

TIMING BELT TENSIONER (979229) FOR AFTERMARKET
- VW 1.9L DIESEL, I4 (EA 180) -
(Revision date: 06/22/2001)

1. Allow the engine and tensioner to stabilize to the same relative ambient temperature before installing a tensioner for proper belt tension adjustment. Do not attempt to install a cool tensioner onto a hot engine or vice versa.
2. Rotate both the crankshaft and camshaft CLOCKWISE to TDC (Top Dead Center) position (i.e. #1 cylinder firing position) and remove the timing belt. This defined position is to be the position where there is no action (positive or negative) from the camshaft or other sprockets. One should find no sudden movement or abrupt action from either of the sprockets.
Generally cam & crankshaft sprockets have to line up with equivalent markings on the engine block to indicate TDC.

Initial Setup of the TBT (Timing Belt Tensioner)

3. Place a new tensioner onto the engine. Tensioner's *Anti-Rotation Fingers* should fit over the *Anti-Rotation Post* on the engine (See Figure 1).
4. Rotate the *Installation Shaft* until its two holes are pointing at the "8 O'clock position" then hand tighten the *M8 Mounting Nut* (Also See Figure 1).

Installation of the TBT

5. Install the timing belt being careful to engage the appropriate teeth of all the corresponding sprockets as per drive layout (See Figure 2).
(Caution: Do not disturb the position of the crankshaft or camshaft sprockets during this procedure.)
6. Rotate the *Installation Shaft* CLOCKWISE with an *Installation Tool* (See Figure 3). 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 (See Figure 4).
7. Continue rotating the *Installation Shaft* until the *Arm Pointer* aligns with the *Nominal Position Notch* on the front plate, then lock the tensioner in this position by tightening the *Mounting Nut* with **19±3 Nm** of torque (See Figure 5).

Verification of the Nominal Position

8. Remove both the *Installation Tool* and the *Wrench*. Rotate the crankshaft two (2) complete revolutions manually for proper seating of the belt until the crankshaft is repositioned at the TDC position.

Note: Repositioning the crankshaft to the TDC position must be done only during the clockwise rotation.

9. Check the position of the *Arm Pointer*.

- If the *Arm Pointer* still aligns with the *Nominal Position Notch*, the installation is complete (See Figure 6).

- If not, go to step #10. The installation needs to be repeated until the proper position is achieved.

Readjustment

10. Engage the *Installation Tool* and retain its position while loosening the *Mounting Nut* with the *Wrench*. The *Mounting Nut* and the *Tensioner* do not need to be removed. Rotate the *Installation Shaft* COUNTERCLOCKWISE with the *Installation Tool* until the *Arm Pointer* returns to the *Free-Arm Position* (See Figure 1). Follow step #5~9.

The installation needs to be repeated until the proper alignment between the *Arm Pointer* and the *Nominal Position Notch* is achieved

