

**RECOMMENDED INSTALLATION PROCEDURE**  
TIMING BELT TENSIONER (979088) FOR AFTERMARKET  
GM and Daewoo, 2.0L SOHC  
(Revision date: 14/01/2003)

**Initial Preparation:**

**Caution:** The procedure to access the timing belt tensioner and all other timing driven components must be done according to manufacturer's guidelines.

**Cold Engine – Cold tensioner:**

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 cool tensioner onto a hot engine or vice versa.** (For reference, the minimum engine cooling period is 4 hours in tropical climatic regions)

**Crank and camshafts position setup:**

2. Rotate the crankshaft **CLOCKWISE ONLY** and align the marks on the Crankshaft sprocket with the corresponding mark on the oil pump. At this point, the Camshaft sprocket mark should also be aligned as shown in Figure 1.  
**Caution:**  
**If the alignment of the crankshaft and the oil pump 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.**

**Removal of Timing Belt and TBT**

3. Loosen the three *water pump clamping bolts* (See Figures 2 and 4) so that the water pump housing can be rotated freely using the installation tool shown in (Figure 3). It is advisable to follow the manufacturer's guideline for loosening water pump bolts, as this procedure may cause engine coolant to leak.
4. Rotate the water pump housing **COUNTERCLOCKWISE** (See Figure 4) with the *42mm wrench* (See Figure 3). The wrench should fit around the *hex-shaped collar* beneath the water pump sprocket (See Figure 2).
5. Keep rotating the water pump housing to release the belt tension and remove the belt once it becomes loose.
6. Remove the TBT mounting bolt and the TBT.

**Installation of the TBT and Belt**

7. Install a new TBT and torque the M8 tensioner mounting bolt to **18-23 Nm** (See Figure 4).
8. Install a new timing belt being careful to engage the appropriate teeth of all the corresponding sprockets as per drive layout starting with the crankshaft and working counterclockwise. (See Fig 1).  
**Caution:**  
**Do not disturb the position of the crankshaft or camshaft sprockets during this procedure.**

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**Belt Seating Procedure**

9. Rotate the water pump housing **CLOCKWISE** with the wrench until the TBT arm contacts the load stop (See Figure 5).
10. Tighten the water pump bolts to 25Nm.
11. 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 oil pump.  
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, with the exception of removing the TBT (steps 6 and 7).

**Caution: If the alignment of the crankshaft and the oil pump 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.**

**Verification of the TBT Nominal Position**

12. Check the position of the *arm pointer*.  
If the hole in the arm pointer aligns with the hole in the aluminum bracket, the installation is complete (See Figure 6).  
*If not, proceed as follows. ( Note: The installation needs to be re-adjusted until the proper position is achieved.)*

**Readjustment**

TBT re-adjustment is required if the arm pointer hole does not align with the hole in the Aluminum Bracket.

13. Re-align the timing marks on the cam and crankshaft as per step 11.
14. Loosen the clamping bolts around the water pump housing for its adjustment (See Figure2). Rotate the water pump housing in the appropriate direction to align the hole in the arm pointer with the hole in the aluminum bracket.
15. Repeat steps #10, #11, #12.

