

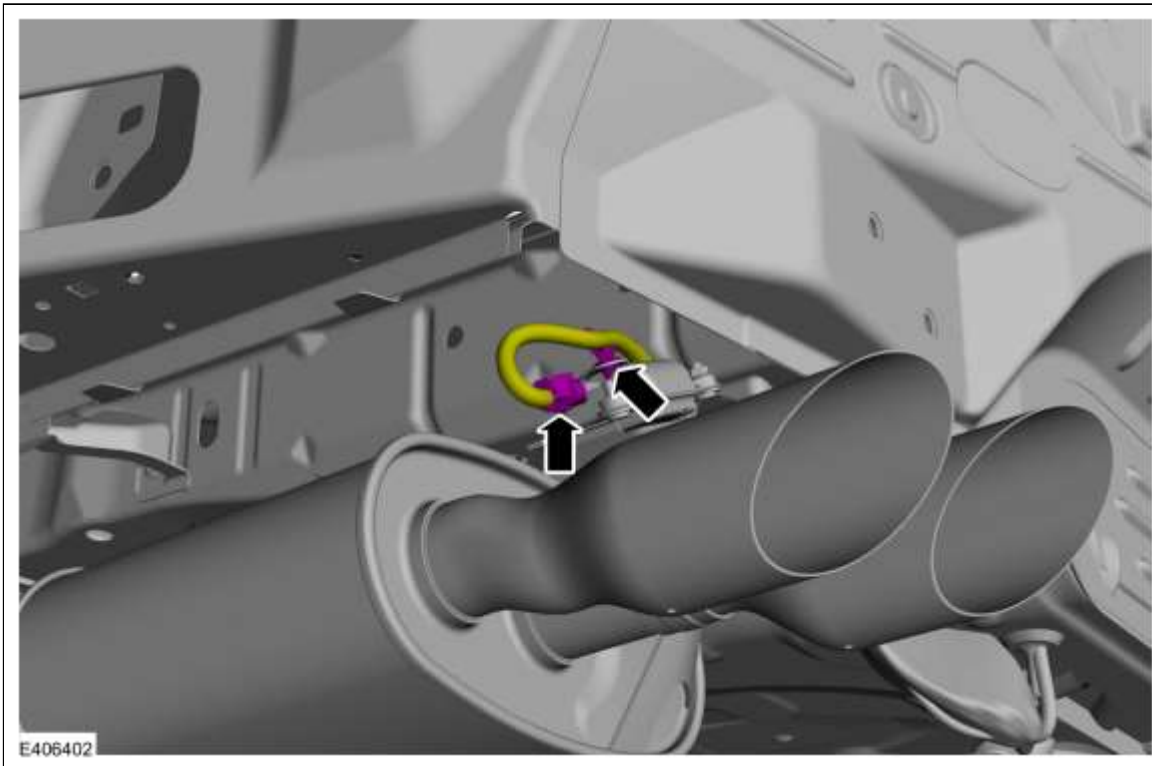
Exhaust Tailpipe Actuator

Special Tool(s) / General Equipment

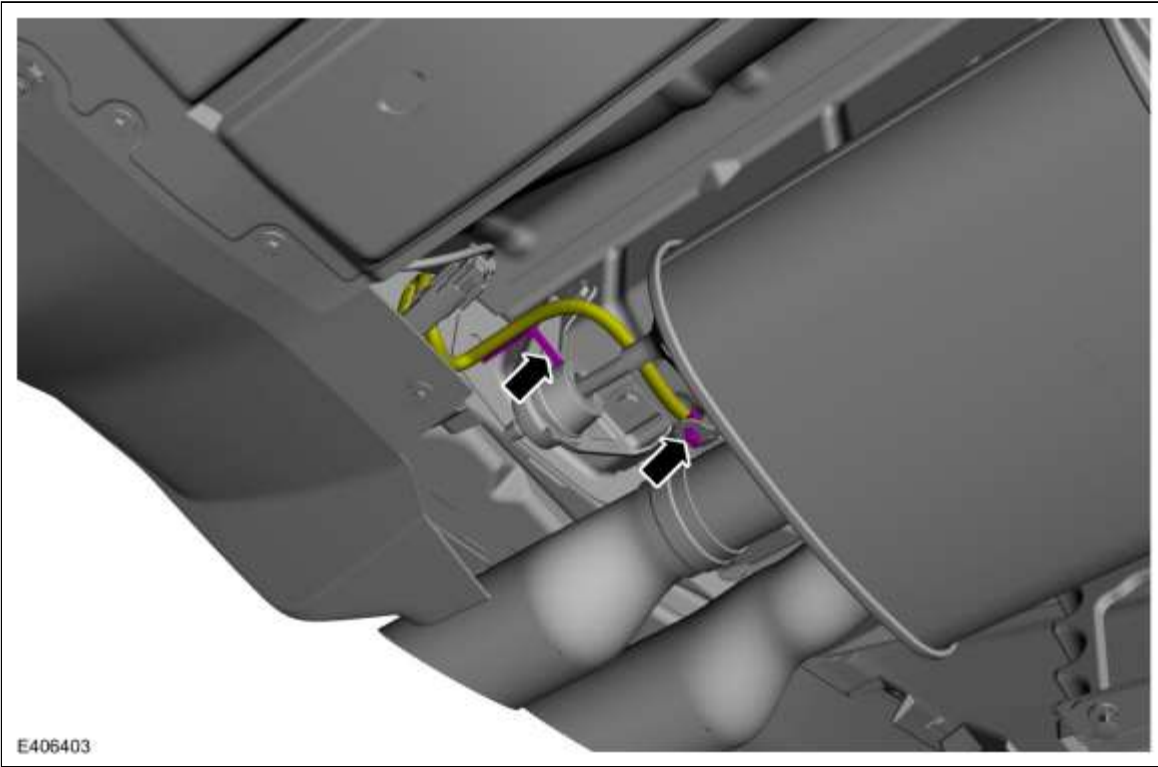
Transmission Jack

Removal

1. With the vehicle in NEUTRAL, position it on a hoist.
Refer to: [Jacking and Lifting - Overview](#) (100-02 Jacking and Lifting, Description and Operation).
2. On both sides.
Disconnect the exhaust tail pipe actuator electrical connector and detach the wiring retainer.



