

## AMS 2017+ FORD F-150 RAPTOR DOWNPIPE

# INSTALL INSTRUCTIONS

Fits: 2017+ model year Ford F-150 Raptor

## Introduction ///

The goal of AMS Performance is to provide the highest quality, best performing products available. By utilizing research and development, and rigorous testing programs AMS Performance will never compromise the quality or performance of our products. In addition, AMS Performance will only provide the finest customer service offering only parts and advice that are in the best interests of the customer. AMS Performance was built on a foundation of integrity. This is who we are. This is what you can count on.

A vehicle modified by the use of performance parts and tuning may not meet the legal requirements for use on public roads. AMS Performance makes no claims of compliance unless otherwise stated on a per-product basis. Use or installation of performance parts and tuning may adversely affect the drivability and reliability of your vehicle, and may also affect or eliminate your insurance coverage, factory warranty and new OEM part warranty. There is no stated or implied guarantee by AMS of continued OEM vehicle warranty, insurance coverage, or emissions compliance, due to the stress placed on your vehicle by performance parts and our inability to monitor its use, tuning or modification.

These instructions are not intended to be a comprehensive guide for installation as there are many variables that may affect your particular vehicle, including but not limited to model year differences, sub-model/trim/optional equipment differences, the presence of non-OEM parts, or other modifications that may have previously been completed. A basic understanding of automotive parts and systems and novice mechanical skills should be all that is necessary for installation, but certain circumstances may necessitate professional installation.

AMS Performance is committed to providing quality support for our products. If you are in need of technical support, installation help, or a replacement component, our Customer Service Team is available directly via telephone at 847-709-0530, or digitally via the contact form linked here: [amsperformance.com/support](https://amsperformance.com/support)

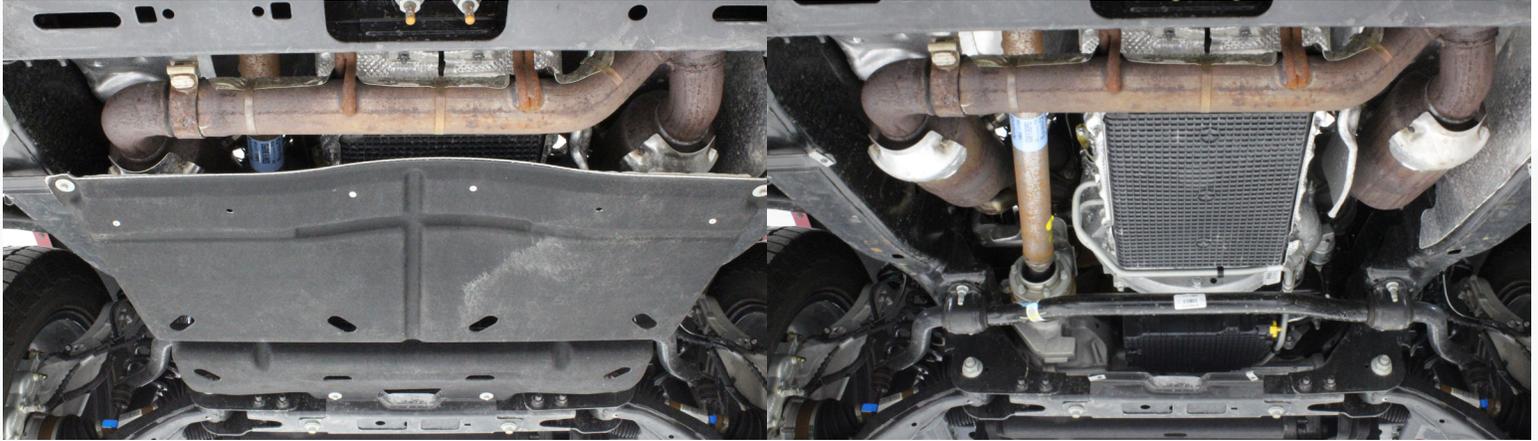
## Table of contents ///

2. Stock downpipe removal
6. Turbo inlet flange removal and installation (optional)
7. AMS downpipe installation

## STOCK DOWNPIPE REMOVAL

Tech Tip: Before beginning, soak all the exhaust connection hardware in rust penetrate. This will allow time for the penetrate to work in and help with downpipe removal.

