Precision Turbo & Engine

IS38 FACTORY UPGRADE TURBOCHARGER

Installation Guide

STAGE 1

STAGE 2

This product is not intended for installation by novice or inexperienced individuals. Installation should be performed only by qualified personnel using appropriate tools and procedures. Care must be exercised during installation to prevent damage to factory components or parts supplied with this kit. If you are not experienced in automotive installation or repair, we strongly recommend having this product installed by a qualified professional performance shop. Failure to follow these guidelines may result in component damage, improper operation, or a voided warranty.

Precision Turbo & Engine Factory Upgrade Turbocharger for the following:

Applications:

-VW/AUDI (IS12, IS20 & IS38)

Product Name: IS38 FACTORY UPGRADE TURBOCHARGER

2 options available:

Part #: 12197 - Stage 1 kit is Stock Appearing

Part #: 12199 - Stage 2 kit has Large Inlet

For off-road use only. Not legal for use on public roads.

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Before beginning any installation, turn the ignition key to the ON position without starting the engine. Check the ECU using an appropriate diagnostic tool and ensure that no existing diagnostic trouble codes (DTCs) are present. If any DTCs are found, record them before proceeding.

STAGE 1

STAGE 2

DISCLAIMER: Due to the airflow enhancements of the 3-1/2-inch inlet on the Stage 2 unit, a turbo inlet adapter is required and is sold separately.

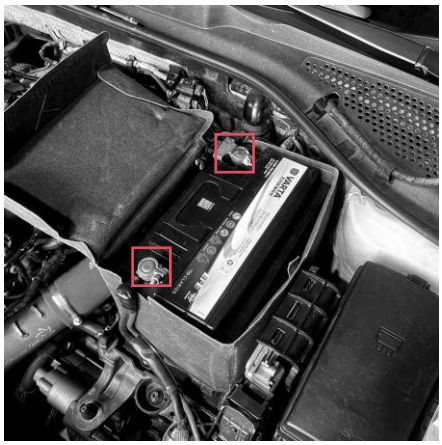
Disclaimer & Limitation of Liability

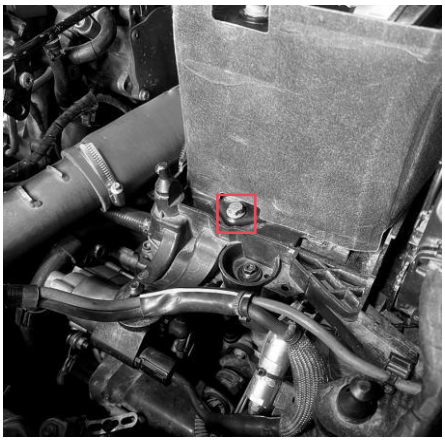
The installer assumes all responsibility for the proper installation of this product. The manufacturer is not responsible for damage to the vehicle or its components resulting from improper installation, misuse, or failure to follow these instructions. Professional installation by a qualified technician is strongly recommended. Damage caused by incorrect installation is not covered under warranty.

CAUTION: This installation requires lifting the vehicle. Support the vehicle with properly rated jack stands or a lift—never rely on a jack alone.

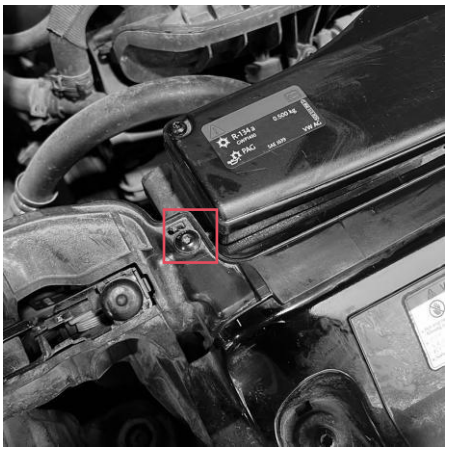
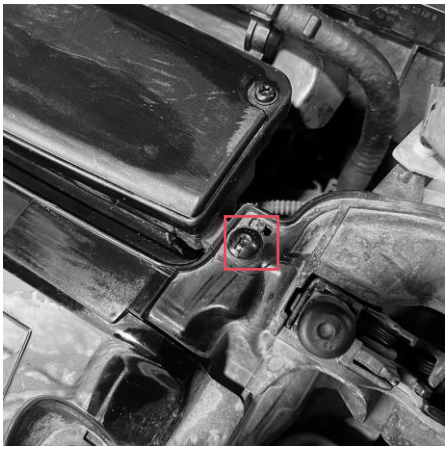
Turbocharger Removal

1. Make sure the ignition key is OFF and disconnect the battery. Use a 10 mm socket to remove both the positive and negative battery terminals. Then, use a 13 mm socket to remove the battery bracket mounting bolts located at the bottom.



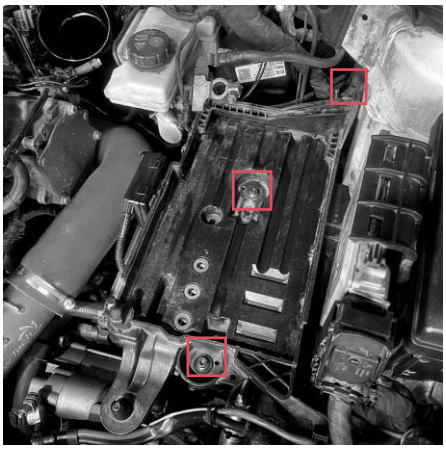
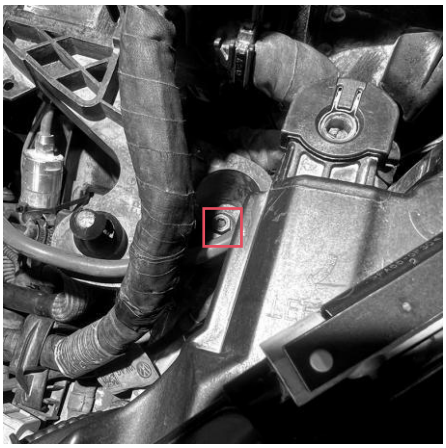


2. Air Intake Removal. Use 2.5mm socket to remove the bolts from OEM air intake.

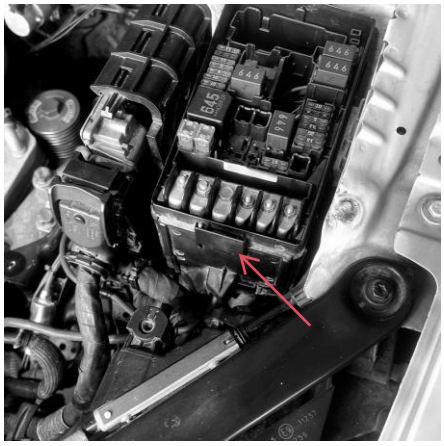



3. Use 7mm socket to remove the clamp, then take out the airbox with caution.


4. Use a 10 mm socket to remove the bolts securing the battery support bracket, then remove the battery support plate. (Note: Pay attention to the orientation and location of each bolt during removal.)

