

Installation Guide for Ford F-150 Raptor & Raptor R

PNs 60728, 60736, 60737



******* Please compare the parts in the box with the bill of materials provided *****
to assure that you have all the parts necessary for this installation.**

These instructions have been written to help you with the installation of your Borla Performance exhaust system. Please read this document completely before beginning the installation of your system.

To ensure this part number fits your specific model year, please visit our website for the latest model year listings at www.BORLA.com

Thank you for purchasing a Borla Performance exhaust system.

Borla Performance Mid-Section Exhaust PN 60728 is designed for the Ford F-150 Raptor equipped with a 3.5L V6 twin turbo-charged engine and 4WD automatic transmission

Borla Performance Mid-Section Exhaust PNs 60736 and 60737 are designed for the Ford F-150 Raptor R equipped with a 5.2L V8 supercharged engine and 4WD automatic transmission.

NOTE: These components are compatible and will mate to the factory tailpipes.

Borla Performance Industries recommends that an exhaust shop or professional after market parts installer, who has all the necessary equipment, tools and experienced personnel needed for proper installation, should perform the installation of this system. However, if you decide to perform the installation, we recommend someone should help you. Ensure the installer uses all under car safety precautions including eye protection.

Please take time to read and understand the following...

By installing your Borla Performance exhaust system, you indicate that you have read this document and you agree with the terms stated below.

It is the responsibility of the purchaser to follow all installation instruction guidelines and safety procedures supplied with your Borla Performance exhaust system.

Borla Performance Industries assumes no responsibility for damages occurring from misuse, abuse, improper installation, improper operation, lack of responsible care, or all previously stated reasons resulting from incompatibility with other manufacturer's products and/or systems.

Included with your Borla Performance exhaust system is a warranty card. Please read it carefully before you begin any work on your vehicle. If you should have any questions regarding our warranty policy, installation, or any other matter pertaining to your new Borla Performance exhaust system, please give us a call at the number provided on the warranty card.

Minimum Required Tool List:

TOOLS:

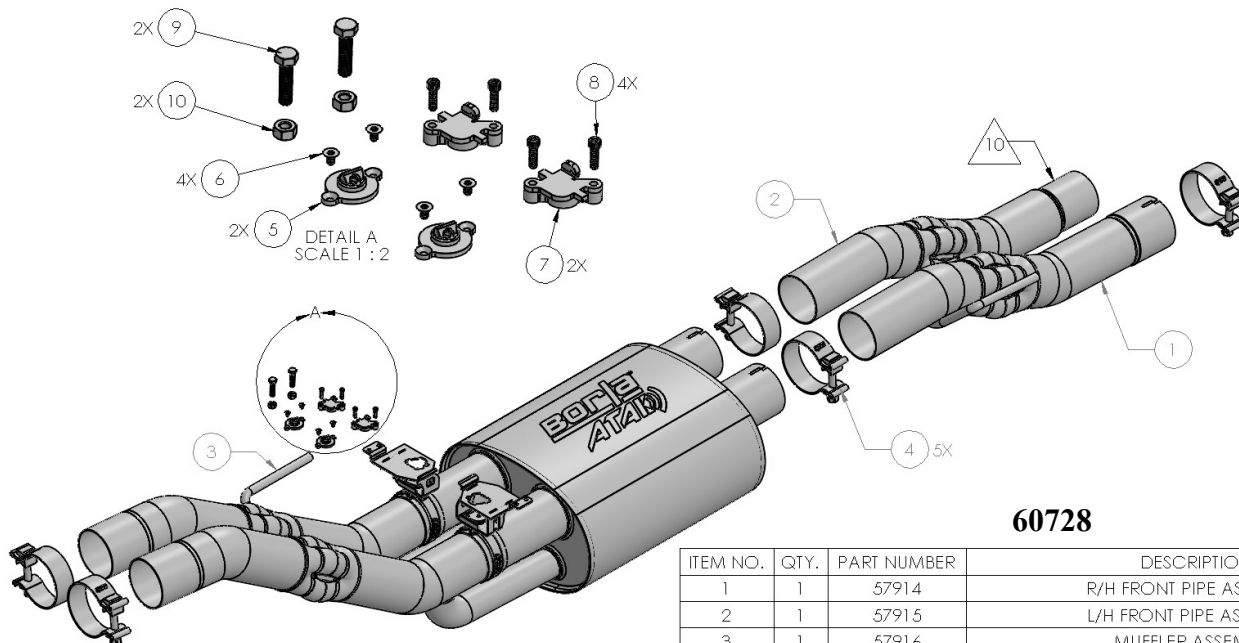
1. 3/8" drive ratchet
2. 3/8" drive extension 6"
3. 7/64" Allen key
4. T15 Torx screwdriver
5. 10mm socket

