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USE AND MAINTENANCE MANUAL

Pegasus 45.30

CE

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CAUTION:

A copy of the following manual must always be available to the operator on the vehicle.

DOCMA0000008 -UK | v. 1.4 -

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1 Info

USE AND MAINTENANCE MANUAL	
Code:	DOCMA0000008-UK
Version:	2.4 -
Manual language:	English (ENG)
Original instructions for:	– Pegasus 45.30

Standards

This manual is prepared in accordance with the provisions indicated in the following Standards:

- EN1459-2: 2015
- M.D. 2006/42/EC

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Each vehicle is provided with:

- Copy of this manual
- A copy of the use and maintenance manual of the engine prepared by the manufacturer
- A copy of the use and maintenance manual for each device or equipment which is installed on this vehicle.

These manuals have been prepared by the respective suppliers and are faithfully reproduced in full by ***DIECI S.R.L.*** Behind their specific authorization: they can be enriched with additional specifications drawn up by ***DIECI S.R.L.***



WARNING

All documentation provided is an integral and essential part of the product and must be kept at the disposal of the users; they must carefully read what is written in the above mentioned documentation before using it.



DANGER

Improper, incorrect or unreasonable use of the vehicle or accessory installed on it is not allowed as also any intervention that alters its structure or function is not allowed.



NOTICE

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Dear Customer,

congratulations and thank you for choosing ***DIECI***.

This Use and Maintenance Manual has been written to help you fully appreciate the quality of ***DIECI*** products.

We strongly recommend that you read this manual in its entirety before using the vehicle.

It contains information, advice and important warnings that will help you to fully take advantage of the technical capabilities of your ***DIECI*** products.

You will learn about its features and special practical information in addition to information about its maintenance, driver and operation safety to help maintain your ***DIECI*** products over time.

We are confident that you will be happy with your new purchase and we remain at your disposal should you have any further queries.

Sincerely,

Sales Management

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1.1 General

The purpose of this publication is to provide safe and effective instructions to the Operator on use and maintenance of:

– **Pegasus 45.30**

This vehicle has been designed and built as a self-propelled vehicle with operator's seat, wheels, designed for use on paved or natural ground and on uneven ground.

It consists of a main support structure suitable to support the extensible boom.

The head of the boom can be fitted with forks or other equipment only if approved by ***Dieci s.r.l.*** or only if the manufacturer of the equipment declares that its use conforms with the type of machine.

When used normally, the machine performs loads lifting and positioning by extending/ retracting, lifting/ lowering the boom.



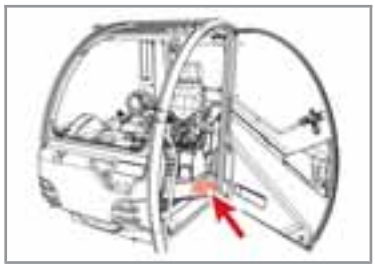
WARNING

Any other use is considered contrary to the intended use by *DIECI s.r.l.* which, therefore, can not be responsible for damage to objects and the machine itself, or injury to persons that might derive from misuse.

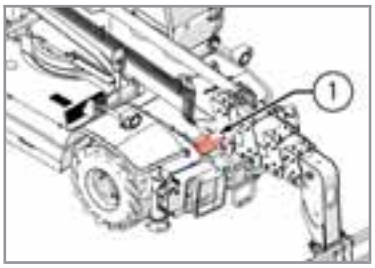
For other controls, or complaints to agencies, refer to the applicable local legislation in the country of use of the vehicle.

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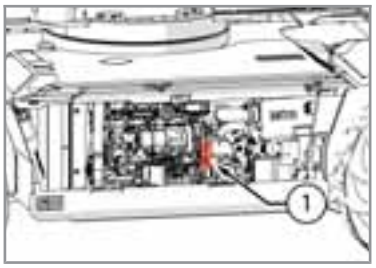
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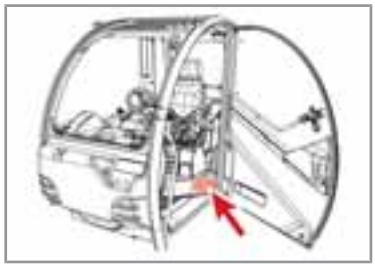
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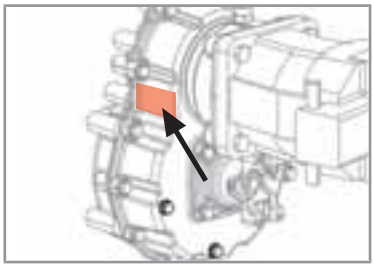
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150640-4



150640-5

Vehicle Model (fig. 150640-1)	.....
Year	.....
Serial number of the chassis (fig. 150640-2)	.....
Serial number of the engine (fig. 150640-3)	.....
Serial number of the cab (fig. 150640-4)	.....
Serial number of the transmission (fig. 150640-5)	.....
Owner / Operator	.....
Address of the Dealer or Agent	.....
Delivery date	.....
Warranty expiry date	.....

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Equipment code	Serial number	Year
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

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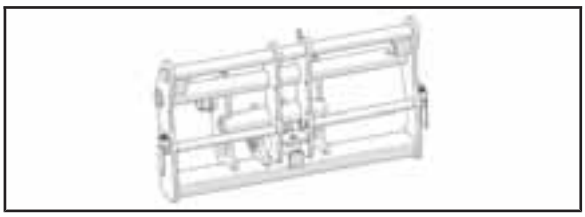
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Definitions

Attachment holding plate



The attachment holding plate is the interface between the vehicle (telehandler) and the interchangeable equipment. The attachment holding plate is placed at the end of the telescopic boom and is used for the quick and safe installation of the interchangeable equipment at the vehicle base.

Back

The back is the side that is in back of the operator in the control position during the normal forward travel of the vehicle.

Equipment

The equipment is an interchangeable device that can be installed by the operator on the attachment holding plate of the machine, in order to change the function of the vehicle.

Front

The front is the side that is in front of the operator in the control position during the normal forward travel of the vehicle.

Generic maintenance technician

Trained and educated person to perform routine maintenance interventions with basic mechanical, electrical and hydraulic knowledge.

Left side

The left side is the side that is located to the left of the operator in the control position during the normal forward travel of the vehicle.

Operator

Instructed person, trained with specific theoretical-practical course concerning use of the vehicle or equipment.

Right side

The right side is the side that is located to the right of the operator in the control position during the normal forward travel of the vehicle.

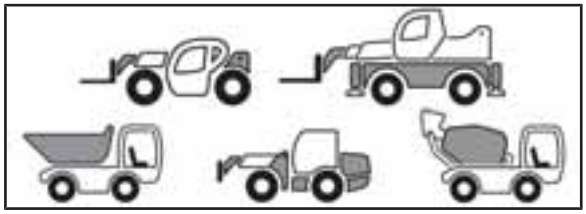
Specialized maintenance technician

Trained and educated person to perform routine and extraordinary maintenance interventions with in-depth and specific mechanical, electrical and hydraulic knowledge, normally sent or authorized by DIECI s.r.l. or the dealer.

Tool

Category of interchangeable equipment not provided with movable parts such as forks or buckets. No CE marking is required for tools.

Vehicle



Vehicle means a work vehicle provided with an engine for operation. The term “vehicle” or “basic vehicle” are indistinctly used.

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2 Introduction

2.1 Manual structure

This manual is an integral part of the official documentation of the Vehicle, Equipment and Tool. It must be carefully stored and be available to the managers, the users and personnel in charge of maintenance.

2.2 Purpose and content

This manual is an integral part of the official documentation and is aimed at supplying the Operator with all the information required concerning technical aspects, operation and safety during the entire lifespan of the vehicle or equipment.

CAUTION

This manual should be read carefully before the first use or before maintenance.

NOTICE

If in doubt on the correct understanding of the instructions, contact the Manufacturer for clarifications.

2.3 Preservation

The instruction manual must be kept near the equipment available to the Users (in the cab or on the equipment where set up) inside a dedicated envelope, protected from liquids and anything that might make it illegible.

If the manual becomes creased and/or be, even partially, damaged or illegible or in case of loss of the manual, it must be replaced immediately by contacting the ***Dieci Technical Assistance Service***, giving the details of the manual found on the first page of the manual.

2.4 Recipients

This manual is addressed to the following persons:

- Operator : instructed person, trained with specific theoretical-practical course concerning use of the vehicle or equipment
- Generic maintenance technician : trained and educated person to perform routine maintenance interventions with basic mechanical, electrical and hydraulic knowledge
- Specialized maintenance technician : trained and educated person to perform routine and extraordinary maintenance interventions with in-depth and specific mechanical, electrical and hydraulic knowledge, normally sent or authorized by ***DIECI s.r.l.*** or the dealer.

CAUTION

The users must not carry out operations reserved for maintenance technicians or qualified technicians. The Manufacturer is not liable for damage deriving from the non-compliance with this prohibition.

2.4.1 Training

This manual gives the users all technical data on the vehicle or on the equipment, the presence and type of control and safety devices and the presence and meaning of the safety stickers and plates.

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All vehicle or equipment users must have all necessary information, training and education in relation to the correct use conditions of the means and foreseeable anomalous risks.

The information, training and educating must be implemented upon introduction of new work equipment and for each work equipment available to users.



NOTICE

Ensure to respect the current laws and Standards in the selling country of the vehicle with regard to information, training and educating of personnel to use the vehicle and its equipment.

The employer is obliged to inform personnel on the following topics related to safety during use:

- Risk of injury
- Vehicle and equipment safety devices set up for operator safety
- Individual safety devices set up for operator safety
- General accident-prevention rules and/or foreseen by international directives
- Accident-prevention rules of Legislation of the Country where the vehicle or the equipment is intended for use

The operator, before starting the work, must know the characteristics of the vehicle and equipment and must have fully read this Use and Maintenance Manual.

2.4.2 Training



CAUTION

The operator in charge of using the vehicle or equipment must have attended a suitable theoretical-practical course lasting as long as indicated by legal prescriptions in the Country where the vehicle or equipment is used.

Training must at least include the following subjects:

- Use and limits of the functioning and emergency controls of the equipment and of the vehicle on which the equipment is mounted
- Knowledge and awareness of the Use and Maintenance Manual and of the control marks, of the instructions and of the warnings applied on the vehicle
- Knowledge and understanding of the Standard on this equipment, including the educating aimed at recognizing and avoiding potential dangers at work
- Knowledge of the mechanical functioning of the vehicle sufficient for recognizing a real or potential failure
- Hints on constructive particulars of the vehicles and on static and dynamic stability concepts
- Correct use of the vehicle procedures in safe conditions with regard to the work place and the load to be handled/lifted, capacity and guide notions
- Knowledge and use of the PPE to be worn during use of the vehicle and of the equipment
- Knowledge and execution of the routine maintenance to be carried out

Training must be carried out under the supervision of a qualified person in an open area and free from obstacles. At the end of this practice, the trainee must be able to safely use the equipment, and the vehicle on which it is installed.

The operator must also be trained on the responsibility and authority of not using the vehicle or equipment in case of failure or presence of unsafe conditions, and request further information from the Manufacturer or authorized dealer.

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2.4.3 Qualification

The vehicle and equipment are intended for professional use; their use must therefore be entrusted to qualified figures, in particular:

- Being of adult age
- Be physically and psychically suitable to carry out particularly difficult technical work
- Have been adequately trained on the use and maintenance of the vehicle and equipment
- Have been judged suitable by the employer to carry out the work entrusted to them
- Are able to understand and interpret the manual and the safety requirements
- Know the emergency procedures and their activation
- Have the ability of activating the specific type of vehicle or equipment
- Are familiar with the specific standards of the case
- Have understood the operational procedures defined by the Manufacturer of the vehicle or equipment

2.5 Units of measurement and abbreviations used

DECIMAL METRIC SYSTEM (IS)		ENGLISH IMPERIAL SYSTEM (IMP)	
NAME	**SYMBOL**	**NAME**	**SYMBOL**
SURFACE			
square meter	m^2	square foot	ft^2
ELECTRICITY			
Ampere	A		
Volt	V		
FORCE			
kiloNewton	kN		
Newton	N		
FORCE FOR LENGTH - TORQUE			
Newton·meters	N·m	pounds-inch	lb·in
SURFACE FORCE - PRESSURE			
kilopascal	kPa	pound/square inch	psi
ROTATION FREQUENCY			
Revolutions per minute	rpm		
LENGTH			
kilometer	km	mile	mi
meter	m	foot	ft
centimeter	cm	inch	in
millimeter	mm	inch	in
MASS			
kilogram	kg	pound	lb
ton	t	pound	lb
POWER			
kilowatt	kW	horse power	HP
Watt	W		
TEMPERATURE			

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Celsius degrees	°C	Fahrenheit degrees	°F
SPEED			
kilometers per hour	km/h	miles per hour	mph
meters/second	m/s	feet/second	ft/s
VOLUME			
cubic meter	m^3	cubic yard	yd^3
		cubic inch	in^3
liter	l	UK gallon	UK gal
TIME			
hour	h	hour	h
minute	min	minute	min
second	s	second	s
VOLUME PER TIME			
cubic meter per minute	m^3/min	cubic foot per minute	ft^3/min
liter per minute	l/min	UK gallon per minute	UK gal^3/min
SOUND POWER AND ACOUSTIC PRESSURE			
decibel	dB		

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2.6 Hazard Classification

Carefully read the safety regulations given and follow all recommended precautions in order to avoid potential risks and safeguard your health and safety.

The symbols listed below are inserted to highlight situations which ***DIECI S.R.L.*** considers particularly important.

If in doubt, contact your agent or dealer.



DANGER

It indicates an imminently hazardous situation which, if not avoided, could result in death or serious injury.



WARNING

It indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

It indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.



CAUTION

Used without the safety warning symbol it indicates a potentially hazardous situation which, if not avoided, could result in property damage.



NOTICE

It indicates information or a company policy that relates directly or indirectly to personnel safety or to property protection.



NOTICE

Indicates an optional accessory or attachment.

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2.7 Machine general warnings

Every vehicle or equipment comes with a copy of its own manual.

CAUTION

Reproduction of all or part of the contents of this manual or of the multimedia attachment, if any, is prohibited.

Dieci s.r.l. will protect the ownership rights of these materials.

CAUTION

It is compulsory to read and understand this manual before using the vehicle or various equipment and to carefully follow the indications therein. The instructions for use, maintenance and repair described in this handbook must be followed if the vehicle is to be considered as being operated in accordance with the manufacturer's intended uses.

NOTICE

DIECI s.r.l. reserves the right to carry out possible modifications to the vehicle or equipment for technical or commercial reasons without prior notice.

- A copy of the use and maintenance manual relative to vehicle parts or equipment of the respective suppliers can be supplied. These manuals are written by the respective product suppliers and reproduced accurately and in full by ***DIECI s.r.l.*** with their specific authorization: they can be enhanced with further specifications drawn up by ***DIECI s.r.l.***.
- This Use and Maintenance manual is also provided by the Dealer upon delivery of the vehicle, in order to make sure that these instructions are read and correctly understood. Should you have trouble understanding any part of this manual, do not hesitate to contact your nearest Dealer for clarification.
- All documentation provided constitutes an integral and important part of the product and must always be available to users.
- The instructions for use, maintenance and repair described in this handbook must be followed if the vehicle is to be considered as being operated in accordance with the manufacturer's intended uses.
- This manual assumes that the health and safety standards in the work place, in force in the place of use of the vehicle and of the equipment, are complied with.
- This Use and Maintenance Manual in the user's language, must be carefully stored on the vehicle at all times in an accessible and well known place to all users. If the manual becomes creased and/or be, even partially, damaged or illegible or in case of loss of the manual, it must be replaced immediately by contacting the Dieci Technical Assistance Service, giving the details of the manual found in the "Introduction" chapter.
- Improper, incorrect, or irrational use of the vehicle or the accessories with which it is equipped as well as modification to its physical structure or functioning is prohibited. A different use is strictly prohibited and relieves ***DIECI s.r.l.*** from responsibility for damage caused to persons, things or animals.
- ***DIECI s.r.l.*** is not liable for damage caused by negligent use of this vehicle or the accessory even if said damage is not a result of intentional improper use. Everything possible has been done during the design and construction phases of vehicles and equipment to make your job as safe as possible. Due caution, however, is indispensable and there is no better rule to prevent accidents.
- To correctly use the components and vehicle controls recalled in the following pages, refer to the specific use and maintenance manual of the vehicle.

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– If the vehicle or the equipment must be used in particularly severe conditions (for example: In dusty environments or worksites, on argillaceous or muddy terrain), we advise consulting your nearest dealer for specific instructions. Failure to observe these instructions may result in the vehicle's guarantee being voided.



WARNING

For your safety and the safety of others, do not change the structure or adjustment of the various components of the vehicle or equipment.



NOTICE

The right and left positions indicated in this manual refer to the view of the operator sitting in the driver's seat (looking forwards).

2.8 Equipment general warnings



WARNING

Only equipment CE certified by the relative manufacturer can be used on *DIECI* vehicles, as well as equipment approved or falling within the technical limits set out by *DIECI S.r.l.*

Before commissioning any kind of accessory make sure about its compatibility with the operating vehicle and about the calibration of the safety system related to the accessory used.

DIECI S.r.l. liability shall not be involved if equipment use or modifications do not comply with the above mentioned requirements.

2.9 Intended use

The vehicle or equipment described in this document must be used only for the purposes set out in this Use and Maintenance manual.

Adherence to and strict compliance with the terms of use, repair and maintenance, as specified by the Manufacturer, are essential elements covered by the intended use.



WARNING

The vehicle and equipment must be used ONLY by trained and qualified staff who is aware of the information contained in this Manual.

2.10 Contraindications for use

The vehicle or equipment must NOT be used:

– For recipients other than those listed in the "Recipients" chapter

– For uses other than those mentioned in this manual

– In environmental conditions other than those listed in chapter "Environmental Conditions"

– In use on the road, use the vehicle only if in possession of a valid driver's license in accordance with the regulations in force in the country of use

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- Do not use the movable hydraulic parts of the vehicle to lift persons (except with special passenger baskets)



NOTICE

For any other use of the vehicle, other than those mentioned above, the Manufacturer will reserve the right to revise the terms of the warranty.

2.11 Declaration of first test

Manufacturer's declaration of first test

DIECI s.r.l. declares that each machine and equipment manufactured at its plants, before placing on the market, has been subjected to static and dynamic tests designed to verify proper operation and compliance with EU directives to which it is subject.

At the conclusion of the tests performed, the CE certification of the tested machine will be issued.

Each ***DIECI s.r.l.*** product with CE marking is provided with the related certificate, which must be kept by the rightful owner according to the requirements of law.

2.12 Liability

- The vehicles and equipment are built according to the EC Directives in force at the time of sale;
- Failure to follow the instructions for use and safety or the use of the vehicle in good working order can not cause accidents criminal offense;
- The manufacturer is not liable for damage caused to persons, animals or property resulting from improper use of the vehicle or equipment or from unauthorized structural changes, applications, and transformations;
- The Manufacturer also reserves the right to make any changes to the vehicle or equipment for any technical and commercial requirement without notice.

2.13 Manufacturer

DIECI s.r.l.

Via E. Majorana, 2/4

42027 Montecchio Emilia (RE) ITALY

Tax Code 01283560686 VAT No. 01682740350

Tel. +39 0522 869611 - Fax +39 0522 869744

email: info@dieci.com

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2.14 Certification and CE marking

The machine and related equipment are manufactured in accordance with the relevant EU directives and applicable at the time of its release on the market.

L 'analysis of all the essential safety health and requirements was carried out during the design and construction in order to verify the applicability and the consequent compliance. Where the analysis has detected an initial lack of conformity, the problems were corrected with appropriate solutions in order to satisfy these requirements.

Here following is shown a facsimile of the certification attached to the machine.

EU DECLARATION OF CONFORMITY

CE

(Machinery Directive 2006/42/EC, Annex II, Part A - Electromagnetic Compatibility Directive 2014/30/EU, Annex IV)

Product: **********

Manufacturer's Name: DIECI S.r.l.
Address: Via E. Majorana, 2-4- 42027 Montecchio Emilia (RE), Italy

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:

The telehandler Type B** *** (********** **.**) Serial Number B**1******

The object of the declaration described above is in conformity with the relevant Union harmonization legislation:

- Machinery Directive - **2006/42/**
- Electromagnetic Compatibility Directive **- 2014/30/EU**
- Directive on environmental noise emissions of machines **- 2000/14/EC** procedure annex VIII

Notified Body: Société Nationale de Certification et d'Homologation No. 0499 – Luxembourg (L)

Additional information:

Name and address of the person authorized to compile the technical file:
Mr. ENNIO MANGHI
at DIECI S.r.l. - Via E. Majorana, 2-4 - 42027 Montecchio Emilia (RE), Italy

Net power installed: *** kW
Sound power level measured: LWAm = *** dB(A)
Sound power level guaranteed: LWA = * dB(A)**.

Plate bearing the CE marking applied to the machine.
Signed for and on behalf of: Ennio Manghi, Director at DIECI S.r.l.

Montecchio Emilia **..****

DIECI SRL
Via E. Majorana, 2-4
Montecchio Emilia (RE)
One of the Directors
Ennio Manghi

Dieci Srl
Via E. Majorana, 2-4 • 42027 Montecchio Emilia • (Reggio Emilia) ITALY
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2.15 Vehicle identification label

The identification label (fig. 160550-1) shows the main identification data of the vehicle

NOTICE! Refer to the "Identification" chapter of the vehicle use and maintenance manual to know the position of the label in the cab.



160550-1

1	Type	.....
2	Homologation number	.....
3	Identification number	.....
4	Total permissible mass (kg)	.....
5	Permissible load on the front axle (kg)	.....
6	Permissible load on the rear axle (kg)	.....
7	Permissible towable mass (kg)	.....
8	Total unladen mass (kg)	.....
9	Power (kW)	.....
10	Year of construction	.....
11	CE Marking (if installed)	.....

To ensure a prompt and efficient service when ordering parts or when requesting information or technical clarification always specify the identification details.

Therefore we recommend to note the data relating to the accessory in your possession in order to safely and quickly identify them in the future, in case of need.

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3 Warranty

3.1 Exclusions from the guarantee

The Guarantee does not cover damage to the vehicle or equipment caused by:

- Operator errors
- Failure to perform the maintenance stipulated in this Manual
- Faults and/or breaks not attributable to its malfunction
- Tampering with equipment
- Normal operating wear
- Deterioration of the parts that have a purely aesthetic function
- Repairs by unauthorized centers or persons
- Product use with methods that do not comply with the warnings provided in this Use and Maintenance Manual.
- Damage caused by the unsuitability of the environment in which the equipment works and phenomena that are not caused by its normal operation
- Consumable components subject to wear: clutch, belts, brake pads, slide blocks, rollers, oil and liquids, filters, etc.
- The electrical components and systems.
- Damage caused by: climatic agents, natural disasters, vandalism, etc.
- Any other malfunction not due to a certified defect resulting from an original fault or that does not fall under the responsibility of ***DIECI s.r.l.***.

The following parts are also excluded from this guarantee but are covered by the guarantee of the relevant Manufacturers:

- Diesel engine
- Axles and reduction gears
- Hydraulic pumps and engines
- Tires

DIECI s.r.l. shall handle the application of the aforementioned guarantees.

3.2 Warranty: duration

The ***DIECI s.r.l.*** company guarantees its products for 12 months from the date of delivery to the customer user or to the Dealer/Distributor.

If the vehicle is stored for long periods by the Dealer/Distributor at the time of sale to the customer, the Service Center will reserve the right to verify guarantee activation.

3.3 Warranty: commencement

The guarantee is valid from the date the vehicle is shipped from the factory (sales to Distributors or Dealers). When delivery is handled by the Distributor or Dealer, ***DIECI s.r.l.*** reserves the right to verify that the guarantee start date corresponds to the shipping or delivery date on the transport document of the product being guaranteed, and/or to the invoice date, and can request original copies of these documents.

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3.4 Warranty: activation

The guarantee is automatically valid from the date the vehicle leaves the factory (sale to Distributors or Dealers).

3.5 Warranty: validity

3.5.1 Guarantee in countries with assistance centers

The guarantee covers the replacement or repair of faulty parts proven defective as a result of the material used, its manufacturing or assembly.

DIECI s.r.l. reserves the sole right to authorize the repair or replacement of faulty parts.

DIECI s.r.l. shall resolve the anomaly through the means and methods it deems most appropriate.

DIECI s.r.l. is responsible for:

- The materials used
- Labor
- Travel expenses

The Customer is responsible for:

- Packing and shipping costs for replacement parts
- All other expenses not listed under those for which ***DIECI s.r.l.*** is liable.

3.5.2 Guarantee in countries with NO assistance centers

Refers exclusively to the free supply, ex works by ***DIECI s.r.l.***, of parts no longer usable due to faulty original material, manufacturing and/or assembly.

3.5.3 Examining replaced faulty parts

Before granting the guarantee, DIECI may ask for the faulty parts replaced during the repairs to be returned at ***DIECI s.r.l.***'s expense.

3.5.4 Additional guarantee for repairs and replacement parts

Repairs made under guarantee or not, and parts replaced during repair work, are guaranteed for 3 months from the date of repair or installation, even if the original guarantee has expired.

3.5.5 Intervention campaigns for faulty products

The replacement procedures of parts acknowledged to be faulty will be agreed upon by ***DIECI s.r.l.*** and its distributors/dealers/authorized workshops.

These intervention campaigns can be followed directly by ***DIECI s.r.l.*** suppliers, who are responsible for supplying the components to be replaced (interventions authorized by ***DIECI s.r.l.***).

The above interventions will be preceded by written communication from ***DIECI s.r.l.*** to its purchasers.

Only ***DIECI s.r.l.*** can decide the intervention method (repair, replacement or modification).

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3.6 Warranty: intervention request

3.6.1 Guarantee: claim

The claim of the faulty part must be made by the Customer, Dealer, Distributor or Authorized workshop and must be sent directly to ***DIECI s.r.l.*** Customer Service within 8 days from when it is noted.

The claim must include a clear description of the defect and precise references to the vehicle and equipment (type, model, and serial number). This information can be found on the places indicated in the USE AND MAINTENANCE MANUAL.

3.6.2 Obligation of vehicle downtime

If there is a risk that the defect may jeopardize safety and accident prevention or may cause further damage, the vehicle or the equipment must not be used until it has been repaired and tested.

Any change made on the vehicle or equipment involves a reassessment of conformity with the Machinery Directive 2006/42/EC. This procedure also applies in the case of repairs with non-original parts.

In the event of any dispute, exclusive jurisdiction will be held by the Court of Reggio Emilia - ITALY.

3.7 Non-activation, failure to grant, termination

3.7.1 Warranty: failure to grant

The guarantee is not granted:

- If the defect is not reported as described and within the established time limit.
- If the customer does not comply with ***DIECI s.r.l.*** request to return the faulty parts replaced during the repairs.
- If the customer has not complied with the obligation to stop using the vehicle after making a claim, limited to damages caused by noncompliance.

3.7.2 Guarantee: termination

The guarantee is terminated:

- If the buyer does not fulfill contractual payment obligations.
- If damage has been caused by carelessness, negligence, or by use of the vehicle for purposes not in compliance with specifications provided in the use and maintenance manual (incorrect manoeuvres, overloading, use of incorrect fuel, poor maintenance, disregard for warning indicator instruments etc.)
- If the defect is a result of applications, equipment, modifications or repairs not authorized by ***DIECI s.r.l.*** or carried out using poor quality parts. (For this reason, we recommend always using original spare parts).



NOTICE

Refer to the "MAINTENANCE" paragraph for information regarding recommended routine maintenance.

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3.8 Final terms

In none of the cases regarding non-activation of the guarantee, it not being granted or being terminated, the buyer cannot request the cancellation of the contract, or compensation, or an extension of the guarantee.

Any guarantee conditions other than those listed above must be agreed upon in writing and signed by both parties.

Unless agreed upon in writing by both parties; ***Dieci s.r.l.*** does not pay compensation for any type of claim caused by vehicle downtime, such as:

- Replaced or rented vehicles or equipment
- Labor
- Loss of profit

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4 Safety regulations

4.1 General warnings

The instructions for use, maintenance and repair described in this handbook must be followed if the vehicle is to be considered as being operated in accordance with the manufacturer's intended uses.



DANGER

THE VEHICLES AND EQUIPMENT MAY NOT BE MODIFIED WITHOUT PERMISSION OF THE MANUFACTURER.

For your safety and the safety of others, do not change the structure or adjustment of the various components of the vehicle or equipment. The same applies to the deactivation or modification of the safety devices present. Any changes made to the vehicle or equipment, holds DIECI s.r.l. harmless from any liability arising from damage or injury.

Every vehicle or equipment must be used, assisted or repaired only by persons that have received training in advance on the vehicle and on its safety regulations, in addition to being authorized to use the vehicle or equipment itself.



NOTICE

The user must always observe the general safety regulations as well as those for accident prevention, such as traffic rules if the vehicle is used on public roads (according to the regulations in force in the country of use).

DO NOT USE THE VEHICLE OR THE ACCESSORIES IF YOU ARE UNDER THE EFFECT OF ALCOHOL, DRUGS OR IF YOU HAVE TAKEN MEDICINES THAT MAY MAKE YOU DROWSY OR MAY ALTER YOUR REFLEX AND REACTION TIME.

DIECI s.r.l. is not liable for damage caused by negligent use of this vehicle or the equipment even if said damage is not a result of intentional improper use. Everything possible has been done during the design and construction phases of vehicles and accessories to make your job as safe as possible. Due caution, however, is indispensable and there is no better rule to prevent accidents.



DANGER

THE VEHICLES OR EQUIPMENT IN QUESTION ARE NOT SET-UP FOR USE IN ENVIRONMENTS OR SITES EXPOSED TO THE PRESENCE OF EXPLOSIVE GASES, THUS USE IN THESE PLACES IS PROHIBITED.

To operate in these environments, the Manufacturer must be contacted so that the necessary modifications can be made to the vehicle and/or equipment.

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DANGER

All functions and procedures concerning the operation and mounting of the vehicle or its equipment that are not described in this manual are strictly FORBIDDEN.

WARNING

Read all of the safety stickers on the vehicle and on the equipment and observe all regulations printed on these stickers before starting up, running or refueling the vehicle or before carrying out maintenance work. Immediately replace damaged, lost or illegible stickers. Clean them when they are covered by mud, concrete or debris.

- Do not use the vehicle or equipment without having first read and understood all parts of this manual, and without having attended an adequate training course.
- Do not use the vehicle or equipment when hands or shoes are wet or dirty with grease or greasy substances.
- Verify that all safety devices function before using the vehicle. The operator must always maintain control of the vehicle and equipment state and operation.
- Use the acoustic warning device or other signals to alert people in the area before starting up the vehicle.
- Inspect control instruments immediately after start up, while the engine is hot and at regular intervals during use, in order to promptly recognize and resolve any malfunctions.
- Do not use the vehicle or equipment if a danger sticker or a maintenance in progress sign is placed inside the cab.
- Do not carry passengers on the vehicle or in the driver's cab or on any other part of the vehicle (including passenger basket).
- It is prohibited to use the mobile hydraulic parts of the vehicle the lift people except when using the passenger baskets with relative personal protective equipment for the operator inside.
- Regardless of the user's experience, become familiar with the position and function of all controls and instruments in a work area free from obstacles and persons, before operating the vehicle or the equipment.
- Carry out all the described safety checks before resuming operations.
- While the vehicle is running, always keep light signals on. These serve to warn people that the vehicle is about to move.
- Always keep the safety distance adequate for the type of work and persons or objects in the work area. Always look in the forward direction and maintain good road visibility.
- Adjust movement speed based on the load carried and the type of ground; remain at low speeds to reduce the risk of the vehicle tipping over or losing the load.
- Do not drive with the brake pedal pressed.
- Do not use the vehicle force of impact to carry out tasks. These vehicles are not designed for said use; therefore, such use may cause vehicle overturning, damage, the breakage of components and attachments, or serious personal injury for the user.
- Always operate with the engine bonnet closed.
- Do not operate with the vehicle protective parts removed.
- When working in a congested area, designate one person to signal and coordinate the work zone.
- Make sure that everyone follows the directions given by the person in charge of signaling.
- Make sure to use signals that conform with the provisions in force in the country of use of the vehicle.

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- For additional information with regard to the presence of a person in charge of signaling, consult the "Signals to more vehicles" chapter.
- When working alongside excavations or on the edge of the road or soft ground, keep at a safe distance as the vehicle may overturn.
  - Designate a person on the ground to be in charge of signaling.
  - Remember that after strong rains, the use of explosives or an earthquake, the ground is more fragile.
- When working on the upper part or inside buildings or other structures, verify their capacity and stability before starting operations. The risk of collapse exists and can cause serious injuries or damage.
- Working on a slope may be dangerous. The conditions of the terrain may vary according to climatic conditions (e.g. rain, snow, ice). Therefore, pay careful attention to the conditions of the terrain on which the vehicle is being used; the use of low speeds is recommended.
- Drive slowly on grass, leaves or wet steel slabs. Even when operating on slight slopes the vehicle may slip, lose balance or overturn.
- Tipping conditions of the vehicle can vary depending on the features of the ground, environmental conditions and the type of work. Complying with all the safety instructions contained in this manual reduces risks for the vehicle and the operator in most operating conditions provided herein.
- It is forbidden to use the tractor if there is any risk of tipping that is not covered herein, as this manual contains an incomplete list.

4.2 Safety indications

CAUTION

Carefully observe and follow all safety signals on the vehicle and on the equipment and read all safety messages in this manual.

- The safety messages in this chapter illustrate the basic safety procedures of the vehicles and equipment.
- The safety signals must be installed, maintained and replaced when necessary.
- If a safety signal or this manual is damaged or missing, order a replacement from the ***DIECI s.r.l.*** dealer in the same way in which spare parts are ordered (be sure to communicate the model and serial number of the vehicle when placing the order).
- Learn how to correctly and safely operate the vehicle and the equipment and their relative controls.
- Allow only trained, qualified and authorized personnel to operate the vehicle and installed equipment.
- Keep the vehicle, equipment and accessories in appropriate working conditions.
- Unauthorized modifications to the vehicle, to the equipment or accessories can jeopardize their operation and/or safety and influence their lifespan.
- In case of doubt, contact the manager before proceeding to operate or carry out maintenance work on the vehicle or on the equipment.

4.3 Personal protective equipment

In some cases, when working in particularly uncomfortable environments, adequate clothing or equipment must be worn.

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It is mandatory for the operator, before starting to work, to learn from the safety manager or the site manager which are the possible risks of the work and which accident prevention clothes he must wear.

CAUTION

Always use PPE that is appropriate for the type of work to be performed.

The Personal Protective Equipment used by the operators can have different characteristics, depending on the type of construction site and risks present in the work place.

CAUTION

Keep the personal protective equipment in good conditions.

Accident prevention clothes must always be intact and in good condition. Damaged clothing cannot ensure adequate protection. Do not wear damaged clothing; always replace damaged or torn clothing before operating the vehicle.

4.3.1 Protective clothing

Icon	Reference	Description
	ISO7010: M004	Wear protective goggles
	ISO7010: M008	Wear safety shoes
	ISO7010: M009	Wear protective gloves
	ISO7010: M015	Wear high visibility clothing
	ISO7010: M013	Wear a protective mask (for work in dusty environments)
	ISO7010: M017	Use a protective breathing apparatus (for work with dangerous substances)
	ISO7010: M018	Wear a safety harness

DANGER

Danger of crushing

Pay attention to moving parts to avoid danger of crushing or dragging of the lower and upper limbs. Avoid wearing jewelery or pendants that might be trapped in moving parts. Long hair must be tied back to avoid it being caught in moving parts.

Do not wear loose clothing, chains, belts or other accessories that may be caught in the control levers or in other parts of the vehicle or equipment.

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4.3.2 Protect yourself against noise

Prolonged exposure to loud noise can damage your hearing or may cause hearing loss.

Icon	Reference	Description
	ISO7010: M003	Wear hearing protection



CAUTION

Always wear anti-noise earmuffs or earplugs to protect yourself from excessive and irritating noise.

4.3.3 Protections against objects falling from height

Icon	Reference	Description
	ISO7010: M014	Wear a helmet



DANGER

Danger of falling objects

Use of a safety helmet is required if there is a risk of falling objects.

4.3.4 Protect yourself from flying fragments

Icon	Reference	Description
	ISO7010: M013	Wear a face shield



WARNING

During operation in certain conditions, particles of material may be ejected. In such conditions, it is a good idea to wear protective goggles and clear the area of those people not in possession of such goggles.

4.4 Preparing for accidents

- Always be prepared in the event of a fire or an accident.
- Keep a fire extinguisher and first aid kit at hand. (Not supplied by the manufacturer, "optional accessories").
- Carry out periodic inspections to ensure that the first aid kit contains all necessary items; replenish content if necessary.
- To properly use the extinguisher, carefully read the instructions located on the extinguisher.
- Carry out periodic inspections and maintenance (six monthly) to ensure that the extinguisher is ready for use at any given moment.
- Create priority procedures to deal with fires or accidents.

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- Keep emergency telephone numbers (doctors, ambulance, hospital and fire brigade) clearly visible and near the telephone.
- Adequately trained and educated personnel must be present for managing emergencies with adequate theoretical-practical course carried out on site.

Below are some First Aid procedures that can be activated in case of accident following use of the vehicle or equipment object of this use and maintenance manual.

These procedures may be useful in an emergency for the users or other operators present near-by, during use and various life phases of the vehicle or of the equipment (transport, installation, use, maintenance, adjustment, etc.).

4.4.1 First Aider Tasks

1. Activate first aid (emergency call).
2. Evaluate the victim and, if necessary, support vital functions.
3. Stop an external hemorrhage.
4. Protect wounds and burns.
5. Protect the victim against further damages.
6. Do not perform unnecessary or damaging actions, such as giving beverages, moving the victim, reducing dislocations and/or fractures, etc.

4.4.2 Emergency call

Good first aid intervention also depends on the timely arrival of rescuers (emergency medical support) to the place of the emergency.

This is why the first aider in charge of calling the emergency must precisely indicate:

- Address of where the accident or illness took place.
- Number of injured or ill persons.
- The possible cause of the event.
- The state of the vital functions of the injured party, specifying whether the same is conscious or not and breathes normally or not.

At the end of the call it is recommended to:

- Give own details, indicating a telephone number where to be contacted.
- Wait for rescuers in an easily accessible and visible location.

4.4.3 Traumas

Distortions, dislocations and fractures:

Immobilize the joints in the position after the trauma, using bandages or splints, supporting the analgesic position of the injured party without attempting dangerous manoeuvres. Apply the cold (with bag of ice or other systems). In case of exposed fracture, cover the wound using a sterile gauze pad, after having pressed at a distance on the specific points the relative hemorrhage.

Contusions, crushing:

In case of contusions and/or crushing of ends of the upper and lower limbs (fingers, hand, feet, etc.) it is advised to immediately place the limb underneath running water (cold) and apply ice. Also check for wounds and/or cuts in the hit area and, if necessary, disinfect with the due precautions.

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4.4.4 Hemorrhages

It is necessary to press the fingers on the hemorrhage point with sterile gauze pad, lifting the limb and eventually compress upstream of the hemorrhage with tourniquet. Wear protective gloves in case of contact with body fluids.

Treating superficial wounds:

Carefully expose and clean the wound, disinfect it with physiological solution, medicate it covering it with sterile gauze pads. Bandage avoiding excessive tightening to allow good circulation.

Treating deep wounds:

It is a priority to protect yourself against the risk of infection using gloves and splash shield; pad the hemorrhage by direct pressure or using other pressure points until it stops or the arrival of the ambulance. Call the medical emergency number, informing them that you are padding an arterial hemorrhage.

Treat the wound only after the hemorrhage is under control.



CAUTION

Do not use cotton wool, methylated spirit, antibiotic powder to disinfect the wound.

4.5 Preventing fires and accidents

4.5.1 Risks of fires



DANGER

Danger of fire

It is forbidden to smoke or use naked flames during use and maintenance operation of the vehicle and equipment.

Do not operate the vehicle or equipment without the following safety conditions:



DANGER

Fuel, oil and lubricant leaks can trigger fires and cause serious injuries.

- Ensure that there are no flammable liquids leaking.
- To avoid oil or diesel leaks, make sure that there are no loose or missing clamps, no twisted tubes and no tubes that rub up against each other.
- Do not bend any tubes/pipes under pressure.
- Never install damaged tubes.
- Do not weld tubes or pipes containing inflammable liquids.
- Do not use a torch head to cut tubes or pipes containing inflammable liquids.



DANGER

Short circuits may cause fires.

- Ensure that there are no short circuits.
- Clean and interrupt all electrical connections.

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– Check before each work shift that there are no loose, twisted, hardened or damaged wires.



DANGER

Fuel, oil, grease, waste, deposits or accumulated dust or other components can cause a fire.

– Remove inflammable materials.
– Prevent fires by inspecting and cleaning the vehicle at every shift, by immediately removing inflammable components.
– Check the ignition switch: in the event of fire, failure to switch off the engine will obstruct the work of the Fire Brigade.
– Do not use naphtha, petrol or inflammable liquids to clean parts of the vehicle. Only use non-flammable detergents.



DANGER

Safely handle dangerous liquids

– Handle fuel with care, it is easily inflammable. If fuel is ignited, there may be an explosion and/or a fire.
– Do not refuel the vehicle while smoking and in presence of naked flames or sparks.
– Always stop the engine before refueling the vehicle.
– Fill up the tank outside.
– All fuels, most lubricants and some anti-freezes are inflammable.
– Preserve the flammable fluids away from fire hazards.
– Do not burn or drill pressurized containers.
– Do not keep cloths soaked with lubricant; they may cause fires and spontaneous combustions.

4.5.2 Risks of inhaling gas



DANGER

Exhaust engine gases are toxic and can cause damages to your health.

If necessary to work in closed ambients, ensure it is sufficiently ventilated and equip the vehicle with special purifiers.

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4.5.3 Risks of batteries exploding



DANGER

The gas of the batteries may explode.

a) Keep any sparks, open flames or lit cigarettes away from the upper part of the battery.

b) Never place a metal object between the terminals to check the battery charge. Use a voltmeter or a densimeter.

c) Do not create sparks in the battery connection during recharging phases or starting the engine with auxiliary battery.

d) Do not charge the batteries if they are extremely cold, extremely hot or damages as they might explode.

e) The ideal temperature for the recharging of the batteries is16 °C (60,8 °F).

f) The electrolyte in the batteries is an extremely corrosive acid.

g) Should the battery explode, the electrolyte may be sprayed in the eyes with the possibility of causing blindness.

h) Ensure to be wearing protective goggles when carrying out maintenance on the batteries.

i) Do not overturn or tilt the battery as acid could come out.

4.5.4 Residual risks



DANGER

Damage may be caused by entanglement in moving parts.

Keep away from moving parts.



DANGER

Avoid burns.

Stay away from hot parts.

Jets of hot fluids:

After operation, the engine cooling liquid is hot and under pressure. Contact with hot water or steam may cause serious burns.

Avoid possible injury caused by hot water jets. Do not remove the radiator cap until the engine has cooled down. To open it, unscrew the cap as far as possible. Before removing the cap, release all of the pressure.

Hot surfaces and fluids:

The engine, reduction gears and hydraulic system oil heat up during vehicle use. The engine, rigid and flexible piping and other components heat up.

Wait until all parts cool down before beginning maintenance or repair work.



DANGER

Caution with pressurized fluids.

Fluids such as fuel or hydraulic oil under pressure can penetrate the skin and eyes causing serious injuries.

Avoid these dangers while repairing or carrying out maintenance on the vehicle, discharging the pressures (using the hydraulic levers of the distributors) before disconnecting or repairing pipes and hydraulic parts.

Before restarting the engine, ensure that all connections have been correctly tightened.

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Use a piece of cardboard to check for any leaks; make sure your hands and body are adequately protected against pressurized fluids. Wear a face mask or accident-prevention goggles to protect your eyes.

Should there be an accident, seek medical attention immediately. Any fluids that penetrate the skin must be removed surgically within a few hours to avoid infections.



DANGER

Electrocution

All maintenance and/or adjustment interventions on powered parts must be carried out only and exclusively by qualified and adequately trained personnel.



DANGER

Risk of slipping.

During on-site operations, the areas around the equipment may have debris and liquid (oil, water, etc.) that might make the floor slippery. Pay the utmost attention.



DANGER

Risk of falling, tripping.

Pay the utmost attention when climbing in and out from the vehicle.



DANGER

Crushing of hands and feet.

The presence of moving parts during functioning can cause risks for the ground operators. During vehicle movements, carefully check no unauthorized person is within the required moving area.

4.5.5 Contact with dangerous substances

- Wear the necessary protective clothing.
- Refer to the safety data sheet of the product used and take appropriate precautionary measures when using the product.
- Avoid contact with skin and eyes
  - In case of contact with eyes: rinse them thoroughly with plenty of water for a few minutes keeping the eyelids open and seek medical attention.
  - Should any fluid come into contact with skin, wash the area carefully, remove contaminated clothing, and when skin is dry,apply moisturizing cream. Consult a doctor if necessary.
  - In the event of inhalation, move away from the contaminated area and go to a well-ventilated location. Consult a doctor in the event of respiratory problems.
  - If swallowed: immediately contact a doctor, showing the label or container. Do not induce vomiting to avoid the risk of inhalation via respiratory passageways.

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4.6 Storing dangerous liquids



DANGER

Flammable material danger.

All fuels, most lubricants and some anti-freezes are inflammable.

Handle fuel with care, it is easily inflammable. If fuel is ignited, there may be an explosion and/or a fire.



WARNING

All fluids must be kept out of the reach of children and incompetent persons.



WARNING

Different types of substances must not be stored or mixed together.



DANGER

All chemicals are generally very harmful to health.

Avoid contact with skin and eyes by wearing appropriate protective clothing; do not swallow.



DANGER

It is forbidden to smoke and have open flames

It is forbidden to smoke or to use naked flames near fuels.

Comply with the following precautions to store dangerous liquids:

- All inflammable fluids must be stored in special containers, and the content of the containers must be clearly indicated. Containers must be tightly sealed.
- Store inflammable fluids in well-ventilated locations, far away from heat sources, sparks and open flames.
- Keep containers closed and covered. Other substances (e.g. foodstuffs) must not be present in this location.
- Always fill up the tank outside.
- Be careful of fumes and steam which may be formed by chemical products. Avoid inhalation.
- Do not breathe in fuel fumes.
- Ensure that these chemical products do not spill or flow into the ground, sewers or puddles. If necessary, inform the competent local authorities.
- In the event of a fire, use carbon dioxide, dry chemical powder, foam, sprayed water, sand, earth. Use jets of water to cool down surfaces exposed to the fire.
- Verify that there are no leaks of inflammable liquid (fuel, oil, grease, general lubrication leaks) in the storage containers.



NOTICE

Refer to the safety data sheet of the product for additional precautions and warnings that are to be adopted.

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4.7 Warnings for safe working

4.7.1 Ensuring the vehicle is clean

- Clean the windows, lights and rear-view mirrors (if installed).
- Clean dirt and waste away from the engine, joints and radiator
- Make sure the cab steps and the handle are clean and dry
- Clean all safety stickers and manoeuvring instructions. Replace any stickers that are illegible or missing



WARNING

If the vehicle or equipment is not in perfect working order its operation is strictly prohibited.



NOTICE

For the cleaning procedures, refer to the "CLEANING" chapter.

4.7.2 Checking for damage

- Make sure that there are no damaged or missing parts.
- Make sure that all articulated pins are properly fastened.
- Make sure that there are no signs of possible cracks or flaws or other damage to the windows (if installed).
- Make sure that there are no oil, fuel or cooling liquid leaks underneath the vehicle.
- Make sure that the wheel bolts are properly tightened.



WARNING

If the vehicle or equipment is not in perfect working order its operation is strictly prohibited.

4.7.3 Start working with the vehicle

Regardless of their level of driving experience, operators must familiarize themselves with the position and function of all controls and instruments before operating the vehicle.

- Before using the vehicle, check location of personnel.
- While the vehicle is running, always keep light signals on. These serves to warn people that the vehicle is about to move.
- When working in a congested area, have another person present for signaling.
- When manoeuvring the vehicle, pay attention to bulky vehicle parts. There are parts that jut out from the cab.
- Never use controls for purposes different than those for which they were created for; e.g. to climb on or off from the vehicle or hang clothing, etc...
- Only use the vehicle from the driver's position.
- The vehicle may move suddenly if started up without following the correct procedure, thus, creating the risk of personal injury.
- Start up the engine from the driver's seat only.
- Never start the engine by causing a short circuit between the terminals of the starter.
- Before starting the engine, make sure all control levers are in a neutral position.

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4.7.4 Passengers transportation

Only the operator must be on board the vehicle, passengers are not admitted.

Passengers may obstruct the operator's view, causing an unsafe operation of the vehicle.



WARNING

Carrying people on or lifting people up with the vehicle is strictly prohibited unless the vehicle is equipped with an elevation work platform and has a special certificate of conformity regarding the transport of people.



WARNING

It is strictly forbidden to transport persons inside the basket while the vehicle is moving even in the presence of elevation work platform and certificate of conformity. It is compulsory to use the basket only with the parking brake engaged and the outriggers lowered (if present).

4.7.5 Electrical system protection

A burnt fuse must be replaced with another fuse of the same type, amperage and class.

Other types of interventions are not allowed, even if temporary.

Do not connect or remove terminals, fuses, or connectors when the vehicle is switched on or electrically powered.

Any intervention on the electric plant must take place with the vehicle not powered electrically. Restore the power supply only after the intervention has been concluded. Remount the lids and protections.

- Use the battery isolator to cut off power to the vehicle.
- Cut off power by means of the battery cut-off even before replacing the vehicle battery.
- In the event that a connector is damaged or is no longer inserted in its housing, replace it immediately in order to avoid short circuits or sparks.

Damaged, pinched or burnt cables must be replaced immediately even if damage is only to the sheathing or outer insulation.

- Never carry out or interrupt any connection on the load circuit, including connections on the battery, with the engine running.
- Never ground (earth) short circuit any charging component.
- Do not use an auxiliary battery with nominal voltage exceeding 12 volt.
- Make sure the polarity is correct when putting in the battery or when using an auxiliary battery when starting the vehicle with cables. Follow the use and maintenance instructions of the manual when starting up the vehicle with cables.

4.7.6 Signals to multiple vehicles

When working requiring more vehicles, give signals normally known to all employed personnel. Designate one person to signal and coordinate the work zone.

Before operating make sure that:

- The user and signaler are aware of the hand signals to be able to interact between them
- That everyone follows the directions given by the person in charge of signaling
- The signaler must be easily identified by the user of the vehicle
- The signaler must wear or hold one or more adequate recognition elements, like: jacket, helmet, sleeves, bracelets, signal paddles
- The recognition elements must be bright colored, preferably one, and reserved exclusively for the signaler.

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Movement	Meaning	Description
	Start - Attention - Order taking	The two arms are open horizontally, the palm of the hands forward
	Stop - Interruption - End of motion	The right arm is stretched upwards, with palm of right hand forward
	Danger - Stop - Emergency stop	Both arms stretched upwards
	End of operations	The two hands are joint at height of chest
	Lift	The right arm, stretched upwards, with palm of right hand forward, makes a circle
	Lower	The right arm, stretched downwards, with palm of the hand towards the body, makes a circle
	Vertical distance	The hands, one on top of the other, indicate the distance
	Horizontal distance	The hands, one next to the other, indicate the distance
	Forward	Both arms are folded, the palms of the hands backwards and the forearms make slow movements towards the body
	Move back	Both arms are folded, the palms of the hands forward and the forearms make slow movements away from the body

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Movement	Meaning	Description
	To the right compared to operator	The right arm, stretched horizontally, with palm of right hand downwards, slowly makes small movements towards the direction where to move
	To the left compared to operator	The left arm, stretched horizontally, with palm of left hand downwards, slowly makes small movements towards the direction where to move
-	Quick motion	The conventional signals used to indicate movements are quickly made
-	Slow motion	The conventional signals used to indicate movements are made very slowly

4.7.7 Working with the danger of falling masses and objects

When working in areas where there is a risk of falling, bouncing or interference from objects capable of hitting the operator or entering the cab:

- Always close the windows.
- Always ensure that other operators near-by are at a safe distance and cannot be hit by bouncing or falling objects.
- Never carry out work operations under an overhang; this could give way and fall onto the vehicle.
- When working from the cab:
  - Mount suitable safety panels to protect the operator.
  - Always close the windows.
  - Pay careful attention to crumbling walls, landslides, falling material or objects from the installed equipment, that may hit the cab, the protective structure or windows, causing damages to the vehicle and to the operator.
  - Do not excessively weigh down or fill the installed equipment or transport loads that may come out or fall on the ground.
- When working from the passenger basket:
  - Install optionals on the basket such as the roof to provide additional protection to the operators.



WARNING

Danger of falling objects

Use of a safety helmet is required if there is a risk of falling objects.

4.7.8 Working near electrical lines

Before working near overhead electrical lines, check that the safety distance is sufficient, in compliance with the current Standard in the country of use. In any case, never work near electrical lines at distances shorter than those in the table below or at the minimum distances indicated by the Standards in force in the country of use of the vehicle and of the equipment.

Damp ground may increase the risk of electrocution.

Operating or parking the vehicle too close to electrical cables leads to increased risk of being struck by lightning or being seriously injured.

Designate someone on the ground to signal when too close to power lines.

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Do not allow anyone near the vehicle when working in the vicinity of power lines. To prepare for any possible emergency situation, wear rubber shoes and gloves, cover the seat with a rubber piece of fabric and take care not to touch the chassis with any unprotected body parts.



DANGER

High voltage danger

Should the vehicle or the equipment installed on it collide with an electrical cable, the user, to avoid electrocution, must remain inside the driver's cab until certain that the electrical power supply has been properly disconnected.



DANGER

High voltage danger

If operating close to overhead electrical lines, check the safety distance in the table below, reported in the Italian Legislative Decree 81/08 Enclosure IX. The table is valid if the vehicle is used on Italian territory. However, refer to the Standards in force in the country of use of the vehicle and equipment.

Un (kV)	Distance
≤ 1	3 m (9.84 ft)
1 < Un ≤ 30	3.5 m (11.48 ft)
30 < Un ≤ 132	5 m (16.40 ft)
> 132	7 m (22.96 ft)

4.7.9 Working under the snow

Snow can hide obstacles and objects, and cover holes, dug-out areas and ditches, therefore, proceed with caution.



WARNING

Operation of the vehicle if the quantity of snow does not allow for clear distinction of obstacles and possible dangers along the path, is strictly prohibited.

- Take care when clearing snow and do not venture off the main road; that which is hidden at the sides of the road may cause vehicle overturning or damage to various components.
- Surfaces covered by snow or ice are extremely dangerous. Operate with caution, reducing vehicle speed as much as possible and engaging levers slowly.
- Operate with caution. If the vehicle should sink into the snow, it may overturn or remain buried. Do not venture from the road and avoid remaining entrapped or buried under heaps of snow.
- Extra care should be taken, when working on icy terrain. The ice will melt as the temperature rises and the ground will become slippery.
- Use caution in the presence of electrical cables, ditches, or freshly excavated or worked ground.
- Make sure not to cause risk to others in the area when backing up the vehicle.

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– Always check the space around the vehicle before carrying out any manoeuvres



NOTICE

If working the vehicle at temperatures below -10°C (14°F), empty and refill the tank using lubricants, fuel or cooling liquids suitable for such temperatures.



NOTICE

There are accessories that can be used to facilitate working with ice or snow, contact your dealer or agent.

4.7.10 Working with scarce lighting



CAUTION

The standard illumination of the vehicle is not suitable in working conditions with poor visibility or for use at night.

The vehicle can only be used with sufficient lighting in the work area.



NOTICE

There are several ways to improve visibility in conditions of poor lighting. Contact your local ***DIECI s.r.l.***dealer.

4.7.11 Working in closed areas or dangerous atmospheres

It is FORBIDDEN to use the machine in:

– Suitably ventilated closed spaces, that are nevertheless not compatible for the use of equipment with running endothermic engines.
– Spaces with dangerous or explosive atmospheres.
– Protected environments such as refineries.



CAUTION

The vehicle must be appropriately modified and certified to work in environments with an explosive atmosphere.

The vehicle can only be used in a tunnel if it has been declared suitable for these environments.

4.7.12 Reduce vibrations

Consider the following recommendations to reduce the vibration exposure of the operator:

– Always use the appropriate equipment for the job to be carried out.
– The driver's seat must be properly adjusted to suit the operator needs. Inspect and if required repair the suspensions and the regulation mechanisms of the seat.
– Make sure that the vehicle is kept efficient, perform vehicle maintenance as prescribed in this manual.
– Steer, accelerate, brake, shift gears, move the tool in a non-abrupt way.
– During transfers adjust the speed of the vehicle to minimize the level of vibrations. Reduce speed to avoid the risk of jolting. Transport the vehicle in the event of significant distance between job sites.

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- Maintain the workplace in good condition, remove stones and obstacles, fill depressions or holes etc.
- To avoid back pain problems, use the vehicle only in good health.
- Take breaks so as to reduce the time of sitting in the same posture.
- Do not exit the cab or go out of the vehicle with a jerk.
- Avoid to lift and move loads repeatedly.
- Further recommendations to reduce vibration when working with passenger basket:
  - Use the controls smoothly.
  - Do not make any sudden movements on the passenger basket.
  - The vibrations generated by the vehicle are not a source of risk when using the basket.

4.8 Working in windy conditions

Wind speed variation can cause a number of problems including the loss of vehicle stability, load oscillation, and a decrease in visibility due to dust, leaves, etc.

Adverse factors to vehicle use are:

- Location of the work site, the aerodynamic effect of buildings, trees and other structures influence wind speed.
- The height of the extended boom: the higher the boom is raised vertically, the higher wind speed becomes.
- Load bulk area: the more space the load occupies, the more the wind force is felt.

Strong wind

DIECI telehandlers can be used up to a wind speed of 45 km/h (12.5 m/s) Km/h, equal to 12.5 m/s (No.6 on the Beaufort scale) measured on the ground.

At 10°C temperature, wind with a speed of 32 km/h (8.9 m/s) Km/h it seems that exposed parts of the body have a temperature of 0°C. The higher you climb the faster the wind speed and the more the sensation of pressure drop increases.



WARNING

Strong wind danger

In the presence of strong winds (no.5 Beaufort scale) never lift loads with surfaces exceeding 1 m^2.

Below you can find the graph of the Beaufort scale for an indication of the wind speed with which you are working and when to suspend operations, if wind speed should exceed determined values.

Beaufort Wind Scale			
No.	Definition	Indicators	Speed (m/s)
0	Calm	Smoke rises vertically	0 - 0,2
1	Light air	Smoke drift wind direction	0.3 - 1,5
2	Light breeze	Wind felt on exposed skin. Leaves rustle; vanes begin to move	1.6 - 3
3	Gentle breeze	Leaves and small twigs constantly moving; light flags extended	3 - 5
4	Moderate breeze	Dust and loose paper raised. Small branches begin to move	5 - 8
5	Fresh breeze	Small trees in leaf begin to sway; glassy water, small waves form	8 - 11
6	Strong breeze	Large branches in motion. Whistling heard in electrical wires. Umbrella use becomes difficult	11 - 14

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Beaufort Wind Scale			
No.	Definition	Indicators	Speed (m/s)
7	Strong wind	Whole trees in motion. Effort needed to walk against the wind	14 - 17
8	Fresh gale	Some twigs broken from trees. Cars veer on road	17 - 21
9	Strong gale	Slight damage to buildings (falling chimneys and tiles)	21 - 24

4.9 Assessing the consistency of the work ground

The ground on which the vehicle can be positioned must be able to support the vehicle and its maximum bearing capacity.

DANGER

Danger of tipping

The sinking of the machine base support may cause the vehicle tilting.

CAUTION

Contact a qualified technician to assess the consistency of the ground according to the regulations in the country of use of the vehicle.

Request in any case the advice of a qualified technician to know whether in the workplace, there are hidden cavities (pipes, wells, old tanks, basements, manure, etc...).

NOTICE

Refer to the "*Technical data*" chapter in the manual of the vehicle, to know the maximum load that each wheel or outrigger (if any) can apply on the ground while using the vehicle.

4.10 Moving safely

NOTICE

The following operations are standard for any type of installed equipment; however, refer to any warnings present in the equipment manual.

WARNING

In the event of scarce visibility, have a person operate on the ground for signaling.

WARNING

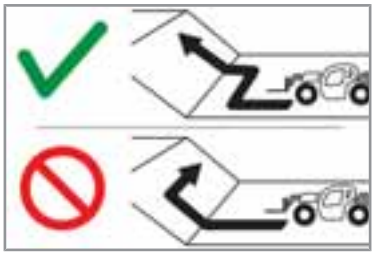
Do not lift or lower the loads when the vehicle is in motion.

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Operating on sloped terrain can cause overturning or sliding. Move forward and brake gradually and take all necessary cautions.

Always move in a straight line to go up or down a slope. Moving transversally or along the slope is extremely dangerous (fig. 150533-1).

Always use the parking brake when setting down or lifting a load on a slope.



150533-1

WARNING

Check the vehicle is leveled before using the boom on sloped ground.

Do not stop and leave the vehicle parked on a slope exceeding 15%, even with the parking brake engaged.



150534-1



150534-2



150534-3



150534-4

- In the event of having to travel uphill while transporting a load, operate always maintaining the load towards the top of the uphill (fig. 150534-1).
- When having to drive uphill without a load, operate with the vehicle facing downhill (fig. 150434-2).
- In the event of having to travel downhill while transporting a load, operate always maintaining the load towards the top of the uphill (fig. 150434-3).
- When having to drive downhill without a load, operate with the vehicle facing downhill (fig. 150534-4).

4.11 General warnings for moving the load

NOTICE! For safe working procedures in the various working conditions refer to the "Safety standards" chapter.

Always adhere to safety regulations; always transport balanced, properly arranged load to prevent overturning.

CAUTION

It is strictly prohibited to work without the respective capacity diagrams for the equipment and the vehicle.

When using this vehicle, carefully follow the capacity diagrams of the vehicle with the equipment mounted at that moment.

Do not attempt to carry out operations which exceed the capacity of the assembled equipment or of the vehicle.

Do not modify the structure and vehicle stability in any way by trying to add counterweights, whichever artifice is used.

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Always ensure the pallet, the boxes and other supports for the load are in good conditions and adequate to the load to be lifted; the sudden collapse of a rack of material is often caused by a faulty pallet.

Do not move the load with boom lifted or extended.

- Handle the vehicle with the boom raised only in exceptional circumstances. In these circumstances, operate with due prudence, reduce speed as much as possible and brake delicately. Make sure that visibility is always sufficient and ask an operator on the ground to guide you for the operations.
- Reduce the speed as much as possible and brake gently during handling operations.

WARNING

Do not handle loads while the vehicle is moving.

Avoid passing over unstable objects. Remove dangerous, unstable objects instead of passing over or around them. Also avoid holes and ditches that might make the load jolt.

Before turning, slow down as much as possible, and monitor the load.

Do not change direction abruptly or at high speed.

Remember that hydraulic steering is very sensitive to steering wheel movements; steer gradually and avoid sudden movements.

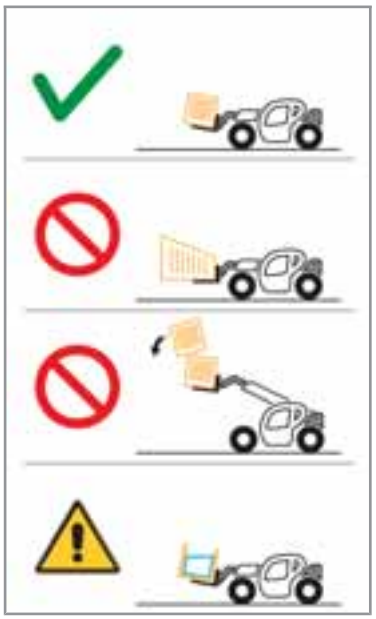
Slow down before turning.

Pay attention to the side space, in particular if transporting wide loads. If possible, keep to the center of the passage to avoid equipment or personnel from obstructing your path.

WARNING

Handle loads with care, at low speed and without sudden or jolting movements, above all if they are carried at great heights.

- Always ensure good visibility in the work area, including direct vision and visibility using rear view mirrors in order to check for the presence of people, animals, obstacles, holes and changes in slope etc.
- Decrease the working speed of the vehicle in case of rain, fog, snow or in any case where visibility is reduced.
- If visibility on the right side is limited during boom operation, before lifting the load, ensure that the work area is clear and make note of the position of any possible obstacles and irregularities in the terrain.
- Always make sure there is good visibility (clean windows, clean mirrors, clean lights that work properly, etc.).
- Maintain control of the vehicle and its speed in all circumstances. The speed of the loaded vehicle must never exceed 10 Km/h. If the load exceeds the maximum allowed load by 50%, vehicle speed must be reduced to 5 Km/h.
- Do not drive in reverse for long distances.
- Brake gradually; avoid braking abruptly.
- Always maintain the safe distance from other vehicles in order to have sufficient space to brake in every condition.



150532-1

CAUTION

Before lifting loads, operators must be familiar with the weight of the load and its center of gravity.

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- Transport the load as close as possible to the ground. Keep the load low, at a height from the ground of 300 mm. Never move with the load lifted more than necessary.
- The load diagrams are valid for centers of gravity of standard loads. For particular loads, contact your dealer.
- Pay the utmost attention during transporting of loads with variable center of gravity (e.g. Liquids). Operate with caution in order to limit such variations and to prevent the risk of vehicle overturning.
- Always ensure the moved load is correctly balanced and cannot fall on the ground. The loss of the load or part of it can entail a danger of damage to things and persons
- Pay the utmost attention to objects that may fall. Ensure there are no unstable objects on the upper part of the load.



WARNING

Never lift a load when the vehicle is on a sloped surface. When on a sloped surface, pay attention to the conditions of the ground. When working with the vehicle on a sloped surface with the load high, a jolt or a hole is sufficient to make the vehicle overturn.

Do not move the boom if the vehicle is located on terrain with a slope greater than 2° (3.5%).

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4.12 Loads handling with rotary vehicles

The same operations for lifting of a load with aligned vehicle must be carried out with rotated vehicle.

Before operating the machine, make sure that there are no obstacles within the machine range during the turret rotation.

CAUTION

Before operating the vehicle, make sure the turret rotation locking pin is not engaged.

WARNING

The turret rotation with a load must always take place with arm retracted and lowered as much as possible. Risk of fluctuations and loss of load and lateral tipping.

Carry out the turret rotation with caution and at the lowest possible speed.

WARNING

Pick up and move loads through the turret rotation only after having leveled the vehicle and inserted the axle swing lock (if any). Danger of lateral tipping.

DANGER

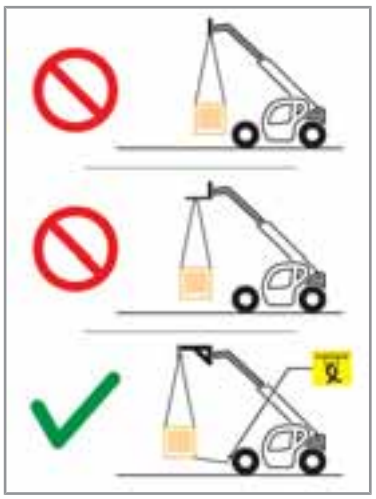
Handle loads only after they are off the ground. Dragging or pushing a load on the ground through the rotation of the turret or the extension or retraction of the boom may cause damage to the vehicle.

4.13 Use of cables, ropes and slings

It is strictly forbidden to lift or move load fastening ropes or chains only to the vehicle's accessory holder plate, to forks or to any other equipment not designed for this purpose.

Various equipment set-up for lifting, provided with suitable hooks for the use of cables, chains and straps are available. For further information contact your ***Dieci*** dealer.

To keep the suspended load from swaying while being handled, the load can be fixed to the anchoring eyebolts of the vehicle while being transported.



150535-1

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4.14 Road travel

4.14.1 Road travel warnings



CAUTION

Before starting the road travel make sure to observe the relevant laws and regulations in the country of use.

The road travel requirements are shown on the Vehicle Registration Document.

Low beam lights must be on even during the day and in streets where there is no obligation to use visual and lighting signaling devices.

Ensure correct operation and cleaning of headlights, direction lights and windscreen wipers.



WARNING

Check the correct position of the rear view mirrors.

The objects seen through the rear view mirror are closer than they appear.

When driving on the road and/or on a slope it is necessary to be very careful to the engine rpm. A high number of rpm can lead to mechanical failures. Keep under control the motor rpm and speed.

Pay particular attention to loading docks, trenches, scaffolding and land recently excavated or filled

4.14.2 Road travel instructions

- Level the vehicle so that the wheel axles are aligned with the chassis (if present).
- Ensure that all outriggers have been perfectly retracted and raised (if present).
- Close the telescopic arm (boom) completely.
- Lower the telescopic boom completely and then raise it slightly to about 20-30 cm from the ground.
- Check the correct operation of the lights before moving on roads. Check that the rotating light for slow vehicle signaling is installed and running; keep the rotating light in operation both at day and at night.
- Perform the wheels alignment, so that they are perfectly aligned with the vehicle chassis.
- **It is mandatory** to arrange the steering as reported in the Vehicle Registration Document and lock the selector lever with the dedicated device.
- Make sure that the amount of fuel is sufficient.
- Assemble all the accessories required for road circulation depending on the country in which the vehicle is operating.
- Install an overhanging load signal panel on the boom head before the entering onto the road.
- Always evaluate the road to be traveled, taking account of suspended structures (e.g. bridges, underpasses, etc.) that could be damaged by the vehicle.
- In some countries it is mandatory to place wedges under the tires when the vehicle is stopped.

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– Make sure that your vehicle is in compliance with local legislation in reference to the presence of the license plate when traveling on the road both at day and at night.

WARNING

Road transfer with equipment assembled to the fork holding plate is not allowed except those accepted by the legal authority of the country where the vehicle operates.

WARNING

It is not allowed to travel on public roads with loaded vehicle.

Comply with the maximum permissible mass written on the vehicle registration document.

4.15 Momentary stop

CAUTION

If it is necessary to leave the driving position, follow the steps in the "Parking the vehicle" paragraph.

WARNING

Never move away from the vehicle, leaving the engine running or the ignition key on the vehicle.

WARNING

Do not stop and leave the vehicle parked on a slope exceeding 15%, even with the parking brake engaged.

– Gradually release the accelerator pedal.
– Stop the vehicle on even ground.
– Engage the parking brake
– Bring the movement selection lever to "**N**".
– During the running-in of the vehicle (50 h), do not keep the diesel engine at minimum revs for too long.

4.16 Parking the vehicle

Never leave in any case the vehicle parked with a raised load.

– Always park on flat, firm and level ground, where there is no risk of falling rocks, landslides or flooding.
– Lower outriggers to the ground (if present).
– Retract the boom completely and lower it to the ground.
– Engage the parking brake
– Bring the movement selection lever to "**N**".
– Run the engine at idle speed for some seconds before turning it off, in order to allow the engine cooling.



150536-1

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- Turn the ignition key to the engine stop position.
- Remove the key from the ignition switch.
- Lock the hydraulic controls with the special devices (if present).
- Close the windows and lock them with the handles.
- Close the cab door by key.
- Place wedges under the wheels.
- Make sure that the vehicle is parked so as not to impede its movement and at least 5 meters away from the railroad tracks.



WARNING

Do not stop and leave the vehicle parked on a slope exceeding 15%, even with the parking brake engaged.

4.17 Starting and stopping the machine

4.17.1 General warnings regarding starting up the vehicle



WARNING

Do not use the vehicle without having first read and understood all parts of this manual, and without having attended an adequate training course.

- Before starting the engine, make sure all control levers are in a neutral position, the parking brake is engaged, the engine hood is closed and that there is nobody in the area surrounding the machine.
- The machine can only be started up or maneuvered when the operator is seated in the driver's seat, with the seat belt fastened and adjusted.
- The machine may move suddenly if started up without following the correct procedure, thus, creating the risk of damage.
- Never start the engine by causing a short circuit between the terminals of the starter.
- Never start-up the engine by pushing or pulling the vehicle. This could seriously harm people or cause serious damage to the vehicle.
- Be careful when using auxiliary batteries as the gas contained in these may explode, causing serious damage. Follow the instructions provided in the "Emergency procedures" chapter, "Start-up using auxiliary batteries" paragraph to start the engine using auxiliary batteries. An incorrect procedure can cause serious damage to the electrical/electronic system, the vehicle could move suddenly, the battery could explode and damage could be caused to objects and/or people.
- Do not start the engine or touch the levers of the machine if a danger sticker or a maintenance in progress sign is placed inside the cab.

4.17.2 Inspections prior to starting-up

4.17.2.1 Inspecting the machine

Carefully inspect your machine every day or before every shift.

Carry out the following inspections and operating checks:

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- Parking brake efficiency
- Intact condition of the tires
- Type of tire suitable for the type of work ground
- Engine oil level (check and top-up, if necessary)
- Hydraulic oil level (check and top-up, if necessary)
- Air filter clogging indicator (check and clean, if necessary)
- Tire inflation and pressure (check)
- Fuel level (check)
- Signaling and warning devices (check)
- Steering efficiency
- Service brake efficiency
- Tightness of all nuts and bolts
- Lighting
- Direction indicators
- Emergency Lights
- Switches
- Indicator lights
- Windscreen wipers
- Reverse movement alarm
- Position and condition of rear view mirrors



DANGER

Immediately stop using the machine in case of malfunctions or if it does not comply with safety standards.

Contact an authorized ***Dieci s.r.l.*** workshop if the machine shows malfunctions. Refer to the "Maintenance" chapter for information regarding routine maintenance.



NOTICE

A thorough inspection is required if the machine is not used for a prolonged period of time. A detailed description of the operations is provided in the "Machine storage" chapter

4.17.2.2 Inspecting the work area

- Examine the work area when working at the edge of an excavation or on soft ground as the machine could overturn.
- Examine the conformation and condition of the terrain of the work area before beginning to operate.
- Keep the machine well away from the edge of the excavation and the side of the road.
- When working on a slope or near the roadside, have another person present for signaling.
- Pay utmost attention when working on icy ground. The ice will melt as the temperature rises and the ground will become slippery.
- Check for any overhead power lines or underground piping.
- Do not work in places at risk of landslides or falling rocks.
- Take due precautions to prevent any unauthorized persons from entering the working area.
- When moving through or operating in shallow water or soft ground, verify the shape and the conditions of the land, the water depth and flow rate before beginning the operation.

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4.17.3 Starting-up the engine

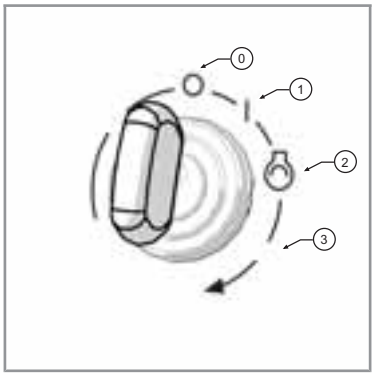
Proceed as follows to start-up the engine of the vehicle:

1. Press the parking brake switch.
2. Bring the movement selection lever to neutral.
3. Remain seated in the driver's seat.
4. Turn the ignition key (fig. 150538-1) clockwise to position "**1**". With the key in this position:

– The control panel and instrument panel will be powered

– A buzzer will sound, indicating that the key has been inserted. This buzzer also serves to warn any persons in the surrounding area that the vehicle has been started up.

