TECHNICAL SERVICE BULLETIN

No.021/2001

Car and Light/Medium Commercial

15.03.2001

Section: 303-01A (21)

Model: 2001 Mondeo 1.8L/2.0L Duratec-HE with engines built in Chihuahua (Mexico) up to 06.12.2000 inclusive

Markets: All

Subject: Engine cranks but will not start, severe loss of power, increased fuel consumption, engine knock, rough running or misfiring

Summary

Should a customer express concern about an inability to start the engine, severe loss of power, increased fuel consumption, engine knock, rough running of the engine or misfiring, the probable cause is that the crankshaft vibration damper may turn on the crankshaft due to insufficient retention friction. To rectify this concern, the position of the crankshaft vibration damper should be checked. If necessary install a new vibration damper bolt and friction washer in accordance with the revised Service Instructions in this bulletin. The tightening torque of the vibration damper bolt has also been increased.

Note:
Before carrying out any repairs, check the build date of the engine as indicated on the engine identification sticker on the cylinder head cover. ONLY engines built up to 06.12.2000 inclusive in Chihuahua (Mexico) are affected.

List of affected Operation Numbers in the Workshop Manual/TIS-CD:

21 134 8 Engine - Dismantle and Assemble (Engine Removed)

21 154 0 Oil Pan - Remove and Install

21 163 0 Cylinder Head - Remove and Install.

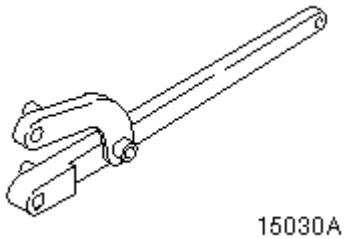
21 284 0 Camshaft - Remove and Install (Two)

21 314 0 Timing Chain - Remove and Install

21 467 0 Crankshaft Front Oil Seal - Renew

The Workshop Manual/TIS-CD and the Labour Times Schedule will be amended to include this new information at the next update.

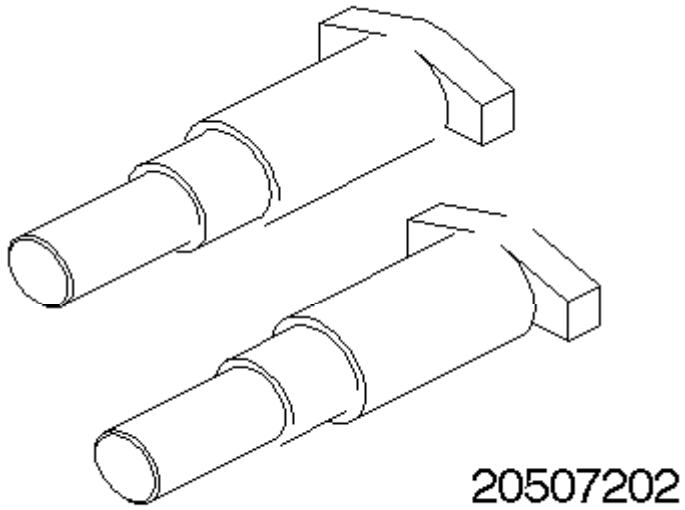
Special Tools



15030A

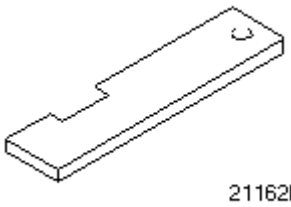
205-072 (15-030A)

Flange Holding Wrench, Universal



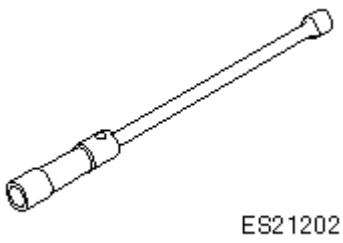
205-072-02 (15-030A-02)

Adapter for 205-072 (15-030A)



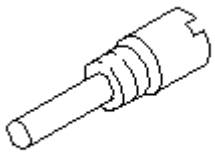
303-376 (21-162B)

Timing Plate, Camshaft Alignment



303-499 (21-202)