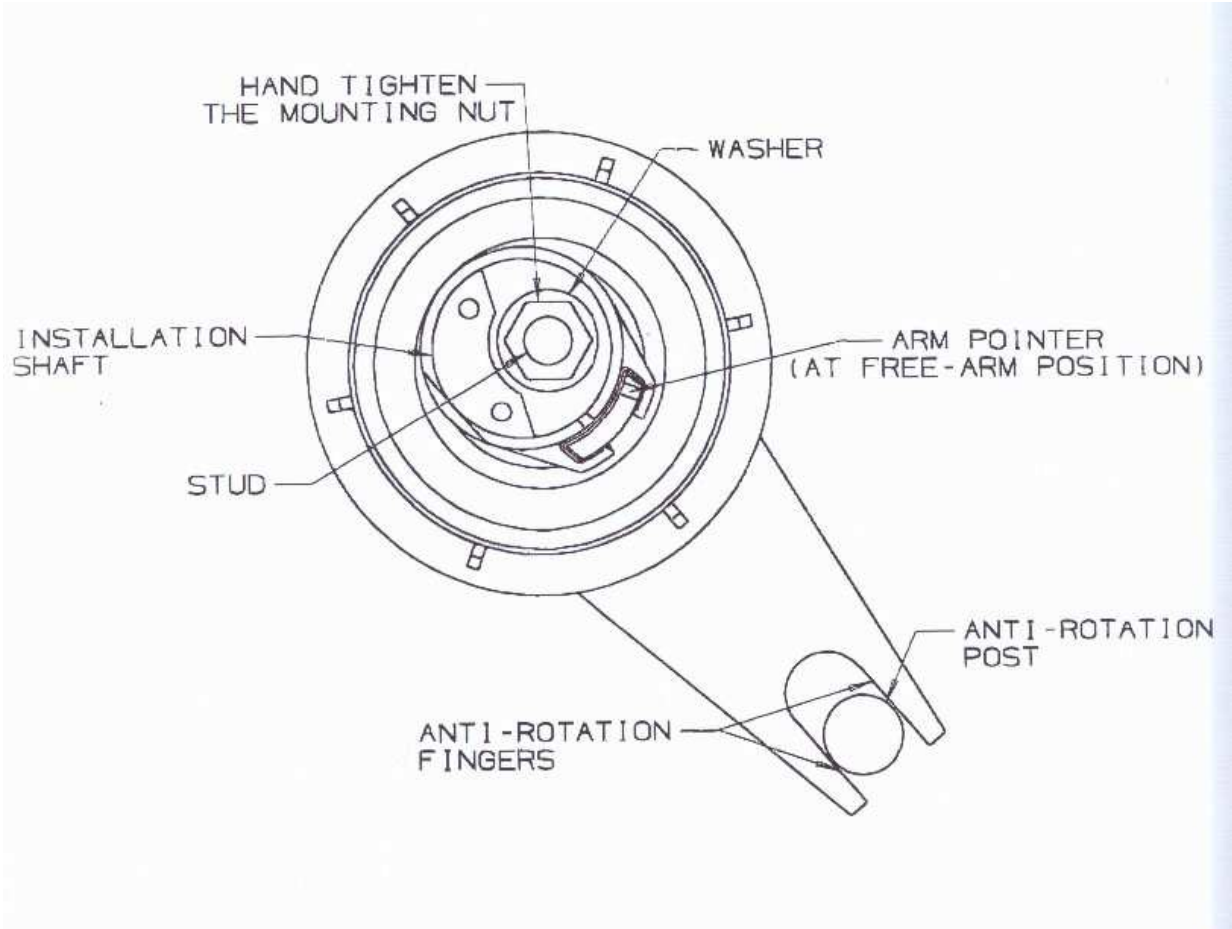


Figure 1: Tensioner shown at Free-Arm position placed on the mounting surface

