



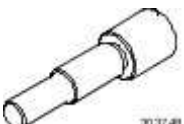


**Engine - 1.6L Duratec-16V Ti-VCT
(85kW/115PS) - Sigma - Timing
Belt—Vehicles Built From: 04/2005**

Focus 2004.75 (07/2004-)

 Print

In-vehicle Repair

Special Tool(s) / General Equipment

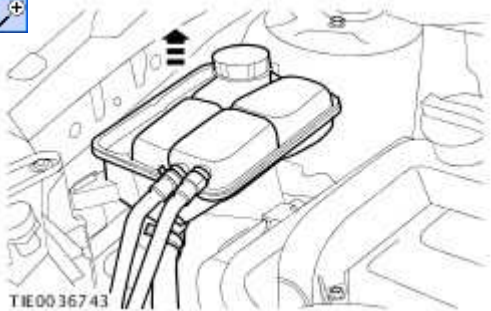
	Locking tool, flywheel 303-393
	Adapter for 303-393 303-393-02
	Locking Tool, Crankshaft 303-748
	Locking tool, timing belt tensioner 303-1054
	Locking Tool, Camshaft Adjustment Unit 303-1097
Trolley jack	



WARNING: Never smoke or use any kind of naked flame when working on or near any fuel system components. Highly flammable vapors are always present which could ignite. Failure to observe this instruction can lead to personal injury.

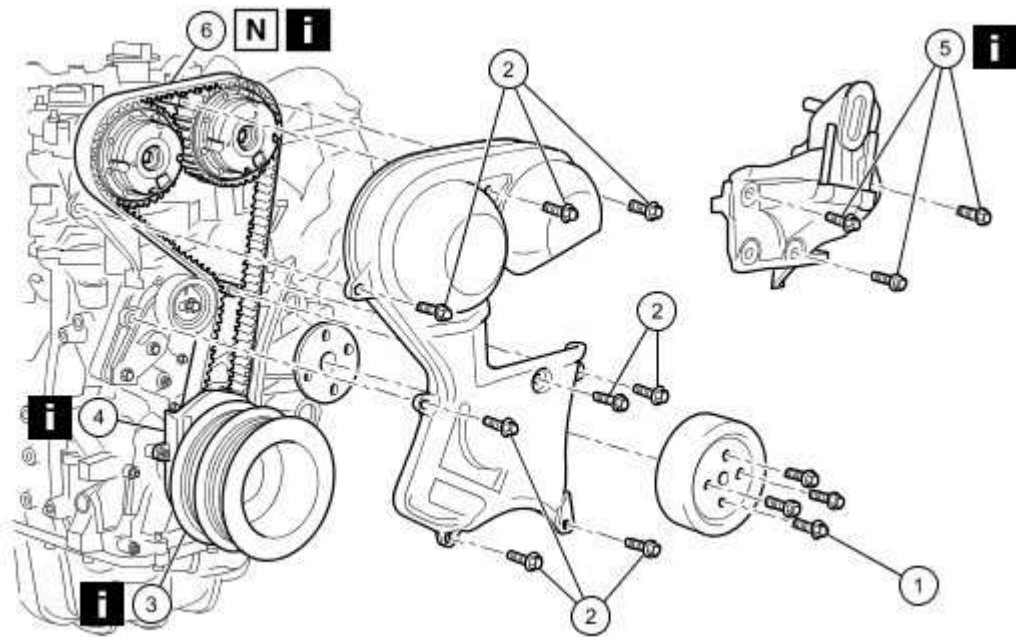
1. Detach the right-hand front wheel.
For additional information, refer to: [Wheel and Tire](#) (204-04 Wheels and Tires, Removal and Installation).
2. Remove the air cleaner.
For additional information, refer to: [Air Cleaner - 1.6L Duratec-16V Ti-VCT \(85kW/115PS\) - Sigma](#) (303-12A Intake Air Distribution and Filtering, Removal and Installation).
3. Remove the generator.
For additional information, refer to: [Generator - 1.4L Duratec-16V \(61kW/83PS\) - Sigma/1.6L Duratec-16V \(74kW/100PS\) - Sigma/1.6L Duratec-16V Ti-VCT \(85kW/115PS\) - Sigma](#) (414-02 Generator and Regulator, Removal and Installation).

