

SHOP MANUAL

4D104E SERIES S4D104E SERIES DIESEL ENGINE

ENGINE	MACHINE MODEL
SERIE 4D104E-1	WH609-1 - WH613-1
SERIE S4D104E-1	WH609-1 - WH613-1 WH713-1 - WH714-1 WH714H-1 - WH716-1
SERIE 4D104E-2	WB91R-5
SERIE S4D104E-3	WB93R-5 - WB93S-5 WH97R-5 - WB97S-5



CONTENT OF SECTIONS

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PREFACE TO USER'S GUIDELINE MANUAL

Section 1 describes the NEF engine illustrating its features and working in general.

Section 2 describes the type of fuel feed.

Section 3 relates to the specific duty and is divided in four separate parts:

1. Mechanical part, related to the engine overhaul, limited to those components with different characteristics based on the relating specific duty.
2. Electrical part, concerning wiring harness, electrical and electronic equipment with different characteristics based on the relating specific duty.
3. Maintenance planning and specific overhaul.
4. Troubleshooting part dedicated to the operators who, being entitled to provide technical assistance, shall have simple and direct instructions to identify the cause of the major inconveniences.

Sections 4 and 5 illustrate the overhaul operations of the engine overhaul on stand and the necessary equipment to execute such operations.

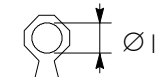
Installation general prescriptions are reported within the appendix.

The appendix reports general safety prescriptions to be followed by all operators whether being in-charge of installation or maintenance, in order to avoid serious injury.

SPECIAL REMARKS

Where possible, the same sequence of procedures has been followed for easy reference.
Diagrams and symbols have been widely used to give a clearer and more immediate illustration of the subject being dealt with, (see next page) instead of giving descriptions of some operations or procedures.

Example




































$\varnothing 1$ = housing for connecting rod small end bush

$\varnothing 2$ = housing for connecting rod bearings



Tighten to torque
Tighten to torque + angular value

Graph and symbols

	Removal Disconnection		Intake
	Refitting Connection		Exhaust
	Removal Disassembly		Operation
	Fitting in place Assembly	ϱ	Compression ratio
	Tighten to torque		Tolerance Weight difference
	Tighten to torque + angle value		Rolling torque
	Press or caulk		Replacement Original spare parts
	Regulation Adjustment		Rotation
	Warning Note		Angle Angular value
	Visual inspection Fitting position check		Preload
	Measurement Value to find Check		Number of revolutions
	Equipment		Temperature
	Surface for machining Machine finish		Pressure
	Interference Strained assembly	$>$	Oversized Higher than.... Maximum, peak
	Thickness Clearance	$<$	Undersized Less than.... Minimum
	Lubrication Damp Grease		Selection Classes Oversizing
	Sealant Adhesive		Temperature < 0 °C Cold Winter
	Air bleeding		Temperature > 0 °C Hot Summer

UPDATING

Section	Description	Page	Date of revision

SECTION I

General Specifications

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Komatsu Engine 4d104e S4d104e Shop Manual Webmnef000

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