Recommended Installation Procedure

Atech Timing Belt Tensioner 979496
Rover 1.4/1.6/1.8L, 16V, DOHC, K16 & K18
Revision Date: 06/29/2004

Caution:
The procedure to access the timing belt tensioner and all other timing driven components must be done according to the car manufacturer's guidelines.

Engine temperature:

1. The tensioner must be installed on the engine at room temperature by allowing the engine to stabilize to room temperature for proper belt tension adjustment. **Do not attempt to install a tensioner onto a hot engine**. (For reference, the minimum engine cooling period is 4 hours in tropical climatic regions).

Crankshaft and Camshaft TDC position setup:

2. Rotate the crankshaft clockwise ONLY to TDC (Top Dead Center) position (i.e. #1 cylinder firing position), follow the car manufacturer's guidelines.

Caution:
If the alignment of the crankshaft and the engine block is missed, DO NOT rotate the crankshaft counterclockwise to the correct position, but rather rotate the crankshaft clockwise 2 more full rotations with the camshafts to the timing position. This is to be accomplished while the belt is still attached. Also, DO NOT at anytime rotate the crankshaft and the camshafts when the timing belt is removed.

Belt and timing belt tensioner removal

3. Once the procedure for setting the TDC is completed, use a 6mm Hex key to prevent the rotation of the pivot shaft and loosen the mounting bolt. Once the mounting bolt is loosened, rotate the pivot shaft **Clockwise** to release the belt tension.

4. Remove the timing belt, the tensioner's mounting bolt and the OLD timing belt tensioner. It is always recommended to replace the timing belt during the replacement of the tensioner.

Initial Setup of the timing belt tensioner

5. Mount the new timing belt tensioner (Figure 2) on the engine with the M8 mounting bolt, and ensure that the spring tang of the tensioner (Figure 3) is engaged with the Anti-Rotation bolt on the engine. Hand tighten (lightly) the mounting bolt.

6. Rotate the Pivot Shaft while holding the mounting bolt with a wrench to prevent it from rotation, until the 6mm Hex Hole is pointing at the "9 O'clock" position (Figure 3). This will maximize the belt clearance with the timing belt tensioner for ease of installation.

Installation of the timing belt tensioner and the timing Belt

7. Install the timing belt being careful to engage the appropriate teeth of all the corresponding sprockets as per drive layout (Figure 1) starting with the crankshaft and working COUNTERCLOCKWISE ONLY.

Caution: Do not disturb the position of the crankshaft or camshaft sprockets during this procedure.

8. Rotate the Pivot Shaft COUNTERCLOCKWISE with a 6mm Hex Key. Make sure to hold the mounting bolt with a wrench in order to prevent it from turning when rotating the Pivot Shaft. The tensioner assembly will move against the belt and the Arm Pointer will eventually start to move CLOCKWISE (Figure 4).

9. Continue rotating the Pivot Shaft until the open end of spring tang moves past the arm nominal notch and approximately reaches the edge of the arm pointer. While holding the pivot shaft, torque the M8 Mounting Bolt to **23~28 Nm** (Figure 5).

Verification of the Nominal Position

10. Rotate the crankshaft at least two (2) complete rotations clockwise manually for proper seating of the belt until the crankshaft is aligned with the corresponding mark on the engine block.

    Check the following:
    - Crankshaft mark is aligned per car manufacturer's guidelines.
    - Camshaft sprockets' marks are aligned per car manufacturer's guidelines.

    If the alignment of all the sprockets is not correct, the belt has to be taken off and the installation procedure has to be repeated starting at step 2.

    Caution: If the alignment of the crankshaft at TDC is missed, do not rotate the Crankshaft counterclockwise to the correct position, but rather rotate the Crankshaft two (2) more full CLOCKWISE rotations to the alignment points.

11. Check the alignment position of the Arm Pointer:
    - If the open end of the spring tang aligns within the **Maximum/Minimum Position** in the Arm Pointer, the installation is complete (Figures 6 and 7).
    - If not, proceed as follows. The installation of the timing belt tensioner needs to be readjusted until the proper position is achieved.

