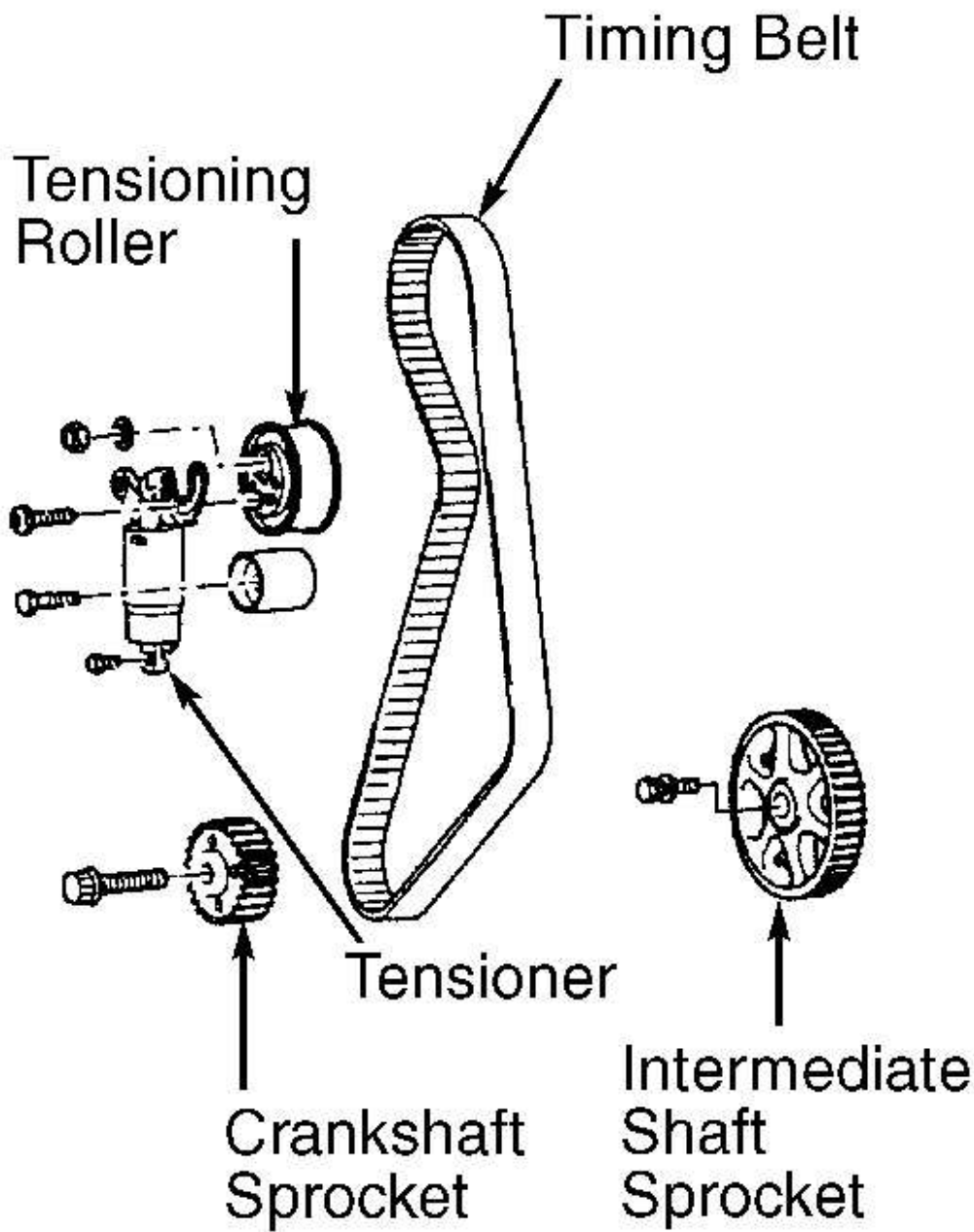


Removal (Thermo Tensioner Roller - 1997 & Up)

CAUTION: To prevent valves from contacting piston, DO NOT rotate camshaft or crankshaft with timing belt removed. Valve damage may result.

1. Remove air cleaner with hot air intake and intake air duct.
2. Remove accessory drive belts. Release tension on ribbed (accessory) belt tensioner using Ribbed Belt Installation Tool (3299) and remove ribbed belt at generator. Remove ribbed belt tension roller and upper timing belt guard. Remove lower V-belt cover. Hold hydraulic (P/S) pump pulley using (VAG1590) or mandrel, and remove fasteners for coolant pump pulley. Remove coolant pump pulley and V-belt. Remove vibration damper/pulley. See **Fig. 2** and **Fig. 3**.
3. Turn drive plate (A/T) or flywheel (M/T) to align mark (arrows in illustration) and place No. 1 cylinder at TDC. See **Fig. 5**. Remove lower timing belt guard.
4. Mark the running direction on the timing belt. Remove fastener for timing belt thermo tension roller. Remove belt and roller. Remove timing belt thermo tensioner. See **Fig. 8**.



