

# ND2 2019- Mazda Global MX-5 Cup Bosch Throttle Body Installation Instructions

## 1.0 General:

1.1 Safety: Follow all industry standard or shop safety procedures.

1.2 Intended use:

1.2.1 This Guide is intended to be used for installation of the Bosch Throttle Body in a 2019 or newer Global MX-5 Cup race car, or a 2016-2018 Global MX-5 Cup race car that has been converted to the ND2 spec.

1.3 Basic Installation Overview and Notes:

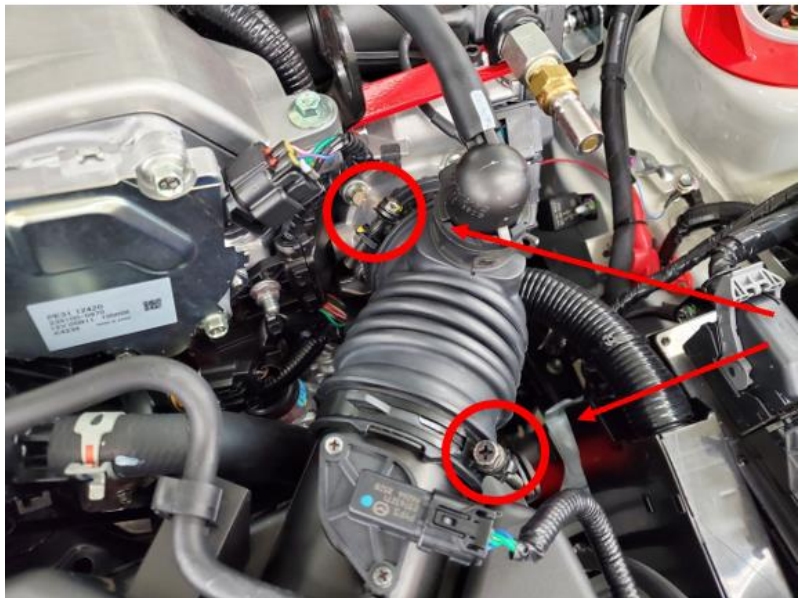
1.3.1 The Bosch Throttle Body and ND2 throttle body are a direct replacement mechanically but requires a wiring adaptor and 3 longer bolts.

1.4 Tools and Supplies: 8mm Socket  
10mm Socket  
Socket Extensions  
Ratchet  
Flush Cutting Pliers  
in-lb. Torque Wrench  
2 Ty-Raps

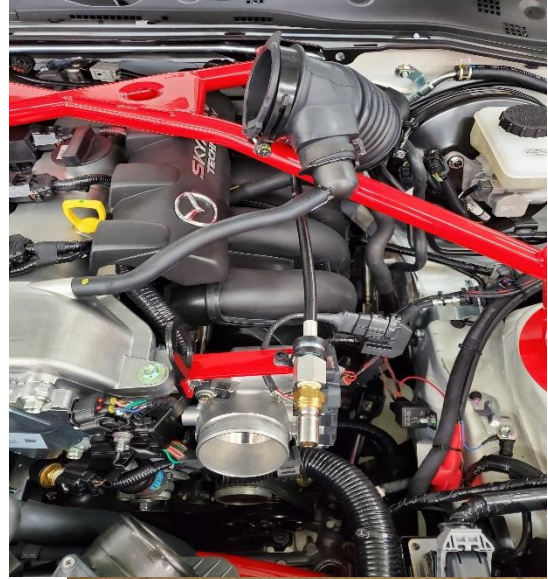


## 2.0 OEM Throttle Body Removal:

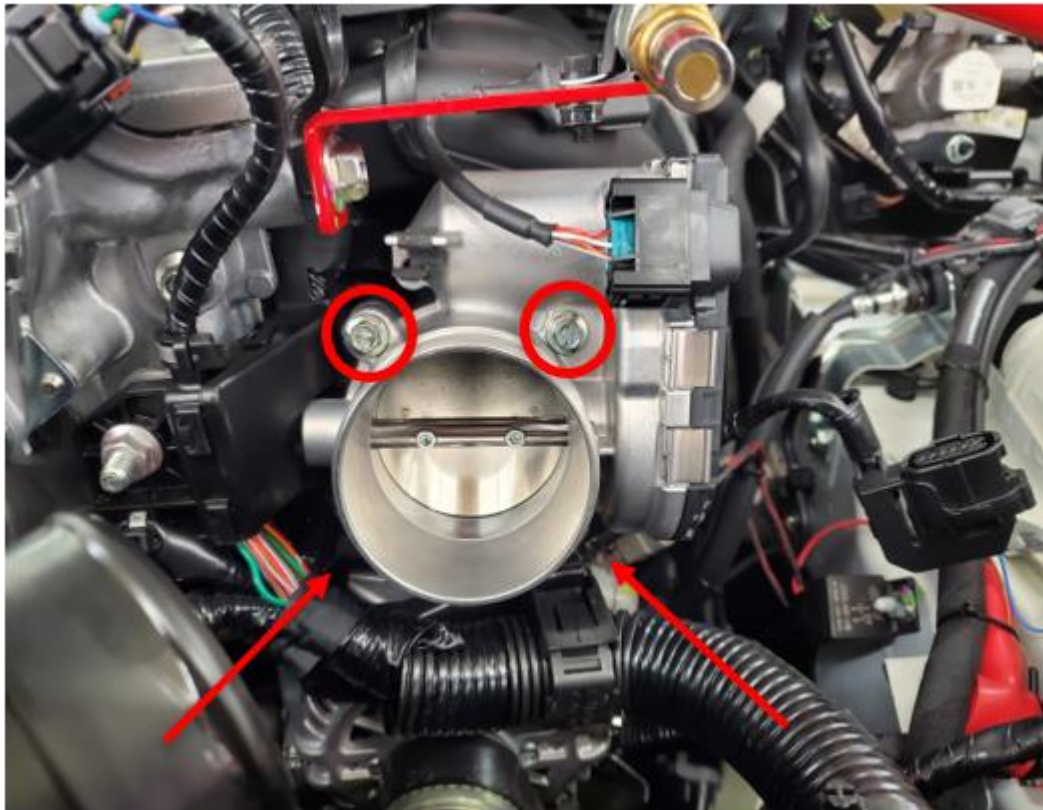
2.1 Using a 10mm socket, loosen the clamps that hold the intake piping on both the air box and the throttle body.