Readjustment

The timing belt tensioner re-adjustment is required if the open end of the spring tang does not align within the Nominal Position Notch in the arm pointer.

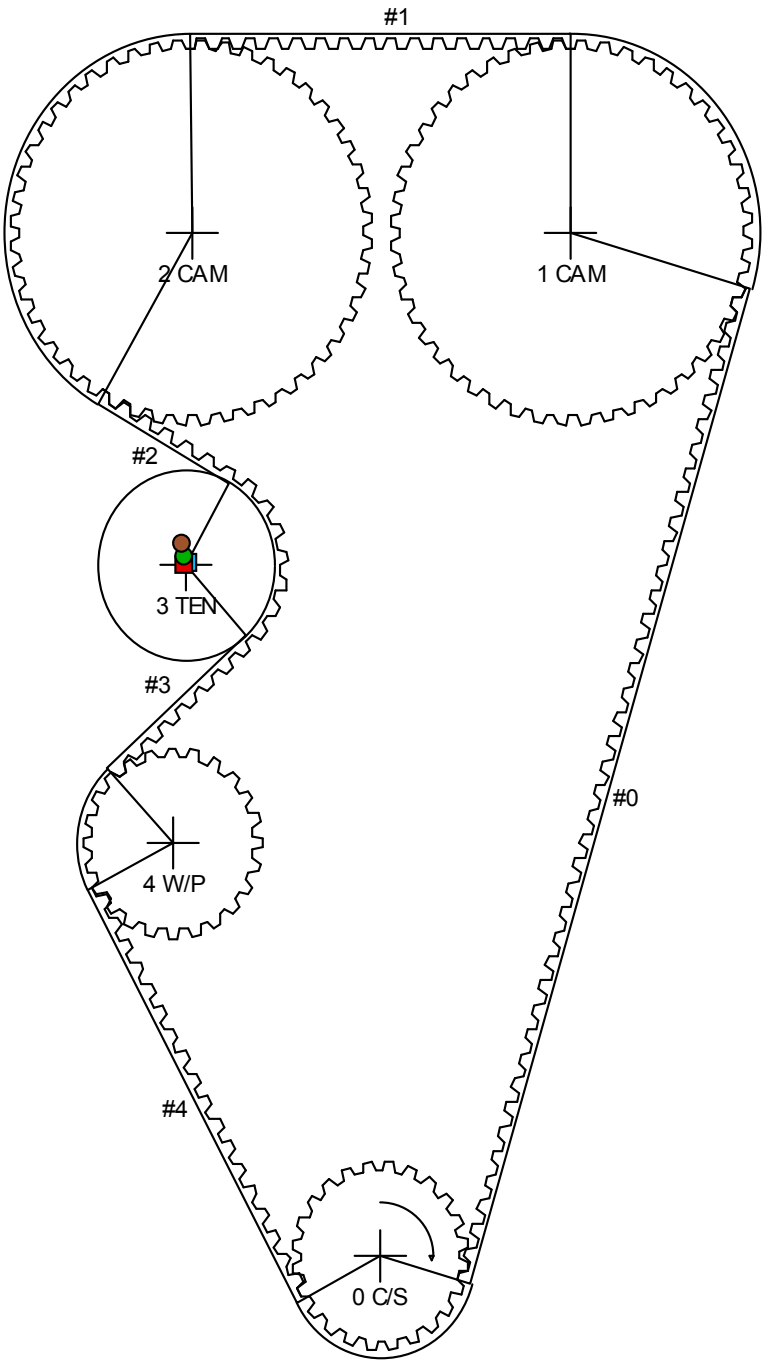
12. Engage the 6mm Allen key into the Pivot Shaft and retain its position while loosening the Mounting Bolt with the Wrench. The Mounting Bolt and the Timing Belt Tensioner do not need to be removed.

13. Rotate the Pivot Shaft with the Hex Key until the open end of the spring tang aligns within the **Maximum/Minimum Position** in the arm pointer (Figures 6 and 7).

14. Re-tighten the Mounting Bolt to **23~28 Nm** torque while preventing the Pivot Shaft from rotation using the Hex Key.

