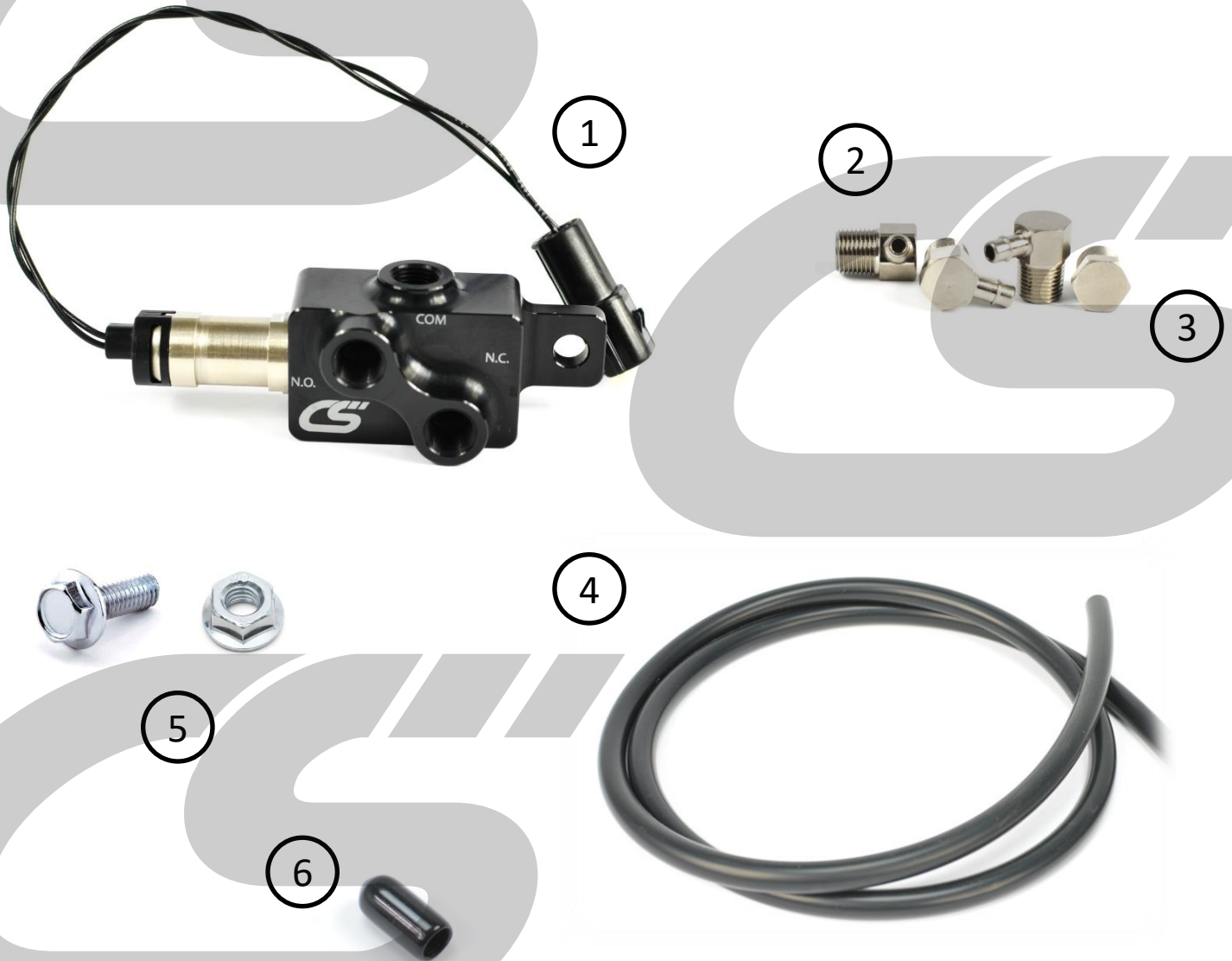


CorkSport Mazdaspeed Electronic Boost Control Solenoid

2007 – 2013 Mazdaspeed 3 & 2006 – 2007 Mazdaspeed 6



This package should contain:

- 1)-One (1) CorkSport Electronic Boost Control Solenoid
- 2)-Three (3) 1/8" NPT Barb Fittings
- 3)-One (1) 1/8" NPT Plug
- 4)-Four (4) Feet of Silicone Hose
- 5)-One (1) M6x1.0 Flange Nut and Bolt
- 6)-One (1) Vacuum Cap



CorkSport Mazdaspeed Electronic Boost Control Solenoid

2007 – 2013 Mazdaspeed 3 & 2006 – 2007 Mazdaspeed 6



Thank you for purchasing the CorkSport Electronic Boost Control Solenoid for the 2007-2013 Mazdaspeed 3 & 2006-2007 Mazdaspeed 6. Take control of your boost with the CorkSport Mazdaspeed Boost Control Solenoid. Utilizing the latest technology in solenoid controlled air valves, the CorkSport EBCS outflows and out responds the competition building boost faster and minimize boost spikes and creep. Please let us know what you think by submitting a review at:

Pre-Installation Notes:



Additional tuning is required to correctly and safely use the CorkSport Mazdaspeed EBCS. Recommended waste gate duty cycles are included, but please refer to a professional tuner for proper setup.



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.



