


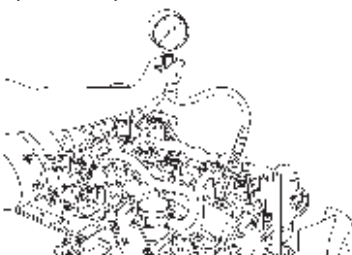
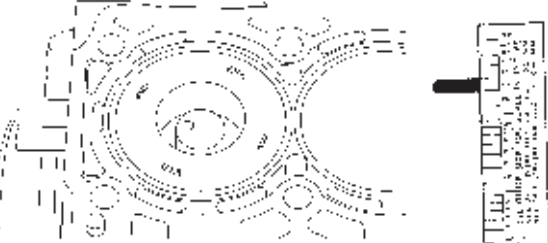

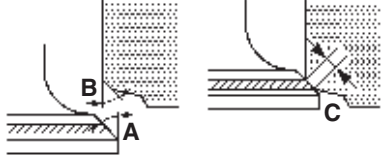


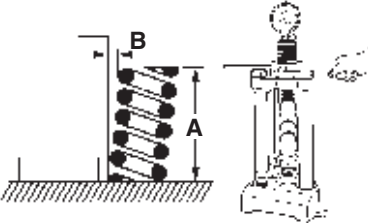
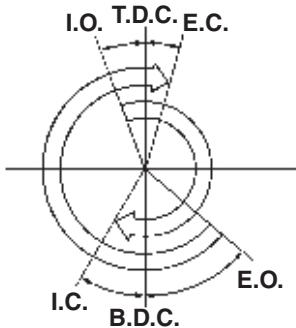


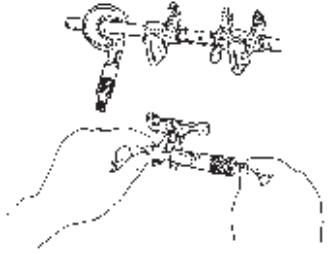
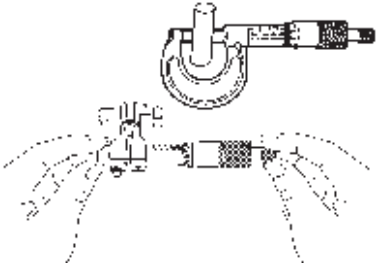
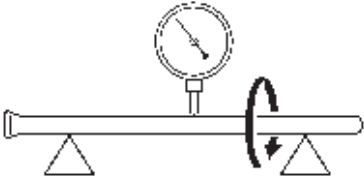
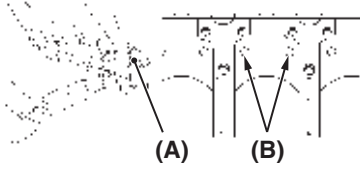
SERVICING SPECIFICATIONS

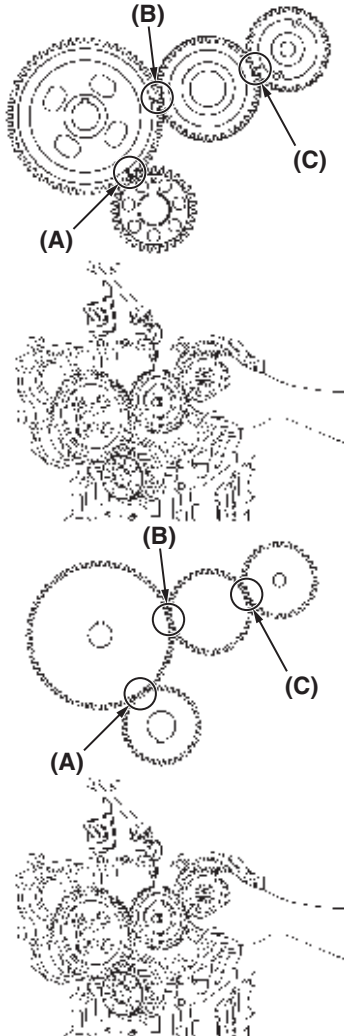
(1) ENGINE BODY



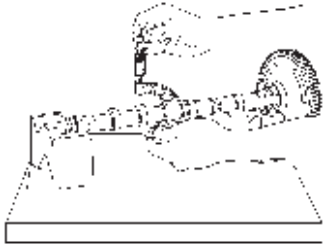
Item	Factory Specification	Allowable Limit
Lubricating oil capacity 	V2607-CR-TE4B 10.2 L 2.69 U.S.gals	—
	V2607-CR-E4B V3307-CR-TE4B 11.2 L 2.96 U.S.gals	—
Cylinder head surface 	Flatness —	0.05 mm / 500 mm 0.002 in. / 19.7 in.
Compression pressure 	V2607-CR-TE4B 3.20 MPa / 250 min ⁻¹ (rpm) 32.6 kgf/cm ² / 250 min ⁻¹ (rpm) 464 psi / 250 min ⁻¹ (rpm)	2.20 MPa / 250 min ⁻¹ (rpm) 22.4 kgf/cm ² / 250 min ⁻¹ (rpm) 319 psi / 250 min ⁻¹ (rpm)
	V2607-CR-E4B V3307-CR-TE4B 3.92 MPa / 250 min ⁻¹ (rpm) 40.0 kgf/cm ² / 250 min ⁻¹ (rpm) 569 psi / 250 min ⁻¹ (rpm)	2.90 MPa / 250 min ⁻¹ (rpm) 29.6 kgf/cm ² / 250 min ⁻¹ (rpm) 421 psi / 250 min ⁻¹ (rpm)
Top clearance 	0.60 to 0.80 mm 0.024 to 0.031 in.	—


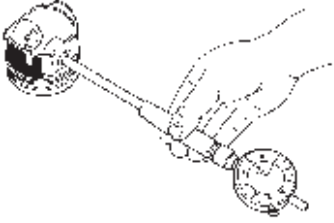
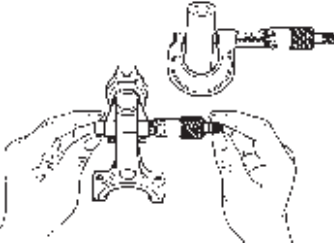
Item		Factory Specification	Allowable Limit	
Valve clearance (When cold) 		0.13 to 0.17 mm 0.0052 to 0.0066 in.	—	
Valve & valve seat 	Face angle (A) (Intake)	0.79 rad 45°	—	
	Face angle (A) (Exhaust)	0.79 rad 45°	—	
	Seat angle (B) (Intake)	0.79 rad 45°	—	
	Seat angle (B) (Exhaust)	0.79 rad 45°	—	
	Seat width (C) (Intake)	3.3 to 3.6 mm 0.13 to 0.14 in.	—	
	Seat width (C) (Exhaust)	3.3 to 3.6 mm 0.13 to 0.14 in.	—	
Valve stem to valve guide 	Clearance (Intake)	V2607-CR-E4B V2607-CR-TE4B	0.030 to 0.057 mm 0.0012 to 0.0022 in.	0.10 mm 0.0039 in.
		V3307-CR-TE4B	0.055 to 0.085 mm 0.0022 to 0.0033 in.	
		V2607-CR-E4B V2607-CR-TE4B	0.045 to 0.072 mm 0.0018 to 0.0028 in.	
	V3307-CR-TE4B	0.055 to 0.085 mm 0.0022 to 0.0033 in.		
	Clearance (Exhaust)	V2607-CR-E4B V2607-CR-TE4B	0.045 to 0.072 mm 0.0018 to 0.0028 in.	0.10 mm 0.0039 in.
		V3307-CR-TE4B	0.055 to 0.085 mm 0.0022 to 0.0033 in.	
	Valve stem O.D. (Intake)	V2607-CR-E4B V2607-CR-TE4B	5.968 to 5.980 mm 0.2350 to 0.2354 in.	—
		V3307-CR-TE4B	6.960 to 6.975 mm 0.2741 to 0.2746 in.	—
	Valve stem O.D. (Exhaust)	V2607-CR-E4B V2607-CR-TE4B	5.953 to 5.965 mm 0.2344 to 0.2348 in.	—
		V3307-CR-TE4B	6.960 to 6.975 mm 0.2741 to 0.2746 in.	—
	Valve guide I.D. (Intake)	V2607-CR-E4B V2607-CR-TE4B	6.010 to 6.025 mm 0.2367 to 0.2372 in.	—
		V3307-CR-TE4B	7.030 to 7.045 mm 0.2768 to 0.2773 in.	—
Valve guide I.D. (Exhaust)	V2607-CR-E4B V2607-CR-TE4B	6.010 to 6.025 mm 0.2367 to 0.2372 in.	—	
	V3307-CR-TE4B	7.030 to 7.045 mm 0.2768 to 0.2773 in.	—	


