

Recommended Installation Procedure (05 SEP 07)
ATech Timing Belt Tensioner (979756) PSA EW10A 2.0L Engine

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 and tensioner to stabilize to the same relative ambient 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 Camshafts TDC position setup:

2. Rotate the crankshaft **CLOCKWISE ONLY** to **TDC** (Top Dead Center) position (i.e. #1 cylinder firing position). Review PSA's guidelines on how to locate and lock the crankshaft and camshafts position at TDC. For this application:
 - Crankshaft has to be locked in position using a crankshaft insert pin through crankshaft pulley hub. Follow PSA's guidelines.
 - Camshafts have to be locked in position using insert pins through camshaft sprockets and into the holes on engine block. Follow PSA's guidelines.

CAUTION:

If the alignment of the TDC position is missed, DO NOT rotate the Crankshaft counterclockwise to the correct position, but rather rotate the Crankshaft 2 more full rotations with the camshaft to the locking points. 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 Tensioner removal

3. Once the procedure for setting the TDC is completed, loosen the tensioner mounting bolt and rotate the tensioner away from the belt to release belt tension.
4. Remove the mounting bolt, timing belt and the **OLD Tensioner**. It is recommended to replace the timing belt during the replacement of the tensioner.

Installation of the Timing Belt Tensioner and the Belt

5. Ensure that the tensioner mounting surface on the engine block is clean and free from gouges or bumps that will affect the mounting and operation of the tensioner.
6. Install the new tensioner on the engine (Fig. 2) and ensure it is seated on the mounting surface and that its base plate hookup feature is engaged with the rib on the engine block properly. Hand tighten the tensioner mounting bolt (Fig. 4).
7. Install the timing belt being careful to engage the appropriate teeth of the crankshaft sprocket, and then fit a retaining clip (Fig. 3) to secure the belt teeth engaging with the crankshaft sprocket tightly.
8. Fit the timing belt to remaining sprockets and pulleys as per following order: routine idler → camshafts → W/P → tensioner (Fig. 1).

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9. Ensure the belt is tight between the sprockets on the water pump side. Rotate the tensioner away from the belt and engage the belt on the tensioner (Fig. 4). Remove the timing belt retaining clip.
10. Engage the 6mm Allen Key into the installation shaft Hex Hole and rotate counterclockwise only. The tensioner assembly will move against the belt and the arm pointer will eventually start to move **CLOCKWISE** (Fig. 5).
11. Continue rotating the installation shaft with the 6mm Allen Key until the arm pointer moves beyond the notch on the base plate and reaches a position close to the load stop without touching the load stop. Lock the tensioner in this position by tightening the mounting bolt to **21±2 Nm** (Fig. 5).

Verification of the Nominal Position

12. Remove all tools and rotate the crankshaft ten (10) complete revolutions **clockwise manually** for proper seating of the belt until the crankshaft is repositioned at the TDC position. Check the following:
 - Crankshaft insert pin fits into the locking position hole smoothly;
 - Camshaft sprockets insert pins fit into the locking position holes smoothly.If the insert pins do not fit the locking position holes, 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.**



13. Check the position of the arm pointer.
 - If the arm pointer aligns with the notch on the front plate @TDC, the installation is complete. (Fig.6).
 - If not, proceed as follows. The installation needs to be re-adjusted until the proper position is achieved.