These instructions were made using a 2009 Mazdaspeed 3. Installation for other Mazdaspeed 3 and Mazdaspeed 6 will be similar.



If you plan to have a professional tune the new EBCS at a later date, mount the CorkSport EBCS so it is ready to use, but continue using the OEM EBCS un-mounted in bleed setup.

Materials and Time:



General Info.

Part #: GEN-6-710-10
Time Est: 30-45 min
Wrench Rating: 2/5



Tooling List

Need Nose Pliers
10mm Wrench
11mm Wrench
8mm Socket
10mm Socket
Ratchet Wrench







Parts List

1)-One (1) CorkSport Electronic Boost Control Solenoid
2)-Three (3) 1/8" NPT Barb Fittings
3)-One (1) 1/8" NPT Plug
4)-Four (4) Feet of Silicone Hose
5)-One (1) M6x1.0 Flange Nut and Bolt
6)-One (1) Vacuum Cap

Need Help With Your Installation?
Call (360) 260-CORK



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Detailed Instructions - OEM Mounting Location

1. Remove the Battery and Battery Box

- a) Remove the battery and ECU cover. Pop the two clip loose circled in red, then lift the cover up and forward. Red circles in Figure 1a.

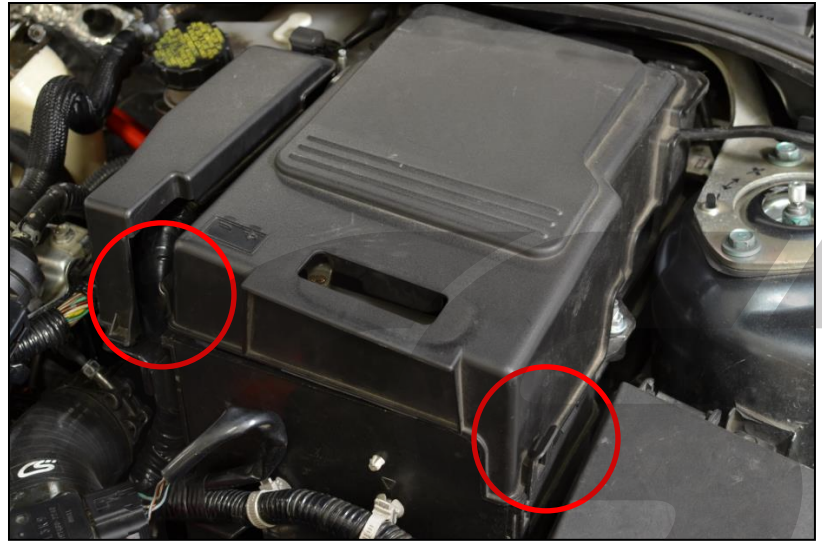


Figure 1a

- b) Remove the battery box front cover. Pop the three wire clips (red circles) out of the panel then slide the panel up (red arrow). Shown in Figure 1b.

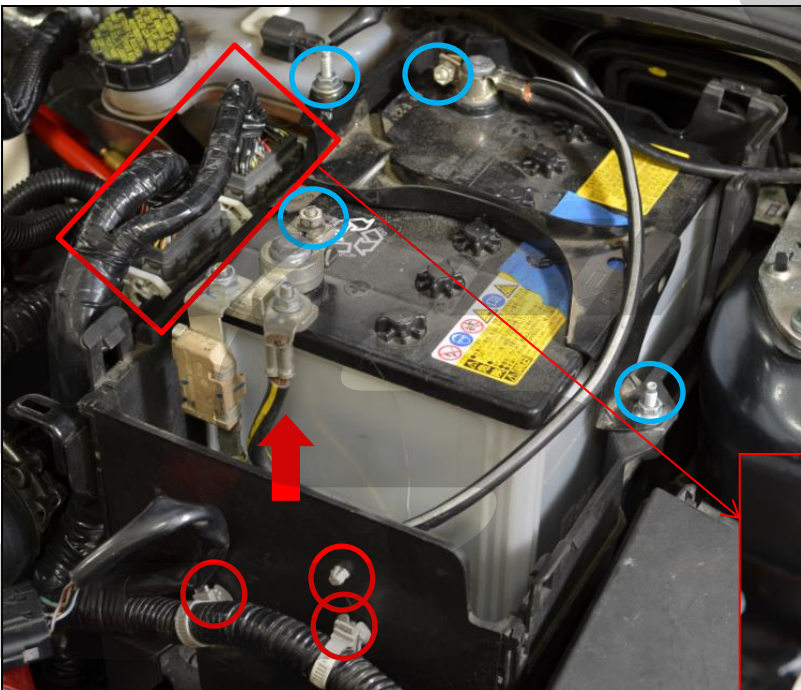


Figure 1b

- c) Remove the battery tie down and the terminal clamps. Use a 10mm socket and ratchet, shown with blue circles in Figure 1b.



- d) Remove the ECU connections. Push the tabs (red arrows) then rotate the white levers up and pull the connectors out of the ECU. Shown in Figure 1b.

Detailed Instructions - OEM Mounting Location

1. Remove the Battery and Battery Box (continued)

- e) Remove the battery from the battery box.