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Fig. 8: Exploded View Of Timing Belt & Components (With Thermo Tensioner Roller)

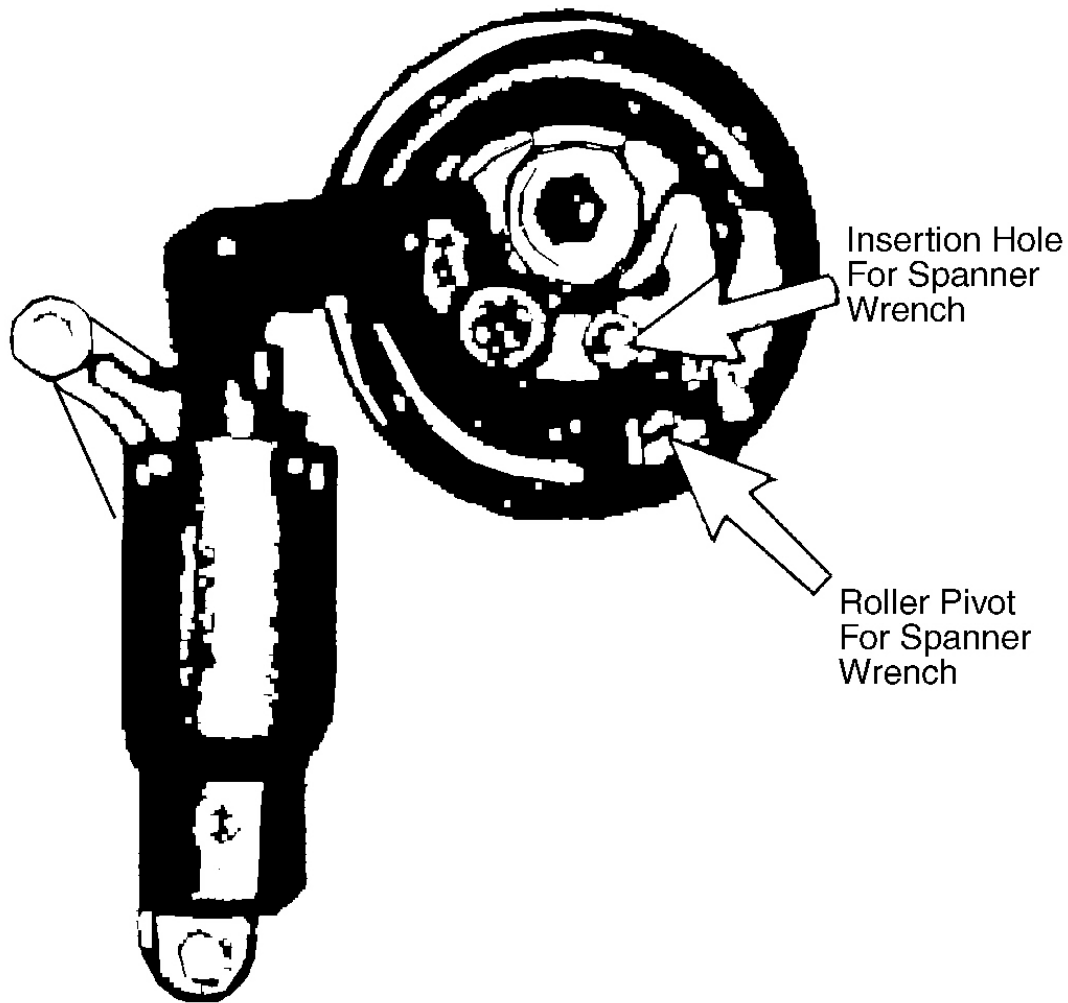
Courtesy of VOLKSWAGEN UNITED STATES, INC.

Installation (Thermo Tensioner Roller - 1997 & Up)

CAUTION: DO NOT turn the camshaft while any piston is at TDC position. There is risk of damage to valves and piston crowns.

