fuel system.
- Keep hands, clothing and other objects away from moving parts when engine is running.

**SUPPLIES:** It is recommended to have the following items before beginning installation.

- Scion FR-S or Subaru BRZ factory service manual, for your model year vehicle.
- A large table or bench, and plenty of adjacent available workspace.
- Standard selection of automotive tools, primarily metric sizes.
- The ability to securely lift the vehicle at least a few feet off the ground.
- NPT thread sealant (for installation of WMI nozzle)
- 3/16" Allen Head socket (for removal of the WMI NPT plug when installing on PTUNING FR-S/BRZ Turbo System)

**TORQUE RECOMMENDATION:** When removing and re-installing factory fasteners, refer to the Scion or Subaru service manual for torque values. When installing fasteners included in this kit, refer to the following chart:

FASTENER SIZE	TORQUE (FOOT POUND)
M5	5
M6	12
M8	22
BSP & NPT fittings (tapered thread)	2-3 turn past finger tight using Teflon sealant tape or liquid

**WATER METHANOL INJECTION SYSTEM PARTS LIST (Included with Part# PTP-ENG-90055):**

PACKAGE PART #:	PART #:	Qty/Pkg	DESCRIPTION
PKG-PTP-ENG-90055-1	PTP-ENG-90055-A	1	PTUNING FR-S WMI Tray Mounting Bracket (Black)
	PTP-ENG-90055-B	1	PTUNING FR-S WMI Bottle Cage Front Side (Black)
	PTP-ENG-90055-C	1	PTUNING FR-S WMI Bottle Cage Back Side (Black)

PKG-PTP-ENG-90055-2	PTP-ENG-90055-F	1	PTUNING FR-S WMI Controller Mounting Bracket Arm (Black)
	PTP-FAS-90099	2	PTUNING FR-S Battery Tray Wing Nut M8x1.25 (Black)
	PTP-FAS-90009-16	2	M6-1.0 x 16mm Flange Hex Bolt (Zinc)
	PTP-FAS-90030-16	2	M8-1.25 x 16mm Flange Hex Bolt (Zinc)
	PTP-FAS-90046-12	6	M6-1.0 x 12mm Socket Head Cap Screw (18-8 Stainless Steel)
	PTP-FAS-90046-10	10	M5-0.8 x 10mm Button Head Socket Cap Screw (18-8 Stainless Steel)
	PTP-FTG-90022	10	1/8" x 6" Nylon Cable Tie (Black) (for securing WMI Controller & Harness)

PKG-PTP-ENG-90055-3	PTP-ENG-90055-D	1	PTUNING FR-S WMI Controller Mounting Bracket (Black)
	PTP-ENG-90055-E	1	PTUNING FR-S WMI Controller Cover (Black)

PKG-PTP-ENG-90055-4	PTP-ENG-90055-J	1	PTUNING FR-S WMI Negative Battery Post Mounting Bracket (304SS)
	PTP-ELE-90030-15	1	15" Negative Terminal Battery Cable (4G Black)
	PTP-ELE-90035	1	Battery Stud Post (3/8" Group 31)
	PTP-FAS-90150-075	1	3/8"-16 x 3/4"L Hex Head Cap Screw (Zinc)

		plated) (3/8" Battery Post)
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PKG-PTP-ENG-90055-5	PTP-ENG-90055-H	1	PTUNING FR-S WMI Pump Mounting Bracket (Black)
	PTP-ENG-90055-G	1	PTUNING FR-S WMI Pump Mounting Bracket Spacer (Reversible) (Black E-Coat)
	PTP-FAS-90030-30	2	M8 -1.25 x 30mm Hex Flange Bolt (JIS B1189 Class 10.9) (Zinc)
	PTP-FAS-90044-30	4	M5-0.8 x 30mm Socket Head Cap Screw (18-8 Stainless Steel)
	PTP-FAS-90140-010	4	#10 Flat Washer, 7/16" OD, .02"-.04" Thick (18-8 Stainless Steel)

PKG-PTP-ENG-90055-6	PTP-ELE-90102	1	PTUNING PnP Water/Methanol Injection 200psi Recirculating Pump w/2-way Plug
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PKG-PTP-ENG-90055-7	PTP-HAR-15055	1	PTUNING PnP Water/Methanol Injection Harness, Dual 2-way plug, use with AEM Controller, Use w/Part# PTP-ENG-90055
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PKG-PTP-ENG-90055-8	PT-AEM-30-3304	1	AEM V2 Water/Methanol Controller Kit - Internal MAP w/35PSI MAX
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PKG-PTP-ENG-90055-9	PTP-ENG-90055-BOT	1	V2 Water/Methanol 1 Gallon Tank w/Conductive Fluid Level Sensor and 2-way Plug
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PKG-PTP-ENG-90055-10	PT-AEM-30-3312	1	AEM V2 Water/Methanol Injection Nozzle & Jet Kit w/ 250cc, 500cc, & 1000cc jets
	PT-AEM-30-3312	1	PTUNING 1/8" Female NPT Billet Aluminum Weld-on WMI Bung
	PT-AEM-35-4505	1	5mm Cockpit 2-wire LED Indicator Light
	PT-AEM-35-4500-20	1	1/4" x 20'L WMI Nylon Hose
	PTP-HSE-90041-120	1	1/8" ID x10'L Rubber Vacuum Hose (for Boost Reference on Controller to Intake Manifold)
	PTP-FTG-90009-B	1	1/4" x 1/8" x 1/4" Clear Polycarbonate Plastic Single-Barbed Reducing Tee Fitting (for Boost Reference Line)
	PTP-ELE-90007-2218	2	Heat Shrinkable Electrical Butt Connector (Red, 18 gauge) (for LED wires)
	PTP-ELE-90006-120	1	1/4" ID x 120" Nylon Corrugated Wiring Loom (Black/Gray Stripe)
	PTP-ELE-90020-10	1	Mini ATM Automotive Fuse (10 amp, Red)
	PTP-ELE-90020-15	1	Mini ATM Automotive Fuse (15 amp, Blue)

PKG-PTP-ENG-90055-11	PTP-ENG-90060-MAN-REV1	1	PTUNING FR-S BRZ WaterMeth Injection System Installation Manual Download Instruction (2013+ FR-S/BRZ)
	PT-AEM-30-3300-MAN	1	AEM WMI System Manual
	PTDECALCOMP_LE_WHI	2	PTUNING - tuned_for: competition (8.5" x 1.5" - Window Decal) - WHITE Limited Edition
	PTP-MS-90000	1	PTUNING - tuned_for: competition (License Plate Frame)

PKG-PTP-ENG-90055-12 (Optional)	PTP-ENG-90050-A	1	PTUNING Billet Alum. Battery Tray (Mini Battery, e.g. Braille B2015 and Odyssey PC680) (Anodized Black)
	PTP-ENG-90050-B	1	PTUNING Billet Alum. Battery Tie-Down (Braille B2015 and Odyssey PC680) (Anodized Black)
	PTP-FAS-90046-12	4	M6-1.0 x 12mm Socket Head Cap Screw (18-8 Stainless Steel)
	(Circle One Option Below)		
	PTP-FAS-90160-45	2	3/8"-16 x 4.5"L Socket Head Cap Screw (18-8 Stainless Steel) (Battery Tie-down) (Odyssey PC310, Braille B106)
	PTP-FAS-90160-55	2	3/8"-16 x 5.5"L Socket Head Cap Screw (18-8 Stainless Steel) (Battery Tie-down) (Odyssey PC545, Braille B129)
	PTP-FAS-90160-60	2	3/8"-16 x 6.0"L Socket Head Cap Screw (18-8 Stainless Steel) (Battery Tie-down) (Ballistic Evo2 16Cell HD)
	PTP-FAS-90160-65	2	3/8"-16 x 6.5"L Socket Head Cap Screw (18-8 Stainless Steel) (Battery Tie-down) (Shorai LFX36L3-BS12, Braille B14115, Braille B2015)
	PTP-FAS-90160-70	2	3/8"-16 x 7.0"L Socket Head Cap Screw (18-8 Stainless Steel) (Battery Tie-down) (Odyssey PC680, PC680MJ)