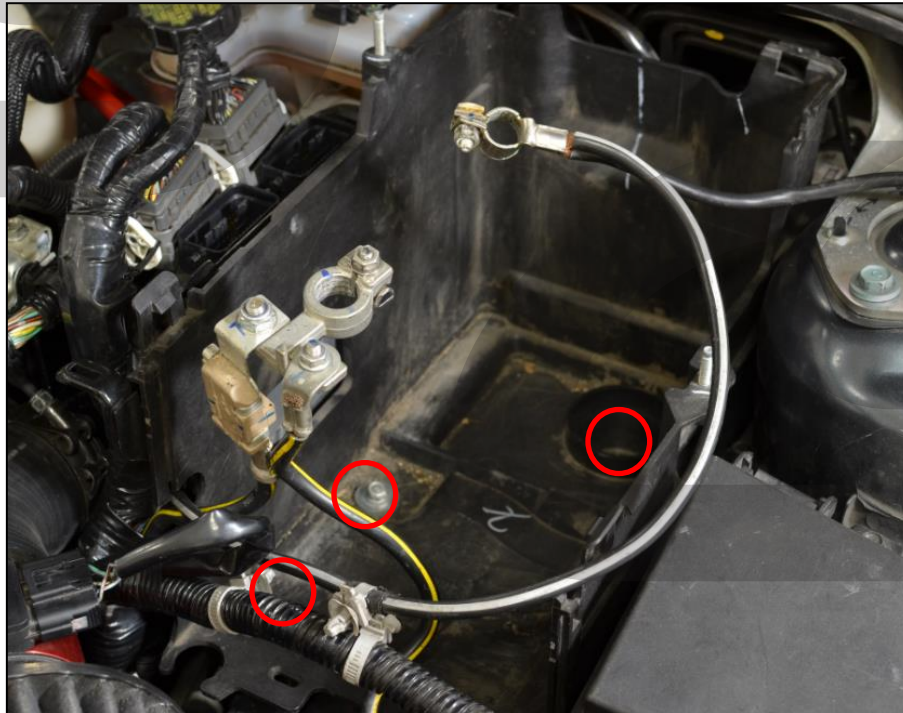


Figure 1c

- f) **Remove the battery box.** Use a 10mm socket and ratchet to remove the three bolts that hold the battery box. Shown with the **red circles** in **Figure 1c**.

- g) Push the cables down and out of the way.

Detailed Instructions - OEM Mounting Location

2. Remove OEM EBCS



The OEM EBCS is located on the compressor housing near the outlet.

- a) Remove the hoses from the OEM EBCS and disconnect the electrical connector.



The ports on the OEM EBCS are fragile and can break off easily.

- b) Remove the OEM EBCS. Using a 10mm wrench, remove the flange nut. Shown with the red circle in Figure 2a.



Figure 2a

Detailed Instructions - OEM Mounting Location

3. Mount the CorkSport EBCS Location 1



Before installation: For bleed setup, thread the 1/8" NPT plug fitting into the N.O. port. For interrupt or external waste gate setup thread the 1/8" NPT barb fitting into the N.O. port. Be sure to use thread tape or sealant. Refer to the Table of Contents for setup instructions.

- a) Location 1 is shown with the red circle in Figure 3a.



Figure 3a

- b) **Mount the CorkSport EBCS.** Using the provided M6x1.0 bolt and flange nut, mount the EBCS on the OEM tab. Use a 10mm socket and wrench. Shown in Figure 3b.



Figure 3b

Detailed Instructions - OEM Mounting Location

4. Mount the CorkSport EBCS Location 2



Before installation: For bleed setup, thread the 1/8" NPT plug fitting into the N.O. port. For interrupt or external waste gate setup thread the 1/8" NPT barb fitting into the N.O. port. Be sure to use thread tape or sealant. Refer to the Table of Contents for setup instructions.

- a) Location 2 is shown with the red circle in Figure 4a.

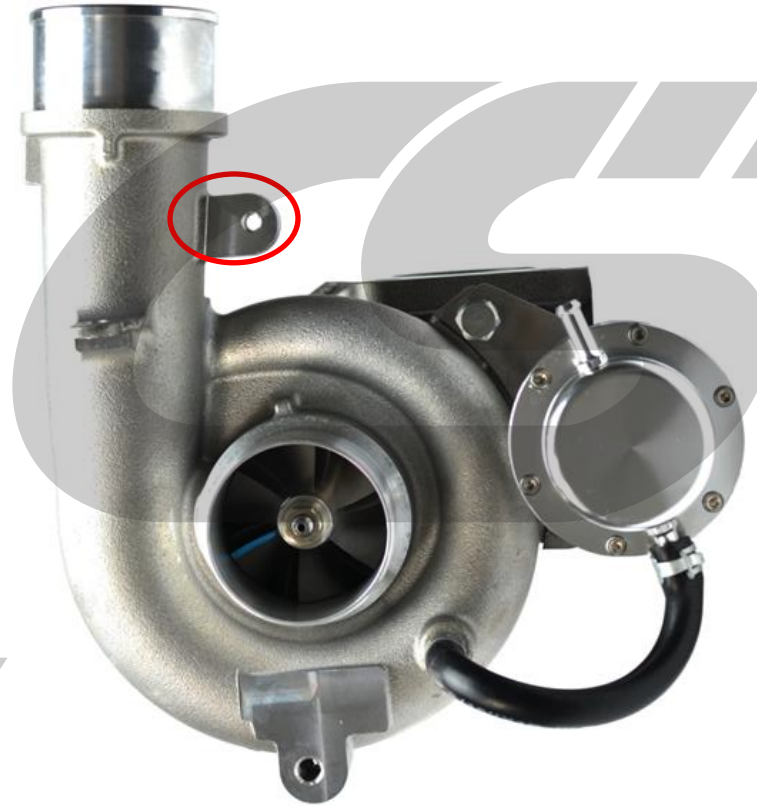


Figure 4a

- b) **Mount the CorkSport EBCS.** Using the provided M6x1.0 bolt, mount the EBCS on the coolant line tab. Use a 10mm socket. Shown in Figure 4b.