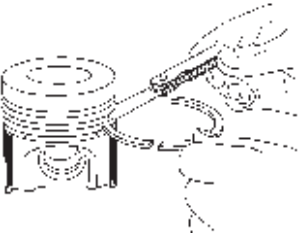

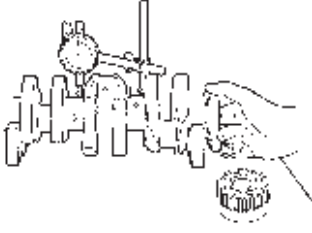
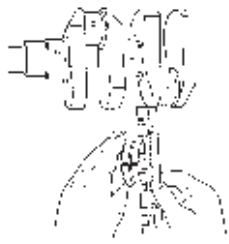
Item		Factory Specification	Allowable Limit	
Valve recessing 	Intake valve	0.65 to 0.85 mm (Recessing) 0.026 to 0.033 in. (Recessing)	1.2 mm (Recessing) 0.047 in. (Recessing)	
	Exhaust valve	0.65 to 0.85 mm (Recessing) 0.026 to 0.033 in. (Recessing)	1.2 mm (Recessing) 0.047 in. (Recessing)	
Valve spring 	Free length (A) (Intake)	V2607-CR-E4B V2607-CR-TE4B	35.4 to 35.9 mm 1.40 to 1.41 in.	34.9 mm 1.37 in.
		V3307-CR-TE4B	35.1 to 35.6 mm 1.39 to 1.40 in.	34.6 mm 1.36 in.
	Free length (A) (Exhaust)	V2607-CR-E4B V2607-CR-TE4B	35.4 to 35.9 mm 1.40 to 1.41 in.	34.9 mm 1.37 in.
		V3307-CR-TE4B	35.1 to 35.6 mm 1.39 to 1.40 in.	34.6 mm 1.36 in.
	Tilt (B) (Intake)		—	1.0 mm 0.039 in.
	Tilt (B) (Exhaust)		—	1.0 mm 0.039 in.
	Setting load / Setting length (Intake)	V2607-CR-E4B V2607-CR-TE4B	60.8 N / 29.7 mm 6.20 kgf / 29.7 mm 13.7 lbf / 1.17 in.	45.9 N / 29.7 mm 4.68 kgf / 29.7 mm 10.3 lbf / 1.17 in.
		V3307-CR-TE4B	63.5 N / 31.5 mm 6.48 kgf / 31.5 mm 14.3 lbf / 1.24 in.	45.9 N / 31.5 mm 4.68 kgf / 31.5 mm 10.3 lbf / 1.24 in.
Setting load / Setting length (Exhaust)	V2607-CR-E4B V2607-CR-TE4B	60.8 N / 29.7 mm 6.20 kgf / 29.7 mm 13.7 lbf / 1.17 in.	45.9 N / 29.7 mm 4.68 kgf / 29.7 mm 10.3 lbf / 1.17 in.	
	V3307-CR-TE4B	63.5 N / 31.5 mm 6.48 kgf / 31.5 mm 14.3 lbf / 1.24 in.	45.9 N / 31.5 mm 4.68 kgf / 31.5 mm 10.3 lbf / 1.24 in.	
Valve timing 	Open (Intake valve)	V2607-CR-TE4B	0.21 rad before T.D.C. (12° before T.D.C.)	—
		V2607-CR-E4B V3307-CR-TE4B	0.24 rad before T.D.C. (14° before T.D.C.)	—
	Close (Intake valve)	V2607-CR-TE4B	0.77 rad after B.D.C. (44° after B.D.C.)	—
		V2607-CR-E4B V3307-CR-TE4B	0.70 rad after B.D.C. (40° after B.D.C.)	—
	Open (Exhaust valve)	V2607-CR-TE4B	0.86 rad before B.D.C. (49° before B.D.C.)	—
		V2607-CR-E4B V3307-CR-TE4B	0.87 rad before B.D.C. (50° before B.D.C.)	—
	Close (Exhaust valve)	V2607-CR-TE4B	0.30 rad after T.D.C. (17° after T.D.C.)	—
		V2607-CR-E4B V3307-CR-TE4B	0.24 rad after T.D.C. (14° after T.D.C.)	—