**PKG-PTP-ENG-90055-1**



**PKG-PTP-ENG-90055-2**



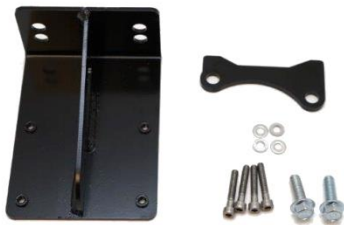
**PKG-PTP-ENG-90055-3**



**PKG-PTP-ENG-90055-4**



**PKG-PTP-ENG-90055-5**



**PKG-PTP-ENG-90055-6**



**PKG-PTP-ENG-90055-7**



**PKG-PTP-ENG-90055-8**



**PKG-PTP-ENG-90055-9**



**PKG-PTP-ENG-90055-10**



**PKG-PTP-ENG-90055-11**



**PKG-PTP-ENG-90055-12 (Optional)**



## 1 – PREPPING THE VEHICLE FOR WATER METHANOL INJECTION SYSTEM INSTALLATION

1. Using a 10mm socket or wrench, remove the negative and positive battery terminals.
2. Layout all the installation packages on a workbench and verify that you have received all the packages listed at the beginning of this manual. Some packages are marked as optional and may not be included with your kit. The instructions will refer to the individual packages throughout the manual.
3. Jack up the vehicle to a workable height and secure vehicle with jack stands if not using a vehicle lift. We highly recommend the installation of the WMI system on a two-post lift. See FIGURE 1.1

FIGURE 1.1





## 2 – REMOVING THE FRONT FASCIA AND ENGINE UNDER TRAY

1. Using a 10mm socket and flat head screwdriver remove bolts and clips attaching the front bumper. SEE FIGURE 1.2 & 1.3

FIGURE 1.2



Figure 1.3



2. Unplug and remove the side marker lights. Using a Phillips screwdriver, remove the 4 body clips that attaches the front bumper cover to the splash shield on each side of the bumper cover. Remove the two retaining clips under the marker lights attaching bumper to fender using a flat head screw driver. SEE FIGURE 2.1 & 2.2

FIGURE 2.1



FIGURE 2.2



3. Gently pull each side of the bumper towards the outside. The bumper should “pop” out of its connections. Pull bumper forward enough to disconnect front turn signals and/or fog lights.
4. The bumper should now be free. Gently pull the bumper straight forward away from the car.

### 3 – REMOVING THE FACTORY BATTERY AND TRAY

1. Disconnect the negative and positive battery terminal.
2. Using a 10mm socket, remove the factory tie-down bracket and j-hooks. SEE FIGURE 3.1
3. Remove the factory battery and plastic tray from the vehicle. SEE FIGURE 3.2
4. Pull the factory metal brake line out of the plastic tabs to allow access to the factory battery support bracket. SEE FIGURE 3.3 & 3.4

FIGURE 3.1



FIGURE 3.2

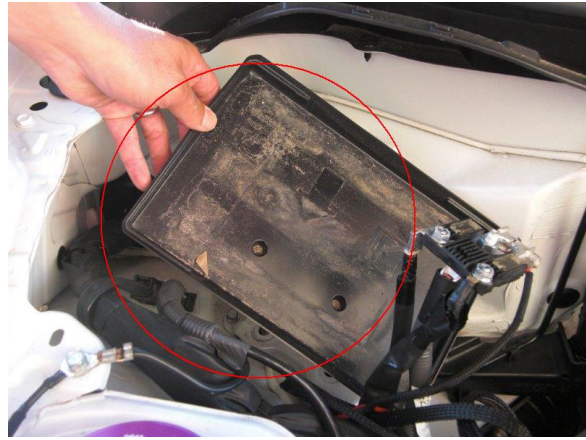


FIGURE 3.3

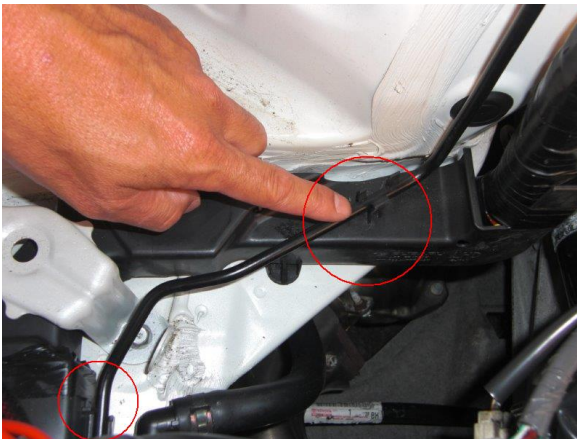
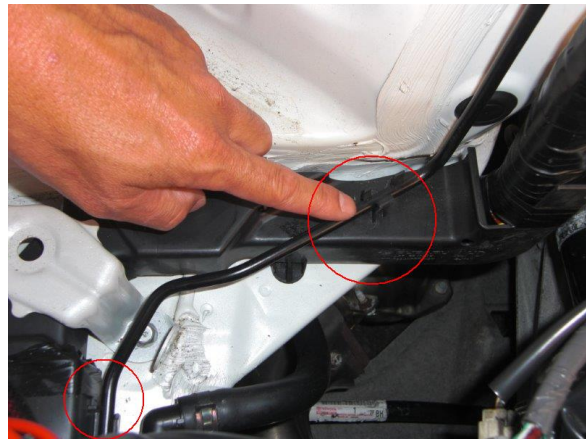


FIGURE 3.4



5. Using a 10mm socket, remove the two M6 bolts holding down the factory battery support bracket. SEE FIGURE 3.5 & 3.6

FIGURE 3.5



FIGURE 3.6



## 4 – INSTALLING THE WMI BOTTLE AND MINI BATTERY TRAY

1. Locate installation package **PTP-PKG-ENG-90055-1 & PTP-PKG-ENG-90055-2**. Install the WMI tray into the factory battery location. Align the feet on the WMI tray with the two factory tray mounting holes. Align the arm of the WMI tray with the j-hook mounting point on the strut tower. SEE FIGURE 4.1 & 4.2
2. Using a 10mm with a long extension, install the two supplied M6 bolts onto the feet of the WMI tray. Slightly push the metal brake lines away from the mounting hole on the inner feet of the WMI tray to allow clearance for the socket. SEE FIGURE 4.3 & 4.4

FIGURE 4.1

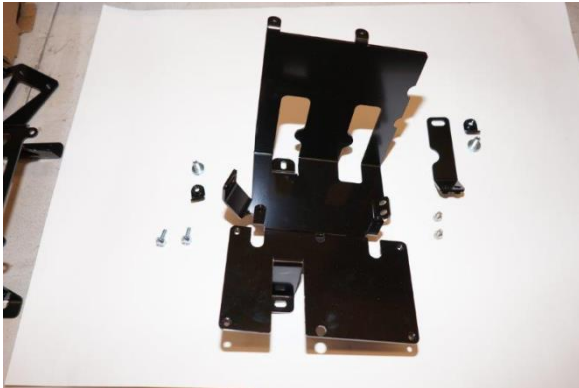


FIGURE 4.2

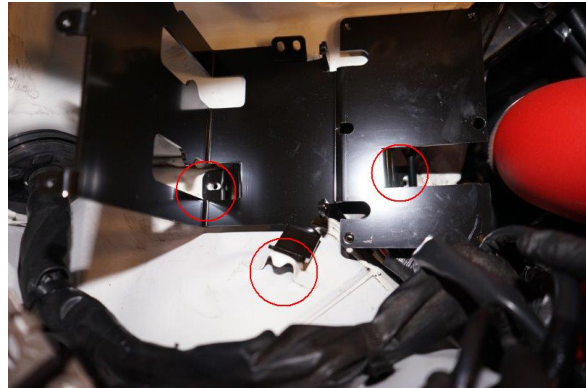


FIGURE 4.3



FIGURE 4.4



3. Push the factory metal brake line back into the plastic tabs to allow access to the factory battery support bracket. SEE FIGURE 4.5

