# CASE Engines 445/M2, 445T/M2 and 668T/M2

Service Manual

Bur 6-74500NA



## CASE ENGINES 445/M2 445T/M2 668T/M2

## SERVICE MANUAL

Part Number: 6-74500

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#### PREFACE TO USER'S GUIDELINE MANUAL

Section I describes the 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:

I. 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.

Such prescriptions shall be strictly followed by the operators in-charge of installation to avoid incorrect working as well as serious failures which may reduce performance and life of the engine.

Furthermore, 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.

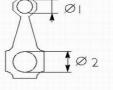
ENGINES

#### 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

 $\emptyset$  I = housing for connecting rod small end bush



 $\emptyset$  2 = housing for connecting rod bearings



Tighten to torque Tighten to torque + angular value

+	Removal	-	
	Disconnection	Ľ∑.	Intake
	Refitting Connection	≽⊡	Exhaust
	Removal Disassembly	心心	Operation
	Fitting in place Assembly	Q	Compression ratio
$\bigcirc$	Tighten to torque		Tolerance Weight difference
$\widehat{\mathbb{Q}}_{a}$	Tighten to torque + angle value		Rolling torque
••	Press or caulk		
₿€₽	Regulation Adjustment		Rotation
	Warning Note		Angle Angular value
	Visual inspection Fitting position check	Ţ	Preload
Ŧ	Measurement Value to find Check	(AND )	Number of revolutions
R	Equipment		Temperature
24	Surface for machining Machine finish	bar	Pressure
Ś	Interference Strained assembly	>	Oversized Higher than Maximum, peak
	Thickness Clearance	<	Undersized Less than Minimum
$\sum_{o}$	Lubrication Damp Grease		Selection Classes Oversizing
D	Sealant Adhesive		Temperature < 0 °C Cold Winter
	Air bleeding		Temperature > 0 °C Hot

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#### UPDATING

SECTION	DESCRIPTION	PAGE	DATE OF REVISION
		College Internet in College in College Internet	

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## ENGINES

#### **G**eneral information

Thanks to a centenary engine tradition as well as to a continuous research and development process focused on product advancement, E.B.U. is able to ensure the highest level of versatility and efficiency on the market.

The new range of engines is the result of a project originated by the partnership among some of the most important sector manufacturers in the World to meet the expectations of the customer and comply with the new European regulations ruling preservation of the environment.

In addition to their better performances in terms of stout, power, efficiency, reliability and life, these engines comply not only with the anti-pollution Euro 3 regulations and the relevant prescriptions for noise limit allowed but will also meet the prescriptions of the future more severe specifications with no need of substantial modifications.

The improvement of the above mentioned features has been possible thanks to the utilisation of new materials, new technologies and technical solutions such as: cylinder head with two-four valves per cylinder, induction and exhaust manifolds improving the dynamic flow of air as well as of exhaust emissions, and pistons with new shaped combustion chamber.

Furthermore, the reliability and cost reduction has been enhanced reducing the number of components and utilising the same parts not only for engines destined to road engine applications but also for the most different purposes such as marine and station engines.

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