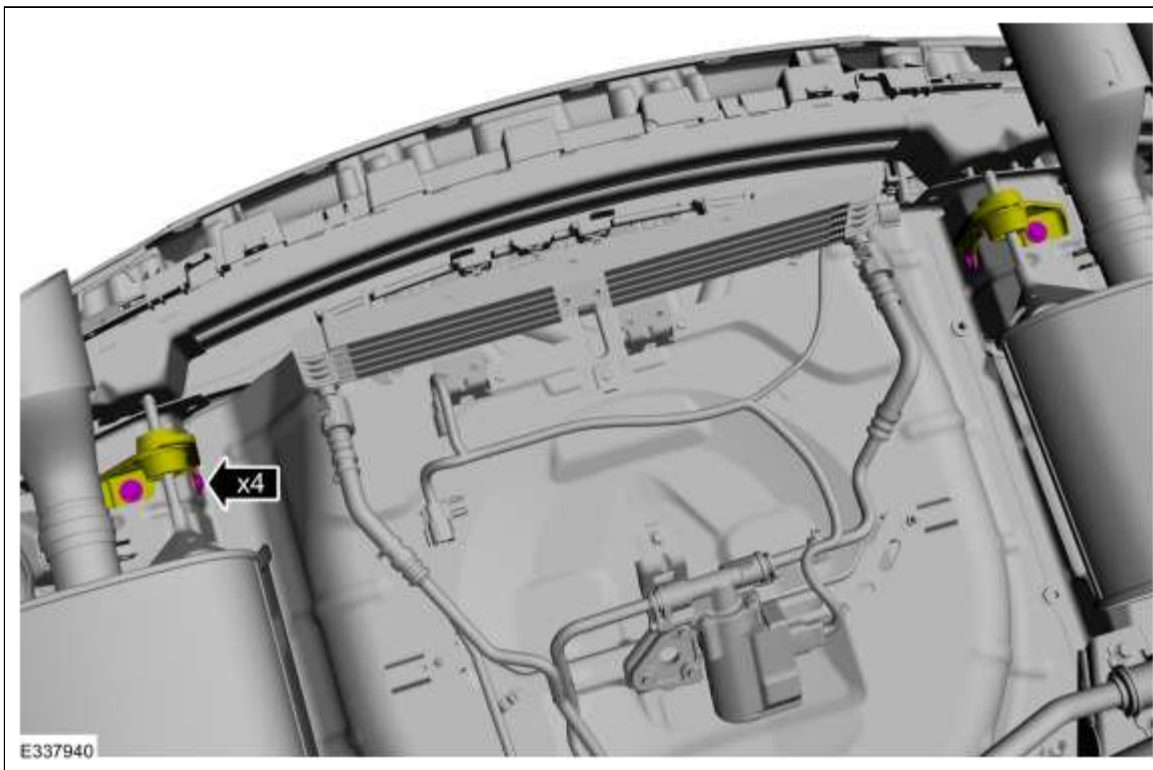
3. On both sides.
Detach the electrical wiring retainers.



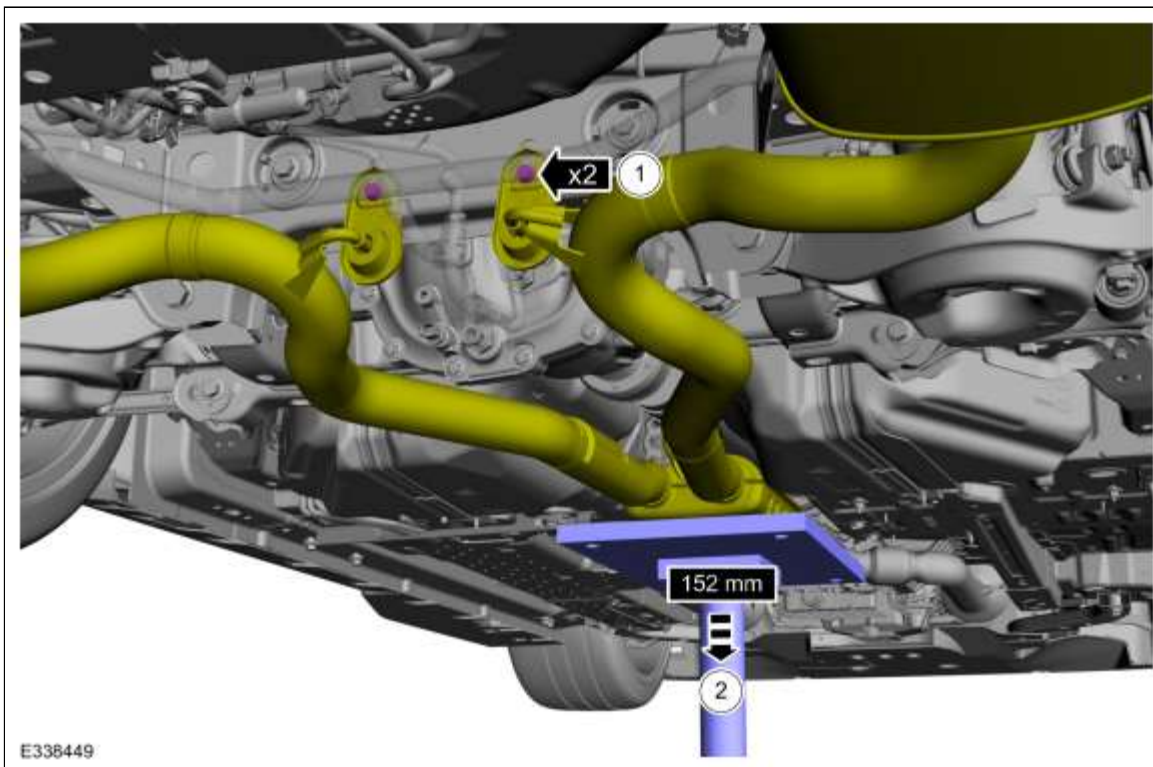
4. Using a transmission jack, support the exhaust muffer assembly.
Use the General Equipment: Transmission Jack



5. Remove the hanger brackets bolts.



6.
 1. Remove the hanger brackets bolts.
 2. Lower the transmission jack to 6 inches (152 mm) downwards.

