




Engine (12.41.01.99)

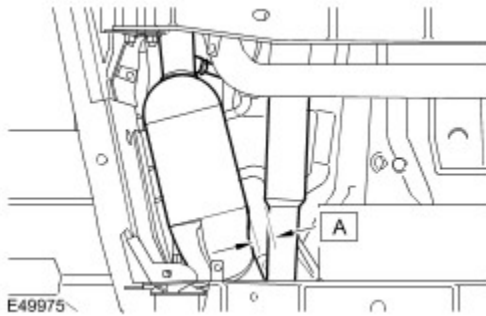
Installation

- 1 . Remove the torque converter retainer.
- 2 . Install the engine.
 - ▶ Connect the lifting chains.
 - ▶ Carefully lower the engine until approximately 35mm above engine mounts.
 - ▶ With assistance align the engine to the transmission and engine mounts.
- 3 . Install the RH engine mount.
- 4 . Install the transmission retaining bolts.
 - ▶ Clean the component mating faces.
 - ▶ Remove the guide pins.
 - ▶ Tighten the bolts to 45 Nm (33 lb.ft).
- 5 . Tighten the engine mount nuts to 90 Nm (66 lb.ft).
- 6 . Remove the engine lifting bracket.
 - ▶ Disconnect the lifting chains.
 - ▶ Remove the 7 bolts.
 - ▶ Remove the 12 nuts.
- 7 . Attach the flexplate to the torque converter.
 - ▶ Rotate the crankshaft to access the retaining bolts.
 - ▶ Tighten the bolts to 45 Nm (33 lb.ft).
 - ▶ Install the grommet.
- 8 . Connect the CKP sensor electrical connector.
 - ▶ Clean the component mating faces.
- 9 . Connect the HO2S electrical connectors.
- 10 . Install the engine wiring harness support bracket.
- 11 . Connect the engine oil temperature sensor electrical connector.
- 12 . Install the starter motor.
 - ▶ Clean the component mating faces.

- ▶ Tighten the bolts to 45 Nm (33 lb.ft).
- 13 . Position the fuel pipe and purge line heat shield and secure with bolts.
- 14 . Position the RH catalytic converter to the exhaust manifold.
 - ▶ Clean the components.
 - ▶ Tighten the new bolts to 22 Nm (16 lb.ft).
- 15 .  **CAUTION: Make sure there is a clearance (A) of 25 mm to 30 mm between the closest points of the LH catalytic converter and the front driveshaft.**



Position the LH catalytic converter to the exhaust manifold.

- ▶ Clean the components.
- ▶ Tighten the new bolts to 22 Nm (16 lb.ft).



- 16 . Install the transmission heat shield.
- 17 . Connect the engine oil cooler hoses.
 - ▶ Secure with the clips.
- 18 . Connect the coolant pump hose.
 - ▶ Secure with the clip.
- 19 . Install the steering column lower universal joint assembly.
 - ▶ Install new patchlock bolts and tighten to 25 Nm (18 lb.ft).
- 20 . Connect the ECT sensor electrical connector.
- 21 . Install the EGR pipe.
 - ▶ Clean the component mating faces.
 - ▶ Install to the exhaust manifold, but do not fully tighten the union nut at this stage.
- 22 . Install the transmission cooler pipes.
 - ▶ Install the support bracket.

- ▶ Tighten the nut to 10 Nm (7 lb.ft).
- 23 . Connect the engine ground cable, make sure the mating faces are clean.
 - ▶ Tighten the nut to 25 Nm (18 lb.ft).
 - ▶ Install the cover.
- 24 . Install the A/C compressor mounting bracket assembly.
 - ▶ Clean the component mating faces.
 - ▶ Tighten the bolts to 45 Nm (33 lb.ft).
 - ▶ Install the KS electrical connector clip.
 - ▶ Connect the A/C compressor electrical connection.
- 25 . Install the generator mounting bracket.
 - ▶ Clean the component mating faces.
 - ▶ Tighten the bolts to 45 Nm (33 lb.ft).
 - ▶ Secure the clip.
 - ▶ Install a new cable tie.
- 26 . Connect the EOP sensor electrical connector.
- 27 . Connect the generator electrical connectors.
- 28 . Install the accessory drive belt. For additional information, refer to [Accessory Drive Belt \(86.10.03\)](#) (Section 303-05)
- 29 . Install the cooling fan lower shroud.
 - ▶ Remove the radiator protection.
 - ▶ Position and secure in the clips.
- 30 . Install the wiring harness to the plenum.
 - ▶ Secure with the clips.
- 31 . Connect the ECM electrical connectors.
- 32 . Install the battery tray. For additional information, refer to [Battery Tray \(76.10.30\)](#) (Section 414-01)
- 33 . Install the intake manifold. For additional information, refer to [Intake Manifold \(30.15.02\)](#) (Section 303-01)
- 34 . Tighten the nuts securing the EGR pipe to the exhaust manifold and EGR valve to 25 Nm (18 lb.ft).
- 35 . Fill the engine with oil. For additional information, refer to [Engine Oil Draining and Filling \(12.60.05\)](#) (Section 303-01)

- 36 . Refill and bleed the cooling system. For additional information, refer to [Cooling System Draining, Filling and Bleeding \(26.10.01\)](#) (Section 303-03)
- 37 . Return the hood from the service position.
-  Release the 2 clips.
 -  Connect the struts and secure with the clips.
- 38 . Connect the battery ground cable. For additional information, refer to [Specifications](#) (Section 414-00)