Figure 4b

Detailed Instructions - Valve Cover Mounting Location

5. Mount the CorkSport EBCS



Before installation: For bleed setup, thread the 1/8" NPT plug fitting into the N.O. port. For interrupt or external waste gate setup thread the 1/8" NPT barb fitting into the N.O. port. Be sure to use thread tape or sealant. Refer to the Table of Contents for setup instructions.

- a) Remove the bolt holding the camshaft position sensor. Use an 8mm socket and ratchet to remove the bolt shown with the red circle in Figure 5a.

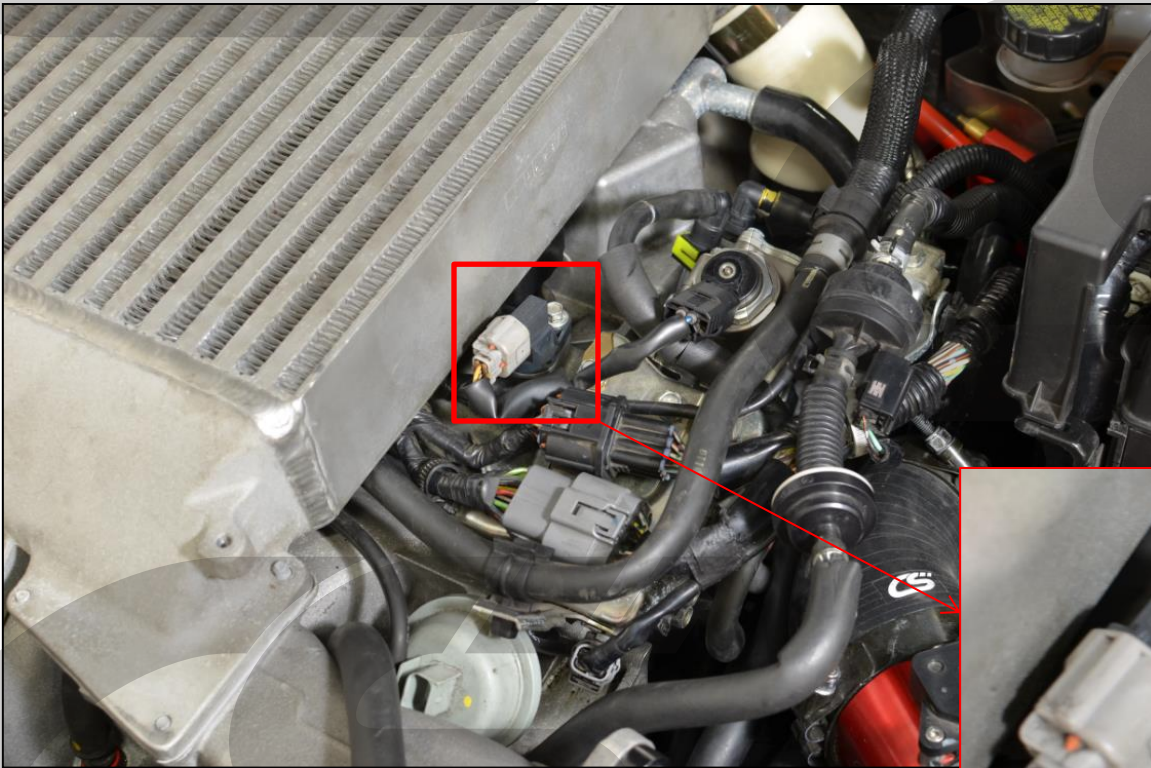


Figure 5a

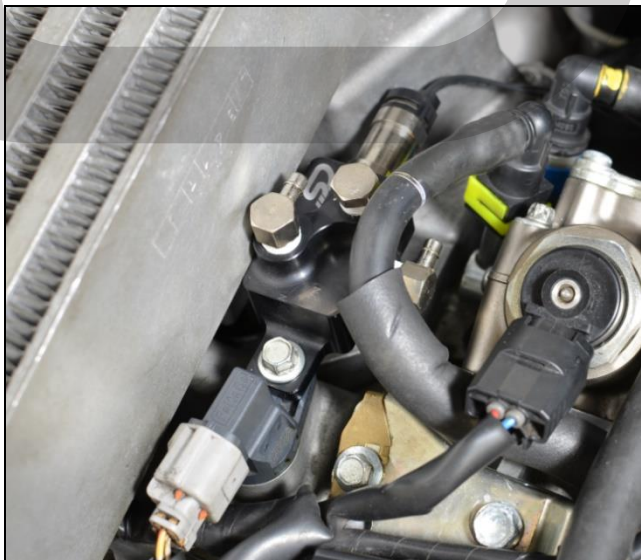


Figure 5b

- b) Mount the CorkSport EBCS as shown in Figure 5b.