– A check-up of the instrumentation will be performed with all the indicators lighting up for about 5 seconds. Only the following lights must remain switched on at the end of the check-up:
  – Engine oil pressure indicator light
  – Battery charge indicator light
  – General alarm warning light
  – Intermittent buzzer
  – Other indicators of activated functions (e.g.: Parking brake, gears engaged, etc.)



150538-1

WARNING! If other indicators remain on signaling malfunctions or if one of the previous conditions does not occur, do NOT start-up the engine and refer to the "Maintenance" chapter or contact the Dieci service center.

1. Turn the ignition key (fig. 150538-1) to position "**3**" to start-up the engine. Release the starter within 5 seconds.
2. Release the key once the engine has started. The indicators related to the engine oil pressure and battery charge must go off once the engine is started up.
3. If the engine does not start within 5 seconds, try again at regular 15 second intervals to prevent overloading the starter.

4.17.4 Warm-up after starting-up

During the first few minutes of use, keep the speed slow in order to warm up the engine and hydraulic oil.

WARNING

Serious damage can be caused to the engine and the hydraulic system if the engine reaches high rpm before the operating oil temperature and pressure levels are reached.

Let the engine run at 1100 - 1300 rpm for about 5 minutes so as to bring the engine oil to the operating temperature, particularly, with outdoor temperatures below 0 °C.

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4.17.5 Start-up at low environmental temperatures

Consider the following warnings before starting-up at low environmental temperatures and with a cold engine:

- In order to prevent discharging the battery, do not prolong each attempt to start-up by more than 15 seconds; however, if the engine does not seem to be starting-up, extend the time to a maximum of 30 seconds.
- Wait at least one minute before trying to start-up again.
- It is recommended to not exceed six start-up attempts so as not to discharge the battery excessively.



NOTICE

It is recommended to use anti-freeze diesel at environmental temperatures lower than 0°C, so as to make sure the engine is optimally supplied, without reducing performance.

4.17.6 Causes of failed start-ups

Check the following if the engine does not start-up:

- The parking brake switch is pressed.
- The gear selection lever is in the neutral position.
- No emergency buttons are pressed.

After checking all the previous conditions, remove the cause of failure to start and try the starting procedure again.



NOTICE

If the problem persists, contact a *Dieci* after-sales center.

4.17.7 Turn off the vehicle

It is recommended to perform the following before switching the engine off:

1. Bring all the control levers to the idle position.
2. Bring the engine to low speed for a few seconds.
3. Turn the ignition key to position "**0**".

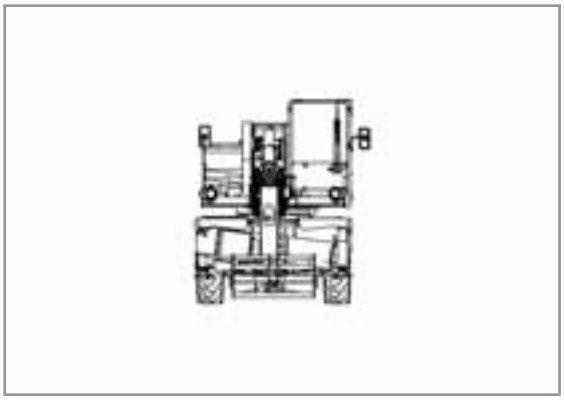
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5 Vehicle description

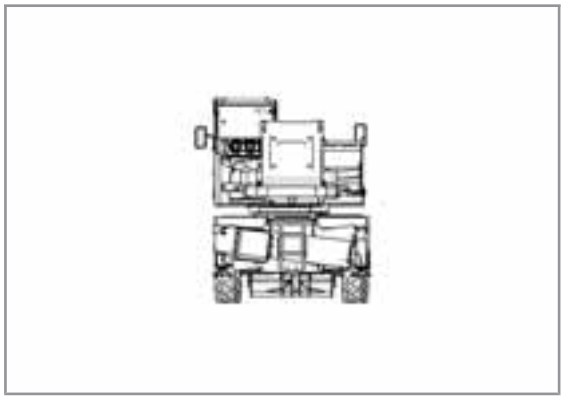
NOTICE

The images used to describe components and controls refer to a complete vehicle with all accessories; these may vary depending on the model and on the configuration chosen.

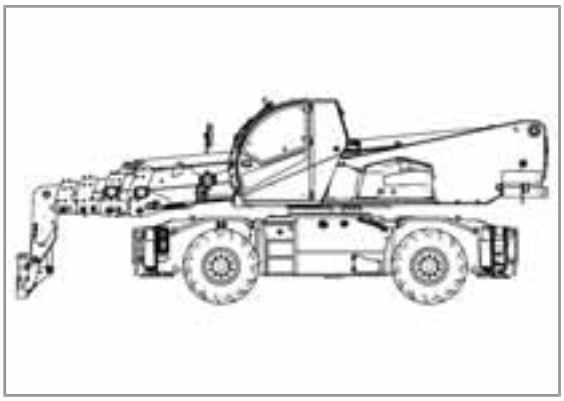
Refer to the “Definitions” manual to understand references such as: Right side, Left side, Front and Back used in the manual.



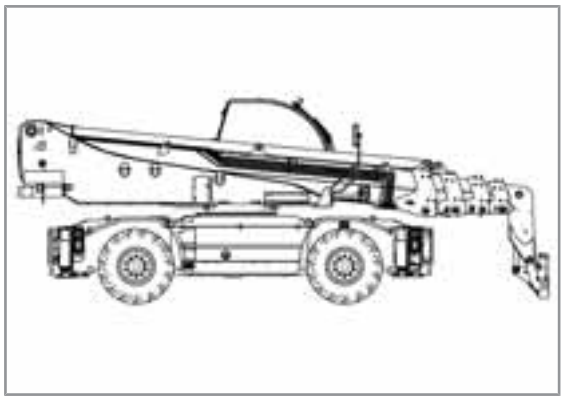
150641-1: Front view



150641-2: Rear view



150641-3: Left view



150641-4: Right view

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5.1 Turret description

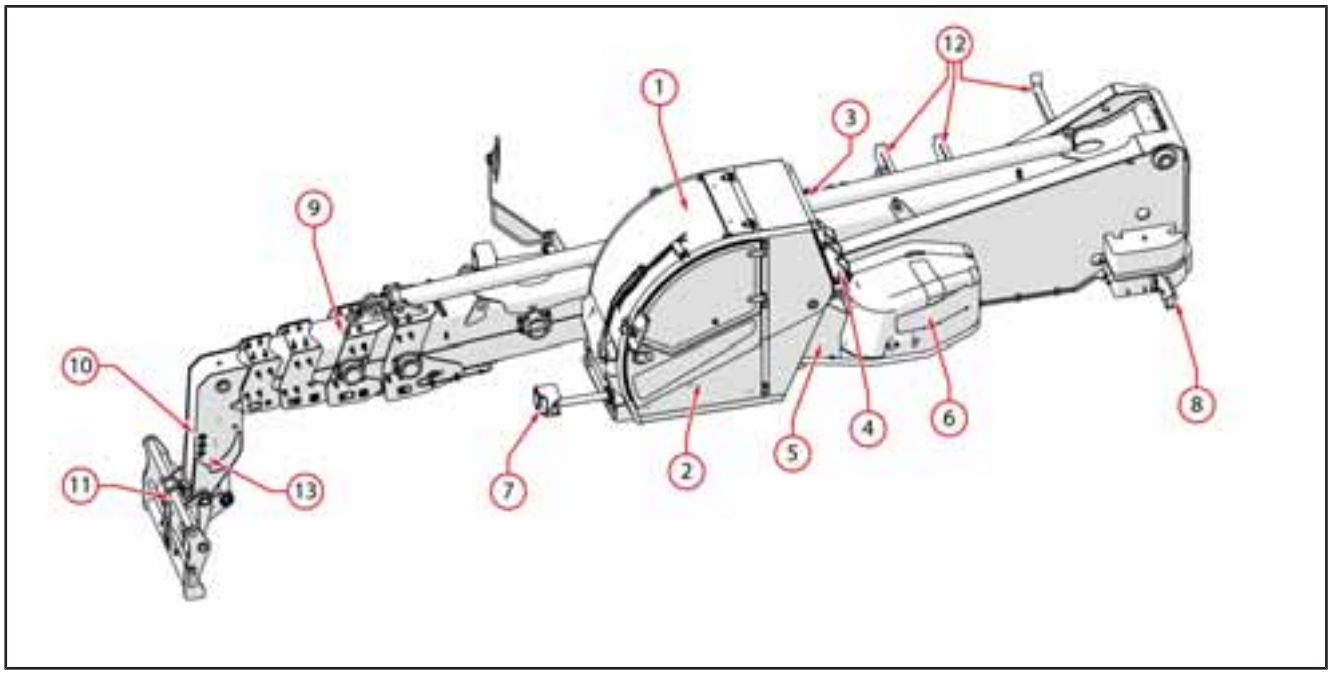


Illustration 1: 161040-1: Turret description

1	Cab	2	Door
3	Rear glass – Emergency exit	4	Air conditioning (optional)
5	Turret rotation gearbox hood	6	Hydraulic distributor hood
7	Front headlight	8	Rear headlight
9	Telescopic boom	10	Hydraulic sockets on boom head
11	Attachment holding plate	12	Supports for equipment transport (Optional)
13	Hydraulic socket used as a drain		

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5.2 Carriage description

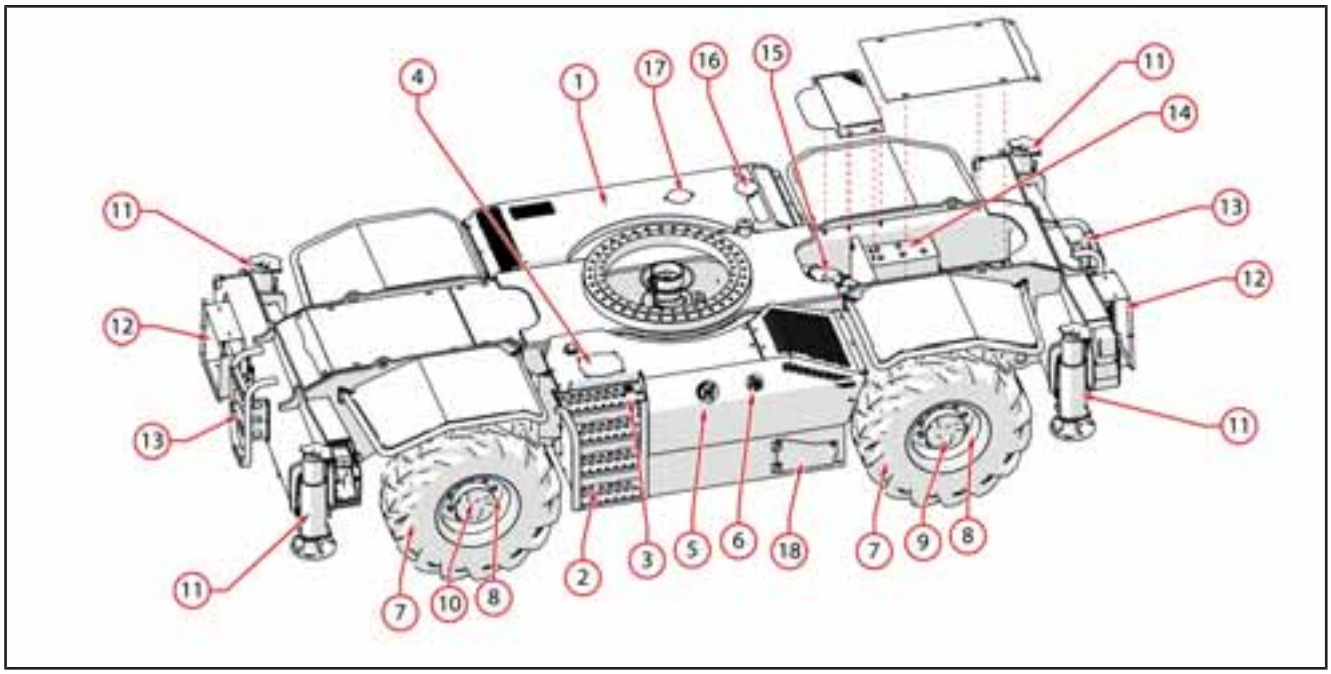


Illustration 2: 161041-1: Carriage description

1	Engine compartment	2	Steps for cab access
3	Hydraulic oil tank cap	4	Hydraulic oil filter access cap
5	Fuel tank cap	6	AdBlue tank cap
7	Wheel	8	Epicycloidal reduction gear
9	Rear axle	10	Front axle
11	Outrigger	12	Additional platforms for outriggers kit (Optional)
13	Steps for access to the cab with rotated turret	14	Battery
15	Engine air filter	16	Radiator access cap
17	Engine oil access cap	18	Storage compartment

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5.3 Engine components description

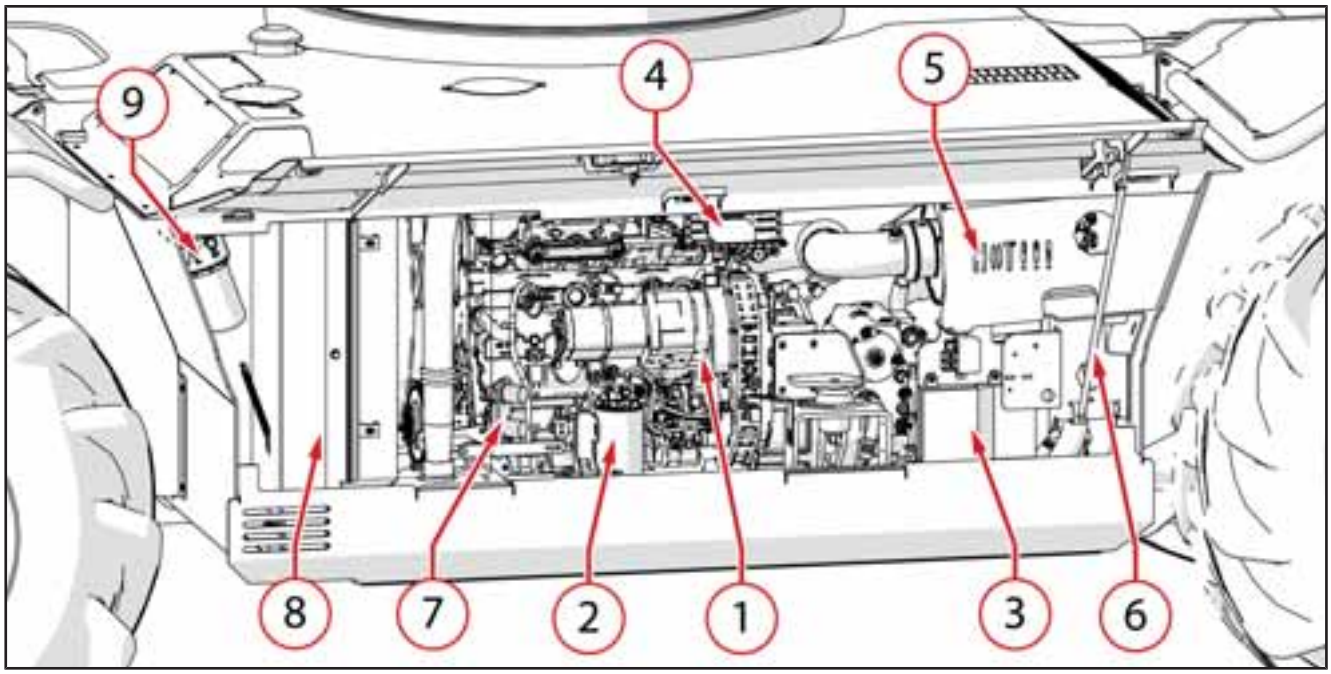


Illustration 3: 161042-1: Engine description

1	Engine	2	Fuel filter
3	Hybrid box	4	ECU engine
5	DOC	6	Hood support rod
7	Prongs for starting with auxiliary battery	8	Radiator
9	Fuel pre-filter		

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5.4 Cab components description

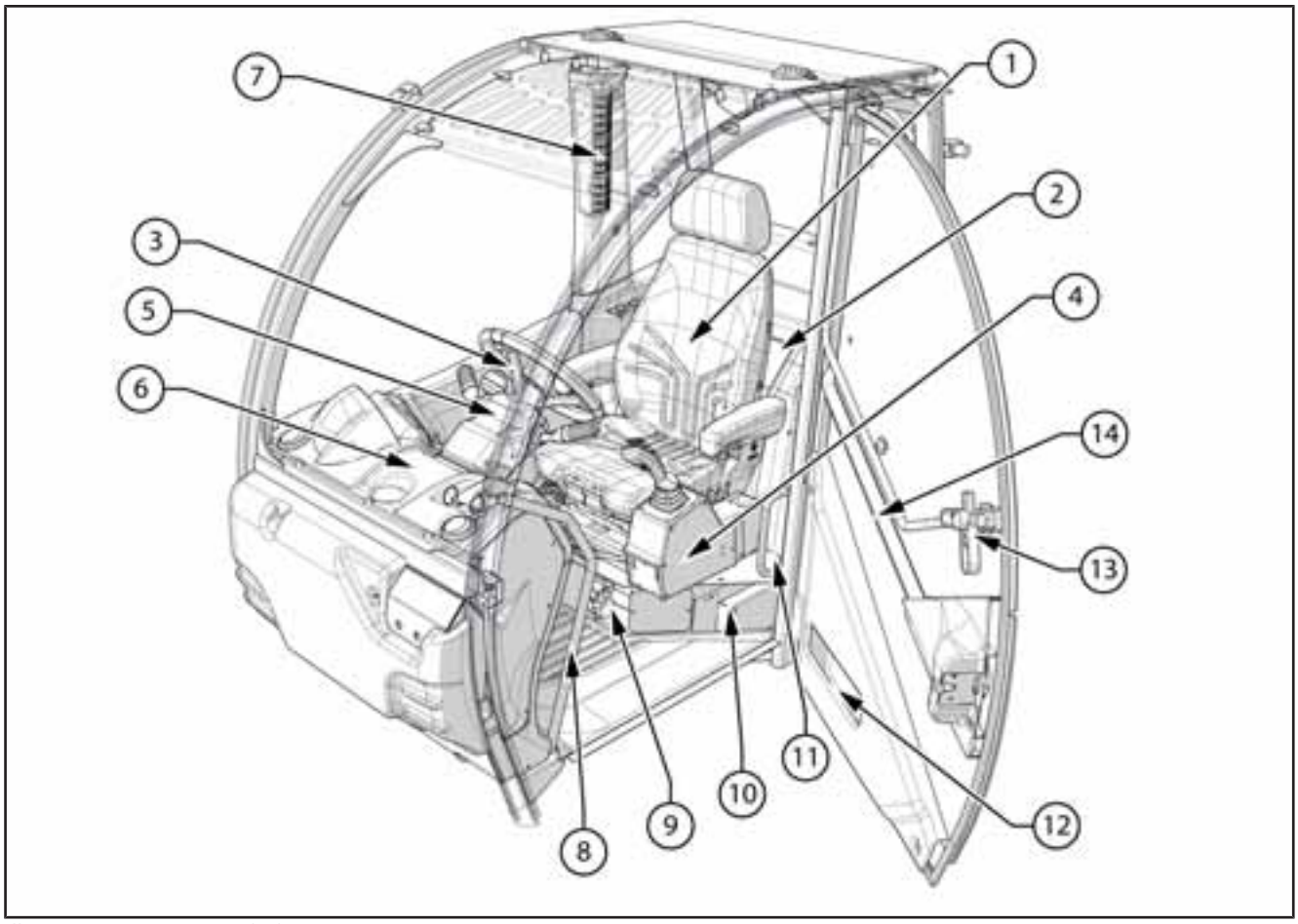


Illustration 4: 161044-1: Cab description

1	Seat	2	Storage compartment
3	Right joystick	4	Left joystick (optional)
5	Steering wheel	6	Central instrument panel
7	High instrument panel	8	Handle for climbing on
9	Cab ventilation adjustment	10	Cab air filter
11	Handle for climbing on	12	Storage compartment
13	Glass opening handle	14	Internal door opening handle

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6 Safety and protection devices

6.1 Reference to safety and protection devices

Safety devices	Additional information	
Safety devices	6.2	Safety stickers
	7.1	Cab
	7.1.1	ROPS - FOPS Cab
	7.1.16	Emergency Lights
	7.1.17.1	Deadman seat sensor
	7.1.17.3	Seat belts
	7.1.18	Emergency stop
	7.1.20	Emergency exit: Rear glass
	7.3.4.22	Anti-tipping device
	7.6	Double Joystick with capacitive deadman sensor
	7.12	Safety rod
	7.13	Wheel wedge
	7.14	Block valves
	7.15.1	Capacity diagrams

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6.2 Safety stickers

6.2.1 Warnings for safety stickers

Some safety stickers have been applied on the vehicle and equipment in the positions shown below. Their purpose is to provide a guide for your own and others safety. Before starting to work, check the content and location of the stickers indicated on this manual. Review the safety stickers with all operators who will use the vehicle and equipment.

CAUTION

Make sure to have fully understood their correct location and their contents.

To ensure proper interpretation verify that they are in the correct position and that they are always kept clean.

DANGER

Clean them when they are covered by mud, concrete or debris.

It is absolutely forbidden to clean the stickers using solvents or gasoline; the stickers may become discolored.

See the summary table in the "Maintenance" chapter for the for safety stickers maintenance and control deadlines.

Replace the safety stickers in case of deterioration, damage or loss, as these must always be read and interpreted correctly.

WARNING

Do not under any circumstances remove the safety stickers.

NOTICE

The purchase order of replacement safety stickers must be made in the same way in which any spare part is ordered (be sure to communicate the model and serial number of the vehicle or equipment when placing the order).

6.2.2 Meaning of safety stickers

SIGNAL	CODE	DESCRIPTION
	AXA1427	Refuelling cap position.
	AXA1431	Eyelet position for lifting hook.
	AXA1432	Eyelet position for tow hitch or attachment.
	AXA1433	Hydraulic oil level indicator position.

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SIGNAL	CODE	DESCRIPTION
	AXA1434	Hydraulic oil filler cap position.
	AXA1435	Danger of gears in motion.
	AXA1436	Position of the cylinder support bar.
	AXA1438	Walkable surface.
	AXA1439	Danger of fan in motion.
	AXA1440	Danger of hot radiator cap.
	AXA1441	Danger of hot surface.
	AXA1493	Danger, do not stand within the range of operation of the vehicle.
	AXA1498	Battery isolator position.
	AXA1506	Fasten the seat belt.
	AXA1514	Emergency exit.
	AXA1515	Remove the safety catch to open the emergency exit.
	AXA2682	Type of fuel used.
	AXA2708	Type of oil used in the hydraulic system ISO 46.
	AXA2798	Type of oil used in the hydraulic system ISO 32.
	DOCAD0000049	Urea filling cap position.
	DOCAD0000050	Instructions for using the VDC

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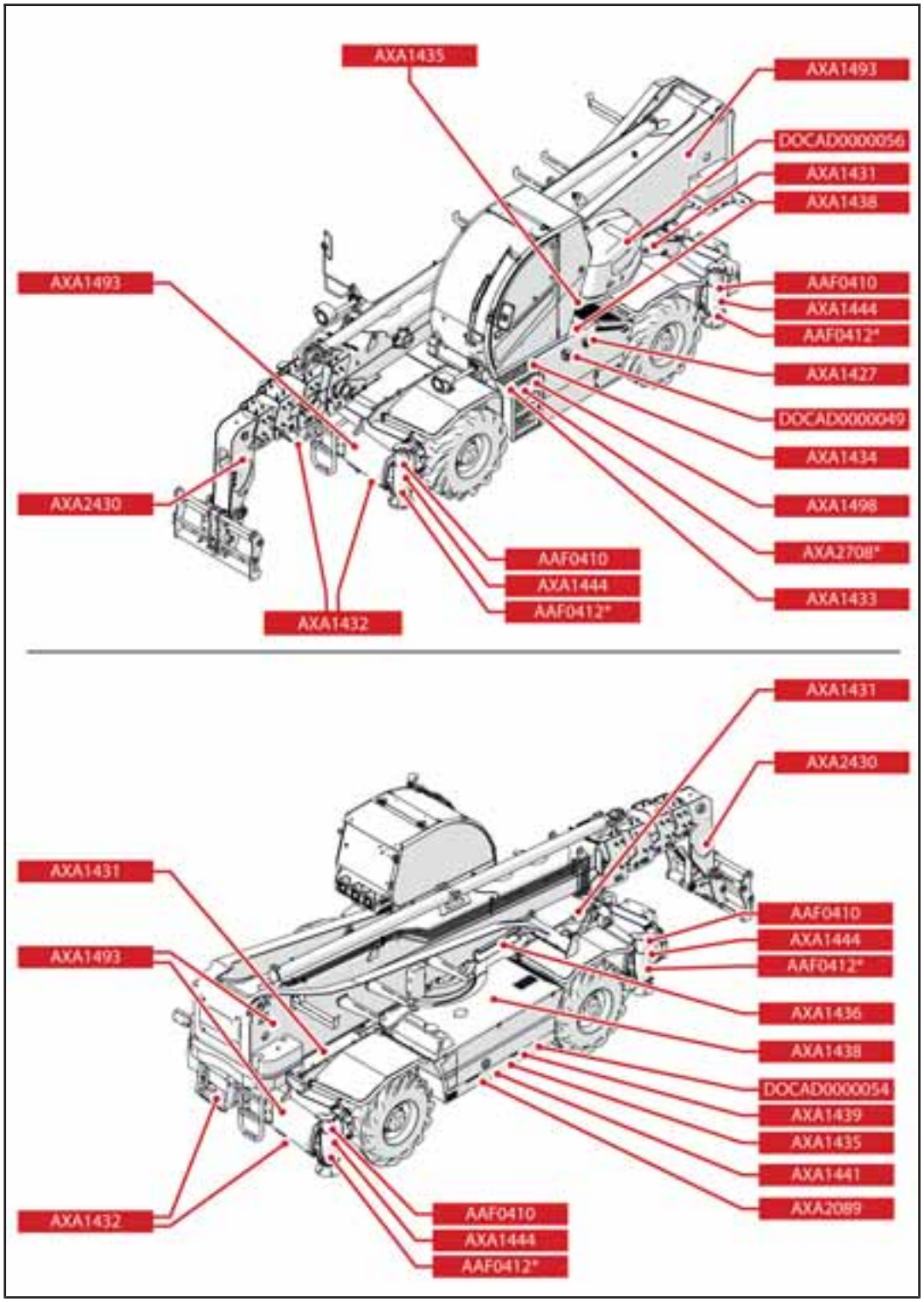
SIGNAL	CODE	DESCRIPTION
	DOCAD0000053	Keep a safe distance from electrical lines.
	AXA1773	Reduce speed when traveling downhill.
	AXA2407	Instructions for using the plate shifter.
	AXA2408	Instructions for using the winch.
	DOCAD0000054	Stop the engine before performing any maintenance operations.
	AXA2159	Instructions for Elobau Pegasus 5in2 lh joystick
	AXA2158	Instructions for Elobau Pegasus 5in2 rh joystick
	AXA1163	Prohibition to use the bucket with extended boom.
	AXA2430	Prohibition to transport and lift persons.
	AXA1444	Danger of feet crushing
	AAF0410	Vehicle overall dimensions delimitation

Stickers for pre-arrangement for passenger baskets

SIGNAL	CODE	DESCRIPTION
	AXA2799	Keep a safe distance during maintenance.
	AAF0412	Delimitation of overall dimensions for elevating work platforms
	DOCAD0000056	Instructions for passenger basket emergency recovery.
	DOCAD0000079	Key instructions for basket recovery from the cab

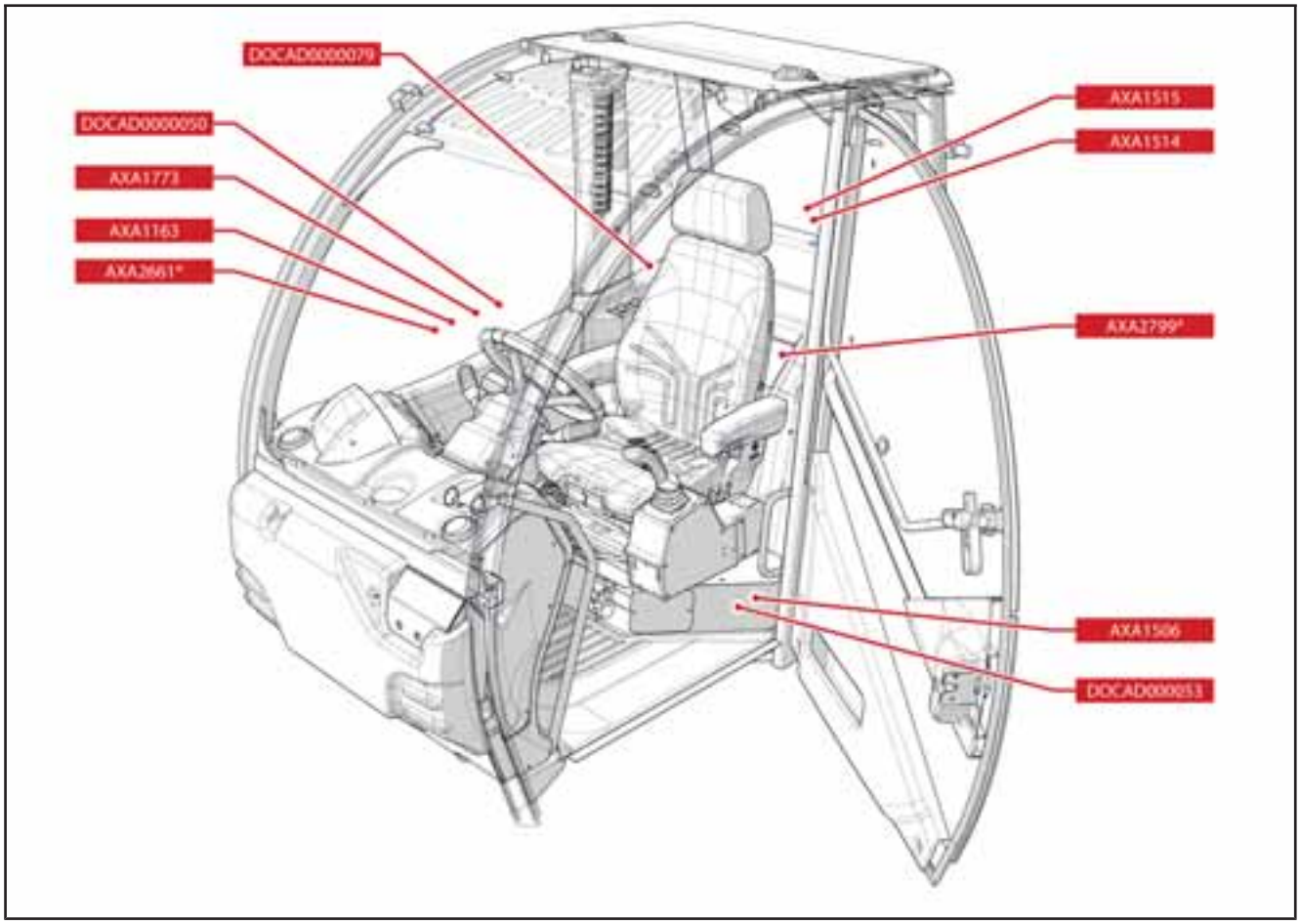
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6.2.3 Safety stickers position on the vehicle



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6.2.4 Safety stickers position in the cab



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7 Components description

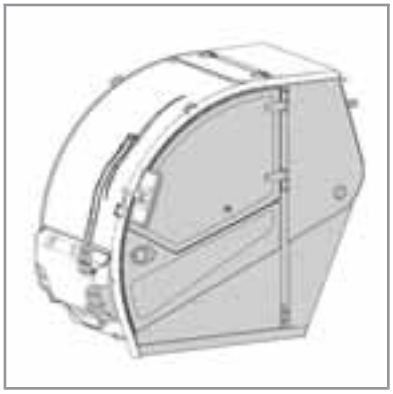
7.1 Cab

7.1.1 ROPS - FOPS Cab

The vehicle is equipped with an approved cab:

- **ROPS** (Roll Over Protection Structure)
- **FOPS** (Falling Objects Protective Structure)

The operator is therefore protected in the event of vehicle tipping and in the event of falling objects, as prescribed for earth moving vehicles.



CAUTION

The cab is a safety device and as such must be always kept in the right conditions of use.

In case of cab tampering, the manufacturer has no civil liability in case of an accident, therefore it is absolutely forbidden to:

- Change, drill, or alter in any way the structure of the cab.
- Weld or mechanically connect parts to the cab chassis.
- If the fastening bolts are replaced, use elements of different strength class.
- Connect chains or ropes to the cab for the purpose of towing.

WARNING

In the case of vehicle tipping, staying in the cab with fastened seat belts allows to obtain a better protection.

If the cab has undergone visual damage it must be replaced by consulting the authorized service center or Dieci authorized workshop.

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The cab is classified as: CATEGORY "1"

The cab approved as category "1" does not offer full protection against the ingress of dust, aerosols and vapors. Consult and follow the instructions provided by the manufacturer of the chemicals used (such as pesticides, fungicides, herbicides, etc..) and those supplied by the manufacturer of the sprayer. Use the appropriate personal protective equipment and clothing (PPE) when indicated in these instructions, even when you are inside the cab.

DANGER

Inhalation danger for operators and bystanders.

For protection against harmful dust, aerosols and vapors, refer to the instructions provided by the manufacturer of chemicals, by the manufacturer of the sprayer and to the basic rules contained in this manual.

Refer to the packaging of the product used to use the appropriate protective equipment.

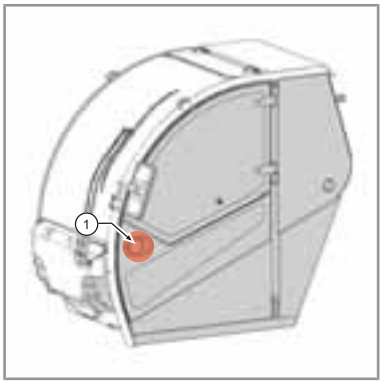
7.1.2 Door opening

7.1.2.1 External door handle

The door of the cab is equipped with an external handle "**1**" (fig. 150901-1) with lock.

To open the door from the outside:

1. Insert the key into the lock and turn it clockwise/ counterclockwise to engage/disengage the lock.
2. Pull the handle towards yourself to release the door with lock disengaged.



150901-1

NOTICE

With lock engaged, the door will not open by the handle.

WARNING

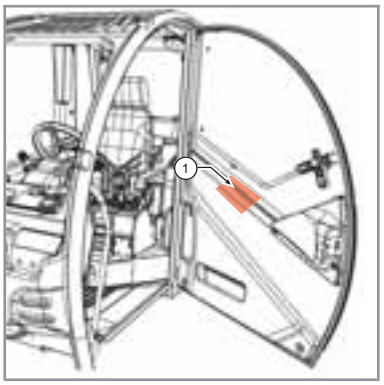
It is absolutely forbidden to operate with the cab door open.

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7.1.2.2 Internal door handle

To open the door from the inside (fig. 150901-2):

1. Press the button on the handle to release the door "**1**".
2. Push the door to the outside to complete the opening.
3. Accompany the door with one hand while opening it.



150901-2

CAUTION

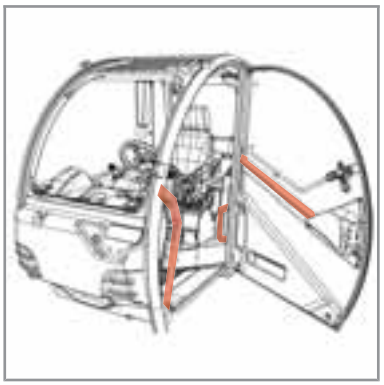
Before pushing the door outwards verify that the opening area is free from obstacles of various kinds.

7.1.3 Climbing in/out

NOTICE

Before climbing into the cab, make sure your hands and your shoes are clean and dry to avoid slipping and falling.

Use only the appropriate handles and steps to access the cab, do not use the controls and the steering wheel from inside. Climb in and out of the vehicle always turned towards the driver's cab.



150902-1

WARNING

RISKS

Climbing in and out of the cab is allowed only when the vehicle is stopped with the parking brake engaged. Do not leave the cab with the vehicle in motion.

https://truckmanualshub.com/

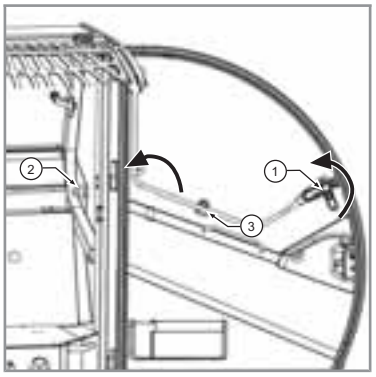
7.1.4 Door glass

To open the door glass (fig. 150903-1):

- Lower the handle "**1**" turning it counterclockwise and pushing the glass outward.
- To stop the glass in the open position push the bolt of the glass "**2**" inside the fastener "**3**" pressing slightly.

To close the door glass it is necessary to:

- Press the button inside the pin "**3**" to unlock the glass and be able to close it.
- To close the glass pull it towards yourself to the starting position.
- Rotate the handle "**1**" in clockwise direction to lock the glass in the closed position.



150903-1

CAUTION

Before opening or closing the glass make sure that the surrounding area is free from obstacles of various kinds.

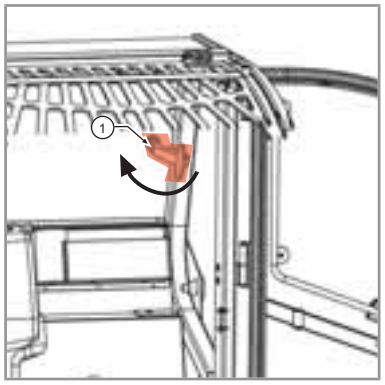
Before starting to working make sure that the glass of the door is locked, whether it is in the open or closed position.

7.1.5 Rear glass

To open the rear glass, lift the handle "**1**" (fig. 150904-1) and push the glass outward.

The glass is maintained in the open position by the handle.

To close the rear glass, pull the handle back in the cab and lower until it until the whole unit is completely locked.



150904-1

WARNING

Danger of crushing

In case the handle would no longer maintain the open position of the glass, replace it in the shortest possible time.

NOTICE

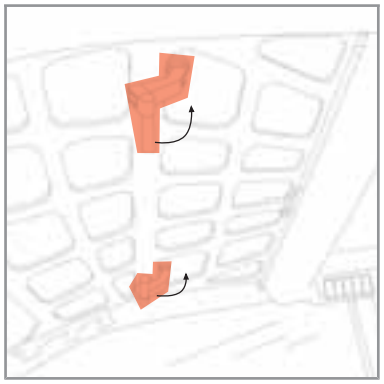
The rear glass also serves as an emergency exit, see the "Safety Devices" chapter for more information.

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7.1.6 Canopy

To open the canopy, hold the handle and push upward with a rotating motion. The position is held by the handles fully extended.

To close proceed with the inverse operation until the handles are locked.



WARNING

Danger of crushing

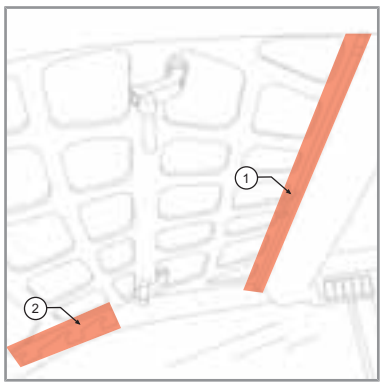
In case the handles would no longer maintain the open position of the glass, replace them in the shortest possible time.

7.1.7 Sunshade

The Sunshade is located at the top of the cab.

To lower the Sunshade, take the handle located at the center of "**1**" and lower it down to lock it the hooks provided "**2**".

To close the sunshade, lower the handle "**1**" to release it from the hooks "**2**" and take back the sunshade in closure.



7.1.8 Cab ventilation

7.1.8.1 Ventilation adjustment

To adjust the ventilation turn the knob "**1**" (fig. 161208-1).

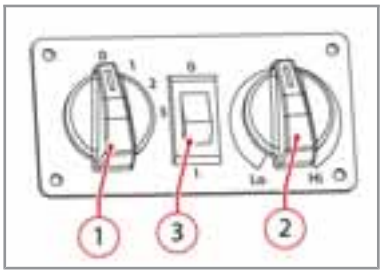
Clicks indicate respectively:

0 - Off

1 – First speed

2 - Second speed

3 - Third speed



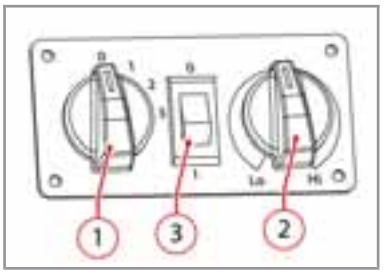
161208-1

https://truckmanualshub.com/

7.1.8.2 Air temperature adjustment

To adjust the temperature of the air coming out of the vents, turn the knob "**2**" (fig. 161208-1):

- Turning the knob clockwise (in the red scale) the temperature increases.
- Turning the knob counterclockwise (in the blue scale) the temperature decreases until it is next to the outside temperature.

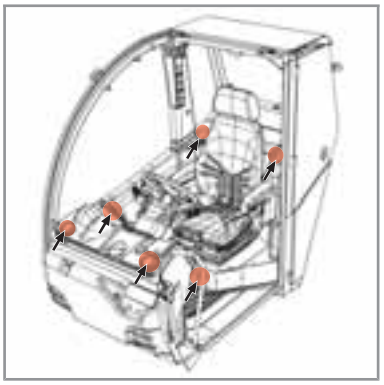


161208-1

7.1.8.3 Air vents

To open the air vents press on one side of these and adjust the air flow direction using the fins or rotating the vent.

To close the vents push the fins bringing them to the horizontal closing position.

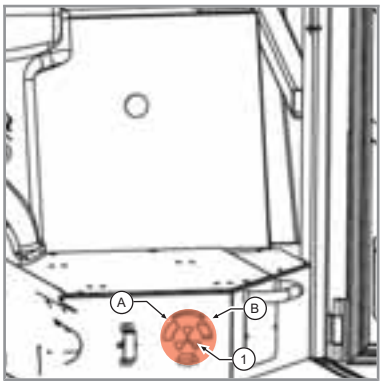


150905-1

7.1.8.4 Air recirculation inside the cab

To enable or deactivate the air circulation in the cab use the lever "**1**":

- In "**A**" position to enable air recirculation inside the cab.
- In "**B**" position to disable the air recirculation inside the cab and allow the ventilation system to draw air from the outside.



NOTICE

The lever acts on the air "draw" by the ventilation system. The air flow and temperature must always be controlled by the ventilation system inside the cab.

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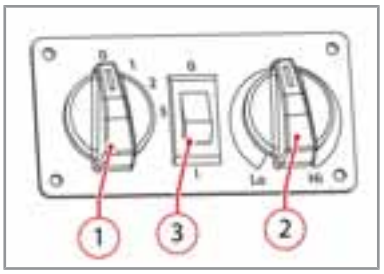
7.1.9 Air conditioning *

NOTICE

* Air conditioning is an optional accessory.

For a correct use of air conditioning, follow the following steps (fig. 161209-1):

1. Check that all doors and windows are closed.
2. Check that the heater is turned off by moving the lever towards the end of the blue scale.
3. With the engine running, turn on the air conditioning moving the switch "**3**" in position "**I**".
4. Turn the knob to adjust the airflow "**1**" to select the desired intensity.
5. Open and adjust the vents to obtain the best cooling according to the ambient temperature.
6. Turn the temperature knob "**2**" to obtain the desired temperature.



161209-1

CAUTION

Turn on the air conditioning two minutes, every 15 days, even in the colder seasons with the engine idling (without accelerating). In this way the moving parts, such as the compressor and the system in general are lubricated.

To keep the air conditioning system efficient keep the condenser clean.

DANGER

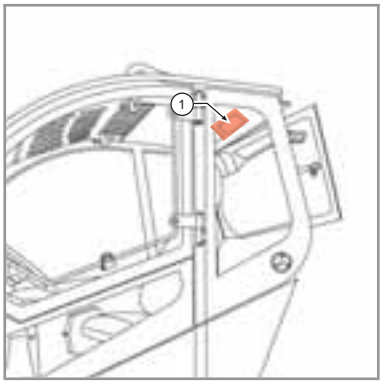
Do not loosen any hose of air conditioning systems in order to reach the capacitor since the contact between the skin and the refrigerant can cause frostbite.

For maintenance and deadlines, see the "Maintenance" chapter.

7.1.10 Cab lighting

To turn on the lighting inside the cab act on the ceiling light pressing one of the ends "**1**" (fig. 150906-1).

In the center position the lighting is turned off.

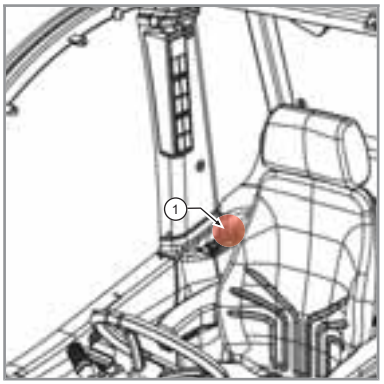


150906-1

https://truckmanualshub.com/

7.1.11 12V Socket

The 12V-180W socket "**1**" (fig. 150908-1) allows to connect direct current devices (battery chargers, cell phones, etc.)



150908-1

WARNING

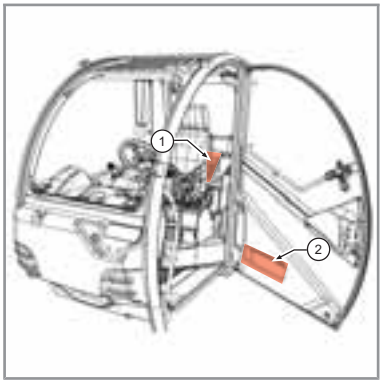
Do not connect users with nominal voltage greater than 12V and power consumption greater than 180W.

Risk of damage to the electrical system.

7.1.12 Storage compartment

There are different storage compartments on the vehicle (fig. 150907-1):

1. Behind the seat
2. On the door



150907-1

7.1.13 Steering wheel

The steering wheel of the machine allows steering the machine wheels according to the steering mode set.

NOTICE

Refer to the "Steering selector" chapter.

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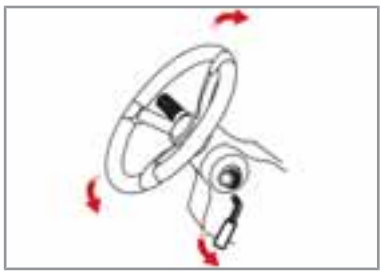
7.1.13.1 Steering wheel adjustment

To adjust the steering wheel angle (fig. 150401-1):

1. Turn the steering wheel adjustment lever "**1**" (fig. 150401-2) down to unlock the movements.
2. Push the steering wheel forward or pull it towards yourself to the desired position.
3. Push down or pull up on the steering wheel to the desired height.
4. Turn the steering wheel adjustment lever up to lock the steering wheel in the position in which it is located. For correct locking, screw firmly.



150401-1



150401-2

NOTICE

The steering wheel is properly adjusted when the operator, with the back firmly against the backrest of the seat, is able to grasp the furthest side of the steering wheel while keeping the elbow slightly bent.

7.1.14 Multifunction lever

The multifunction lever contains several functions: direction indicators, horn, headlights turning on, window wipers and washers.

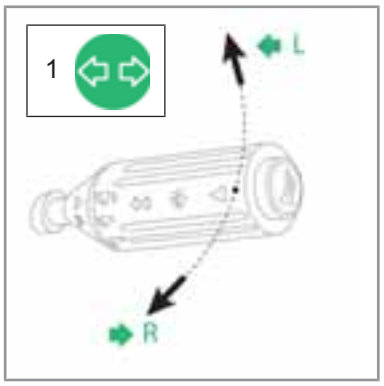
7.1.14.1 Direction indicators

Move the lever (fig. 150402-1):

- Towards yourself to indicate a curve to the right (**R**).
- Forward to indicate a curve to the left (**L**).

The indicators only work when the ignition switch is in the position of instrumentation on.

The indicator light "**1**" on the central instrument panel will activate the direction indicators.



150402-1

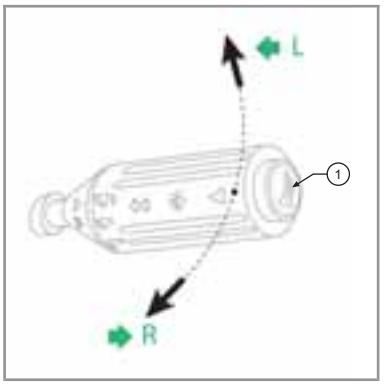
CAUTION

Push the multifunction lever in stand-by position after making the turn, return to the neutral position is not automatic.

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7.1.14.2 Horn

Press the button on the end of the lever "**1**" (fig. 150403-1), to activate the horn.



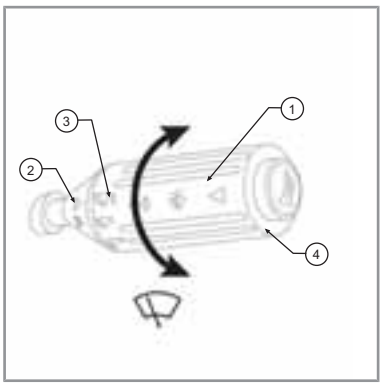
150403-1

7.1.14.3 Front window wiper

Turning the knob to "**1**" (fig. 150404-1) activates the front window wiper.

The arrow "**2**" indicates which window wiper mode "**3**" is currently active:

- 0 - Off
- I - Slow
- II - Fast



150404-1

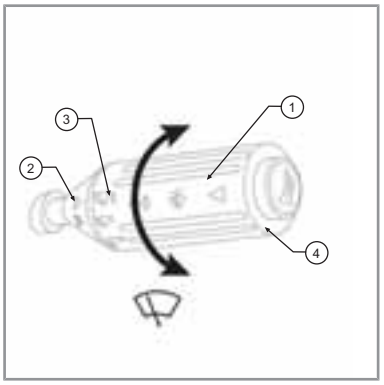
WARNING

Worn blades cause viewing difficulties and scratches to the glass.

Replace the blades if they are damaged or worn.

7.1.14.4 Window washer

Press the middle button on the lever "**4**" (fig. 150405-1) to turn on the front window washer.



150405-1

https://truckmanualshub.com/

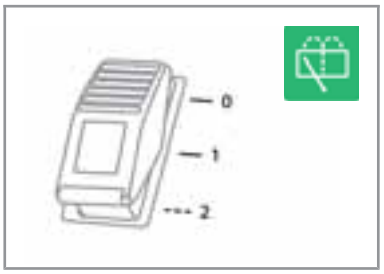
7.1.14.5 Rear window wiper and washer

The switch of the rear window wiper and washer (fig. 150406-1) has 3 positions, 2 of which are stable and 1 unstable:

0 - Window wiper off

1 - Window wiper on

(2) - Rear window wiper in operation, until pressed



150406-1

7.1.15 Lights turning on

7.1.15.1 Sidelights and low beam lights

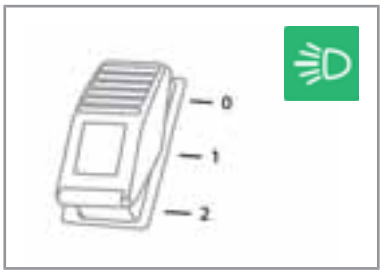
To turn on the front and rear sidelights of the machine it is necessary to use the switch on the left instrument panel (fig. 150407-1).

The switch has 3 stable positions:

0- Lights off

1- Side lights on

2 - Low beam lights on



150407-1

The sidelights turned on is indicated by the indicator on the switch that turns on.

When the low beam lights are activated the instrument panel of the machine lights on.

NOTICE

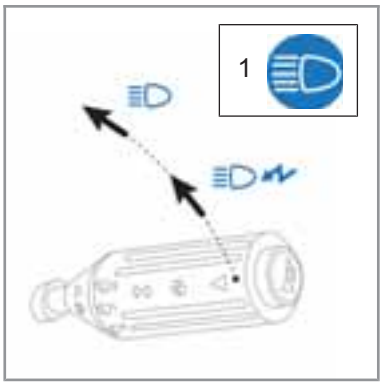
It is possible to turn on the sidelights with the ignition key in "0" position, while it is necessary to bring the ignition key in position "I" to turn on the low beam lights.

7.1.15.2 High beam lights

To turn on the high beam lights it is necessary to move the multifunction lever (fig. 150408-1).

- To make individual flashes with the high beam lights, pull the multifunction lever toward the steering wheel to the first click. It is possible to use this function with the lights off and the ignition key in position "**0**".
- To turn on the high beam lights, pull the multifunction lever toward the steering wheel to the second click. It is possible to turn on the high beam lights only with the ignition key in position "**I**" and low beam lights on. The high beam lights turned on is indicated by the warning light "**1**" on the instrument panel.

In both cases, once obtained the desired click, the multifunction lever returns to its rest position.



150408-1

https://truckmanualshub.com/

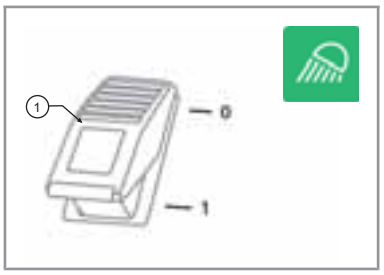
7.1.15.3 Cab front light *

NOTICE

* The cab front light is an optional accessory.

Press the switch "**1**" (fig. 150409-1) to turn on the front work light.

The warning light on the same switch indicates that the light is turned on.



150409-1

NOTICE

To turn on the light it is necessary to bring the ignition key in position "**I**".

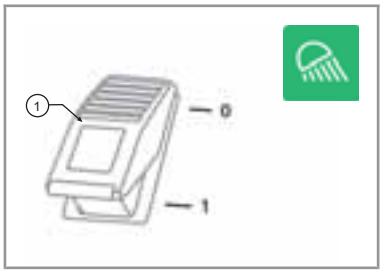
7.1.15.4 Cab rear light *

NOTICE

* The cab rear light is an optional accessory.

Press the switch "**1**" (fig. 150410-1) to turn on the rear work light.

The warning light on the same switch indicates that the light is turned on.



150410-1

NOTICE

To turn on the light it is necessary to bring the ignition key in position "**I**".

7.1.15.5 Work light on the boom head*

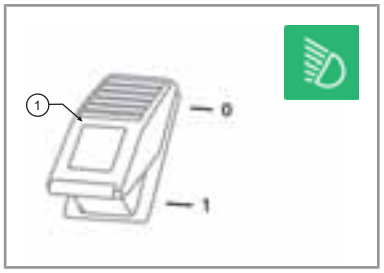
NOTICE

* The work light on the boom head is an optional accessory.

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Press the switch "**1**" (fig. 150411-1) to turn on the work light on the boom head.

The warning light on the same switch indicates that the light is turned on.



150411-1

NOTICE

To turn on the light it is necessary to bring the ignition key in position "I".

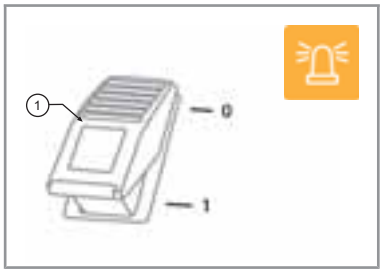
7.1.15.6 Rotating light

The rotating light "**1**" (fig 150412-1) must be position onto the driver's cab.

To activate and position the rotating light, perform the following steps:

1. Clean and dry the top of the driver's cab.
2. Place the rotating light on the cab.
3. Insert the plug of the rotating light into the electrical socket on the rear left side of the cab, under the rear glass.
4. Turn on the rotating light using the switch on the canopy instrument panel.

The rotating light turned on is indicated by the indicator light on the switch.



150412-1

CAUTION

Do not use the rotating light improperly.

Refer to the manager in charge of the work and to the regulations in force in the country of use of the machine to know the cases in which it is necessary and/or allowed to use the rotating light.

NOTICE

It is possible to turn on the rotating light even if the ignition key is in the "**0**" position.

WARNING

Risk of damage to the electrical system.

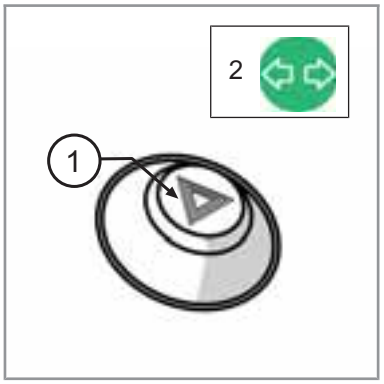
Do not connect users with nominal voltage greater than 12V and power consumption greater than 180W.

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7.1.16 Emergency Lights

Press the emergency lights switch "**1**" (fig. 150419-1) to turn on all four direction indicators.

The sidelights turning on is indicated by the switch flashing and by indicator "**2**" on the instrument panel of the machine.



150419-1

https://truckmanualshub.com/

7.1.17 Seat

The seat of the vehicle is equipped with specific safety belts designed to protect the operator during the movement or handling operations.

WARNING

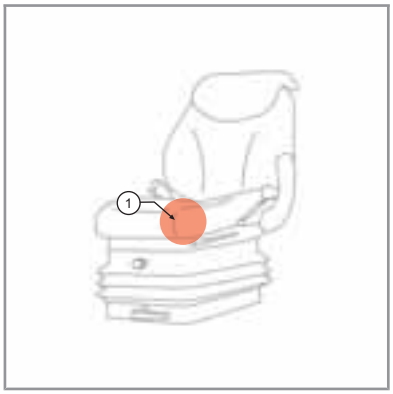
Always fasten the seat belts when operating the vehicle.

7.1.17.1 Deadman seat sensor

The vehicle is equipped with a safety system called "deadman" which consists of an electrical microswitch inside the seat cushion "**1**" (fig. 150413-1).

If the engine is running and the operator is not sitting properly in the driver's seat for a time longer than 3 seconds, the transmission is automatically disabled and the park brake is engaged.

To continue moving the vehicle, the operator must sit in the driver's seat and set the movement selection lever in position "**N**".



150413-1

NOTICE

The engine can be started only if the operator is seated properly in the driving seat and the gear lever is in neutral "**N**".

7.1.17.2 Seat adjustment

CAUTION

Correctly position the seat.

The seat is properly positioned when the operator is able to perform a full stroke to the brake pedal by holding the back against the backrest of the seat itself.

The seat can be adjusted to different positions:

Backrest inclination

To adjust the inclination of the backrest (fig. 150418-1), lift the lever on the left side and let the backrest adapt to the required position. Release the lever to block the backrest.



150418-1

https://truckmanualshub.com/

Back cushion

Adjust the back cushion (fig. 150418-2) by turning the knob behind the backrest.



150418-2

Horizontal position of the seat unit

Adjust the entire seat unit longitudinally by moving the lever (fig. 150418-3) upwards and sliding the seat unit on the guides. Once established the desired position, release the lever. Perform small movements to make sure that the seat is fastened properly.



150418-3

Horizontal seat position

To adjust the seat longitudinally move the lever (fig. 150418-4) upwards and slide the seat unit on the guides. Once established the desired position, release the lever. Perform small movements to make sure that the seat is fastened properly.



150418-4

https://truckmanualshub.com/

Horizontal seat position

To adjust the seat longitudinally, press the right handle (fig. 150418-5) and slide the seat along the guides. Release the handle when the desired position is reached. Perform small movements to make sure that the seat is secured properly.



150418-5

Seat inclination

To adjust the seat inclination, press the left handle (fig. 150418-6) and adjust the seat to the desired position. Release the handle when the desired position is reached. Perform small movements to make sure that the seat is secured properly.



150418-6

Mechanical suspension degree

To adjust the degree of suspension (fig. 150418-7), turn the knob towards "+" to soften the suspension. Turn the knob towards the "-" to harden the suspension.

Optimal adjustment is achieved when the weight indicated at the side of the lever corresponds to the weight of the operator.



150418-7

Pneumatic suspension degree *

NOTICE

The pneumatic suspension of the seat is an optional accessory.

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To adjust the pneumatic spring rate, pull the knob (fig. 150418-8) to let out pressure and soften the suspension. Push the knob to add pressure and harden suspension.

Pneumatic adjustment can only be performed with the engine running.



150418-8

Adjusting the arm rest

It is possible to lift or lower the arm rest by hand (fig. 150418-9).

To adjust the height of the arm rest when it is down, turn the knob located under it to the right to raise it, or to the left to lower the arm rest.



150418-9

7.1.17.3 Seat belts

WARNING

Always fasten the seat belts when operating the machine.

The machine is equipped with a cab that can withstand the weight of the machine in the event of rollover (ROPS), it is therefore necessary that the operator remains tied to the seat by the seat belt not to be swept out and possibly crushed.

Before starting the vehicle, carefully examine the straps, buckles and fastening devices to the structure. If some component is damaged or worn, replace the seat belt or the component before operating the vehicle.

Remain seated with the seat belts fastened properly for all the time of operation of the vehicle to reduce the risk of injury in case of accident.

Following an accident of a certain importance, replace the seat belts, even if they do not appear damaged.

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To fasten the seat belt is necessary to:

1. Insert the latch plate "**1**" in the buckle "**2**".



150416-1

1. Make sure of that the hooking occurred, and then adjust the belt around the body.
2. The belt is considered properly connected when it is close to the body



150416-2

To remove the belt it is necessary to:

1. Press the red button "**1**" on the buckle "**2**".
2. Then remove the latch plate "**3**".



150416-3

WARNING

Drive the vehicle only with safety belt properly worn, fastened and adjusted.

Operating without the seat belt fastened increases the risk of accidents.

Do not use damaged or worn seat belts. If worn, damaged or yielded belts are used, they can break or yield in case of collision resulting in serious injury to the operator.

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7.1.18 Emergency stop

In emergency conditions, the machine can be stopped using the Emergency stop button in the cab (fig. 150420-1); the stop occurs immediately.



150420-1

CAUTION

It is recommended to use the emergency stop button only in case that there is an immediate danger to the operator, to the load and/or to the integrity of the machine.

The pressure exerted on the emergency stop button activates the power supply cu-off and the consequent complete shutdown of the machine and any connected equipment.

The return to normal working conditions, after a stop caused by the emergency stop button, is only possible after:

- Removal of the cause that caused the stop
- Releasing the emergency stop button

To release the emergency stop button, rotate it in the direction indicated by the arrow printed on the button.

7.1.19 Spirit Level

The spirit level is located in the center of the instrument panel. It is used to verify the correct transverse leveling of the vehicle.

To safely operate the spirit level must in the center, with a maximum approximation of 2° to the right or left.

In the standard spirit level, the angle exceeds 2° when the spirit level moves completely outside the 2 limit marks of 2°.



150421-1

DANGER

DANGER OF TRANSVERSE TIPPING.

To safely operate the spirit level must in the center, with a maximum approximation of 2° to the right or left.

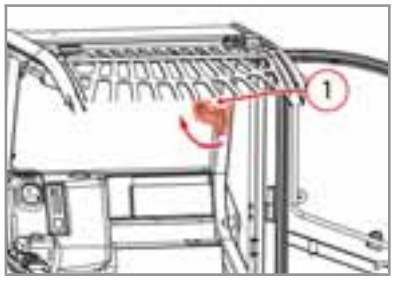
https://truckmanualshub.com/

7.1.20 Emergency exit: Rear glass

The rear glass of the cab (fig. 150422-1) can be used as an emergency exit in case the vehicle doors are locked.

To open the window fully, slide the fastener to "**1**" and push the glass outward.

The fastener must always be positioned as shown in the figure during normal work operations.



150422-1

DANGER

Danger of crushing.

It is prohibited to fully open the glass during the use of the vehicle, because of the shearing risks between the boom and the chassis.

The rear glass is near the telescopic boom.

WARNING

Be very careful when opening and/or removing the glass, as this may chip or crush and may cause injury to the operator in the cab and to who is near the vehicle.

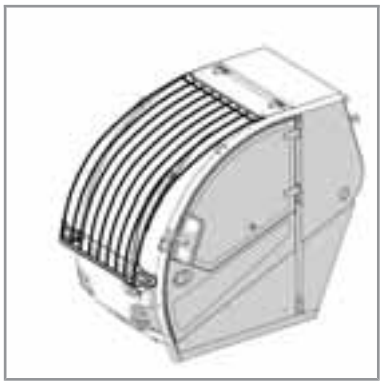
7.1.21 Cab front glass protection *

NOTICE

*** The cab front protection glass is an optional accessory.**

Consult your dealer in case of doubts or information on your vehicle.

The cab front protection glass (fig. 150424-1) provides a higher protection level against any large/heavy loads or objects, which may fall on the cab.



150424-1

CAUTION

If the vehicle is equipped with the front glass protection, it is not permitted to ride on public roads, except for the exceptions permitted by the regulations in force in the country of use.

7.1.22 Warnings in case of vehicle tipping

– The seat belt is the best guarantee of protection for you in case of lateral or front tipping of the vehicle

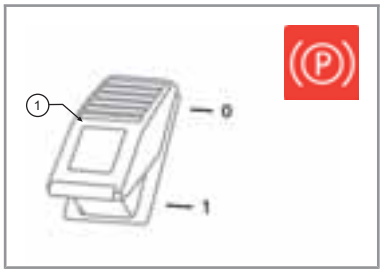
https://truckmanualshub.com/

- Stay calm: stay on board, do not try to jump out of the driver's seat
- Hold the steering wheel with both hands
- Push your feet strongly on the floor, keeping them within the driver's seat
- Tilt your body in the opposite direction to that of the fall
- To avoid head impact, move your head as much as possible towards the steering wheel

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7.2 Parking brake

To engage the parking brake, press the switch to "**1**" (fig. 150454-1).



150454-1

The parking brake properly engaged is indicated by the lighting of the switch and the warning light on the instrument panel of the vehicle (fig. 150454-2).

With the parking brake engaged, the machine cannot move; the hydrostatic transmission is switched off and the wheels are braked.



150454-2



150454-3

The parking brake must be engaged:

- Every time the operator leave the machine, even in case of momentary stop
- Whenever the machine operates from a standstill even with outriggers down (if any)

The brake engages automatically when the engine is stopped.

WARNING

Unauthorized modification of axle ratios, the weight of the machine, the size of the wheels and tires can affect the efficiency of the parking brake.

NOTICE

To verify the efficiency of the parking brake contact a ***DIECI*** authorized workshop.

DANGER

RISKS: In case of failure of the parking brake do not use the vehicle.

If the warning light (fig. 150454-3) turns on intermittently, it indicates a low brake fluid level.

If the warning light (fig. 150454-3) turns on in a fixed way, the parking brake is stuck or damaged.

Do not use the vehicle until the problem has been solved. Contact a ***Dieci*** service center.

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7.2.1 Pressure gauge

The pressure gauge (fig. 150742-1) is used to control the servo brake pressure. In case of anomalies and faults, the pressure may drop.



150742-1

DANGER

The pressure should not drop below 18 bar (1.8 MPa – 260 psi).

In the case of low pressure (below 18 bar) stop the vehicle and contact an authorized Dieci dealer to eliminate the defect.

DANGER

It is absolutely forbidden to operate with servo brake accumulator pressure less than 18 bar (1.8 MPa – 260 psi).

7.2.2 Braking circuit errors list

NOTICE

In case the vehicle is in error, contact a ***Dieci*** service center to solve the problem, indicating the error code reported.

For more information about the errors display, refer to the "Instrument panel" chapter.

Icon	Example	Description
	000000000	Parking brakes errors or brakes failure

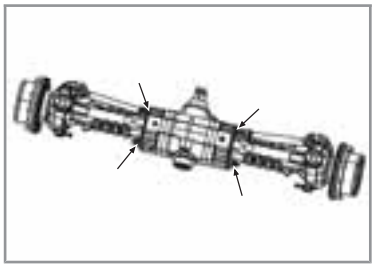
Code	Description
100	Service brakes low oil level reporting
101	Parching brake system failure
102	Parking brake accumulator low pressure

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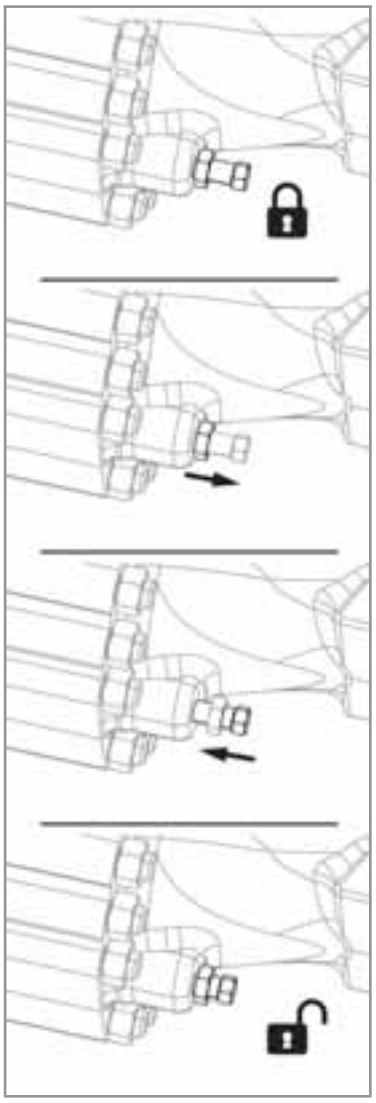
7.2.3 Deactivating the internal parking brake manually

The parking brake must be disengaged directly on the axle to allow the vehicle to be towed.

- Place safety wedges under the wheels to prevent the vehicle from moving suddenly
- Loosen the lock nuts on both sides of the central body of the axle.
- Tighten the screws until they meet resistance; check the turns made in order to return the screws into the starting position when the towing operations are completed.
- Tighten the screws further 1.5 turns.
- In this way the brake will be released. After the towing return everything to the initial conditions.



150563-1



150563-2

DANGER

Never use the vehicle with the negative parking brake disengaged/disconnected.

After the towing return everything to the initial conditions.

It is very important to re-tighten the screws with the same number of turns with which they are loosened.

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7.3 Instrument panel

7.3.1 Components

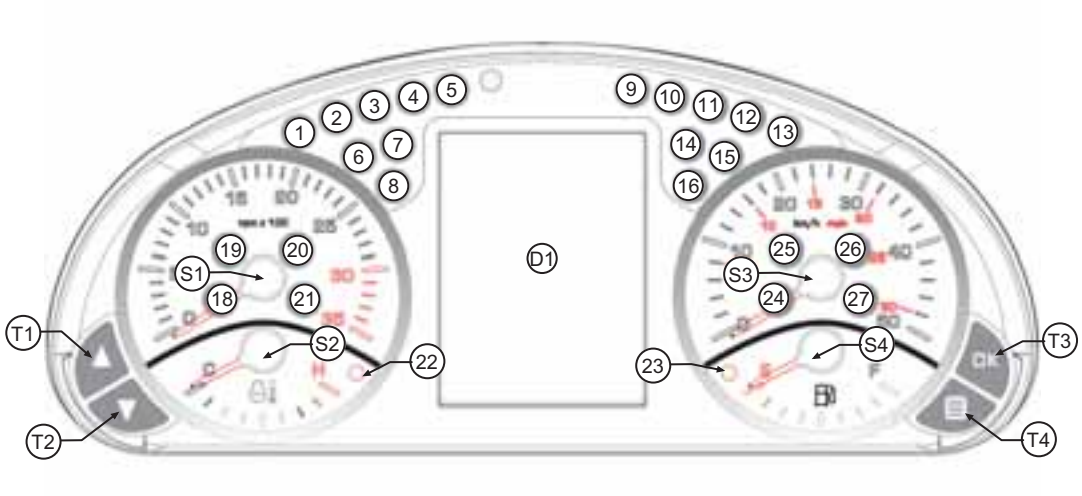


Illustration 5: 150425-1 - Instrument panel components

Position	Indicator light			Description
T1	-	-	-	UP button
T2	-	-	-	DOWN button
T3	-	-	-	OK button
T4	-	-	-	MENU key
D1	-	-	-	Display
S1	-	-	-	Tachometer indicator
S2	-	-	-	Engine water temperature indicator
S3	-	-	-	Speed indicator
S4	-	-	-	Fuel level indicator
1		Red	Fixed	Generator, battery failure
2		Red	Fixed	Engine oil low pressure
3		Yellow	Fixed	Glow plugs
4		Red	Fixed	Parking brake insufficient pressure
5		Red	Fixed	Engine air filter clogging
6		Red	Fixed	Hydrostatic oil filter clogging
7		Red	Fixed	Hydraulic oil high temperature
8		Green	Fixed	Forward movement engaged
9		Red	Fixed	Parking brake engaged
10		Red	Flashing	Brakes oil low level

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Position	Indicator light			Description
			Fixed	Braking system failure
11		Green	Fixed	
12		Yellow	Fixed	Slow gear engaged *
13		Yellow	Fixed	Fast gear engaged *
14		Yellow	Fixed	Front axle wheels alignment *
15		Yellow	Fixed	Rear axle wheels alignment *
16		Green	Fixed	Backward movement engaged
17	-	-	-	Not used
18		Blue	Fixed	High beam
19		Green	Fixed	Direction indicators
21		Green	Fixed	Side lights
22	-	Red	-	Engine water high temperature
23	-	Yellow	-	Fuel reserve

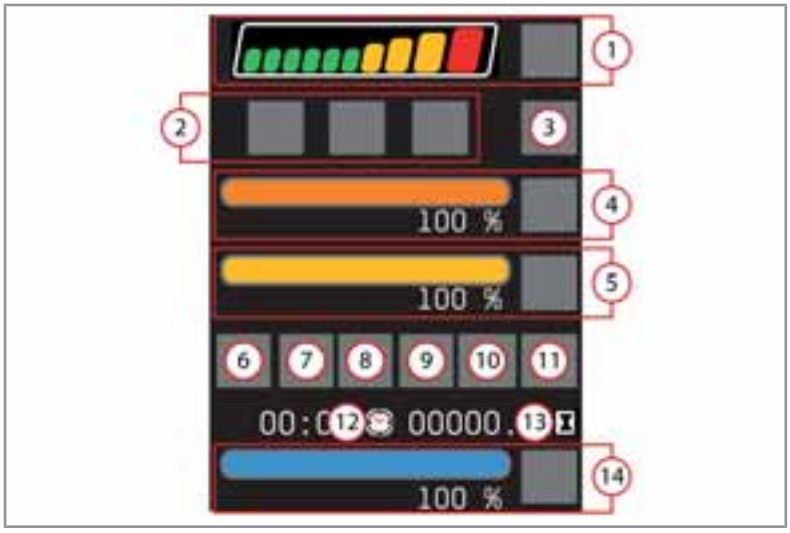
*** Indicator lights used depending on configurations or optional equipment.**

Position	Indicator light			Description
20		Red	Fixed	General alarm
24		Yellow	Fixed	AdBlue quality
25		Yellow	Fixed	AdBlue level
26		Yellow	Fixed	AdBlue system error
27		Red	Fixed	Not used

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7.3.2 TFT Display

The screen (fig. 160460-1) is the standard display, containing the necessary information related to the vehicle transmission and engine.



160460-1

Position	Description
1	Longitudinal movement indicator and anti-tipping icon
2	DRIVE MODE [▷ 152] icon
3	ECO-WORK Function [▷ 154] icon
4	Hand throttle [▷ 155]
5	Maximum speed limiter [▷ 156]
6	Road travel Icon [▷ 99]
7	Steering mode icon [▷ 100]
8	Steering status icon [▷ 100]
9	Transmission status icon [▷ 100]
10	Engine status icon [▷ 101]
11	Engine errors icons [▷ 101]
12	Clock and clock setting
13	Hour meter [▷ 101]
14	AdBlue level [▷ 102]

7.3.2.1 Road travel Icon

The road travel icon shows the vehicle status and the consequent possibility or not to travel on roads for long distances.