1) Raise the vehicle in a safe manner. Remove the undertray if applicable.

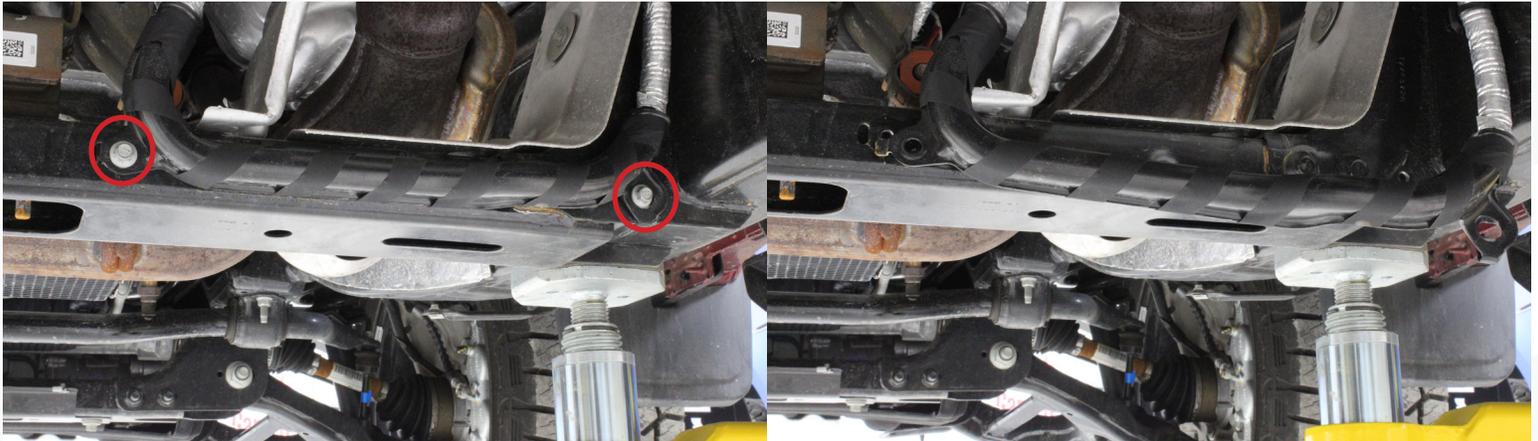


2) Remove all four A/F and O2 sensors. You can leave the sensors harnesses connected and spin the sensors out.

**NOTE:** Do not attempt to remove the OEM downpipe with the sensors in place. Damage to the sensors and harness may occur.



3) On the rear side of the transmission cross member, unbolt and unclip the chassis harness.



4) Remove the heat shield on the top of the transmission cross member that bolts to the frame.



5) Remove the two bolts holding the heat shields on the top of the transmission cross member. There is one and each side of the transmission. These heat shields do not need to be removed, only the bolts



6) Remove the two nuts from the transmission mount.



7) Safely support the weight of the transmission and/or transfer case. Remove the two long bolts on each side of the transmissions cross member bolting it to the frame. Remove the transmission cross member from the truck.



