

**Recommended Installation Procedure** (25 MAY 07)  
ATech Timing Belt Tensioner (979778) FIAT FIRE 8-valve 1.2/1.4L 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 FIAT's guidelines on how to locate and lock the crankshaft and camshaft position at TDC.

**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 nut and rotate the tensioner away from the belt.
4. Remove the Mounting nut 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. A special 2-pin installation tool is required to set the timing belt tensioner (Fig 2).
6. 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.
7. Install the new tensioner on the engine (Fig. 4) and ensure it is seated on the mounting surface properly. Hand tighten the tensioner mounting nut.
8. Install the timing belt being careful to engage the appropriate teeth of all the corresponding sprockets as per drive layout (Fig. 1) starting with the crankshaft and working counterclockwise ONLY : c/s → w/p → camshaft → tensioner.
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).
10. Engage the 2-PIN installation tool into the 2 Ø3mm holes on the tensioner pivot shaft and rotate counterclockwise only. Rotating clockwise will not tension this tensioner. The tensioner assembly will move against the belt and the arm pointer notch will eventually start to move **CLOCKWISE** (Fig. 5).
11. Continue rotating the pivot shaft with the installation tool until the notch on the arm pointer travels beyond the notch on the front plate and reaches a position

**Recommended Installation Procedure** (25 MAY 07)  
ATech Timing Belt Tensioner (979778) FIAT FIRE 8-valve 1.2/1.4L Engine

close to the load stop without touching the load stop. Lock the tensioner in this position by tightening the mounting nut to **25±3 Nm** (Fig. 5).

**Verification of the Nominal Position**

12. Remove all tools and 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.

Check the following:

- Crankshaft mark is aligned.
- Camshaft sprocket mark is 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.**



13. Check the position of the notch on the Arm Pointer.
- If the notch on 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.

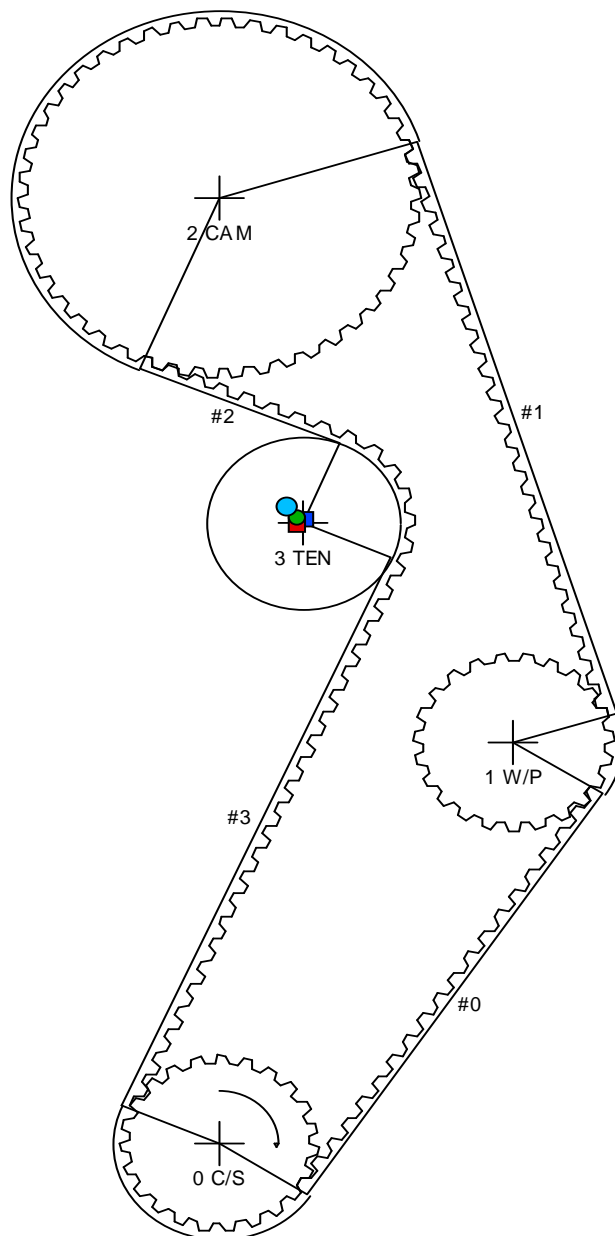
**Readjustment**

14. Engage the 2-pin installation tool into the 2 holes on the pivot shaft and retain its position while loosening the mounting nut with the wrench. The mounting nut and the tensioner need not be removed.
15. Prevent the mounting nut from rotating and cycle the pivot shaft with the installation tool so that the notch on the arm pointer cycles around the front plate notch a few times (Fig. 7).
16. Rotate the pivot shaft COUNTERCLOCKWISE only until the arm pointer moves clockwise to align its notch with the notch on the front plate. Re-tighten the mounting Nut to **25±3 Nm** torque while preventing the pivot shaft from turning by holding it with the 2-pin tool (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.

