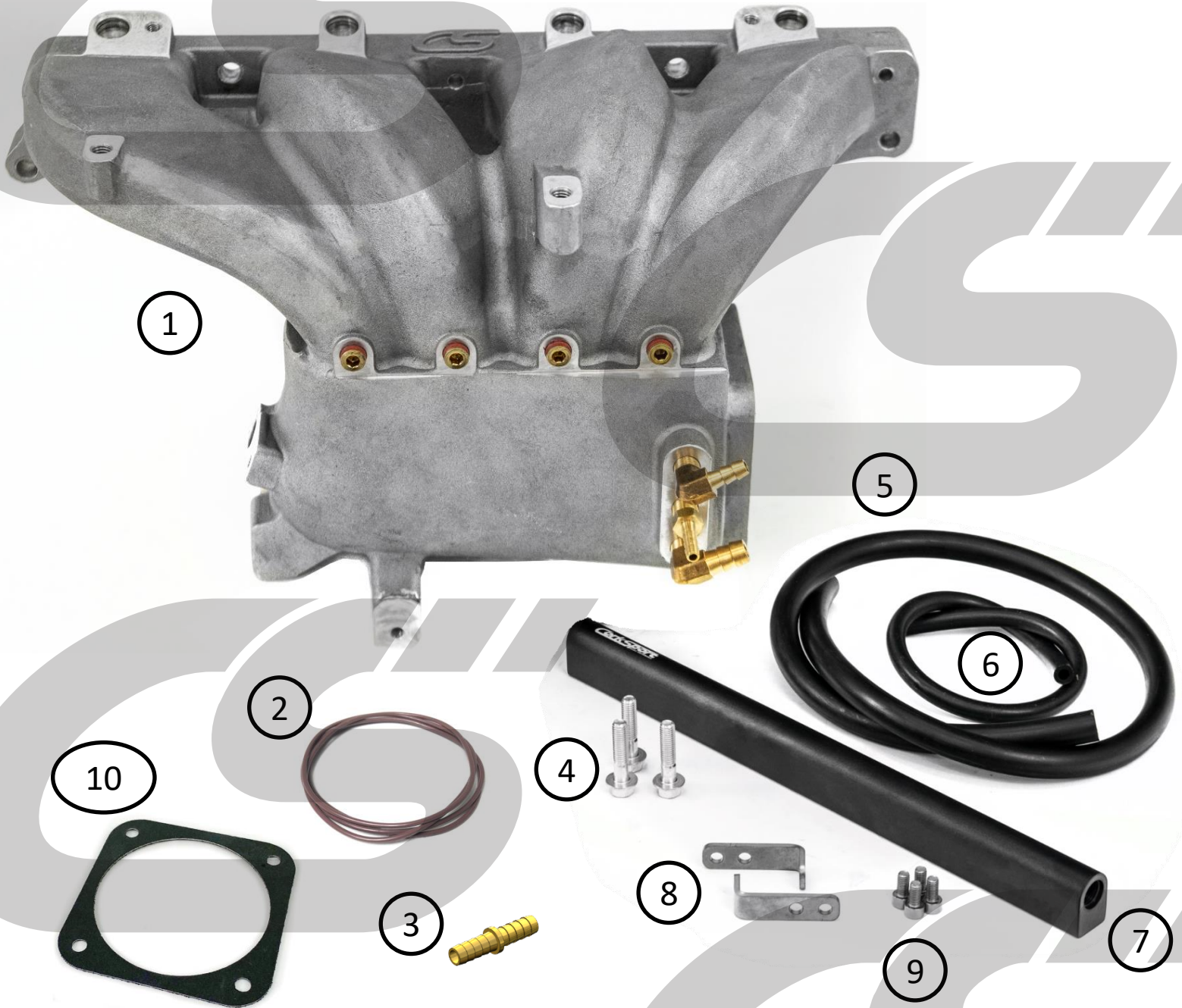


CorkSport DISI MZR Intake Manifold

2007 – 2013 Mazdaspeed 3 & 2006 – 2007 Mazdaspeed 6



This package should Contain:

- ❑ 1. One (1) CorkSport DISI MZR Intake Manifold
- ❑ 2. Five (5) Viton O-Rings
- ❑ 3. One (1) 3/8" Barb to Barb Fitting
- ❑ 4. Three (3) M8x1.25x35mm Flange Head Screws
- ❑ 5. 3 Feet - 3/8" ID Hose
- ❑ 6. 1.50 Feet - 1/4" ID Hose

The Optional PI Fuel Rail Kit Contains:

- ❑ 7. One (1) CorkSport Fuel Rail
- ❑ 8. Two (2) CorkSport Fuel Rail Brackets
- ❑ 9. Four (4) M6x1.0x12mm Socket Head Cap Screws
- ❑ 10. CorkSport Throttle Body Gasket



CorkSport DISI MZR Intake Manifold

2007 – 2013 Mazdaspeed 3 & 2006 – 2007 Mazdaspeed 6



Thank you for purchasing the CorkSport DISI MZR Intake Manifold for the 2007-2013 Mazdaspeed 3 & and 2006-2007 Mazdaspeed 6. The CorkSport Intake Manifold takes performance and OE fitment and combines them to create a combination that performs and fits without compromise. Equal flow, higher flow, tighter packaging, and TMIC fitment are aspects that define the CorkSport Intake Manifold.

Please let us know what you think by submitting a review at: <https://corksport.com/corksport-mazdaspeed-3-intake-manifold.html>

Pre-Installation Notes:



Make sure your vehicle is completely cooled down prior to starting installation. If you are going to work on your car within an hour or two of having driven it, use a fan to cool off the car.



This Intake Manifold does not reuse the stock EGR system or VTCS System. An EGR block off plate is required to prevent exhaust gases from exiting to the engine compartment. **Removal of these systems will cause a CEL.**



These instructions were written for reference only and the use of a factory service manual is recommended. Please read these instructions thoroughly prior to starting installation.



These instructions were made using a 2013 Mazdaspeed 3. Installation for earlier Mazdaspeed 3 and Mazdaspeed 6 will be similar.

Materials and Time:



General Info.

Part #: AXL-6-441-XX

Time Est: 3-4 hours

Wrench Rating: 4/5

Parts List

1. One (1) CorkSport DISI MZR Intake Manifold
2. Five (5) Viton O-Rings
3. One (1) 3/8" Barb to Barb Fitting
4. Three (3) M8x1.25x35mm Flange Head Screws
5. 3 Feet - 3/8" ID Hose
6. 1.50 Feet - 1/4" ID Hose

Optional PI Fuel Rail Kit:

7. One (1) CorkSport Fuel Rail
8. Two (2) CorkSport Fuel Rail Brackets
9. Four (4) M6x1.0x12mm Socket Head Screws



Tooling List

Flat Head Screwdriver
Phillips Head Screwdriver
Large Jaw Pliers
Need Nose Pliers
8mm Wrench
10mm Wrench
12mm Wrench
13mm Wrench
22mm Wrench
Small Vise-Grips or C-Clamps
Large Vise Grips
Scotch-Brite

Tooling List

8mm Shallow Socket
8mm Deep Socket
10mm Deep Socket
12mm Deep Socket
4" Extension
3/8" Drive Ratchet
5mm Allen
Torque Wrench
Optional:
9/32" or 7mm Drill Bit
Drill

Additional Parts List (not included)

One (1) EGR Block Off Plate



Order of Operations & Table of Contents



Engine Disassembly

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Intake Manifold Installation

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Section 8: OPTIONAL: Port Injection Preparation	Pg. 14-16
Section 9: CorkSport Intake Manifold Installation	Pg. 17
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Engine Assembly

Section 10: Engine Reassembly	Pg. 21
Section 11: TMIC Assembly	Pg. 21

If you have not considered it already, now is a great time to perform a valve cleaning and replace the DI Fuel Injector Seals.



Check out this video How-To for cleaning the intake valves:
<https://www.youtube.com/watch?v=6j3EKnoSSFY>

And this link for new injector seals:
<https://corksport.com/mazdaspeed-3-fuel-injector-seals.html>

Detailed Instructions



These instructions were made using a 2013 Mazdaspeed 3. Installation for earlier Mazdaspeed 3 and Mazdaspeed 6 will be similar.

1. Intercooler and Intake Removal

- a) Remove the negative battery terminal and place the plastic cover back over the battery (green arrow in Figure 1a).



Figure 1a

- b) Remove the two 10mm bolts fastening intercooler shroud to the intercooler. Push the shroud towards the firewall to unhook it and remove it from the vehicle (red circles in Figure 1b).



We recommend using plastic Ziploc bags and a sharpie to label all bolts and parts throughout the install.

- c) Remove the clamps for the throttle body and turbo boost tubes from the intercooler. Use a 10mm socket to loosen the clamps (green circles in Figure 1c).

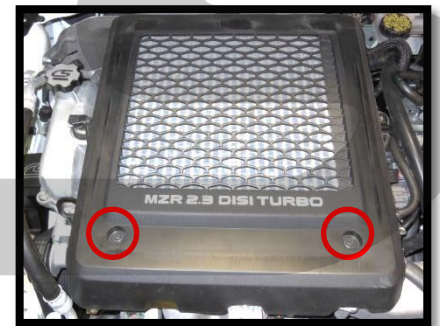


Figure 1b

- d) Detach the bypass valve (BPV) from the intake. Remove the vacuum signal hose (red arrow), and the large BPV to intake hose by compressing the clamp with pliers (green arrow in Figure 1c). Leave the bypass valve attached to the intercooler pipe.

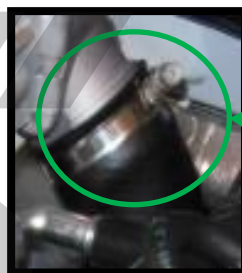


Figure 1c



1. Intercooler and Intake Removal (continued)

- e) Remove the three (3) 12mm nuts fastening the intercooler to the top of the engine and remove the intercooler from the vehicle by pulling upward (Figure 1d).



