



7.3 Powerstroke (1994.5-2003) KC Upgraded Exhaust Manifold Installation Instructions

KCTURBOS.COM
480-688-7160

KC Upgraded Exhaust Manifold Installation Preparation:

NOTICE: Before you start your build, please take a few moments to review the installation steps set out within this instruction manual. If you have any questions regarding your purchase, installation, or other KC Turbos products, please contact us at 480-688-7160.

NOTICE: We recommend the use of an experienced professional for proper installation of this product. The steps herein are designed for an experienced professional to follow in detail for proper installation and function. Specialty tools may be required to complete proper installation of this product.

NOTICE: We recommend the replacement of your existing up-pipes. Factory style up-pipes that use donut style gaskets tend to crack and cause exhaust leaks compared to aftermarket bellowed up-pipes.

HOT COMPONENTS: Allow the engine, turbocharger, and exhaust components to cool completely before installation.

VEHICLE SUPPORT: Never work beneath a vehicle supported only by a hydraulic jack. Use appropriately rated jack stands or a lift.

BATTERY SAFETY: Disconnect both negative battery cables before beginning work.

EXHUAUST LEAKS: Exhaust leaks can expose occupants to dangerous gases and damage surrounding components. Correct all leaks before operating the vehicle.

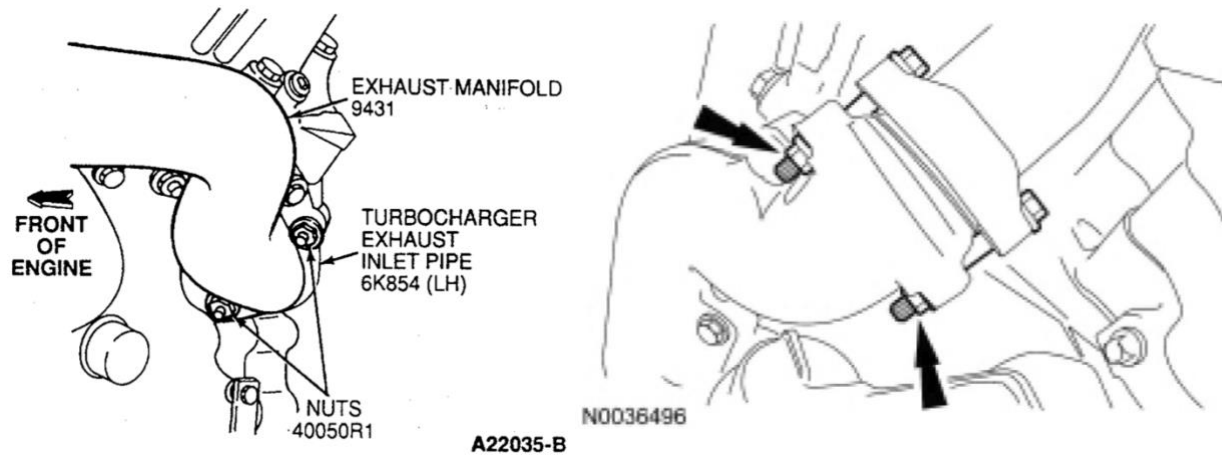
DAMAGED HARDWARE: Do not reuse stripped, cracked, excessively corroded, or otherwise damaged hardware.

Product Features:

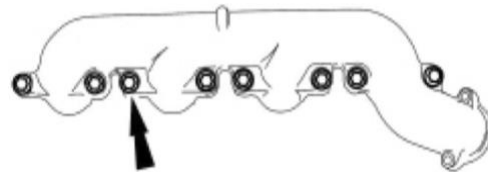
- Comes as a pair (mounting hardware & gaskets included*)
- Direct Bolt-On / No Modifications Required for OBS, E99, and L99 7.3 Powerstroke trucks
- **These manifolds are NOT DESIGNED to fit Van applications.**
- Increased Casting & Mounting Flange Thickness
- Enlarged Sealing Surface to Minimize Hot Spots
- Stronger High SiMo Castings to prevent warping/cracking
- Port Matched Manifold Runner Entries & Improved Exhaust Flow Geometry
- Enlarged & Optimized Internal Flow Path
- Re-engineered Up-pipe mounting face for better alignment & clamping under load
- Integrated EGT Port (comes with NPT blocking plug installed)
- Retains factory EBP Tube port (comes with NPT blocking plug installed)
- Includes Stainless Steel Gaskets
- Includes OEM-Style **Interference Thread** Exhaust flange bolts
 - These bolts may feel like they are cross-threading upon installation but rely on interference with the cylinder head's threaded holes to prevent backing out later.
 - Using a thread chaser in your existing exhaust manifold bolt holes is recommended.
- **Exhaust manifold to Up-pipe bolts **NOT** included*

