



Timing Drive Components (12.65.13)

Special Service Tools

303-634



E55101

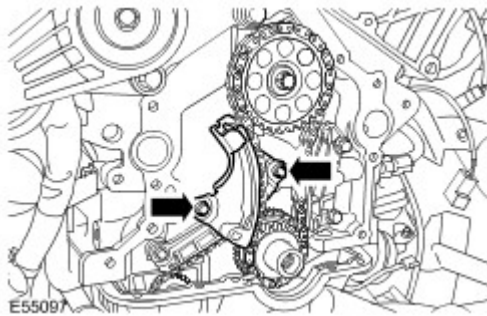
Crankshaft rotating tool
303-674

Removal

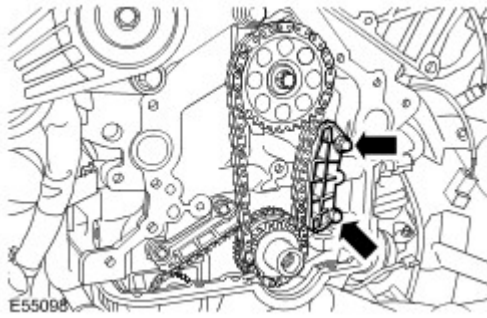
NOTE :

This procedure covers the removal and installation of the following components: Primary timing chain tensioner, timing chain guide, jackshaft sprocket, crankshaft sprocket and timing chain.

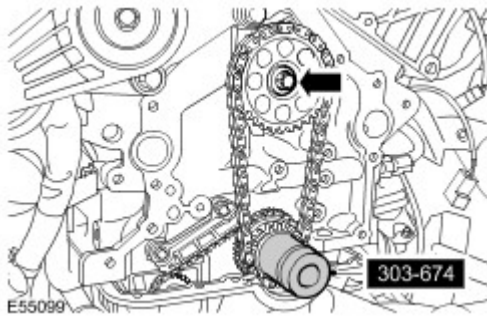
1. Disconnect the battery ground cable. For additional information, refer to [Specifications](#) (Section 414-00)
2. Remove the engine front cover. For additional information, refer to [Engine Front Cover \(12.65.01\)](#) (Section 303-01)
3. Remove the primary timing chain tensioner.
 - ▶ Remove the 2 bolts.



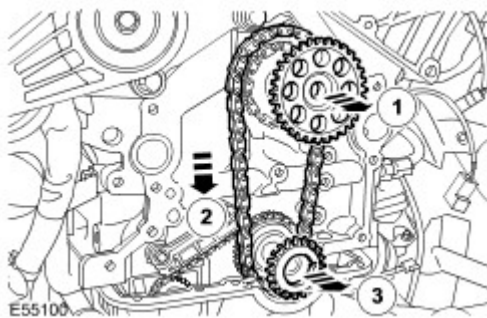
4. Remove the primary timing chain tensioner guide.
 - ▶ Remove the 2 bolts.



5. Install the special tool to the crankshaft.
6. Remove the jackshaft sprocket.
 - ▶ Using an additional wrench and the special tool, restrain the jackshaft sprocket.
 - ▶ Remove and discard the Torx bolt.



7. **NOTE :**
 Note the fitted position.
 Remove the crankshaft sprocket.
 - ▶ Remove the primary timing chain.



Installation

1. Install the primary timing chain.
 - ▶ Clean the component mating faces.
 - ▶ Install the crankshaft sprocket, the recessed face locates to the crankshaft side.
 - ▶ Install the special tool to the crankshaft.

- 2 . Install the jackshaft sprocket.
 - ▶ Clean the component mating faces.
 - ▶ Locate the primary timing chain to the sprockets.
 - ▶ Install a new Torx bolt, lightly tighten at this stage.
- 3 . Install the timing chain guide.
 - ▶ Clean the component mating faces.
 - ▶ Tighten the bolts to 20 Nm (15 lb.ft).
- 4 . Install the timing chain tensioner.
 - ▶ Clean the component mating faces.
 - ▶ Tighten the bolts to 10 Nm (7 lb.ft).
- 5 . Tighten the new Torx bolt to 45 Nm (33 lb.ft), then a further 70 degrees.
- 6 . Install the engine front cover. For additional information, refer to [Engine Front Cover \(12.65.01\)](#) (Section 303-01)
- 7 . Adjust the valve timing. For additional information, refer to [Camshaft Timing](#) (Section 303-01)
- 8 . Connect the battery ground cable. For additional information, refer to [Specifications](#) (Section 414-00)