

## Important note

### Important note

The intervals and procedures given are subject to alteration by the manufacturer at any time. Check the regularly updated Timing Belts section on our website to ensure that you are kept informed of any changes that may occur between issues of the Autodata CD.

<http://www.autodata-cd.com>

## Timing belt replacement intervals

Where possible the recommended intervals have been compiled from vehicle manufacturers' information. In a few instances no recommendation has been made by the manufacturer and the decision to replace the belt must be made from the evidence of a thorough examination of the condition of the existing belt.

Apart from the visible condition of the belt, which is explained fully in the General Instructions/Toothed Timing Belts section, there are several other factors which must be considered when checking a timing belt:

1. Is the belt an original or a replacement.
2. When was the belt last replaced and was it at the correct mileage.
3. Is the service history of the vehicle known.
4. Has the vehicle been operated under arduous conditions which might warrant a shorter replacement interval.
5. Is the general condition of other components in the camshaft drive, such as the tensioner, pulleys, and other ancillary components driven by the timing belt, typically the water pump, sound enough to ensure that the life of the replacement belt will not be affected.
6. If the condition of the existing belt appears good, can you be satisfied that the belt will not fail before the next check or service is due.
7. If the belt does fail, have you considered the consequences. If the engine is an INTERFERENCE type then considerable expensive damage may well be the result.
8. The cost of replacing a belt as part of a routine service could be as little as 5 to 10% of the repair cost following a belt failure. Make sure your customer is aware of the consequences.
9. If in doubt about the condition of the belt - RENEW it.
10. Refer to the Toothed Timing Belts/Service Replacement section for further information relating to arduous or adverse operating conditions, inspection and service replacement.

## Replacement Interval Guide

### Replacement Interval Guide

Volkswagen recommend:

Engine code AGX ➡ 1999MY: Check condition every 45,000 kilometres (27,961 miles) (timing belt).

Replacement every 135,000 kilometres (83,885 miles) - timing belt tensioner pulley must also be replaced (timing belt and injection pump belt).

Engine code AGX 2000MY ➡ : Check condition every 45,000 kilometres (27,961 miles) (timing belt).

Replacement every 90,000 kilometres (55,923 miles) - timing belt tensioner pulley must also be replaced (timing belt and injection pump belt).

Engine code AHD/ANJ/APA: Check condition every 45,000 kilometres (27,961 miles) (timing belt).

Replacement every 135,000 kilometres (83,885 miles) - timing belt tensioner pulley must also be replaced (timing belt and injection

**Manufacturer:** Volkswagen

**Model:** LT (96-) 2.5D TDI

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pump belt).

NOTE: Volkswagen UK recommend the timing belt is replaced every 4 years if the replacement mileage is not reached. NOTE: The vehicle manufacturer publishes this information only in kilometres. The conversion to miles is included for reference purposes only. **The previous use and service history of the vehicle must always be taken into account.**

## Check For Engine Damage

### Check For Engine Damage

**CAUTION:** This engine has been identified as an INTERFERENCE engine in which the possibility of valve-to-piston damage in the event of a timing belt failure is **MOST LIKELY** to occur.

A compression check of all cylinders should be performed before removing the cylinder head.

## Repair Times - hrs

### Repair Times - hrs

LT 2,5 TDI 1997-07	
Check and adjust	2,20
Remove and install	4,20

## Special Tools

### Special Tools

- Crankshaft pulley holding tool - No.3419.
- Tensioner pulley spanner - No.3355.
- Sprocket holding tool - No.3036.
- Camshaft setting bar - No.2065A.
- Dial gauge adaptor - No.3313.

## Special Precautions

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- Disconnect battery earth lead.
- DO NOT turn crankshaft or camshaft when timing belt removed.
- Remove glow plugs to ease turning engine.
- Turn engine in normal direction of rotation (unless otherwise stated).
- DO NOT turn engine via camshaft or other sprockets.
- Observe all tightening torques.
- Check diesel injection pump timing after belt replacement.