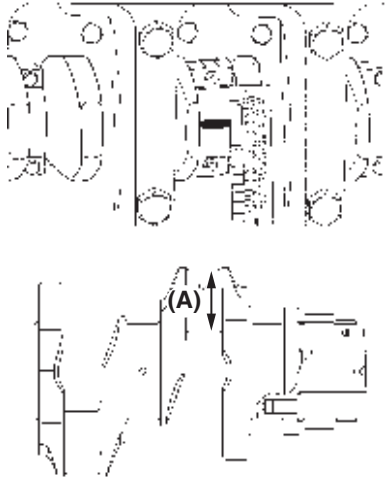
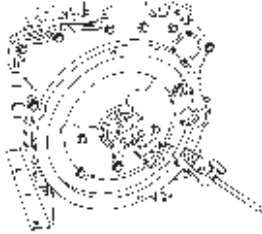
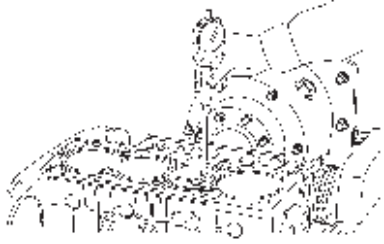
Item		Factory Specification	Allowable Limit	
Rocker arm shaft to rocker arm 	Oil clearance	0.016 to 0.054 mm 0.00063 to 0.0021 in.	0.15 mm 0.0059 in.	
	Rocker arm shaft O.D.	V2607-CR-E4B V2607-CR-TE4B	13.973 to 13.984 mm 0.55012 to 0.55055 in.	—
		V3307-CR-TE4B	14.973 to 14.984 mm 0.58949 to 0.58992 in.	—
	Rocker arm I.D.	V2607-CR-E4B V2607-CR-TE4B	14.000 to 14.027 mm 0.55119 to 0.55224 in.	—
V3307-CR-TE4B		15.000 to 15.027 mm 0.59056 to 0.59161 in.	—	
Valve bridge shaft to valve bridge arm 	Oil clearance	V2607-CR-E4B V2607-CR-TE4B	0.018 to 0.057 mm 0.00071 to 0.0022 in.	0.15 mm 0.0059 in.
		V3307-CR-TE4B	0.018 to 0.057 mm 0.00071 to 0.0022 in.	0.15 mm 0.0059 in.
	Valve bridge shaft O.D.	V2607-CR-E4B V2607-CR-TE4B	8.023 to 8.032 mm 0.3159 to 0.3162 in.	—
		V3307-CR-TE4B	9.023 to 9.032 mm 0.3553 to 0.3555 in.	—
	Valve bridge arm I.D.	V2607-CR-E4B V2607-CR-TE4B	8.050 to 8.080 mm 0.3170 to 0.3181 in.	—
		V3307-CR-TE4B	9.050 to 9.080 mm 0.3563 to 0.3574 in.	—
Push rod 	Alignment	—	0.25 mm 0.0098 in.	
Tappet to tappet guide 	Oil clearance	0.020 to 0.050 mm 0.00079 to 0.0019 in.	0.07 mm 0.003 in.	
	Tappet O.D. (A)	9.965 to 9.980 mm 0.3924 to 0.3929 in.	—	
	Tappet bore I.D. (B)	10.000 to 10.015 mm 0.39370 to 0.39429 in.	—	

Item			Factory Specification	Allowable Limit	
<p>Timing gear</p>  <p>(A) (B) (C)</p> <p>(A) (B) (C)</p> <p>(A) (B) (C)</p> <p>(A) (B) (C)</p>	Backlash (Crank gear to idle gear) (A)	V2607-CR-E4B V2607-CR-TE4B	0.0400 to 0.118 mm 0.00158 to 0.00464 in.	0.22 mm 0.0087 in.	
		V3307-CR-TE4B	0.0410 to 0.139 mm 0.00162 to 0.00547 in.	0.22 mm 0.0087 in.	
	Backlash (Cam gear to idle gear) (B)	V2607-CR-E4B V2607-CR-TE4B	0.0400 to 0.159 mm 0.00158 to 0.00625 in.	0.22 mm 0.0087 in.	
		V3307-CR-TE4B	0.0410 to 0.145 mm 0.00162 to 0.00570 in.	0.22 mm 0.0087 in.	
	Backlash (Idle gear to supply pump gear) (C)	V2607-CR-E4B V2607-CR-TE4B	0.0400 to 0.168 mm 0.00158 to 0.00661 in.	0.22 mm 0.0087 in.	
		V3307-CR-TE4B	0.0410 to 0.139 mm 0.00162 to 0.00547 in.	0.22 mm 0.0087 in.	
	Idle gear	Side clearance	V2607-CR-E4B V2607-CR-TE4B	0.050 to 0.20 mm 0.0020 to 0.0078 in.	0.90 mm 0.035 in.
			V3307-CR-TE4B	0.15 to 0.25 mm 0.0059 to 0.0098 in.	0.90 mm 0.035 in.





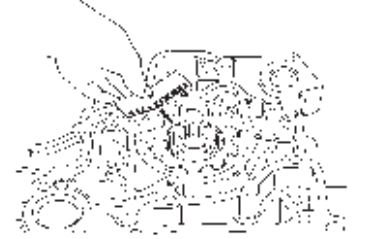
Item		Factory Specification	Allowable Limit		
	Oil clearance	V2607-CR-E4B V2607-CR-TE4B	0.025 to 0.096 mm 0.00099 to 0.0037 in.	0.10 mm 0.0039 in.	
		V3307-CR-TE4B	0.0250 to 0.106 mm 0.000985 to 0.00417 in.	0.11 mm 0.0043 in.	
	Idle gear shaft O.D.	V2607-CR-E4B V2607-CR-TE4B	34.959 to 34.975 mm 1.3764 to 1.3769 in.	—	
		V3307-CR-TE4B	46.959 to 46.975 mm 1.8488 to 1.8494 in.	—	
	Idle gear bushing I.D.	V2607-CR-E4B V2607-CR-TE4B	35.000 to 35.055 mm 1.3780 to 1.3801 in.	—	
		V3307-CR-TE4B	47.000 to 47.065 mm 1.8504 to 1.8529 in.	—	
Camshaft		Alignment	—	0.01 mm 0.0004 in.	
Camshaft		Side clearance	—	0.10 mm 0.0039 in.	
Cam		Height (Intake)	V2607-CR-E4B	32.70 mm 1.287 in.	32.20 mm 1.268 in.
			V2607-CR-TE4B	32.60 mm 1.283 in.	32.10 mm 1.264 in.
			V3307-CR-TE4B	37.50 mm 1.476 in.	37.00 mm 1.457 in.
	Height (Exhaust)	V2607-CR-E4B	33.20 mm 1.307 in.	32.70 mm 1.287 in.	
		V2607-CR-TE4B	33.00 mm 1.299 in.	32.50 mm 1.280 in.	
		V3307-CR-TE4B	37.90 mm 1.492 in.	37.40 mm 1.472 in.	

Item	Factory Specification	Allowable Limit	
Camshaft journal to cylinder block bore 	Oil clearance	0.050 to 0.091 mm 0.0020 to 0.0035 in.	
	Camshaft journal 1 O.D.	34.934 to 34.950 mm 1.3754 to 1.3759 in.	
	Cylinder block bore 1 I.D.	35.000 to 35.025 mm 1.3780 to 1.3789 in.	
	Camshaft journal 2 O.D.	V2607-CR-E4B V2607-CR-TE4B	41.934 to 41.950 mm 1.6510 to 1.6515 in.
		V3307-CR-TE4B	43.934 to 43.950 mm 1.7297 to 1.7303 in.
	Cylinder block bore 2 I.D.	V2607-CR-E4B V2607-CR-TE4B	42.000 to 42.025 mm 1.6536 to 1.6545 in.
V3307-CR-TE4B		44.000 to 44.025 mm 1.7323 to 1.7332 in.	
Piston pin bore 	Piston pin bore I.D.	V2607-CR-E4B V2607-CR-TE4B	
		V3307-CR-TE4B	
Piston pin to small end bushing 	Oil clearance	V2607-CR-E4B V2607-CR-TE4B	
		V3307-CR-TE4B	
	Piston pin O.D.	V2607-CR-E4B V2607-CR-TE4B	
		V3307-CR-TE4B	
	Small end bushing I.D.	V2607-CR-E4B V2607-CR-TE4B	
		V3307-CR-TE4B	

