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INSTALLATION INSTRUCTIONS

**TURBOCHARGER SYSTEM:
2016 - 2018 2.3L Focus RS
P/N 11918**

This turbocharger is emissions legal per CARB E.O.: D-99-10





Read This First

Study these instructions completely before proceeding. Engine and/or turbocharger damage may occur if any component within these instructions is improperly installed. Turbonetics, Inc or any of its distributors cannot be held responsible for damages as a result of negligent or improper installation. This complete turbocharger system can be installed using common tools and automotive procedures, but installer must have a thorough knowledge of automotive engine operation and feel comfortable working on the vehicle. If in doubt, contact Turbonetics' technical support staff at 805-581-0333, between the hours of 8:00AM and 5:00PM PST, Monday through Friday. Remove the turbocharger system from its carton and inspect for any obvious physical damage. All kit components are thoroughly inspected and carefully packaged prior to shipment from the factory. If any shipping damage is evident, contact your supplier and request that they process a claim with the shipper involved. Be sure to review the parts list on page 3 & 4 to verify that you have all necessary system components to proceed. If any components in the parts list are missing, contact Turbonetics' customer service staff.

The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. Turbonetics reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

SAFETY REQUIREMENTS: It is recommended to follow these precautions.

- • Always wear safety glasses & gloves.
- • Turn the ignition switch to the OFF position & disconnect the battery.
- • Always use properly rated jack stands when working under the vehicle.
- • Prevent unexpected vehicle movement by using wheel chocks and/or parking brake.
- • Operate the vehicle only in well ventilated areas.
- • Do not smoke or use flammable items near or around the vehicle's fuel system.
- • Keep hands, clothing and other objects away from moving parts when engine is running.

SUPPLIES: It is recommended to have the following items before beginning installation.

- • Factory service manual.
- • A large table or bench and plenty of adjacent available workspace.
- • Standard selection of automotive tools, primarily metric sizes.
- • The ability to securely lift the vehicle at least a few feet off the ground.
- • Pinch Hose Clamp Pliers

TORQUE RECOMMENDATION: When removing and re-installing factory fasteners, refer to the service manual for torque values.



#11918 TURBOCHARGER SYSTEM PARTS LIST:

QTY	P/N	DESCRIPTION	HARDWARE (GASKETS) PARTS LIST:		
TURBO kit # 11918 (COMPONENTS)					
1	11908	Upgrade Turbocharger	1	31498	Gasket, Turb HSG Inlet Ford
1	22805	Inlet Tube, Comp Inlet	1	31502	O-Ring Oil Drain, Ford
HARDWARE (CLAMPS) PARTS LIST:			3	31499	O-Ring Oil/Water, Ford
2	30941	Hose Clamp, Liner Style: #052	HARDWARE KIT (NUTS/BOLTS/FITTINGS)		
HARDWARE (HOSES) PARTS LIST:			2	31557	Stud, M10 Turb. Outlet Ford
1	22806	Silicone Hose, 2.0" S-bend	2	31559	Nut, M10-1.5 Flanged
1	30162-4	Silicone Hose Coupling, 3"			

P/N11908



P/N 22805



P/N 22806



P/N 30162-4



P/N 31498



P/N 31557



P/N 31559



P/N 30941



P/N 31499



P/N 31502





PREPARING THE VEHICLE FOR TURBO KIT INSTALLTION

1. Remove the negative cable from chassis located next To the battery.



Fig. 1

Windshield Wiper & cowl removal

1. Remove nuts.
2. Push and pull wiper arm until it is released from the serrated post.
3. Remove 2 Torx screws and 2 plastic clips holding the cover
4. Carefully pry cover up and away from windshield gasket.



Fig. 2



5. Remove 2 bolts holding the metal cover support & remove piece from engine bay.

Fig. 3



AIR INTAKE TUBE REMOVAL

6. Loosen 3 hose clamp as shown.
7. Remove stud, nut and bolt.
8. Remove "RS" intake tube.
9. Remove PCV hose



Fig. 4

Looking down towards the turbo, located intake tube hose clamp attaching the intake tube to the Turbo.

10. Loosen worm clamp
11. Wiggle intake tube out



Fig. 5

TURBO TEARDOWN PREP.

12. Label "actuator pressure reference" line.
Remove hose clamp and pull hose off.
13. Remove oil feed bolt.

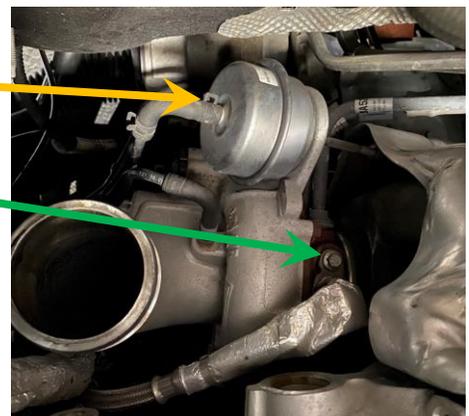


Fig. 6



- 14. Remove two top nuts from Turbine Housing,
- 15. Loosen two nuts from bottom.
- 16. Remove Torx screw holding Turbo coolant lines together.