## Removal

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## Removal

1. Remove:
  - Auxiliary drive belt.
  - Viscous fan.
  - Viscous fan pulley.
  - Guide pulley from auxiliary drive belt tensioner bracket.
  - Viscous fan bracket.
  - Radiator cowl.
  - Centre console and inspection cover.
  - Injection pump belt cover.
  - Timing belt upper cover [1] .
  - Cylinder head cover.
2. Hold crankshaft pulley. Use tool No.3419. Slacken centre bolt [3] .
3. Turn crankshaft to TDC on No.1 cylinder. Ensure flywheel timing marks aligned [4] . Ensure injection pump and crankshaft pulley timing marks aligned [5] & [6] .
4. If not: Turn crankshaft one turn clockwise.
5. Hold camshaft rear sprocket. Use tool No.3036. Remove bolt [7] .
6. Remove injection pump belt tensioner pulley [8] .
7. Remove camshaft rear sprocket and injection pump belt.
8. Fit setting bar No.2065A to rear of camshaft [9] . Centralise camshaft using feeler gauges.
9. Remove:
  - Crankshaft pulley bolts [10] .
  - Crankshaft pulley centre bolt [3] .
  - Crankshaft pulley [11] .
  - Timing belt lower cover [2] .
10. Slacken tensioner pulley bolt [12] . Turn tensioner pulley away from belt. Use tool No.3355 [13] . Lightly tighten bolt.
11. Remove timing belt.

## Installation

### Installation

1. Ensure crankshaft at TDC on No.1 cylinder [4] .
2. Slacken camshaft sprocket bolt 1/2 turn [14] . Tap sprocket gently to loosen it from taper.  
**NOTE: Sprocket should turn freely without tilting.**
3. Fit timing belt in anti-clockwise direction, starting at crankshaft sprocket. Ensure belt is taut between sprockets.
4. Slacken tensioner pulley bolt [12] .
5. Turn tensioner pulley slowly clockwise until right edge of pointers aligned [15] & [24] . Use tool No.3355 [13] .
6. If tensioner pulley turned too far: Turn fully anti-clockwise and repeat tensioning procedure.  
**NOTE: To prevent tensioner damage, right edge of pointer [24] should not go past right edge of pointer [15] during adjustment.**
7. Tighten tensioner pulley bolt to 20 Nm [12] .
8. Ensure flywheel timing marks aligned [4] .
9. Hold camshaft sprocket. Use tool No.3036. Tighten bolt to specified torque [14] .  
**NOTE: Check marking on camshaft sprocket bolt head for correct torque setting. 8.8: 85 Nm. 10.9: 100 Nm.**
10. Remove camshaft setting bar [9] .
11. Install:
  - Timing belt lower cover [2] .
  - Crankshaft pulley [11] .

