

CorkSport Performance

ATK-6-112 Downpipe

Installation Instructions for the CorkSport Performance Downpipe for the 2018+ Mazda 6 2.5L Turbo.

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INTRODUCTION

In this installation guide we have provided step by step instructions to remove the OEM downpipe and install the CorkSport Performance Downpipe.

Advisory:

- Working under the vehicle requires a safe and sturdy location for the vehicle to sit on jackstands.
- The engine bay will be hot after recent vehicle operation. Allow the vehicle to cool or use a fan to cool the engine bay before working on the vehicle.
- **Downpipe for off-road and race use only.**
- **Catless customers will experience a check engine light (CEL) after installation. This can be disabled via a tune.**

TOOLS:

- 10mm Wrench (1)
- 12mm Wrench (1)
- 14mm Wrench (1)
- 17mm Wrench (1)
- 10mm Socket (1)
- 12mm Socket (1)
- 14mm Socket - Deep (1)
- 17mm Socket - Deep (1)
- 3/8" Ratchet (1)
- 3/8" Extension (1)
- O2/Oxygen Sensor Socket (1)
- 3/8" Torque Wrench (1)
- Flathead Screwdriver (1)
- Hydraulic Jack (1)
- Jack Stand (2)
- Exhaust Hanger Pliers (1)
- Glass Cleaner (1)
- Anti-Seize (1)

PARTS:

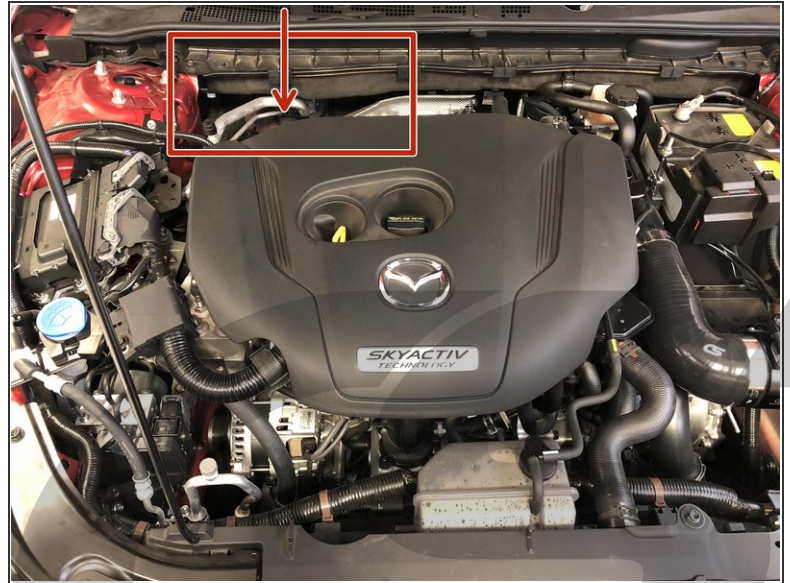
- CorkSport Mazda 6 2.5T Downpipe (1)
- CorkSport SkyActiv 2.5T Bellmouth (1)
- CorkSport SkyActiv 2.5T DP Heatshield (1)
- CorkSport Mazda 6 2.5T DP Bracket (1)
- 3.5" V-Band Clamp (1)
- 3" Crush Gasket (1)
- Turbocharger Stud (5)
- Turbocharger Crimp Nut (5)
- M10x1.5 Nut (2)
- M10 Exhaust Hardware Assembled (2)
- M8x1.25x20mm Bolt (2)
- M8 Washer (2)
- M8x1.25 Flange Nut (2)
- M6x1.0x8mm Bolt (3)
- M6 Washer (3)

Step 1 — Getting Started



- First and foremost; **THANK YOU** for becoming a part of the CorkSport Family. We hope to bring you the highest level of Parts, Customer Service, & Support
- ⓘ How To Use These Instructions: The instruction format will relate colored marking in the image to the color dot in the text to the right of the image

Step 2 — Lifting the Car & Locating the Downpipe



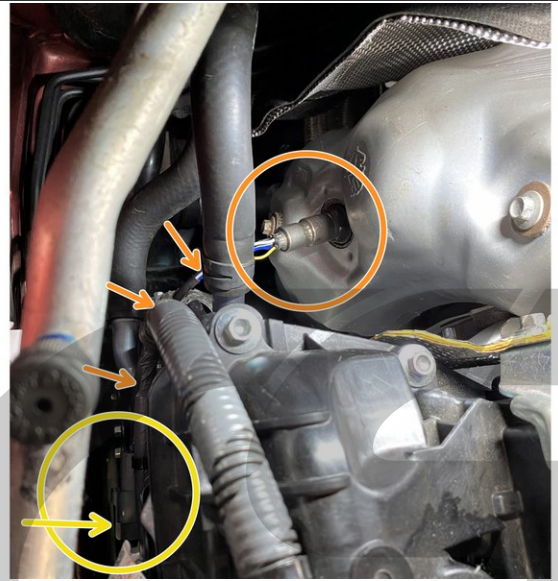
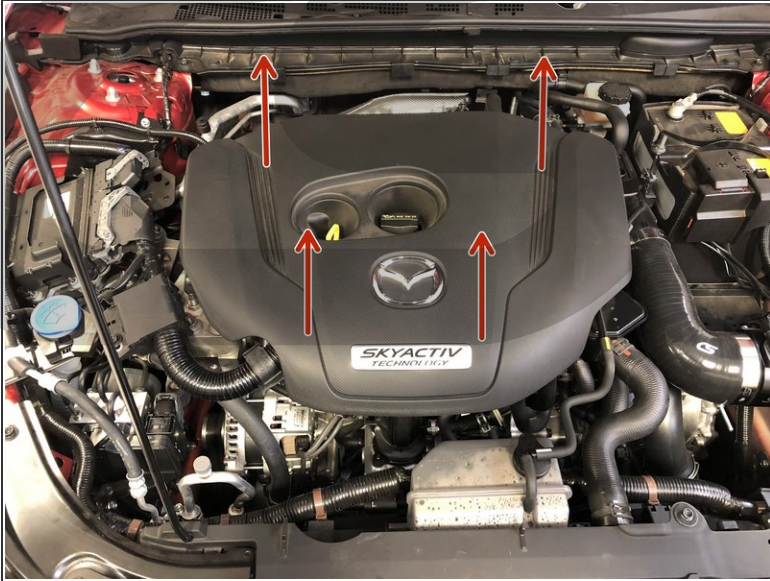
⚠️ Ensure the vehicle is parked on a level surface before proceeding