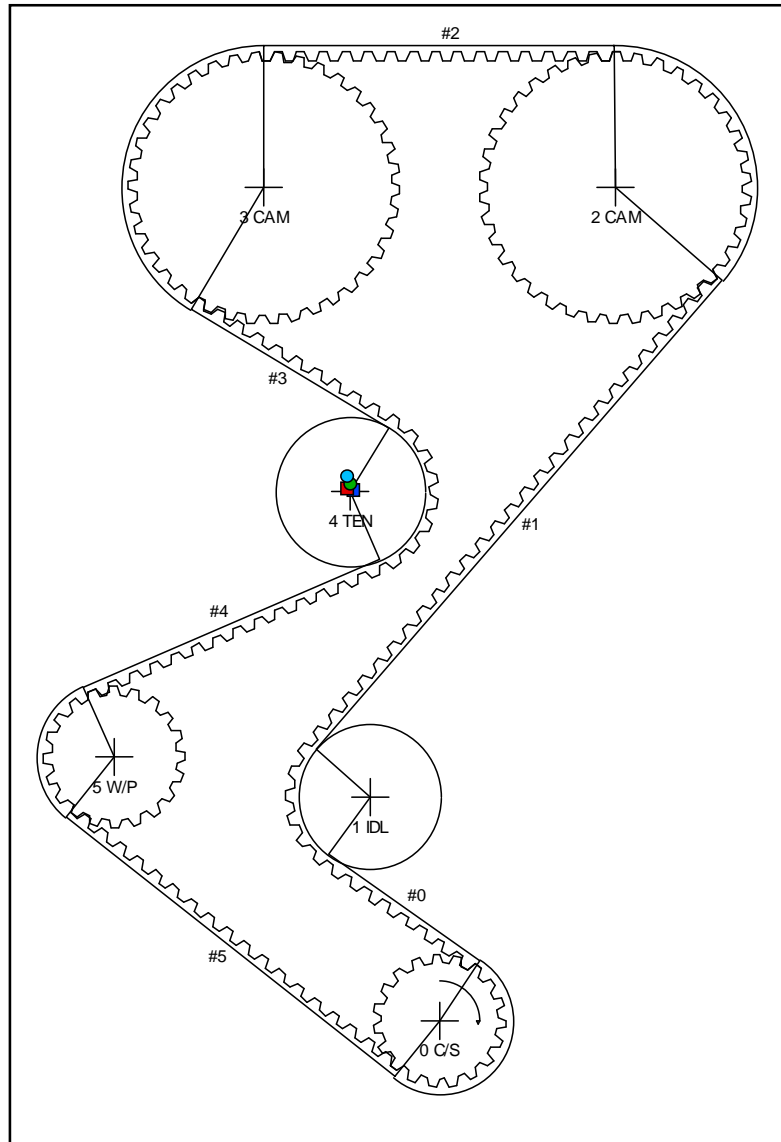
Readjustment

14. Engage the 6mm Allen Key into the Hex holes on the installation shaft and retain its position while loosening the mounting bolt with the wrench. The mounting bolt and the tensioner need not be removed.
15. Prevent the mounting bolt from rotating and cycle the pivot shaft with the installation tool so that the arm pointer cycles around the base plate notch a few times (Fig. 7).
16. Rotate the pivot shaft **COUNTERCLOCKWISE** only until the arm pointer moves clockwise to align with the notch on the base plate. Re-tighten the mounting bolt to **21±2 Nm** torque while preventing the installation shaft from turning by holding it with the 6mm Allen Key (Fig. 7).
17. Remove all tools. Repeat steps # 12 and #13.

Disclaimer

Every step of this installation procedure **MUST** be properly followed otherwise engine damage can occur.

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0: Crankshaft 1: Idler 2 & 3: Camshaft 4: Tensioner 5: W/P

Figure 1. Timing Drive Engine Layout
(PSA EW10A 2.0L)

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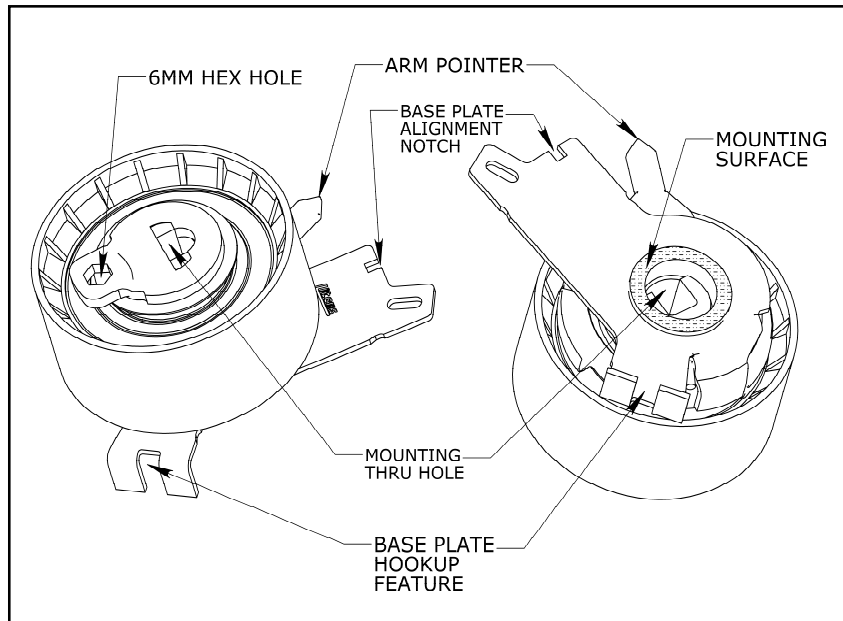


