

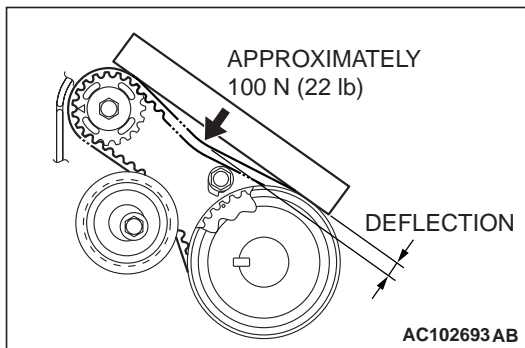
BALANCER TIMING BELT TENSION CHECK

Check the balancer timing belt tension as follows:

1. Apply a pressure of approximately 100N (22 pounds) at the center (arrow area) between the sprocket as shown then inspect whether the deflection is within the standard value.

Standard value: 5 – 10 mm (0.20 – 0.39 inch)

2. If not within the standard value, adjust the belt tension.
(Refer to [P.11A-50.](#))



SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M11111003800280

ITEM	SPECIFICATION	
Camshaft and valve stem seal		
Camshaft bearing cap bolt		20 ± 1 N·m (14 ± 0.5 ft-lb)
Camshaft position sensing cylinder bolt		22 ± 4 N·m (16 ± 3 ft-lb)
Camshaft position sensor support bolt		14 ± 1 N·m (120 ± 13 in-lb)
Camshaft position sensor support cover bolt		10 ± 2 N·m (89 ± 17 in-lb)
Camshaft sprocket bolt		89 ± 9 N·m (65 ± 7 ft-lb)
Control wiring harness bracket bolt		11 ± 1 N·m (98 ± 8 in-lb)
Ground terminal bolt (control wiring harness)		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Heated oxygen sensor (front) bolt		10.5 ± 0.5 N·m (93 ± 4 in-lb)
Oil delivery body bolt		11 ± 1 N·m (98 ± 8 in-lb)
Rocker cover bolt		3.5 ± 0.5 N·m (31 ± 4 in-lb)
Rocker cover center cover bolt		3.0 ± 0.5 N·m (27 ± 4 in-lb)
Spark plug		25 ± 4 N·m (18 ± 3 ft-lb)
Vacuum pipe bolt		11 ± 1 N·m (98 ± 8 in-lb)
Vacuum pipe bracket bolt		11 ± 1 N·m (98 ± 8 in-lb)
Crankshaft oil seal		
Flywheel bolt		132 ± 5 N·m (98 ± 3 ft-lb)
Crankshaft pulley		
Crankshaft damper pulley bolt		25 ± 4 N·m (18 ± 3 ft-lb)
Cylinder head gasket		
Cylinder head bolt <Cold engine>		78 ± 2 N·m → 0 N·m → 20 ± 2 N·m → +90° → +90° (58 ± 1 ft-lb → 0 in-lb → 15 ± 1 ft-lb → +90° → +90°)
EGR solenoid valve and bracket assembly bolt		9.0 ± 1.0 N·m (80 ± 9 in-lb)
Engine oil dipstick guide bolt		13 ± 1 N·m (115 ± 9 in-lb)
Fuel high-pressure hose bolt		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Generator brace bolt		22 ± 4 N·m (16 ± 3 ft-lb)
Ground cable bolt		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Ground terminal bolt (control wiring harness)		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Inlet manifold stay bolt		31 ± 3 N·m (23 ± 2 ft-lb)
Oil return tube bolt (bolt, flange)	M6	14 ± 1 N·m (120 ± 13 in-lb)
Oil return tube bolt (bolt, washer assembled)	M6	9.0 ± 1.0 N·m (80 ± 9 in-lb)
Turbocharger bracket bolt		35 ± 6 N·m (26 ± 4 ft-lb)
Engine assembly		
Engine front mounting bracket and cushion stopper nut (flange nut, self locking)	M10	67 ± 7 N·m (50 ± 5 ft-lb)