- Start by lifting up the front of the car using the hydraulic jack and jack stands

⚠️ Be sure to reference your owners manual for jack points and the jack manufacturer's instructions for proper practices

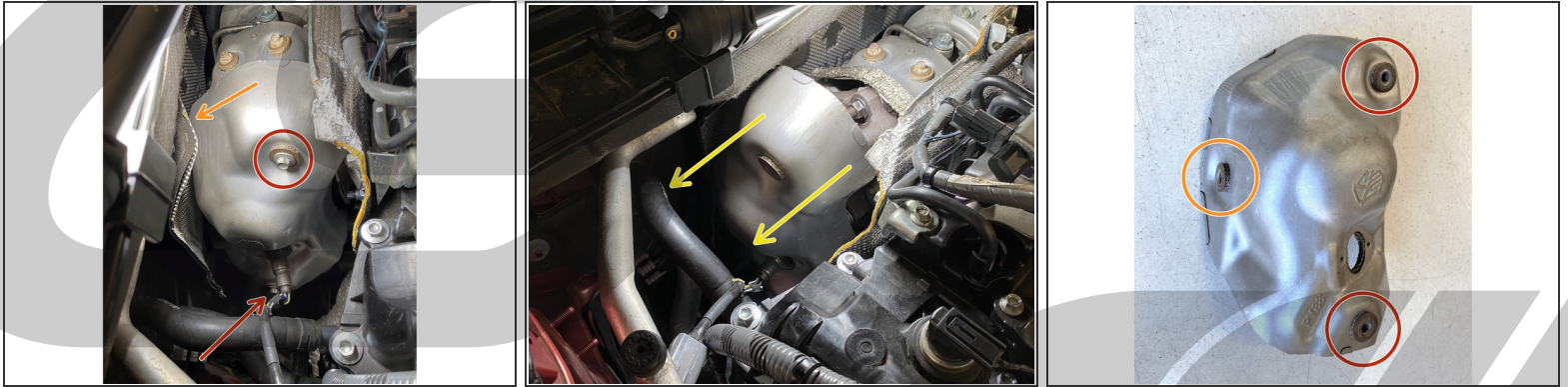
- The downpipe is located in the back of the engine bay on the passenger side

Step 3 — Removing the Engine Cover & Unplugging the O2 Sensor



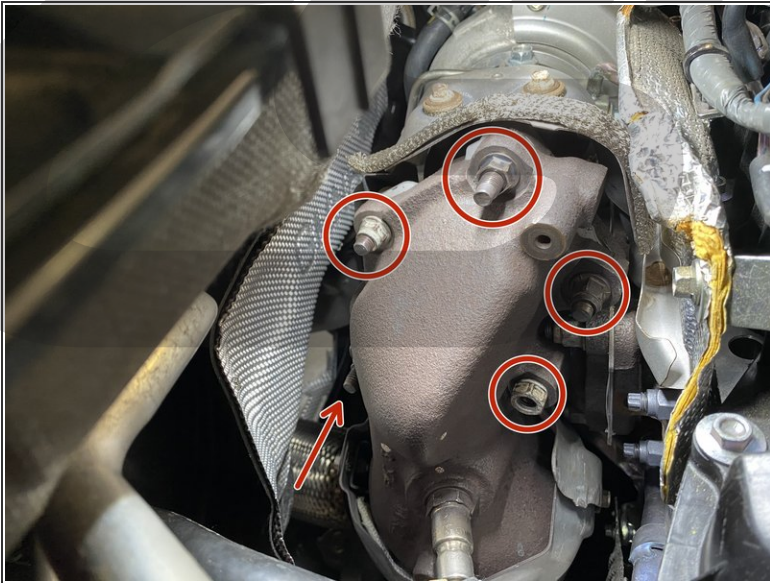
- Lift upwards on the plastic engine cover to pop it free from the four rubber mounting locations
 - Locate the O2 sensor in the downpipe and trace the wiring to the plug on the side of the engine
 - Push down the tab on the engine wiring harness and unplug the O2 sensor wiring
- ⓘ This plug can be somewhat hard to reach, you may need a friend to help

Step 4 — Removing the Downpipe Heatshield



- Using a 10mm socket or wrench, remove two bolts holding the heatshield to the downpipe
- Using a 10mm wrench, remove the final bolt from the backside of the downpipe
 - ⓘ This bolt is hard to see. Reference the third image to see the bolt locations with the heatshield removed
- Remove the downpipe heatshield from the vehicle. Carefully thread the O2 wiring through the hole in the heatshield during this process