FIGURE 4.5



4. Install the WMI mounting arm onto the WMI tray using the two supplied M6 socket head cap screws. Secure the top of the mounting arm to the factory j-hook mount using the supplied M8 bolt and wing nut. The wing nut should be inserted with the bend facing the firewall. SEE FIGURE 4.6, 4.7, 4.8, 4.9

FIGURE 4.6



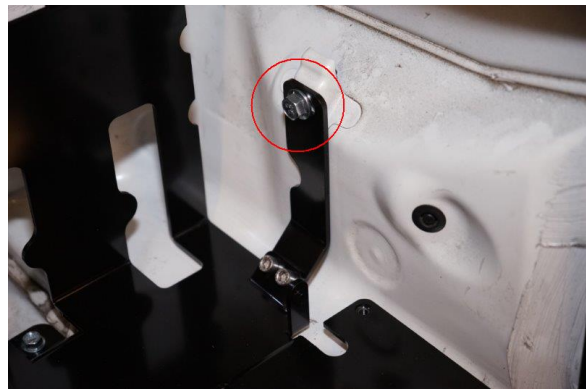
FIGURE 4.7



FIGURE 4.8



FIGURE 4.9



5. Secure the short mounting arm to the factory j-hook mount on the strut tower using the supplied M8 bolt and wing nut. The wing nut should be inserted with the bend facing the strut tower. SEE FIGURE 4.10 & 4.11

FIGURE 4.10



FIGURE 4.11



6. Locate installation packages **PTP-PKG-ENG-90055-7** & **PTP-PKG-ENG-90055-9**. Assemble the WMI bottle between the front and back cage using the four supplied M6 socket head cap screws. Position the bottle so that the two lower mounting holes on each side of the bottle lines up with the two holes on each of the front and rear bracket. The cut-out on the side of the front cage should go over the level sensor flange as shown. Set caged bottle assembly aside for now. Bottle will be installed onto tray at a later time. SEE FIGURE 4.13, 4.14, 4.15, 4.156

FIGURE 4.13



FIGURE 4.14



FIGURE 4.13

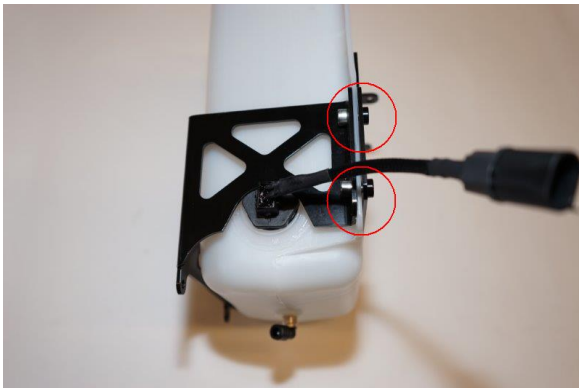
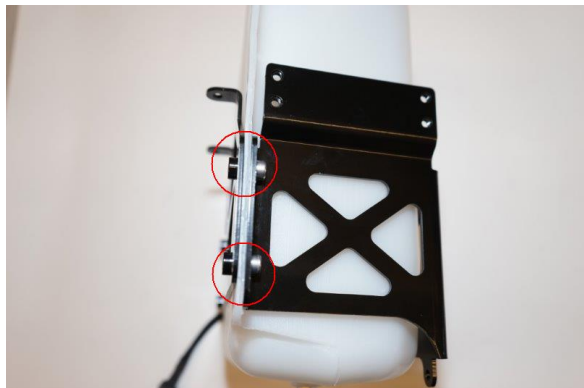


FIGURE 4.14



7. The following Instructions are tailored to installation of the WMI nylon hose using the optional AEM WMI Filter. The length of the nylon hose may vary with other installation or without the use of the WMI Filter. Locate installation package **PTP-PKG-ENG-90055-10**. Cut a 46" long section of the nylon hose and wrap the hose with the supplied corrugated wiring loom (cut the length of the corrugated loom to length, leaving 1" of exposed nylon hose on each end as shown. SEE FIGURE 4.15
  
8. Connect one end of the WMI nylon hose to the fluid fitting at the bottom of the WMI bottle and place the bottle onto the WMI tray. Tilt the bottle while placing onto tray for ease of installation. Route the other end of the WMI nylon hose towards the strut tower, along the passenger side frame rail and underneath the engine compartment fuse box. The other end of the nylon hose will be either connected to the WMI pump or optional WMI Filter. The two tabs on the backside of the bottle's cage should line up with the two tabs on the WMI Tray. The two tabs on the lower front side of the bottle's cage should line up with the two tabs on middle of the WMI Tray. SEE FIGURE 4.16, 4.17, 4.18, 4.19

**IMPORTANT: When connecting the WMI nylon hose onto the push-to-connect fittings, be sure to push the hose all the way in until it stops. Gently pull on the hose after insertion to verify that the hose is locked in place. To remove the hose from the fitting, simply press on the black collar at inlet of the fitting with one hand while pulling the nylon hose out with the other.**

FIGURE 4.15

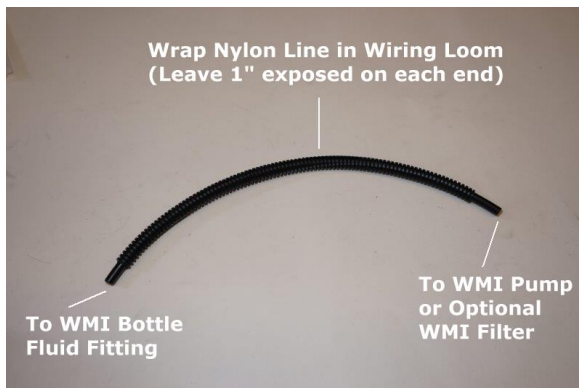


FIGURE 4.16

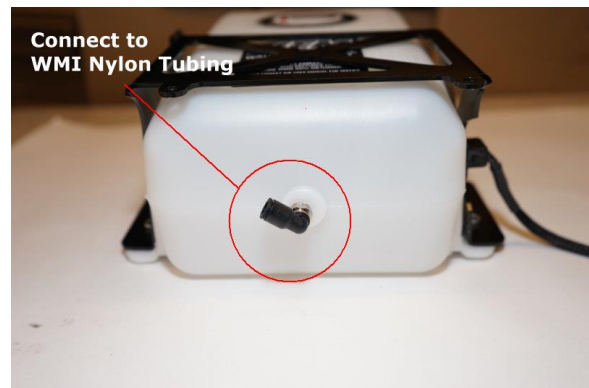


FIGURE 4.17



FIGURE 4.18



- Using the four supplied M5 button head cap screws; secure the bottle's cage to the WMI Tray. Leave the two bolts on the back of the cage loose for now since they will need to be removed later. SEE FIGURE 4.19 & 4.20

FIGURE 4.19



FIGURE 4.20



- Locate installation package **PTP-PKG-ENG-90055-12 (Optional)**. If the WMI System was purchased without the mini battery tray, simply use the billet tray from the PTUNING Battery Tray Kit (can be purchased separately). Install the billet battery tray onto the WMI tray using the four supplied M6 socket head cap screws. Install the mini battery (not included) onto the tray with the positive terminal positioned towards the strut tower. Install the Billet tie-down on top of the battery using the 3/8" tie-down bolt supplied with your battery kit. Connect the positive terminal onto the battery. SEE FIGURE 4.21 & 4.22

