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BD Ford 6.7L Stock and Screamer Turbo

Turbo Replacement

Part #	Compressor Size	Turbine Size	Model years
1045827	64mm	65mm	2017-2019 Ford 6.7L
1045828*	64mm	65mm	2015-2016 Ford 6.7L Pickup
1045813*	61mm	62.5mm	2015-2016 Ford 6.7L Pickup

*1045828/1045813 Turbo kits comes with the required pedestal, oil feed, and coolant line for the 2015-2016 models.

These turbos do not fit on the earlier model 11-14 PowerStroke engines that utilize the smaller GT32

Cab & Chassis models require an emissions compliant engine tune.

PRE-INSTALLATION

A new turbocharger will not solve the following failures:

- Low oil pressure/ flow
- Oil contamination
- Restricted Crankcase Breather
- Restrictive oil drain
- Over speed due to a boost leak
- Exhaust leaks due to faulty bellows, clamps, or seals

Screamer Operating Conditions





Turbo over speed will lead to premature turbo failure. Boost pressure can be used to estimate turbo speed. The table below shows maximum allowable turbo speed for a stock motor at 3500rpm. A turbo intake restriction, clogged filter, high altitude or boost leak will cause increased wheel speed.

Turbo	Airflow (lb/min)	Max Wheel speed (rpm)	Max boost (psi)	Max Boost with clogged filter (psi)
GT37 Screamer	81	121,000	39	36

*Operating the vehicle at 1200-1300rpm with 5psi boost, throttle lift-off will cause the EGR valve to open and a turbocharger surge condition to occur. This can also be felt if manually controlling a 5th to 6th gear upshift at full throttle under 1400rpm.





PRE-INSTALLATION NOTES:



- 1) BD Diesel recommends to replace the Crankcase Breather when installing a new turbo charger
- 2) Use of the wrong turbocharger gasket will result in immediate turbocharger failure.








HC3Z-6587-A	FC3Z-6587-A
	
	









- 3) During the repair or install of components, cap, tape or otherwise appropriately protect all openings and tubes / fittings to prevent ingress of dirt or other contamination. Remove caps, tape and other protective materials prior to installation.
- 4) Special attention needs to be given to the sealing ports for the oil feed, the oil drain, and coolant lines on turbocharged engines. The sealing ports must be totally clean and free from O-ring residue, have no damage to the sealing surface and the lines to ensure that there are no leaks or repeat repairs.
- 5) Upon completing a turbocharger replacement, turn the motor over without starting engine to ensure oil pressure is present. Turbocharger journal bearings are highly susceptible to failure if run without a sufficient, steady, and clean oil supply for any amount of time.

Kit Contents

1045827	
	FT-11115714
	
Turbo; Ford GT37 Screamer Qty: 1	Bolt; M6-1.0x10 Qty: 3
BC3Z-6587-A	HC3Z-6587-A
	
Gasket; Ford Pedestal 17-19 Qty: 1	Gasket; Turbo to Pedestal Qty: 1

1045828	
	BC3Z-6587-A
	
Turbo; Ford GT37 Screamer Qty: 1	Gasket; Ford Pedestal 17-19 Qty: 1

HC3Z-6N639-A	FC3Z-9U469-B	HC3Z-6587-A	
			
Pedestal; Ford 17-19	Tube; Ford Coolant	Gasket; Turbo to Pedestal	
Qty: 1	Qty:1	Qty:1	
FT-0110251	FT-11128530	FT-0606434	FT-11115714
			
Bolt; M8-1.25x60	Washer; Black Oxide	Thread Lock; Blue	Bolt; M6-1.0x10
Qty: 3	Qty: 3	Qty: 1	Qty: 3

1045813			
		BC3Z-6587-A	
			
Turbo, Stock Replacement		Gasket; Ford Pedestal 17-19	
Qty: 1		Qty: 1	
HC3Z-6N639-A	FC3Z-9U469-B	HC3Z-6587-A	
			
Pedestal; Ford 17-19	Tube; Ford Coolant	Gasket; Turbo to Pedestal	
Qty: 1	Qty:1	Qty:1	
FT-0110251	FT-11128530	FT-0606434	
			
Bolt; M8-1.25x60	Washer; Black Oxide	Thread Lock; Blue	
Qty: 3	Qty: 3	Qty: 1	

Introduction

Screamer (1045827&1045828)

The BD Screamer turbo series is now available for the 2015-2019 Ford 6.7L PowerStroke. The Screamer turbo is designed to be a drop-in stock-appearing performance turbocharger that increases the total airflow without affecting low-end drivability.