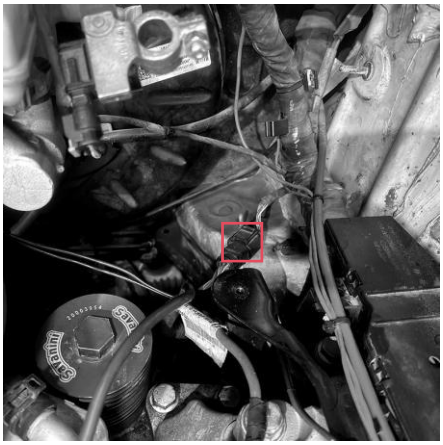



5. Remove the fuse box and cover.

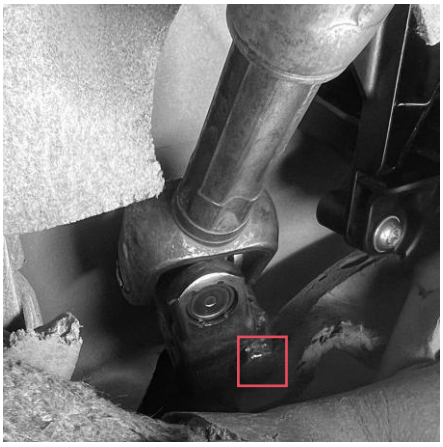


6. Use 8mm socket to disconnect power from the steering rack.

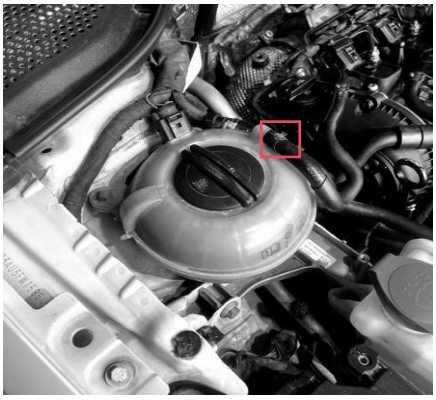
7. Use 10mm socket to remove the ground wire, then remove the harness for steering rack.



8. Use 13mm socket to remove steering arm bolts.

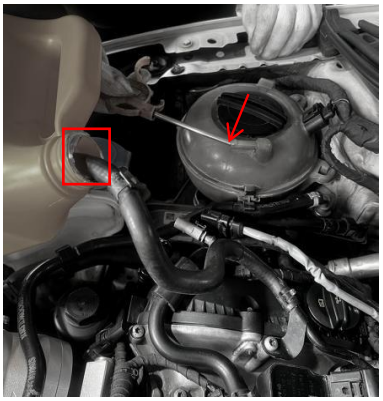


9. Use circlip pilers to remove the circlip on the coolant pipe, then remove the coolant pipe on the side of coolant tank.

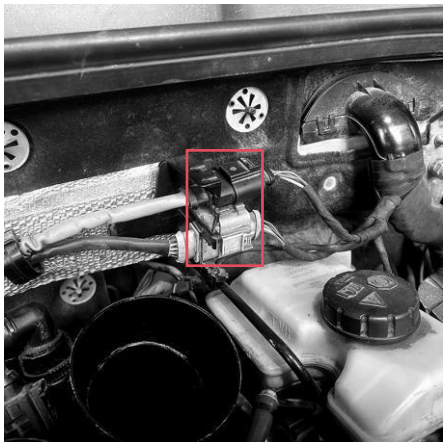


10. Use pressured air to pressurize the coolant tank (arrow), use a container (red square) to collect the excessive coolant.

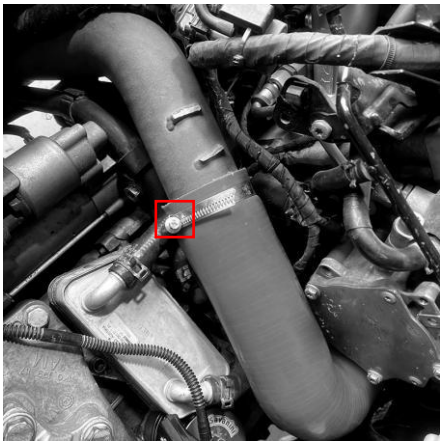
Caution: Use only regulated, low-pressure compressed air to pressurize the coolant reservoir. Do not exceed the manufacturer-recommended pressure. Wear safety glasses and keep hands and face away from the tank opening. Coolant may spray or overflow—position a suitable container to capture excess coolant and clean up spills immediately. Hot coolant can cause burns; allow the engine to cool completely before performing this step



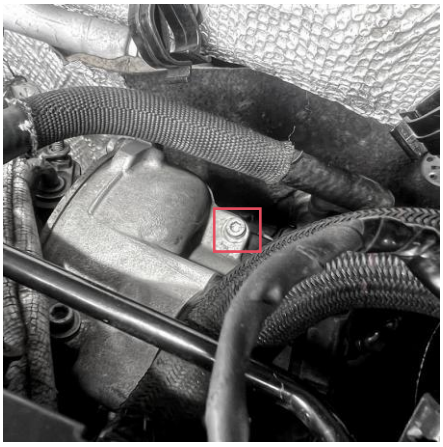
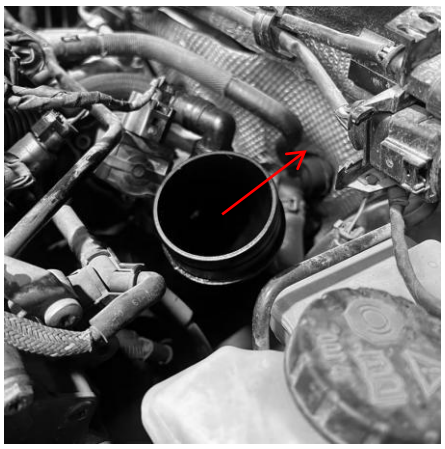
11. Disconnect both oxygen sensors, take the wires out of the clip.