FIGURE 4.21

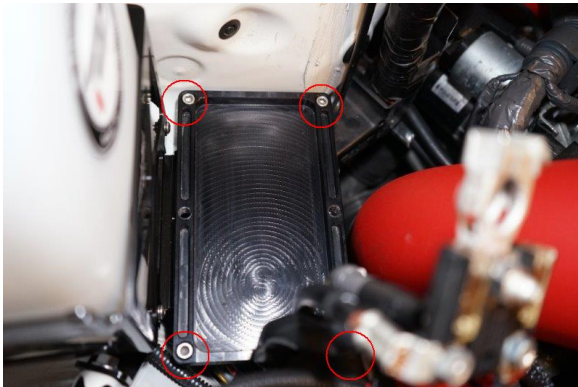


FIGURE 4.22



- Locate installation package **PTP-PKG-ENG-90055-14**. Install the supplied battery post, negative cable and bolt onto the negative battery post mounting bracket as shown. Using the two supplied M5 button head socket screws previously installed on the backside of the WMI bottle cage, mount the bracket on top of the two tabs on the and secure with the two M5 screws. SEE FIGURE 4.21 & 4.22



FIGURE 4.23

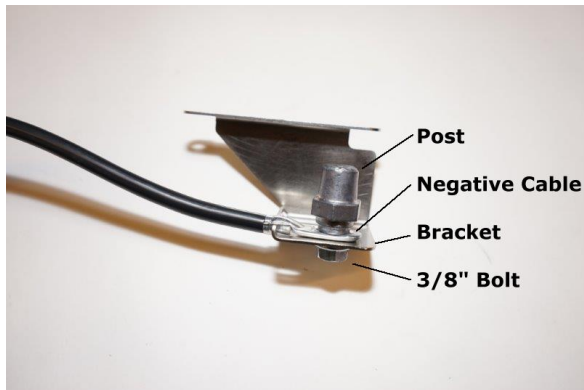


FIGURE 4.24



12. Using a 13mm Wrench, secure the other end of the negative terminal cable onto the mini battery. SEE FIGURE 4.25

FIGURE 4.25



13. Locate installation package **PTP-PKG-ENG-90055-3** and **PTP-PKG-ENG-90055-8**. Align the four mounting slots on the WMI controller with the four inner slots on the WMI controller mounting bracket. Using four supplied nylon cable ties from package **PTP-PKG-ENG-90055-2**, secure the WMI controller onto the WMI controller mounting bracket. Using the four supplied M5 button head socket cap screws, secure the WMI controller bracket to the WMI tray. SEE FIGURE 4.26, 4.27, 4.28, 4.29

FIGURE 4.26

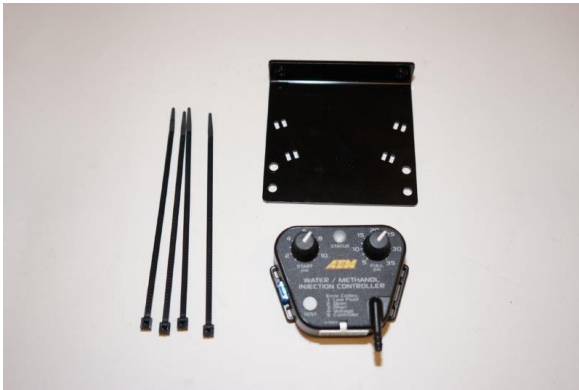


FIGURE 4.27



FIGURE 4.28



FIGURE 4.29



## 5 – INSTALLING WMI CONTROLLER HARNESS

1. Locate installation package **PTP-PKG-ENG-90055-7**. Connect the white plug from the WMI controller wiring harness onto the WMI controller. SEE FIGURE 5.1 & 5.2

FIGURE 5.1



FIGURE 5.2



2. Using a 10mm Socket install the red positive wire (12" lead w/ring connector) on the WMI harness onto the positive battery terminal. Connect the black negative wire (12" lead w/ring connector) on the WMI harness onto the negative ground on the strut tower. SEE FIGURE 5.3, 5.4

FIGURE 5.3

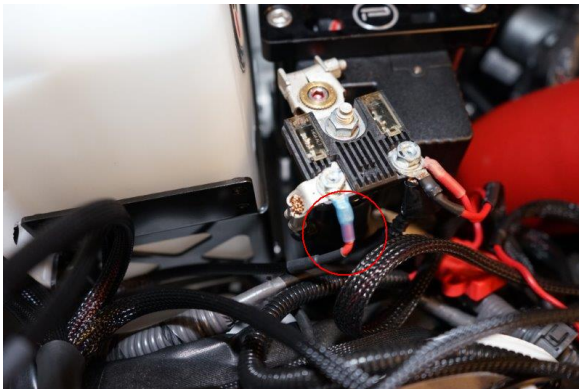
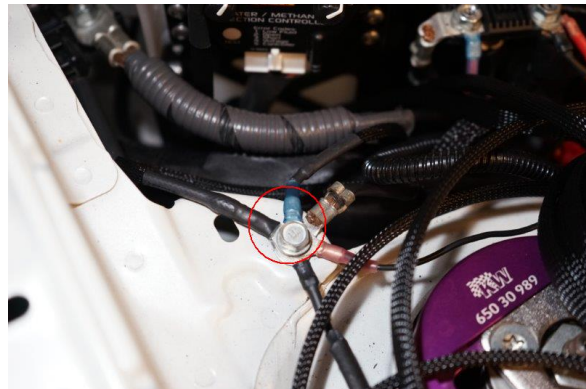


FIGURE 5.4



3. Tuck the brown/white and green wire with the female spade connectors to the side of the WMI controller. These two connectors are for optional accessories not used in this WMI system. Connect the 2-way plug (12" Lead) on the WMI harness to the 2-way plug on the WMI bottle's level sensor plug. Reinstall the red OEM plastic cover over the positive battery terminal. SEE FIGURE 5.5, 5.6

FIGURE 5.5

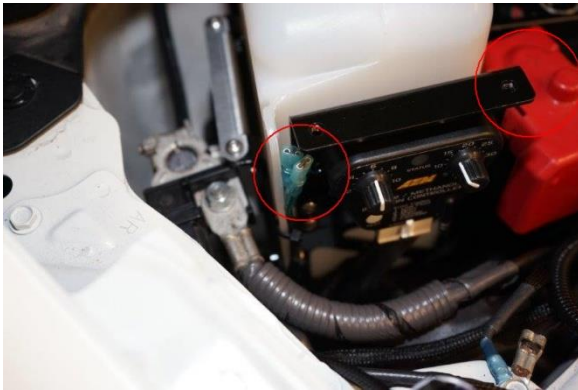


FIGURE 5.6



4. Locate the 12V+ signal (fuse tap) plug on the WMI harness. Installed the supplied 10 amp and 15 amp mini ATM fuses onto the fuse tap in the position shown. Remove the factory engine-bay fuse/relay cover and locate the blue 15 amp fuse (labeled A/B Main under fuse cover). SEE FIGURE 5.7, 5.8

FIGURE 5.7

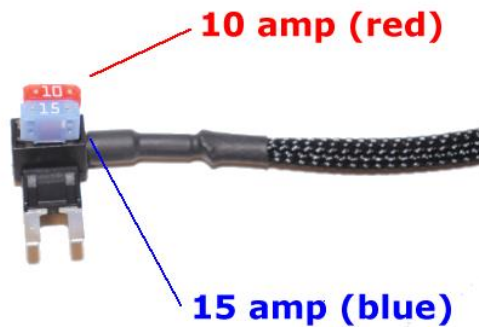


FIGURE 5.8



5. Remove the factory 15 amp fuse and save for future spare. Route the 12v+ WMI signal wire from the WMI control, along the bottom of the driver side strut tower and towards the engine bay fuse/relay box. Plug the 12V+ fuse tap into the 15 amp fuse location previously removed. Position the wire harness as shown in the figure below. Reinstall fuse/relay cover. SEE FIGURE 5.9, 5.10

