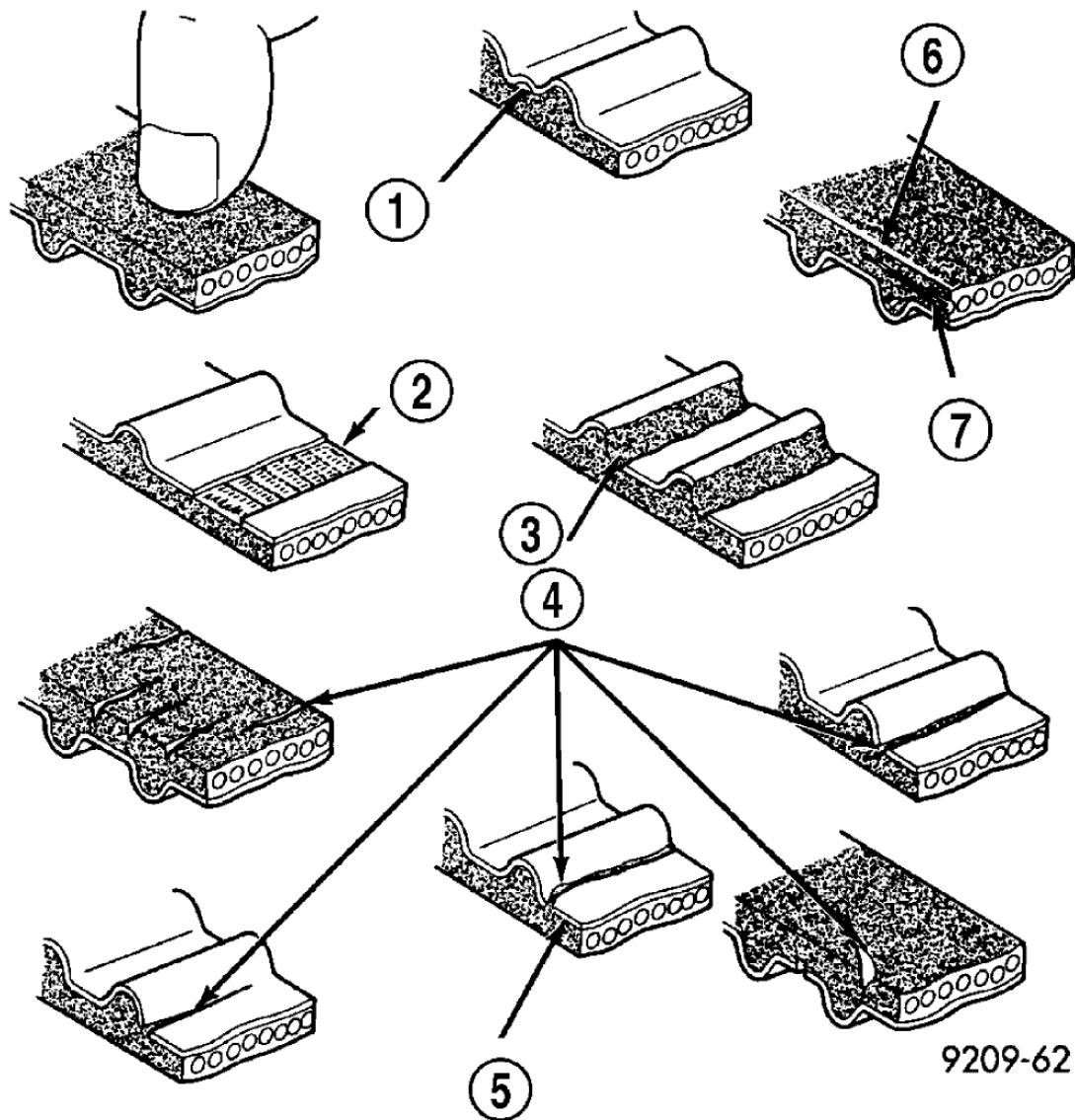


INSPECTION

TIMING BELT



9209-62

Fig. 326: Timing Belt Inspection

Courtesy of DAIMLERCHRYSLER CORP.