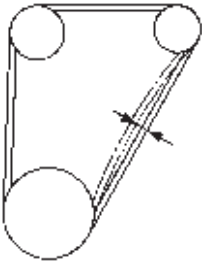
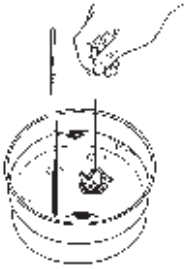
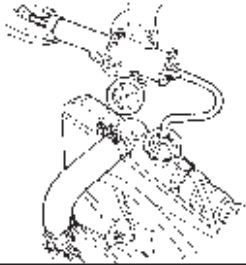
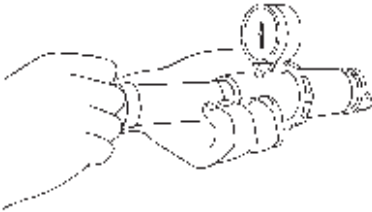
Item		Factory Specification	Allowable Limit		
Piston ring 	Ring gap (Top ring)	V2607-CR-E4B V2607-CR-TE4B	0.20 to 0.35 mm 0.0079 to 0.013 in.	1.25 mm 0.0492 in.	
		V3307-CR-TE4B	0.25 to 0.40 mm 0.0099 to 0.015 in.	1.25 mm 0.0492 in.	
	Ring gap (Second ring)		0.30 to 0.45 mm 0.012 to 0.017 in.	1.25 mm 0.0492 in.	
	Ring gap (Oil ring)		0.25 to 0.45 mm 0.0099 to 0.017 in.	1.25 mm 0.0492 in.	
Piston ring groove to piston ring 	Clearance (Top ring)		0.050 to 0.090 mm 0.0020 to 0.0035 in.	0.15 mm 0.0059 in.	
	Clearance (Second ring)		0.090 to 0.12 mm 0.0036 to 0.0047 in.	0.20 mm 0.0079 in.	
	Clearance (Oil ring)		0.020 to 0.060 mm 0.00079 to 0.0023 in.	0.15 mm 0.0059 in.	
Connecting rod 	Alignment		—	0.05 mm 0.002 in.	
Crankshaft 	Alignment		—	0.02 mm 0.0008 in.	
Crankshaft journal to crankshaft bearing 	Oil clearance	V2607-CR-E4B V2607-CR-TE4B	0.030 to 0.051 mm 0.0012 to 0.0020 in.	0.20 mm 0.0079 in.	
		V3307-CR-TE4B	0.030 to 0.073 mm 0.0012 to 0.0028 in.	0.20 mm 0.0079 in.	
	Crankshaft journal O.D.	V2607-CR-E4B V2607-CR-TE4B		72.977 to 72.990 mm 2.8732 to 2.8736 in.	—
		V3307-CR-TE4B		79.977 to 79.990 mm 3.1487 to 3.1492 in.	—

Item		Factory Specification	Allowable Limit	
Crank pin to crank pin bearing 	Oil clearance	V2607-CR-E4B V2607-CR-TE4B	0.011 to 0.058 mm 0.00044 to 0.0022 in.	0.20 mm 0.0079 in.
		V3307-CR-TE4B	0.017 to 0.048 mm 0.00067 to 0.0018 in.	0.20 mm 0.0079 in.
	Crank pin O.D. (A)	V2607-CR-E4B V2607-CR-TE4B	46.980 to 46.991 mm 1.8496 to 1.8500 in.	—
		V3307-CR-TE4B	49.980 to 49.991 mm 1.9678 to 1.9681 in.	—
Crankshaft 	Side clearance		0.15 to 0.35 mm 0.0059 to 0.013 in.	0.50 mm 0.020 in.
Cylinder 	Bore I.D. (Standard size)	V2607-CR-E4B V2607-CR-TE4B	87.000 to 87.022 mm 3.4252 to 3.4260 in.	87.15 mm 3.431 in.
		V3307-CR-TE4B	94.000 to 94.022 mm 3.7008 to 3.7016 in.	94.15 mm 3.707 in.
	Bore I.D. (Oversize)	V2607-CR-E4B V2607-CR-TE4B	87.250 to 87.272 mm 3.4351 to 3.4359 in.	87.40 mm 3.441 in.
		V3307-CR-TE4B	94.500 to 94.522 mm 3.7205 to 3.7213 in.	94.65 mm 3.726 in.

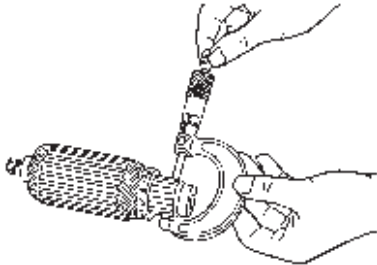
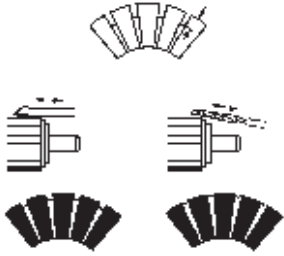
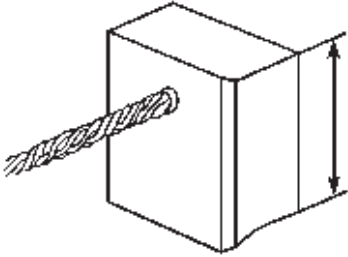
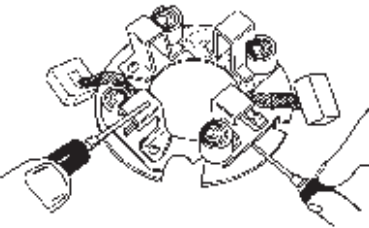
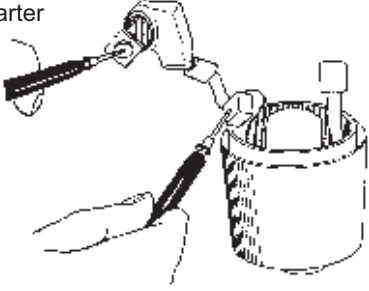

(2) LUBRICATING SYSTEM

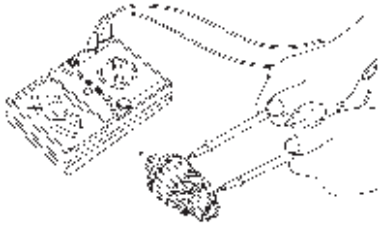

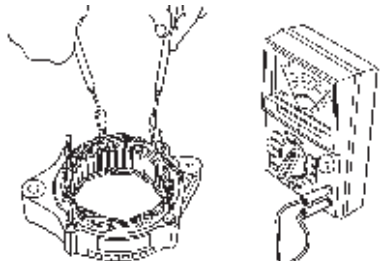
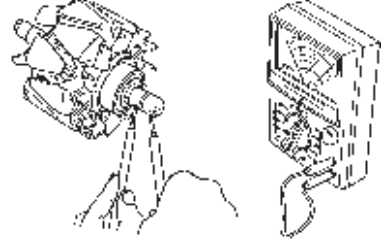
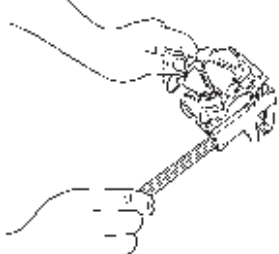
Item	Factory Specification	Allowable Limit
Engine oil pressure 	Engine oil pressure (At idle speed) —	50 kPa 0.5 kgf/cm ² 7 psi
	Engine oil pressure (At rated speed)	200 to 390 kPa 2.0 to 4.0 kgf/cm ² 29 to 56 psi
Inner rotor to outer rotor (Oil pump) 	Clearance	0.030 to 0.090 mm 0.0012 to 0.0035 in.
Outer rotor to pump body (Oil pump) 	Clearance	0.100 to 0.184 mm 0.00394 to 0.00724 in.
Inner rotor to cover (Oil pump) 	Clearance	0.025 to 0.075 mm 0.00099 to 0.0029 in.