Driver Side (Left) Exhaust Manifold Removal:

1. Disconnect both battery ground cables.
2. Raise & support the vehicle using properly rated equipment.



3. Remove turbocharger exhaust inlet pipe (up-pipe) hardware.
4. Disconnect & remove aftermarket EGT probe if equipped.
5. Remove exhaust manifold bolts.
6. Remove exhaust manifold & gasket from vehicle.



7. Check cylinder head mounting surface for warpage with straightedge.

NOTE: The use of a thread chaser is recommended to clean up the exhaust manifold mounting bolt holes in the cylinder head to achieve proper torque for correct installation.

NOTE: Check closely for pitting on the exhaust manifold sealing surfaces. These pits may cause sealing issues upon installation!

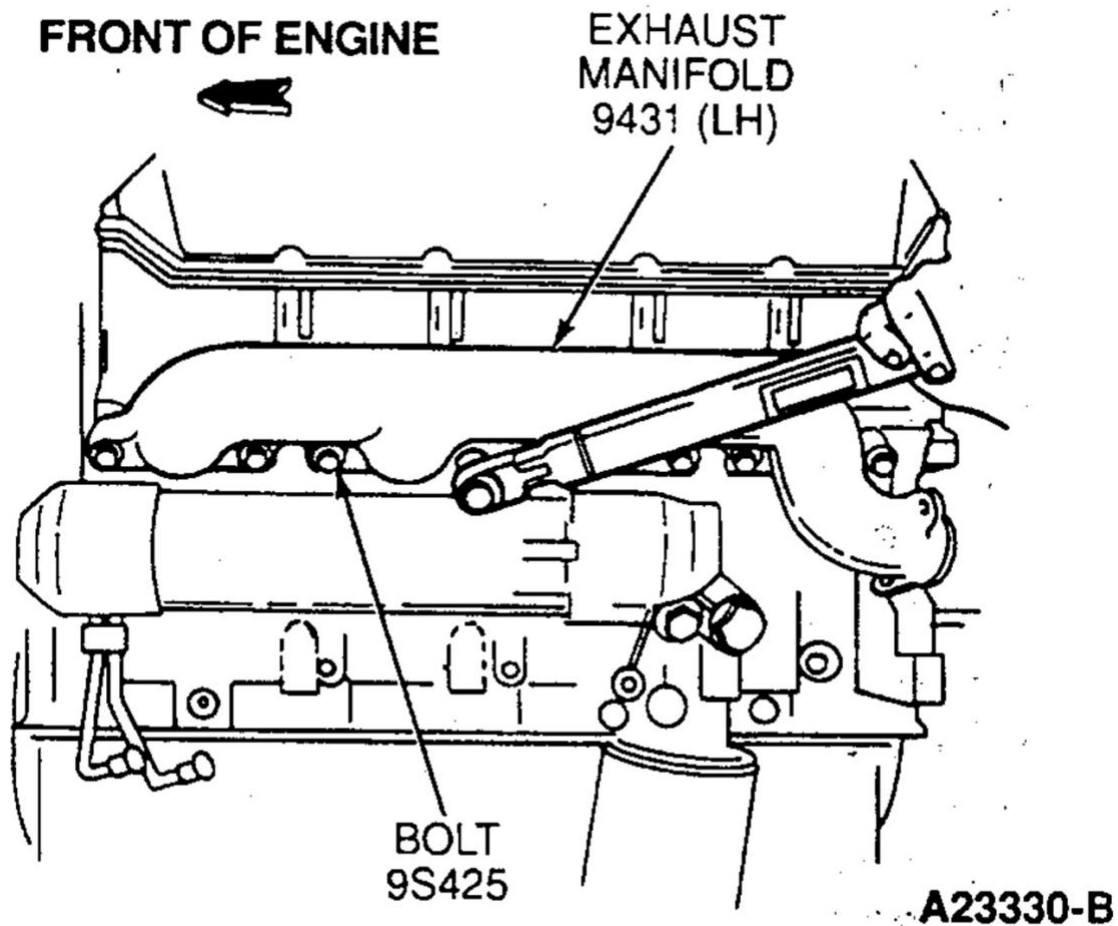
Driver Side (Left) Exhaust Manifold Installation:

1. Clean the exhaust manifold sealing surface & mounting holes.

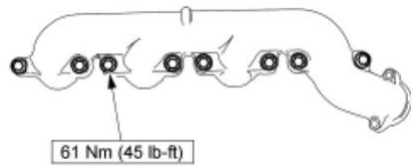
RECOMMENDATION: Apply a small amount of anti-seize compound to the supplied exhaust manifold bolt threads.

