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# **NEF ENGINES**

**Mechanical Injection** 

- Industrial applications

**Technical and Repair manual** 

This publication provides the features, data and correct method of repair operations that can be performed on every single component of the engine.

Following the instructions given and using the special tools will ensure correct repairing, within the scheduled times, while also protecting operators against possible accidents.

Before starting any repair work, make sure that all accident-prevention equipment is close at hand and in efficient conditions.

Therefore, check and wear the items specified by the rules of safety: goggles, helmet, gloves, shoes.

Before use, check all the working, hoisting and handling equipment.

The possibility exists that the information given in this manual may not be up to date as a result of modifications adopted by the Manufacturer at any time for reasons of a technical or commercial nature or to adjust to the laws in force in the different Countries.

The reproduction, even only in part, of the text and illustrations is forbidden.

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#### PREFACE TO USER'S GUIDELINE MANUAL

Section I 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:

- 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.

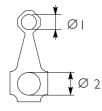
The appendix reports general safety prescriptions to be followed by all operators whether being in-charge of installation or maintenance, in order to avoid serious injury.

#### **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



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





Tighten to torque + angular value

# **Graph and symbols**

|          | nd symbols                                  |  |   |
|----------|---|--|---|
|          | Removal<br>Disconnection                    |  | Intake                                    |
| •        | Refitting<br>Connection                     |  | Exhaust                                   |
|          | Removal<br>Disassembly                      | $\begin{array}{c} \\ \\ \\ \\ \\ \\ \end{array}$ | Operation                                 |
|          | Fitting in place<br>Assembly                | Q  | Compression ratio                         |
|          | Tighten to torque                           | •  | Tolerance<br>Weight difference            |
|          | Tighten to torque + angle value             |  | Rolling torque                            |
| •        | Press or caulk                              | IVECO  | Replacement<br>Original spare parts       |
| 848      | Regulation<br>Adjustment                    |  | Rotation                                  |
| <u> </u> | Warning<br>Note                             |  | Angle<br>Angular value                    |
|          | Visual inspection<br>Fitting position check |  | Preload                                   |
|          | Measurement<br>Value to find<br>Check       |  | Number of revolutions                     |
| P        | Equipment                                   |  | Temperature                               |
| 24       | Surface for machining<br>Machine finish     | bar  | Pressure                                  |
| \$       | Interference<br>Strained assembly           | >  | Oversized<br>Higher than<br>Maximum, peak |
|          | Thickness<br>Clearance                      | <  | Undersized<br>Less than<br>Minimum        |
|          | Lubrication<br>Damp<br>Grease               | $\blacksquare$                                   | Selection<br>Classes<br>Oversizing        |
|          | Sealant<br>Adhesive                         |  | Temperature < 0 °C<br>Cold<br>Winter      |
| 00       | Air bleeding                                | <b>(</b>   | Temperature > 0 °C<br>Hot<br>Summer       |
|          |   |  |   |

## **UPDATING**

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### SECTION I

## **General Specifications**

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