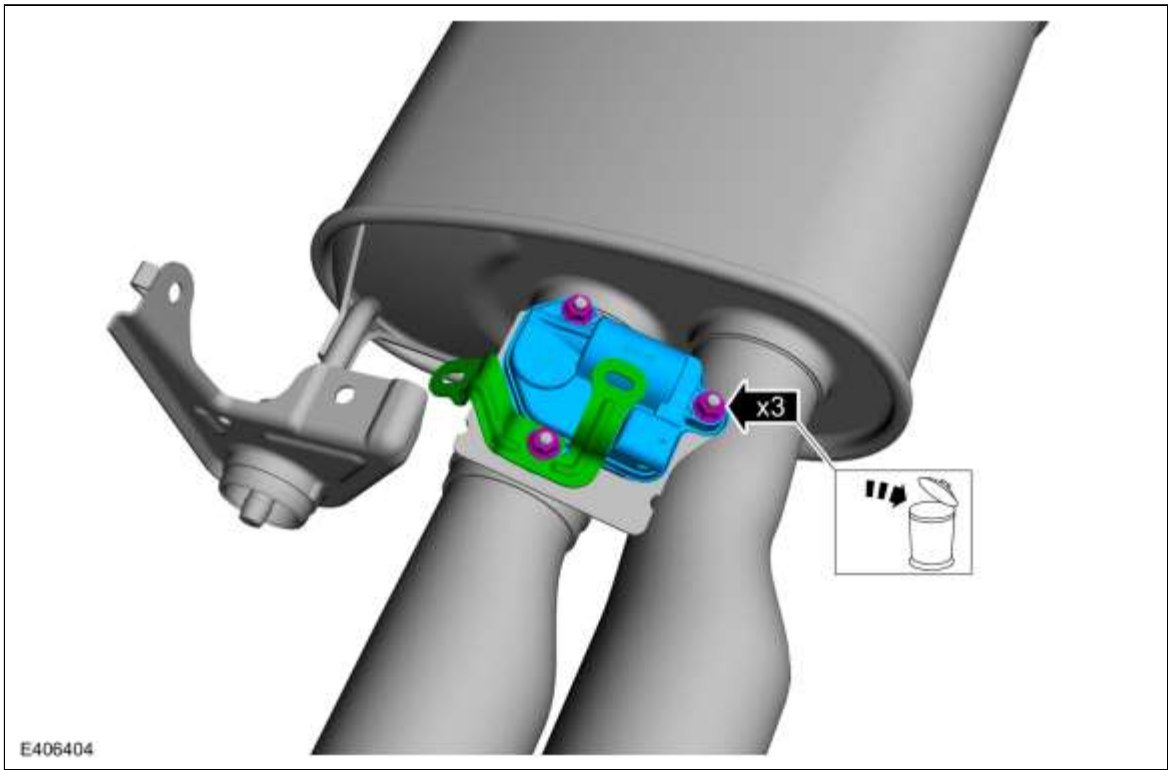


7. **NOTE:** RH side shown, LH side similar.

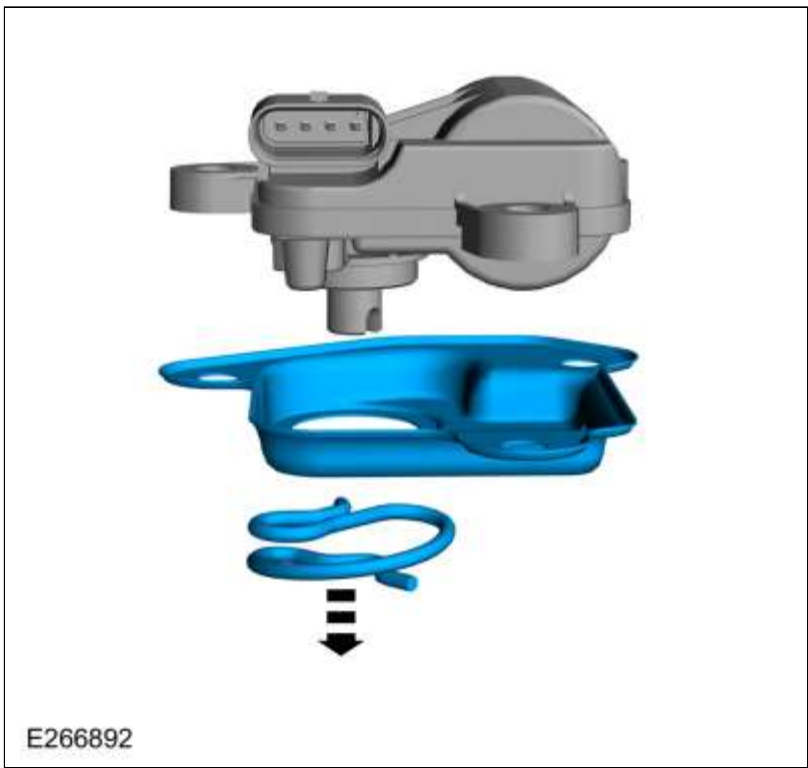
NOTE: Do NOT discard the heat shield, located under the actuator.

NOTE: Do NOT discard the cable guide bracket.

Remove and discard the nuts and remove the exhaust tailpipe actuator. Retain the cable guide bracket.

