2021 ACCESSORIES AND BODY, CAB

Information and Entertainment System - General Information Part 1 - Corsair

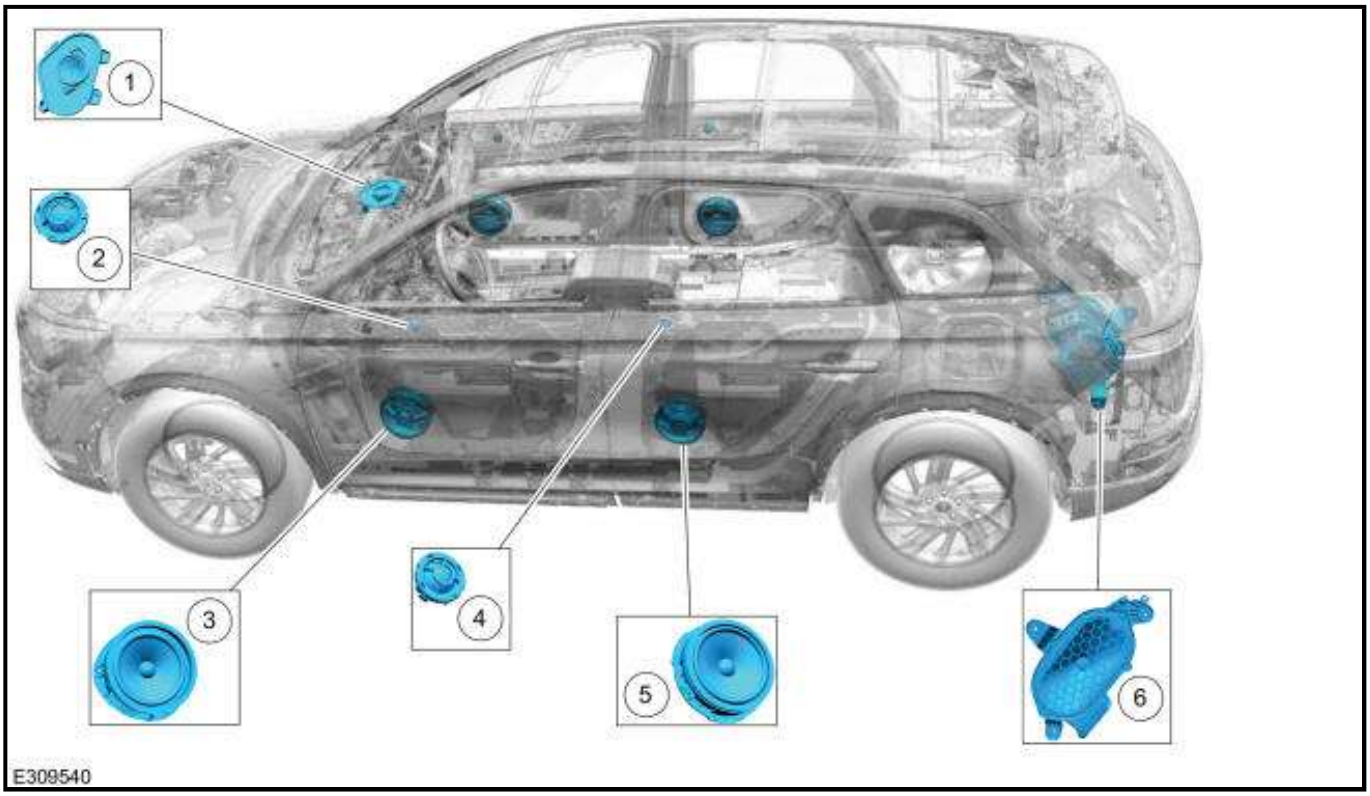
DESCRIPTION AND OPERATION

INFORMATION AND ENTERTAINMENT SYSTEM - COMPONENT LOCATION

NOTE: **The available speaker configurations are shown first. The remaining hidden audio/SYNC system components and various cable routings follow the speaker configurations.**

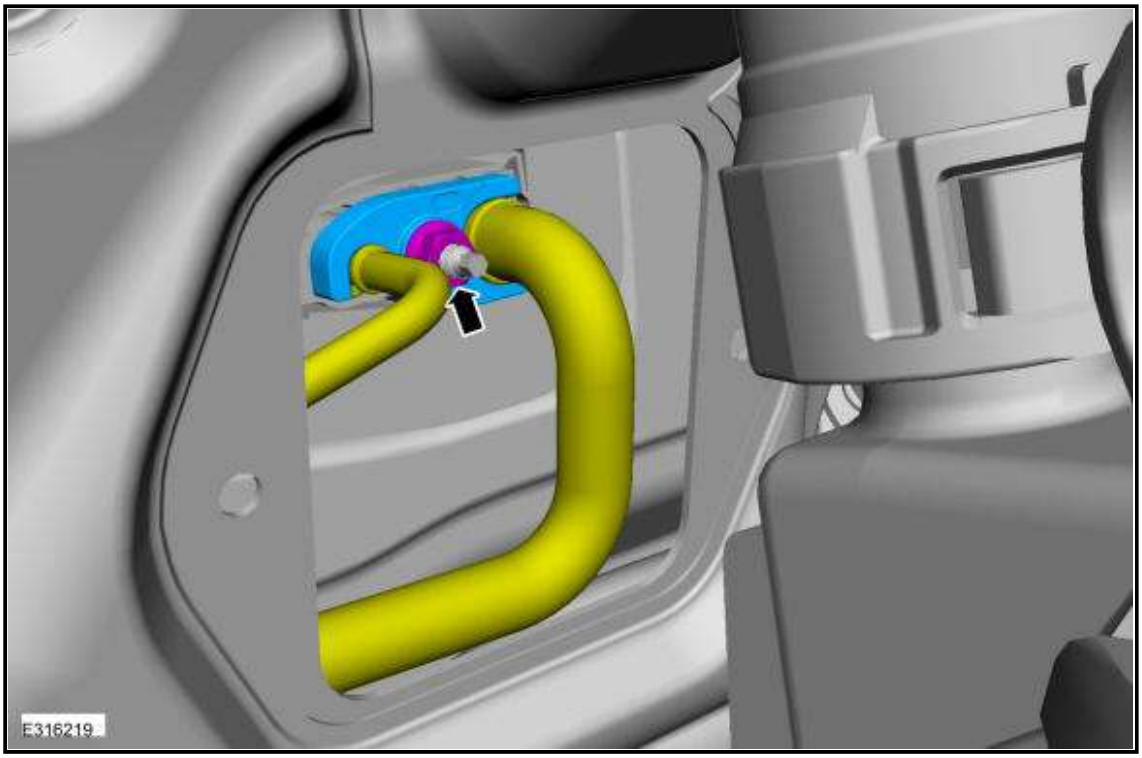
NOTE: **Some vehicles may not be equipped with all the optional components shown.**