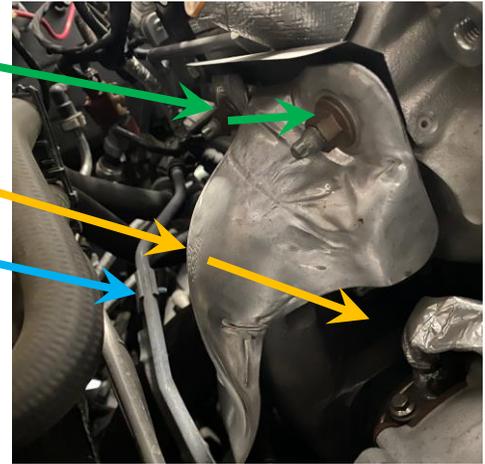


Fig. 7

Locate Wideband O2 sensor connector (RED) which leads to The catalytic converter. (Primary sensor)

- 17. Carefully disconnect quick connect shown.
- 18. Disconnect secondary O2 sensor quick connect.

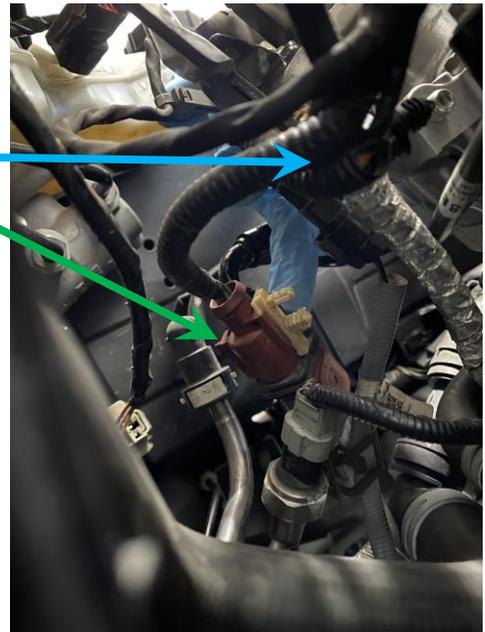


Fig 8.

STEERING LINKAGE

Inside the vehicle locate the steering wheel linkage bolt shown.

- 19. Remove bolt from knuckle
- 20. Using a flat screwdriver, slightly pry open knuckle to release clamp force from steering rack shaft.





FRONT WHEEL REMOVAL

21. Remove 6 lug nuts from both front wheels.
22. Repeat Step 20. On opposite side.



Fig. 10

UNDER VEHICLE TRAY REMOVAL

With the vehicle safely raised.