12. Use 7mm socket to remove the clamp bolts on the charge pipe, then remove the charge pipe with caution.

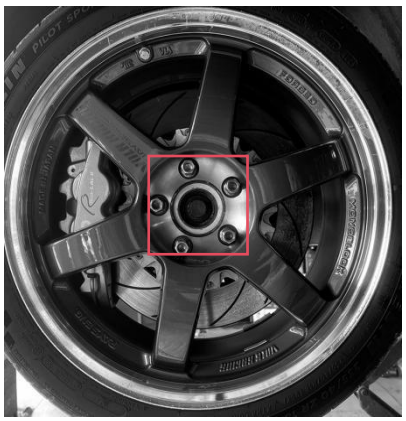



13. Use a 5 mm socket to remove the OEM turbo inlet fastening bolts. Rotate the turbo inlet in the direction indicated by the red arrow, then remove the OEM turbo inlet.

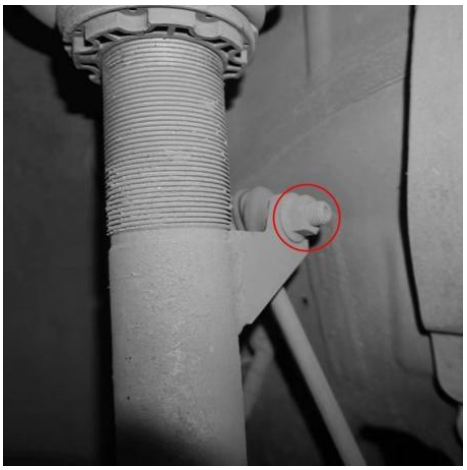



14. Remove front wheel with 17mm socket. Same procedure for both left and right side.

CAUTION: This installation requires lifting the vehicle. Support the vehicle with properly rated jack stands or a lift—never rely on a jack alone.

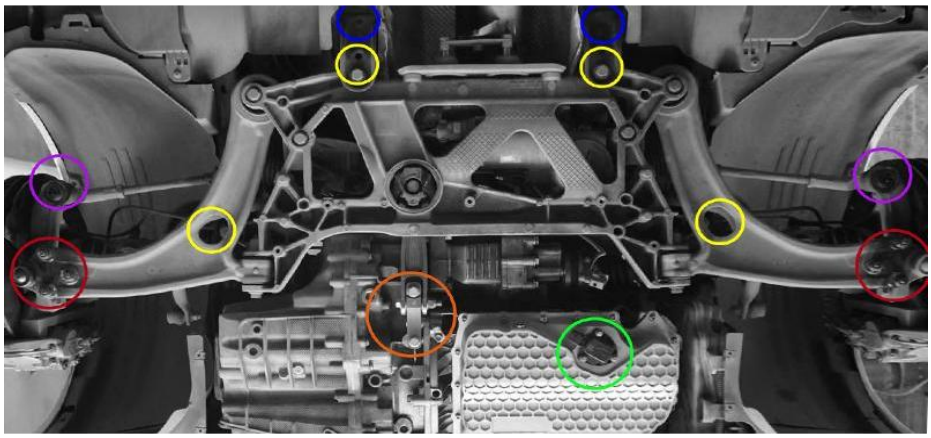


15. Use 18mm socket to remove the bolts on front suspensions, same for both left and right side of the car.

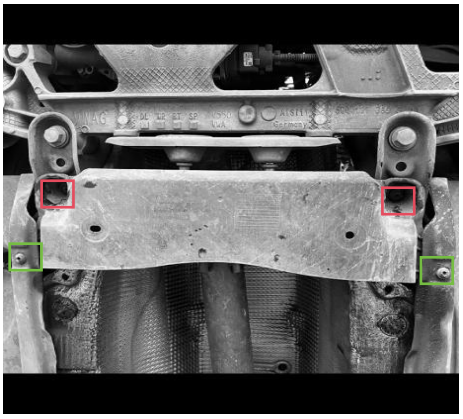


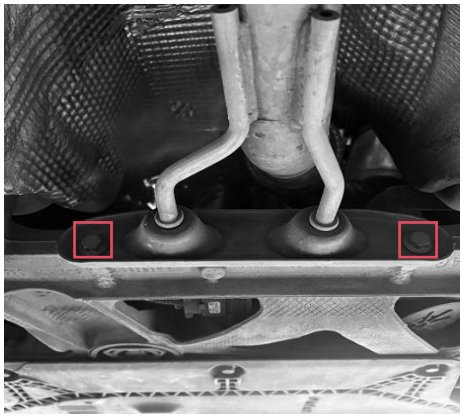
16. Use T25 and 13mm socket to remove skid plate.

17. **IMPORTANT: make sure you have a lift or jack supporting the subframe.**
-Use 16mm socket to remove the bolts on the suspension arms (red circle)
-Use 21mm socket to remove the bolts on steering arms (in purple circle)
-Disconnect the engine oil level sensor (green circle)
-Use 16mm socket to remove the bolts on gearbox supporting arm (orange circle)
-Use 16mm socket to remove the bolts on subframe (blue circle)
-Use 18mm socket to remove the bolts on the subframe yellow circle)