**NOTE: Fit new crankshaft pulley centre bolt [3] .**

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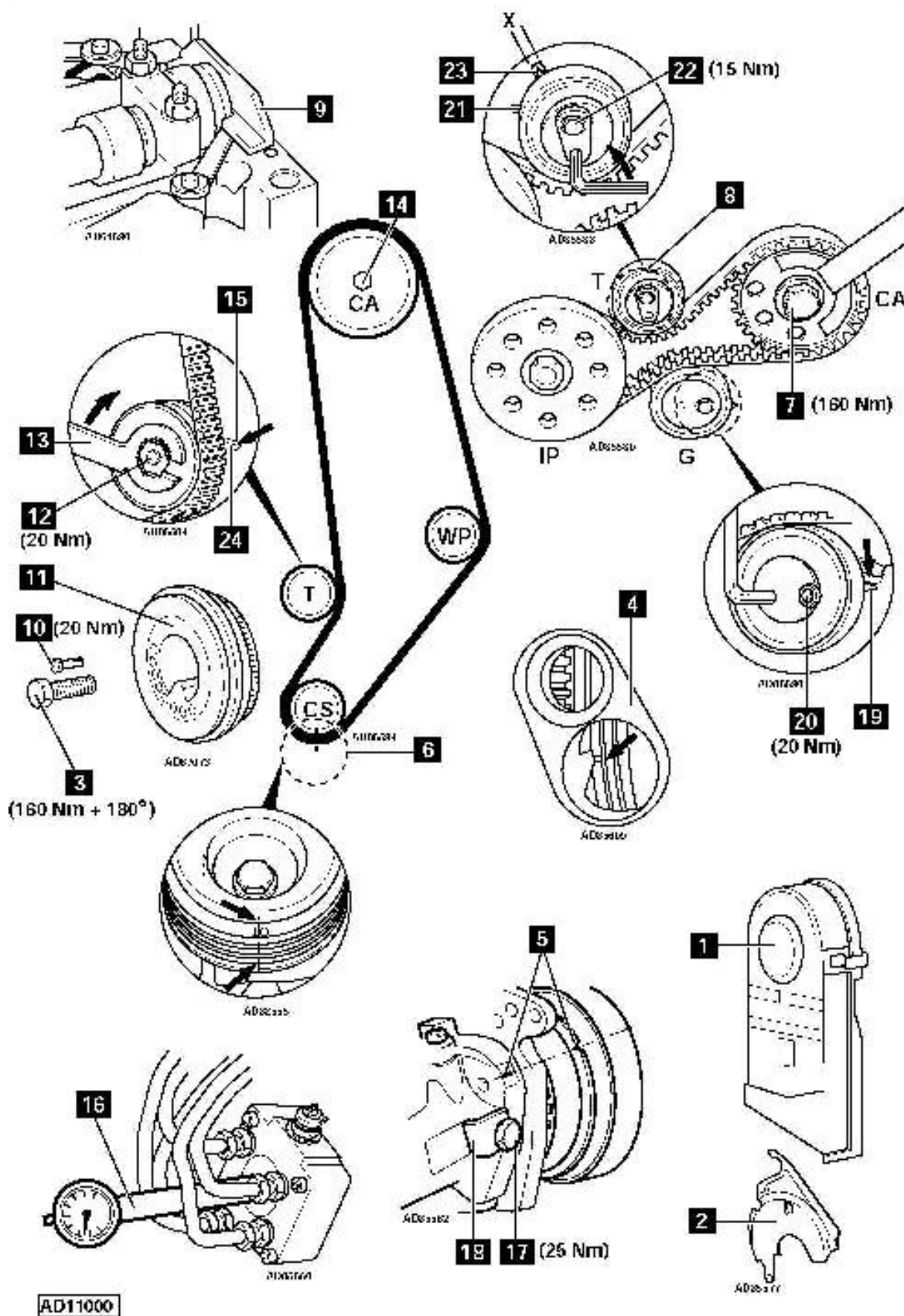
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12. Lightly oil new centre bolt threads and contact surfaces.
13. Hold crankshaft pulley. Use tool No.3419. Tighten bolt to 160 Nm + 180° [3] .
14. Tighten crankshaft pulley bolts to 20 Nm (4 bolts) [10] .
15. Install dial gauge with adaptor No.3313 in injection pump [16] .
16. Ensure injection pump timing marks aligned [5] .
17. Slacken injection pump locking bolt [17] . Remove keeper plate [18] .
18. Set dial gauge to zero.
19. Turn injection pump sprocket slowly clockwise (against normal direction of rotation). Use tool No.3036.
20. If dial gauge reading decreases: Reset to zero once dial gauge movement stops.  
**NOTE: If dial gauge reading increases: Turn injection pump sprocket anti-clockwise until dial gauge movement stops and timing marks are approximately aligned [5] .**
21. Turn injection pump sprocket anti-clockwise (in normal direction of rotation) until dial gauge indicates the following:
  - AHD: 0,55 mm.
  - AGX → 01/99: 0,35 mm.
  - AGX 02/99 → & ANJ/APA: 0,55 mm.
22. Tighten injection pump locking bolt to 25 Nm [17] .
23. Ensure TDC marks aligned [4] .
24. Fit injection pump belt with camshaft rear sprocket.
25. Lightly tighten sprocket bolt [7] . Ensure sprocket can just be turned by hand.
26. Ensure guide pulley pointer aligned with cylinder head flange contour [19] .
27. If not: Slacken guide pulley nut [20] . Turn guide pulley until pointer aligned. Use Allen key. Tighten nut to 20 Nm [20] .
28. Fit tensioner pulley [8] . Ensure tensioner tab engaged in cut-out [21] . Tighten bolt finger tight [22] .
29. Turn tensioner pulley anti-clockwise until pointers aligned [23] . Tighten bolt to 15 Nm [22] .  
**NOTE: To prevent tensioner damage, front pointer should not go past rear pointer during adjustment.**
30. Hold camshaft rear sprocket. Use tool No.3036. Tighten bolt to 160 Nm [7] .
31. Slacken injection pump locking bolt [17] . Insert keeper plate [18] . Tighten locking bolt to 25 Nm [17] .
32. Turn crankshaft two turns clockwise to TDC on No.1 cylinder.
33. Ensure right edge of timing belt tensioner pointers aligned [15] & [24] . If not: Repeat tensioning procedures.
34. Check injection pump belt tensioner pointers are either aligned [23] , or front pointer is within dimension 'X'. If not: Repeat tensioning procedures.
35. Install components in reverse order of removal.

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