23. Remove 8 Torx bolts shown
24. Remove 2 plastic push clips

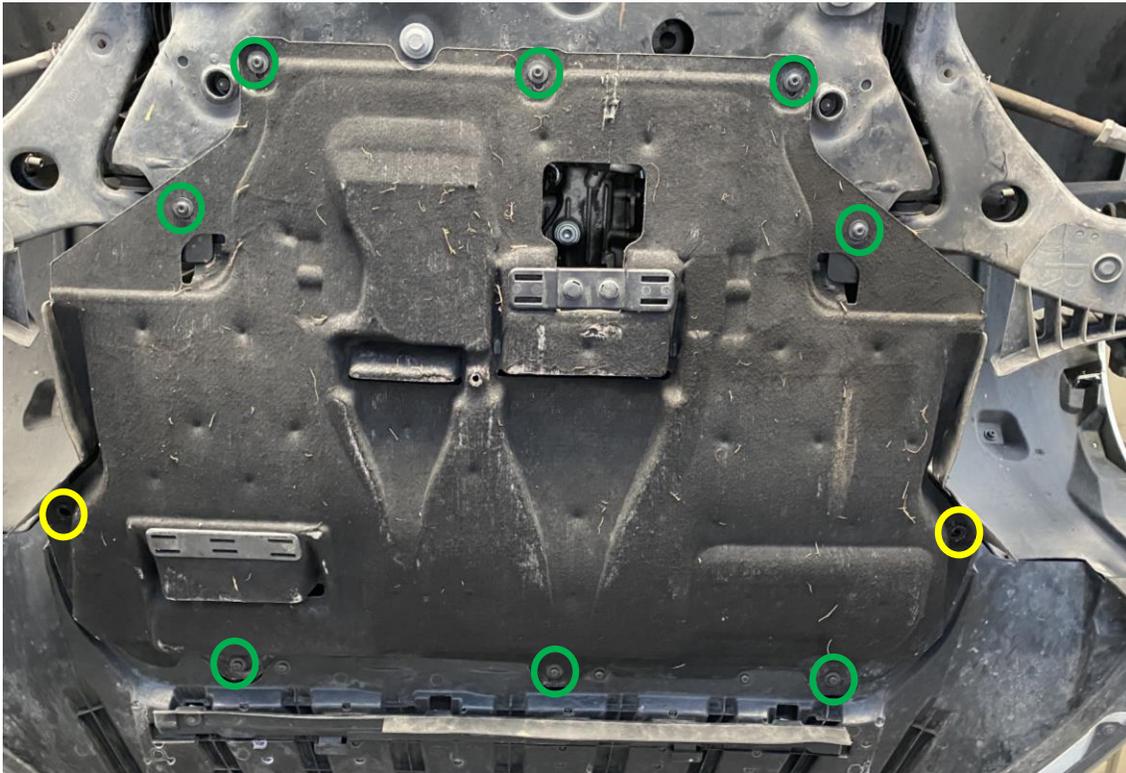


Fig. 11



FRONT SUSPENSIONS TEARDOWN.

25. Remove lower control arm Torx bolt.
26. Using a ball joint removal tool, separate lower ball joint from lower control arm.

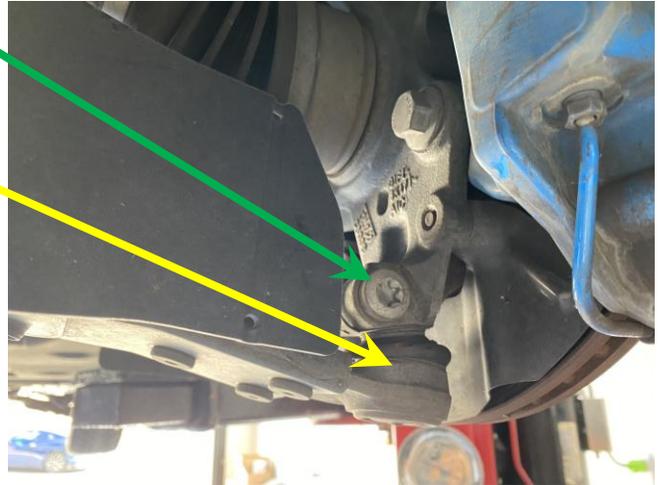


Fig. 12

27. Remove sway-bar link nut by using an Allen key to keep the linkage ball joint from rotating. See Fig. 13
28. Remove Steering ball joint Nut
Use a ball joint separator tool to release from wheel bracket.
29. Repeat steps 24-27 on opposite side.

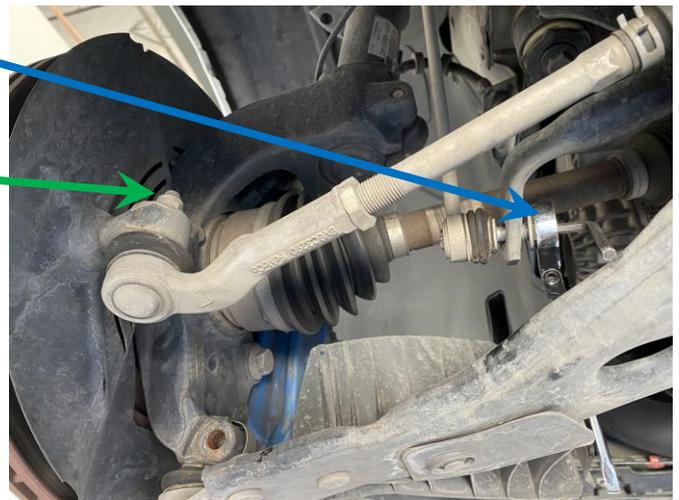


Fig. 13

30. Loosen exhaust V-band bolt
31. Use flat screwdriver to pry open V-band and release tension.

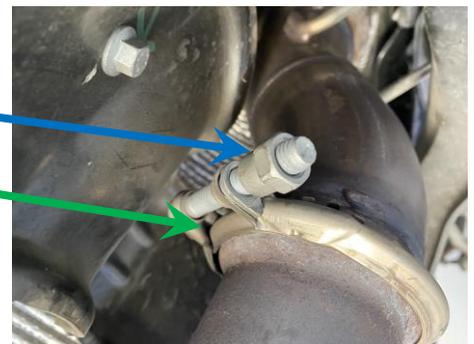


Fig. 14
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LOWER SUBFRAME CROSS MEMBER REMOVAL.