Icon	Color	Description
	Red	Road travel not allowed. – The outriggers are lowered to the ground. – The turret is rotated.
	Yellow	Off-road travel – The outriggers are not in travel position. – The turret is in front position or 180° rotated.

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Icon	Color	Description
	Green	Road travel allowed. – The outriggers are in travel position. – The turret is in the front position and the rotation lock is engaged.

7.3.2.2 Steering mode icon

The Steering mode icon shows the steering mode currently selected and operating.

Icon	Description
	Front steering wheels
	Four steering wheels
	Transverse steering

To change the steering mode refer to chapter Electrical steering selector [▸ 127].

7.3.2.3 Steering status icon

The steering status icons indicate the presence of errors by the steering system.

Icon	Description
	STEERING ERROR It turns on when the auxiliary steering electro-pump starts working, if the pressure drops below the threshold value and if the vehicle is moving.



WARNING

If the warning light turns on, stop the working operations as soon as possible.

Contact the Dieci service center to find a solution to the problem.

7.3.2.4 Transmission status icon

The transmission status icons indicate the presence of transmission alarms or warnings.

Icon	Description
	Transmission alarm
	Transmission warning



WARNING

If the warning light turns on, stop the working operations as soon as possible.

Contact the Dieci service center to find a solution to the problem.

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7.3.2.5 Engine status icon

The engine status icons indicate the presence of engine alarms or warnings.

Icon	Description
	Engine alarm
	Engine warning

WARNING

If the warning light turns on, stop the working operations as soon as possible.

Contact the Dieci service center to find a solution to the problem.

7.3.2.6 Engine errors icons

The icons indicate the presence of engine errors.

Icon	Description
	AIR INTAKE OVERHEATING The light comes on when the engine detects an excessive intake air temperature.
	WATER IN FUEL The light comes on when the fuel filter detects water in the fuel or low fuel quality.

WARNING

If the warning light turns on, stop the working operations as soon as possible.

Contact the Dieci service center to find a solution to the problem.

7.3.2.7 Clock

On the home screen there is the indication of the time next to the related icon (fig. 150927-1).

To set the time, refer to the displayTera7.



150927-1

7.3.2.8 Hour meter

On the home screen there is the indication of the hour meter next to the related icon (fig. 150928-1).

The separation of the decimal point flashes when the hour meter is active.



150928-1

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7.3.2.9 AdBlue level

On the Home screen, there is the indication of the remaining AdBlue in the tank (fig. 150433-1).



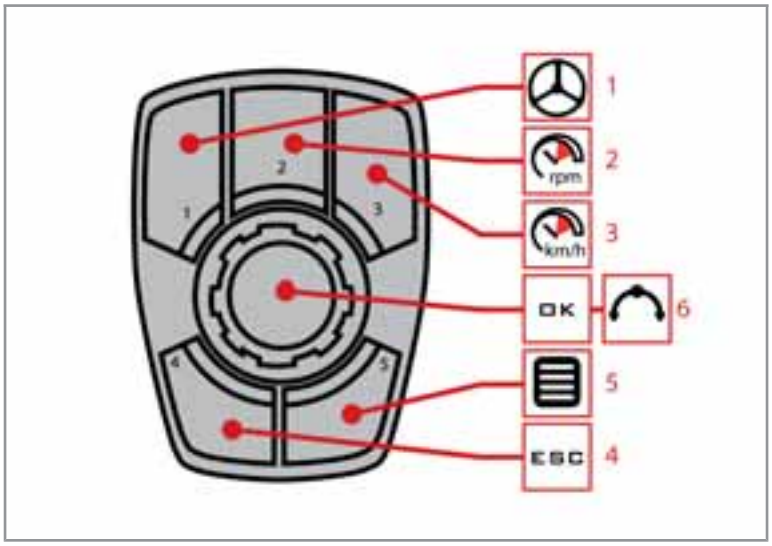
150433-1

NOTICE

Refer to the chapter AdBlue® [▸ 184].

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7.3.3 VDC controller



160501-1

	Description
1	DRIVE MODE [152] selection button
2	Hand throttle [155] selection button
3	Maximum speed limiter [156] selection button
4	ESC key [103]
5	Menu key [103]
6	Central key/knob [103]

7.3.3.1 Menu key

The Menu Key is used to access the main display menu.

Press the menu button "**5**" (fig. 160501-1) to stop any operation in progress in the various displays and open the menu in the main display.

7.3.3.2 ESC key

The ESC key "**4**" (fig. 160501-1) stops any operation in progress without saving and returns to the default page of the display.

7.3.3.3 Central key/knob

The central knob "**6**" (fig. 160501-1) is used to navigate in the various menus and settings.

Turn the knob clockwise to move the selection to the right or down.

Turn the knob counterclockwise to move the selection to the left or upwards.

Press the knob to confirm the selection.

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7.3.4 TERA7 Display

7.3.4.1 Initial check

When the panel is switched on, the system will perform a check of all the indicator lights and all the indicators. The software versions will be displayed on the screen during the check.

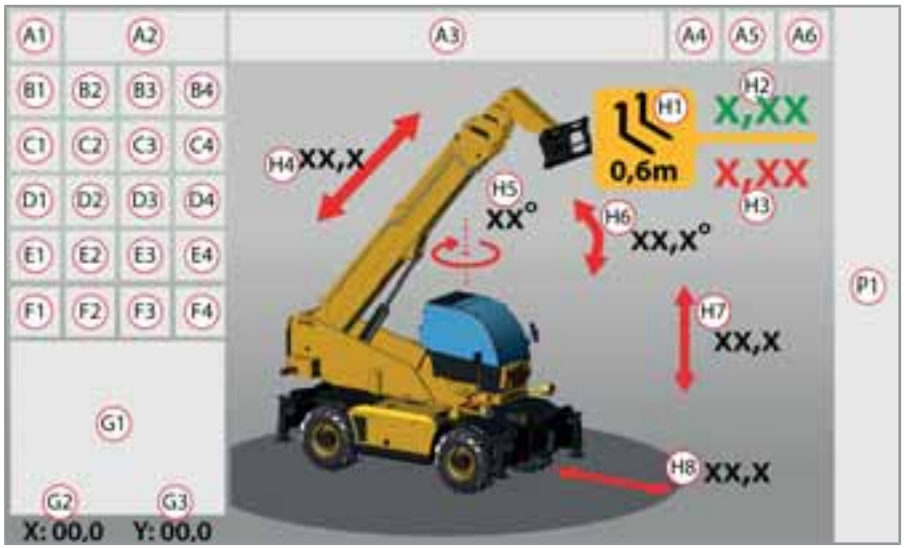
After completing the initial check the display shows the main Home screen.



150922-1

7.3.4.2 Home

The Home screen (fig. 150428-1) is the standard display, containing the information required by the operator to use the vehicle.



150428-1

Position	Description
A1	General alarm icon
A2	Indicates the active alarm and warning codes
A3	Longitudinal movement indicator and anti-tipping icon [▸ 120]
A4	Longitudinal movement indicator and anti-tipping icon [▸ 120]
A5	ByPass key
A6	Not used
B1	Boom chains Error icon [▸ 105]
B2	Not used
B3	Not used
B4	Boom suspension * [▸ 116] (optional)
C1	Service
C2	Not used
C3	Not used
C4	Resolution [▸ 113]

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Position	Description
D1	Limits
D2	Left limit reached
D3	Upper limit reached
D4	Right limit reached
E1	Turret rotation icon [106]
E2	Not used
E3	Not used
E4	Axles swing lock icon [106]
F1	Outriggers status icon [106]
F2	Operating mode icon [107]
F3	Not used
F4	Levelness Icon [107]
G1	Digital level [107]
G2	Longitudinal inclination indication
G3	Transverse inclination indication
H1	Selected equipment
H2	Weight currently carried
H3	Maximum transportable weight according to the equipment installed and vehicle working mode
H4	Length of extension
H5	Degree of rotation of the turret with respect to the undercarriage
H6	Degrees of inclination of the boom with respect to the turret
H7	Load height from the ground
H8	Load distance from the center of the vehicle
P1	Bookmarks [108]

7.3.4.3 Boom chains Error icon

The icon (fig. 150930-1) indicates loosening or breaking of the telescopic boom chains.

When the icon turns on, stop the working operations and service the chains.



1500930-1

CAUTION

Contact an authorized service center

Consult the Control Log and the Maintenance Log to know the timelines and operations to be carried out.

DANGER

If at least one chain is loose or broken, activate the emergency procedure for the basket recovery.

In case of breakage of one or both chains, in addition to the indication on the display:

- An acoustic signal is activated both in the cab and outside, which can be stopped by pressing the "OK" button on the instrument panel.

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– If the passenger basket is used, the green light on the control panel flashes.

WARNING

If the warning light turns on, stop the working operations as soon as possible.

Contact the Dieci service center to find a solution to the problem.

7.3.4.4 Axles swing lock icon

The turret rotation icon shows the different states in which the turret can be positioned during the working operations.

Icon	Description
	Indicates that the front differential axle swing is locked.
	Indicates that the rear differential axle swing is locked.
	Indicates that both differential locks swing is locked.

To change the steering mode refer to chapter Automatic axle swing lock [▸ 173].

7.3.4.5 Turret rotation icon

The turret rotation icon shows the different states in which the turret can be positioned during the working operations.

Icon	Color	Description
	Green	Indicates that the turret is in the front position and correctly aligned to the carriage at 0°.
	Black	Indicates that the turret is in the front position at +/- 5° compared to the 0° position.
	Yellow	Indicates that the turret rotation is slow because close to a set or mechanical limit.
	Black	Indicates that the turret is locked in front position, for travel. The rotation is deactivated.

7.3.4.6 Outriggers status icon

The Outriggers status icon shows the working mode of the anti-tipping device in relation to the outriggers arrangement.

Icon	Description
	Outriggers 0% extended

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Icon	Description
	Outriggers 50% extended
	Outriggers 100% extended
	Outriggers extended but with front turret

7.3.4.7 Operating mode icon

The Operating mode icon shows the mode in which the vehicle is working.

Icon	Description
	Operating mode: Outriggers Indicates that the vehicle is in the operating mode on outriggers; all four wheels are completely off the ground.
	Operating mode: Wheels Indicates that the vehicle is in the operating mode on wheels; at least one of the four wheels is still on the ground.

7.3.4.8 Levelness Icon

The levelness icon is present only when the vehicle is used with a passenger basket.

Icon	Color	Description
	Red	The icon indicates that the vehicle is out of the allowed tilting limits and must be leveled in order to proceed with the work.

When working with the passenger basket, the pilot light turns on together with an acoustic signal that can be silenced by pressing the "**OK**" button on the instrument panel.

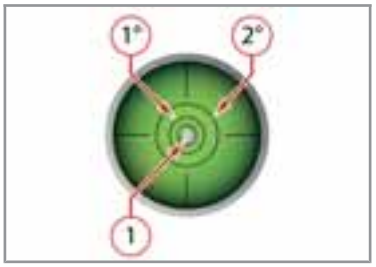
7.3.4.9 Digital level

The Digital level indicates the machine inclination status.

The inclination values are indicated by:

- **X**: longitudinal inclination of the machine
- **Y**: transverse inclination of the machine

The digital level is active only when the vehicle is stopped.



160520-1

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7.3.4.10 Bookmarks

On the side of the Tera7 display there are the quick access keys.

Press the key to go directly to the page of the icon shown aside.



160511-1

The menu items are:

Icon	Menu
	Capacity diagrams [114]
	Limits [112]
	Diagnostics (Reserved to trained personnel)
	Resolution [113]
	Rear camera [114]

7.3.4.11 Menu

From the Home screen, it is possible to access the menu (fig. 160511-1) pressing the **MENU** key.

Use the **UP** and **DOWN** buttons to scroll through the menu items and press the **OK** button for 3 seconds to make a selection and go to the related page.



160511-1

The menu items are:

Icon	Menu
	Available equipment menu (Refer to the **Equipment selection key** [123] chapter
	Active errors [110]

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Icon	Menu
	Clock and clock setting [111]
	Service [111]
	Anti-tipping calibration (Reserved to specialized personnel)
	Diagnostics (Reserved to trained personnel)
	Settings (Reserved to specialized personnel)
	Limits [112]
	Resolution [113]
	Capacity diagrams [114]
	Rear camera [114]
	Documentation [114]
	Equipment Automatic Recognition (ARS) * [115]
	Boom suspension * [116]

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7.3.4.12 Active errors

The presence of errors will be reported by the general warning icon, by the acoustic signal lasting 1.5 sec. and by the displaying of the error code on the Home screen instead of the time.



150432-1

In the presence of more than one error, the error codes will be displayed cyclically every 2 sec. on the Home screen. At the end of the cycle showing all the active errors, an icon will be displayed that indicates the user to access the Active Errors page to view all active errors in that time.

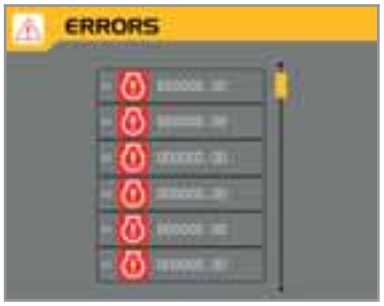
In case of an error from the anti-tip device, the acoustic signal will be continuous and the error code will remain fixed on the Home screen. Press the **OK** button to stop the sound of the acoustic signal and resume the active errors displaying cycle.

To enter the Active errors page it is necessary to:

- Press the **MENU** button,
- Select the Active errors icon,
- Press the **OK** button,

Use the VDC controller to scroll though the pages if there are several errors.

Press the **MENU** button at any time to return to the Home screen.



150432-2

Each error code is associated with an icon that identifies the nature of the error:

Icon	Example	Description
	000000000	Parking brakes errors or brakes failure
	000	SAR errors
	000000.00	Transmission errors
	000000.00	Engine errors
	000.E4	Joystick errors

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7.3.4.13 Clock and clock setting

On the home screen there is the indication of the time next to the related icon (fig. 150927-1).



150927-1

To adjust the time it is necessary to (fig. 150927-2):

- Press the **MENU** button,
- Select the clock setting icon,
- Press the **OK** button,
- Turn the VDC controller to set the amount,
- Press the **OK** button to confirm and change the following digit,

Press the **MENÙ** button at any time to cancel the process and return to the Home screen.



150927-2

7.3.4.14 Service

The Service icon indicates intervals at which to carry out maintenance on the vehicle (fig. 150925-1).



150925-1

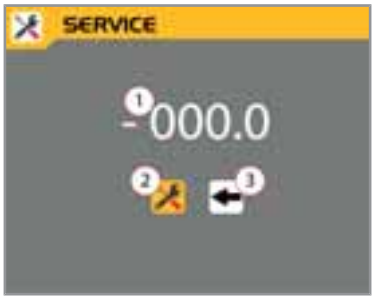
20 hours before the deadline, the icon stays on for 3 seconds after switching on the instrument panel.

The Service indicator icon stays on permanently if, at the end of deadline, maintenance is not carried out by specialized personnel.

To find out the hours remaining to next maintenance, it is necessary to access the Service page (fig. 150925-2):

- Press the **MENU** button,
- Select the Service icon,
- Press the **OK** button.

To return to the Home screen, simply press the **MENU** button or select the **BACK** icon "**1**" and press the **OK** button.



150925-2

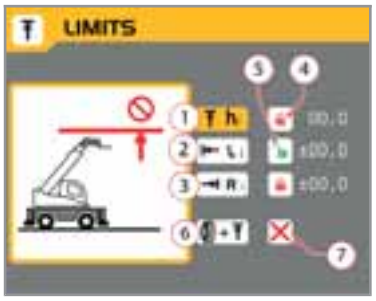
NOTICE

Contact the Dieci technical service to perform maintenance and reset the Service hour counting.

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7.3.4.15 Limits

On the Limits window it is possible to set a limited work area for the boom and turret movement, for example in case it is necessary to work in the vicinity of buildings or dangerous structures.



150933-1

To access the Limits page:

- Press the MENU button on the VDC controller,
- Select the Limits icon,
- Press the OK button.

This page includes (fig. 150933-1):

1 - Upper area limit

2 - Left area limit

3- Right area limit

4 - Active limit indicator light

5 - Deactivated limit indicator light

6- Limit in movement

7- Limit in movement enabled/disabled

Setting a limit

To set a limit, take the vehicle to the limit position of the area in which it must stop automatically during the work, select the desired limit with the VDC controller and press **OK**. The value will be blocked and indicated by the active limit indicator light.

After setting a limit the HOME window will show the active Limit indicator light.

During the working process, when a set limit is reached, the following indicator lights will be displayed:

Icon	Description
	Active limit indicator light
	Upper limit reached indicator light
	Right limit reached indicator light (only for rotary vehicles)
	Left limit reached indicator light (only for rotary vehicles)

Removing a limit

To remove a previously set limit, it is necessary to access the Limits window and select the limit to be removed with the VDC controller and press **OK**. The correct deactivation will be indicated by the deactivated Limit indicator light "**3**" (fig. 150933-1) located aside of the value.

Limits in movement

For the standard settings, the limits are reset by moving the vehicle forward or backward on wheels.

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It is possible to change this setting on the Limits page. Select the Limits in movement icon "**6**" (fig. 150933-1) with the VDC controller and press the **OK** button to activate or deactivate the function.

The indicator light "**7**" indicates:

Icon	Description
	**Limits in movement reset active** The set limits will be reset after moving the vehicle on tires.
	**Limits in movement reset deactivated** The limits set will be kept even after the vehicle has moved on tires.

7.3.4.16 Resolution

In the Resolution screen, it is possible to reduce the maximum speed of the turret and boom movements.

The 100% value indicates that it is possible to make the movement at the maximum permissible speed.

To set a resolution it is necessary to:

- Access the Resolution page:
  - Press the **MENU** button on the VDC controller
  - Select the Resolution icon
  - Press the **OK** button
- Select the movement whose speed must be reduced on the VDC controller
- Press the **OK** button
- Turn the VDC controller to increase or decrease the movement speed percentage
- Confirm with the **OK** key



160510-1

The Resolution settings are indicated by the following indicator lights on the Home screen:

Icon	Description
	The light indicates that at least one turret or boom movement is activated.
	The indicator light indicates that the movement commanded at that time is subject to a resolution.

It is possible to set a resolution on the maximum movement speed of the following movements:

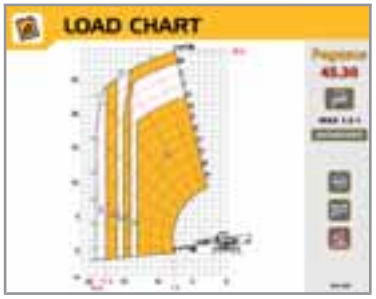
Abbr.	Description
RBI	Boom return movement resolution
RBO	Boom extension movement resolution
RBU	Boom up movement resolution
RBD	Boom down movement resolution
RRL	Turret counter-clockwise rotation movement resolution
RRR	Turret clockwise rotation movement resolution
RAR	Red hydraulic socket on the boom head capacity resolution
RAB	Blue hydraulic socket on the boom head capacity resolution

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Abbr.	Description
RTU	Upward swing movement resolution
RTD	Downward swing movement resolution
RESET	Cancels and resets all the resolutions to 100%

7.3.4.17 Capacity diagrams

The Capacity diagrams page show the capacity diagram of the equipment with the operating mode currently in use.



160513-1

7.3.4.18 Rear camera

NOTICE

*** The rear camera is an optional accessory.**

Activating the reverse gear of the machine, the display will show the image transmitted from the camera located on the rear side of the machine.

7.3.4.19 Documentation

The Documentation page allows you to browse an electronic version of this use and maintenance manual.



160514-1

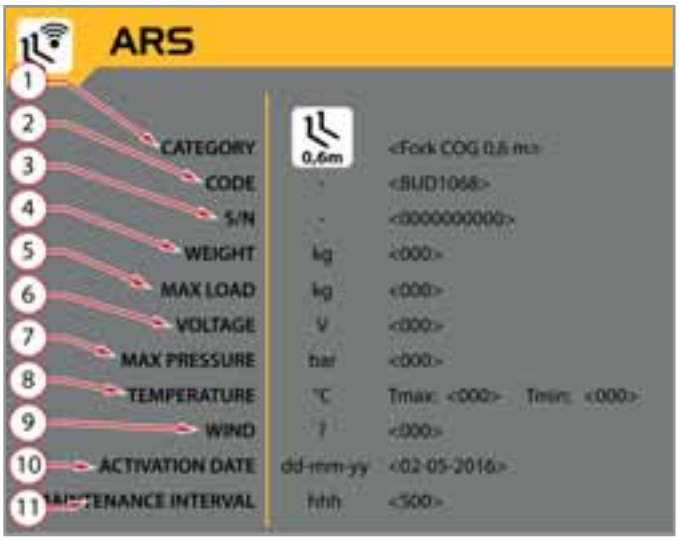
https://truckmanualshub.com/

7.3.4.20 Equipment Automatic Recognition (ARS) *

NOTICE

* The equipment automatic recognition is an optional accessory.

On this page it is possible to view the information related to the equipment installed with the equipment automatic recognition system (ARS).



	Feature	Description
1	CATEGORY	Shows the equipment category
2	CODE	Equipment code
3	S/N	Serial number of the equipment
4	WEIGHT	Equipment weight
5	MAX LOAD	Maximum load permitted by the equipment
6	VOLTAGE	Equipment electrical system voltage (if installed)
7	MAX PRESSURE	Equipment hydraulic circuit operating pressure (if installed)
8	TEMPERATURE	Minimum and maximum operating temperature
9	WIND	Wind maximum permissible force to use equipment
10	ACTIVATION DATE	Equipment activation date, expressed in day-month-year
11	MAINTENANCE INTERVAL	Maintenance interval

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7.3.4.21 Boom suspension *

NOTICE

The boom suspension is an optional attachment.

The boom suspension allows to make movements with the vehicle without being affected by the strong oscillations and jolting, caused by the boom, in the case of uneven ground.

The boom suspension is activated for low speed travel only when the telescopic boom is in horizontal position.

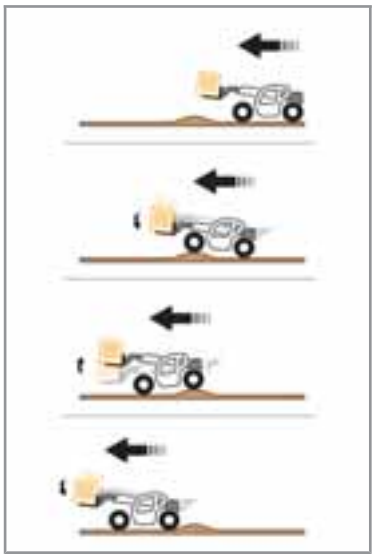
The boom suspension is disabled automatically when the joystick is grabbed or it is not within the activation parameters.

To enable/disable the Boom suspension function it is necessary to:

- Press the **MENU** button on the VDC controller
- Select the Boom suspension icon
- Press the **OK** button



160780-1



160780-2

The Boom suspension function state is indicated by the following indicator lights on the Home screen:

Icon	State	Conditions
	ENABLED	The function is enabled from the menu, with speed lower than 5 km/h (3 mph) and boom inclination lower than 12°.
	DISABLED	The function is enabled from the menu, with speed greater than 5 km/h (3 mph) or boom inclination greater than 12°.
	DEACTIVATED	The function is disabled from the menu

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WARNING

Activating the boom suspension, the boom may have a slight but sudden upward movement.

Before activating the boom suspension, make sure that the installed equipment and any load are properly secured to the vehicle and that there are no people, animals or objects within the operating range of the vehicle.



CAUTION

The presence of the boom suspension does not involve the increase of the transport speed and vehicle movement. The speed must always be proportional to the ground, to the place of use and to the atmospheric conditions.



NOTICE

The boom suspension is a device which entails an increase in the comfort of the vehicle, but it does not increase its safety characteristics.

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7.3.4.22 Anti-tipping device

The vehicle is equipped with an electronic anti-tipping device that has the purpose to help the operator to use the vehicle safely with different acoustic and visual warning signals according to the vehicle overturning danger.

The anti-tipping device is always active.



WARNING

This device can not replace the good experience of the operator in using the vehicle safety; the operator is the only one responsible for the safe operation of the vehicle and compliance with all safety standards prescribed.

The operator must be able to determine if the data provided by the instrument are correct and real, using them for a safe use of the vehicle. When checking the loaded weight, make sure that this is lifted from the ground. When turned on, the device starts a self-diagnostic program to check the proper operation of itself and of the transducers. In case of failure, the device sets itself in safety status and blocks the operations.

Therefore the operator, before starting to work, must make sure that the instrument operates correctly:

- Correct settings check.
- Check the sizes indicated on the display.
- Check for messages and alarms on the panel.
- Check that the device operates correctly.

The operator must, in case of any type of anomaly, to immediately contact an authorized workshop or a DIECI authorized service center.



WARNING

The operator is responsible for selecting the correct settings depending on the equipment installed on the vehicle. When it is turned on, the last configuration used is set automatically until it is changed.

An incorrect setting of the accessory may cause undesired operation of the device and therefore create a dangerous situation of operation.

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7.3.4.22.1 Anti-tipping device description

The device is composed of:

- Longitudinal momentum indicator "**1**" (fig. 150931-1)
- Bypass key (fig. 150931-2)
- Equipment selection key (fig. 150931-3)



150931-1



150931-2



150931-3

The device is always in operation.

The device is not intended for warning about the anti-tipping risk in case of:

- Transverse overturning
- A sudden overload,
- Transport/movement with the load in an elevated position,
- Movement on rough terrain, with obstacles or holes;
- Transport/movement on a slope or in the vicinity of a slope;
- High speed of movement on straight lines and on turns.

CAUTION

When the limit load is reached, the device automatically locks all the aggravating movements for the stability of the vehicle. Only the movements that allow to return the vehicle in safety conditions will remain active.

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7.3.4.22.2 Longitudinal movement indicator and anti-tipping icon

The tipping indicator is displayed by a bar "**1**" (fig. 150931-1), which indicates the vehicle risk of tipping.

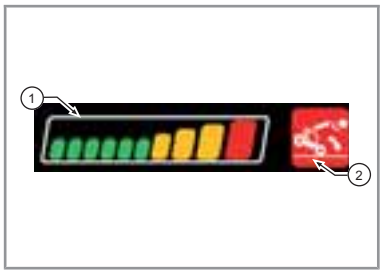
When the vehicle is about to reach the tipping, the Tipping hazard icon "**2**" starts flashing. It will stop flashing when the vehicle returns within the safety parameters.

The degree of stability of the vehicle is indicated by:

- Tipping status bar "**1**"
- Signaling icon "**2**"
- Acoustic signaling

The signaling increases proportionately while the vehicle tipping risk increases load handling operations, as described in the table below.

When the limit load is reached, the device stops the movements of the vehicle considered aggravating; the alarm stops when the safety conditions are restored.



150931-1

Load	Icon	Status bar	Status	Condition	Acoustic signaling
Load 90% less than the maximum allowed load		Within the green zone	Steady on	Work in safe conditions	None
Load 90% greater than the maximum permitted load		Yellow zone start	Flashing	Pre-alarm condition	Intermittent
Load at 100% of maximum allowed load		Red zone start	Steady on	Vehicle at the tipping limit	Continuous
Load 100% greater than the maximum permitted load		Red zone end	Steady on	Aggravating movements lock	Continuous

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7.3.4.22.3 ByPass key

DANGER

Danger of tipping

The ByPass Key must be used only if all of the following conditions occur:

a) In case the maximum tipping limit and danger of vehicle overturning has been reached.

b) By skilled and properly trained personnel

c) For short periods of time

d) After trying to restore the safety conditions through the vehicle movements that remained active.

e) In case it is not possible to restore the safety conditions through the vehicle movements that remained active.

The ByPass Key (fig. 150932-1) is with hold down action, therefore, must be maintained rotated during the operation for setting the vehicle in safe conditions.

Keep the ByPass key turned and simultaneously use the joystick to return the vehicle in safety conditions.

When using the ByPass key, the display will show the related icon "**3**" (fig. 150932-2).

The ByPass Key function turns off automatically after 30 seconds, even if the key continues to be rotated.

After reaching the safety zone, the alarm stops and the ByPass key can be released.



150932-1



150932-2

DANGER

It is prohibited to use the Bypass key to operate with loads that exceed the capacities established by the manufacturer.

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DANGER

DO NOT MAKE THE DESCENT OR THE EXTENSION OF BOOM MOVEMENTS AS THEY ARE AGGRAVATING MOVEMENTS FOR THE TIPPING.

When using the bypass key, only make the return or the slope of the telescopic boom, bringing this in safety situation.



WARNING

When using the bypass key the anti-tipping systems are disabled.

It is mandatory to consult the capacity diagram of the vehicle and the equipment installed before performing any maneuver.

Use the data displayed on the instrument panel and the letters on the boom to know the exact position of the load.

In these conditions do not perform aggravating movements for the stability of the vehicle, there is a danger of loss of stability and tipping.



NOTICE

The bypass function is performed by a key to give the possibility to the Safety Officer to extract the key to prevent deactivating the anti-tipping system during normal working conditions.

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7.3.4.22.4 Equipment selection key

The vehicle is designed for use with different equipment, therefore it is necessary to set the correct equipment used at that time.

Through the "Equipment" page on the menu it is possible to display the equipment installed and those available.

To select the proper equipment it is necessary to use the equipment selection key (fig. 150933-1); equipment selection screen will appear on the instrument panel turning the key (fig. 150933-2).

Use the VDC controller to scroll through the menu items and press the **OK** button for 3 seconds to conform the selection.

The equipment available in this menu are:

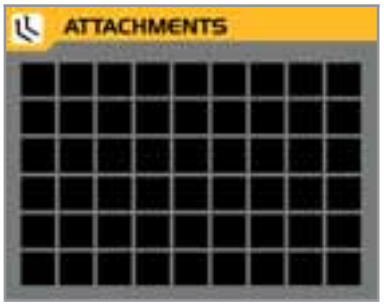
- With Yellow background: equipment selected
- With White background: enabled equipment
- With Gray background: equipment not enabled

Contact Dieci Technical Service to enable or disable the menu equipment.

For the available equipment refer to the DIECI price list.



150933-1



150933-2

NOTICE

The equipment selection function is performed by a key to give the possibility to the Safety Officer to extract the key to prevent changing the settings concerning the equipment selection normal working conditions.

DANGER

It is forbidden to use the vehicle with equipment other than that set on the "Equipment" page.

Equipment icons list:

Icon	Description
	Forks
	Bucket
	Hooks
2.5t	2.5 t Winch
3.8t	3.8 t Winch
4.0t	4.0 t Winch
5.0t	5.0 t Winch

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Icon	Description
	Customized winch
	Jib length 1.0 m
	Jib length 1.3 m
	Jib length 2.5 m
	Jib length 4.5 m
	Customized jib
	Basket for 2 persons 200 kg
	Basket for 3 persons 300 kg
	6m basket for 3 persons 300kg
	Volvo model basket for 3 persons 300kg
	Basket for 3 persons 500kg with front opening
	Basket for 3 persons 800 kg
	Basket for 3 persons 1000 kg
	Customized basket
	Basket for tunnels 300 kg
	Basket for tunnels 400 kg
	Basket for tunnels 800 kg
	Orange-peel grabber
	Centering layer
	Positive/negative jib

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Icon	Description
	Winch with basket
	Arch-centering with basket

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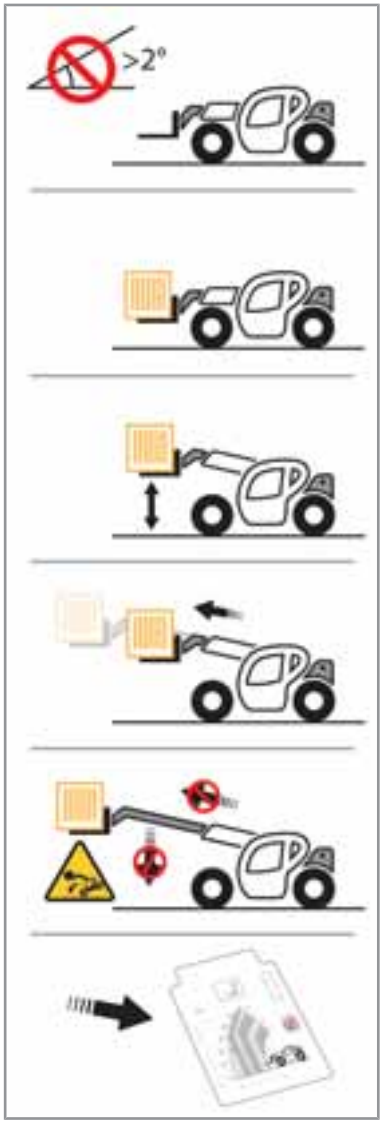
7.3.4.22.5 Operation check with anti-tipping device load

CAUTION

It is mandatory to check the proper operation of the anti-tipping device at the beginning of each work restart.

For a proper check of the device carry out the following operations (fig. 150438-1):

- Place the vehicle on a flat, level surface and engage the parking brake.
- Make sure that the equipment is properly installed on the vehicle and that it is suitable for its capacity.
- Make sure that the anti-tipping device is set for the equipment currently used.
- Perform the test with warm vehicle engine.
- Refer to the capacity diagram of the equipment installed and with closed boom pick up a load approximately weighing 50% of maximum capacity.
- Raise the load at about 50 cm from the ground.
- With the engine idling, extend the boom slowly. During this operation, check the display of the anti-tipping device. When the red zone is reached, the continuous audible signal will operate and the extension movement will stop simultaneously.
- At this point, check that aggravating movements for the equipment assembled are not permitted.
- Check that the stopping occurs at the point indicated in the capacity diagram shown in notebook inside the cab.
- In the event that everything is working properly, it is possible to begin the work.



150438-1

DANGER

If there are any faults of the safety devices, stop the work until it has been repaired.

Contact the ***Dieci*** service center.

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7.4 Electrical steering selector

The steering selector (fig. 150312-1) is used to change the wheels steering mode:

To select a steering mode, turn the knob "**1**" that indicates the corresponding symbol:

A - Front-steering wheels

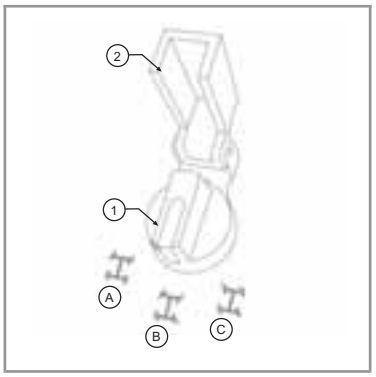
This type of steering allows to carry out a steering with only the 2 front wheels.

B - Four-steering wheels

This type of steering allows to carry out the steering with all 4 wheels, so as to have the smallest turning radius possible.

C - Transverse

This type of steering allows a transverse or crab steering, so as to have a lateral displacement of the vehicle.



150312-1

DANGER

Make the steering selection only with the vehicle stopped.

Before selecting a new type of steering, align the wheels with stopped vehicle.

WARNING

When the transverse steering is selected, always operate at low speed.

CAUTION

For road travel is mandatory to select the 2-wheel steering mode and lock the selector with the dedicated fastener "2".

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Manual wheel alignment

CAUTION

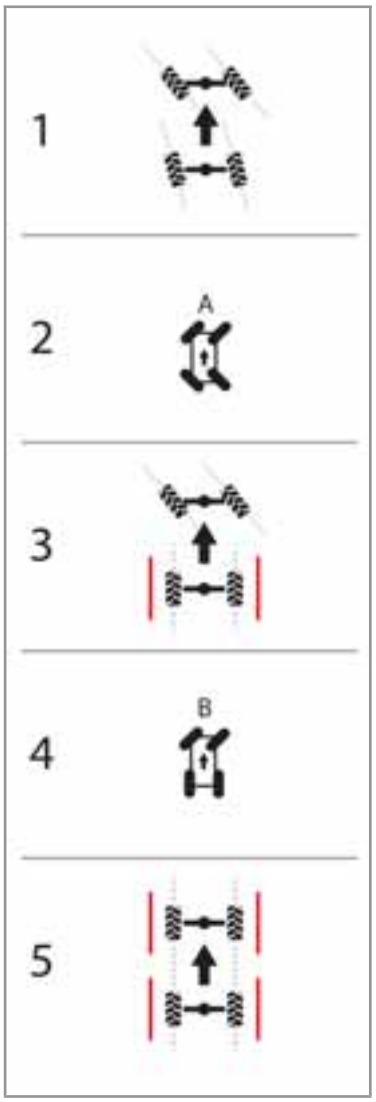
Perform the wheel alignment periodically (every 8-10 hours) depending on the continuous use of the machine.

During normal use of the machine, frequently changing the steering modes, it is possible that the wheels are no longer perfectly aligned with each other.

To perform a proper wheel alignment, perform the following steps:

1. Stop the machine on a level ground.
2. Select the **B** or **C** steering mode
3. Turn the steering wheel until the rear wheels are aligned to the machine.
4. Select the **A** steering mode
5. Turn the steering wheel until the front wheels are aligned to the machine.
6. Try to move slowly for a few meters to verify that the machine travels properly in a straight line.

If at the end of the alignment the machine still does not proceed in a straight line, repeat the wheels alignment.



150312-2

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7.5 Automatic wheels alignment *

NOTICE

The automatic wheels alignment is an optional accessory.

CAUTION

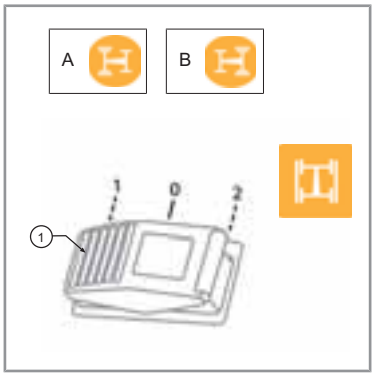
Perform the wheel alignment periodically (every 8-10 hours) depending on the continuous use of the machine.

During normal use of the machine, frequently changing the steering modes, it is possible that the wheels are no longer perfectly aligned with each other.

The automatic wheels alignment allows to quickly and accurately align the wheels.

To align the wheels using the automatic wheel alignment, it is necessary to (fig. 150315-1):

1. Stop the machine on a level ground.
2. Select the 4-wheel or transverse steering mode.
3. Press the button. After pressing the buttons the indicator lights "**A**" and "**B**" will start flashing.
4. Turn the steering wheel to bring the rear wheels aligned to the machine, until the indicator light "**A**" stops flashing.
5. The steering mode is automatically changed to "front steering wheels".
6. Turn the steering wheel to bring the front wheels aligned to the machine, until the indicator light "**B**" stops flashing.
7. The wheel alignment is now completed, the steering wheel will return to the mode originally selected.



150315-1

WARNING

Do not use the machine until the alignment procedure has been completed.

NOTICE

Press the "**1**" for more than 3 seconds to activate the display mode. In display mode all the indicator lights "**A**" and "**B**" will turn on only if the wheels are aligned to the chassis.

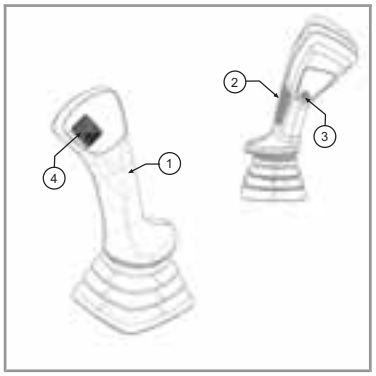
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7.6 Double Joystick with capacitive deadman sensor

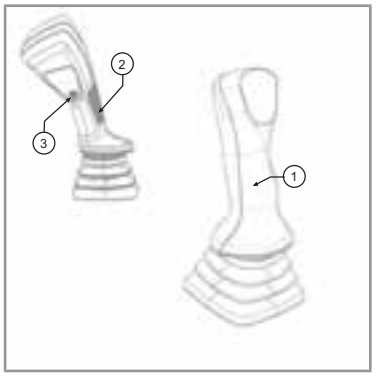
The Double Joystick allows you to operate all the telescopic boom movements.

It consists of (fig. 150470-3 and 150470-4):

1. Grip
2. Capacitive sensor
3. Deadman button
4. Services roller



150470-3



150470-4

CAUTION

The deadman joystick function prevents any accidental movements of the boom.

The Joystick features a "deadman" capacitive sensor: to enable it to function you need to place your hand on the grip "1" correctly so as to activate the capacitive sensor "2".

If your hand is not resting on the capacitive sensor "2", boom movements are disabled.

WARNING

Before operating the boom, make sure that the area around the vehicle is clear.

Make sure that the loads to be lifted are within the vehicle's capacity.

Adjust the seat so you can hold the joystick correctly (fig. 150470-5).

It is possible to use the deadman button "**3**" if the sensor "**2**" fails to work properly.

Unless you hold the joystick correctly or press the deadman button, all the joystick functions are disabled.



150470-5

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The movements that are possible by using the right joystick are:

CONTROL	MOVEMENT	
Grip forwards	Boom down	
Grip backwards	Boom up	
Grip to the left	Tilt upwards	
Grip to the right	Tilt downwards	
Services roller forwards	Oil to the hydraulic coupler selected (color **blue** or sign "**+**")	
Services roller backwards	Oil to the hydraulic coupler selected (color **red** or sign "**-**")	

The movements that are possible using the left joystick are:

CONTROL	MOVEMENT	
Grip forwards	Boom extension	
Grip backwards	Boom retraction	
Grip to the left	Turret leftward rotation	
Grip to the right	Turret rightward rotation	

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NOTICE

The joystick controls correspond to proportional movements of the vehicle.

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7.7 Continuous oil function *

NOTICE

The oil continuous function is an accessory option.

The continuous oil function allows to maintain a constant volume of oil passing through the hydraulic sockets without acting consistently on the selector of the joystick.

DANGER

Do not change the hydraulic couplers selection while using the continuous oil function; the hydraulic coupler would begin to work directly according to the flow set by the function.

Risk of damage to things, people and mechanics of the machine or equipment.

CAUTION

With the continuous oil function enabled do not move away from the driver's cab.

NOTICE

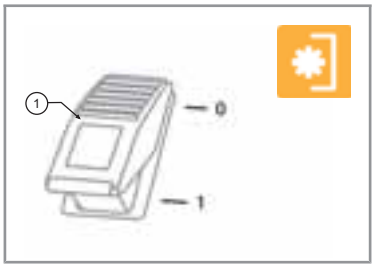
With the continuous oil function active it is still possible to use the joystick to move the boom.

To enable the continuous oil function it is necessary to (fig 150909-1):

- Select, using the coupler switch on the boom head (if installed), the desired hydraulic coupler on which to activate the function.
- Use the joystick control used for services (service roller or lever) to set the desired oil flow rate.
- Press the switch "**1**" to enable the continuous oil function.

The red LED flashing on the joystick, indicates that the continuous oil function is active.

The continuous oil function can only be activated with the vehicle in fork mode.



150909-1

To disable the continuous oil function it is necessary to:

- Press the switch "1" (Fig. 1-G3101).

When the red LED on the joystick stops flashing it indicates that the continuous oil function is disabled.

WARNING

The continuous oil function is disabled temporarily when the joystick is moved without pressing the "Deadman" button.

The continuous oil function will resume as soon as the joystick returns to the rest position.

NOTICE

With the continuous oil function active it is still use the joystick to move the boom and the turret, but the services roller and the quick coupling (if present) are disabled.

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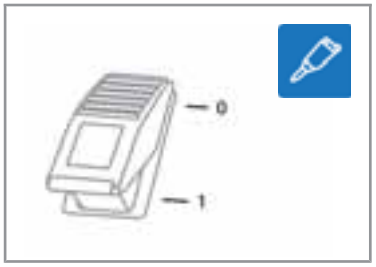
7.8 Hydraulic sockets and electrical contact on boom head *

NOTICE

* The presence and number of hydraulic sockets and electrical contacts present on the boom head may vary depending on optional equipment.

The sockets switch on the boom head (fig. 150203-1) has several functions and positions depending on the optional equipment installed on the vehicle.

Once selected the desired hydraulic socket, it is necessary to use the services lever on the joystick to operate the desired movement.



150203-1

DANGER

Danger of moving the wrong hydraulic socket.

Do not operate the hydraulic sockets using the joystick during the selection of the hydraulic socket. Make the selection of the hydraulic socket and use the joystick to control the hydraulic socket selected only at a later time.

After connecting the equipment to the hydraulic sockets before starting the job, check in a safe location that all the controls are working properly. During the test, be careful not to create danger or damage to persons, animals or things.

WARNING

Pay attention to the connections of the hydraulic socket: moving the service lever placed on the joystick forward, towards the open padlock (see Joystick chapter) oil will be sent to the sockets marked with the color **BLUE** or by the symbol "**+**".

Installation	Diagram	Switch description
Standard hydraulic socket **+ Electrical contact**		0 - Electrical contact off 1 - Electrical contact on
Standard hydraulic socket **+ Additional hydraulic socket** **+ Electrical contact**		0 - Standard hydraulic socket 1 - Electrical contact on 2 - Additional hydraulic socket

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7.9 Electrical contact on boom head *

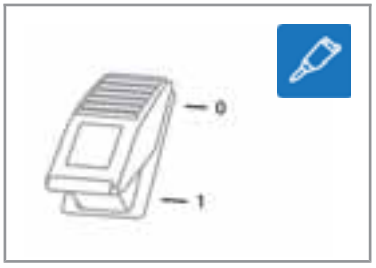
NOTICE

* The electric contact on the boom head is an optional accessory.

At the socket of the electric contact on the telescopic boom head (fig. 150204-1) it is possible to connect:

- The plug of the solenoid valve of the Second Additional hydraulic socket
- The plug of any equipment installed on the tools holder plate.

To activate the electrical contact, place the Sockets switch on the boom head in position "**1**" - See table in the previous chapter.



150204-1

NOTICE

For information on how to make the connections to the electrical socket, refer to the "Electrical connections" chapter.

WARNING

Do not connect users with nominal voltage greater than 12 V and amperage greater than 3 A.

Risk of damage to the electrical system.

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7.10 Equipment quick coupling *

NOTICE

* The equipment quick coupling is an optional accessory.

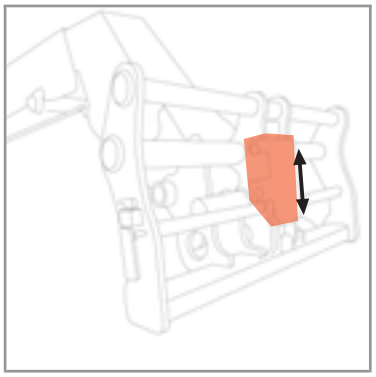
The equipment quick coupling allows the operator to install and fasten the equipment to the tools holder plate.

There are different models of quick couplings for equipment, they can be with a single lock cylinder lock or double lock cylinder, the procedures for use change according to the type of hydraulic system of the vehicle.

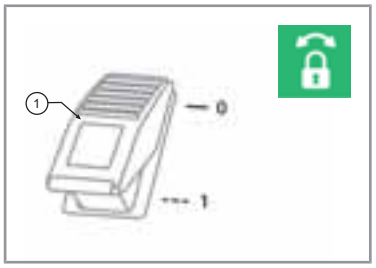
7.10.1 Quick coupling with single lock on open circuit machine

To use the quick coupling (fig. 150206-4) for the equipment installation it is necessary to:

1. Carry out the normal hooking operations set out in paragraphs 1, 2, 3 and 4 of the chapter "Equipment installation procedure".
2. Press the Quick Coupling button "**1**" (fig. 150206-5) and at the same time operate the roller on the services joystick to open the quick coupling.
3. Keep the quick coupling open, tilt the plate upward to make sure that the equipment is fully resting on the attachment holding plate.
4. Release the roller on the services joystick and the Quick coupling button "**1**" to close the quick coupling and lock the equipment.
5. If the equipment is not properly fastened, repeat the installation.



150206-4



150206-5

DANGER

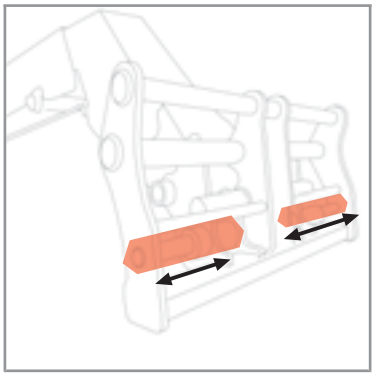
Do not operate without having properly secured the equipment to the plate, danger of load and equipment falling.

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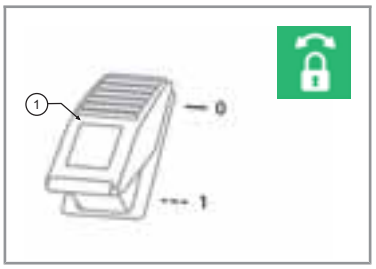
7.10.2 Quick coupling with double cylinder

To use the quick coupling (fig. 150206-7) for the equipment installation it is necessary to:

1. Carry out the normal hooking operations set out in paragraphs 1, 2, 3 and 4 of the chapter "Equipment installation procedure".
2. Press the Quick Coupling button "**1**" (fig. 150206-8) and at the same time operate the roller on the services joystick to open the quick coupling.
3. Keep the quick coupling open, tilt the plate upward to make sure that the equipment is fully resting on the attachment holding plate.
4. Release the roller on the services joystick and the Quick coupling button "**1**" to close the quick coupling and lock the equipment.
5. If the equipment is not properly fastened, repeat the installation.



150206-7



150206-8

DANGER

Do not operate without having properly secured the equipment to the plate, danger of load and equipment falling.

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7.11 Plate translation unit*

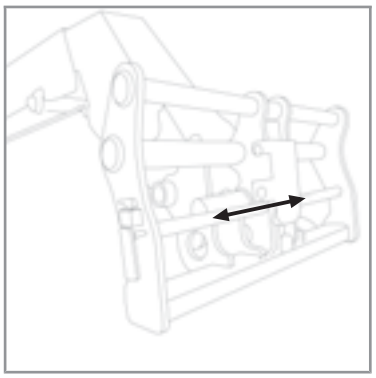
NOTICE

* The plate translation unit is an optional accessory.

The plate translation unit (fig. 150207-1) allows the tool holder plate and related equipment installed, to make small lateral movements.

To use the Plate translation unit it is necessary to select the couplers on the boom head to which the plate Translation unit is connected.

With the boom head coupler active, use the services roller on the joystick to move the plate to the right or left.



150207-1

WARNING

Before starting to work, make some test movements in an area free of people or things.

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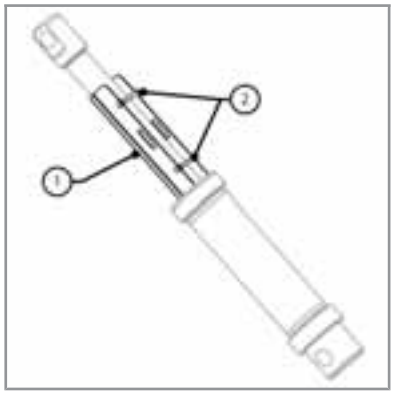
7.12 Safety rod

The safety rod must be used as a safety measure during maintenance operations, to prevent the descent or fall of the boom in case of failures.

To insert the safety rod "**1**" (fig. 150459-1) operate as follows:

- Lay a load on the ground
- Completely close the extensions of the telescopic boom
- Lift the boom to the minimum height necessary to apply the safety rod
- Apply the safety rod around the lifting cylinder rod

Lock the safety rod by means of the appropriate hooks "**2**".



150459-1

WARNING

DANGER OF CRUSHING

In case of maintenance to the boom lifting cylinder or the relative lock valve it is required to support the boom by means of an appropriate lifting device with minimum capacity of at least 3000 kg (6613.87 lb).

7.13 Wheel wedge

The wheel wedge (fig. 150460-1) must be used as a safety measure to prevent accidental or unwanted movements of the vehicle.

It is advisable to use them when parking the vehicle during stops along slopes or during maintenance operations.



150460-1

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7.14 Block valves

The block valves (fig. 150461-1) for cylinders prevent uncontrolled movement of the pistons of the cylinders in the event of hydraulic pressure failure or bursting of a hose.

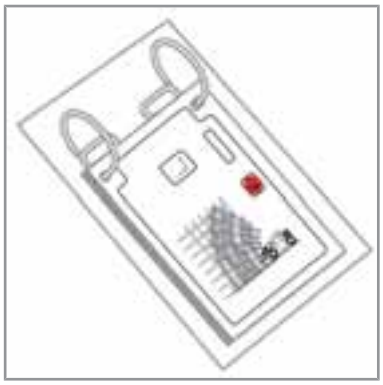
The valves are installed directly on all the cylinders.



150461-1

7.15 Diagrams notebook

The diagrams notebook (fig. 150462-1) summarizes the main information for safe use of the machine for easy reference by the operator during the various processing phases.



150462-1

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7.15.1 Capacity diagrams

The Safe Working Load (SWL) of the vehicles depends on the extension extent and the boom angle.

The capacity diagrams show the maximum height and extent allowed by certain equipment and loads, in order to work safely, without the risk of tipping of the vehicle during work operations.

This vehicle is however equipped with an anti-tipping device that monitors in real time the status of the load and the risk of tipping of the vehicle (see the "Anti-tipping device" chapter in the vehicle manual). It is however necessary to use and adhere to the capacity diagrams in relation to the load and type of accessory used.

CAUTION

It is mandatory to have in the cab, the capacity diagram referred to the equipment and the vehicle that is being used.

Refer to the correct capacity diagram before handling a load.

DANGER

Danger of tipping.

Do not raise or extend the boom when the vehicle is in motion. Fully lower and retract the boom before moving a load.

CAUTION

The capacity diagrams refer to stopped and leveled vehicle.

CAUTION

The diagrams of the vehicle and equipment being used must always be present in the Diagram notebook found in the cab, used by the operator.

Replace the capacity diagrams if they deteriorate, are damaged or lost.

The capacity diagrams are ordered just like spare parts (make sure you provide the relative identification code when placing the order).

Before handling a load it is necessary to:

- Have read and understood the use and maintenance manual of the vehicle and equipment.
- It is mandatory to know the weight of the load that must be handled.
- Locate the center of gravity of the load to be moved. The center of gravity may not be at the center of the load.

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7.15.1.1 Read the capacity diagrams

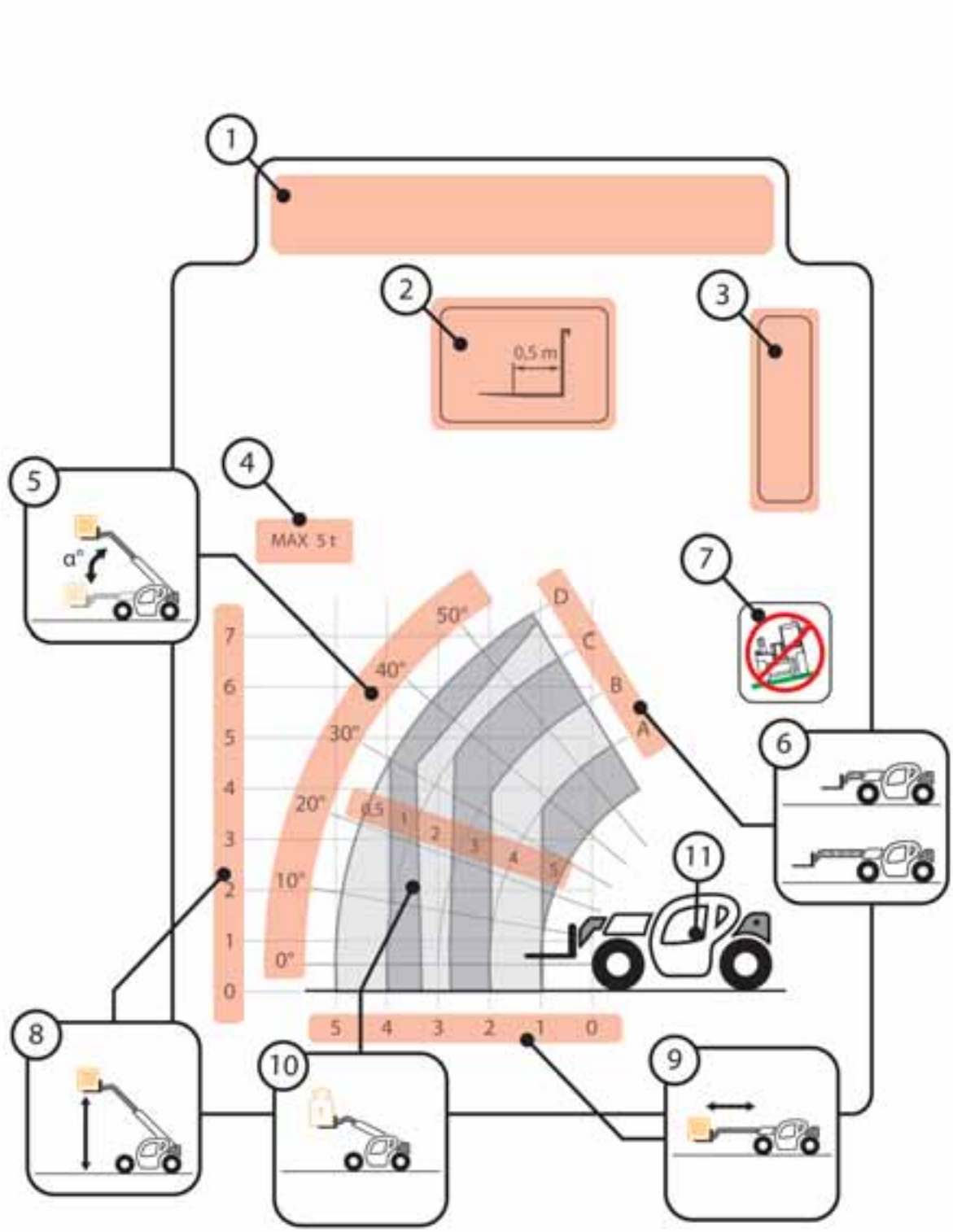


Illustration 6: 150464-1 - Capacity Diagram

1	**Vehicle name and model**
2	**Equipment model** Equipment model with the indications of center of the load. For more information, see the Equipment legend for capacity diagrams [▷ 144] chapter.
3	**Capacity Diagram code**
4	**Equipment maximum capacity**

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	The maximum Capacity of the equipment is also reported by the sticker placed on the equipment itself.
5	**Boom angle** The boom angle is indicated by the inclinometer on the left side at the end of the boom (if any), or on the display of the anti-tipping device (if present).
6	**Boom extension** The boom extension is indicated by letters of the alphabet (“A”, “B”, "C", "D", etc...). The same letters are shown as stickers on the boom extension, so that the user in the cab can know the boom extension by reading the letters on it.
7	**Vehicle operating mode** For more information, see the Operating modes legend for capacity diagrams [▷ 145] chapter.
8	**Load height from ground**
9	**Horizontal distance of the vehicle load**
10	**Load weight**
11	**Vehicle position**

7.15.1.2 Use the capacity diagrams

The capacity diagrams indicate the areas in which it is possible to operate with the machine and load in safe conditions.



DANGER

Danger of tipping.

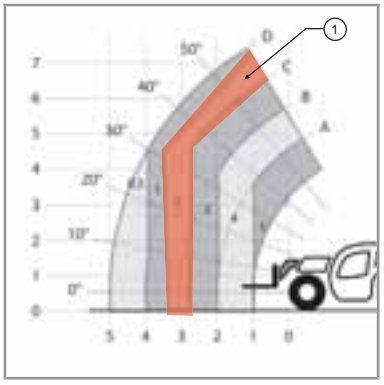
Operating the machine without observing the Capacity diagrams related to the equipment installed may result in hazardous conditions, up to the tipping limit and the operation of the Anti-tipping device.

The whole working area of the boom is divided into these areas (position “**1**”, fig. 150465-1). Each area corresponds to a maximum capacity. The area closest to the machine will have a capacity equal to the maximum loading capacity of the machine; as moving away from the machine, the maximum capacity of the areas decreases.

Before starting to work, it is necessary to know:

- Load weight
- Height from ground at which the load must be handled
- Distance from the machine at which the load must be handled

Locate the area of the capacity diagram, showing a value just above the weight of the load to be handled; for example if the load should weigh 1.5 tons, the area to which it is necessary to refer is the area with a capacity of 2 tons (position “**1**”).



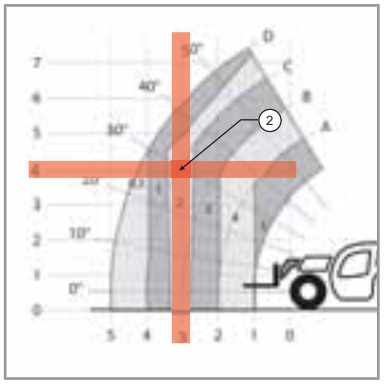
150465-1

https://truckmanualshub.com/

Knowing the area, the following will be known:

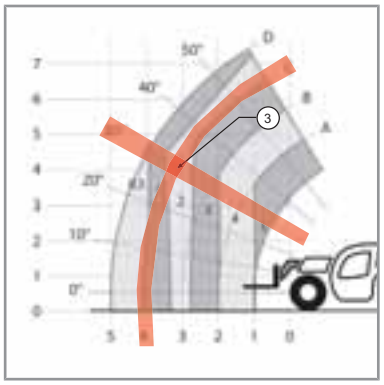
- the vertical and horizontal distance to which it will be possible to handle the load
- the boom extension and angle values at which it is possible to operate.

In order to know the vertical and horizontal distance to which it will be possible to handle the load, use the horizontal and vertical lines that cross the reference area; for example, it will be possible to carry the load at a distance of 3 m from the machine and 4 m in height remaining in safety conditions (position "**2**", fig. 150465-2).



150465-2

To avoid operating in conditions of tipping danger, use the boom angle and extension indications. For example, we could operate with the boom extended to letter C at an angle of 30° (position "**3**", fig. 150465-3).



150465-3



DANGER

Taking the load beyond the permissible area, we would enter in danger conditions of tipping over and the anti-tipping device, locking all the movements considered aggravating to the stability of the vehicle and of the load.

Use the capacity diagrams for each load handling to determine the working area.

It is possible to start operating only under safety conditions and if within the predetermined safe work area.

7.15.1.3 Equipment legend for capacity diagrams

	Pair of forks xxx = Center of gravity of the load
	Forks Spreader / Shifter xxx = Center of gravity of the load
	Winch xxx = Capacity
	Crane extension xxx = Center of gravity of the load
	"Gooseneck" jib (Dimensions) xxx = Center of gravity of the load

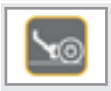
https://truckmanualshub.com/

	Hook for fork carriage
	Gripper for pipe with pipe locker xxx = Center of gravity of the load
	Cylinders manipulating gripper
	Wheels manipulating gripper
	Sheets holding gripper
	5 teeth polyp-grab gripper
	Centering layer
	Negative jib
	Positive jib
	Fixed front basket xxx = length, yyy = width
	Extensible front basket xxx = length, yyy = width, zzz = maximum width
	Fixed trilateral basket xxx = length, yyy = width
	Extensible trilateral basket xxx = length, yyy = width, zzz = maximum width
	Front basket for tunnels xxx = length, yyy = width
	Fixed trilateral basket for tunnels xxx = length, yyy = width

7.15.1.4 Operating modes legend for capacity diagrams

	Prohibited to work on tires
	Prohibition of operating with unleveled machine
	Crossbeam outriggers lowered, 0% extended

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	Crossbeam outriggers lowered, 50% extended
	Crossbeam outriggers lowered, 100% extended
	Crossbeam outriggers lifted
	Flap down outriggers lifted
	Flap down outriggers lowered
	On wheels
	Front position
	In non-continuous Rotation
	In continuous Rotation

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7.16 Water heater *

NOTICE

The Water heater is an optional accessory.

The water heater is connected to its own control unit and is used to facilitate the ignition of the engine in the winter period or in case of cold climates.

The water heater is placed in the rear side of the bonnet.

To use the water heater it is necessary to:

- Make sure the vehicle is off.
- Enter the extension in the socket at the rear of the hood.
- Enter the extension in the **220 V** socket.
- Wait until the water is adequately heated.
- Remove the water heater extension from the socket and from the socket on the bonnet.



150493-1

DANGER

Do not use the water heater with the engine running or the machine in travel.

WARNING

Remove the water heater power connections before turning on and/or moving the machine.

Check the good condition of the power cord before starting up the device.

NOTICE

In case of malfunction contact the ***Dieci*** service center.

7.17 Transmission

7.17.1 Movement selection lever

CAUTION

In order to select a direction of movement, it is necessary to move the movement selection lever towards the steering wheel. This shifting protects the lever from accidental operation.

With the movement selection lever in position other than “N”, it is not possible to start the vehicle engine.

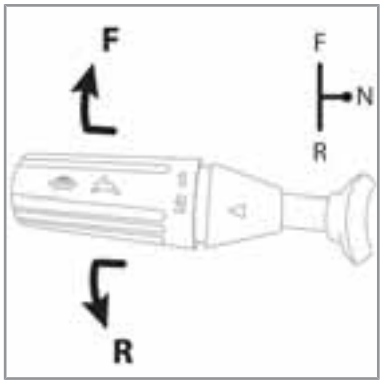
https://truckmanualshub.com/

The movement selection lever, at the left of the steering wheel (fig. 150457-1), allows to set the direction of travel of the vehicle.

- Pull the lever towards the steering wheel and push it forward ("**F**" direction) to proceed forward.
- Pull the lever towards the steering wheel and pull it back ("**R**" direction) to proceed in reverse. When driving in reverse, an alarm sounds intermittently.

While holding the lever in an intermediate position "**N**" the transmission is in neutral and the vehicle is partially braked.

With the forward/reverse movement gear selection lever in position other than "**N**", the engine will not start.



150457-1

After selecting a direction of movement, the corresponding indicator lights on the instrument panel turn on:

	"**F**" forward movement
	"**R**" reverse movement
-	While holding the lever in the intermediate "**N**" position the transmission is in neutral and both indicator lights will turn off.

The movements of the lever are not active when:

- The handbrake is engaged
- The operator is not properly seated in the driver's seat



NOTICE

If the operator is not sitting properly in the driver's seat, the transmission is automatically switched off.

To continue moving the vehicle, the operator must sit in the driver's seat and set the movement selection lever in position "**N**".



WARNING

After selecting the vehicle movement direction, it starts suddenly to move in the selected direction.

Before selecting the movement direction make sure that nobody is standing near the vehicle.



WARNING

It is dangerous to operate the movement selection lever with the engine at high rpm or at a speed higher than 2 km/h (1.2 mph).

Before reversing the direction of movement, minimize the engine speed and select the new direction. Danger of vehicle overturning severe breakage of mechanical parts.

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7.17.2 Travel with turret rotated of 180° *

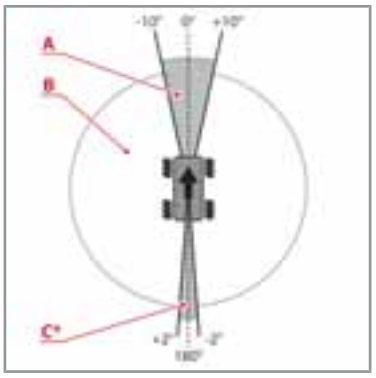
NOTICE

* "Travel with turret rotated of 180°" is an optional attachment.

Travel with turret rotated of 180° makes it possible to move the vehicle when the turret is rotated 180°, corresponding to the area "C" (Fig. 150395-1).

With the turret rotated 180°, the function of the Movement selection lever remains consistent with the operator's travel direction.

WARNING! During the movement of the vehicle with the turret rotated 180°, Use only the 4 concentric wheels steering or crab steering.



150395-1

https://truckmanualshub.com/

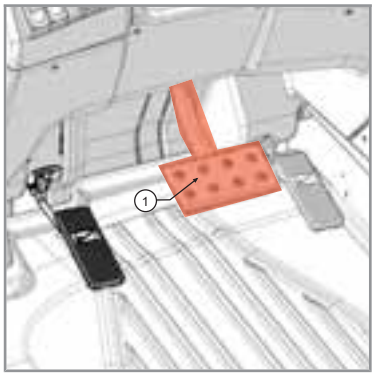
7.17.3 Service braking pedal

Press the service brake pedal "**1**" (fig. 150311-1) to slow down or stop the vehicle.

The pedal acts directly on the service brakes inside the differential axles.

When the brake pedal is pressed the stop lights of the rear lights go on. The lights remain in operation until the pedal is released.

Periodically check that both lights are working.



150311-1



150311-2

WARNING

In the case of restricted use of the pedal periodically check its proper operation. In case of problems contact the ***Dieci*** service center.

DANGER

If the warning light (fig. 150311-2) turns on intermittently, it indicates a low brake fluid level.

If the warning light (fig. 150311-2) turns on in a fixed way, the parking brake is stuck or damaged.

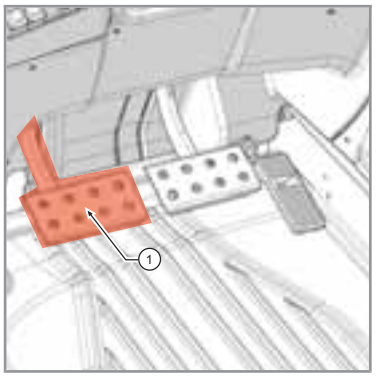
Do not use the vehicle until the problem has been solved. Contact a ***Dieci*** service center.

7.17.4 Inching Pedal

The inching pedal "**1**" (fig. 150740-1) acts directly on the hydrostatic transmission and allows to slow down the vehicle forward movement.

The pedal allows slow and precise forward movements with high rpm heat engine.

With pedal fully pressed, the vehicle stops the forward movement.



150740-1

DANGER

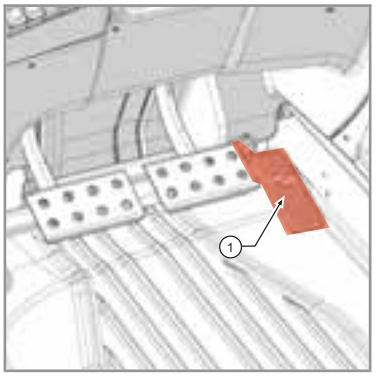
Do not press the inching pedal at high speeds, the vehicle brakes suddenly and the diesel engine risks over-revving.

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7.17.5 Accelerator pedal

Press the accelerator pedal "**1**" (fig. 150741-1) to increase the engine speed, when the pedal is released the engine rpm will decrease.

The pedal acts directly on the injection pump of the engine.



150741-1

WARNING

If while driving, the vehicle exceeds the maximum allowed speed, the "Over speed protection" transmission electronic control goes into operation. The function automatically limits the vehicle speed in order to prevent drive and diesel over revving. Triggering of the "Over speed protection" function is signaled by the general alarm indicator light switching on and the intermittent acoustic signal.

If the function intervenes, the operator must lift his foot from the accelerator pedal and reduce the speed of the vehicle.

NOTICE

The maximum speed of the vehicle varies with the inflation pressure and the size and wear of the tires.

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7.17.6 DRIVE MODE

The DRIVE MODE is used to change the vehicle transmission and engine settings to best suit the operator's needs.

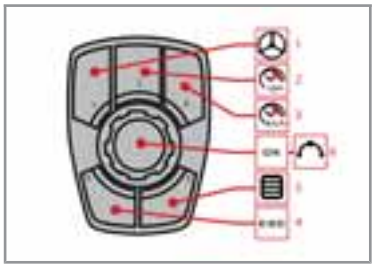
The DRIVE MODE selection key is used to change the machine driving modes.

To change the machine driving mode:

- Stop the vehicle.
- Reduce engine speed.
- Press the key "**1**" (fig. 160502-1) of the VDC controller to activate the icons of the group "**2**" and "**3**" (fig. 160502-2), the active mode icon will switch from white to yellow.

[If the engine speed was previously set on the VDC, it is reset to 0% as soon as the button "1" is pressed.]

- Turn the knob "**6**" (fig. 160502-1) to move the yellow selection on the desired driving mode.
- Press the knob "**6**" (fig. 160502-1) to send the setting mode.
- The yellow icon of the requested mode will flash until the conditions necessary for the vehicle to activate the working mode, are met. Meanwhile the previous working mode (with white icon) remains active.
- Once the conditions for activating the required mode are confirmed, the yellow icon stops flashing and will stay on with white light.



160502-1



160502-2

Icons status:	Enabled	Disabled	Selected
NORMAL	I NORMAL	I	I NORMAL
ECO	II ECO	II	II ECO
CREEP	III CREEP	III	III CREEP

7.17.6.1 NORMAL mode

The NORMAL mode is the mode best suited for road travel.

It is possible to make the most of the engine and transmission potential, reaching the maximum speed when in second gear.

- The maximum speed is set through the VDC controller on the TFT display.
- The engine rpm and the relative movement speed are set through the accelerator pedal and the VDC controller on the TFT display.
- The inching pedal is operating.
- It is possible to activate the ECO-WORK function.

7.17.6.2 ECO mode

The ECO mode enables a reduction in fuel consumption and noise by reducing the number of engine revolutions, while maintaining the driving performance.

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- The maximum speed is set through the VDC controller on the TFT display.
- The engine rpm is managed by the software.
- The accelerator pedal sets the machine movement speed.
- The inching pedal is operating.
- It is possible to activate the ECO-WORK function.

7.17.6.3 CREEP mode

The CREEP mode is used to set a constant engine rpm and to change the vehicle speed through the accelerator pedal.

In this mode, the maximum speed is limited to 20 km/h (12.4 mph).

- The maximum speed is set through the VDC controller on the TFT display.
- The engine rpm is set through the VDC controller on the TFT display.
- The accelerator pedal sets the movement speed
- The inching pedal is disabled
- It is not possible to activate the ECO-WORK function.

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7.17.7 ECO-WORK Function

The ECO-WORK function manages the engine speed and the relative power depending on the intensity and speed with which the commands are given through the joystick.

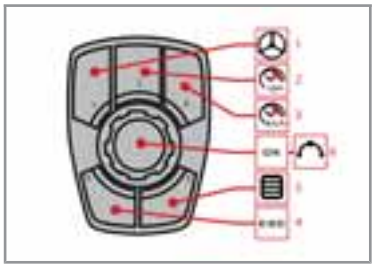
The DRIVE MODE selection key is used to activate or deactivate the ECO-FUNCTION WORK:

- Stop the vehicle.
- Reduce engine speed.
- Press the key "**1**" (fig. 160502-1) of the VDC controller to activate the icons of the group "**2**" and "**3**" (fig. 160502-2), the active mode icon will switch from white to yellow.

[If the engine speed was previously set on the VDC, it is reset to 0% as soon as the button "1" is pressed.]

- Turn the knob "**6**" (fig. 160502-1) to move the yellow selection on the ECO-WORK indicator light "**3**".
- Press the knob "**6**" (fig. 160502-1) to activate or deactivate the ECO-WORK function.

It is not possible to use or activate the ECO-WORK function in combination with the CREEPER mode.



160506-1



160506-2

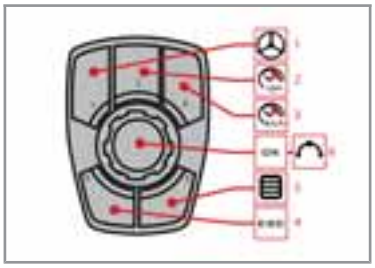
Icon	Status
	Active function
	Not active function
	Selected function
	Function not available

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7.17.8 Hand throttle

The Hand throttle selection key "**2**" (fig. 160503-1) is used to change the engine rpm.