Figure 2. Tensioner shown as shipped

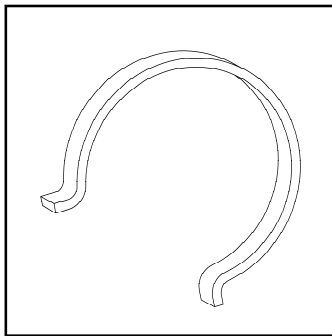


Figure 3. Retaining Clip

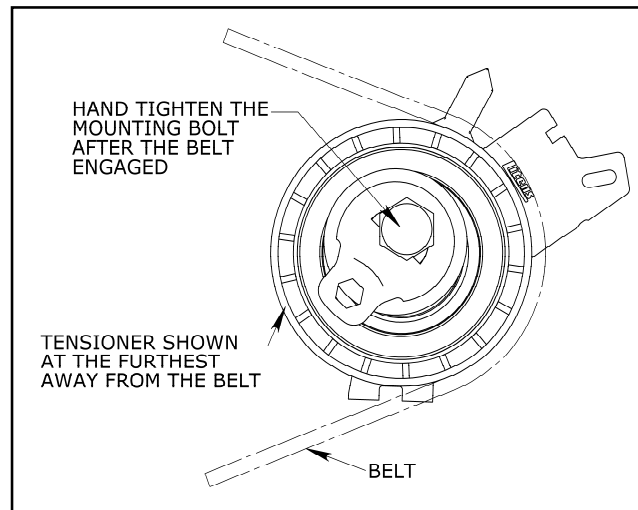


Figure 4. Tensioner's initial setup

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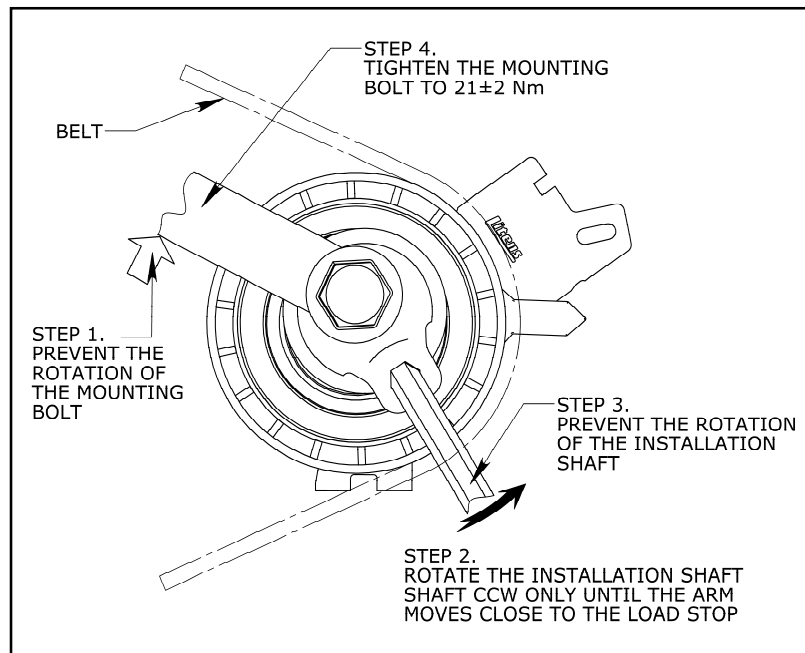


Figure 5. Tensioner shown at maximum arm travel.