ITEM		SPECIFICATION
Engine front mounting bracket and cushion stopper nut (nut, assembled)	M12	98 ± 10 N·m (73 ± 7 ft-lb)
Engine oil cooler line eye bolt		42 ± 2 N·m (31 ± 1 ft-lb)
Fuel high-pressure hose bolt		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Generator terminal nut		14 ± 3 N·m (124 ± 26 in-lb)
Ground cable bolt		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Ground terminal bolt (battery wiring harness)		26 ± 5 N·m (19 ± 4 ft-lb)
Ground terminal bolt (control wiring harness)		5.0 ± 1.0 N·m (44 ± 9 in-lb)
Power steering oil pressure hose bolt		12 ± 2 N·m (102 ± 22 in-lb)
Power steering oil pump and bracket assembly bolt	M8	22 ± 4 N·m (16 ± 3 ft-lb)
	M10	40 ± 5 N·m (30 ± 3 ft-lb)
Power steering oil pump heat protector bolt		22 ± 4 N·m (16 ± 3 ft-lb)
Power steering oil reservoir bolt		12 ± 2 N·m (102 ± 22 in-lb)
Turbocharger wastegate actuator bolt		11 ± 1 N·m (98 ± 8 in-lb)
Oil pan		
Cylinder block baffle bolt		22 ± 4 N·m (16 ± 3 ft-lb)
Engine oil cooler line eye bolt		42 ± 2 N·m (31 ± 1 ft-lb)
Engine oil pan bolt		9.0 ± 3.0 N·m (80 ± 26 in-lb)
Engine oil pan drain plug		39 ± 5 N·m (29 ± 3 ft-lb)
Flywheel housing front lower cover bolt (bolt, flange)	M6	10 ± 2 N·m (89 ± 17 in-lb)
Flywheel housing front lower cover bolt (bolt, flange)	M10	26 ± 5 N·m (19 ± 4 ft-lb)
Flywheel housing front lower cover bolt (bolt, washer assembled)	M6	9.0 ± 1.0 N·m (80 ± 9 in-lb)
Oil return tube bolt (bolt, flange)	M6	14 ± 1 N·m (120 ± 13 in-lb)
Oil return tube bolt (bolt, washer assembled)	M6	9.0 ± 1.0 N·m (80 ± 9 in-lb)
Timing belt		
Auto-tensioner bolt (bolt, flange)	M8	24 ± 4 N·m (18 ± 3 ft-lb)
Auto-tensioner bolt (bolt, washer assembled)	M10	44 ± 10 N·m (33 ± 7 ft-lb)
Balancer timing belt tensioner bolt		19 ± 3 N·m (14 ± 2 ft-lb)
Crankshaft position sensor bolt		8.8 ± 1.0 N·m (78 ± 9 in-lb)
Crankshaft pulley center bolt		167 N·m (123 ft-lb)
Cylinder block plug		30 ± 3 N·m (23 ± 2 ft-lb)
Idler pulley bolt		79 ± 5 N·m (59 ± 3 ft-lb)
Power steering oil pressure hose bolt		12 ± 2 N·m (102 ± 22 in-lb)
Power steering oil pump and bracket assembly bolt	M8	22 ± 4 N·m (16 ± 3 ft-lb)
	M10	40 ± 5 N·m (30 ± 3 ft-lb)
Power steering oil pump bracket bolt		49 ± 9 N·m (36 ± 7 ft-lb)
Power steering oil pump heat protector bolt		22 ± 4 N·m (16 ± 3 ft-lb)
Power steering oil reservoir bolt		12 ± 2 N·m (102 ± 22 in-lb)
Timing belt idler pulley bolt		35 ± 6 N·m (26 ± 4 ft-lb)

ITEM		SPECIFICATION
Timing belt lower cover bolt (bolt, flange)	M6	11 ± 1 N·m (98 ± 8 in-lb)
Timing belt lower cover bolt (bolt, washer assembled)	M6	9.0 ± 1.0 N·m (80 ± 9 in-lb)
Timing belt tensioner adjuster bolt		23 ± 3 N·m (17 ± 2 ft-lb)
Timing belt tensioner arm bolt		21 ± 4 N·m (16 ± 2 ft-lb)
Timing belt tensioner pulley bolt		48 ± 5 N·m (36 ± 3 ft-lb)
Timing belt upper cover bolt (bolt, flange)	M6	11 ± 1 N·m (98 ± 8 in-lb)
Water pump pulley bolt		8.8 ± 1.0 N·m (78 ± 9 in-lb)

SERVICE SPECIFICATIONS

M1111000300510

ITEM		STANDARD VALUE	LIMIT
Drive belt tension	Vibration frequency Hz (Reference)	110 – 144	–
	Tension N (Reference)	245 – 412	–
Actual ignition timing at idle		Approximately 5° BTDC	–
Basic ignition timing at idle		5° BTDC ± 3°	–
CO content%		0.5 or less	–
HC contents ppm		100 or less	–
Curb idle speed r/min		850 ± 100	–
Compression pressure (250 r/min) kPa (psi)		1,128 (163)	Minimum 951 (138)
Intake manifold vacuum at curb idle kPa (in Hg)		–	Minimum 51 (15)
Cylinder head bolt nominal length mm (in)		–	99.4 (3.91)
Balancer timing belt tension (When adjusted)	Deflection mm (in)	5 – 7 (0.20 – 0.27)	–
Balancer timing belt tension (When replaced)	Deflection mm (in)	5 – 7 (0.20 – 0.27)	–
Balancer timing belt tension (When checked)	Deflection mm (in)	5 – 10 (0.20 – 0.39)	–
Timing belt tensioner adjuster rod protrusion amount mm (in)		3.8 – 4.5 (0.15 – 0.17)	–
Timing belt tensioner adjuster rod movement mm (in)		Within 1 (0.039)	–

SEALANTS

M1111000500332

ITEM	SPECIFIED SEALANT
Camshaft end seal	Specified sealant: 3M™ AAD Part No. 8672, 3M™ AAD Part No. 8679/8678 or equivalent
Camshaft position sensor support	
Cylinder head	