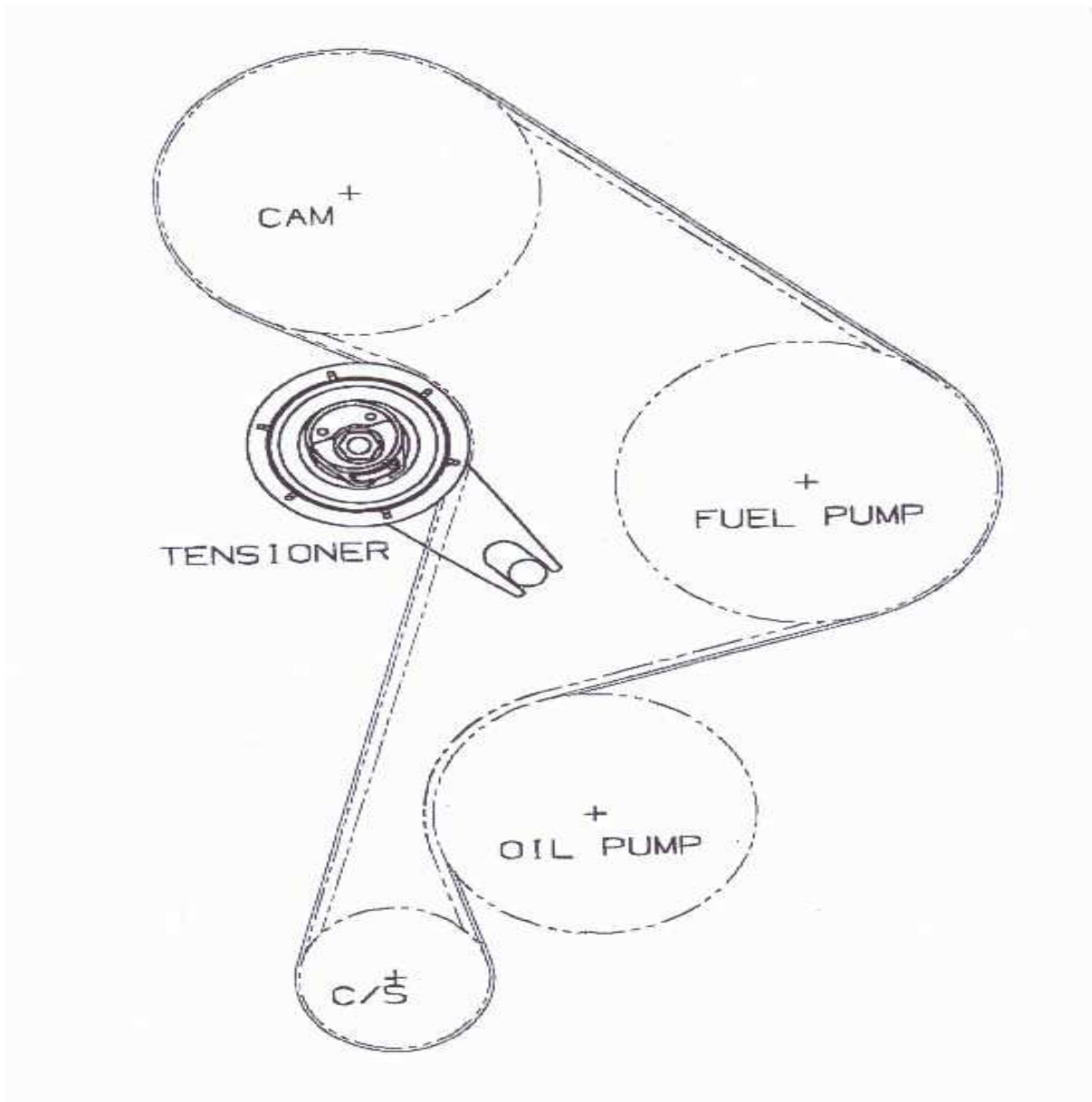


Figure 2: Belt layout for 979229 (VW 1.9L Diesel, I4.)

