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2016 Ford Mustang Service and Repair Manual

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Secondary Timing Chain Tensioner

303-01E Engine - 5.0L 32V Ti-VCT	2022 F-150
Removal and Installation	Procedure revision date: 10/1/2020

Secondary Timing Chain Tensioner

Removal

NOTICE

During engine repair procedures, cleanliness is extremely important. Any foreign material, including any material created while cleaning gasket surfaces, that enters the oil passages, coolant passages or the oil pan, can cause engine failure.

NOTE

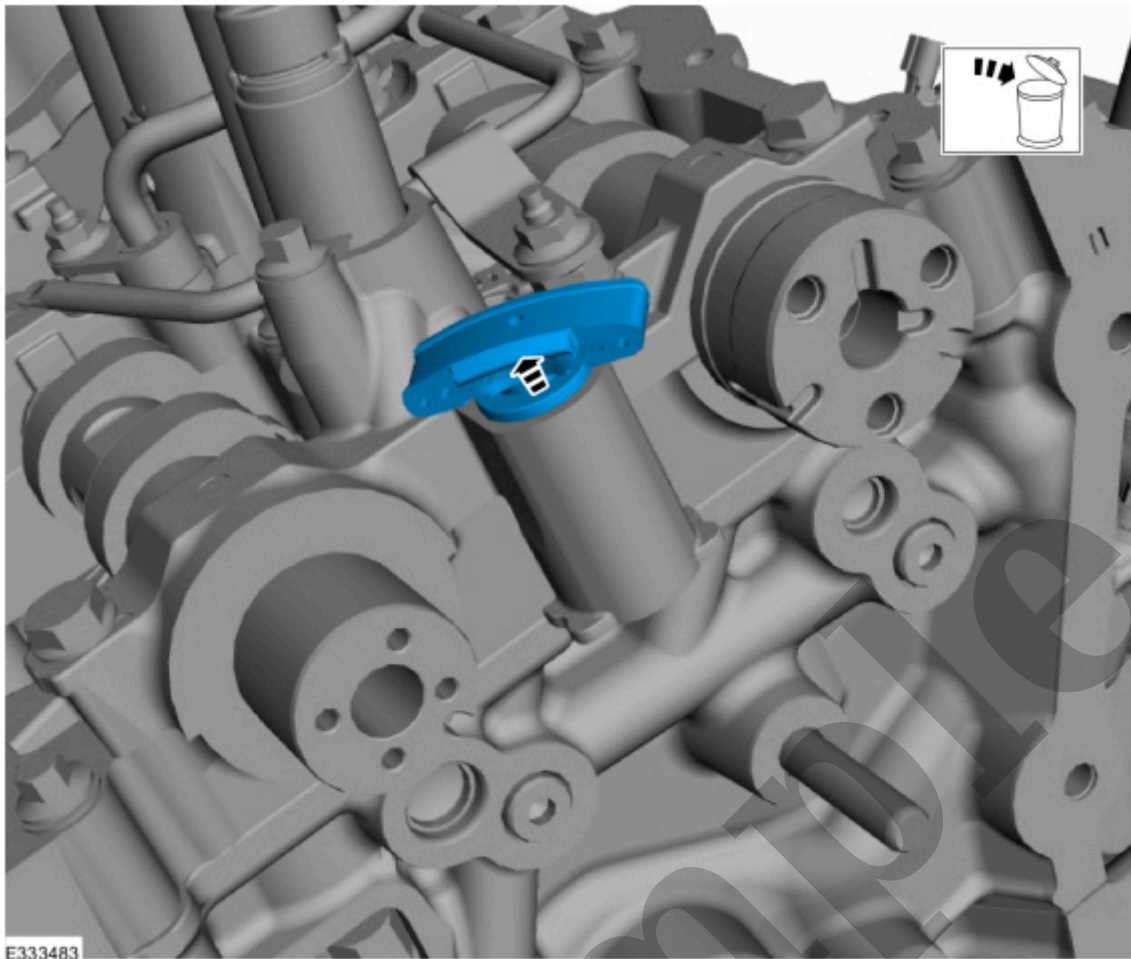
If the RH (right-hand) secondary timing chain tensioner being serviced at the same time as the LH (left-hand) secondary timing chain tensioner, remove the RH (right-hand) secondary timing chain tensioner first.

