

2018-2020 F-150 Active Exhaust Kit

Installation Instructions
P/N: 422104 (1117-5E292LITE)



| 800.59.ROUSH

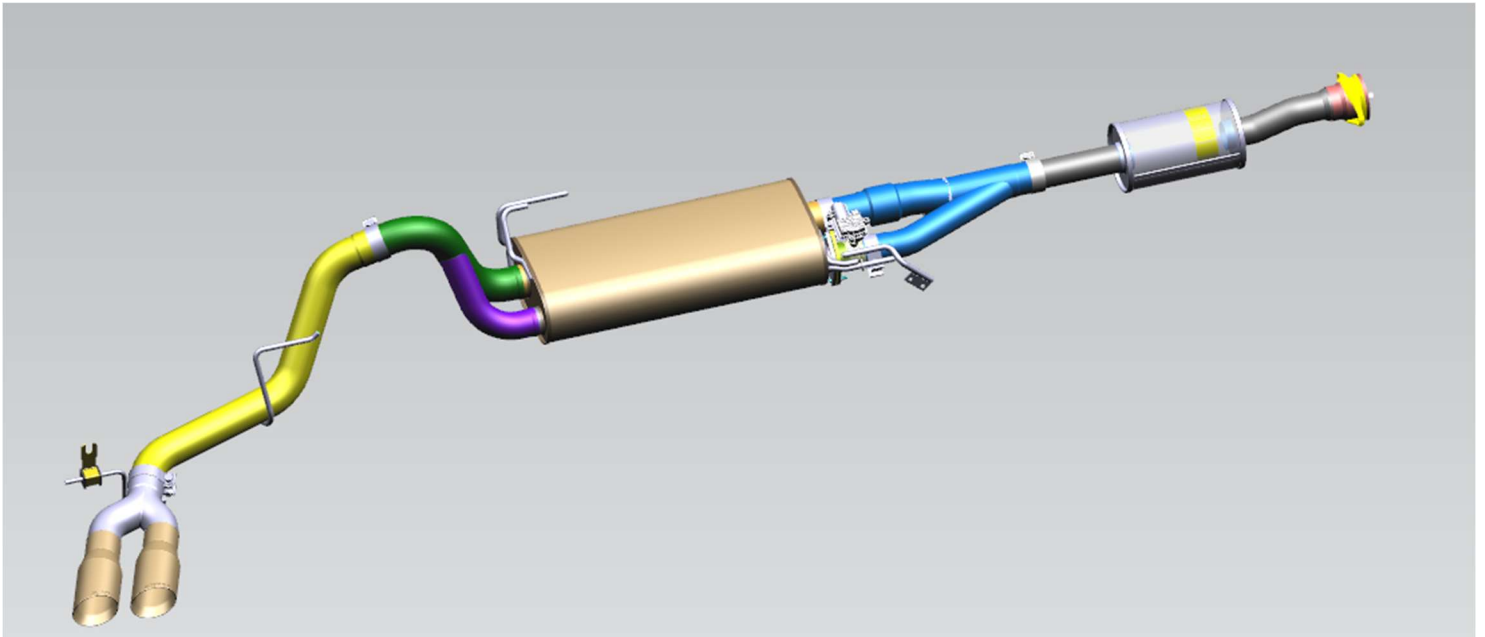


ROUSH
PERFORMANCE

2018-2020 Ford F-150 Active Exhaust Kit

Installation Instructions

P/N: 422104 (1117-5E292LITE)
OFF-ROAD USE ONLY



Application: 2018-2020 Ford F-150

Important Note:

Before installing your ROUSH Active Exhaust, please read through the installation procedure and verify that all items are present. If you are missing hardware or have any questions, please contact ROUSH Performance at 1-800-59-ROUSH, 9:00 AM to 5:00 PM weekdays.