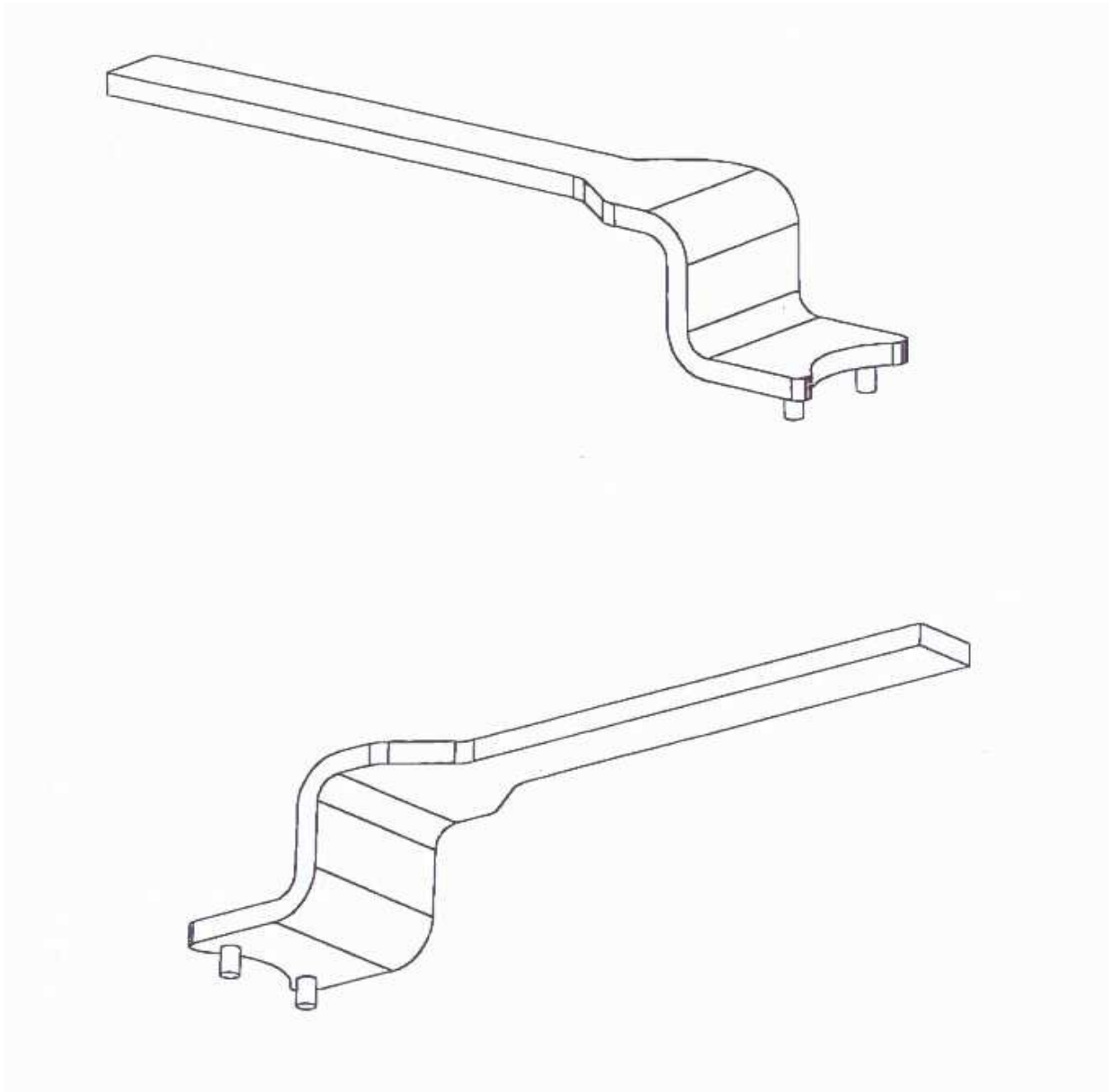


Figure 3: Installation Tool (Ref. Schley P/N 86400)