Step 5 — Removing the OEM Downpipe Part 1

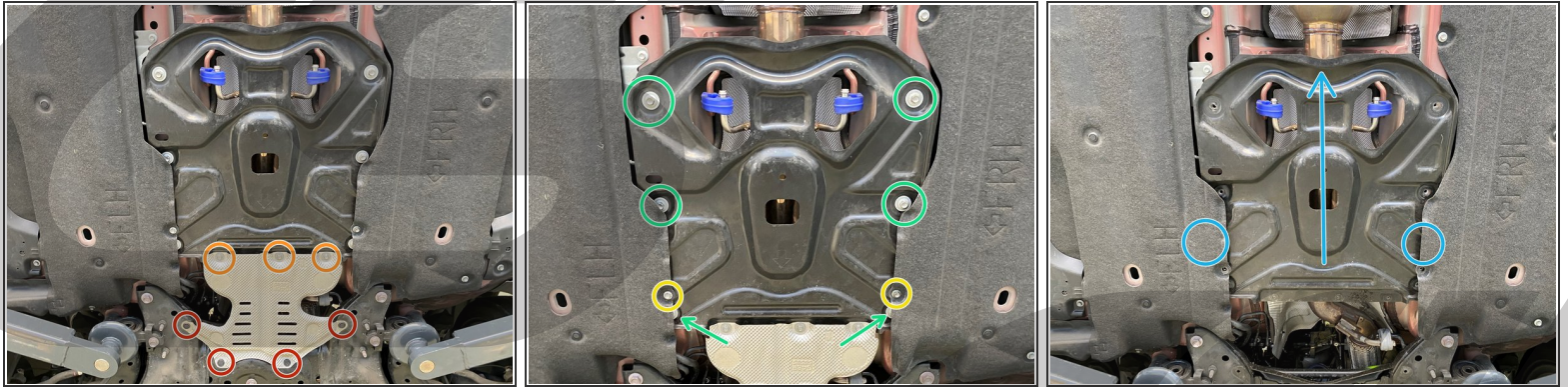


i The OEM nuts that secure the downpipe to the turbocharger are "crimp" nuts. They will be difficult to remove and may pull the studs out with the nuts. We recommend spraying some penetrating fluid on the nuts and letting it sit for 30+ minutes to help with loosening

! If a nut is coming loose, and suddenly stops, be careful not to break the stud. While we will be replacing the studs later, a broken stud can be very difficult to remove

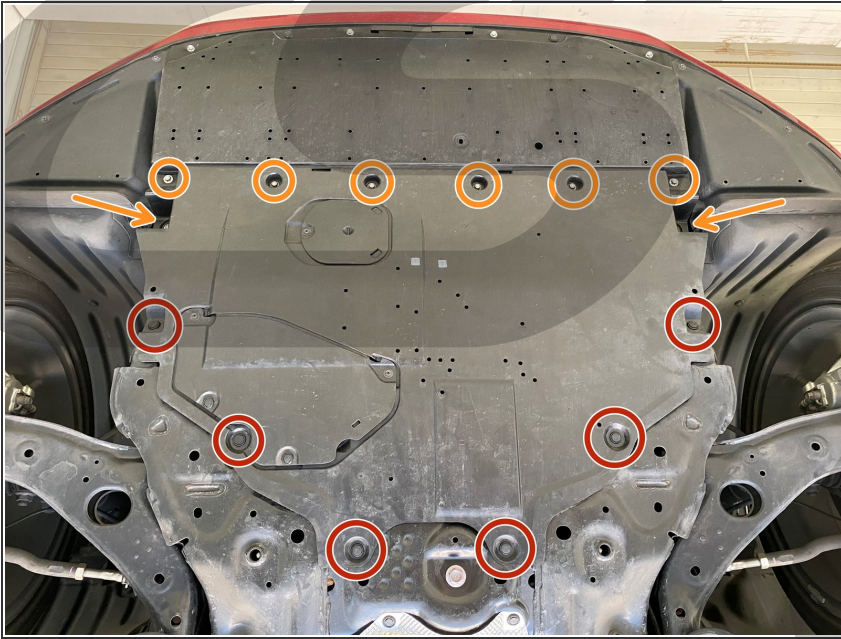
- Using a 14mm deep socket, remove the five downpipe to turbocharger nuts
- i** On the extra long studs, you may need to use a 14mm wrench instead
- After removal, the downpipe will look like Image 2

Step 6 — Removing Underbody Shielding Part 1



- i Head underneath the car as we will be removing underbody shielding to access the rest of the downpipe
 - Remove four push clips using a flathead screwdriver from the silver underbody shield
 - Using a 10mm socket and ratchet, remove the three bolts from the silver underbody shield, then remove this shield
 - Using a 10mm socket and ratchet, remove the two bolts from the black underbody shield
 - Using a 12mm socket and ratchet, remove the six bolts from the black underbody shield, then remove this shield.
 - This shield is held in place with a tab on either side. These tabs must slide out of a slotted hole in each frame rail. Then remove the brace by sliding it rearwards

Step 7 — Removing Underbody Shielding Part 2



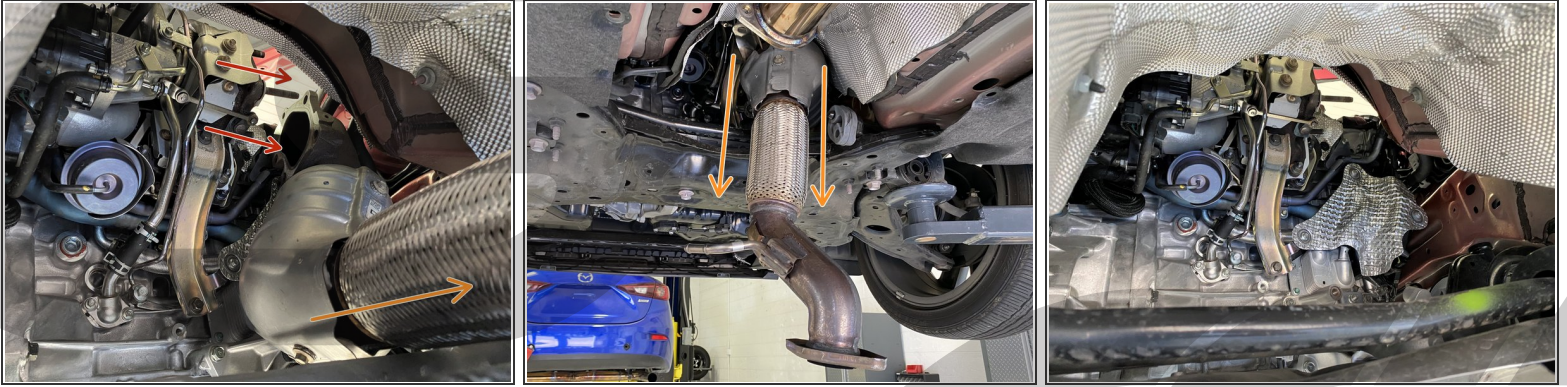
- Remove six push clips using a flathead screwdriver from the engine splash shield rear section
- Remove ten 10mm bolts from the engine splash shield rear section using a 10mm socket and ratchet. Then, remove this shield from the vehicle

