WX145
WX165
WX185

HYDRAULIC EXCAVATOR

Service manual

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SUMMARY

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SAFETY INSTRUCTIONS	SECTION 1
TECHNICAL DATA AND SPECIAL TOOLS	SECTION 2
MACHINE STRUCTURE	SECTION 3
ELECTRICAL SYSTEM	SECTION 4
ELECTRONICS	SECTION 5
HYDRAULICS	SECTION 6
TROUBLESHOOTING AND REPAIR	SECTION 7
REPAIR INSTRUCTIONS	SECTION 8

Service manual

Section 1 Safety Instructions

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9-91221

Table of contents

PREFACE 6

To the reader 6
Handling 6
Repair 6
Further information material 6

Warnings and symbols 7

Risks resulting from failure to observe the safety instructions 7

SAFETY INSTRUCTIONS 8

Personal safety instructions 8
Observe the safety instructions 8
Protection from noise 8
Preparing for emergencies 8
Wearing protective clothing 9

Safety instructions before starting work 10
Checking the machine 10
Keeping the working area clean 10
Using grab handles and steps 11
Adjusting the operator's seat 11
Applying the safety belt 12

Working from the operator's seat only 12

Never take passengers on the machine 12

Safety instructions for machine operation 13
Before setting off 13
Note the position of the working equipment 13

Taking care during operation 13
Taking care when trenching 14

Distance from overhead power lines 14
Accident Prevention when reversing and slewing 15
Rules for driving on the road 16
Recovering and towing the machine 16
Travelling uphill and downhill 17
Preventing the machine from overturning 18
Inspecting the deployment location 18
Parking the machine safely 19
Preventing accidents when the machine is moving 19
Confirming the direction of machine travel 19
Avoid caving out high banks 20
Protection from rockfall and landslides 20
Caving prevention 21
Never move the bucket above persons 21

Safety instructions, maintenance/servicing 22
Safety during transport 22
Safety during servicing operations 23
Warning instructions for servicing work 24
Correct machine support 24
Working at greater heights 25
Keeping clear of moving parts 25
Prestressed units 26
Never remove lead seals 26
Safety instructions for accumulators 26
Dismantling components 27
After repair work 27
Correct waste disposal 27
Welding operations 28
Starting the engine with starter batteries 29
Prevention of acid-induced burns 29
Prevention of scalding 30
Safe handling of fluids 30
Fire prevention 31
Evacuation in case of fire 32
Risks from exhaust gases 32
Risks from fluids in pressure systems 33
Preventing heat build-up close to pressure systems 34
Preventing heat build-up in lines carrying combustible fluids 34
Removing paint before welding 35
Risks from breaking-away components 36
Use appropriate tools 36

Warning and instruction signs (mono-boom) 38

Warning and instruction signs (boom adjusting equipment) 42

Warning and instruction signs (mono-boom) 46

Warning and instruction signs (boom adjusting equipment) 50

Organizational measures 54
Safety instructions governing specific operational phases 55
Standard operation 55
Warning of special dangers 57
Electric energy 57
Gas, dust, steam and smoke 57
Hydraulic and pneumatic equipment 58
Noise 58
Oil, grease and other chemical substances 58
Transporting and towing; recommissioning 58

PREFACE

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To the reader

The Technical Manual (TM) has been written for the **repair specialist**. It provides important information on carrying out repair work expertly.

Please go carefully through the **Technical Manual** as well as the Owner's Manual for the **hydraulic excavator** before starting any repair work. Use the **Technical Manual** as well as the **Owner's Manual** and **spare-parts list** as a reference book and source of information even if you are familiar with hydraulic excavator technology.

Using the Technical Manual, the experienced construction machine mechanic can carry out any necessary repairs expertly.

Handling

The Technical Manual is divided into eight sections and covers the originally delivered version of the machine. Any additions or modifications undertaken at a later date are not described in this manual.

- Introduction
- Safety Instructions
- Technical Data and Special Tools
- Description of Functioning
- Performance Testing
- Troubleshooting
- Repair Instructions
- Annex

The **Safety Instructions** section describes the recommended procedures to be observed in order to prevent any risk of accidents to the operator and to the personnel responsible for the works and for machine servicing measures.

The **Description of Functioning** section provides technical information on operating the main devices and systems.

The **Technical Data and Special Tools** section lists service data, conversion tables and special tools and servicing materials required.

The **Performance Testing** section gives the information required for carrying out performance testing.

The **Troubleshooting** section contains information on detecting faults in the machine.

The **Repair Instructions** section gives the technical information needed to carry out servicing and repair work on the machine, describes the equipment needed for servicing works, and provides information on maintenance standards, removal and installation procedures, and dismantling and assembly procedures.

The required information can easily be found by referring to the table of contents.

