

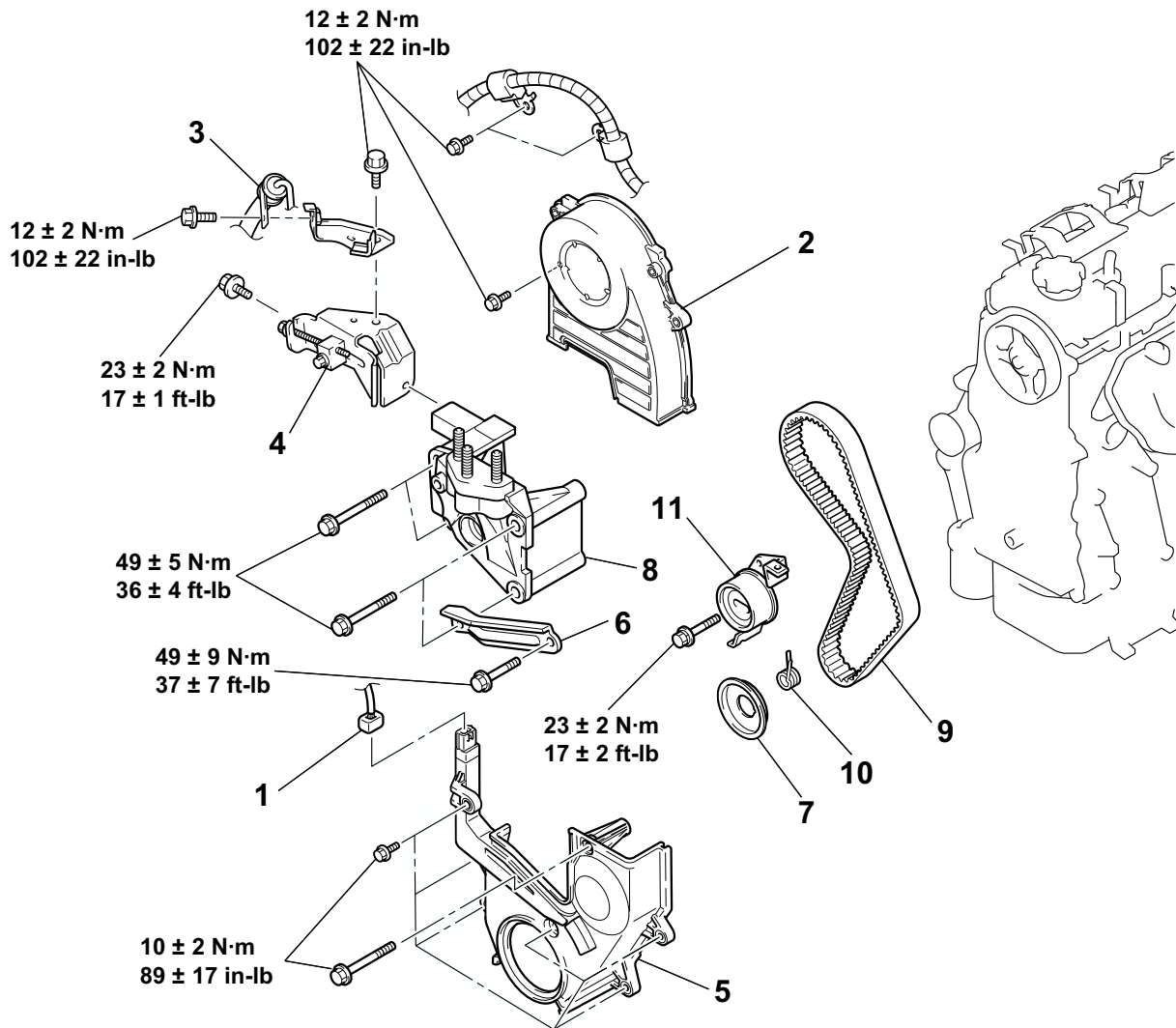
# TIMING BELT

## REMOVAL AND INSTALLATION

M1112004300474

### Pre-removal and Post-installation Operation

- Under Cover (L.H) Removal and Installation
- Engine Mount Bracket Removal (Refer to GROUP 32, Engine Mounting P.32-4.)
- Crankshaft Pulley Removal and Installation (Refer to P.11A-17.)