Step 8 — Removing the OEM Downpipe Part 2



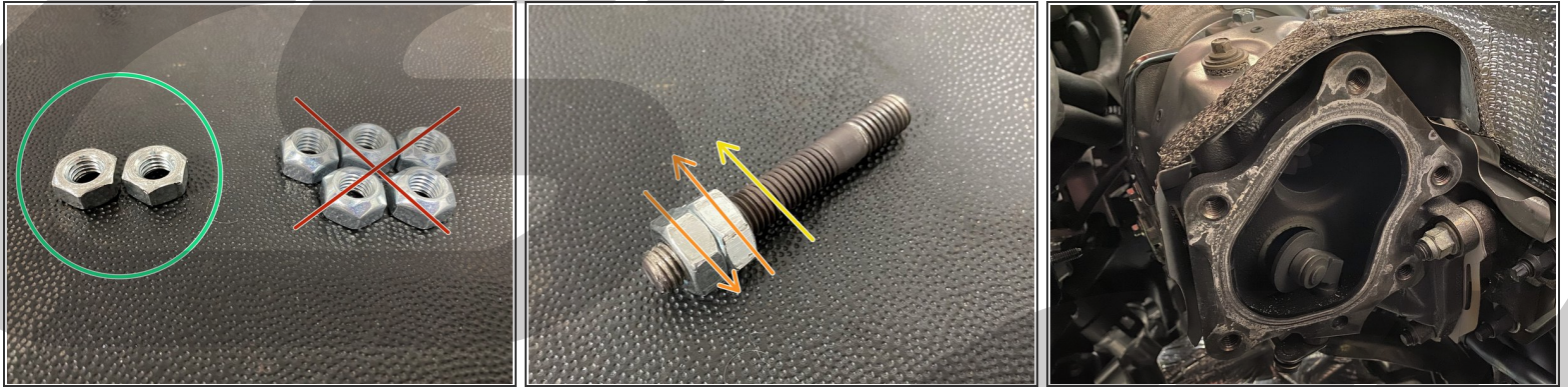
- Using a 14mm socket and ratchet, remove the two nuts that attach the downpipe to the rest of the exhaust
- ⓘ Image 1 shows 17mm bolts instead of the OEM 14mm nuts as the vehicle used for images had a prototype CorkSport exhaust installed
- Follow the downpipe forward until you see where it attaches to the engine block with a support bracket
- Remove the 14mm bolt holding the downpipe support bracket to the engine using a 14mm socket and ratchet
- Remove the downpipe exhaust hanger from the rubber hanger on the chassis using exhaust hanger pliers or channel lock pliers
- ⓘ Spraying some glass cleaner on the rubber hanger for lubrication will help with removal

Step 9 — Removing the OEM Downpipe Part 3



- i** Your downpipe is ready to remove from the vehicle. During this process, use caution to not damage the O2 sensor or wiring
- Slide the downpipe off the turbo studs as shown
 - Feed the downpipe out of the bottom of the vehicle. The halfway point looks approximately like Image 2
 - Upon removal the vehicle will look like Image 3

Step 10 — Preparing for CorkSport Downpipe Part 1

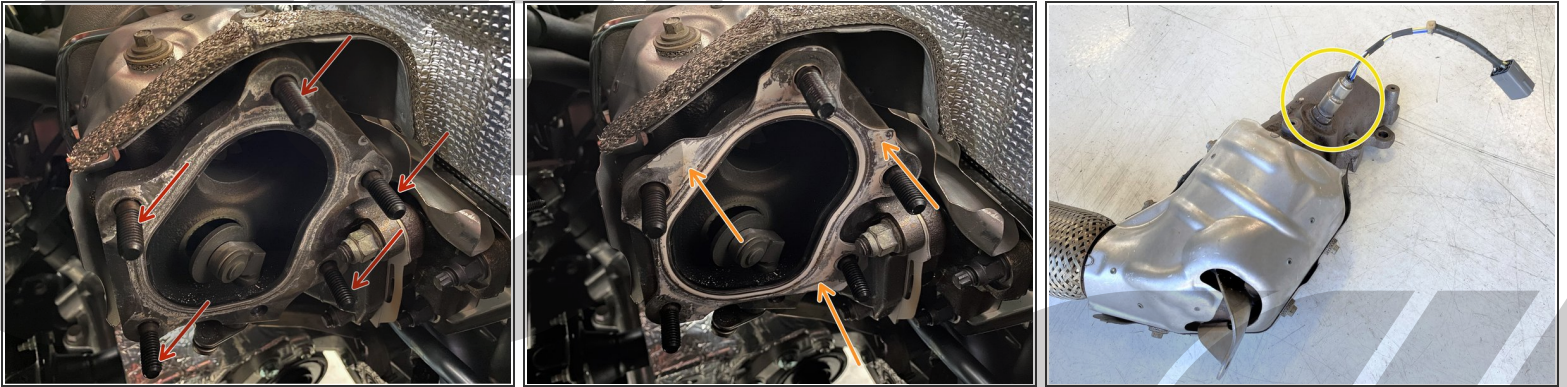


- i** The following step is optional, however, we strongly recommend it as the OEM studs are easy to break due to their long length

 - Locate the two M10x1.5 nuts in your hardware kit. These nuts are **not** "rounded" like the crimp nuts also supplied in your kit.
- i** The following is shown on a bench for clarity. Procedure is the same on the car