10 Speaker System



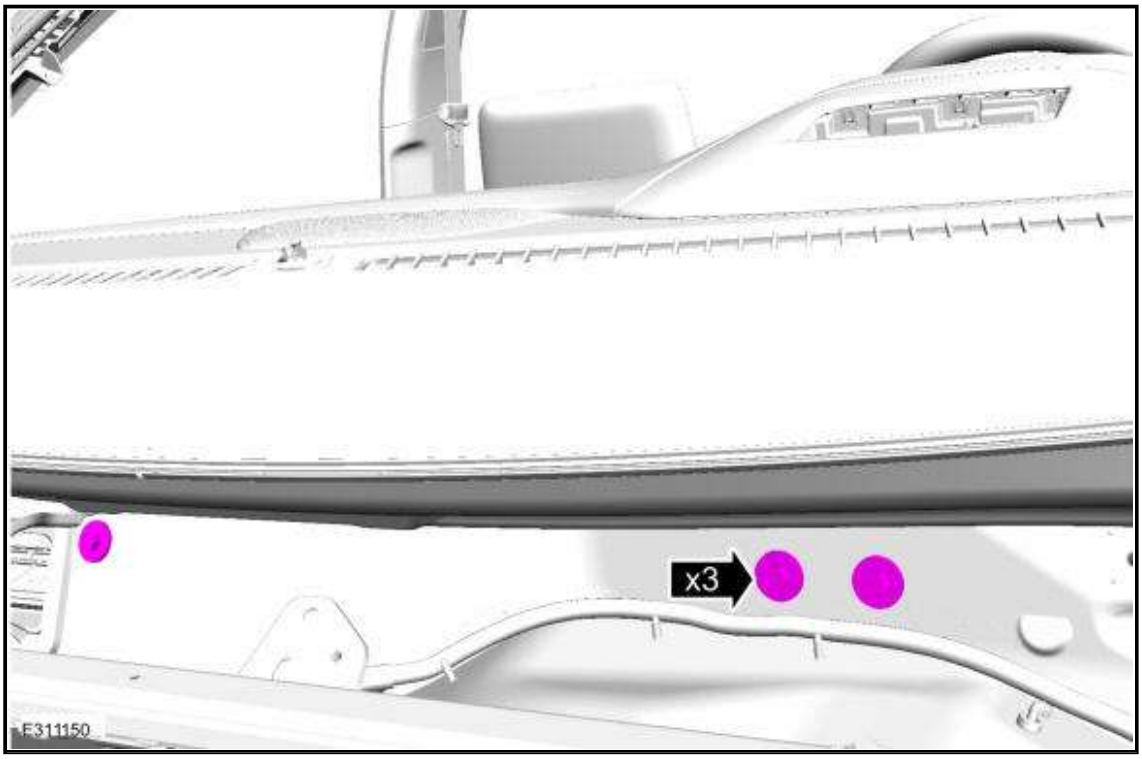
Item	Description
1	Instrument panel center speaker
2	Left/right front door tweeter speakers
3	Left/right front door woofer speakers
4	Left/right rear door tweeter speakers
5	Left/right rear door woofer speakers
6	Subwoofer speaker

13 Speaker System

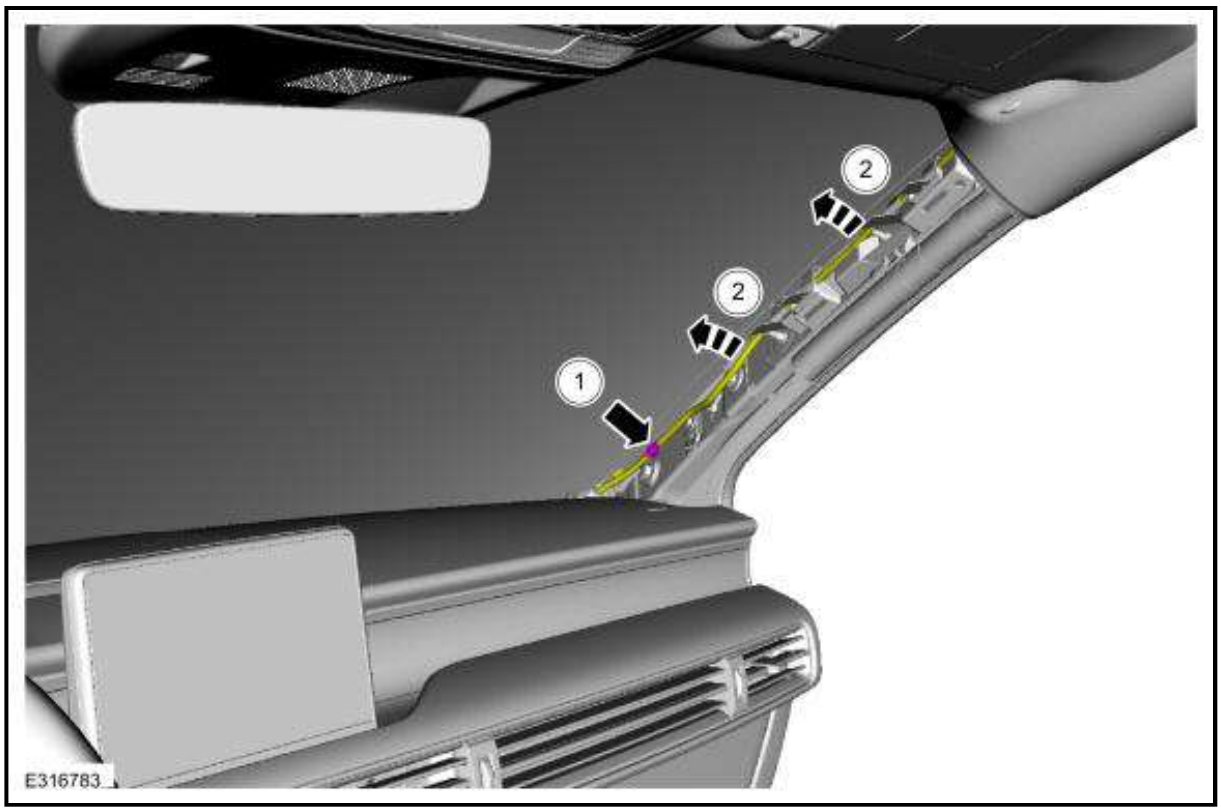


12. Remove the wiper linkage assembly. Refer to: **Wiper Linkage Assembly** .
13. Remove the bolts.

    Torque: 18 lb.ft (25 Nm)



14. Release the clips and remove the LH trim panel.



5. **NOTE:** **LH (left hand) shown below, RH (right hand) similar.**

On both sides. Remove the sun visor.

1. Position the sun visor screw cover aside.
2. Remove the sun visor screw.
3. Rotate the sun visor downward.
4. Disconnect the sun visor electrical connector.

Symptom Chart

Diagnostics in this service information assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: **Diagnostic Methods** .

Symptom Chart

Condition	Actions
The pedestrian alert system is inoperative	**GO to Pinpoint Test A**
A sounder is distorted	**GO to Pinpoint Test B**
Poor sounder volume	**GO to Pinpoint Test A**

Pinpoint Tests

PINPOINT TEST A: THE PEDESTRIAN ALERT SYSTEM IS INOPERATIVE

Normal Operation and Fault Conditions

See Pedestrian Alert System description. REFER to: **Pedestrian Alert System - System Operation and Component Description**.

The PACM receives a hot at all times voltage from the BCM. The PACM receives the ignition status message for the RUN/START or ACC input from the BCM through the GWM over the HS-CAN3.

Possible Sources

- Fuse
- Communication concern
- PACM

A1 PERFORM THE NETWORK TEST FOR ALL MODULES

- Using a diagnostic scan tool, perform a network test.

Do all equipped modules pass the network test?

Yes	GO to A2

No	REFER to: **Communications Network** .

A2 PERFORM THE PACM (PEDESTRIAN ALERT CONTROL MODULE) MODULE SELF-TEST

- Ignition ON.
- Using a diagnostic scan tool, perform the PACM module self-test.
- Check for recorded Diagnostic Trouble Codes (DTCs) from the PACM module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to **Diagnostic Trouble Code (DTC) Chart**.

No	GO to A3

A3 CHECK THE SOUNDER OPERATION

- Install a known good sounder. REFER to: **Pedestrian Alert System Speaker**.
- **NOTE:** **Make sure the vehicle is operating in electric mode (engine not running).**

  Operate the vehicle in a forward range between 0-30 km/h (0-8 mph) and verify whether the pedestrian alert system sounder operates.

Does the pedestrian alert system sounder operate?