For reasons of clarity, some of the illustrations are presented in simplified form. Differences from the actual version at the hydraulic excavator are therefore possible if this adds to the clarity of the information.

Repair

Carry out any necessary repair work as soon as possible. This reduces repair costs and increases the availability of your hydraulic excavator.

When doing any work on the hydraulic excavator, always observe the instructions given in the Technical Manual and in the Owner's Manual.

Extensive works not described in the Technical Manual will gladly be executed for you by the O&K after-sales service.

Always use **original spare parts** only.

Further information material

Please consult the following documents in addition to this Manual:

- Owner's Manual
- Spare-parts catalogue

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Warnings and symbols

The following signs are used in the Technical Manual to designate exceptionally important information:



Precautionary rules and measures designed to protect the operator and other persons from life-threatening hazards or injury and to prevent extensive damage to property.



Information and precautionary measures designed to prevent damage to the machine and other property.

□

Risks resulting from failure to observe the safety instructions



This hydraulic excavator has been built in accordance with state-of-the-art standards and recognized safety regulations.

Nevertheless, its use may constitute a risk if it continues to be operated despite damage being suspected or having occurred, or if it is inexpertly repaired.

There is then a risk of

- **life-threatening injury**
- **irreparable damage to the machine and other assets.**

The hydraulic excavator must be stopped immediately if suspected damage or damage that has occurred affects the safety of the operator, other persons at the excavator deployment site, or other assets. All components are carefully coordinated. Trouble-free operation and a long service life are assured only if original spare parts are used.

SAFETY INSTRUCTIONS

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Personal safety instructions

Observe the safety instructions



- **Read carefully through all safety instructions attached to the machine and observe them; read all safety instructions in this manual in addition.**
- **Safety instruction stickers/plates must be affixed, maintained and replaced when necessary.**
- **If a safety instruction sticker/plate or this manual is damaged or missing, obtain a replacement from your dealer. The procedure is the same as when ordering spare parts (it is essential to quote the machine type and the serial number).**
- **Familiarize yourself with the correct, safety-oriented procedure for operating the machine and its control elements.**
- **Allow only trained, qualified and authorized persons to operate the machine.**
- **Keep the machine in good working order.**
- **Unauthorized modifications to the machine may affect its efficiency and/or safety and reduce its service life.**
- **The instructions given in this Safety Instructions section are designed to show the fundamental safety procedures for the machine. However, they cannot cover all hazardous situations with which you may be confronted. If in doubt, consult your immediate superior before operating the machine or carrying out servicing work.**

Protection from noise



Sustained effects of noise may lead to impaired hearing or deafness.

Wear appropriate ear protectors such as earplugs or muffs for protection from disturbing or intolerable noise.

Preparing for emergencies



Be prepared for the event of a fire breaking out or an accident occurring.

Keep the first-aid box and the fire extinguisher readily accessible at all times.

Read the instructions for operating the fire extinguisher and learn how to use it properly.

Stipulate emergency procedures for the event of fire or accidents.

Keep the emergency numbers of doctors, emergency services, hospitals and the fire service in the immediate vicinity of the phone.

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Warning and instruction signs (mono-boom) (Page 1 of 2)

