WSM

WORKSHOP MANUAL

DIESEL ENGINE

OC60-E2,OC95-E2

Kubota

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CONTENTS

1. ENGINE IDENTIFICATION G-1
[1] MODEL NAME AND ENGINE SERIAL NUMBER G-1
2. GENERAL PRECAUTIONS G-2
3. E2 ENGINE G-3
4. LUBRICANTS, AND FUEL G-4
5. MAINTENANCE CHECK LIST G-5
6. CHECK AND MAINTENANCE G-6
[1] DAILY CHECK G-6
[2] CHECK POINT OF INITIAL 25 HOURS G-7
[3] CHECK POINTS OF EVERY 100 HOURS G-7
[4] CHECK POINT OF EVERY 500 HOURS G-8
[5] CHECK POINT OF EVERY 800 HOURS G-9
[6] CHECK POINTS OF EVERY 1500 HOURS G-9
[7] CHECK POINT OF EVERY 1 YEAR G-10
[8] CHECK POINT OF EVERY 2 YEARS G-10
7. SPECIAL TOOLS G-11

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CONTENTS

1. FEATURE M-1
2. ENGINE BODY M-2
[1] CYLINDER HEAD M-3
[2] CRANK CASE AND CYLINDER LINER M-3
[3] UNAXIAL BALANCER SYSTEM M-3
3. LUBRICATING SYSTEM M-4
[1] GENERAL M-4
[2] OIL STRAINER M-4
[3] OIL PUMP M-5
[4] OIL PRESSURE SWITCH M-5
4. COOLING SYSTEM M-6
[1] GENERAL M-6
[2] OIL COOLER M-6
5. FUEL SYSTEM M-7
[1] GENERAL M-7
[2] INJECTION PUMP M-7
(1) Pump Element M-7
(2) Delivery Valve M-8
[3] INJECTION NOZZLE M-8
[4] FUEL FILTER M-9
[5] GOVERNOR MECHANISM M-10
(1) OC60-E2 ..... M-10
(2) OC95-E2 ..... M-12
6. ELECTRICAL SYSTEM M-15
[1] GENERAL M-15
[2] ALTERNATOR M-17
[3] REGULATOR M-17

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CONTENTS

1. TROUBLESHOOTING S-1
2. SERVICING SPECIFICATIONS S-4
3. TIGHTENING TORQUES S-10
[1] TIGHTENING TORQUES FOR SPECIAL USE SCREWS, BOLTS AND NUTS S-10
[2] TIGHTENING TORQUES FOR GENERAL USE SCREWS, BOLTS AND NUTS S-11
4. CHECKING, DISASSEMBLING AND SERVICING S-12
[1] CHECKING AND ADJUSTING S-12
(1) Engine Body S-12
(2) Lubricating System S-14
(3) Fuel System S-15
(4) Electrical System S-18
[2] DISASSEMBLING AND ASSEMBLING S-23
(1) Draining Engine Oil and Fuel S-23
(2) External Components S-24
(3) Cylinder Head and Valves S-24
(4) Injection Pump and Injection Nozzle S-26
(5) Side Cover S-27
(6) Piston and Connecting Rod S-31
(7) Crankshaft S-32
(8) Speed Control Lever and Governor Lever S-34
(9) Relief Valve S-35
(10) Injection Nozzle S-36
(11) Starter S-37
[3] SARVICING S-41
(1) Clinder Head and Valves S-41
(2) Piston and Connecting Rod S-45
(3) Crankshaft and Camshaft S-47
(4) Oil Pump S-49
(5) Starter S-50

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2. SERVICING SPECIFICATIONS

ENGINE BODY

Item		Factory Specification	Allowable Limit
Cylinder Head Surface Flatness		—	0.05 mm 0.0020 in.
Top Clearance	OC60-E2	0.60 to 0.75 mm 0.0236 to 0.0295 in.	—
	OC95-E2	0.65 to 0.80 mm 0.0256 to 0.0315 in.	—
Cylinder Head Gasket Thickness (Gromet Section)	Free (OC60-E2)	1.05 to 1.20 mm 0.0413 to 0.0472 in.	—
	Free (OC95-E2)	1.35 to 1.55 mm 0.0531 to 0.0610 in.	—
	Tightened (OC60-E2)	0.95 to 1.05 mm 0.0374 to 0.0413 in.	—
	Tightened (OC95-E2)	1.25 to 1.35 mm 0.0492 to 0.0531 in.	—
Compression Pressure		35 to 40 kgf/cm^2 3.43 to 3.92 MPa 498 to 569 psi	25.2 kgf/cm^2 2.47 MPa 358 psi
Valve Clearance (Cold)		0.14 to 0.18 mm 0.0055 to 0.0071 in.	—
Valve Seat Width		2.12 mm 0.0835 in.	—
Valve Seat Angle		45° 0.785 rad	—
Valve Face Angle		45.5° 0.794 rad	—
Valve Recessing		0.60 to 0.85 mm 0.0236 to 0.0335 in.	1.3 mm 0.0512 in.
Clearance Between Valve Stem and Valve Guide	OC60-E2	0.030 to 0.057 mm 0.0012 to 0.0022 in.	0.1 mm 0.0039 in.
	OC95-E2	0.035 to 0.065 mm 0.0014 to 0.0026 in.	0.1 mm 0.0039 in.
Valve Stem O.D.	OC60-E2	5.968 to 5.980 mm 0.2350 to 0.2354 in.	—
	OC95-E2	6.960 to 6.975 mm 0.2740 to 0.2746 in.	—
Valve Guide I.D.	OC60-E2	6.010 to 6.025 mm 0.2366 to 0.2372 in.	—
	OC95-E2	7.010 to 7.025 mm 0.2760 to 0.2766 in.	—