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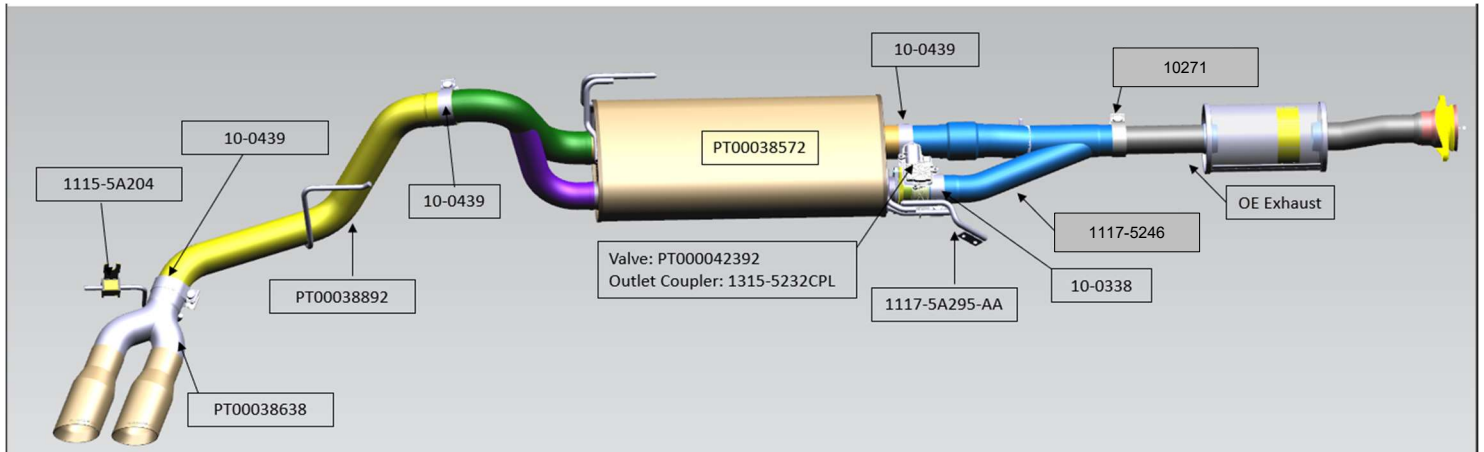
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PACKAGING LIST FOR ACTIVE EXHAUST KIT 422104

Description	Part Number	Quantity
Y-PIPE SUPPORT BRACKET	1115-5A204	1
OBS - PIPE ASY - MFLER INLET 304SS	1117-5246	1
HANGER BRACKET - MUFFLER	1117-5A295	1
21-23 F150 EXH ACTIVE UPGD KT	1121-ACTUPG	1
GASKET, EXHAUST FLANGE 2013 FOCUS	CV6Z-9450-C	1
SWITCH - ACTIVE EXHAUST ILLUMINATED	FS00056841	1
M8-1.25 DIN 6923 STEEL CLASS 8 ZINC FLANGE NUT	NM8X125HF-S437	2
VALVE ASY - 60MM NON PWM EXH VALVE W/FLANGE	PT00042392	1
ON/OFF ACTIVE EXHAUST SWITCH HARNESS	PT00042555	1
EXHAUST F150 HARDWARE KIT	1121-EXHWK	1
CLAMP - 2.5IN TORCA ACCUSEAL - TIP TO MUFFLER (304SS)	10-0338	1
PIPE CLAMP 3IN (TORCA ACCUSEAL 3.0IN 304 SS)	10-0439	3
UNIVERSAL BAND 2.75-IN CLAMP	10271	1
MUFFLER ASSY - ACTIVE/PASSIVE	PT00038572	1
PIPE ASSY - OVERAXLE	PT00038892	1
DNO - 21 F150 EXHAUST TIP-DUAL-VENTED-POLISHED	PT00046023	1

EQUIPMENT AND SUPPLIES REQUIRED

- Metal Cutting device (Band Saw, Hack Saw, Cut-off Wheel)
- Tape Measure
- Ratchet with Extensions
- Metric Socket Sets (deep recommended)
- Torque Wrench

If you are missing any items, please call us toll free at 1-800-59-ROUSH.