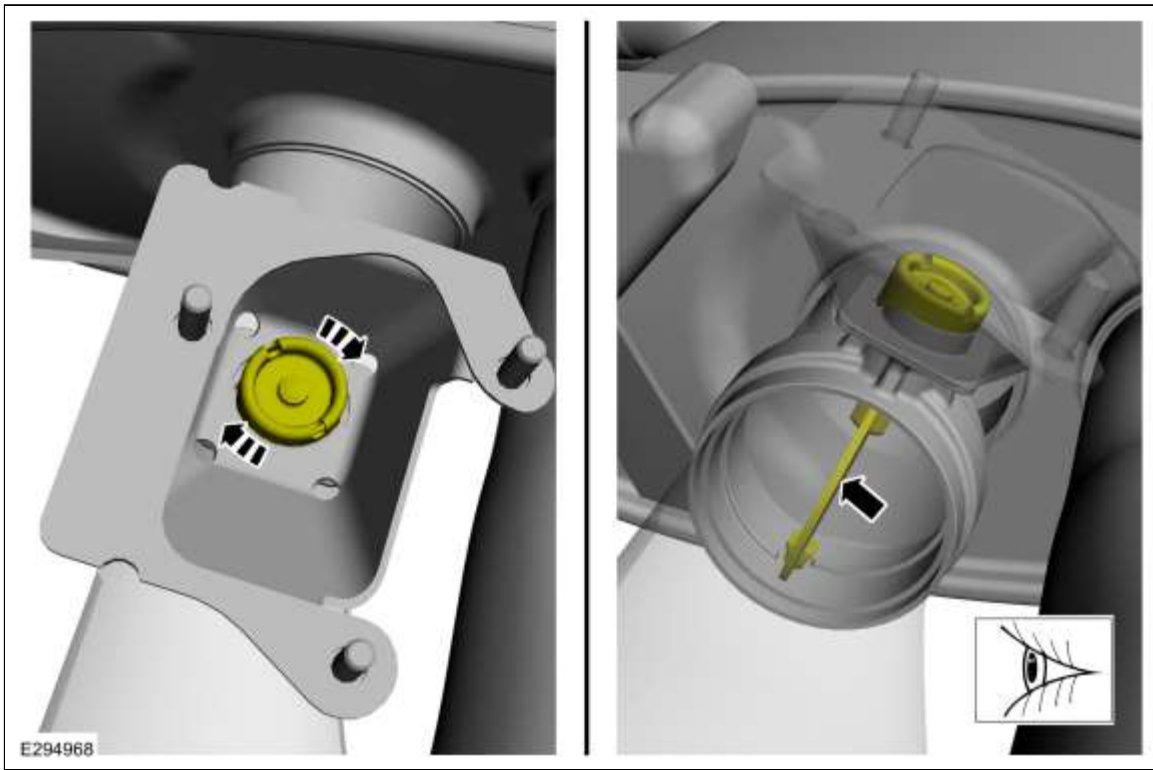


8. Remove the spring and the heat shield from the actuator.



Installation

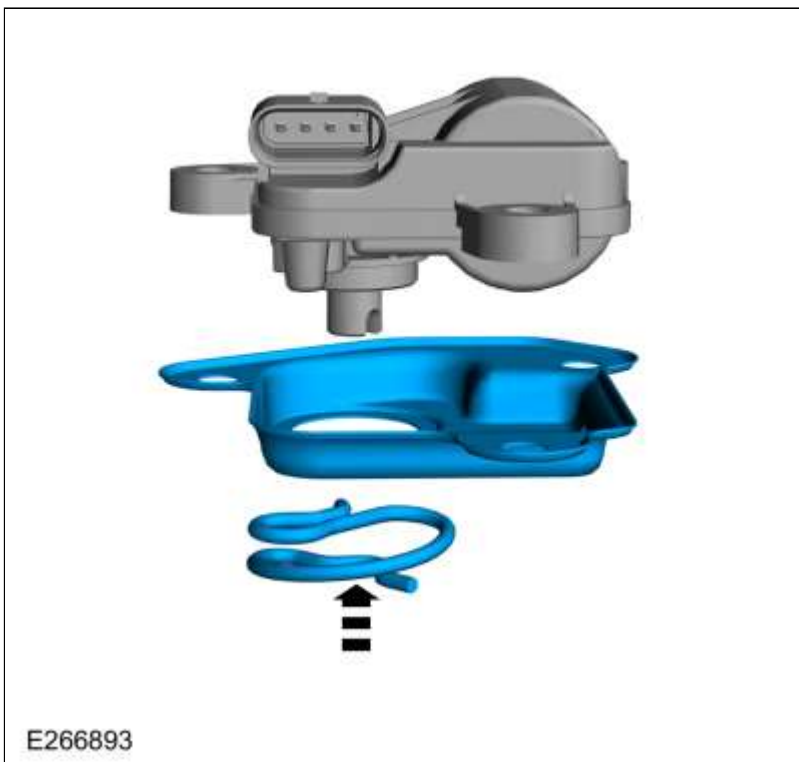
1. Clean all exhaust connections before reassembly.
2. **NOTE:** *The top of the valve can be hand rotated to make sure it is moving freely and there are no restrictions inside the tailpipe tip.*
Turn the valve clockwise to fully open position as shown.



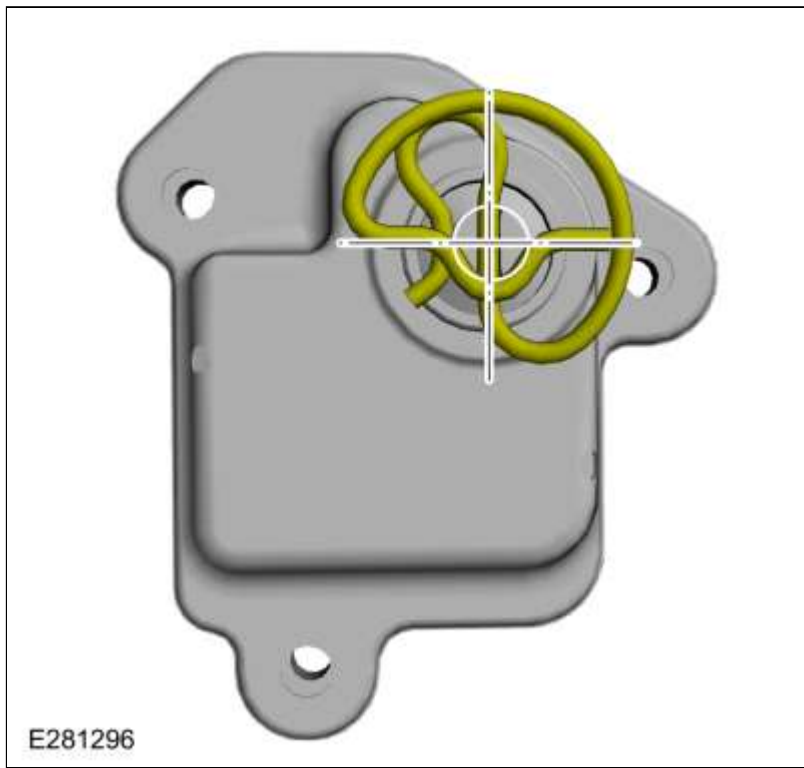
3. **NOTE:** Before installing the spring and heat shield, inspect the valve flap within the tailpipe to make sure weld-beads are not causing restriction to proper flap motion.