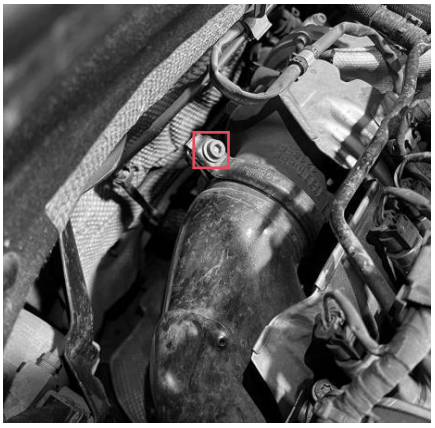


18. Use T25 and 13mm socket to remove the bolts on the protection plate and downpipe supporting bracket

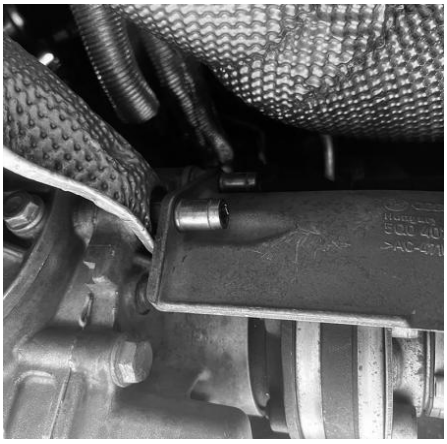




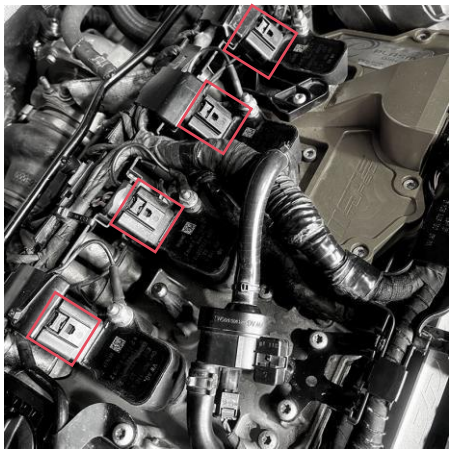
19. Use H6 to remove the downpipe clamp bolt.



20. Use T50 to remove the driveshaft shield, take out the downpipe as shown.

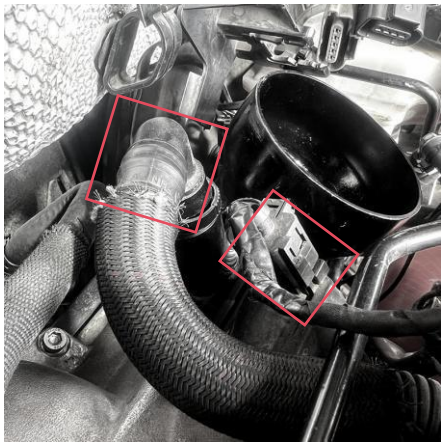


21. Remove the ignition coil pack and camshaft AVS valves.

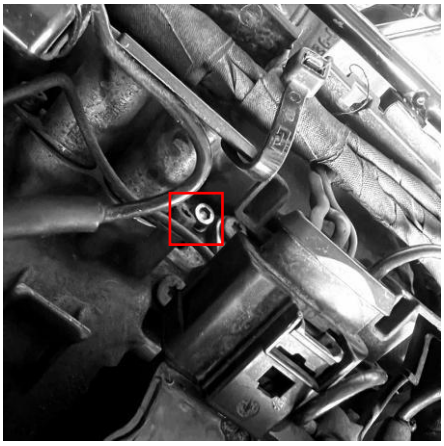
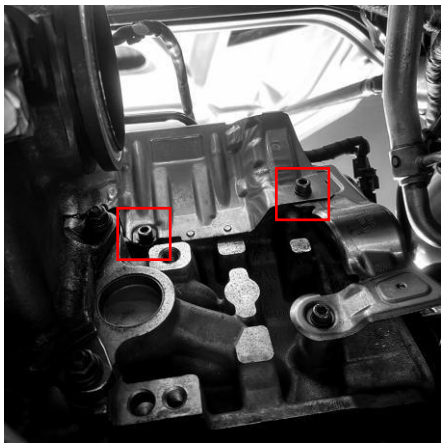


22. Remove the clip on the turbo coolant pipe and remove the turbo coolant inlet pipe.

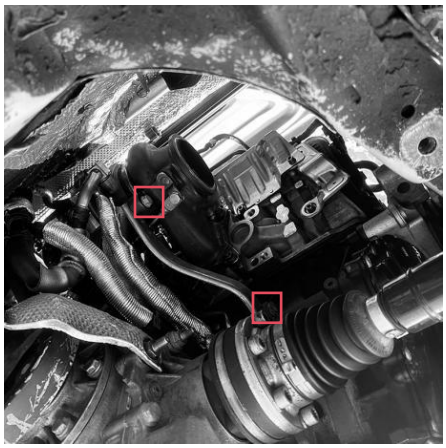
23. Remove the PCV recirculating pipe and blow off valve harness. Use 10mm socket to remove heat shield bolts.



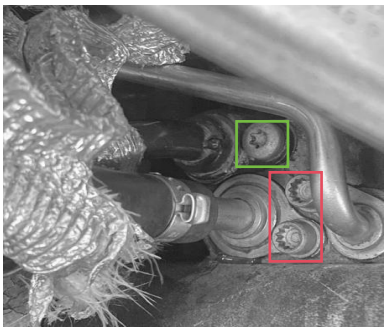
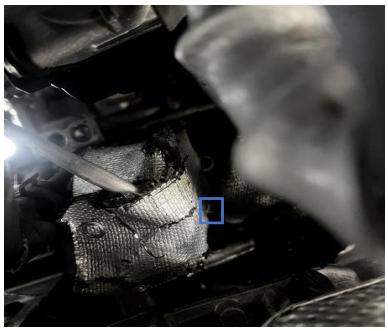

24. Use 5mm socket to remove the heat shield bolts and remove the heat shield.

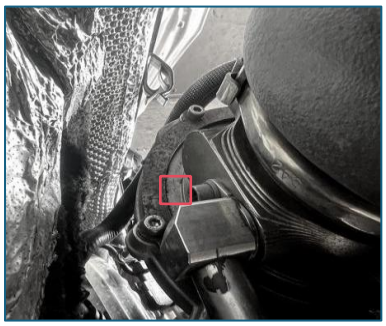
25. Use 13mm socket to remove the turbocharger bracket.