Right hand secondary timing chain tensioner

1. Remove the RH (right-hand) variable camshaft timing (VCT) units.

Refer to: [Variable Camshaft Timing \(VCT\) Unit](#)(303-01E Engine - 5.0L 32V Ti-VCT, Removal and Installation).

2. Remove the secondary timing chain tensioner shoe.



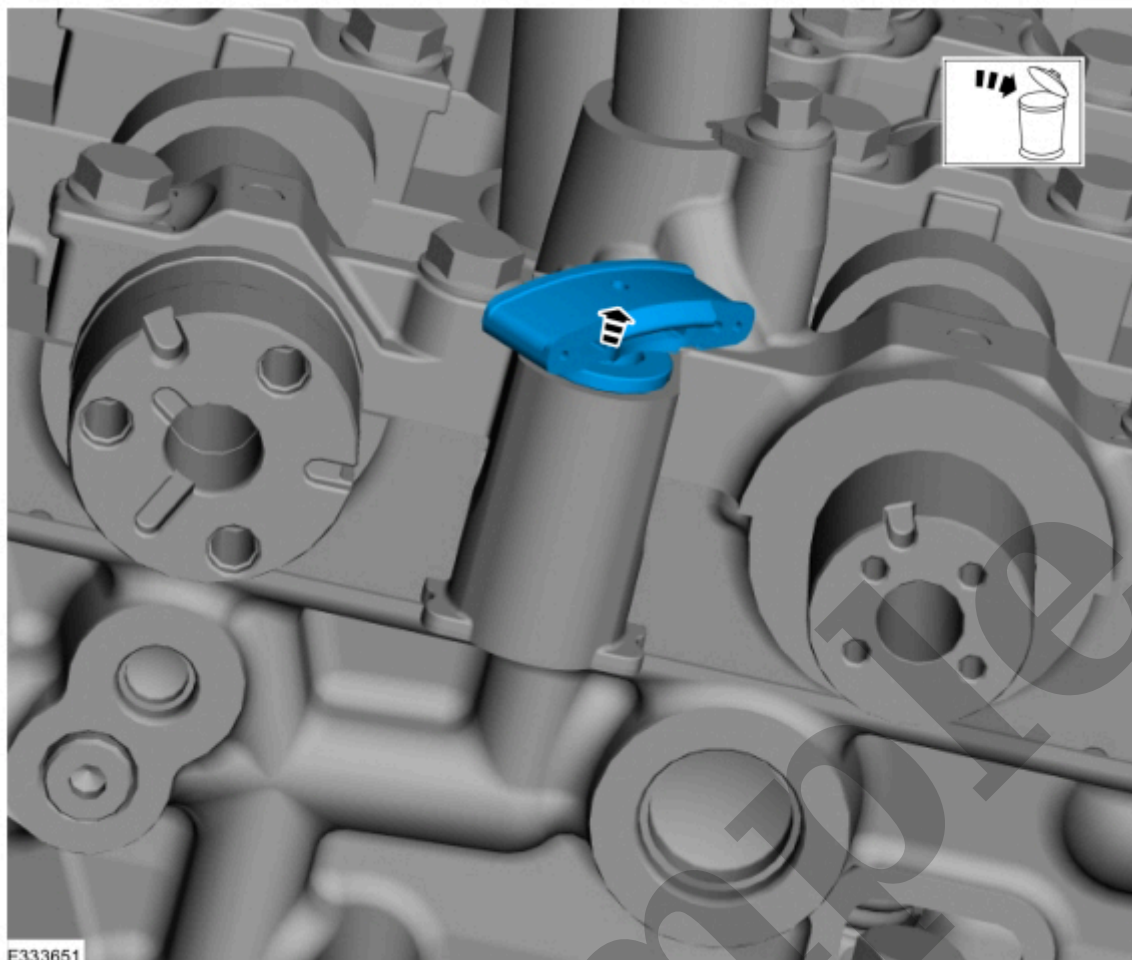
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Left hand secondary timing chain tensioner

4. Remove the LH (left-hand) variable camshaft timing (VCT) units.

Refer to: [Variable Camshaft Timing \(VCT\) Unit](#)(303-01E Engine - 5.0L 32V Ti-VCT, Removal and Installation).