6. 15mm deep well socket
7. Pry bar

SHOP SUPPLIES:

1. Spray lubricant

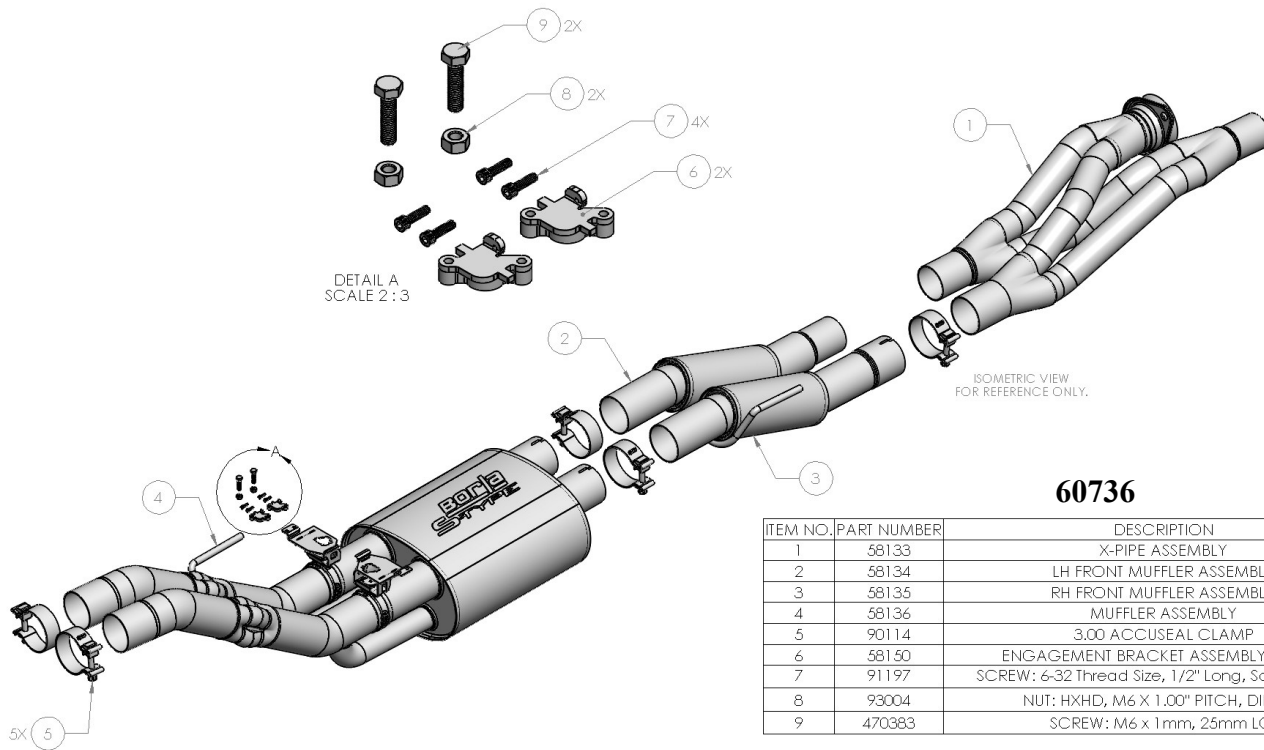
Borla Performance - Bill of Materials



60728

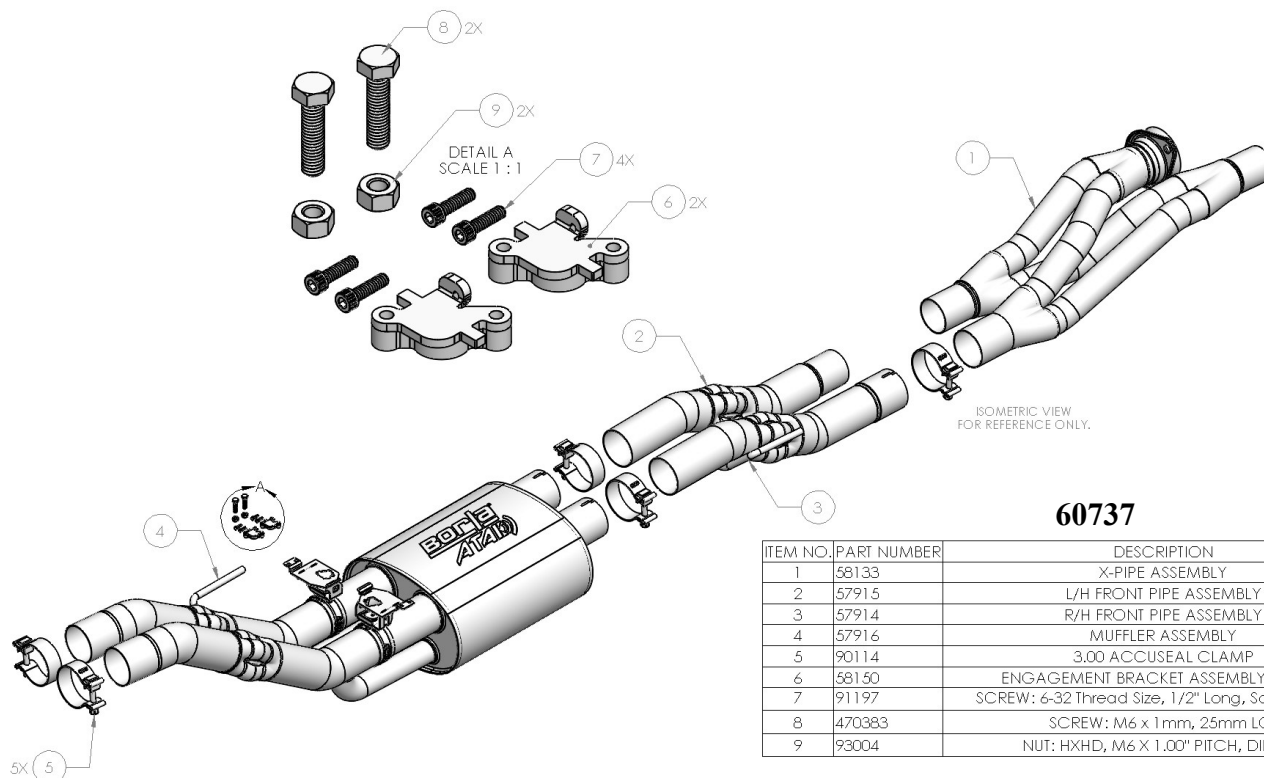
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	57914	R/H FRONT PIPE ASSEMBLY
2	1	57915	L/H FRONT PIPE ASSEMBLY
3	1	57916	MUFFLER ASSEMBLY
4	5	90114	3.00 ACCUSEAL CLAMP
5	2	58144	ENGAGEMENT BRACKET ASSEMBLY (2022)
6	4	91196	SCREW: 6-32 Thread Size, 1/4" Long, Torx Flat Head
7	2	58150	ENGAGEMENT BRACKET ASSEMBLY (2023+)
8	4	91197	SCREW: 6-32 Thread Size, 1/2" Long, Socket Head
9	2	470383	SCREW: M6 x 1 mm, 25mm LG.
10	2	93004	NUT: HXHD, M6 X 1.00" PITCH, DIN 934

Borla Performance - Bill of Materials



60736

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	58133	X-PIPE ASSEMBLY	1
2	58134	LH FRONT MUFFLER ASSEMBLY	1
3	58135	RH FRONT MUFFLER ASSEMBLY	1
4	58136	MUFFLER ASSEMBLY	1
5	90114	3.00 ACCUSEAL CLAMP	5
6	58150	ENGAGEMENT BRACKET ASSEMBLY (2023+)	2
7	91197	SCREW: 6-32 Thread Size, 1/2" Long, Socket Head	4
8	93004	NUT: HXHD, M6 X 1.00" PITCH, DIN 934	2
9	470383	SCREW: M6 x 1mm, 25mm LG.	2



