

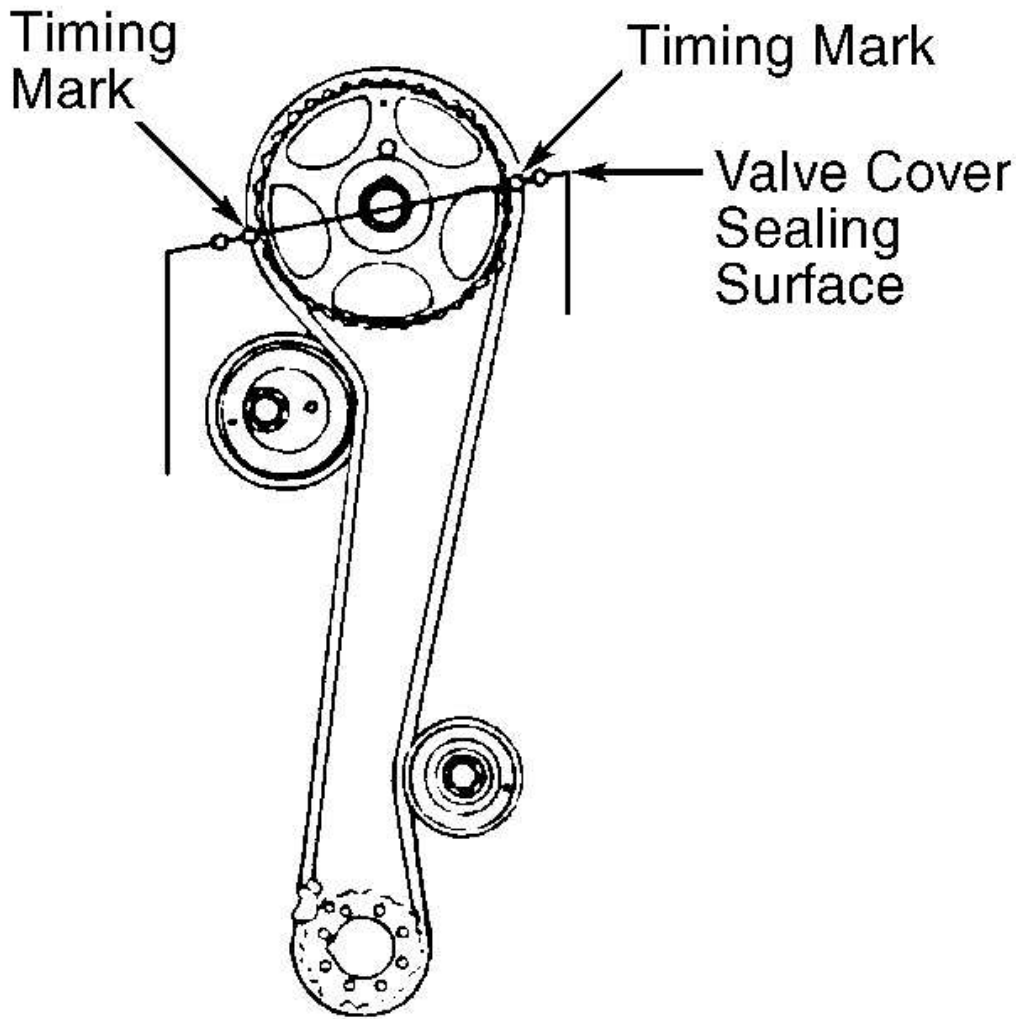
**CAUTION:** This application is an interference engine. Do not rotate camshaft or crankshaft when timing belt is removed, or engine damage may occur.

## TIMING BELT

**NOTE:** On some models, engine is equipped with a timing belt and timing chain. Inspect timing chain when replacing timing belt.

### Removal

1. Remove all drive belts and drive pulleys from crankshaft and water pump. Remove generator bolt, if necessary. Remove crankshaft pulley and water pump pulley.
2. Remove timing belt covers and gaskets, noting bolt lengths and locations. DO NOT rotate engine counterclockwise, as viewed from timing belt side of engine. Remove timing belt tensioner pulley.
3. Rotate engine clockwise to align all timing marks so No. 1 cylinder is at TDC of compression stroke. See **Fig. 1** . If reusing belt, place mark on timing belt to indicate direction of belt rotation. Remove timing belt.