4. Remove the starter motor.
For additional information, refer to: [Starter Motor - 1.6L Duratec-16V Ti-VCT \(85kW/115PS\) - Sigma](#) (303-06 Starting System, Removal and Installation).



5. Detach the coolant expansion tank from the wheelhouse and position to one side.

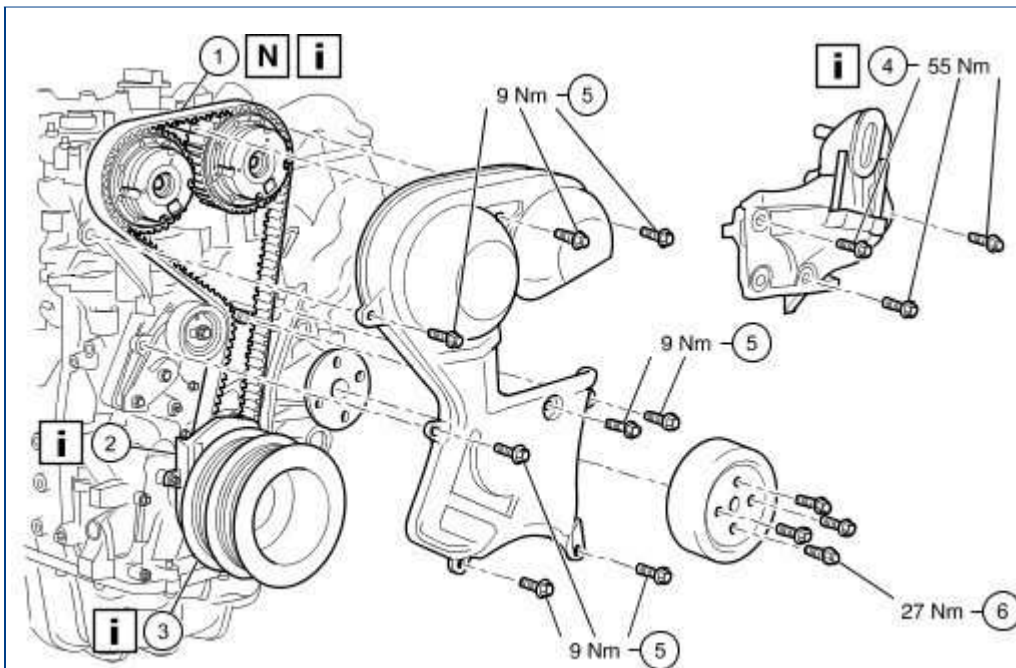
6. Remove the components in the order indicated in the following illustration(s) and table(s).



E49107

Item		Description
1		Coolant pump pulley bolts
2		Timing belt cover retaining bolts
3		Crankshaft belt pulley See Removal Detail
4		Timing belt cover, lower See Removal Detail
5		Engine front mounting bracket retaining bolts See Removal Detail
6		Timing Belt See Removal Detail

7. Install the components in the order indicated in the following illustration(s) and table(s).

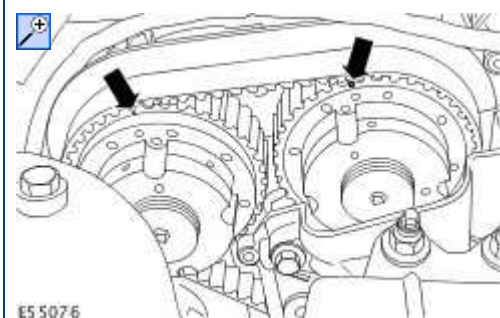


E56232

Item		Description
1		Timing Belt See Installation Detail
2		Timing belt cover, lower See Installation Detail
3		Crankshaft belt pulley See Installation Detail
4		Engine front mounting bracket retaining bolts See Installation Detail
5		Timing belt cover retaining bolts
6		Coolant pump pulley bolts

