

Recommended Installation Procedure
for Litens Eccentric Idler 979279
VW 2.5L, TDI, FUEL PUMP DRIVE (EA 153)
Revision date 06/29/2001

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. From the front of the engine, rotate the crankshaft CLOCKWISE to TDC (Top Dead Center) position (i.e. #1 cylinder firing position). 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 any of the sprockets.

Generally cam & crankshaft sprockets have to line up with equivalent markings on the engine block to indicate TDC. In this application, the fuel pump pulley should also line up with a corresponding indicator.

Note: Make sure, as per VW guidelines, that the injection pump is locked and adjusted to the proper position for timing belt and tensioner replacement.

3. Then remove the timing belt and cam sprocket for the fuel pump drive on the back of the engine.

Initial Setup of the TBT (Timing Belt Tensioner)

4. Place a new eccentric idler onto the mounting boss of the engine head. Idler's Locating Tab should fit around the Boss on the engine head (See Figure 1).
5. Rotate the idler CLOCKWISE using a 6mm Hex Key until the arm indicator aligns with the cylinder head flange contour (See Figure 2).
6. Then lock the idler in position by tightening the M10 Mounting Bolt with **20 Nm** of torque using a 16mm Wrench. Remove both the Hex Key and Wrench.

Installation of the TBT

7. Install the timing belt on the injector pump sprocket. Then put the belt around the cam sprocket and install the sprocket on the cam. Leave the bolt hand tight so the sprocket can still rotate freely. A full timing drive routing can be seen in Figure 3.
Note: Check that all TDC marks are aligned.
8. Rotate the Installation Shaft Washer CLOCKWISE with a 6 mm Hex Key. While rotating the washer, hold the mounting bolt with a Wrench to prevent the bolt from locking itself. The Tensioner assembly will move against the belt and the Arm Pointer will eventually start to move COUNTERCLOCKWISE (See Figure 4).
9. Continue rotating the Installation Shaft Washer until the Arm Pointer is aligned with the Nominal Position Indicator on the base plate, then lock the tensioner in this posi-

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tion by tightening the Mounting Bolt with **19±3 Nm** of torque (See Figure 5). In case of readjustment, skip to step #12.

10. Hold rear cam sprocket with tool 3036 and tighten bolt to **160 Nm** of torque.
Note: Ensure that no torque from tightening this bolt is transmitted to the shaft of the locked injection pump.
11. The injection pump should be unlocked per VW guidelines.

Verification of the Nominal Position

12. 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.
13. Check the position of the Arm Pointer.
 - If the Arm Pointer still remains aligned within the Nominal Position Indicator, the installation is complete.
Note: The TDC marks on the injection pump must also line up.
 - If not, go to step #14. The installation needs to be repeated until the proper position is achieved.

Readjustment

14. Engage the Hex Key and retain its position while loosening the Mounting Bolt with the Wrench. The Mounting Bolt and the Tensioner do not need to be removed. Rotate the Installation Shaft Washer COUNTERCLOCKWISE with the Hex Key until the Arm Pointer returns to the Free-Arm Position. Follow step #7~9, #12~14.

Disclaimer

Every step of this installation **MUST** be properly performed or engine damage may occur.

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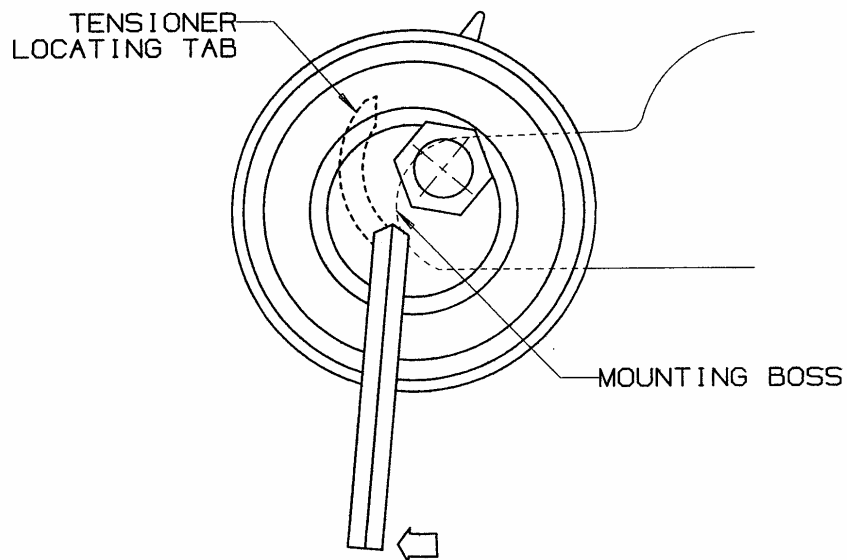


