

MODEL: COROLLA, SPRINTER 1994-99. **SERIES:** AE101R & AE102R
ENGINE: 4A-FE, 1.6L // 7A-FE, 1.8L

REMOVAL

INTERFERENCE ENGINE. *In the event of timing belt failure, it is probable that valve to piston damage has occurred. A compression test should be carried out on all cylinders before removing the cylinder head.*

1. Remove:
 - all drive belts,
 - water pump pulley.
2. Disconnect high tension leads and remove spark plugs.
3. Disconnect alternator connector and wire, oil pressure switch, and PCV hoses; then remove the

cylinder head cover.

4. Set the No.1 cylinder at TDC on its compression stroke. This is done by rotating the crankshaft pulley clockwise and aligning its groove with timing mark 'O' on the No.1 timing belt cover.
5. Check that the timing mark on the camshaft timing pulley is aligned with the timing mark on the bearing cap. If not aligned, turn the crankshaft one full revolution.

6. Remove the crankshaft pulley with the aid of SSTs.

7. Remove the timing belts covers and then the timing belt guide.
8. Loosen the idler's pulley bolt, shift the pulley as far as possible towards the left side and tighten the bolt.

9. Remove the timing belt.
Note: If reusing the timing belt, draw a direction arrow on the belt (in the direction of engine revolution), and place matchmarks on the pulleys and belt.

10. Remove the idler pulley and tension spring.

INSTALLATION

1. Install the idler pulley with bolt.
2. Inspect free length of tensioner spring. If not as specified, replace it.
Free length: 35.3 mm (4A-FE), 31.8 mm (7A-FE).
3. Install the tension spring.
4. Push the idler pulley to the left as far as it will go and tighten the bolt.
5. Set the No.1 cylinder to TDC on compression stroke. This is done by:
 - a) Align the hole of the camshaft timing pulley with the timing mark of the bearing cap.
 - b) Turn the crankshaft and align the timing marks of the crankshaft timing pulley and oil pump body.

6. Install the timing belt. Check the tension between the crankshaft timing pulley and camshaft timing pulley.
7. Loosen the idler's pulley bolt and turn the crankshaft (clockwise) two revolutions from TDC to TDC.
8. Check the alignment of each pulley with its corresponding marks. If not aligned, remove the timing belt and repeat the process.
9. After checking the alignment tighten the idler pulley bolt.
10. Check the timing belt deflection midway between the camshaft and crankshaft pulleys.
Deflection: 5 - 6 mm at 20 N.

11. Install the timing belt guide. Ensure that the cupside face outward.
12. Install the timing belt covers.
13. Install the crankshaft pulley using SSTs.
14. Install the cylinder head cover. Replace seal and gasket as necessary; then reconnect wire and hoses.
15. Reconnect high tension leads.
16. Install:
 - spark plugs,
 - water pump pulley,
 - and alternator drive belt.
17. Install the remainder of components in reverse order of removal.

SPECIAL TOOLS

Spark plugs remover: SST 09155-16100
 Crankshaft pulley bolt remover: SST 09213-54015, SST 09330-00021, SST 09213-70010
 Cylinder head bolt wrench: SST 09205-16010

TIGHTENING TORQUE

Crankshaft pulley: 118 Nm
 Camshaft timing pulley: 59 Nm
 Idler pulley: 37 Nm
 Spark Plugs: 18 Nm