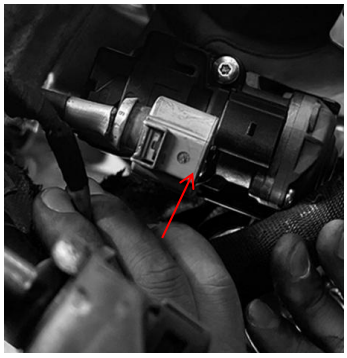
26. Use M8 socket to remove the bolts for coolant return and oil return (feed); use T30 to remove the heater core coolant return (green); use M8 to remove the oil return fitting (M8).

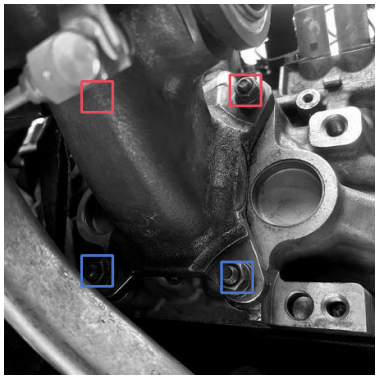
27. Use 5mm socket to remove the coolant bracket; use M8 socket to remove the coolant pipe bracket.

28. Remove the harness for electronic wastegate

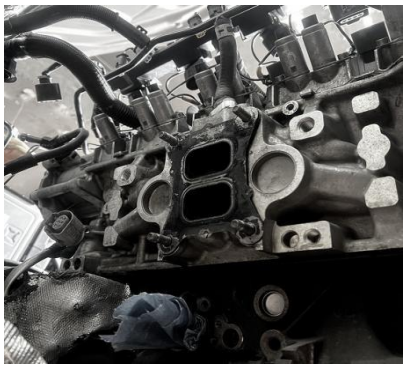


29. Use a 12mm wrench to remove the nuts holding the turbo to the engine. Remove turbo.



Next: Preparation for new Turbocharger installation.

1. Remove the OEM turbo; remove the studs by using two nuts on the studs. Wrench on the lower nut and turn to the left to remove. New studs are included with the turbo kit.



Accessory list

No	Name	QTY	No	Name	QTY
1	Downpipe to turbine housing gasket	1	**7**	Copper nuts	4
2	Turbine housing studs	4	**8**	M6 washers	6
3	Downpipe clamp	1	**9**	M6 bolts	9
4	Cylinder head to turbine housing gasket	1	**10**	M6 bolts	1
5	Inlet pipe seal	1	**11**	BOV seal	1
6	Oil inlet fitting bolts	1	**12**	Turbo oil inlet	1

Seals List

No.	Name	Dimension	QTY
1	Oil feed pipe seal	9.5*2.5	2
2	Oil return seal on turbo	15*1.8	1
3	Oil return seal on block	16. 75*1.65	1
4	Coolant seal on turbo	15*2.0	2
5	Coolant pipe seal on block (turbo to block)	20*3	1
6	Coolant pipe seal on block (heater core to block)	14.5*2	1

2. Replace coolant inlet seal (no.4). Change oil return seal on turbo side. (no.2)

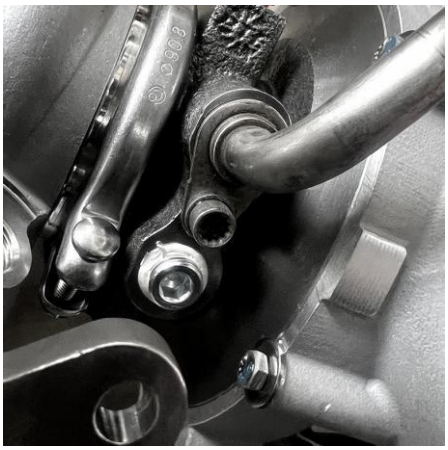

3. Replace the seal on each side of oil feed pipe. Change the seal on oil return block side.


4. Change the coolant return pipe seal (no.4). Change coolant pipe seal on block (turbo to block / no.5).

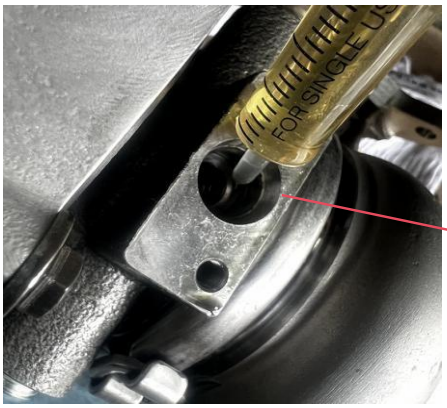

5. Replace the coolant pipe seal (heater core / no.6).

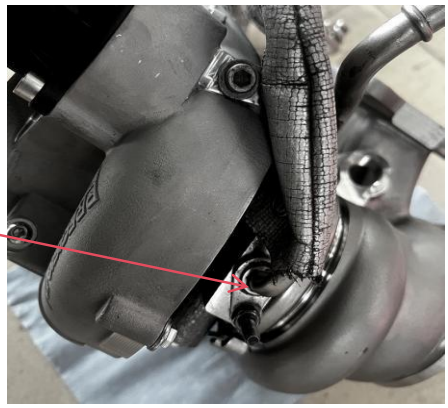
6. Use 22mm wrench to remove the oxygen sensor. Install sensor on PTE turbo with cooper-based lubricants (anti-seize compound).

7. Use M8 socket to remove the coolant inlet and oil return from the OEM turbo and install them on PTE turbo.



8. Use injector to pump engine oil into the oil feed; use 10mm and 5mm socket to install oil inlet pipe and oil inlet pipe bracket.

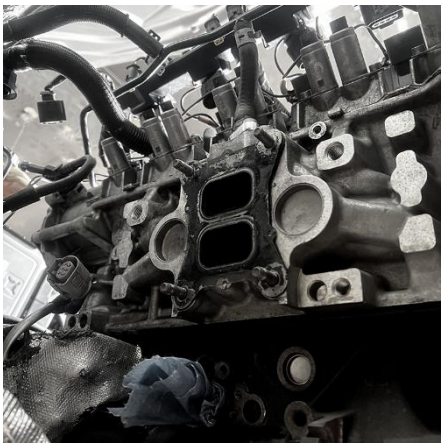




9. Install the turbine housing to downpipe gasket.

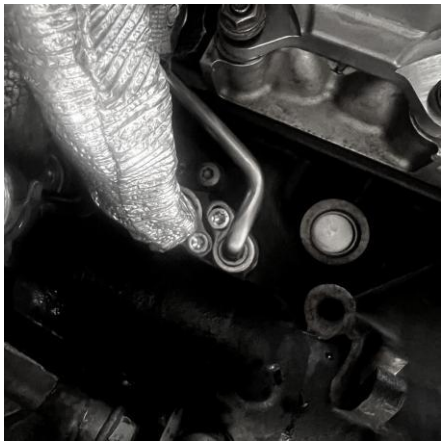
10. Remove plastic tie holding wastegate arm in place prior to installing wastegate actuator.