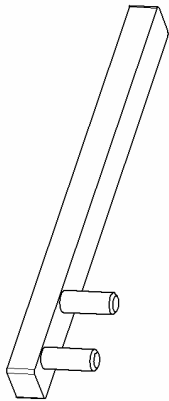
**Recommended Installation Procedure** (25 MAY 07)  
ATech Timing Belt Tensioner (979778) FIAT FIRE 8-valve 1.2/1.4L Engine



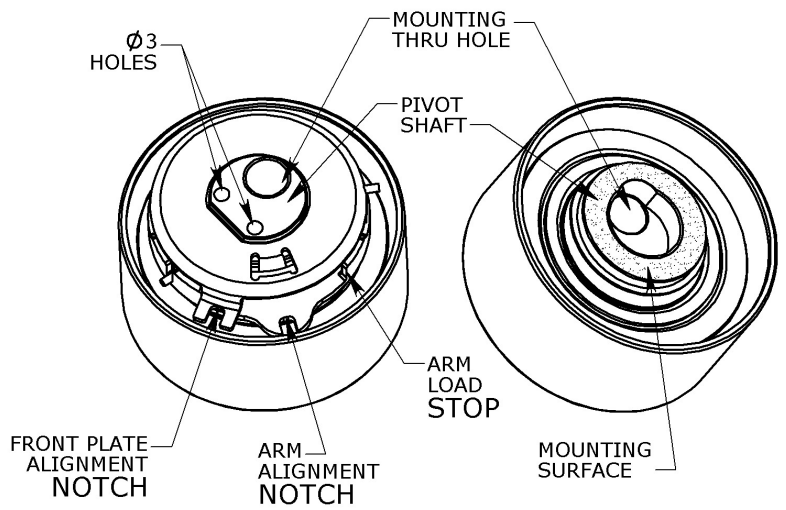
0: Crankshaft 1: W/P 2: Camshaft 3: Tensioner

**Figure 1: Timing Drive Engine Layout**  
(FIAT Fire 8-valve, 1.2/1.4L)

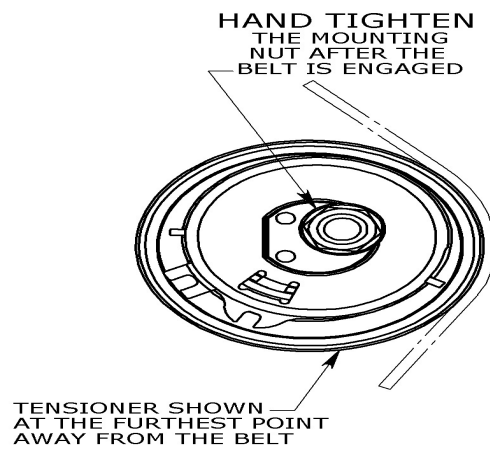
**Recommended Installation Procedure (25 MAY 07)**  
ATech Timing Belt Tensioner (979778) FIAT FIRE 8-valve 1.2/1.4L Engine