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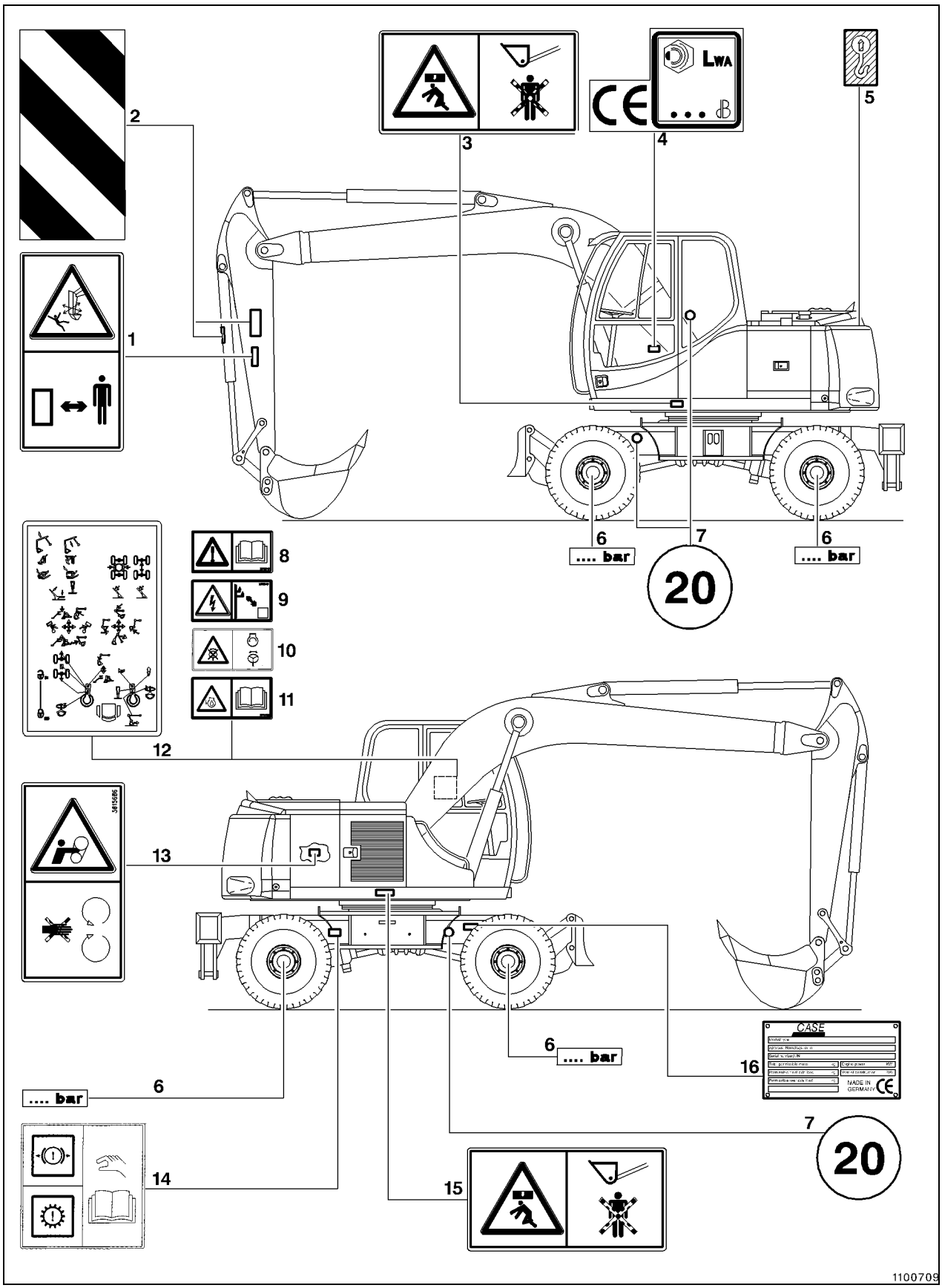


Fig. 1

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Observe the warning and instruction signs attached to the machine.

Keep the signs clean and legible.

Replace the signs immediately if they are no longer legible.

New warning and instruction signs can be obtained from our spare-parts service. The part no. For ordering is set out in the spare-parts list of your machine.

Legend of Fig. 1

1. **Risk of injury** from moving parts of the working equipment. Move the working equipment only after all persons have left the hazard zone.
2. This sign indicates that the working equipment reaches far out over the machine and that it can be moved without moving the machine.
3. **Risk of injury** from falling loads or moving parts of the working equipment. Do not stand under suspended loads or under the working equipment.
4. The CE mark indicates that this machine has been built in compliance with the European directives concerning the safety of machines.

   L_{WA} indicates the level of noise emissions in dB_A (acc. To standard 2000/14/EC).
5. Lifting gear can be attached here when parts of the machine are to be removed.
6. This sign specifies the prescribed air pressure.
7. This signs states the admissible maximum speed for travelling on public roads.
8. Do not put the machine into operation unless you have read and understood the operating instructions.
9. **Risk of injury** from electric current. Keep the following distances from live wires:

   up to 1000 V (1 kV) = 1 meter,

   from 1 kV to 110 kV = 3 meters,

   from 110 kV to 220 kV = 4 meters,

   from 220 kV to 380 kV = 5 meters,

   unknown voltage = 5 meters.
10. The steering works only when the engine is running.
11. Check the oil level in the engine before putting the machine into operation.
12. This signs shows all control levers and pedals and the movements of the working equipment and the travelling gear initiated with these elements. Observe also the information set out in the operating instructions.
13. **Risk of injury** from hot or rotating parts in the engine compartment. Open the hood of the engine compartment only after the engine is stationary.
14. Emergency operation for slewing drive and parking brake. For detailed information refer to the operating instructions.
15. **Risk of injury** from falling loads or moving parts of the working equipment. Do not stand under suspended loads or under the working equipment.
16. Type rating plate of the machine.