BD's Ford screamer line-up utilizes a custom mixed flow turbine (MFT) wheel with a large 65mm exducer. In the GT37 VNT, a MFT wheel geometry offers increased efficiency in both initial spool up and high flow operation. At high flow operation, the increased efficiency of the MFT wheel allows the variable nozzle technology to open up and act like a larger turbine housing, which reduces drive pressure and lowers the required exhaust gas temperatures. During turbocharger spool up, the vanes close, creating high velocity "jets" used to spool the turbocharger. The geometry of the MFT more efficiently harnesses these high velocity jets, allowing the use of a larger compressor wheel without compromising on drivability.

Stock (1045813)

The stock replacement turbo is identical to the factory turbo and fits 2015-16 F250-F350 with the 6.7L Powerstroke diesels. The stock turbo has a 61 mm compressor and 62.5mm turbine and doesn't require any modification to replace the OEM turbocharger.

Model Years

The BD screamer turbo includes everything needed to increase the flow of your GT37 turbocharger.

The Ford 6.7L PowerStroke released in 2011 uses a “GT32” based turbocharger. The 2015 F250/F350 Pickup was released using a “GT37” based larger turbocharger. Please check your specific vehicle to ensure correct fitment.

2011-2014 Pickups, 2011-2016 Cab & Chassis vehicles should use the BD Turbo Retrofit Kit part numbers 1045824 / 1045825.

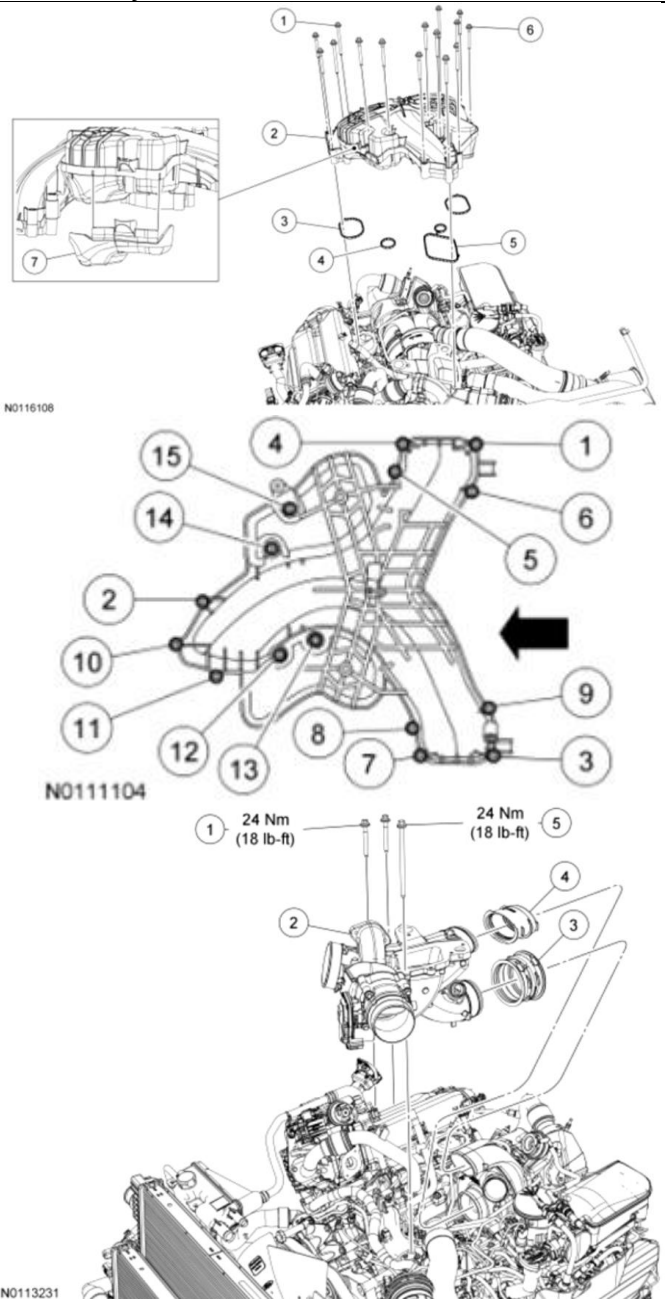
Ford 6.7L Turbo Selection								
Model Year	Pickup (Wide Frame)				Cab & Chassis (Narrow Frame)			
	Stock Replacement	Performance Upgrade			Stock Replacement	Performance Upgrade		
		Retro GT37	Retro GT37 Screamer	GT37 Screamer		Retro GT37	Retro GT37 Screamer	GT37 Screamer
2011	851824-5001	1045824	1045825		854572-5001s	1045824	1045825	
2012	851824-5001	1045824	1045825		854572-5001s	1045824	1045825	
2013	851824-5001	1045824	1045825		854572-5001s	1045824	1045825	
2014	851824-5001	1045824	1045825		854572-5001s	1045824	1045825	
2015	1045813			1045828	854572-5001s	1045824	1045825	
2016	1045813			1045828	854572-5001s	1045824	1045825	
2017	888143-5001s			1045827	888142-5001s			1045827
2018	888143-5001s			1045827	888142-5001s			1045827
2019	888143-5001s			1045827	888142-5001s			1045827

