

Recommended Installation Procedure for Atech Timing Belt Tensioner
(979195) --- 2.0L DOHC GM/DAEWOO
(979488) --- 2.2L DOHC GM/DAEWOO
(979568, 979719) --- 2.0L DOHC OPEL FAMILY II TURBO --- (02FEB05)

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 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 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 camshaft when the timing belt is removed.

Belt and Timing Belt Tensioner removal

3. Once the procedure for setting the TDC is completed, loosen the mounting bolt and rotate the timing belt tensioner's installation 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 on the engine. The timing belt tensioner Locator Tab should engage the Anti-Rotation Slot in the oil pump housing on the engine. (Figure 1). Ensure that the timing belt tensioner arm pointer is below the flange of the water pump sprocket.
6. Rotate the Installation Shaft until its Hex Hole is pointing at the "7 O'clock position", this will maximize the belt clearance with the timing belt tensioner for ease of installation. Hand tighten the M8 Mounting Bolt (Figure 1).

Installation of the timing belt tensioner

7. Install the timing belt being careful to engage the appropriate teeth of all the corresponding sprockets as per drive layout (Figure 2) 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 Installation Shaft COUNTERCLOCKWISE with a Hex Key. Make sure to hold the mounting bolt with a Wrench in order to prevent it from turning when rotating the Installation Shaft. The Tensioner assembly will move against the belt and the Arm will eventually start to move CLOCKWISE (Figure 3).
9. Continue rotating the Installation Shaft until the Arm Pointer aligns with the right-hand edge of the Base Tab, then lock the tensioner in this position by tightening the M8 Mounting Bolt to **18~23 Nm** of torque (Figure 4).

Note: The arm pointer must not pass the right-hand edge of the Base Tab during installation.

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Verification of the Nominal Position

10. Rotate the crankshaft two (2) complete revolutions **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.
- Camshaft sprockets' marks are aligned.

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 and the engine block is missed, do not rotate the Crankshaft counterclockwise to the correct position, but rather rotate the Crankshaft 2 more full CLOCKWISE rotations to the alignment points.

11. Check the position of the Arm Pointer.

- If the Arm Pointer aligns with the Nominal Position Notch, the installation is complete (See Figure 5).
- If not, proceed as follows. The installation needs to be adjusted until the proper position is achieved.

Readjustment

The timing belt tensioner re-adjustment is required if the arm pointer does not align within the New Belt Nominal Position Notch of the rear plate.

Engage the Installation Tool and retain it's position while loosening the Mounting Bolt with the Wrench. The Mounting Bolt and the Tensioner need not be removed.

13. Rotate the Installation Shaft with the Hex Key until the Arm Pointer aligns with the Nominal Position Notch (See Figure 5).

14. Tighten the Mounting Bolt (18~23 Nm) torque while preventing the Installation Shaft from turning by holding it with the Hex Key.