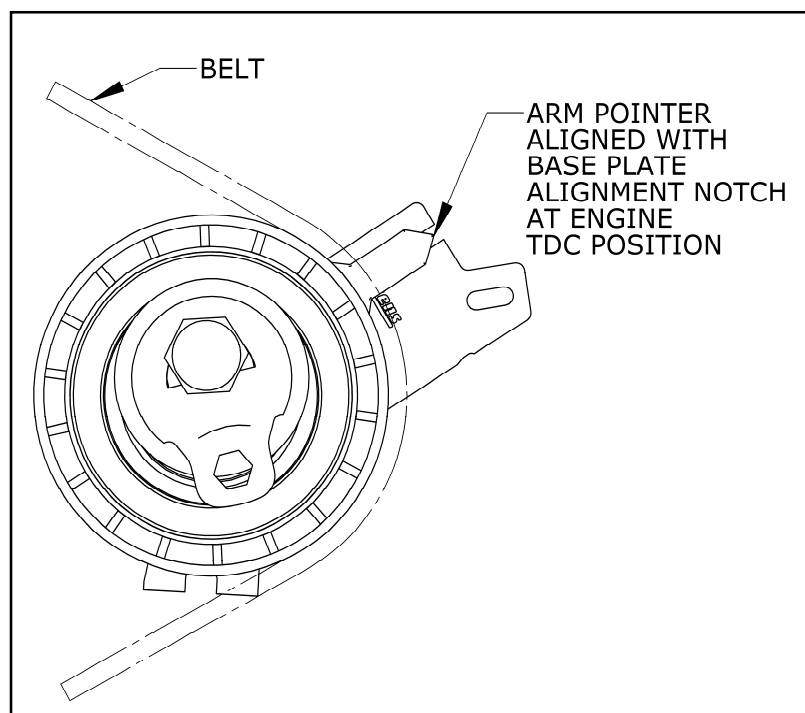


Figure 6: A properly setup tensioner at nominal position.

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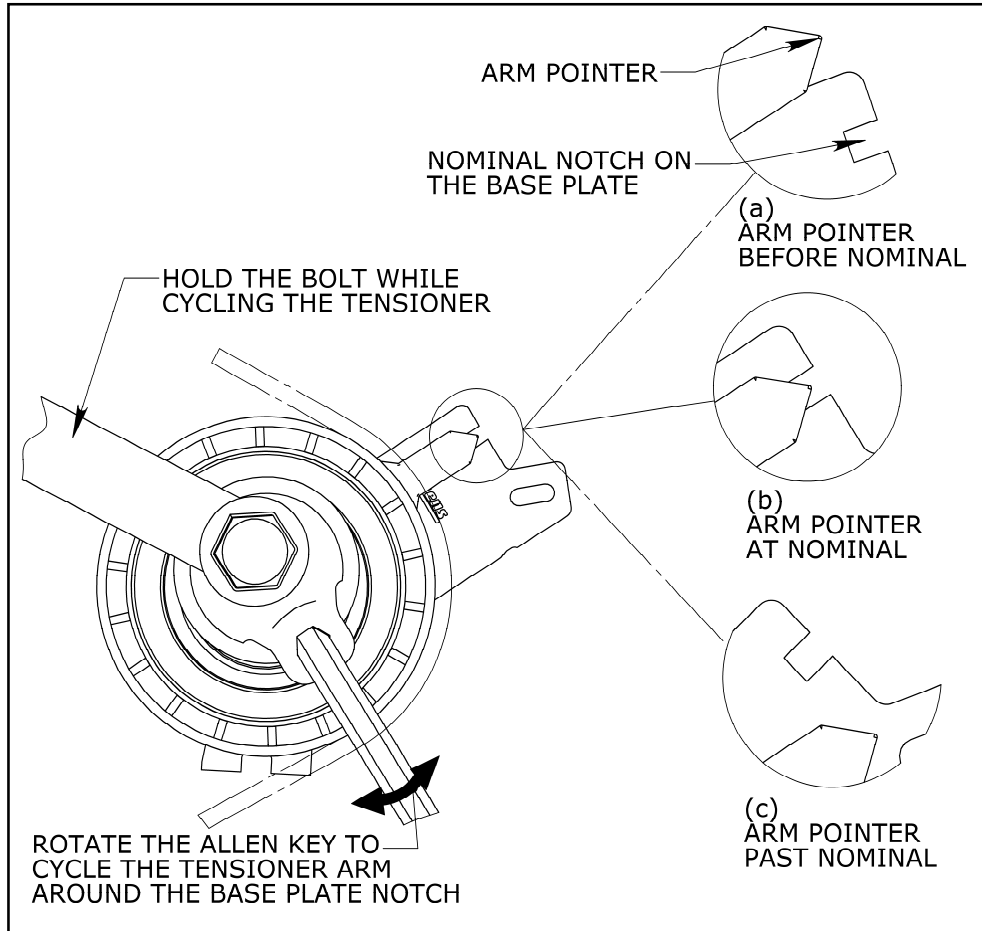


Figure 7: Tensioner cycling before readjustment to Nominal position