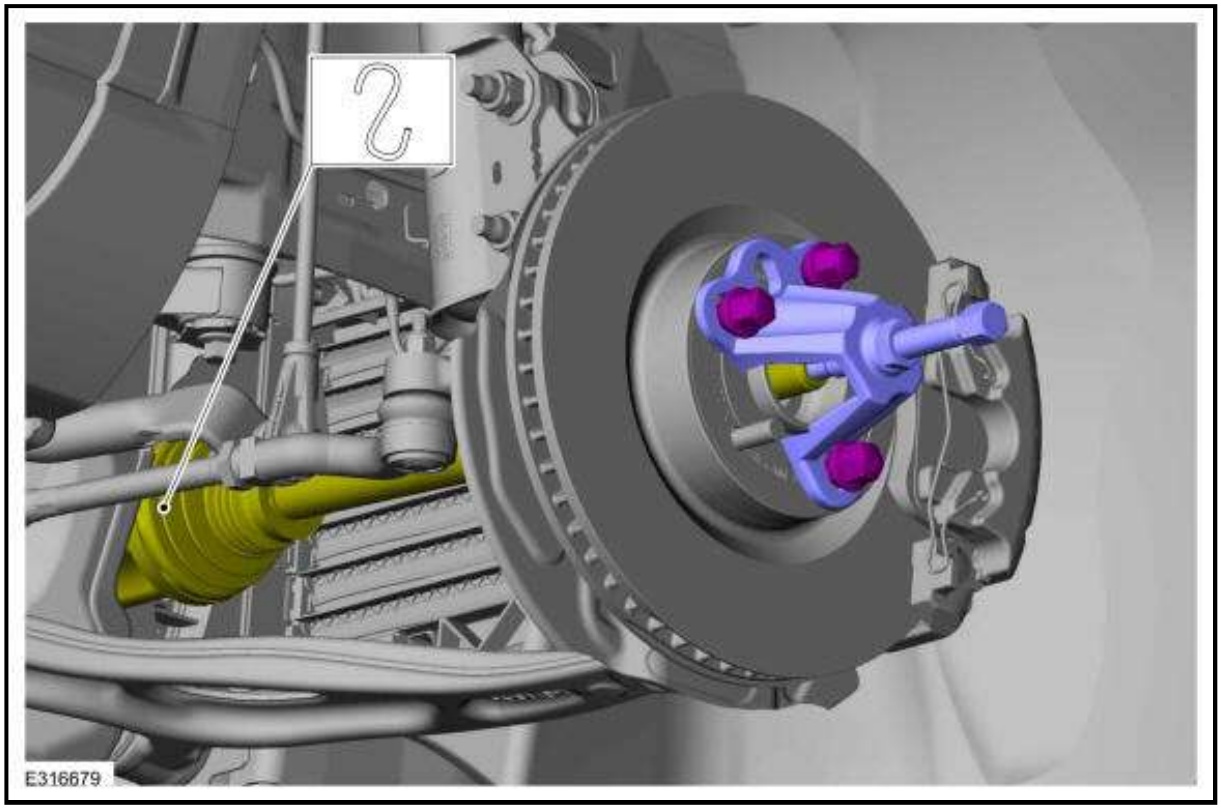
- Put the ABS module in sleep mode by performing the following steps:
  - With ALL doors closed, set the ignition from ON to OFF.
  - Disconnect the diagnostic scan tool.
  - Open the door, exit the vehicle and close the door.
  - Wait a minimum of 90 seconds for the ABS module to enter sleep mode.
- ABS_A Module connector disconnected. (C135A)
- ABS_B Module connector disconnected. (C135B)
- ATCM connector disconnected.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary
- ATCM connector connected. Make sure the connector seats and latches correctly.
- ABS_B Module connector connected. (C135B) Make sure the connector seats and latches correctly.
- ABS_A Module connector connected. (C135A) Make sure the connector seats and latches correctly.
- Operate the system and verify the concern is still present.
- **Is the concern still present?**

Yes	No
CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no services articles address this concern, INSTALL a new ATCM. REFER to the Power Transfer Unit article.	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

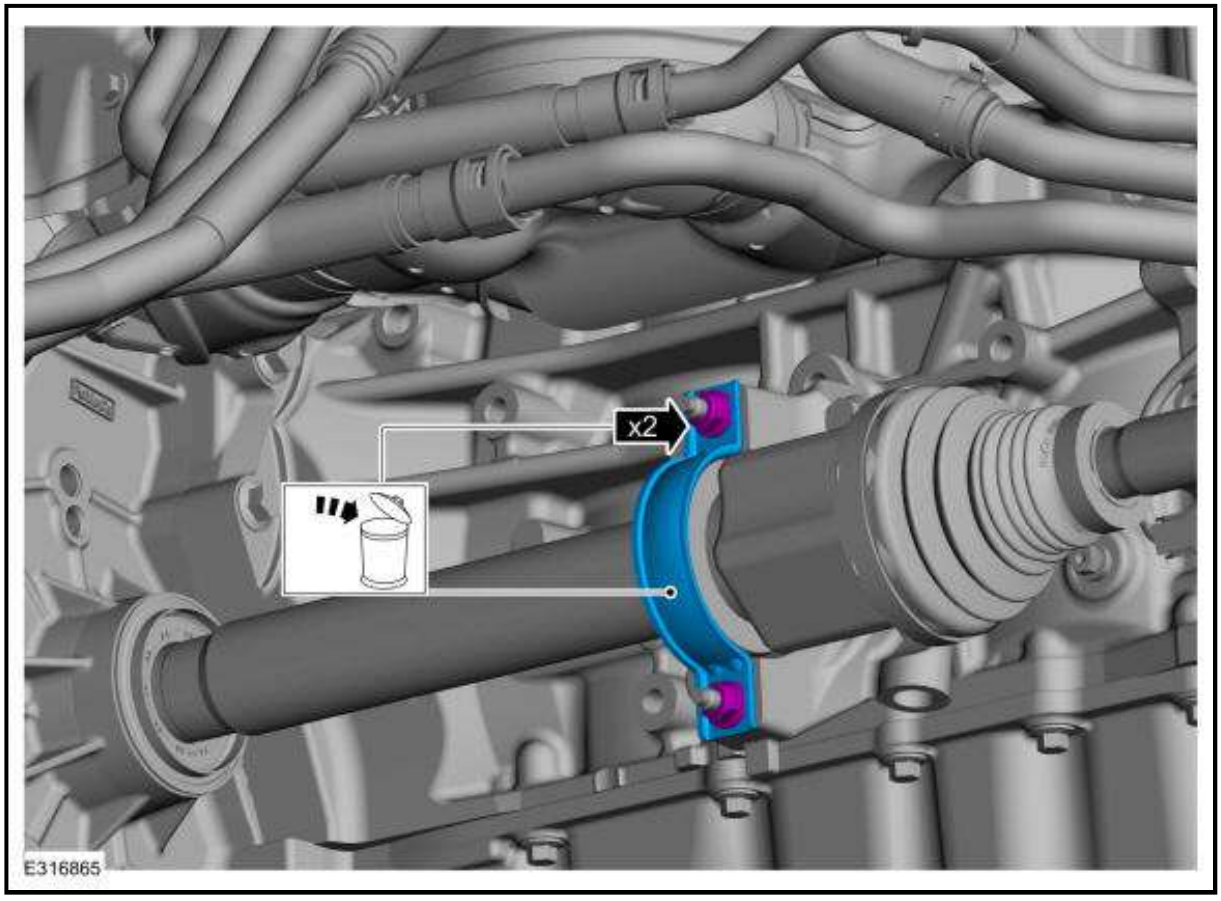
BM9: Check For Correct ABS Module Operation