5. Remove the secondary timing chain tensioner shoe.



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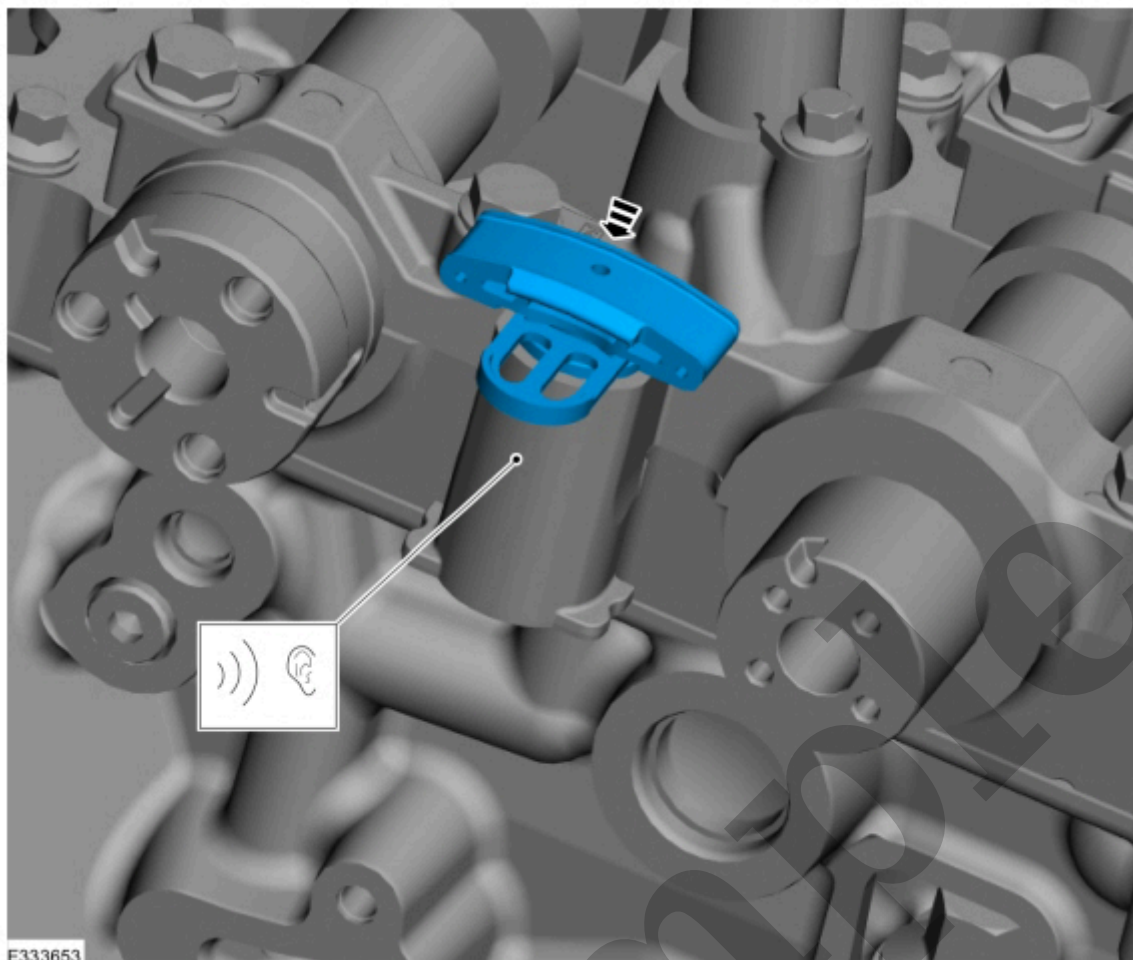
Installation