Figure 1d

- f) Remove the intake. Loosen the hose clamp connecting the intake elbow to the turbo inlet pipe with a 10mm socket wrench (red circle in Figure 1e).

- g) Remove the breather pipe from the valve cover (red arrow in Figure 1e) and unplug the MAF sensor (green arrow in Figure 1e).

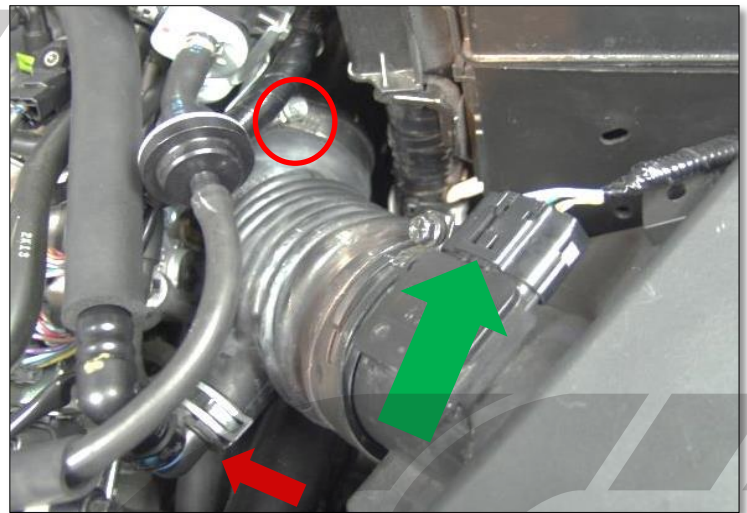


Figure 1e

- h) Remove intake from engine bay.

2. Intake Manifold Accessories Removal

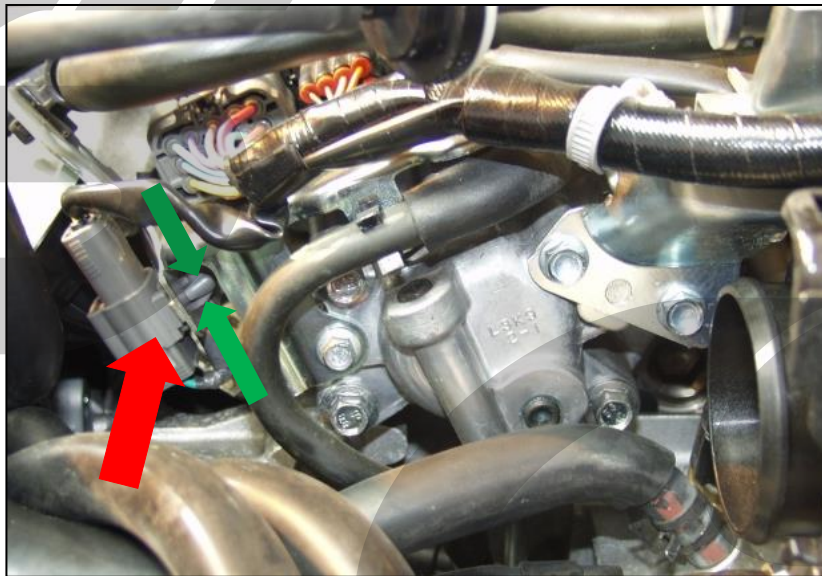


Figure 2a

- a) **Disconnect the swirl vane wires** (red arrow in Figure 2a) Using needle nose pliers, remove the connector from the bracket by squeezing in the direction of the green arrows in Figure 2a
- b) **Remove the swirl vane controller box** (red circles in Figure 2b) with an 8mm socket, then disconnect the electrical circuit (green arrow) and remove the controller box.



The VTCS system will not be reused with the CorkSport Intake Manifold

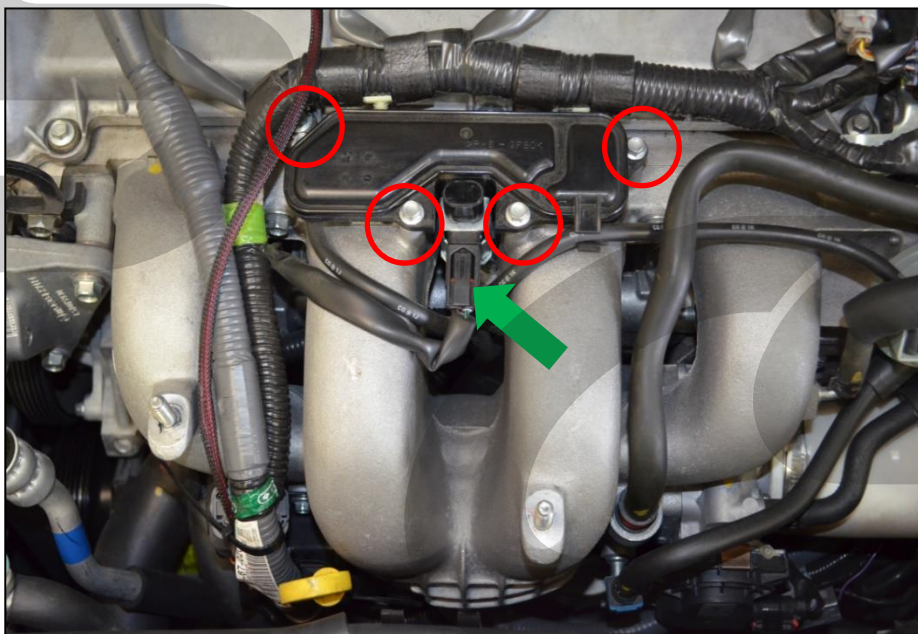


Figure 2b

2. Intake Manifold Accessories Removal (continued)

- c) **Locate the connector that runs to the coil packs.** This is located at the front passenger side of the intake manifold. Move the gray wrapped wires out of the way. **Shown in Figure 2c.**

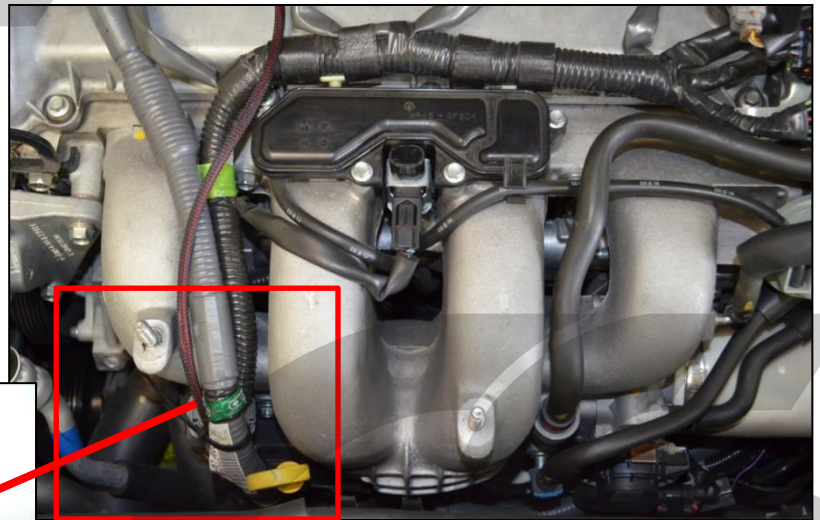
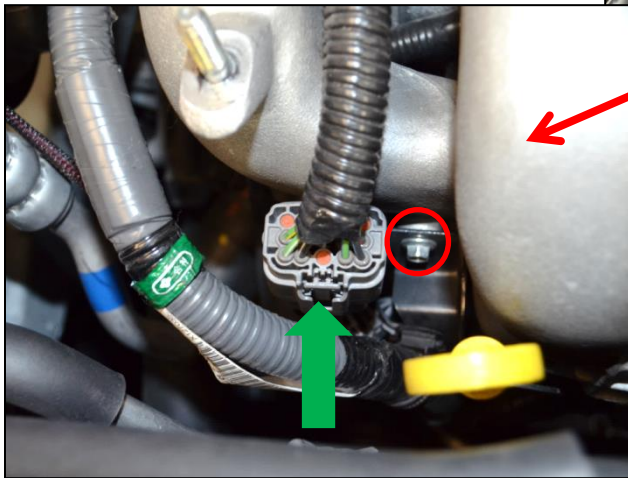


Figure 2c



- d) **Disconnect the wiring plug and remove the brackets in this area.** (Red circles in Figure 2c & 2d) Use an 8mm socket and wrench to remove the wiring connector bracket and the dipstick bracket.



Completely remove the mounting bracket from the wiring harness, It is not reused.