BELT REPLACEMENT INTERVAL

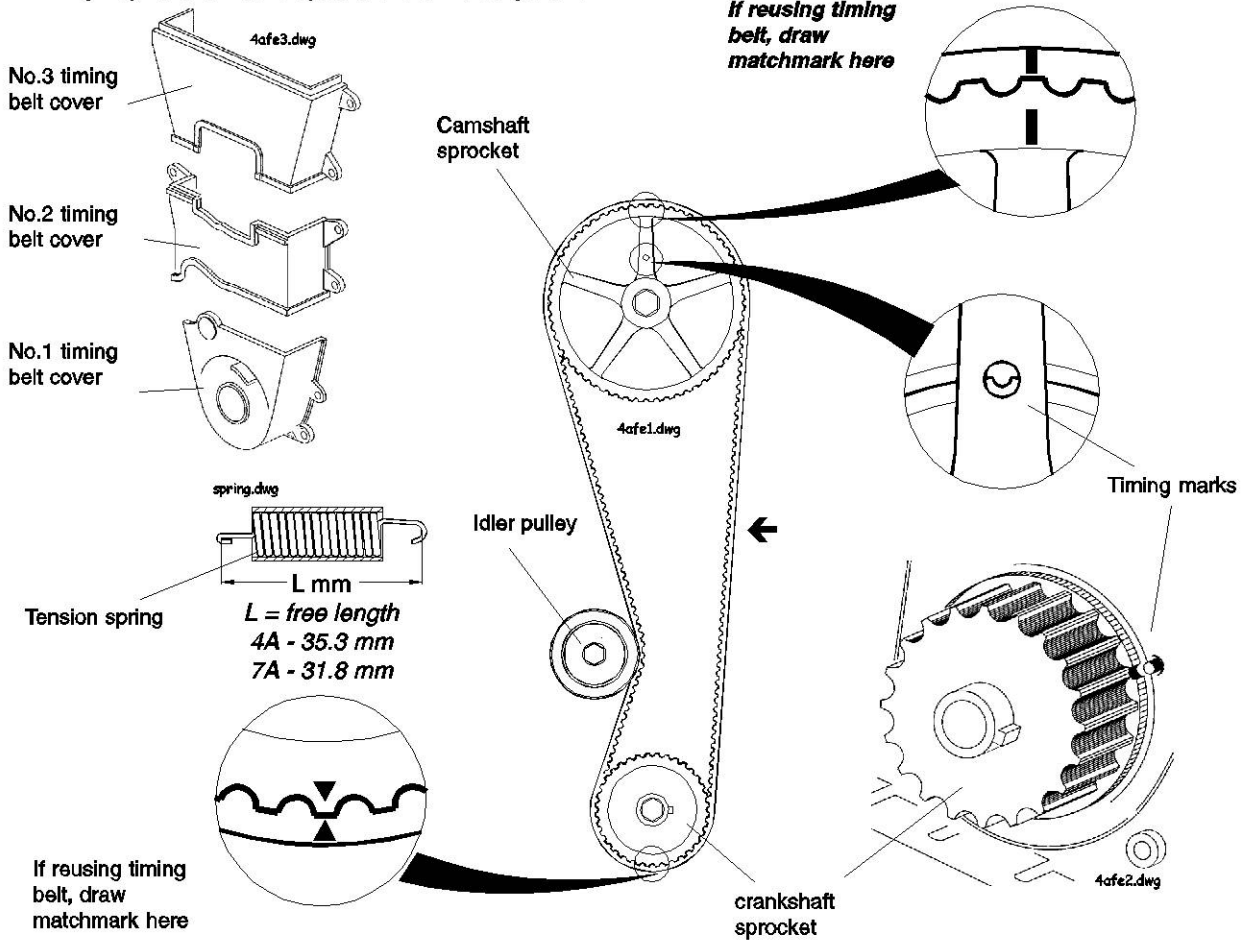
100,000 km

RECOMMENDED REPAIR TIME

2.5 hours

*May not include time to remove/install associated component(s).

Note: Diagrams are not to scale and for presentation only. They may not show real shape and size of the components.



TIMING BELT			
MANUFACTURER NUMBER	13568-16040 (4A), 13568-16060 (7A)		
DEFLECTION (mm) UNDER A (20N) LOAD	5 - 6		
AUXILIARY DRIVE BELTS			
BELT	DEFLECTION (mm) under 10kg (98N) load		SIZE (WxL)(mm)
	NEW	USED	
ALT	7 - 9	11.5 - 13.5	21 x 970
PS	5 - 6	6 - 8	10.3 x 630
AC	6 - 7	8.5 - 9.5	14 x 860

- AC - Air conditioning pulley
- ALT - Alternator / generator pulley
- CS - Crankshaft pulley
- IP - Idler pulley
- PS - Power steering pulley
- TP - Tension pulley
- WP - Water pump