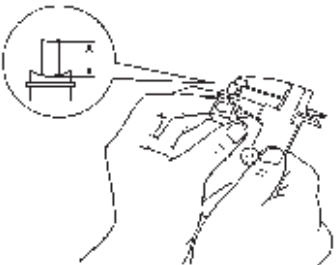
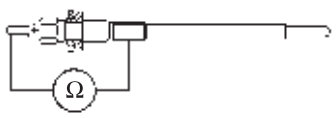
(3) COOLING SYSTEM

Item	Factory Specification		Allowable Limit
Fan belt 	Tension		10 to 12 mm (0.40 to 0.47 in.) deflection at 98 N (10 kgf, 22 lbf) of force —
Thermostat 	Valve opening temperature (At beginning)	V2607-CR-E4B V2607-CR-TE4B	80 to 84 °C 176 to 183 °F —
		V3307-CR-TE4B	74.5 to 78.5 °C 166.1 to 173.3 °F —
	Valve opening temperature (Opened completely)	V2607-CR-E4B V2607-CR-TE4B	95 °C 203 °F —
		V3307-CR-TE4B	90 °C 194 °F —
Radiator 	Water tightness		No water leak at specified pressure —
Radiator cap 	Pressure falling time		10 seconds or more for pressure falling from 90 to 60 kPa (from 0.9 to 0.6 kgf/cm ² , from 10 to 9 psi) —

(4) ELECTRICAL SYSTEM

Item	Factory Specification	Allowable Limit
Starter 	Commutator O.D.	32.0 mm 1.26 in. 31.4 mm 1.24 in.
Starter 	Mica under cut	0.50 mm 0.020 in. 0.20 mm 0.079 in.
Starter 	Brush length	18.0 mm 0.709 in. 11.0 mm 0.433 in.
Starter 	Brush holder resistance (Brush holder - Holder support)	Infinity —
Starter 	Field coil resistance (Lead - Brush)	Continuity —
Starter 	Field coil resistance (Brush - Yoke)	Infinity —

Item	Factory Specification	Allowable Limit
<p>Starter</p>  <p>Armature coil resistance (Commutator - Armature coil core)</p>	Infinity	—
<p>Starter</p>  <p>Armature coil resistance (Segment - Segment)</p>	Continuity	—
<p>Alternator</p>  <p>Stator resistance</p>	Less than 1.0 Ω	—
<p>Alternator</p>  <p>Rotor resistance</p>	2.8 to 3.3 Ω	—
<p>Alternator</p>  <p>Slip ring O.D.</p>	22.7 mm 0.894 in.	22.1 mm 0.870 in.

Item	Factory Specification	Allowable Limit
<p>Alternator</p>  <p>Brush length</p>	<p>18.5 mm 0.728 in.</p>	<p>5.0 mm 0.20 in.</p>
<p>Glow plug</p>  <p>Resistance</p>	<p>Approx. 0.95 Ω</p>	<p>—</p>

TIGHTENING TORQUES

(1) Special Tightening Torques

For "*" marked screws, bolts and nuts on under table, apply engine oil to their threads and seats before tightening.

For "**" marked parts on under table, apply the anti-seize & lubricating compound (Bostick, NEVER-SEEZ, Pure nickel special grade) to their threads and seats before tightening.

Glow lead mounting nut		Glow plug		Cylinder head cover screw	
Dummy				Dummy	
V2607-CR-E4B	0.98 to 1.7 N·m	V2607-CR-E4B	7.7 to 9.3 N·m	V2607-CR-E4B	9.81 to 11.2 N·m
V2607-CR-TE4B	0.10 to 0.18 kgf·m	V2607-CR-TE4B	0.78 to 0.95 kgf·m	V2607-CR-TE4B	1.00 to 1.15 kgf·m
V3307-CR-TE4B	0.73 to 1.3 lbf·ft	V3307-CR-TE4B	5.7 to 6.8 lbf·ft	V3307-CR-TE4B	7.24 to 8.31 lbf·ft
Injection pipe retaining nut		Oil switch taper screw		Supply pump unit mounting nut	
Dummy		Dummy		Dummy	
V2607-CR-E4B	30 to 40 N·m	V2607-CR-E4B	15 to 19 N·m	V2607-CR-E4B	24 to 27 N·m
V2607-CR-TE4B	3.1 to 4.0 kgf·m	V2607-CR-TE4B	1.5 to 2.0 kgf·m	V2607-CR-TE4B	2.4 to 2.8 kgf·m
V3307-CR-TE4B	23 to 29 lbf·ft	V3307-CR-TE4B	11 to 14 lbf·ft	V3307-CR-TE4B	18 to 20 lbf·ft
Injector clamp nut		Supply pump gear mounting nut		Overflow pipe joint screw (Cylinder head side)	
Dummy		Dummy		Dummy	
V2607-CR-E4B	24 to 27 N·m	V2607-CR-E4B	59 to 68 N·m	V2607-CR-E4B	11 to 15 N·m
V2607-CR-TE4B	2.4 to 2.8 kgf·m	V2607-CR-TE4B	6.0 to 7.0 kgf·m	V2607-CR-TE4B	1.2 to 1.5 kgf·m
V3307-CR-TE4B	18 to 20 lbf·ft	V3307-CR-TE4B	44 to 50 lbf·ft	V3307-CR-TE4B	8.2 to 11 lbf·ft

Overflow pipe joint screw
(Common rail side)

Dummy

V2607-CR-E4B	7.9 to 12 N·m
V2607-CR-TE4B	0.80 to 1.3 kgf·m
V3307-CR-TE4B	5.8 to 9.4 lbf·ft

Overflow pipe joint screw
(Supply pump side)

Dummy

V2607-CR-E4B	7.9 to 12 N·m
V2607-CR-TE4B	0.80 to 1.3 kgf·m
V3307-CR-TE4B	5.8 to 9.4 lbf·ft

Common rail mounting screw

Dummy

V2607-CR-E4B	24 to 27 N·m
V2607-CR-TE4B	2.4 to 2.8 kgf·m
V3307-CR-TE4B	18 to 20 lbf·ft

Coolant temperature sensor

Dummy

V2607-CR-E4B	16 to 19 N·m
V2607-CR-TE4B	1.6 to 2.0 kgf·m
V3307-CR-TE4B	12 to 14 lbf·ft

Camshaft position sensor mounting
screw

Dummy

V2607-CR-E4B	8.0 to 12 N·m
V2607-CR-TE4B	0.82 to 1.2 kgf·m
V3307-CR-TE4B	5.9 to 8.8 lbf·ft

Crankshaft position sensor mounting
screw

Dummy

V2607-CR-E4B	8.0 to 12 N·m
V2607-CR-TE4B	0.82 to 1.2 kgf·m
V3307-CR-TE4B	5.9 to 8.8 lbf·ft

