

AJ133.pdf

Reference SSM62857  
 LR4 / L319  
 Models Range Rover / L322  
 Range Rover Sport / L320  
 Title 5.0L replacement engine will not start (Denso engine management)  
 Category Engine  
 Last modified 07-Feb-2013 00:00:00  
 Symptom 499000 Basic Engine

**Important – this does not apply to 2013 MY Range Rover (L405).**

**Issue:** A replacement AJ133 engine has been fitted into a vehicle. The engine cranks normally but will not start.

**Cause:** The engine may have been fitted with the wrong camshaft timing rings.

**Action:** Complete all primary diagnostics. If a cause is not found inspect the camshaft timing rings.

Information on torques and special tools, along with some aspects of this instruction, can be found in TOPIx section 303-01C (Timing Drive components).

Remove the camshaft covers and one of the Variable Valve Timing (VVT) upper engine covers.

**Refer to the attached file for inspection criteria:**

Picture 1 – this is the correct part for the engine - do not follow this procedure.

Picture 2 – this is the wrong part for the engine - follow the instruction below.

**Note: if the original engine is not available new VVT units will need to be fitted. In that case follow the procedure in TOPIx, do not follow the procedure below.**

Content **Process:**

Remove the camshaft covers.

Time the engine to Top Dead Centre and lock using the correct cam locking tools.

Do not remove the crankshaft pulley or lower timing cover.

Remove the VVT covers.

Picture 3 - Secure the timing chains using strong cable tie or vice grips. This must be done securely around the chain on each bank underneath the VVT units, so the chains do not become slack.

Picture 4 - While keeping the chain in position, carefully remove the circlip on the front of the VVT unit. The circlip is not needed and should be thrown away.

Carefully remove the torx bolts for one of the VVT sprockets and exchange the sensor ring from the original engine.

Repeat this procedure for the other VVT sprockets.

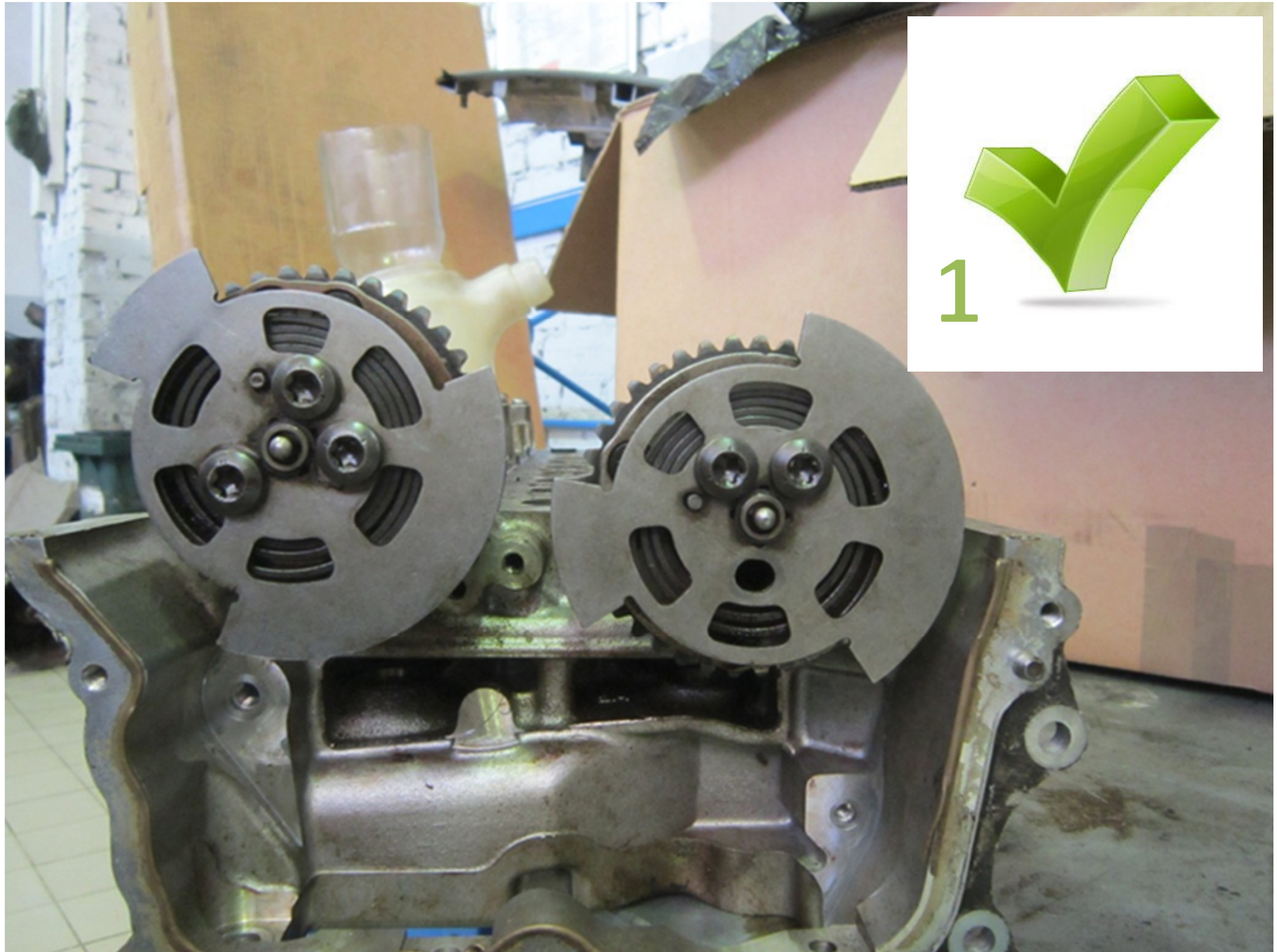
Once the torx bolts are secured to the correct torque setting, remove the vice grip/cable ties from the engine.