Removal

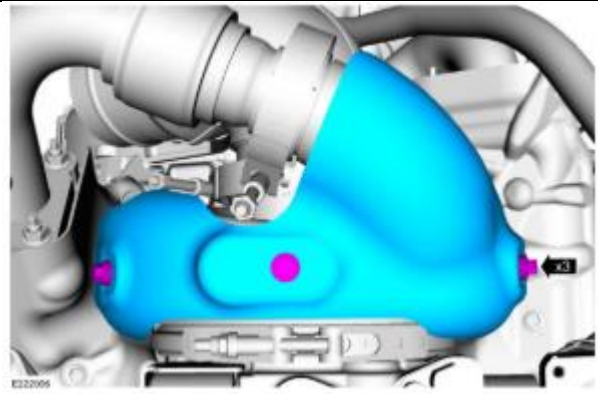
1. Safely secure the vehicle, remove the front right wheel, and disconnect the battery ground cable.

Drain the coolant system.

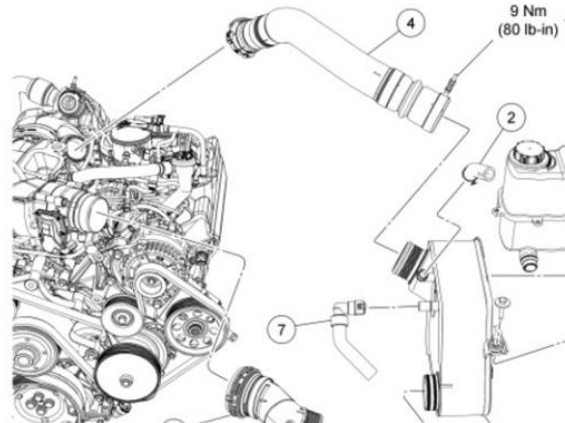
2. Remove the upper and lower intake manifold.



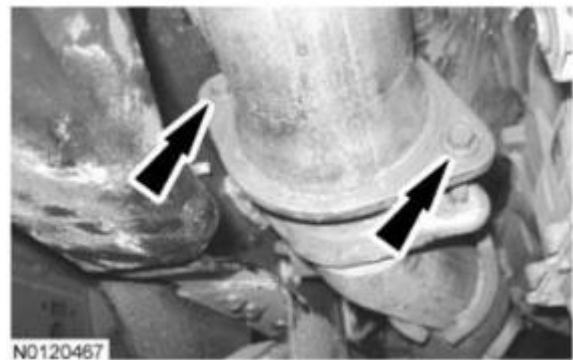
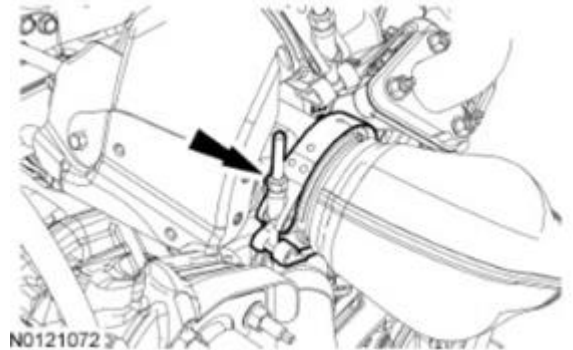
3. Remove turbocharger heat shield.