Left hand secondary timing chain tensioner

NOTE

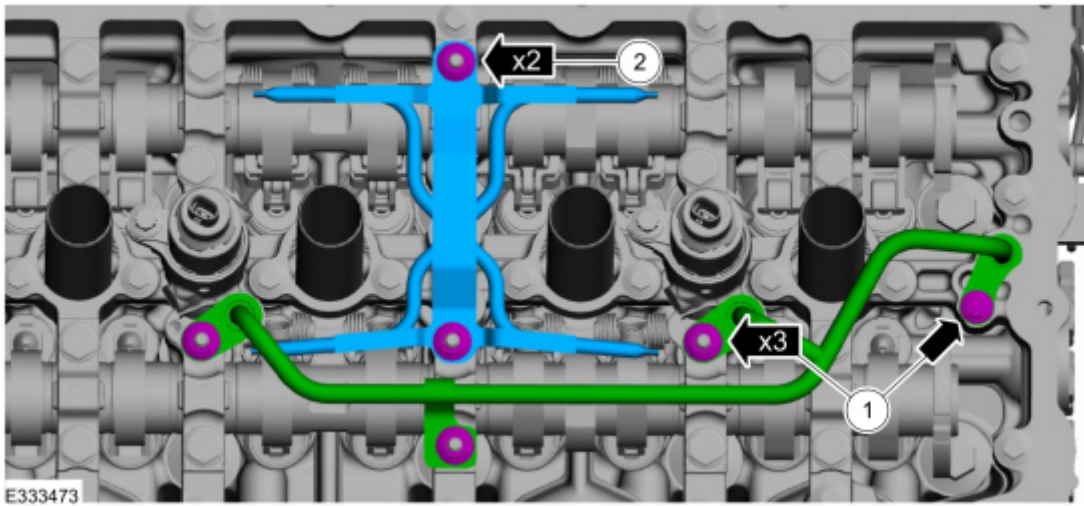
Do not remove the secondary timing chain tensioner shipping clip, until instructed to do so.

1. Apply clean engine oil to the secondary timing chain tensioner O-ring seals and mega cap bore.



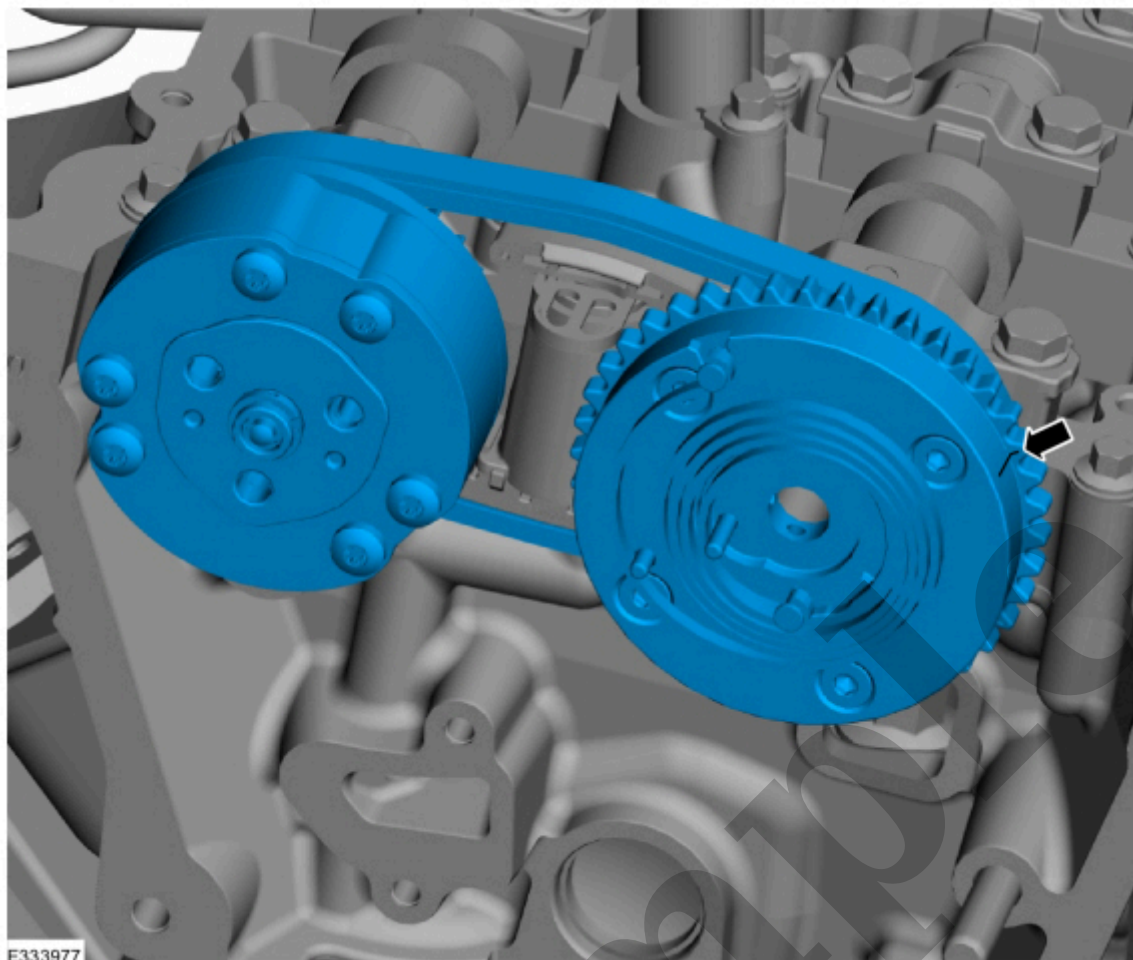
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3. Install the secondary timing chain tensioner shoe.