LIMIT OF LIABILITY STATEMENT

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. ROUSH Performance Products (RPP) reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.

SAFETY PRECAUTIONS



CAREFULLY READ THE IMPORTANT SAFETY PRECAUTIONS and WARNINGS BEFORE PROCEEDING WITH THE INSTALLATION!

Appropriate disassembly, assembly methods and procedures are essential to ensure the personal safety of the individual performing the kit installation. Improper installation due to the failure to correctly follow these instructions could cause personal injury or death. Read each step of the installation manual carefully before starting the installation.

- Always wear safety glasses for eye protection.
- Place ignition switch in the OFF position.
- Always apply the parking brake when working on a vehicle.
- Block the front and rear tire surface to prevent unexpected vehicle movement.
- If working with a lift, always consult vehicle manual for correct lifting specifications.
- Operate the engine only in well-ventilated areas to avoid exposure to carbon monoxide.
- Do not smoke or use flammable items near or around the fuel system.
- Use chemicals and cleaners in well-ventilated areas.
- Batteries produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks or flammable substances to come near the battery.
- Keep hands and any other objects away from the radiator fan blades.
- Keep yourself and your clothing away from moving parts when the engine is running.
- Do not wear loose clothing or jewelry that can get caught in rotating parts or scratch surface finishes.
- Allow the engine, cooling system, brakes and exhaust to cool before working on a vehicle.

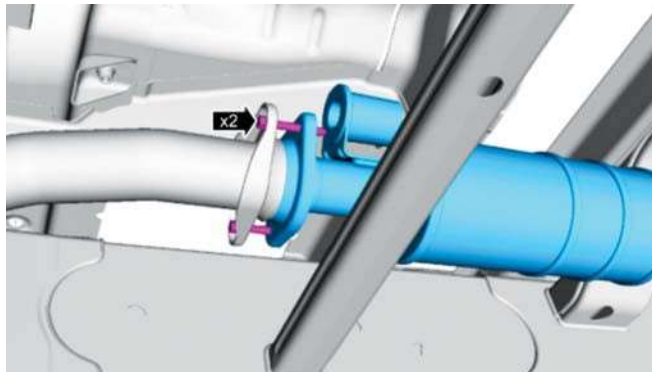
WORK SAFELY!

Perform this installation on a good clean level surface for maximum safety and with the engine turned off.

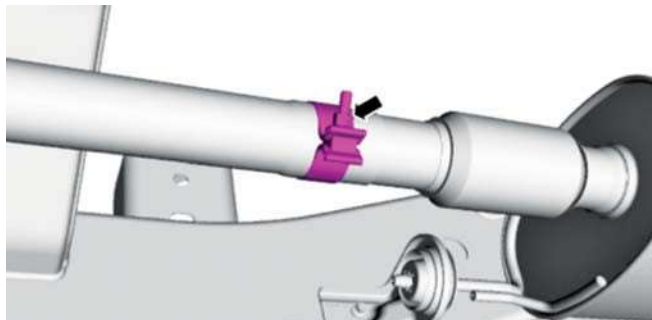
SECTION A - DISASSEMBLY

The following section will guide you through the disassembly and removal of the stock components. Longer wheelbase vehicles will also have an intermediate pipe (not shown) between the factory resonator and the muffler.

1. Remove the two (2) bolts from the flange securing the muffler to the Y-pipe.



2. Loosen the clamps that secure the intermediate pipe/resonator to the muffler.



3. Remove the hanger in front of the rear axle, just below the bed.



4. Remove the intermediate pipe and resonator from the vehicle.
5. Slide the exhaust hangers out of the rubber mounts and remove the factory muffler/tail pipe assembly from the vehicle.