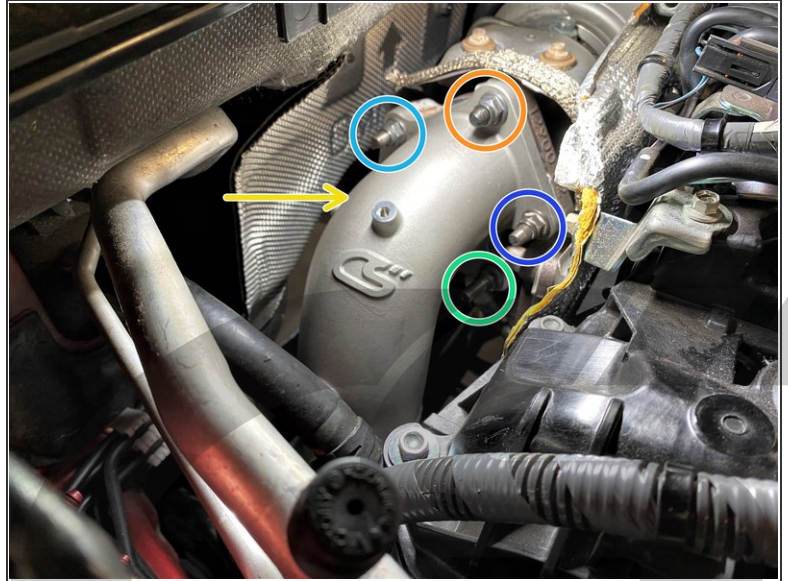
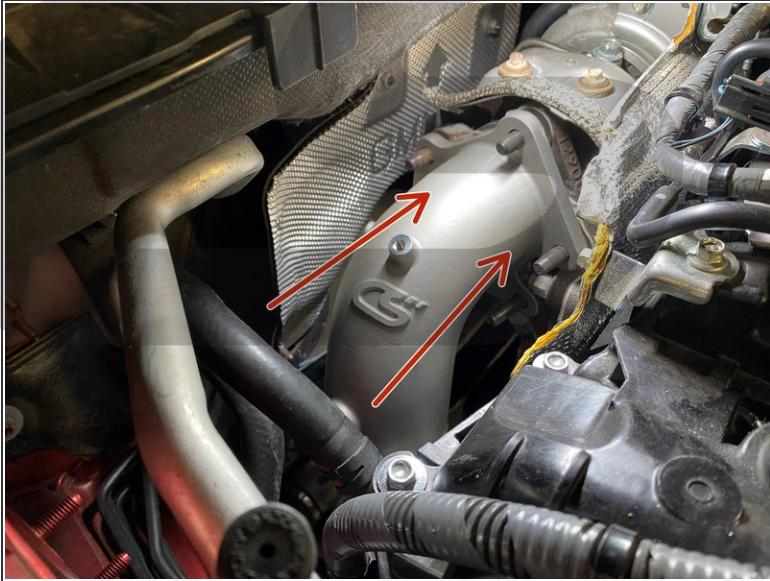
 - Install both M10x1.5 nuts onto a stud as shown
 - Tighten the nuts against each other using two 17mm wrenches. "Tighten" the upper nut and "loosen" the lower nut to snug them against each other
 - Turn the the lower nut counter-clockwise. If done correctly, this will begin to remove the stud from the turbo
 - Repeat this process for the four other studs in the turbocharger. Once complete, it will look like image 3
- !** Once complete, do not discard the OEM studs. These are needed if you ever decide to go back to the OEM downpipe

Step 11 — Preparing for CorkSport Downpipe Part 2



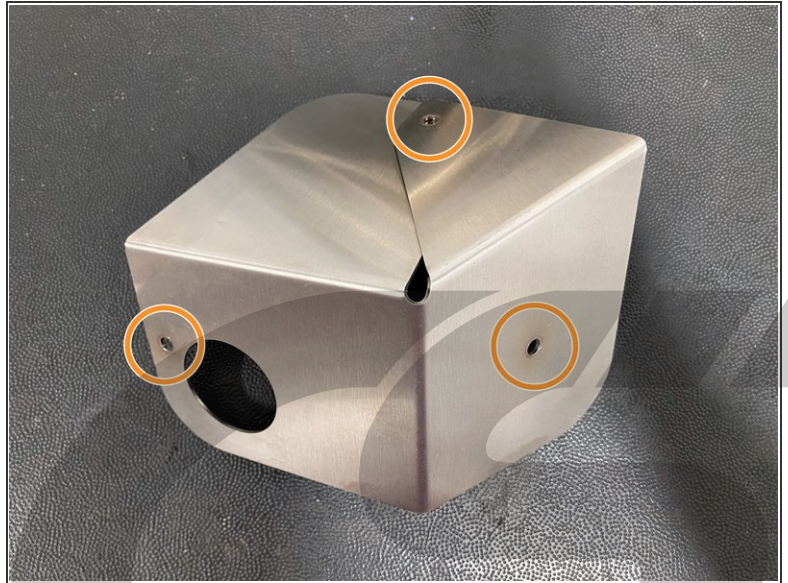
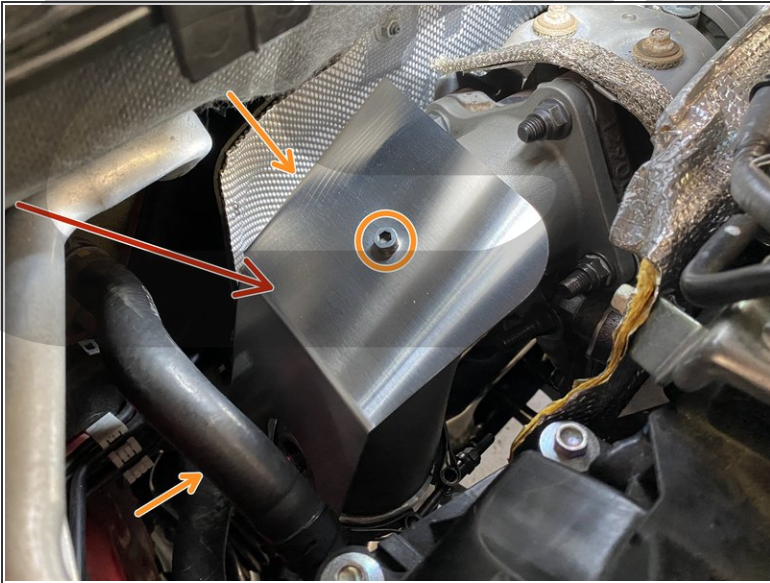
- Install the supplied CorkSport studs with the shorter end threaded into the turbocharger. Hand tight is all that is required
- ⓘ A small amount of anti-seize is recommended for the studs
- Install the OEM gasket over the studs. If a new one is needed, it is Mazda part number **PY88-13-490**
- Moving to the OEM downpipe, remove the O2 sensor using an O2 sensor socket and ratchet