60737

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	58133	X-PIPE ASSEMBLY	1
2	57915	L/H FRONT PIPE ASSEMBLY	1
3	57914	R/H FRONT PIPE ASSEMBLY	1
4	57916	MUFFLER ASSEMBLY	1
5	90114	3.00 ACCUSEAL CLAMP	5
6	58150	ENGAGEMENT BRACKET ASSEMBLY (2023+)	2
7	91197	SCREW: 6-32 Thread Size, 1/2" Long, Socket Head	4
8	470383	SCREW: M6 x 1mm, 25mm LG.	2
9	93004	NUT: HXHD, M6 X 1.00" PITCH, DIN 934	2

Caution!!! *Never work on a hot exhaust system. Serious injury in the form of burns can result. If the vehicle has been in use and the exhaust system is hot, allow vehicle to cool for at least 1 hour. Always wear eye protection when working under any vehicle.*

Note: *It is our recommendation that you use a hoist or hydraulic lift to facilitate the installation of your new Borla Performance Exhaust System.*

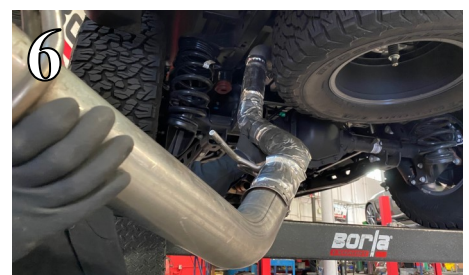
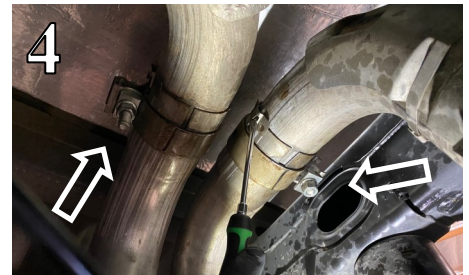
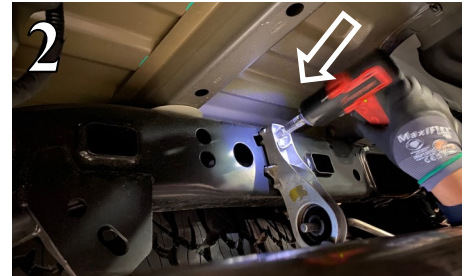
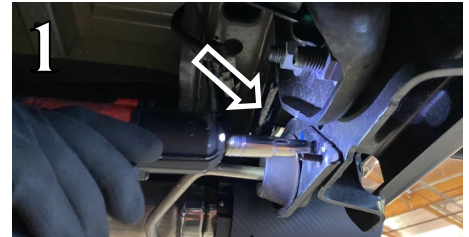
Taking all under car safety precautions, lift the vehicle using a hoist or hydraulic lift. Once this has been done, you may begin the removal of your old exhaust system from your vehicle.

Note: *Before removing the original exhaust system from your vehicle, please compare the parts you have received with the bill of materials provided on the previous page to assure that you have all the parts necessary for the installation of your new Borla Performance Exhaust System.*

Note: *With a used vehicle, we suggest a penetrating spray lubricant to be applied liberally to all exhaust fasteners and allowing a significant period of time for the chemical to lubricate the threads before attempting to disassemble.*