15. Repeat steps # 10 and #11.

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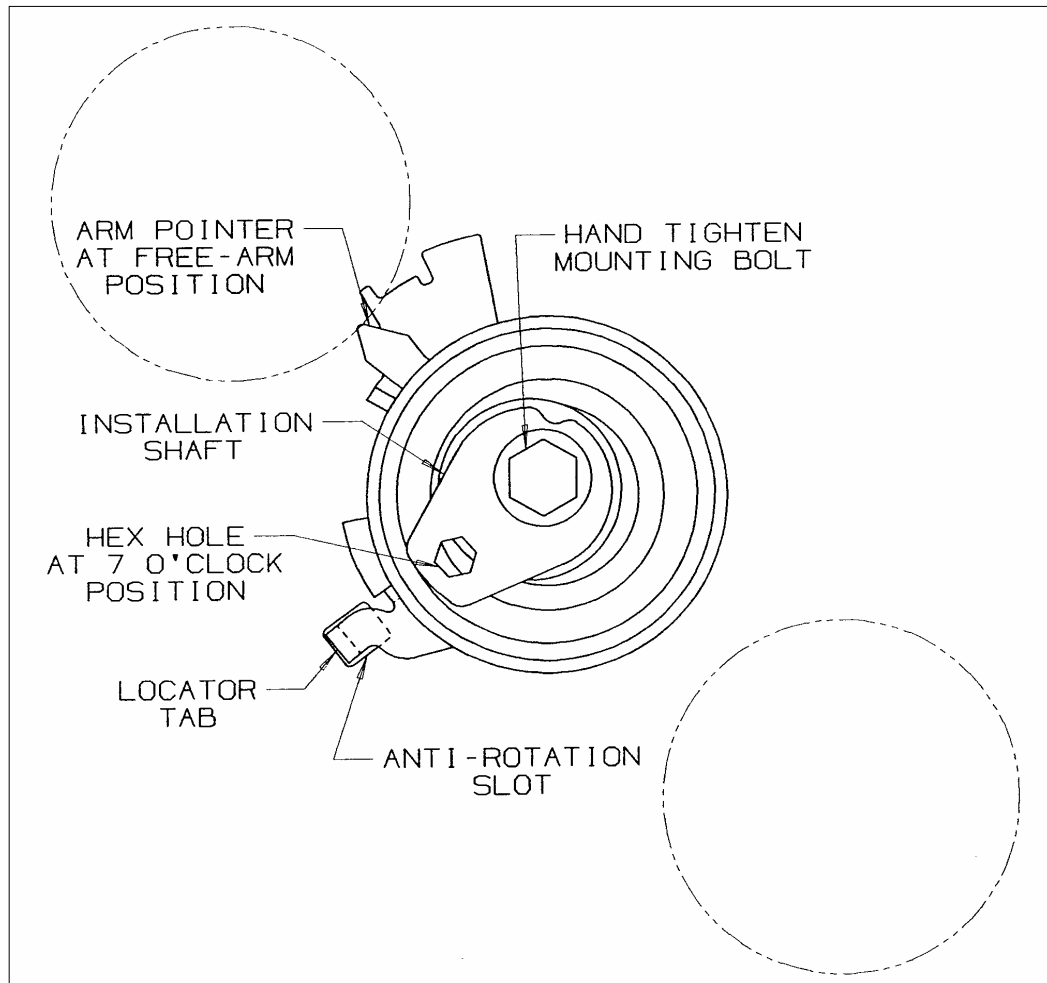


Figure 1: Tensioner shown at Free-Arm Position on the Mounting Surface

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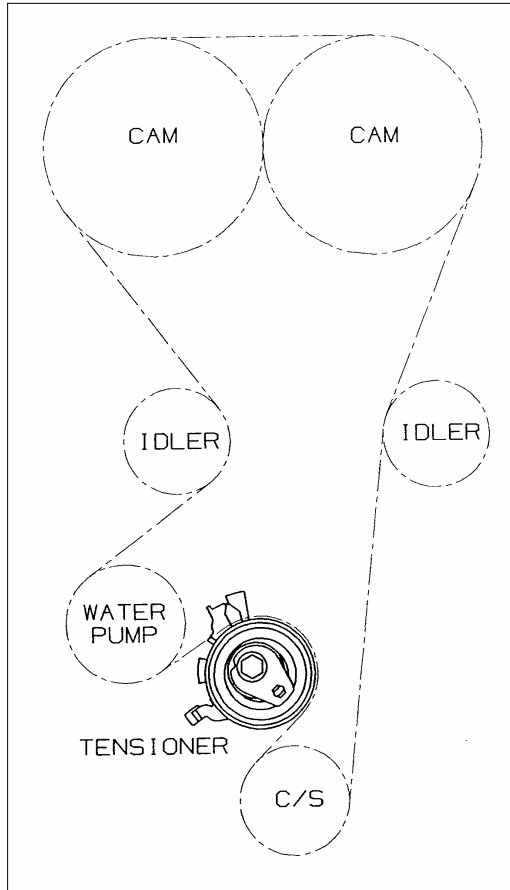