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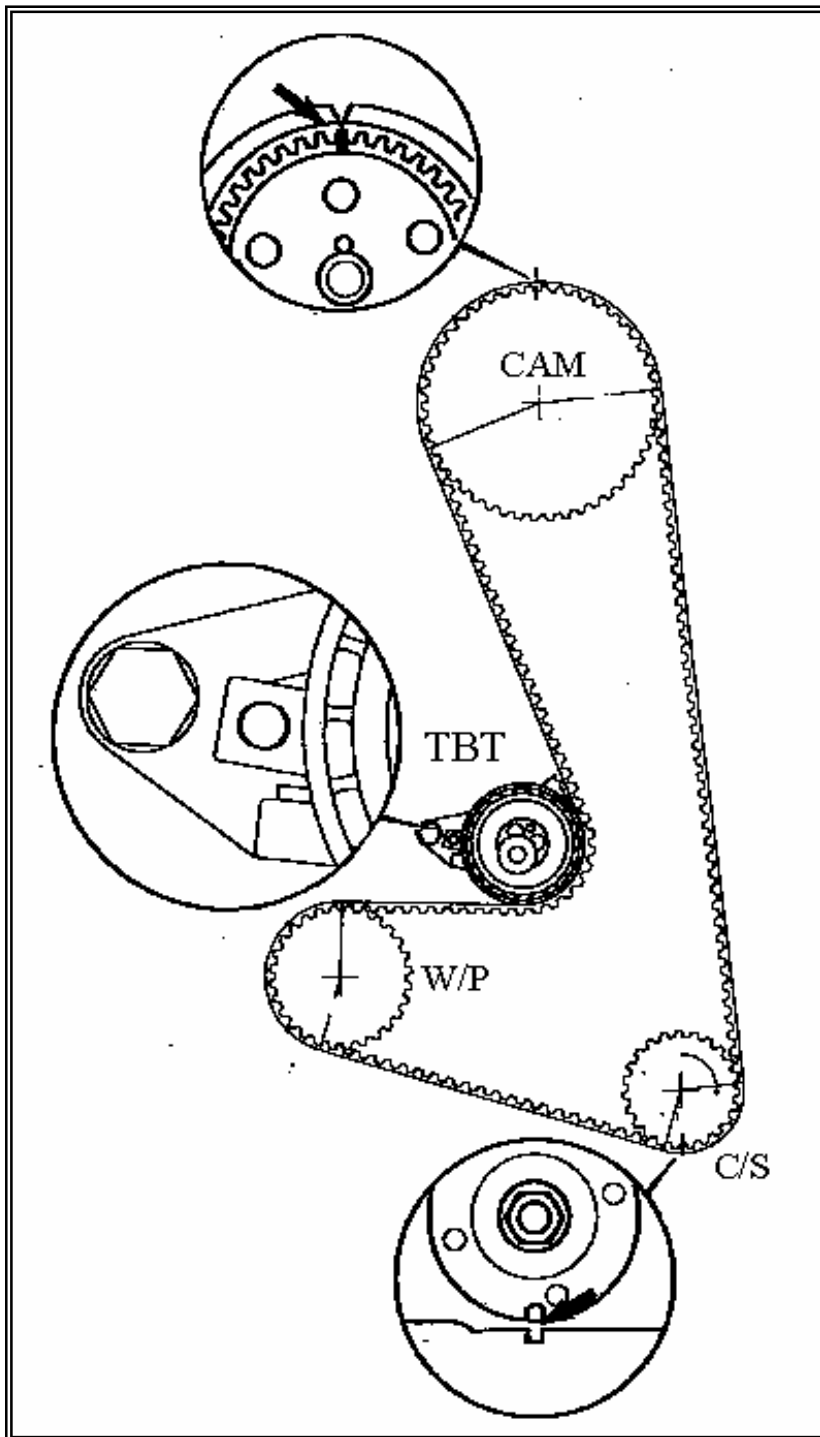


Figure 1: Belt layout at TDC Position for 979088 (GM and Daewoo 2.0L SOHC)

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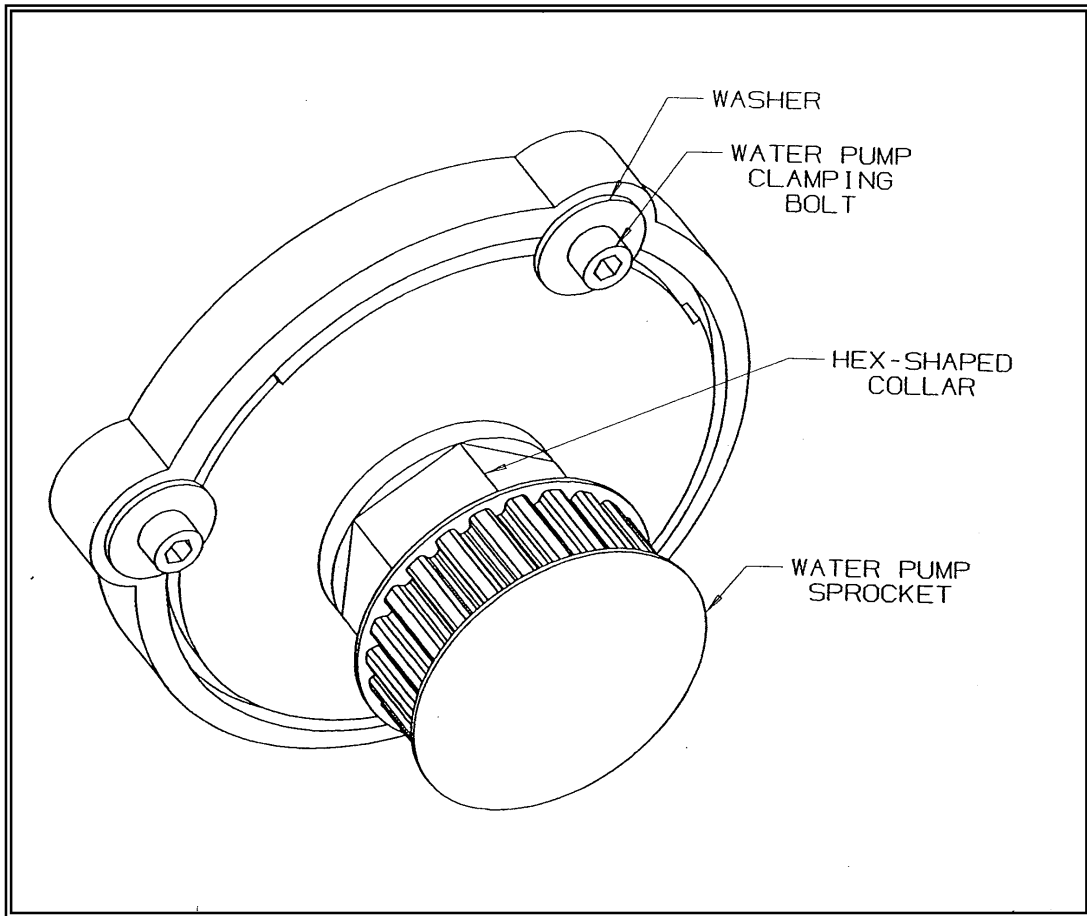


