LAFERTGROUP
Member of Sumitomo Drive Technologies

LIFT MOTORS

SYNCHRONOUS GEARLESS MACHINES
T32S-T32-T32L

BEARINGS REPLACEMENT MANUAL

3012/21-EN

CONTENTS

The operating instructions in this manual refer to T32S, T32, T32L gearless traction machines.

LAFERT S.p.A. reserves the right to amend or change the contents of this manual and product details without prior notice.

LAFERT S.p.A. reserves the right to make technical changes improving the product's performance and safety standards without prior notice.

1. SAFETY RULES

1.1 GENERAL SAFETY INSTRUCTIONS

This section explains the symbols used in this manual to describe the possible consequences of failure to observe the safety rules.

Symbols used in this manual

This symbol means that failure to follow the relative instructions or to take the necessary precautions may lead to death or serious injuries to persons and irreversible damage to property.

This symbol means that failure to follow the relative instructions or to take the necessary precautions may lead to death or serious injuries to persons and irreversible damage to property.

This symbol means that failure to follow the relative instructions or to take the necessary precautions may lead to damage to property.

This symbol means that the relative instructions are important for the correct use of the product and that failure to follow them may lead to serious damage.

This symbol means that failure to follow the relative instructions or to take the necessary precautions may lead to death or serious injuries to persons.

1.2 SAFETY PRECAUTIONS

Low voltage electric machines include dangerous rotating and conductive parts. Their surface may be very hot. All installation, maintenance and repair procedures must be carried out by qualified personnel only, and checked by responsible experts (in compliance with the VDE 0105 and IEC 364).

Serious personal injuries and/or property damages may result due to the improper use of such machines.

2. MOTOR DISASSEMBLY

Before starting with any procedure, please make sure that the machine is not powered and may not be inserted again. Please, disconnect the motor from the main.

Please, refer to the Figure 1 to disassemble the pulley and endshield as follows:

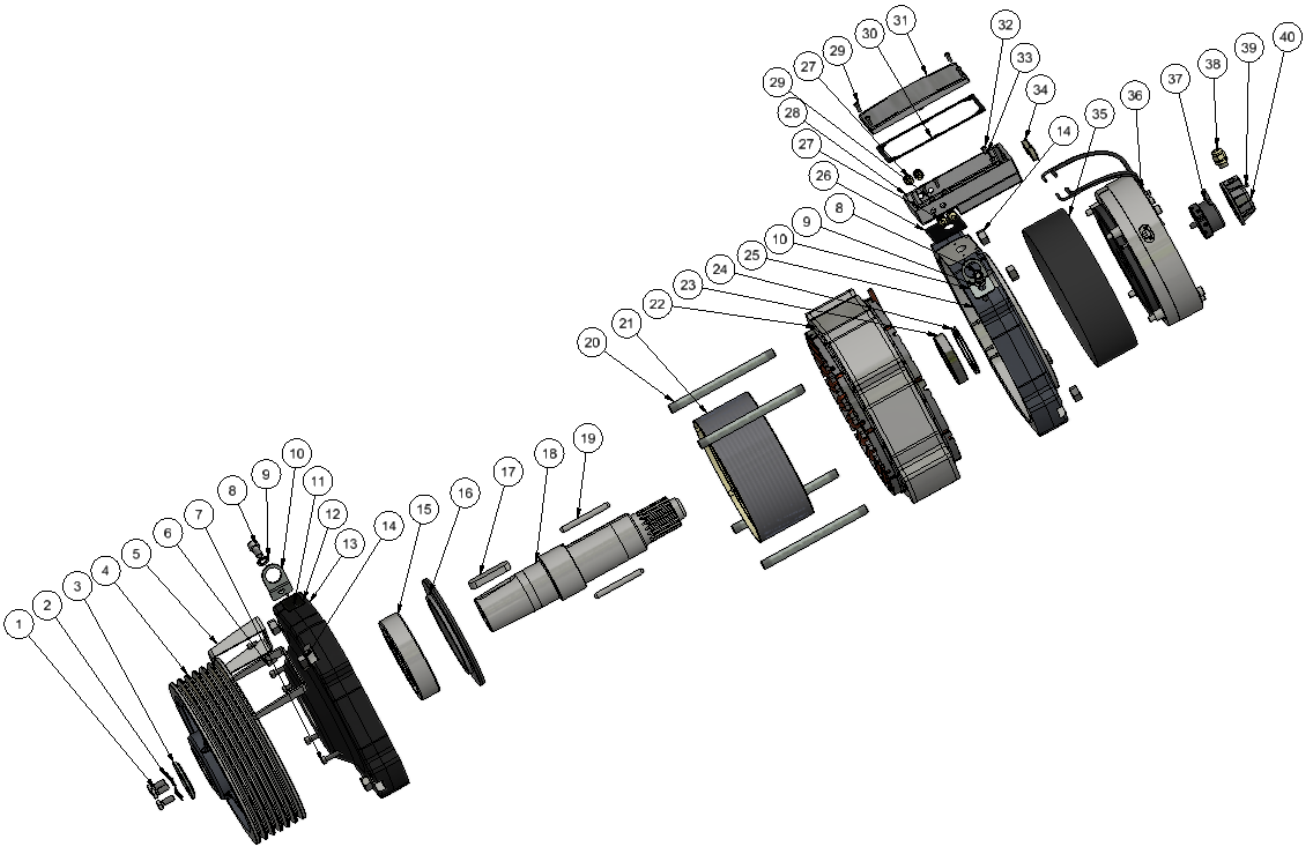
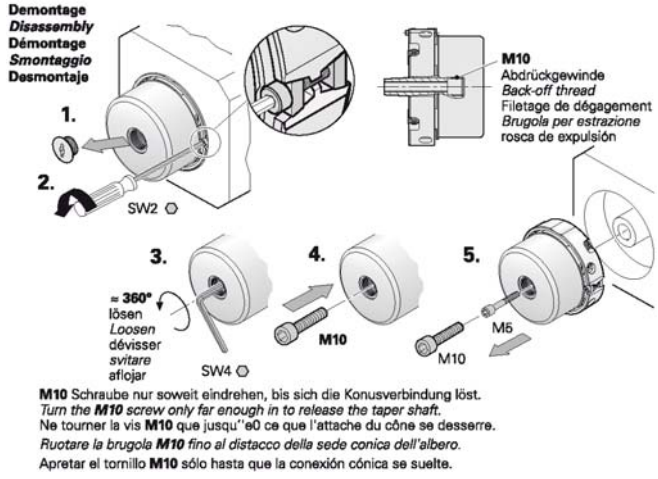


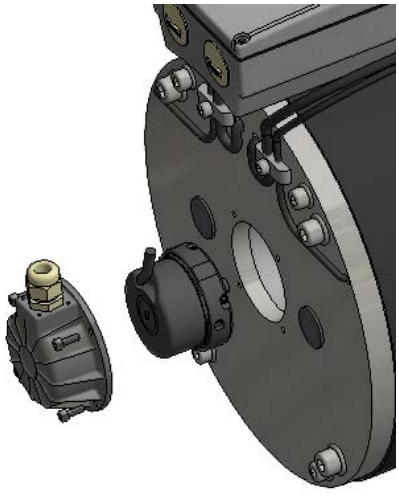
Fig.1

2.1. ENCODER DISASSEMBLY

In order to prevent the encoder damage, during the motor disassembly, is strongly recommended to dismounting the encoder. When dismounting or installing a new encoder, the offset value needs to be adjusted with a specific procedure that depends on the type of inverter.

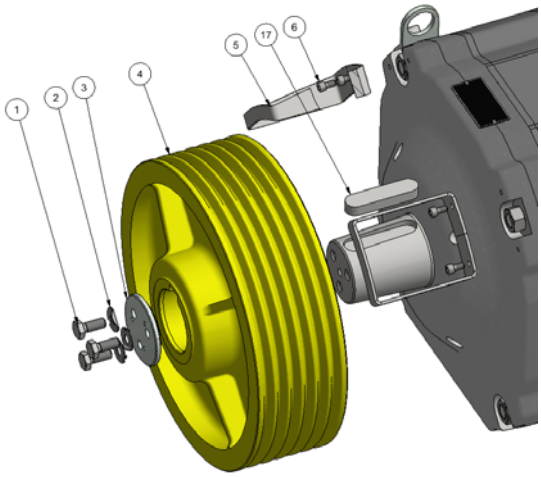
The encoder can be accessed only from the back of the machine.
To gain access to the encoder housing, unscrew the cable gland on the plastic protective cover through which the cable passes and remove the cover.
The encoder cable is fixed to the encoder and cannot be detached from the encoder.
Loosen the screw that holds the encoder retaining ring and remove the screw that functions as a protection cap (steps 1 in the figure below).
Carry out steps 2, 3, 4 and 5 as shown in the figure below.