32. Remove 4 nuts holding cross member to chassis.
33. Remove 4 plastic push clips from under-chassis covers. (one push clip is out of frame)
34. Remove 4 bolts holding cross member to chassis. (two cross member bolts are under the covers)

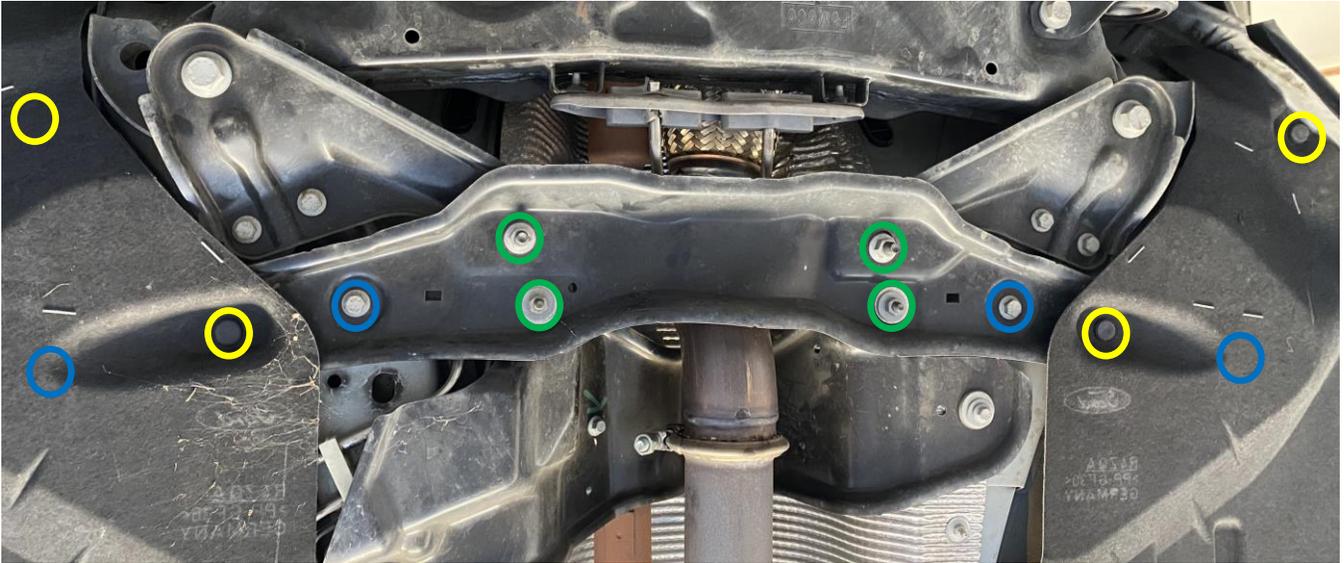


Fig. 15

L & R SUBFRAME BRACKETS REMOVAL.

35. Loosen Subframe bolt. (DO NOT REMOVE YET)
36. Remove 2 bolts holding subframe bracket.
37. Repeat steps 34-35 on opposite side.

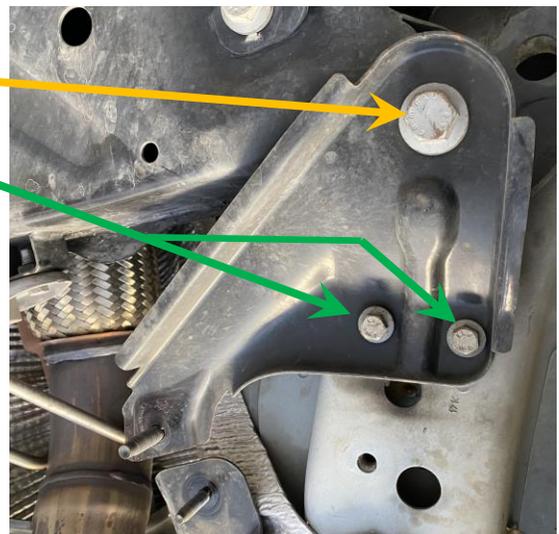


Fig. 16



EXHAUST DOWN PIPE BRACKET REMOVAL.

38. Remove 2 bolts holding the exhaust to sub-frame Bracket.

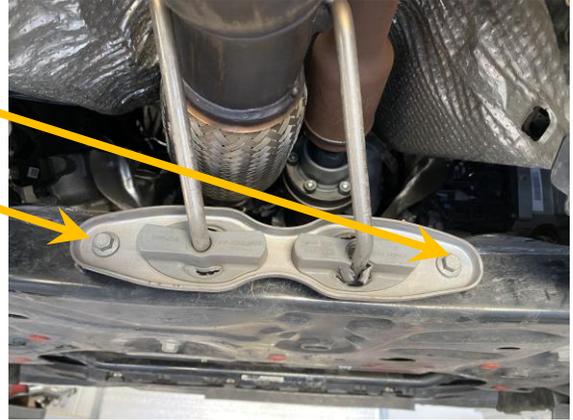


Fig. 17

EXHAUST DOWN PIPE BRACKET REMOVAL.

39. Remove transmission lower engine mount bolt.



Fig. 18

LOWER SUBFRAME REMOVAL.

40. Loosen subframe bolt (DO NOT REMOVE YET)
41. Repeat step 39 on opposite side.

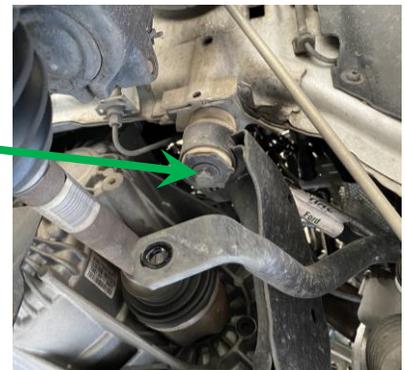


Fig. 19



Secure lower subframe to a transmission jack similar to how its shown in Fig 20.