**Figure 2: A 2-PIN  
INSTALLATION TOOL  
(Reference only)**

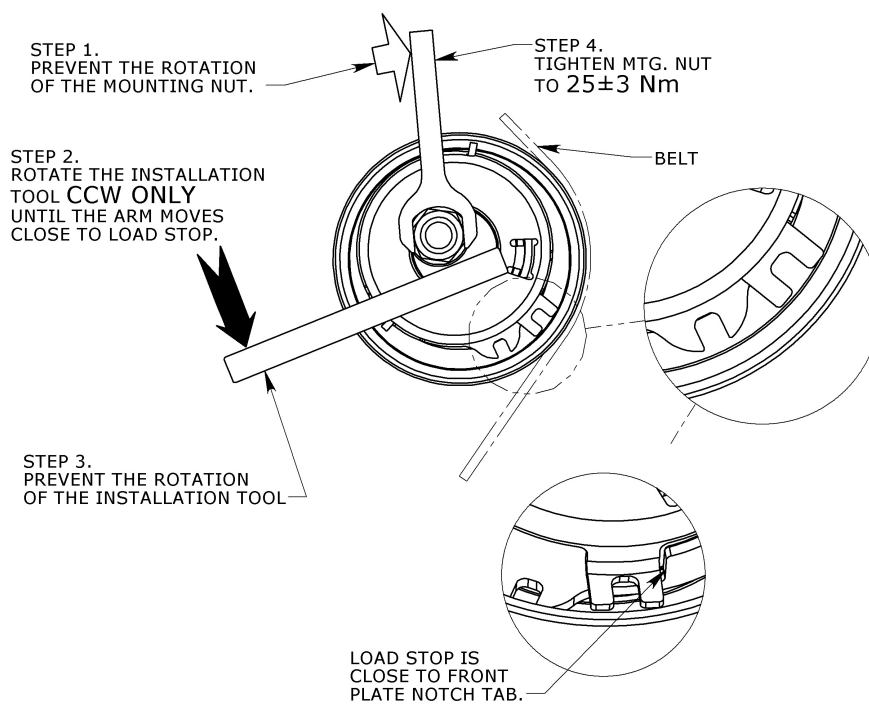


**Figure 3: Tensioner shown as shipped**

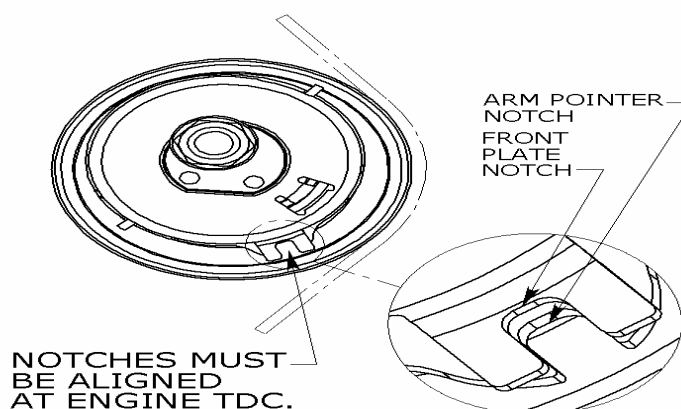


**Figure 4: Tensioner's initial setup**

**Recommended Installation Procedure (25 MAY 07)**  
ATech Timing Belt Tensioner (979778) FIAT FIRE 8-valve 1.2/1.4L Engine

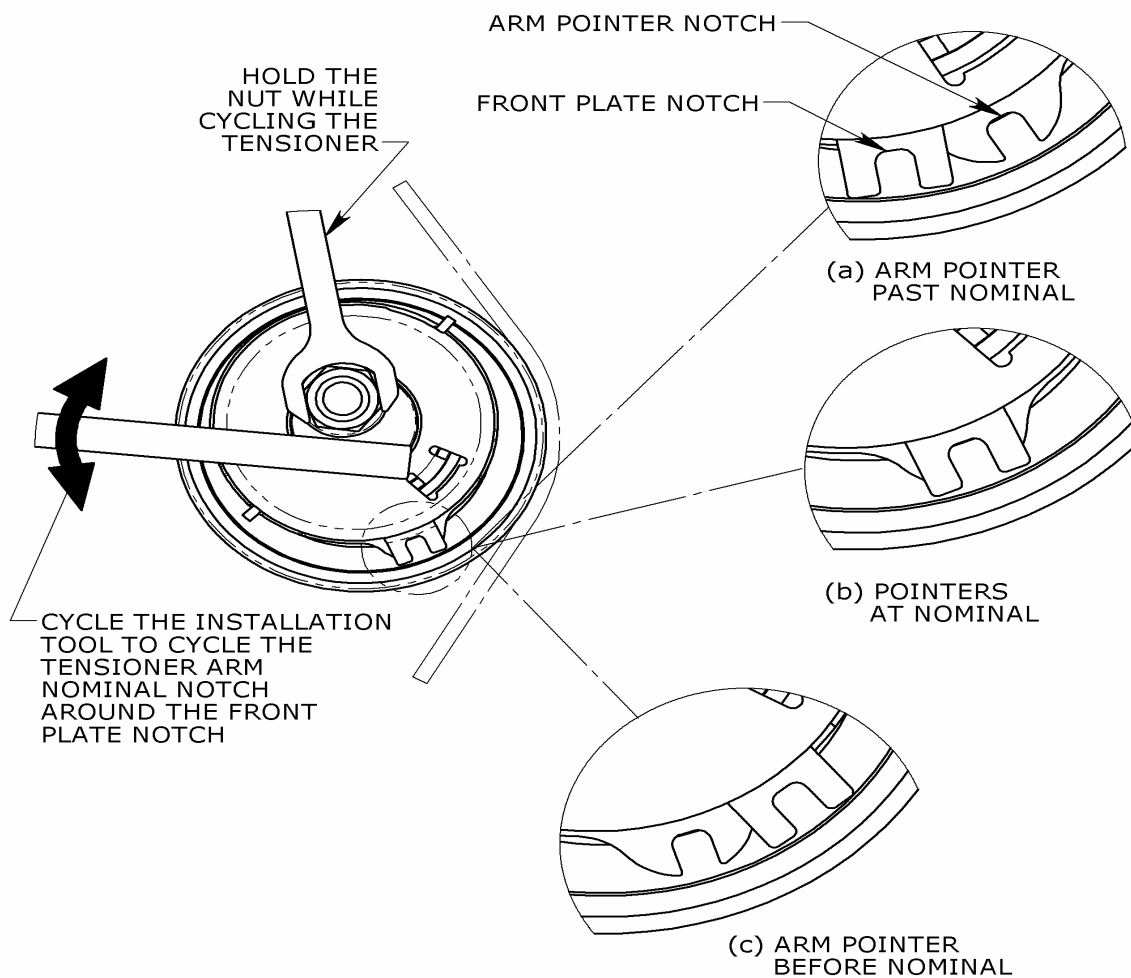


**Figure 5: Tensioner shown at maximum arm travel.**



**Figure 6: A properly setup tensioner at nominal position.**

**Recommended Installation Procedure (25 MAY 07)**  
ATech Timing Belt Tensioner (979778) FIAT FIRE 8-valve 1.2/1.4L Engine



**Figure 7: Tensioner cycling before re adjustment to Nominal position.**