11. Remove the wastegate actuator from the old turbocharger. Install the actuator onto the new turbocharger and torque fasteners to OEM specifications. Install new turbo mounting studs into the cylinder head and install new turbine housing gasket. Now install new turbo.

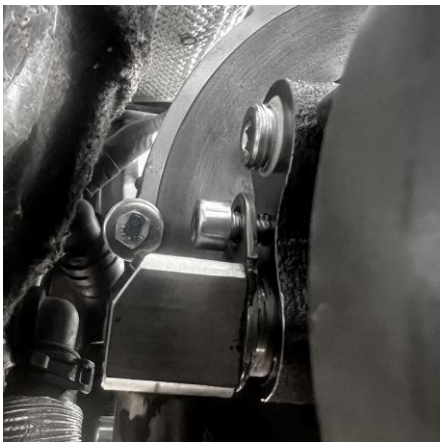


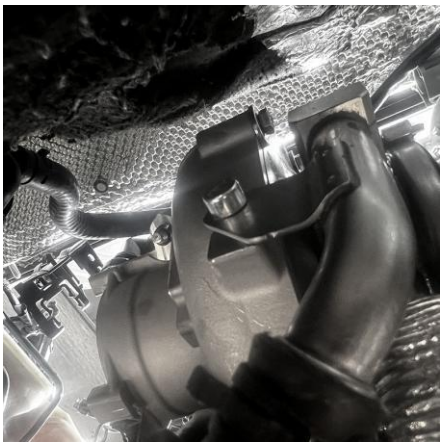

12. Plug the wastegate harness into the wastegate actuator.

13. Use 5mm socket to install the oil return fitting on engine block; use 5mm socket to install coolant return fitting on block; use T30 to install coolant return fitting on engine block.

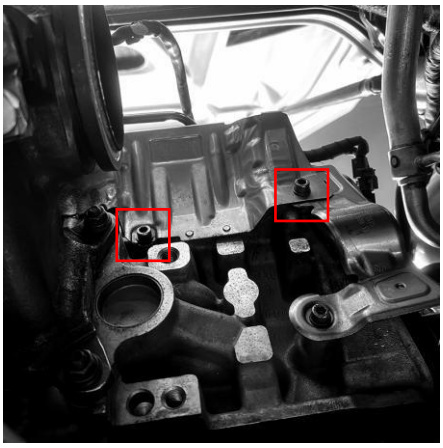



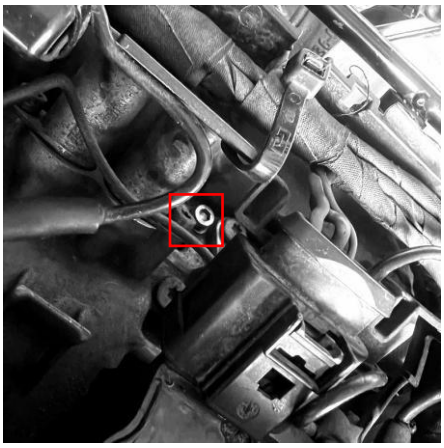
14. Use 5mm socket to install coolant return fitting on turbo and coolant return pipe bracket.





15. Use 5mm socket to install heat shield.

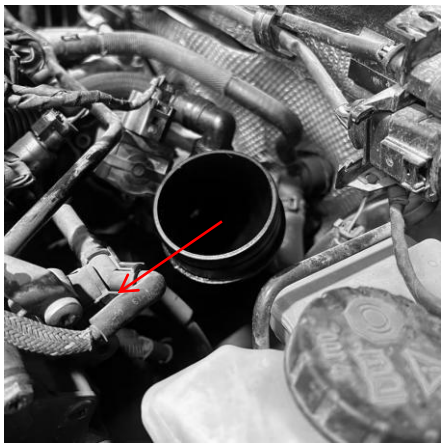


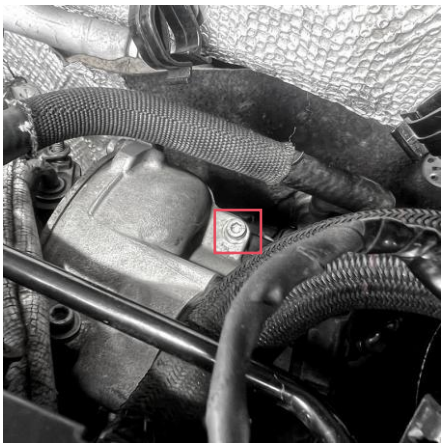


16. Use 10mm socket to install heat shield nuts.

17. Install the turbo inlet in the correct position, then rotate it in the direction indicated by the arrow. Use a 5 mm socket to install the turbo inlet bolts as shown in the second image.

DISCLAIMER: Due to the airflow enhancements of the 3-1/2-inch inlet on the Stage 2 unit, a turbo inlet adapter is required and is sold separately.