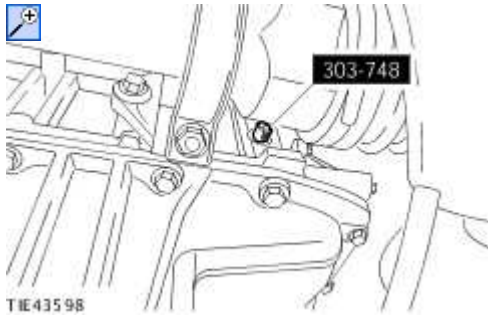
Removal Details

Item 3 : Crankshaft belt pulley

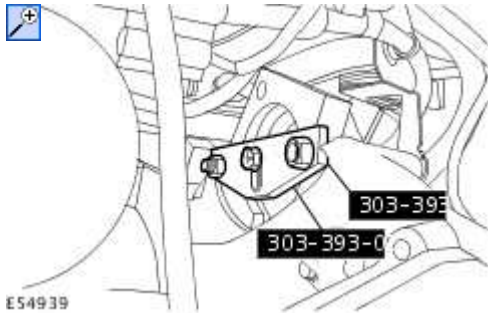



E5 5076

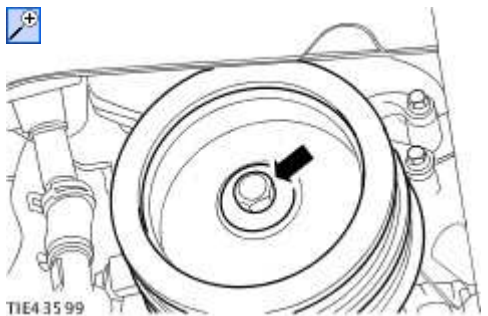
1. **NOTE:** Only turn the crankshaft in the normal direction of rotation.
Turn the crankshaft until the marking on the VCT unit is at the 11 o'clock position.
2. Raise the vehicle on the lift. For additional information, refer to: (100-02 Jacking and Lifting)
[Jacking](#) (Description and Operation),
[Lifting](#) (Description and Operation).



3. Remove the blanking plugs and install the special tool.
 - Carefully turn the crankshaft clockwise against the special tool.

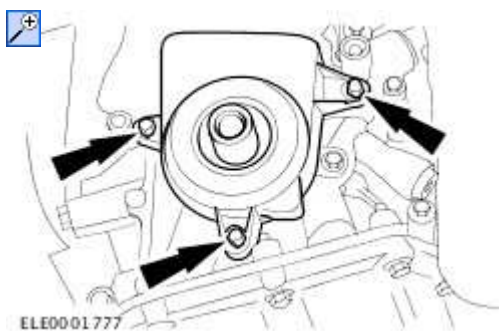


4.  **CAUTION:** Make certain that the crankshaft is on the crankshaft locking tool. Using the special tool, lock the crankshaft in position.



5. Remove the crankshaft pulley.
 - Discard the bolt.

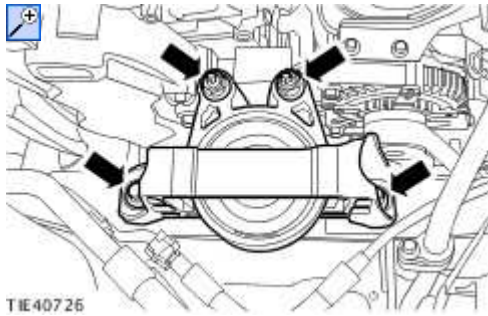
Item 4 : Timing belt cover, lower



1. Remove the lower timing belt cover.

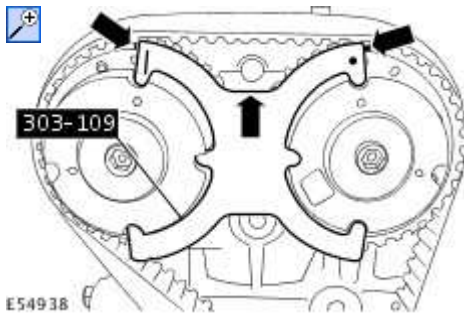
Item 5 : Engine front mounting bracket retaining bolts