Boost Control Setups & Diagrams



If you plan to have a professional tune the new EBCS at a later date, mount the CorkSport EBCS so it is ready to use, but continue using the OEM EBCS (the OEM EBCS can only be run in bleed setup).

6. Internal Waste Gate – Bleed Setup

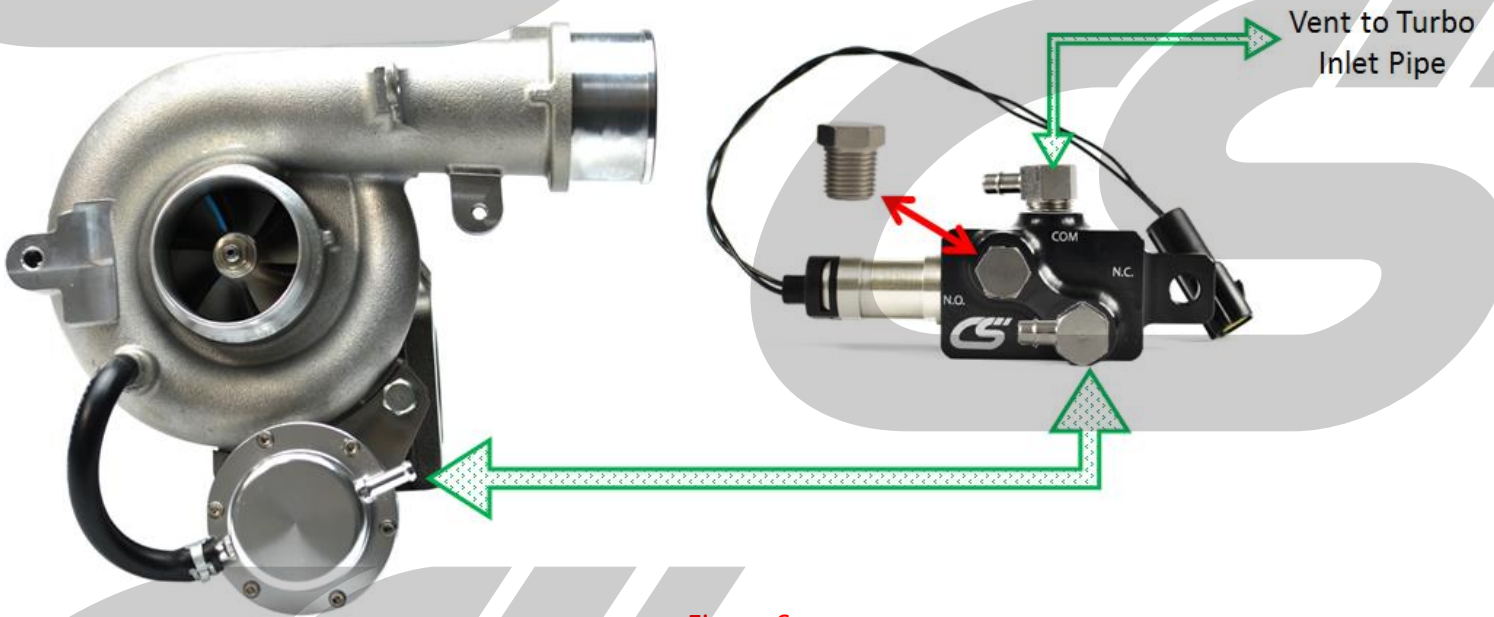


Figure 6a

- Plug the N.O. port** using the 1/8" NPT plug. Coat or wrap the threads with a thread sealant. Using the 11mm wrench, thread the plug into the N.O. port of the EBCS until tight.
- Connect the N.C. port to the waste gate actuator port.** Using the provided hose, push the hose onto the waste gate actuator port. Route the hose to the N.C. port on the EBCS then cut to length. Push hose onto the N.C. port.
- Connect the COM port to the turbo inlet pipe vent port.** Using the provided hose, push the hose onto the turbo inlet pipe vent port. Route the hose to the COM port on the EBCS then cut to length. Push hose onto the COM port.

Boost Control Setups & Diagrams



If you plan to have a professional tune the new EBCS at a later date, mount the CorkSport EBCS so it is ready to use, but continue using the OEM EBCS (the OEM EBCS can only be run in bleed setup).