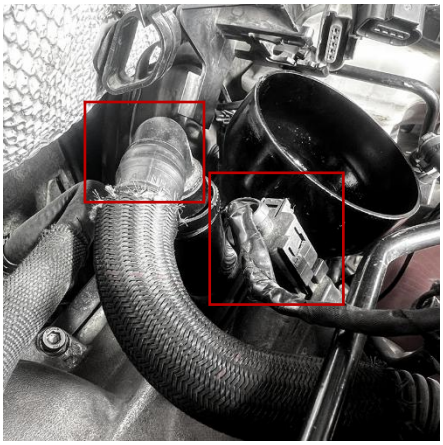




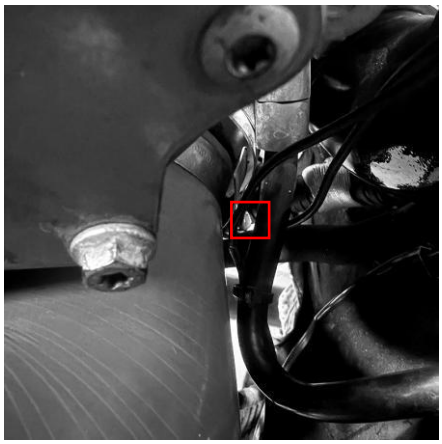
STAGE 1

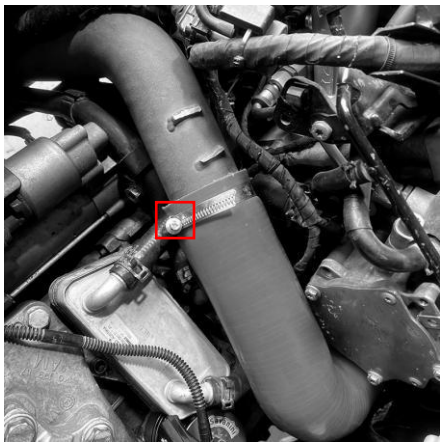
STAGE 2

18. Install PCV hose and BOV harness.



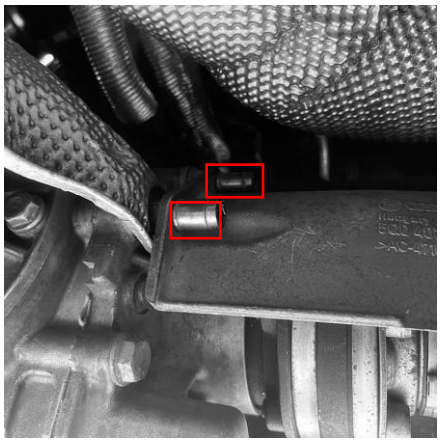
19. Use 7mm socket to install clamps for charge pipe.





20. Fit the downpipe to the turbocharger.

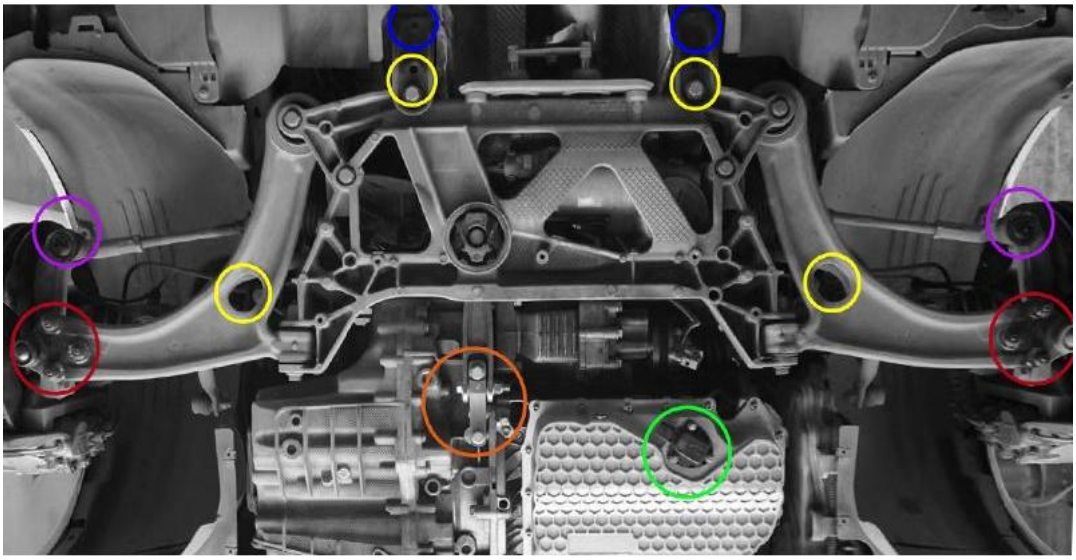
21. Use T50 socket to install driveshaft heat shield.



Time to put everything back together.

1. **IMPORTANT: make sure you have a lift or jack supporting the subframe.**

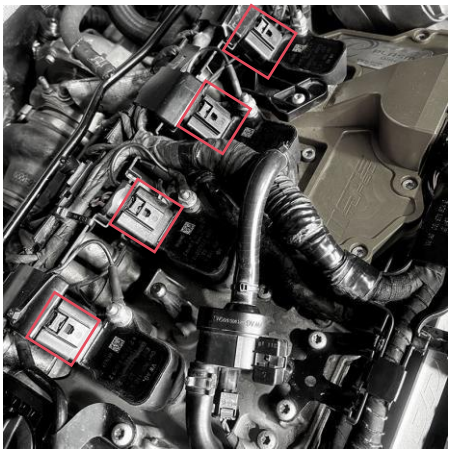
   -Use 16mm socket to install the bolts on the suspension arms (red circle).
   Torque to: 40Nm (29 Ft/Lbs.)+45°.
   -Use 21mm socket to install the bolts on steering arms (purple circle).
   -Connect the engine oil level sensor (green circle).
   Torque to: 20Nm (41 Ft/Lbs.)+90°.
   -Use 16mm socket to install the bolts on gearbox supporting arm (orange circle).
   Torque to: 50Nm (36 Ft/Lbs.)+90°.
   -Use 16mm socket to install the bolts on subframe (blue circle).
   Torque to: 50Nm (36 Ft/Lbs.)+90°.
   -Use 18mm socket to install the bolts on the subframe (yellow circle).
   Torque to: 70Nm (51 Ft/Lbs.)+180°.



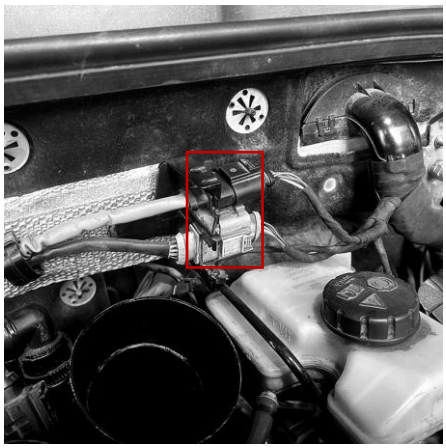
2. Use 18mm socket to install the bolts on suspension. ***Torque to: 65Nm (48 Ft/Lbs.)***.