AC100310 AB

### REMOVAL STEPS

1. CRANKSHAFT POSITION SENSOR CONNECTION
2. TIMING BELT FRONT UPPER COVER
3. POWER STEERING HOSE CLAMP
4. GENERATOR BELT TENSION ADJUSTMENT BRACKET
5. TIMING BELT LOWER COVER

### REMOVAL STEPS (Continued)

6. POWER STEERING OIL PUMP BRACKET STAY
7. FLANGE
8. ENGINE SUPPORT BRACKET
9. TIMING BELT TENSION ADJUSTMENT
10. TIMING BELT
11. TENSIONER SPRING
12. TIMING BELT TENSIONER

TSB Revision

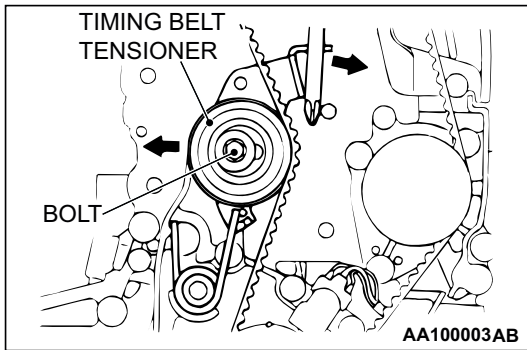
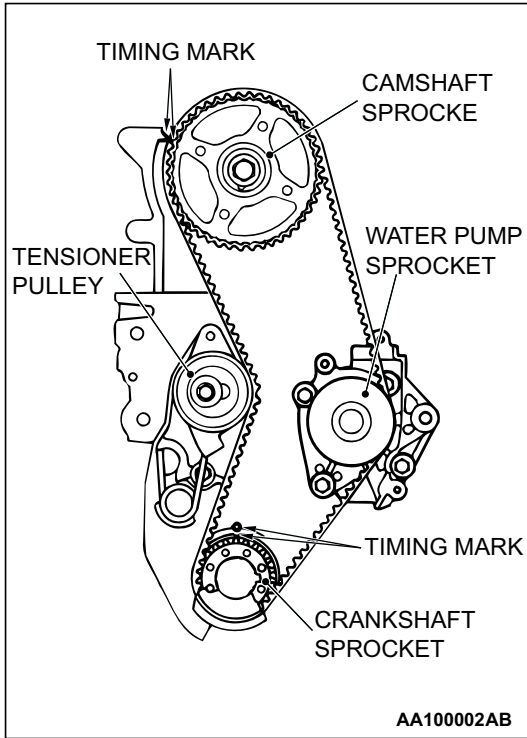
## REMOVAL SERVICE POINT

## &lt;&lt;A&gt;&gt; TIMING BELT REMOVAL

**⚠ CAUTION**

The crankshaft should always be turned only clockwise.

1. Turn the crankshaft clockwise (right turn) to align each timing mark and to set the number 1 cylinder at compression top dead center.



2. Loosen the tension pulley fixing bolt.

**⚠ CAUTION**

If the timing belt is to be re-used, use chalk to mark (on its flat side) an arrow indicating the clockwise direction.

3. Place a screwdriver against the tensioner pulley and pry it fully back in the direction of the arrow.
4. Temporarily tighten the tensioner pulley bolt.
5. Remove the timing belt.

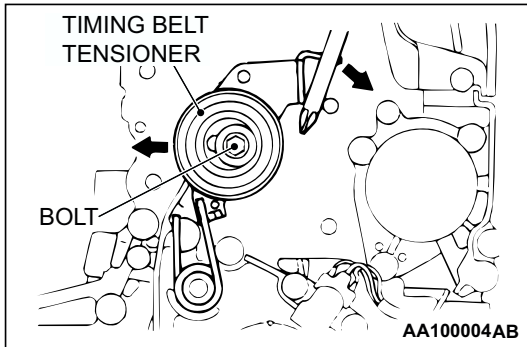
## INSTALLATION SERVICE POINTS

### >>A<< TIMING BELT INSTALLATION

#### **⚠ CAUTION**

After installing the timing belt, try to rotate the camshaft sprocket in the reverse direction. Recheck to be sure that the belt is fully tensioned and that each timing mark is in the proper position.