Inspect the valve flap inside the tailpipe tip.

4. Install the spring and the heat shield onto the actuator.



5. Locate the spring on the shaft as shown.



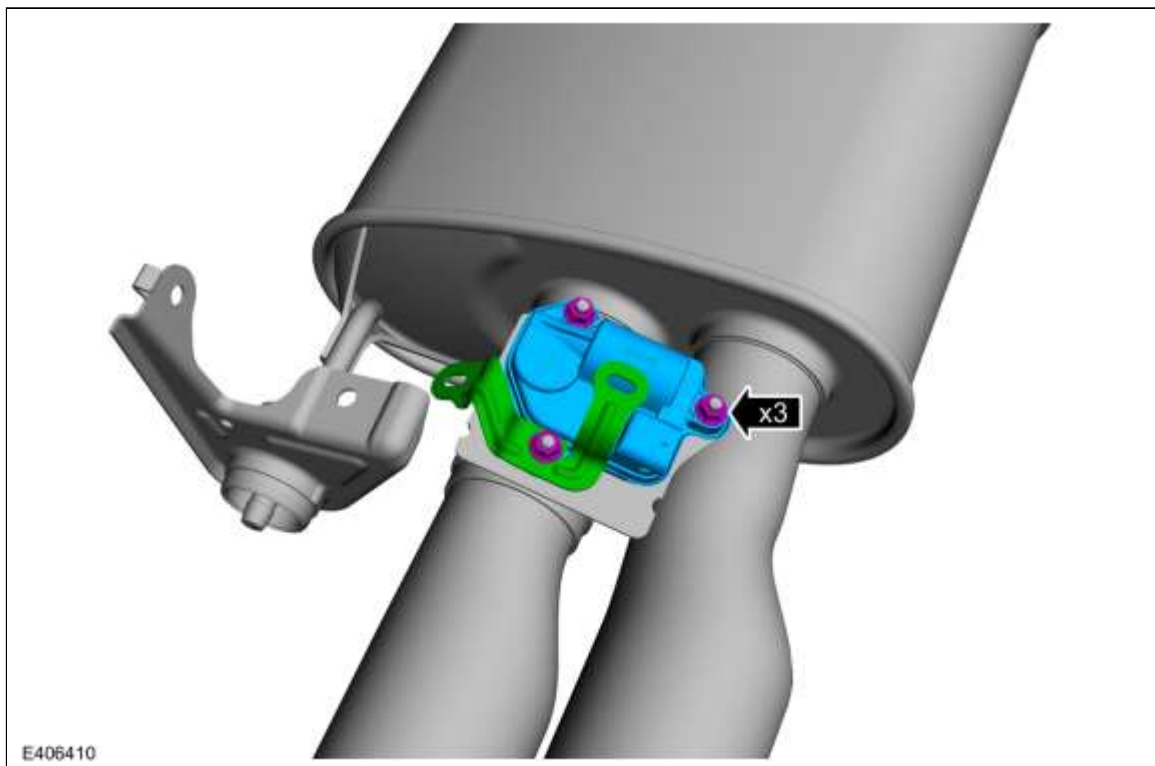
6. **NOTE:** At this step, the spring does not have to sit on the shaft cap notch and may create a manual mechanical resistance when pushing the actuator.

NOTE: The actuator spring will self-align in the shaft cap notch upon first key-on cycle.

NOTE: Install the nuts finger tight at this stage.

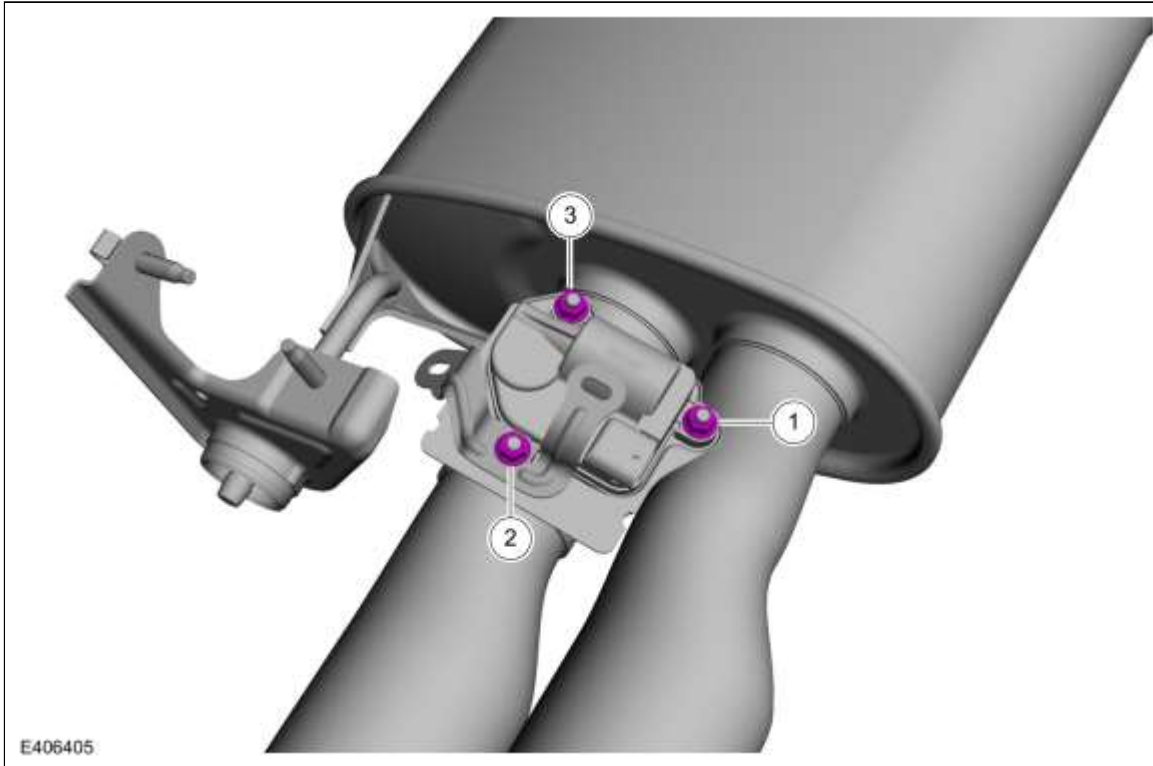
NOTE: Ensure the heat shield is located under the actuator.