15. Repeat steps #10 and #11.

Recommended Installation Procedure
Atech Timing Belt Tensioner 979496
Rover 1.4/1.6/1.8L, 16V, DOHC, K16 & K18
Revision Date: 06/29/2004



0: Crankshaft, 1 and 2: Camshaft, 3: Tensioner, 4: Water Pump

Figure 1: Tensioner Layout for Rover DOHC 16V, K16 & K18 Engine

Recommended Installation Procedure
Atech Timing Belt Tensioner 979496
Rover 1.4/1.6/1.8L, 16V, DOHC, K16 & K18
Revision Date: 06/29/2004

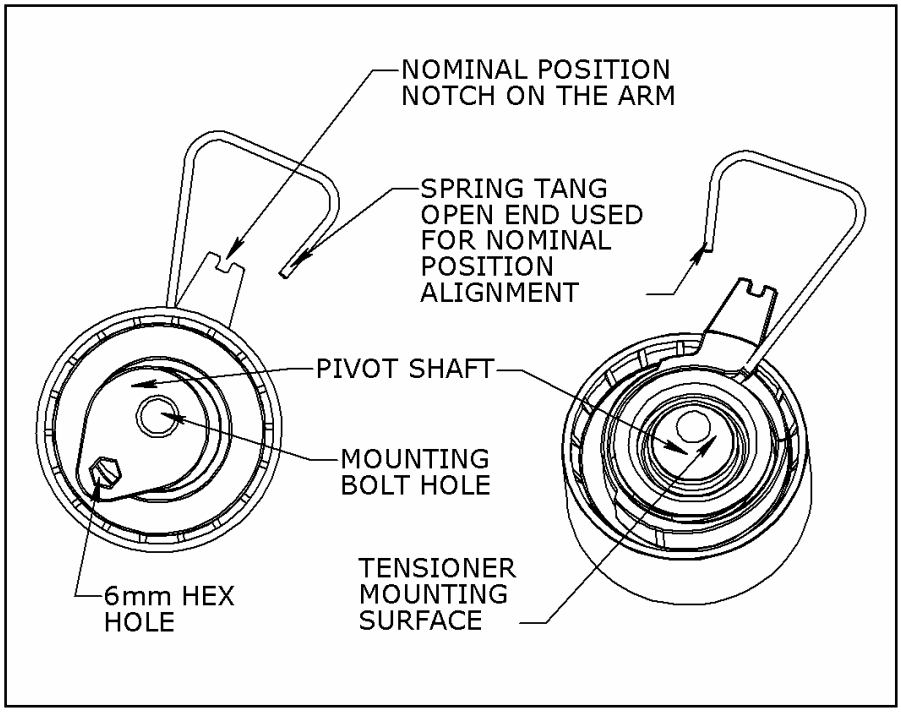


Figure 2: Timing Belt Tensioner

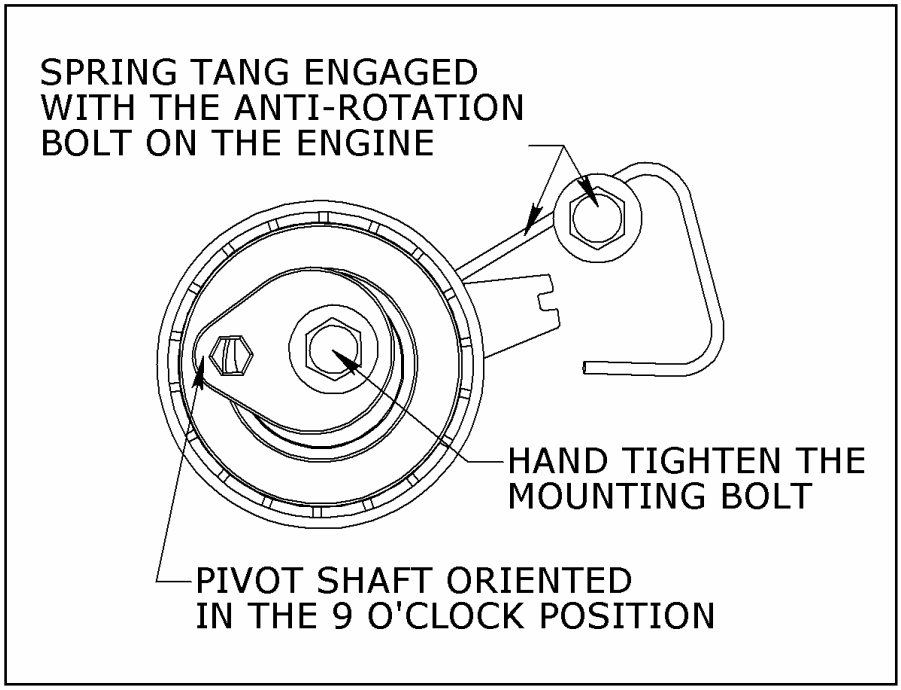


Figure 3: Initial Tensioner Setup

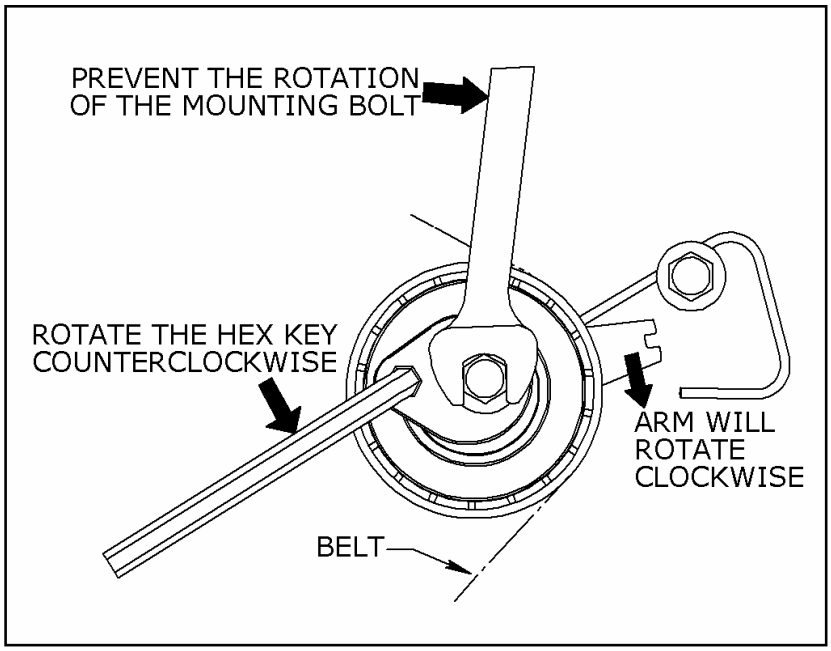


Figure 4: Tensioner Rotation Direction during Installation