Intake air temperature sensor

Dummy

V2607-CR-E4B	30 to 39 N·m
V2607-CR-TE4B	3.4 to 4.0 kgf·m
V3307-CR-TE4B	22 to 28 lbf·ft

Boost sensor mounting screw

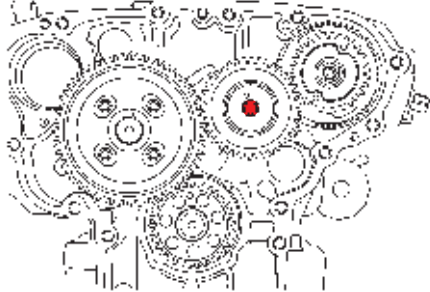
Dummy

V2607-CR-TE4B	4 to 5 N·m
V3307-CR-TE4B	0.4 to 0.6 kgf·m
	3 to 4 lbf·ft

Air flow sensor mounting screw

Dummy

V2607-CR-E4B	1.17 to 1.77 N·m
V2607-CR-TE4B	0.120 to 0.180 kgf·m
V3307-CR-TE4B	0.863 to 1.30 lbf·ft

<p>Idle gear mounting screw</p> 	<p>Idle gear mounting screw</p> <p style="text-align: center;">Dummy</p>	<p>Crankshaft position pulsar gear mounting screw</p> <p style="text-align: center;">Dummy</p>																		
<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>49 to 55 N·m 5.0 to 5.7 kgf·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>37 to 41 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	49 to 55 N·m 5.0 to 5.7 kgf·m	V2607-CR-TE4B	37 to 41 lbf·ft	<table border="1"> <tbody> <tr> <td>V3307-CR-TE4B</td> <td>49 to 55 N·m 5.0 to 5.7 kgf·m 37 to 41 lbf·ft</td> </tr> </tbody> </table>	V3307-CR-TE4B	49 to 55 N·m 5.0 to 5.7 kgf·m 37 to 41 lbf·ft	<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>9.81 to 11.2 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>1.00 to 1.15 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>7.24 to 8.31 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	9.81 to 11.2 N·m	V2607-CR-TE4B	1.00 to 1.15 kgf·m	V3307-CR-TE4B	7.24 to 8.31 lbf·ft						
V2607-CR-E4B	49 to 55 N·m 5.0 to 5.7 kgf·m																			
V2607-CR-TE4B	37 to 41 lbf·ft																			
V3307-CR-TE4B	49 to 55 N·m 5.0 to 5.7 kgf·m 37 to 41 lbf·ft																			
V2607-CR-E4B	9.81 to 11.2 N·m																			
V2607-CR-TE4B	1.00 to 1.15 kgf·m																			
V3307-CR-TE4B	7.24 to 8.31 lbf·ft																			
<p>Muffler full assembly (DPF) mounting screw</p> <p style="text-align: center;">Dummy</p>	<p>DPF bracket</p> <p style="text-align: center;">Dummy</p>	<p>Temperature sensor</p> <p style="text-align: center;">Dummy</p>																		
<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>49 to 55 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>5.0 to 5.7 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>37 to 41 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	49 to 55 N·m	V2607-CR-TE4B	5.0 to 5.7 kgf·m	V3307-CR-TE4B	37 to 41 lbf·ft	<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>78 to 90 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>7.9 to 9.2 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>58 to 66 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	78 to 90 N·m	V2607-CR-TE4B	7.9 to 9.2 kgf·m	V3307-CR-TE4B	58 to 66 lbf·ft	<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>25 to 34 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>2.5 to 3.5 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>18 to 25 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	25 to 34 N·m	V2607-CR-TE4B	2.5 to 3.5 kgf·m	V3307-CR-TE4B	18 to 25 lbf·ft
V2607-CR-E4B	49 to 55 N·m																			
V2607-CR-TE4B	5.0 to 5.7 kgf·m																			
V3307-CR-TE4B	37 to 41 lbf·ft																			
V2607-CR-E4B	78 to 90 N·m																			
V2607-CR-TE4B	7.9 to 9.2 kgf·m																			
V3307-CR-TE4B	58 to 66 lbf·ft																			
V2607-CR-E4B	25 to 34 N·m																			
V2607-CR-TE4B	2.5 to 3.5 kgf·m																			
V3307-CR-TE4B	18 to 25 lbf·ft																			
<p>Differential pressure pipe</p> <p style="text-align: center;">Dummy</p>	<p>Reed valve of EGR valve</p> <p style="text-align: center;">Dummy</p>	<p>Exhaust manifold mounting nut</p> <p style="text-align: center;">Dummy</p>																		
<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>16 to 22 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>1.6 to 2.3 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>12 to 16 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	16 to 22 N·m	V2607-CR-TE4B	1.6 to 2.3 kgf·m	V3307-CR-TE4B	12 to 16 lbf·ft	<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>9.81 to 11.2 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>1.00 to 1.15 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>7.24 to 8.31 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	9.81 to 11.2 N·m	V2607-CR-TE4B	1.00 to 1.15 kgf·m	V3307-CR-TE4B	7.24 to 8.31 lbf·ft	<table border="1"> <tbody> <tr> <td>V2607-CR-E4B</td> <td>30 to 34 N·m</td> </tr> <tr> <td>V2607-CR-TE4B</td> <td>3.0 to 3.5 kgf·m</td> </tr> <tr> <td>V3307-CR-TE4B</td> <td>22 to 25 lbf·ft</td> </tr> </tbody> </table>	V2607-CR-E4B	30 to 34 N·m	V2607-CR-TE4B	3.0 to 3.5 kgf·m	V3307-CR-TE4B	22 to 25 lbf·ft
V2607-CR-E4B	16 to 22 N·m																			
V2607-CR-TE4B	1.6 to 2.3 kgf·m																			
V3307-CR-TE4B	12 to 16 lbf·ft																			
V2607-CR-E4B	9.81 to 11.2 N·m																			
V2607-CR-TE4B	1.00 to 1.15 kgf·m																			
V3307-CR-TE4B	7.24 to 8.31 lbf·ft																			
V2607-CR-E4B	30 to 34 N·m																			
V2607-CR-TE4B	3.0 to 3.5 kgf·m																			
V3307-CR-TE4B	22 to 25 lbf·ft																			

EGR cooler flange screw

Dummy

V2607-CR-E4B	24 to 27 N·m
V2607-CR-TE4B	2.4 to 2.8 kgf·m
V3307-CR-TE4B	18 to 20 lbf·ft

Case of oil separator

Dummy

V2607-CR-E4B	9.50 to 10.5 N·m
V2607-CR-TE4B	0.969 to 1.07 kgf·m
V3307-CR-TE4B	7.01 to 7.74 lbf·ft

Drain plug



V2607-CR-E4B	45 to 53 N·m
V2607-CR-TE4B	4.5 to 5.5 kgf·m
V3307-CR-TE4B	33 to 39 lbf·ft

Overflow pipe joint screw

Dummy

V2607-CR-E4B	9.81 to 11.2 N·m
V2607-CR-TE4B	1.00 to 1.15 kgf·m
V3307-CR-TE4B	7.24 to 8.31 lbf·ft