Figure 1: Tensioner Installed on Engine

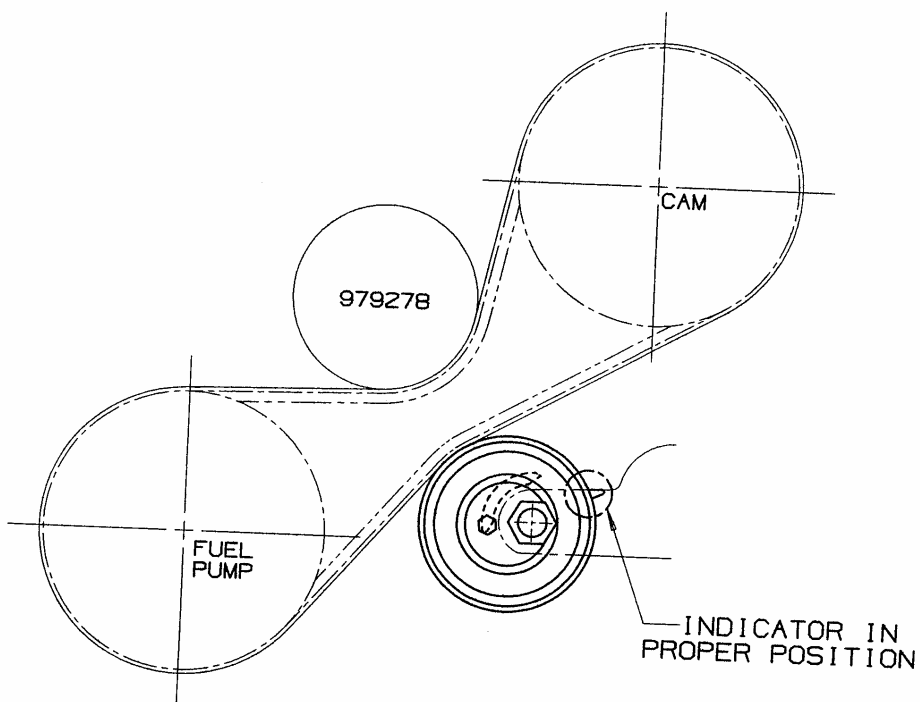


Figure 2: Properly Aligned Tensioner

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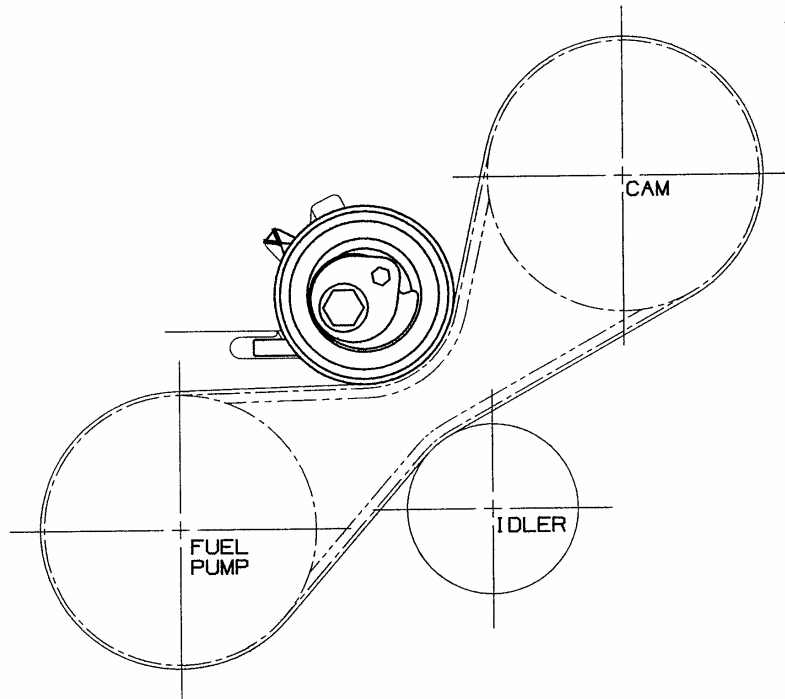