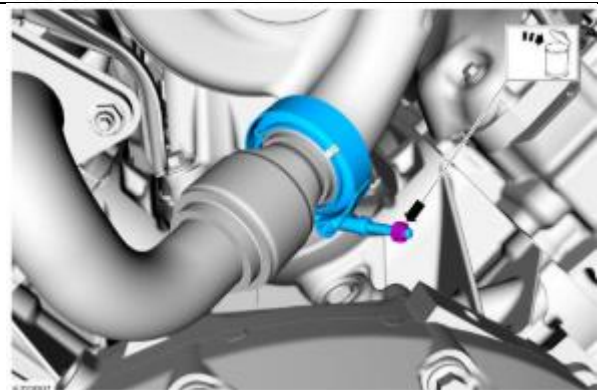
4. Remove and inspect the CAC tube for debris.



5. Remove the exhaust downpipe.

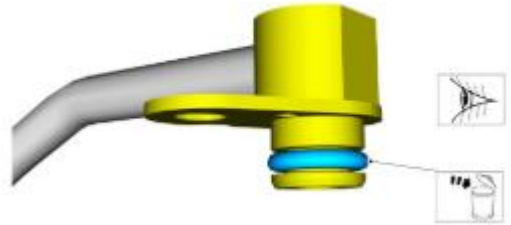
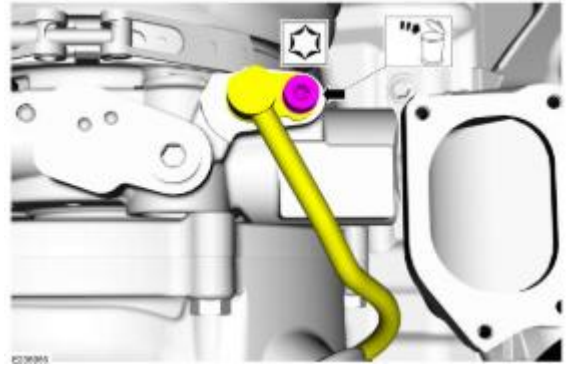


6. Remove the turbocharger inlet pipe clamps.

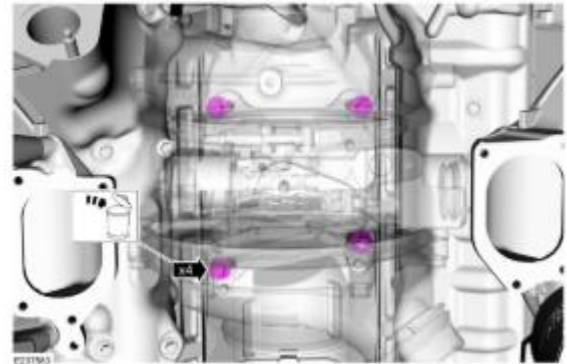


7. Remove the turbocharger coolant return tube.

Inspect the coolant tube O-ring.
Replace if necessary.