Crankshaft screw *



Dummy

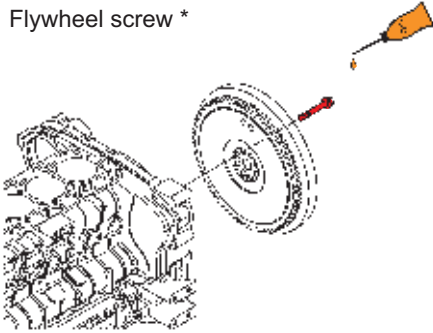
V2607-CR-E4B	255 to 274 N·m
V2607-CR-TE4B	26.0 to 28.0 kgf·m
V3307-CR-TE4B	188 to 202 lbf·ft

Relief valve retaining screw

Dummy

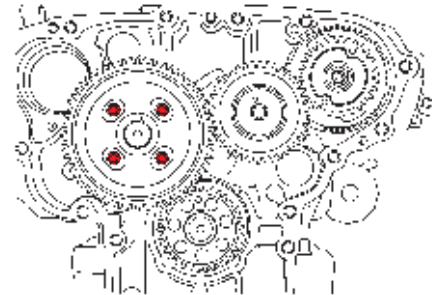
V2607-CR-E4B	69 to 78 N·m
V2607-CR-TE4B	7.0 to 8.0 kgf·m
V3307-CR-TE4B	51 to 57 lbf·ft

Flywheel screw *



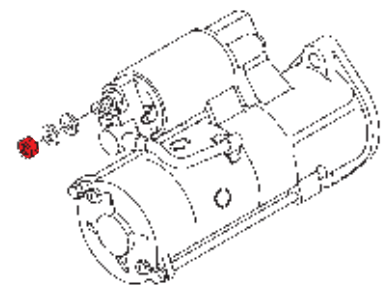
V2607-CR-E4B	98.1 to 107 N·m
V2607-CR-TE4B	10.0 to 11.0 kgf·m
V3307-CR-TE4B	72.4 to 79.5 lbf·ft

Camshaft set screw



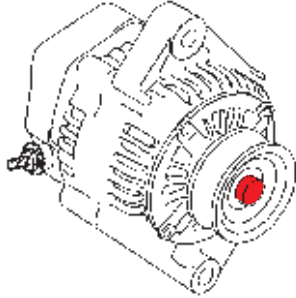
V2607-CR-E4B	24 to 27 N·m
V2607-CR-TE4B	2.4 to 2.8 kgf·m
V3307-CR-TE4B	18 to 20 lbf·ft

Starter's terminal B mounting nut



V2607-CR-E4B	9.8 to 11 N·m
V2607-CR-TE4B	1.0 to 1.2 kgf·m
V3307-CR-TE4B	7.3 to 8.6 lbf·ft

Alternator pulley nut



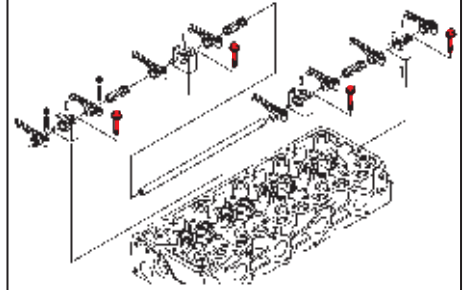
V2607-CR-E4B	58.4 to 78.9 N·m
V2607-CR-TE4B	5.95 to 8.05 kgf·m
V3307-CR-TE4B	43.1 to 58.2 lbf·ft

Oil pump cover screw

Dummy

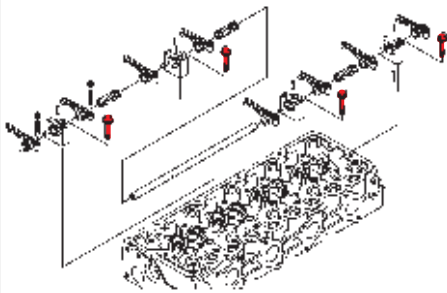
V2607-CR-E4B	7.9 to 9.3 N·m
V2607-CR-TE4B	0.80 to 0.95 kgf·m
V3307-CR-TE4B	5.8 to 6.8 lbf·ft

Rocker arm bracket screw



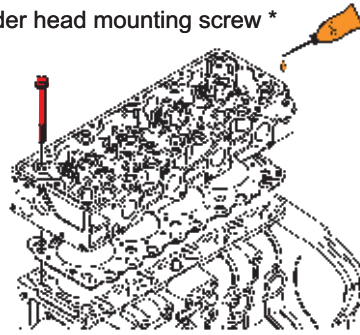
V2607-CR-E4B	24 to 27 N·m
V2607-CR-TE4B	2.4 to 2.8 kgf·m
V2607-CR-TE4B	18 to 20 lbf·ft

Rocker arm bracket screw



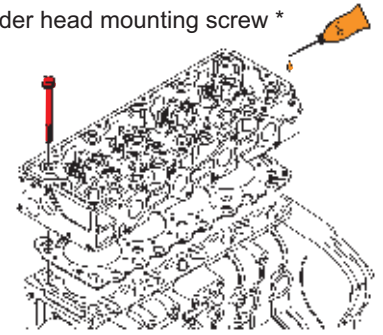
V3307-CR-TE4B	49 to 55 N·m
	5.0 to 5.7 kgf·m
	37 to 41 lbf·ft

Cylinder head mounting screw *



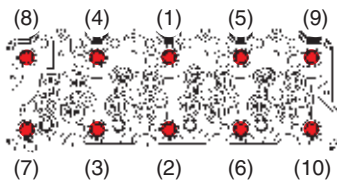
V2607-CR-E4B	147 to 156 N·m
V2607-CR-TE4B	15.0 to 16.0 kgf·m
V2607-CR-TE4B	109 to 115 lbf·ft

Cylinder head mounting screw *



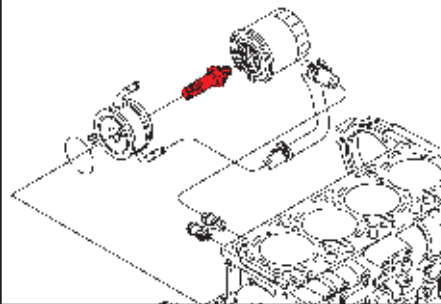
V3307-CR-TE4B	187 to 196 N·m
	19.0 to 20.0 kgf·m
	138 to 144 lbf·ft

Cylinder head mounting screw tightening order



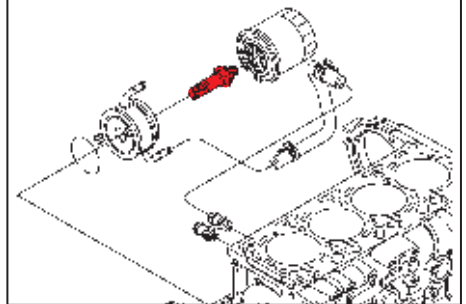
V2607-CR-E4B	(1) → (10)
V2607-CR-TE4B	
V3307-CR-TE4B	

Oil cooler joint screw



V2607-CR-E4B	64 to 73 N·m
V2607-CR-TE4B	6.5 to 7.5 kgf·m
V2607-CR-TE4B	47 to 54 lbf·ft

Oil cooler joint screw



V3307-CR-TE4B	40 to 44 N·m
	4.0 to 4.5 kgf·m
	29 to 32 lbf·ft

Front cover mounting screw
[7T screw]