Figure 2: Water Pump Housing

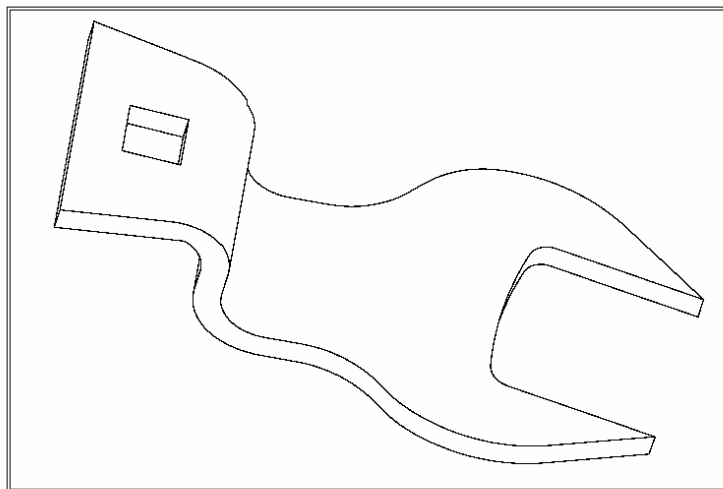
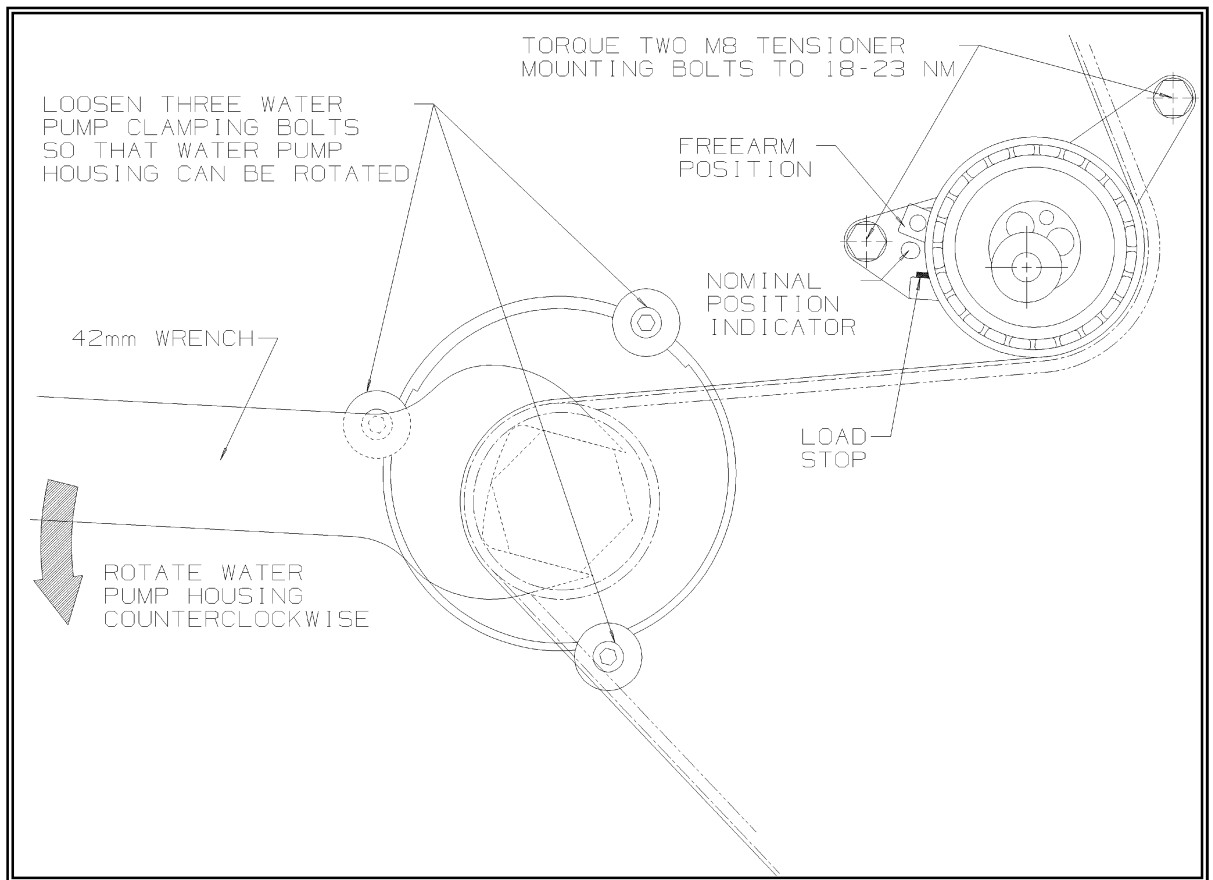