2. Install exhaust manifold and new gasket with supplied retaining hardware ensuring that the turbocharger exhaust inlet pipe (up-pipe) is seated on its mounting surface before starting any bolts.

Installation Tip: Use one bolt on either end of the manifold to hold the gasket in place during installation. This will aid in gasket and manifold alignment.



3. Tighten exhaust manifold mounting hardware evenly across the face of the exhaust manifold to ensure proper sealing occurs.



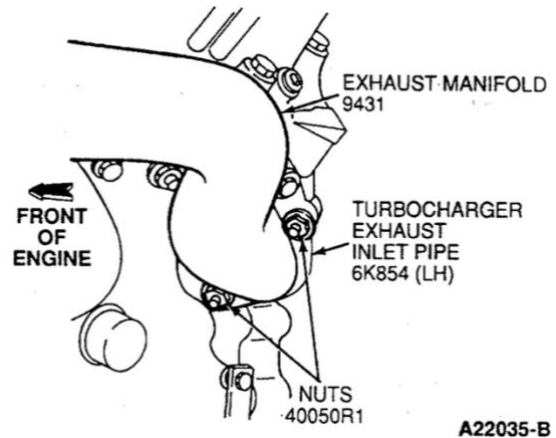
4. Once the exhaust manifold mounting hardware is evenly tightened, torque the bolts.

5. *Torque Spec:* 45 lb-ft (61 Nm)

NOTE: The exhaust manifold mounting hardware included in this kit uses an **INTERFERENCE TYPE thread**. These OEM-Style **Interference Thread** Exhaust flange bolts may feel like they are cross-threading upon installation, but they rely on interference within the cylinder head's threaded holes to prevent backing out later.

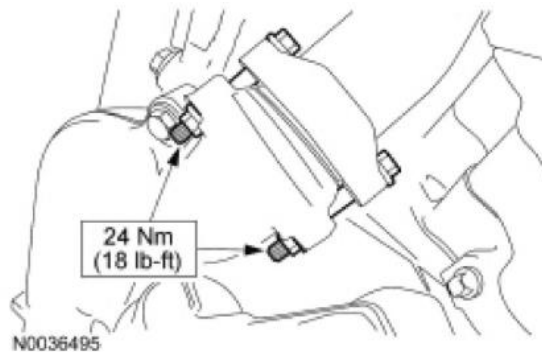
6. With exhaust manifold installed and the turbocharger exhaust inlet pipe (up-pipe) seated, install the turbocharger exhaust inlet pipe (up-pipe) to manifold bolts.

NOTE: You will be reusing the factory hardware for Step 6. If you are struggling to align these bolts in the up-pipe, loosen the upper turbocharger exhaust inlet pipe (up-pipe) to collector bolts.



7. Torque the turbocharger exhaust inlet pipe (up-pipe) to manifold mounting bolts.

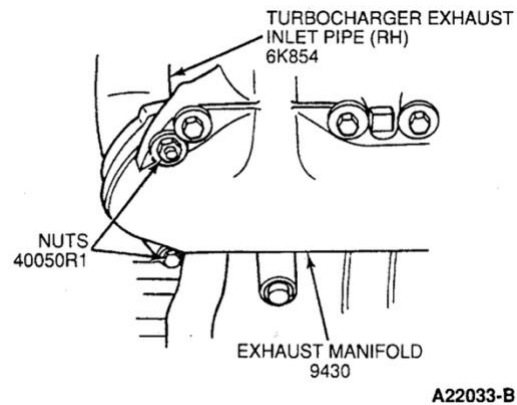
8. *Torque Spec:* 18 lb-ft (24 Nm)