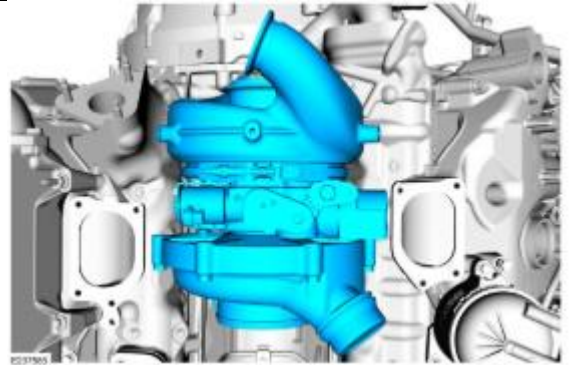


8. Loosen off and remove the turbocharger mounting bolts.



9. Remove the turbocharger.

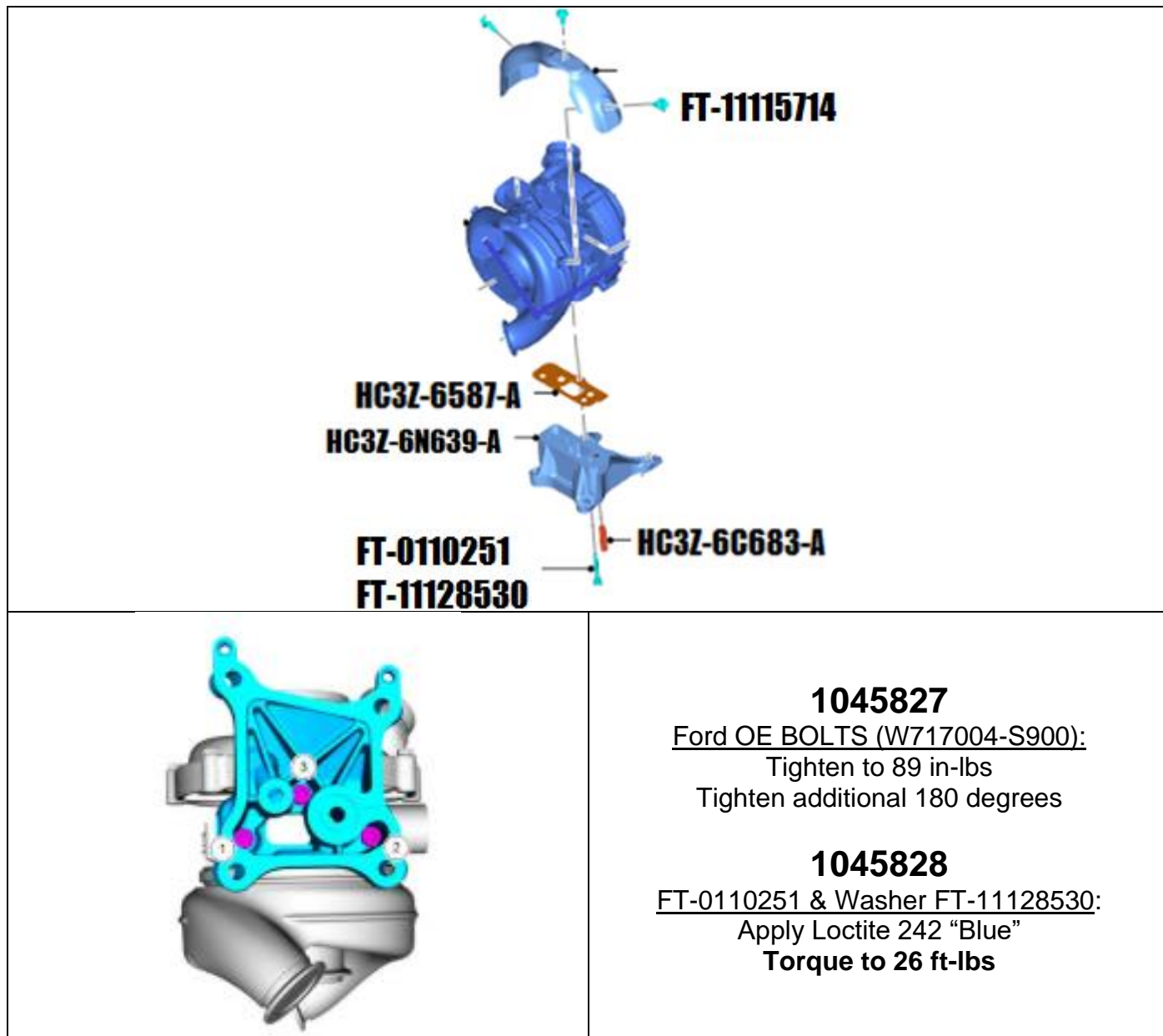
Do not damage turbocharger
sealing surfaces when removing
turbocharger.



1045828 and 1045813 Turbo Assembly

The 15-16 model year trucks must use the updated pedestal included with the internal oil feed line.