- e) **Disconnect the MAP sensor connector,** with a flathead screwdriver if needed. **Green circle and arrow in Figure 2d.**

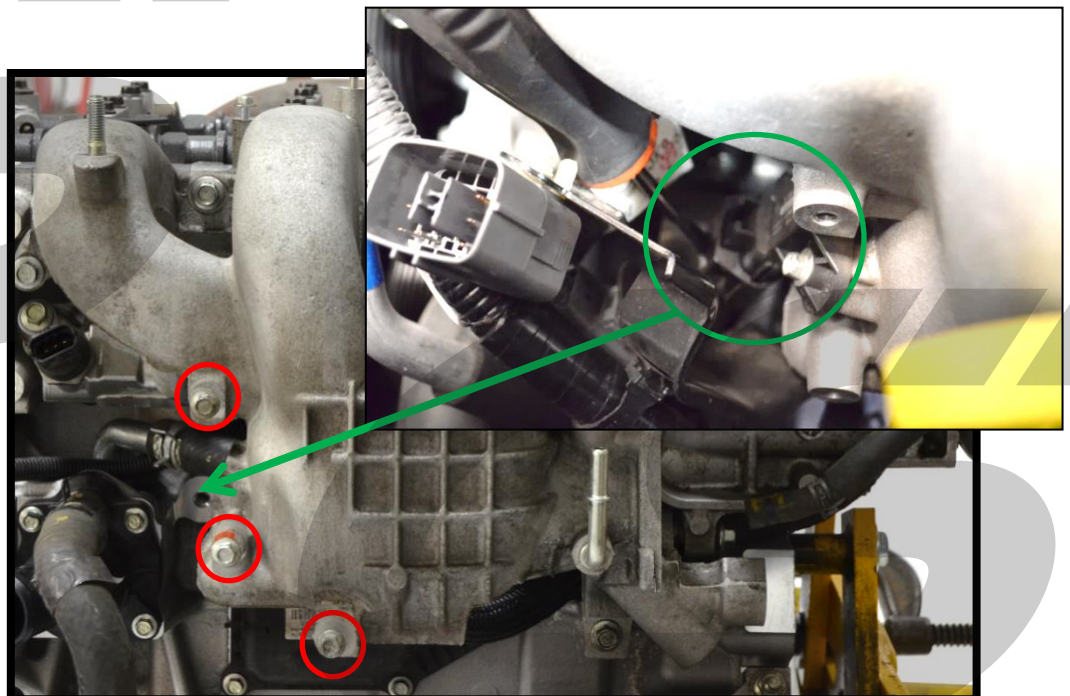
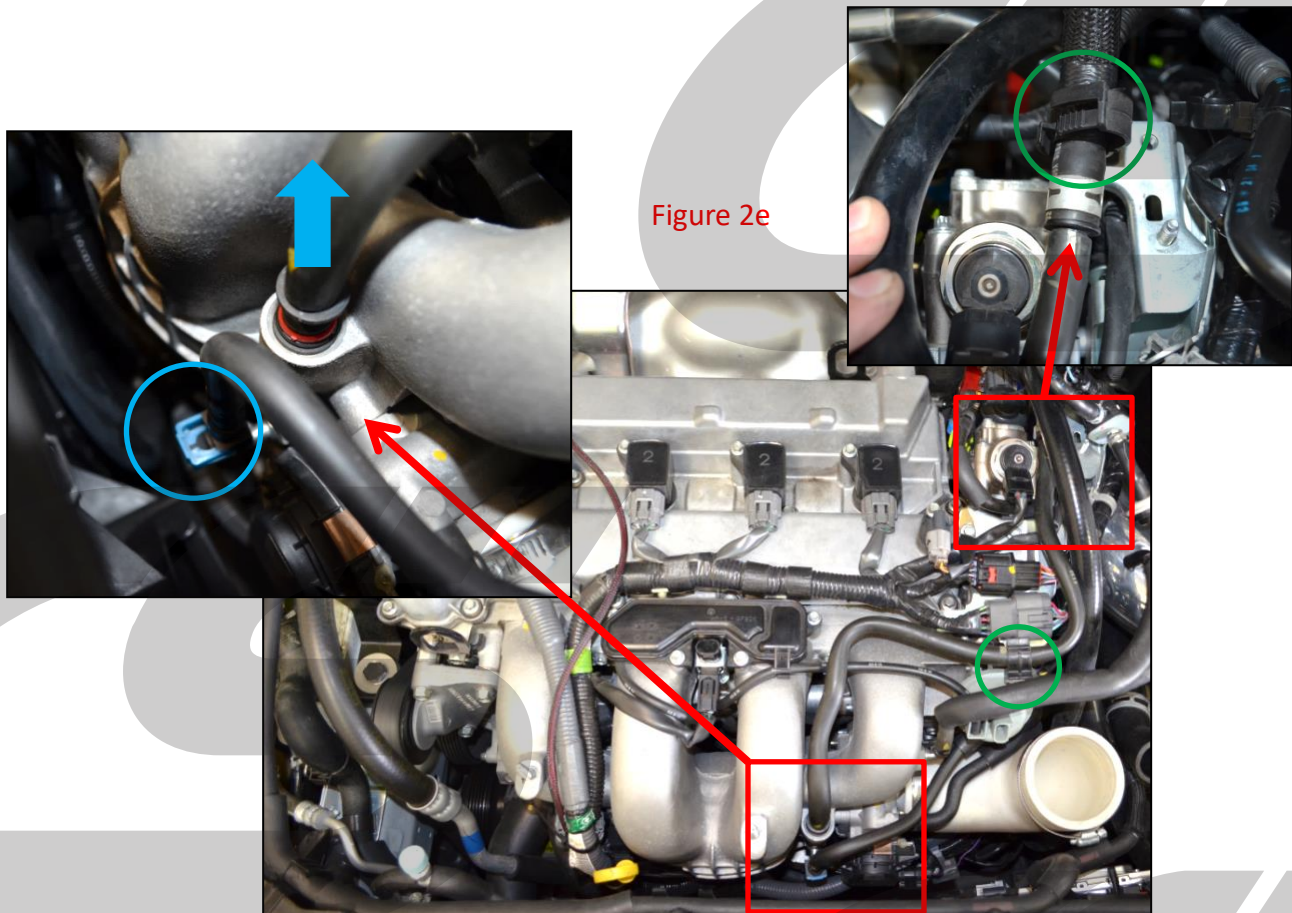


Figure 2d

2. Intake Manifold Accessories Removal (continued)

- f) Remove the vacuum hose with the blue tab. Use a flathead screwdriver to pop the clip out as shown in the blue circle in Figure 2e.
- g) Remove the vacuum line with the red collar. Use a flathead screwdriver to hold the red collar down while gently pulling the vacuum hose upward. Shown with the blue arrow in Figure 2e.



- h) Open the two black plastic hose clamps. Use a flathead screwdriver to pop the clamp open as shown in the green circle in Figure 2e. Move the hose to the top of the engine, out of the way.

3. Throttle Body Removal

- a) **Unclamp the throttle body coolant line and slide the clamps back.** Use the needle nose pliers to grab and loosen the clamps. **Green circles** in **Figure 3a**



Do not remove the hoses off the ports until the vise grips or c-clamps have been installed in the next step. Failure to do so will led to messy coolant everywhere!

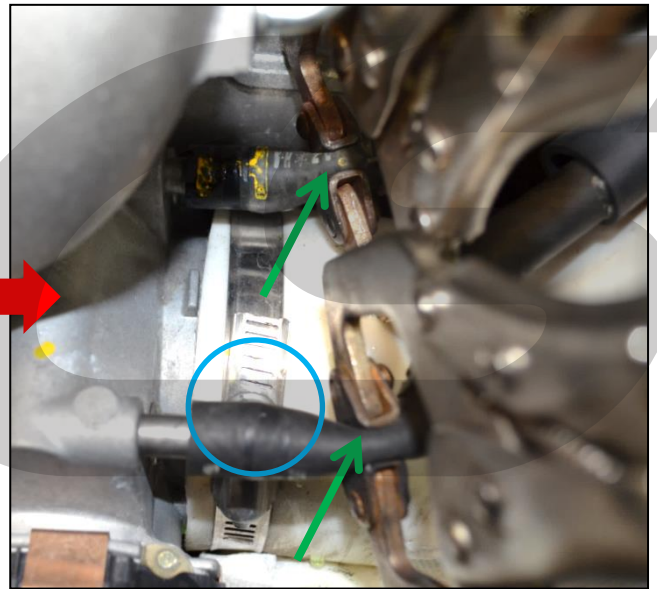
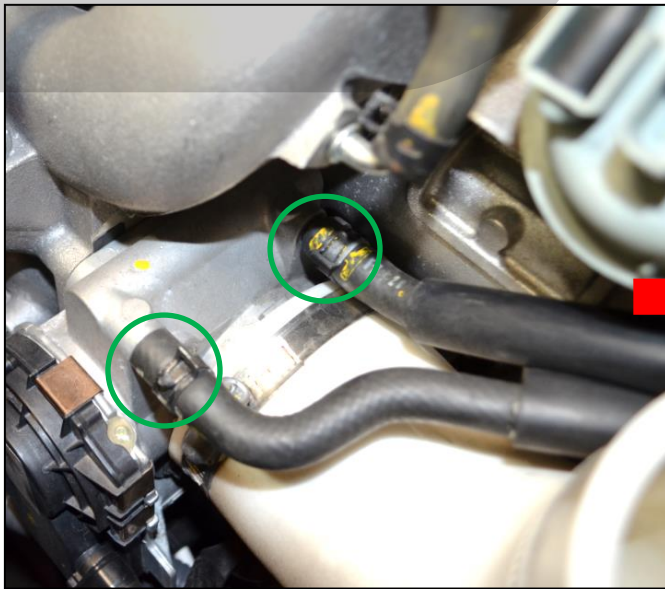


Figure 3a

- b) **Clamp the coolant hoses** with the vise-grips or c-clamps to stop the coolant flow. Excessive clamping force is not required. Clamping location shown with the **green arrows** in **Figure 3a**.

- c) **Remove the throttle body inlet hose** using a 10mm socket wrench. Shown with the **blue circle** in **Figure 3a**.

- d) **Remove the throttle body** using an 8mm socket wrench and extension. The four bolts are shown with **red circles** in **Figure 3b**. Peel the gasket off the intake manifold for further inspection (be careful to not bend the gasket) Gasket tab shown with **blue arrow** in **Figure 3b**.