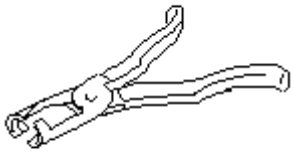
Remover/Installer, Spark plug



PZ21210

303-507 (21-210)

Timing Peg, Crankshaft



PZ21211

303-508 (21-211)

Pliers, Valve Stem Oil Seal

Parts Required

Description	Finis Code
Vibration damper bolt	1 135 073
Friction washer	1 135 072

Labour Time

Check the crankshaft vibration damper	0.5 hours
Vibration damper bolt and friction washer - Install	1.0 hours extra

Repair Code

Causal Part:	21 152
Defect Code:	09
ACES Condition Code:	42

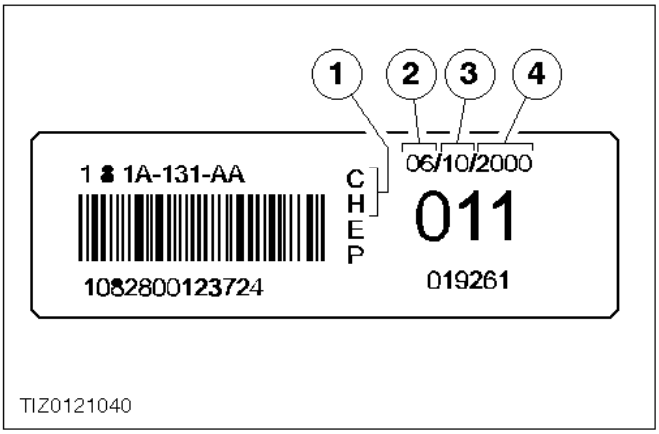
Production Action

A revised vibration damper bolt has been installed in production since 07.12.2000 (build code YT) in conjunction with an additional washer and a revised tightening torque.

Service Instructions

See Summary.

Check Engine Build Date

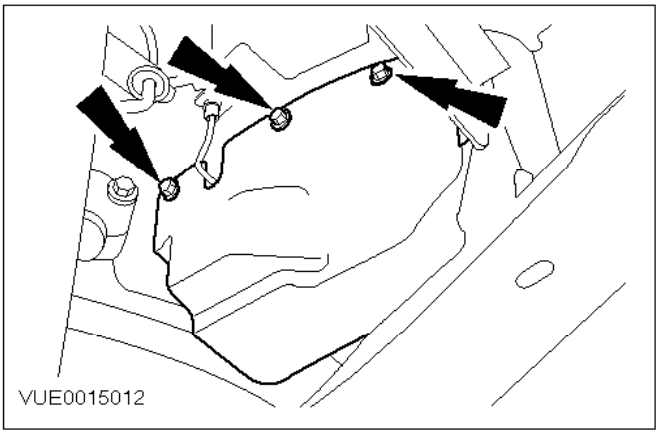


1. Check the build date of the engine on the engine identification sticker on the cylinder head cover. ONLY engines built up to 06.12.00 inclusive in Chihuahua (Mexico) are affected.
   1 Engine plant: CH = Chihuahua (Mexico)
   2 Build day of the engine
   3 Build month of the engine
   4 Build year of the engine

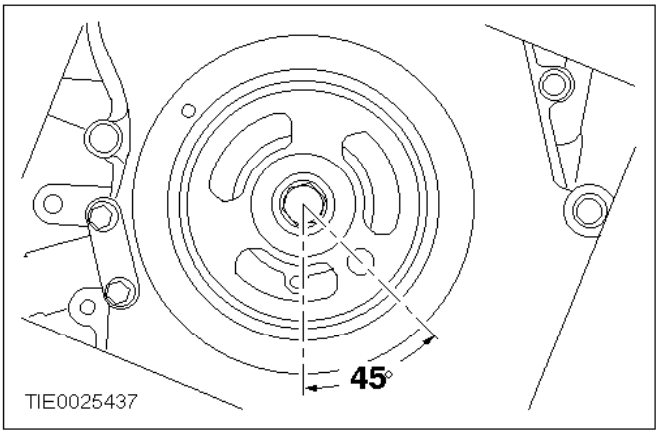
2. If the engine was built up to and including 06.12.00 in Chihuahua (Mexico) then go to next step. If the engine was not built in the affected build period then the position of the crankshaft vibration damper is not the cause of the concern.