FIGURE 5.9

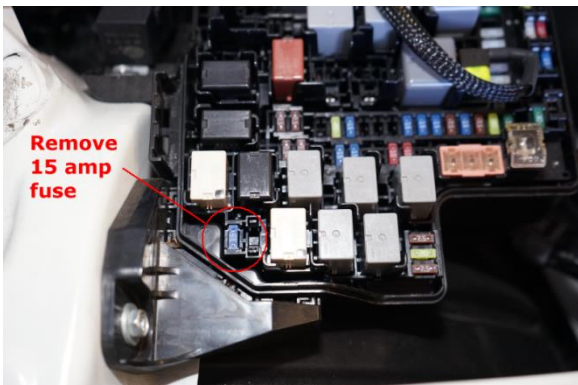
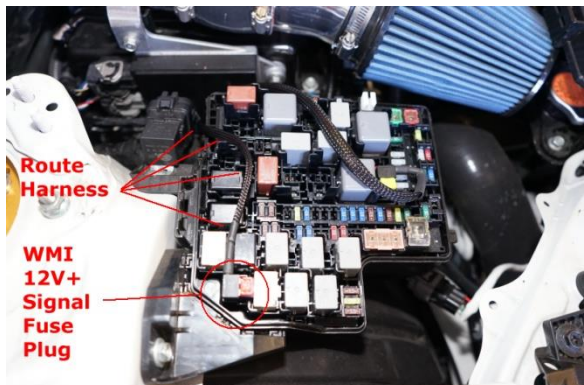


FIGURE 5.10



## 6 – INSTALLING WMI PUMP

1. Locate installation packages **PTP-PKG-ENG-90055-5 & PTP-PKG-ENG-90055-6**. Install the WMI pump onto the pump mounting bracket using the four supplied M5 socket head cap screws and washers. Tighten the screws so that  $\frac{1}{4}$ " of thread is exposed on the backside of the mounting bracket. SEE FIGURE 6.1, 6.2, 6.3
2. Using a 12mm socket, remove the two factory M8 flange bolts from the bottom of the passenger-side bumper support beam. SEE FIGURE 6.4

FIGURE 6.1

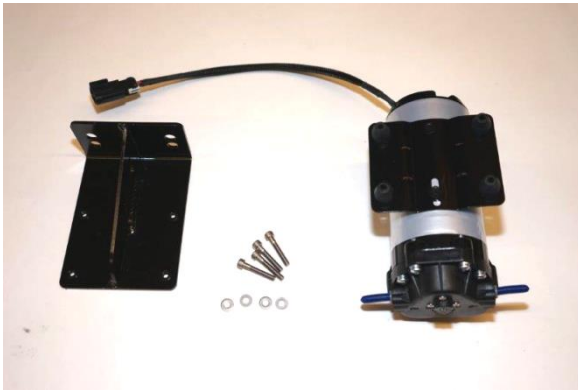


FIGURE 6.2



FIGURE 6.3

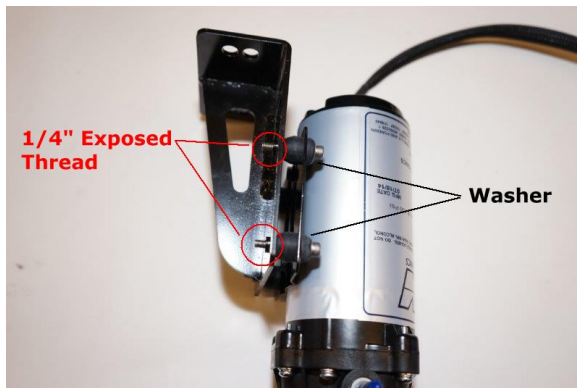
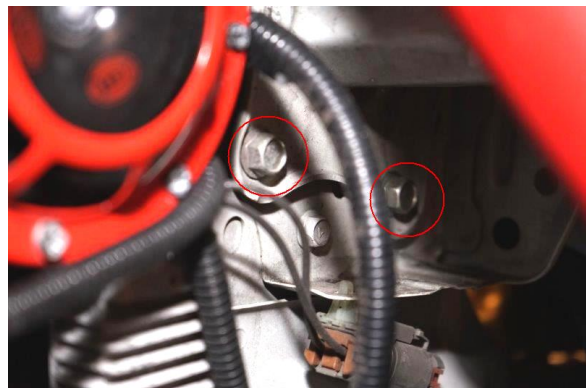


FIGURE 6.4



- Position the mounting bracket spacer on the bottom of the bumper beam support as shown. Install the pump and mounting bracket over the spacer onto the passenger-side bumper support using the two supplied M8 flange bolts. Use tape to temporarily secure the spacer on the bumper beam while installing the pump and mounting bolts. Use a 12mm socket and extra long extension to tighten the two M8 bolts. SEE FIGURE 6.5, 6.7, 6.8

**NOTE: Optionally, the pump mounting bracket can also be mounted on the driver-side bumper beam support by flipping the spacer. Please keep in mind the length of the WMI nylon hose will need to be taken into account when mounting on the driver-side bumper beam. SEE FIGURE 6.6 & 6.7**

FIGURE 6.5 (Default)

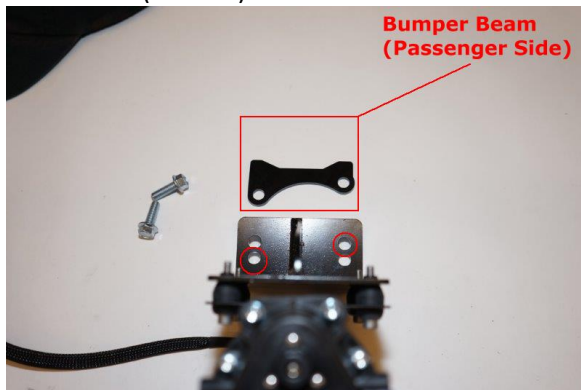


FIGURE 6.7

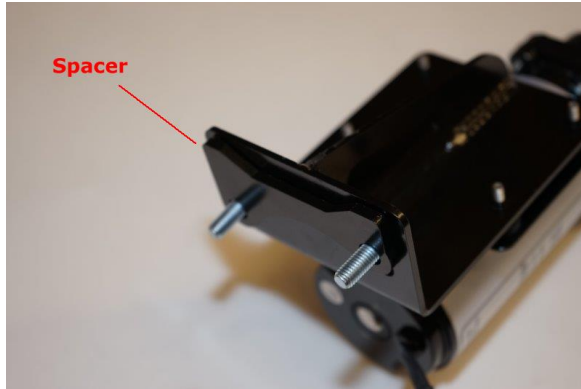


FIGURE 6.6 (Optional)

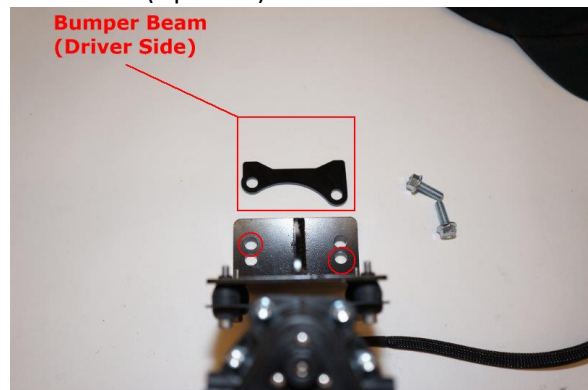
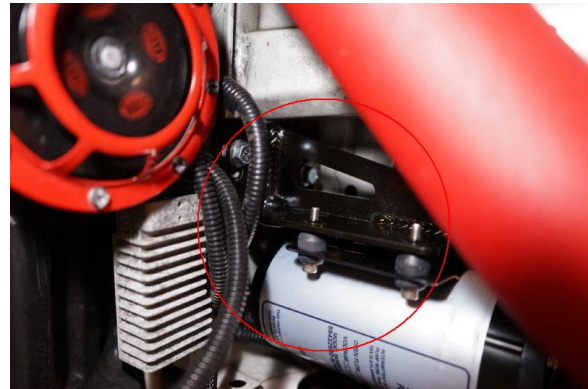