Step 12 — Installing the CorkSport Downpipe Part 1



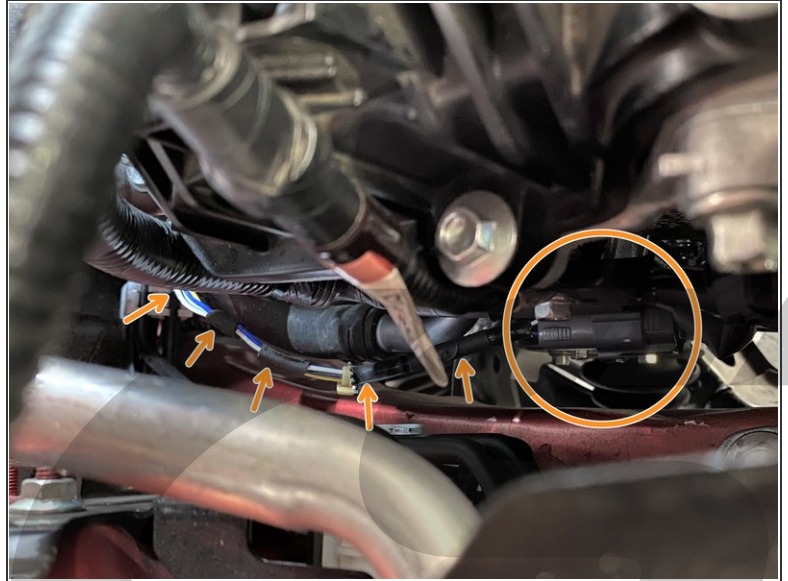
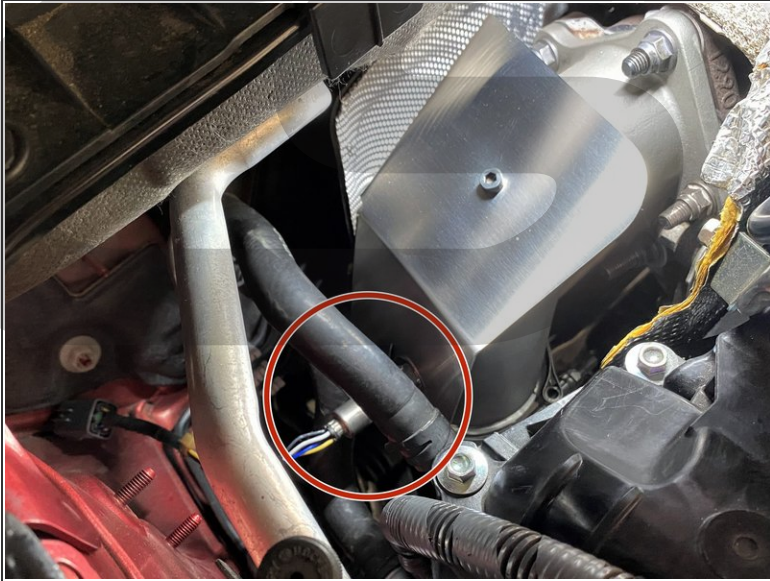
- Install the CorkSport downpipe bellmouth onto the studs of the turbocharger
- Using the supplied crimp nuts and a 17mm socket and ratchet, secure the CS bellmouth to the turbocharger. Only tighten until snug for now
- Tighten all crimp nuts to **34-45ft-lbs** in the pattern shown below:
 - Nut #1
 - Nut #2
 - Nut #3
 - Nut #4
 - Nut #5

Step 13 — Installing the CorkSport Downpipe Part 2



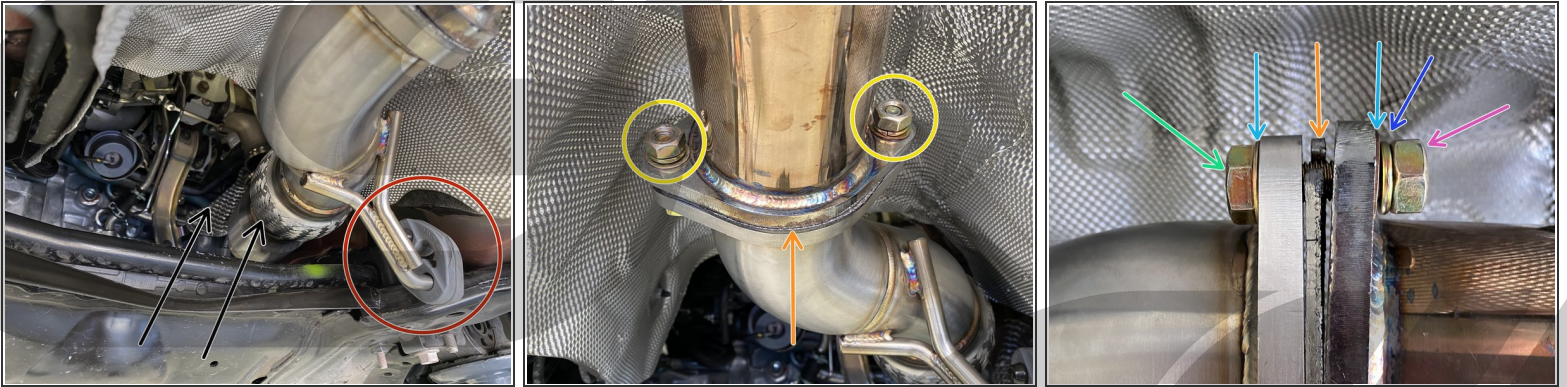
- Place the CorkSport bellmouth heatshield into position
- Secure the CS bellmouth heatshield using the three supplied M6 bolts & washers. Tighten until snug using a 10mm wrench
- ⓘ The car used for images has different hardware than what will come in your kit. Look for the very short hex head bolts and small washers in your kit!
- ⓘ Heat shield shown off the car in Image 2 for hole location reference