Check Position of Crankshaft Vibration Damper

3. Raise and support the vehicle. For further information, refer to Section 100-02 (Workshop Manual/TIS-CD).

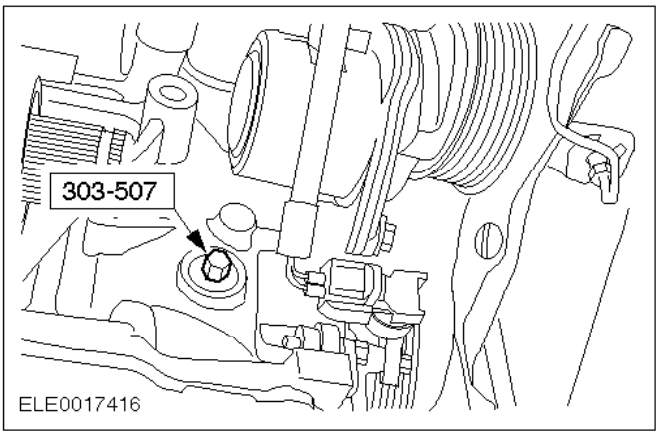


4. Detach the wheelhouse splash shield.



Note:
Only rotate the engine in the normal direction of rotation.

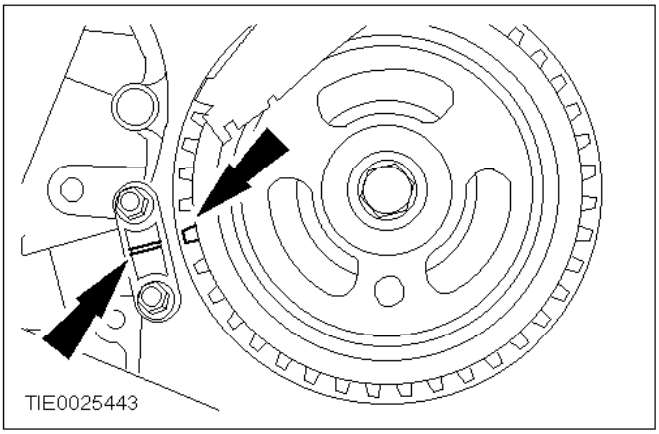
5. Rotate the engine until the piston in cylinder number 1 is approx. 45º before Top Dead Center (BTDC).



6. Remove the cylinder block lower blanking screw and install the special tool.

Note:
Only rotate the engine in the normal direction of rotation.

7. Rotate the engine until the crankshaft abuts the special tool at TDC.



Note:
The white tooth on the sensor wheel of the crankshaft vibration damper must line up with the centre line on the crankshaft position (CKP) sensor.

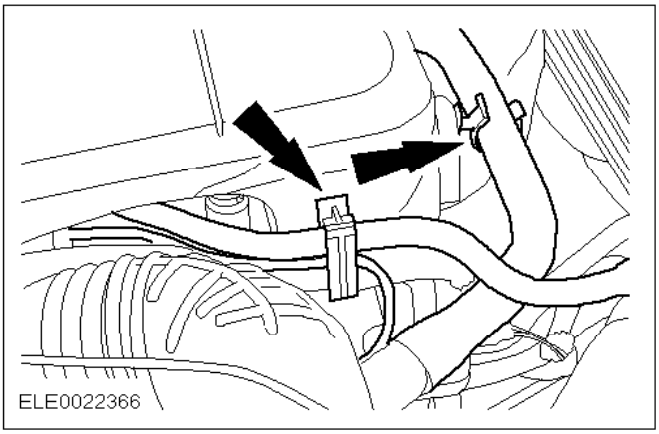
8. Check the position of the crankshaft vibration damper.
   - If the markings line up, the position of the crankshaft vibration damper is not the cause of the concern.
   - If the markings do not line up, go to next step.