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5. Position the secondary timing chain onto the VCT (variable camshaft timing) assemblies. Align the colored links on the secondary timing chain with the timing marks on the VCT (variable camshaft timing) assemblies as shown in the illustration.
 - The timing mark on the intake VCT (variable camshaft timing) assembly should align with the colored link.
 - The timing mark on the exhaust VCT (variable camshaft timing) assembly should align with the colored link.

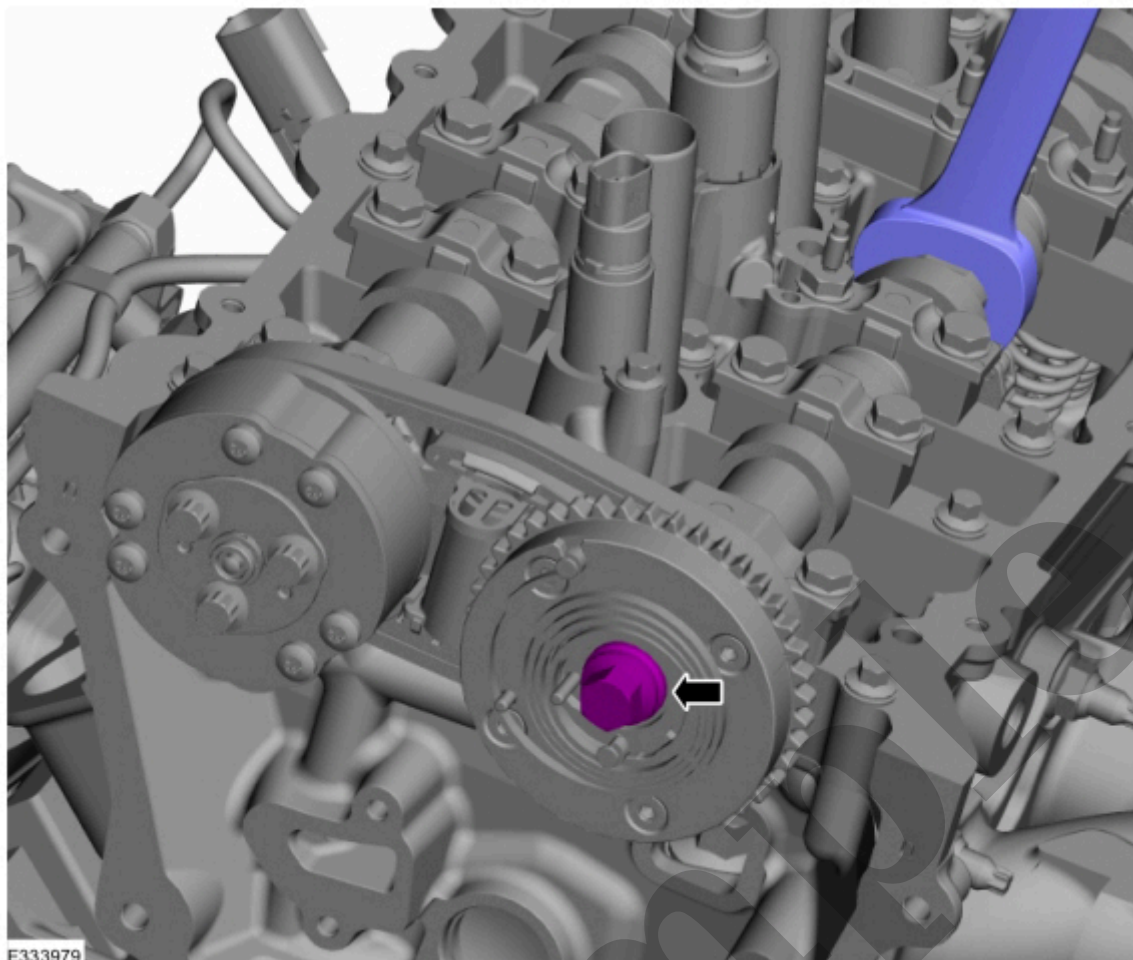


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7. **NOTE**

Do not tighten the bolts at this time.