7. Internal Waste Gate – Interrupt Setup

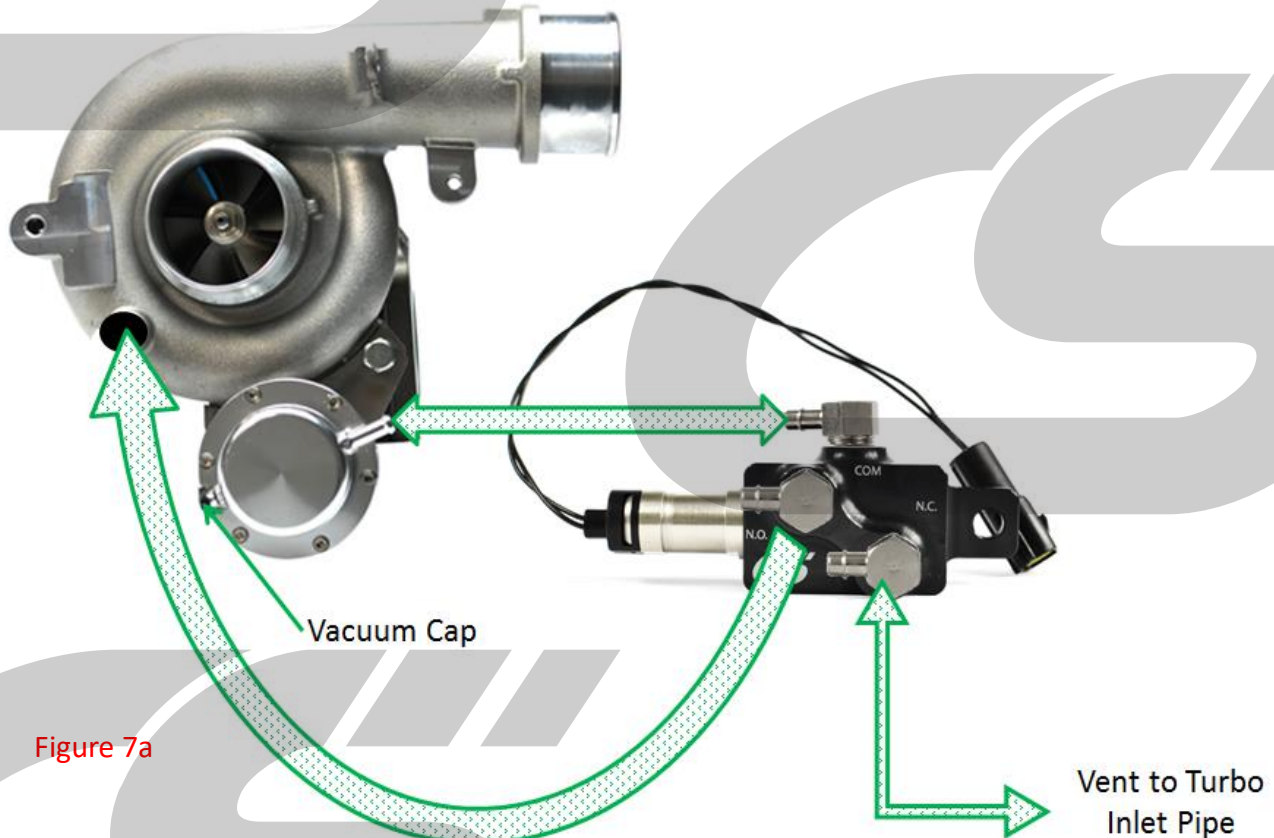


Figure 7a

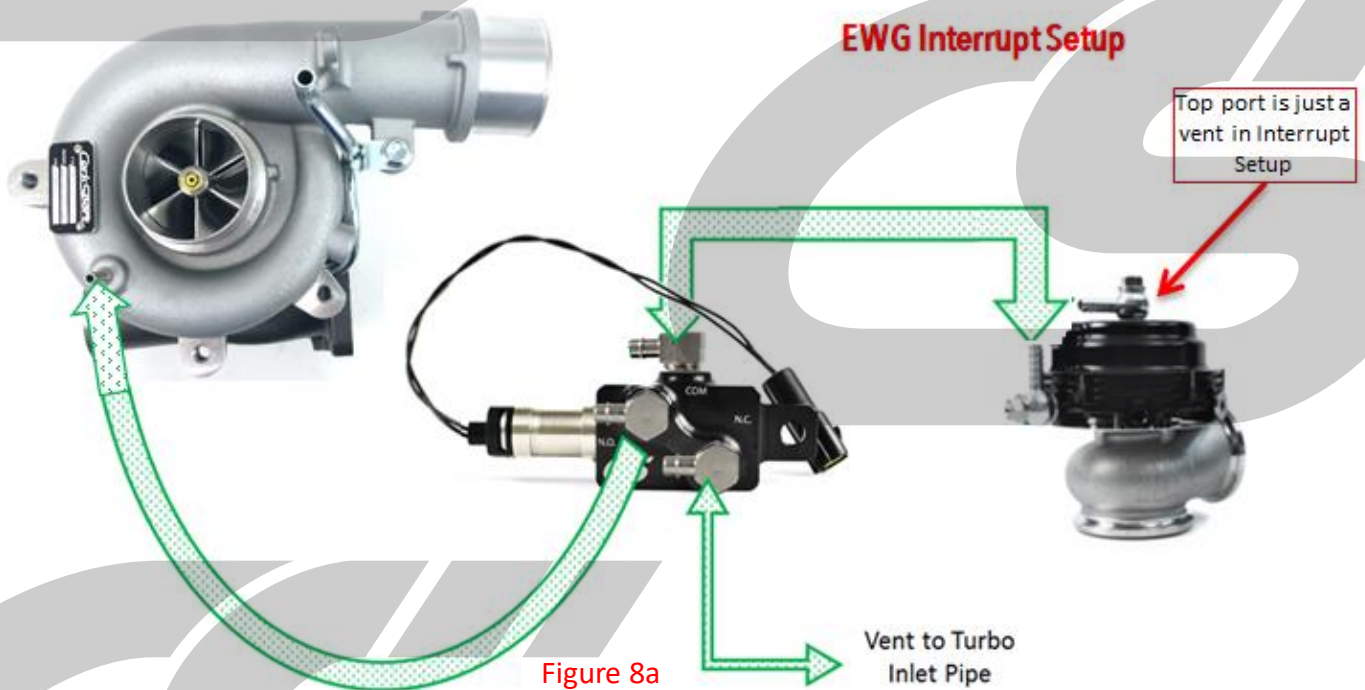
- Install the 1/8" NPT barb** into the N.O. port. Coat or wrap the threads with a thread sealant. Using the 11mm wrench, thread the barb into the N.O. port of the EBCS until tight.
- Connect the COM port to the waste gate actuator port.** Using the provided hose, push the hose onto the waste gate actuator port. Route the hose to the COM port on the EBCS then cut to length. Push hose onto the COM port.
- Connect the N.O. port to the compressor housing port.** Using the provided hose, push the hose onto the compressor housing port. Route the hose to the N.O. port on the EBCS then cut to length. Push hose onto the N.O. port. Use a vacuum cap to seal the unused waste gate port.
- Connect the N.C. port to the turbo inlet pipe vent port.** Using the provided hose, push the hose onto the turbo inlet pipe vent port. Route the hose to the N.C. port on the EBCS then cut to length. Push hose onto the N.C. port.