Figure 2(a): Belt Layout for the 2.0L DOHC

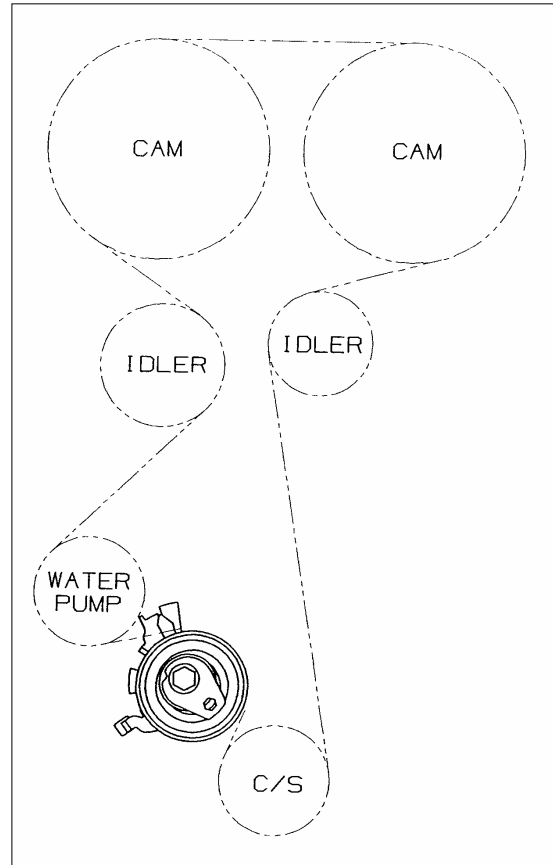


Figure 2(b): Belt Layout for 2.2L DOHC

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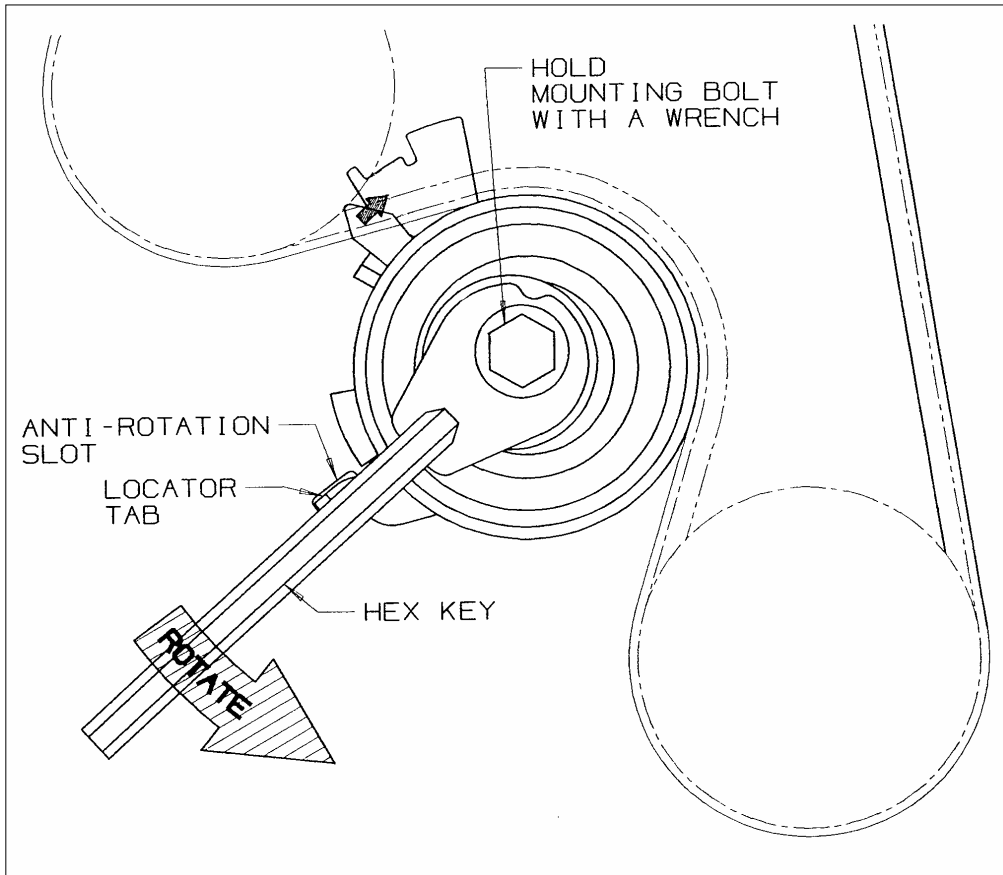


