

# Timing belt replacement intervals

The information relating to timing belt replacement intervals is additional to the main purpose of this CD, but is included to provide guidance to garages and for customer advice.

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 later in this 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.

## Replacement Interval Guide

### Replacement Interval Guide

Toyota recommend replacement as follows:

- 1993 - replacement every 60,000 miles or 5 years, whichever occurs first.
- 1994 → - replacement every 63,000 miles or 5 years, whichever occurs first.

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

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Starlet 1,3 1996-99	
Remove and install	1,50
Remove and install - AC	1,60
Remove and install - PAS	1,70
Remove and install - PAS+AC	1,80

## Special Tools

- Puller - Toyota No.09213-31021.
- Crankshaft pulley holding tool - Toyota No.09213-14010.
- Handle - Toyota No.09330-00021.

## Special Precautions

- Disconnect battery earth lead.
- DO NOT turn crankshaft or camshaft when timing belt removed.
- Remove spark 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.

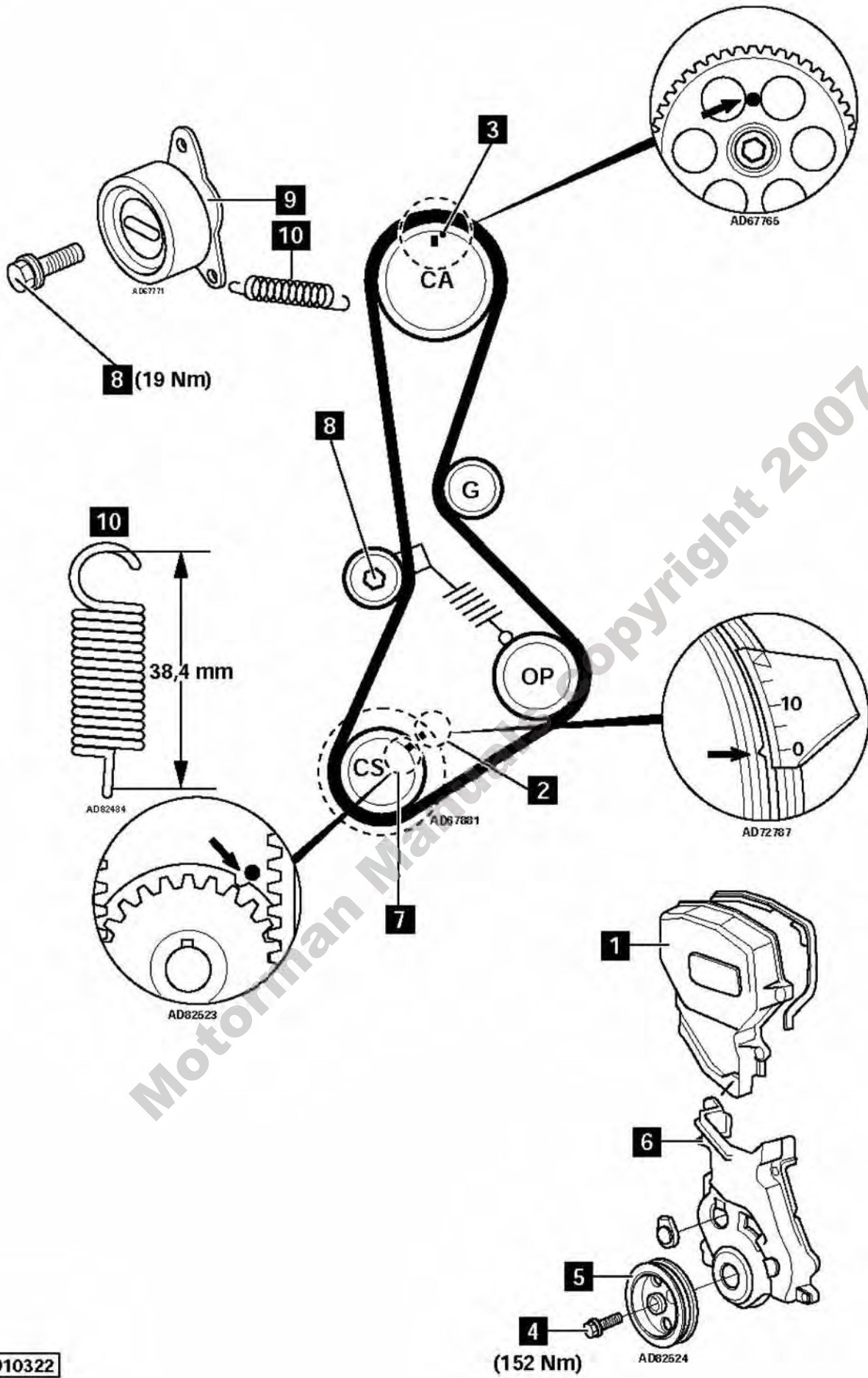
## Removal

1. Raise and support front of vehicle.
2. Support engine.
3. Remove:
  - RH front wheel.
  - Inner wing panel.
  - Engine mounting and bracket.
  - Auxiliary drive belt(s).
  - Cylinder head cover.
  - Timing belt upper cover [1].
4. Turn crankshaft clockwise to TDC on No.1 cylinder. Ensure crankshaft pulley timing mark aligned [2].
5. Check hole in camshaft sprocket aligned with mark on camshaft bearing cap [3].
6. If not: Turn crankshaft one turn clockwise.
7. Remove:
  - Crankshaft pulley bolt [4]. Use tool Nos.09213-14010 & 09330-00021.
  - Crankshaft pulley [5]. Use tool No.09213-31021.
  - Timing belt lower cover [6].
8. Temporarily fit crankshaft pulley bolt [4].
9. Ensure timing marks aligned [3] & [7].
10. Slacken tensioner bolt [8]. Move tensioner away from belt and lightly tighten bolt.
11. Remove:
  - Timing belt.
  - Tensioner pulley and spring [9] & [10].

## Installation

1. Check tensioner pulley for smooth operation [9].
2. Check free length of tensioner spring is 38,4 mm [10].
3. Fit tensioner and spring. Ensure spring is connected correctly.
4. Push tensioner to left and lightly tighten bolt [8].
5. Ensure timing marks aligned [3] & [7].
6. Fit timing belt in anti-clockwise direction, starting at crankshaft sprocket. Ensure belt is taut between sprockets.
7. Slacken tensioner bolt [8].
8. Turn crankshaft two turns clockwise to TDC on No.1 cylinder. Ensure timing marks aligned [3] & [7].
9. If not: Repeat installation and tensioning procedures.
10. Tighten tensioner bolt [8]. Tightening torque: 19 Nm.
11. Remove crankshaft pulley bolt [4].
12. Install:
  - Timing belt lower cover [6].
  - Crankshaft pulley [5].
13. Install components in reverse order of removal.
14. Tighten crankshaft pulley bolt [4]. Tightening torque: 152 Nm. Use tool Nos.09213-14010 & 09330-00021.





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