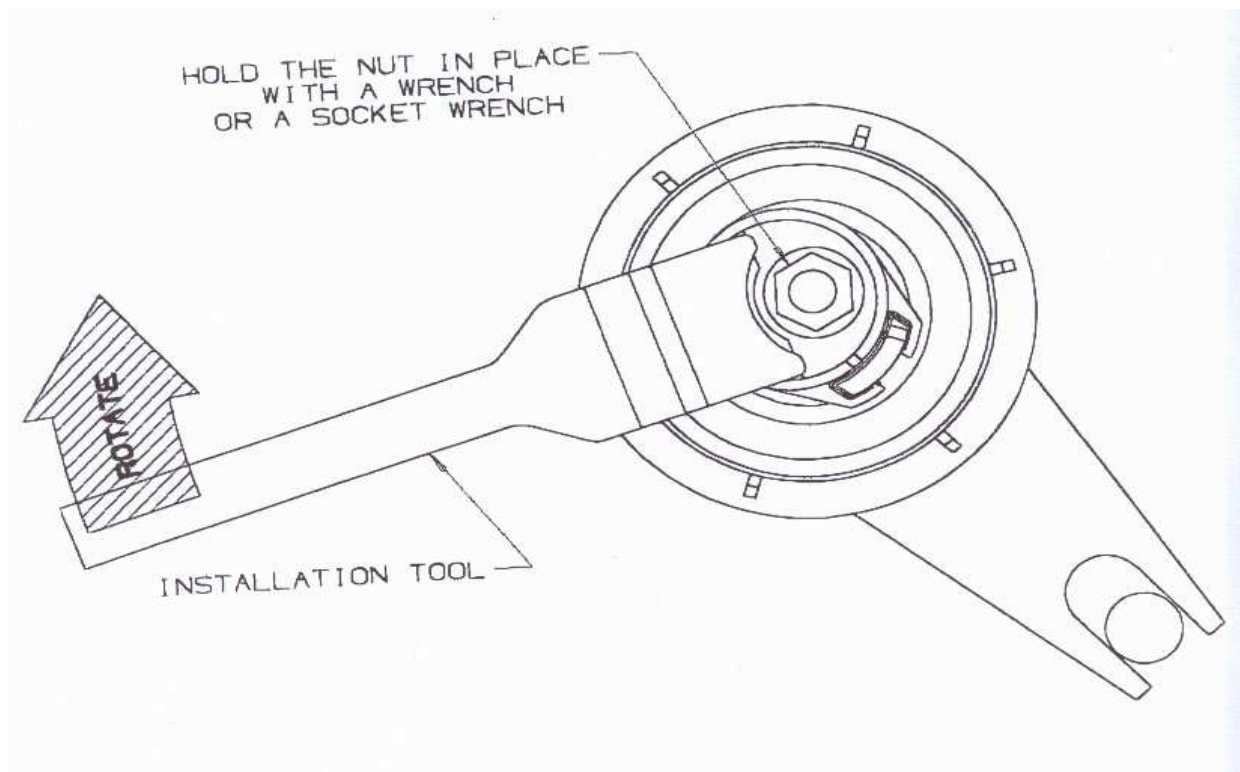


Figure 4: Adjustment of Tensioner with Installation Tool

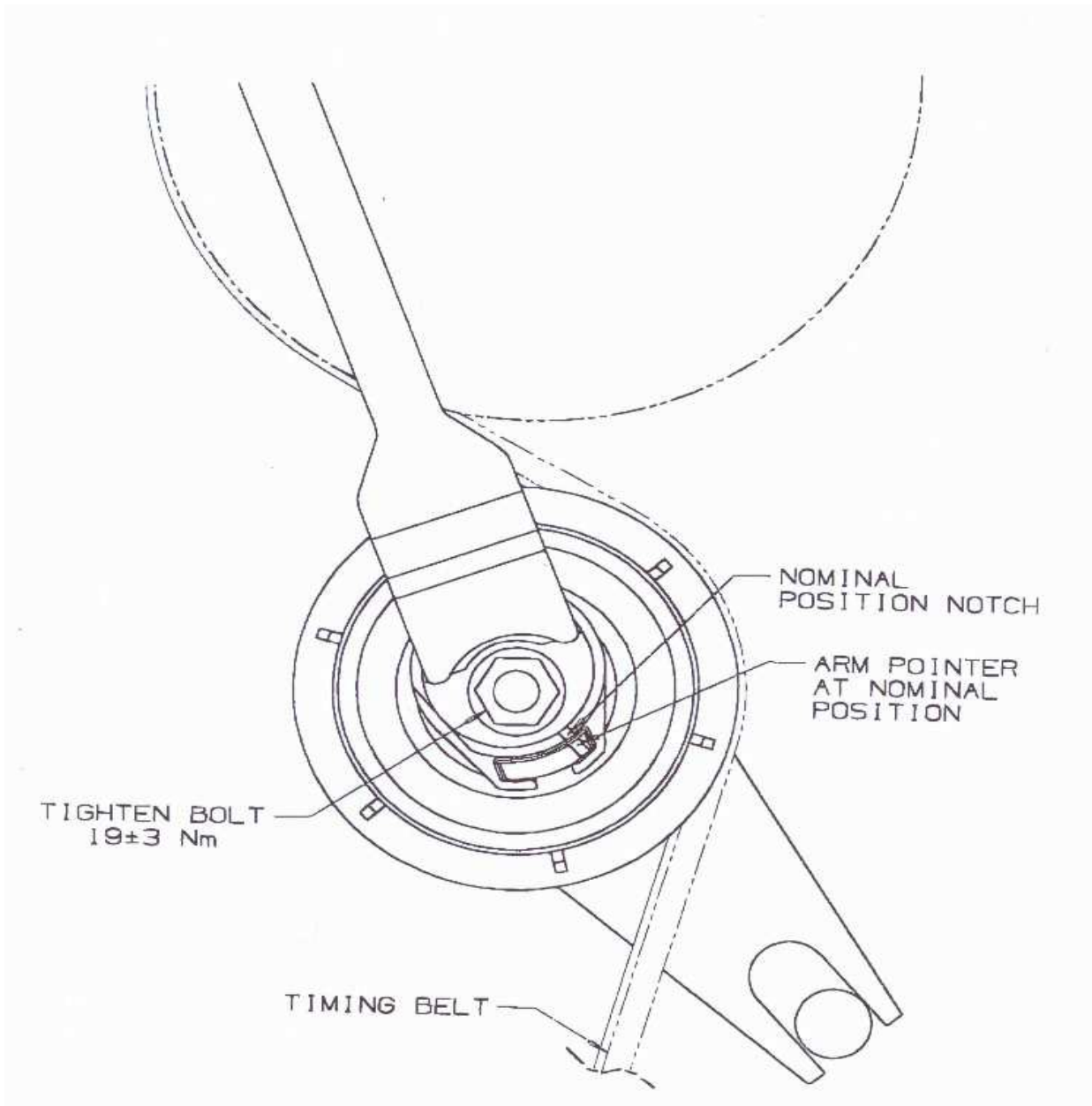


Figure 5: Proper Installation of tensioner at room temperature (20°C)