Figure 3: Water Pump Adjustment Tool

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**Figure 4: Rotation of Water Pump Housing for Belt Tension Release and Replacing New TBT**

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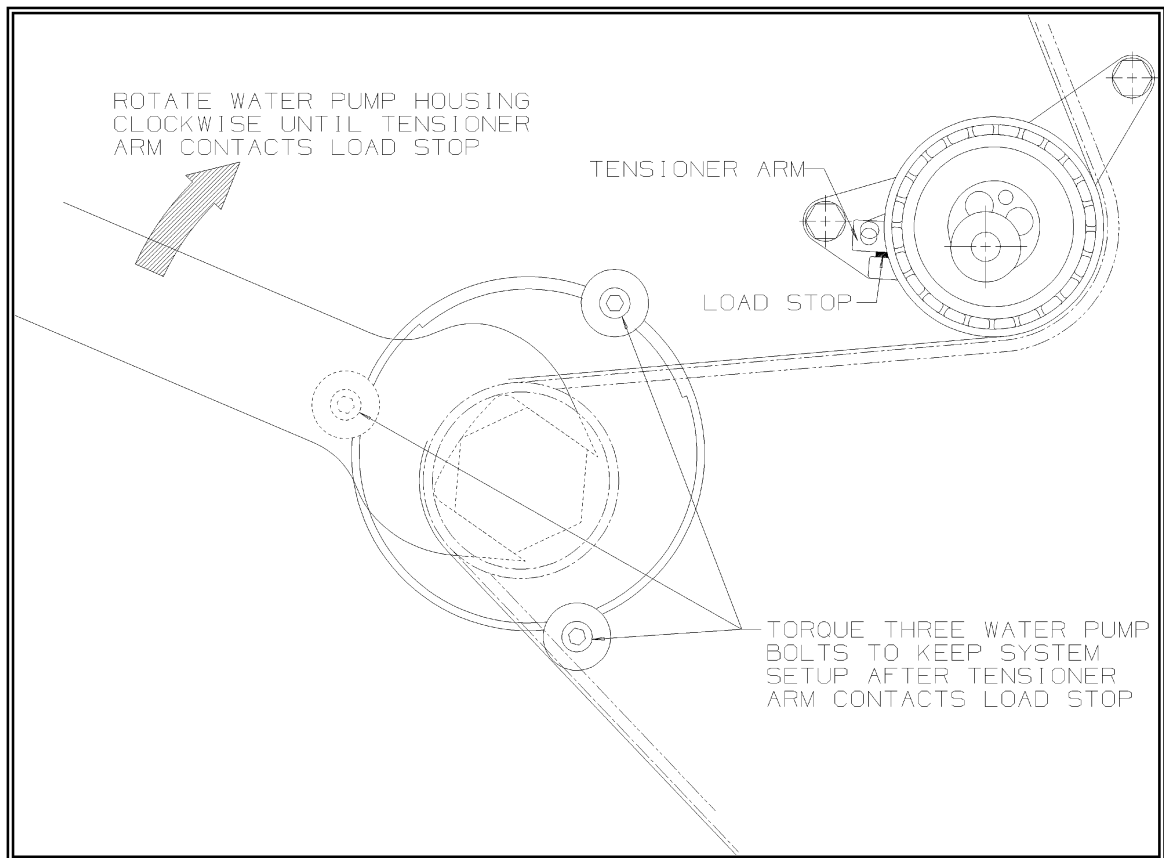