- Install a new exhaust VCT (variable camshaft timing) assembly bolt.
- Install new intake VCT (variable camshaft timing) assembly bolts.



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9. **NOTE**

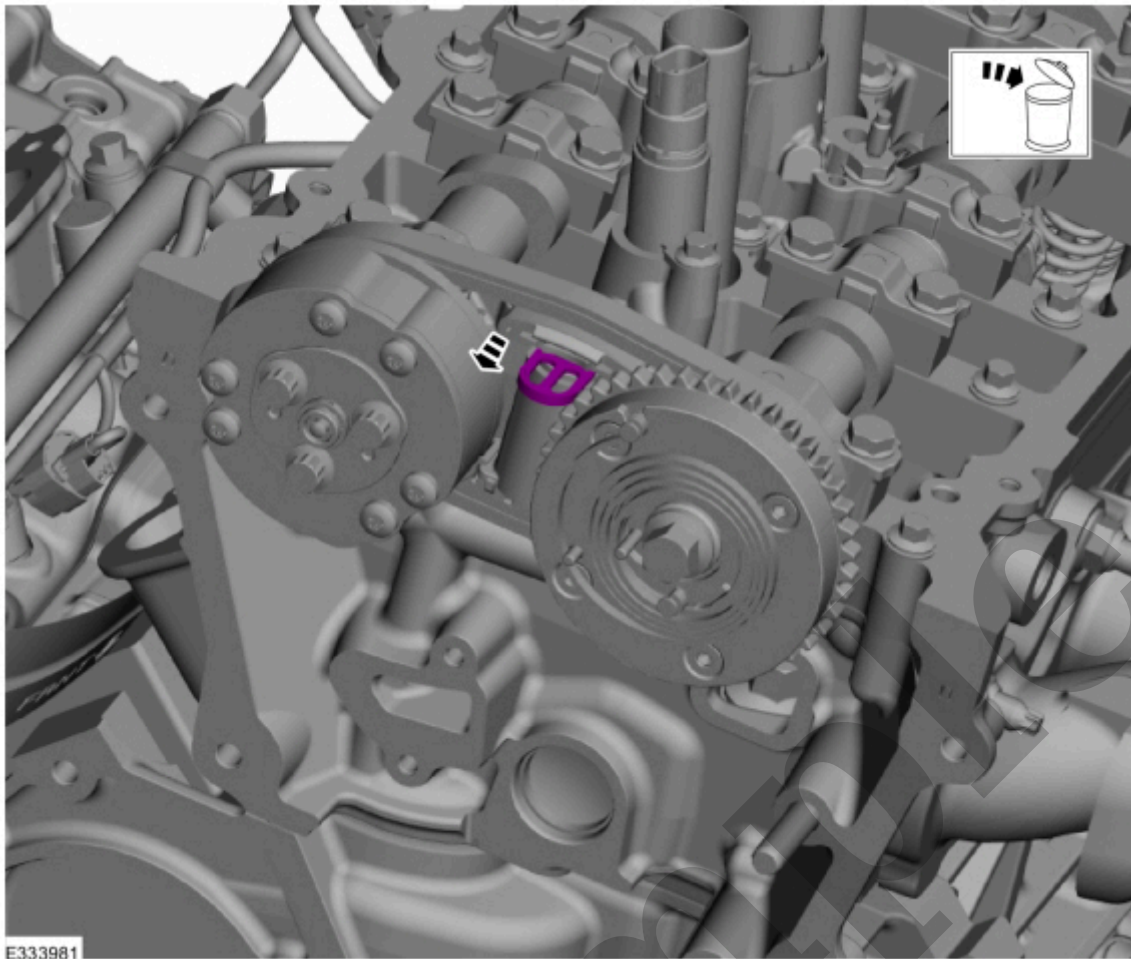
Use a wrench on the flats of the camshaft to hold the camshafts while tightening the VCT (variable camshaft timing) assembly bolts.

Tighten the intake VCT (variable camshaft timing) assembly bolts.

Torque :

Stage 1: 133 lb.in (15 Nm)

Stage 2: 90°



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11. Activate the secondary timing chain tensioner by pressing down on the secondary timing chain and tensioner top shoe until it bottoms out, let go of the tensioner and it will spring up putting tension on the chain.



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13. Apply clean engine oil to the O-ring seal and oil tube.