1. With the timing belt tensioner pulley bolt loosened, use a screwdriver to pry the tensioner pulley as close to the engine mount as possible. Then temporarily tighten tensioner bolt.
2. Align each of the camshaft and crankshaft sprocket timing marks.
3. Install the timing belt in the following order, while making sure that the tension side of the belt is not loose.
  - (1) Crankshaft sprocket
  - (2) Water pump sprocket
  - (3) Camshaft sprocket
  - (4) Tensioner pulley



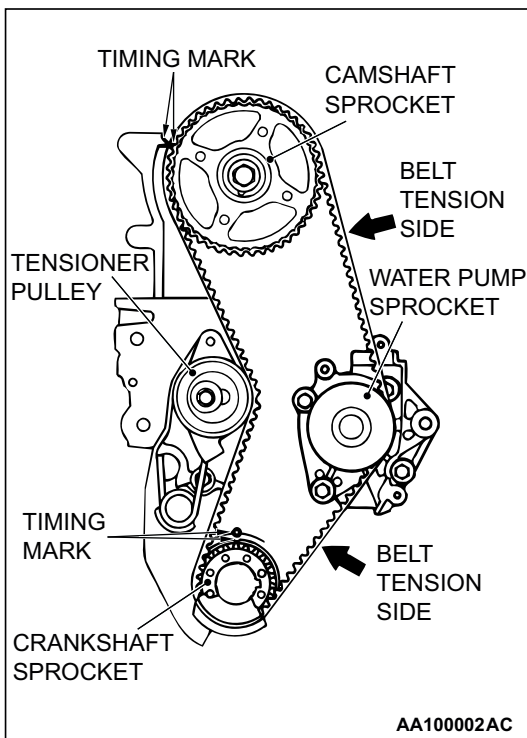
### >>B<< TIMING BELT TENSION ADJUSTMENT

1. Initially loosen the fixing bolt of the tensioner pulley fixed to the engine mount side by 1/4-1/2 turn, and use the force of the tensioner spring to apply tension to the belt.

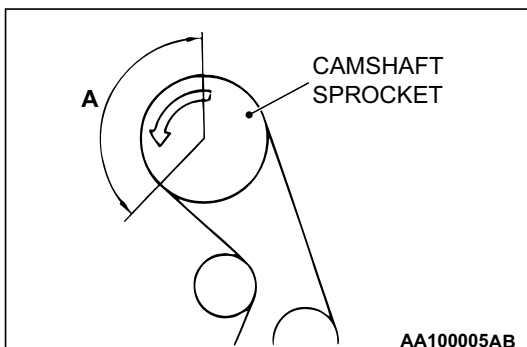
#### **⚠ CAUTION**

As the purpose of this procedure is to apply the proper amount of tension to the tension side of the timing belt by using the cam driving torque, turn the crankshaft only by the amount given below. Be sure not to turn the crankshaft in the opposite direction (counter clockwise).

2. Turn the crankshaft in the proper rotation direction (clockwise) for two rotations, and recheck to be sure that the timing marks on each sprocket are aligned.

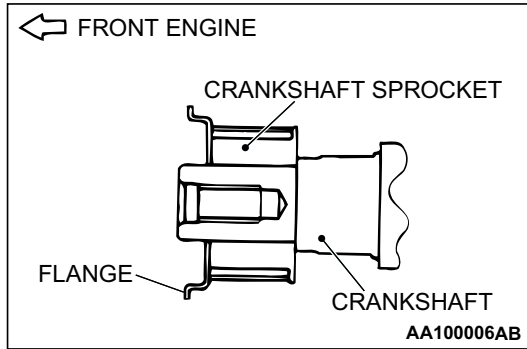


3. After checking to be sure that no belt teeth in the section marked with A are lifted up and that the teeth in each sprocket are engaged, secure the tensioner pulley.



## &gt;&gt;C&lt;&lt; FLANGE INSTALLATION

Install the flange as shown in the illustration.