2.2. PULLEY DISASSEMBLY

- Remove the rope holder Pos. 5 unscrewing the 4 screws Pos. 6
- Straighten the 3 safety washers Pos. 2
- Completely unscrew the 3 bolts Pos. 1
- Remove the washer Pos. 3
- Remove the pulley with an appropriate extractor, taking care not to damage the grooves
- Remove the key Pos. 17

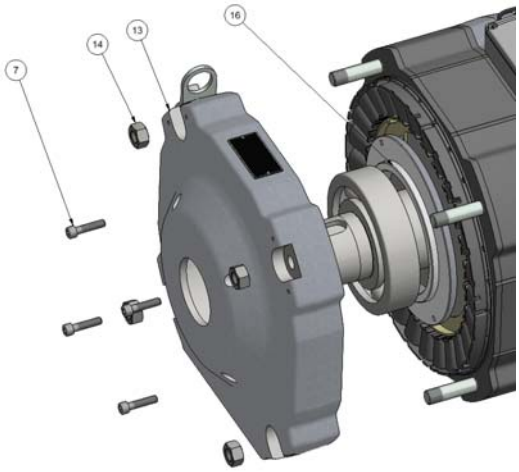


Caution

NB: if it is damaged during the removal it must be replaced

2.3. ENDSHIELD DISASSEMBLY

- Unscrew the 4 screws Pos. 7
- Unscrew the 4 nuts Pos. 14
- Remove the shield Pos. 13 taking care not to remove or move the rotor.



Caution

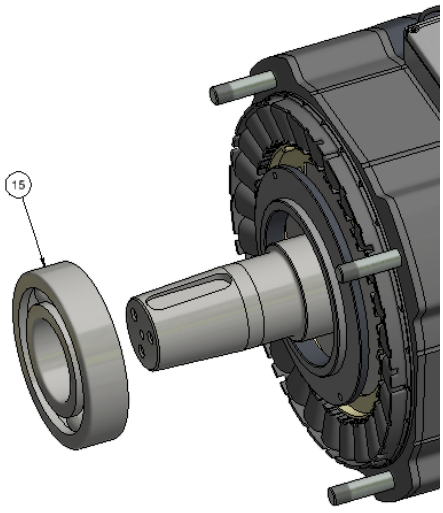
IF THE ROTOR CRAWLED ON THE STATOR YOU COULD DAMAGE IRREPARABLY IT

PAY ATTENTION TO DO NOT ENTER DIRT OR METAL RESIDUES INSIDE THE ENGINE

2.4. BEARING DISASSEMBLY

Caution

Before disassembling bearings, please check that the inner ring of the bearing is still well fixed to the shaft. If the ring moves, this means that the shaft is damaged and the rotor needs to be replaced.



- Remove the bearings Pos. 15 by using the appropriate tools, as shown in the Figure 2.
- Never hit the bearing with a hammer! Figure 3.
- While pulling out, the bearing has to show good to high resistance. If the bearing can be removed by hand or shows very low resistance, this means that the seating is damaged and the rotor has to be replaced.

