



**WORKSHOP MANUAL  
DIESEL ENGINE**

**V2203-DI-B**

97897-01082

Reprinted

**Kubota**

## TO THE READER

This Workshop Manual has been prepared to provide servicing personnel with information on the service and maintenance of KUBOTA Diesel Engine V2203DI-B.

### ■ Disassembling and Servicing

The heading "General" includes general precautions, check and maintenance and special tools. For each engines section, there are troubleshooting, servicing specification lists, checking and adjusting, disassembling and assembling, and servicing which cover procedures, precautions, factory specifications and allowable limits.

All information, illustrations and specifications contained in this manual are based on the latest production information available at the time of publication.

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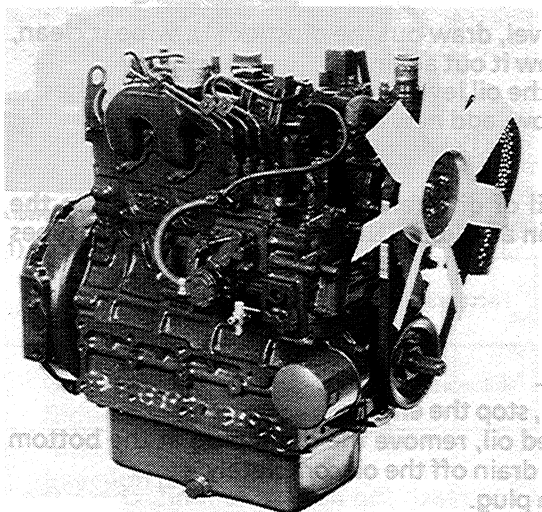


**[1] SPECIFICATIONS**

Model		V2203-DI-B
Type		Vertical, water-cooled, 4 cycle diesel engine
Number of cylinders		4
Bore x stroke		87 x 92.4 mm (3.43 x 3.64 in.)
Total displacement		2197 cc (134.1 cu.in.)
Brake Horsepower	DIN 6270-NB	44.5 PS/2800 rpm
	SAE intermittent H.P.	46.0 HP/2800 rpm
Maximum speed		Below 3050 rpm
Idling speed		850 to 950 rpm
Combustion chamber		Direct injection
Injection pump		Bosch "K" type mini pump
Governor		Centrifugal ball mechanical governor
Injection nozzle		Pencil type
Injection timing		B T D C 17.0° to B T D C 19.0°
Firing order		1-3-4-2
Injection pressure		22.4 to 23.4 MPa (228.5 to 239.0 kgf/cm <sup>2</sup> 3249.9 to 3399.2 psi)
Compression ratio		19 : 1
Lubricating system		Forced lubrication by pump
Oil pressure indication		Electrical type switch
Lubricating filter		Full flow paper filter (Cartridge type)
Cooling system		Pressurized radiator, Forced circulation with water pump
Starting system		Electric starting with starter motor
		12 V/2.0 kW
Alternator for charging		12 V, 420 W
Starting support device		By glow plug in combustion chamber
Fuel		Diesel fuel No.2-D (ASTM D975)
Lubricating oil		Military specification MIL-L-2104C or API service CC class, above 25°C (77°F) SAE 30, 0°C to 25°C (32°F to 77°F) SAE20, below 0°C (32°F) SAE 10W-30
Lubricating oil capacity		7.6 ℓ-8.03 U.S. qts-6.69 Imp. qts (Oil pan depth is 90 mm-3.54 in)
		9.8 ℓ-10.34 U.S. qts-8.62 Imp. qts (Oil pan depth is 124 mm-4.88 in)
Weight (Dry)		179.6 kg (396.0 lbs)

## [2] GENERAL

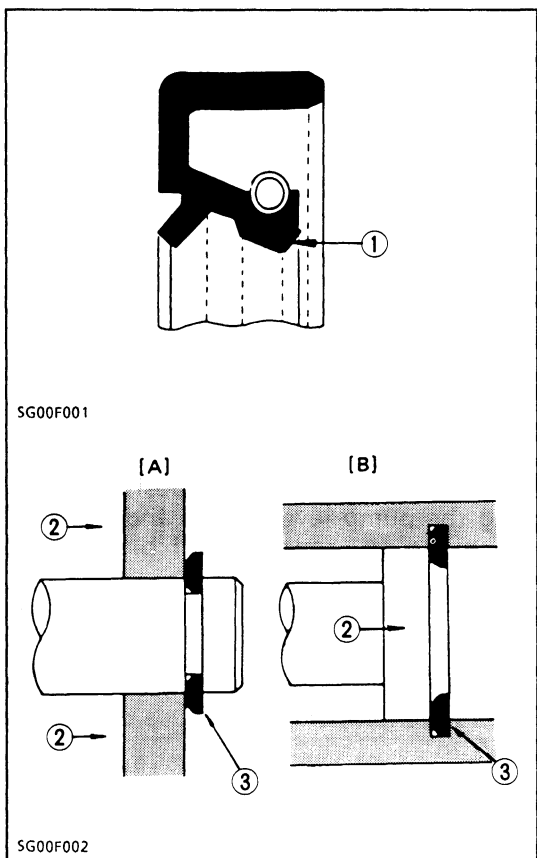
### (1) Engine Identification



A108P001

- When contacting the manufacturer, always, specify your engine model name and serial number.
- The serial number is given in order from cylinder block.

### (2) General Precaution



SG00F001

SG00F002

- During disassembly, carefully arrange removed parts in a clean area to prevent confusion later. Screws and nuts should be installed in their original position to prevent reassembly errors.
- When special tools are required, use genuine special tools. Special tools which are not frequently used should be made according to the drawings provided.
- Before disassembling or servicing electrical wires, always disconnect the ground cable from the battery first.
- Remove oil and dirt from parts before measuring.
- Use only genuine parts for parts replacement to maintain engine performance and to assure safety.
- Gaskets and O-rings must be replaced during reassembly. Apply grease to new O-rings or oil seals before assembling. See the figure left.
- When reassembling external snap rings or internal snap rings, they must be positioned so that sharp edge faces against the direction from which a force is applied. See the figure left.

- (1) Grease
- (2) Force
- (3) Place the Sharp Edge against the Direction of Force

- [A] External Snap Ring
- [B] Internal Snap Ring