Figure 3: Belt Layout for 979278/979279 (VW 2.5L TDI, 5 Cyl.)

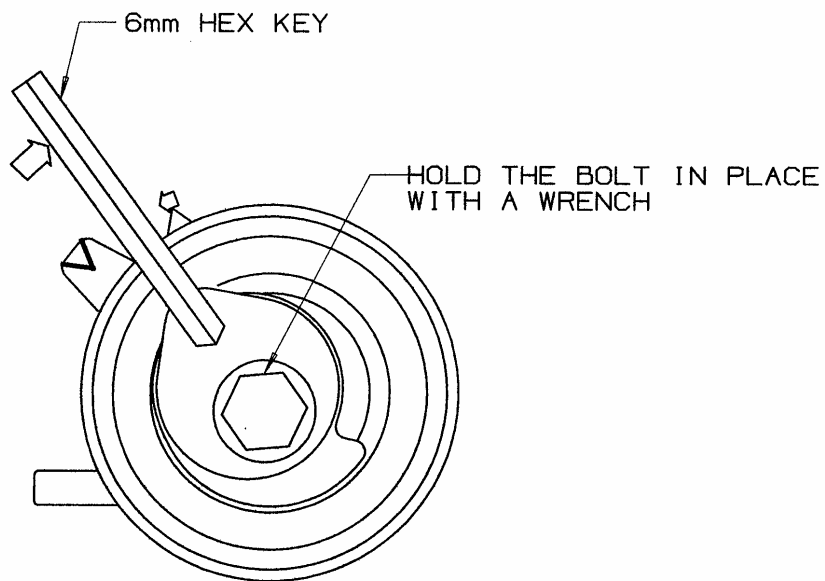


Figure 4: Adjustment of Tensioner with Hex Key

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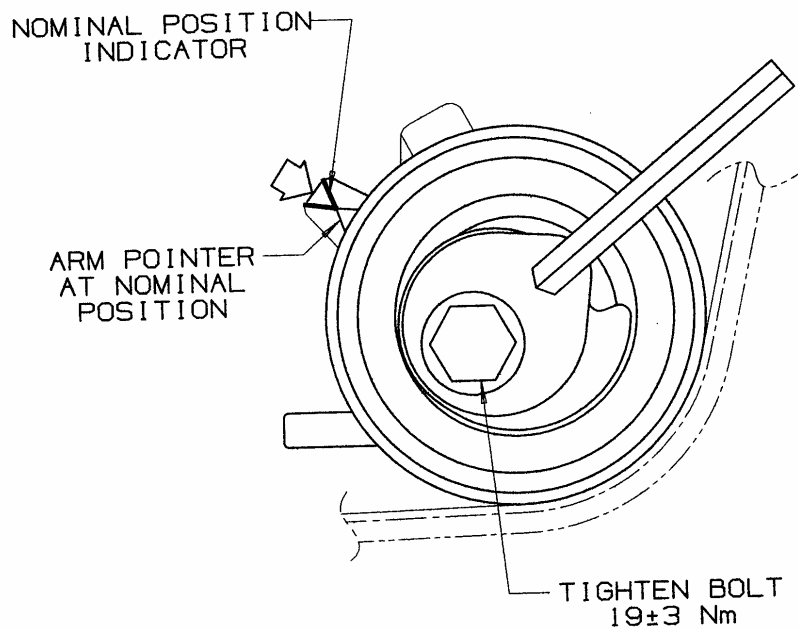


Figure 5: Proper Installation of Tensioner at Room Temperature (20°C)