Dummy

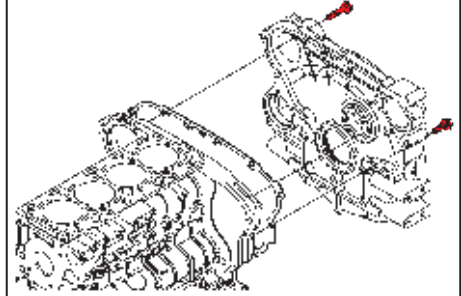
V2607-CR-E4B	24 to 27 N·m
V2607-CR-TE4B	2.4 to 2.8 kgf·m
V3307-CR-TE4B	18 to 20 lbf·ft

Front cover mounting screw
[10T screw]

Dummy

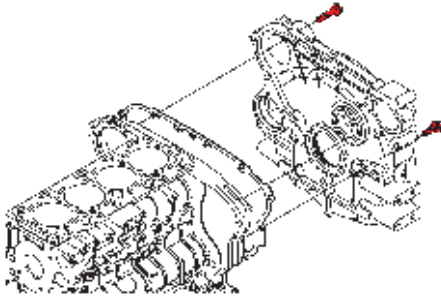
V3307-CR-TE4B	30 to 34 N·m 3.0 to 3.5 kgf·m 22 to 25 lbf·ft
---------------	---

Flywheel housing mounting screw



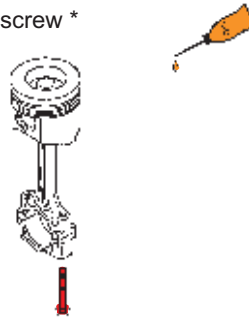
V2607-CR-E4B	78 to 90 N·m 7.9 to 9.2 kgf·m 58 to 66 lbf·ft
--------------	---

Flywheel housing mounting screw (9T)



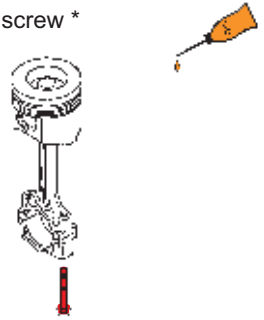
V2607-CR-E4B	103 to 117 N·m
V2607-CR-TE4B	10.5 to 12.0 kgf·m
V3307-CR-TE4B	76.0 to 86.7 lbf·ft

Connecting rod screw *



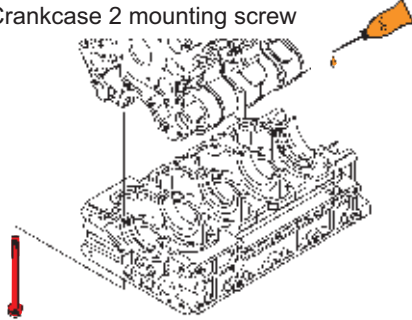
V2607-CR-E4B	41 to 45 N·m 4.1 to 4.6 kgf·m 30 to 33 lbf·ft
V2607-CR-TE4B	

Connecting rod screw *



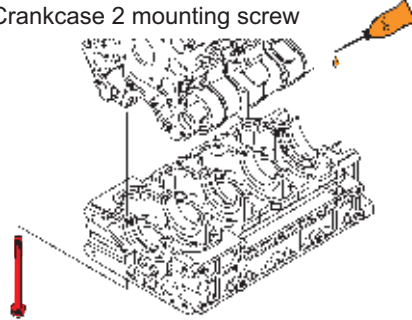
V3307-CR-TE4B	69 to 73 N·m 7.0 to 7.5 kgf·m 51 to 54 lbf·ft
---------------	---

Crankcase 2 mounting screw



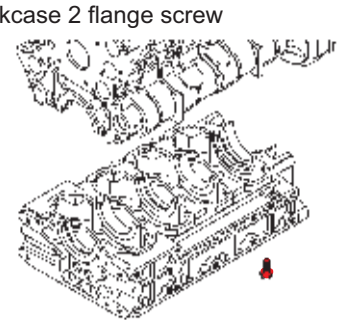
V2607-CR-E4B	128 to 137 N·m 13.0 to 14.0 kgf·m 94.1 to 101 lbf·ft
V2607-CR-TE4B	

Crankcase 2 mounting screw

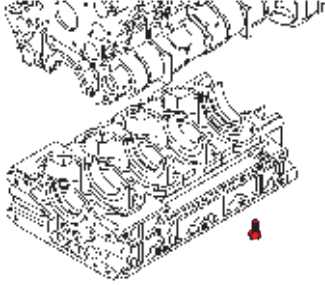


V3307-CR-TE4B	138 to 147 N·m 14.0 to 15.0 kgf·m 102 to 108 lbf·ft
---------------	---

Crankcase 2 flange screw



V2607-CR-E4B	49 to 55 N·m 5.0 to 5.7 kgf·m 37 to 41 lbf·ft
V2607-CR-TE4B	

<p>Crankcase 2 flange screw (9T)</p> 	<p>Muffler flange</p> <p style="text-align: center;">Dummy</p>	<p>Muffler flange</p> <p style="text-align: center;">Dummy</p>			
<p>V3307-CR-TE4B</p>	<p>59 to 63 N·m 6.0 to 6.5 kgf·m 44 to 47 lbf·ft</p>	<p>V2607-CR-E4B</p>	<p>24 to 27 N·m 2.4 to 2.8 kgf·m 18 to 20 lbf·ft</p>	<p>V2607-CR-TE4B</p>	<p>49 to 55 N·m 5.0 to 5.7 kgf·m 37 to 41 lbf·ft</p>
<p>Filter comp (DPF) mounting bracket</p> <p style="text-align: center;">Dummy</p>	<p>Filter comp (DPF) mounting screw</p> <p style="text-align: center;">Dummy</p>				
<p>V2607-CR-E4B</p>	<p>16 to 20 N·m 1.7 to 2.0 kgf·m 12 to 14 lbf·ft</p>	<p>V2607-CR-TE4B</p>	<p>49.0 to 63.7 N·m 5.00 to 6.49 kgf·m 36.2 to 46.9 lbf·ft</p>	<p>V3307-CR-TE4B</p>	

(2) General Tightening Torques

Screw and bolt material grades are shown by numbers punched on the screw and bolt heads.

Prior to tightening, be sure to check out the numbers as shown below.

None or 4 : Standard grade

7 : Special grade

Nominal Diameter	Standard Grade	Special Grade
M6	7.9 to 9.3 N·m 0.80 to 0.95 kgf·m 5.8 to 6.8 lbf·ft	9.81 to 11.2 N·m 1.00 to 1.15 kgf·m 7.24 to 8.31 lbf·ft
M8	18 to 20 N·m 1.8 to 2.1 kgf·m 13 to 15 lbf·ft	24 to 27 N·m 2.4 to 2.8 kgf·m 18 to 20 lbf·ft
M10	40 to 45 N·m 4.0 to 4.6 kgf·m 29 to 33 lbf·ft	49 to 55 N·m 5.0 to 5.7 kgf·m 37 to 41 lbf·ft
M12	63 to 72 N·m 6.4 to 7.4 kgf·m 47 to 53 lbf·ft	78 to 90 N·m 7.9 to 9.2 kgf·m 58 to 66 lbf·ft