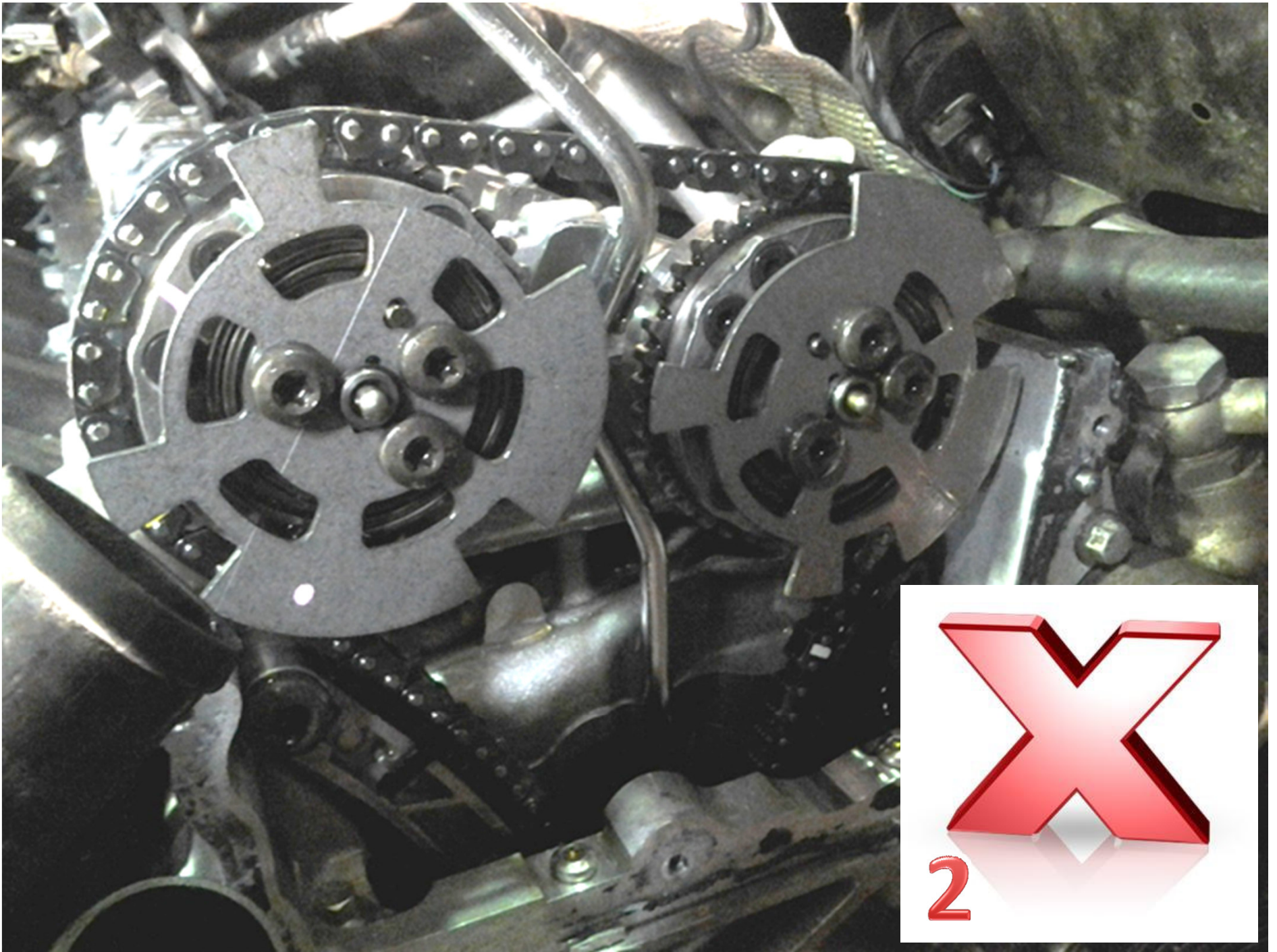
Remove the engine locking tools.