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Warning and instruction signs (mono-boom) (Page 2 of 2)

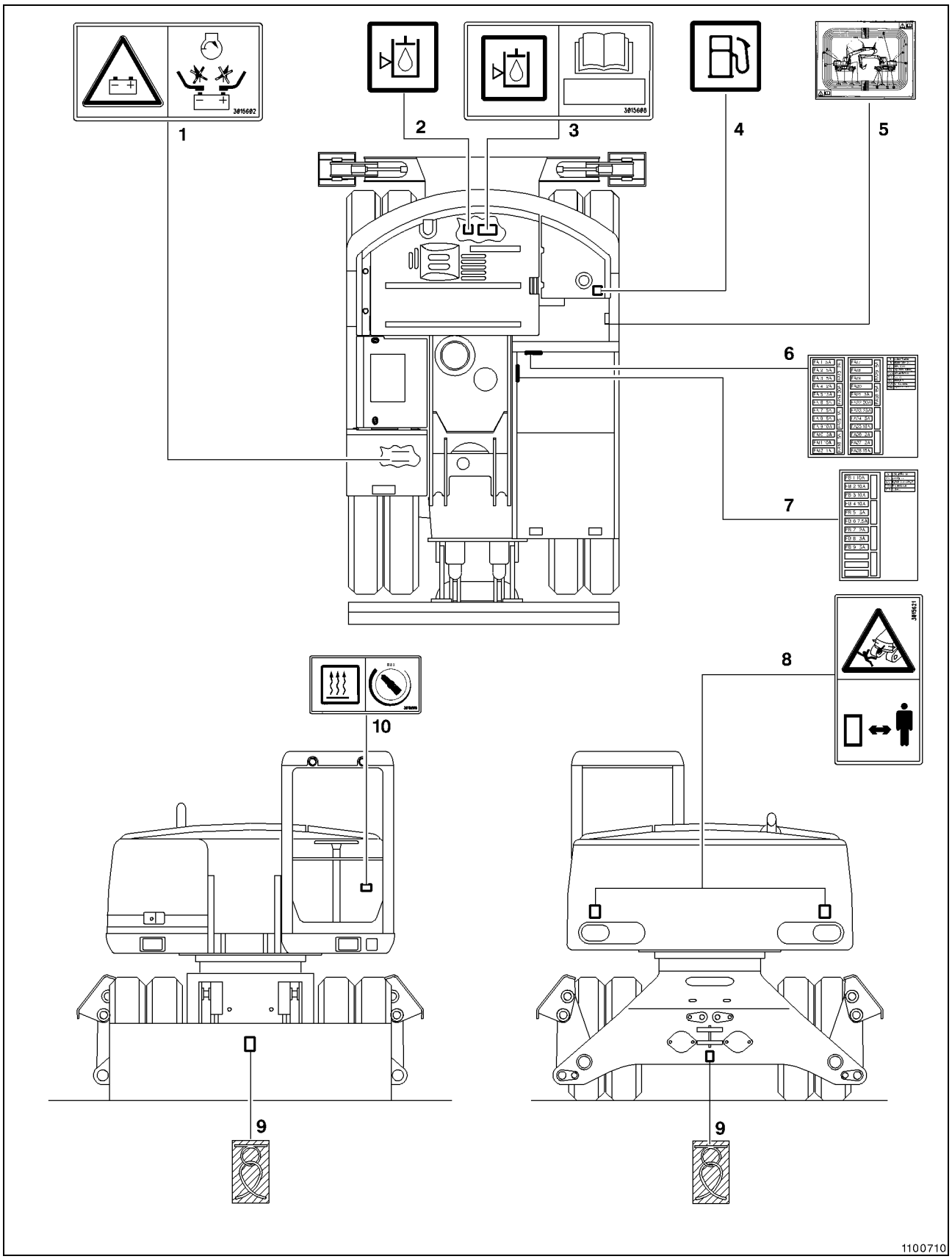


Fig. 2

➔

Observe the warning and instruction signs attached to the machine.

Keep the signs clean and legible.

Replace the signs immediately if they are no longer legible.

New warning and instruction signs can be obtained from our spare-parts service. The part no. for ordering is set out in the spare-parts list of your machine.

Legend of Fig. 2

1. Alternator, regulator and electronic modules may be **damaged**, if the batteries are disconnected with the engine running. The engine must therefore be shut off before the batteries are disconnected and removed.
2. Hydraulic oil reservoir.
3. Hydraulic oil reservoir. Observe the operating instructions. The reservoir is filled with a special hydraulic fluid (option).
4. Fuel tank.
5. This sign shows the layout of the machine points to be regularly greased. The sign states also the change intervals for consumables and filters.

   A detailed list of all regular servicing activities is contained in the inspection and maintenance schedules (Part 3 of these operating instructions). Always perform servicing in compliance with the maintenance schedules.
6. and 7. These signs indicate the numbers and the ratings of the fuses in the driver's cab.
8. **Risk of injury** from slewing superstructure or moving machine. Slew the superstructure and drive the machine only after all persons have left the hazard zone.
9. Fastening means must be attached here when the machine is to be transported.
10. Control elements for the auxiliary heating system (option).

The respective traffic regulations in force in the country of use must be observed.

□

Click on the image link below for the full version of the service manual