Step 14 — Installing the CorkSport Downpipe Part 3



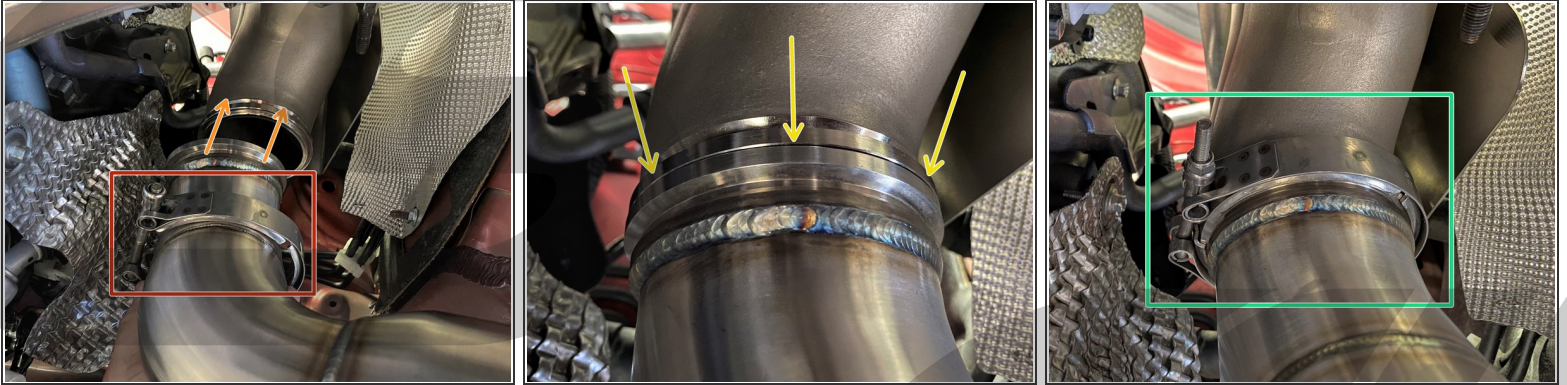
- Install the O2 sensor into the CS bellmouth and tighten hand tight
- Using an O2 sensor socket and ratchet, fully tighten the O2 sensor. **Do not over tighten, 22-39ft-lbs** is the OEM spec, or about 1/4 to 1/2 turn past hand tight
- Plug the O2 wiring into the connector on the side of the engine
- ⓘ Ensure the connector fully clips into position and the wiring will not get caught in any moving components

Step 15 — Installing the CorkSport Downpipe Part 4



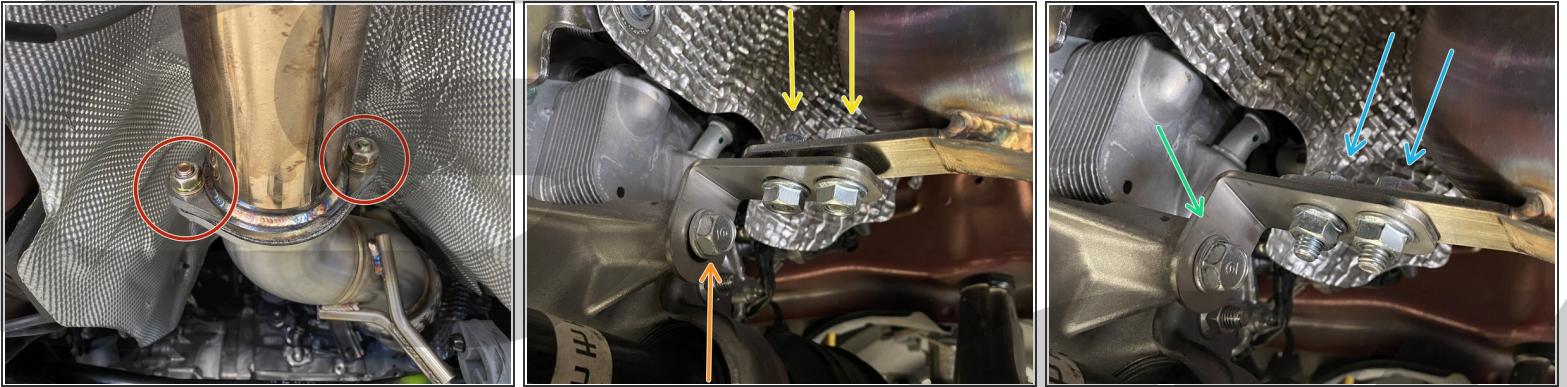
- Moving back under the car, lift the CorkSport downpipe into position
- Place the exhaust hanger on the CS downpipe through the rubber hanger on the chassis. This will keep the downpipe in position
- Place the supplied crush gasket in between the CS downpipe and the midpipe section of exhaust
- Secure the downpipe to the midpipe using the supplied M10 hardware. **Leave hardware loose for now.** Match hardware stack as shown:
 - M10x1.25x35mm bolt
 - M10 flat washer
 - M10 lock washer
 - M10x1.25 nut