42. Remove 4 previously loosened subframe bolts.
43. Slowly begin to lower subframe from chassis.

(watch wiring harness still attached to the battery side of the car!!!)



Fig. 20

44. Watch wiring harness shown as the subframe is lowered. Remove any plastic clips holding the harness to the subframe.

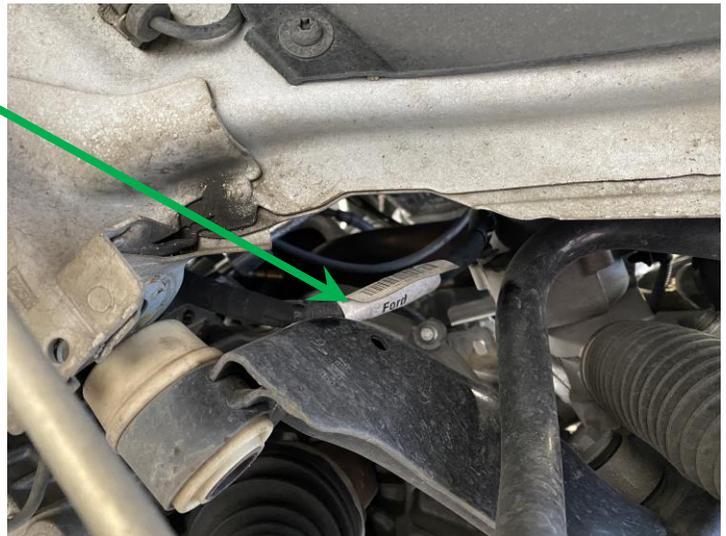


Fig. 21



- 45. Remove 3 bolts holding the heatshield to the electric steering rack.
- 46. Follow and disconnect Ground cable from quick-connect. Bolt will be highlighted "yellow"



Fig. 22

- 47. Disconnect electric steering rack cables.
- 48. Finish removing wiring harness from subframe.
- 49. Continue to carefully lower subframe from chassis until its completely separated.

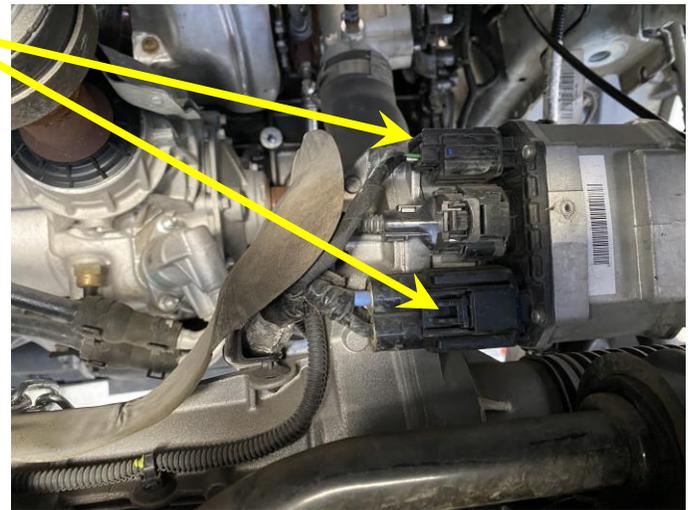


Fig. 23



TURBO TEARDOWN.

With the front subframe out of the way. Final turbo teardown is a few steps away.

50. Label "Solenoid boost bleed" and remove hose from Turbo.
51. Label "Boost reference" and remove hose from Turbo.
52. Label "BOV boost reference" and remove hose from Turbo.
53. Loosen worm clamp bolts.
54. Wiggle silicon coupler off from Turbo and charge pipe.