Figure 3: Adjustment of the Tensioner with the Hex Key

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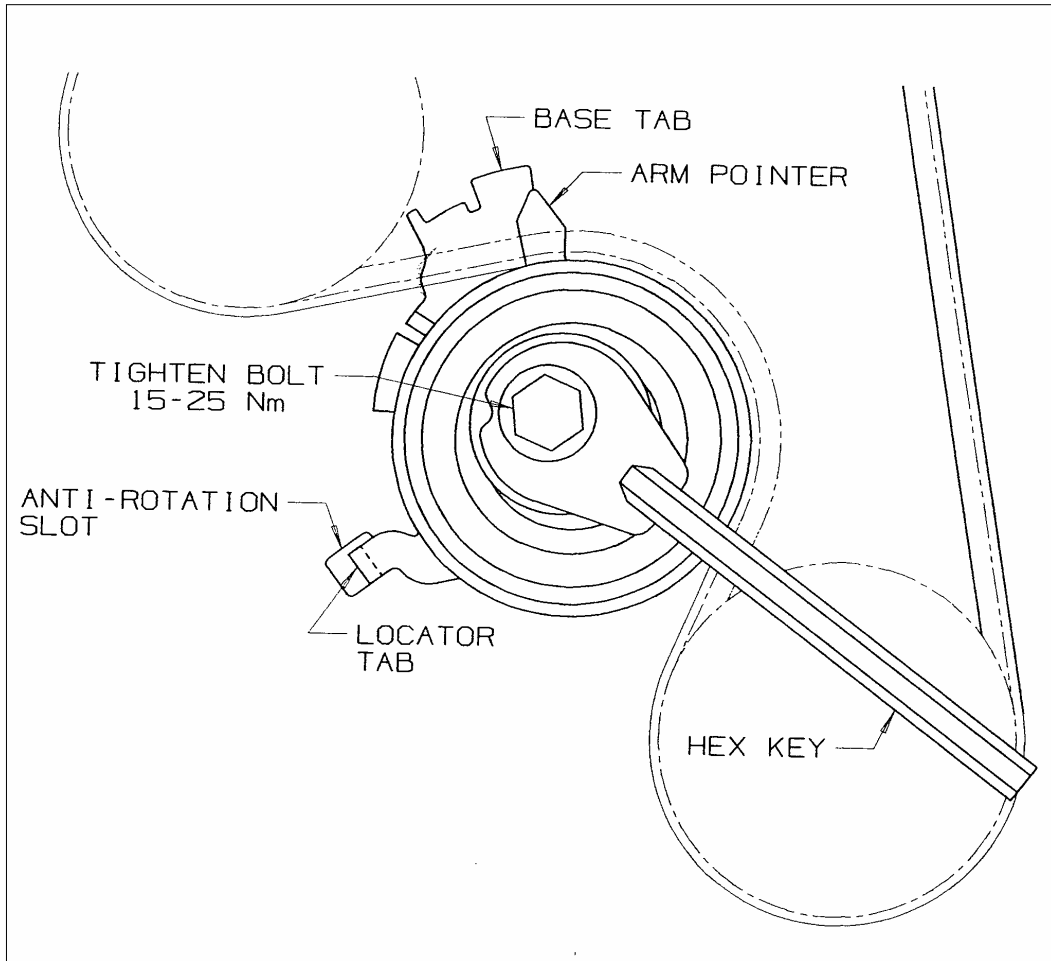