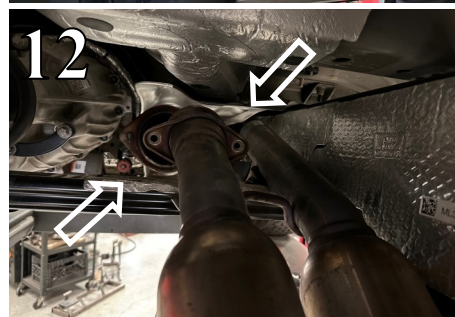
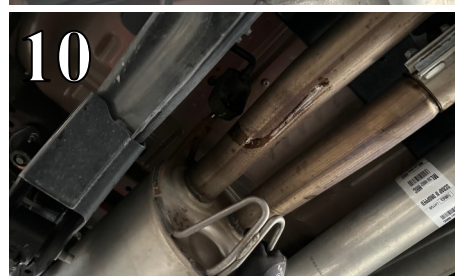
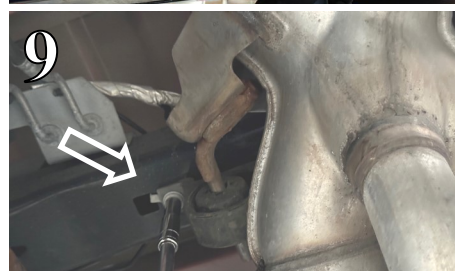
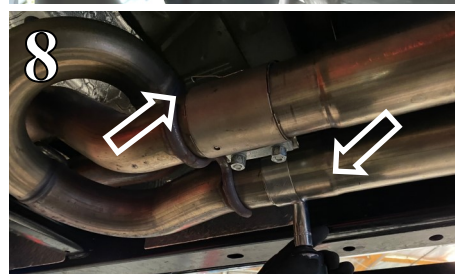
Original Exhaust System Removal

1. Lubricate all hangers, rubber isolators, bolts and nuts.
2. Remove the hardware that attaches the original right rear isolator assembly to the vehicle and remove the assembly from the tailpipe (Fig. 1). Save hardware and isolator for re-installation.
3. Remove the hardware that attaches the original right center isolator assembly to the vehicle. Lift the isolator assembly upward so that it releases from the frame and remove the assembly from the tailpipe (Figs. 2-3). Save hardware and isolator for re-installation.
4. Loosen clamp that attaches the right tailpipe to the exhaust system. Using a flathead screwdriver or a prybar, pry up on the clip to release the tailpipe from the vehicle (Fig. 4).
5. Remove right tailpipe from the vehicle by sliding the inlet out of the original exhaust system and lowering it to the floor (Fig. 5).
6. Repeat steps 2-5 on the left tailpipe of the vehicle (Fig. 6).



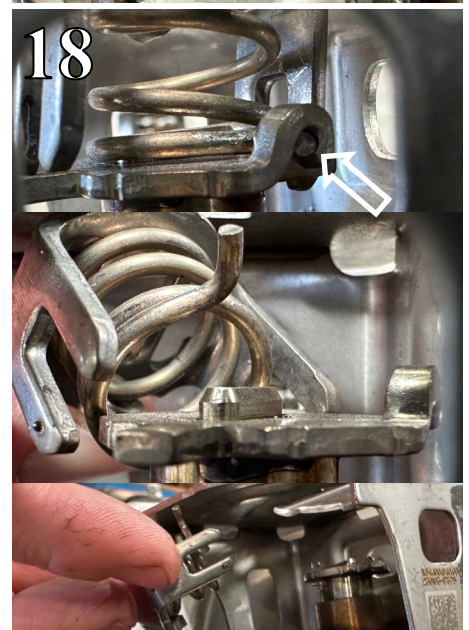
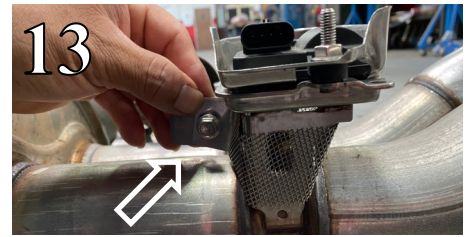
Original Exhaust System Removal Cont'd

7. Disconnect the electrical connector on the valve actuator and pull off the wire harness fastener from the threaded stud (Fig. 7).
8. Using a prybar or a screwdriver pry up on the locking tab on the sleeve clamp, then loosen both clamps that attach the muffler assembly inlets to the vehicle (Fig. 8).
9. Remove the hardware that attaches the rear isolator assembly to the vehicle. Lift the muffler assembly upward so that it releases from the frame and remove the isolator from the muffler assembly (Fig. 9). Save hardware and isolator for installation of your Borla system.
10. Using a muffler stand or another person, slide the entire muffler assembly toward the rear of the vehicle, out of the clamps on the inlets and out of the vehicle entirely (Figs. 10-11). Save sleeve clamp for installation of your Borla system.
11. This step is only for the F-150 Raptor R: Loosen the sleeve clamp and slide it forward toward the front of the vehicle. Loosen and remove the hardware that connects the flange on the front pipe to the vehicle and remove the front pipe assembly from the vehicle (Fig. 12). Save the hardware and sleeve clamp for installation of your Borla system.