1. Lower the vehicle.
2. Position the [workshop jack](#) with a wooden block underneath the engine and raise the engine until the front engine mounting is no longer taking the weight.

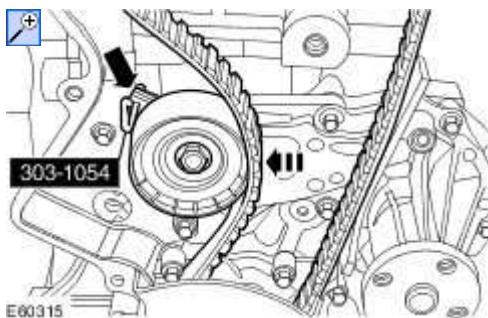


3. **NOTE:** Discard the front engine mount nuts.
NOTE: Mark the installed position of the front engine mount.
 Remove the front engine mounting.

Item 6 : Timing Belt



1. **NOTE:** Scribed lines on the exhaust side and dot marks on the inlet side.
 Install the special tool.

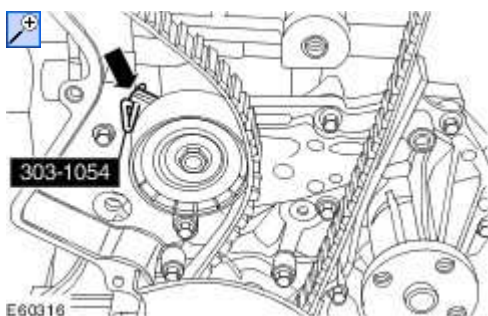


2. Tension the timing belt tensioner and secure with the special tool.

3. Take off the timing belt.
 - Discard the timing belt.

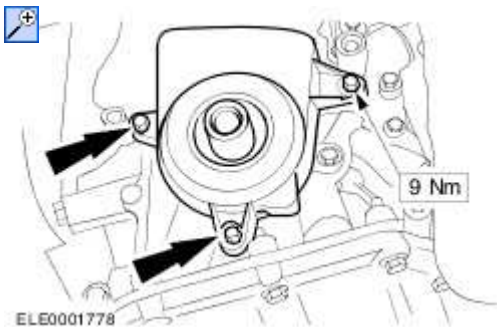
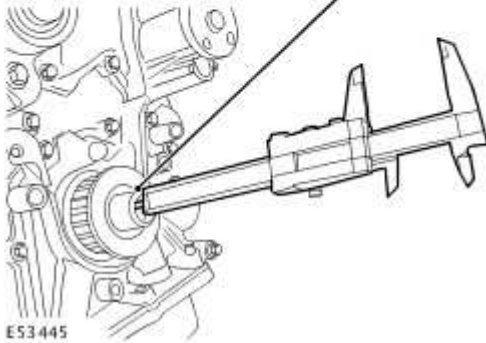
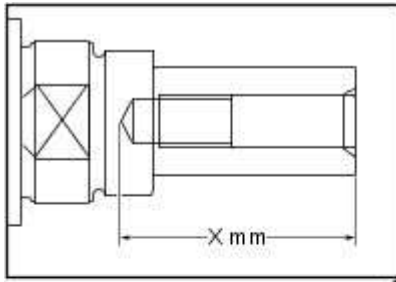
Installation Details

Item 1 : Timing Belt



1. **NOTE:** Beginning at the VCT elements, fit the timing belt clockwise over the crankshaft timing belt pulley.
 Install the timing belt.
2. **CAUTION:** Only remove the special tool once the timing belt is correctly laid in place. Failure to observe this instruction may lead to injury and/or component damage.
 Tension the timing belt.
 - Remove the special tool.