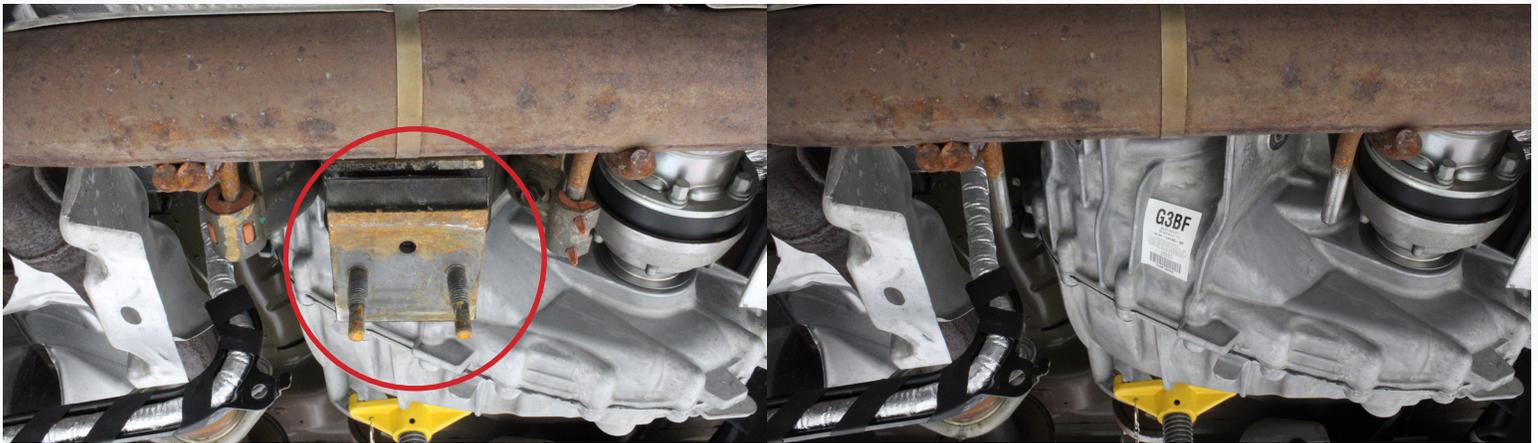
8) Remove the exhaust hanger top clamp and transmission mount bolts on the driver's side



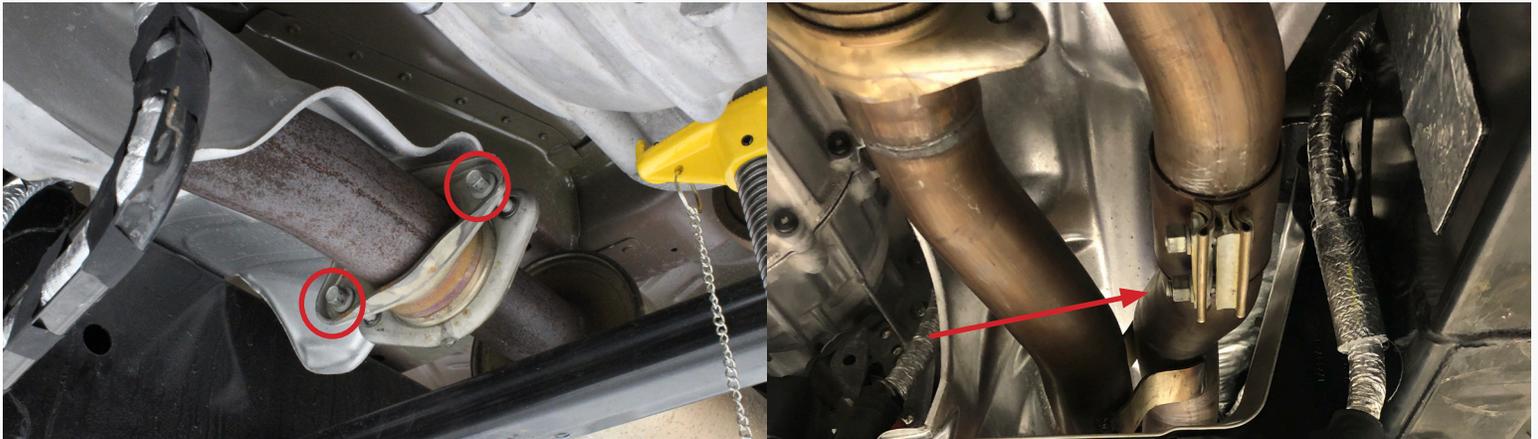
9) Remove the other two bolts from the transmission mount on the passenger side.



10) Remove the transmission mount from the vehicle.