3. Use 17mm socket to install wheels on each side. ***Torque to: 120Nm (88 Ft/Lbs.)***.

4. Install ignition coil pack and camshaft AVS valves

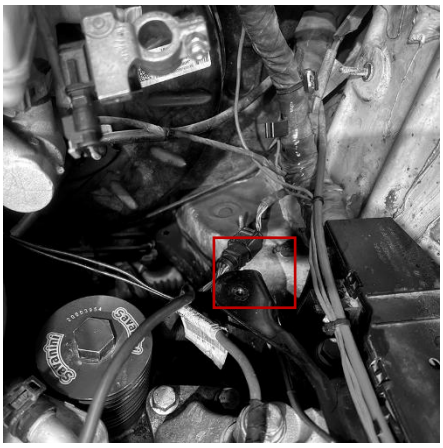


5. Put the wire inside the clip and then connect the oxygen sensor harness.

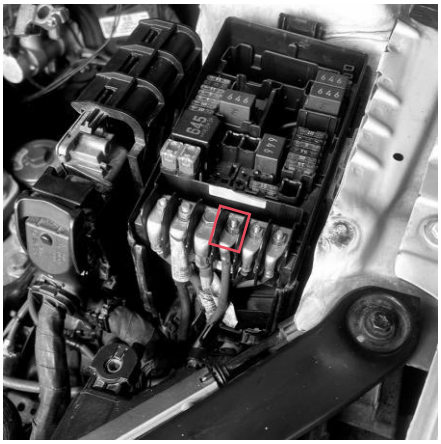


6. Use 13mm socket to install steering arm. ***Torque to: 20Nm (14 Ft/Lbs.)+90°***.

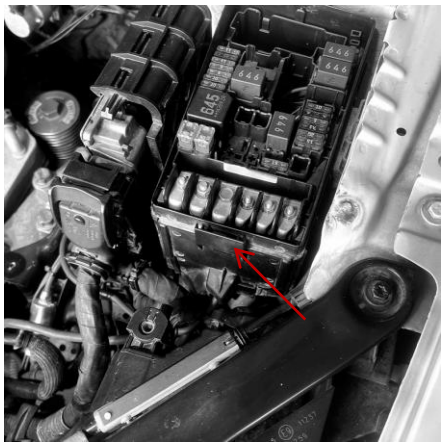
7. Use 10mm socket to install ground wire and steering rack harness.



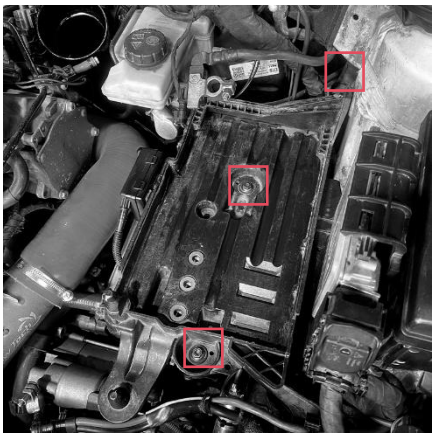
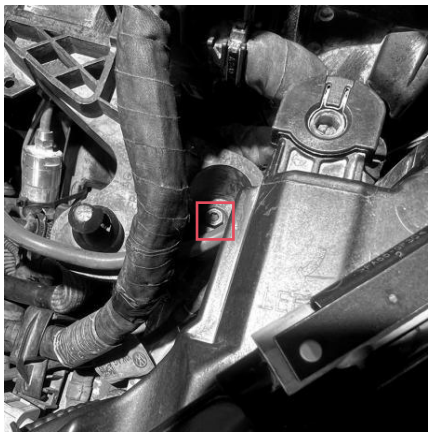
8. Use 8mm socket to install the harness for steering rack. ***Torque to: 4.5Nm (4 Ft/Lbs.)***.



9. Install the fuse box and covering plate.




10. Install the battery supporting frame. ***Torque to: 9Nm (6 Ft/Lbs.)***.

11. Use 13mm socket to install the battery clip. Use 10mm socket to fasten the positive and negative sides of the battery. ***Torque to: 6-8Nm*** **(4 - 6 Ft/Lbs.)**.


12. Install air guide. Use 2.5mm socket to install the bolts for air guide.

13. Install air intake pipe. Use 7mm clamp to fasten the clamps.

14. After completing all previous steps, recheck all components to ensure they are installed in their original positions. Verify that all wiring harness connectors are fully seated, properly routed, and free from interference. Pay special attention to ensuring that wiring harnesses are kept at a safe distance from heat sources such as the turbocharger and exhaust components.

15. Start the engine and inspect for oil/coolant/exhaust leaks. Let it reach operating temperature, recheck fluid levels, and perform a short test drive—then re-torque/inspect after the first heat cycle.

Warranty

Each Precision Turbo–branded turbocharger and boost control product is warranted to be free from manufacturer's defects for a period of 12 months or 12,000 miles, whichever occurs first, from the date of the original invoice. The manufacturer's warranty otherwise applies. The seller expressly disclaims all implied warranties of merchantability and/or fitness for a particular purpose.

Precision Turbo will repair or replace, at its discretion, any Precision Turbo–branded product that proves defective in material or workmanship under normal installation, use, and service. For any warranty claim regarding defects in material or workmanship, the product in question must be returned, freight prepaid, to the following address: 9401 Georgia St., Suite 2, Crown Point, IN 46307.

This warranty does not cover damage or failure of components due to normal wear and tear. There is no warranty on any parts used in race applications, or on products that have been physically altered, improperly installed, or not maintained. The seller's warranty is in lieu of all other warranties, express or implied.

RETURNS

Returns for credit or exchange are allowable only with a Returned Material Authorization (RMA) number for 30 days from date of shipment. RMA numbers can be obtained directly from Precision Turbo and Engine. Additionally, the Product Return Form found on our website, *precisionturbo.com* must be filled out in its entirety, and returned with the product being sent back for credit or exchange. Restocking fees may apply. Product must be new or in resalable condition and returned at the customers expense freight prepaid. All claims for shipping damage must be addressed with the carrier by the customer.

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