Adjust Valve Timing

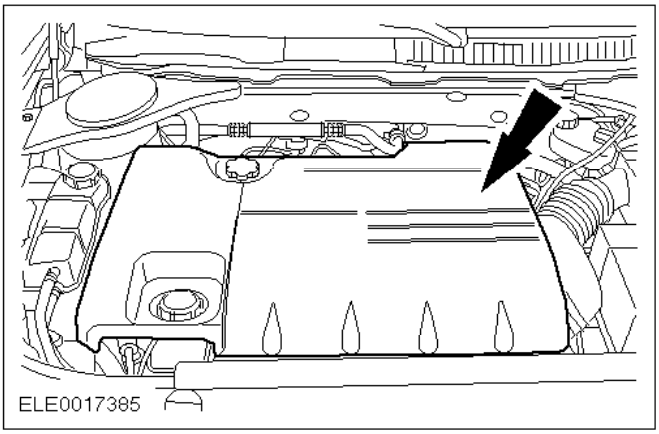
9. Lower the vehicle.

Note:
Before disconnecting the battery make a note of the radio keycode and the preset radio stations.

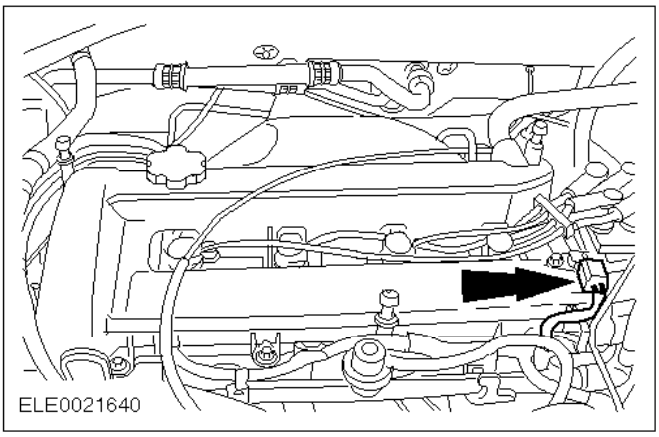
10. Disconnect the battery ground cable.



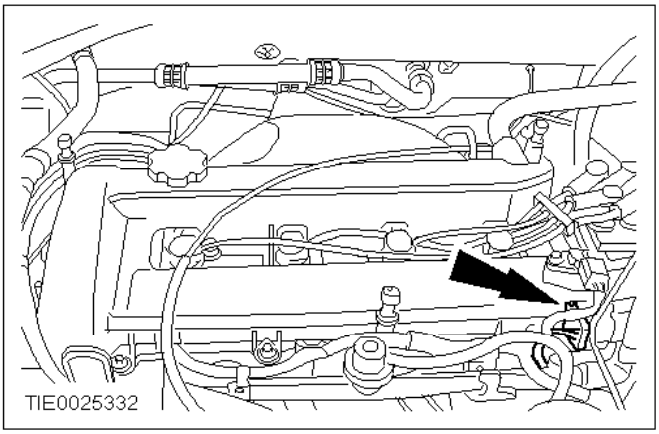
11. Detach the positive crankcase ventilation (PCV) hose and the vacuum hose from the upper engine cover.



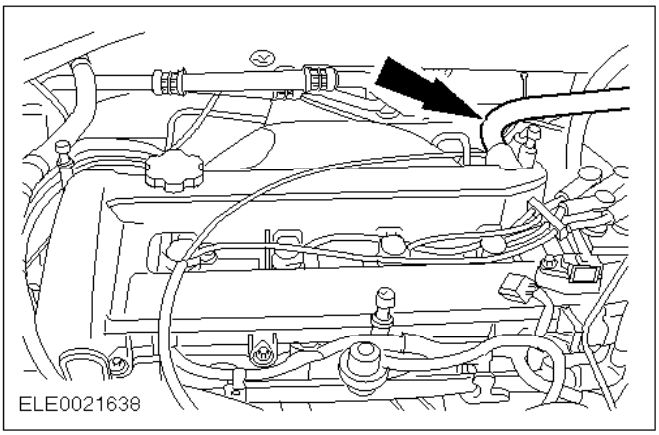
12. Remove the upper engine cover.