**INCORRECT TURBO GASKET WILL CAUSE IMMEDIATE FAILURE.
ENSURE THE GASKET IS CORRECTLY INSTALLED.**



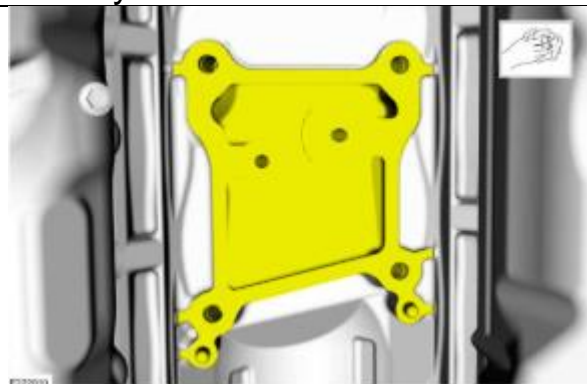
Installation

When an engine or turbocharger is replaced due to a failure, inspect components for debris.

- CAC and CAC tubes
- Exhaust manifolds
- EGR cooler and pipes
- Diesel Oxidation Catalyst

1. Clean all surfaces before proceeding.

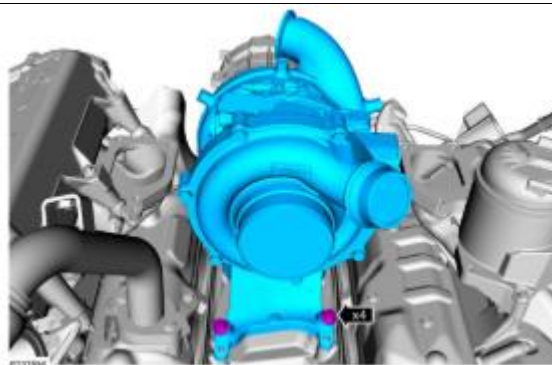
Install the supplied new turbocharger mounting gasket. BC3Z-6587-A



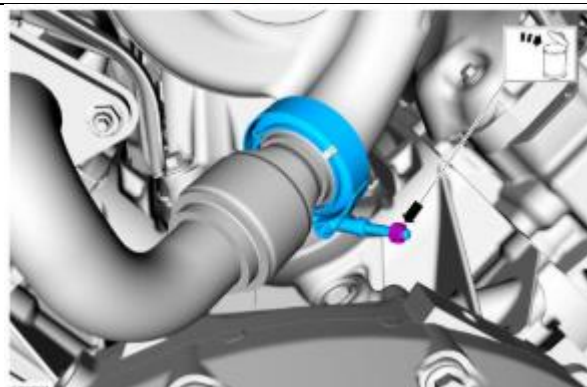
2. Ensure turbocharger pedestal bolts are tight and torqued to 26 lb ft (35 Nm)



3. Install the turbocharger and loosely install the mounting bolts.

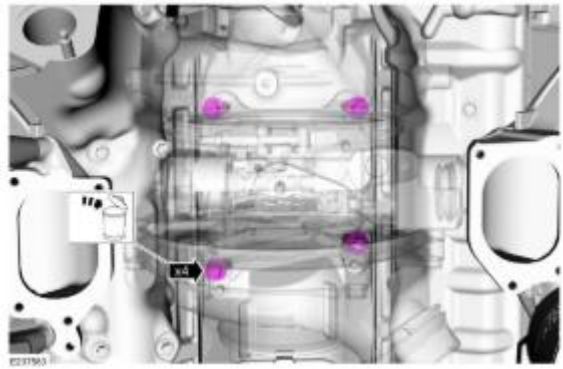


4. Position and loosely tighten the inlet pipe clamps.



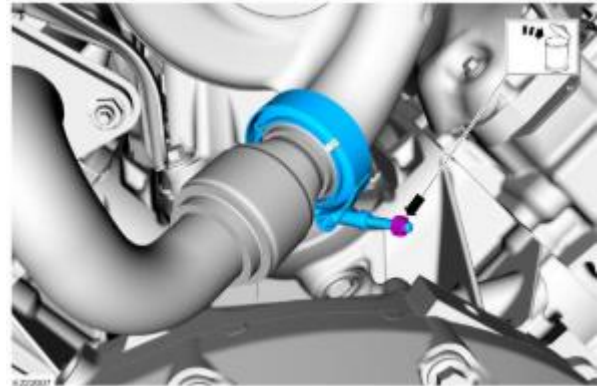
5. Tighten the new turbocharger mounting bolts in the following sequence.