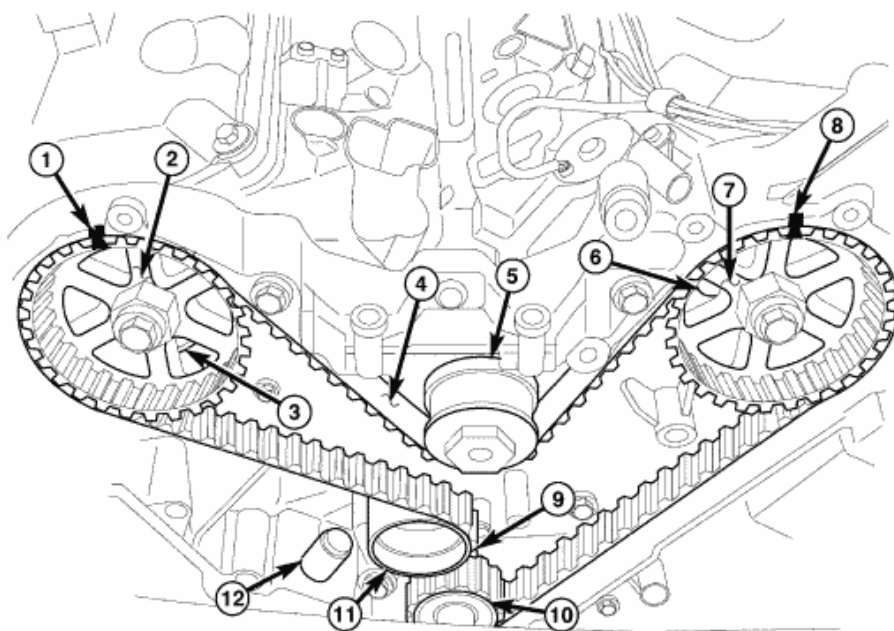
- 1 - PEELING
- 2 - TOOTH MISSING AND CANVAS FIBER EXPOSED
- 3 - RUBBER EXPOSED
- 4 - CRACKS
- 5 - PEELING

6 - ROUNDED EDGE

7 - ABNORMAL WEAR (FLUFFY STRAND)

1. Remove front timing belt cover (Refer to **COVER-FRONT TIMING BELT**).
2. Inspect both sides of the timing belt. Replace belt if any of the following conditions exist. See **Fig. 326**:
 - Hardening of back rubber back side is glossy without resilience and leaves no indent when pressed with fingernail.
 - Cracks (4) on rubber back.
 - Cracks or peeling (1) of canvas.
 - Cracks on rib root.
 - Cracks on belt sides.
 - Missing teeth (2).
 - Abnormal wear (7) of belt sides. The sides are normal if they are sharp as if cut by a knife.
 - Vehicle mileage or time at component maintenance requirement. (Refer to **LUBRICATION & MAINTENANCE**)
3. If none of the above conditions are seen on the belt, the front timing belt cover can be installed (Refer to **COVER-FRONT TIMING BELT**).

TIMING VERIFICATION



81361176

Fig. 327: TIMING GEAR ALIGNMENT
 Courtesy of DAIMLERCHRYSLER CORP.

- | | |
|--|----------------------------------|
| 1 - RIGHT CAMSHAFT GEAR ALIGNMENT MARK | 7 - LEFT CAMSHAFT GEAR |
| 2 - RIGHT CAMSHAFT GEAR | 8 - LEFT CAMSHAFT GEAR ALIGNMENT |