6. Remove the hangers from the passenger side frame. Retain the fasteners for later use.

NOTE: On the eco-boost model vehicles, there are two (2) hangers in this location. The most forward hanger position will not be used.

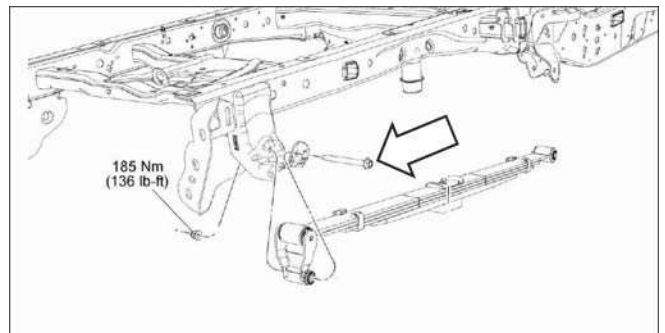
7. Remove the hanger on the passenger side frame rail near the rear tire.

SECTION B - ASSEMBLY

The following section will guide you through the assembly and installation of the ROUSH components.

EXHAUST HARDWARE INSTALLATION

1. Loosen the rear spring support bracket bolt so there is a 7-10 mm gap of threads showing.



2. Install a hanger (1117-5A295) using the takeoff fasteners from step 6 of the Disassembly procedure. Place a rubber isolator on the hanger. Torque the fasteners to 25 Nm.



- Determine the wheelbase of the vehicle. Measure from the center of the front wheel to the center of the rear wheel. Using the wheelbase and year of the vehicle, determine the cut length.

Cut length (in mm)	
Wheelbase mm (in)	2018-2020 F150
3,581 (141)	190
3,683 (145)	290
3,988 (157)	590
4,140 (163)	764

- Measure from the rear of the resonator. Locate the correct cut point.
- Cut and deburr the outer edge of the pipe. Use the Y-pipe (1117-5246) to mark the factory pipe as shown. (This will help with setting the Y-pipe in the correct location on vehicle.)



- Using the supplied gasket (CV6Z-9450-C) and two (2) nuts (NM8X125HF-S437), install the exhaust valve (PT00042392) onto the muffler (PT00038572) as shown. Torque the nuts to 25 Nm.



- Slide a 3" clamp (10-0439) over the Y-pipe (near the flex joint) at location 1. Slide a 2.5" clamp (10-0338) at location 2. Slide a 2.75" clamp (10271) at location 3. Install the Y-pipe onto the factory resonator pipe as shown.



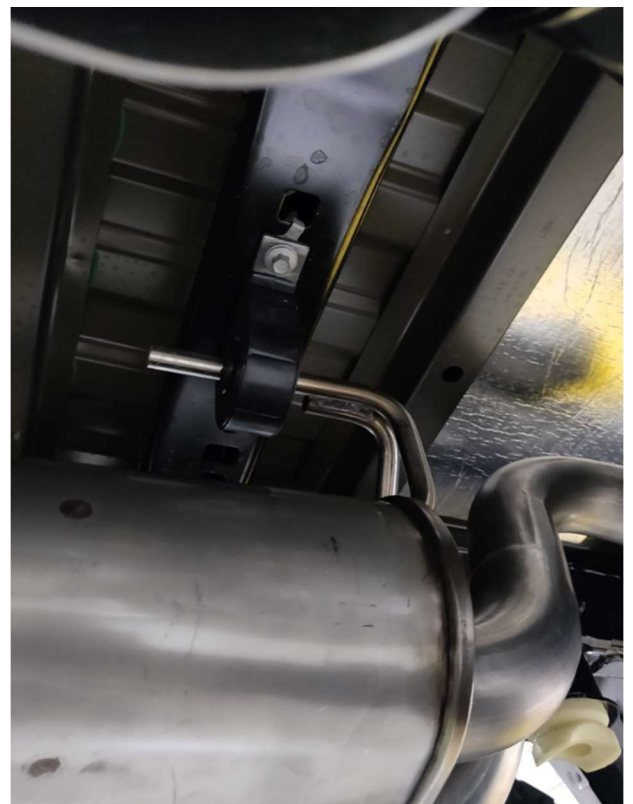
8. Slide the muffler onto the Y-pipe as shown.