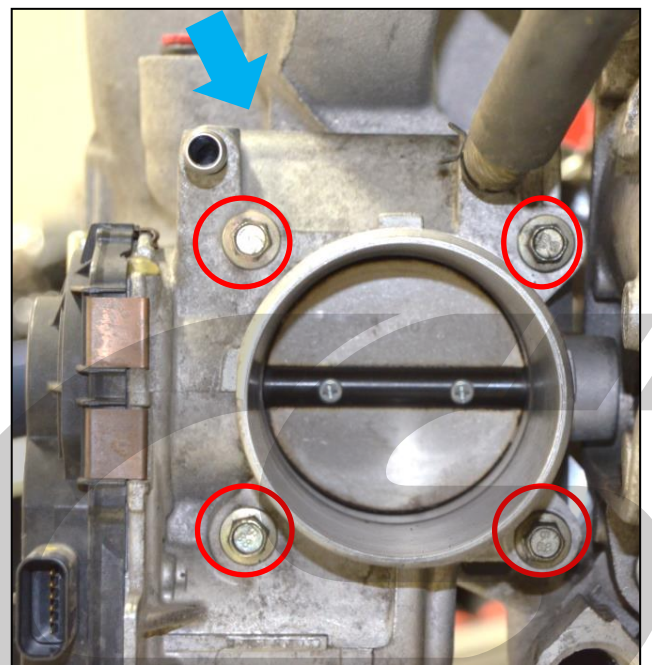


Figure 3b

4. EGR Tube Removal

- a) Loosen the EGR tube at the intake manifold with a 22mm wrench, shown with the red circle in Figure 4a.
- b) Remove the EGR tube at the engine with an 8mm socket wrench, shown with green circles in Figure 4a. Be sure to not lose the small gasket between the engine and EGR tube.



Install the EGR block off plate at this stage as the stock EGR system cannot be used with the new intake manifold.

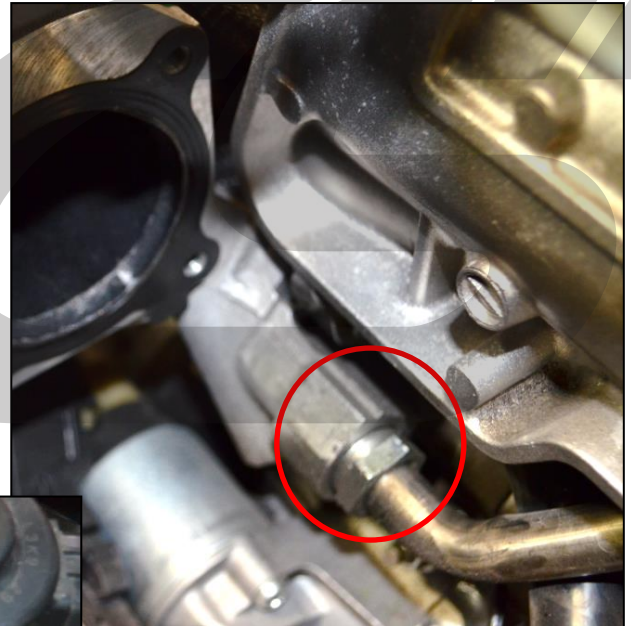
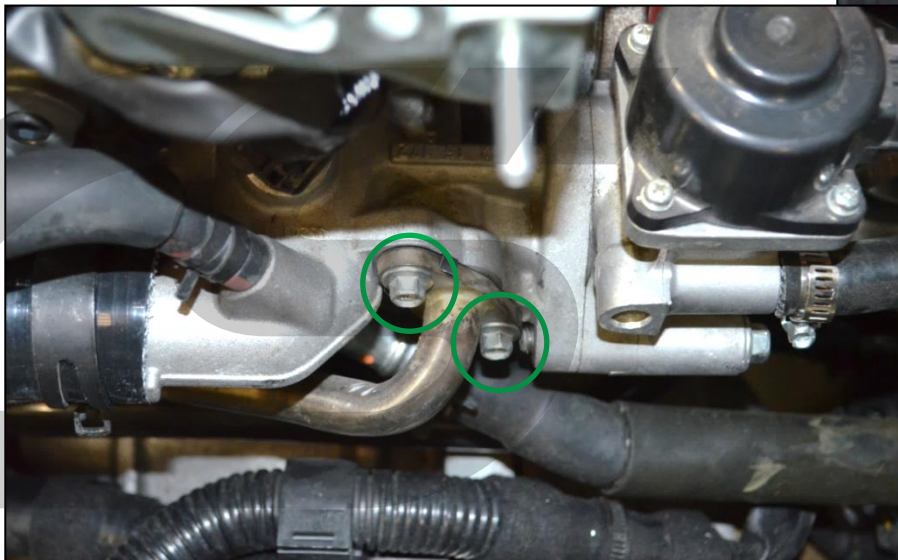


Figure 4a



The EGR tube at the engine can be removed without the removal of the turbo inlet pipe, but is significantly easier with the TIP removed. Instructions to remove the TIP are available at <http://www.corksport.com/support/instructions/Axl-6-118-WEB.pdf>

5. Intake Manifold Removal

- a) Remove the fuel rail shield with a 10mm socket wrench, shown with red circles in Figure 5a.

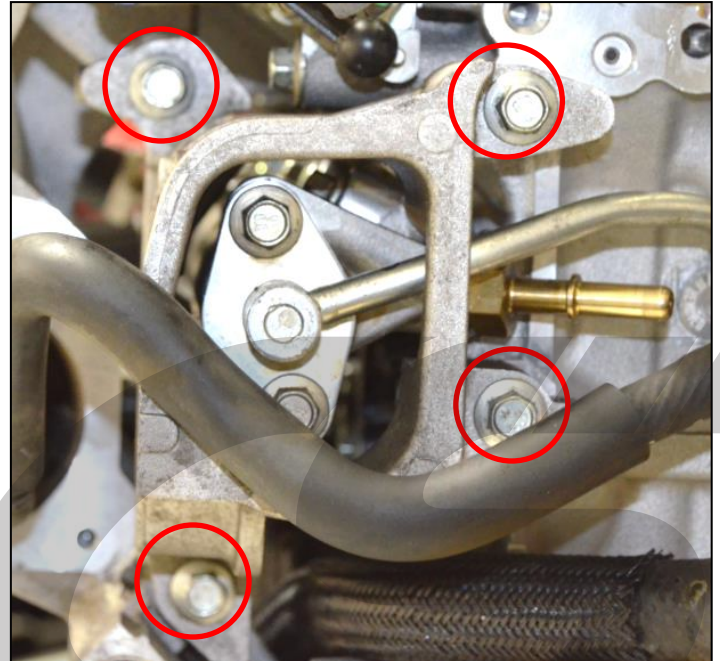


Figure 5a



The fuel rail shield is not reused with the CorkSport Intake Manifold.



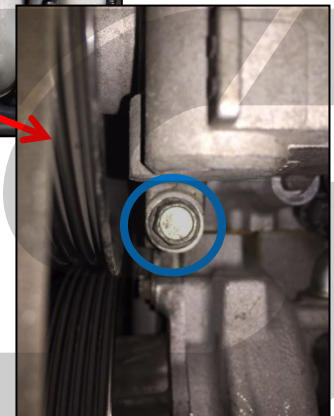
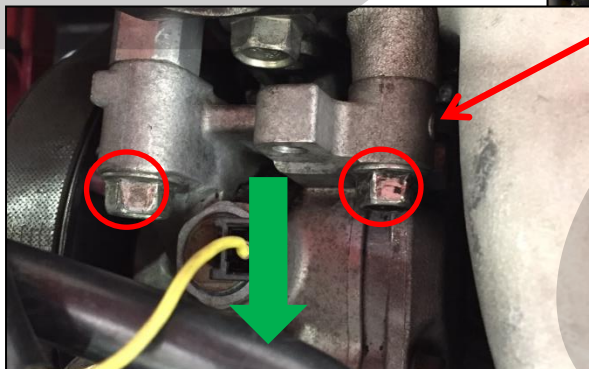
Steps b and c below are applicable only if your car is a 2007-2009 Mazdaspeed 3 or a 2006-2007 Mazdaspeed 6. This gives access to leftmost bolt while removing the intake manifold.

- b) (Optional) Partially remove the power steering pump by removing 2 bolts from top with a 12mm wrench shown with red circles in Figure 5b and by loosening 1 bolt on the underside with 12mm socket & extension, shown with a blue circle in Figure 5b.

- c) (Optional) Pull power steering pump in direction of green arrow of Figure 5b until pump can rotate away from the intake manifold. You do not need to completely remove power steering pump or disconnect belt.



Figure 5b



5. Intake Manifold Removal (continued)

- a) Remove the intake manifold with a 10mm socket wrench and 4" extension, shown with **red circles** in **Figure 5c**. Alignment pins are located at the **blue dots**.

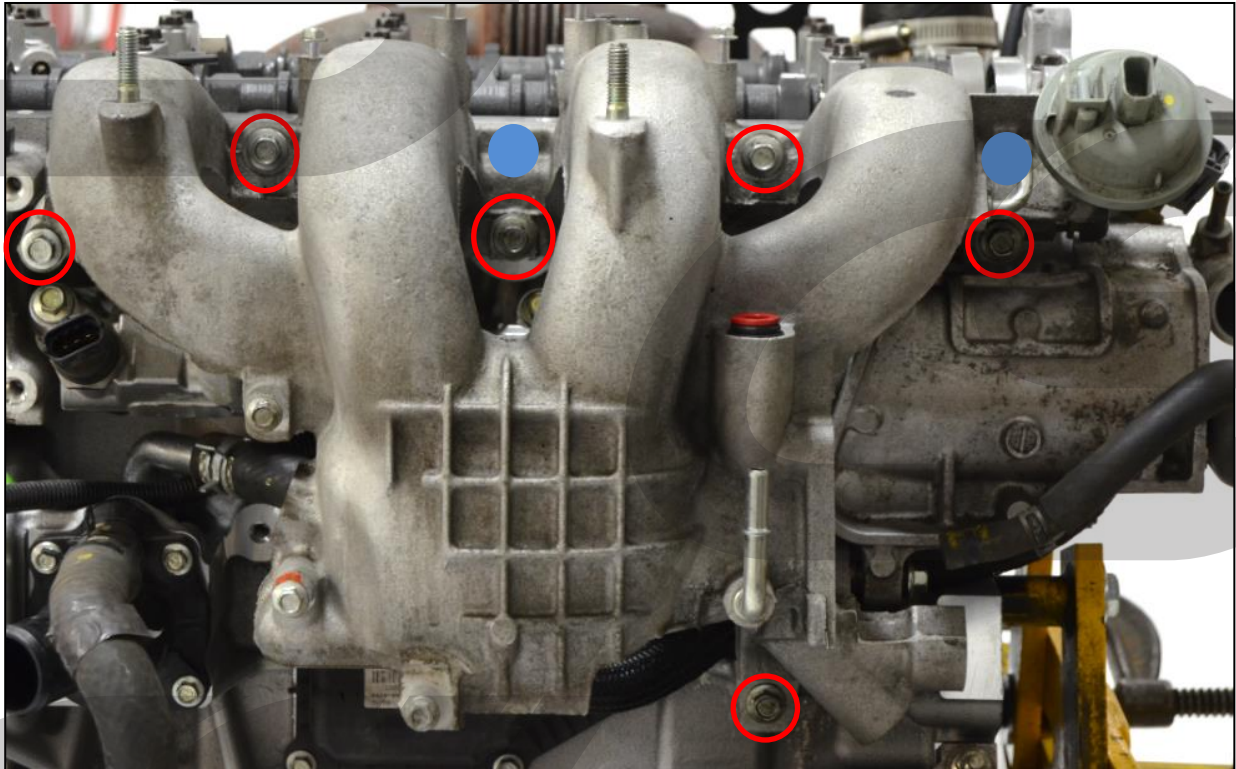


Figure 5c

- b) Engine bay should look like **Figure 5d**.