FIGURE 6.8



- Route the WMI pump's 2-way plug (80" lead) on the WMI controller harness to the bottom of the driver-side headlight. Tuck the wiring harness underneath the relay/fuse box and along the top of the frame rail. Secure the harness to the chassis with the supplied nylon cable ties. Make sure the wiring harness does not come into contact with any sharp edges on the chassis. SEE FIGURE 6.9, 6.10

FIGURE 6.9

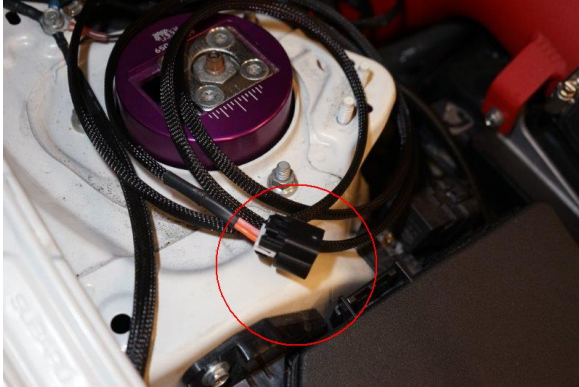
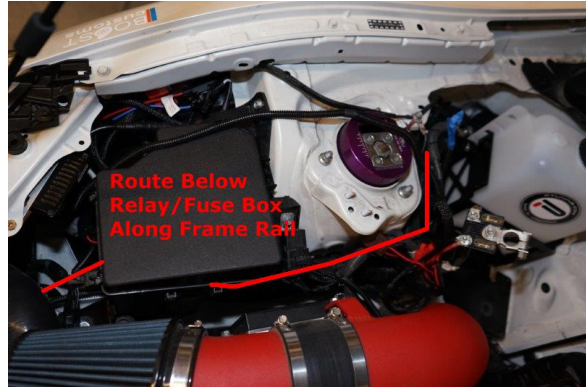


FIGURE 6.10



5. Connect the 2-way plug (orange & pink wire) on the WMI controller harness to the pump. Roll up the excess wiring harness into a loop and secure to the pump mounting bracket or chassis with the supplied nylon cable ties. SEE FIGURE 6.11, 6.12

FIGURE 6.11



FIGURE 6.12



## 6 – INSTALLING WMI NYLON HOSE, WMI FILTER and WMI FLOW GAUGE SENSOR

1. Remove the factory plastic radiator shroud. Using a ½” drill bit, drill a hole approximately 1” from the vertical edge on the radiator shroud as shown. SEE FIGURE 7.1, 7.2

FIGURE 7.1

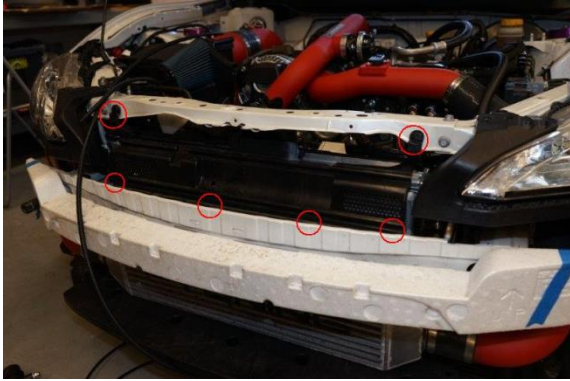


FIGURE 7.2



2. The following steps detail the installation of the optional AEM WMI Filter. If you are not installing a WMI filter, disregard the installation of the WMI filter and simply connect the nylon hose from the WMI bottle to the inlet of the WMI pump.
3. Using the two supplied nylon cable ties, secure the WMI filter onto the radiator shroud as shown. SEE FIGURE 7.3, 7.4

**IMPORTANT: Make sure the WMI Filter is positioned so that the direction-of-flow arrow is pointing from left to right (when viewing from the front of the vehicle) as shown.**

FIGURE 7.3

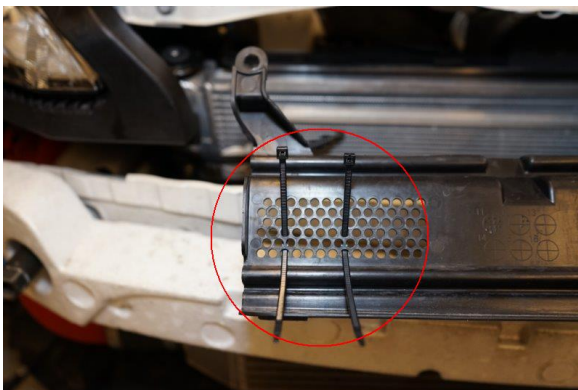


FIGURE 7.4



4. Cut a 28” long section of the nylon hose and wrap the hose with the supplied corrugated wiring loom (cut the length of the corrugated loom to length, leaving 1” of exposed nylon hose on each end as shown). Feed the nylon hose through the drilled hole on the radiator shroud. SEE FIGURE 7.5, 7.6



FIGURE 7.5

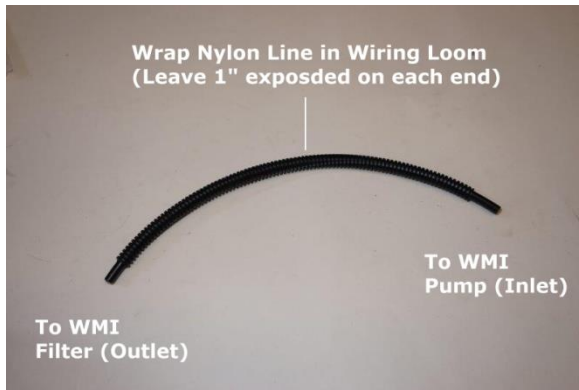
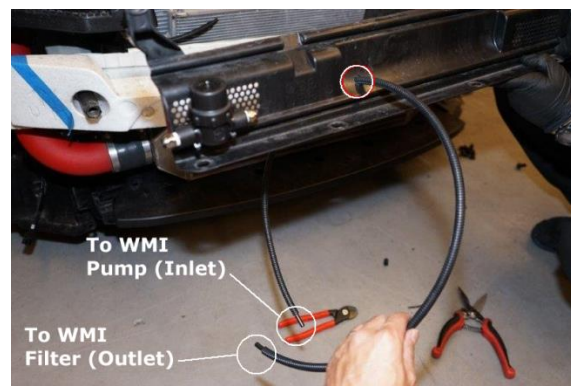


FIGURE 7.6



5. Route the nylon hose on the backside of the radiator shroud in front of the AC condenser. Connect the nylon hose on the backside of the radiator shroud to the WMI pump's inlet fitting (located on the right-hand side of the pump head, when viewing from front of vehicle). Connect the other end of the nylon hose to the outlet of the WMI Filter. Reinstall the plastic radiator shroud and retaining clips. SEE FIGURE 7.7, 7.8, 7.9, 7.10