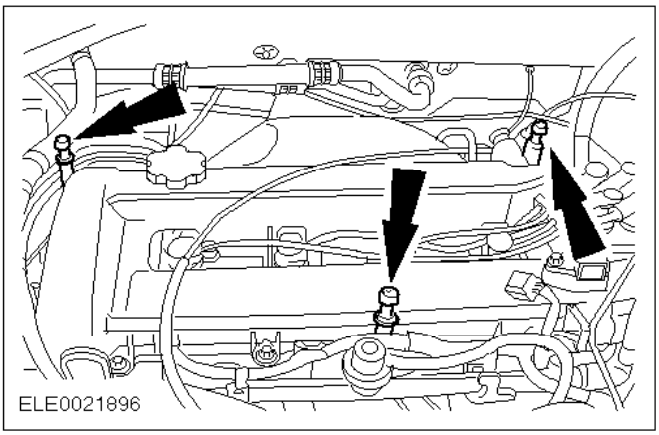
13. Disconnect the camshaft position (CMP) sensor electrical connector.



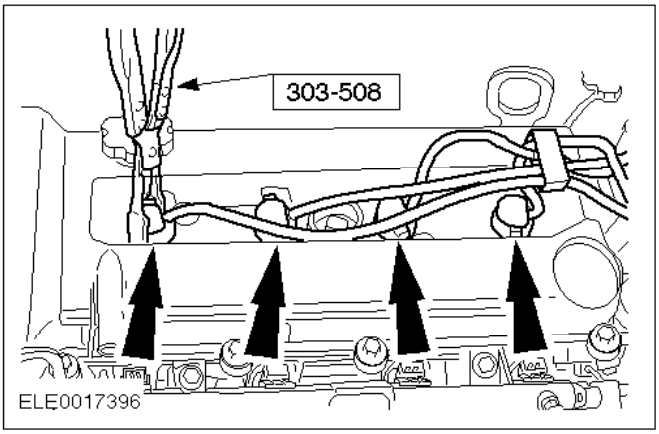
14. Detach the engine wiring harness from the cylinder head cover.



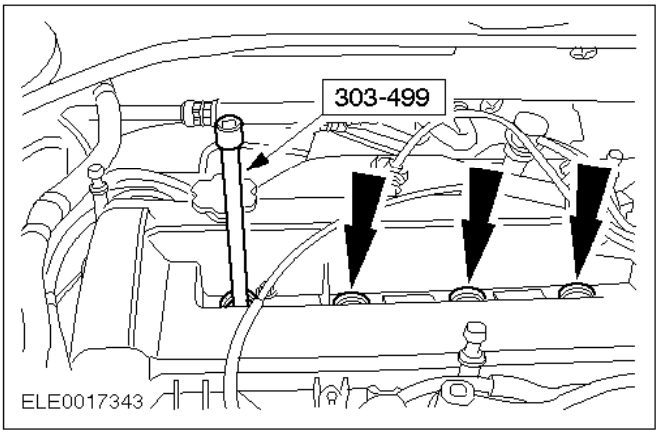
15. Detach the PCV hose from the cylinder head cover.



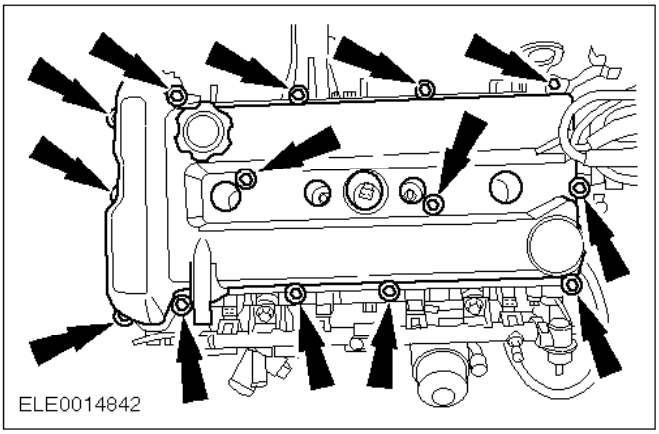
16. Remove the upper engine cover retaining brackets.