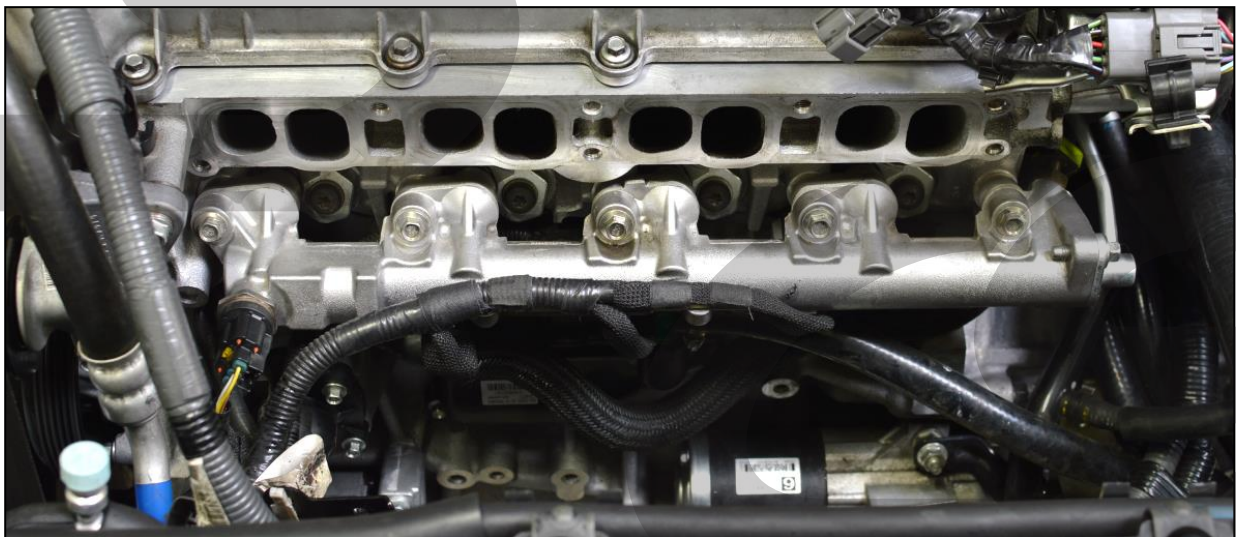


Figure 5d

6. Vacuum Hose Removal

- a) **MAZDASPEED 3 OWNERS:** Completely remove the OE brake booster hose with red collar that was disconnected earlier. Trace the hose to the firewall and use needle nose pliers to remove the clamp on the end. The hose should be free to remove. Upon removal it should look like the hose in Figure 6a.



Figure 6a

- b) **MAZDASPEED 6 OWNERS:** Trace the hose to the connection circled in red above. Remove the lower half of the hose and leave the upper half connected to the brake booster.

- c) Completely remove EVAP hose with blue tab that was disconnected earlier. Trace the hose to black/white check valve. Then use a razorblade to cut the hose like shown with red line in Figure 6b. The hose should be free to remove. Upon removal it should look like the hose in Figure 6b.



Use light pressure with the razor blade to cut the hose from the check valve. You do not want to leave a deep gouge/cut in the check valve barb fitting.

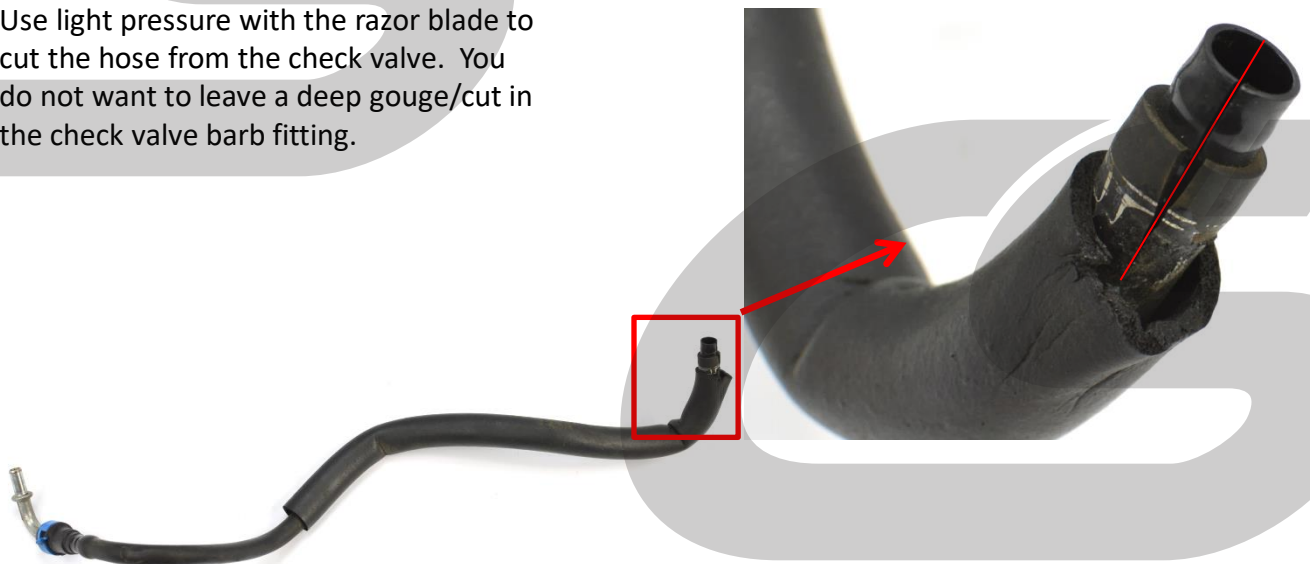


Figure 6b

7. Intake Manifold Assembly

- a) Remove alignment pins from stock intake manifold using a tight vice grip. Alignment pins marked with red circles in Figure 7a.

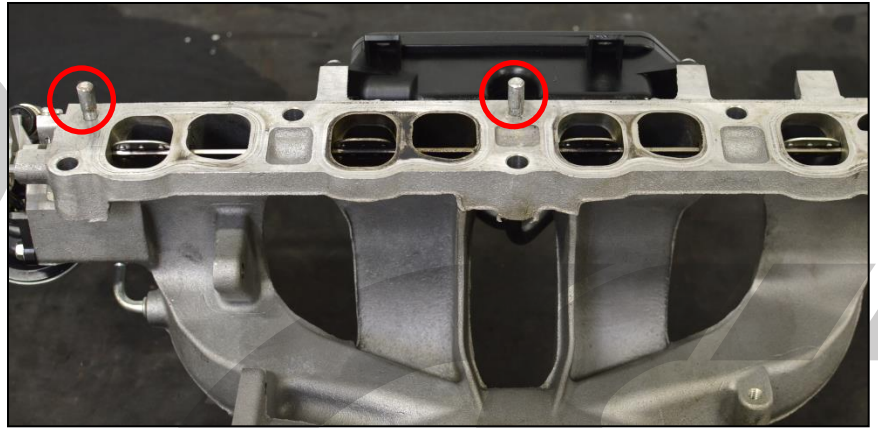


Figure 7a



Take care to not bend or otherwise damage the alignment pins as it will affect fitment of intake manifold. If pins were galled during removal, sand smooth.



Figure 7b

- b) Press alignment pins into CorkSport intake manifold at locations marked with red circles in Figure 7b. Ensure small end of alignment pin is inserted into manifold. Use of a hammer to tap the pins in may be needed

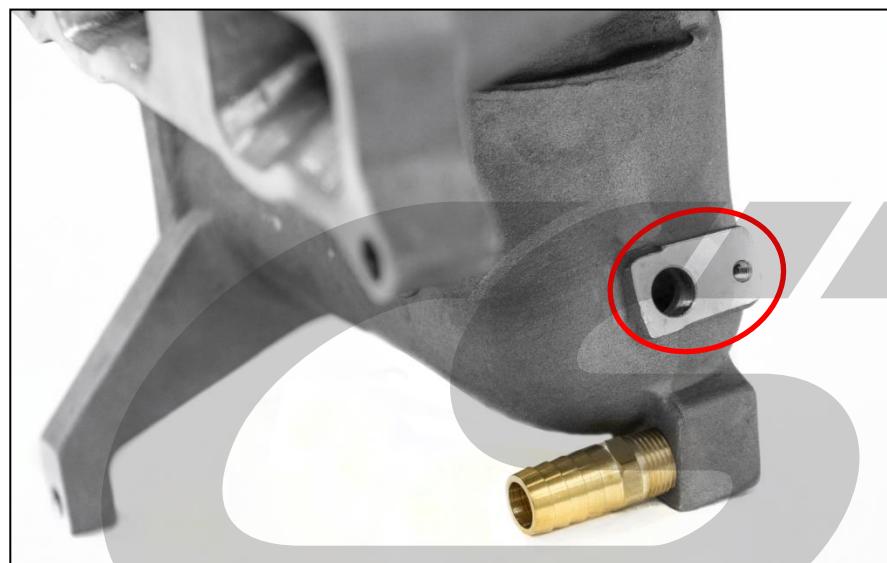


Figure 7c

- c) Install MAP sensor at location marked with red circle in Figure 7c.