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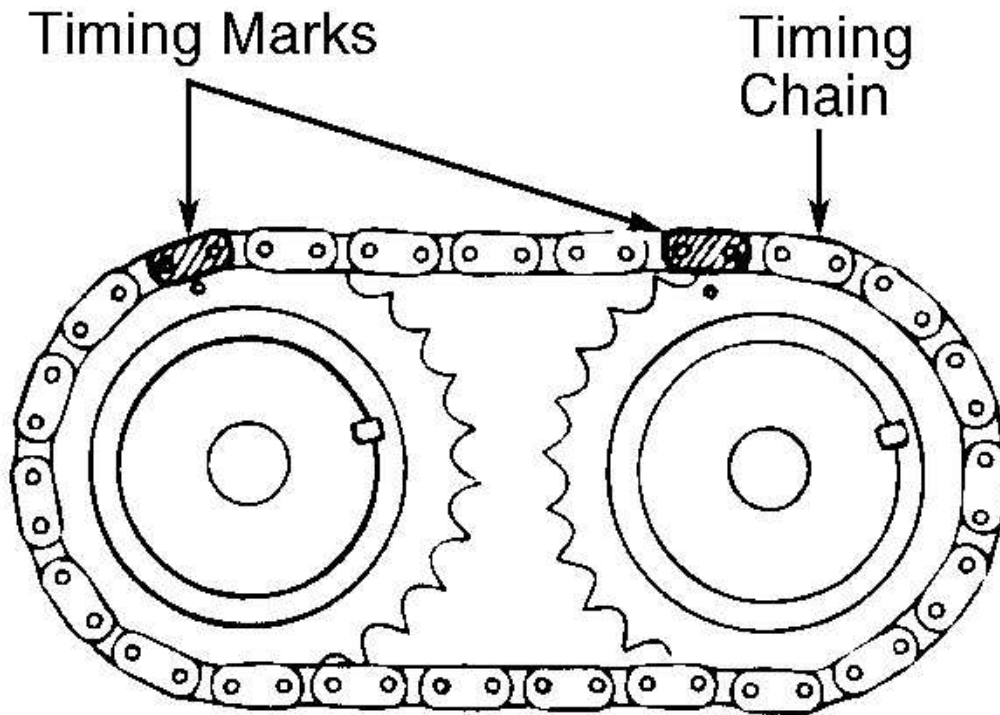
**Fig. 1: Aligning Timing Belt Marks**  
Courtesy of HYUNDAI MOTOR CO.

**Inspection**

Check belt teeth for cracks, damage, and oil contamination. Inspect all sprockets for damage. Check tensioner pulley and idler pulley for grease leakage and worn bearings. Replace components if damaged.

**Installation**

1. Ensure camshaft and crankshaft timing marks are still aligned. Outer marks on sprockets should be aligned with rocker cover surface. Verify timing chain timing mark alignment, if necessary. See **Fig. 2** . Install timing belt tensioner pulley. Install timing belt. If reusing old belt, ensure belt is installed in original direction of rotation.
2. Loosen timing belt tensioner bolt, allowing tensioner pulley to contact belt. Tighten timing belt tensioner pulley bolt. Rotate crankshaft one turn clockwise. Realign camshaft and crankshaft timing marks.
3. Adjust timing belt tension until .15-.24" (4-6 mm) deflection is present midway between idler pulley and camshaft sprocket, with a force of 4.4 lbs. (2 kg) applied to belt.
4. Rotate engine clockwise 2 revolutions. Ensure timing marks are still aligned and proper belt tension still exists. Install timing belt covers. Install crankshaft pulley. To complete installation, reverse removal procedure. Adjust drive belt to proper tension.



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**Fig. 2: Aligning Timing Chain Marks**  
Courtesy of HYUNDAI MOTOR CO.

## TECHNICAL SERVICE BULLETIN

## 2003 Hyundai Elantra GLS

HYUNDAI 1.8L & 2.0L 4-Cylinder - 1996-04 (Except Sonata & 2004 Elantra)

### TIMING BELT NOISE: FRONT CASE

#### Description

Some 1999-00 Elantras and Tiburons produced before Sept. 22, 1999 may exhibit an unusual noise at the front of the engine. The noise may be caused by the timing belt rubbing against the front of the engine. Some timing belt idler pulley mounting surfaces were machined incorrectly. This can cause the timing belt to ride off of the timing belt sprockets and into the front cover.

#### Service Procedure

If this condition exists, the forward edge of the timing belt will be shredded and the inside of the upper timing belt cover will be worn. Replace the front case, idler pulley, timing belt and any other damaged components.

**NOTE:** This information is from the Hyundai technical service bulletin 00-20-002-1; May, 2000.

### TORQUE SPECIFICATIONS

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Application	Ft. Lbs. (N.m)
Camshaft Sprocket Bolt	74-89 (100-120)
Crankshaft Pulley Bolt	125-133 (170-180)
Front Case Bolts	14-20 (20-27)
Generator Brace Mounting Bolt	14-20 (20-27)
Generator Support Bolt/Nut	14-18 (20-25)
Timing Belt Idler Bolt	31-41 (43-55)
Timing Belt Tensioner Bolt	31-41 (43-55)
Water Pump Bolt	
1996-97	9-11 (12-15)
1998-04	14-20 (20-27)
	<b>INCH Lbs. (N.m)</b>
Timing Belt Cover Bolt	71-86 (8-10)
Water Pump Pulley Bolt	71-86 (8-10)