- Ignition OFF.
- ABS Module connector disconnected.
- ATCM connector disconnected.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary
- ATCM connector connected. Make sure the connector seats and latches correctly.
- ABS Module connector connected. Make sure the connector seats and latches correctly.
- Operate the system and verify the concern is still present.
- **Is the concern still present?**

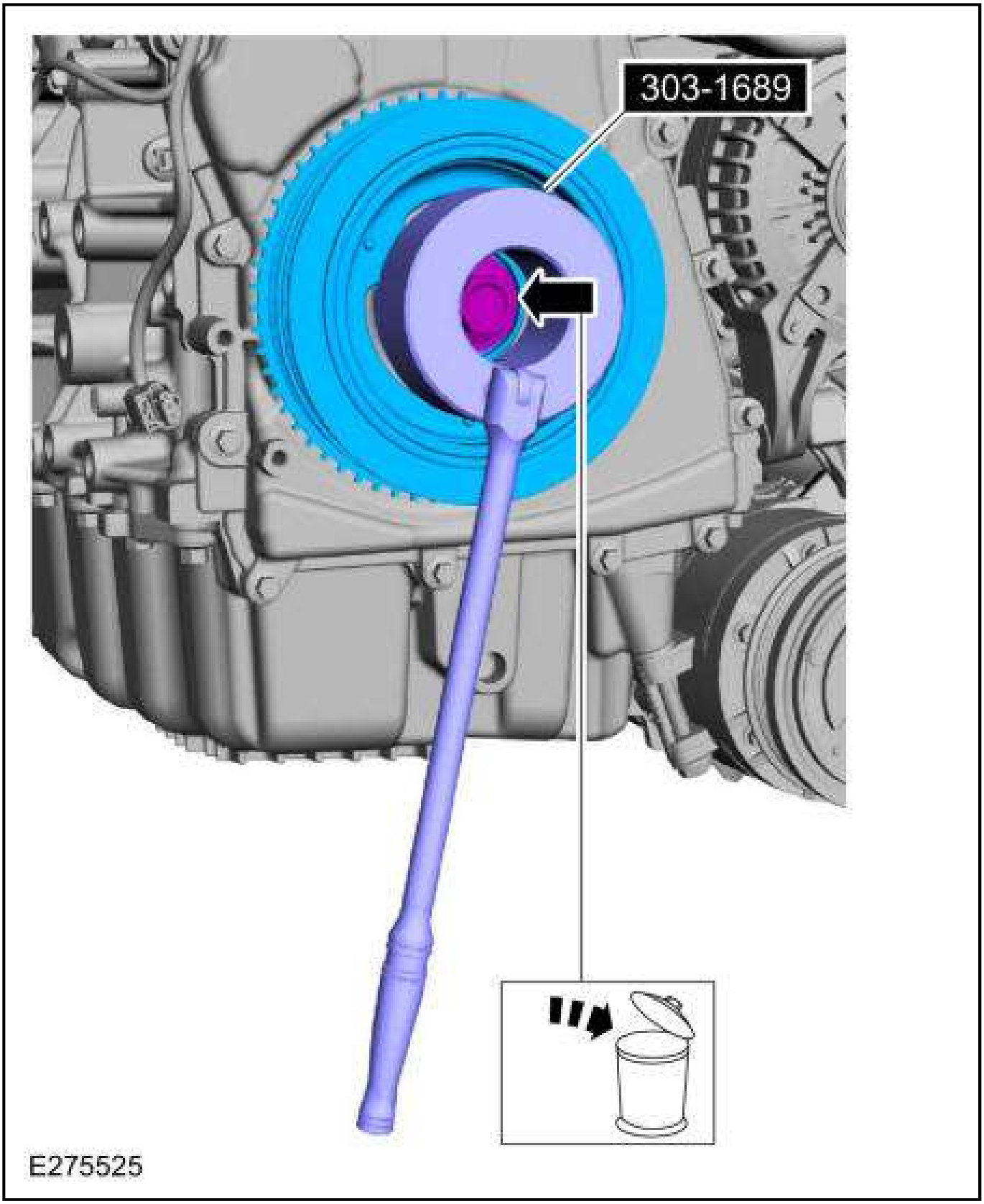
Yes	No
CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern,	The system is operating correctly at this time. The concern may have been caused by module



8. Remove and discard the halfshaft retaining strap and nuts.



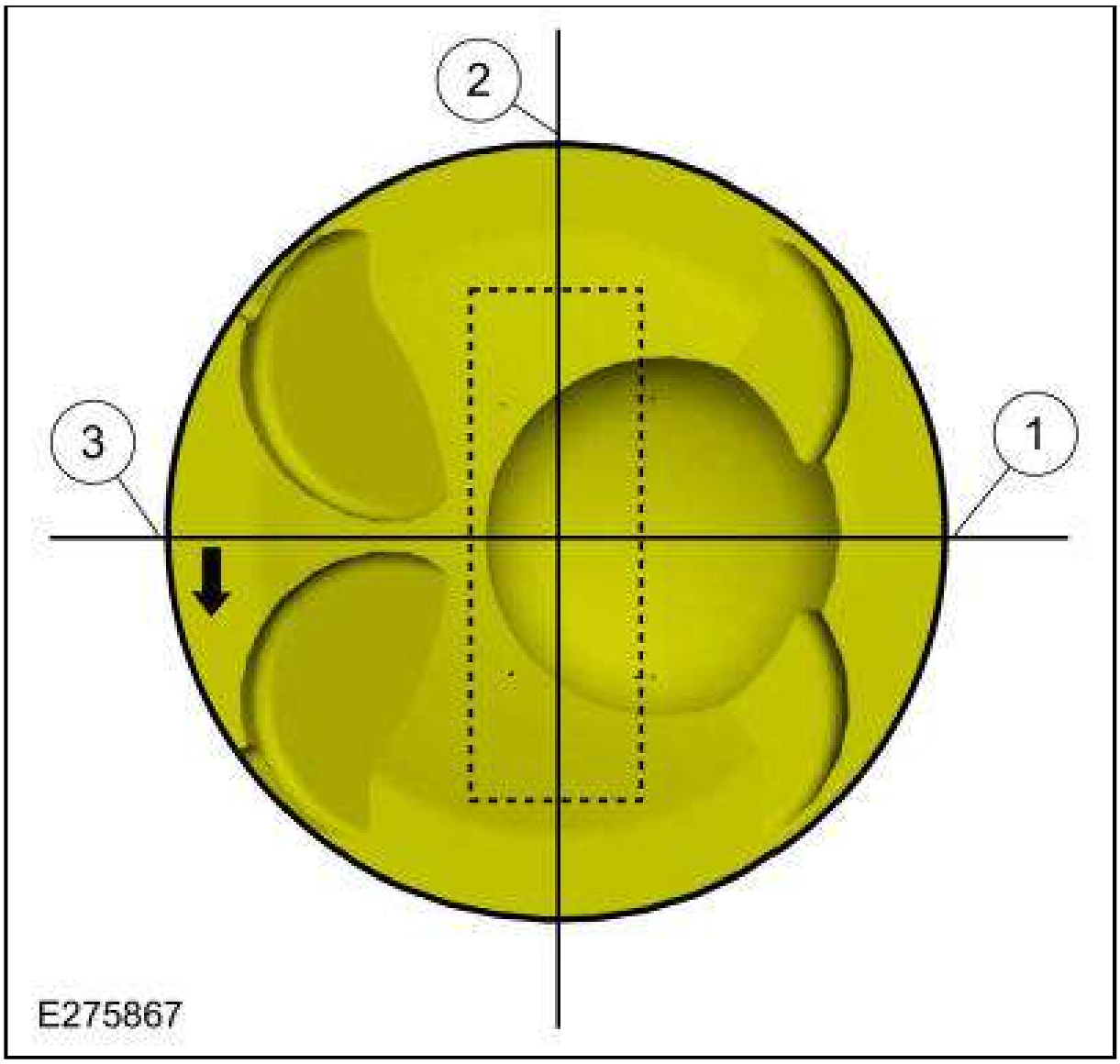
9. Remove the halfshaft.