- Place and guide the actuator onto the mounting bracket, install back the cable guide bracket above the actuator.
- Press the actuator down and loosely install the nuts finger tight.

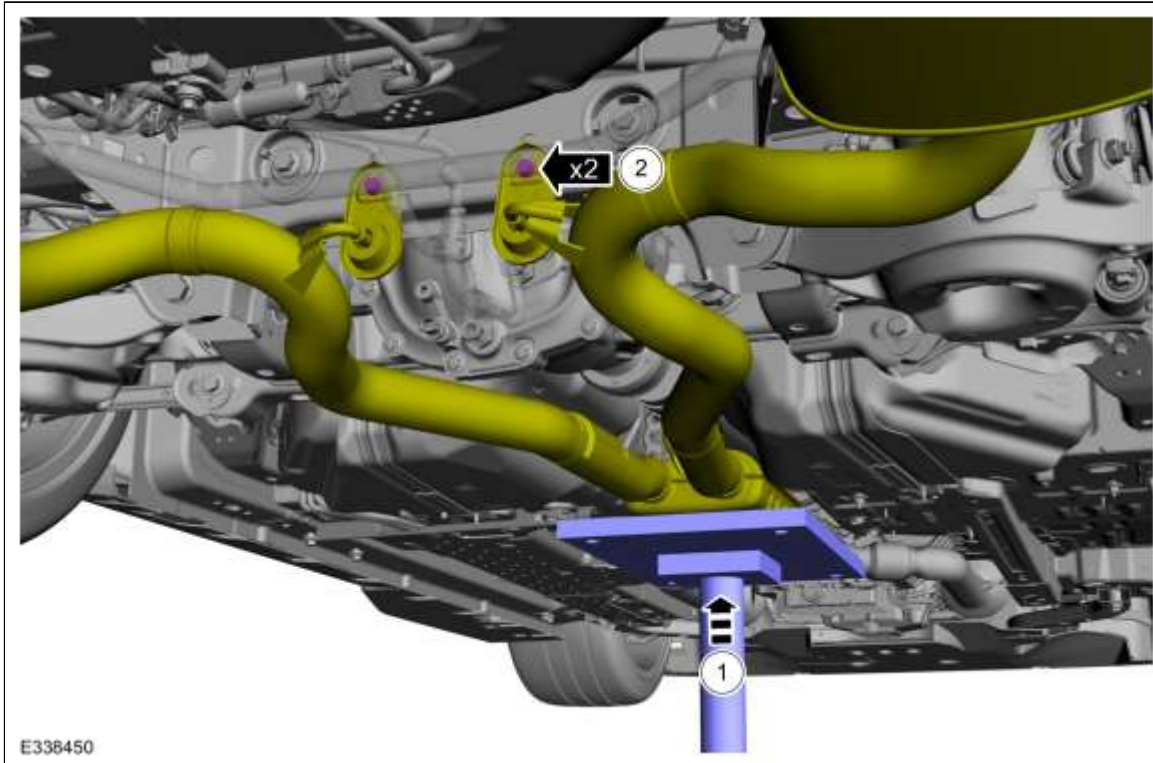


7. **NOTE:** RH side shown, LH similar.

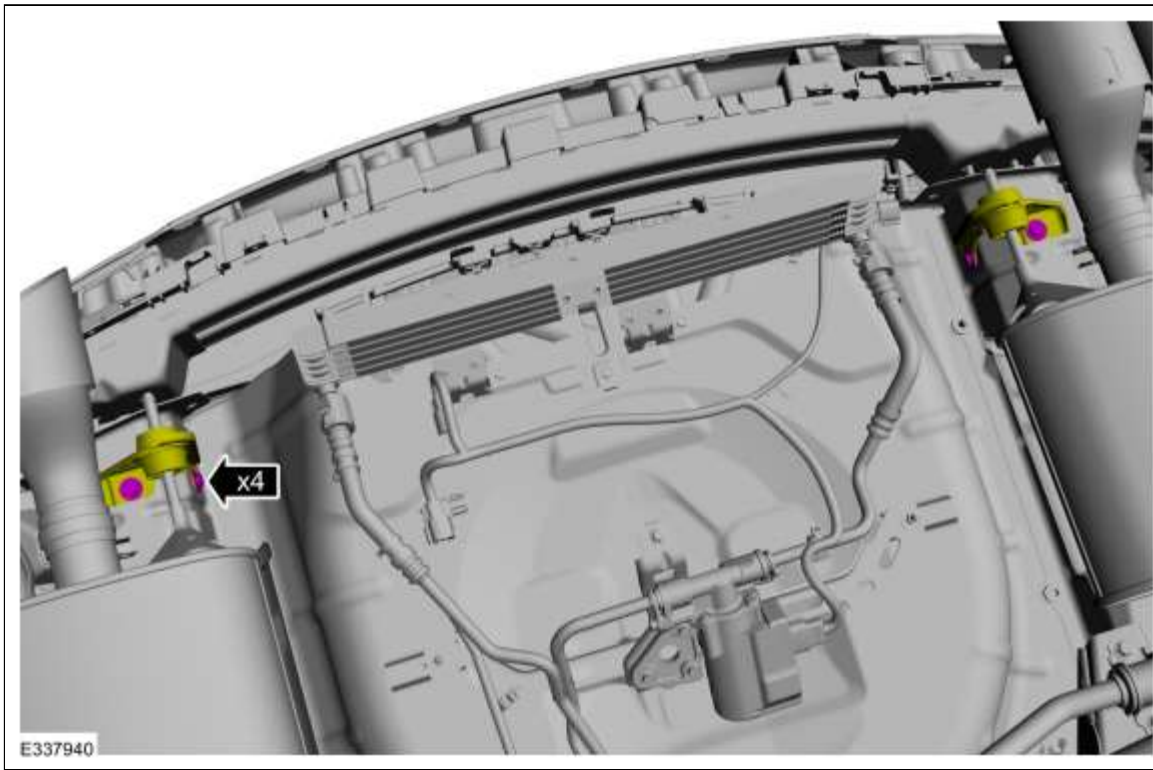
Tighten the nuts in sequence shown.
Torque: 89 lb.in (10 Nm)