Figure 4: Proper Initial Setup of the Timing Belt Tensioner

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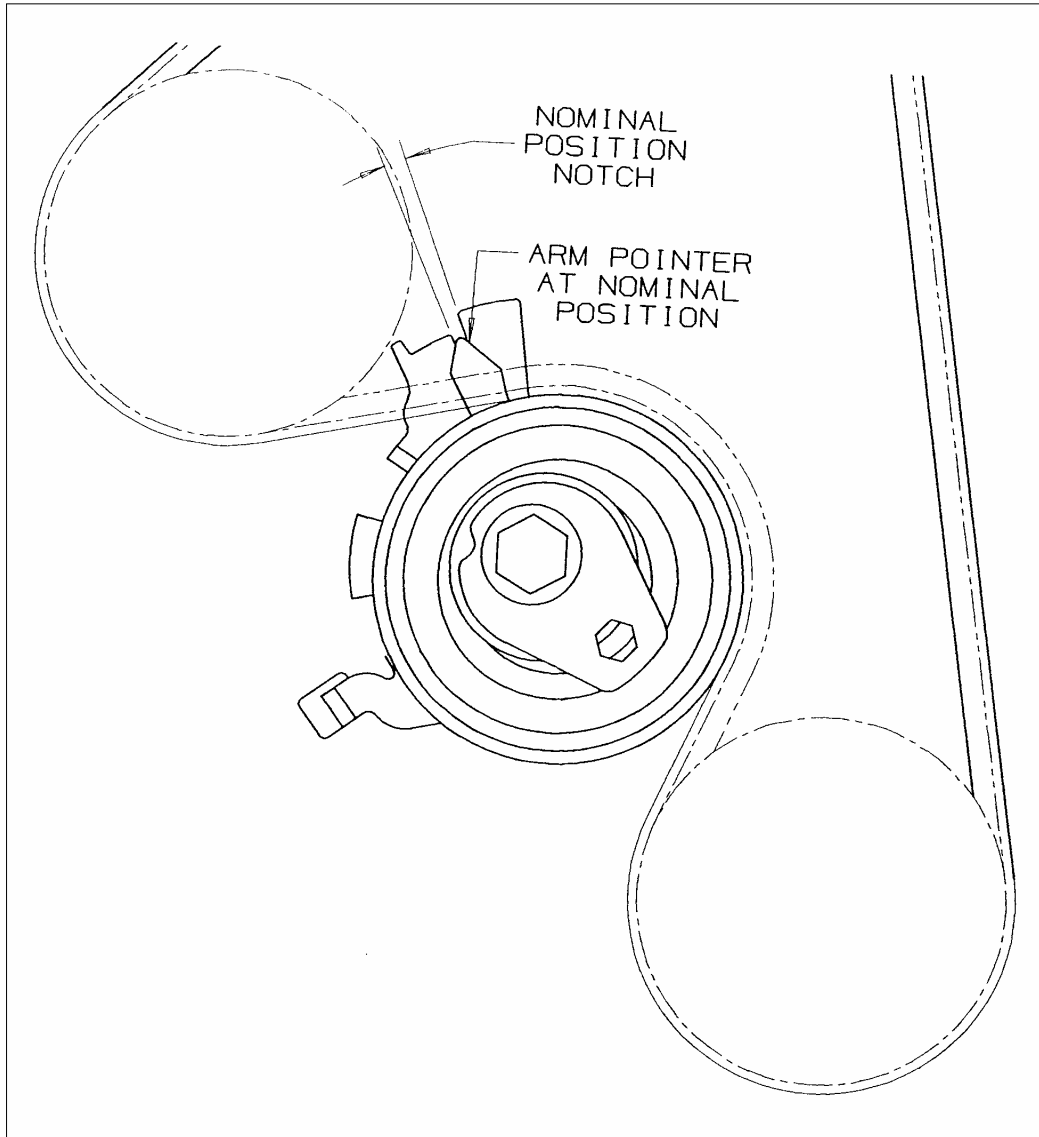


Figure 5: Verification of the alignment of the Tensioner's Arm pointer with the nominal position notch