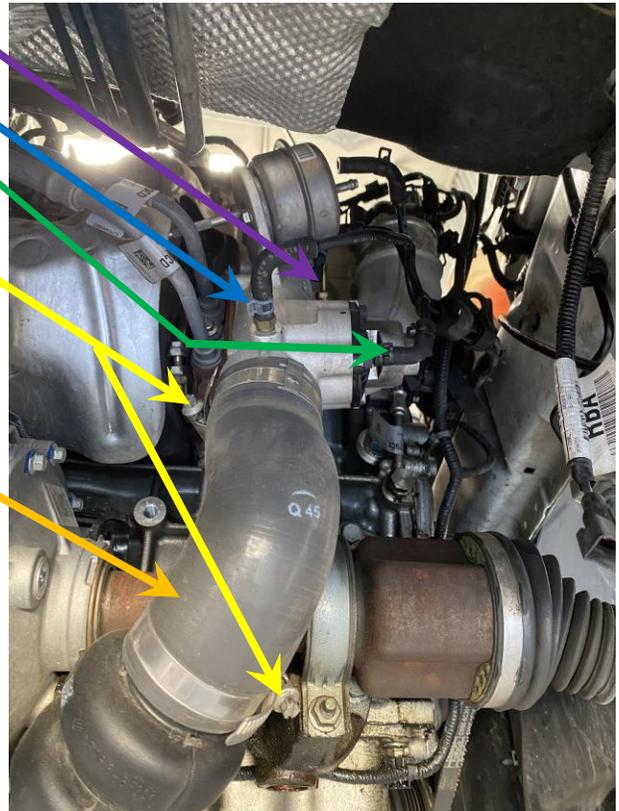


Fig. 24

55. Remove Coolant bolt from turbo.
56. Remove oil drain bolt from turbo.
57. Remove Torx bolt from Turbine heatshield.

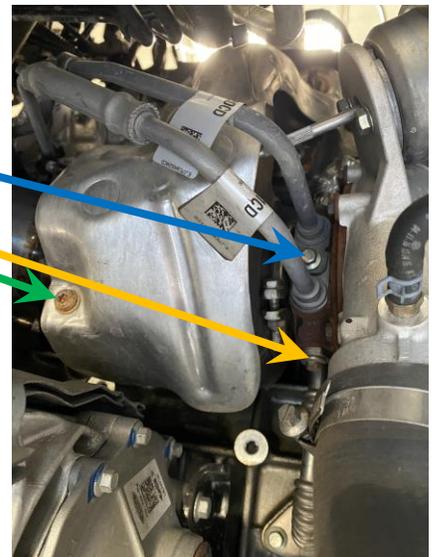


Fig. 25



- 58. Spray WB-40 or similar to exhaust downpipe studs.
- 59. Remove Downpipe/catalytic converter.
- 60. Turbo is now ready to be completely removed from vehicle.

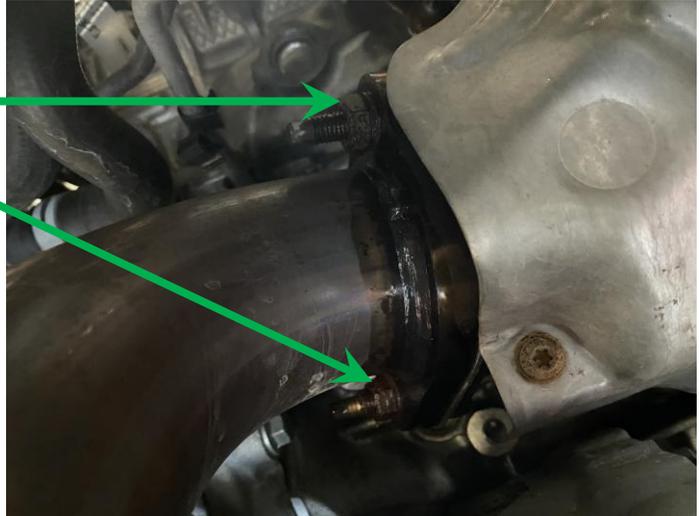


Fig. 26

UPGRADE TURBO PREP.

- 61. Swap BOV components from OEM turbo to the new turbo.
- 62. Install the new studs P/N 31557 included in the package to the turbine housing.

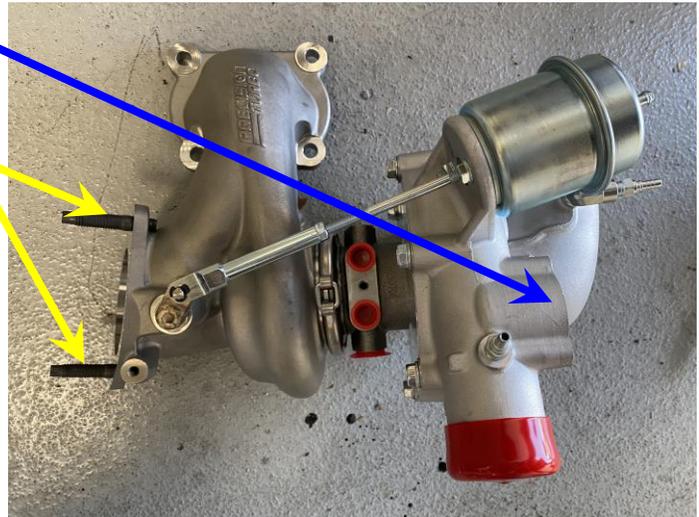


Fig. 27

- 63. Install Turbo head gasket. (bent side pointing away from engine.)



Fig. 28



NEW O-RING REPLACEMENT INSTALLATION.