7. Intake Manifold Assembly (continued)

- d) Before installing the CorkSport Intake Manifold, install the supplied Viton O-rings into the O-ring grooves on the head flange of the CS intake manifold. Starting in a corner, place the O-ring into the groove as shown in **Figure 7d**.
- e) Hold the O-ring in the corner, then using a finger, work the O-ring around the groove until it is seated in the groove. Follow the image in **Figure 7e**. Completed O-ring install will look like **Figure 7f**.
- f) Repeat steps 7d and 7f for the remaining 3 O-rings.



If the O-ring falls out of the groove, a small amount of grease can be used to keep the O-ring in place. We recommend Lubriplate 105 grease, however, standard white lithium grease will also work well.

There is one extra o-ring included in the case you lose or damage an o-ring

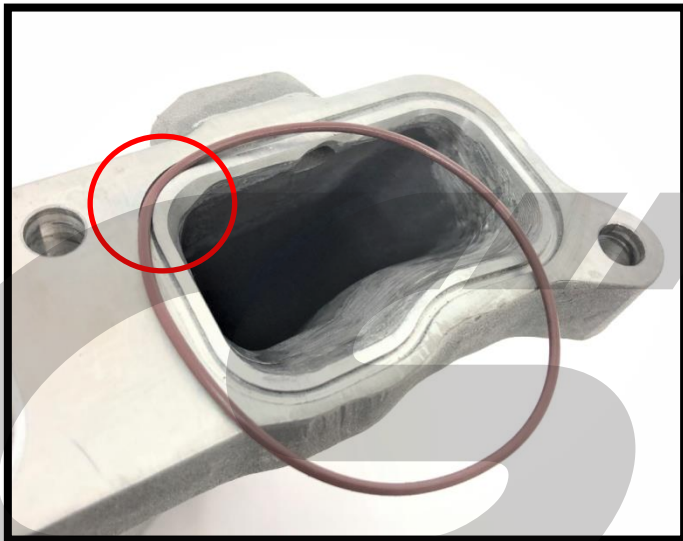


Figure 7d

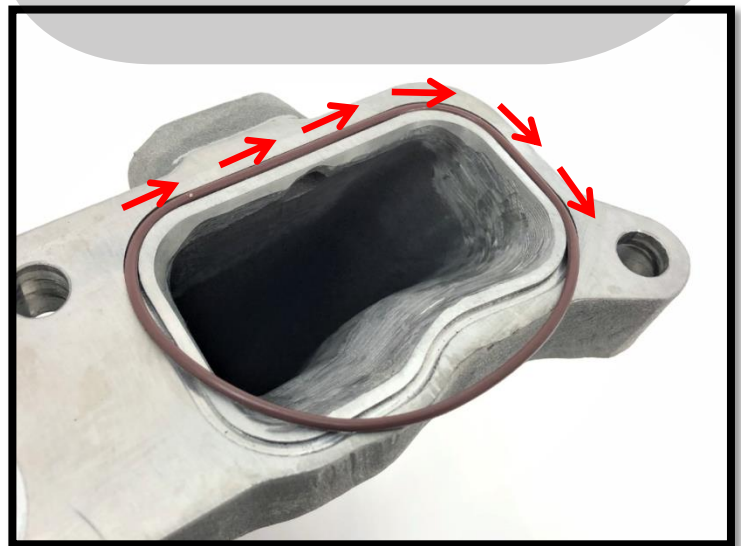


Figure 7e

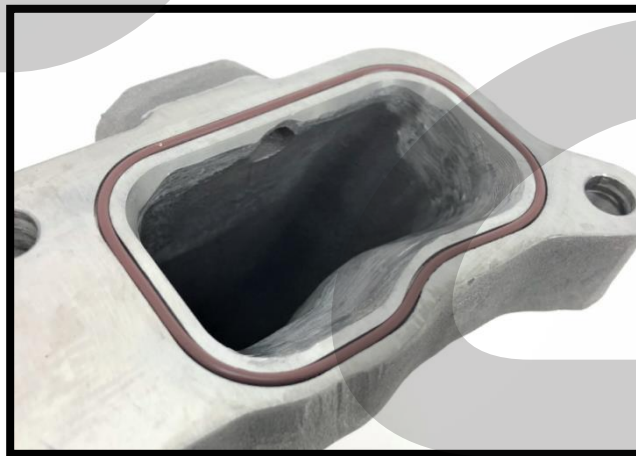


Figure 7f

8. OPTIONAL: Port Injection Preparation



Skip to Section 9 if you are not running a PI setup. If you originally purchased a non-PI intake manifold and want to upgrade to PI, skip to the next page for instructions on how to drill your ports for PI.

- a) **Before installing on the vehicle, test fit your planned injector and ensure that your injectors fit correctly.** The injector O-ring will fit snug in the PI port and “bottom out” in the bottom of the port, leaving the injector tip slightly recessed, as shown in **Figure 8a**.



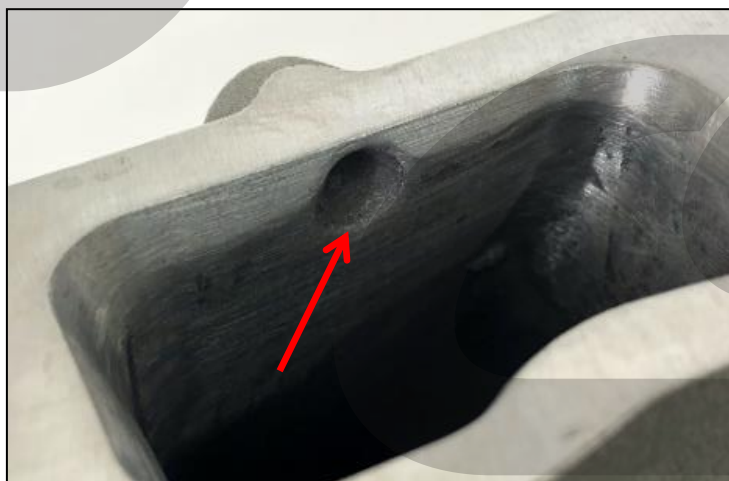
The CorkSport Intake Manifold was designed for PI usage with Injector Dynamics ID1050x-34-14 or ID1050x-48-14. **Fitment with other injectors has not been confirmed and modification may be required.**



Pictured above is a pre-production manifold. Final production units have indentations to allow for additional injector spray pattern clearance as shown below.



Figure 8a



8. OPTIONAL: Port Injection Preparation (continued)



The remaining steps in Section 8 are only required if you originally purchased a non-PI intake manifold and would like to upgrade to a port injection setup. Skip to Section 9 if you are running a non-PI setup or purchased a pre-drilled PI manifold. Do not perform the following Section 8 steps if you are running a non-PI setup or are not confident in your abilities. To upgrade to PI you will be drilling your intake manifold to allow for injector fitment. Improper drilling of the injector ports can cause poor intake manifold function.

- b) Locate the pilot holes that are partially drilled in your intake manifold. Shown with the red arrow in Figure 8b and with the drill bit partially through in Figure 8c. These will be used to guide your injector port drilling.



We recommend using a brand new drill bit meant for cutting metal. This will ensure a high quality hole for your injector.



During the next step, ensure you only drill into the intake manifold runner and do not damage the lower portion of the runner. The area you want to avoid is shown with a red arrow in Figure 8d.

- c) Using a 17/64" drill bit, drill out each of the four port injection ports.