FIGURE 7.7

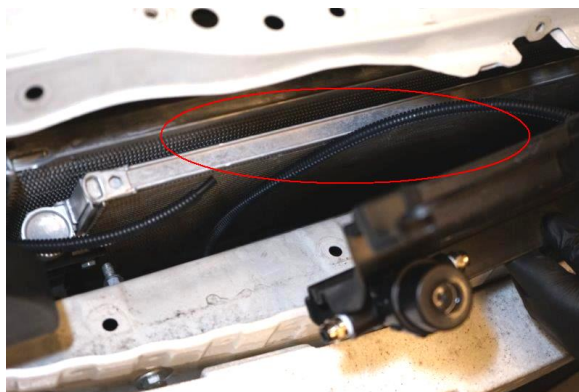


FIGURE 7.8

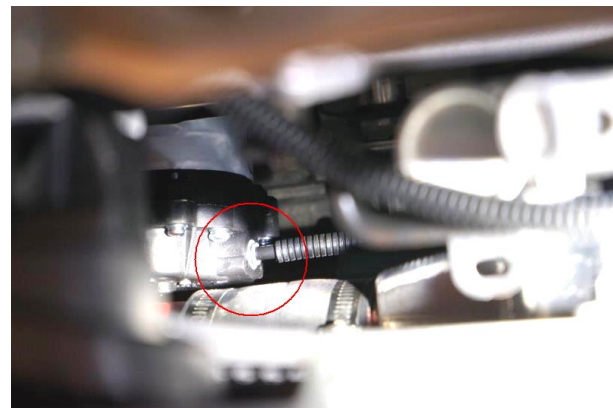
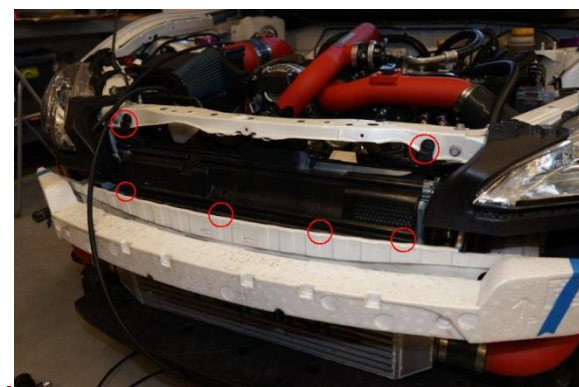


FIGURE 7.9



FIGURE 7.10



6. Connect the other end of the nylon hose that was previously routed from the WMI bottle to inlet of the WMI Filter. SEE FIGURE 7.11 & 7.12

FIGURE 7.11

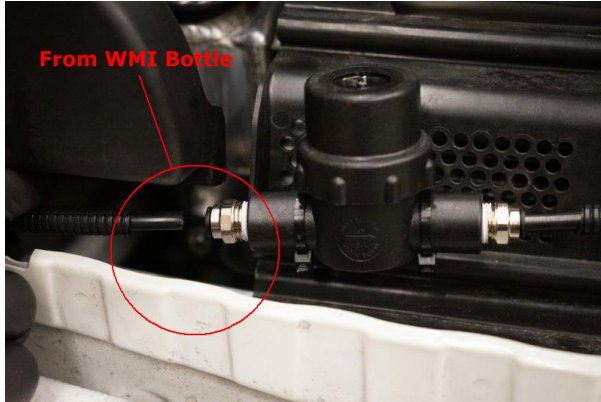
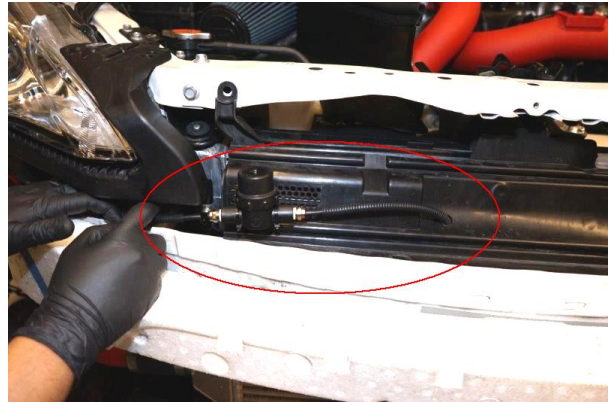


FIGURE 7.12



7. The following steps detail the installation of the optional AEM WMI Flow Gauge Meter. If you are not installing a WMI flow gauge, disregard the installation of the WMI flow gauge meter and simply connect the nylon hose from the outlet of the WMI pump to the WMI nozzle.
8. Install the flow gauge meter so the direction-of-flow arrow on the meter is directed towards the driver-side of the vehicle. The flow meter's harness should be routed above the front-passenger side of the engine and underneath the injector cover plate as highlighted in red below. Secure the flow gauge meter to the factory engine wiring harness with the supplied nylon cable ties. SEE FIGURE 7.13

**Note: This manual does not cover the full installation of the AEM WMI Flow Gauge. Please refer to the supplemental AEM WMI manual for wiring details. If installing on the PTUNING FR-S/BRZ Turbo System, remove the intake filter and first section of intake before proceeding.**

9. Locate installation packages **PTP-PKG-ENG-90055-10**. Select the desired WMI nozzle jet size and install the jet onto the WMI nozzle body. Please consult with your tuner for the correct jet size for your application. SEE FIGURE 7.14

FIGURE 7.13

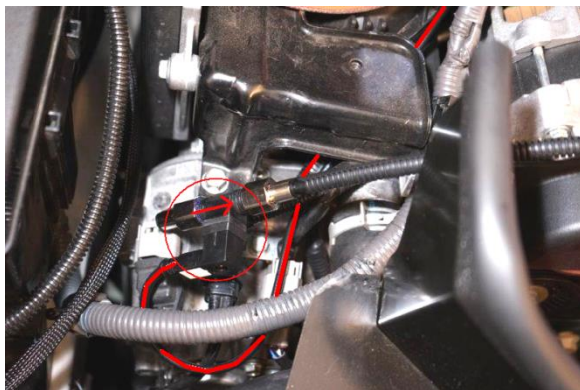


FIGURE 7.14



10. The following steps detail the installation of the WMI nozzle on the PTUNING FR-S/BRZ Turbo System. If installing the WMI nozzle on another application, please weld the supplied PTUNING 1/8" NPT Aluminum Bung on the intake/intercooler charged pipe before proceeding. Please consult with the manufacturer of your turbo/SC kit and/or tuner for the proper installation location of the WMI bung.
11. Using a 3/16" Allen hex socket, remove the brass NPT plug from the WMI bung on the upper intercooler piping. Apply Teflon thread sealant or tape to the tapered thread on the WMI nozzle and install nozzle onto the WMI bung. SEE FIGURE 7.15, 7.16, 7.17

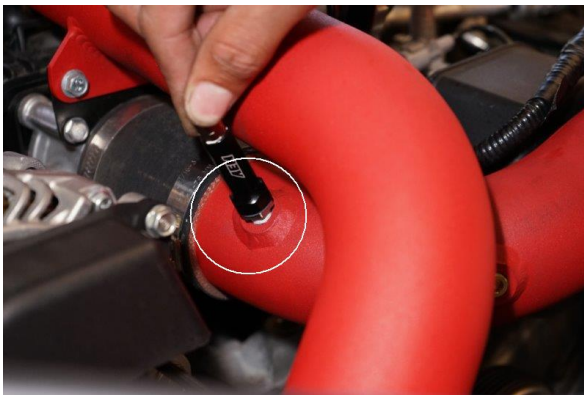
FIGURE 7.15



FIGURE 7.16



FIGURE 7.17



12. Cut a 12" long section of the nylon hose and wrap the hose with the supplied corrugated wiring loom (cut the length of the corrugated loom to length, leaving 1" of exposed nylon hose on each end as shown). Connect one end of the nylon hose to the WMI nozzle and the other end to the outlet of the WMI flow meter. SEE FIGURE 7.18, 7.19, 7.20, 7.21