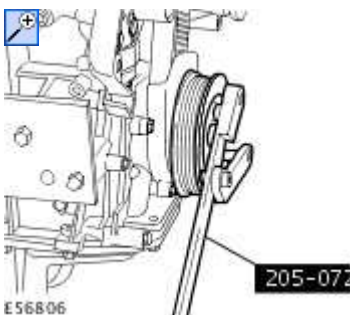
Item 2 : Timing belt cover, lower



1. Measure the depth of the bore in the crankshaft.
 - Depth of bore = 42 mm: install M12 x 29 mm central bolt.
 - Depth of bore = 52 mm: install M12 x 44.5 mm central bolt.
 - Depth of bore = 81 mm: Install M14x80 mm central bolt.

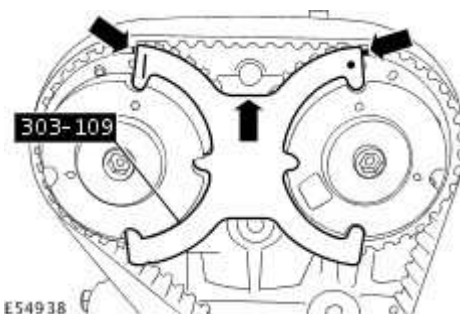
2. Install the timing belt lower cover.

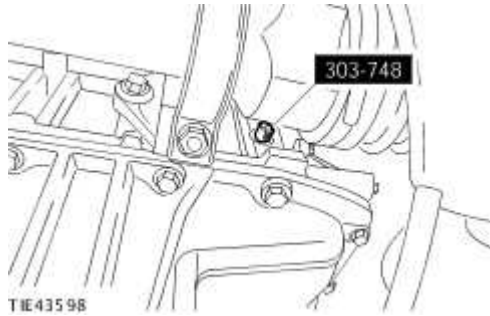
Item 3 : Crankshaft belt pulley



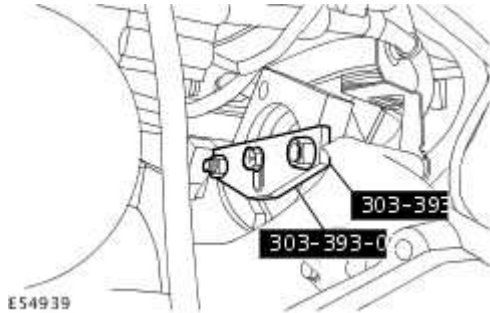
1. **CAUTION:** Counterhold the crankshaft pulley using the special tool.
NOTE: Install a new crankshaft pulley bolt.
 Install the crankshaft pulley.
 - Steady the crankshaft pulley using the special tool and tighten the crankshaft pulley bolt.
 - M12: Stage 1: 40 Nm
 - M12: Stage 2: 90 degrees
 - M14: Stage 1: 100 Nm
 - M14: Stage 2: 90 degrees
 - M14: wait 10 seconds
 - M14: Stage 3: 15 degrees

2. Remove the special tool.

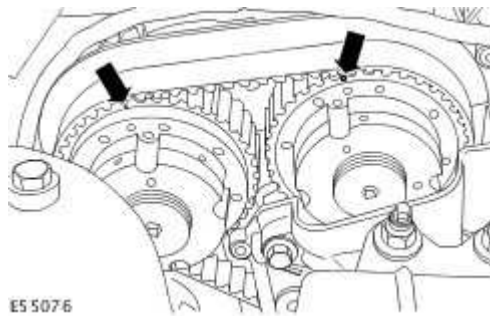




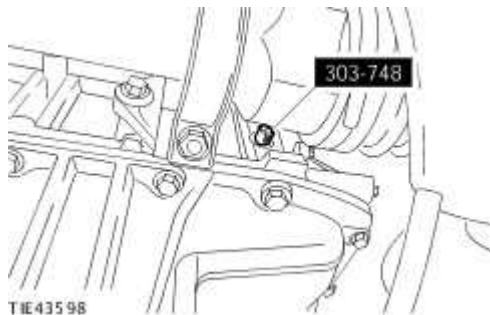
3. Remove the special tool.