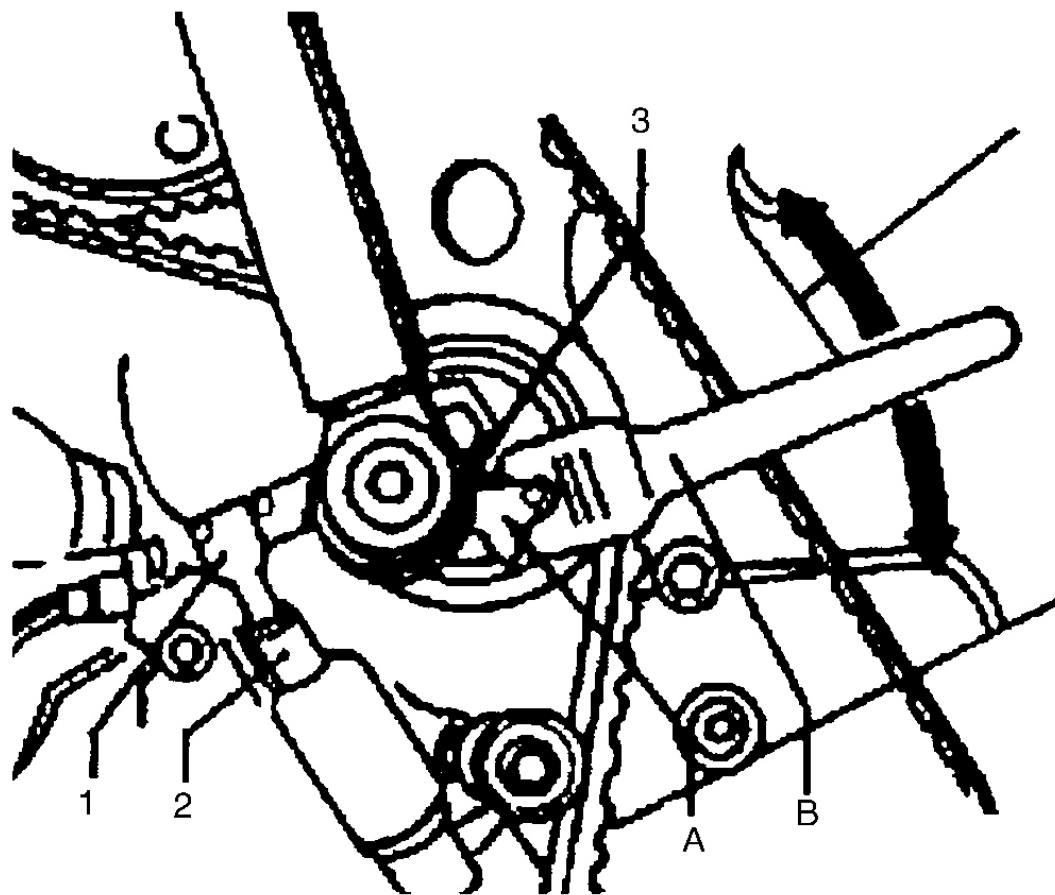
Assemble NEW thermo tension roller and install on engine block. See **Fig. 9** . Tighten bolt/washer assembly (2), Collar screw and 6-mm fastening nut to specification. See **TORQUE SPECIFICATIONS** .

1. Place timing belt on crankshaft gear (note running direction of belt). Ensure crankshaft timing is correct. See **Fig. 5** . Align mark on camshaft drive sprocket with mark on cylinder head cover and/or timing belt guard. See **Fig. 6** .
2. Turn tension roller to the right using two-pin spanner wrench, with one pin inserted in hole in roller and other pin in slot at bottom of roller pivot bracket (arrows in illustration) until tensioner piston No. 1 is driven all the way out, and piston No. 2 lifts up about 0.040" (1.0 mm). See **Fig. 10** .
3. Tighten mounting bolt by hand. See **Fig. 10** . Rotate engine 2 revolutions in running direction. Counter-hold thermo tension roller with two-pin spanner, and tighten mounting bolt to specification. See **TORQUE SPECIFICATIONS** . Install lower timing belt guard. Install vibration damper/pulley.
4. Install ribbed belt tension roller. Using Ribbed Belt Installation Tool (3299), adjust tension on ribbed belt tensioner and position belt. Position V-belt, and bolt coolant pump pulley to coolant pump. Install upper timing belt guard. Install air cleaner with pre-heated air hose and intake air duct.



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Fig. 9: Identifying Thermo Tensioner Roller Assembly
Courtesy of VOLKSWAGEN UNITED STATES, INC.



- 1. Tensioner Piston No. 1
- 2. Tensioner Piston No. 2
- 3. Mounting Bolt
- A. Roller Pivot
- B. Spanner Wrench

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Fig. 10: Installing & Adjusting Thermo Tensioner Roller
 Courtesy of VOLKSWAGEN UNITED STATES, INC.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS (STANDARD TENSIONER - UP TO 1997)

Application	Ft. Lbs. (N.m)
Camshaft Sprocket Bolt	59 (80)
Crankshaft Pulley Bolt	18 (25)
Crankshaft Sprocket Center Bolt	⁽¹⁾ 66 (90) + 90 Degrees

many waters gallery

1998 Volkswagen Golf GL

VOLKSWAGEN 2.0L 4-Cylinder - ABA Engine

Drive Belt Tensioner Bracket Bolt	15 (20)
Intermediate Shaft Sprocket Bolt	59 (80)
Timing Belt Tensioner Center Nut	33 (45)
Water Pump Pulley Bolt	18 (25)
	INCH Lbs. (N.m)
Timing Belt Cover Nut	89 (10)
Valve Cover Retaining Nut	89 (10)
(1) Replace torque-to-yield bolt on installation.	

TORQUE SPECIFICATIONS (THERMO TENSIONER - 1997 & UP)

Application	Ft. Lbs. (N.m)
Collar Screw Bolt	11-15 (15-20)
Torx(R) Bolt	18 (25)
	INCH Lbs. (N.m)
Bolt & Washer Assembly (2)	62-97 (7-11)
Nut	62-97 (7-11)