Figure 5: Rotation of Water Pump Housing for Belt Seating. TBT arm pointer should contact rubber stop on TBT Bracket.

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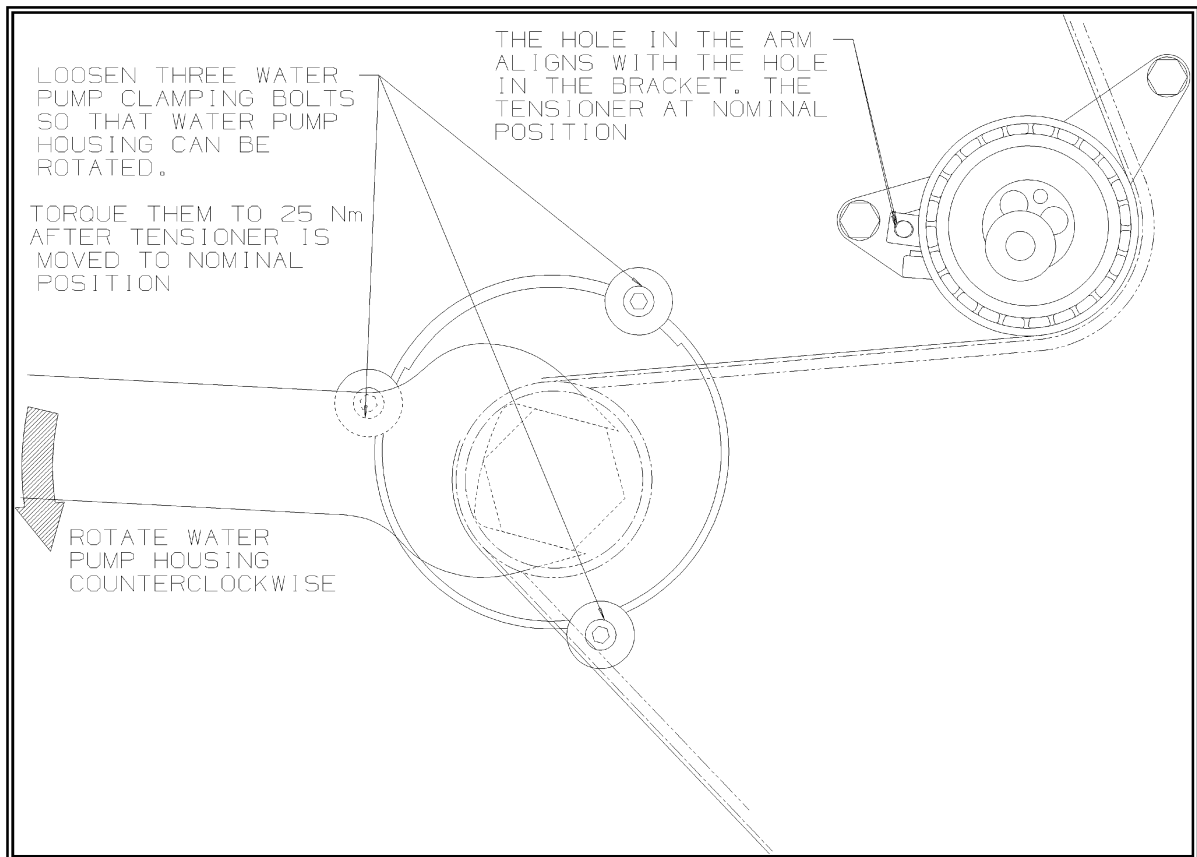


Figure 6: Rotation of Water Pump Housing to Adjust Tensioner to Nominal Position