The bar "**5**" (fig. 160504-2) shows the engine rpm percentage set. The 0% value indicates that the engine is idling and the engine rpm is controlled by the pedal in the cab. The 100% value indicates the engine at the maximum rpm possible.



160503-1

To set the engine speed it is necessary to:

- Stop the vehicle
- Press the key "**2**" (fig. 160503-1) of the VDC controller to activate the engine rpm adjustment "**4**" (fig. 160502-2)
- Turn the knob "**6**":
  - Clockwise to increase the RPM of 5%
  - Counterclockwise to decrease the RPM of 5%
- Press the knob "**6**" to save the setting.

If no key is pressed to confirm, after 25 s the current value will be saved and the default screen will reappear.



160503-2

CAUTION

With the hand throttle in operation, the vehicle travel is disabled.

CAUTION! When turning off the vehicle, the function must be disabled and the engine must be brought to the minimum speed.

WARNING

Do not use the electronic throttle in the cab during the use of the basket and/or of the remote control.

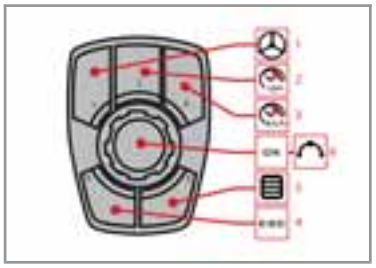
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7.17.9 Maximum speed limiter

The Maximum speed limiter selection key "**3**" (fig. 160504-1) is used to set the vehicle movement maximum speed.

The bar "**5**" (fig. 160504-2) shows the vehicle movement percentage when it is running.

With the value set 0%, it is not possible to move the vehicle. The 100% value is the maximum speed permitted to the machine in the current mode.



160504-1



160504-2

To set the speed limitation it is necessary to:

- Stop the vehicle
- Press the key "**3**" (fig. 160504-1) of the VDC controller to activate the engine rpm adjustment "**5**" (fig. 160504-2)
- Turn the knob "**6**":
  - Clockwise to increase the maximum speed
  - Counter-clockwise to decrease the speed of rotation.
- Press the knob "**6**" to save the setting.

If no key is pressed to confirm, after 25 s the current value will be saved and the default screen will reappear.

Each rotation click of the knob "**6**" (fig. 160504-1) increases or decreases the speed by 5%.

7.17.10 Transmission errors

7.17.10.1 ECU errors

Turns on

Error code	Description
520448	Turns on 1: Batt. U out of range
520449	Turns on 2: Sen. U power supply too low
520450	Turns on 3: Control 1 Monitor HW
520451	Turns on 4: Starting condition 1
520452	Turns on 5: Invalid channel switch
520453	Turns on 5: No HW support switch
520454	Turns on 5: Locked activation switch
520455	Turns on 5: Suspended control switch
520456	Turns on 5: Active deactivation switch
520457	Turns on 5: No power supply
520458	Turns on 5: No VP
520459	Turns on 5: VP shuttle power supply
520460	Turns on 7: safe output disengagement failure
520461	Turns on 7: safe output engagement failure
520462	Turn on 7: safe output control suspended
520463	Turns on 8: Engine speed condition

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Error code	Description
520464	Turns on 10: Control 2 Monitor HW
520465	Turns on 11: Starting condition 2
520466	STARTING UNLOCK ABSENT

Customized conditions for ignition

Error code	Description
520467	Ignition 4: condition signal error
520468	Ignition 8: condition signal error
520469	Ignition 11: condition signal error

ECU monitor

Error code	Description
520704	Monitor: ignore error
520705	Mon: temperature signal error
520706	Mon: emergency mode with reduced operation error
520707	Mon: switch off at start-up error
520708	Mon: sistematic switch-off error
520709	Mon: unknown error

ECU integrity state

Error code	Description
520961	Switching off from API
520962	Stop switch activated
520963	Warning: ECU temperature
520964	Error: ECU temperature
0	Power supply too low
520993	Power supply too low at ignition
520965	Power supply too low
520966	Power supply too high
520967	Sensor VSS1 power supply too low
520968	Sensor VSS2 power supply too low
520970	Sensor VSS3 power supply too low
520971	VSS2 engine rpm too low
520972	CAUTION: IdHw <> Target version
520973	WARNING: Operation period at 66%

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7.17.10.2 Operating mode

Debug function

Error code	Description
521025	CAUTION: Active simulation
521026	CAUTION: Virtual testbox active
521027	CAUTION: Calibration protocol CAN

Activation for error reactions in two phases

Error code	Description
0	Condition Reduced forward operation mode fulfilled
0	Condition Reduced reverse operation mode fulfilled
0	Condition Reduced rapid inching operation mode fulfilled

Active error reactions report

Error code	Description
521040	SWITCHING OFF
521041	VP1 AND VP2 STOP
521042	STOP VP1
521043	STOP VP2
521056	STOP RAMP
521057	STOP RAMP WITHOUT INCHING
521058	RAPID REDUCED OPERATION MODE WITHOUT INCHING
521061	RAPID REDUCED OPERATION MODE
521062	SLOW REDUCED OPERATION MODE
521072	FREE WHEEL
521073	FREE WHEEL FORWARD
521074	ONLY REVERSE REDUCED OPERATION MODE
521075	FREE WHEELS IN REVERSE
521076	ONLY FORWARD REDUCED OPERATION MODE
521088	Transmission gearbox DISABLE
521089	TRANSMISSION GEARBOX DISABLE IN PROGRESS
521090	AUTOMATIC TRANSMISSION GEARBOX DISABLE
521091	MANUAL TRANSMISSION GEARBOX DISABLE

Active protections report

Error code	Description
521120	POWER LIMITATION ACTIVATED
521121	TEMPERATURE LIMITATION ACTIVATED

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7.17.10.3 HMI sensors

Pedals and potentiometers (AgSnsr)

Error code	Description
521216	Travel pedal
521218	Inching pedal
521219	Brake pedal
521220	Speed limit request
521221	Torque limit request
521223	Potentiometer/Gear lever
521222	Engine in operation rpm request

Multiple state switch

Error code	Description
521472	Travel direction lever/Gear lever
521474	Drive mode switch

Two-state switches (SwtBtn)

Error code	Description
521600	Parking brake request
521604	Transmission gearbox request evaluation
521601	Transmission gearbox request - Function A
521602	Transmission gearbox request - Function B
521607	Automatic transmission gearbox switch
521616	Speed automatic regulator activation request
521617	Speed automatic regulator setting request
521618	Speed automatic regulator decrease request
521619	Speed automatic regulator pick-up request
521620	Speed automatic regulator increase request
521621	Speed automatic regulator cancellation request
521606	Equipment speed limitation

Joystick

Error code	Description
521728	Equipment joystick- axis1
521728	Equipment joystick- axis2
521728	Equipment joystick- axis3
521728	Equipment joystick- axis4

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7.17.10.4 Machine sensors

Driver on board

Error code	Description
521808	Driver on board: pedal disabled
521984	Driver on board switch

Parking brake sensors

Error code	Description
522016	Parking brake pressure switch
522017	Parking brake not plausible state

Engine sensors

Error code	Description
522048	Engine actual rpm
0	Engine actual rpm
522049	Engine coolant temperature
522050	Power limitation switch

Pump sensors

Error code	Description
522052	MA pump pressure
522053	MA Umin pressure too low
522054	MB pump pressure
522055	MB Umin pressure too low
522056	MA/MB pressure not plausible
522057	Pump orientation angle

Speed signals

Error code	Description
522240	Speed sensor 1: Temp. / Input
522243	Speed sensor 2: Perm. / Output
522241	Speed sensor support
522244	Speed sensor mapping
522245	Speed not plausible

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Transmission gearbox sensors

Error code	Description
522496	Gearbox oil temperature
522497	Clutch pressure switch
522506	Clutch state not plausible
522498	Transmission gearbox overrevved limit
522499	Transmission gearbox ratio not plausible
522500	Transmission gearbox position switch
522503	Gear shift control error
522501	Gear shift temperature warning
522502	Gear shift overheating limit

Engine sensors

Error code	Description
522624	Engine oil temperature sensor
522246	Engine VgMin switch
522625	Engine overspeed limit
522626	Engine temperature overspeed limit

7.17.10.5 Actuators

Indicator lights

Error code	Description
522752	Fault indicator light
522753	Parking brake indicator light
522753	State indicator light
522768	Brake indicator light

Parking brake actuators

Error code	Description
522784	Parking brake valve disabled
522785	Parking brake valve

Diesel engine actuators

Error code	Description
522800	Engine start-up allowed
522802	Delay braking valve

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Pump actuators

Error code	Description
522816	Forward gear pump disabled
522817	Forward gear pump
522818	Reverse gear pump disabled
522819	Reverse gear pump
522896	Idle valve pump disabled
522897	Idle valve pump

Engine actuators

Error code	Description
522832	Disabled engines
522833	Engines

Transmission gearbox actuators

Error code	Description
522880	Clutch/Transmission gearbox/ MCR valve disabled
522881	Clutch/Transmission gearbox/ MCR valve

Calibration

Error code	Description
523008	Error during calibration

7.17.10.6 Communication

CAN Bus

Error code	Description
523265	Bus off CAN 1
523266	Bus off CAN 2
523267	Bus off CAN 3
523268	Bus off CAN 4
523280	J1939 stack not in execution

J1939 receiving messages

Error code	Description
523296	J1939 message EEC1
523297	J1939 message ET1

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Error code	Description
523298	J1939 message Hmi1
523299	J1939 message Hmi2
523300	J1939 message Hmi4
523301	J1939 message Hmi5
523301	J1939 message MacIfc1
523301	J1939 message MacIfc2
523301	J1939 message MacIfc3

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7.18 Remote control for ARS *

7.18.1 Remote Control: Description

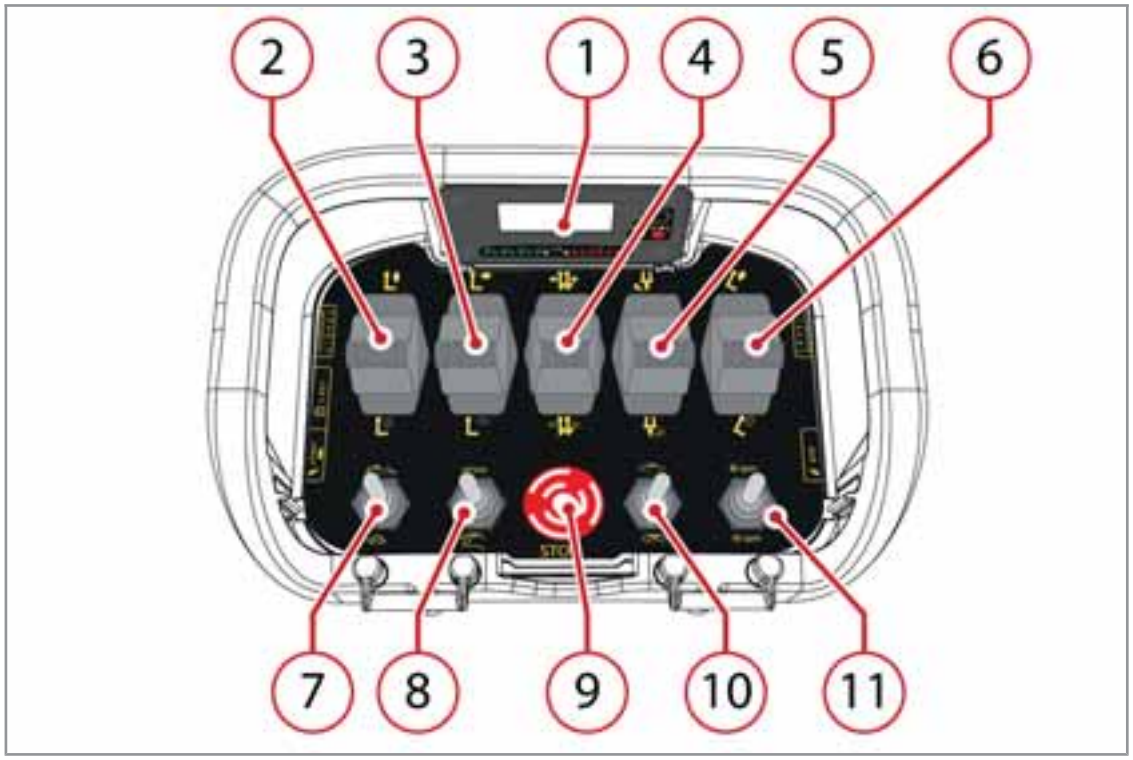


Fig. 160601-1

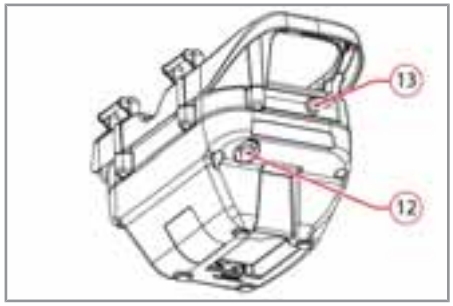


Fig. 160601-2

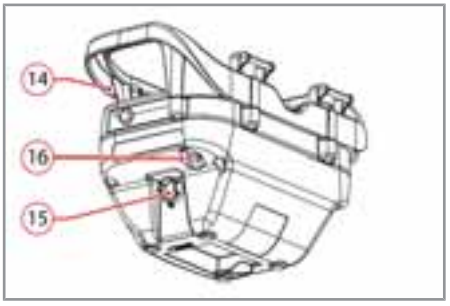


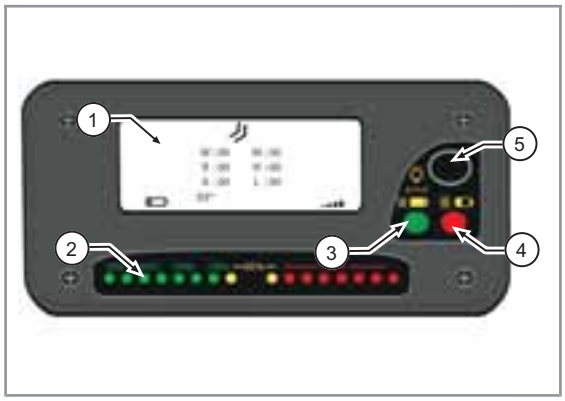
Fig. 160601-3

1	LCD display	9	Emergency stop button
2	Boom up /down lever	10	Vehicle ignition switch
3	Boom extension / retraction lever	11	Throttle lever
4	Services lever	12	Electric contact on boom head button
5	Turret rotation lever (for rotary vehicles)	13	Deadman button
6	Up / down swiveling lever	14	Deadman button
7	Movements speed lever	15	Remote control on/off key
8	Up: Boom head solenoid valve lever Down: Equipment recognition confirmation	16	Remote control and horn enable button

Table 1: Radio control description

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7.18.1.1 Remote control display



	Description
1	LCD display
2	Anti-tipping led signaling
3	Remote control status LED
4	Remote control battery status LED
5	Not used
W	Current weight
M	Maximum weight
R	Radius
H	Load height from the ground
A	Boom angle
L	Boom extension length
xx*	Installed equipment code
	Forks operating mode icon
	Hook operating mode icon
	Basket operating mode icon
	Battery charge level
	Remote control signal level
	Fuel low level icon
	General alarm icon
	Active electric contact icon
	Solenoid valve on boom head icon
	F1 function icon (optional depending on the equipment installed)
	F2 function icon (optional depending on the equipment installed)
	F3 function icon (optional depending on the equipment installed)

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	Description
	F4 function icon (optional depending on the equipment installed)
	High particulate accumulation in the DPF icon
	AdBlue low level icon
	Chains error icon (present if the vehicle is prearranged with PLE)
	Levelness icon (present if the vehicle is prearranged with PLE)
	Equipment confirmation
	No equipment installed
	Forks
	Bucket
	Hooks
	2.5 t Winch
	3.8 t Winch
	4.0 t Winch
	5.0 t Winch
	Customized winch
	Jib length 1.0 m
	Jib length 1.3 m
	Jib length 2.5 m
	Jib length 4.5 m
	Customized jib
	Basket for 2 persons 200 kg
	Basket for 3 persons 300 kg
	6 m basket for 3 persons 300 kg
	Volvo model basket for 3 persons 300 kg

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	Description
	Basket for 3 persons 500 kg with front opening
	Basket for 3 persons 800 kg
	Basket for 3 persons 1000 kg
	Customized basket
	Basket for tunnels 300 kg
	Basket for tunnels 400 kg
	Basket for tunnels 800 kg
	Orange-peel grabber
	Centering layer
	Positive/negative jib
	Winch with basket
	Arch-centering with basket

Table 2: Display description and legend

7.18.1.2 Boom control levers



CAUTION

To carry out the movements it is necessary to press and hold the deadman button and then move the lever in the direction corresponding to the desired movement

The boom control levers are used to carry out various movements:

Boom lowering / lifting lever “2” (fig. 160601-1)

	Boom down
	Boom up

Boom extension / retraction lever “3” (fig. 160601-1)

	Boom extension

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	Boom retraction

Services lever "4" (fig. 160601-1)

	Services
	Services

Turret rotation lever "5" (fig. 160601-1) [if installed]

	Turret counter-clockwise rotation
	Turret clockwise rotation

Swivel lever “6” (fig. 160601-1)

	Downward swivel
	Upwards swing

7.18.1.3 Movements speed lever

The movements speed lever "**7**" (fig. 160601-1) allows to set the vehicle boom speed.

	Move the lever up to set the fast movements (hare symbol)
	Move the lever down to set the slow movements (snail symbol)

7.18.1.4 Quick coupling consent / equipment recognition confirmation lever

The quick coupling consent / equipment recognition confirmation lever "**8**" (fig. 151202-1) provides two functions:

- Allows to use the quick coupling of the machine when the vehicle plate height is below 2 m (6.56 ft).
- It is used to enable the equipment confirming the automatic recognition.

	Move the lever up to enable the quick coupling use.

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	Move the lever downward to confirm the equipment.

NOTICE

Refer to the "Equipment installation" and "Quick coupling" chapter on the vehicle manual for the quick couplings use procedures.

Refer to the "Equipment automatic recognition (ARS)" chapter on the vehicle manual for more information regarding the automatic recognition of the equipment.

7.18.1.5 Remote control emergency stop button

The emergency stop button "**9**" (fig. 160601-1) turns off the diesel engine of the vehicle and the remote control, stopping all movements of the vehicle and of the equipment.

7.18.1.6 Throttle lever

The throttle lever "**11**" (fig. 160601-1) allows to maintain constant diesel engine revolutions of the vehicle.

	Move the lever forward to increase the engine rpm of 200 rpm.
	Move the lever backward to decrease the engine rpm of 200 rpm.

Press a deadman button on the remote control to reset the settings made with the throttle lever.

The throttle lever is not active when one of the deadman buttons is pressed.

7.18.1.7 Remote control on/off key

The on/off key "**15**" (fig. 160601-3) allows to turn on and turn off the remote control. To turn on the remote control, turn the knob from position O to position I.

7.18.1.8 Remote control and horn enable button

The button "**16**" (fig. 160601-3) is used both to enable the remote control commands and to operate the horn of the vehicle.

7.18.1.9 Deadman button

The deadman buttons "**13**" (fig. 160601-2) and "**14**" (fig. 160601-3) enable the use of the boom control levers.

It is necessary to press and hold at least one of the two buttons and operate the boom control levers.

7.18.1.10 Electric contact on boom head button

The button "12" (fig. 160601-2) allows to activate the electrical contact on the boom head (if present). Press again the button to disable the electrical contact on the boom head.

7.18.2 Remote Control: Use

The vehicle, if prepared, can be used by the remote control.

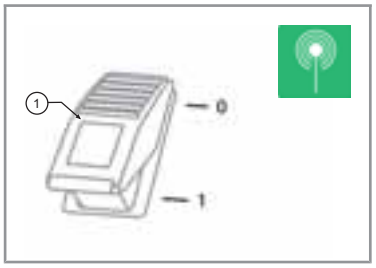
The movements that can be performed from the remote control are:

- Telescopic boom extension/retraction.

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- Telescopic boom Up/Down movement.
- Swiveling.
- Turret rotation
- Services.

To use the vehicle by remote control carry out the following operations:



150912-1

Operations on the vehicle:

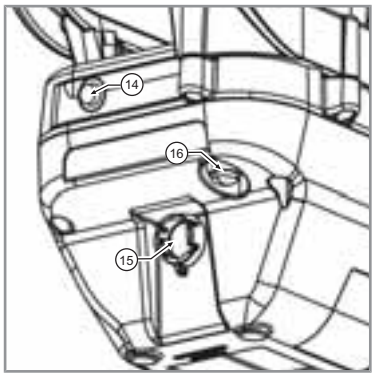
Assemble the equipment on the vehicle, if not already installed. (Refer to the chapter "Equipment installation" and set the correct mode of use of the vehicle)

- Lay the load on the ground.
- Level the vehicle (if available).
- Place the vehicle on outriggers.
- Place the gear lever to neutral "**N**" position.
- Engage the parking brake.
- Press the switch "**1**" (fig. 150912-1) to enable the controls from the remote control. Pressing the switch will automatically shut down the vehicle engine.
- Turn the vehicle ignition key in position "**I**" without starting the engine.

CAUTION

If the vehicle is designed for the positive/negative jib, connecting any man basket to the vehicle, the remote control is automatically disabled; therefore only man baskets with pushbutton panel can be used.

Operations on the remote control:



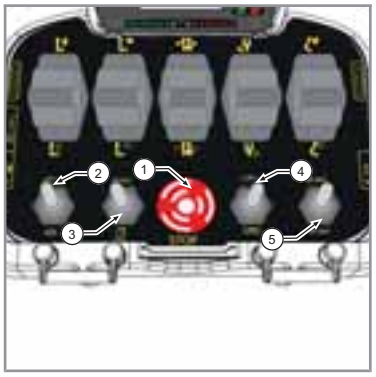
150912-2

- Turn the remote control on/off knob "**15**" (fig. 150912-2) to position "**I**".
- Press the remote control on/off button "**16**" to enable the remote control.
- Move the vehicle on/off lever "**4**" (fig. 150912-3) up and hold it for 2 seconds.

The ON remote control indicator light will flash green until the remote control will remain on.

When switching on the remote control, it will emit an alert tone.

If the gear lever of the vehicle is not in position "**N**", the vehicle will not turn on.



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150912-3

WARNING

Always remain at a safe distance from the vehicle and from the load, outside the area that would be occupied in case of vehicle overturning and load fall.

When using the vehicle with remote control:

- The emergency stop button in the cab is always active.
- The gear of the vehicle is inhibited.

NOTICE

After 4 min of non-use of the remote control, the remote control and the vehicle will turn off.

7.18.3 Remote Control: Turn off the vehicle and the remote control

To turn off the vehicle engine and the remote control, turn the ignition knob "**1**" (Fig. 10-G2303) to position "**O**".

7.18.4 Remote Control: Receiver

The remote control receiver is installed on the rear of the vehicle. When the remote control is selected in the cab, the receiver turns on. For the operating specifications carefully read and learn the use and maintenance instructions of the remote control manufacturer.

7.18.5 Remote Control: Recharge

At the seat side there is the remote control battery charger.

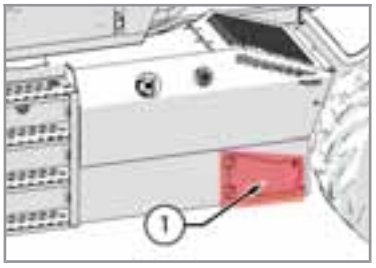
7.18.6 Remote Control: Additional information

NOTICE

For additional information on the use and maintenance of the remote control, refer to the specific manual of the remote control.

7.19 Tool holder compartment

On the left side of the vehicle there is a compartment for storing objects "**1**".



160441-1

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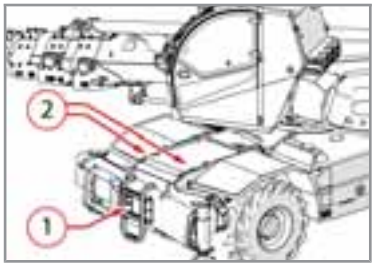
7.20 Steps for access to the cab with rotated turret

NOTICE

Before climbing into the cab, make sure your hands and your shoes are clean and dry to avoid slipping and falling.

In the front and rear of the machine there are some steps "1" (Fig. 160530-1) to climb in and out of the vehicle in case it is necessary to leave the machine rotated and the steps on the vehicle side are not accessible.

Use the handles "**2**" located on the carriage to help you climb in and out.



160530-1

WARNING

RISKS

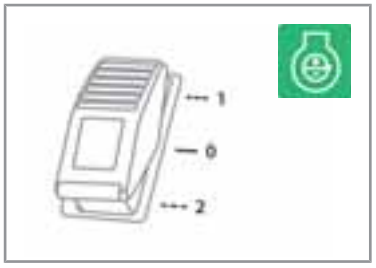
Climbing in and out of the cab is allowed only when the vehicle is stopped with the parking brake engaged. Do not leave the cab with the vehicle in motion.

7.21 Electronic hand throttle

The hand throttle (fig. 150743-1) allows to maintain constant engine revolutions, without pressing the accelerator pedal.

- Press the Hand throttle on the top "**1**" to increase the engine revolutions of 200 rpm.
- Press the hand throttle on the bottom "**2**" to decrease the engine revolutions of 200 rpm.

To deactivate the function, press the accelerator pedal.



150743-1

CAUTION

With the hand throttle in operation, the vehicle travel is disabled.

CAUTION

When turning off the vehicle, the function must be disabled and the engine must be brought to the minimum speed.

WARNING

Do not use the electronic throttle in the cab during the use of the basket and/or of the remote control.

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7.22 Automatic differential lock *

NOTICE

* The automatic differential lock is an optional setup.

The automatic differential lock on the rear axle (fig. 150913-1), enters automatically in operation in the event of a slip over 45% of one of the two wheels.



150913-1

7.23 Automatic axle swing lock

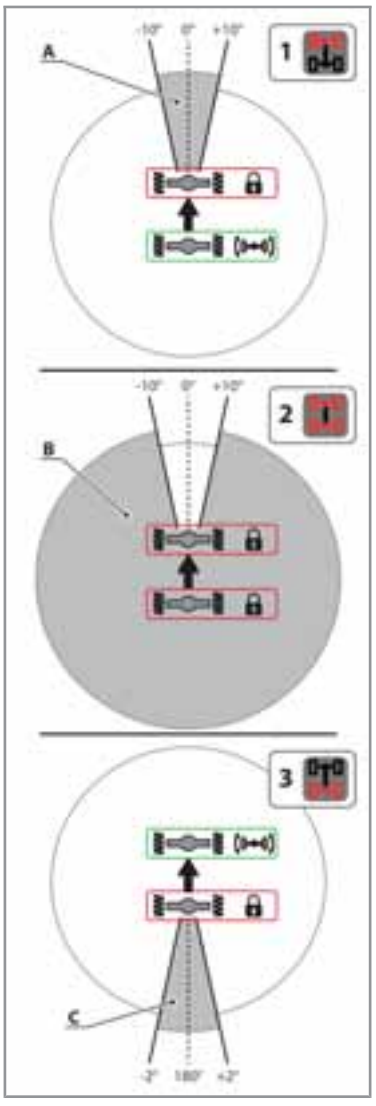
The automatic axle swing lock avoids possible oscillations of the vehicle during the working operations when the vehicle is used on wheels.

The indicator lights 1, 2 and 3 (fig. 150914-1) indicate which axles are locked at that time.

The deck swing lock is automatically activated depending on the position of the turret:

- when the turret is located within +/- 10° rotation with respect to the front position ("**A**" area) only the front axle is locked.
- when the turret is located beyond +/- 10° rotation with respect to the front position ("**B**" area) both axles are locked: front and rear.
- If the vehicle is equipped with the optional "reversed driving" option, when the turret is located within +/- 2 ° rotation with respect to the 180° rotated position ("**C**" area) only the rear axle is locked.

NOTICE! If both axles of the vehicle are locked by the automatic axle swing lock, the gear of the vehicle is inhibited.To travel it is necessary to move the turret in line with the vehicle.



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150914-1

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7.24 Automatic turret rotation lock

The turret rotation lock is a safety pin, used to stop the movements of the turret in the position of alignment with the lower chassis.

The pin is placed on the right side of the vehicle turret (fig. 150835-1).

CAUTION

It is mandatory to stop the movement of the turret during:

a) Transit on road.

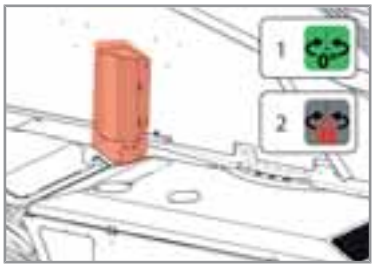
b) The vehicle lifting.

c) The vehicle transport.

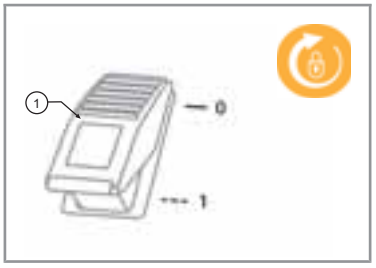
To correctly insert the rotation lock it is necessary to:

- Lay the load on the ground.
- Lower and fully retract the telescopic boom.
- Align the turret to the lower chassis. When the central instrument panel indicator light turns on "**1**" (fig. 150835-1), it means that the turret is perfectly aligned to the chassis.
- Press and hold the Turret rotation lock switch "**1**" (fig. 150835-2).
- Properly hold the joystick and turn the services (fig. 150835-3):
  - Upwards to engage the rotation lock
  - Downwards to disengage the rotation lock
- If the pin does not enter correctly into its slot, rotate the turret with light movements until the pin is properly inserted into its slot on the vehicle carriage.
- Release the switch "**1**".

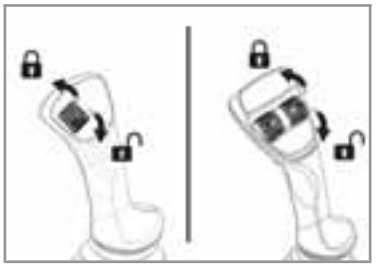
The Turret rotation lock is signaled by the indicator light "**2**" (fig. 150835-1) on the central instrument panel.



150835-1



150835-2



150835-3

NOTICE

With the rotation lock engaged, the rotation of the tower is inhibited.

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7.25 Outriggers

7.25.1 Outriggers warnings

The Outriggers feet allow to increase the stability of the vehicle during the working operations.

When using the vehicle with outrigger feet properly lowered, use the relative load charts.



WARNING

Danger of transverse tipping

It is allowed to operate only if the machine transverse inclination is less than 2°.



DANGER

The sinking of the feet leads to the destabilization of the vehicle or of the load and consequent danger of vehicle tipping or load falling.

Before lowering the outrigger feet, place the vehicle in working position, make sure that the ground is firm and can support the weight of the vehicle without the outrigger feet sinking into the ground. See the chapter "Assessing the consistency of the work ground".



CAUTION

Before proceeding with the transfer on road, lift and retract completely all outriggers.

The anti-tipping device of the vehicle is able to automatically recognize if the operator is working on tires or outriggers.

The vehicle is designed to work on tires or with all 4 outrigger feet lowered to the ground.



WARNING

The vehicle is considered properly stabilized when all 4 tires are off the ground.

It is possible to work with only 1, 2 or 3 outrigger feet lowered, but the capacity of the vehicle will be considered as on tires.



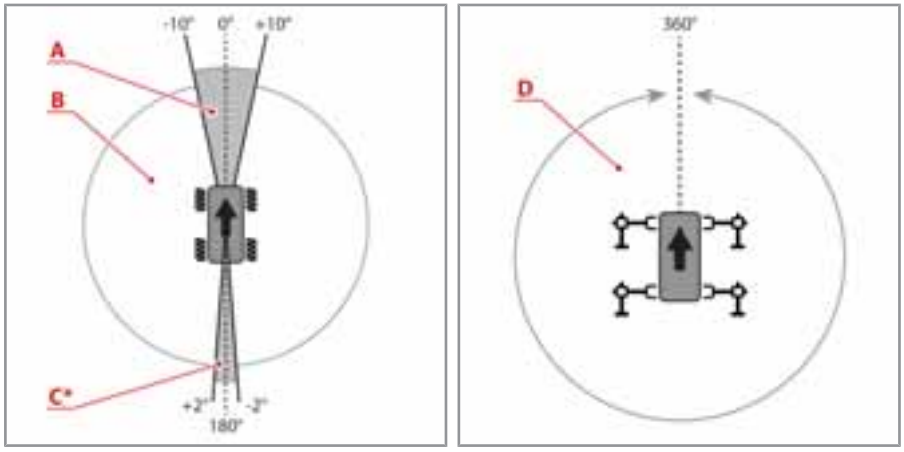
NOTICE

It is allowed to move the outriggers only with the boom at an angle less than 12° or with boom extended not more than 500 mm (19.69 in).

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7.25.2 Working modes of rotary vehicle with 2 movement outriggers

The rotary vehicles change their behavior depending on the position of the turret with respect to the carriage and the outriggers.



Area	A	B	C*	D
Position	Front turret on tires	Rotated turret on tires	Turret rotated 180°	Turret on outriggers
Gear	Enabled	Disabled	Optional	Disabled
Axles swing	Enabled for rear axle	Disabled	Enabled for front axle	Ineffective
Leveling	Enabled	Disabled	Disabled	Ineffective
Outriggers	Lifted	Lifted	Lifted	Lowered

* The area "**C**" is linked to the optional "Kit for running with turret rotated of 180°", if this optional is not available, the space occupied by the area "**C**" is considered as area "**B**".

NOTICE

The vehicle is considered to be on outriggers when it is correctly leveled and all 4 outrigger feet are lowered to the ground, lifting the tires completely from the ground.

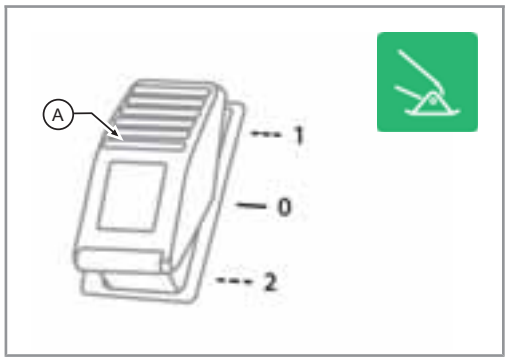
https://truckmanualshub.com/

7.25.3 2-movement outriggers

The correct sequence for the positioning of the vehicle on outriggers is as follows:

- Lay the load on the ground.
- Lower and fully retract the telescopic boom.
- Align the turret to the lower chassis.
- Level the vehicle.
- Lock the rear axle swing.
- Extend the crossmember.
- Lower the outriggers.
- Level the vehicle, as needed, using the outriggers.

Proceed in the reverse direction to retract the outrigger feet.

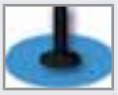


150921-1



150921-2

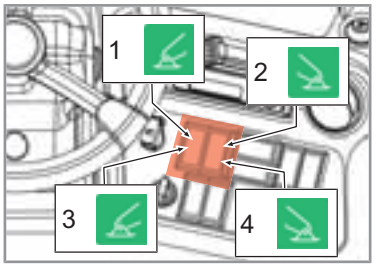
When the key for handling the outriggers (fig. 150921-1) is pressed, the display shows the pop-up related to the vehicle stability (fig. 150921-2):

	Icon	Color	Description
1		Blue	Outrigger lowered to the ground.
		Orange	Outrigger not yet lowered to the ground.
		Green	Outrigger completely lifted.
2		-	Indicates the crossmember extension or retraction movement, compared to the vehicle.
		-	Indicates the outrigger lowering.
		-	Indicates the outrigger lifting.
3	0% / 100%	-	Indicates the crossmemeber extension percentage

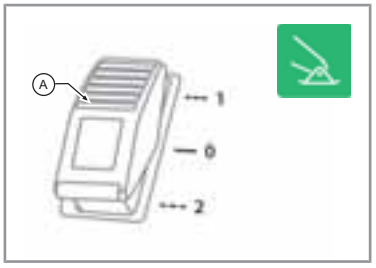
https://truckmanualshub.com/

To move the outriggers it is necessary to:

- Select the outrigger feet to be moved through the switches "**1**", "**2**", "**3**" and "**4**" (fig. 150921-3).
  - Switch **1**: Left front foot and beam
  - Switch **2**: Right front foot and beam
  - Switch **3**: Left rear foot and beam
  - Switch **4**: Right rear foot and beam
- Leave the joystick grip.
- Press the "**A**" button (fig. 150921-4) to enable the outriggers movement. Press and hold this button until the end of the outrigger feet movement. After pressing the "**B**" button:
  - the LEDs of the roller on the joystick will light red.
  - The display will show the pop-up related to the stability of the vehicle.
- use the joystick to move the feet and the beams
- Release the "**A**" button.
- Release the joystick.



150921-3



150921-4

WARNING

Perform beam extension and retraction movements only if the outrigger feet are completely lifted.

Danger of damaging mechanical parts.

NOTICE

To continue operating with the vehicle, release the button pressed with the hand on the joystick grip and hold the joystick again.

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With vehicle fitted with 5in1 joystick (fig. 150921-5):

- Hold the joystick and use the rollers to move the feet and the beams:
  - Move the left roller forward to extend the beams of the outrigger feet.
  - Move the left roller backwards to retract the beams of the outrigger feet.
  - Move the right roller forward to lower the outrigger feet.
  - Move the right roller backwards to lift the outrigger feet.



150921-5

With vehicle fitted with 5in2 joystick (fig. 150921-6):

- Hold the right joystick and use the rollers to move the feet and the beams:
  - Move the left roller forward to extend the beams of the outrigger feet.
  - Move the left roller backwards to retract the beams of the outrigger feet.
  - Move the right joystick forward to lower the outrigger feet.
  - Move the right joystick backward to lift the outrigger feet.



150921-6

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7.25.4 Automatic planarity of the vehicle on the outriggers

The automatic planarity allows to level the vehicle on uneven ground when the vehicle is on the outriggers.

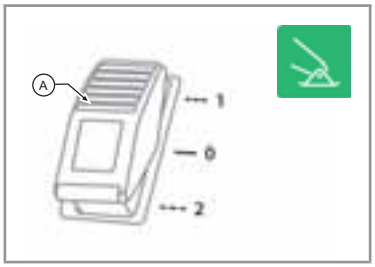
To activate the automatic Levelness it is necessary to (fig. 150922-1):

- Extend the feet beams as much as possible
- Press the button "**A**" on side "**1**" and grab the joystick.

In this condition, the roller LEDs on the joystick will start blinking in red.

Keep the button "**A**" on side "**1**" pressed and your hand on the joystick until the vehicle is properly leveled.

Release the button or the joystick to stop the planarity procedure.



150922-1

7.25.5 Additional platforms for outriggers kit *

NOTICE

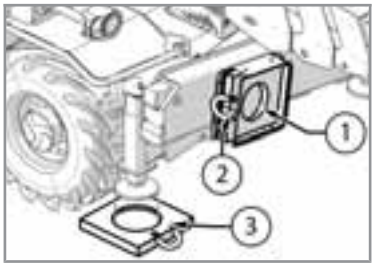
*** The additional platforms for outriggers kit is an optional accessory.**

The additional platforms for outriggers are recommended for working with a stabilized vehicle on uneven and inconsistent ground.

The additional platforms for outriggers are located in the housing "**1**" (fig. 150999-1), fixed to the front and rear part of the vehicle carriage.

To extract the platforms, remove the locking pin "**2**".

Place the platform under the outrigger foot "**3**" so that when the outrigger foot is lowered, it enters the appropriate slot on the platform.



150999-1

7.26 Automatic fan reversal

The fan reversal allows precisely the radiator fan reversal to clean the radiator from any dirt deposits such as dust and straw.

The cleaning cycle is automatically activated when the vehicle it turned on and subsequently every hour of continuous work.

The reversal is carried out automatically without having to stop the vehicle.

The fan will remain in the "cleaning" position (reversed motion) for a time preset by the manufacturer.

CAUTION

The fan reversal presence does not exempt the user from cleaning the fan, radiator and engine compartment, at the intervals indicated by regular maintenance.

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7.27 Transverse leveling *

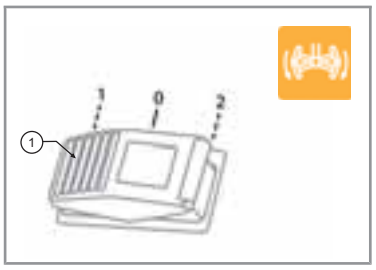
NOTICE

The transverse leveling is an optional accessory.

The transverse Leveling allows to adapt the machine to the transverse inclination of the ground.

To level the machine it is necessary to:

- Position the load on the ground.
- Lower and fully retract the telescopic boom.
- Press the transverse leveling button (fig. 150316-1):
  - From the left side "**1**" to tilt the machine to the left.
  - From the right side "**2**" to tilt the machine to the right.



150316-1

DANGER

It is not possible to work with tilting greater than 2°. Danger of transverse tipping.

Use the spirit level in the cab to check the inclination of the machine.

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7.28 FPT engine Series N Stage IV - Tier 4B

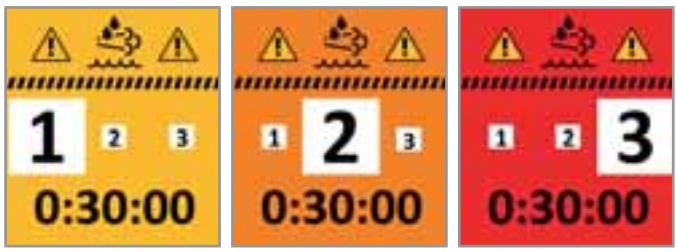
NOTICE

The use and maintenance manual of the engine is an integral part of the documentation supplied with the machine.

Consult the engine manual or contact an authorized workshop for maintenance.

We recommend that you carefully read the information contained in the instruction manual and comply with them: in this it is possible to avoid accidents, enjoy the manufacturer's warranty and always have an engine in peak operating condition.

7.28.1 Validation procedure



160801-1 *160801-2* *160801-3*

In the event of engine exhaust gas treatment system failure, the Validation Procedure is initiated.

CAUTION

Do not use the vehicle if the validation procedure screen is displayed.

Contact the authorized service to solve the problem.

The validation procedure includes 3 levels, in which the system checks the engine and the exhaust gas treatment system to verify the correct operation.

Each level of the validation procedure requires 30 minutes' time, in which the system carries out the necessary checks. If the checks are positive, the validation procedure is terminated and the display will return to show the HOME page. Otherwise, the validation procedure will pass to the next level and starts the 30 minutes countdown.

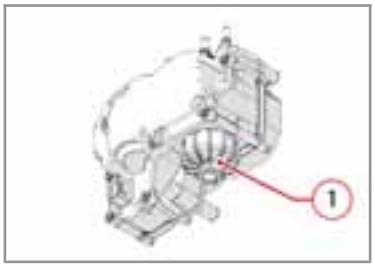
7.28.2 AdBlue® filter maintenance

NOTICE

This operation requires the intervention by a trained maintainer.

Refer to DIECI Technical Support Service.

The AdBlue® filter is located inside the pump of the urea system, under the cover "**1**" (fig. 170110-1).



170110-1

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7.29 AdBlue®

AdBlue ® is a registered trademark of Verband der Automobilindustrie (VDA).

AdBlue is used in the selective catalytic reduction (SCR) to reduce emissions of nitrogen oxides from the exhaust gases produced by vehicles equipped with a diesel engine.

The solution is non-toxic, non-flammable and is not dangerous to handle. However, the solution can be corrosive to some metals and must be stored and transported using the proper materials.



NOTICE

Refer to the instructions on the packaging regarding transportation, handling or storage.

7.29.1 AdBlue®: The risks of an AdBlue out of specification

The SCR systems are very sensitive to the quality of AdBlue used.

It is extremely important that the AdBlue complies with the specifications and has not been contaminated during transport, handling or storage.

A key aspect to consider is that the damage that can result from an AdBlue containing calcium or metals out of specification are not immediately visible, but appear after a certain time, and even after many kilometers.

In summary the problems that can arise from a low quality AdBlue are of two types: aging and poisoning of the catalyst

- Aging is typically given by the presence of substances that causes the catalyst to loose its efficiency and reduce its life and ability to operate (reducing the usable area). The catalyst is designed to last the lifetime of the machine while if AdBlue with parameters (e.g. Calcium) out of specification is used, it will last less and must be replaced with high costs.
- Poisoning is typically due to the presence of metals (e.g. Zinc or copper) or pollutants (which should never be present in the AdBlue) as it immediately ruins the catalyst and makes it unusable. The result is an immediate need to replace the catalyst in order to enable the SCR system operation again.

Therefore aging takes place slowly and stops the vehicle after a long time while poisoning is rather immediate and immediately stops the vehicle. Both, however, require costly catalyst replacement and can be prevented only using high quality AdBlue without contaminants.

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7.29.2 AdBlue®: Specifications

Specifications of AUS32 (AdBlue®) Complying with DIN 70070

Urea 32.5 % - solution in water			
Feature	**Min**	**Max**	**Unit of reference**
Urea content	31.8	33.2	% of weight
Density at 20°C	1.0870	1.0930	g/cm^3
Refractive index at 20°C	1.3814	1.3843	
Alkalinity as NH3	-	0.2	%
Biuret	-	0.3	%
Aldehyde	-	5	mg/kg
Insoluble	-	20	mg/kg
Phosphates (PO4)	-	0.5	mg/kg
Calcium	-	0.5	mg/kg
Iron	-	0.5	mg/kg
Copper	-	0.2	mg/kg
Zinc	-	0.2	mg/kg
Chromium	-	0.2	mg/kg
Nickel	-	0.2	mg/kg
Aluminum	-	0.5	mg/kg
Magnesium	-	0.5	mg/kg
Sodium	-	0.5	mg/kg
Potassium	-	0.5	mg/kg

7.29.3 AdBlue® tank filling

7.29.4 After run

The After run indicator (fig. 150833-1) is lit until the Urea circuit is operating and stays on **90 seconds** after the machine engine is turned off.

In this period of time an electric pump will drain the urea circuit.



150833-1

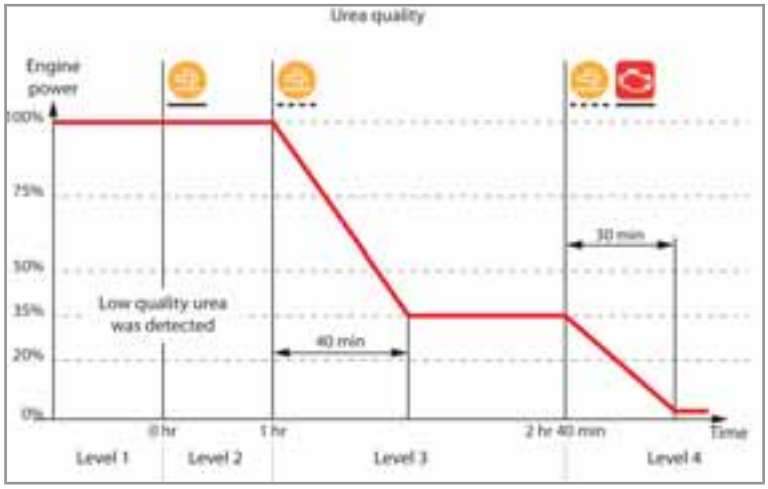
https://truckmanualshub.com/

7.29.5 AdBlue® - Urea quality

The Urea quality is indicated by the indicator lights:

1		Urea Quality Indicator Light
2		Engine error

The Urea quality is indicated by different stages:



1 - Normal level

- Acceptable quality Urea.
- All the indicator lights are off.
- Engine at full efficiency.

2 - Pre-alarm level

- Low quality Urea detected.
- The indicator light "**1**" is steady on.
- Engine at full efficiency.

3 - Alarm level

- 1 hour after detecting low quality urea.
- The indicator light "**1**" starts flashing.
- Over the following 40 minutes the engine power will be gradually reduced to 35% and the RPM to 40%. The parameters will be reduced up to the next level or to the resolution of the problem.

4 - Error level

- 2 hours and 40 minutes after detecting low quality urea.
- The indicator "**1**" flashes and the indicator light "**2**" turns on.
- In the following 30 minutes the engine power will be reduced to a minimum until the normal conditions are restored.

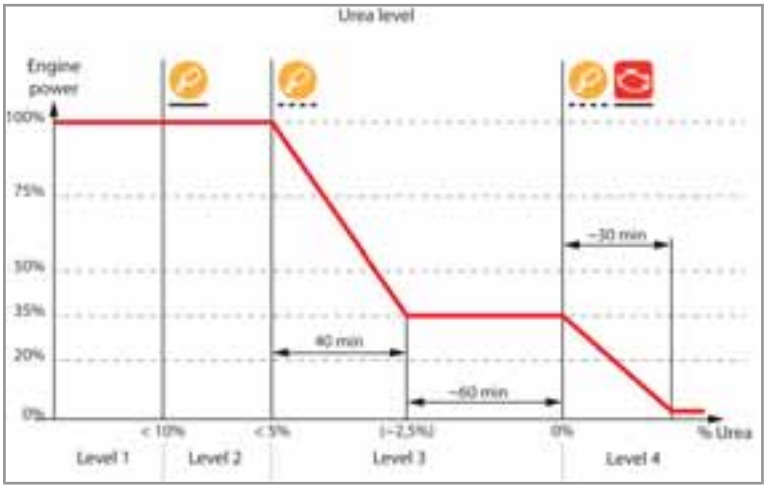
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7.29.6 AdBlue® - Urea level

The Urea level is indicated by the indicator lights:

1		Urea Level Indicator Light
2		Engine error

The Urea level is indicated by different stages:



1 - Normal level

- Urea level above 10%.
- All the indicator lights are off.
- Engine at full efficiency.

2 - Pre-alarm level

- Urea level below 10%.
- The indicator light "**1**" is steady on.
- Engine at full efficiency.

3 - Alarm level

- Urea level below 5%.
- The indicator light "**1**" starts flashing.
- Over the following 40 minutes the engine power will be gradually reduced to 35% and the RPM to 40%. The parameters will be reduced up to the next level or to the resolution of the problem.

4 - Error level

- Urea exhausted.
- The indicator "**1**" flashes and the indicator light "**2**" turns on.
- In the following 30 minutes the engine power will be reduced to a minimum until the normal conditions are restored.

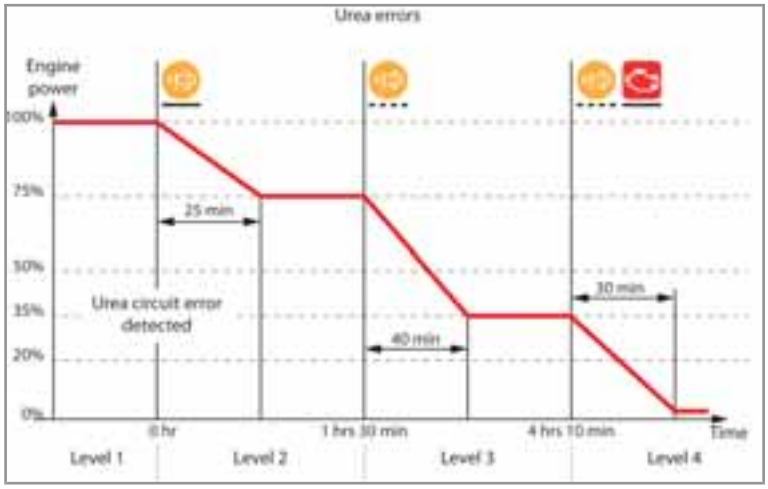
https://truckmanualshub.com/

7.29.7 AdBlue® - Urea circuit errors

The errors in the Urea circuit are indicated by the indicator lights:

1		Urea Level Indicator Light
2		Engine error

The errors in the Urea circuit are indicated by different stages:



1 - Normal level

- No error detected.
- All the indicator lights are off.
- Engine at full efficiency.

2 - Pre-alarm level

- Error detected.
- The indicator light "**1**" is steady on.
- Over the following 25 minutes the engine power will be gradually reduced to 75%. The parameters will be reduced up to the next level or to the resolution of the problem.

3 - Alarm level

- Error detected 1 hour and 30 min ago.
- The indicator light "**1**" starts flashing.
- Over the following 40 minutes the engine power will be gradually reduced to 35% and the RPM to 40%. The parameters will be reduced up to the next level or to the resolution of the problem.

4 - Error level

- Error detected 4 hours and 10 minutes ago.
- The indicator "**1**" flashes and the indicator light "**2**" turns on.
- In the following 30 minutes the engine power will be reduced to a minimum.

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7.29.8 AdBlue error list

NOTICE

In case the vehicle is in error, contact a ***Dieci*** service center to solve the problem, indicating the error code reported.

For more information about the errors display, refer to the "Central instrument panel" chapter.

Icon	Example	Description
	000000.00	AdBlue Errors

Errors list:

DCU SPN	DTC (HEX)	Sensors electrical faults
15635	13	**Battery voltage measurement (electr.)**
15637	15	**Temperature sensor after the catalyst (electr.)**
15638	16	**Temperature sensor before the catalyst (electr.)**
15636	14	Temperature sensor after the catalyst (electr.)
15639	17	Power supply 1 sensor (5 V internal; for the UREA level sensor)
15640	18	**Power supply 2 sensor (5 V internal; for the UREA pressure sensors)**
15641	19	**UREA pressure sensor in the box (elect.)**
15642	1A	**UREA temperature sensor in the box (elect.)**
15649	21	Power supply voltage - Internal heaters 1 (UB1) (electr.)
15650	22	**Power supply voltage 2 - duct heaters (UB2) (electr.)**
15651	23	**Power supply voltage 3 - Refrigerant control valve and reversing valve (UB3) (electr.)**
15652	24	**Voltage monitoring VDD11/VDD25 - Dosing valve/Pump motor**
15643	1B	UREA pressure assessment (above and under the limit)
15786	AA	**UREA tank level error (CAN or electric message with real sensor)**
15818	CA	Load point assessment
15819	CB	Load point assessment (above and under the limit)
15846	E6	**UREA tank temperature not plausible with the pump module temperature**

DCU SPN	DTC (HEX)	Indicator
15681	41	Diagnostic indicator light (electr.)

DCU SPN	DTC (HEX)	Actuators electrical faults
15698	52	**Dosing valve (electr.)**
15699	53	**UREA pump speed**
15701	55	Short circuit to UBat of the cooling control valve or open load
15702	56	Short circuit to earth of the cooling control valve

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DCU SPN	DTC (HEX)	Actuators electrical faults
15703	57	**Reversing valve (electr.)**

DCU SPN	DTC (HEX)	Heaters electrical faults
15713	61	Line heater reflux pipe
15715	63	Line heater inlet pipe
15716	64	Filter outlet connector heater
15717	65	Line heater compensation pipe
15718	66	**UREA pump heater**
15719	67	Line heater pressure pipe (cell dosing module)
15720	68	**Tank heating valve**
15721	69	Cooling line heater
15722	6A	**Filter box heater (UB5)**

DCU SPN	DTC (HEX)	Function 1 (Status control errors)
15731	73	**Temperature after the catalyst excessively low**
15732	74	**UREA pressure excessively low at the system start-up**
15733	75	**UREA pressure excessively high**
15734	76	**UREA temperature in the pump module out of range**
15735	77	**UREA temperature in the tank out of range**
15736	78	**System frozen and not free in time**
15739	7B	**Reversing valve (4-2 way valve?) (mechan.)**
15742	7E	**Battery voltage (actual value)**
15740	7C	**Cycle start counter for pressure drop during the dosing**

DCU SPN	DTC (HEX)	Function 2 (Status control errors - setting in operation mode)
15746	**82**	**UREA pressure excessively low (in the "setting in operation" mode)**
15747	**83**	**UREA temperature excessively low during the "setting in operation"**
15749	85	Coolant control valve (mechan.) (Setting in operation)

DCU SPN	DTC (HEX)	Function 3 (Plausibility checks)
15706	5A	**UDV Plausibility locked**
15707	5B	**UDV dosing valve lock position unknown error**
15763	93	Static loss test failed
15765	95	**Empty UREA tank**
15766	96	UREA level indication implausible with the UREA consumption
15772	9C	Urea tank heater valve locked open
15841	E1	Downstream catalyst temperature sensor plausibility (after the SCR catalyst)
15842	E2	Upstream catalyst temperature sensor plausibility (before the SCR catalyst)
15843	E3	**Urea pressure sensor plausibility error (checked during system startup)**
15844	E4	**Urea container temperature sensor plausibility error (dynamic / static)**
15845	E5	**Urea tank temperature sensor plausibility error (dynamic / static)**

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DCU SPN	DTC (HEX)	Function 3 (Plausibility checks)
15847	E7	**Locked reflux line**
15848	E8	**Urea pressure not reduced during the startup**
15850	EA	**Locked pressure line**
15851	EB	**Low level of UREA 1 (warning)**
15852	EC	**Low level of UREA 2 (warning)**

DCU SPN	DTC (HEX)	CAN messages
15777	A1	**E2SCR CAN frame reception (dosing, exhaust gas flow, exhaust gas temperature, errors suppression, heater, long-term anomaly)**
15778	A2	E2SCR extended CAN frame reception (dosing, exhaust gas flow, exhaust gas temperature, errors suppression, heater, long-term anomaly)
15779	A3	**EEC1 CAN frame reception (driver's request, engine speed, engine torque)**
15780	A4	**ET1 CAN frame reception (engine water and oil temperature)**
15782	A6	IC1 CAN frame reception (supercharging pressure, collector temperature)
15783	A7	LFE CAN frame reception (fuel flow rate)
15815	C7	PROB CAN frame reception
15785	A9	DCU or heater off for an excessively long time through CAN
15814	C6	EC1BAM CAN frame reception
15789	AD	Time/Date CAN frame reception
15817	C9	CAN Bus OFF error
15811	C3	EEC3 CAN frame reception
15813	C5	EEC5 CAN frame reception
15812	C4	EGF1 CAN frame reception
15816	C8	ERC1 CAN frame reception
15793	B1	**Ambient temperature: CAN reception signal SAE J1939 check: (Signal field check: Signal out of range / Wrong signal / Signal not available)**
15800	B8	PROA CAN frame reception (fuel quantity)
15806	BE	TC1 CAN frame reception
15820	CC	Atmospheric pressure assessment

DCU SPN	DTC (HEX)	System failures
15809	C1	Too many frozen cycles in the dosing module
15825	D1	**Checksum / EEPROM errors**
15826	D2	**"On" signal K15**
15827	D3	**Main relay opening excessively in advance/delay**
15828	D4	**UREA temperature excessively high in the pump module (emergency stop)**

DCU SPN	DTC (HEX)	OBD/NOx (on board diagnostics/nitrogen oxides)
15856	F0	UREA Injection Control path group error
15857	F1	Air Control path group error
15858	F2	Catalyst temperature path group error
15860	F4	Empty UREA tank path group error

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8 Equipment

NOTICE

The vehicle is supplied with the equipment useful for the vehicle use and maintenance.

	**Tool bag** **The tool carrier bag is made up of:**
	 Socket wrench
	 Set of wrenches
	 Screwdriver
	 Lubricator
	 Set of rubber plugs for quick couplings
	 Rod for emergency recover pump (Only with man basket prearrangement)
	 Adapter cable for engine diagnostics (Only FPT engines)

	Protruding load signal (only Italy)
	Rotating light
	Pin for vehicle tow hitch
	Pin for trailer hitch (only tractors)

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9 Equipment and tools

9.1 General warnings on equipment use



DANGER

It is strictly forbidden to modify the structure of the equipment or adjust the safety devices of the various tool components.

- Only Equipment CE certified by the relative manufacturer can be used on ***DIECI*** vehicles, as well as equipment approved or falling within the technical limits set out by ***DIECI S.r.l.*** The guarantee is void if not approved equipment is used.
- The Tool does not require CE certification.
- ***DIECI S.r.l.*** liability shall not be involved if equipment use or modifications do not comply with the above mentioned requirements.



CAUTION

The equipment installed on the vehicle may only be used:

a) on consistent ground and with vehicle level with maximum tilt of 2°.

b) by competent and qualified personnel who must have read this manual. In the case of road use refer to the Use and Maintenance Manual of the vehicle making sure that the operator is in possession of a valid driver's license in accordance with the laws in force in the country of use (license B or higher for ITALY), and that the vehicle boom is in the fully retracted position.

- Some equipment be accompanied by instructions related to safety standards, connection and disconnection, operation and maintenance. Carefully read and fully implement these instructions prior to installation, use and maintenance of the equipment. In case of doubt, contact your local dealer.
- Before starting to use the vehicle and related equipment, or before performing particularly complex or dangerous operations, it is absolutely necessary to practice in a clear work area free from obstructions.
- In case of poor visibility of the zone use a person on the ground to coordinate the movements and operations and that monitors the area inviting people who might come, to go away. The individual on the ground must stand at a safe distance from the vehicle in motion and alert, before any movement, any personal around.
- To prevent damaging hydraulic fittings when changing an equipment, stop the engine and wait a few seconds to remove pressure from the circuit. Always clean the fittings before their reinsertion.
- Check the cleanliness, protection and conditions of quick release joints in the equipment circuits and on the boom head daily.



DANGER

Never carry the equipment in the vicinity of an open flame.



DANGER

When using the vehicle, carefully follow the respective Capacity diagrams.

It is strictly prohibited to work without the respective capacity diagrams for the type of vehicle and installed equipment.

- The indications given by the anti-tipping system of the vehicle must be considered valid for standard working conditions, on flat and solid ground with well-functioning and properly calibrated equipment. In any case, the values indicated by the capacity diagrams must be respected and never exceeded.

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- It is mandatory, every time the equipment is used to insert the safety plugs to secure the equipment to the Attachment holding plate.
- If an attachment holding plate different from the original Dieci attachment holding plate is installed on the vehicle, a residual load will remain on the anti-tipping device of the vehicle as a safety factor.
- Refer to the manual of the manufacturer of the attachment holding plate installed if different than the original Dieci attachment holding plate.



CAUTION

When moving the vehicle with equipment or man baskets installed, maintain a speed appropriate to the type of ground.

When driving on rough terrain it is advisable not to exceed 10 km/h (6,2 mph) to prevent vibration and pitching, damaging the equipment or the man basket installed on the vehicle.



WARNING

It is possible that in certain working conditions there is no interference between the attachment holding plate and/or the equipment and the vehicle chassis or wheels.

Pay due attention to prevent damage to the vehicle. Lift and extend the boom just enough to avoid interference.

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9.1.1 Equipment pre-use checks



NOTICE

Refer to the pre-use safety procedures of the vehicle on which the equipment is installed.

Before every use and every time new equipment is installed on the vehicle:

- Check that the equipment is properly hooked to all the pins and the hooks are inserted in the correct position.
- There is no damage, deterioration, deformation of the equipment locking components.
- Check that the equipment and components are intact, perfectly functioning and not damaged.
- Verify that the equipment capacity is more than the weight of the load to be moved.
- Verify the correct functioning of the equipment and of the controls present in the vehicle cab on which the equipment is installed in a work zone free from personnel and obstacles.
- Verify the functioning of all indicators and lights present inside the vehicle on which the equipment has been mounted.
- Check the swiveling when empty.
- Check the oil level in the hydraulic circuit.
- Check that the safety symbols and stickers are clearly legible.
- Check the efficiency and functioning of the safety devices.
- Visually check the state of welding, inspect the vehicle and check for cavities, cracks of the welding or base metal or other inconveniences.
- Check for any deformations and/or modifications of the material due to sudden temperature changes or damage from impacts.
- Check the equipment for wear.
- Verify the use mode relating to the installed equipment has been set on the vehicle.
- Verify that the Capacity diagrams relating to the vehicle and installed equipment are present on the vehicle.

In case of equipment with hydraulic connections:

- Check that the tubes are in good conditions and do not obstruct the movements of the boom or of the equipment.
- Verify the correct connection of the hydraulic tubes (if present) ensuring that the equipment functions are not inverted.

In case of equipment with electrical connections:

- Check that the cables are in good conditions and do not obstruct the movements of the boom or of the equipment.
- Clean and fasten all the electrical connections (if present). Check before each work shift that there are no loose, twisted, hardened or damaged wires. Do not operate the operating vehicle if there are any loose, twisted, hardened or damaged electric cables.

In the event of radiocontrol pre-arrangement:

- Refer to the specific manual of the equipment for further checks.
- Verify the correct functioning of the radiocontrol/push button control panel and the charge status of the batteries.

In case lifting equipment is used

- Refer to the specific manual of the equipment for further checks.

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– Verify the integrity of the lifting hook, including relative catch, and of the hook bolt to the rope.

In case winches are used

– Refer to the specific manual of the equipment for further checks.
– Check that the rope is not damaged, cut, torn, frayed. On the contrary, do not use the equipment and replace it. (This check can be carried out by fully extending the lift boom and unrolling the winch rope). During this operation it is also possible to check the operation of the limit switch, which must lock the rope according to the procedure described in the specific paragraph.
– Verify the functioning of the extensometric transducer of the mounted equipment (if present); to do this, try to lift a load slightly heavier than the nominal maximum capacity of the equipment. In case the equipment is unable to lift the load, the transducer operates correctly, otherwise immediately interrupt the operation bringing the load to the ground and repair the equipment.

In case of using elevating work platforms

– Refer to the specific manual of the equipment for further checks.
– Verify the operation of the emergency button of the load limiting device and of the area limiting device at the beginning of each work cycle.
– Before using the platform ensure it is not wet, dirty with grease, oil, has icy surfaces or covered with other substances that can make its surface slippery. On the contrary, accurately clean and dry the platform surfaces. Danger of slipping and falling.
– The vehicle on which the equipment is installed must be braked and stabilized on solid ground. If outriggers (optional) are present, position them correctly on the ground before starting to operate.
– Before operating, make sure that the openings for access to the platform are in the closed position; always verify the correct engagement of the safety harnesses (PPE category III).

CAUTION

All checks must be carried out by adequately trained personnel and registered on the control log.

If damage or malfunctioning is detected, comply with the instructions contained in this manual or in the manual of the equipment or basket or contact the DIECI Assistance Center to agree the actions to be taken.

If routine or extraordinary maintenance or technical adjustment of the equipment is required, contact exclusively personnel authorized by the DIECI Assistance Center and note the service intervention on the control log.

If the equipment is tampered with, the guarantee is voided and the Manufacturer is relieved of all liability.

DANGER

Operators who note anomalies on the equipment or on the vehicle on which it is installed, and it does not conform to safety regulations must suspend use and immediately inform the Person in charge.

NOTICE

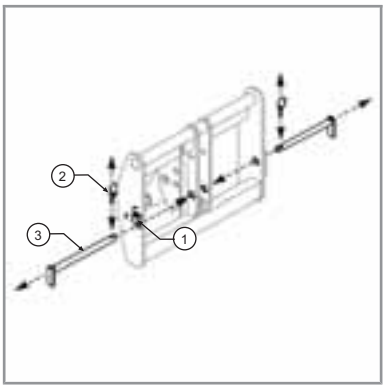
For road circulation, refer to the Use and Maintenance Manual of the vehicle on which the equipment is installed.

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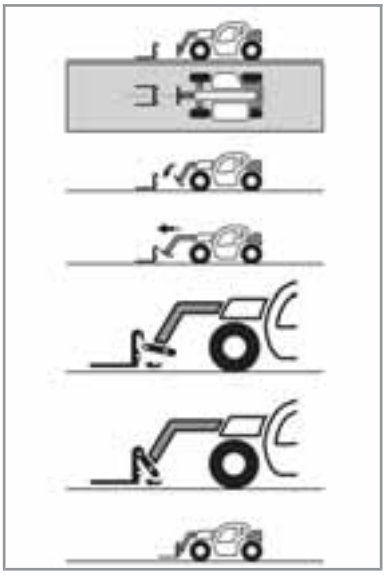
9.2 Equipment installation procedure

To properly install equipment carry out the following operations (fig. 150507-1):

1. Remove the safety pin "**3**" (if installed) by removing the safety pins "**2**" and lifting the locking pins "**1**".
2. Place the equipment on a flat not yielding surface, to be able to smoothly engage it with the attachment holding plate of the vehicle.
3. Place the vehicle with the boom lowered parallel to the tool. Approach the attachment holding plate to the accessory extending the telescopic boom. The vehicle can not extend the boom if it is completely lowered. Slightly raise the boom to be able to extend it.
4. Using the tilting movement, rotate the attachment holding plate downward. Bring the top of the plate under the locking hooks of the tool.
5. Slightly lift the boom and rotate the attachment holding plate upwards, thus making the equipment adhere to the attachment holding plate of the vehicle. During this operation, make sure that no person is in the vicinity of the equipment or the vehicle boom.
6. Turn off the engine and get out of the vehicle.
7. Lift the lock pin "**1**" and insert the safety pins "**3**" in their seats on tool-holder plate, passing through the corresponding slots of the equipment. If the two holes do not match, perform the steps described in chapter "Safety pin outline".
8. Fit the safety pin "**2**" on the pins just inserted.
9. In the event that the equipment needs electrical or hydraulic connections, refer to the chapters "Hydraulic connections [▸ 199]" and "Electrical Connections [▸ 205]".
10. Once properly fixed the equipment, turn on the vehicle and set the correct mode of operation of the vehicle related to the newly installed equipment:
11. Consult the use and maintenance manual of the vehicle to set the correct mode of use.
12. Check that in the cab there is the capacity diagram related to the vehicle and to the equipment just installed.



150507-1



150507-2

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DANGER

In case, for deformation, the pin and the related safety pin do not reach the required position, it is absolutely forbidden to use the accessory as it may come off and fall to the ground dangerously.



DANGER

It is forbidden to operate without the safety pin installed on the attachment holding plate.



WARNING

When using an equipment that has electrical or hydraulic connections these must always be correctly connected to the vehicle. Failure to connect does not allow the proper operation of the safety devices with risk of damage to property and persons and risk of vehicle tipping.



DANGER

It is forbidden to operate with a mode of use of the vehicle not suitable for the type of equipment installed. The electro-hydraulic equipment will not work correctly and safety devices will not be in operation creating a risk of damage to property and people and the vehicle overturning.



DANGER

It is forbidden to operate without the proper capacity diagram related to the vehicle and to the equipment installed.

For more details on the accessory installation procedures or warnings, consult the use and maintenance manual of the accessory.



CAUTION

Before each use, check that:

a) The equipment is properly hooked to all the pins and hooks are inserted in the correct position.

b) There is no damage, deterioration, deformation of the equipment locking components.

c) If present, the electric cables or hydraulic hoses are in good condition and do not create hindrance while using the equipment.

d) The mode of operation of the vehicle is consistent with the type of equipment installed.

e) In the cab there are the capacity diagrams related to the vehicle and to the equipment installed.

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9.3 Hydraulic connections

9.3.1 Warnings for hydraulic connections



NOTICE

Before making the hydraulic connections, perform the "Equipment installation procedure" and check the equipment is correctly fixed to the vehicle.

Check the hydraulic tubes do not obstruct the movements of the vehicle or of the equipment as it may be damaged.

Consult the equipment manual to verify correct operation.



WARNING

When using an equipment that has electrical or hydraulic connections these must always be correctly connected to the machine. Failure to connect does not allow the proper operation of the safety devices with risk of damage to property and persons and risk of machine tipping.



NOTICE

Always accurately clean the hydraulic connections before each coupling. If not used, both the hydraulic connections must be protected with adequate plastic caps.



WARNING

Do not use the vehicle or the equipment if the hydraulic tubes are worn or damaged, but repair or replace them.



WARNING

Once the hydraulic connections have been made, it is compulsory to verify that the controls are consistent with the operations carried out on the vehicle.

By inverting the connections, the accessory functions may be inverted compared to normal use, therefore, after having completed the equipment installation procedure, test the various functions in a free zone.



DANGER

Hydraulic liquid under pressure

Fine jets of hydraulic oil at high pressure can penetrate the epidermis. Keep hands and face at a safe distance from the pressurized fluid and wear goggles and protective gloves. Bring a piece of cardboard to the area of the suspected leak and then check for traces of liquid on the cardboard. If the liquid penetrates the skin immediately seek for medical advice.



DANGER

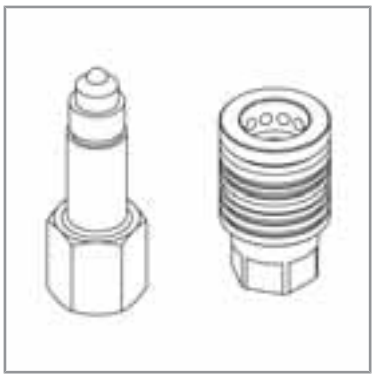
Hydraulic pressure

The leakage of hydraulic oil at operating pressure can cause injury: before connecting or disconnecting the hydraulic hoses, release the residual pressure from the hydraulic circuit. Prevent starting the engine with disconnected hoses.

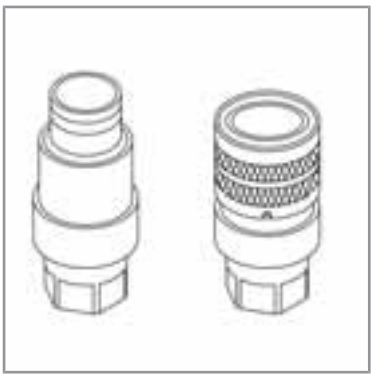
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9.3.2 Type of hydraulic quick couplings

The hydraulic quick couplings at boom head can be of two types:



Push-Pull (fig. 150509-1)

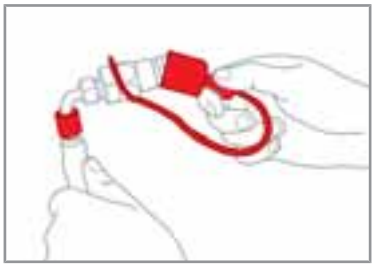


Flat-Face (fig. 150509-2)

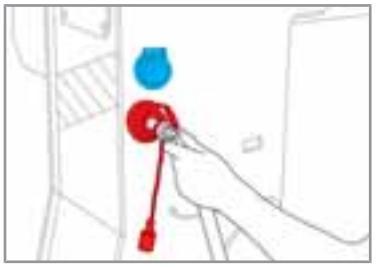
9.3.3 References for correct connection

To make the correct connection of the hydraulic fittings, each hydraulic plug or socket is marked with a color or symbol.

- The **red** plugs must be connected to the **red** sockets or those with the "**+**" mark.
- The **blue** plugs must be connected to the **blue** sockets or those with the "**-**" mark.



Cap and mark on the hydraulic sockets.



Hydraulic sockets on the boom head



Rear hydraulic sockets (if present).

WARNING

Equipment with hydraulic connections made incorrectly have movements or functions that do not agree with the operator's controls and can cause damage to other operators, material handled or to the vehicle and equipment.

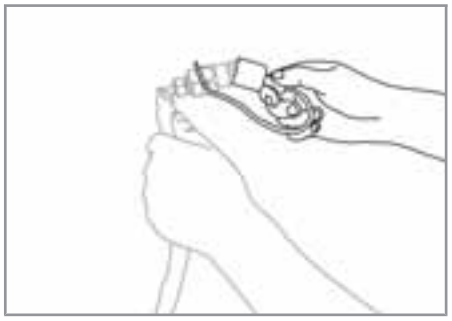
Always make sure that the hydraulic connections follow the indications given above for proper connection and that the movements and functions of the equipment comply with the operator controls.