Boost Control Setups & Diagrams



If you plan to have a professional tune the new EBCS at a later date, mount the CorkSport EBCS so it is ready to use, but continue using the OEM EBCS (the OEM EBCS can only be run in bleed setup).

8. External Waste Gate – Interrupt Setup



- Install the 1/8" NPT barb** into the N.O. port. Coat or wrap the threads with a thread sealant. Using the 11mm wrench, thread the barb into the N.O. port of the EBCS until tight.
- Connect the COM port to the LOWER waste gate actuator port.** Using the provided hose, push the hose onto the waste gate actuator port. Route the hose to the COM port on the EBCS then cut to length. Push hose onto the COM port. **Ensure all other lower air ports on your EWG are plugged. One of the top ports will be used as a vent.**
- Connect the N.O. port to the compressor housing port.** Using the provided hose, push the hose onto the compressor housing port. Route the hose to the N.O. port on the EBCS then cut to length. Push hose onto the N.O. port.
- Connect the N.C. port to the turbo inlet pipe vent port.** Using the provided hose, push the hose onto the turbo inlet pipe vent port. Route the hose to the N.C. port on the EBCS then cut to length. Push hose onto the N.C. port.

Boost Control Setups & Diagrams



If you plan to have a professional tune the new EBCS at a later date, mount the CorkSport EBCS so it is ready to use, but continue using the OEM EBCS (the OEM EBCS can only be run in bleed setup).