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3. TIGHTENING TORQUES

- Screws, bolts and nuts must be tightened to the specified torque with a torque wrench.
- Several screws and nuts such as those used on the cylinder head must be tightened in proper sequence and to the proper torque.

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[1] TIGHTENING TORQUES FOR SPECIAL USE SCREWS, BOLTS AND NUTS

Item	Size x Pitch	N·m	kgf·m	ft-lbs
**Cylinder head screws (OC60-E2)	M10 x 1.5	51.9 to 56.8	5.3 to 5.8	38.3 to 42.0
**Cylinder head screws (OC95-E2)	M12 x 1.75	68.6 to 73.6	7.0 to 7.5	50.6 to 54.2
**Connecting rod screws (OC60-E2)	M7 x 1.0	18.6 to 21.6	1.9 to 2.2	13.7 to 15.9
**Connecting rod screws (OC95-E2)	M8 x 1.25	27.5 to 30.4	2.8 to 3.1	20.3 to 22.4
*Flywheel nut (OC60-E2)	M20 x 1.5	137 to 157	14 to 16	101 to 116
*Flywheel nut (OC95-E2)	M24 x 1.5	235 to 255	24 to 26	174 to 188
Side cover screws	M8 x 1.25	23.5 to 27.4	2.4 to 2.8	17.4 to 20.3
**Rocker arm bracket mounting nut	M8 x 1.25	23.5 to 27.4	2.4 to 2.8	17.4 to 20.3
Injection pump mounting screw	M6 x 1.0	9.8 to 11.3	1.0 to 1.15	7.2 to 8.3
Injection pump eye joint bolt	M10 x 1.0	14.7 to 19.6	1.5 to 2.0	10.8 to 14.5
Injection pipe retaining nuts	M12 x 1.5	24.5 to 34.3	2.5 to 3.5	18.1 to 25.3
Oil pipe eye joint bolt	M12 x 1.25	24.5 to 29.4	2.5 to 3.0	18.1 to 21.7
Grow plug	M10 x 1.25	19.6 to 24.5	2.0 to 2.5	14.5 to 18.1
Nozzle holder mounting nuts	M8 x 1.25	13.72 to 17.6	1.4 to 1.8	10.1 to 13.0
Oil switch taper screw	PT1/8	14.7 to 19.6	1.5 to 2.0	10.8 to 14.5
Exhaust manifold mounting nuts	M8 x 1.25	23.5 to 27.4	2.4 to 2.8	17.4 to 20.3

* Apply Molycoat oil to the threads of the nuts marked "*" and tighten them up.
** Apply enough engine oil to the threads and bearing surface of the bolts and nuts marked "**" and tighten them up.

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(4) Electrical System

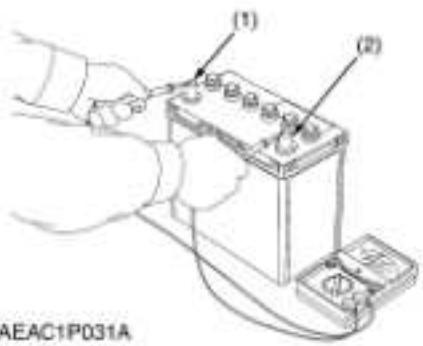
CAUTION

- **To avoid accidental short circuit, be sure to attach the positive cable to the positive terminal before the negative cable is attached to the negative terminal.**
- **Never remove the battery cap while the engine is running.**
- **Keep electrolyte away from eyes, hands and clothes. If you are spattered with it, wash it away completely with water immediately.**
- **Keep open sparks and flames away from the battery at all times. Hydrogen gas mixed with oxygen becomes very explosive.**

■ IMPORTANT

- **If the machine is to be operated for a short time without battery (using a slave battery for starting), use additional current (lights) while engine is running and insulate terminal of battery. If this advice is disregarded, damage to alternator and regulator may result.**

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Battery Voltage

1. Stop the engine.
2. Measure the voltage with a circuit tester between the battery terminals.
3. If the battery voltage is less than the factory specification, check the battery specific gravity and recharge the battery.

Battery Voltage	Factory spec.	More than 12V

(1) Positive Terminal (2) Negative Terminal

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