9. Install the mid-bed isolator onto the bed.
Torque to 25Nm. (10mm Socket)



10. Raise the muffler assembly (as shown) and slide it into the hanger on the passenger side frame rail. Move the resonator forward to line up the flanges.



11. Tighten the bolts on the OEM Y-pipe flange.
Torque to 40 Nm.



12. Slide the muffler until it is positioned so you can see the mark made in step 5 of the Assembly procedure. Tighten the clamps to keep the pipes from moving.



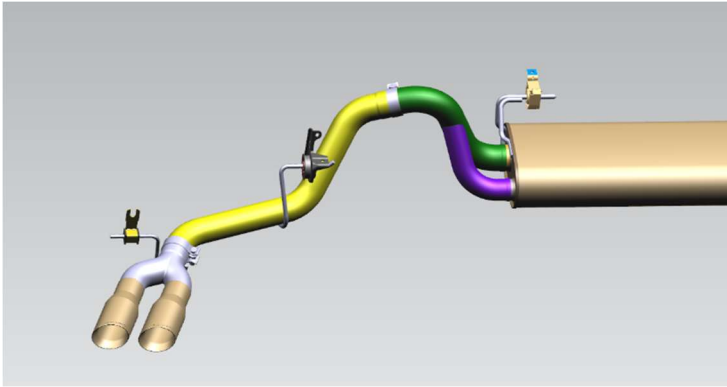
13. Install the takeoff hanger as shown onto the 3" over-axle pipe (PT00038892).



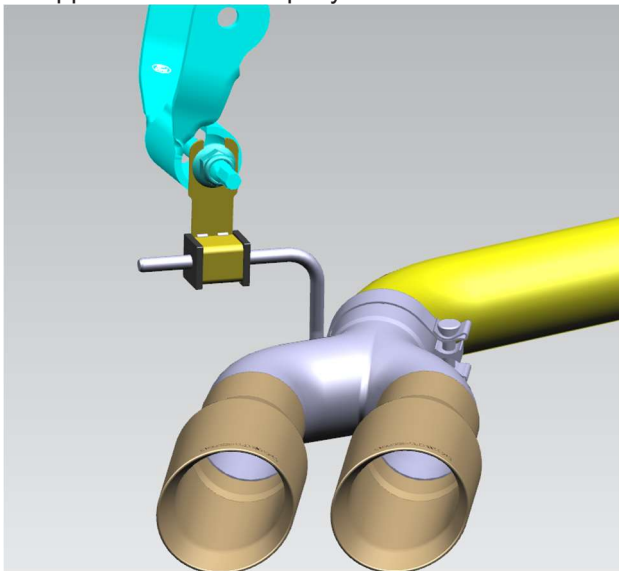
14. Install the supplied hanger (1115-5A204) onto the dual exhaust tip (PT00046023).



15. Slide a 3" clamp (10-0439) on the tip and slide onto overaxle pipe (PT00038892). Install the hanger onto the passenger side frame rail with the overaxle exhaust pipe and tip attached.



16. Install the 3" overaxle pipe onto the muffler and slide the hanger onto the leaf spring shackle bolt. Snug up the shackle bolt so that the pipe is supported. Do not torque yet.



17. Align Tips to your liking, and starting at the front, tighten the clamps making sure everything is aligned to 55Nm.
18. With the vehicle on the ground, torque the springshackle bolt to 235 Nm.

WIRING HARNESS INSTALLATION

NOTE: The active exhaust switch can be installed in multiple different location. Wire lengths are longer than needed for custom installations.