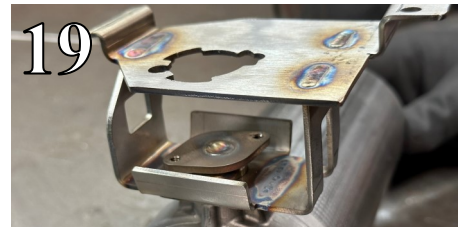
Original Exhaust System Removal Cont'd

12. Loosen and remove the hardware that keeps the screen on the valve assembly and remove the screen (Fig. 13). Save the hardware and the screen for installation on your Borla system.
13. Loosen and remove the hardware that keeps the valve actuator in place (Fig. 14). Rotate the actuator counter-clockwise and remove it from the valve body (Fig. 15). Save the actuator for installation on your Borla system.
14. For vehicles with the separate valve engagement spring: Lift the valve engagement spring off of its seat and out of the original valve (Fig. 16). Save the valve engagement spring for installation on your Borla system.
15. For vehicles with the attached valve engagement spring assembly: Use a screwdriver or a pick to move the end of the spring out of the valve bracket and remove the entire assembly from the vehicle (Figs. 17-18). Save the valve engagement spring assembly for installation on your Borla system.
16. Original exhaust system removed.



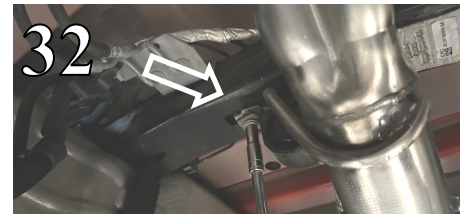
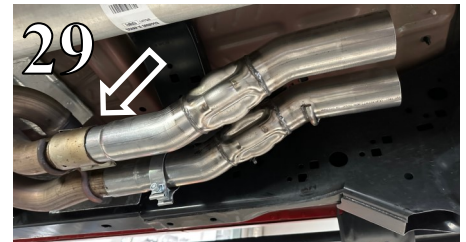
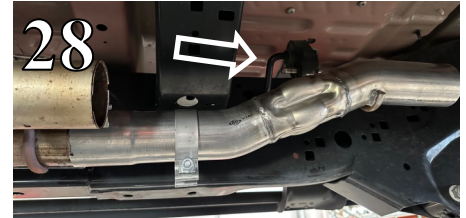
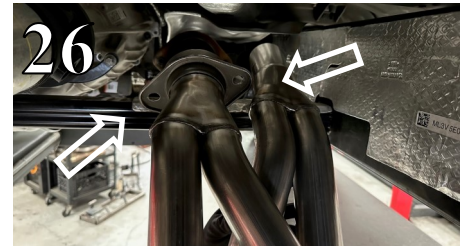
Borla Performance Mid-Section Exhaust Installation

1. Orient components on shop floor according to Borla bill of materials drawing on pages 2-3.
2. For vehicles with the separate valve engagement spring: Using the two provided Torx screws (PN 91196) attach the **Engagement Bracket Assembly (2022)** to the top of the valve (Figs. 19-20). Install your original valve engagement spring in the same orientation as on the original system.
3. For vehicle with the attached valve engagement spring: Using the two provided Allen screws (PN 91197) attach the **Engagement Bracket Assembly (2023+)** to the top of the valve, with the spacer between the two (Figs. 19, 21-22). Install your original valve engagement spring by feeding the end of the spring into the slot in the bracket that you installed and place the forks of the original valve engagement spring over the two edges that extend out from the bracket.
4. With your original valve engagement spring installed, attach your original valve actuator to the assembly by lining up the cutout on the engagement spring and the piece that extends on the bottom of the actuator. Firmly press down on the actuator and rotate the actuator clockwise until the hole on the top of the valve assembly lines up with the one on the actuator (Fig. 23).
5. Feed the **Screw (PN 470383)** up through the bottom of the bracket and using the provided **Nut (PN 93004)** tighten the two together to fasten the actuator to the valve assembly (Fig. 24). You will have threads showing on the top of the actuator, this is to give the actuator wiring harness a place to attach to.
6. Install the original valve screen onto the valve assembly as shown (Fig. 25).