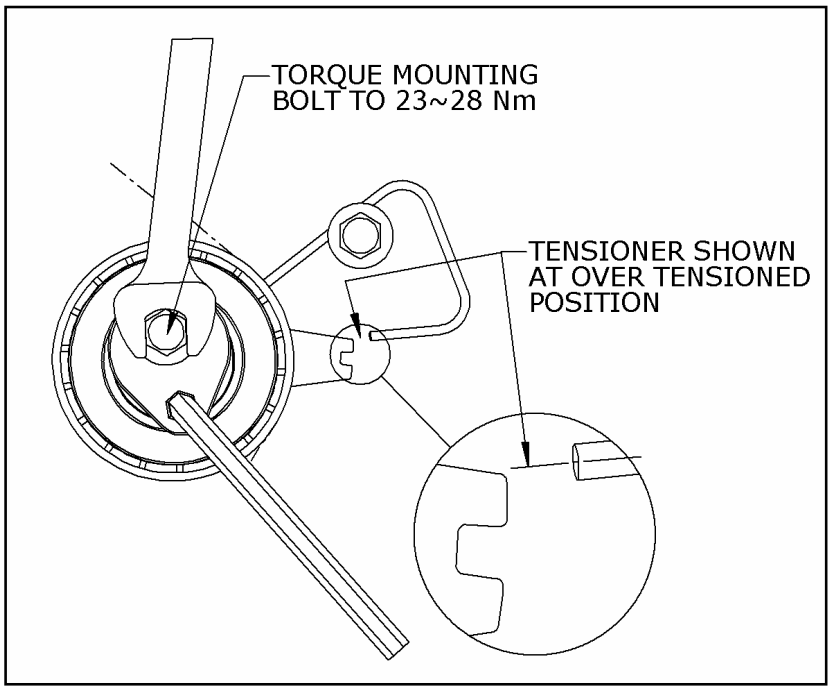


Figure 5: Tensioner shown at Over Tensioned Position

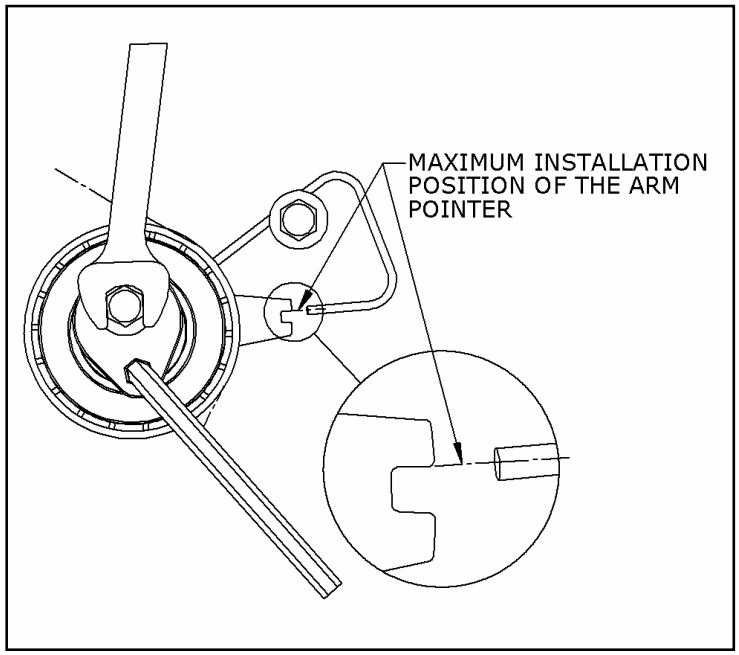


Figure 6: Tensioner is readjusted to the
MAXIMUM Position at TDC

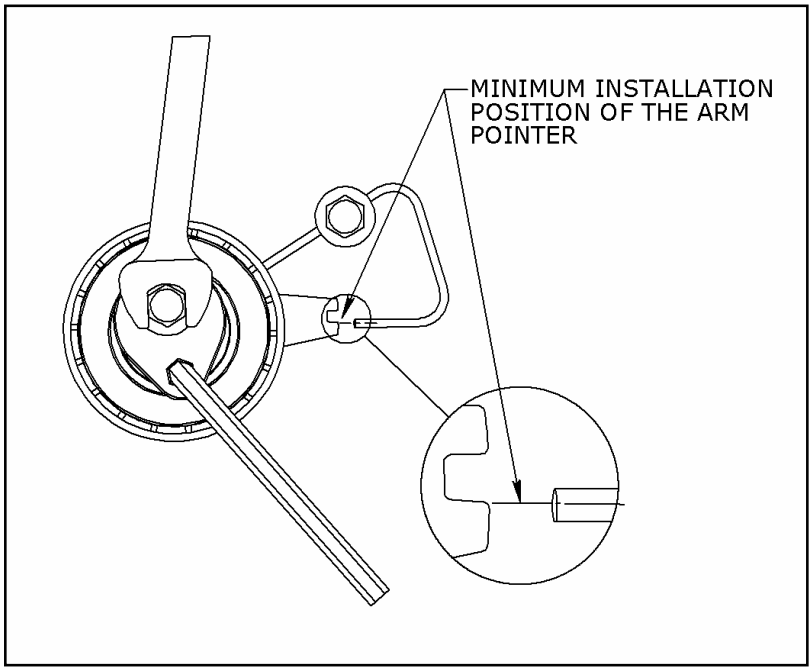


Figure 7: Tensioner is readjusted to
the MINIMUM Position at TDC