4. Remove the special tool.

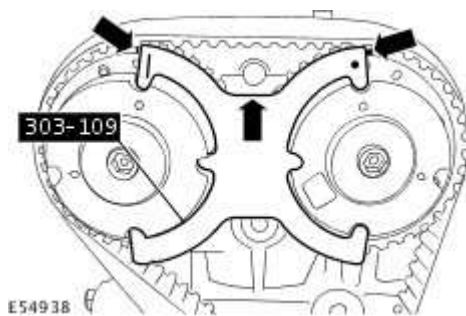


5. **NOTE:** Only turn the crankshaft in the normal direction of rotation.
Turn the crankshaft about two revolutions until the marking on the VCT unit is at the 11 o'clock position.



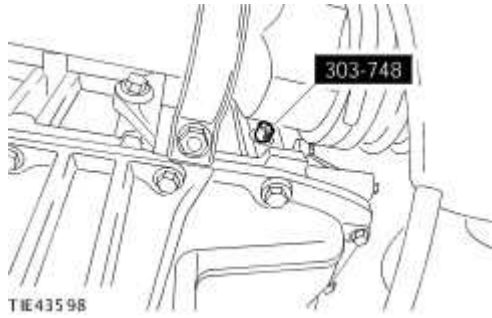
6. **CAUTION:** Make certain that the crankshaft is on the crankshaft locking tool.
Install the special tool.

- Carefully turn the crankshaft clockwise against the special tool.

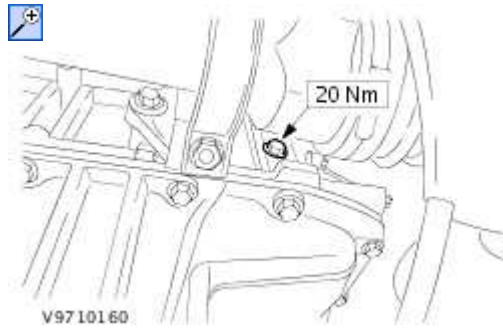


7. Install the special tool.

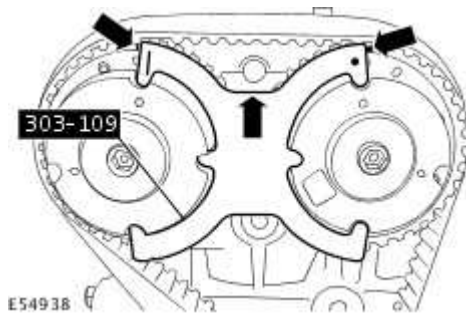
- If the special tool cannot be installed, repeat the adjustment according to the preceding steps.



8. Remove the special tool.

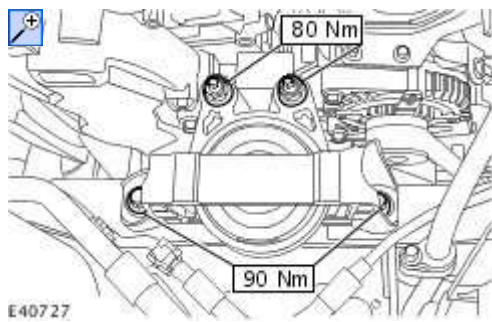


9. Install the blanking plug



10. Remove the special tool.

Item 4 : Engine front mounting bracket retaining bolts



1. **NOTE:** Install new front engine mounting nuts.
Install the front engine mounting.