17. Using the special tool, disconnect the spark plug wires from the spark plugs.

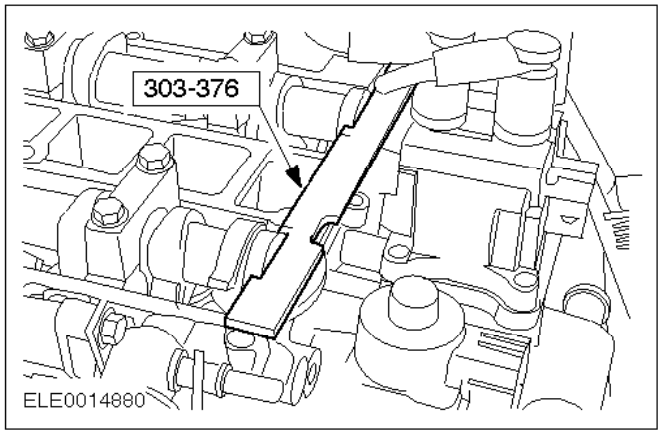


18. Using the special tool, remove the spark plugs.



19. Remove the valve cover.

20. Remove the auxiliary drive belt. For further information, refer to Section 303-05 (Workshop Manual/TIS-CD).

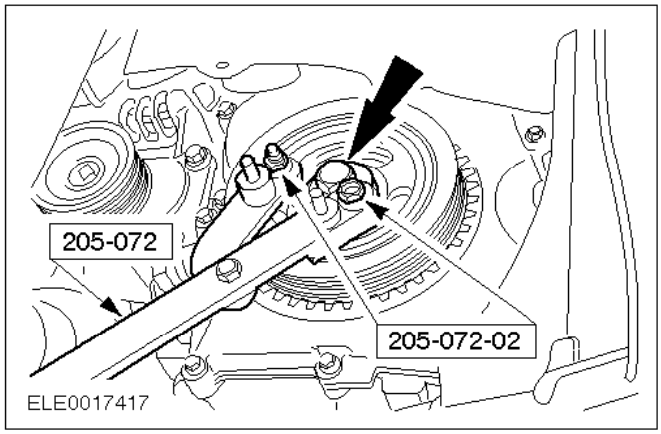


21. Install the special tool.

22. Raise and support the vehicle.

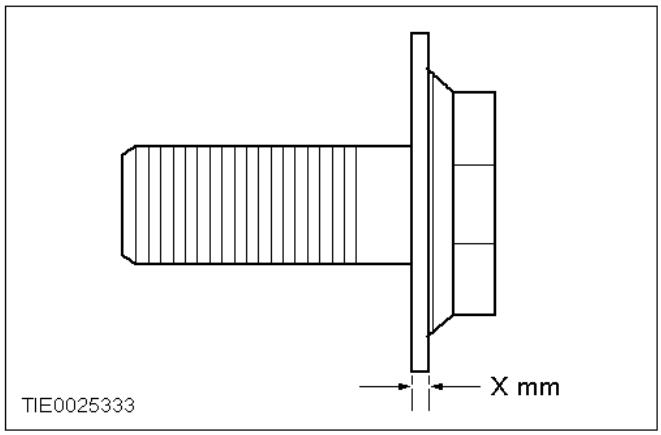
Install new Crankshaft Vibration Damper Bolt

23. Remove the right-hand front wheel. For further information, refer to Section 204-04 (Workshop Manual/TIS-CD).



24. Remove the crankshaft vibration damper bolt.
Using the special tool, hold the crankshaft vibration damper.

Check Thickness of Vibration Damper Bolt Washer

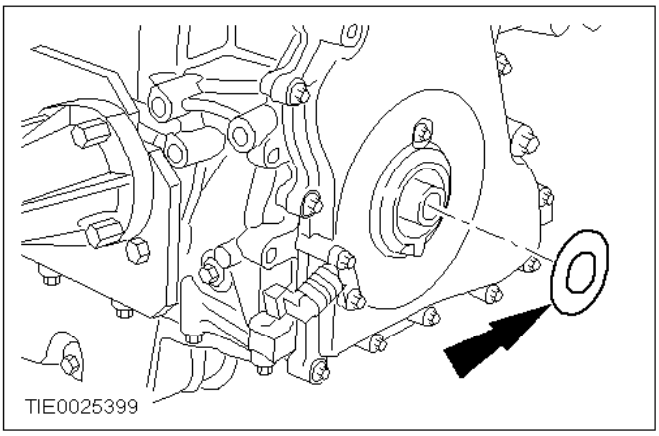


25. Measure the thickness of the vibration damper bolt washer.
- If the thickness is less than 5.5 mm, discard the friction washer. Go to next step.