2.2 Remove the air intake piping, leaving the vacuum hose attached to the valve cover. Place intake piping out of your way and unplug the OEM throttle body from the OEM harness.



2.3 Using an 8mm socket, remove the four bolts on the front side of the throttle body.



2.4 Remove the throttle body. Take care not to drop anything into the intake.

3.0 Installation of the Bosch Throttle Body:

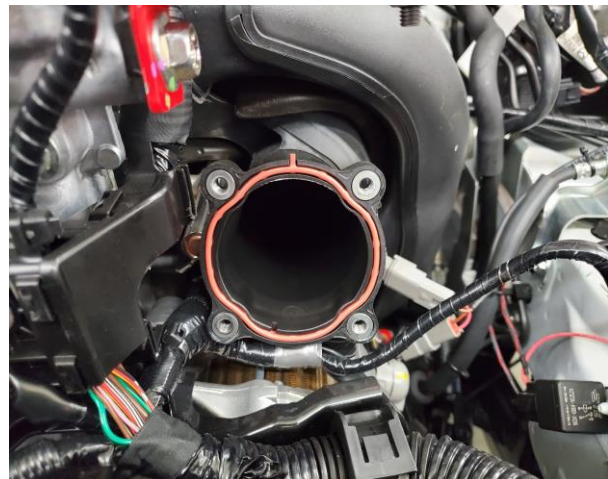
3.1 Clean mating surface of Bosch throttle body to remove any debris that may disrupt the sealing ability of the o-ring.

3.2 Apply a very light coat of your choice of lubricant on the sealing surface of the Bosch throttle body to ensure that your o-ring does not get pinched.

3.3 Install adapter harness on throttle body.



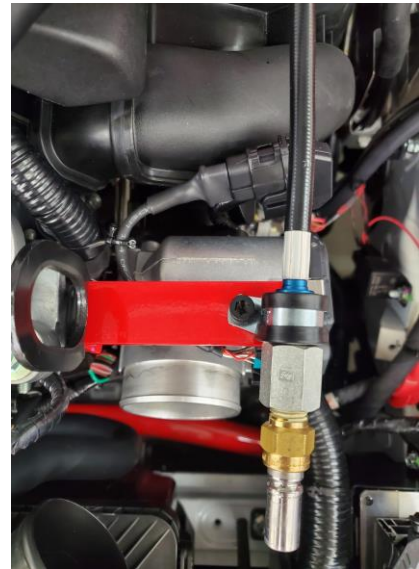
3.4 Make sure the throttle body o-ring is clean and properly seated into the intake.



3.5 **Note:** ND2 throttle bodies have 3 short bolts and 1 long bolt. Included in the kit are 3 more long bolts. You will need 4 long bolts to install your Bosch throttle body.



- 3.6 Install your new Bosch throttle body in the same fashion as the OEM unit using the longer bolts.
- 3.7 Apply a small amount of blue thread locker to the 4 bolts.
- 3.8 Install the 4 long bolts using an 8mm socket, then tighten the bolts in a cross pattern until snug.
- 3.9 Torque the bolts in a cross pattern to **70 inch pounds**.
- 3.10 Plug the adapter harness into the OEM harness.
- 3.11 Reinstall the intake piping.
  - 3.11.1 It helps to apply a light coat of lubricant to the inside of the pipe.
- 3.12 Tighten the clamps on both the throttle body as well as the air box side of the intake piping.
- 3.13 Ty-Rap the throttle body adapter harness to the engine harness using 2 zip ties. Cut the excess off using flush cut pliers.



- 4.0 Update the software on your Bosch ECU. Update instructions and files for ND2 ECUs can be found here: <https://longroadracing.com/race-cars/gmx5-nd2/nd2documentation/>
- 5.0 Finally, start the car and confirm operation of all systems.