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9.3.4 Push-Pull couplings connection

To connect the Push-Pull quick couplings to the sockets on the boom head:

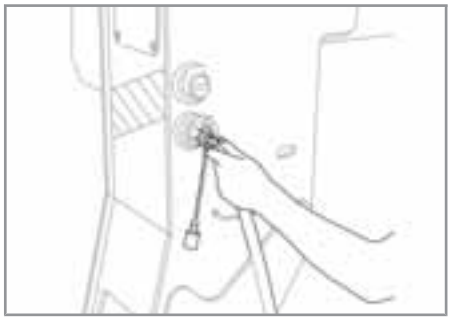
1. Perform the equipment installation procedures described in the chapter: "Equipment installation procedure".
2. Turn off the vehicle.
3. In case of closed center distributor, discharge the system residue pressure (refer to chapter **Closed center distributor: Relieve the pressure through the trailer Descent button *** [▷ 204]).
4. Remove the protective cap from the equipment hydraulic plugs (fig. 150510-1).
5. Lift the protective cover for the hydraulic socket present on the boom head (fig. 150510-2).
6. Clean the plug and socket, if soiled.
7. Fit the plug inside the socket and press until the tube is blocked (fig. 150510-3).
8. Check that the hydraulic tube is correctly fixed.
9. Carry out the same operation for both tubes.



150510-1



150510-2



150510-3

NOTICE

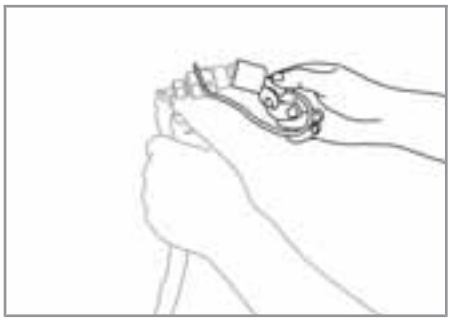
Consult the equipment manual to verify correct operation.

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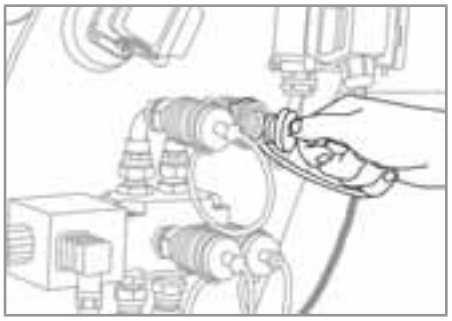
9.3.4.1 Push-Pull couplings connection when connected to a valve

To connect the Push-Pull quick couplings to the valve on the boom head:

1. Perform the equipment installation procedures described in the chapter: "Equipment installation procedure".
2. Turn off the vehicle.
3. In case of closed center distributor, discharge the system residue pressure (refer to chapter Closed center distributor: Relieve the pressure through the trailer Descent button * [▶ 204]).
4. Remove the protective cap from the equipment hydraulic plugs (fig. 150511-1).
5. Remove the protective cap from the hydraulic sockets installed in the valve on the boom head (fig. 150511-2).
6. Clean the plug and socket, if soiled.
7. Push the ring on the valve socket towards the boom (fig. 150511-3).
8. Place the plug fully inside the socket and release the ring of the valve (fig.150511-4).
9. Check that the hydraulic tube is correctly fixed.
10. Carry out the same operation for both tubes.



150511-1



150511-2



150511-3



150511-4

NOTICE

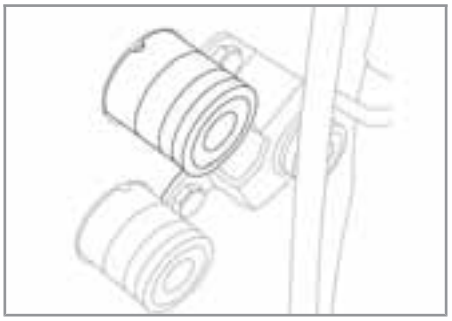
Consult the equipment manual to verify correct operation.

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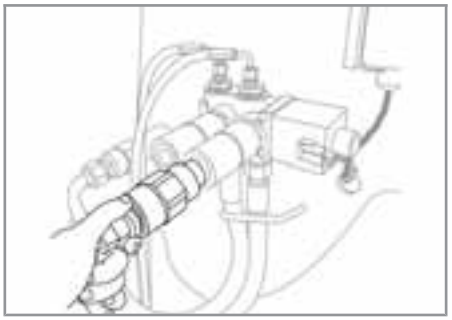
9.3.5 Flat-Face couplings connection

To connect the Flat-Face quick couplings:

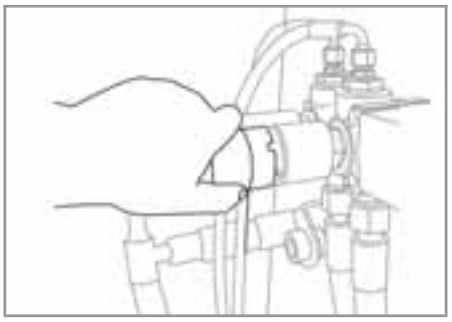
1. Perform the equipment installation procedures described in the chapter: "Equipment installation procedure".
2. Turn off the vehicle.
3. In case of closed center distributor, discharge the system residue pressure (refer to chapter **Closed center distributor: Relieve the pressure through the trailer Descent button *** [▷ 204]).
4. Clean the plug and socket, if soiled.
5. Rest the plug at center of the socket and push the fully plug (fig. 150512-2), until the socket ring is lifted.
6. Turn the ring to block the plug inside the socket (fig. 150512-3).
7. Check that the hydraulic tube is correctly fixed.
8. Carry out the same operation for both tubes.



150512-1



150512-2



150512-3

NOTICE

Consult the equipment manual to verify correct operation.

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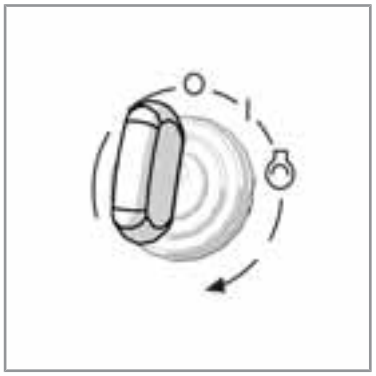
9.3.6 Closed center distributor: Relieve the pressure through the trailer Descent button *

NOTICE

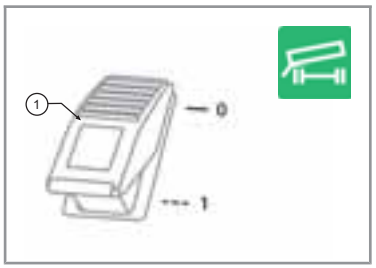
This operation is possible and it may be required only for vehicles fitted with “Closed center distributor” and “Trailer descent”.

To relieve pressure it is necessary to:

1. Move the ignition key of the vehicle to position "**I**" (fig. 150501-2).
2. Select the hydraulic socket still under pressure (if there is more than one hydraulic socket refer to the vehicle manual, chapter "Hydraulic sockets selection").
3. Press the "Trailer descent" button (fig. 150501-2) to release the residual pressure of the selected hydraulic press.
4. Proceed with the hydraulic couplers connection operation.



150501-1



150501-2

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9.4 Electrical Connections

9.4.1 Warnings for electrical connections

DANGER

Before making the electrical connections, switch off the vehicle.

Do not use the vehicle or the equipment if the electrical cables are worn or damaged, but repair or replace them.

WARNING

Do not leave the boom plug hanging from the chain during work operations as this may be damaged impairing the vehicle correct operation when used without equipment.

CAUTION

Before making the electrical connection, perform the "Equipment installation procedure" and check the equipment is correctly fixed to the vehicle.

WARNING

When using an equipment that has electrical or hydraulic connections these must always be correctly connected to the vehicle. Failure to connect does not allow the proper operation of the safety devices with risk of damage to property and persons and risk of vehicle tipping.

Consult the equipment manual to verify correct operation.

CAUTION

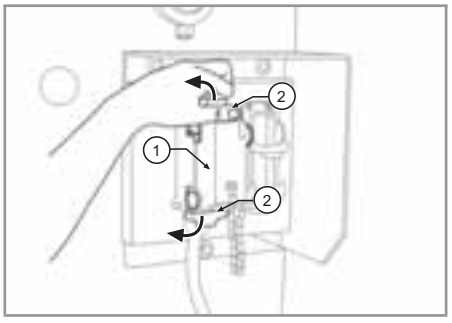
Check that the power cable is not in a position that hampers the movements of the operating vehicle and of the equipment as it could be damaged.

9.4.2 Procedure for connecting electrical connections

The electrical connections on the boom head may be at 6 or 24-pole, but the connection procedure is the same for both.

For equipment provided with electrical system carry out the following operations:

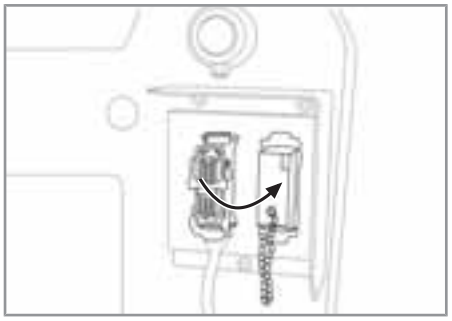
- Perform the equipment installation procedures previously described:
- Turn off the vehicle.
- Disconnect the cover from the socket on the boom "**1**" (fig. 150512-1) lowering the 2 safety levers "**2**".
- Remove the cover located on the boom socket and fit it in the dummy socket aside (fig. 150512-2) and fasten it with the appropriate levers.



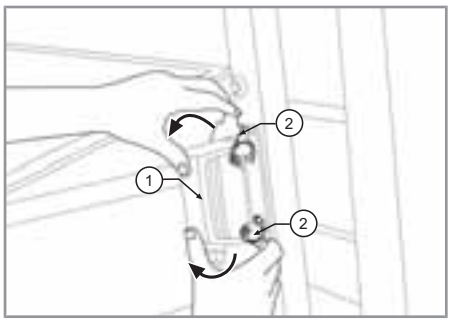
150512-1

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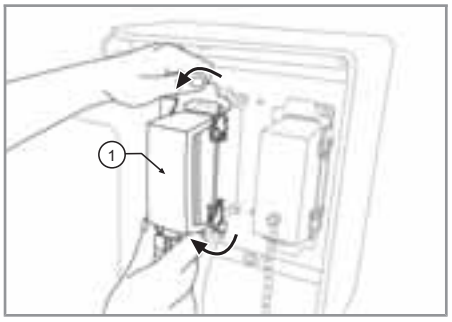
– Disconnect the plug from the dummy socket on the equipment "**1**" (fig. 150512-3) lowering the 2 safety levers "**2**" (fig. 150512-3).
– Connect the plug of the equipment on the electrical socket of the boom, fastening it by lifting the 2 safety levers "**1**" (fig. 150512-4).
– Once the equipment is properly fixed, turn on the vehicle and set the correct mode of operation of the vehicle related to the newly installed equipment.
– Check that in the cab there is the capacity diagram related to the vehicle and to the equipment just installed.



150512-2



150512-3



150512-4

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9.5 Equipment removal

To store the accessory, once you finished using it, carry out the following operations:

1. Place the vehicle on a solid and level ground.
2. Position the equipment above a support platform to facilitate the handling and transportation of the single piece of equipment.
3. Lower and extend the vehicle boom of about one meter.
4. Turn off the engine.
5. Remove the electrical connections, if any (see the following chapter).
6. Remove the water connections, if any (see the following chapter).
7. Release the equipment following the reverse procedure of the equipment installation in accordance with the type of plate installed on the vehicle.
8. Turn on the vehicle and swing down in order to release the tool-holder plate from the equipment.
9. Once released the tool-holder plate, retract the vehicle boom.



150604-1

NOTICE

The accessory placed on the ground must always be appropriately marked and barriers and clearances must be laid on all sides of the area that it could occupy falling.

DANGER

After releasing the system pressure always wait for a minute before disconnecting the couplings.

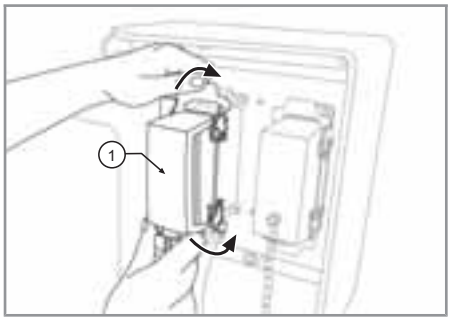
Always disconnect the hydraulic hoses of the tool before releasing it from the vehicle. Otherwise it is possible to damage the pipes or cables and the tool may fall and be dragged.

https://truckmanualshub.com/

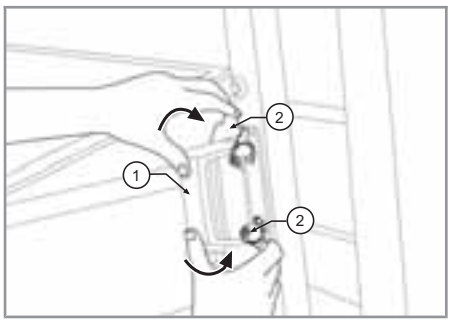
9.5.1 Electrical connections removal

To remove the electrical connections from the equipment it is necessary to:

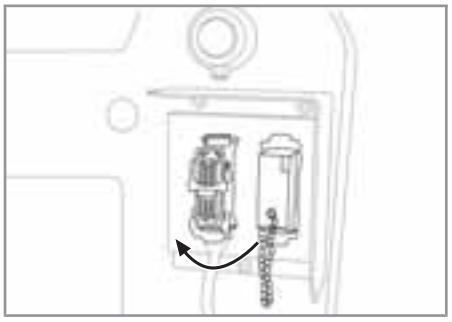
1. Follow steps 1, 2, 3 and 4 of the procedure to remove the equipment from the vehicle described in the previous chapter.
2. Disconnect the plug of the equipment from the boom lowering the two safety levers (fig. 150514-1).
3. Position the plug of the equipment on its dummy socket "**1**" (fig. 150514-2), fastening it with the safety levers "**2**".
4. Disconnect the cover located on the boom dummy socket and fit it in the electrical socket (fig. 150514-3).
5. Secure the cover to the socket on the boom "**1**" (fig. 150514-4) through the safety levers (fig. 150514-4).
6. Check that the electrical cables are not trapped in the tool-holder plate or that they can be crushed by the equipment when it will be placed on the floor.
7. Proceed with the subsequent operations to remove the equipment from the vehicle.



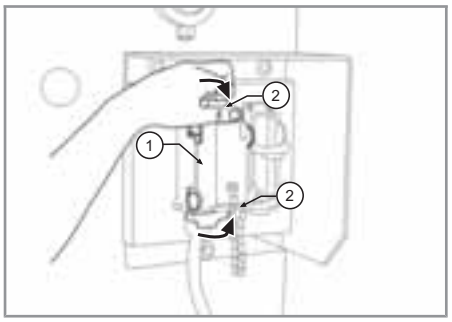
150514-1



150514-2



150514-3



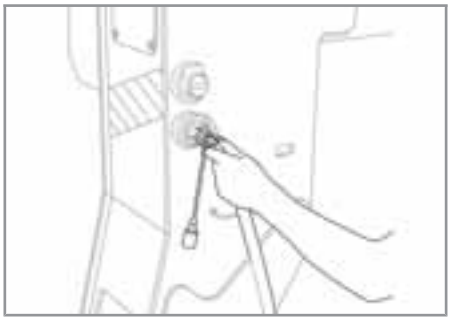
150514-4

https://truckmanualshub.com/

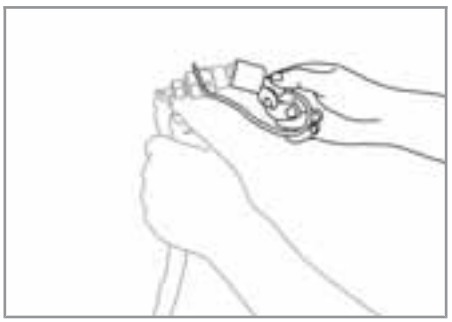
9.5.2 Push-Pull couplings removal

To disconnect the Push-Pull quick couplings from the socket on the boom head it is necessary to:

1. Follow steps 1, 2, 3 and 4 of the procedure to remove the equipment from the vehicle described in the previous chapter.
2. If a closed center distributor is installed on the vehicle, carry out the procedures described in the "**Closed center distributor: Relieve the pressure through the trailer Descent button * [▷ 204]**" chapter to release pressure in the hydraulic circuit.
3. Turn off the vehicle.
4. Pull the plug towards yourself to remove it from the socket (fig. 150513-1).
5. Clean the plug and socket, if soiled.
6. Fit the protective cap to the equipment hydraulic plugs (fig. 150513-2).
7. Carry out the same operation for both tubes.
8. Check that the hydraulic hoses are not trapped in the tool-holder plate or that they can be crushed by the equipment when it will be placed on the floor.
9. Proceed with the subsequent operations to remove the equipment from the vehicle.



150513-1



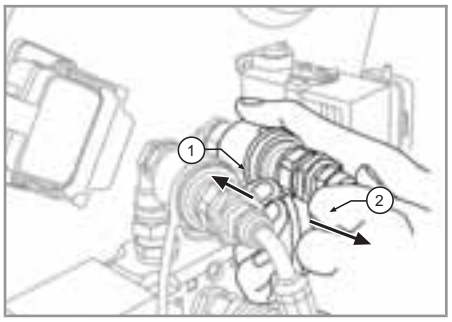
150513-2

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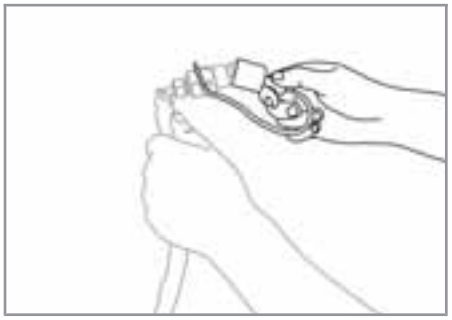
9.5.2.1 Push-Pull couplings removal when connected to a valve

To disconnect the Push-Pull quick couplings from the valve on the boom head:

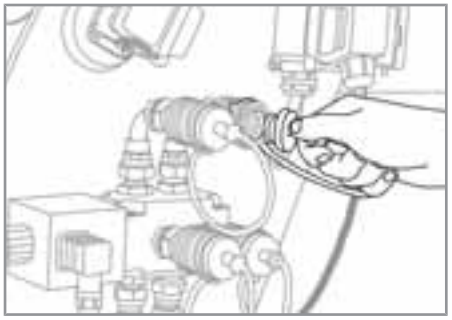
1. Follow steps 1, 2, 3 and 4 of the procedure to remove the equipment from the vehicle described in the previous chapter.
2. If a closed center distributor is installed on the vehicle, carry out the procedures described in the "Closed center distributor: Relieve the pressure through the trailer Descent button * [▷ 204]" chapter to release pressure in the hydraulic circuit.
3. Turn off the vehicle.
4. Push the ring of the socket towards the vehicle boom "**1**" (fig. 150515-1).
5. Pull the plug towards yourself to remove it from the socket "**2**".
6. Clean the plug and socket, if soiled.
7. Fit the protective cap to the equipment hydraulic plugs (fig. 150515-2).
8. Fit the protective cap to the hydraulic sockets of the valve (fig. 150515-3).
9. Carry out the same operation for both tubes.
10. Check that the hydraulic hoses are not trapped in the tool-holder plate or that they can be crushed by the equipment when it will be placed on the floor.
11. Proceed with the subsequent operations to remove the equipment from the vehicle.



150515-1



150515-2



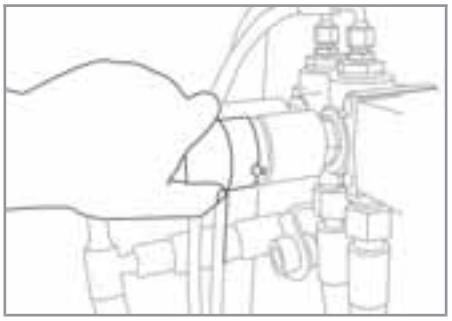
150515-3

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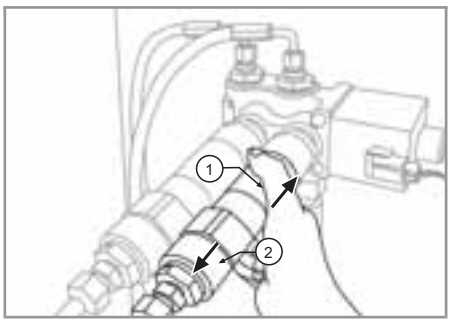
9.5.3 Flat-Face couplings removal

To disconnect the Flat-Face quick couplings:

1. Follow steps 1, 2, 3 and 4 of the procedure to remove the equipment from the vehicle described in the previous chapter.
2. If a closed center distributor is installed on the vehicle, carry out the procedures described in the "Closed center distributor: Relieve the pressure through the trailer Descent button * [▷ 204]" chapter to release pressure in the hydraulic circuit.
3. Turn off the vehicle.
4. Turn the socket ring to match the recess with the position of the ball placed on the socket (fig. 150516-1).
5. Push the socket ring "**1**" (fig. 150516-2).
6. Pull off the plug "**2**" (fig. 150516-2).
7. Clean the plug and socket, if soiled.
8. Carry out the same operation for both tubes.
9. Check that the hydraulic hoses are not trapped in the tool-holder plate or that they can be crushed by the equipment when it will be placed on the floor.
10. Proceed with the subsequent operations to remove the equipment from the vehicle.



150516-1



150516-2

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9.6 Forks

9.6.1 Identification

The term "Fork" means the pair of forks to be installed on the vehicle.

The purpose of this equipment is the lifting and handling of a load from the ground upwards, and vice versa.

NOTICE

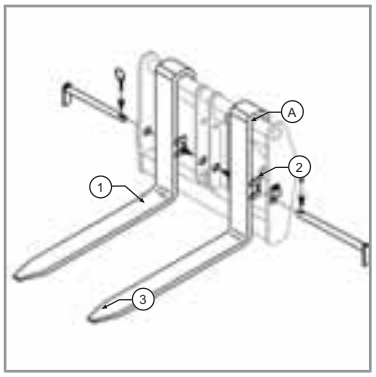
The forks may be provided with a spreader/shifter that allows to position the distance between the forks more quickly and safely.

The data necessary for the identification of the forks are positioned on the right side of the forks, in the upper part "**A**" (fig. 150518-1).

Below are the identification data (their order may be different on the forks).

To ensure a prompt and efficient service when ordering parts or when requesting information or technical clarification always specify the identification details.

Therefore we recommend to note the data relating to the accessory in your possession in order to safely and quickly identify them in the future, in case of need.



150518-1

Dieci forks code	.....
Manufacturer's Logo/ Abbreviation	.....
Manufacture Date/Batch	.....
Maximum capacity (Kg)	.....
Load application center of gravity (mm) *	.....

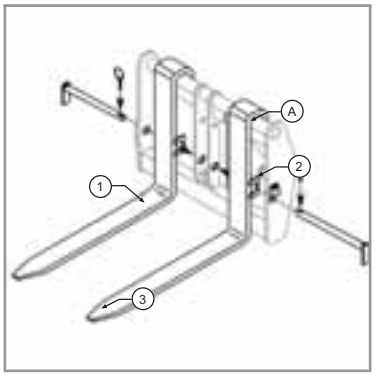
* There may be more than one value depending on the load.

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9.6.2 Description

The forks (fig. 150519-1) consist of the following main components:

1. Forks
2. Eyelet
3. Hole for mounting specially designed equipment



DANGER

It is strictly forbidden to use the Hole for fastening equipment, for the installation of equipment not expressly approved by Dieci or for a use other than that intended.

Vehicle tipping danger, damage to forks or falling materials.

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9.6.3 Forks check

NOTICE

For the forks verification frequency refer to the "Control log".

CAUTION

During maintenance and control, it is mandatory to use the appropriate Personal Protective Equipment.

WARNING

It is absolutely forbidden to carry out maintenance on the forks (e.g. welding, drilling, engraving, etc ...).

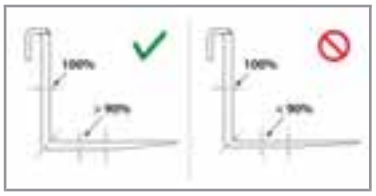
In the event of damage or deformation immediately replace the forks.

Check the forks thickness.

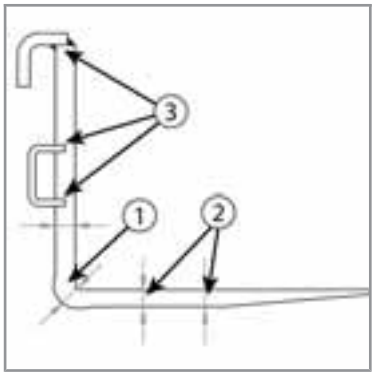
The maximum wear allowed is **10%** (fig. 150520-1).

For example for a fork 70 mm thick, the thickness must not be less than 63 mm. (70 - 10% = 63)

For a quick check of the thickness of the forks, it is necessary to measure the thickness in the vertical part of the fork"**1**" (fig. 150520-2); this will be the dimension to which refer for the fork thickness measurements "**2**" (fig. 150520-2). Make at least three measurements at several points.



150520-1



150520-2

Verify the deformation of the forks

Verify that the two forks are parallel between them and that the distance from the ground is the same for both, or with difference of less than **3%** of the length of the fork (fig. 150520-3).

For example, for a fork 1800 mm long, the difference between the maximum permissible deformation of the fork tips will therefore be of 54 mm (1800 x 3/100 = 54).

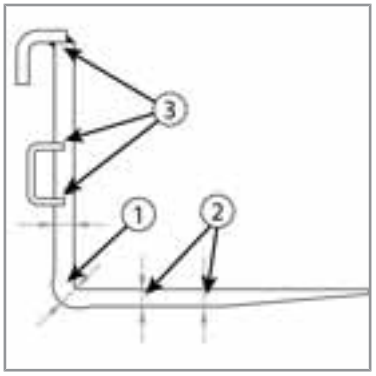


150520-3

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Check the integrity of the welds

Check that all the welds on the forks "**3**" (fig. 150520-4) are in good conditions and have no cracks or anomalies.



150520-4

9.6.4 Forks use

CAUTION

Before starting to use the equipment, inspect and test it as described in the section "Equipment pre-use check".

WARNING

It is absolutely forbidden to use the forks or any type of equipment, without securing it to the tool holder plate with the appropriate safety pins.

DANGER

Before each use, check the wear status of the forks, they could be worn out and not hold the load to be handled creating a dangerous situation.

Before starting to use the equipment, refer to the chapters:

a) "Safety regulations"

b) "Forks safe working procedures [▷ 217]"

c) "Forks check [▷ 214]"

To use the forks it is sufficient to move the controls for the plate tilting.

By moving the joystick to the left, the tips of the forks will rise; by moving the joystick to the right, the tips of the forks will drop.



150521-1

9.6.5 Forks adjustment

To adjust the position of the forks it is necessary to:

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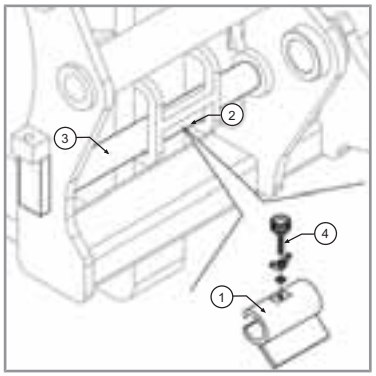
- Deposit a load to the ground.
- Lower and fully retract the boom moving the forks to about 1 m above the ground.
- Turn off the vehicle.
- Get off the vehicle and manually move the forks to the desired width.

9.6.6 Fork block

The Forks lock prevents lateral movement of the forks once the desired setting has been chosen.

To engage the forks lock (fig. 150517-1):

1. Perform the forks installation procedure on the fork carrier plate.
2. Place the forks lock "**1**" in the eyelet of the forks "**2**".
3. Insert the plug "**3**" completely down in order to fit the eyelet "**2**" and the fork lock "**1**".
4. Fasten the plug with the related safety stops.
5. After moving the fork laterally to the desired position, fix the position by tightening the screw "**4**".



150517-1

9.6.7 Fork extensions

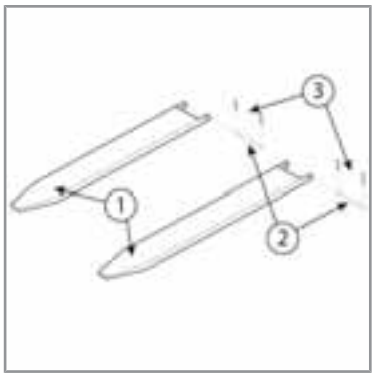
CAUTION

Before starting to use the equipment, inspect and test it as described in the section "Forks Safe Working Procedures".

Before starting to use the equipment, refer to the "Safety regulations" and "Safe Working Procedures" described in the manual of the machine on which the equipment is installed.

The fork extensions consists of the following main components (fig. 150521-1):

1. Extension
2. Fastener pin
3. Safety plug



150521-1

Warnings for use

- Use the extensions only with the forks for which they were constructed.
- Before use, check their integrity.
- Always apply the pin with the related split pin.
- Do not use loads exceeding those indicated by the forks on which the fork extensions are mounted.
- Refer to the capacity diagram of the forks to which are applied the extension forks.
- Make sure of the load stability.
- Do not take the load with a single extension.

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– Do not use extensions for purposes other than those for which they were constructed.

Installation

– Fit the extension on the forks after establishing the integrity of the extension and the forks.

– Put the fastener pin "**2**" with the related safety pin "**3**".

DANGER

Never use if the forks or the extensions if they are defective or show tampering signs.

Forks extension check

– At each use check the integrity of welds and repair if necessary.

– When the thickness of the lower sheet reaches 80% of its original thickness, the extension must be replaced.

9.6.8 Forks safe working procedures

9.6.8.1 General instructions on forks use

DANGER

Never lift a load slung with a single fork or with a board.

It is absolutely forbidden to use the forks with hooks, straps or other materials for handling suspended loads. Use the appropriate accessories (hook, winch, jib).

– Always set the forks fully under the load and move it to the transport position (forks at 300mm from the ground and tilted backwards, with fully retracted boom).

– The load diagrams are valid for centers of gravity indicated on the diagram. For a center of gravity at a greater distance, contact your dealer.

– Pay attention to the risk of crushing limbs when adjusting the forks manually.

– It is absolutely forbidden to increase the length or width of the forks with extensions not provided directly by the Manufacturer. In this case DIECI is raised from any responsibility regarding their use.

– Forks overloading and transverse stress are strictly prohibited.

– Place the forks to their maximum possible width depending on the load to be moved. Before lifting a load make sure that the width of the forks corresponds to that of the pallet or that these can withstand the weight of the load on the pallet. Forks set wide apart maintain a stable load.

– Place loads evenly on the forks, to obtain a stable balance. When lifting wide loads, or not centered and that are impossible to center, maneuver the vehicle with caution in order to prevent this from tipping. Use caution when lifting bars of considerable length.

– Do not raise the load with the tip of the forks facing downwards. The forks must always be with the tips pointing upwards; in this way the load will lean against the plate of the forks. A lifted load can be tilted forward only if it must be placed on a stack or directly on a discharge surface.

– Do not use the vehicle to transport or move persons when the forks are assembled on it. Use suitable interchangeable equipment approved by Dieci.

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9.6.8.2 Load transport position with forks

To correctly transport a load with forks it is necessary to:

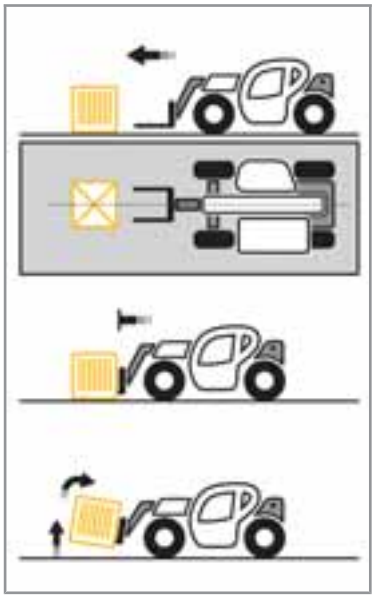
- Fully retract the boom.
- Lower the boom fully down so that the forks are at about 300 mm from the ground.
- Tilt the fork tips upward.



150527-1

9.6.8.3 Picking up a load from the ground

1. Slowly move the vehicle to the load to be lifted with the boom fully retracted and the forks in a horizontal position at the height of the lifting position. Keep the forks raised just enough to avoid contact with the ground.
2. Bring the forks under the load to be lifted up to the contact with the tool holder plate.
3. Press the brake pedal and move the gear selector in neutral.
4. Slightly lift the load and tilt the tool holder plate backward setting it in the transport position.



150528-1

WARNING

Always observe the center of gravity of the load, tilt the forks enough to ensure stability and prevent the loss of the load during braking.

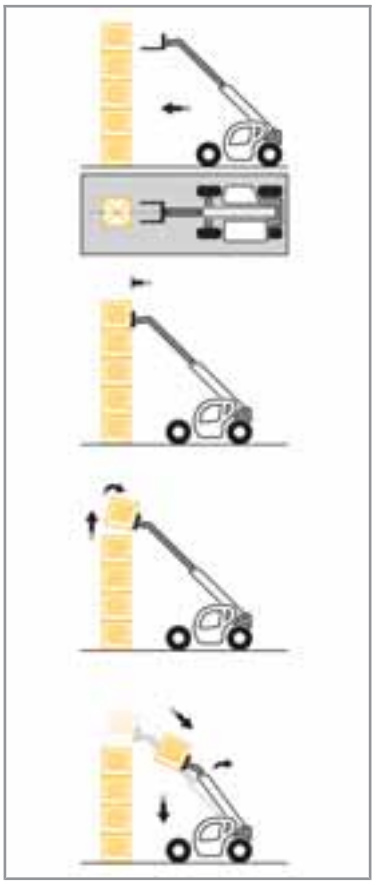
DANGER

Never carry a load with boom raised and/or removed.

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9.6.8.4 Picking up a load from a high position

1. Make sure that the forks pass easily under the load.
2. Drive slowly and cautiously approaching the vehicle to the load placing it perpendicular to this with the forks horizontal. If necessary, use the inching pedal to approach slowly.
3. Always remember to keep the distance required to insert the forks under the load, between the stack and the vehicle.
4. Extend the boom for the shortest possible length.
5. After bringing the forks under the load to be lifted until it is in contact with the fork carrier plate, press the brake pedal and move the gear selector in neutral.
6. Lift the load and tilt the fork carrier plate to the transport position.
7. If possible lower the load without moving the vehicle.
8. Lift the boom to move the load away, then retract the extensions and lower the boom to set the load in the transport position.
9. If not possible, move the vehicle backward very slowly and very carefully, after moving the load away properly retract the extensions and lower the boom to set the load in the transport position.



150529-1

WARNING

Always observe the center of gravity of the load, tilt the forks enough to ensure stability and prevent the loss of the load during braking.

DANGER

Danger of tipping

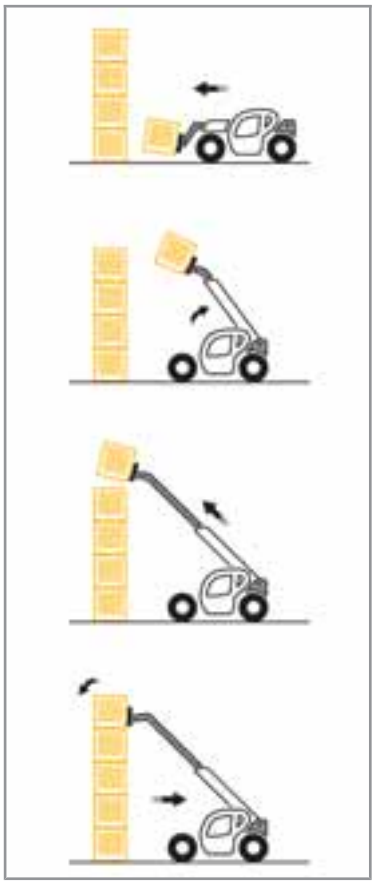
It is absolutely forbidden to pick up a load if the vehicle is not level.

Never carry a load with boom raised and/or removed.

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9.6.8.5 Positioning a load in a high position

1. Bring the load in the transport position in front of the stack.
2. Lift and extend the boom to take the load above the stack. If necessary, move the vehicle towards the stack very slowly and very carefully. If necessary, use the inching pedal to approach slowly.
3. Press the brake pedal and move the gear selector in neutral.
4. Place the load horizontally and lay it on the stack, lower and retract the extensions to properly position the load.
5. Release the forks alternately retracting the extensions and lifting the boom; if possible make the vehicle move back very slowly and very carefully.



150530-1

WARNING

Always observe the center of gravity of the load, tilt the forks enough to ensure stability and prevent the loss of the load during braking.

DANGER

Danger of tipping

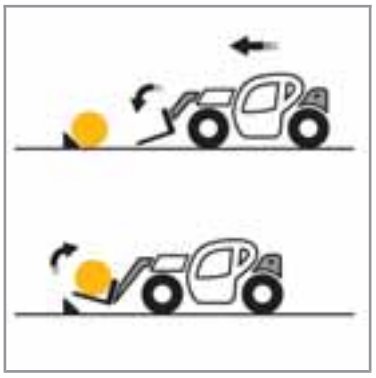
It is absolutely forbidden to pick up a load if the vehicle is not level.

Never carry a load with boom raised and/or removed.

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9.6.8.6 Picking up a round load

1. Tilt the forks forward and retract the telescopic boom, while inserting the forks under the load.
2. Rotate the fork carrier plate backward to slide the load. If necessary secure the load with wedges.



150531-1

WARNING

Always observe the center of gravity of the load, tilt the forks enough to ensure stability and prevent the loss of the load during braking.

DANGER

Never carry a load with boom raised and/or removed.

NOTICE

There are various interchangeable accessories such as clamps to facilitate the work with objects which are round, contact your DIECI dealer.

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9.7 Bucket

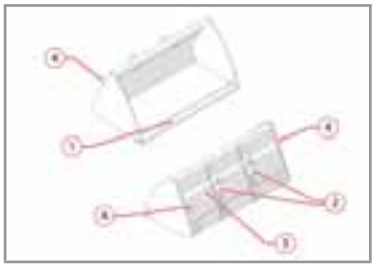
9.7.1 Buckets identification

Buckets allow handling inert material.

To ensure a prompt and efficient service when ordering parts or when requesting information or technical clarification always specify the serial number.

Therefore we recommend to note the data relating to the accessory in your possession in order to safely and quickly identify them in the future, in case of need.

The data necessary for the identification of the buckets are positioned on the right side, in the upper part "**A**" (fig. 150522-1).

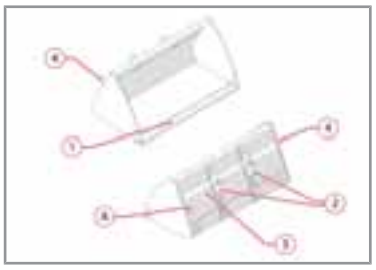


150522-1

9.7.2 Buckets description

All the buckets (fig. 150523-1) consist of the following components:

1. Blade
2. Hooks for plate connection
3. Tilt indicator
4. Hooks for lifting

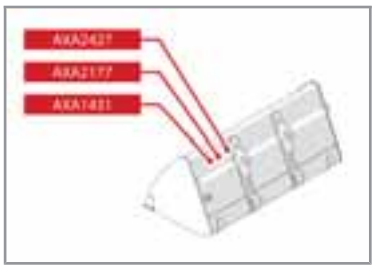


150523-1

9.7.3 Buckets safety stickers

Safety stickers on buckets (fig. 150524-1):

- AXA2427 – Keep the safety distance from the equipment
- AXA2177 – Read the use and maintenance manual.
- AXA1431 – Lifting hook



150524-1

https://truckmanualshub.com/

9.7.4 Bucket use

WARNING

Before starting to use the equipment, inspect and test it as described in the section "Equipment pre-use check".

It is absolutely forbidden to use the forks or any type of equipment, without securing it to the tool holder plate with the appropriate safety pins.

DANGER

Before each use, check the wear status of the equipment, they could be worn out and not hold the load to be handled creating a dangerous situation.

Before starting to use the equipment, refer to the chapters:

a) "Safety regulations"

b) "Buckets Safe Working Procedures [▶ 225]"

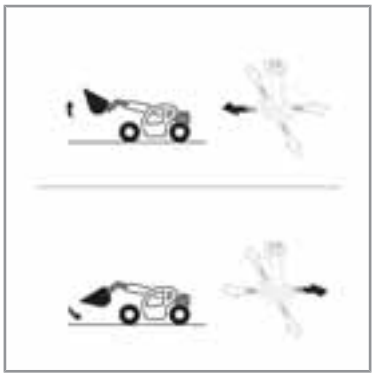
c) "Equipment pre-use checks [▶ 195]

CAUTION

Set the appropriate working mode of the vehicle during the bucket use. If this is not done properly, the anti-tipping device could start up and the movements will consequently stop during the bucket excavation or the loading.

To use the buckets it is sufficient to move the plates swiveling controls.

Moving the joystick to the left, the tip of the bucket will move up; moving the joystick to the right, the tip of the bucket will move down.



150630-1

WARNING

Given the large size of the buckets, for some movements it will be necessary to remove the boom to prevent contact of the bucket with other parts of the vehicle. It is advisable to operate with the minimum possible extension of the boom.

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9.7.5 Fixed tilting indicator use

In the left part of the bucket there is the fixed tilting indicator (fig. 161030-1), this tool allows to know the angle of the bucket during use.

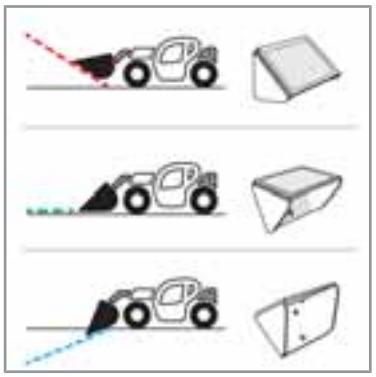
The bucket position can be determined based on the face shown by the fixed tilt indicator:

- **Upper visible face**: the bucket blade is turned upward
- **Face parallel to the ground**: the bucket is aligned to the ground
- **Lower visible face**: the bucket blade is turned downward

NOTICE! During the bucket loading phase, to obtain the maximum efficiency of the bucket it is appropriate to use the bucket aligned to the ground.



161030-1



161030-2

9.7.6 Movable tilting indicator use *

NOTICE

The movable tilting indicator is an optional accessory.

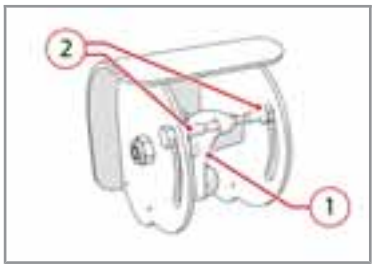
In the left part of the bucket there is the movable tilting indicator (fig. 161031-1), this tool allows to know the angle of the bucket during use.

It is composed of a pendulum "**1**" and by two indicators "**2**".

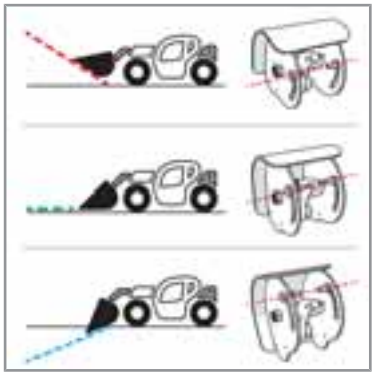
The bucket position is determined according to the position of the pendulum "**1**" compared to the indicators "**2**":

- **Pendulum above the indicators**: the bucket blade is turned upward
- **Pendulum at indicators level**: the bucket is aligned to the ground
- **Pendulum below the indicators**: the bucket blade is turned downward

NOTICE! During the bucket loading phase, to obtain the maximum efficiency of the bucket it is appropriate to use the bucket aligned to the ground.



161031-1



161031-2

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9.7.7 Buckets Safe Working Procedures

DANGER

Do not change the structure of the equipment.

DANGER

Do not use the equipment for lifting persons, animals or things other than those specified.

9.7.7.1 Checks before lifting

Before starting the operations, perform these checks and inspections to ensure greater safety for operators.

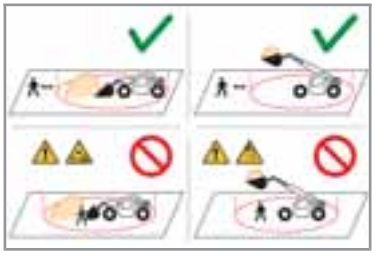
- Positioning of the machine and ground conditions.
- Check the dimensions and characteristics of the work area and complete visibility of the load and of the surrounding area. Otherwise use a person on the ground assigned for signaling.

9.7.7.2 Danger zones

The danger zones of the machine can be identified in the work area of the machine and of the bucket.

This area varies in size depending on:

- Load characteristics and size
- Load lifting height



150631-1

DANGER

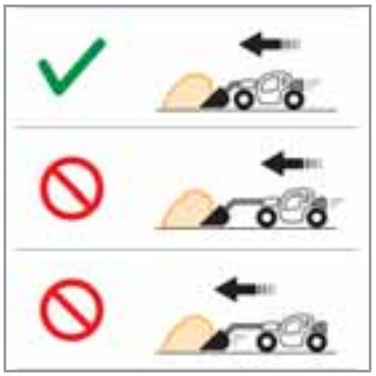
Keep away from the machine during operation and from the aggregates to be moved, or from the excavation.

9.7.7.3 Bucket load

It is strictly forbidden to push or stack inert material with extended boom. It can cause serious damage to the machine.

It is strictly forbidden to push or stack material using the boom extension. It can cause serious damage to the machine.

It is strictly forbidden to make leveling or digging operations in reverse. It can cause serious damage to the machine.



150632-1

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9.7.7.4 Carry a load with bucket

The correct machine movement position with the bucket equipment installed is:

- Bucket as close as possible to the ground
- Boom retracted as much as possible



150633-1

WARNING

It is advisable to keep the bucket at a height sufficient to be able to avoid roughness of the terrain along the way.

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9.8 Equipment lifting



WARNING

Make sure that the lifting device is adequate for the weight of the equipment to be lifted and that each device used for lifting and every accessory used is CE marked.

Make sure that the ropes, chains, straps and hooks are in good condition and with capacity adequate to the weight of the equipment to be lifted.

The weight of the equipment is shown on a special riveted metal plate; check the overall dimensions for the maximum and minimum height valuesfrom the ground and the weight allowed.

Position the hooks into the holes for the lifting locates at the top, at the center of gravity of the equipment.



DANGER

It is absolutely forbidden to transport the vehicle with the equipment still installed on it.

9.9 Equipment transport



WARNING

Make sure that the capacity of the means of transport is adequate for the weight of the equipment to carry.

When loading or unloading an equipment from a means of transport, there is always the danger of vehicle overturning.

Use a truck or a trailer suitable for transport of the equipment.

When transporting the equipment it is advised to use a support platform for easier handling.

Then fasten the equipment with appropriate slinging systems, check that they are in good condition and appropriate for the weight and dimensions of the equipment.



DANGER

It is absolutely forbidden to transport the vehicle with the equipment still installed on it.

For details on the procedures to be followed during transport of the vehicle, refer to the Use and Maintenance Manual of the vehicle on which the equipment will be installed.

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10 Emergency procedure

10.1 Emergency procedures list

Emergency procedures	Additional information	
Emergency procedure	7.1.22	Warnings in case of vehicle tipping
	7.2.3	Deactivating the internal parking brake manually
	10.2	Vehicle towing
	10.3	Man basket recovery in case of failure for Pegasus with auxiliary hydraulic pump
	11.6.6	Start up with auxiliary batteries
	11.6.6.1	Cable connection and engine start-up
	11.6.6.2	Cables removal

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10.2 Vehicle towing



DANGER

The machine towing is a delicate operation and the risks to the operator are high. The manufacturer's warranty is not applicable in case of incidents or accidents that occur during towing. If possible make repairs where the machine is located.

It is advisable that the towing operations are carried out by skilled personnel.

It is absolutely forbidden:

- Ever try to start the machine by pushing or towing.
- To tow the machine on public roads and for very long paths, if possible keep the yellow flashing light and the emergency lights in operation.
- To tow the machine on a slope.
- Stand between the towing machine and towed machine.



WARNING

With the engine off the steering wheel and brakes servo controls do not work. If it is not possible to keep the engine running while towing the vehicle take into account that the efforts to use the steering wheel will be much higher than normal.



CAUTION

The machine towing can be made only in emergency conditions at a maximum speed of 4 km/h (2.5 mph) and for short distances up to 500 m (1640 ft).

To tow the machine over longer distances, contact ***Dieci*** service center.



CAUTION

It is mandatory to tow the machine with a rigid towing bracket. The towing bracket must be designed for a tensile stress of 10 tonnes (22040 lb). Attach the towing bracket between towing vehicle and the vehicle in failure at the points prearranged for towing.



DANGER

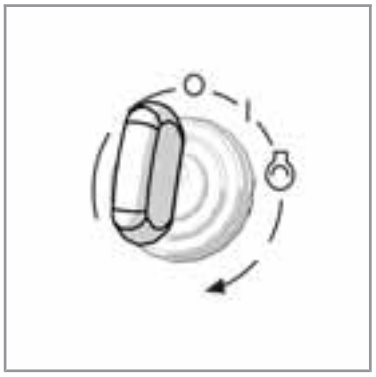
Make sure that the weight of a towed vehicle not equipped with brakes never exceeds the weight of the machine that tows the vehicle. The distance required to stop the vehicle increases with the increase of the speed and of the load towed, in particular in the slope sections.

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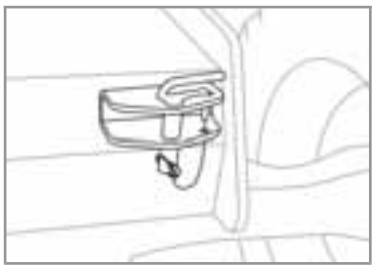
10.2.1 Machine towing with electrical panel on

If it is necessary to tow the machine with the electrical panel in operation (for example, transmission failure) follow the following steps:

- Turn the machine off by turning the ignition key "**0**" (fig. 150567-1).
- Attach the towing bracket between towing vehicle and the vehicle in failure at the points prearranged for towing (fig. 150567-2).
- Make sure that the machine is in a stable configuration and lock the wheels with chocks to prevent accidental movement of the machine.
- Remove the lower protective casing by removing the screws with a wrench size **13**.
- Follow the steps described in the chapter "Manually disable the transmission".
- Switch on the electrical panel by turning the ignition key to position "**1**" (fig. 150567-1).
- Disengage the parking brake switch.
- Remove the wheels chock.
- During towing, remain seated in the driver's seat to prevent the parking brake from engaging automatically.



150567-1

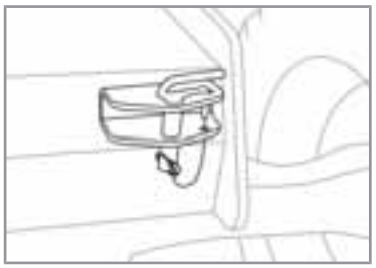


150567-2

10.2.2 Towing the machine with engine in failure

In case it is necessary to tow the machine with engine in failure, follow the following steps:

- Attach the towing bracket between towing vehicle and the vehicle in failure at the points prearranged for towing (fig. 150568-1).
- Make sure that the machine is in a stable configuration and lock the wheels with chocks to prevent accidental movement of the machine.
- Follow the steps in the section "Manually disable the parking brake on the vehicle front axle".
- Follow the steps described in the chapter "Manually disable the towing".



150568-1

DANGER

With the engine off, the drive and parking brake are still active.

Towing the machine with active drive and brake can cause serious damage to the machine and create dangerous situations.

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10.3 Man basket recovery in case of failure for Pegasus with auxiliary hydraulic pump

In the case of lack of motive force during use of the vehicle with man basket, which leads to the man basket locking, it is possible to operate with the manual system to return the boom and the operators on the ground in safe conditions. In order to carry out this emergency operation use the appropriate emergency pump.



DANGER

Under the emergency pump use conditions the anti-tipping systems are off. It is compulsory to refer to the load charts (found in the notebook in the cab and on the Use and Maintenance Manual) before performing any operation through the levers of the distributor. In this way it is possible, using the inclinometer and the letters on the boom, to know the exact location of the basket and of the work area within which it can operate. During the basket recovery there must not be no aggravating movements for the stability of the vehicle as there is a risk of tipping.



WARNING

Two qualified and experienced operators, authorized by the security officer, are required to complete the retraction operation.



DANGER

Do not ever try to get out of the man basket using makeshift equipment or using systems that expose to personal risk.

The operations allowed through the emergency pump are:

- retract the boom extensions
- lower the boom

10.3.1 Man basket recovery in case of engine in failure

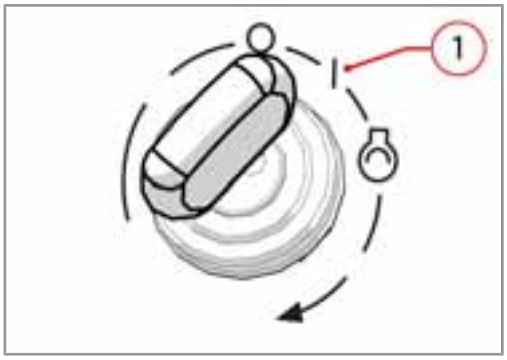


CAUTION

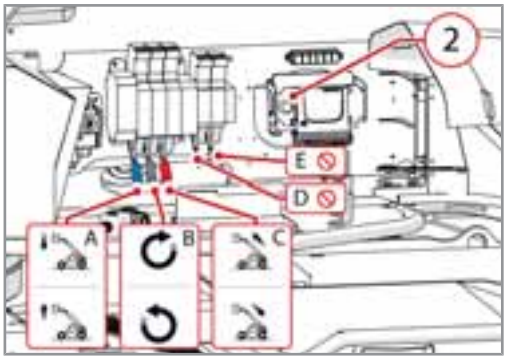
This emergency recovery procedure of the man basket applies only in case of damage to the diesel engine; however, it is necessary that the electric and hydraulic circuits are operating correctly.

In the event that it becomes necessary to recover the basket from the ground with the machine working correctly, refer to the chapter: “Man basket recovery from cab”.

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160770-1



160770-2

To carry out the boom retraction with auxiliary pump, perform the following procedure.

- Turn the ignition key to position "**1**" (fig. 160770-1).
- Press the button "**2**" (fig. 160770-2), to turn on the electric pump.
- Press and hold down the button "**2**"and operate on the levers of the distributor, located aside, in relation to the desired movement:
- **Blue lever "A"**
  - Upwards: boom lowering.
  - Downwards: boom lifting.
- **Black lever "B"**
  - Upwards: Turret rotation to the right.
  - Downwards: Turret rotation to the left.
- **Red lever "C"**
  - Upwards: boom extension.
  - Downwards: boom retraction.

DANGER! It is absolutely forbidden to use and move the levers "D" and "E" of the distributor as they are used for tilting and services. Danger of tipping the basket.

- After the recovery, return to the starting conditions.

WARNING

Move the basket alternating movements of boom extension, retraction and lowering, always remaining within the load charts values.

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10.3.2 Man basket recovery from cab

CAUTION

This procedure is valid if the vehicle is operating correctly but for an illness or other causes, the operator on the basket is unable to return to the ground.

If it becomes necessary to recovery the basket from the ground with the vehicle with engine in failure, refer to the chapter: “Man basket recovery in case of engine failure”.

NOTICE

To perform the man basket recovery procedure from the cab it is necessary to be in possession of the Recovery key.

The basket controls bypass function is performed by a key to give the possibility to the Safety Officer to extract the key to prevent deactivating the anti-tipping system during normal working conditions.

DANGER

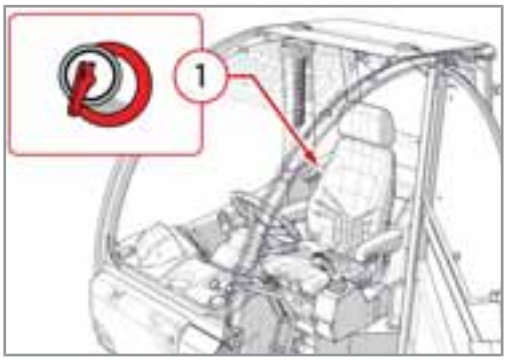
Danger of tipping

The Recovery Key must be used only if all of the following conditions occur:

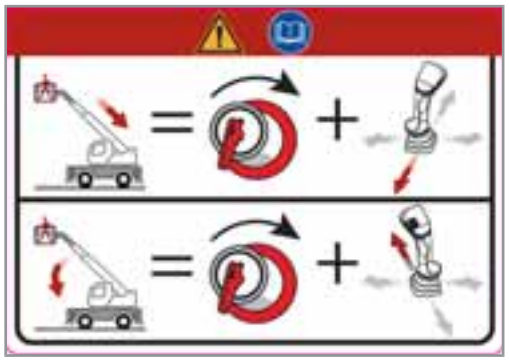
a) By skilled and properly trained personnel

b) For short periods of time

c) If it is not possible to bring the basket to the ground through the basket controls.



160771-1



160771-2

To carry out the basket recovery from the cab, perform the following procedure.

- Sit in the driver's seat and turn on the vehicle.
- Turn the Recovery key “**1**” to activate the controls in the cab.
- Keep the Recovery key “**1**” turned and use the joystick to:
  - Fully retract the boom.
  - Lower the boom to the ground.
- After the recovery, return to the starting conditions.

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11 Maintenance

WARNING

Before performing any maintenance operations set the vehicle in the maintenance position.

Use appropriate personal protective equipment during the various checking and maintenance operation of the vehicle.

11.1 Maintenance warnings

This vehicle has been designed and built to provide maximum performance, savings and facilitate its operation in various working conditions. Before delivery, the vehicle and the equipment were tested both by the Manufacturer and by the Dealer to ensure their maximum condition. In order to preserve these conditions and to ensure trouble free operation, it is important to perform routine maintenance, as specified in this Manual at a ***DIECI*** dealer at the frequency required.

This section of the Manual provides all the maintenance prescriptions necessary for maintaining the ***DIECI*** in perfect working condition.

It is recommended that all services must be carried out as part of the assistance program recommended by ***DIECI***. Remember that the owner and/or user is responsible of keeping the vehicle and equipment in safe operating condition and able to operate.

It should be noted, also, that proper maintenance of vehicle and equipment not only improves reliability, but preserves its value over time.

CAUTION

Maintenance or repairs not covered in this chapter and in the rest of the manual should be performed only by *DIECI* Dealers.

It is mandatory to have read and learned the "Safety" chapter before reading the "Maintenance" chapter.

WARNING

It is prohibited to carry out maintenance on the vehicle if this chapter has not been carefully read and learned.

To learn about maintenance operations and time, refer to the Maintenance Log.

All maintenance operations must be recorded on the appropriate Maintenance Log.

WARNING

When operating in corrosive environments it is important to intervene with appropriate maintenance methods and timing in order to prevent excessive wear of the vehicle.

CAUTION

Use appropriate personal protective equipment during the various checking and maintenance operations of the vehicle.

WARNING

In case of malfunction do not use the vehicle until it has been repaired.

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11.1.1 Avoid accidents during maintenance

- Always clean and tidy the workplace in order to carry out every operation safely.
- Do not leave tools or other instruments scattered in a disorderly manner in the workplace.
- Clean grease traces, oil or other substances that could cause you to slip.
- For the workplace safety put rags soaked with grease and/or other flammable materials in a secure container.
- Use only tools appropriate for the task and make sure to use them in the right way. The use of damaged, poor quality, faulty, makeshift tools or not suitable for use may cause serious injury.
- Do not hit the vehicle and the equipment or their parts with a hammer or any other instrument, as projected fragments could cause injury.
- If inspection or maintenance is carried out on vehicles or equipment which are still covered with mud, oil, etc., operators risk sliding or falling and the visual analysis of components is made more difficult. Thoroughly clean the vehicle or equipment before every operation.
- Make sure about the maintenance procedures before starting the work.
- Keep the work area clean and dry.
- Replace worn or faulty components.
- Eliminate accumulations of grease oil and debris.
- The knurled plates (bulb plates) and the cab floor are the only parts of the vehicle that can be stepped on. Use a ladder (suitable for the intended purpose) for maintenance of parts that cannot be reached from the ground.



DANGER

Do not carry out any maintenance operation with running engine or moving vehicle.

Should maintenance need to be performed with the engine running, ask at least two workers for help and observe the following instructions:

- One worker must always be seated in the driver's seat, ready to switch off the engine at any time.
- All workers must remain in contact with one another.
- Take care not to remain entrapped in components during the execution of operations performed on the fan, fan belt or other rotating parts.
- Do not touch levers or control pedals. Should a lever or pedal need to be moved, always warn operators first so they can move out of the dangerous area.
- Do allow instruments or other objects to fall into the vehicle rotating parts, as these parts may break and be projected out.
- The vehicle must be outdoors when the engine is running. The vehicle can be kept in a closed area only if it is properly ventilated and the vehicle is equipped with specific purifiers.



WARNING

In the case of operations to be performed by holding the boom raised, install the safety rod on the boom shaft.

If you need to perform repair or maintenance work under the vehicle, firmly support the movable parts with blocks and supports that are solid enough to support the weight.

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– Store attachments removed from the vehicle in a safe place where they do not risk falling. Take precautions to prevent unauthorized persons from approaching the storage area.



DANGER

Do not rest metal parts on the battery.



DANGER

Danger of entanglement.

Damage may be caused by entanglement in moving parts. To prevent accidents it is compulsory to wear proper safety equipment for maintenance.



DANGER

Exhaust gas danger

Exhaust engine gases are toxic and can damage your health.

The vehicle must be outdoors when the engine is running.

The vehicle can be kept in a closed area only if it is properly ventilated and the vehicle is equipped with specific purifiers.



DANGER

Pressurized liquids danger

After operation, the engine cooling liquid is hot and under pressure. Contact with hot water and/or steam may cause serious burns.

– Do not attempt to loosen connections, tubes or hydraulic components when circuits are under pressure.
– Avoid possible injury caused by hot water jets.
– Do not remove the radiator cap until the engine has cooled down.
– Before removing the cap, release all of the pressure.
– Prevent burns caused by oil or other hot parts during inspection or discharge by allowing the oil and cap to cool down before beginning operation.
– Even after the oil has cooled down, slightly loosen the cover or cap before removing it to mitigate pressure inside.



DANGER

Burns danger

Attention to burns. Engine reduction gear oil and the hydraulic system, pipes, engine and other components heat up when the vehicle is used. Wait until all parts cool down before beginning maintenance or repair work.

– Fluids such as fuel or hydraulic oil under pressure can penetrate the skin and eyes causing serious injuries. Take care to avoid these risks when repairing or doing maintenance work on the vehicle.

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– Discharge the pressure (using the hydraulic levers of the distributors) before disconnecting or repairing pipes and hydraulic parts.



DANGER

When a hydraulic pipe needs to be disconnected, slowly loosen the fittings to discharge residual pressure.



DANGER

Pressurized liquids danger.

Hydraulic energy accumulators are mounted on the vehicle. Before intervening on them, make sure to discharge any internal pressure. Danger of high pressure oil splashes.

– Before restarting the engine, ensure that all connections have been properly tightened.
– Use a piece of cardboard to check for any leaks; make sure your body is adequately protected against pressurized fluids.
– Any fluids that penetrate the skin must be removed surgically. Should there be an accident, seek medical attention immediately.



DANGER

Corrosive substances danger

Never touch air conditioning coolant.

– If it comes into contact with eyes, air conditioning coolant may cause blindness; it may cause freezing if it comes into contact with skin.
– When cleaning with compressed air, serious injury may be caused by flying particles.
– Always wear protective goggles, a dust mask, gloves and other protective equipment.



WARNING

Adjusting and/or dismantling balancing and safety valves can be dangerous.

One of the above-mentioned valves may be removed only when the concerned jack is at rest and the hydraulic circuit is not under pressure.

All other operations must be carried out by qualified, authorized personnel only.



NOTICE

Only use lubricants suggested by DIECI; never utilize used lubricants.

11.1.2 Personal protective equipment for maintenance



WARNING

Always use the personal protective equipment most suitable to the checking or maintenance operation to be performed.

Icon	Description	Specifications for maintenance
	Wear protective goggles	– Wear protective glasses in case of operations involving the use of compressed air.

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Icon	Description	Specifications for maintenance
	Wear safety shoes	
	Wear protective gloves	– Wear nitrile gloves in case of operations with grease, hydraulic oil or fuel.
	Wear protective clothing	
	Wear a protective mask	



DANGER

Danger of crushing

Pay attention to moving parts to avoid danger of crushing or dragging of the lower and upper limbs. Avoid wearing jewelery or pendants that might be trapped in moving parts. Long hair must be tied back to avoid it being caught in moving parts.

Do not wear loose clothing, chains, belts or other accessories that may be caught in the control levers or in other parts of the vehicle.

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11.2 Preliminary maintenance operations

11.2.1 Prepare the vehicle in the “Maintenance position”



WARNING

Before performing maintenance work on your vehicle, do the following:

- Park the vehicle on flat, even ground.
- Engage the parking brake.
- Lower and fully retract all mobile parts (booms, shovels, etc.).
- If the maintenance operation requires the mobile parts to remain up, apply the safety rod.
- Run the engine at a minimum for 60 seconds to cool it down.
- Release residual pressure from the hydraulic system.
- Switch off the key in the ignition switch.
- Remove the ignition key.
- Hang up a sign that indicates maintenance work is underway. This sign can be hung on the cab door and inside it on the controls.
- Set up barriers and spacers to prevent unauthorized personnel from approaching the vehicle.
- Disconnect the battery cut-off switch.
- Allow the engine to cool down.

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11.3 Engine hood opening

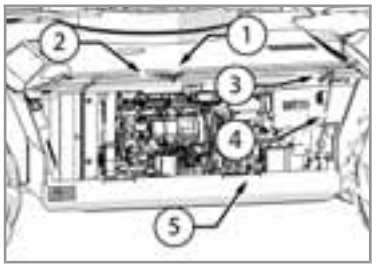
DANGER

Do not open the hood with the diesel engine in motion. At the end of the maintenance operations the hood must always be closed and locked.

Do not work with the engine hood open.

To open the engine hood (fig. 150722-1):

- Turn off the diesel engine.
- Remove the ignition key.
- Place in the cab a sign showing "Maintenance in progress".
- Disconnect the battery using the battery cut-off switch.
- Pull the handle "**1**" to open the hood.
- Lift the engine hood "**2**" and fasten with the support rod "**3**" in the C hook "**4**" on the hood.
- Release the hood gradually to ensure that the rod has been inserted correctly and does not release.



150722-1

To close the engine hood (fig. 150722-1):

- Hold the engine hood "**2**" and release the support rod "**3**" from the C hook "**4**" on the hood.
- Put back the support rod "**5**" in its seat
- Close the engine hood with light pressure. Always check the proper closing before starting to work or before leaving the vehicle.
- Reactivate the battery cut-off switch.

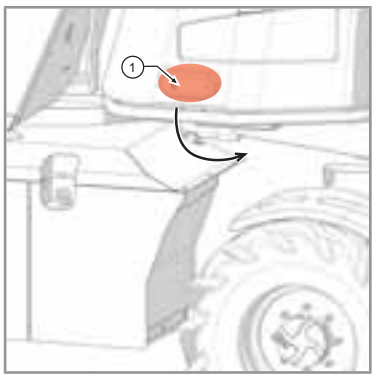
11.4 Turret hood opening-closing

WARNING

Do not open the turret hood while using the vehicle. At the end of the maintenance operations the hood must always be closed and locked.

To open the turret hood (fig. 150943-1):

- Open the lock "**1**" by using the key.
- Press the button on the handle and pull outward.
- Open the turret hood to snap the safety latch.

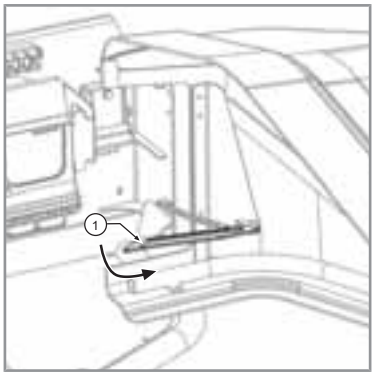


150943-1

https://truckmanualshub.com/

To close the engine hood (fig. 150943-2):

- Pull out the safety latch "**1**".
- Keep the safety latch outward and pull the hood.
- Close the engine hood with light pressure. Always check the proper closing before starting to work or before leaving the vehicle.



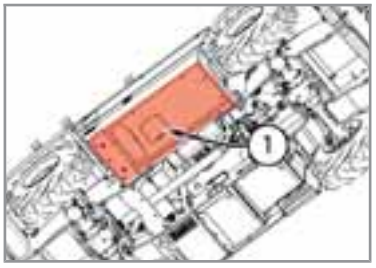
150943-2

11.5 Engine lower protection plate removal

To perform maintenance operations it is necessary to temporarily remove the engine under chassis protection of the vehicle. The under chassis protection protects the bottom of the vehicle from any bumps, collisions, dirt.

To remove the under chassis protection (fig. 150723-1):

- Place the vehicle in the maintenance position.
- Lock the wheels with chocks to prevent accidental movement of the vehicle.
- Unscrew the fastening bolts with a wrench size **13** and remove the engine under chassis protection "**1**".



150723-1

CAUTION

At the end of the maintenance operations refit the engine under chassis protection.

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11.6 Battery



DANGER

To avoid the risk of explosion of the batteries:

a) Keep sparks, free flames and cigarettes away from the top of the batteries because the gases that they can produce are highly flammable.

b) Do not charge damaged batteries.

c) Do not charge a hot battery.



DANGER

Batteries contain highly polluting substances that must not be dispersed in the environment.

Dead, old, damaged, batteries etc. must be properly disposed of.



DANGER

The battery contains sulfuric acid electrolyte which is a corrosive substance and must be treated with caution because it can cause poisoning and severe burns.

Keep out of the reach of children.

Avoid contact with skin and eyes.



CAUTION

Wear protective clothing, gloves and safety glasses. In case of contact with eyes or skin, rinse immediately with plenty of water and seek medical attention. If swallowed, contact a doctor immediately.

- Do not overturn or tilt the battery as acid could come out.
- Charge the battery in a well ventilated area and always disconnect the power before removing the terminals.
- To check the charge status always use a voltmeter or a densimeter. If it is necessary to check the electrolyte level, use a flashlight, never a flame.
- Never place a metal object between the terminals to check the battery charge.
- Do not generate sparks with the cable terminals while charging the battery or starting the engine of the vehicle with an auxiliary battery.
- Check that the vent caps or covers are fitted correctly and firmly.
- Clean the top of the battery, check that the terminals are tight and cover them with a thin layer of petroleum jelly.
- In case of frozen battery this should be stored in a warm place to defrost. Do not use and do not recharge it: risk of explosion.

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– In normal conditions the battery is kept charged by the alternator of the vehicle. If this becomes completely exhausted due to prolonged disuse or because at the end of its life the alternator looses its capacity to "regenerate". The battery must be replaced and recharged using a special battery charger tool.



WARNING

Before performing any maintenance on the vehicle, disconnect the power supply to the electric circuit of the machine by pressing the battery cut-off switch.

11.6.1 Low maintenance batteries

The low-maintenance batteries have been studied to avoid maintenance interventions in ordinary and normal use of the battery. In case of discharge check the electrolyte level. For technical specifications contact the supplier or the manufacturer.

11.6.2 "Zero" maintenance batteries

They are batteries that do not allow maintenance intervention.

When the battery is discharged it must be replaced. For technical specifications contact the supplier or the manufacturer.



DANGER

Do not carry out maintenance or recovery operations on "zero" maintenance batteries.

11.6.3 Battery: Instructions for recharging

- A battery is fully charged if at constant temperature the density of the electrolyte and the measured voltage at the poles does not increased within 2 hours.
- Each recharge will be good as good are the general conditions of the battery. This means that an old battery, after charging, will not have the same life and efficiency of a new battery.
- The simplest charging method is to charge at constant power.
- At the end of the charging, the battery charger voltage increases and creates gasification. It is recommended to use simple battery chargers with minimum current control and timer.
- If the battery has a low electrolyte level restore it to the minimum level (just above the plates limit) then charge them. After the charging is completed, fill to the maximum level (to prevent leakage).
- Overcharging must be avoided because:
  - It is a loss of energy which causes the dissociation of water.
  - It produces loss of active mass for the electrodes deterioration
  - It creates a risk of explosion.
- If sulfated batteries are recharged without voltage limitation, they will boil and warm up with a risk of explosion.
- For old batteries (in most cases sulfated) charge with great caution. Even with 13.8 Volts there is the possibility of a temperature increase.

Follow these instructions to recharge the battery:

1. Disconnect the cables of the vehicle from the battery to protect the electrical system of the vehicle.
2. Place the battery at a safe distance from the vehicle.
3. If possible, remove the caps.
4. Check the electrolyte level, if possible.

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5. Clean the poles.
6. Make sure the room is sufficiently ventilated.
7. Limit the charging current to a maximum of 1/10 of the battery capacity (Ah).
8. Connect the battery to the charger.
9. Connect the charger to the mains.
10. Turn on the battery charger.
11. The battery temperature must not exceed 55°C.
12. After finishing switch off the battery charger.
13. Disconnect the battery charger from the mains.
14. Disconnect the battery from the charger.
15. Check the electrolyte level, if possible.
16. Refit the caps.

11.6.4 Battery cut-off switch

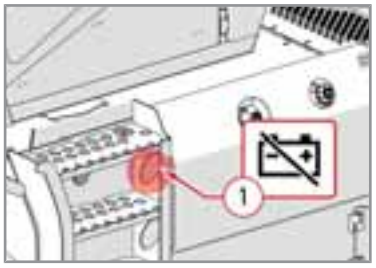
WARNING

Use this switch only when the engine is stopped.

The battery isolator "**1**" (160702-1) allows the operator to isolate the battery from the electrical circuit in case of emergency or during maintenance operations.

To isolate the battery:

- Turn off the engine.
- Turn the ignition key to position "**0**".
- Press the switch set in position "**1**" marked by the battery isolator icon.



160702-1

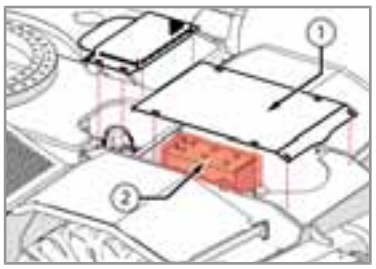
11.6.5 Battery: Replacement

The vehicle is equipped with a battery located on the front part of the engine hood "**2**" (fig. 160443-1).

Before removing the battery disconnect it from the electrical circuit through the appropriate battery cut-off switch, following the instructions given in the relevant chapter.

To remove the battery:

- Place the vehicle in the service position as described in the "Setting the vehicle for maintenance" section.
- Remove the protective casing "**1**".
- Remove the battery "**2**".
- Disconnect the POSITIVE cable (red) from the battery.
- Disconnect the NEGATIVE cable (black) from the battery.
- Remove the battery from the vehicle.
- Place the new battery.
- Connect the NEGATIVE (black) cable to the battery.
- Connect the POSITIVE (red) cable to the battery.
- Reactivate the battery cut-off switch.



160443-1

https://truckmanualshub.com/

– Close the protective casing "**1**".