INSTALLATION

LHD AWD/LHD FWD

1. Lubricate the crankshaft pulley with clean engine oil.

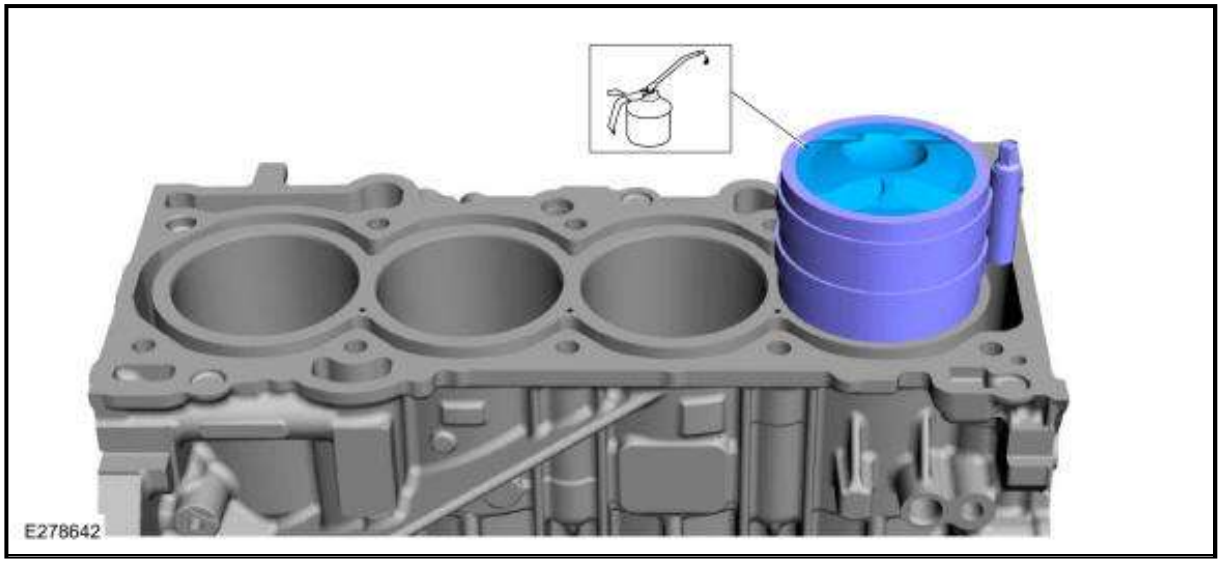


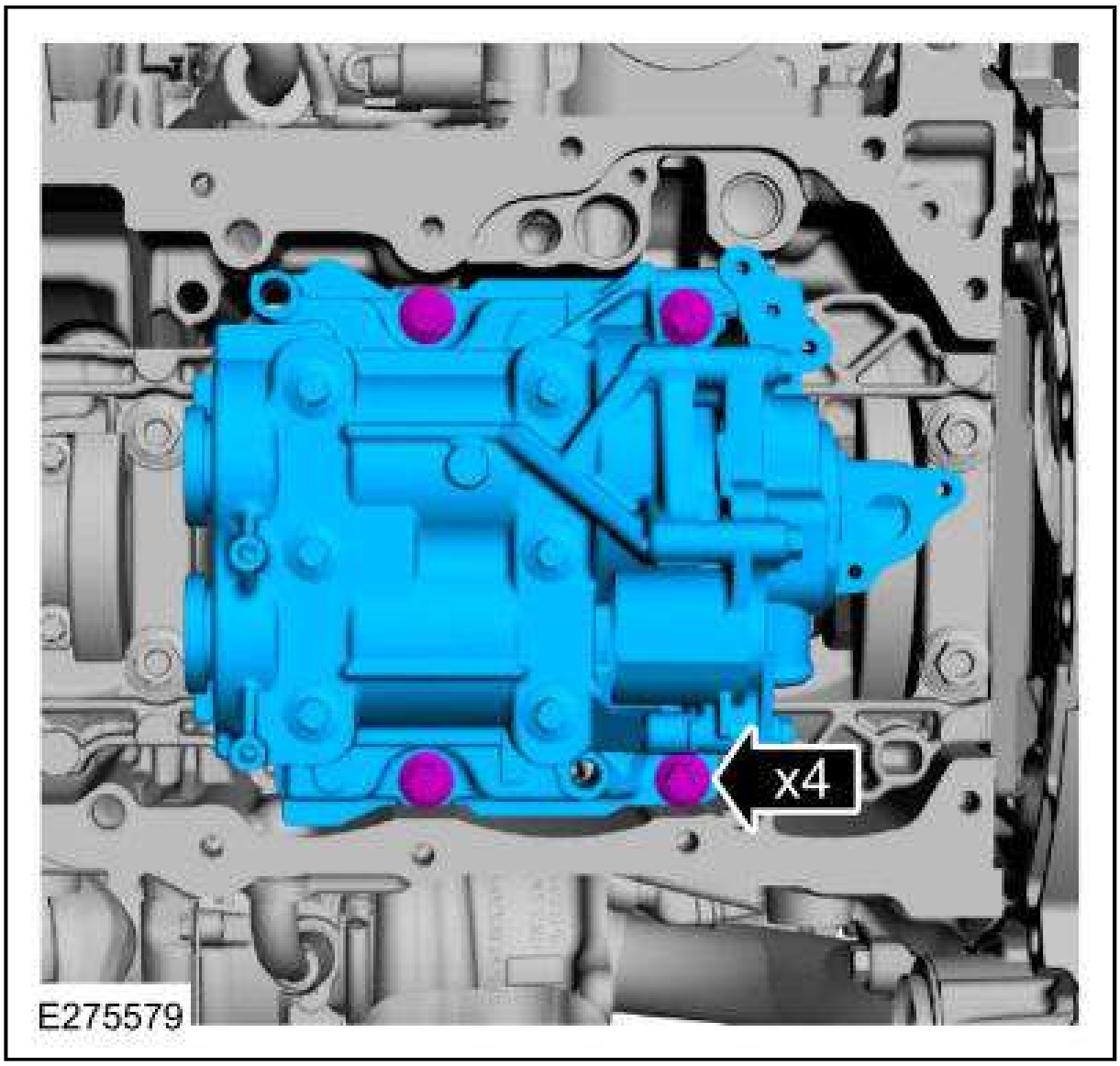
NOTE: **Be sure not to scratch the cylinder wall or crankshaft journal with the connecting rod. Push the piston down until the connecting rod bearing seats on the crankshaft journal.**

26.