11) Disconnect the two-bolt flange and the butt-joint clamp connecting the downpipe to the rest of the exhaust. Save these bolts they will be reused



12) Disconnect both left and right side two-bolt flanges from the turbine outlet flanges. Save the nuts as they will be reused.

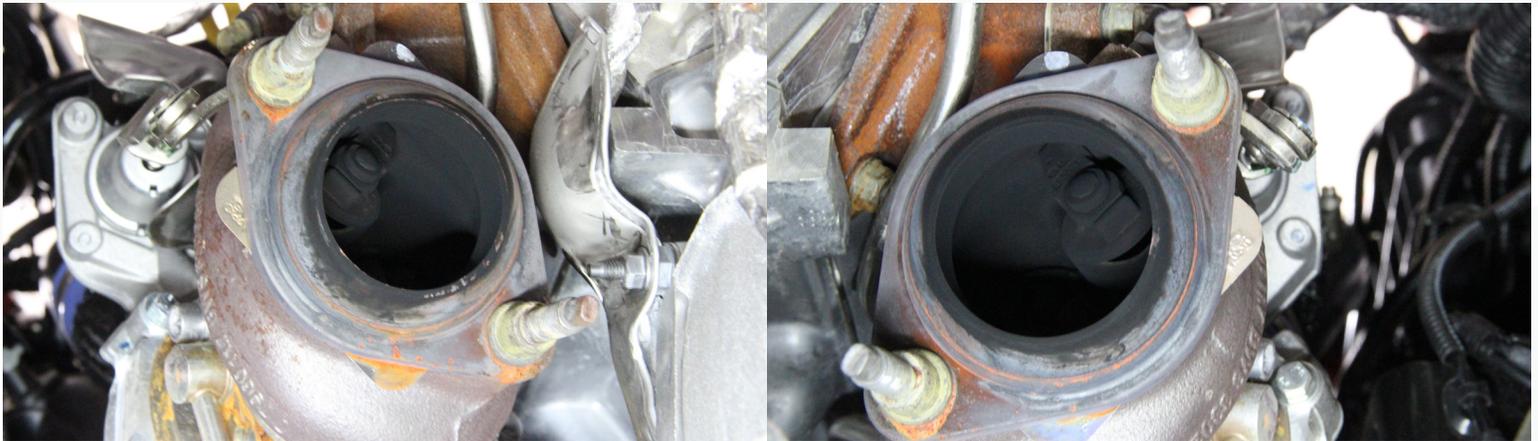


13) Start by removing the passenger downpipe. Once the clamp is off, it is easiest to pull the downpipe up and back, then angle it down and pull it out towards the front of the vehicle. It will take a little back and forth to work it out. The driver side can be removed by taking the front half off the turbine housing, then pulling the rest out. This can be taken out in one piece. Be mindful of the chassis harness that is looped around the downpipes.

## TURBINE OUTLET FLANGE REMOVAL AND INSTALLATION ///

**Note:** The AMS Turbine Outlet Flanges are designed to work best with the AMS downpipe but are not required for downpipe installation. The outlet flanges allow a smooth transition from the turbine housing into the 3" downpipe.

14) With the downpipe removed, you can now access the turbine housing outlet flanges. The stud shown are holding the flange in place and needs to be removed.



15) Use a 10mm or 3/8" stud extractor to remove the stud from the turbine housing outlet flanges. This may take a little heat on the turbine housing to get these studs to move. Keep in mind to use rust penetrant and do not use an impact. Once you get a stud to unscrew, do so slowly to avoid friction welding the stud in the turbine housing.



16) Make sure the threads of the turbine housing are clean. Inspect the turbine outlet flange gasket, replace as needed. Install the new AMS turbine outlet flanges using new OEM studs. The best way to do this is to put some washers or spacer on the stud then the nut. Use the nut to tighten the stud in place. Remove the nut by shocking it with an impact to avoid having the stud come out with the nut.