11.6.6 Start up with auxiliary batteries

WARNING

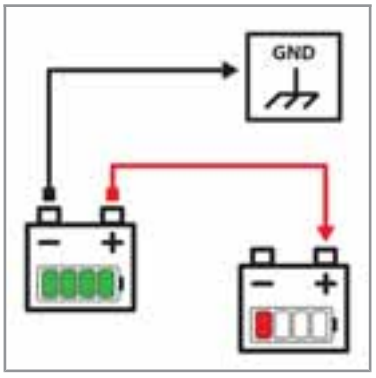
Start-up with auxiliary batteries is an operation that requires two properly trained and qualified operators.

An error in executing the operations can cause serious damage to the vehicle, to property and people.

– When starting the engine using another vehicle, connect the accumulators in parallel. When connecting the cables, avoid contact between the positive cable "+" and the negative cable "-".
– Wear the necessary personal protective equipment before starting the operation.
– Take care to avoid contact between the vehicle to be started and the vehicle that must supply power to prevent sparks and explosions of hydrogen produced by the accumulators. The accumulator explosion causes serious damage and injury.
– Make sure not to exchange the ignition wires and first connect the earth wire (-) and then the positive wire (+).
– Be very careful when removing the ignition cables; to ensure that the cables disconnected from the accumulator do not touch other parts of the vehicle to avoid explosions caused by hydrogen.
– Cables and clamps must be proportional to the current load to be transferred. The accumulator to be used for the start-up must have a capacity greater than or at least equal to that of the standard accumulator installed.
– Check the cables and clamps for corrosion or damage. Make sure the clamps are tightly gripping the terminals.
– Be very careful during the different operations: direct or indirect contact with live parts can result in injury and sometimes even in death.
– When starting the engine, the operator must be in the driver's seat so as to keep the vehicle under control.
– All these operations must be carried out by skilled and trained personnel.

11.6.6.1 Cable connection and engine start-up

1. Make sure the ignition key is in position "O".
2. Connect the cable from the negative terminal "-" of the charged battery to the earth block of the vehicle to start-up.
3. Connect the positive terminals"+" of the two batteries to each other.
4. If a charged battery installed on a properly running vehicle is used, start the engine of the latter and run it at high rpm.
5. Start the engine of the failed vehicle.



150539-1

11.6.6.2 Cables removal

With the engine running remove the cables in reverse order of the connection.

1. Disconnect the positive cable "+" first from the battery used for starting and then from the low battery.

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2. Disconnect the negative cable "-" from the earth of the running engine and therefore from the fully charged battery.

11.7 Fuel



DANGER

Never add different types of fuel such as petrol or alcohol to diesel.

It is forbidden to refuel while the engine is running.

It is forbidden to smoke when refelling.



DANGER

Inhale diesel fumes for the least time possible as they are dangerous carcinogens for your health.

Before handling fuel and filling the tank, comply with the following regulations:

- Clean the area around the fuel cap. Refill the fuel tank at the end of every day to reduce condensation when the vehicle is at rest.
- Water and sediments must be removed before they reach the engine.
- Do not use antifreeze to remove water from diesel fuel.
- Do not rely on a filter to remove water from diesel fuel.
- Never leave the tank without a cap and always lock it. Should you lose the original cap, replace it with an original spare. Not just any cap is suitable.
- Keep the fuel pump gun under control while filling the tank.
- Do not inspect the tank with a flame.
- Do not fill up the tank completely. Leave room for expansion and immediately clean any spillage.
- In the event of fuel leaks due to breakage, stop the leak as quickly as possible, do not use the vehicle and contact DIECI customer service.

11.7.1 Specifications for recommended fuel



NOTICE

To achieve good performance, see the engine manual of the vehicle to know the best features.

11.7.2 Cleaning and storing fuel

It is important for the fuel to be kept clean.

The advice provided below will help maintain fuel quality.

- Never use zinc-coated containers.
- Never clean the inside of containers or power supply system components with cloths that may leave deposits.
- The cistern capacity must allow intervals between refueling not to be too long. A capacity of 3000 liters is sufficient for an average sized company.
- The storage cistern must be covered and placed on a support that is high enough to allow refueling by means of gravity. A large basin must be placed under the cistern in case of fuel leakage in order to collect it. The cistern must have an opening large enough to allow someone to access it for cleaning purposes.

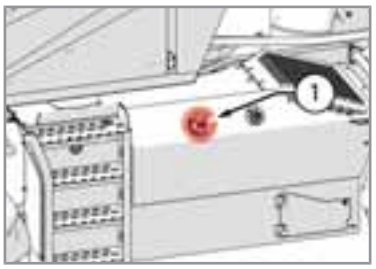
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- The delivery tap must be larger at the bottom in order to trap any deposits; it must also be equipped with a removable filter. The cistern should be tilted 40 mm per meter towards the sedimentation drain plug.
- The fuel barrels must be covered when stored to prevent water infiltration. The barrels should be slightly tilted slightly, so that any water will run to the upper rim. The fuel barrels should not be stored for too long before being used.
- If the barrels are kept outside, their caps must be tightly closed to prevent water from seeping in.
- After refueling the storage cisterns or barrels, it is recommended to allow the fuel to set for at least two hours, thereby allowing any sediment of water and impurities to be deposited before the fuel is used.

11.7.3 Refueling

When refueling (fig. 150724-1) it is necessary to:

- Park the vehicle and turn off the engine
- Open the fuel cap
- Refuel
- Close the fuel cap

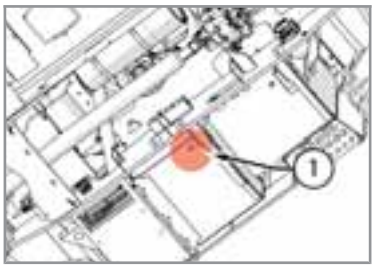


150724-1

11.7.4 Fuel tank: Cleaning

With the vehicle in the maintenance position:

- Place a suitable container under the fuel tank.
- Remove the cap from under the tank (fig. 150725-1) and drain the fuel to remove impurities present in the tank.
- Put back the cap and fill with clean fuel.



150725-1

11.8 AdBlue (Urea) system maintenance

CAUTION

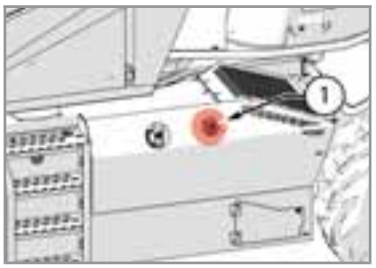
Only qualified personnel can carry out maintenance on the AdBlue system .

Refer to the Dieci technical assistance service for more information.

11.8.1 AdBlue filling

To top up the AdBlue level (fig. 150850-1) it is necessary to:

- Park the vehicle and turn off the engine.
- Open the AdBlue tank cap.
- Fill up.
- Close the AdBlue tank cap.



150850-1

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CAUTION

Be careful not to overfill the tank so as to prevent accidental spillage of the AdBlue fluid from the vent.

With indication of 10% AdBlue amounts, the recommended amount for supply is 25 l (6.6 gal).

CAUTION

During refueling or during maintenance phases, pay attention not to contaminate the fluid or the inside of the tank.

Any dirt inside the tank may jeopardize the proper operation of the system or cause a premature clogging of the filters.

11.9 Safety stickers: Inspection

– Check that all safety stickers are intact and in good condition.

NOTICE

Refer to the chapter "Safety Stickers Cleaning" for cleaning the safety stickers.

11.10 Lubrication

Lubricate the points shown in the figure until grease comes out and clean the lubricators from dirt or deposits.



Drive shafts lubrication points.



Swinging axle lubrication points.



Leveling cylinder lubrication points.

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Boom with chains lubrication points.



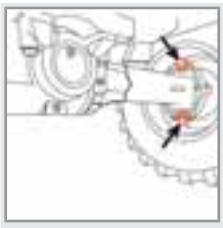
Lifting cylinder lubrication points.



External parking brake cylinder lubrication points.



Boom-chassis pin lubrication points.



Wheels lubrication points.



Swinging cylinder lubrication points.



Grease and lubricate the teeth of the turret rotation fifth wheel using grease.

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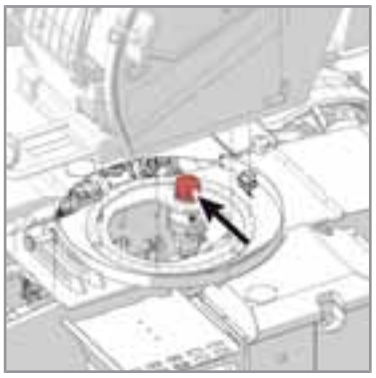


Outriggers lubrication points.

11.10.1 Fifth wheel teeth: grease

To grease the teeth of slewing firth wheel it is necessary to:

- Prepare the vehicle in the maintenance position.
- Turn on the vehicle.
- Lift the boom just enough to insert the safety rod on the lifting cylinder rod.
- Turn off the engine and remove the ignition key, place a sign in the cab showing "Maintenance in progress".
- Insert the "boom support" safety rod on the rod of the lifting cylinder, apply appropriate safety supports to the telescopic boom.
- Remove the protective casing placed over the fifth wheel, at the cab side.
- Clean the fifth wheel and rotation gearbox gears from dirt or old grease.
- With a brush, grease the teeth of the fifth wheel.
- Put back the protective casing.
- Remove the "boom support" safety rod.



150942-1

11.11 Engine maintenance

NOTICE

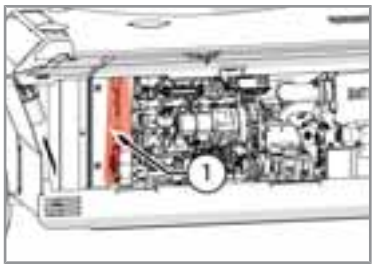
For the engine maintenance operations, refer to it manual.

11.11.1 Belts: Check and adjustment

Check that the belt "**1**" (fig. 150726-1) does not have cuts, cracks or rubbing signs; when in doubt, install a new belt.

Make sure that the belt is properly fit on the pulleys and that the tensioner is working properly.

NOTICE! If the belt does not appear in good condition, replace it with a new one.



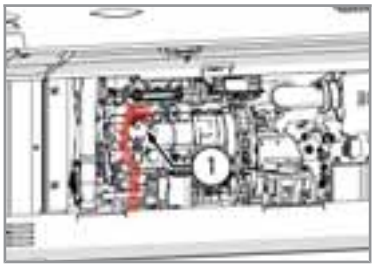
150726-1

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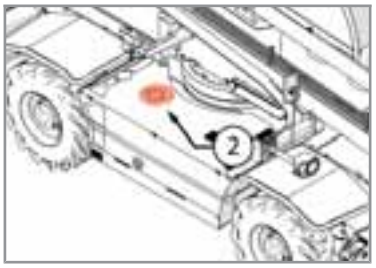
11.11.2 Engine oil: Check and filling up

- Check the level with the vehicle on level ground and the engine turned off. Wait at least 5 minutes to allow the oil to settle into the sump.
- Pull out the dipstick "**1**" (fig. 150727-1), clean it and insert it back fully down.
- Pull out again the dipstick "**1**" and check that the oil level is between the "**MIN**" and "**MAX**" mark.
- Put back the dipstick and insert it fully down.
- If necessary, add oil from the cap on the engine "**2**" (fig. 150727-2).

For the amount and type of oil, refer to the engine manual.



150727-1



150727-2

WARNING

Do not fill beyond the "MAX" mark; if the amount is excessive, oil burns with production of smoke and gives the false impression of oil consumption.

Never operate the engine with the oil level below the "MIN" mark.

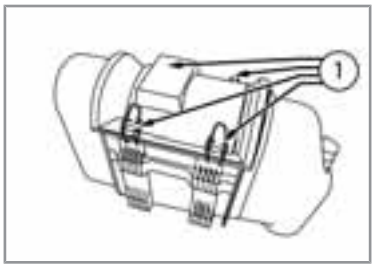
11.12 Air filter: Cleaning and replacement

CAUTION

The inspection, cleaning and replacement must be carried out with the vehicle in the maintenance position.

An air filter (fig. 151061-1) in bad conditions results in the reduction of power, excessive fuel consumption and reduced engine life.

A clogged filter is signaled by the indicator light (fig.151061-2) located on the instrument panel of the vehicle; after the clogging indication it is possible to continue operating for a period not longer than 10 hours. The maintenance must however be performed at the frequency required.



151061-1



https://truckmanualshub.com/

151061-2

WARNING

When the clogging is indicated, it is possible to continue working for not more than one hour.

It is recommended to:

- Clean the filters only when the indicator light indicates clogging or at the frequency required. Unnecessary and too frequent cleaning exposes the elements to damage by handling that can allow dust and dirt to pass through the filtering stage and cause engine damage.
- In case the filter elements are in contact with liquids of any kind they must be replaced.
- Periodically check the suction hoses, replace them immediately in case they are damaged or deteriorated.
- Periodically check the tightness of the bolts and clamps. Air must not be allowed to get into the engine circulation without having first gone through the filter.

For the complete efficiency of the filter it is recommended to operate with the filter complete with all its parts and components, assembled in the correct way.

Each deteriorated part must be replaced as soon as possible.

CAUTION

For the complete efficiency of the filter it is recommended to operate with the filter complete with all its parts and components.

Each deteriorated part must be replaced as soon as possible.

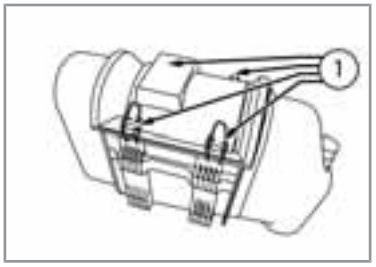
It is absolutely forbidden to operate without the engine air filter.

The engine sucks air constantly during its use; dust particles entering in circulation may cause serious damage.

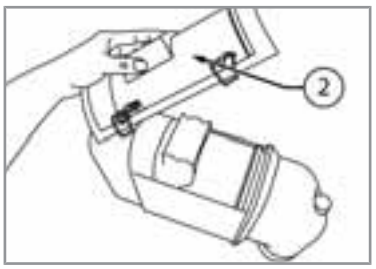
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For proper cleaning of the filter it is necessary to:

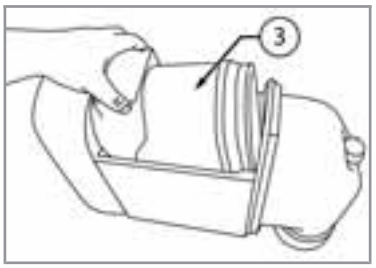
- Prepare the vehicle in the maintenance position.
- Open and lock the hood.
- Open the filter cover (fig. 151061-3) pulling the locking levers "**1**" located on the four corners.
- Lift the cover "**2**" (fig. 151061-4)
- Remove the cartridge "**3**" inside the filter (fig. 151061-5).
- Use a wet lint-free cloth to clean the box and the cover.
- Clean or replace the filters. The filter cleaning is carried out with compressed air, up to **3** bar (43.5 psi), at a distance of not less than **150 mm** (5.9 in), taking care not to damage the filtering element.
- Reassemble everything carrying out the same operations in reverse.



151061-3



151061-4

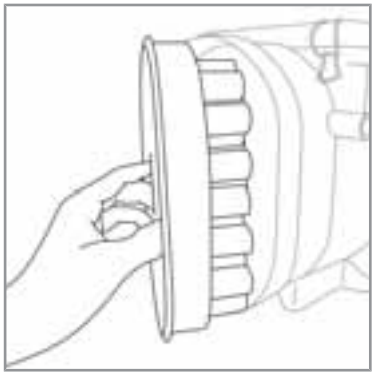


151061-5

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For a correct cleaning of the intake duct it is necessary to:

- Prepare the vehicle in the maintenance position.
- Open and lock the hood.
- Loosen the screw that secures the inlet honeycomb.
- Remove the air inlet honeycomb (fig. 151061-6).
- Use a wet lint-free cloth for cleaning. Clean every air inlet hole.
- Put back the inlet honeycomb in its seat.



151061-6

NOTICE

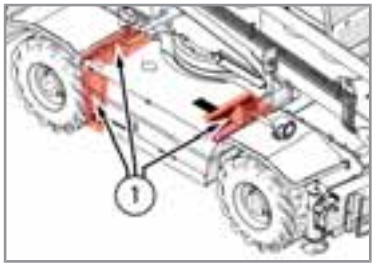
In case the sealing connection between the suction duct and the filter is damaged, it must be replaced.

11.13 Radiator maintenance

11.13.1 Air recirculation grids and nets

Check that the air recirculation grids and nets "**1**" (fig. 150728-1) are clean and free from dirt:

For cleaning use a jet of air at low pressure from the inside to the outside of the vehicle.



150728-1

11.13.2 Radiator: Checking and cleaning

The oil and water radiator "**1**" (fig. 150729-1) involve the following steps:

Radiators check

Check that the fins are not deformed; in that case straighten with caution.

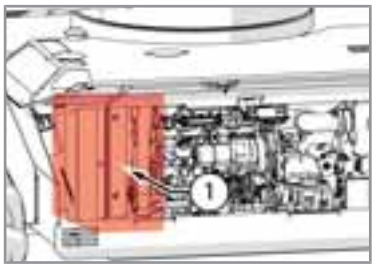
Check that the fins have not accumulated dirt and that they are not obstructed.

Radiators cleaning

Prepare the vehicle in the maintenance position.

Clean the radiator from dirt and impurities accumulated between the cooling fins. For cleaning use compressed air with pressure not exceeding 7 bar directed from the inside towards the outside.

If necessary, apply a detergent solution and then remove it with a pressure washer.



150729-1

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11.13.3 Radiator: Liquid filling up and replacement



DANGER

Do not remove the filler cap of the radiator when the system is hot, otherwise it could cause leakage of boiling coolant. Once the system has cooled, turn the filler cap to the first mark and wait until the pressure has completely exhausted before proceeding.

Risk of burns and injuries.



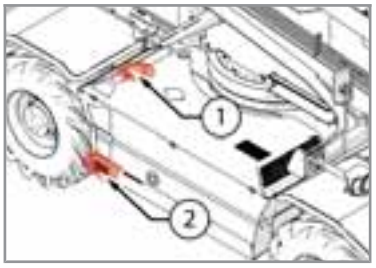
DANGER

The coolant can be toxic. Avoid contact with skin, eyes or clothing. Rinse thoroughly with water in case of contact with skin and eyes. Consult a doctor immediately.

If not reused, dispose of in accordance with local environmental regulations.

Filling up

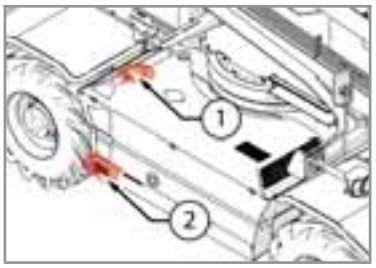
- Prepare the vehicle in the maintenance position.
- Open the engine hood.
- Slowly unscrew the filler cap "**1**" (fig. 150730-1) counterclockwise until it reaches the safety latch.
- Exhaust the residual pressure and steam.
- Add the coolant up to the level of **30** mm (1.2 in) below the cap.
- Put back the cap.
- Close the engine hood.



150730-1

Coolant replacement

- Prepare the vehicle in the maintenance position.
- Open the engine hood.
- Prepare a container of suitable capacity under the discharge sleeve "**2**".
- Remove the discharge sleeve "**2**" (fig. 150730-2) to drain water from the radiator.
- Remove the filler cap "**1**" to speed draining.
- Allow the cooling system to completely drain.
- Rinse the radiator with clean demineralized water introducing it from the filler cap "**1**" and making it flow out from the orifice of the sleeve "**2**". If necessary, add detergent.
- Check the condition of sleeves and their fittings, replace them if necessary.
- Once cleaning has been completed, refit the drain sleeve "**2**".
- Fill the cooling system from the filler cap "**1**" until the level is **30** mm (1.2 in) below the cap with the coolant previously prepared.
- Close the filler cap.



150730-2

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- Close the engine hood.
- Start the engine at idle speed for a few minutes.
- Make sure there are no leaks, check the level and add more liquid if necessary.

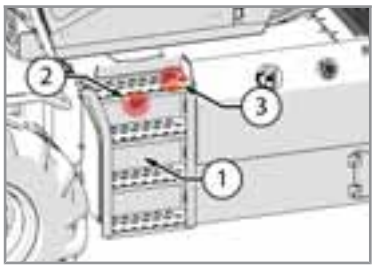
11.14 Hydraulic system maintenance

11.14.1 Hydraulic oil: Check and replacement

The hydraulic oil tank is located on the left side of the vehicle under the cab "**1**" (fig. 160440-1).

The level can be checked through the transparent cap placed on the left side of the vehicle "**2**".

The level is correct when the oil is visible from the transparent cap "**2**" with all the cylinders of the vehicle in the transport position.



160440-1

NOTICE

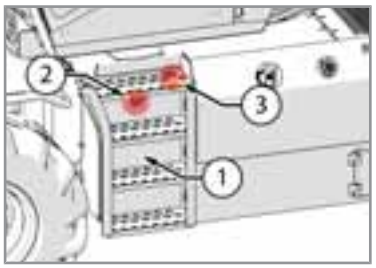
See the chapter "Technical data" to know the amount and type of recommended oil.

Oil check

To keep the vehicle in normal operation conditions, it is necessary to keep the oil level in best conditions.

To properly check the oil level in the tank it is necessary (fig. 160440-2):

- Prepare the vehicle in the maintenance position.
- Make sure that all cylinders and jacks of the vehicle are retracted (e.g. telescopic boom fully retracted and lowered, attachment holding plate tilted down as much as possible to avoid contact with chassis or tires). In this way all the oil of the hydraulic circuit will be sent in the tank.
- Check the oil level through the transparent cap "**2**". Under the best conditions, the oil level reaches the middle of the transparent indicator.
- If necessary, remove the filler cap "**3**" and add oil until it reaches the proper level.
- Put back the filler cap "**3**".

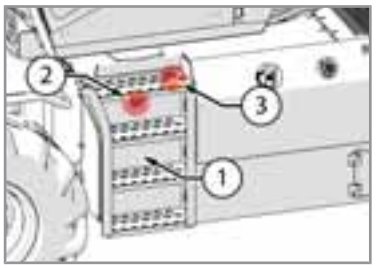


160440-2

Oil change

To change oil in the tank (fig. 160440-3) it is necessary to:

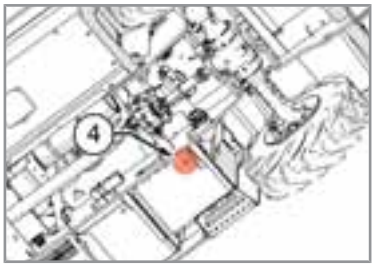
- Prepare the vehicle in the maintenance position.
- Make sure that all cylinders and jacks of the vehicle are retracted (e.g. telescopic boom fully retracted and lowered, attachment holding plate tilted down as much as possible to avoid contact with chassis or tires). In this way all the oil of the hydraulic circuit will be sent in the tank.



160440-3

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- Place a container under the drain plug (located under the tank) "**4**".
- Remove the filler cap "**3**".
- Remove the drain plug to let the oil drain "**4**".
- After draining the oil, put back the drain plug "**4**".
- Fill the tank with the oil indicated
- Check the level through the indicator "**2**" after starting the engine and operated all hydraulic controls to remove air bubbles, if any.
- Close the filler cap "**3**".
- If necessary, top up the level.



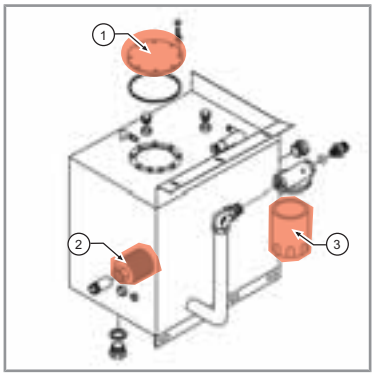
160440-3

11.14.2 Hydraulic oil intake filter: Replacement

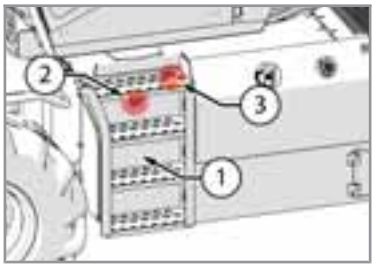
The internal hydraulic oil intake filter "**2**" (fig. 160440-5) is located inside the hydraulic oil tank; to replace it, it is necessary to completely empty the tank. It is therefore advisable to carry out the replacement of the intake filter in conjunction with the oil change.

To replace the intake filter, carry out the following operations:

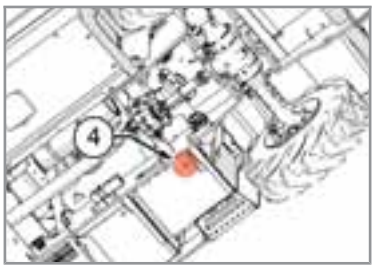
- Prepare the vehicle in the maintenance position.
- If possible, turn on the vehicle and turn the turret of about 90-100 degrees counterclockwise, in order to free up the space above the tank for easier replacement.
- Turn off the vehicle.
- Make sure that all cylinders and jacks of the vehicle are retracted (e.g. telescopic boom fully retracted and lowered, attachment holding plate tilted down as much as possible to avoid contact with chassis or tires). In this way all the oil of the hydraulic circuit will be sent in the tank.
- Place a container under the drain plug (located under the tank).
- Remove the protective casing "**1**" (fig. 160440-8).
- Remove the filler cap "**3**" (fig. 160440-6).
- Remove the drain plug to let the oil drain "**4**" (fig. 160440-7).
- After completely draining the oil, remove the flange "**1**" (fig. 160440-5) to access to the intake filters.
- Unscrew the intake filter "**2**" (fig. 160440-5) located inside the tank with an adjustable spanner.
- Install the new filter and tighten with a wrench.
- Put back the drain plug "**4**" (fig. 160440-7).
- Fill the tank with the oil indicated.
- Refit the filler cap "**3**" (fig. 160440-6) and the protective casing "**1**" (fig. 160440-8).
- Check the level through the indicator "**2**" (fig. 160440-6) after starting the engine and operated all hydraulic controls to remove air bubbles, if any.



160440-5



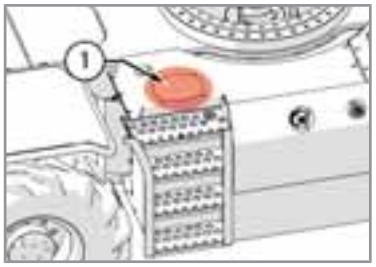
160440-6



160440-7

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– If necessary, top up the level.

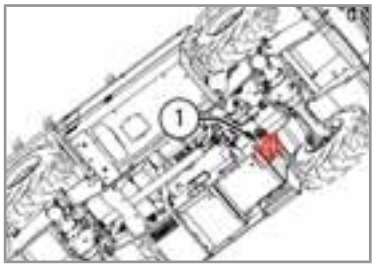


160440-8

11.14.3 Return hydraulic oil filter

To replace the hydraulic oil filter (fig. 160440-9) carry out the following operations:

– Prepare the vehicle in the maintenance position.
– Turn on the vehicle and lift the boom just enough to insert the safety rod on the lifting cylinder rod.
– Turn off the engine and remove the ignition key, place a sign in the cab showing "Maintenance in progress".
– Allow engine and hydraulic oil to cool down.
– Insert the "boom support" safety rod on the rod of the lifting cylinder, apply appropriate safety supports to the telescopic boom.
– Place a container under the oil filter "**1**" to collect the oil that may spill during the change.
– Replace the filter "**1**", lightly oil the gasket and tighten by hand for 3/4 of a turn.



160440-9

11.15 Rotation reduction gear maintenance

The turret rotation reduction gear does not require inspection or oil change.



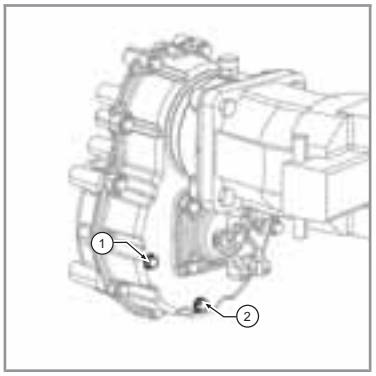
160880-1

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11.16 2 speed transmission maintenance

11.16.1 Oil change: Inspection

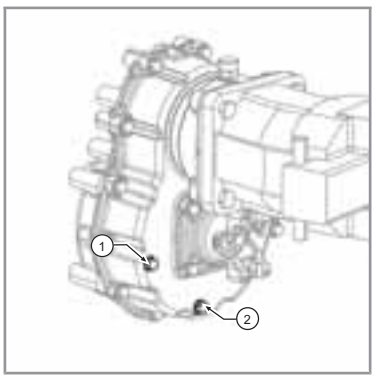
- Set the machine in the maintenance position.
- Place a container under the gearbox.
- Take the level cap off "**1**" (fig. 150619-1), oil must leak out from the hole.
- If necessary, top-up through the hole of the cap until the oil seeps through.



150619-1

11.16.2 Oil change: Check and replacement

- Set the machine in the maintenance position.
- Place a container under the gearbox.
- Remove the level cap "**1**" (fig. 150620-1) and the drain cap "**2**".
- Allow the oil to completely drain out.
- Refit the drain cap and tighten it securely.
- Top-up with approved type of oil through the cap "1" until the oil seeps through.



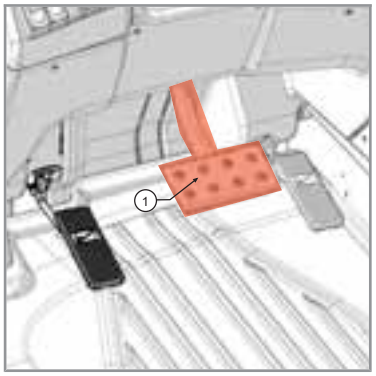
150620-1

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11.17 Brakes maintenance

11.17.1 Brake: Inspection

Visually check that the joints of the pedals (fig. 161050-1) are not damaged and that the pedal stroke is not excessive or too elastic.



161050-1

DANGER

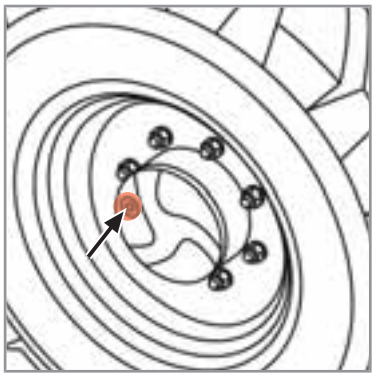
If irregularities in braking are noticed, contact qualified personnel to verify the cause of the trouble.

The braking parts also safeguard the operator's safety, do not intervene personally on the braking system trying to eliminate possible anomalies.

11.18 Wheel maintenance

11.18.1 Epicycloidal reduction gear oil: Check and replacement

The oil cap of the epicycloidal reduction gear is located on the hub of the wheel (fig. 150577-1):



150577-1

When checking the oil level it is necessary to:

- Prepare the vehicle in the maintenance position.
- Turn the wheel for the oil cap to be in the horizontal position (9 o'clock).
- Place a container to collect the oil.
- Remove the cap and verify that the oil seeps from the hole.
- If necessary, top-up through the same hole.
- Close the cap and tighten it securely.

When replacing the oil it is necessary to:

- Prepare the vehicle in the maintenance position.
- Turn the wheel for the oil cap to be in the lowest possible position (6 o'clock).
- Place a container to collect the oil.
- Remove the cap and let the oil drain completely.
- Turn the wheel and bring the cap to the horizontal position (9 o'clock).
- Fill through the same cap with new oil until it seeps through.

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– Close the cap and tighten it securely.

11.18.2 Wheel nuts tightening

NOTICE

Tighten the nuts at the intervals required in the maintenance table.

Use the corresponding table to know the correct tightening torque.

Always tighten the nuts in opposing position, not consecutively.

After installing the wheel, tighten the nuts between the wheel and the axles. Then check the nut torque every day until the torque is stabilized.

The number of axle columns must match the number of nuts tightened. Then all the nuts on each wheel must be installed otherwise the vehicle can not operate.

In case of wheel replacement the vehicle or the raised side can be placed on the ground only with wheels installed and properly tightened.

The nuts tightening must be made first with the vehicle, or part of it, raised from the ground then with vehicle resting on the ground.

Only use ***DIECI*** original nuts for tightening the wheels. If you lose even one nut contact the ***DIECI*** service center.

11.18.2.1 Wheel nuts tightening: Inspection

Check that the nuts of the front and rear wheels are tightened well, using a torque wrench (with a torque multiplier, if necessary).



150578-1

Tapered nut	Torque
M18x1.5	460 N·m (339,02 ft·lbs)
M22x1.5	740 N·m (545,38 ft·lbs)

11.18.3 Tires

CAUTION

On receiving the vehicle check the air pressure of the tires.

– Check the tire pressure regularly. The pressure must be checked with cold tires.

– The tire pressure must always be at the levels indicated.

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– Check the size of the tires installed and the canvass amount for the correct inflation pressure.



DANGER

Tires showing cuts or excessive wear must be replaced immediately.

– At each use, check that the tire shoulders are not damaged.
– Keep oil, grease and corrosive liquids away from the tires to avoid deterioration of the rubber.
– To obtain the maximum efficiency do not use tires with more than 80% of tread wear.



WARNING

Inflating or operating on the tires can be dangerous.

To operate on tires or install them, contact specialized personnel.

In any case, to prevent serious or fatal injuries, follow the safety precautions below.

– The vehicle wheels are very heavy. Handle with care and make sure that, once stored, they can not fall and injure someone.
– Never try to repair a tire on a public road or highway.
– Make sure the jack is placed on a solid and flat surface.
– Make sure the jack is adequate for lifting the vehicle.
– Use ratchet jacks or other locking means suitable to support the vehicle during the tires repair.
– Do not place any part of the body under the vehicle.
– Do not start the engine while the vehicle is on the jack.
– Never hit a tire or a rim with a hammer.
– Make sure the rim is clean, without rust and undamaged. Do not weld, solder, repair in any way or use a damaged rim.
– Do not inflate a tire unless the rim is mounted on the vehicle or secured in such a way that it cannot move in case the tire or rim should break suddenly.
– Do not inflate any tire over the pressure indicated by ***DIECI***. If the bead chafer does not settle on the rim, when arriving to this pressure deflate the tire and lubricate again with a solution of soap and water, inflate again. Do not use oil or grease. An inflation greater than permitted with bead chafer not settled may break the bead or rim with explosive force sufficient to cause serious injury.
– After installing the wheel, tighten the nuts between the wheel and the axles. Then check the nut torque every day until the torque is stabilized.



CAUTION

When fitting a new or repaired tire, use a valve adapter of spring type with distant pressure gauge that allows the operator to stay well away from the tire during inflation.

Use a safety cage.

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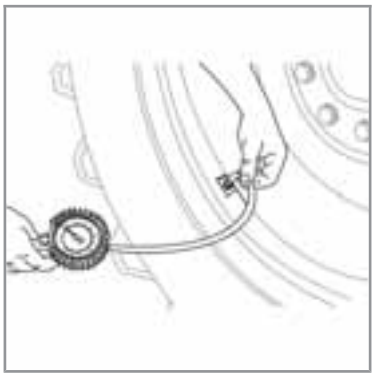
11.18.3.1 Tire pressure: Inspection

Verify and adjust the pressure of the front and rear tires.

Check that the tread and the sides are not damaged.

Connect a manometer to the tire valve and verify that the inflation pressure is correct.

NOTICE! Adjust the tire pressure according to the indications provided in the "Tires Data" chapter.



150578-1

11.18.3.2 Tires filled with urethane

NOTICE

Tires filling with urethane is an optional accessory.

Consult your dealer in case of doubts or information on your vehicle.

DANGER

It is not permitted to fit tires inflated with polyurethane foam unless authorized by the manufacturer.

With tires filled with urethane it is forbidden to travel on the road.

CAUTION

The maximum permitted speed with tires filled with urethane is 20 km/h (12.4 mph).

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11.19 Lighting

The machine lighting must always be efficient and fully functional. Its operation must be checked every day. In case of damage to the lighting system immediately replace the damaged part. Immediately replace a burned out bulb.

CAUTION

Refer to the "Maintenance" chapter before making any adjustments or maintenance.

NOTICE

The bulbs are very fragile. Handle with care.

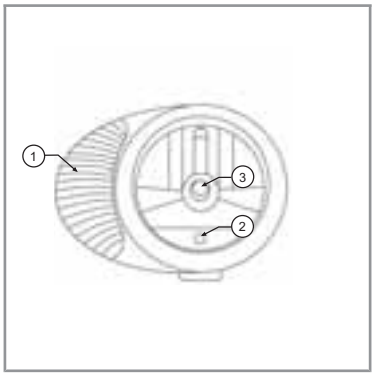
The low beam bulbs must not be handled with bare hands.

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11.19.1 Headlight

The front light (fig. 150301-1) is composed of:

1. Direction indicator - 21 W
2. Front side light- 4 W
3. Low beam and high beam light - 60/55 W H4



150301-1

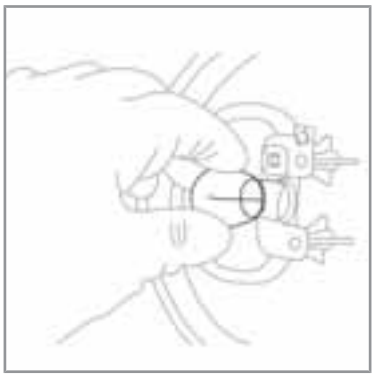
To access the bulbs:

- Prepare the vehicle in the maintenance position.
- Turn off the battery cut-off switch to disconnect power to the electrical system.
- Remove the power supply connector on the back of the light.
- Remove the front of the headlight by loosening the screws placed in the rear cap.

To close the headlight operate in the reverse order, paying attention to correct positioning of the gasket.

Direction indicator bulb replacement

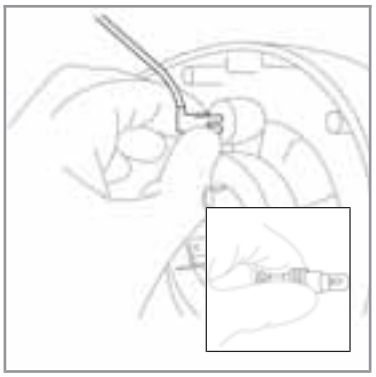
- Press the top of the bulb (fig. 150302-1).
- Turn the bulb, keeping it pressed, to release it from the lock.
- Perform the same procedure to insert the new bulb.



150302-1

Sidelight bulb replacement

- Grasp the rear part where the electrical connections are placed (fig. 150302-2).
- Turn and pull the rear part towards you.
- Extract the support, press the top of the bulb.
- Turn the bulb, keeping it pressed, to release it from the lock.
- Perform the same procedure to insert the new bulb. Put back the support inside its seat.

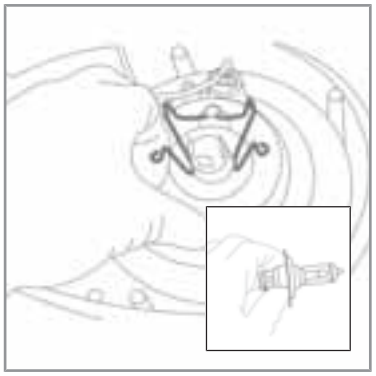


150302-2

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Low/high beam light bulb replacement

- Remove the electrical connector pulling it towards you.
- Lift the locking tabs (fig. 150302-3) moving them sideways to release the bulb.
- After replacing the bulb, proceed in the reverse order to lock and connect it again. Observe the joints of the lamp for proper insertion.



150302-3

11.19.2 Tail light

The tail light (fig. 150304-1) is composed of:

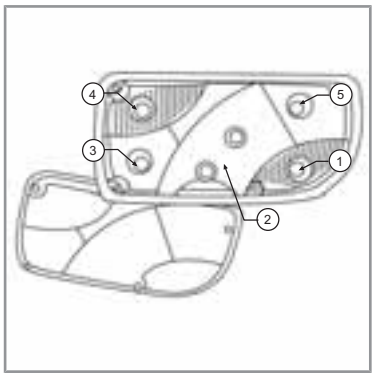
Reversing light - 21 W

Rear side light- 5 W

Braking light - 21 W

Direction indicator - 21 W

Rear fog light - 21 W



120304-1

To access the bulbs:

1. Prepare the vehicle in the maintenance position.
2. Turn off the battery cut-off switch to disconnect power to the electrical system.
3. Remove the power supply connector on the back of the light.
4. Remove the front of the headlight by loosening the screws placed in the cap.

To close the headlight operate in the reverse order, paying attention to correct positioning of the gasket.

Tail light bulb replacement.

- Press the top of the bulb.
- Turn the bulb, keeping it pressed, to release it from the lock.
- Perform the same procedure in reverse order to insert the new bulb.

11.19.3 Work light *

NOTICE

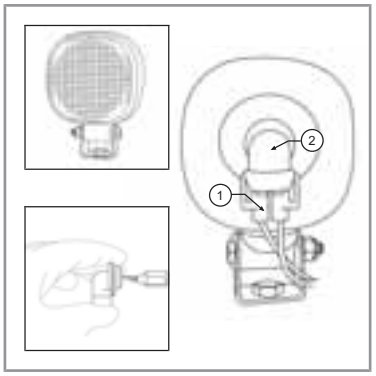
* The work light is an optional accessory.

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Work light bulb replacement

To access the bulbs (fig. 150305-1):

- Prepare the vehicle in the maintenance position.
- Turn off the battery cut-off switch to disconnect power to the electrical system.
- Remove the power connector at the back of the light "**1**".
- Press the connector socket on the light "**2**".
- Turn the socket, keeping it pressed, to release it from the lock.
- Perform the same procedure in reverse order to insert the new bulb.



150305-1

11.19.4 Led work light*

NOTICE

* The LED work light is an optional accessory.

The LED work light (fig. 150303-1) does not require maintenance.



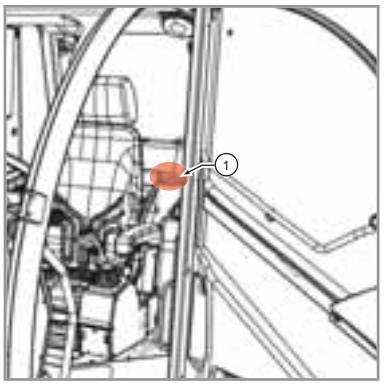
150303-1

11.20 Window washer fluid tank

The washer fluid tank is located in the cab on the left side of the seat "**1**" (fig. 150466-1).

To add liquid to the tank:

1. Remove the filler cap.
2. Add washing fluid to fill the tank.
3. Put back the cap.



150466-1

CAUTION

During the winter, mix antifreeze fluid to the water.

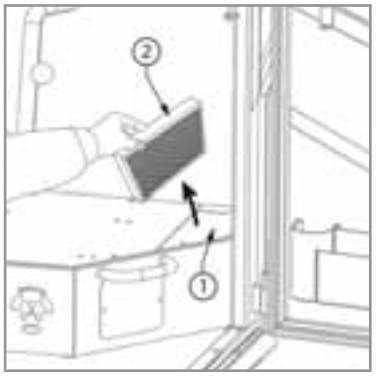
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11.21 Ventilation system maintenance

11.21.1 Cab ventilation filter: Cleaning and replacement

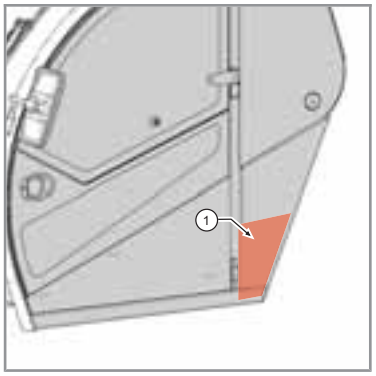
When changing the cab ventilation filter, clean the intake duct with a jet of air from inside the cabin to the outside.

- Prepare the vehicle in the maintenance position.
- Remove the guard "**1**" (fig. 150944-1), located on the left part of the seat, unscrewing the fixing screw.
- Remove the filter "**2**".
- Replace or clean the filter cartridge by tapping gently on a flat surface, with the outer side facing down, being careful not to damage it; or use a jet of air (less than 6.9 bar) by blowing from the inside to the outside.
- Refit the filter "**2**".
- Put the casing back in place "**1**".
- Restart the engine with the fan in motion to verify the correctness of the operations.



150944-1

Clean the air intake grill (fig. 150944-2) at the end of every working day using a jet of air.



150944-2

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DANGER

Do not use diesel fuel, gasoline, solvents or water to clean the cartridges, as this may damage the filtering material.

WARNING

If the vehicle is used in environments particularly rich of dust (barns, etc.), the filter life is reduced to 100 hours.

WARNING

In case of malfunction of the ventilation system, check the filter clogging.

In the event that the malfunction continues despite the filter replacement, contact DIECI service center.

DANGER

Do not use the vehicle without a cab filter.

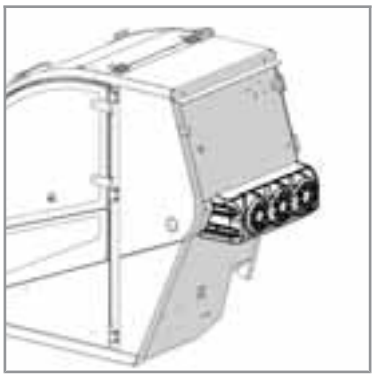
The entry of dust into the cab may involve risks to the health of the operator and breakage of the ventilation system.

11.21.2 Air conditioning: Cleaning *

NOTICE

Air conditioning is an optional accessory.

- Prepare the vehicle in the maintenance position.
- Remove the protective casing (fig. 150945-1).
- Clean the air conditioning radiator directing compressed air at a maximum pressure of 7 bar, from the top downwards, in the direction opposite to that of the normal flow of air. The air flow must be perpendicular to the radiator surface.
- Remove dirt from under the air conditioning radiator.
- After cleaning, refit the condenser.



150945-1

CAUTION

Be careful not to damage the radiator fins while cleaning.

Check that the fins are not deformed; in that case straighten with caution.

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11.22 Boom maintenance

11.22.1 Sliding blocks maintenance

Worn sliding blocks can lead to oscillations and clearances between one extension and the other with consequent loss of precision in the movements and danger of load falling.

- For the deadlines see the summary table at the beginning of the chapter.
- With severe working conditions the wear is greater.



150571-1

CAUTION

Maintenance to the telescopic boom sliding blocks must be performed by authorized ***DIECI*** service.

11.22.2 Boom lubrication with grease

The boom sliding blocks must be kept lubricated to prevent as much as possible the deterioration and maintain soft movements.

- If the grease layer is thin or if impurities (sand, dust, shavings, etc ...) are present, proceed as follows:
- Prepare the vehicle in the maintenance position.
- Turn on the vehicle.
- Fully extend the boom and keep it in horizontal position.
- Turn off the engine and remove the ignition key, place a sign in the cab showing "maintenance in progress".
- Disconnect the battery using the battery cut-off switch.
- Remove the layer of grease and impurities on the surface of the extensions with a cloth.
- Use a brush to apply a layer of approved type grease on all four sides of the extensions.
- Turn on the vehicle.
- Fully retract and extend the boom several times to evenly distribute the grease.
- Turn off the vehicle.



150572-1

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– Remove excess grease.

CAUTION

Use only lubricants recommended by ***DIECI***, different lubricants may cause severe damage to the sliding surfaces.

WARNING

During the grease visual check and application the vehicle must be turned off and the key removed from the cab to avoid accidental operation.

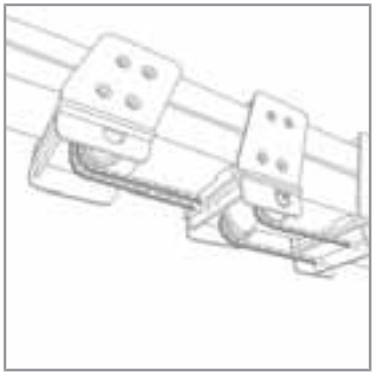
NOTICE

See the "Maintenance Log" chapter to know the maintenance intervals timing.

When using the vehicle in severe conditions, very dusty environment requires a more frequent greasing.

11.22.3 Boom external chains

The external chains on the boom allow the boom extension and retraction (fig. 150573-1).



150573-1

The chains are composed of (fig. 150573-2):

A - Roller diameter

B - External mesh

C - Bushing

D - Roller

E - Internal plate

F - Junction mesh

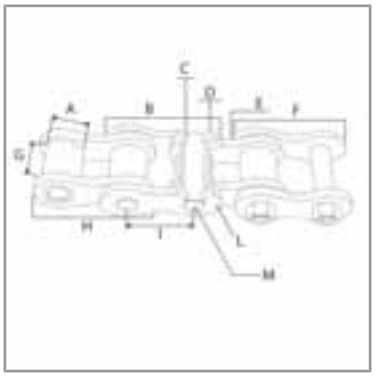
G - Internal width

H - Internal mesh

I - Pitch

L - External plate

M - Pin



150573-2

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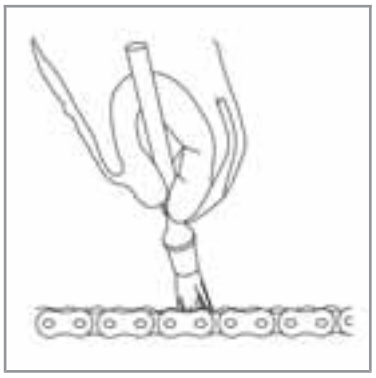
11.22.3.1 Lubrication

Lubrication during the operation allows:

- Interposing a liquid between the contact surfaces to reduce wear and prevent seizure.
- Protect the chains against corrosion.
- Reduce the noise between the surfaces subjected to shocks.

Lubrication must be carried out:

- Longitudinally, in an area where the joints are not so stressed to facilitate the lubricant penetration.
- Transversely, between the plates to facilitate the penetration of oil in the joint.



150574-1

NOTICE

In case of special applications or use in adverse conditions, consult the DIECI service center.

WARNING

It is absolutely forbidden to lubricate the chains using grease.

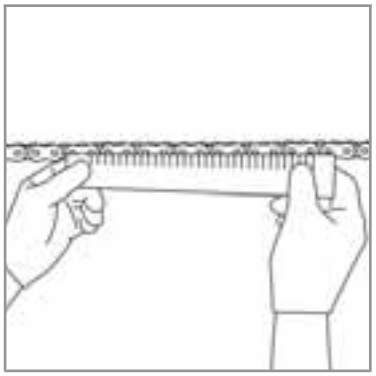
The oil viscosity must be suitable to room temperature. A too low viscosity facilitates the evacuation of lubricant, a too high viscosity prevents the lubricant to penetrate the joints. To know the correct viscosity refer to the following table:

Temperature	Recommended viscosity ISO VG (Cst)
-15 °C < T< 0 °C 5 °F < T < 32 °F	between 15 and 32
0 °C < T < 50 °C 32 °F < T < 122 °F	between 46 and 150
50 °C < T< 80 °C 122 °F < T < 176 °F	between 220 and 320

11.22.3.2 Wear checks

At the due deadlines it is necessary to check:

- The geometry of installation.
- The chain status, to analyze the traces of friction that may indicate an incorrect installation geometry.
- Wear on the profile of the lateral plates for contact with the pulleys and the guide systems.
- Wear on the outer plate sides and on the heads of pins for contact with the pulley flanges or with any guiding device.
- The chain joints wear with direct measurement of its length with measuring instrument or a checking scale, and visually.



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– The Fleyer lifting chains plates wear. *150575-1*

NOTICE

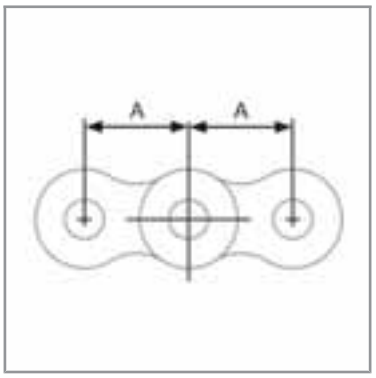
The chains replacement is compulsory when wear for elongation exceeds 2%.

When replacing the chain it is also mandatory to replace the respective rollers.

11.22.3.3 Determination of wear elongation

– Check the type of chain installed, as indicated on its external plates; if unreadable contact the DIECI service center.
– Find the pitch of the chain on the table. (e.g. Fleyer chain AL8/BL8 Pitch 25.40 mm (1 in)) and multiply by 10.
– Measure 10 pitches of the chain to be checked (fig. 150576-1).
– If the measurement is greater than 2% of the pitch shown in the table multiplied by ten, the chain is considered worn and must obligatorily be replaced.

  2% of the measurement =
  [Measurement: 100] x 2



150576-1

CAUTION

The measurement must be carried out at several points, as the wear may not be uniform, and with the chain in tension. The measurement can be performed with a caliber or millimetric ruler.

Fleyer chains	AL4	AL5	AL6	AL8	AL10	AL12	AL14	AL16
Fleyer chains	BL4	BL5	BL6	BL8	BL10	BL12	BL14	BL16
Pitch inch	1/2″	5/8″	3/4″	1	11/4″	11/2″	13/4″	2″
Pitch mm	12.70	15.87	19.05	25.40	31.75	38.10	44.45	50.80

11.22.3.4 Check, cleaning and lubrication

– Prepare the vehicle in the maintenance position.
– Turn on the vehicle.
– Place the machine on outriggers (if installed).
– Fully extend the boom in horizontal position
– Turn off the engine and remove the ignition key, place a sign in the cab showing "maintenance in progress".

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- Clean the chains with a clean, lint-free cloth to remove surface impurities.
- Brush the chains vigorously to remove impurities, using a hard nylon brush and clean diesel fuel. Subsequently blow with compressed air.
- Carefully examine the chains as described in the "Wear check" paragraph.
- Lightly lubricate the chains by using a brush soaked with oil (see the "Lubrication" paragraph).
- Remove excess oil on the entire surface of the chains with a clean cloth.
- Operate the telescopic boom several times to distribute the oil evenly.

CAUTION

In case of chains replacement contact the Dieci service center.

CAUTION

The chains can be weakened by hydrogen.

It is absolutely forbidden to operate in acid places.

Work for the shortest time possible in oxidizing and corrosive places.

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11.23 Cylinder lock valves maintenance

The lock valves for cylinders prevent uncontrolled movement of the pistons of the cylinders in the event of hydraulic pressure failure or bursting of a hose.

The valves are installed directly on the cylinders.



DANGER

During the checking operations do not allow any person to stay within the radius of action of the vehicle.

Check the valves individually.

In case of malfunction do not use the vehicle until it has been repaired.

Boom lifting cylinders:

- Start the engine. Make sure that the parking brake is engaged and the transmission is in neutral.
- Lift the boom to approximately 45°.
- With the engine running at 1400 rpm, lower the boom. During the boom movement stop the engine.

The boom movement must slow down and then stop when the engine slows down and stops.



DANGER

If the boom continues to move after stopping the engine, the lifting cylinders lock valve is faulty.

Remove the fault as soon as possible, contact the ***DIECI*** service center.

Boom extension cylinder:

- Start the engine. Make sure that the parking brake is engaged and the transmission is in neutral.
- Lift and fully extend the boom.
- With the engine running at 1400 rpm, retract the boom. During the boom movement stop the engine.

The boom movement must slow down and then stop when the engine slows down and stops.



DANGER

If the boom continues to move after stopping the engine, the extension cylinders lock valve is faulty.

Remove the fault as soon as possible, contact the ***DIECI*** service center.

Cylinder tilt forks:

- Start the engine, take a load on the forks (for example, a load of bricks or some bales of hay).
- Tilt the forks fully upward.
- Engage the parking brake and set the transmission into neutral.
- Swing the boom away from the ground sufficiently to allow the forks to tilt forward.
- With the engine running at 1400 rpm, operate the control lever to tilt the plate forward. During the forks movement stop the engine.

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The swinging movement must slow down and then stop when the engine slows down and stops.



DANGER

If the forks continue to move after stopping the engine, the tilting cylinders lock valve is faulty.

Remove the fault as soon as possible, contact the ***DIECI*** service center.

Leveling cylinders and swinging lock (if any):

- Position the vehicle on a perfectly horizontal surface.
- Make sure that the parking brake is engaged and the transmission is in neutral.
- Make sure the vehicle is in carriage mode.
- Lift the boom about 15 cm from the ground and level the vehicle so that the chassis is perfectly parallel to the surface (check the level in the cab).
- Check that, without intervening on the leveling control, the vehicle maintains this position even after a prolonged use.



DANGER

If the chassis continues to move after stopping the engine, the leveling cylinders lock valve is faulty.

Remove the fault as soon as possible, contact the ***DIECI*** service center.



NOTICE

Do not level the vehicle with boom raised and/or removed.

Outriggers cylinders (if present)

- Start the engine. Make sure that the parking brake is engaged and the transmission is in neutral.
- Place the vehicle on outriggers.
- Level the vehicle with the outriggers.
- Fully extend the boom.
- With the engine running at idle speed, rotate the vehicle turret.



DANGER

If the outriggers continue to move after stopping the engine, the outriggers cylinders lock valve is faulty.

Remove the fault as soon as possible, contact the ***DIECI*** service center.

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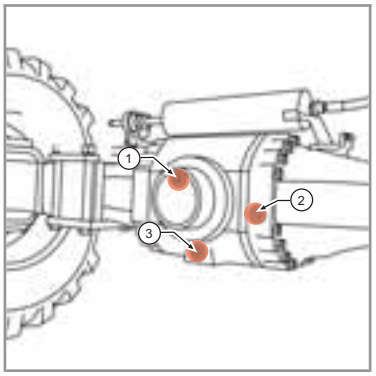
11.24 Differential Axles Maintenance

11.24.1 Differential axles oil: Check and replacement

The filler, level and drain caps are located in the central part of the front and rear differential axle (fig. 150579-1):

When checking the oil level it is necessary to:

- Prepare the vehicle in the maintenance position.
- Place a container for the oil recovery under the level plug "**2**" to collect any leaks.
- Open the level cap "**2**". In the best conditions oil must seep out from the hole.
- If necessary, open the cap "**1**" and top up to make oil seep out from the level cap "**2**".
- Put back the caps and tighten down.



150579-1

When replacing the oil it is necessary to:

- Prepare the vehicle in the maintenance position.
- Place a container for the oil recovery under the drain plug "**3**" to collect any leaks.
- Open the filler cap "1" and then the drain cap "**3**".
- Drain off all the oil.
- Close the drain cap "**3**".
- Load new oil from the filler cap "**1**", up to make oil seep out from the level cap "**2**".
- Put back the caps and tighten down.

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11.25 Hydraulic fittings tightening torques

Inserts with 60° nose - BSP thread									
Thread	1/18.28	1/4.19	3/8-19	1/2-14	5/8-14	3/4-14	1“-11	1“1/4-11	121/2-11
(N·m)	12-14	14-16	25-28	45-60	55-70	90-110	120-140	170-190	200-245

Inserts with 60° nose - METRIC thread									
Thread	10x1	12x1.5	14x1.5	16x1.5	18x1.5	22x1.5	26x1.5	28x1.5	30x1.5
(N·m)	12-14	13-15	15-18	25-28	27-30	50-60	60-75	80-100	110-130

SERIES DIN RANGE „L“										
Thread	12x1.5	14x1.5	16x1.5	18x1.5	22x1.5	26x1.5	30.2	36x1.5	45x1.5	52x1.5
(N·m)	13-15	15-18	25-28	27-30	50-60	30-75	85-105	120-140	170-190	190-230

SERIES DIN RANGE „S“										
Thread	14x1.5	16x1.5	18x1.5	20x1.5	22x1.5	24x1.5	30x2	36x2	42x2	52x2
(N·m)	15-18	25-28	27-30	43-54	50-62	60-75	90-110	125-145	170-190	200-245

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11.26 Bolts tightening torques

11.26.1 Bolts tightening torques: Fine pitch

	Coefficient of friction	4.8		5.8		6.8		8.8		10.9		12.9	
		Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)
M8	0.10	9798.1	10.87	12247.6	13.59	14697.1	16.31	19596.1	21.75	27557.1	30.58	33068.5	36.70
	0.14	9079.5	13.53	11349.4	16.91	13619.3	20.29	18159.1	27.05	25536.2	38.04	30643.4	45.65
M10	0.10	15296.9	21.13	19121.1	26.41	22945.3	31.69	30593.8	42.25	43022.5	59.42	51627.0	71.30
	0.14	14175.0	26.27	17718.8	32.84	21262.6	39.41	28350.1	52.55	39867.3	73.89	47840.8	88.67
M10	0.10	16383.6	22.12	20479.5	27.66	24575.4	33.19	32767.2	44.25	46078.8	62.23	55294.6	74.67
	0.14	15221.6	27.80	19027.0	34.75	22832.5	41.70	30443.3	55.61	42810.8	78.20	51373.0	93.84
M12	0.10	22020.7	35.83	27525.9	44.79	33031.0	53.75	44041.4	71.67	61933.2	100.78	74319.8	120.94
	0.14	20405.8	44.53	25507.2	55.66	30608.7	66.79	40811.6	89.06	57391.3	125.24	68869.5	150.29
M12	0.10	23333.7	37.26	29167.1	46.57	35000.6	55.88	46667.4	74.51	65626.1	104.78	78751.3	125.74
	0.14	21669.2	46.70	27086.5	58.38	32503.8	70.06	43338.4	93.41	60944.6	131.36	73133.5	157.63
M14	0.10	31610.0	59.04	39512.5	73.80	47415.0	88.57	63220.0	118.09	88903.1	166.06	106683.7	199.27
	0.14	29345.9	73.92	36682.4	92.40	44018.9	110.89	58691.9	147.85	82535.4	207.91	99042.5	249.49
M16	0.10	42581.3	89.78	53226.6	112.23	63871.9	134.67	85162.5	179.56	119759.8	252.51	143711.8	303.02
	0.14	39587.8	113.06	49484.7	141.32	59381.6	169.59	79175.5	226.12	111340.6	317.98	133608.7	381.57
M18	0.10	51457.2	124.03	64321.5	155.03	77185.8	186.04	102914.4	248.06	144723.3	348.83	173668.0	418.59
	0.14	47751.7	155.02	59689.6	193.78	71627.5	232.53	95503.3	310.05	134301.6	436.00	161161.9	523.20
M18	0.10	55415.1	130.17	69268.9	162.72	83122.7	195.26	110830.3	260.35	155855.1	366.12	187026.1	439.34
	0.14	51577.6	164.67	64472.0	205.84	77366.4	247.01	103155.2	329.35	145062.1	463.15	174074.5	555.77
M20	0.10	65534.1	173.72	81917.7	217.16	98301.2	260.59	131068.3	347.45	184314.8	488.60	221177.8	586.32
	0.14	60886.2	218.17	76107.8	272.71	91329.3	327.26	121772.4	436.34	171242.5	613.61	205491.0	736.33
M20	0.10	70114.7	181.58	87643.3	226.97	105172.0	272.36	140229.3	363.15	197197.5	51.68	236637.0	612.82
	0.14	65319.1	230.55	81648.8	288.19	97978.6	345.82	130638.1	461.10	183709.9	648.42	220451.9	778.10
M22	0.10	81220.8	236.88	101526.0	296.10	121831.2	355.32	162441.5	473.76	228433.4	666.23	274120.1	799.48
	0.14	75533.9	298.75	94417.4	373.43	113300.9	448.12	151067.8	597.49	212439.1	840.22	254927.0	1008.27

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	Coefficient of friction	4.8		5.8		6.8		8.8		10.9		12.9	
		Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)
M22	0.10	86164.2	246.02	107705.3	307.53	129246.4	369.04	172328.5	492.05	242337.0	691.94	290804.3	830.33
	0.14	80331.8	313.41	100414.7	391.76	120497.7	470.11	160663.6	626.82	225933.2	881.46	271119.8	1057.75
M24	0.10	98515.6	308.56	123144.5	385.70	147773.4	462.84	197031.1	617.12	277075.0	867.83	332490.0	1041.40
	0.14	91693.3	390.33	114616.6	487.92	137539.9	585.50	183386.5	780.67	257887.3	1097.82	309464.8	1317.38
M24	0.10	104079.4	319.62	130099.2	399.52	156119.0	479.43	208151.7	639.23	292723.2	898.92	351267.9	1878.71
	0.14	97096.0	408.12	121370.1	510.15	145644.1	612.18	194192.1	816.24	273082.6	1147.84	327699.1	1377.41
M27	0.10	127922.3	448.43	159902.9	560.54	191883.5	627.65	255844.7	896.87	359781.6	1261.22	431737.9	1513.46
	0.14	119185.0	569.67	148981.3	712.09	178777.5	854.51	238370.1	1139.34	335207.9	1602.20	402249.5	1922.64
M30	0.10	16817.5	623.80	201021.8	779.75	241226.2	935.70	321635.0	1247.60	452299.2	1754.43	542759.0	2105.32
	0.14	149957.0	795.14	187446.3	993.93	224935.5	1192.72	299914.0	1590.29	421754.2	2236.34	506105.0	2683.61

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11.26.2 Bolts tightening torques: Coarse pitch

	Coefficient of friction	4.8		5.8		6.8		8.8		10.9		12.9	
		Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)
M3	0.10	1219.9	0.54	1524.9	0.68	1829.9	0.82	2439.9	1.09	3431.0	1.53	4117.2	1.84
	0.14	1125.9	0.60	1407.4	0.83	1688.9	1.00	2251.9	1.34	3166.7	1.88	3800.0	2.26
M3.5	0.10	1638.2	0.84	2047.8	1.05	2457.3	1.26	3276.4	1.68	4607.5	2.36	5528.9	2.84
	0.14	1511.3	1.03	1889.2	1.28	2267.0	1.54	3022.6	2.05	4250.6	2.89	5100.7	3.47
M4	0.10	2115.4	1.25	2644.3	1.56	3173.1	1.88	4230.8	2.50	5949.6	3.52	7139.5	4.22
	0.14	1950.9	1.53	2438.7	1.91	2926.4	2.29	3901.9	3.06	5487.0	4.30	6584.4	5.16
M5	0.10	3461.6	2.46	4327.0	3.08	5192.3	3.70	6923.1	4.93	9735.7	6.93	11682.8	8.32
	0.14	3196.8	3.02	3996.0	3.78	4795.2	4.53	6393.7	6.04	8991.1	8.50	10789.3	10.20
M6	0.10	4874.7	4.24	6093.4	5.30	7312.1	6.35	9749.4	8.47	13710.1	11.92	16452.2	14.30
	0.14	4499.1	5.19	5623.9	6.48	6748.6	7.78	8998.2	10.37	12653.7	14.59	15184.4	17.51
M7	0.10	7134.5	6.97	8918.2	8.71	10701.8	10.45	14269.1	13.94	20065.9	19.60	24079.1	23.52
	0.14	6599.6	8.60	8249.5	10.76	9899.4	12.90	13199.2	17.21	18561.4	24.20	22273.6	29.04
M8	0.10	8947.1	10.20	11183.9	12.75	13420.7	15.30	17894.2	20.41	25163.7	28.70	30196.5	34.44
	0.14	8265.6	12.54	10332.0	15.67	12398.4	18.80	16531.2	25.07	23247.0	35.26	27896.5	42.31
M10	0.10	14244.5	20.11	17805.6	25.14	21366.8	30.16	28489.0	40.22	40062.7	56.56	48075.3	67.87
	0.14	13167.4	24.76	16459.2	30.95	19751.1	31.14	26334.8	49.52	37033.3	69.64	44439.9	83.56
M12	0.10	20766.6	34.43	25958.3	43.03	31149.9	51.64	41533.2	68.86	58406.1	96.83	70087.3	116.20
	0.14	19204.0	42.42	24005.0	53.03	28806.0	63.63	38408.0	84.84	54011.2	119.31	64813.5	143.17
M14	0.10	28389.9	54.77	35487.4	68.46	42584.9	82.15	56779.8	109.53	79846.6	154.03	95816.0	184.84
	0.14	26261.2	67.56	32826.5	84.45	39391.8	101.34	52522.4	135.13	73859.6	190.02	88631.5	228.03
M16	0.10	39242.1	85.14	49052.7	106.43	58863.2	127.72	78484.3	170.29	110368.5	239.47	132442.2	287.36
	0.14	36364.2	105.80	45455.3	132.26	54546.3	158.71	72728.5	211.61	102274.4	297.58	122729.3	357.09
M18	0.10	47533.0	117.48	59416.3	146.85	71299.6	176.22	95066.1	234.96	133686.7	330.41	160424.1	396.49
	0.14	43986.1	145.16	54982.7	181.45	65979.2	217.74	87972.3	290.32	123711.0	402.26	148453.2	489.92
M20	0.10	61238.0	166.08	76547.5	207.61	91857.0	249.13	122476.0	332.17	172231.9	467.11	206678.2	560.54
	0.14	56747.1	206.39	70933.9	257.98	85120.6	309.58	113494.2	412.78	159601.2	580.47	191521.5	696.56
M22	0.10	76305.2	227.22	95381.5	284.02	114457.8	340.82	152610.4	454.43	214608.3	639.05	257530.0	766.85
	0.14	70791.9	283.79	88489.8	352.74	106187.8	425.69	141583.7	567.58	199102.1	798.16	238922.5	957.80
M24	0.10	88232.4	287.16	110290.5	358.94	132348.6	430.73	176464.9	574.31	248153.7	807.63	297784.4	969.15
	0.14	81761.8	356.84	102202.2	446.05	122642.7	535.26	163523.6	713.68	229955.1	1003.61	275946.1	1204.33

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	Coefficient of friction	4.8		5.8		6.8		8.8		10.9		12.9	
		Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)	Preload (N)	Tightening torque:(Nm)
M27	0.10	115778.8	420.40	144723.5	525.05	173668.2	930.06	231557.6	840.08	325627.9	1181.36	390753.4	1417.63
	0.14	107441.5	525.08	134301.9	656.35	161162.2	787.62	214883.0	1050.16	302179.2	1476.79	362615.0	1772.15
M30	0.10	140999.5	572.83	176249.4	716.03	211499.3	859.24	281999.0	1145.65	396561.1	1611.08	475873.4	1933.29
	0.14	130770.6	714.49	163463.3	893.11	196155.9	1071.73	261541.2	1428.97	367792.3	2009.49	441350.8	2411.39

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12 Technical assistance service

Local Dealers can supply original spare parts as well as advice and instructions for their installation and use.

Use only original spare parts when they are required.

The use of non-original spare parts may cause damage to other parts of the vehicle. Customers are advised to purchase all original spare parts required only from an authorized Agent or Dealer.

DIECI s.r.l. does not consider itself liable for damage deriving from the use of non-original spare parts.

12.1 Spare parts supply

DIECI s.r.l. guarantees the supply of original spare parts or alternatives for 10 years from the date of the last model produced of the series concerned.

12.2 Assistance to owner / operator

In order to obtain a good service from your Dealer, please obtain of these fundamental data before contacting the service center:

1. Specify your name, address and telephone number.
2. Indicate the model and serial number of the machine chassis.
3. Indicate the date of purchase and the hours of operation.
4. Explain the nature of the fault.

Note that only DIECI Dealers can access the resources at DIECI site for customer service. Moreover, they are able to offer a variety of programs with regard to warranty, maintenance at a fixed price, safety checks, including tests

12.3 Technical Assistance Service address

Dieci Technical Assistance Service

Via E. Majorana, 2/4

42027 Montecchio Emilia (RE) ITALY

Tel. +39 0522 869611

Fax +39 0522 869744

service@dieci.com

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13 Problems diagnostics

WARNING

The interventions for the elimination of faults can only be carried out by trained personnel.

Do not work on failures if the "Safety regulations", "Safe Working Procedures" and "MAINTENANCE" have not been read and understood before.



This symbol indicates that the trouble experienced may NOT be resolved without the intervention of a ***DIECI*** Service authorized workshop

13.1 Engine

TROUBLE	CAUSE	SOLUTION	
It does not set in motion	Direction of travel lever engaged	Place the lever in neutral	
	Operator not properly seated in the driver's seat	Sit properly in cab	
	No fuel	Fill the tank	
	Battery cut-off switch disconnected	Connect the battery cut-off switch	
	Low Battery	Recharge the battery or replace it	
	Fuse failure	Replace the fuse	
	Other	Consult the Use and Maintenance manual of the engine	

13.2 Hydraulic transmission system

TROUBLE	CAUSE	SOLUTION	
The vehicle does not go in any direction	Insufficient hydraulic oil level	Check the hydraulic oil level	
	Electronic accelerator entered (if installed)	Disconnect the electronic accelerator	
	The sensor built-in the seat does not report the presence of the operator	Sit properly at the driver's seat	
	The movement selection lever is not engaged	Engage the lever to the desired position	
	The outriggers are lowered (if installed)	Raise all outriggers fully up	
	Rear axle locked (if installed)	Release the axle	
	Parking brake in operation	Disengage the brake	
	Electrical circuit failure	Repair the circuit	
	Hydrostatic transmission failure	Repair or replace the transmission	
	The ByPass valve for the machine towing was closed	Open the ByPass valve	

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TROUBLE	CAUSE	SOLUTION	
The vehicle loses speed	Hydraulic oil suction filter clogged	Remove the oil filter and replace it	
	Hydrostatic transmission failure	Repair or replace the transmission	
	Inching pedal failure	Check the correct operation of the pedal	

13.3 Brakes

TROUBLE	CAUSE	SOLUTION	
The vehicle does not brake	Lack of oil in the oil - brakes tank	Refill the tank and / or Purge the system	
	Loss of fluid from the circuit	Check for leaks	
	Brake discs worn	Replace the pads	
	Brakes pump failure	Repair or replace	
	Unsuitable fluid in the circuit or in the differential sump	Check the brake oil specifications indicated	

13.4 Steering wheel

TROUBLE	CAUSE	SOLUTION	
The machine runs sideways The wheels are not aligned	The wheels are not correctly aligned	Align them	
	Steering selection error	Put back the lever in a different steering mode	
	Control distributor failure	Repair or replace the distributor	
	Leakage from the steering wheel hydraulic cylinders	Replace the gaskets	

13.5 Telescopic boom

TROUBLE	CAUSE	SOLUTION	
The vehicle does not lift the load	They safety systems have activated	See the "Anti-tipping device" chapter	
	Electrical system failure	Check the fuses and electrical system	
	Hydraulic oil level in the tank insufficient	Top up	
	Relative hydraulic pump failure	Repair or replace the pump	
	Distributor low calibration	Check and re-calibrate the distributor	

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TROUBLE	CAUSE	SOLUTION	
	Lifting cylinders internal leak	Replace the gaskets	
The boom does not extend	"The safety systems have activated (Indicator light and audible alarm in operation)"	See the "Anti-tipping device" chapter	
The boom does not come down	"The safety systems have activated (Indicator light and audible alarm in operation)"	See the "Anti-tipping device" chapter	

13.6 Turret rotation

TROUBLE	CAUSE	SOLUTION	
The turret does not turn on itself	Turret rotation lock pin	Remove the pin	
	The safety systems have been activated (Indicator light and audible alarm in operation)	See the "Anti-tipping device" chapter	
	Turret rotation hydraulic pump failure	Install a pressure gauge and check the pressure	
	Low operating pressure	Calibrate the distributor	
	Hydraulic motor failure	Disconnect the damaged hose and check for proper oil spill. Replace if necessary.	
	Electrical buttons failure	Check the current on the coil.	
	Rotation performed against a fixed wall or dragging a weight (Warning W1059).	Reset the rotation sensor: Unload the loads, if any, retract and lower the boom and insert the turret rotation locking pin.	

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14 3B6 error list

NOTICE

In case the vehicle is in error, contact a ***Dieci*** service center to solve the problem, indicating the error code reported.

For more information about the errors display, refer to the "Central instrument panel" chapter.