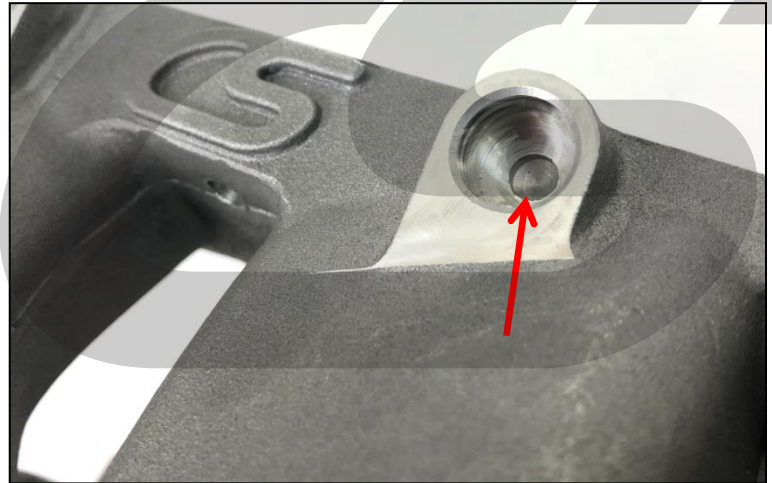


Figure 8b

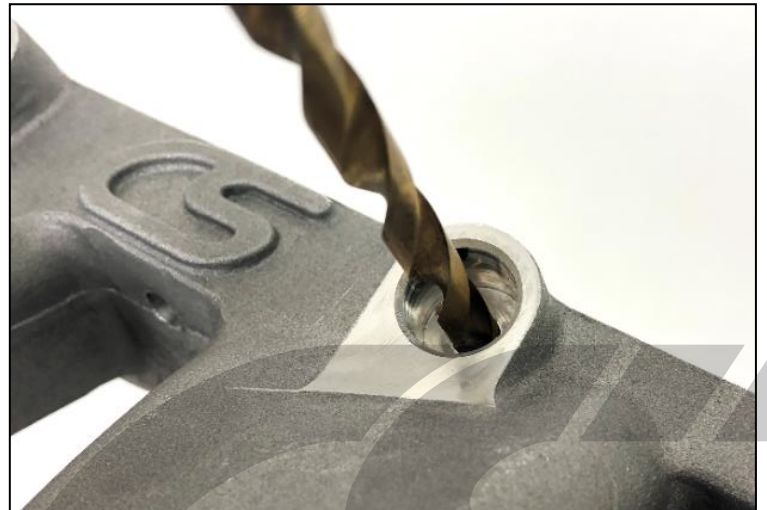


Figure 8c

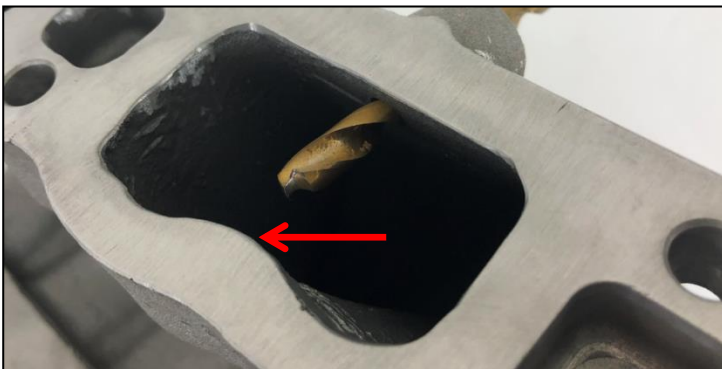


Figure 8d

8. OPTIONAL: Port Injection Preparation (continued)

- d) Upon completion of drilling, your holes should look like **Figure 8e**.
- e) Ensure there are no burrs or sharp edges that may damage your injectors.
- f) Test fit an injector and ensure that the hole you drilled fits the injector tip. The injector will “bottom out” and leave the tip recessed. Shown in **Figure 8f**.



Figure 8e

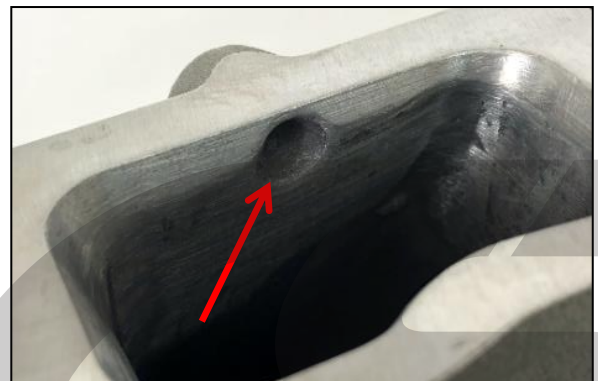
- g) Before installing on the vehicle, clean any debris or metal shavings from the inside of the intake manifold.



Pictured to the left is a pre-production manifold. Final production units have indentations to allow for additional injector spray pattern clearance as shown below.



Figure 8f



Failure to remove all debris from drilling may result in serious engine damage.

9. CorkSport Intake Manifold Installation

- a) **Install CorkSport Intake Manifold with O-rings** using OE hardware except in locations marked with **red circles** in **Figure 9a** and the **lower mounting brace**. Use supplied **M8x1.25.35mm hardware** in these locations. **Torque to 13-16 ft-lbs.**

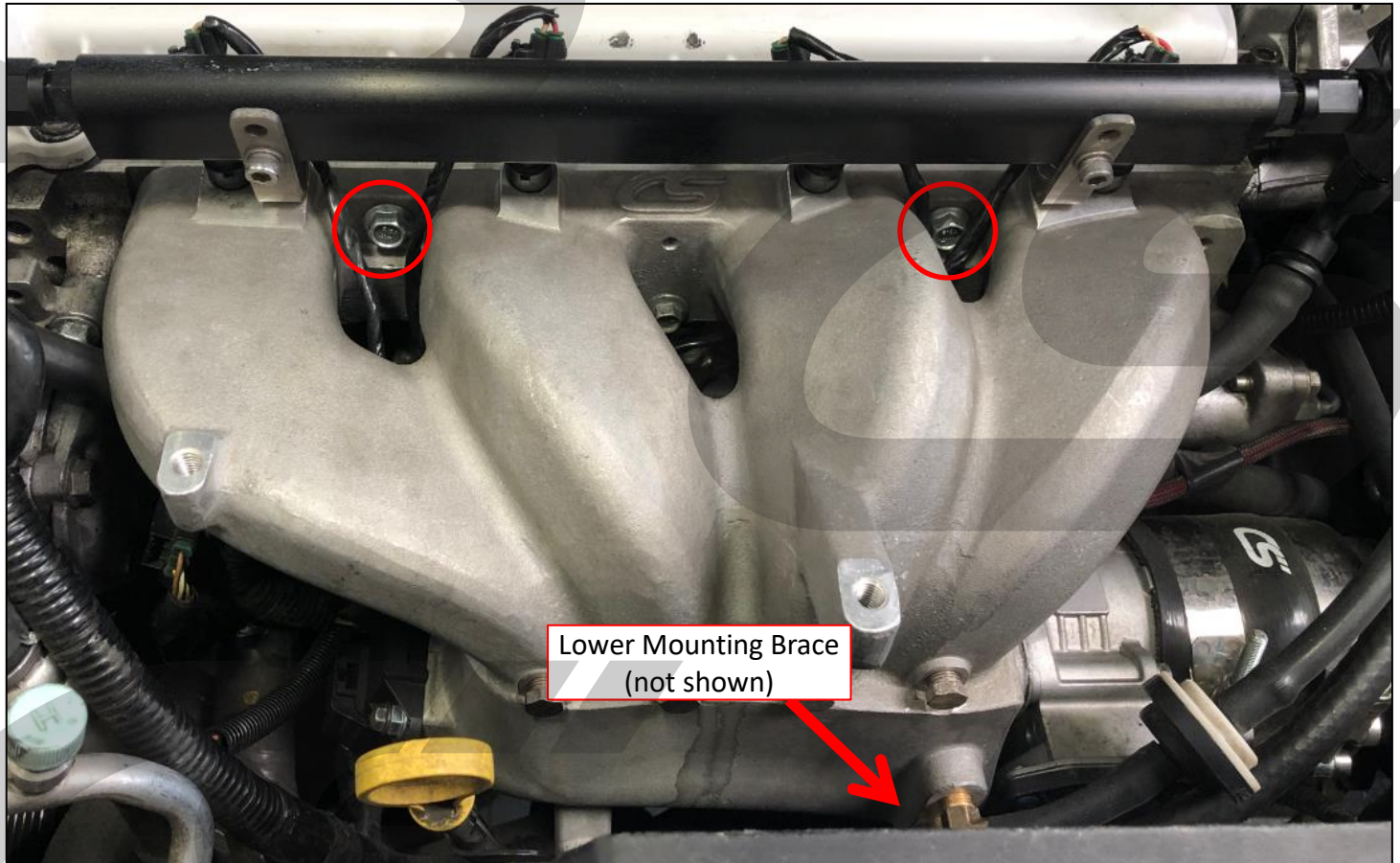


Figure 9a

- b) **Reinstall the power steering pump.** **Torque to 15-18 ft-lbs.** Verify the serpentine belt is still properly aligned on the pulley.
- c) **Install the Throttle Body** with the OEM bolts and provided throttle body gasket. If you are using a CS Throttle Body you can choose to use the included o-ring or the gasket. **Torque to 71-97 in-lbs.**



Inspect that O-rings are still positioned correctly before tightening manifold. Failure to do so can result in vacuum/boost leaks.



Failure to use supplied hardware will cause improper fitment of components



M8x1.25x35mm Bolts

10. Vacuum Hose Installation

- a) Connect supplied small (1/4" ID) vacuum hose to lowest 90 degree barb fitting as shown in Figure 10a and 10c.
- b) Route the 1/4" ID hose to the EVAP system that was disconnected on page 11. Shown in Figure 10b.
- c) Connect supplied large (3/8" ID) vacuum hose to highest 90 degree barb fitting as shown in Figure 10a and 10c.
- d) **MAZDASPEED 3 OWNERS:** Route the 3/8" ID hose to the Brake Booster Port that was disconnected on page 11. Shown in Figure 10b. You will not use the supplied 3/8" Barb to Barb Fitting.
- e) **MAZDASPEED 6 OWNERS:** Use the 3/8" ID hose to replace the lower half of the Brake Booster Hose removed in Step 6b. Use the supplied 3/8" barb to barb fitting to connect the supplied hose to the upper portion of the OEM brake booster hose. Secure to the OEM hose using the OEM spring clamp.