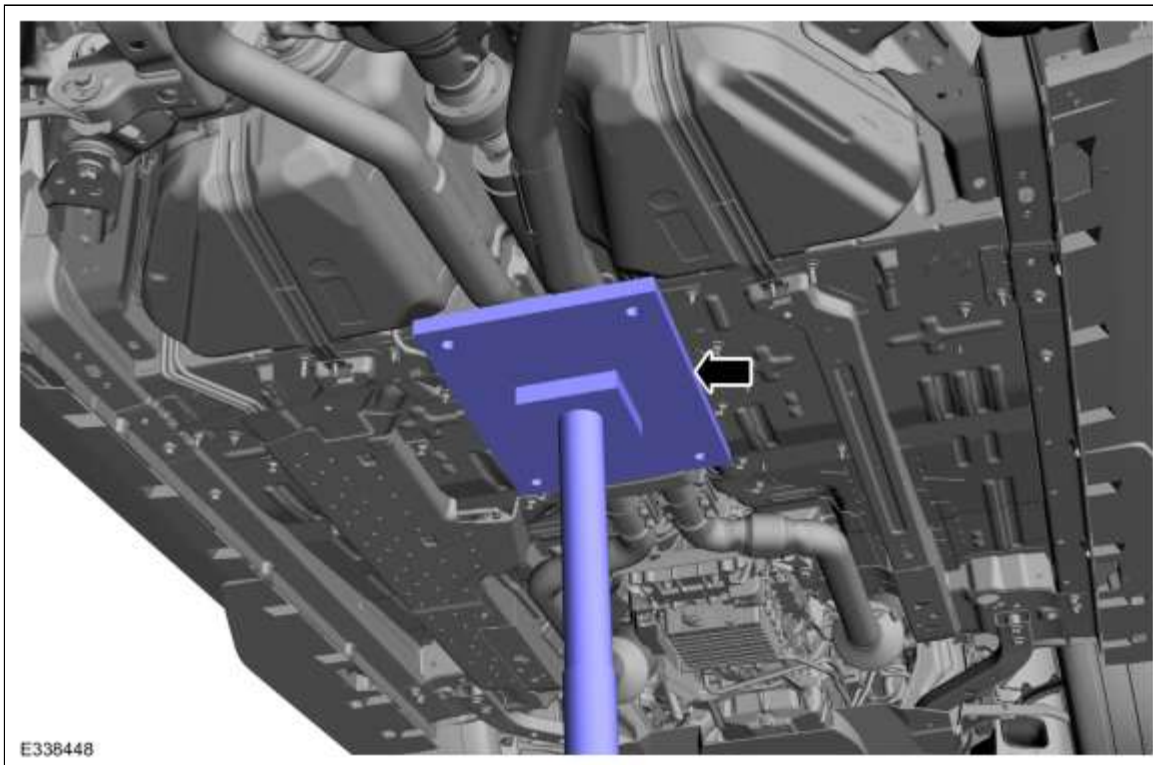
8. 1. Position the exhaust muffler assembly back in the vehicle.
2. Position the hanger brackets and install the bolts.
Torque: 22 lb.ft (30 Nm)