Stage 1: 133 lb in (15 Nm)
Stage 2: 42 lb ft (55 Nm)



6. Tighten the turbo inlet tube clamps.

Stage 1: 150 lb in (17 Nm)
Stage 2: Loosen 3 turns
Stage 3: 159 lb in (18 Nm)



7. Install the coolant return tube and new o-ring if needed.

Tighten the coolant return tube bolt:
Stage 1: 106 lb in (12 Nm)
Stage 2: 30 degrees



8. Install the turbo downpipe.

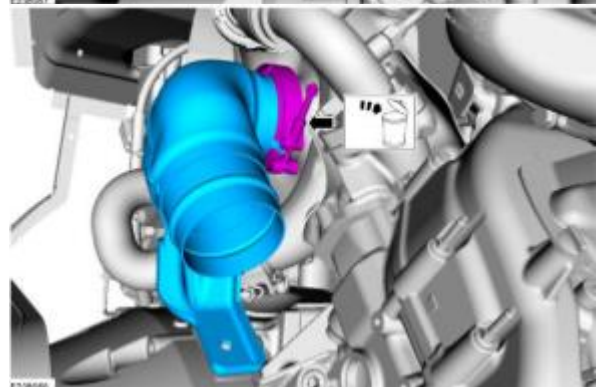
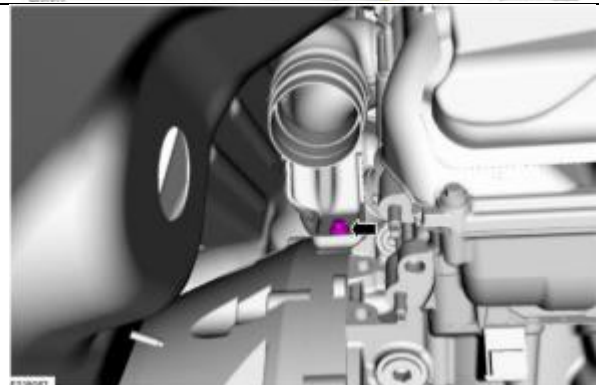
Upper downpipe bracket bolt:
18 lb ft (25 Nm)

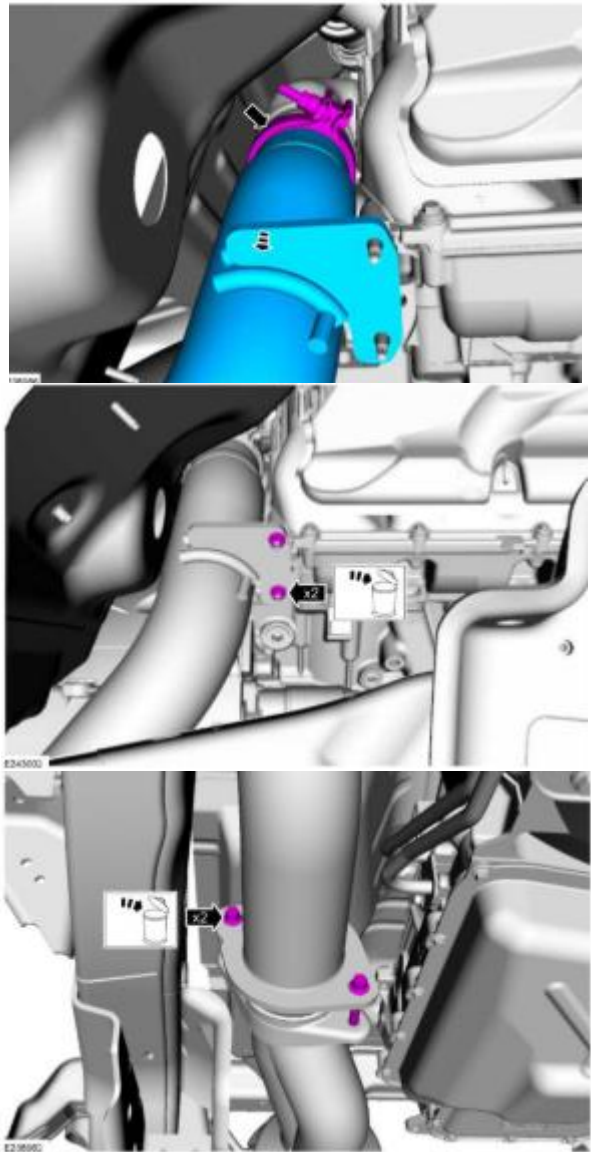
Downpipe V-band Clamp to turbo:
159 lb in (18 Nm)