NOTE: **Make sure the piston arrow on top is facing toward the front of the engine.**

Lubricate with clean engine oil. Using a piston ring compressor, install the pistons. Use the General Equipment: Piston Ring Compressor

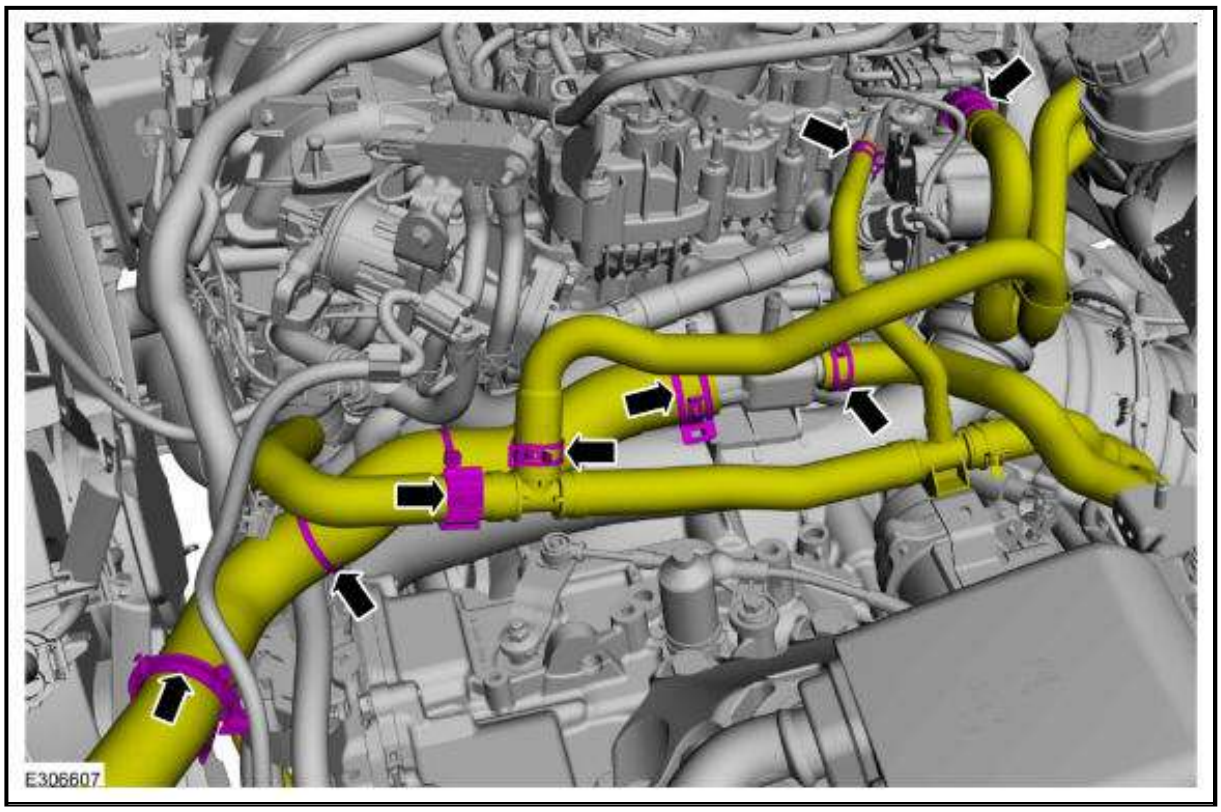




6. Tighten the bolts in sequence shown.

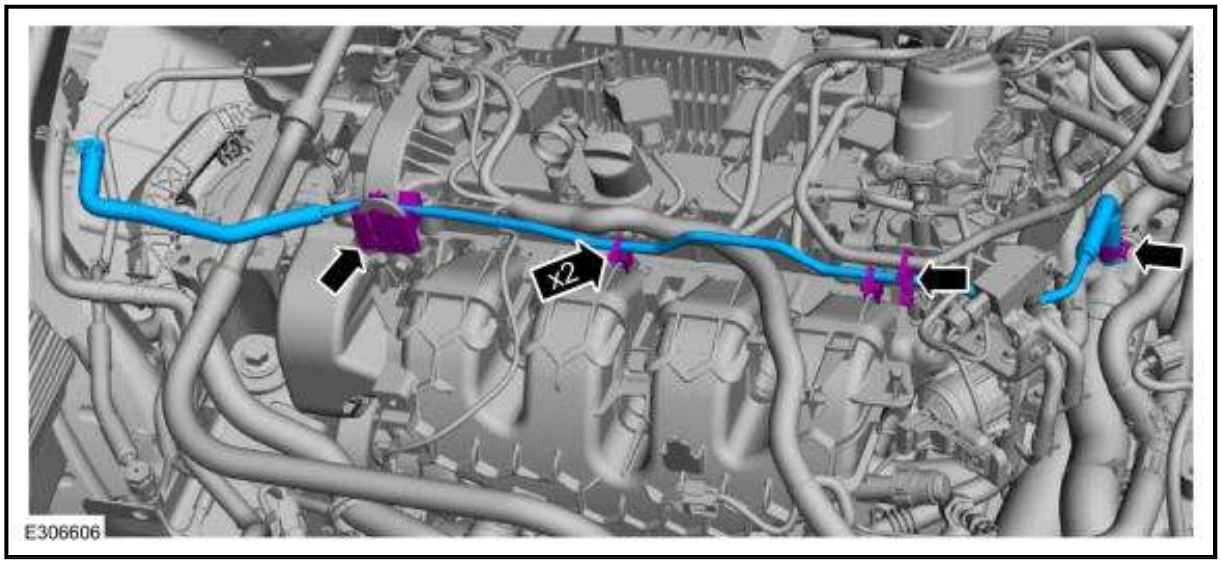
   Torque: Stage 1: 133 lb.in (15 Nm) | Stage 2: 45B°

- Connect heater hose to the EGR cooler.
- Attach the coolant hose retainers.



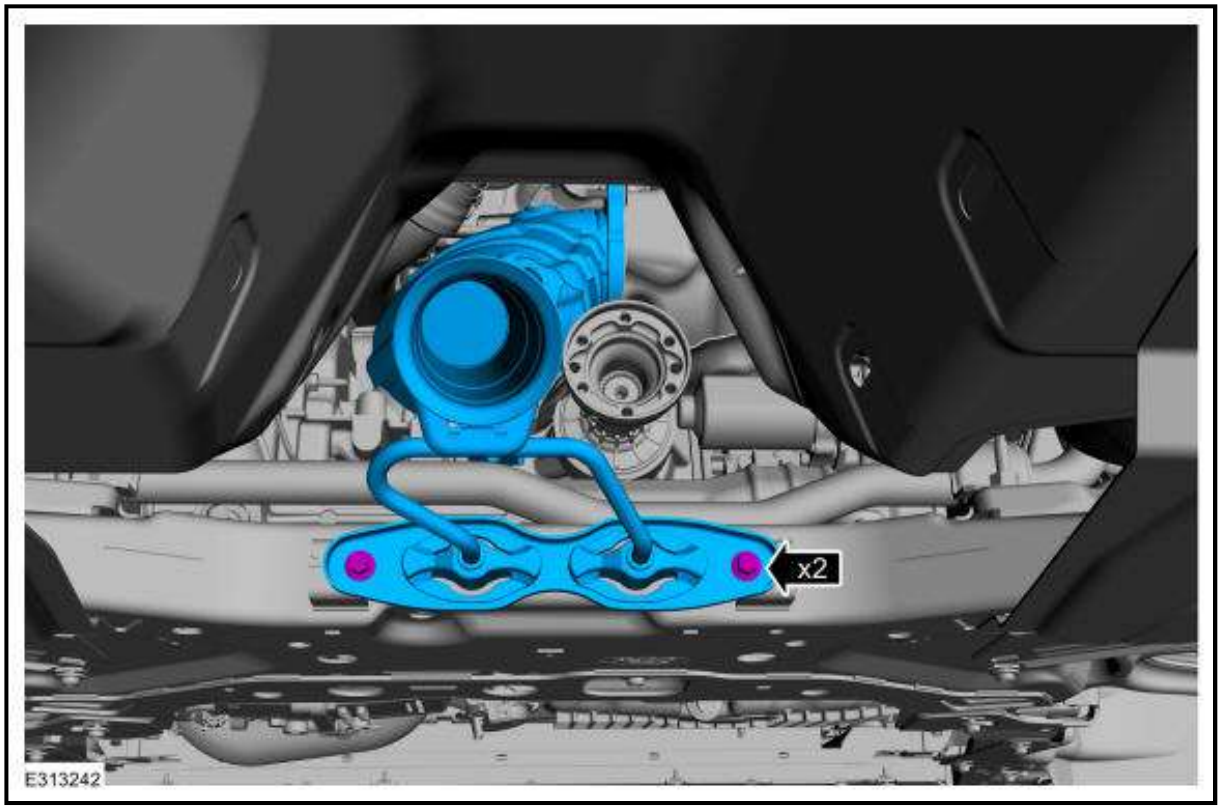
92.