9. Position the hanger brackets and install the bolts.
Torque: 18 lb.ft (25 Nm)

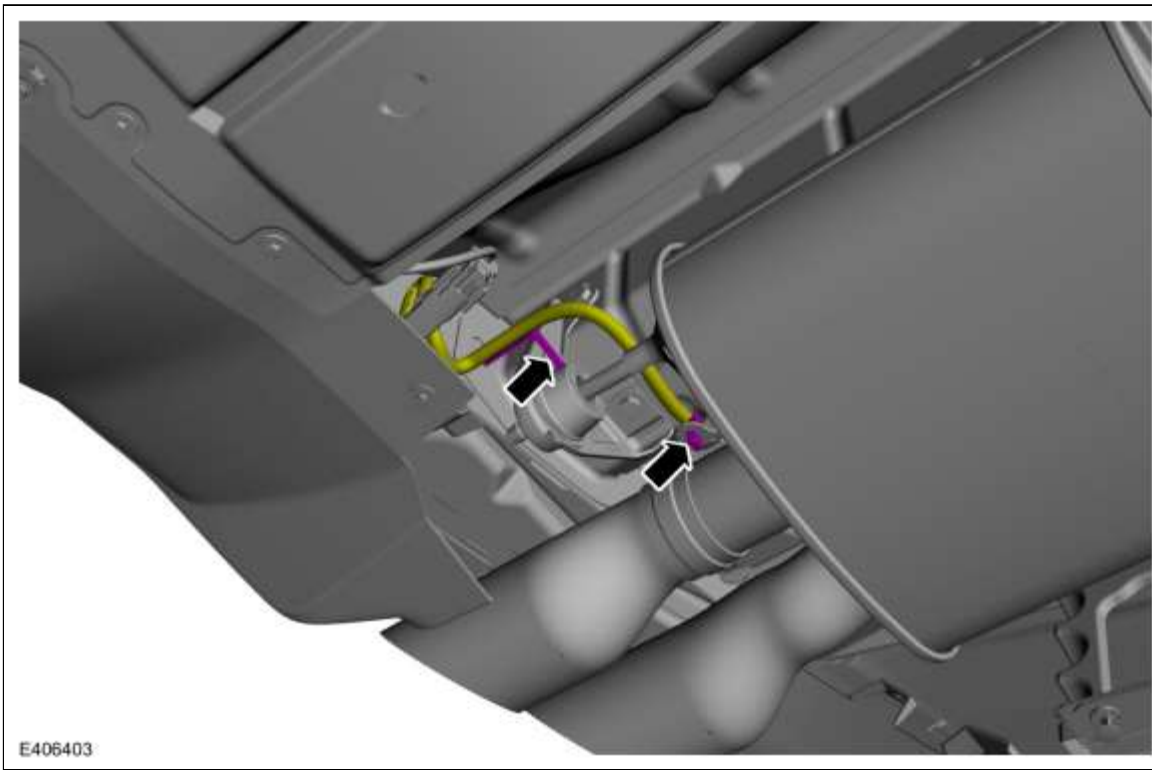


10. Remove the transmission jack.
Use the General Equipment: Transmission Jack

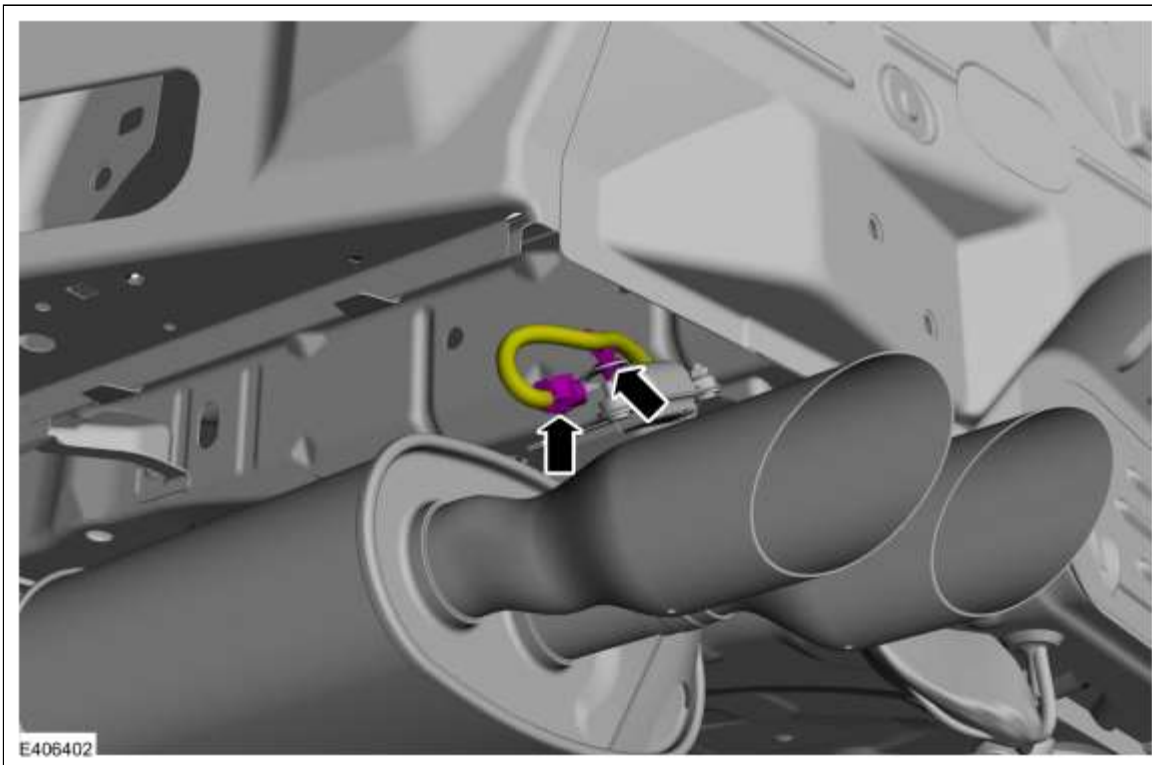


11. **NOTE:** Make sure the electrical wiring is routed with suitable clearance from the exhaust tips and the push pin clips are correctly installed.

On both sides.
Attach the exhaust tail pipe actuator electrical wiring harness retainers.



12. On both sides.
 Attach the wiring retainer and connect the exhaust tail pipe actuator electrical connector.



13. **NOTE:** PCM calibration will only work with "Key-On" (Engine Off state – Accessories On). Vehicle requires a push button once without starting vehicle (Key-On) for the PCM to start the calibration of the actuator.

Follow below steps to mount and calibrate new actuator to the PCM .

1. Turn off the vehicle: Key-Off period.
2. **NOTE:** During the Key-Off period, ensure the doors are closed, the brake pedal is released and the vehicle is "asleep".
3. Push the Key-On button.
4. After Key-On, wait for 20 sec for calibration to start.

5. The actuator will rotate the spring to the fully open and closed position which will cause the spring to fully seat in the shaft cap notch. An audible click can be heard.
6. Wait for 20 more seconds in this state and then push-button to turn off (Key-Off).
7. **NOTE:** *During the Key-Off period, ensure the doors are closed, the brake pedal is released and the vehicle is "asleep"*
8. Push the Key-On button and start the engine.
9. Change the Exhaust mode setting any mode that was not previously selected (i.e. Quiet--> Sport or Track--> Normal etc.) and select OK from the steering wheel. Check EXTUN related DTC or default messages.
10. If there is no EXTUN related DTC or there is no "Exhaust mode not available" cluster message then the valve learning was successful. Otherwise repeat steps 1-5 one more time.
11. **NOTE:** *If there is an EXTUN related DTC or the "Exhaust mode not available" cluster message after repeating the steps 1-5 then mount a new actuator and try again.*

Turn off the vehicle. After Key-Off, when the vehicle is asleep, tighten the screws completely up to the specified torque. This process teaches the actuator to learn the closed and open 'end stop' positions.

12. For more information
Refer to: [Electronic Engine Controls](#) (303-14B Electronic Engine Controls - 5.0L 32V Ti-VCT (359kW/486PS) (WU)/5.0L Ti-VCT V8 (331kW/450PS) (MF), Diagnosis and Testing).
14. After installation of the actuator, activate the drive modes via steering wheel or centre console mounted exhaust switch on certain models and visually inspect the operation of the valves inside of the exhaust tips.
 1. In normal/weather drive mode (or quiet exhaust mode) both valves should be fully closed.
 2. In sport/track/dragstrip drive mode (or sports exhaust mode) both valves should be fully open.
 3. During the transition between modes, an audible difference in exhaust tone should be heard.
Refer to: [Electronic Engine Controls](#) (303-14B Electronic Engine Controls - 5.0L 32V Ti-VCT (359kW/486PS) (WU)/5.0L Ti-VCT V8 (331kW/450PS) (MF), Diagnosis and Testing).
15. Check the exhaust system for leaks.