Note:

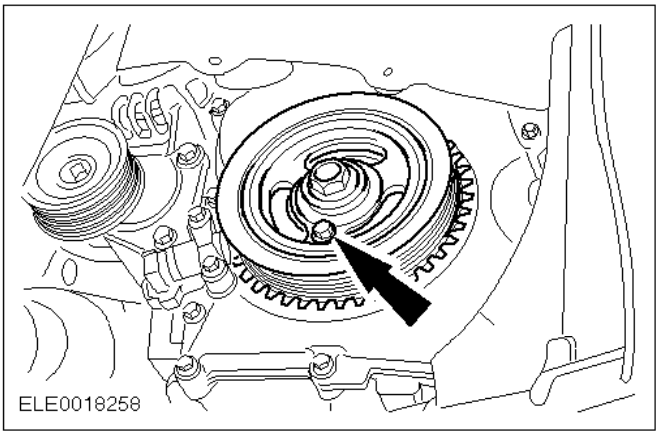
The removed vibration damper bolt must not be reused.

- If the thickness is greater than 5.5 mm then a new friction washer has already been installed. Reinstall the existing washer and go to step 27.



Note:
Installation position of the friction washer between the sprocket and the vibration damper.

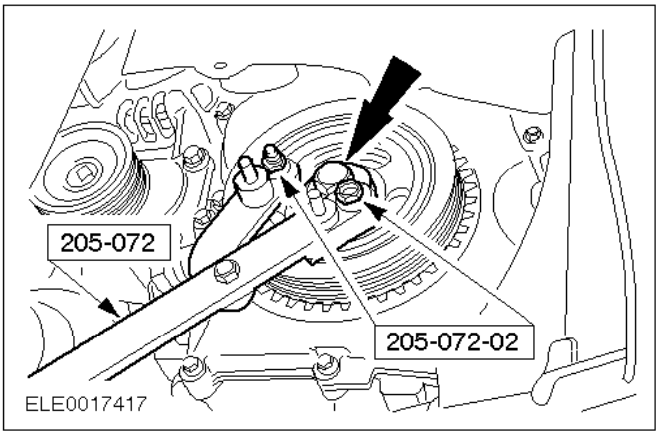
26. Install the friction washer (see Parts Required).



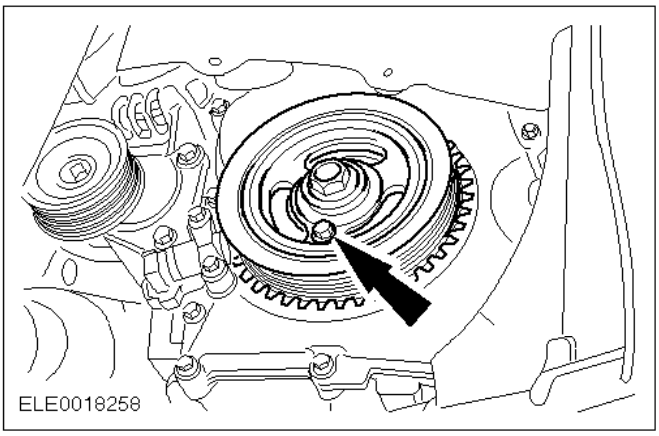
Note:
Maximum bolt length: 18 mm.

Note:
Tighten the bolt finger tight.

27. Position the crankshaft vibration damper and locate using a M6 x 18 bolt.



28. Install a new crankshaft vibration damper bolt (see Parts Required).
    - Using the special tool, hold the crankshaft vibration damper.
    - Tighten the bolt in two stages.
    - Stage 1: 100 Nm
    - Stage 2: 90 degrees



29. Remove the M6 x 18 bolt.

30. Install all remaining components in reverse order For further information, refer to Operation Number 21 467 0 (Workshop Manual/TIS-CD).