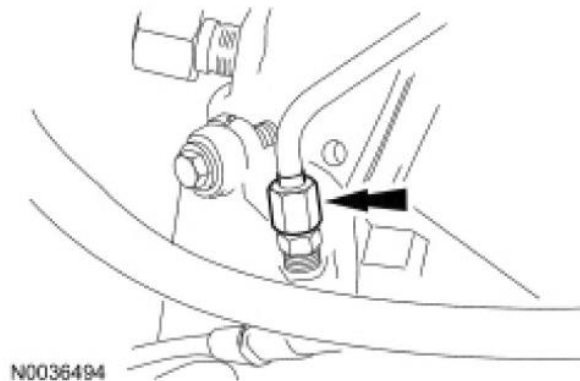
9. Tighten the upper turbocharger exhaust inlet pipe (up-pipe) to collector bolts if you loosened them for Step 6.
10. If equipped, remove the installed NPT blanking plug and install your aftermarket EGT probe. Ensure the wire does not interfere with any exhaust or steering components.

Passenger Side (Right) Exhaust Manifold Removal:

1. Remove the transmission fill tube bracket bolts and rotate the transmission fill tube and bracket aside.



2. Remove the two bolts retaining the turbocharger exhaust inlet pipe (up-pipe) to the exhaust manifold.
3. Disconnect the Exhaust Pressure (EP) Tube from exhaust manifold.



4. Disconnect & remove passenger side aftermarket EGT probe if equipped.

NOTE: We only recommend the installation of an aftermarket EGT probe on the driver side manifold.

5. Remove exhaust manifold bolts.
6. Remove exhaust manifold & gasket from vehicle.
7. Check cylinder head mounting surface for warpage with straightedge.

NOTE: The use of a thread chaser is recommended to clean up the exhaust manifold mounting bolt holes in the cylinder head to achieve proper torque for correct installation.

NOTE: Check closely for pitting on the exhaust manifold sealing surfaces. These pits may cause sealing issues upon installation!

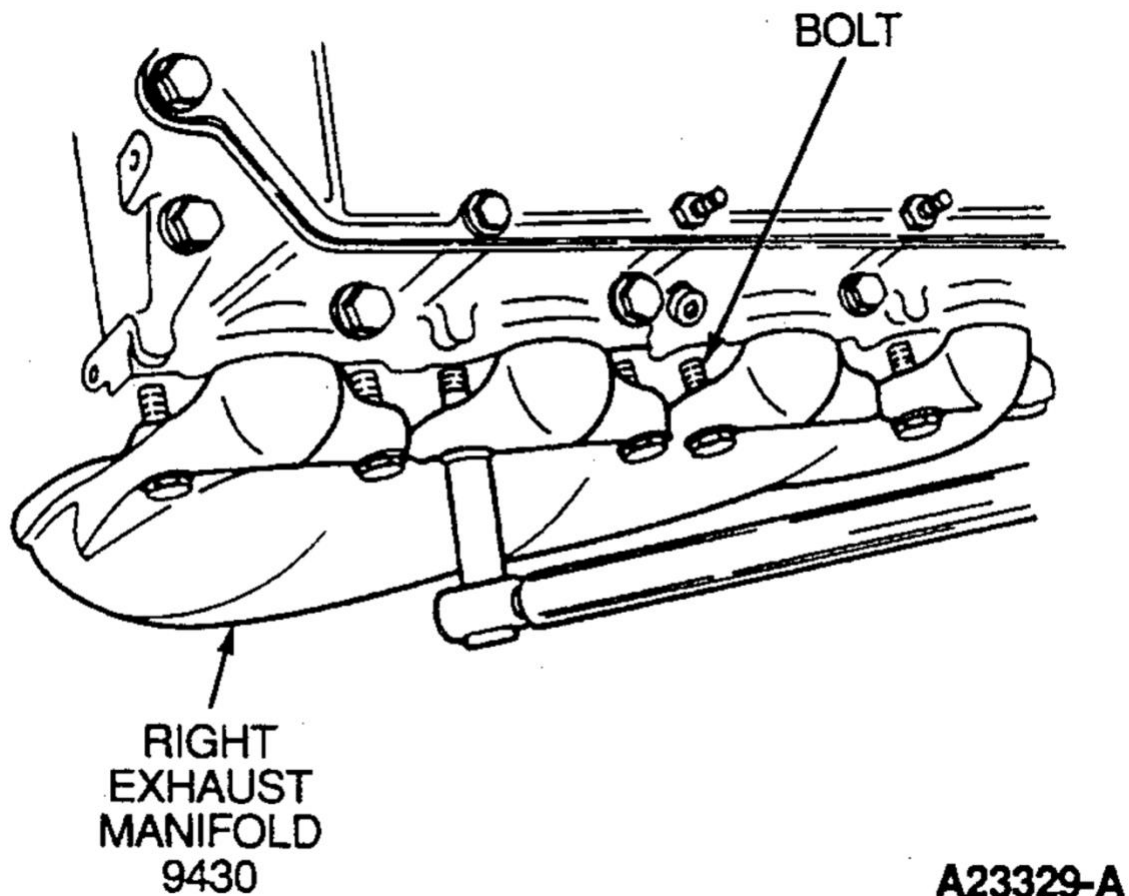
Passenger Side (Right) Exhaust Manifold Installation:

1. Clean the exhaust manifold sealing surface & mounting holes.

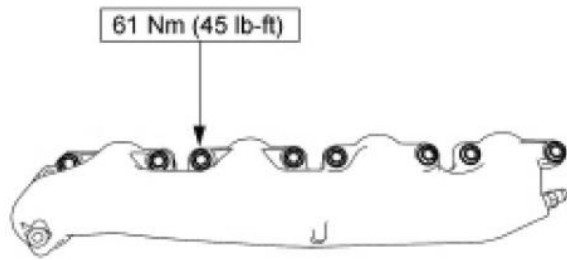
RECOMMENDATION: Apply a small amount of anti-seize compound to the supplied exhaust manifold bolt threads.

2. Install exhaust manifold and new gasket with supplied retaining hardware ensuring that the turbocharger exhaust inlet pipe (up-pipe) is seated on its mounting surface before starting any bolts.

Installation Tip: Use one bolt on either end of the manifold to hold the gasket in place during installation. This will aid in gasket and manifold alignment.



3. Tighten exhaust manifold mounting hardware evenly across the face of the exhaust manifold to ensure proper sealing occurs.

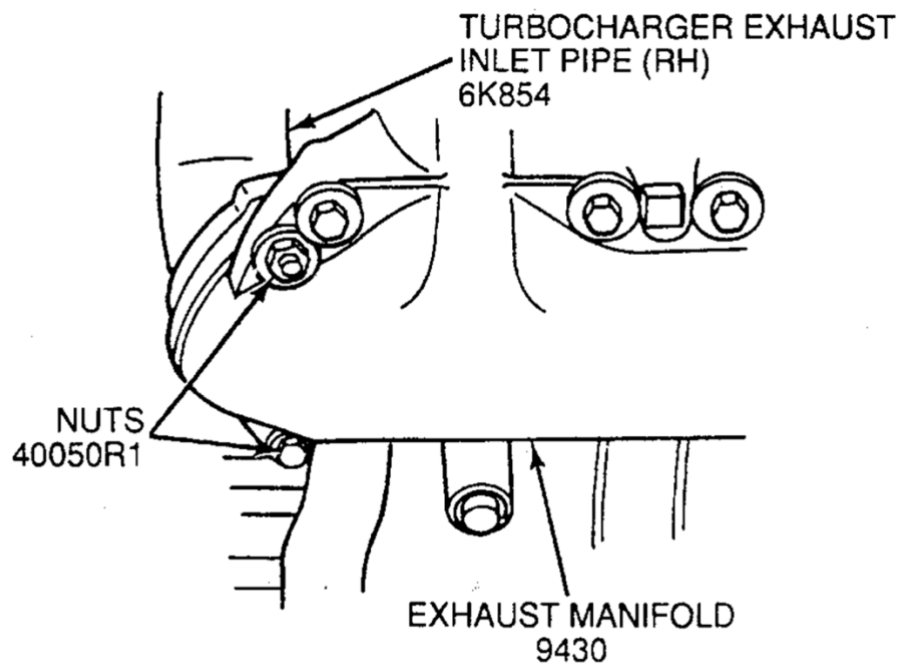


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4. Once the exhaust manifold mounting hardware is evenly tightened, torque the bolts.