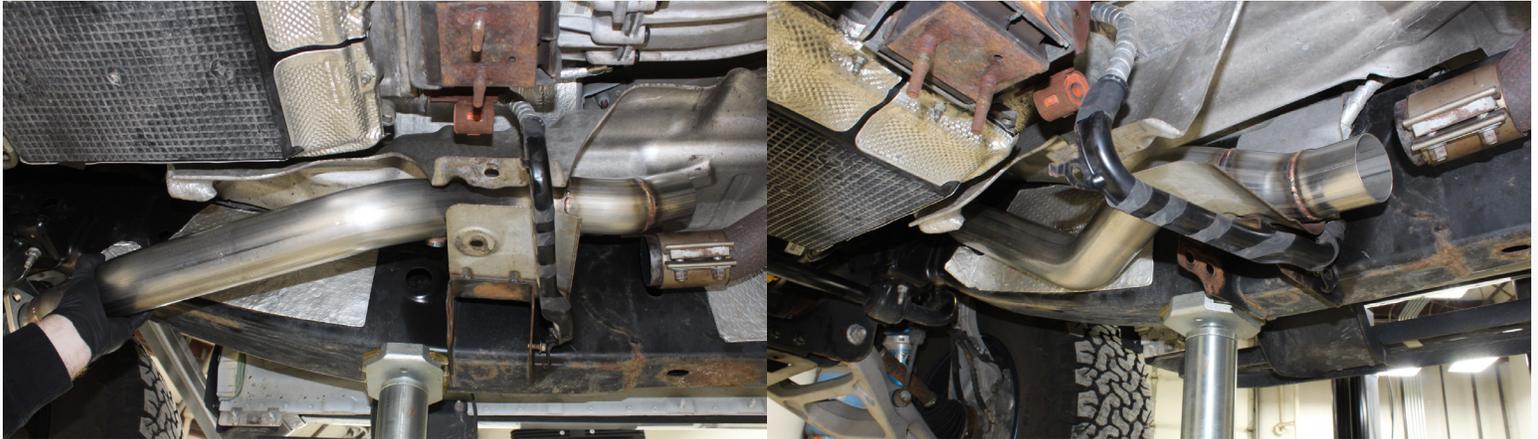
## **DOWNPIPE INSTALLATION** ///

17) While the downpipe is out, some adjustments to the rear O2 sensor harness needs to be made. Completely unclip the harness from the transmission on the driver's side. Then on top of the transmission, unclip the passenger side connector from the harness. The connector is zip tied to the harness. There is more harness length on the driver's side. The goal is to pull the harness over to the passenger side give this side more length on the harness.



**Note:** If exhaust leaks are a concern or if the OEM turbine outlet flanges are rusty, a layer of high temp exhaust sealant may be applied to the ball seal area of the turbine outlet flanges before installed the downpipe.

18) Start by installing the passenger side downpipe. Slide it up as shown in the first picture, and this will give you enough room to position the front portion up to the turbine housing. Loosely tighten it up by the two bolts on the turbine.



19) Position the rear section on the driver side downpipe as shown, mounted in the hanger. Bolt the front pipe loosely to the turbine housing.



20) Mate the two ends of the driver side downpipe together and push them up into each other. The hanger will align into position in this step. Tighten the band clamp.



21) Align the butt-joint clamp and the ball flange at the outlet of the downpipes to the catback. The catback will have to be pushed up to align and get the exhaust in the correct position.



22) Reinstall the transmission mount and cross member. Once everything is installed and the downpipe is aligned, tighten the two-bolt flanges first starting with the connection at the turbo. You must be careful to tighten these flanges evenly. Failure to do so may result in exhaust leaks and/or damage to the ball seal and flange. Next, tighten the two-bolt flange to exhaust, followed by the band clamps.

23) Reinstall the O2 sensors. The passenger rear sensor will not route through the heat shield as it did with the OEM downpipe. It will now route over the top of the heat shield and around. This was the reason for releasing all the clips on the rear O2 sensor harness in step #17.



24) Re-assemble any parts that are left in reverse order of removal. Be sure to tie up any loose harnesses away from heat sources and rotation drivetrain parts.

25) Start the vehicle and check for any exhaust leaks. Adjust as necessary.

26) **Enjoy your new AMS Downpipes!**