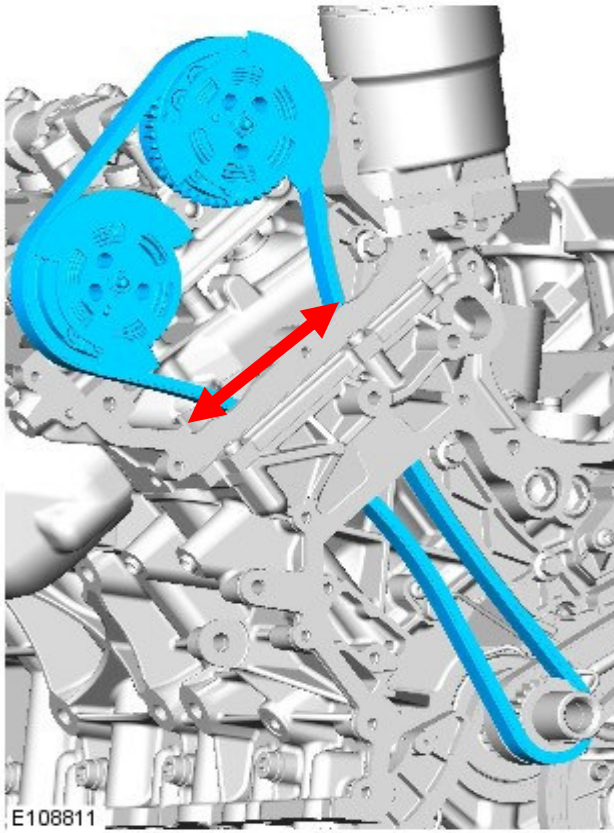
Rotate by hand in clockwise direction the engine 4 times.

Check that the timing position is still correct. Retime the engine if necessary.

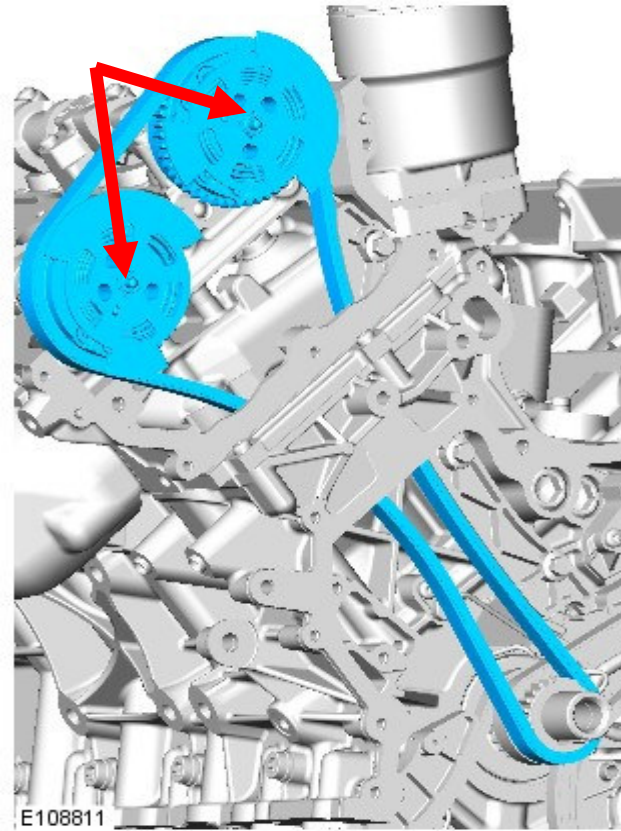
Rebuild the engine.







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