## SPECIFICATIONS

## SERVICE SPECIFICATIONS

M1111000300394

ITEM	STANDARD VALUE	LIMIT
Actual ignition timing at idle	Approximately 8° BTDC	–
Auto-tensioner pushrod movement mm (in)	Within 1 (0.04)	–
Auto-tensioner rod protrusion mm (in)	3.8 – 4.5 (0.15 – 0.18)	–
Basic ignition timing at idle	5° BTDC ± 3°	–
CO content %	0.5 or less	–
Compression pressure (200 r/min) kPa (psi)	1,618 (234)	Minimum 1,176 (170)
Compression pressure difference of all cylinder kPa (psi)	–	98 (14)
Curb idle speed r/min	700 ± 100	–
Cylinder head bolt shank length mm (in)	–	99.4 (3.91)
HC contents ppm	100 or less	–
Intake manifold vacuum at curb idle kPa (in Hg)	–	Minimum 60 (18)
Timing belt B tension mm (in)	5 – 7 (0.2 – 0.3)	–

## FASTENER TIGHTENING SPECIFICATIONS

M1112005800074

ITEM	SPECIFICATION
Accelerator cable clamp attaching bolt	10 ± 2 N·m (89 ± 17 in-lb)
Bell housing cover bolt	9.0 ± 1.0 N·m (80 ± 9 in-lb)
Bracket bolt	21 ± 4 N·m (16 ± 2 ft-lb)
Camshaft position sensor sensing cylinder attaching bolt	22 ± 4 N·m (16 ± 3 ft-lb)
Camshaft position sensor support attaching bolt	14 ± 1 N·m (120 ± 13 in-lb)
Camshaft sprocket attaching bolt	88 ± 10 N·m (65 ± 7 ft-lb)
Crankshaft pulley attaching bolt	128 ± 7 N·m (95 ± 5 ft-lb)
Cylinder head attaching bolt	49 ± 2 N·m → 0 N·m → 20 ± 2 N·m → +90° → +90° (37 ± 1 ft-lb → 0 in-lb → 15 ± 1 ft-lb → +90° → +90°)

ITEM		SPECIFICATION
Drive plate attaching bolt <A/T>		132 ± 5 N·m (98 ± 3 ft-lb)
Engine mount insulator to frame bolt		44 ± 10 N·m (33 ± 7 ft-lb)
Engine mount bracket to engine nut		67 ± 7 N·m (50 ± 5 ft-lb)
Front exhaust pipe nut		50 ± 10 N·m (37 ± 7 ft-lb)
Flywheel attaching bolt <M/T>		132 ± 5 N·m (98 ± 3 ft-lb)
Generator nut		14 ± 3 N·m (124 ± 26 in-lb)
Ground wire attaching bolt		9.0 ± 2.0 N·m (80 ± 17 in-lb)
High-pressure fuel hose attaching bolt		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Intake manifold stay attaching bolt		18 ± 2 N·m (13 ± 2 ft-lb)
Oil level gauge and guide bolt		24 ± 4 N·m (18 ± 3 ft-lb)
Oil pan attaching bolt	M6	5.0 ± 1.0 N·m (44 ± 9 in-lb)
	M8	24 ± 1 N·m (17 ± 1 ft-lb)
Oil pan drain plug		39 ± 5 N·m (29 ± 3 ft-lb)
Power steering oil pump attaching bolt	M8	22 ± 4 N·m (16 ± 3 ft-lb)
	M10	40 ± 5 N·m (30 ± 3 ft-lb)
Pressure hose attaching bolt		12 ± 2 N·m (107 ± 17 in-lb)
Pressure tube attaching bolt		12 ± 2 N·m (102 ± 22 in-lb)
Rocker arm and shaft assembly attaching bolt		31 ± 3 N·m (23 ± 2 ft-lb)
Rocker cover attaching bolt		3.5 ± 0.5 N·m (31 ± 4 in-lb)
Transaxle stay to oil pan bolt		23 ± 4 N·m (17 ± 3 ft-lb)
Transaxle stay to bell housing cover bolt		48 ± 6 N·m (36 ± 4 ft-lb)
Timing belt tensioner attaching bolt		23 ± 3 N·m (17 ± 2 ft-lb)
Timing belt lower cover attaching bolt		11 ± 1 N·m (98 ± 8 in-lb)
Timing belt front upper cover attaching bolt		11 ± 1 N·m (98 ± 8 in-lb)
Water pump pulley bolt		9.8 ± 2.0 N·m (80 ± 17 in-lb)

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## NOTES