MARK

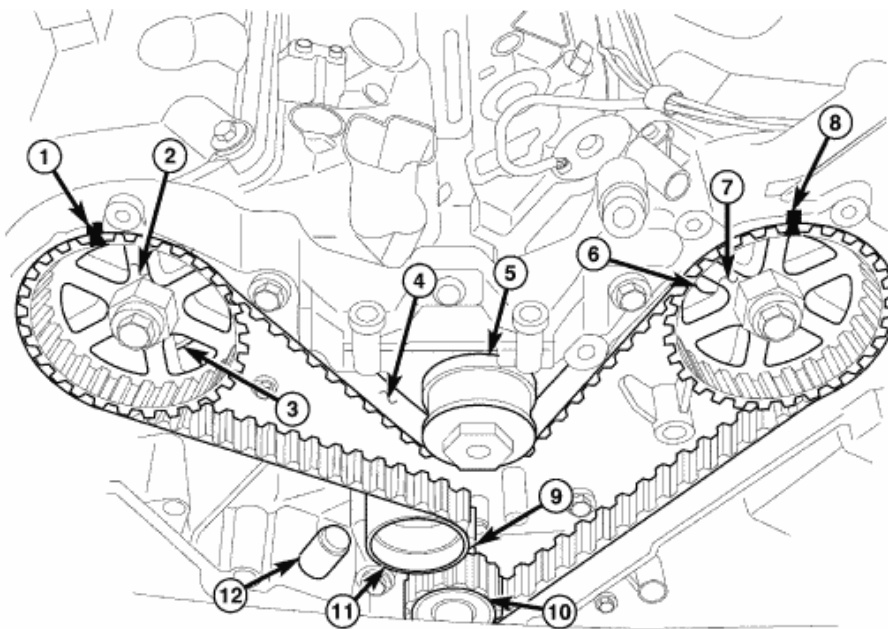
- | | |
|--|------------------------------------|
| 3 - CYLINDER HEAD TO INNER TIMING BELT COVER BOLTS - RIGHT | 9 - CRANKSHAFT GEAR ALIGNMENT MARK |
| 4 - TIMING BELT | 10 - CRANKSHAFT GEAR |
| 5 - WATER PUMP PULLEY | 11 - TIMING BELT TENSIONER PULLEY |
| 6 - CYLINDER HEAD TO INNER TIMING BELT COVER BOLTS - LEFT | 12 - TIMING BELT TENSIONER |

Remove the outer timing covers. Rotate the crankshaft until the pointer on the crankshaft sprocket (10) aligns the TDC mark on the oil pump (9). See **Fig. 327**. Check to determine if the camshaft sprocket (2, 7) timing marks (1, 8) are aligned with the marks on the inner timing cover. It may take an additional full revolution of the crankshaft before the camshaft sprocket marks are aligned.

INSTALLATION

TIMING BELT

CAUTION: If camshafts have moved from the timing marks, always rotate camshaft towards the direction nearest to the timing marks (DO NOT TURN CAMSHAFTS A FULL REVOLUTION OR DAMAGE to valves and/or pistons could result).



8136176

Fig. 328: TIMING GEAR ALIGNMENT
Courtesy of DAIMLERCHRYSLER CORP.

- | | |
|--|----------------------------------|
| 1 - RIGHT CAMSHAFT GEAR ALIGNMENT MARK | 7 - LEFT CAMSHAFT GEAR |
| 2 - RIGHT CAMSHAFT GEAR | 8 - LEFT CAMSHAFT GEAR ALIGNMENT |

MARK

3 - CYLINDER HEAD TO INNER TIMING BELT COVER BOLTS - RIGHT
 9 - CRANKSHAFT GEAR ALIGNMENT MARK

4 - TIMING BELT

10 - CRANKSHAFT GEAR

5 - WATER PUMP PULLEY

11 - TIMING BELT TENSIONER PULLEY

6 - CYLINDER HEAD TO INNER TIMING BELT COVER BOLTS - LEFT

12 - TIMING BELT TENSIONER

1. Align the crankshaft sprocket (10) with the TDC mark (9) on oil pump cover. See **Fig. 328**.
2. Align the camshaft sprockets (2, 7) timing reference marks (1, 8) with the marks on the rear cover.
3. Install the timing belt starting at the crankshaft sprocket (10) going in a counterclockwise direction. Install the belt around the last sprocket. Maintain tension on the belt as it is positioned around the tensioner pulley (11).

