



## **INSTALLATION INSTRUCTIONS FOR 2010-2011 FORD F-150 RAPTOR 5.4L HEADERS**

Thanks for purchasing Stainless Works Muscleflow Headers for your Ford F-150 Raptor. We have gone to great pains to make sure that our exhaust systems fit and sound great. Please follow these steps to ensure that your installation goes as planned.

1. Stainless Works recommends the use of Permatex Hi-Temp RTV silicon gasket maker as an option to or in conjunction with the use of factory gaskets. The recommended RTV is Sensor-Safe P/N 101BR or 27BR, available at NAPA and other retailers.
2. Disconnect the battery before starting work on the exhaust system for your vehicle.
3. Your exhaust system can be installed by a weekend warrior but the use of a lift is recommended for ease of installation. If using a jack, the vehicle must be placed on a level hard surface and jack stands are required for safety reasons.

### **DISASSEMBLY**

4. Raise and support the vehicle.
5. Remove the air box and inlet.
6. Remove engine skid plates (10) 10 mm bolts.
7. Loosen the factory exhaust at the 2 bolt flange (2) 10 mm bolts.

### **FOR CONNECTION TO FACTORY EXHAUST**

8. Loosen clamp at slip fit connection point (behind the 2 bolt flange connection point) and remove the front section of pipe between the 2 bolt flange connection and the slip joint.

### **FOR CONNECTION TO STAINLESS WORKS EXHAUST**

9. Remove exhaust from all hangers then remove from truck.
10. Remove skid plate on left side of transmission cross member, (4) 8 mm bolts.
11. The following instructions are required only if you are planning to save the factory exhaust, otherwise skip to line #21
12. Remove (2) 6 mm bolts holding left and right heat shields to transmission cross member.

13. Support transmission and transfer case with jack stands.
14. Remove (2) 12 mm nuts from transmission mount.
15. Remove (4) 12 mm bolts and nuts from cross member and remove cross member.
16. Remove (1) 10 mm bolt from left Y pipe hanger.
17. Loosen clamp on left head pipe.
18. Unplug all O2 sensors.
19. Remove (2) 10mm nuts from left and (2) 10 mm nuts from right head pipes and remove head pipes.
20. Re-install cross member and mount and tighten.
21. If you are not planning to save the old exhaust, you can simply cut hangers from Y-pipe to simplify removal of manifold pipes.

### **FOR CONNECTION TO ANY EXHAUST SYSTEM**

22. Remove heat shield around front axle (1) 10mm nut (1) 8 mm nut.
23. Remove remaining (2) 6mm bolts from right heat shield and slide heat shield back toward the rear of the vehicle.
24. Remove starter and wires (1) 6 mm nut (2) 8 mm nuts and (3) 8 mm bolts.
25. Mark steering shaft for later reinstallation to same markings, and remove (1) 10 mm bolt from upper U-joint and move out of the way.
26. Remove (2) 14 mm nuts from right motor mount.
27. Remove right and left heat shields on manifolds (4) 6 mm bolts two per side.
28. Remove (1) 6 mm bolt from dipstick tube and remove dipstick and tube.
29. Remove (16) 8 mm nuts and studs, eight per side from manifolds and remove manifolds.
30. Re-install all (8) lower 8mm studs and nuts.
31. Seal headers with RTV and install using remaining studs and nuts. Torque to OEM specifications.
32. Re-install dipstick tube and dipstick.
33. Re-install motor mount and lower the motor and tighten nuts.
34. Re-install starter.
35. Re-install axle shield.
36. Re-install steering shaft.
37. Re-install right heat shield.
38. Re-install air box.
39. Re-install (1) 6 mm bolt back in left heat shield at cross member.
40. Install left lead pipe to header with (1) 3" clamp.
41. Install catalytic converter or cat eliminator to left lead pipe with 3" clamp with wire hanger.
42. Install rear left lead pipe to cat with 3" clamp.
43. Re-install left hanger to transmission grommet.
44. Install right catalytic converter or cat eliminator to header with one 3" clamp.
45. Re-install all skid plates.
46. Remove O2 sensors from old pipes and re-install in new pipes. Note that an O2 extension is provided for use with the left rear O2 sensor – install now. The P/N for the O2 sensor

extension for 2010 trucks is #109014 from Caspers Electronics. For 2011 trucks a different sensor extension is required. Until that one is available, you will need to cut the old wires and add 12" of length by soldering in new wires and sealing with electrical tape and heat shrink tubing. Install and secure the wires away from the driveshaft using zipties.

47. Re-install all skid plates.

#### **FOR HEADERS TO FACTORY EXHAUST**

48. Install Y-pipe using (2) 3" clamps.
49. Reconnect to factory exhaust using 3" clamp.

#### **FOR HEADERS TO STAINLESS WORKS EXHAUST**

50. Install X pipe using (2) 3" clamps.
51. Then follow instructions for catback installation omitting Y-pipe installation in the catback.
52. Re-connect battery. Be sure to have adequate clearance around all wires, hoses and lines. **If anything is in contact with the exhaust system, it will melt.** Make sure to have at least 1/2" of clearance and wrap any suspect areas with DEI thermal barrier wrap.
53. After double checking for clearance and making sure all lines, wires and hoses are secured, drive the car for 10-20 miles and re-check all clamps and clearances. Your system may be tack welded at the joints/ clamps to reduce shifting of the system during heating and cooling cycles. Make certain to disconnect the battery before performing any welding.