Icon	Example	Description
A	000	Alarms
W	000	Warnings

14.1 Turret alarms

Code	Description	What to do
1	E2PROM incongruent storage data alarm	Switch the system off and then on
		Contact the Service
2	Memory reserved to the program check error	Contact the Service
10	CAN Radio 1 transmission error	Check the wiring
11	CAN Radio 2 transmission error	Check the wiring
19	CAN Joystick 1 transmission error	Check the wiring
20	CAN Joystick 2 transmission error	Check the wiring
21	Left CAN 1 Joystick Elobau transmission error	Check the wiring
22	Left CAN 2 Joystick Elobau transmission error	Check the wiring
23	Right CAN 1 Joystick Elobau transmission error	Check the wiring
24	Right CAN 2 Joystick Elobau transmission error	Check the wiring
28	CAN MC2M Carriage transmission error	Check the wiring
37	CAN MIDAC transmission error + (LMI_0)	Check the wiring
38	CAN MIDAC transmission error + (LMI_1)	Check the wiring
39	CAN MIDAC transmission error + (LMI_3)	Check the wiring
40	CAN MIDAC transmission error + (LMI_4)	Check the wiring
41	CAN MIDAC transmission error + (Outriggers)	Check the wiring
64	Lmi Exclusion input redundancy failure	Check the wiring
66	Shuttle Exclusion input redundancy failure	Check the wiring
68	Emergency Palm Button Input Failure	Check the wiring
69	Remote control Emergency Input Failure	Check the wiring
89	Parking Brake Switch Malfunction	Check the wiring
109	Cab joystick Malfunction Boom lifting ch. A	Check the wiring
110	Cab joystick Malfunction Boom lifting ch. B	Check the wiring
111	Cab joystick Malfunction Swing ch. A	Check the wiring
112	Cab joystick Malfunction Swing ch. B	Check the wiring
113	Cab joystick Malfunction Turret rotation ch. A	Check the wiring
114	Cab joystick Malfunction Turret rotation ch. B	Check the wiring
115	Cab joystick Malfunction Boom extension ch. A	Check the wiring
116	Cab joystick Malfunction Boom extension ch. B	Check the wiring

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Code	Description	What to do
118	Cab joystick Malfunction Service ch. A	Check the wiring
119	Cab joystick Malfunction Service ch. B	Check the wiring
121	Difference between the two readouts (A and B) of the cab Joystick for boom lifting too high	Check the readouts of the joystick channels
122	Difference between the two readouts (A and B) of the cab Joystick for Swing too high	Check the readouts of the joystick channels
123	Difference between the two readouts (A and B) of the cab Joystick for Turret rotation too high	Check the readouts of the joystick channels
124	Difference between the two readouts (A and B) of the cab Joystick for Boom extension too high	Check the readouts of the joystick channels
125	Difference between the two readouts (A and B) of the cab Joystick for Service too high	Check the readouts of the joystick channels
127	Right rear axle lock malfunction	Check the wiring
128	Left rear axle lock malfunction	Check the wiring

14.2 Carriage alarms

Code	Description	What to do
201	E2PROM incongruent storage data alarm	Switch the system off and then on
		Contact the Service
202	Memory reserved to the program check error	Contact the Service
210	Engine ignition Failure/Malfunction	Check the wiring
211	Grab steering solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
212	Concentric steering solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
213	Outriggers Up Selection solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
214	Right rear axle block solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
215	Left rear axle block solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
216	Auxiliary pump solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
219	Right front Crossmember solenoid valve Failure/Malfunction	Check the wiring
		Check the PIN error
220	Left front Crossmember solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
221	Right rear Crossmember solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
222	Left rear Crossmember solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
223	Right front Outrigger solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error

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Code	Description	What to do
224	Left front Outrigger solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
225	Right rear Outrigger solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
226	Left rear Outrigger solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
229	Hydraulic braking solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
230	Parking brake solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
231	Slow gear solenoid valve Failure/Malfunction	Check the wiring
		Check the PIN error
232	Fast gear solenoid valve Failure/Malfunction	Check the wiring
		Check the PIN error
233	Right leveling solenoid valve Failure/ Malfunction	Check the wiring
		Check the PIN error
234	Left leveling solenoid valve Failure/Malfunction	Check the wiring
		Check the PIN error

14.3 LMI Alarms

Code	Description	What to do
401	E2PROM incongruent storage data alarm	Switch the system off and then on
		Contact the Service
402	Memory reserved to the program check error	Contact the Service
403	Memory reserved to the tables check error	Contact the Service
405	CAN MC2M turret transmission error	Check that the wiring is not interrupted
406	CAN MIDAC transmission error + (Outriggers A)	Check that the wiring is not interrupted
410	E2Prom Acq1 fault (ch. A)	Contact the Service
411	Accelerometer fault (X-axis) from Acq1 (ch. A)	Contact the Service
412	Accelerometer fault (Y-axis) from Acq1 (ch. A)	Contact the Service
413	WDO fault from Acq1 (ch. A)	Contact the Service
414	CAN Acq1 transmission error (ch. A)	Contact the Service
419	E2Prom Acq1 fault (ch. B)	Contact the Service
420	Accelerometer fault (X-axis) from Acq1 (ch. B)	Contact the Service
421	Accelerometer fault (Y-axis) from Acq1 (ch. B)	Contact the Service
422	WDO fault from Acq1 (ch. B)	Contact the Service
423	CAN Acq1 transmission error (ch. B)	Contact the Service
428	Readout (ch. A) from the lower turret rotation sensor at the lowest value	Check the sensor operation
		If the alarm persists, call the Technical Support
429	Readout (ch. A) from the upper turret rotation sensor at the highest value	Check the sensor operation
		If the alarm persists, call the Technical Support
430	Readout (ch. B) from the lower turret rotation sensor at the lowest value	Check the sensor operation
		If the alarm persists, call the Technical Support

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Code	Description	What to do
431	Readout (ch. B) from the upper turret rotation sensor at the highest value	Check the sensor operation
		If the alarm persists, call the Technical Support
432	Difference between the two readouts (ch. A and B) of the turret rotation sensor too high	Check the extension values
437	CAN MIDAC transmission error + (Outriggers A)	Check that the wiring is not interrupted
438	CAN MIDAC transmission error + (Outriggers B)	Check that the wiring is not interrupted
439	CAN MIDAC transmission error + (Vehicle Condition)	Check that the wiring is not interrupted
440	CAN MIDAC transmission error + (Outriggers C)	Check that the wiring is not interrupted
441	CAN MIDAC transmission error + (Outriggers D)	Check that the wiring is not interrupted
442	CAN MIDAC transmission error + (Outriggers E)	Check that the wiring is not interrupted
446	Readout (ch. A) of the lower angle transducer (Acq1) at the lowest value	Check the transducer operation
		If the alarm persists, call the Technical Support
447	Readout (ch. A) of the upper angle transducer (Acq1) at the highest value	Check the transducer operation
		If the alarm persists, call the Technical Support
448	Readout (ch. B) of the lower angle transducer (Acq1) at the lower value	Check the transducer operation
		If the alarm persists, call the Technical Support
449	Readout (ch. B) of the lower angle transducer (Acq1) at the lowest value	Check the transducer operation
		If the alarm persists, call the Technical Support
450	Difference between the two readouts (ch. A and B) of the angle transducer (Acq1) too high	Check the transducer operation
		If the alarm persists, call the Technical Support
455	Analog signal (ch. A) from the lower extension sensor (Acq1) at the lowest value allowed.	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
456	Analog signal (ch. A) from the upper extension sensor (Acq1) at the highest value allowed	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
457	Readout (ch. A) of the lower extension sensor (Acq1) at the lowest value	Check the transducer operation
		If the alarm persists, call the Technical Support
458	Readout (ch. A) of the upper extension sensor (Acq1) at the highest value	Check the transducer operation
		If the alarm persists, call the Technical Support
459	Analog signal (ch. B) from the lower extension sensor (Acq1) at the lowest value allowed.	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
460	Analog signal (ch. B) from the upper extension sensor (Acq1) at the highest value allowed	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
461	Readout (ch. A) of the lower extension sensor (Acq1) at the lowest value	Check the transducer operation
		If the alarm persists, call the Technical Support
462	Readout (ch. A) of the upper extension sensor (Acq1) at the highest value	Check the transducer operation
		If the alarm persists, call the Technical Support
464	Difference between the two readouts (ch. A and B) of the extension sensor (Acq1) too high	Check the transducer operation
		If the alarm persists, call the Technical Support
473		Check the transducer operation

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Code	Description	What to do
	Signal of the pressing cylinder pressure transducer on bottom side (ch. A) lower than the minimum	Check that the wiring is not interrupted
474	Signal of the pressing cylinder pressure transducer on bottom side (ch. A) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
475	Signal of the pressing cylinder pressure transducer on bottom side (ch. B) lower than the minimum	Check the transducer operation
		Check that the wiring is not interrupted
476	Signal of the pressing cylinder pressure transducer on bottom side (ch. B) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
477	Error of inconsistency of the pressing cylinder pressure transducer readings on bottom side	Check the wiring
		Contact the Service
482	Signal of the pressing cylinder pressure transducer on rod side (ch. A) lower than the minimum	Check the transducer operation
		Check that the wiring is not interrupted
483	Signal of the pressing cylinder pressure transducer on rod side (ch. A) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
484	Signal of the pressing cylinder pressure transducer on rod side (ch. B) lower than the minimum	Check the transducer operation
		Check that the wiring is not interrupted
485	Signal of the pressing cylinder pressure transducer on rod side (ch. B) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
486	Error of inconsistency of the pressing cylinder pressure transducer readings on bottom side	Check the wiring
		Contact the Service
491	Signal of the compression cylinder pressure transducer on bottom side (ch. A) lower than the minimum	Check the transducer operation
		Check that the wiring is not interrupted
492	Signal of the compression cylinder pressure transducer on bottom side (ch. A) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
493	Signal of the compression cylinder pressure transducer on bottom side (ch. B) lower than the minimum	Check the transducer operation
		Check that the wiring is not interrupted
494	Signal of the compression cylinder pressure transducer on bottom side (ch. B) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
495	Error of inconsistency of the Compression cylinder pressure transducer readings on bottom side	Check the wiring
		Contact the Service
500	Signal of the compression cylinder pressure transducer on rod side (ch. A) lower than the minimum	Check the transducer operation
		Check that the wiring is not interrupted
501	Signal of the compression cylinder pressure transducer on rod side (ch. A) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
502		Check the transducer operation

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Code	Description	What to do
	Signal of the compression cylinder pressure transducer on rod side (ch. B) lower than the minimum	Check that the wiring is not interrupted
503	Signal of the compression cylinder pressure transducer on rod side (ch. B) higher than the maximum	Check the transducer operation
		Check that the wiring is not short circuited
504	Error of inconsistency of the Compression cylinder pressure transducer readouts on rod side	Check the wiring
		Contact the Service
509	ABT signal time-out error - ch. A ABT	Check the ABT sensor wiring
510	ABT signal time-out error - ch. B ABT	Check the ABT sensor wiring
511	ABT error - ch.A ABT sensor below the minimum value	Check the ABT sensor wiring
512	ABT error - ch.A ABT sensor above the maximum value	Check the ABT sensor wiring
513	ABT error - ch.B ABT sensor below the minimum value	Check the ABT sensor wiring
514	ABT error - ch.B ABT sensor below the minimum value	Check the ABT sensor wiring
518	Photocell failure Right front outrigger on the ground	Check the wiring
519	Photocell failure Left front outrigger on the ground	Check the wiring
520	Photocell failure Right rear outrigger on the ground	Check the wiring
521	Photocell failure Left rear outrigger on the ground	Check the wiring
522	Failure of right front outrigger fully extended photocell	Check the wiring
523	Photocell failure Left front outrigger fully extended	Check the wiring
524	Photocell failure Right rear outrigger fully extended	Check the wiring
525	Photocell failure Left rear outrigger fully extended	Check the wiring
527	Overload 1	Release the lifted load
528	Overload 1	Carry out the safety operations
529	Overload 1	Carry out the safety operations
530	Extra Lock Malfunction	Check the lock output
545	Analog signal (ch. A) lower left front crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
546	Analog signal (ch. A) upper left front crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
547	Readout (ch. A) from lower left front crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support

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Code	Description	What to do
548	Readout (ch. A) from upper left front crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
549	Analog signal (ch. B) lower left front crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
550	Analog signal (ch. B) upper left front crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
551	Readout (ch. B) from lower left front crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
552	Readout (ch. B) from upper left front crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
554	Analog signal (ch. A) lower right front crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
555	Analog signal (ch. A) upper right front crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
556	Readout (ch. A) from lower right front crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
557	Readout (ch. A) from upper right front crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
558	Analog signal (ch. B) lower right front crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
559	Analog signal (ch. B) upper right front crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
560	Readout (ch. B) from lower right front crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
561	Readout (ch. B) from upper right front crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
563	Analog signal (ch. A) lower left rear crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
564	Analog signal (ch. A) upper left rear crossmember at the highest allowable value	Check the sensor operation

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Code	Description	What to do
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
565	Readout (ch. A) from lower left rear crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
566	Readout (ch. A) from upper left rear crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
567	Analog signal (ch. B) lower left rear crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
568	Analog signal (ch. B) upper left rear crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
569	Readout (ch. B) from lower left rear crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
570	Readout (ch. B) from upper left rear crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
572	Analog signal (ch. A) lower right rear crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
573	Analog signal (ch. A) upper right rear crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
574	Readout (ch. A) from lower right rear crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
575	Readout (ch.A) from upper right rear crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
576	Analog signal (ch. B) lower right rear crossmember at the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
577	Analog signal (ch.B) upper right rear crossmember at the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.
		If the alarm persists, call the Technical Support
578	Readout (ch. B) from lower right rear crossmember to the lowest allowable value	Check the sensor operation
		Check that the wiring is not interrupted
		If the alarm persists, call the Technical Support
579	Readout (ch.B) from upper right rear crossmember to the highest allowable value	Check the sensor operation
		Check that the wiring is not short circuited.

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Code	Description	What to do
		If the alarm persists, call the Technical Support
581	Difference between the two readouts (ch. A and B) of the left front crossmember	Check the extension values
582	Difference between the two readouts (ch. A and B) of the right front crossmember	Check the extension values
583	Difference between the two readouts (ch. A and B) of the left rear crossmember	Check the extension values
584	Difference between the two readouts (ch. A and B) of the right rear crossmember	Check the extension values

14.4 Warnings

Code	Description
1	Vehicle not stopped
2	Emergency button pressed
3	Device alarm
4	No deadman button
5	Imi block
6	Shuttle overload
7	High angle limit 55
8	Angles congruence not checked
9	Extensions congruence not checked
10	Not allowed
11	Slow down for high limit switch
12	Slow down for Imi
13	Turret not locked
14	Outrigger on the ground
15	Angle not low
16	Max extension speed
17	Min extension speed
18	On road
19	On shuttle
20	Turret not unlocked
21	Max extension hr
22	Min extension hr
23	Turret not frontal
24	Height 3m
25	Not on tires
26	Max angle limit
27	Arm not closed
28	Not on front 15
29	Lock for isaac intervention
30	Seat microswitch is missing
31	Not allowed on shuttle deco

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Code	Description
32	Shuttle door microswitch
33	Optional excluded
34	Open door
35	Error on deco
36	Shuttle selector
37	Intervention a2b
38	Rope overload
39	Unwound rope
40	Winch not selected
41	Shuttle jib not closed
42	Shuttle backward
43	Crossmembers not closed
44	Pedal brake is missing
45	Not neutral
46	Not boom down
47	No parking brake consent
48	No enable
49	Mode not confirmed
50	Stick not inserted
51	On unstabilized radio
52	Boom not down
53	Gear not engaged
54	Rear axle locked
55	Outriggers consent incongruence
56	Power steering engaged
57	Outriggers activated
58	Load not allowed
59	Rotation sensor error
60	Lifting danfos internal error
61	Lifting danfos direction error
62	Lifting danfos tension error
63	Extension danfos internal error
64	Extension danfos direction error
65	Extension danfos tension error
66	Rotation danfos internal error
67	Rotation danfos direction error
68	Rotation danfos tension error
69	Auxiliary danfos internal error
70	Auxiliary danfos direction error
71	Auxiliary danfos tension error
72	Swing danfos internal error
73	Swing danfos direction error
74	Swing danfos tension error

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Code	Description
80	Turret mc2m power supply
81	Carriage mc2m power supply
82	Cab recovery
83	ABT sensor alarm
84	Continuous oil function active
85	MC2M Carriage Stabilized Power Supply
86	MC2M Turret Stabilized Power Supply
87	Midac+ Stabilized Power Supply
88	Stabilizers errors (2 feet microswitches down and 2 feet microswitches up, capacity on tires)

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15 Cleaning

Cleaning the vehicle and all its components is fundamental for it to be kept in proper working order.

15.1 Machine cleaning

Proceed as follows for a correct cleaning process:

- Switch the engine off, remove the ignition key and wait until the various components cool down.
- Wear the suitable protective clothing (gloves, masks, overalls, etc.).
- Do not use flammable liquids, acids or products that may chemically attack the vehicle components.
- Use water to soften dirt that sticks to the surface.
- Ask your ***DIECI*** dealer for touch-up paint to repair minor defects in the vehicle bodywork.
- Check that all the safety stickers are present. Replace any that have been lost or removed for cleaning purposes.
- Use a pressure washer to clean the external part of the vehicle and the engine compartment, bearing the following in mind:
  - Make sure the top-up caps (radiator, oil tank, fuel tank, etc.) are closed well.
  - Protect the control boxes and connectors from water infiltrations.
  - Do not operate with a pressure and water temperature that exceeds 100 bar and 80°, respectively.
  - Hold the washer nozzle at a minimum distance of 40 cm from the relative surface.
  - Do not direct the jet at any single point but wash with wide strokes.
  - The inside of the vehicle is delicate and cannot be cleaned with a pressure washer.

Electrical components

- If a pressurized jet is used, try not to wet the electrical components, such as the alternator and the starter motor.
- If water accidentally falls into the electrical system, it could cause the vehicle to malfunction.
- Do not use water or steam to clean the electrical system, sensors and connectors.

Mechanical Components

- Do not clean the moving elements or hot surfaces, allow all parts to cool as a temperature change could damage them.

15.2 Glasses cleaning

- The cab windows, lights and rear view mirrors must be washed often with soapy water.
- After washing has been completed, dry thoroughly; do not leave any stains or marks which may limit or obstruct the driver's visibility.

15.3 Cleaning the cab

- Clean soft upholstery in the cab with a cloth that has been dipped in a solution of water and detergent and then thoroughly wrung.
- The driver’s seat and the floor must be cleaned with a vacuum cleaner and/or a stiff brush. If necessary, use a damp cloth to remove any stubborn stains.
- Clean the seat belt with a sponge that has been soaked in hot soapy water, and let it dry on its own.

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– Fabric-covered seats must be cleaned with a stiff brush or vacuum cleaner. Plastic seats must be cleaned with a damp cloth.

WARNING

Pay attention to electrical components.

Do not use water jets inside the cab.

WARNING

Do not use products containing alcohol to clean the interior lining of the cab.

15.4 Safety stickers cleaning

CAUTION

To ensure proper interpretation verify that they are in the correct position and that they are always kept clean.

Clean the safety stickers when they are dirty, covered with mud, concrete or debris.

WARNING

It is absolutely forbidden to clean the messages on the vehicle and equipment using solvents or gasoline.

The stickers may become discolored. The stickers in addition to those of care and safety must always be treated in the same way.

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16 Lifting the vehicle

DANGER

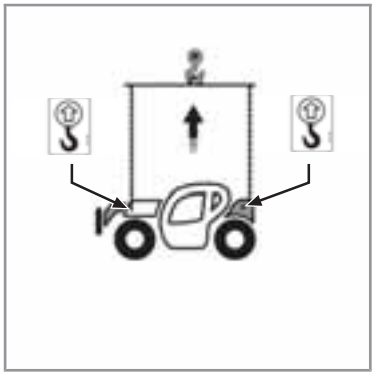
Always check the good condition of the anchors (ropes, chains, wedges, etc...).

Make sure that the lifting equipment is adequate for the weight of the vehicle to be lifted.

NOTICE! The weight and dimensions of the vehicle are shown in the "Technical data" chapter; check the overall dimensions for the maximum and minimum height valuesfrom the ground and the weight allowed.

The vehicle is fitted with lifting points, marked by special symbols (fig. 150522-1).

Attach the ropes at the points indicated in the figure, paying utmost attention during the lifting phases. Slowly proceed with the lifting.



150522-1

DANGER

Before lifting the vehicle, make sure no unauthorized personnel are in the surrounding area.

CAUTION

Lifting cables with a minimum unit capacity of 6 tons (13220 lb) are required.

Before lifting the vehicle, make sure to:

- Remove any attachments installed on the vehicle.
- Retract and lower the telescopic boom completely.
- Engage the parking brake, place and the movement selection lever at "N" and switch off the vehicle.
- Close all windows and the cab door.

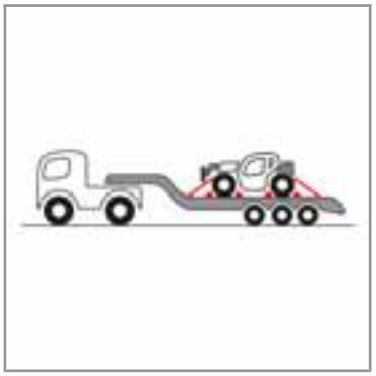
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17 Transporting the vehicle on a trailer

WARNING

Always check the good condition of the anchors (ropes, chains, wedges, etc...).

NOTICE! The weight and dimensions of the vehicle are shown in the "Technical data" chapter; check the overall dimensions for the maximum and minimum height valuesfrom the ground and the weight allowed.



150526-1

Pay attention to the following when loading the vehicle onto a trailer:

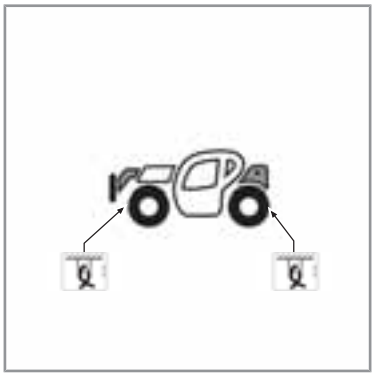
- Before using ramps or trailers to load the vehicle on, remove any mud, ice or oil that could cause accidents.
- Check that the axle and the transport vehicle can withstand the overall weight of the vehicle and any loaded equipment.
- Check the overall dimensions of the vehicle for minimum and maximum heights from the ground and the weight allowed.
- Carefully handle the vehicle onto the transport vehicle.
- Make sure local regulations are observed when transporting the vehicle on public roads.

DANGER

When loading or unloading a vehicle from a transport vehicle, there is always the risk of the vehicle overturning sideways; therefore, have another person on the ground to control the operations.

Take the following precautions when loading or unloading a vehicle:

1. Choose solid and level ground.
2. Remove any attachments installed on the vehicle.
3. Lower and fully retract the telescopic boom
4. Use a platform or a ramp.
5. Always select the slowest speed.
6. Load the vehicle on to the transport vehicle, making sure that the ramps are positioned properly and safely.
7. Once the vehicle is in a safe position, switch the engine off and engage the parking brake.
8. Close all windows and the cab door.
9. Anchor the vehicle to the transport vehicle with chains or cables through the relative hooks (fig. 150526-2).
10. Apply wedges to the front and rear wheels of the transport vehicle.



150526-2

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18 Storing the vehicle

18.1 Long period of inactivity

If the vehicle must be stored for a long period of time (over a week), certain precautions must be complied with to protect it:

- Clean the vehicle.
- Lubricate all the greasers.
- Check the tires and inflate them to the recommended pressure.
- Clean the fuel system and change the filter cartridges.
- Store any equipment.
- Use the battery cut-off switch to deactivate the electrical circuit.
- Realign and lower all the mobile parts of the vehicle completely.
- Close and lock all the windows.
- Close and lock the door.

18.2 Long period of inactivity

If the machine must be stored for a long period (more than two months), certain precautions must be complied with to protect it:

- Clean the vehicle.
- Touch up the paint where necessary to prevent rust.
- Lubricate all the greasers.
- Check whether any parts are worn or damaged and replace them, if necessary.
- Check the tires and inflate them to the recommended pressure.
- Drain the oil from the engine and replace it with new oil.
- Clean the fuel system and change the filter cartridges.
- Empty the fuel tank as usual and fill it with ten liters of special fuel for prolonged inactivity. Run the engine for ten minutes so the new solution can distribute evenly.
- Store any equipment.
- Use the battery cut-off switch to deactivate the electrical circuit.
- Realign and lower all the mobile parts of the vehicle completely.
- Apply a layer of light grease on the uncovered rods of the hydraulic cylinders.
- Cover the exhaust opening.
- Close and lock all the windows.
- Close and lock the door.

18.3 Restarting the vehicle

Preparing the vehicle after a long period of inactivity:

- Inflate the tires to the correct pressure.
- Remove the jack stands from under the axles.
- Fill the fuel tank.
- Check the radiator coolant level.
- Check the level of the various oils.

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- Fit a fully charged battery.
- Remove the cover of the exhaust pipe.
- Remove the layer of grease on the exposed cylinder rods.
- Start the engine and check that all the controls work properly.
- Let the engine run for a few minutes.
- Verify the efficiency of the brake system.

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19 Waste disposal

- Waste material should not be dispersed in the environment but rather disposed of appropriately. Used lubricants, batteries, rags dirty with grease, brake pads etc. should be handed over to specialized companies authorized to dispose of polluting waste.
- Improper waste disposal poses a threat to the environment. The following are potentially dangerous waste: lubricants, fuel, cooling, filters and batteries.
- Do not spill or pour waste onto the ground, into the sewers or into water beds.
- Contact your local authority or collection centers for information for how to recycle or dispose of waste properly.

19.1 Ecological considerations

A few helpful recommendations are listed below. Learn about current legislation in force in your country.

Ask suppliers for information about lubricating oils, fuels, antifreeze products, detergents, etc., about their effects on people and on the environment as well as on information regarding the regulations to be observed when using, stocking and disposing of such products.

- Do not refill the tanks using unsuitable jerry cans or pressurized combustible fueling systems as they may cause leaks and loss of significant amounts of liquid.
- Modern lubricating oils contain additives. Do not burn contaminated combustible oils and/or oils used in conventional heating systems.
- Take care not to spill used engine cooling fluids, engine and transmission lubricating oils, hydraulic oil, brake oil etc. while pouring or draining them. Store them safely and, when it is time, dispose of them in compliance with current legislation or with local facilities.
- Modern antifreeze liquids and their solutions, such as antifreeze and other additives should be replaced every two years. Make sure such liquids are not absorbed by the soil; they should be collected and disposed of appropriately.
- Do not intervene directly with the air conditioning systems (Optional), by opening them. These systems contain gas which must not be released into the atmosphere. Contact your dealer or an expert who has the necessary special equipment and who would, in any case, have to refill the system.
- Immediately repair any leaks or faults in the cooling or engine hydraulic systems.

19.2 Protect the environment

It is illegal to pollute sewers, water sources or soil. Use only authorized dumping grounds centers, including the areas designated by the local authorities or workshops equipped with the necessary tools for the disposal of used oils. If in doubt, contact your local authority for relevant instructions.

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20 Demolition

To demolish the vehicle or the equipment, dismantle all components and keep the different types of materials separate for sending to the relative collection centers.

The following types of materials may be present:

- Ferrous materials (carpentries and mechanical components)
- Plastic materials (gaskets, belts, protections)
- Electric materials (cables, windings and similar)
- Oils and lubricants (hydraulic oil, reduction gear lubricants, lubricating greases)

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21 Wiring diagram

21.1 Components legend

Name	Sheet	Function
A219	14	A/C Control unit
A666	1	MC2M lower carriage
A694	1	BODAS-drive DRC control unit
A709	2	Turret MC2M control unit
A724	2	Midac plus turret control unit
A900	1	ECU FPT control unit
B130	1	Seat micro
B139	12	Stop lights microswitch
B182	14	Evaporator NTC probe
B205	14	Condenser pressure switch
B279	6	Brake pedal accum. pressure switch
B400	5	Cab encoder
B513	6	Hydraulic oil filter
B534	3	Engaged gear microswitch
B535	3	2nd gear pressure switch
B554	4	Parking brake pressure switch
B558	7	Front axle alignment proximity sensor
B560	7	Rear axle alignment proximity sensor
B572	7	Locked cab sensor
B585	8	Speed sensor
B616	5	Levelness sensor
B634	8	Oil radiator bulb
B638	6	Air filter clogging pressure switch
B682	8	Temperature sensor downstream the catalyst
B683	5	SCR downstream Nox sensor w/ECU
B684	8	Temperature sensor upstream the catalyst
B686	8	Intake humidity sensor
B711	7	Directional service
B713	7	Boom up/down movement directional
B715	7	Swing up/down directional
B717	7	Boom extension/retraction directional
B719	7	Right/left turret rotation directional
B720	6	Compensator bottom pressure transducer
B721	6	Compensator rod pressure transducer
B722	6	Lifting bottom pressure transducer
B723	6	Lifting rod pressure transducer
B730	6	Turret rotation sensor
B783	7	Left outrigger microswitch
B784	7	Right outrigger microswitch

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Name	Sheet	Function
B831	8	Engine oil temperature sensor
B838	8	Emergency electro-pump pressure switch
B842	8	DOC upstream temperature sensor
B843	5	Urea quality sensor
B844	5	DOC upstream Nox sensor w/ECU
B845	5	NH3 sensor
Bo	1	Battery
E102	13	Right front work light
E103	13	Right rear work light
E104	13	Left front work light
E118	13	Left rear work light
E127	13	Rotating light
E147	13	Overhead Light
E414	4	Bodas fault lamp
E522	12	Right rear headlight
E524	12	Plate light
E526	12	Left front headlight
E548	12	Left rear headlight
E551	12	Front headlight Right
E727	12	Rotating light remote control
F0	1	Electro-pump fuse
F1	12	REVERSE BUZZER fuse
F10	13	Fuse +15 services - warning
F11	12	Left front + right rear sidelights fuse
F12	12	Right front + left rear sidelights fuse
F13	2	Fuse not used
F130	1	Fuse +30 battery
F131	1	Electrical battery isolator fuse
F14	2	Fuse +15 services switches
F15	2	Fuse +15 services + rotating light switch
F16	12	Fuse +15 services - stop lights microswitch
F17	13	Fuse +15 services - boom work light switch
F18	2	Fuse +15 key - basket
F184	14	Heating selector fuse
F19	2	Fuse +15 key - radio control switch
F2	12	Fuse + 30 - warning switch
F20	4	Fuse +30 battery - ECU Bodas
F205	8	Oil radiator fuse
F23	12	Fuse +30 light switch
F25	2	Fuse +30 Alga
F26	2	Fuse +30 radio bat. charger
F3	12	Low beam lights relay fuse
F33	13	Fuse +15 power socket

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Name	Sheet	Function
F34	14	Fuse +15 services- pneumatic seat
F35	12	Fuse +15 services- front wiper
F36	13	Fuse +15 services- radio and rear wiper
F37	2	Fuse +15 power supply Danfoss
F38	15	Fuse +15 services- arch-centering
F39	6	Fuse +15 services- sensors
F4	13	Fuse +30 battery BODAS
F40	15	Fuse +15 services - optional
F41	2	Fuse +15 mushroom-head emergency pushbutton
F42	2	Fuse +15 key - sw. Bodas
F43	2	Fuse +15 key - BODAS
F5	12	High beam lights fuse
F50	14	Fuse VP MC2M
F51	14	Condenser control unit fuse
F6	13	REAR WORK LIGHT fuse
F7	13	Front work lights relay fuse
F755	1	Midi fuse - 30 relè MC2M
F8	13	Basket/radio horn control fuse
F801	14	A/C fuse
FA1	1	Pre heating fuse
FA10	1	Main fuse
FA2	1	Alternator fuse
FA3	1	Cab fuse
FA4	1	Start control fuse
FA5	1	Main fuse
FA6	1	Filter preheating fuse
FA7	5	Fuse +30 rotating light switch
FA8	1	Fusibile exaust flap
FA9	1	FPT sensors fuse
G117	12	Front window washer
G119	13	Rear window washer pump
G529	1	Alternator
G856	1	Emergency electro-pump
K11	3	Seat relay
K12	1	Services relay
K13	3	Neutral gear startup relay
K134	14	Condenser fan relay
K14	4	Neutral gear startup relay
K153	1	Services relay
K17	2	Radio consent relay
K2	2	Control unit +15 power supply Danfoss
K26	4	Neutral gear relay
K265	12	Direction indicators intermittence

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Name	Sheet	Function
K27	3	Reverse power steering s. relay
K28	3	Reverse power steering s. relay
K3	3	Neutral s. relay
K4	12	High beam lights relay
K5	13	Basket/radio horn control relay
K530	1	Startup relay
K531	1	Air preheating relay
K547	1	Thermostarter relay
K6	13	Front work lights relay
K654	1	Relay Vp MC2M lower carriage
K672	1	General relay
K688	8	Diesel decanting sensor
K7	13	Neutral gear startup relay
K7	12	Neutral gear startup relay
K8	12	High beam lights relay
K829	1	Start control relay
K830	1	Engine stop relay
K839	1	Emergency electro-pump relay
K9	12	Low beam lights relay
M112	12	Front window wiper
M122	13	Rear wiper
M129	14	Heating motor
M133	14	Condenser fan
M152	14	Pneumatic seat
M520	1	Startup motor
M555	14	Air conditioned compressor
P149	13	Left speaker
P150	13	Right speaker
P223	2	Tool TERA 7
P275	2	AL-GA TFT tool
P291	2	After run pilot light
P502	12	Reverse gear buzzer
P503	13	Horn
Q515	9	Turret rotation lock pin SV
Q516	3	1st manual gear SV
Q518	11	Left leveling SV
Q519	11	Right leveling SV
Q521	3	2nd gear SV
Q523	3	Parking brake SV
Q527	3	Forward gear SV
Q528	3	Reverse gear SV
Q578	10	Rear axle lock SV Left
Q579	10	Rear axle lock SV Right

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Name	Sheet	Function
Q580	10	Crab steering SV
Q581	10	Crab/concentric steering wheel shared SV
Q582	10	Concentring steering wheel SV
Q583	10	Front steering wheel SV
Q588	10	Up selection SV
Q589	10	Down selection SV
Q590	10	Left rear foot SV
Q591	10	Right rear foot SV
Q592	10	Front foot SV Left
Q593	10	Front foot SV Right
Q619	11	Front axle lock SV
Q620	11	Front axle lock SV 2
Q641	8	Hydraulic oil radiator solenoid valve
Q662	11	Rear beam SV Left
Q663	11	Rear beam SV Right
Q664	11	Front beam SV Left
Q665	11	Right front beam SV
Q668	11	Power steering reversal SV
Q676	11	Front axle lock SV 3
Q677	11	Front axle lock SV 4
Q680	6	UREA heating SV
Q705	2	Boom suspension sv
Q712	9	Boom up/down movement SV
Q714	9	Swing up/down SV
Q716	9	Service SV
Q718	9	Right/left turret rotation SV
Q725	9	Cut-off SV. 1
Q789	9	Boom extension/retraction SV.
Q811	14	Hydraulic compressor motor SV
Q832	8	Hydraulic motor proportional solenoid valve
R0	1	Preheating
R138	4	Inching pedal
R139	4	Brake pedal
R218	14	A/C potentiometer
R233	4	Accelerator pedal
R512	6	Diesel fuel float
R533	1	Filter pre-heater
R726	6	Boom/chassis angle sensor
R790	7	Left crossbar winder 1
R791	7	Left crossbar winder 2
R792	7	Right crossbar winder 1
R793	7	Right crossbar winder 2
S106	13	Rear work lights switch

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Name	Sheet	Function
S107	10	Manual/auto outriggers cons. button
S109	9	Leveling button
S110	4	Manual gear shift button
S111	10	share Boom head solenoid valve
S113	9	Left front outriggers switch
S114	9	Right front outriggers switch
S115	13	Rotating light switch
S120	13	Rear wiper-wash switch
S121	4	Parking brake switch
S126	14	Fan speed selector
S137	4	Gears column switch
S140	12	Light switch
S141	1	Starter panel
S143	2	Remote control switch
S145	14	A/C switch
S146	2	Unstable key for operations restoring
S148	13	Front work lights switch
S194	2	Low idle up button
S202	9	Steering wheel selector
S203	12	Lights switch
S204.1	1	Cab mushroom-head emergency pushbutton
S204.2	1	Cab mushroom-head emergency pushbutton
S204.3	1	Cab mushroom-head emergency pushbutton
S206	13	Boom work light switch
S207	10	Turret rotation lock switch
S222	9	Left rear outriggers switch
S223	9	Right rear outriggers switch
S226	9	Wheels alignment reset/check button
S227	4	Hand throttle switch
S251	2	Equipment change consent instable key
S264	5	Cab right joystick
S267	5	Cab right joystick
S280	10	Speed reduction switch
S295	1	Regeneration switch
S303	10	Quick coupling button
S318	15	Optional switch
S326	2	ECO/NORMAL button
S835	1	Electrical battery isolator
S837.1	3	Recovery key
S837.2	3	Recovery key
S848	2	Emergency electro-pump button
W151	13	Car radio
W177	13	Antenna

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Name	Sheet	Function
X165	13	Power point
X408	5	Multi-link 3
X409	5	Multi-link 2
X410	5	Multi-link 1
X735.	5	Multi-link
X771	5	Multi-link

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21.2 Wiring diagram sheets

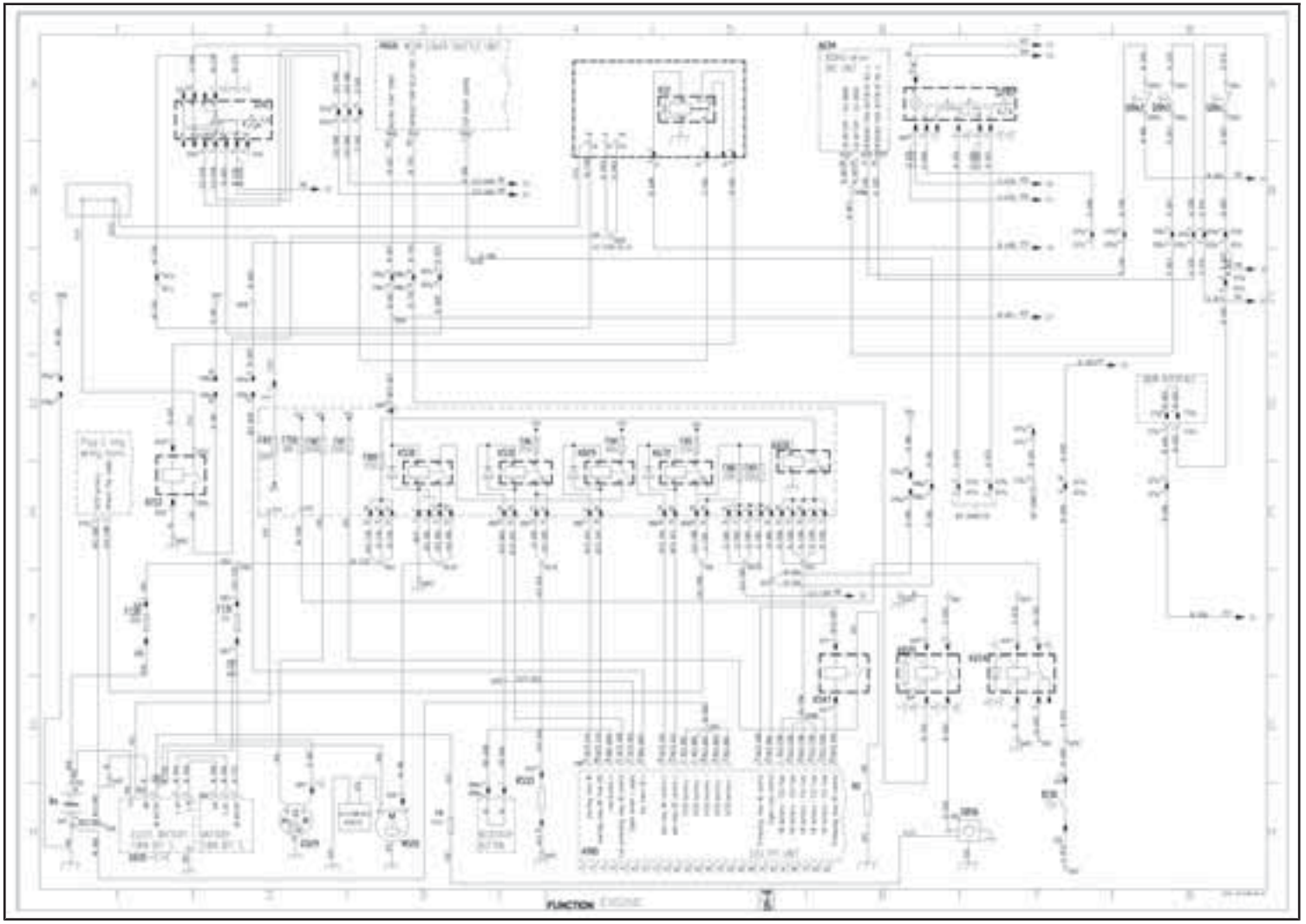


Illustration 7: Wiring diagram PEGASUS 30M - 20160921_Page_01

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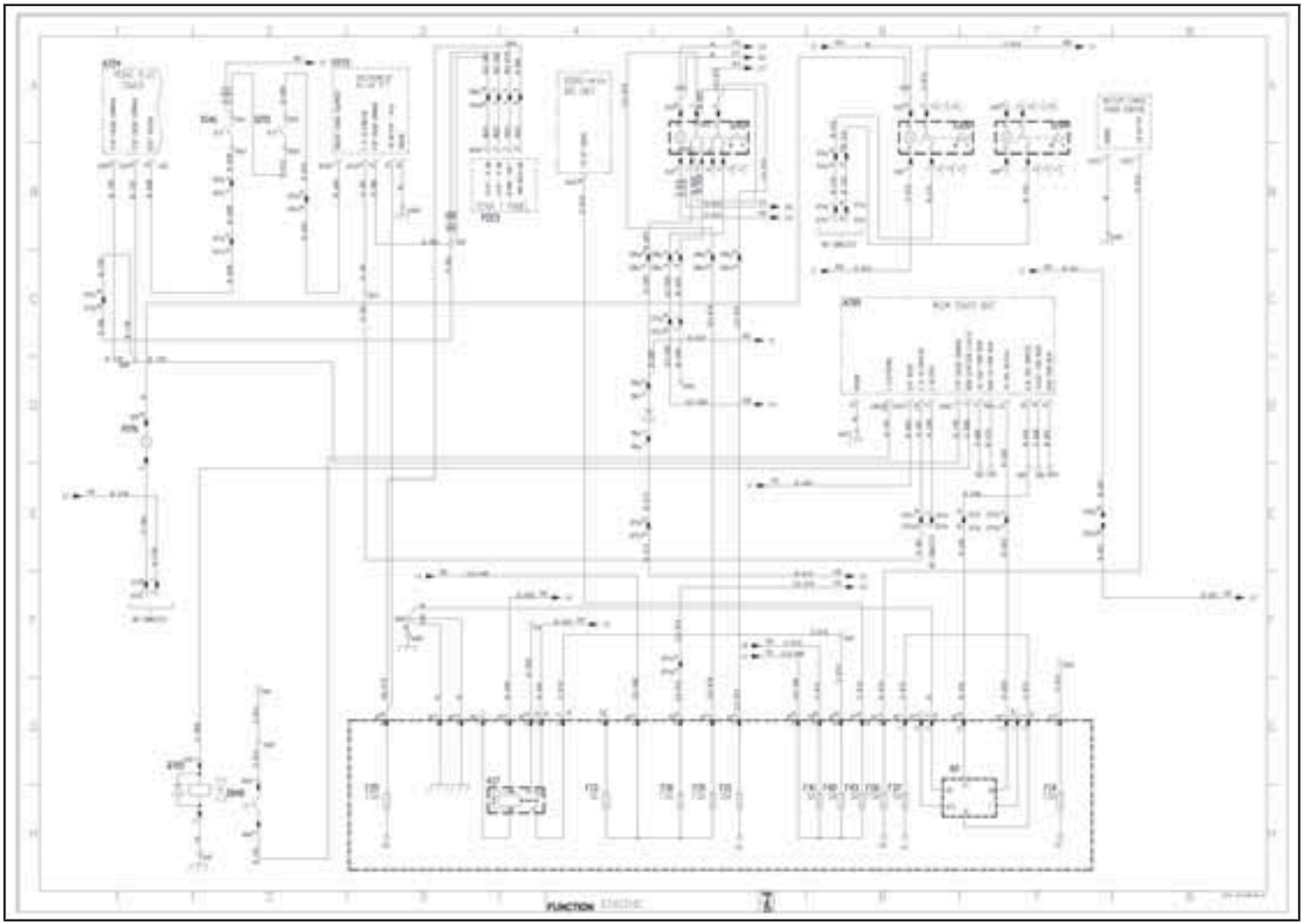


Illustration 8: Wiring diagram PEGASUS 30M - 20160921_Page_02

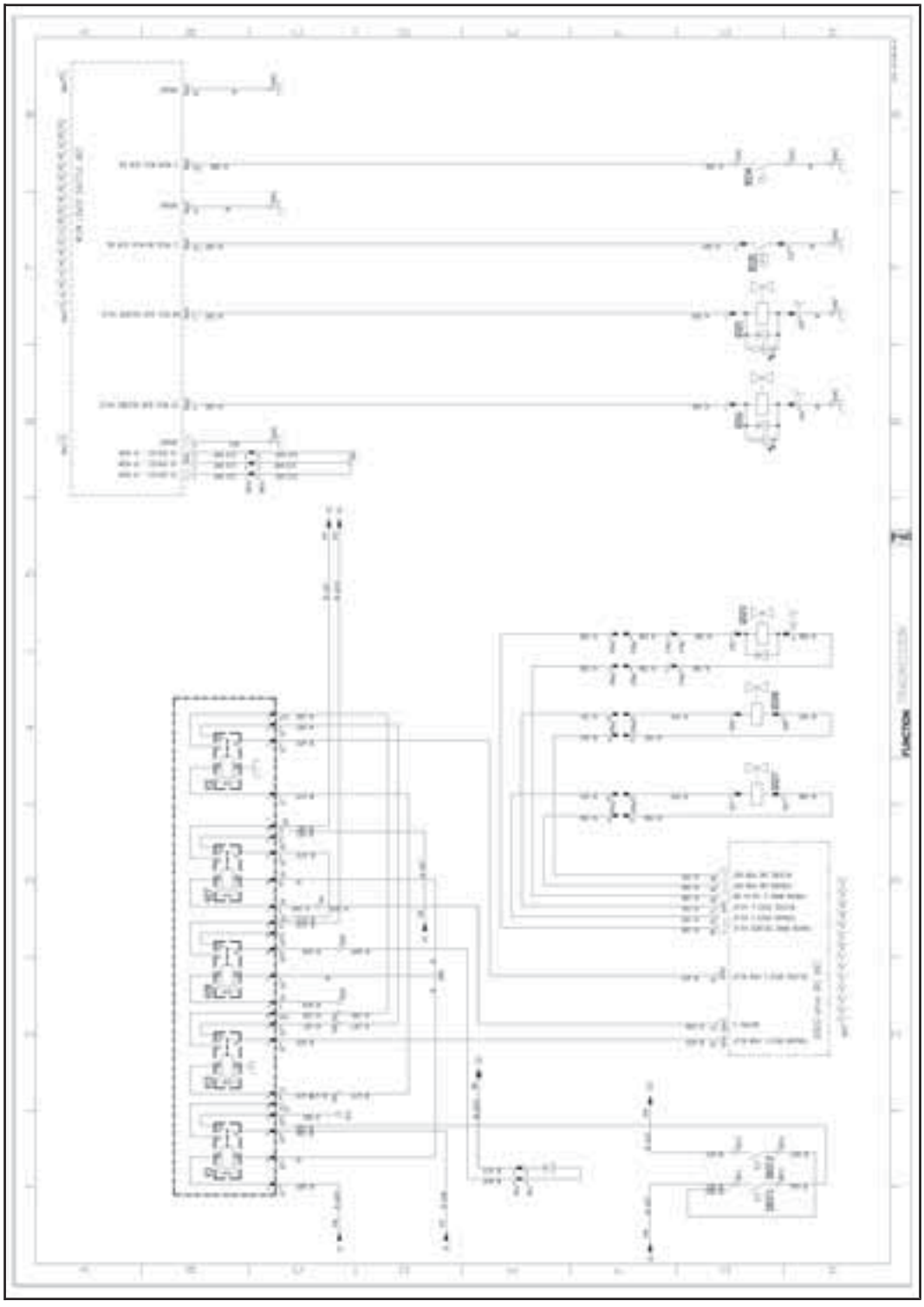


Illustration 9: Wiring diagram PEGASUS 30M - 20160921_Page_03

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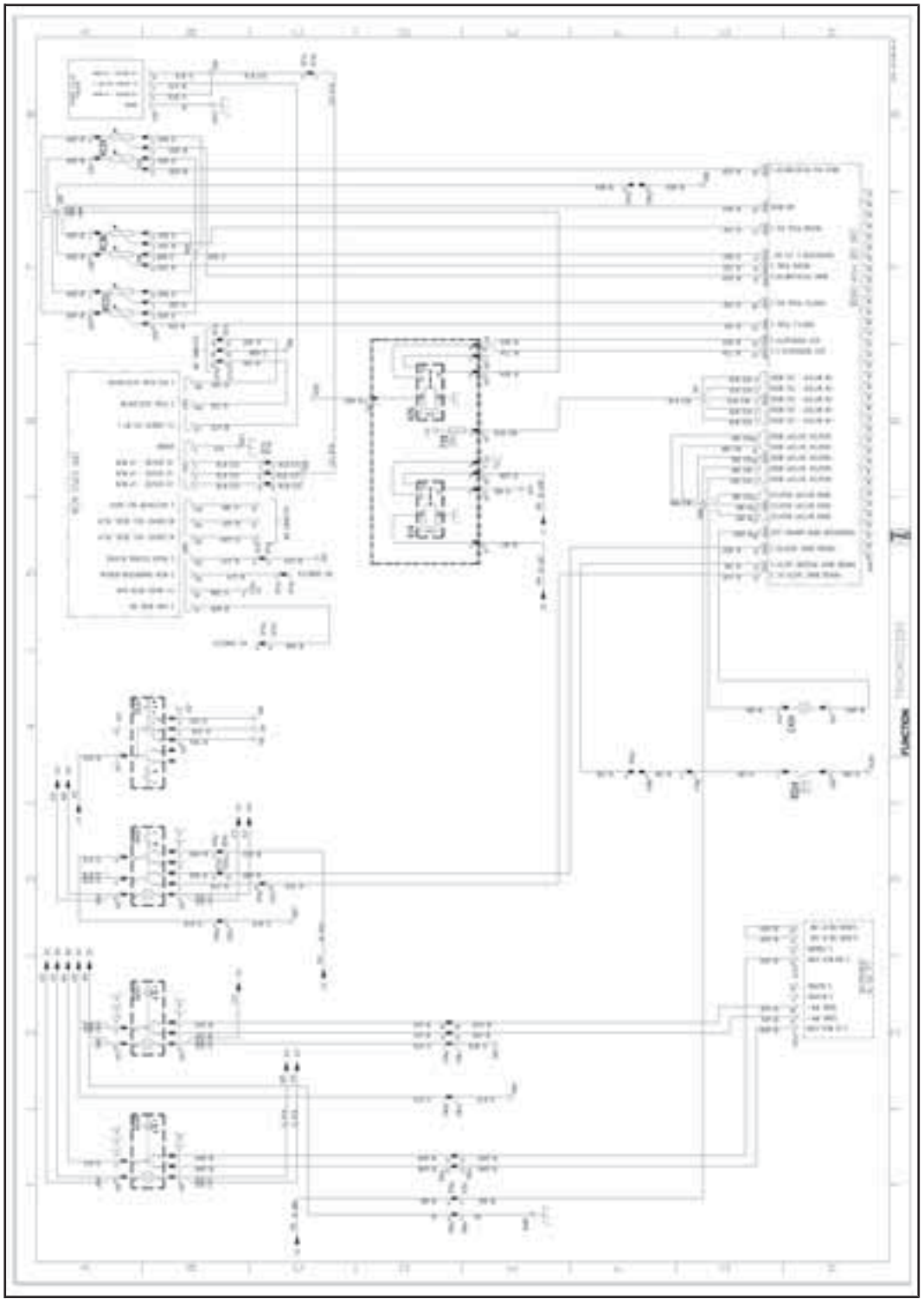


Illustration 10: Wiring diagram PEGASUS 30M - 20160921_Page_04

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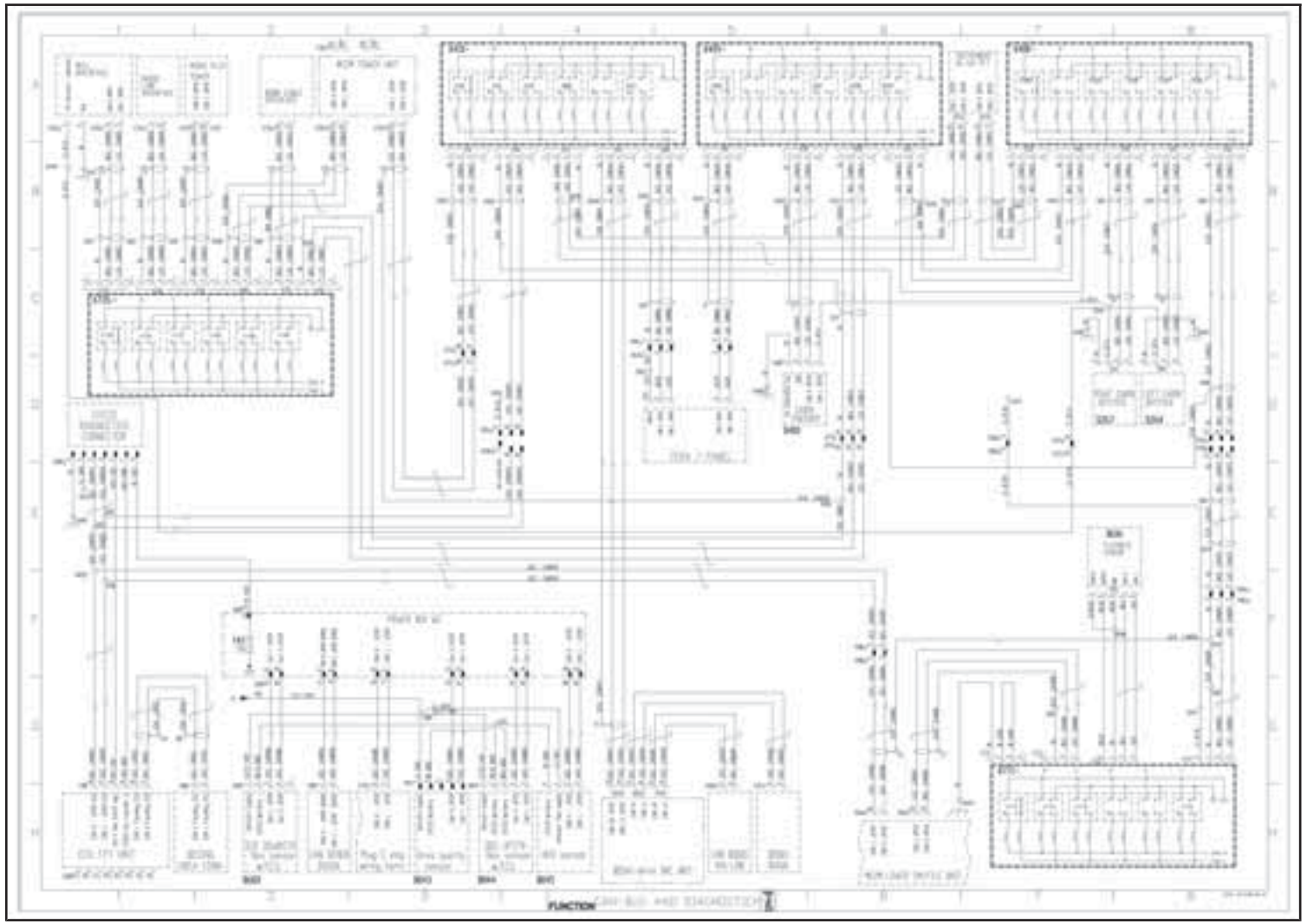


Illustration 11: Wiring diagram PEGASUS 30M - 20160921_Page_05

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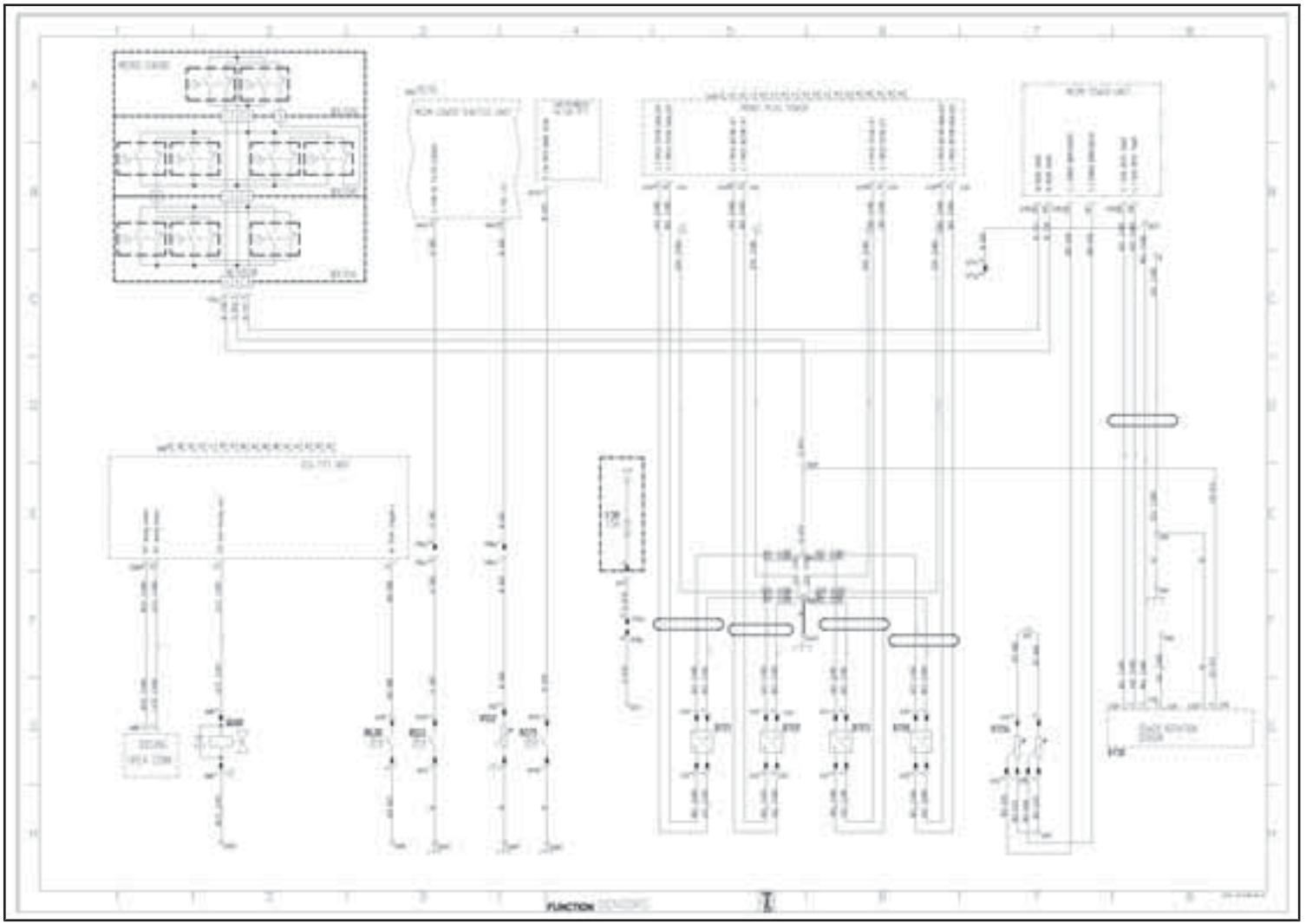


Illustration 12: Wiring diagram PEGASUS 30M - 20160921_Page_06

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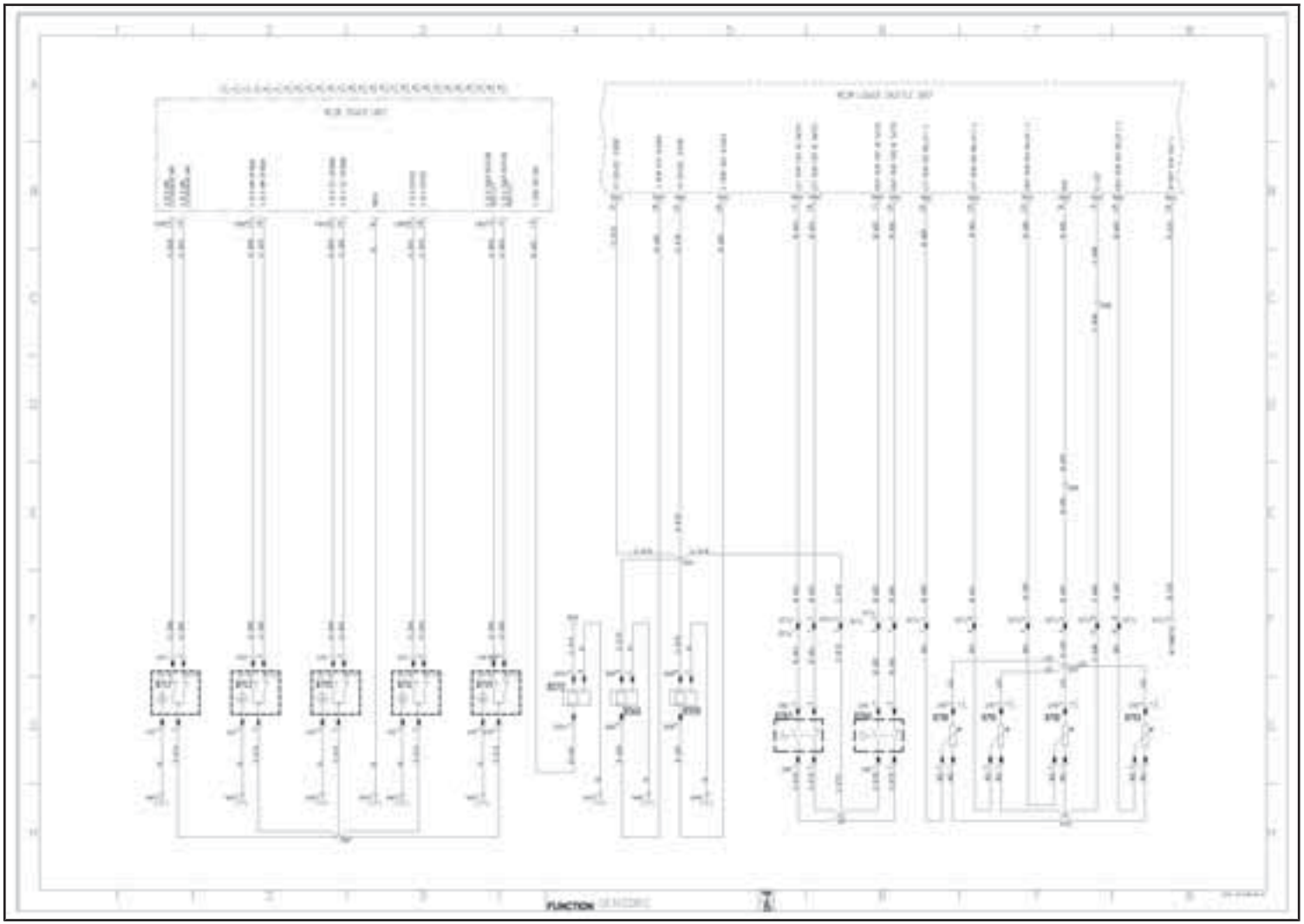


Illustration 13: Wiring diagram PEGASUS 30M - 20160921_Page_07

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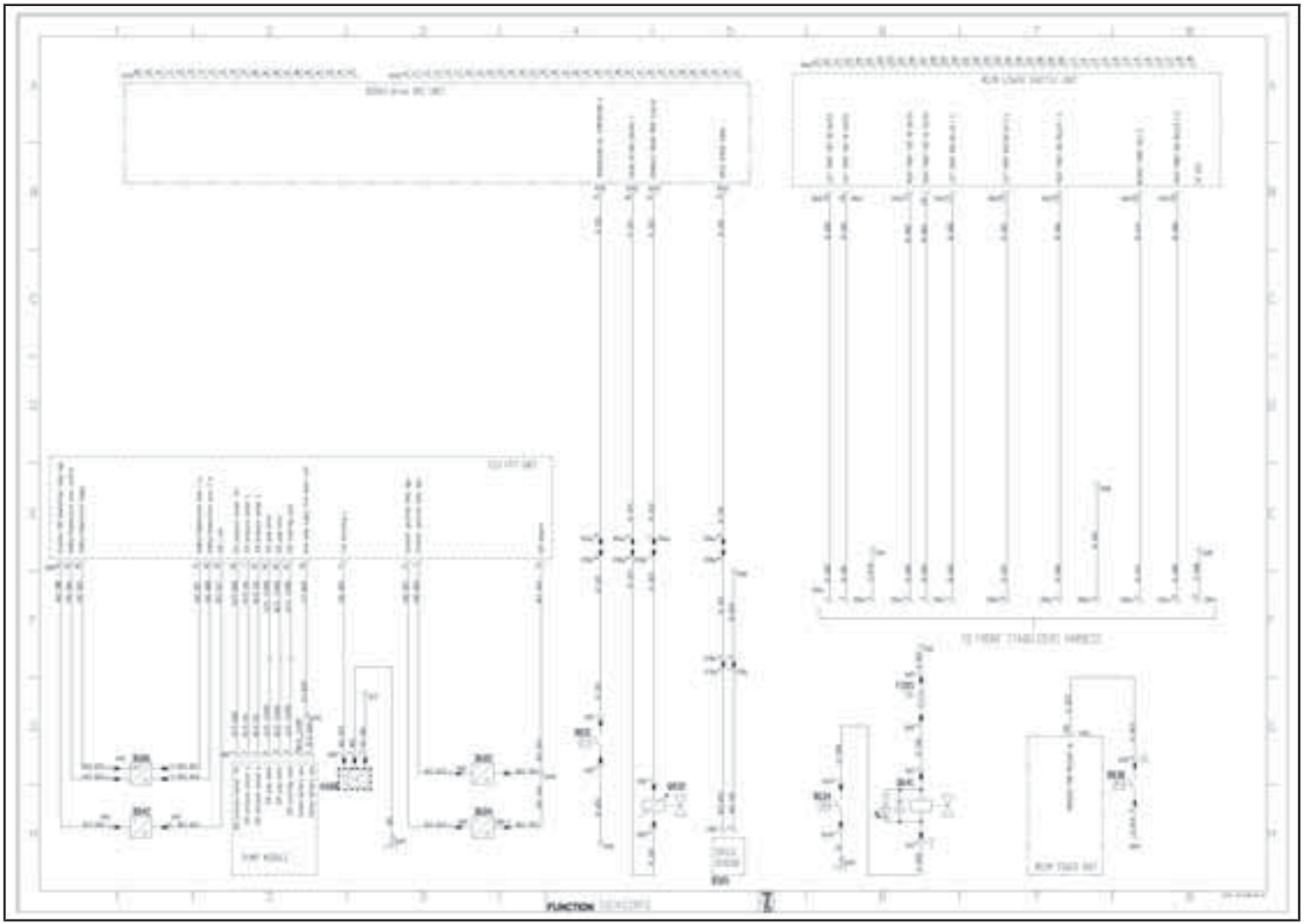


Illustration 14: Wiring diagram PEGASUS 30M - 20160921_Page_08

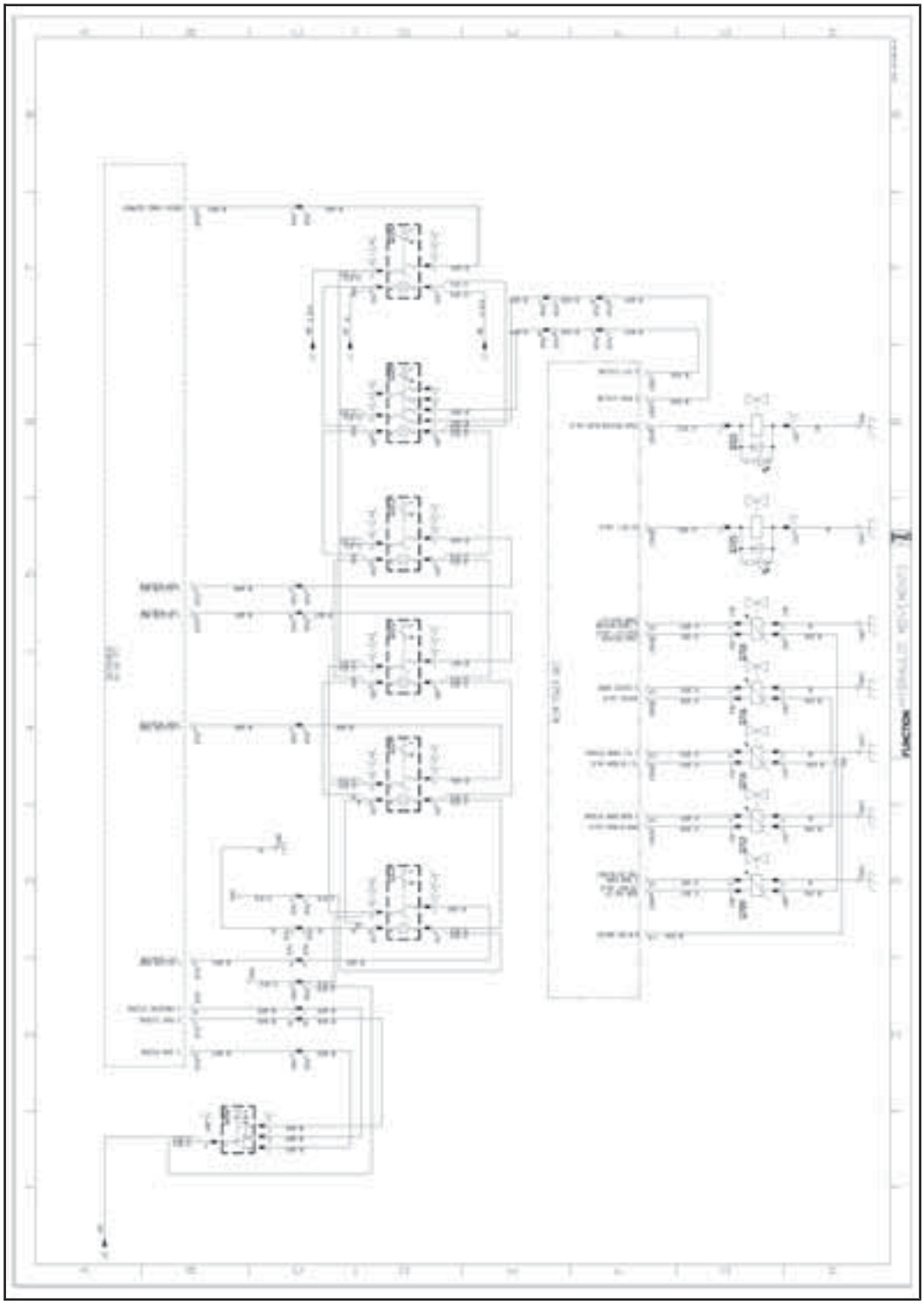


Illustration 15: Wiring diagram PEGASUS 30M - 20160921_Page_09

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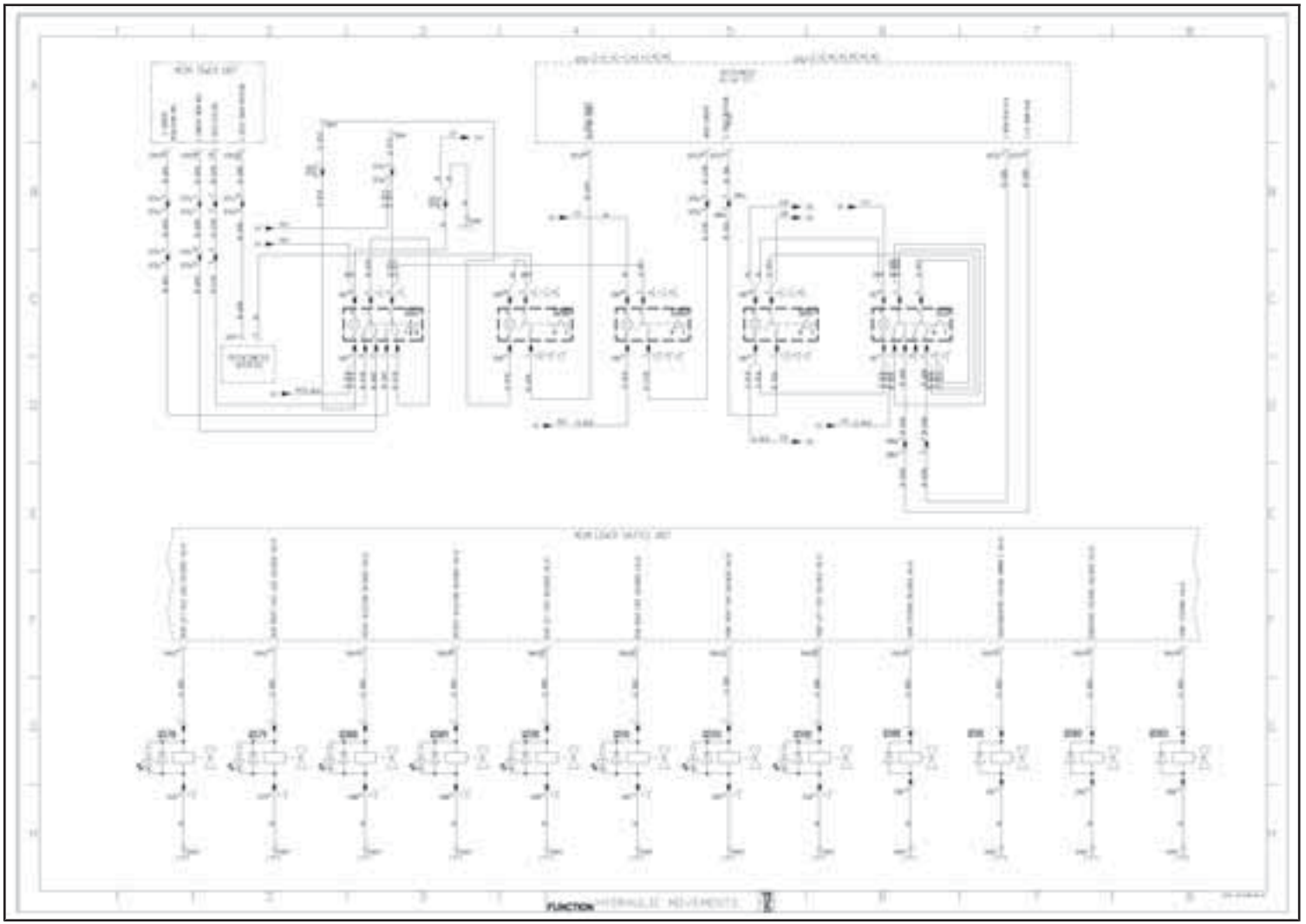