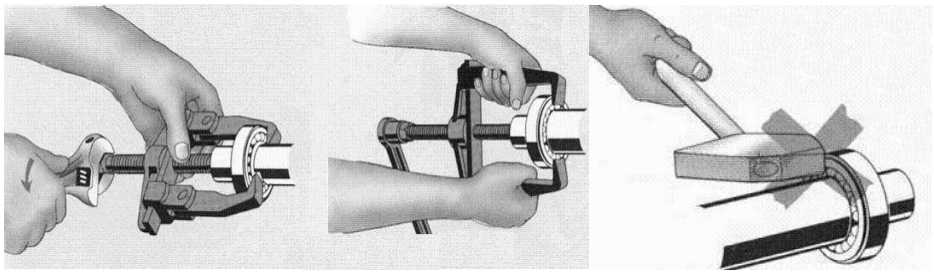


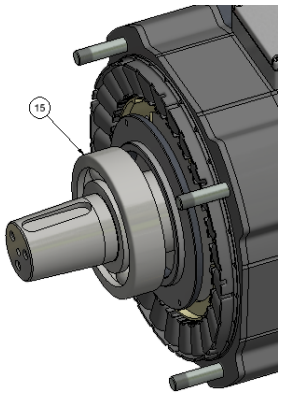
Fig. 2

Fig. 3

3. MOTOR ASSEMBLY

Caution

Before starting with any procedure, please make sure that the rotor and other components are completely clean



3.1. BEARING ASSEMBLY

Heating the bearing at 70 °C approximately.
Couple the bearing Pos. 45 with the shaft, make sure it is in contact with the shaft shoulder.

Caution

Take care, very hot components, use protective gloves

3.2. ENDSHIELD ASSEMBLY

- Screw 2 M8 tie rod Pos. 16.1 in the bearing flange Pos. 13 for helping the assembly bearing flange in the endshield as per Figure 4

Note

We recommend heating the bearing seat to 100° before assembling the endshield to facilitate the insertion of the bearing

- Assembly the endshield as per Figure 5
- Put e little quantity of Loctite 243 in the thread of 4 tie rods M16
- Close the 4 nuts at 150 Nm
- Screw the 2 screw Pos. 7 in the 2 free holes (using Loctite 243) as per Fig 5 until they begin to resist
- Remove the 2 tie rods used for the mounting
- Screw the other 2 screws (using Loctite 243) Pos. 7 as per Figure 6 until they begin to resist
- Definitively close the 4 screws at 20 Nm

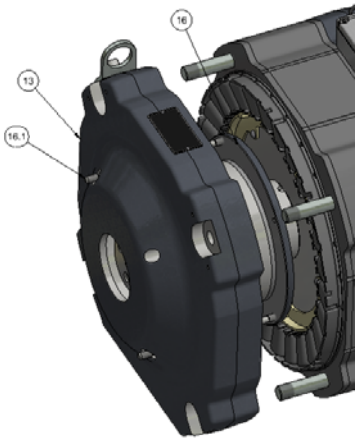


Fig. 4

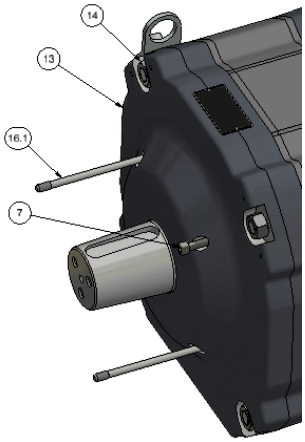


Fig. 5

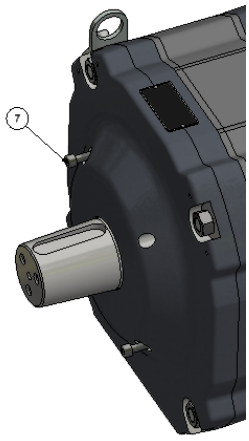


Fig. 6

3.3. ENCODER ASSEMBLY

Reassembly the encoder following the instructions in the Figure 7

Caution

When dismounting or installing a new encoder, the offset value needs to be adjusted with a specific procedure that depends on the type of inverter.

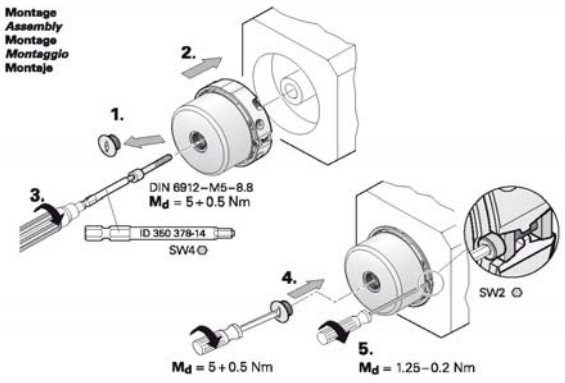


Fig. 7

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