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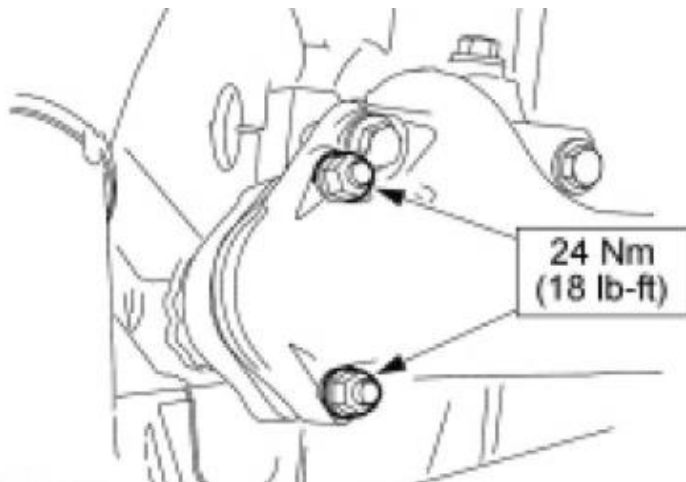
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6. With exhaust manifold installed and the turbocharger exhaust inlet pipe (up-pipe) seated, install the turbocharger exhaust inlet pipe (up-pipe) to manifold bolts.

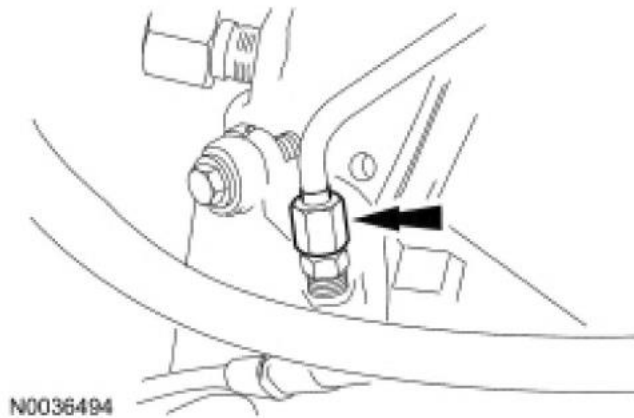
NOTE: You will be reusing the factory hardware for Step 6. If you are struggling to align these bolts in the up-pipe, loosen the upper turbocharger exhaust inlet pipe (up-pipe) to collector bolts.



7. Torque the turbocharger exhaust inlet pipe (up-pipe) to manifold mounting bolts.

8. *Torque Spec:* 18 lb-ft (24 Nm)

9. Tighten the upper turbocharger exhaust inlet pipe (up-pipe) to collector bolts if you loosened them for Step 6.
10. If equipped, remove the installed NPT blanking plug and install your Exhaust Pressure (EP) sensor tube at the exhaust manifold.



11. Rotate the transmission fill tube bracket into its original position. Install bracket bolts.
12. Lower the vehicle.
13. Reconnect both battery ground cables.

Installation of the KC Upgraded exhaust manifolds for your 7.3 Powerstroke equipped truck is now complete.

Before Starting Your Vehicle:

1. Please re-read these instructions going step by step to confirm that everything is in the correct place, fastened down, seated, secured, plugged in, and torqued to spec.
2. Before starting up the engine, ensure that you retrieved all tools, hardware, rags, etc. from engine bay.
3. Ensure manifolds, up-pipes, EBP Tube, and EGT Probe (if equipped) are seated & installed.

START THE TRUCK and check the following:

1. Ensure that there is no leakage between the exhaust manifolds and cylinder heads.
2. Ensure there are no abnormal noises.
3. Ensure there are no leaks between exhaust inlet pipe and manifold (Up-Pipes to Manifold).
4. Ensure there are no leaks at the EGT and EBP Tube Connections.
5. If there are any issues present, shut the vehicle down immediately and correct the issue.
6. Once the vehicle has reached operating temperature and no issues are present, your vehicle is ready for service.
7. If your vehicle presents any squealing noises after multiple heat cycles, that is an exhaust leak. Double check and retorque all the connections and fix the issue immediately.

Questions?

If you have any questions regarding your purchase, installation, or other KC Turbos products, please contact us at 480-688-7160 or email us at sales@kcturbos.com for more information!

Warranty:

If you suspect any warranty issues, please email us at warranty@kcturbos.com. We will help begin the warranty process by troubleshooting the issue and then if needed, will have you send in your exhaust manifold for repair/replacement with the appropriate warranty documents. Failure to follow these instructions is considered misuse which, at KC Turbos option, may void your coverage under your Warranty. See online for full coverage details and claim steps at (<https://kcturbos.com/pages/warranty>).