- 64. Using a point screw driver or similar, pry old O-rings off from the flange groove.
- 65. Apply a few drops of oil to new O-rings



- 66. Repeat process on all remaining connections. for proper O-ring part number identification. See Fig. 30



Fig. 29

Part Number: 31499 (Oil feed & coolant lines)

Part Number: 31502 (Oil Drain line)

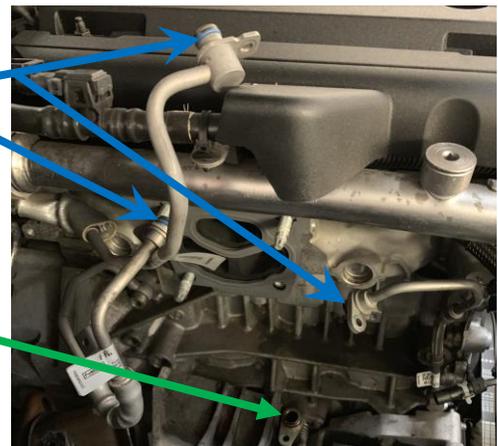


Fig. 30

NEW TURBO INSTALLATION.

- 67. Carefully raise the new Turbo, align Turbine flange holes with cylinder head studs and slide into position.
- 68. Re-install and torque 4 Turbine Housing Nuts (use 13mm socket) *Torque to 37 lb.ft (50 Nm)*
- 69. Tighten lower heatshield bolt. See Fig. 22 (use 8mm socket or T35 Torx bit) *Torque to 89 lb.in (10 Nm)*



Fig. 31



BOOST REFERENCE LINES.

- 70. Install Actuator "Boost Reference" line
- 71. Install "Boost Solenoid Bleed" line
- 72. Install "Boost reference" line
- 73. Install "BOV boost reference"



Fig. 32

- 74. Using a flat screwdriver, pry heatshield away from actuator shaft as shown in Fig. 33



Fig. 33

COOLANT LINES INSTALATION.

- 75. Maneuver lower coolant line into position. Evenly push flange into turbo center housing until it is fully seated. See Fig. 34
- 76. Maneuver upper coolant line into position and evenly push flange into turbo center housing until it is fully seated. See Fig. 34
- 77. Tighten center bolt. (use 8mm socket) *Torque to 89 lb.in (10 Nm)*

OIL DRAIN LINE INSTALATION.

- 78. Carefully maneuver oil drain line into position. Gently push flange up towards turbo center housing.
- 79. Tighten bolt. (use 8mm socket or 10mm socket) *Torque to 89 lb.in (10 Nm)*



Fig. 34



TURBO CHARGE PIPE COUPLER.

80. Swap worm clamps from factory coupler to new extended coupler.



Fig. 35

81. Install coupler between turbo discharge and charge pipe as shown.



Fig. 36

TURBO DOWN PIPE INSTALLATION.

82. Re-use factory gasket.
83. Re-align the downpipe to the Turbine flange.
(Use anti-seize)
84. Manually thread both new nuts into studs. Make sure that both sides are evenly torque. (use 15mm socket) See Fig. 37 Torque to 30 lb.ft (40 Nm)



Fig. 37



FOLLOW THE REMOVAL STEPS IN REVERSE ORDER TO INSTALL SUBFRAME BACK TO CHASSIS EXCEPT AS FOLLOWS.

- 85. Install P/N 22805 in lieu of the factory one.
- 86. Use straight coupler and included worm clamp P/N 30162-4 and P/N 30941
- 87. Install factory coupler here.
- 88. Install PCV to intake tube.