NOTE: If the camshaft gears have been removed it is only necessary to have the camshaft gear retaining bolts installed to a snug torque at this time.

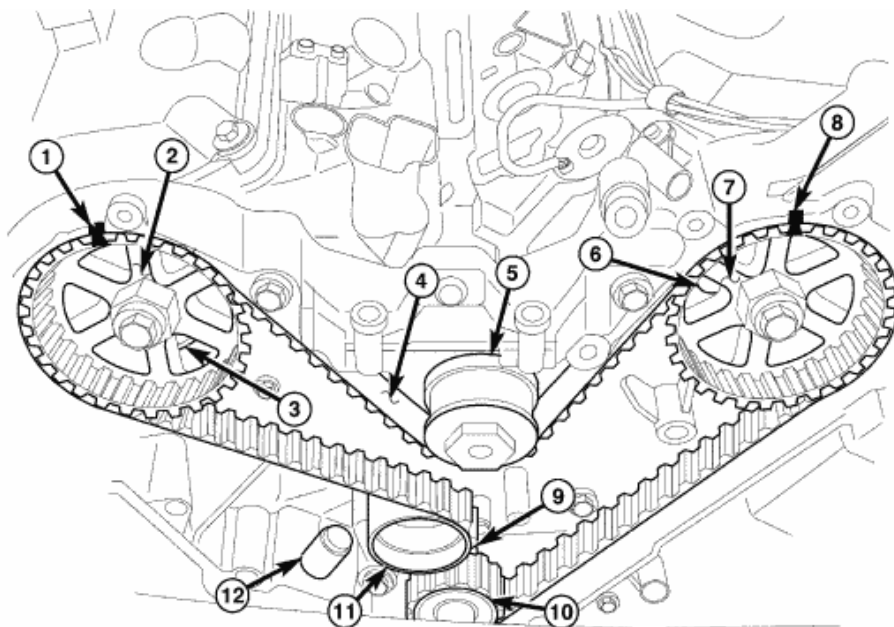
4. Holding the tensioner pulley (11) against the belt, install the tensioner into the housing and tighten to 28 N.m (250 in. lbs.). Each camshaft sprocket mark should remain aligned the cover marks.
5. When tensioner is in place pull retaining pin to allow the tensioner to extend to the pulley bracket.
6. Rotate crankshaft sprocket 2 revolutions and check the timing marks on the camshafts and crankshaft. The marks should line up within their respective locations. If marks do not line up, repeat procedure.

NOTE: If camshaft gears have been removed and timing is correct, counterhold and tighten the camshaft gears to final torque specification (Refer to **BELT-TIMING AND SPROCKETS**).

7. Install the front timing belt cover (Refer to **COVER-FRONT TIMING BELT**).
8. Tighten the rocker arm assemblies and install the cylinder head covers (Refer to **ROCKER ARM SHAFT/ ROCKER ARM / LASH ADJUSTER**).
9. Connect negative battery cable.

CAMSHAFT SPROCKETS

CAUTION: The camshaft sprockets are keyed and not interchangeable from side to side because of the camshaft position sensor pick-up.



8136176

Fig. 329: TIMING GEAR ALIGNMENT
 Courtesy of DAIMLERCHRYSLER CORP.

- | | |
|--|---------------------------------------|
| 1 - RIGHT CAMSHAFT GEAR ALIGNMENT MARK | 7 - LEFT CAMSHAFT GEAR |
| 2 - RIGHT CAMSHAFT GEAR | 8 - LEFT CAMSHAFT GEAR ALIGNMENT MARK |
| 3 - CYLINDER HEAD TO INNER TIMING BELT COVER BOLTS - RIGHT | 9 - CRANKSHAFT GEAR ALIGNMENT MARK |
| 4 - TIMING BELT | 10 - CRANKSHAFT GEAR |
| 5 - WATER PUMP PULLEY | 11 - TIMING BELT TENSIONER PULLEY |
| 6 - CYLINDER HEAD TO INNER TIMING BELT COVER BOLTS - LEFT | 12 - TIMING BELT |