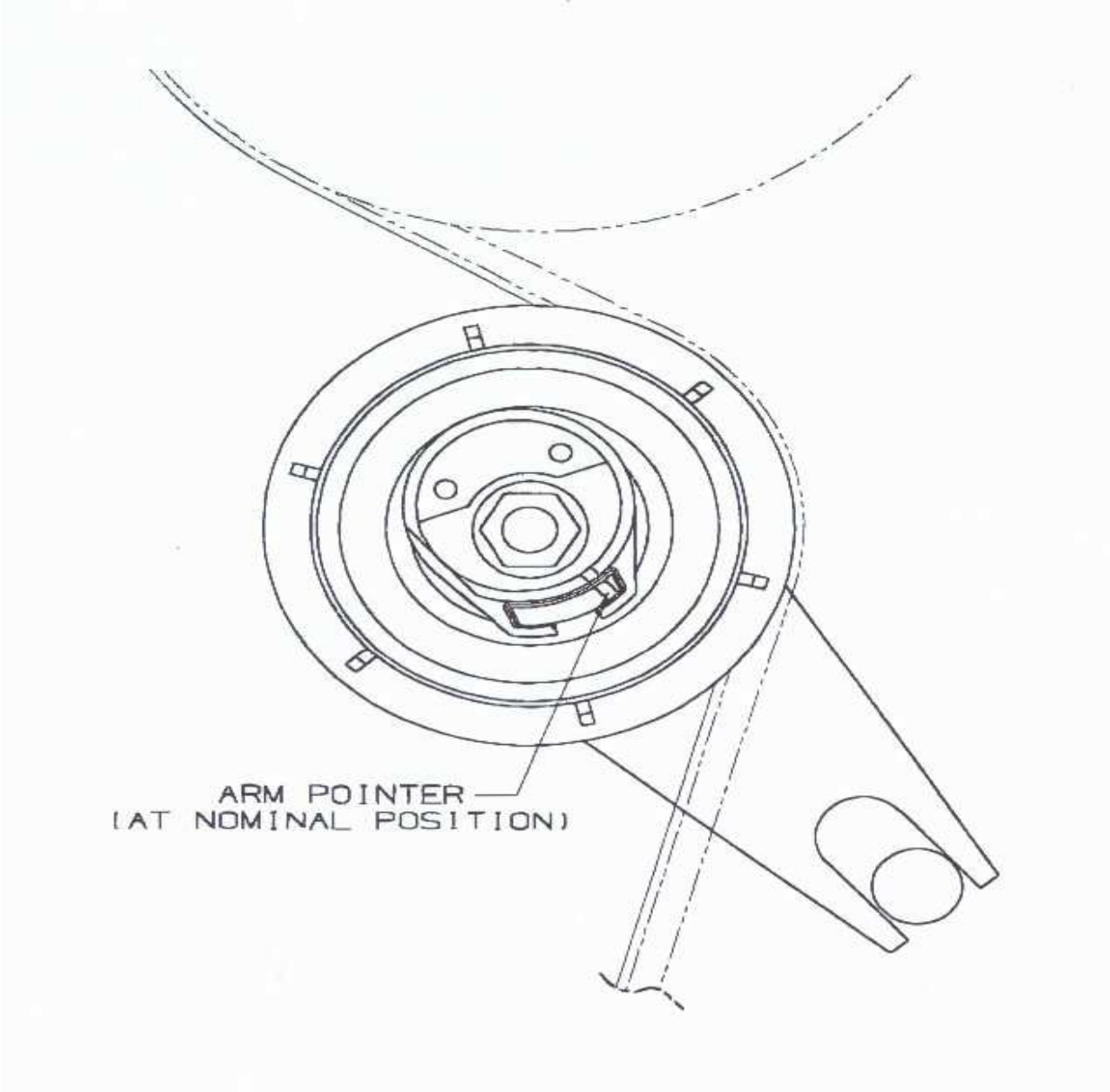


Figure 6: Verification of Tensioner Installation