Borla Performance Mid-Section Exhaust Installation Cont'd

7. This step is only for the F-150 Raptor R: Install the **X-Pipe Assembly** by feeding it up and over the under chassis brace and attach it to the vehicle using the original hardware and clamp (Figs. 26-27).
8. Place a clamp over the expanded end of the **R/H Front Pipe / Muffler Assembly** and insert the inlet to the **X-Pipe Assembly** or the factory exhaust. Insert the hanger into the original rubber isolator (Fig. 28). Do not tighten the clamp.
9. Not shown: Install the original sleeve clamp onto the reduced end of the X-Pipe Assembly (F-150 Raptor R only)
10. Insert the reduced end of the **L/H Front Pipe / Muffler Assembly** into the original sleeve clamp and slide it over to mate both ends together (Fig. 29). Do not tighten the clamp.
11. Install the original rubber isolator assembly onto the **Muffler Assembly** hanger with the side of the assembly with the hole in it facing away from the **Muffler Assembly** (Fig. 30).
12. Place a clamp over each of the expanded ends of the **Muffler Assembly** and insert the inlets to the **L/H and R/H Front Pipe / Muffler Assemblies** (Fig. 31). Do not tighten the clamps.
13. Install the original rubber isolator assembly on the **Muffler Assembly** to the vehicle by first inserting the side of it with the solid metal end into the slot on the vehicle, rotate the isolator assembly up and using the original hardware attach it to the vehicle (Fig. 32).
14. Not shown: Attach the electrical connectors to each valve actuator and attach the wire harness fastener onto the exposed threads.



Borla Performance Mid-Section Exhaust Installation Cont'd

15. The following installation instructions work for both the stock tailpipes as well as Borla optional tailpipe kits **60727BC**, **60727BRCB** and **60727CF-BA**.
16. Place a clamp over the expanded end of the **R/H Tailpipe Assembly** and feed it up and over the axle, inserting the inlet to the **Muffler Assembly** (Fig. 33). Do not tighten the clamp.
17. Install the two original isolator assemblies onto the hangers and reattach them to the vehicle using the original hardware (Figs. 34-36).
18. Place a clamp over the expanded end of the **L/H Cross-Over Pipe** and feed it up and over the axle, inserting the inlet to the **Muffler Assembly** (Fig. 37). Do not tighten the clamp.
19. Place a clamp over the expanded end of the **L/H Tailpipe Assembly** and insert the inlet to the **L/H Cross-Over Pipe** (Fig. 38). Do not tighten the clamp.
20. Repeat step 3 for installation of **R/H Tailpipe Assembly**.
21. Check your exhaust system for proper clearance under the vehicle and also for tip alignment (Fig. 39).
22. Once position has been determined to be correct, tighten the Accuseal clamps to 32-35 ft. lbs.
23. Before starting your vehicle, make sure to check all wires, hoses, brake lines, body parts and tires for safe clearance from the exhaust system.
24. Start the vehicle and check for any leaks. If any leaks are found, determine cause (such as loose or incorrectly positioned clamp) and repair as necessary.

ATTENTION: Ford officially recommends valve relearn through FDRS, PCM-Exhaust Tailpipe Actuator Position Relearn app. Borla Performance Industries recommends taking your car to the nearest Ford dealer for exhaust valve re-calibration services. Failure to re-calibrate the valves may result in a check engine light and/or negatively impact valve longevity.

WARNING: Use extreme caution during installation. Torque all fasteners according to manufacturer's torque values and tightening sequence. **DO NOT** use air impact tools to tighten fasteners on Borla Performance Exhaust Systems. Use of such tools may result in bent flanges or gasket contact areas leading to exhaust leaks.

NOTE: When you first start your vehicle after the installation of your new Borla Performance Exhaust System, there may be some smoke and fumes coming from the system. This is a protective oil based coating used in the manufacturing of mandrel bent performance exhaust tubing. This is not a problem and will disappear within a very short period of time after the exhaust has reached normal operating temperatures.