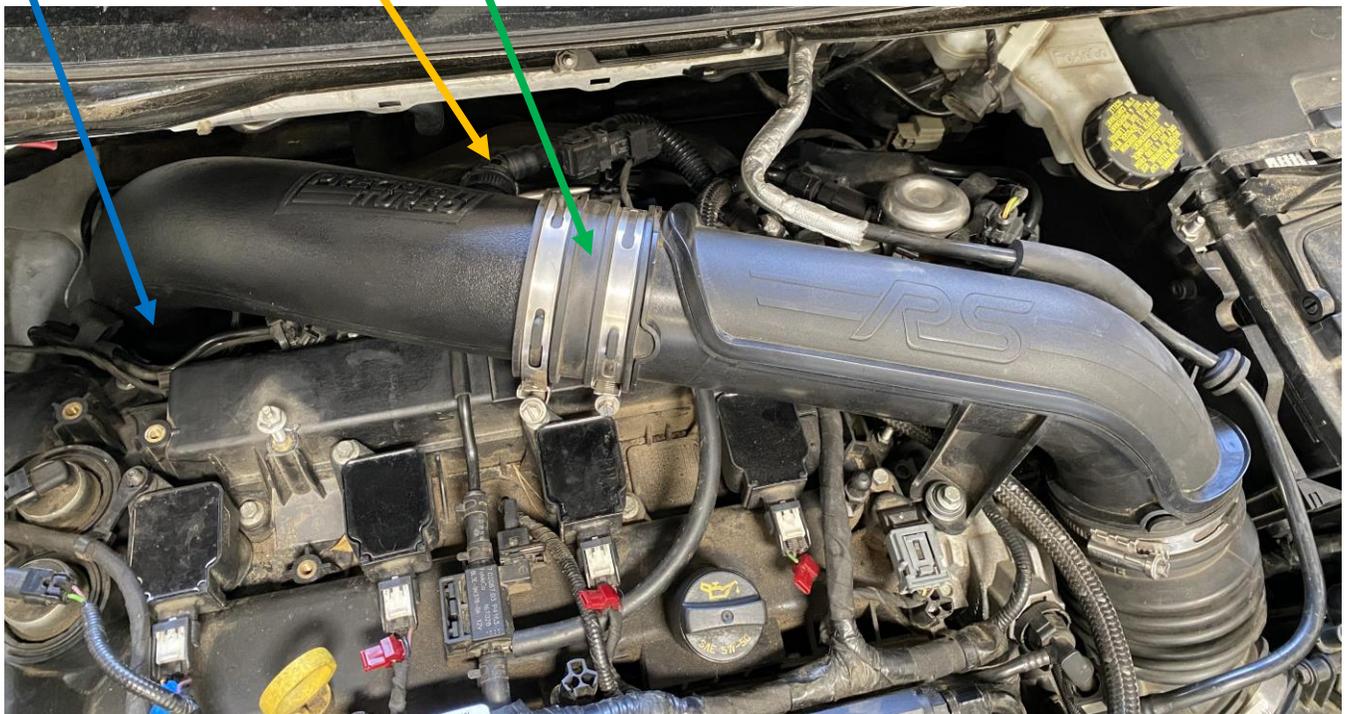


Fig. 38



COOLANT SYSTEM BURPING.

89. Fill system coolant through this boss until water level is at MAX.
90. Turn engine ON until temperature reaches normal operating temp re-filling coolant reservoir as necessary.
91. Check for any leaks
92. Turn vehicle OFF for 15mins.
93. Repeat steps 89-92 until reservoir level is stable and no more coolant needs to be added between steps 89-92.



Fig. 39

1. Start the vehicle and check for any oil or coolant leaks prior to a test drive.
2. Test drive the vehicle, check for oil/coolant leaks again, check all fluid levels and top off as necessary. If you are experiencing any issues of idling, bucking, running extremely rich, or poor performance, ensure that all hose clamps are tight and all hoses are installed properly and that there are no air leaks of any kind in the plumbing from turbo to intercooler to throttle body. If you need any support, our tech lines are open Monday through Friday from 8am to 5pm at (805) 581-0333, or go to our website at www.Turboneticsinc.com to our forums under "Tech Support".

EMISSIONS NOTE: This vehicle is emissions legal only when the parts are installed as described in this instruction manual. Making changes to the kit or ECU programming voids the CARB exemption order making the vehicle illegal for use on California roads.



“NO FAULT / NO HASSLE” WARRANTY PROGRAM:

TURBONETICS will repair or replace, at our expense, any new TURBONETICS / Spearco products that fail, including products used in racing or competition applications, for a period of one year from the original date of purchase. All turbocharger and cartridge assemblies have a factory installed inline oil filtration device. This filter device must remain in place if any warranty is to be considered under the No-Fault / No-Hassle program. Electrical components that fail due to misuse are not covered under the No-Fault / No-Hassle Warranty Program.

Warranty is limited to TURBONETICS products and does not include progressive or subsequential damage and does not cover removal or installation labor or associated parts. No warranty is made for any other claims for special, indirect or consequential damages including but not limited to component removal or installation equipment downtime, prospective profits or other economic loss.

Warranty will not be granted for recurring damage, malfunction, or failure due to improper installation, misuse, unauthorized repair or alterations, or externally induced physical damage.

Warranty is non-transferable and must be processed via the original purchaser from TURBONETICS.

Remanufactured units, performance upgraded units, and O.E.M. replacement units are covered by a 90-day warranty or the O.E. warranty period.

TURBONETICS highly recommends that the installation of mechanical or electrical parts be performed by trained professionals. Improperly installed products may lead to unsafe and unreliable conditions.

RETURN POLICY:

Only unused and complete merchandise may be accepted for return subject to inspection and acceptance by TURBONETICS. No goods will be accepted without prior return authorization from TURBONETICS. Call for approval and RGA (Returned Goods Authorization) tracking number. No returns will be accepted without an RGA tracking number. No returns will be accepted after ninety (90) days from the original shipping date from TURBONETICS unless approved. All approved returns are subject to a 15% restocking charge – NO EXCEPTIONS. The original invoice must accompany the return. Accepted warehouse / distributor and open account returns will be issued credit only.

RETURNED GOODS AUTHORIZATION TRACKING NUMBER:

TURBONETICS will only accept product returns, repair orders / upgrades, and warranty requests that have been approved and are returned with a corresponding RGA (Returned Goods Authorization) tracking number.

Contact TURBONETICS for approval and the RGA number. Write the RGA number clearly on the outside of the package and include it inside the package. This is very important in allowing us to properly identify and process your request. Failure to comply with this requirement will result in the delay of processing or the product being returned to you.