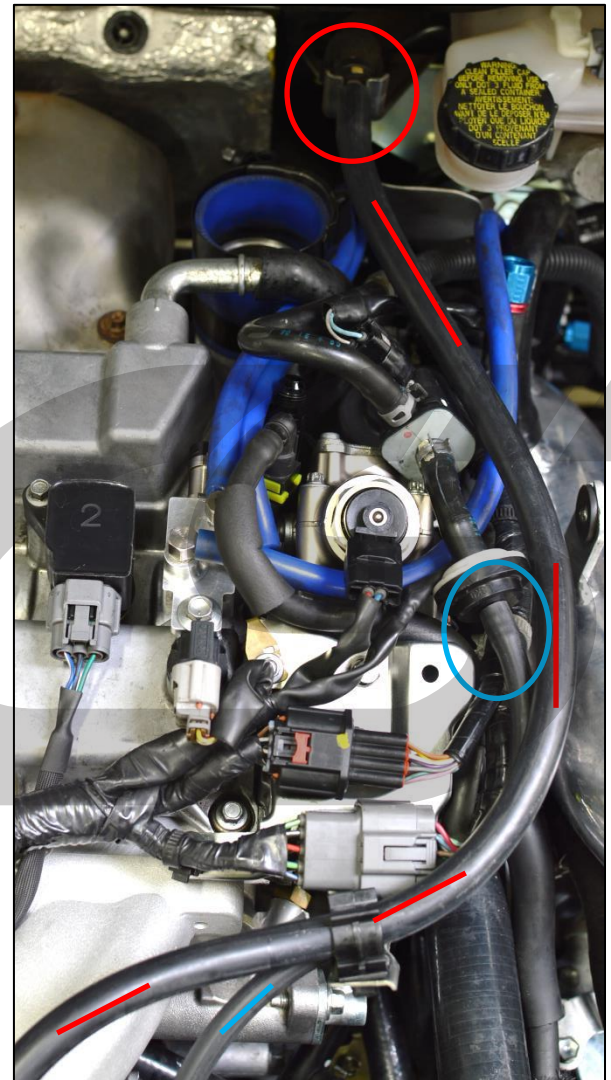


Figure 10b

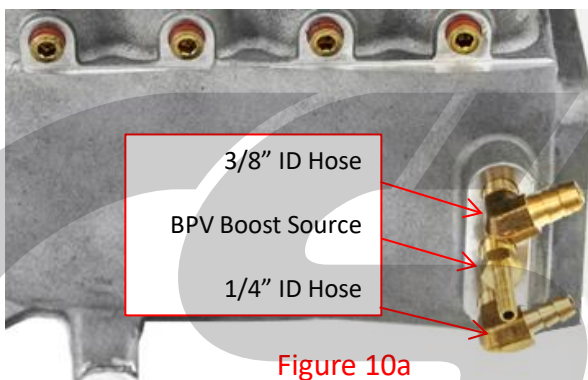


Figure 10a

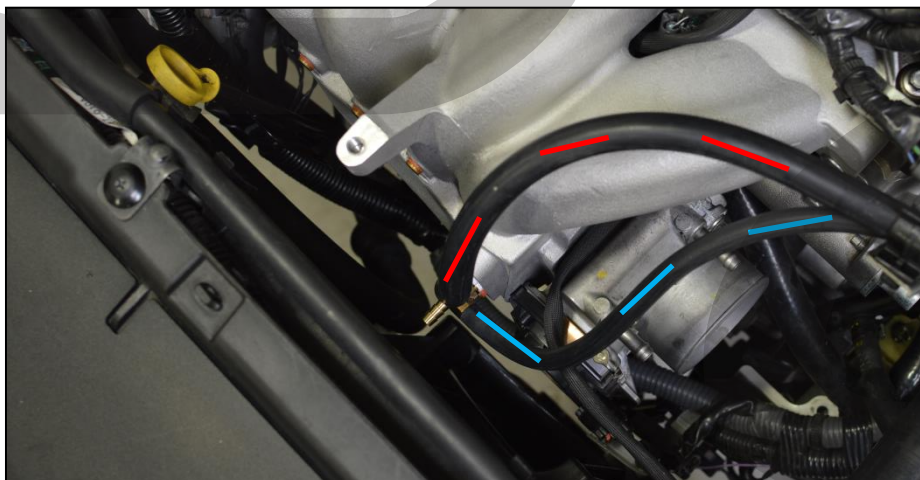


Figure 10c



Verify that the connections on each end of the hose is tight and there are no kinks in the hoses. The hoses will need to be trimmed for best fitment.

11. OPTIONAL: Port Injection Fuel Rail Installation



The following steps are optional and are only applicable if you are running a PI setup. Skip to section 12 if you are not running a PI setup.



The following steps were shown on a workbench for clarity.

- a) **Attach the fuel rail brackets to the intake manifold** using the supplied M6x1.0x12mm socket head cap screws. Ensure they are straight before tightening until snug with a 5mm Allen wrench/socket. One shown installed in [Figure 11a](#).

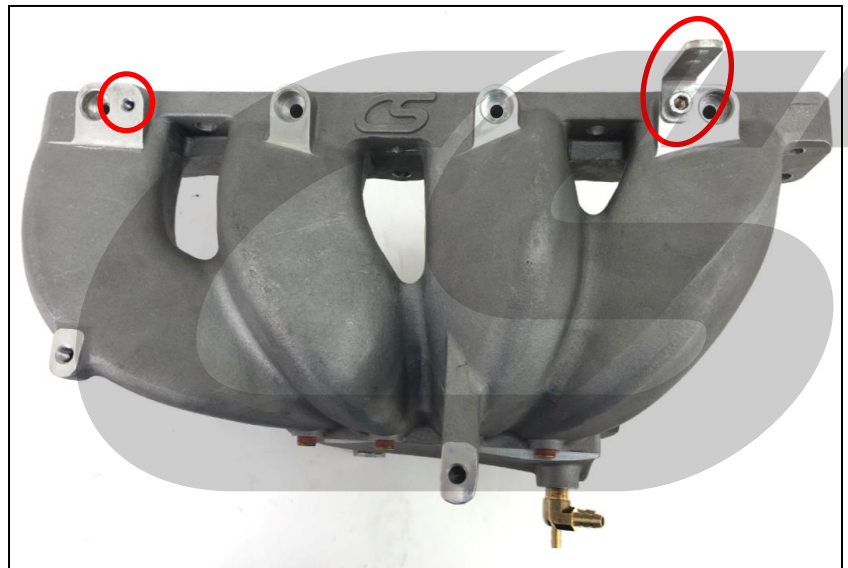


Figure 11a



The fuel rail brackets can be oriented either direction so make sure your CorkSport logo on the fuel rail is not upside-down!

- b) **Insert your four injectors into the injector ports.** The electrical plugs must face toward the engine for proper clearance. Shown with one injector in [Figure 11b](#).

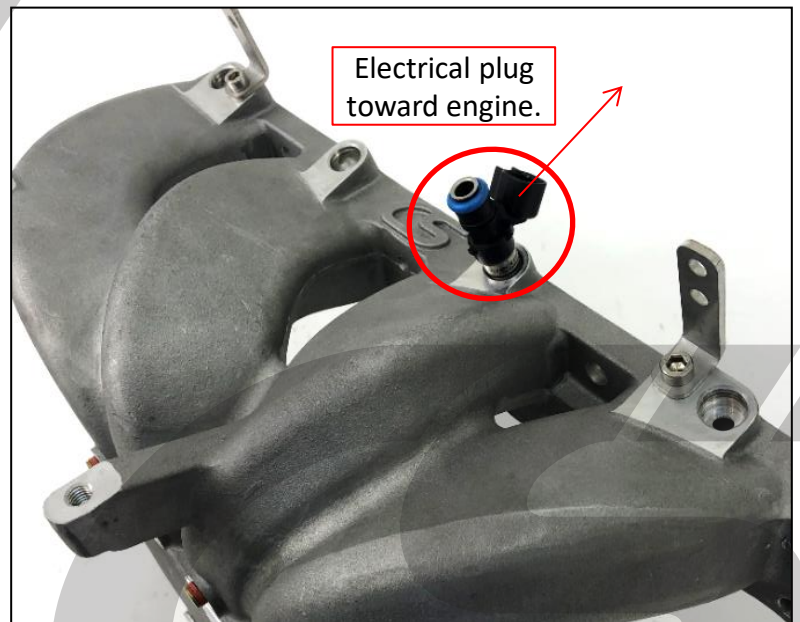


Figure 11b

11. OPTIONAL: Port Injection Fuel Rail Installation (continued)

- c) Carefully slide the fuel rail down over the O-rings in your injectors. This can be difficult so ensure you do not damage the O-rings or injectors.
- d) Secure the fuel rail on the brackets using the remaining M6x1.0x12mm socket head cap screws. Tighten until snug using a 5mm Allen wrench/socket. Shown attached in **Figure 11c**.



Figure 11c



The CorkSport fuel rail kit is designed for two different Injector Dynamics injectors. For ID1050x-34-14, use the lower holes in the fuel rail brackets. For ID1050x-48-14, use the upper holes. Shown below for clarity.



Figure 11d



Figure 11e

12. Engine Reassembly

- a) Reinstall any additionally removed components following OE procedures and torque specs.
- b) Boost leak check the system to verify there are no leaks from the intake manifold or other components.

13. TMIC Assembly



Use of the OE TMIC stud is required or you can source standard bolts with M8x1.25 thread pitch.

- a) Using two M8x1.25 nuts, thread both onto the stud and tighten them to each other.
- b) Use a wrench on the lower nut and turn to loose the stud like a bolt.
- c) Once the stud is loose and removed, break the two nuts loose from each other.
- d) Repeat for next stud.
- e) Install studs into CorkSport Intake Manifold.



This completes the installation of your CorkSport Intake Manifold. Perform a boost leak test and inspect for leaks and any loose fasteners before starting the vehicle!
Enjoy!

What's Next:

CorkSport VTA BPV

The CorkSport Binary VTA BPV provides features and performance to suit stock cars and on up to big turbo high power setups. The CorkSport Binary VTA BPV holds 50psi, responds in 50 milli-sec, and won't stall your car every shift. All this comes in a compact design with nozzle adjustability to allow for easy installation in even the most cramped engine bay or with custom piping.



CorkSport DISI MZR Fuel Injector Seals

CorkSport DISI MZR Fuel Injector Seals for the 2007-2013 Mazdaspeed 3 & 2006-2007 Mazdaspeed 6. Constructed from beryllium copper; the CorkSport fuel injector seals will lock in every PSI of boost so that every bit of your hard earned horsepower keeps you moving forward.



CORKSPORT Mazdaspeed 3 Braided Fuel Line

This fuel line is designed to replace the OEM fuel line which are prone to failure at the brazed connection at the rail. The custom machined fittings designed to work with the OEM rail and fuel pump outlet for a bolt in design. The lines are rated to 3000psi and have been burst tested to 16000psi.