Upper to lower downpipe clamp:
41 lb ft (55 Nm)

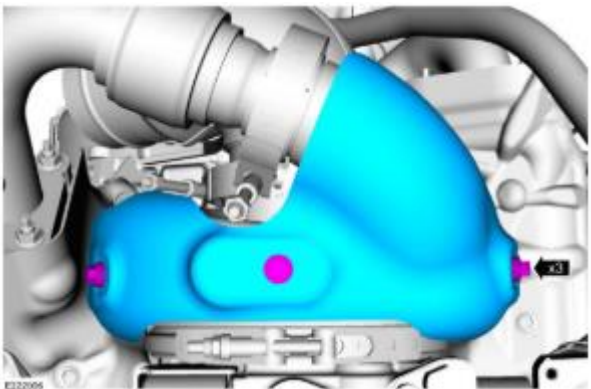
Downpipe bracket nuts:
22 lb ft (30 Nm)

Exhaust lower downpipe bolts:
26 lb ft (35 Nm)



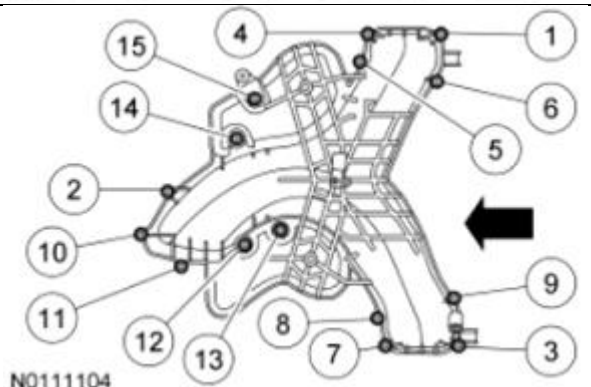


9. Install the turbocharger heat shield.

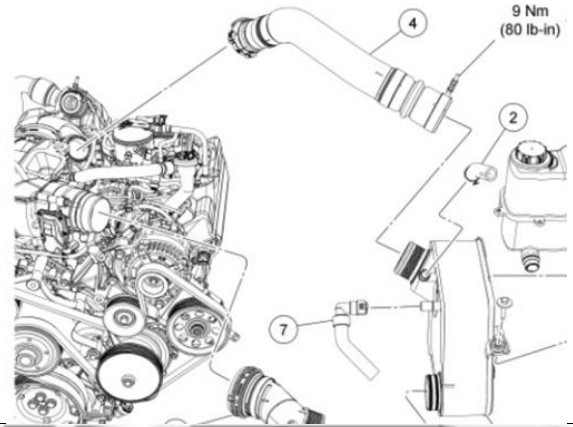


10. Re-install the upper and lower intake manifold.

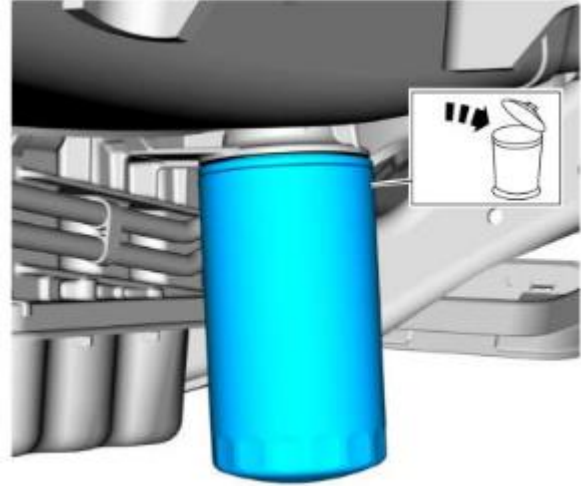
Torque to 89 in lbs (10 Nm)



11. Reinstall the CAC tube.



12. Change the oil, oil filter, and refill the engine coolant. Perform an engine coolant pressure test to ensure there are no leaks.



13. Install a new air filter or clean your current air filter.