9. External Waste Gate – Push/Pull Setup

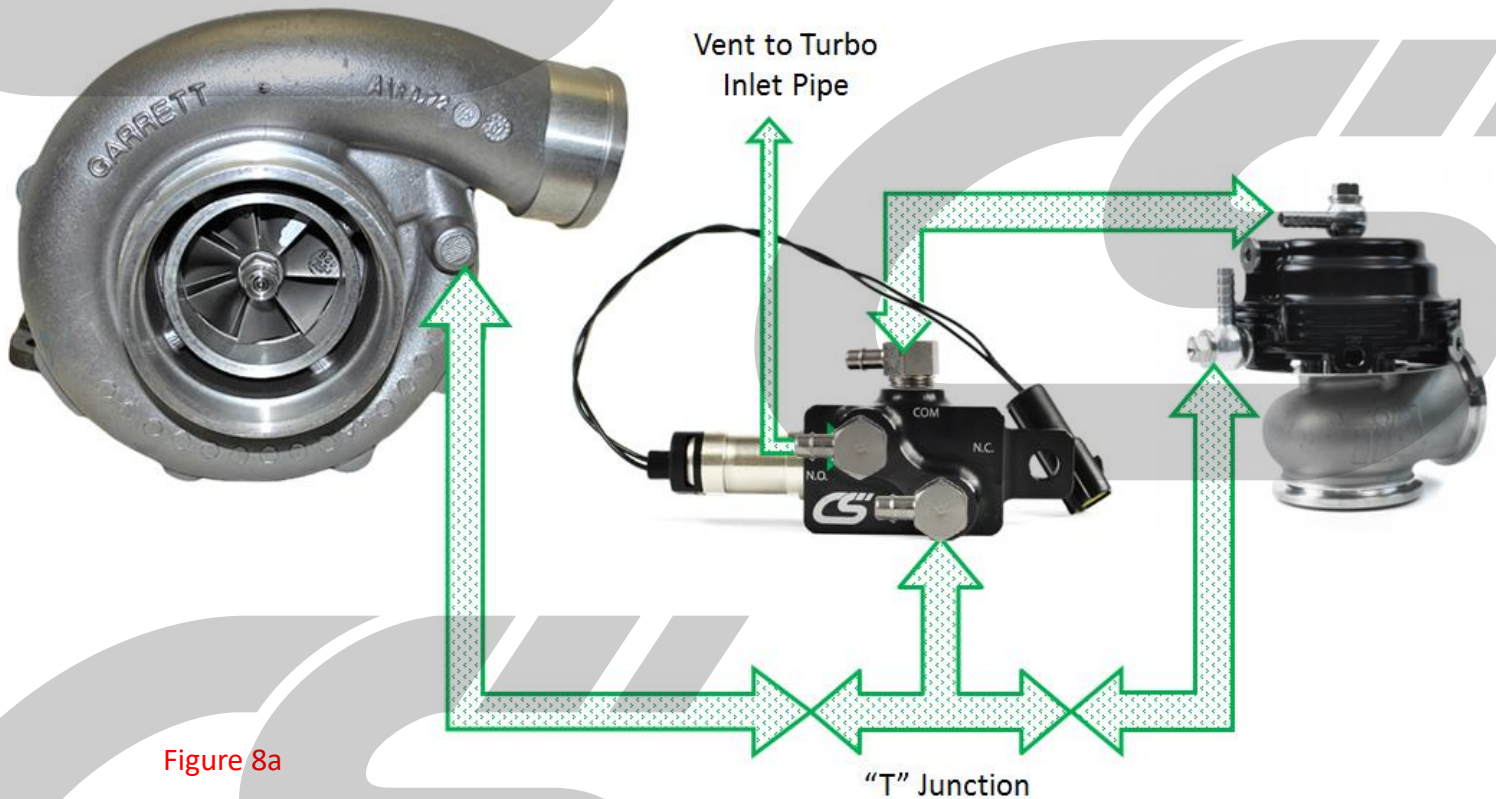


Figure 8a

- Install the 1/8" NPT barb** into the N.O. port. Coat or wrap the threads with a thread sealant. Using the 11mm wrench, thread the barb into the N.O. port of the EBCS until tight.
- Connect the COM port to the EWG top port.** Using the provided hose, push the hose onto the top port of the EWG. Route the hose to the COM port on the EBCS then cut to length. Push hose onto the COM port. **Ensure all other upper air ports on your EWG are plugged.**
- Connect the N.C. port to the T-junction (not included).** The T-junction should then be connected to the EWG side port and the compressor housing port. **Ensure all other lower air ports on your EWG are plugged.**
- Connect the N.O. port to the turbo inlet pipe vent port.** Using the provided hose, push the hose onto the turbo inlet pipe vent port. Route the hose to the N.O. port on the EBCS then cut to length. Push hose onto the N.O. port.

Tuning Recommendations

10. Internal Waste Gate – Bleed Setup

- a) Bleed (or OEM) setup is the slowest responding setup, but will still perform better than the OEM EBCS.
 - a) Reduce the waste gate duty cycles 25% of the current value.

11. Internal Waste Gate – Interrupt Setup

- a) Interrupt setup is the fastest responding setup for an IWG.
 - a) Reduce the waste gate duty cycles 40% of the current value.

12. External Waste Gate – Interrupt Setup

- a) The EWG interrupt setup is a simple EWG setup that works great.
 - a) Due to the many different EWGs and turbochargers available, please consult a professional tuner for your specific setup.

13. External Waste Gate – Push/Pull Setup

- a) The EWG push/pull setup is the most efficient setup for an EWG.
 - a) Due to the many different EWGs and turbochargers available, please consult a professional tuner for your specific setup.



Before operating the vehicle, verify that all hose connections are airtight and secure. Failure to do so may result in catastrophic over-boosting, like the picture below.



This completes the installation of your CorkSport EBCS. Enjoy the new found control and let us know what you think online at CorkSport.com

What's Next:

[CORKSPORT 2010-2013 Mazdaspeed 3 Downpipe](#)



Get maximum turbo performance and dramatically increase torque with the Mazdaspeed 3 Power Series Downpipe. The CorkSport downpipe has been expertly designed to replace the restrictive element in the Mazdaspeed 3 stock downpipe. Mandrel bent piping is used to create smooth exhaust flow for dramatic increases in power. For lasting corrosion resistance and reduced heat transfer to the engine bay, the CorkSport MS3 downpipe uses polished 3" 304 stainless steel and features TIG welds that offer superior arc and weld puddle control for a cleaner appearance and precise weld bead control.

[CORKSPORT Mazdaspeed MZR Bypass Valve](#)

Add performance and style while protecting your turbo with the Patent Pending CorkSport Mazdaspeed MZR Bypass Valve. Using an innovative patent pending design utilizing a wave spring, we were able to reduce the spring height of the OEM Bypass Valve by 50%. This size reduction provides the same amount of force, while accelerating the speed of the valve. By increasing speed the Bypass Valve effectively increases the life of your turbo by preventing premature wear since the BPV can safely move at speeds 33% faster than stock or other valves. With the extra space allowed by the spring we were able to increase piston size by over 30%.



[CORKSPORT Max Flow Fuel Pump Internals](#)



Maximize your stock fuel system while protecting your engine with the CorkSport MZR DISI Max Flow Fuel Pump Internals. With well over 2 years of research and development, you can count on CorkSport to bring innovation to the high pressure fuel pump on your Mazdaspeed. With hardening surface treatments, high strength coatings and a machined tolerance that is the best on the market, our pump internals are ready to give you the most performance available for your dollar. These pumps are precision machined, then treated, then coated and then machined again for a perfect fit and an ultra-high efficiency. That difference in the real world is going to be higher horsepower capability, safer air/fuel ratios and the ability to go that much further in the quest for power without worrying about fuel supply.