- Install the degas bottle coolant hose and the clamp. Use the General Equipment: Hose Clamp Remover/Installer
- Attach the degas bottle coolant hose retainers.



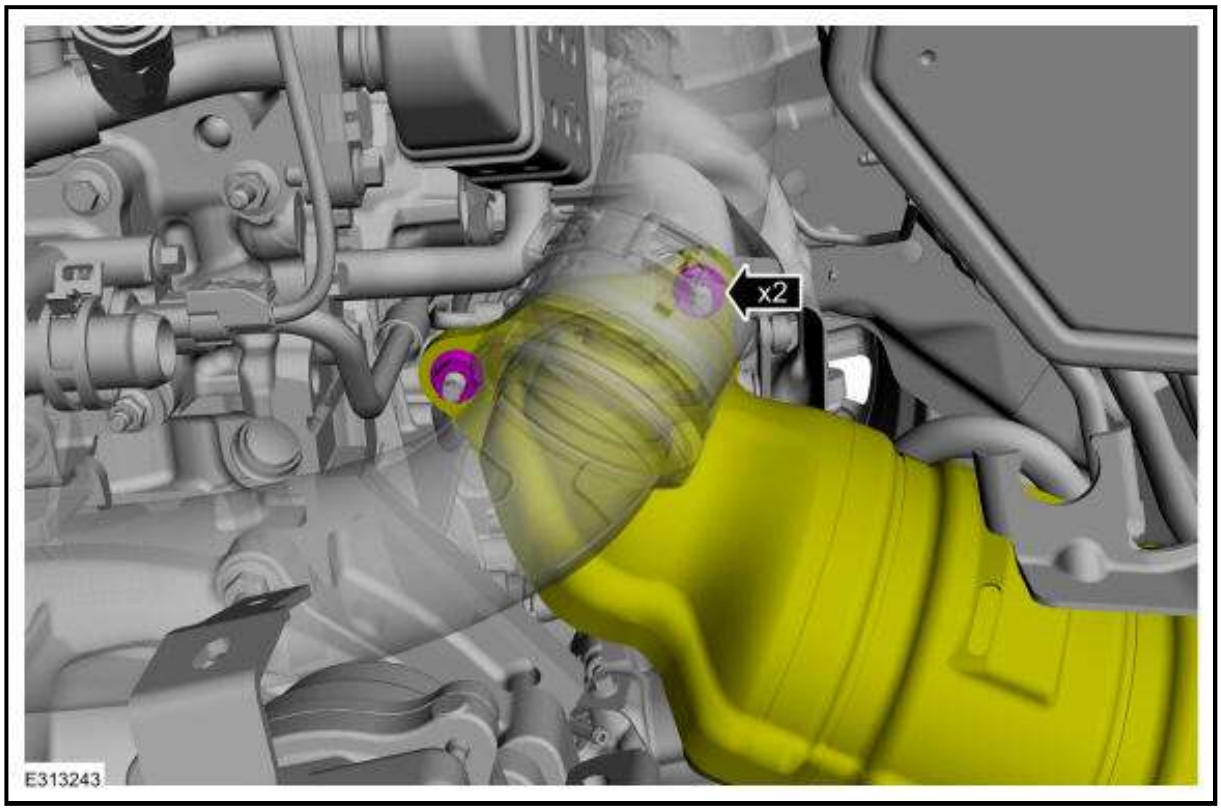
93. Position the ground wire, attach the retainer and install the bolt.

Torque: 22 lb.ft (30 Nm)



6. **NOTE:** **The nuts are only finger tight at this step.**

Install the catalytic converter flange nuts.



7. **NOTE:** **The nut is only finger tight at this step.**

Install the catalytic converter flange nut.

Module	DTC	Description	Action
PCM	P000A:00	A Camshaft Position Slow Response (Bank 1): No Sub Type Information	GO to Pinpoint Test HK
PCM	P000B:00	B Camshaft Position Slow Response (Bank 1): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0010:00	A Camshaft Position Actuator A Control Circuit/Open Bank 1: No Sub Type Information	GO to Pinpoint Test HK
PCM	P0011:00	A Camshaft Position Timing - Over-Advanced (Bank 1): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0012:00	A Camshaft Position Timing - Over-Retarded (Bank 1): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0013:00	B Camshaft Position Actuator A Control Circuit/Open Bank 1: No Sub Type Information	GO to Pinpoint Test HK
PCM	P0014:00	B Camshaft Position Timing - Over-Advanced (Bank 1): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0015:00	B Camshaft Position Timing - Over-Retarded (Bank 1): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0016:00	Crankshaft Position - Camshaft Position Correlation (Bank 1 Sensor A): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0017:00	Crankshaft Position - Camshaft Position Correlation (Bank 1 Sensor B): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0018:00	Crankshaft Position - Camshaft Position Correlation (Bank 2 Sensor A): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0019:00	Crankshaft Position - Camshaft Position Correlation (Bank 2 Sensor B): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0020:00	A Camshaft Position Actuator A Control Circuit/Open Bank 2: No Sub Type Information	GO to Pinpoint Test HK
PCM	P0021:00	A Camshaft Position Timing - Over-Advanced (Bank 2): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0022:00	A Camshaft Position Timing - Over-Retarded (Bank 2): No Sub Type Information	GO to Pinpoint Test HK
PCM	P0023:00	B Camshaft Position Actuator A Control Circuit/Open Bank 2: No Sub Type Information	GO to Pinpoint Test HK
PCM	P0024:00	B Camshaft Position Timing - Over-Advanced (Bank 2): No	GO to Pinpoint Test HK

Vehicle	Connector	Pin	Circuit
		E1	VCT11
Corsair 2.5L, Escape/Kuga 2.5L, Transit Connect 2.5L	198 PIN	E1	VCT11
E-Series, F-650/F-750, F-Series Super Duty 7.3L, Motorhome/Stripped Chassis/Step Van	306 PIN	E4	VCT11
EcoSport 1.0L Manual Transmission	198 PIN	E31 E16	VCT12 VCT11
EcoSport 1.5L Automatic Transmission, KA 1.5L Automatic Transmission	198 PIN	E2 E1	VCT12 VCT11
EcoSport 1.5L Manual Transmission, KA 1.2L, KA 1.5L Manual Transmission	112 PIN	E45 E51	VCT12 VCT11
Edge 2.7L, Expedition Base, Explorer 3.0L, Explorer 3.3L, Mustang 5.0L, Mustang 5.2L Supercharged, Nautilus 2.7L, Navigator Base, Transit	306 PIN	E111 E25 E102 E4	VCT22 VCT21 VCT12 VCT11
Expedition High Output, Navigator High Output	198 PIN	E31 E61 E16 E46	VCT22 VCT21 VCT12 VCT11
F-150	306 PIN	E36 E99 E81 E37	VCT22 VCT21 VCT12 VCT11
F-Series Super Duty 6.2L	306 PIN	E25 E4	VCT21 VCT11
Ford GT	198 PIN	E17 E18 E29 E1	VCT22 VCT21 VCT12 VCT11
KA 1.0L	128 PIN	E46 E47	VCT12 VCT11
Mustang TiVCT 5.2L	198 PIN	E6 E7 E4 E5	VCT22 VCT21 VCT12 VCT11
Ranger 2.5L	128 PIN	E43	VCT11
All other vehicles	198 PIN	E1 E5	VCT12 VCT11

HK: Variable Camshaft Timing (VCT)