Step 16 — Installing the CorkSport Downpipe Part 5



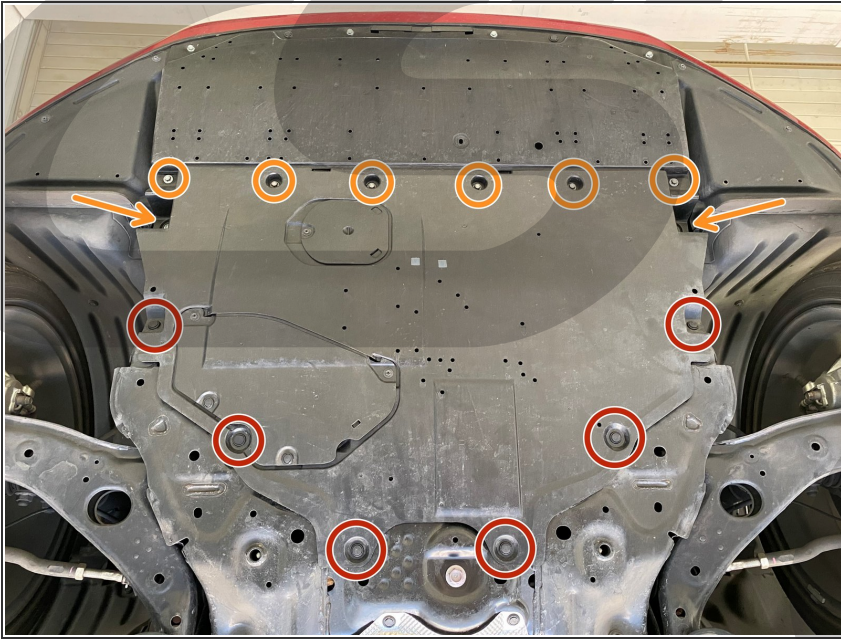
- Place the supplied V-band clamp over the end of the downpipe. Match the orientation shown for easy access when tightening
- ⓘ You may need to remove the nut from the clamp to fit the clamp over the V-band flange
- Lift the downpipe into position against the cast bellmouth
- Ensure the downpipe is sitting even and flat against the cast bellmouth all around. A very small gap between the flanges is expected as the inner ring does the sealing
- Once happy with fitment, use the V-band clamp to hold the two flanges together. Tighten to **8-12ft-lbs.** using a 10mm socket and ratchet
- ⓘ Overtightening can break the threaded portion of the v-band clamp

Step 17 — Installing the CorkSport Downpipe Part 6



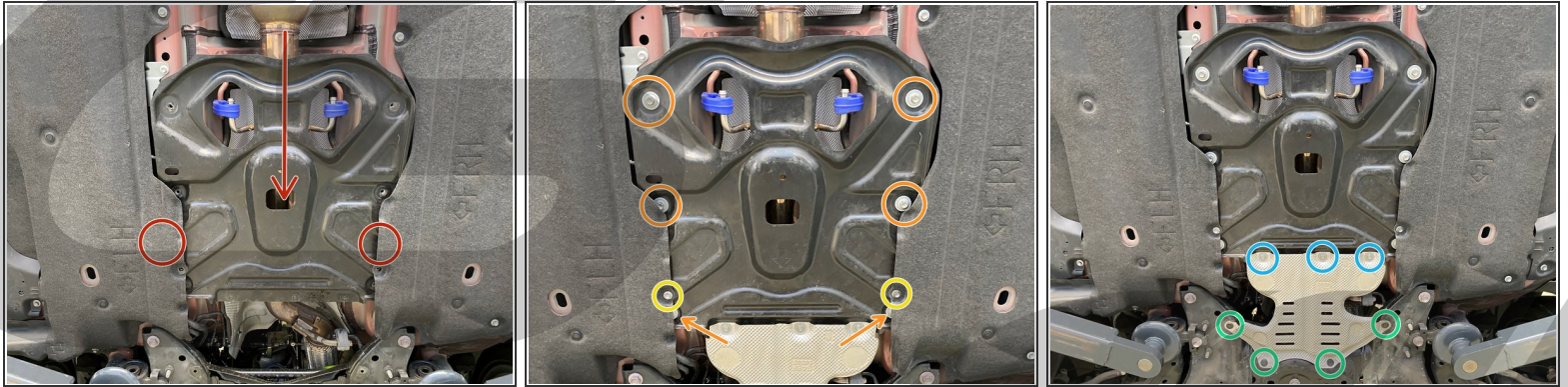
- Line up the downpipe flange, midpipe flange, and crush gasket so they are all centered with each other
- ⓘ If the flanges do not seem to line up, you may need to loosen the v-band clamp at the bellmouth and rotate the downpipe slightly
- Tighten the two bolt flange hardware to **30ft-lbs.** using a 17mm socket, ratchet, and wrench.
- Using the OEM bolt removed earlier, install the supplied CS support bracket onto the OEM mounting location. Leave loose for now
- Using the supplied M8 hardware, connect the CS support bracket to the CS downpipe as shown
- Line up the CS support bracket so it is flat against the OEM mounting location and mount on the CS downpipe
- Tighten OEM bolt to **29-37ft-lbs.** using a 14mm socket and ratchet
- Tighten supplied M8 hardware until snug using a 13mm socket, ratchet and wrench.

Step 18 — Reinstalling Underbody Shielding Part 1



- Reinstall the engine splash shield rear section. Line it up with the front section and the mounting holes from earlier
- Reinstall the six push clips removed earlier from the engine splash shield rear section
- Reinstall the ten bolts securing the engine splash shield rear section using a 10mm socket and ratchet. Tighten until snug

Step 19 — Reinstalling Underbody Shielding Part 2



- Reinstall the black shield by sliding it towards the front of the vehicle, above the carpeted insulation. Line up the bolt holes and position the tab on either side into the slotted hole in each frame rail
- ⓘ Tab locations circled in Image 1
- Using a 12mm socket and ratchet, reinstall the six bolts to secure the black underbody shield. Tighten to **14-19ft-lbs.**
- Using a 10mm socket and ratchet, reinstall the two bolts holding the carpeted insulation to the black underbody shield. Tighten until snug
- Lift the silver underbody shield into position and secure with the four push clips removed earlier
- Finally, secure the rear portion of the silver underbody shield using the three bolts removed earlier. Tighten until snug using a 10mm socket and ratchet

Step 20 — Installation Complete



- This completes your installation of the CorkSport Performance Downpipe!
- ⓘ Listen for any strange noises upon first start up. If any are present, you may have an exhaust leak and need to readjust the downpipe section and/or re-tighten the flanges.
- ⓘ We strongly recommend a tune to go with your downpipe as the car will flow much better with the CorkSport Downpipe.
- ⓘ Catless customers, you will likely experience a check engine light due to the lack of a cat. A tune can typically disable this CEL.
- Contact us with any questions or concerns at sales@corksport.com or (360) 260-2675.
- Please leave a review here: <https://corksport.com/2018-2022-mazda-6-...>
- Share your experience using #CorkSport on Instagram, Facebook, and Twitter.