FIGURE 7.18

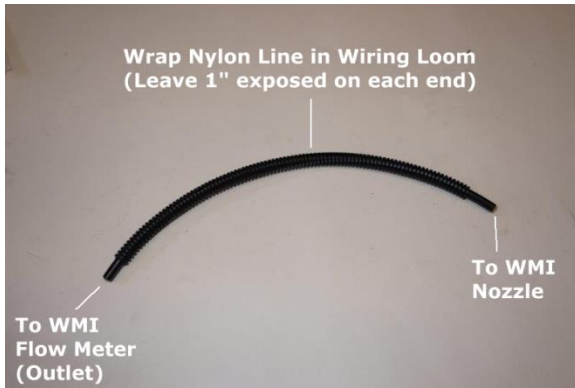


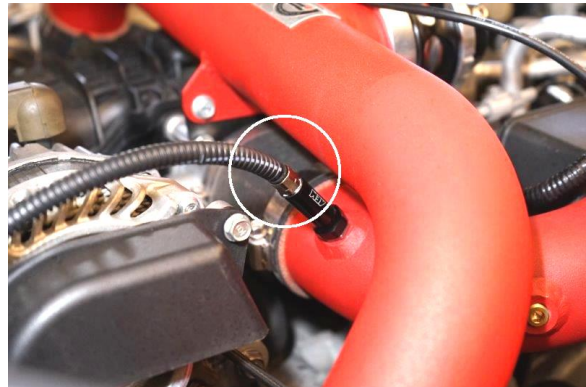
FIGURE 7.19



FIGURE 7.20



FIGURE 7.21



13. Cut a 32" long section of the nylon hose and wrap the hose with the supplied corrugated wiring loom (cut the length of the corrugated loom to length, leaving 1" of exposed nylon hose on each end as shown). Connect one end of the nylon hose to the inlet of the WMI flow meter and the other end to the outlet of the WMI pump. Route the nylon hose underneath the relay/fuse box as shown. SEE FIGURE 7.22, 7.23, 7.24, 7.25

FIGURE 7.22

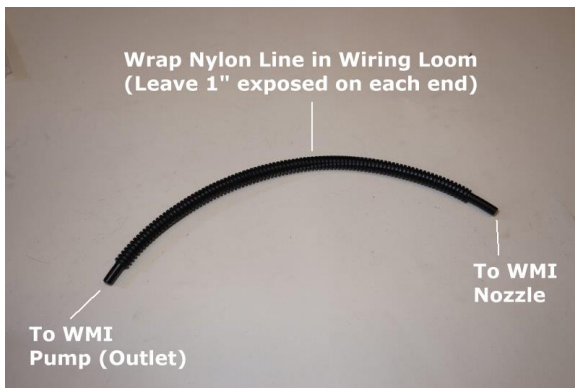


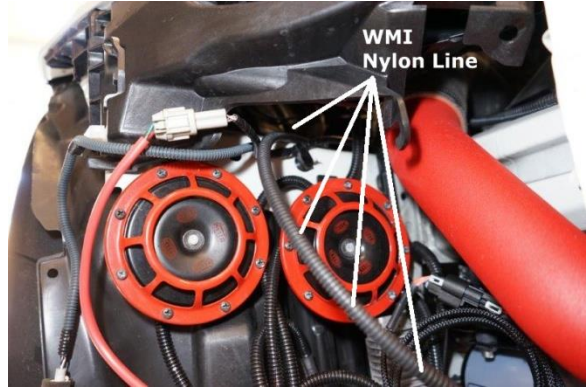
FIGURE 7.23



FIGURE 7.20



FIGURE 7.21



## 8 – INSTALLING LED INDICATOR LIGHT AND BOOST REFERENCE

1. Locate installation packages **PTP-PKG-ENG-90055-10**. Locate the LED indicator wires on the WMI harness. Route the wires behind the WMI bottle and along the engine bay firewall. SEE FIGURE 8.1 & 8.2

FIGURE 8.1



FIGURE 8.2

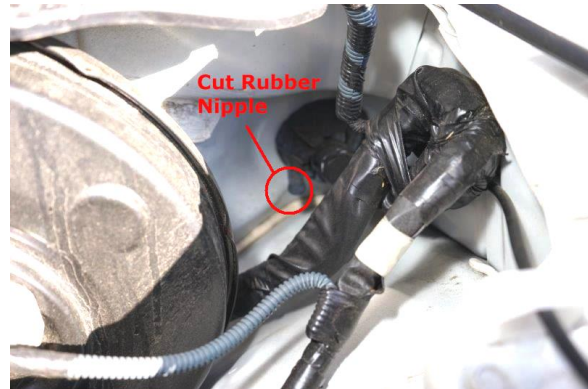


2. Locate the rubber boot for the factory engine harness on the driver-side firewall. Using a wire cutter, cut the 1" long rubber nipple on the rubber boot. Using a long screwdriver or wire coat hanger, secure the ends of the LED wires (gray & violet) to the end of the screwdriver with electrical tape and push the wires through the boot and into the interior of the vehicle. SEE FIGURE 8.3 & 8.4

FIGURE 8.3



FIGURE 8.4



**NOTE:** The following steps detail the installation of the WMI cockpit LED indicator light. The LED light allows the driver to view the status of the WMI controller, such as the low fluid level in the WMI bottle. The LED light can be mounted anywhere in the interior of the vehicle. However, the instructions will detail the installation of the LED on the plastic instrument panel cover.

3. Using a Phillips screwdriver, remove the screw securing the plastic instrument cluster cover to the dashboard. Pull up and remove the dashboard covering the instrument cluster and slowly pull out the plastic cluster cover. SEE FIGURE 8.5 & 8.6

FIGURE 8.5



FIGURE 8.6



4. Using a 1/4" drill bit, carefully drill a 1/4" hole into the plastic instrument cluster cover. Be carefully not to drill into the wiring harness on the backside of the cluster cover. Insert the two wires on the LED indicator light through the drilled hole and pull the wires through. Using the two supplied heat shrink butt connectors, connect the violet wire from the WMI harness to the red wire on the LED light and the remaining gray wire to the white wire (cut the excess wires if necessary before crimping the connections). Use a heat gun to shrink the sleeve on the butt connectors for a secure connection. Reinstall the dash and instrument cluster cover. SEE FIGURE 8.7 & 8.8

FIGURE 8.7



FIGURE 8.8



5. Locate the rubber vacuum hose connecting the blow off valve (BOV) to the intake manifold or another vacuum source on the engine. Cut the rubber vacuum hose and insert the 1/4" ends of the supplied barb tee fitting onto each end of the cut hose. Insert the supplied 1/8" vacuum hose onto the 1/8" barb end of the tee fitting. Secure the hose onto the tee fitting with the nylon cable ties. SEE FIGURE 8.9 & 8.10

FIGURE 8.9



FIGURE 8.10



6. Route the other end of the 1/8" hose towards the WMI controller. Using the supplied nylon cable ties, secure the hose along the backside of the intake manifold. Cut the 1/8" hose to the desired length and connect the hose to the barb nipple on the bottom of the WMI controller and secure with nylon cable ties. Leave enough slack in the hose to compensate for engine movement. SEE FIGURE 8.11 & 8.12

FIGURE 8.11



FIGURE 8.12



7. Using a 10mm wrench, secure the negative terminal on the factory battery harness to the negative post on the backside of the WMI tray. Install the WMI controller cover using the supplied M5 button head socket cap screw. The controller cover was designed to prevent unauthorized tampering of the WMI controller settings. SEE FIGURE 8.13 & 8.14

**NOTE: The factory negative terminal may need to be spread apart to ease the installation of the terminal onto the WMI negative battery post.**



FIGURE 8.13



FIGURE 8.14



8. Installation of the WMI system is now complete.

**IMPORTANT:** Please consult with your tuner on the desire setting for the WMI controller's boost activation knob settings. In addition, please refer to the supplemental AEM WMI System Manual for details on how to operate and test the WMI controller.