The power source can be taken from the following locations: Auxiliary 12V power port in the dash or the center console.

1. Apply the parking brake.
2. Center console vehicle only (if vehicle does not have a center console, skip to step 4). Open the center console lid.
3. Using a trim removal tool, pry up on the side of the shifter/cup holder bezel and pull up and out. Place the trim panel aside. (Vehicle will need to be shifted into neutral to remove this bezel. Once removed, place the vehicle in park.)



4. Using a trim removal tool, pry up on the forward edge of the cubby at the center of the dash. Do not fully remove the panel.



5. Using a 7 mm socket, remove the two (2) screws that secure the radio/HVAC bezel.



6. Pry up on the edge where the screws were removed and pull the bezel out and down, away from the dash. The bezel can hang off to the side.



7. Using the pry tool, remove the silver trim piece to the right of the radio/HVAC bezel.



9. Remove the plastic closeout panel below the glove compartment.



8. Unplug the 12V power point and 110V plug (if equipped). Place the trim piece aside.



10. Locate the plug on the supplied harness (PT00042555) with yellow wires. This harness needs to be fed up the inside of the dash to the hole where the 12V/110V plugs are located.
11. Locate the connector for the 12V power outlet that you removed in step 8. Using a small pick, remove the red locking piece that is in the end of the connector. Carefully lift the tab for the WHITE with BLUE wire in the connector and remove the terminal from the connector.



12. Take the yellow lead from the active exhaust harness and insert it into the spot in the 12V power outlet connector that was de-pinned in the previous step. Replace the red locking piece that was in the end of the connector.



13. Install the supplied connector onto the WHITE with BLUE wire. Connect the mating electrical connectors together. Engage the red locking tab.



15. Determine a switch location. Remove the panel and drill a 20 mm hole. Route the wires to the switch. (Vehicle equipped with center console shown.) NOTE: Make sure there is enough clearance for the switch behind the mounting surface.



14. Plug the 12V and 110V connectors into the trim panel and leave loose. (The switch can be installed next to the power port if the vehicle does not have the 110V power source.)





16. Mount the active exhaust on/off switch (FS00056841) in the desired location as shown.



17. Remove the fuse block cover and kick panel plastic.



18. Locate the fuse tap portion of the harness. Remove fuse #23 from the fuse block. Insert fuse #23 into the fuse tap, and insert the fuse tap into the fuse #23 location on the block.



19. Secure the harness up under the dash using the supplied zip ties.



20. Remove the sill plate from the passenger side floor by firmly pulling up.



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21. Remove the zip ties that cover the OE wiring harness that runs the length of the vehicle.



22. Loosen the B-pillar trim piece by pulling just below where the seat belt comes out. Do not remove.



23. Remove the sill plate from the passenger rear floor by firmly pulling up.



24. Loosen the C-pillar trim panel by pulling out on the part where it meets the roof.
25. Lower the passenger side rear seat by pulling the strap located on the outboard side of the seat back. Remove the jack from the rear floor. Pull the rear wall liner back; there is a single Christmas-tree fastener holding it. Fold the liner back, there is no need to fully remove it.



26. Route the active exhaust harness along the outer floor to the passenger rear corner of the vehicle. Route the harness under the front scuff plate, behind the B-pillar trim (under the seat belt bracket), under the rear scuff plate, and behind the C-pillar trim.

27. Route the plug out of the rear cab vent.



29. Plug the connector into the valve on the muffler.



28. The wire will run down in between the cab and the bed of the vehicle. Pull the wire past the rubber seal that bridges the gap between the cab and bed. Add a zip tie shown.



30. From inside the cab, pull gently on the wire until all slack is taken up. Use a zip tie to secure the wire to the wall of the cab.

31. Zip tie the relay to the rear wall of the cab.

32. Remove the ground and attach the active exhaust ground to OEM location.



33. Reinstall all the trim panels that were removed in the previous steps.

Congratulations, the installation is complete!