TEST PROCEDURE

HK1 CHECK FOR DTCS

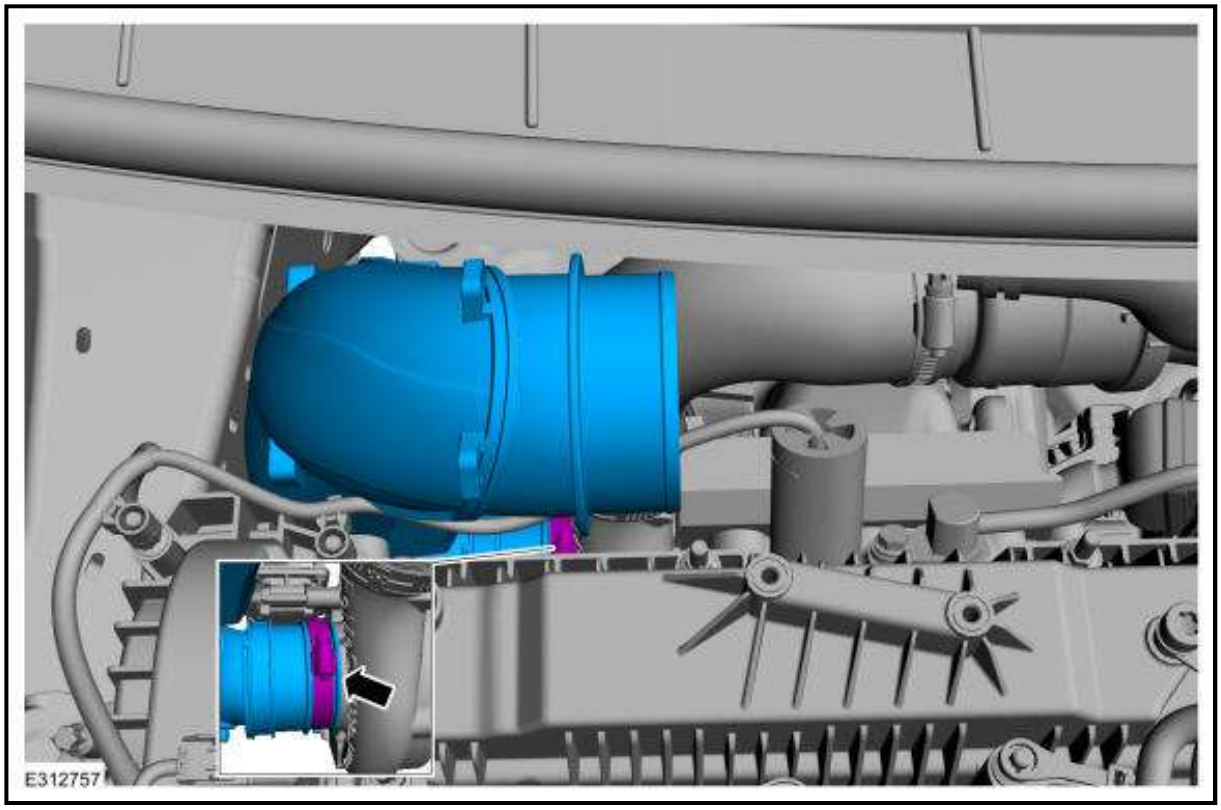
NOTE: **These DTCs may be accompanied by other DTCs. Diagnose all CMP sensor DTCs first. If no CMP sensor related DTCs are present, continue to follow diagnosis for the DTC. If any CMP DTCs are present, GO to Pinpoint Test DR. If no CMP DTCs are present, continue to follow this test.**

Are DTCs P000A, P000B, P0010, P0011, P0012, P0013, P0014, P0015, P0016, P0017, P0018, P0019, P0020, P0021, P0022, P0023, P0024, P0025, P052A, P052B, P052C, P052D, P054A, P054B, P054C, P054D, P2088, P2089, P2090 or P2091 present?

Yes	No
For DTC P0010, P0013, P0020, P0023, P2088, P2089, P2090 and P2091, GO to HK2 For all others, GO to HK10	For symptoms without DTCs, GO to HK10 For all others, RETURN to **Symptom Charts** for further direction.

HK2 CHECK FOR VCT DTCS

Inputs	Component/PID Only	Measured/PID Values				Units Measured/PID
		KOEO	Hot Idle	48 KM/H (30 MPH)	89 KM/H (55 MPH)	
B+	PID	B	B	B	B	VOLTS
BARO	PID	B	B	B	B	kPa (PSI)/Hz
BOO1	BPP Switch	B	B	B	B	ON/OFF
BOO2	BPP Switch	B	B	B	B	ON/OFF
BRKOVRD_POSS	PID	B	B	B	B	NUMERIC VALUE
BRKOVR_ACTION	PID	B	B	B	B	NUMERIC VALUE
CHT	CHT Sensor	B	B	B	B	VOLTS/DEG C (DEG F)
CLRDIST	PID	B	B	B	B	KM (MILES)
DECHOKE	PID	B	B	B	B	YES/NO
DIST_BRKOVRD	PID	B	B	B	B	KM (MILES)
EQ_RAT11	PID	B	B	B	B	RATIO
EQ_RAT21	PID	B	B	B	B	RATIO
ETC_ACT	PID	B	B	B	B	DEG
ETC_TRIM	PID	B	B	B	B	DEG
FLI	Fuel Level Sensor	B	B	B	B	%
FLP	Fuel Pressure Sensor	B	B	B	B	kPa (PSI)
FLP_V	Fuel Pressure Sensor	B	B	B	B	VOLTS
FPM	PID	B	B	B	B	%
FRP	FRP Sensor	B	B	B	B	VOLTS/kPa (PSI)
FRT	FRPT Sensor	B	B	B	B	DEG C (DEG F)
FRT_V	FRT Sensor	B	B	B	B	VOLTS
FTP	FTP Sensor	B	B	B	B	VOLTS/kPa (PSI)
FTP_H2O	FTP Sensor	B	B	B	B	NUMERIC VALUE
HTRCM12	HO2S12 Sensor	B	B	B	B	mA
HTRCM22	HO2S22 Sensor	B	B	B	B	mA
IAT	IAT Sensor	B	B	B	B	VOLTS/DEG C (DEG F)
INJPWR_M	PID	B	B	B	B	VOLTS
INJ_F	PID	B	B	B	B	FAULT/NO FAULT
KEYST	Ignition Switch	B	B	B	B	ON/OFF
KNOCK_1	KS11 Sensor	B	B	B	B	COUNT
KNOCK_2	KS12 Sensor	B	B	B	B	COUNT
LOAD	PID	B	B	B	B	%
LONGFT1	PID	B	B	B	B	%
LONGFT2	PID	B	B	B	B	%
MAF	MAF Sensor	B	B	B	B	g/s
MAF_HZ	MAF Sensor	B	B	B	B	kHz
MIL_DIS	PID	B	B	B	B	KM (MILES)
MISFIRE	PID	B	B	B	B	YES/NO
MP_LRN	PID	B	B	B	B	YES/NO
NUM_MISFIRE	PID	B	B	B	B	COUNT
O2S11_CUR	HO2S11 Sensor	B	B	B	B	mA/uA
O2S11_IMPED	HO2S11 Sensor	B	B	B	B	VOLTS
O2S11_READY	HO2S11 Sensor	B	B	B	B	YES/NO
O2S12	HO2S12 Sensor	B	B	B	B	VOLTS
O2S21_CUR	HO2S21 Sensor	B	B	B	B	mA/uA

2. 

    1. Install the air cleaner outlet pipe and tighten the clamp.

       Torque: 48 lb.in (5.4 Nm)

3.

    1. Install the air cleaner outlet pipe and tighten the clamps.

       Torque: 42 lb.in (4.8 Nm)

    2. Install the fasteners.

       Torque: 80 lb.in (9 Nm)