Illustration 16: Wiring diagram PEGASUS 30M - 20160921_Page_10

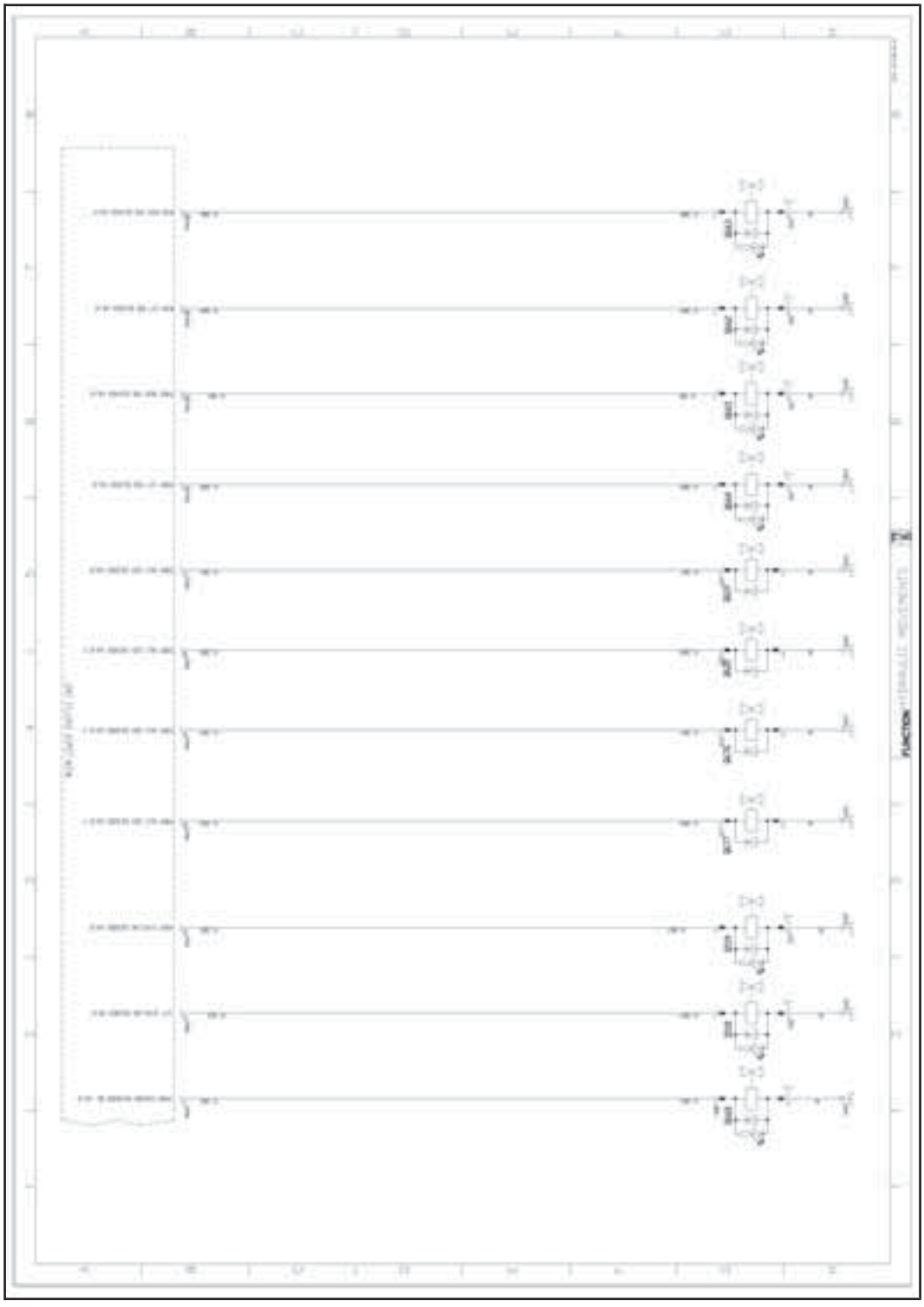


Illustration 17: Wiring diagram PEGASUS 30M - 20160921_Page_11

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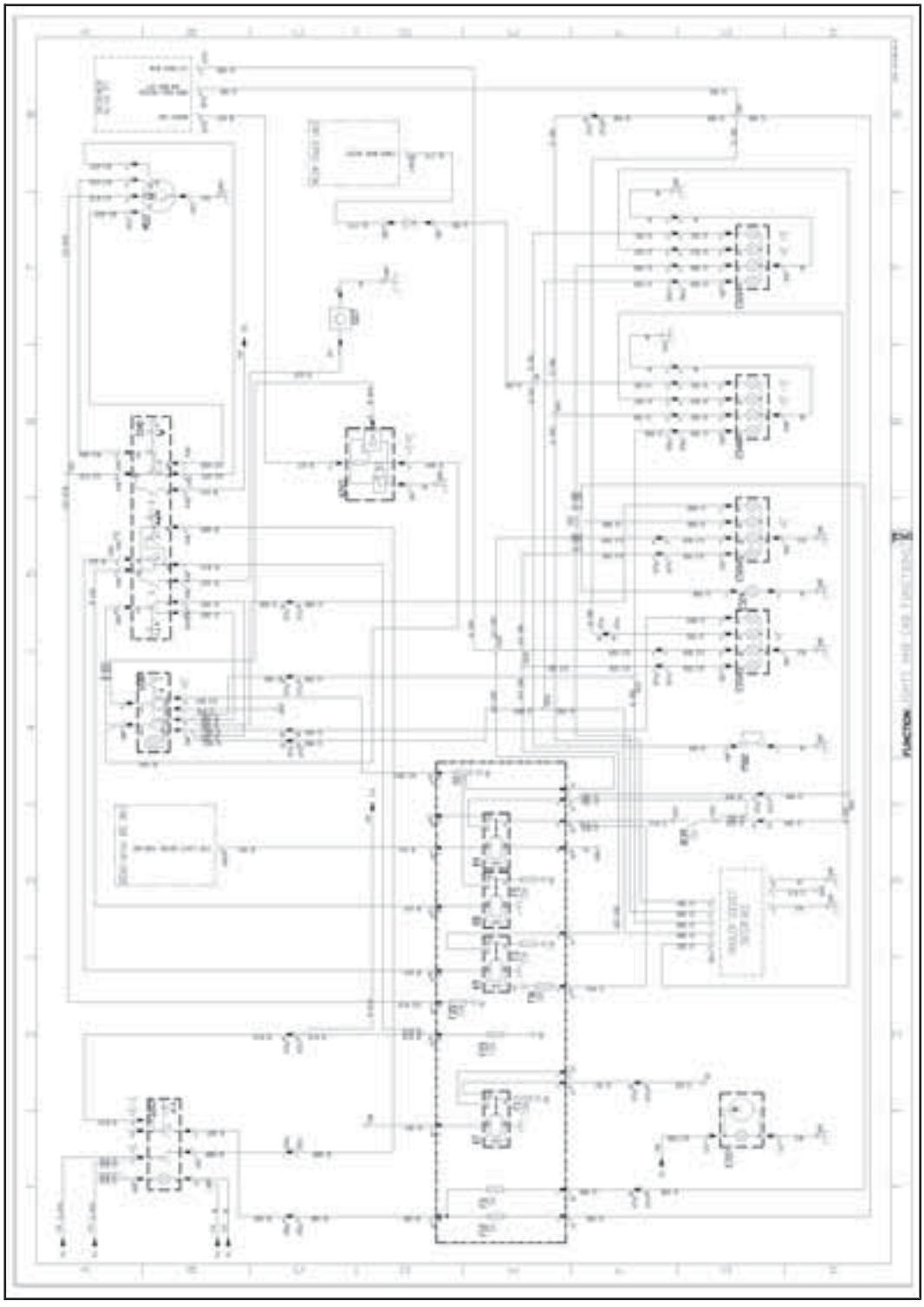


Illustration 18: Wiring diagram PEGASUS 30M - 20160921_Page_12

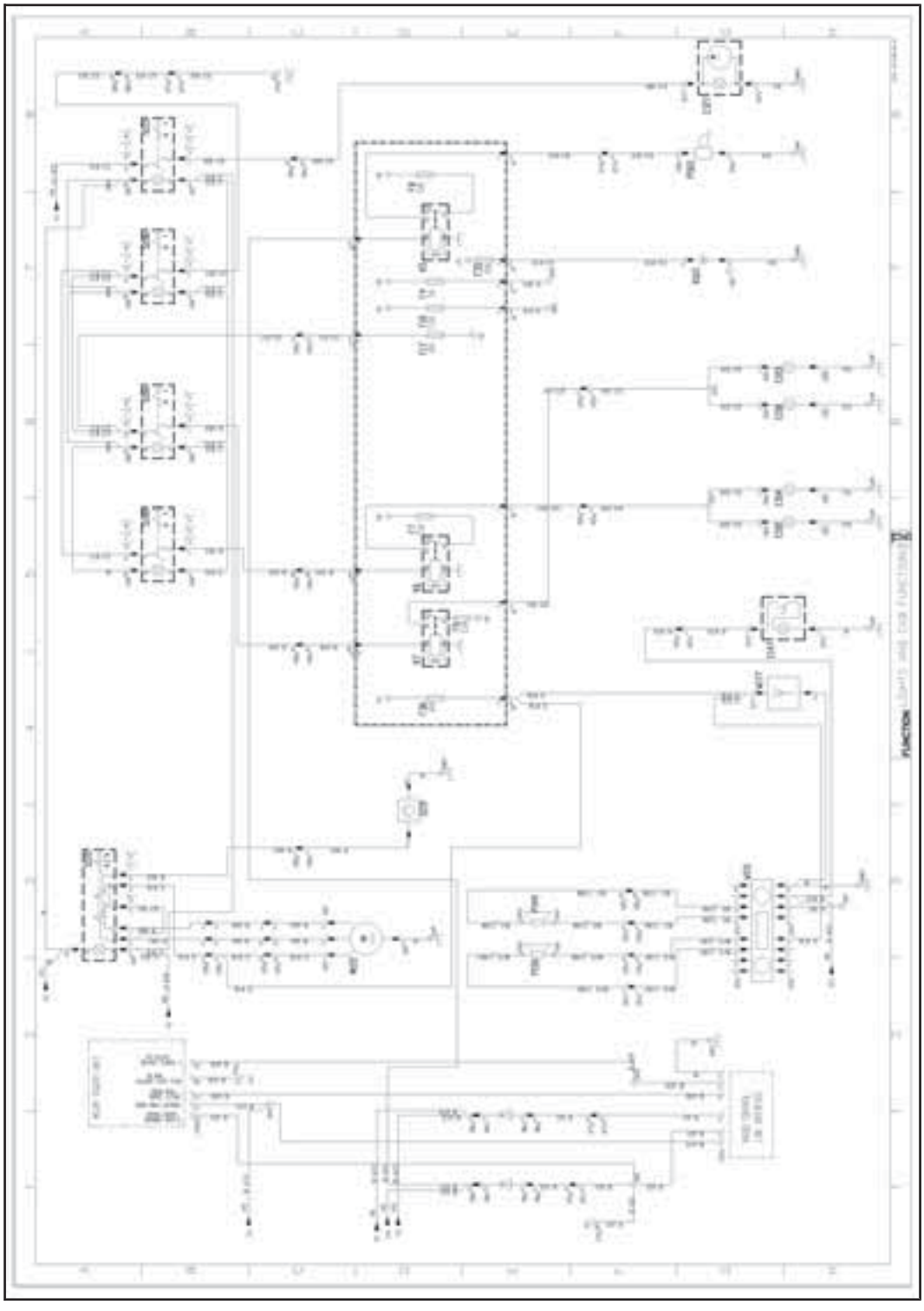


Illustration 19: Wiring diagram PEGASUS 30M - 20160921_Page_13

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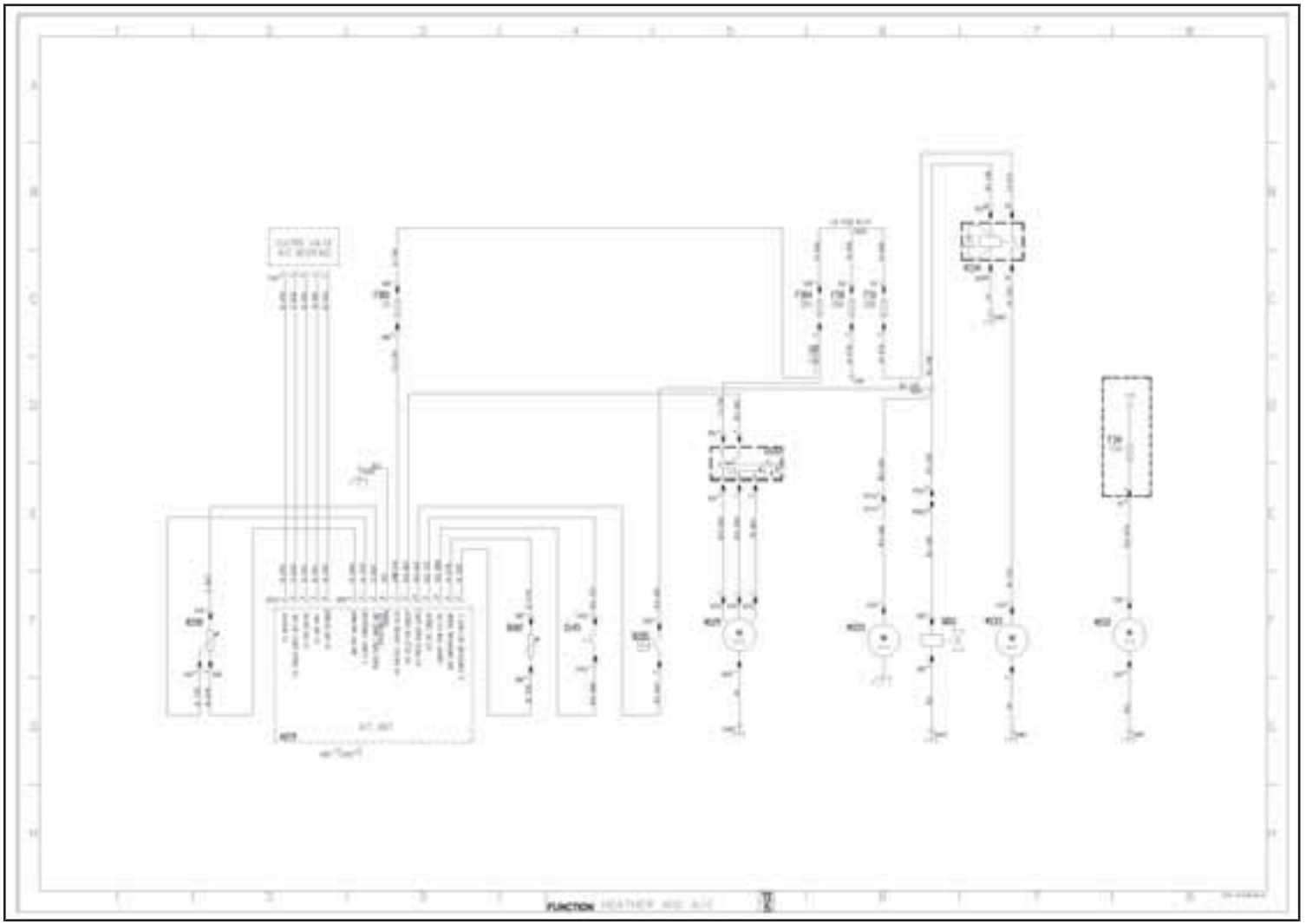


Illustration 20: Wiring diagram PEGASUS 30M - 20160921_Page_14

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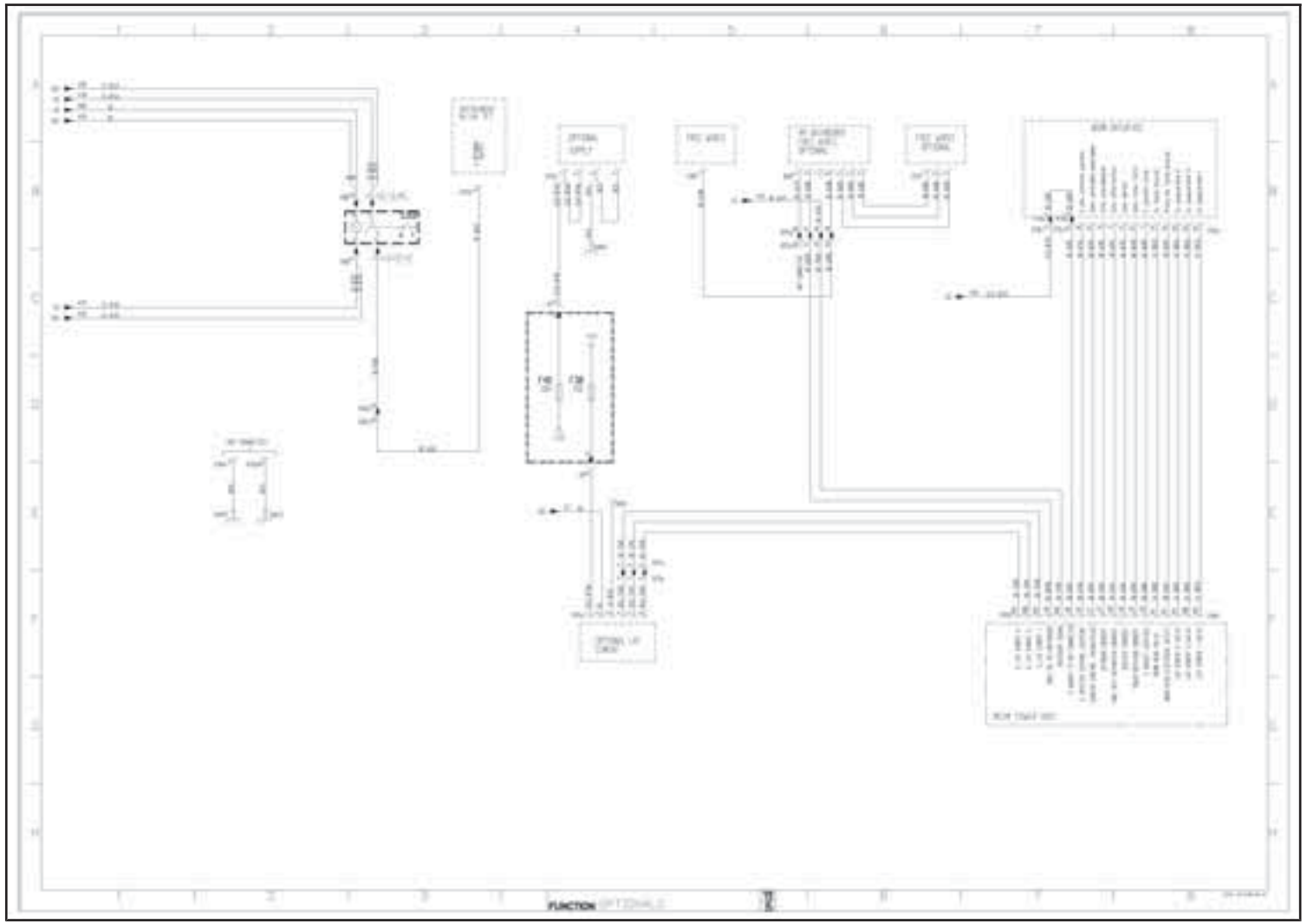


Illustration 21: Wiring diagram PEGASUS 30M - 20160921_Page_15

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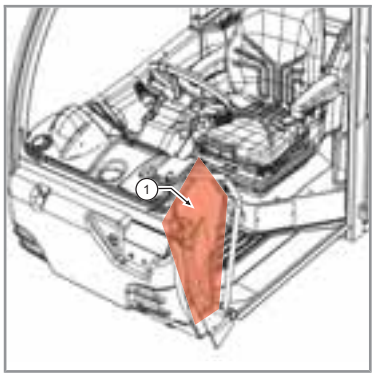
21.3 Fuse box

The main circuit is protected by fuses placed in the general electronic board (fig. 150720-1).

To access the fuse box, remove the left plastic part aside the instrument panel by unscrewing the related screws (Fig 150720-2).

In case of electrical malfunction it is necessary to check the fuses as a first troubleshooting step.

WARNING! Before accessing the fuse box in the cab, set the vehicle in the maintenance position.



150720-2

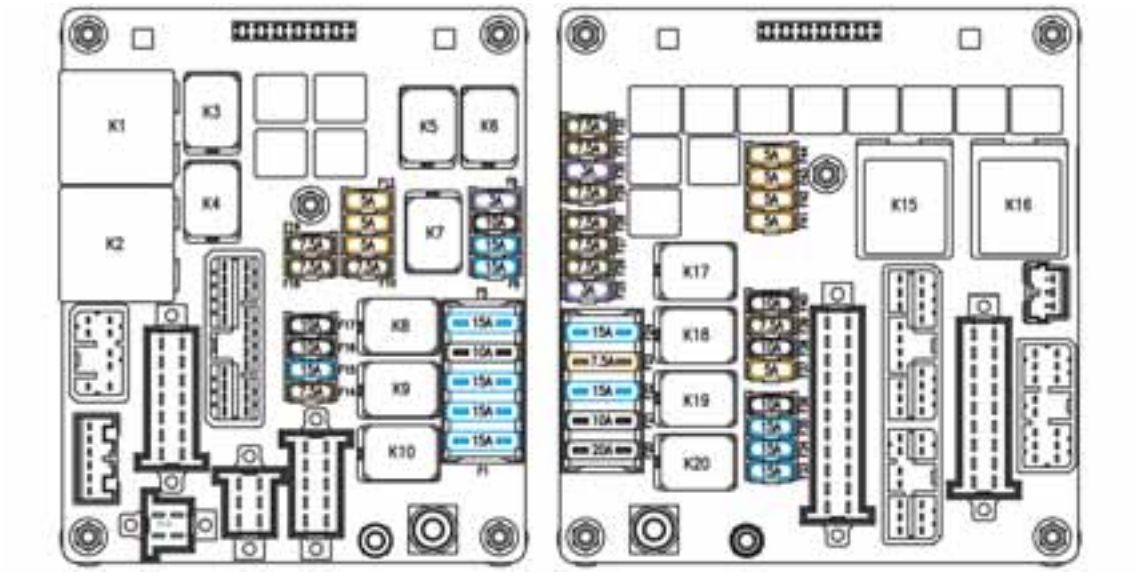


Illustration 22: 150720-1

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22 Hydraulic diagram

22.1 Components legend

Position	Description
1	Hydraulic oil tank
2	Transmission hydraulic pump
3	Hydraulic pump for distributor, steering wheel and brakes
4	Transmission hydraulic motor
5	Hydraulic pump for feet, ventilation and levelling
6	Flow divider
7	Leveling solenoid valve
8	Leveling block cylinder
9	Leveling cylinder
10	Electro-pump for emergencies
11	Return filter
12	Radiator
13	Feet block valve
14	Feet cylinder
15	Feet solenoid valve
16	Rotary joint
17	Air conditioned circuit (optional)
18	Brake pedal
19	Power steering
20	Master valve for steering wheel, brakes and distributor priority
21	Rotation reduction gear
22	Brake
23	Pump cut off valve
24	Distributor
25	Lifting
26	Accumulator
27	Extension
28	Swiveling
29	Compensator
30	Auxiliary sockets
31	Hydraulic rotation lock
32	Front axle
33	Steering wheel solenoid valve
34	Rear axle
35	Transmission gearbox
36	Gear engagement cylinder
37	1st - 2nd gear solenoid valve
38	Negative brake solenoid valve
39	Air conditioned circuit (optional)

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22.2 Hydraulic diagram sheets

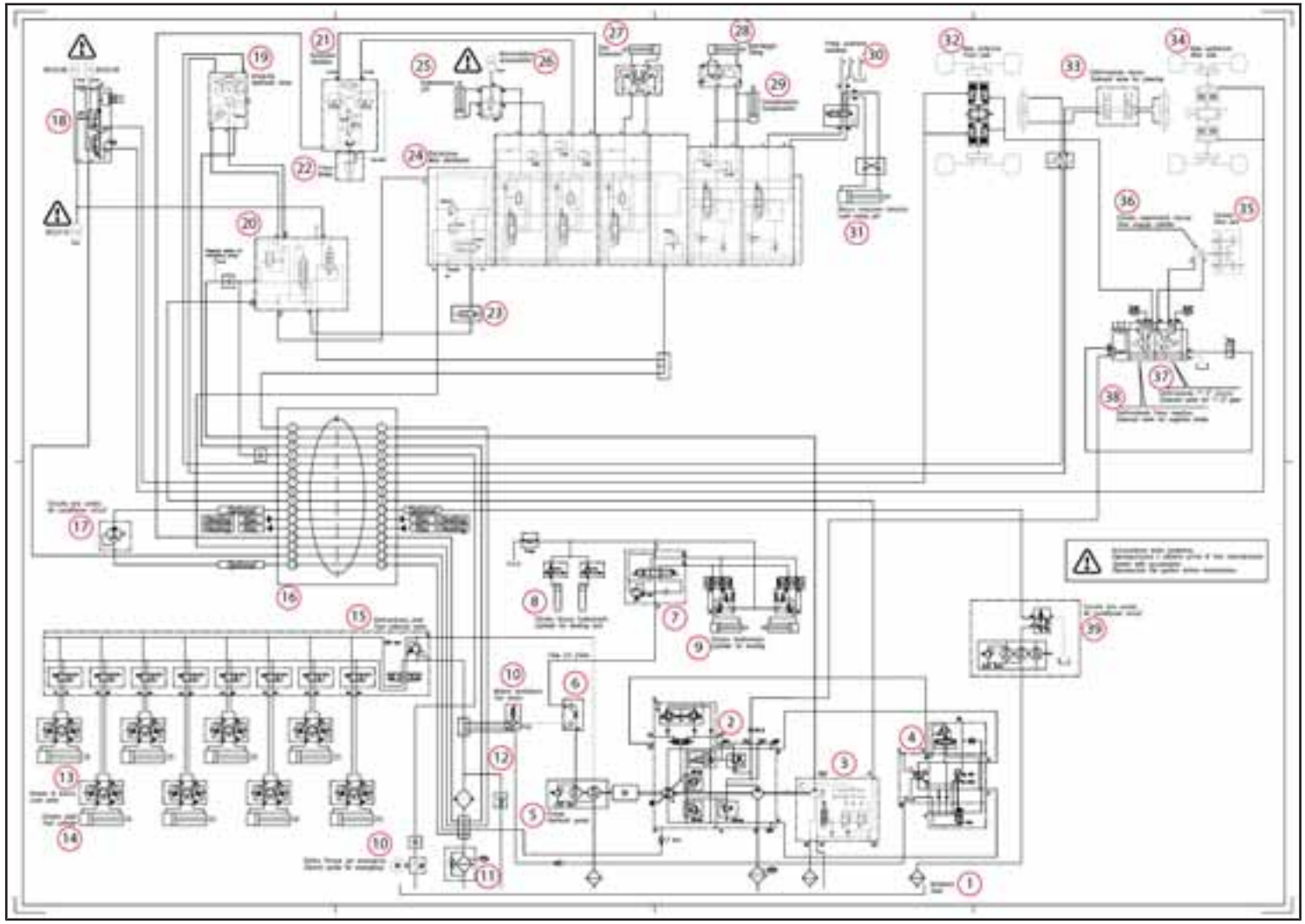
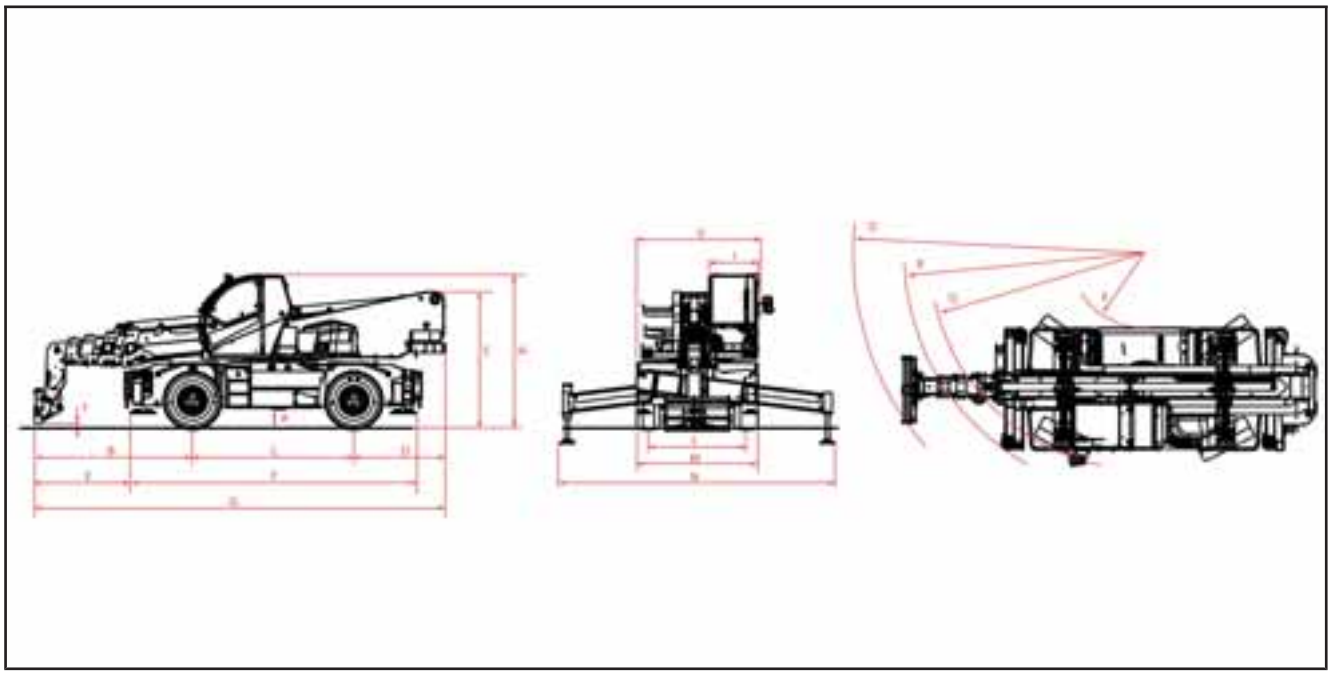


Illustration 23: Hydraulic diagram - Pegasus 30m - RK01-08-A900 Model

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23 Technical data

23.1 Pegasus 45.30



	MGH3901
Machine model	PEGASUS 45.30
A	420 mm (16,5 in)
B	3230 mm (127,2 in)
C	3300 mm (129,9 in)
D	1870 mm (73,6 in)
E	1955 mm (77 in)
F	6455 mm (254,1 in)
G	8400 mm (330,7 in)
H	3095 mm (121,9 in)
I	980 mm (38,6 in)
L	2000 mm (78,7 in)
M	2500 mm (98,4 in)
N	5625 mm (221,5 in)
O	5960 mm (234,6 in)
P	1535 mm (60,4 in)
Q	4400 mm (173,2 in)
R	4915 mm (193,5 in)
S	2752 mm (108,3 in)
T	90 mm (3,5 in)
U	2496 mm (98,3 in)
Z	2555 mm (100,6 in)
Maximum capacity	4500 kg (9921 lb)
Outriggers maximum capacity	4500 kg (9921 lb)

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	MGH3901
Wheels maximum capacity	4500 kg (9921 lb)
Capacity at maximum height on outriggers	1900 kg (4189 lb)
Capacity at maximum height on wheels	1600 kg (3527 lb)
Capacity at maximum horizontal extension on outriggers	200 kg (441 lb)
Capacity at maximum horizontal extension on wheels	300 kg (661 lb)
Maximum lifting height on outriggers	29,6 m (97 ft)
Maximum lifting height on wheels	21,9 m (72 ft)
Maximum horizontal extension on outriggers	26,0 m (85 ft)
Maximum horizontal extension on wheels	14,5 m (48 ft)
Fork swiveling angle	133°
Maximum climb angle	40%
Turret rotation	Continua 360°
Pull-out force	5700 daN (12814 lbf)
Towing force	10000 daN (22481 lbf)
Boom type	Telescopic with 4 telescopic sections and swing articulation STD 133°
Lifting	14,5 s
Getting off the basket	9,5 s
Extension	29,0 s
Retraction	14,0 s
Forward swiveling	2,1 s
Reverse swiveling	1,3 s
Maximum mass	24100 kg (53131 lb)
Unladen weight	21000 kg (46297 lb)
Maximum permitted mass on front axle	13000 kg (28660 lb)
Maximum permitted mass on rear axle	12750 kg (28109 lb)
Brand	FPT
Model	F4HFE413K*B015
Fueling	Diesel
Displacement	4485 cm^3 (274 in^3)
Operation	4-stroke
Cooling system	Liquid
Nominal power	125 kW (168 HP)
@rpm	2200 rpm
Peak power	127 kW (170 HP)
@rpm	1900 rpm
Number and arrangement of cylinders	4, Vertical in line
Injection	Electronic, Common Rail
Consumption	280 g/kWh (460,6 lb/Hp h)
@rpm	1900 rpm
Maximum torque	710 Nm (524 lbft)
@rpm	1500 rpm

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	MGH3901
Intake	16-valve turbo compressor, aftercooler
Emission standards	Stage IV/Tier 4f
Exhaust gas treatment	DOC+SCR (AdBlue)
Air Filter	Air pre-heating and air self-cleaning pre-filter
CO emissions	0,026 g/kWh (0,04 lb/Hp h)
HC emissions	0,003 g/kWh (0 lb/Hp h)
NOx emissions	0,168 g/kWh (0,28 lb/Hp h)
Particulate emissions	0,013 g/kWh (0,02 lb/Hp h)
Alternator	120 A
Battery	12 V - 185Ah - 1200 A
Starter motor	4,2 kW
Hydraulic pump type	Variable displacement pump with Load Sensing for power steering and movements
Hydraulic pump capacity	290 L/min (76,6 gal/min)
Max. operating pressure	30,0 MPa (4351 psi)
Distributor type	Hydraulic in 5 sections with "Load Sensing" proportional electronic servo-control with "Flow Sharing", 5 simultaneous movements with independent maximum speed control of each movement
Distributor control	Proportional 5in1 Joystick
Optional distributor control	Double proportional Joystick
Boom hydraulic sockets	With quick couplings
Transmission type	Hydrostatic with continuous adjustment and electronic control
Reversal	Electrohydraulic
Transmission gearbox	Servocontrolled 2-speed
Drive mode	Normal, Eco, Creeper. selectable ECO-WORK.
Inching	With electronic pedal for controlled forward movement
Driving axles	Front and rear
Axles type	2 steering, with 4 planetary reduction gears
Service braking	Oil bath with servo brake on front and rear axle with double hydraulic system
Parking braking	Negative actuation with electrical control
Front axle	With transverse leveling device driven by the cab
Rear axle	Swinging
Type of steering	4 wheels / transversal / 2 wheels
Acoustic pressure: Reference standard for stopped and running vehicle	Directive - 2009/63 / EC
Acoustic pressure: Value with stopped vehicle	72,2 dB(A)
Acoustic pressure: Value with running vehicle	86,2 dB(A)
Acoustic pressure: Reference standard perceived by the operator	UNI EN 12053:2008
Acoustic pressure: Value perceived by the operator with open cab	-

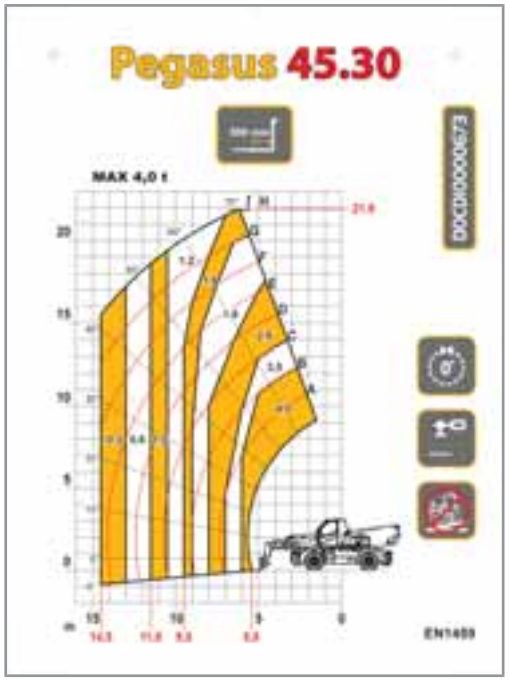
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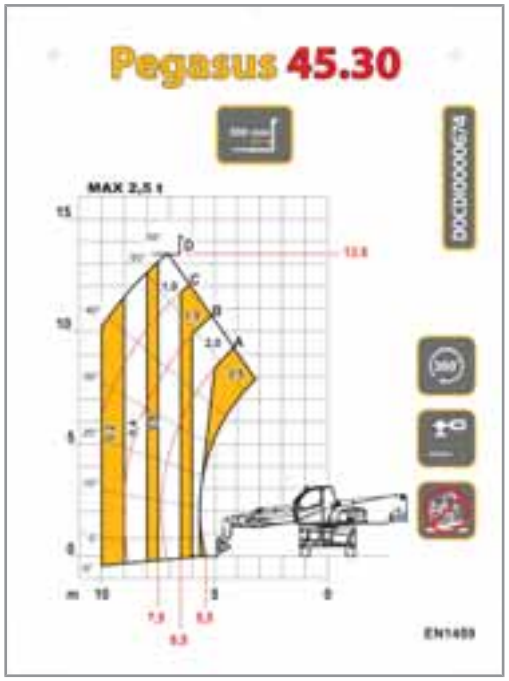
	MGH3901
Acoustic pressure: Value perceived by the operator with closed cab	71,0±4 dB(A)
Acoustic power: Reference standard	Directive - 2000/14 / EC
Acoustic power: Guaranteed value	108 dB(A)
Acoustic power: Measured value	107 dB(A)
Reference standard for seat vibrations	UNI EN 13059
Value for seat vibrations	0,83 m/s^2 (2,7 ft/s^2)
Uncertainty for seat vibrations value	0,25 m/s^2 (0,8 ft/s^2)
Reference standard for steering wheel vibrations	EN 1032
Value for steering wheel vibrations	1,05 m/s^2 (3,4 ft/s^2)
Uncertainty for steering wheel vibrations value	0,31 m/s^2 (1 ft/s^2)
Load per wheel	10400 daN (23380 lbf)
Load per foot	14000 daN (31473 lbf)
Standard tires	18R22.5"
Optional tires	18x22.5"
Engine oil specifications	- API CJ-4 / ACEA E9 - SAE 10W-40 (FPI9.LUBR001)
Engine oil quantity	14,40 L (3,8 gal)
Front axle oil specifications	SAE 85W90, API GL4, MIL L-2105
Front axle oil quantity	7,50 L (1,98 gal)
Front reduction gears oil quantity	1,25 L (0,33 gal)
Rear axle oil specifications	SAE 85W90, API GL4, MIL L-2105
Rear axle oil quantity	7,50 L (1,98 gal)
Rear reduction gears oil quantity	1,25 L (0,33 gal)
Transmission gearbox oil specifications	SAE 85W90, API GL3
Transmission gearbox oil quantity	1,80 L (0,48 gal)
Air conditioning refrigerant specifications	R134A
Air conditioning refrigerant quantity	1,10 kg (2 lb)
Grease specifications	NLGI - 1
Grease quantity	4,00 kg (9 lb)
Hydraulic oil type	DIECI Hydro Telehandler Fluid ISO46
Hydraulic system (total)	320,0 L (84,54 gal)
AdBlue tank	35,0 L (9,25 gal)

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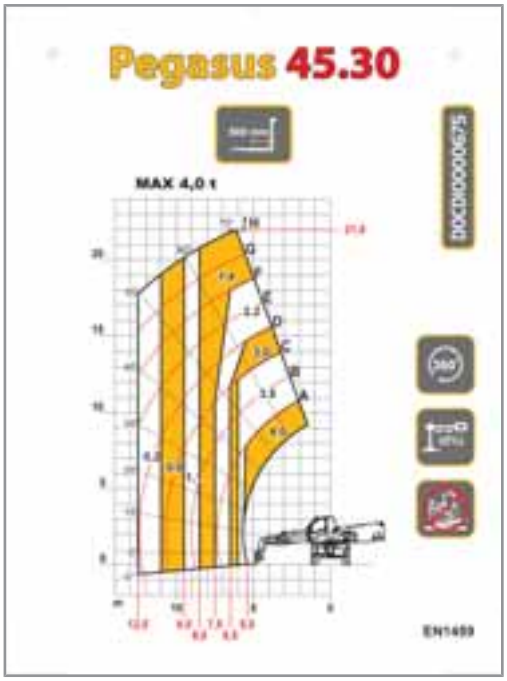
Diagrams

Diagrams code	Vehicle code	Vehicle model	Production equipment code	Price list equipment code	Unit of measure	Operating Mode
DOCDI0000673	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Metric	Wheels - 0°
DOCDI0000674	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Metric	Wheels - 360°
DOCDI0000675	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Metric	Feet - 360° - 0%
DOCDI0000676	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Metric	Feet - 360° - 50%
DOCDI0000677	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Metric	Feet - 360° - 100%
DOCDI0000733	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Imperial	Wheels - 0°
DOCDI0000734	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Imperial	Wheels - 360°
DOCDI0000735	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Imperial	Feet - 360° - 0%
DOCDI0000736	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Imperial	Feet - 360° - 50%
DOCDI0000737	MGH3901	PEGASUS 45.30	BUD1219	TFR0027	Imperial	Feet - 360° - 100%

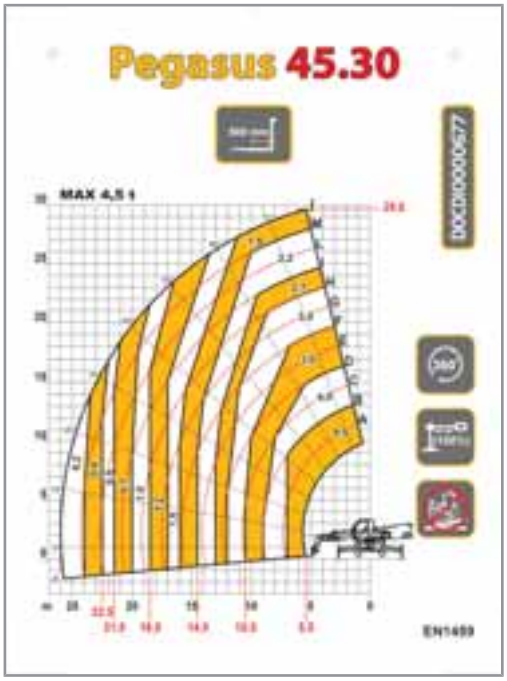


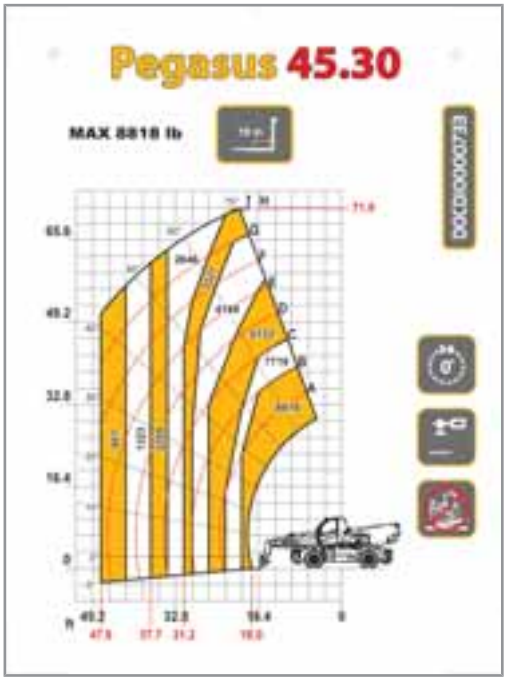


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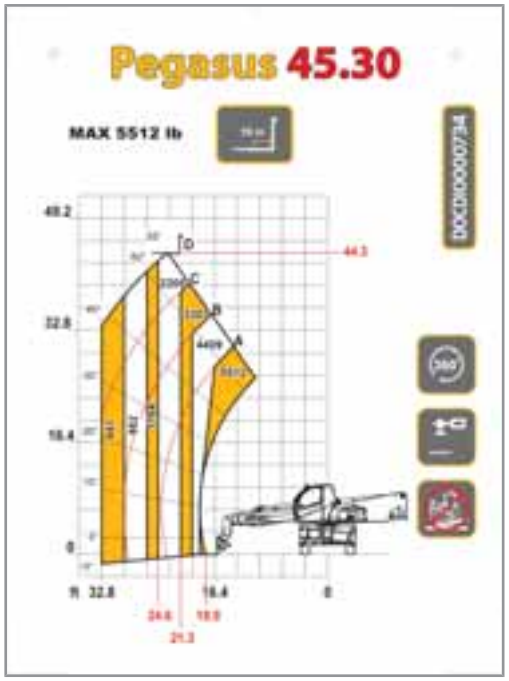


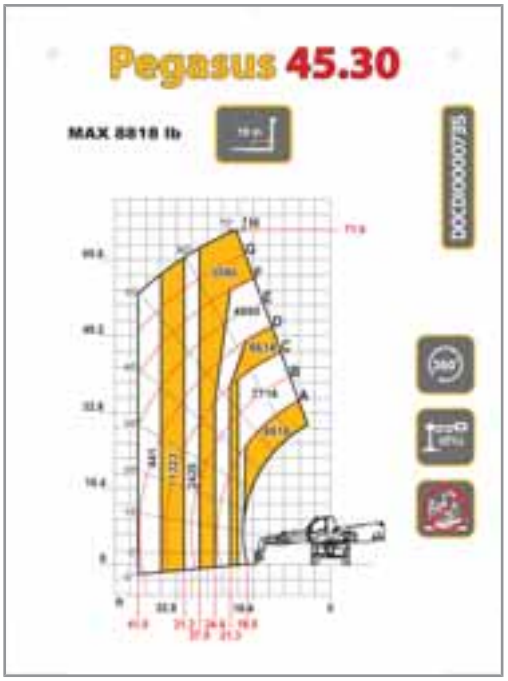


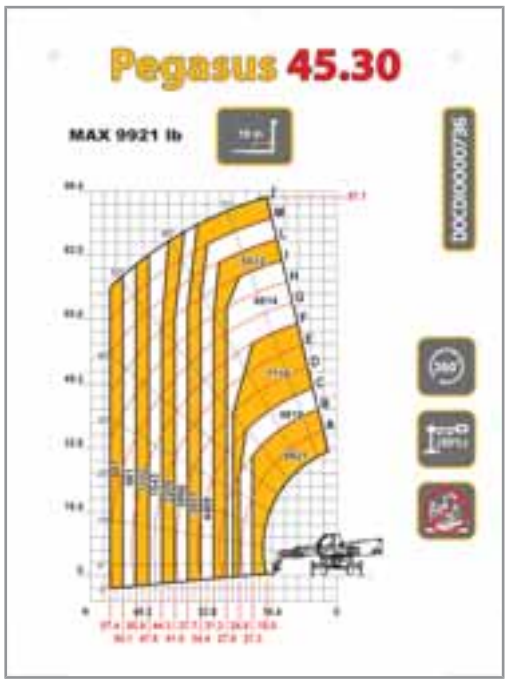


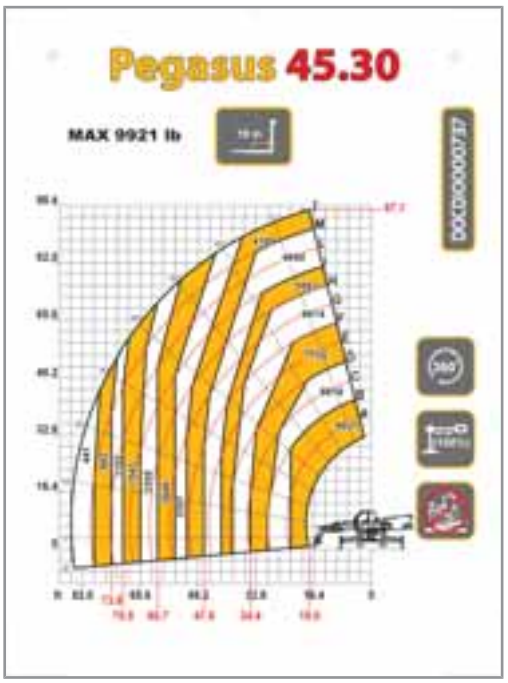


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23.1.1 Equipment

	Production code	Description
TCV0026	AAAAAAA	Fork extender complete with pair of forks 120 x 45 L = 1200 mm and 4.5 t capacity
TCV0027	BCV8045, BCV8279	Fork counterplate (with pins) for use with quick attachment
TFR0027	BUD1219	Pair of floating forks mm 120 x 45 L = 1200, capacity 4.5 t
TFR0016	BUD1190	Pair of fork extensions L = 1900 mm for forks mm 120 x 45
TFR0009	BUD1121/0G	Fork counterplate guard
TGN0023	BUB2441	Orange-peel grab with 5 teeth. Capacity 0.23 m^3
TBN0020	BUB2422	Bucket for light materials (max spec. weight 0.8 t/ m^3) m^3 1.00 SAE heaped (width 2.35 m) (The bucket with anti-wear blade protector is recommended)
TBN0021	BUB2422/S	Bucket for light materials (max spec. weight 0.8 t/ m^3) m^3 1.00 SAE heaped (width 2.35 m) with blade protector
TBN0034	BUD3060	Mixing bucket yield 350 l (Required electrical contact on boom head)
TBN0061	BUD3063	Mixing bucket, yield 500 l
TGN0012	BUD3020	Hydraulically opening ladle l 400
TGN0015	BUD3021	Hydraulically opening ladle l 600
TCS0005	BUD6417	Front passenger basket cm 120 x 215. Capacity 300 kg incl. 3 people, for vehicle with radio control
TCS0007	BUD6419	Front passenger basket cm 120 x 240 with hydraulic extension up to cm 420. Capacity 300 kg incl. 3 people, for vehicle with radio control
TCS0009	BUD6423	Trilateral passenger basket cm 120 x 215. Capacity 300 kg incl. 3 people, for vehicle with radio control
TCS0011	BUD6427	Trilateral passenger basket cm 120 x 240 with hydraulic extension up to cm 420. Capacity 300 kg incl. 3 people, for vehicle with radio control
TCS0015	BUD6425	Trilateral passenger basket cm 120 x 240 with hydraulic extension up to cm 580. Capacity 300 kg incl. 3 people, for vehicle with radio control
TCS0076	BUD6441	Trilateral passenger basket 120 x 240 cm Capacity 800 kg including three persons, for vehicle with radio control.
TCS0013	BUD6429	Trilateral passenger basket cm 120 x 240 with hydraulic extension up to cm 420. Capacity 800 kg incl. 3 people, for vehicle with radio control
TCS0073	BUD6498	Trilateral passenger basket 120 x 240 cm extensible up to 400 cm with front opening. Capacity 500 kg incl. 2 people, for vehicle with radio control.
TSL0021	BUD7022	Positive/negative jib with passenger basket 200 kg capacity including 2 people (Pre-arrangement for positive/negative jib is compulsory)
TCS0002	BUD6218	Material basket 200 x 120 x 130 cm with side door. Capacity 1,000 kg
TSL0031	BUD4474	Jib (crane extension) L = 1.3 m with winch (Capacity 2.0 t)
TSL0032	BUD4482	Jib (crane extension) L = 1.3 m with hook (Capacity 2.0 t)
TSL0033	BUD4452	Jib (crane extension) L = 2.5 m with winch (Capacity 1.2 t)

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	Production code	Description
TSL0034	BUD4483	Jib (crane extension) L = 2.5 m with hook (Capacity 1.2 t)
TSL0071	BUD4548	Jib crane extension L = 2.7 m with winch Capacity 1.5 t
TSL0035	BUD4454	Jib (crane extension) L = 4.5 m with winch (Capacity 0.6 t)
TSL0036	BUD4484	Jib (crane extension) L = 4.5 m with hook (Capacity 0.6 t)
TSL0037	BUD4475	Winch for fork carrier plate (capacity 3.0 t) with rope guide
TSL0030	BUD4476	Winch for fork carrier plate (capacity 4.0 t) with rope guide.
TSL0038	BUD4479	Jib L = 1.00 m with hook (2.5 t capacity)
TSL0007	BUB2448	Hook for fork carriage with the same capacity as the vehicle

23.2 Environmental conditions

Although the vehicle and the equipment can be used in several different situations, however, it is necessary to observe, as a precautionary measure, compliance with minimum standards of operation as specified below:

Parameter	Allowed values
Operating temperatures	from -20°C to +40 °C (from -4 °F to 104 °F)
Average daily temperature	< +40 °C (< 104 °F)
Storage temperature	from -25°C to +50 °C (from -13 °F to 122 °F)
Humidity	from 20 % to 95 %
Altitude	< 2500 m (< 8200 ft)

Table 3: Environmental conditions table

23.3 Electromagnetic Interference

In the case of additional equipment installed by the customer, the user must verify if the installation causes interference of any kind with the tools of the vehicle; if so, the user must correct such interferences.

It is essential to pay particular attention to mobile devices such as radio communications (telephones) that must be installed by trained service technicians must use externally mounted antennas.

In general, it should be kept in mind that any additional electrical equipment installed must comply with the regulations in the country of use of the vehicle.

23.4 Radiations

The machine, in conditions of normal use, does not produce any type of radiation, ionizing and non ionizing, that can cause problems to the operator.

23.5 Standard hydraulic oil

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The sticker shown aside (170350-1) indicates that the hydraulic circuit is filled with hydraulic oil DIECI Hydro Telehandler Fluid ISO46.



170350-1

Specifications: DIECI Hydro Telehandler Fluid ISO46

ISO 6743-4 HV, Afnor NFE 48-602, ISO 11158, DIN 51524 Part 3 HVLP, Afnor NFE 48-603 HV, ASTM D6158, Denison HF-0 / HF-1 / HF-2, Eaton Vickers I-286-S / M-2950-S, Cincinnati Machine P-68 / P-69 / P-70, Afnor NFE 48-690(dry), Afnor NFE 48-691(wet), U.S. Steel 126 / 127 / 136, JCMAS HK, Bosch variable vane pumps, Rexroth RE 90220, Sauer Danfoss 520L0463, General Motors (LS-2) LH-03-1 / LH-04-1 / LH-06-1, SEB 181222.

Properties	Analysis method	Unit of measure	Value
Density at 15°C	ASTM D1298	kg/l	0.88
Kinematic viscosity at 40°C	ASTM D445	cSt	46.6
Kinematic viscosity at 100°C	ASTM D445	cSt	8.6
Viscosity Index	ASTM D2270	-	165
Kinematic viscosity at 40°C after Sonic Shear	ASTM D445	cSt	41.6
Viscosity Index after Sonic Shear	ASTM D2270	-	144
FZG Failure Load Stage	ASTM D5182	Stage	12
Flash Point (C.O.C.)	ASTM D92	°C	210
Pour point	ASTM D97	°C	-35
Temperature for Brookfield viscosity of 750cP	ASTM D2983	°C	-9

23.6 Hydraulic oil for cold climates

NOTICE

Hydraulic oil for cold climates is an optional.

Consult your dealer in case of doubts or information on your vehicle.

The sticker shown aside (170351-1) indicates that the hydraulic circuit is filled with hydraulic oil DIECI Hydro Telehandler Fluid ISO32.



170351-1

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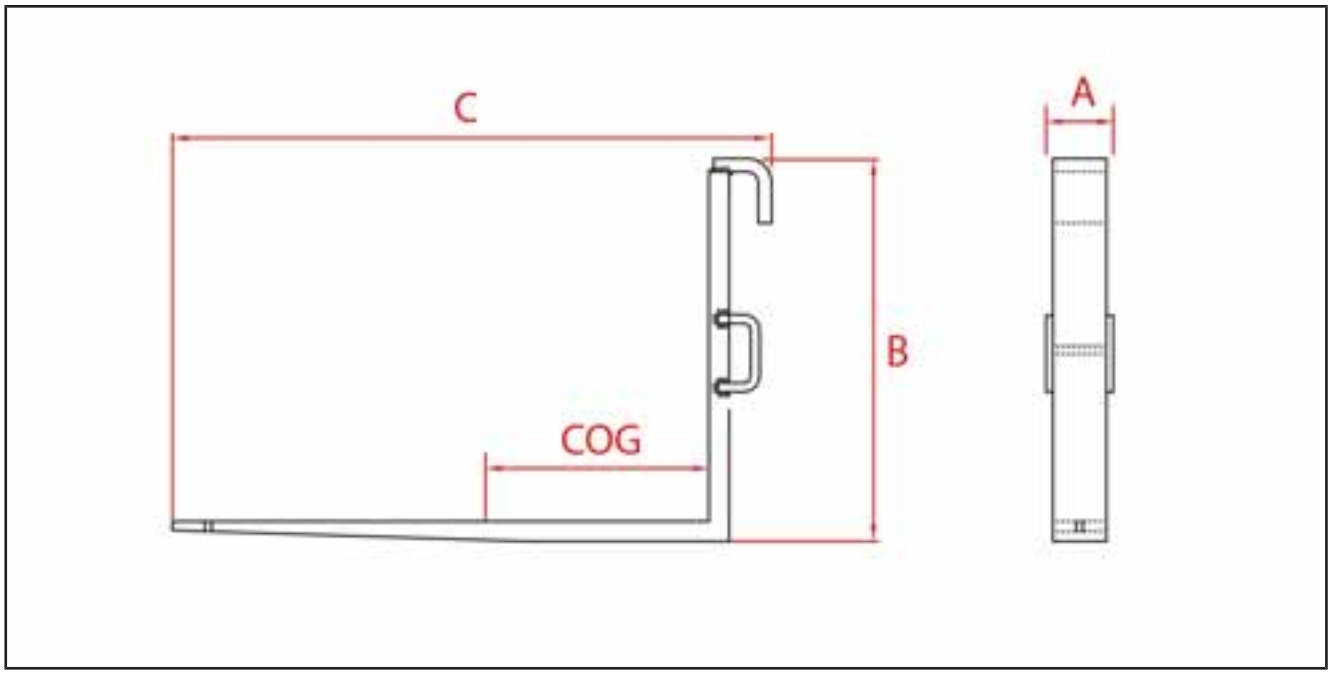
Specifications: DIECI Hydro Telehandler Fluid ISO32

ISO 6743-4 HV, Afnor NFE 48-602, ISO 11158, DIN 51524 Part 3 HVLP, Afnor NFE 48-603 HV, ASTM D6158, Denison HF-0 / HF-1 / HF-2, Eaton Vickers I-286-S / M-2950-S, Cincinnati Machine P-68 / P-69 / P-70, Afnor NFE 48-690(dry), Afnor NFE 48-691(wet), U.S. Steel 126 / 127 / 136, JCMAS HK, Bosch variable vane pumps, Rexroth RE 90220, Sauer Danfoss 520L0463, General Motors (LS-2) LH-03-1 / LH-04-1 / LH-06-1, SEB 181222

Properties	Analysis method	Unit of measure	Value
Color	-	-	Green-Blue
Density at 15°C	ASTM D1298	kg/l	0.878
Kinematic viscosity at 40°C	ASTM D445	cSt	32.4
Kinematic viscosity at 100°C	ASTM D445	cSt	6.6
Viscosity Index	ASTM D2270	-	165
Flash Point (C.O.C.)	ASTM D92	°C	205
Pour point	ASTM D97	°C	-37

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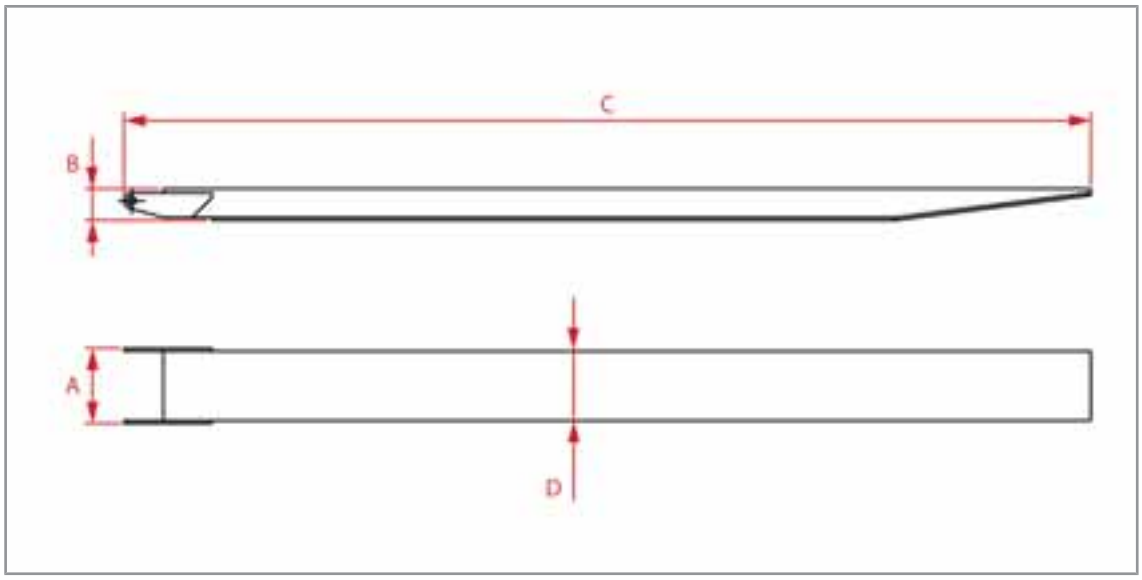
23.7 Fork technical data



	BUD1219
Production equipment code	BUD1219
Price list equipment code	TFR0027
Capacity	4500 kg (9921 lb)
Weight	-
Width (A)	150 mm (5,9 in)
Height (B)	890 mm (35 in)
Length (C)	1355 mm (53,3 in)
COG	600 mm (23,6 in)
Width section	120 mm (4,7 in)
Height section	45 mm (1,8 in)

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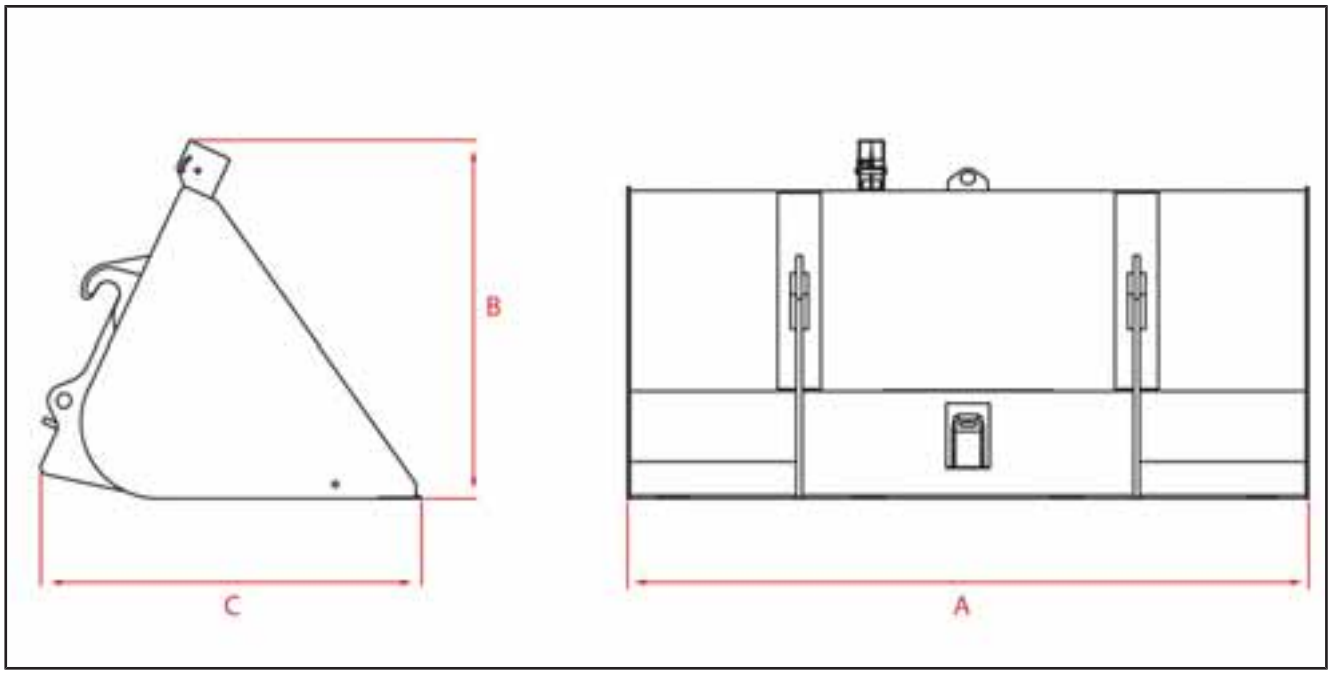
23.8 Forks extension technical data



	BUD1190
Production equipment code	BUD1190
Price list equipment code	TFR0016
Width (A)	154 mm (6,1 in)
Height (B)	65 mm (2,6 in)
Length (C)	1990 mm (78,3 in)
Width section	120 mm (4,7 in)
Height section	45 mm (1,8 in)
Weight	100 kg (220 lb)

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23.9 Buckets technical data



	BUB2422
Price list equipment code	TBN0020
SAE heap capacity	1 m^3 (35 ft^3)
Struck capacity	-
Maximum density	-
Type of use	Light materials
Weight	360 kg (794 lb)
Width (A)	2370 mm (93,3 in)
Height (B)	1015 mm (40 in)
Length (C)	1025 mm (40,4 in)
Tooth code	-
Number of teeth	-

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23.10 Tires data

Code	Tire dimensions	Characteristics	Brand	bar	MPa	psi	Rim size	Drawing
BVR5201	18-22.5 (445/65 R 22.5)	169 F	MITAS	8.00	0.8	116	14.00x22.5″	AR-01

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24 Control and maintenance logs

The Control Log and Maintenance Log are to be considered as integral parts of the machine and equipment.

These logs must therefore accompany the machine and equipment for their life, to final disposal.

24.1 Type of logs

24.1.1 Control log

On the Control Log are recorded the main checks on the safety devices of the equipment, recommended by ***Dieci S.r.l.***, with the related deadlines.

These checks ensure the proper operation of the safety devices.

NOTICE

The checks specified in the Control Log are in addition to the routine maintenance described in the Maintenance Log.

24.1.2 Maintenance Log

On the Maintenance Log are recorded all scheduled maintenance with timelines, referred to the use in normal, and not heavy,conditions. Such maintenance interventions allow to keep the machine or the equipment in the best efficiency conditions.

The scheduled maintenance intervals frequency must be reduced even to daily, if necessary, in particularly heavy working conditions (humidity, mud, sand, high dust level, etc ...).

NOTICE

Consult the ***DIECI*** service center to establish appropriate timelines when working in particularly heavy environments.

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24.2 Instructions for compiling the logs

24.2.1 Warnings on the control log

- The log must be prepared in accordance with the requirements imposed by the Essential Safety Requirement 4.4.2.b Annex I of the Machinery Directive 2006/42/EC, in order to preserve evidence of the proper conduct of all the inspection and maintenance activities concerning the machine safety.
- In the log, in addition to all the activities relating to the life, use and maintenance of safety systems of the machine (replacement of parts, overhauls, breakdowns, etc.) it is necessary to record all the checks required by the regulations in force in the country where the machine is used.
- It is also necessary that the name of the verifier technician and date of intervention are clearly identifiable.
- It is recommended to prepare, update and preserved with care, for the entire life of the machine or equipment, the control log.

NOTICE

Here following there are some pages to allow compiling such logs.

Consult the Dieci s.r.l. service center to obtain more information regarding the availability of control and maintenance logs.

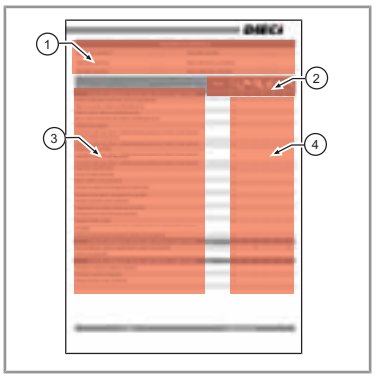
24.2.2 Warnings on the maintenance log

- The maintenance log shall prevail for warranty claims. All activities relating to the life, use and maintenance of the machine must be registered in the log.

24.2.3 Logs compiling

Each log (fig. 150606-1) requires the compilation of several parts:

1. Log data
2. Operations to carry out
3. Component or device on which to carry out the operation to be performed
4. Space that indicates the obligatory operation marked by the symbol "o", and the possibility to annotate an extraordinary operation not included in the log.



150606-1

24.2.4 Logs legend

Symbol	Description
	Control - Check

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Symbol	Description
	Refueling
	Adjustment
	Cleaning
	Replacement
	Lubrication
	Intervention at an authorized service center

24.2.5 Intervals legend



NOTICE

The intervals are defined both in hours of work and in time intervals from the date of purchase.

It is necessary to make interventions at the end of the first interval, either work hours or time.

Timelines	Description
0h	According to the need - To be completed in the case of checks not linked to deadlines but more or less related to the heavy operation of the vehicle
10h / 1m	Every 10 hours of operation or every month
50h / 1m	Every 50 hours of operation or every month
250h / 2m	Every 250 hours of operation or every 2 months
500h / 6m	Every 500 hours of operation or every 6 months
1000h / 1y	Every 1000 hours of operation or every year
2000h	Every 2000 hours of operation
4000h	Every 4000 hours of operation
2y	Every 2 years

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24.3 Periodic checks and recording mode (Italian only)

- The employer/operator of the machine is required to submit the machine to the periodic checks provided by law (Ministerial Decree 12/9/59 and Legislative Decree 81/08).
- He/she also has the obligation to comply with the maintenance and surveillance plan described in this Use and Maintenance Manual of the machine.
- The periodic inspection, testing and maintenance must be carried out by specialized personnel appointed for that purpose or by a workshop authorized by the manufacturer DIECI S.r.l.
- The employer/operator of the machine must record or appoint personnel trained for the purpose to record the results of the checks into the Control Log.
- Regular checks that have to be entered in the "Control log" are:
  - Quarterly periodic checks regarding the functionality and/or efficiency of ropes/chains according to Annex VI section 3.1.2 of Legislative Decree 81/08;
  - Yearly periodic checks regarding the operation and storage of the machine for safety purposes (yearly inspections, corrosion checks, calibration check, etc.) in accordance with Annex VII of Legislative Decree 81/08;
- The law provides administrative sanctions against those who do not carry out the quarterly and yearly checks.
- The Control Log, in which it is necessary to record the checks, must be shown on request to the officials responsible for monitoring the current legislation.
- Following the yearly periodic check the Local Health Authority official (Dip.SSIA), or the private Enabled Party chosen, issues a suitability report or prescribes the necessary obligations. The user is obliged to preserve the check report together with the Control Log.
- The checks evaluation must be recorded in the following dedicated pages indicating the outcome of the check, date, signature and any comments of the party in charge.
- If the pages dedicated in this Manual are insufficient for the annotations madein the life of the machine, use additional sheets being careful to compile them in the same way.

24.4 Obligation and how to report to I.N.A.I.L. (National institute for insurance against accidents at work) (Italy only)

- The Legislative Decree 81/08 - Annex VII prescribes the obligation, to employers and users of lifting equipment with motor with capacity > 200 kg and lifting platforms for persons, to report the successful commissioning to the competent authority of the territory of the vehicle (currently I.N.A.I.L.), specifying the place of installation of the vehicle so that the authority itself may carry out the first verification.
- The report to I.N.A.I.L. must be carried out by attaching to the machine commissioning report a copy of the EC Declaration of Conformity of machinery referred to in Annex IIA of the Legislative Decree 17/2010 - Machinery Directive 2006/42/ EC.
- The original statements (CE Declaration of Conformity - Annex IIA) must be retained by the customer.
- The report to I.N.A.I.L. may be sent by registered letter with return receipt.

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24.5 Control log

The following are some sheets for filling in the Control Log.

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Controls							
250h / 2m	Longitudinal load momentum indicator check	o						
250h / 2m	Anti-tipping system acoustic alarm	o						
250h / 2m	Anti-tipping system visual alarm	o						
250h / 2m	Anti-tipping system movements block	o						
250h / 2m	Seat belts	o						
250h / 2m	Control over the vehicle \ equipment for the presence and status of conservation of Safety Stickers	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Capacity Diagrams	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of the Use and maintenance manual	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Identification labels	o						
250h / 2m	Parking brake	o						
250h / 2m	Deadman seat microswitch	o						
250h / 2m	Emergency recovery pump (if any)	o						
250h / 2m	Emergency recovery button on joystick	o						
250h / 2m	Deadman joystick button	o						
250h / 2m	Reverse gear engaged acoustic signal	o						
250h / 2m	Three operation mode steering	o						
250h / 2m	Spirit level calibration	o						
250h / 2m	Installed equipment working mode correct operation check	o						
250h / 2m	Emergency stop button operation check	o						
250h / 2m	Emergency buttons operation check	o						
400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
400h / 3m	Forks (if present)	o						
500h / 6m	Hydraulic system maximum pressure	o						
500h / 6m	Power steering calibration pressure	o						
500h / 6m	Jacks block valves	o						

Notes	Stamp and signature

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CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Controls							
250h / 2m	Longitudinal load momentum indicator check	o						
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250h / 2m	Anti-tipping system visual alarm	o						
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250h / 2m	Seat belts	o						
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250h / 2m	Deadman seat microswitch	o						
250h / 2m	Emergency recovery pump (if any)	o						
250h / 2m	Emergency recovery button on joystick	o						
250h / 2m	Deadman joystick button	o						
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250h / 2m	Three operation mode steering	o						
250h / 2m	Spirit level calibration	o						
250h / 2m	Installed equipment working mode correct operation check	o						
250h / 2m	Emergency stop button operation check	o						
250h / 2m	Emergency buttons operation check	o						
400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
400h / 3m	Forks (if present)	o						
500h / 6m	Hydraulic system maximum pressure	o						
500h / 6m	Power steering calibration pressure	o						
500h / 6m	Jacks block valves	o						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

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	Controls							
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	Controls							
250h / 2m	Seat belts	o						
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250h / 2m	Emergency stop button operation check	o						
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400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
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Notes	Stamp and signature

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	Controls							
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	Controls							
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250h / 2m	Deadman seat microswitch	o						

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	Controls							
250h / 2m	Emergency recovery pump (if any)	o						
250h / 2m	Emergency recovery button on joystick	o						
250h / 2m	Deadman joystick button	o						
250h / 2m	Reverse gear engaged acoustic signal	o						
250h / 2m	Three operation mode steering	o						
250h / 2m	Spirit level calibration	o						
250h / 2m	Installed equipment working mode correct operation check	o						
250h / 2m	Emergency stop button operation check	o						
250h / 2m	Emergency buttons operation check	o						
400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
400h / 3m	Forks (if present)	o						
500h / 6m	Hydraulic system maximum pressure	o						
500h / 6m	Power steering calibration pressure	o						
500h / 6m	Jacks block valves	o						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Controls							
250h / 2m	Longitudinal load momentum indicator check	o						
250h / 2m	Anti-tipping system acoustic alarm	o						
250h / 2m	Anti-tipping system visual alarm	o						
250h / 2m	Anti-tipping system movements block	o						
250h / 2m	Seat belts	o						
250h / 2m	Control over the vehicle \ equipment for the presence and status of conservation of Safety Stickers	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Capacity Diagrams	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of the Use and maintenance manual	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Identification labels	o						
250h / 2m	Parking brake	o						
250h / 2m	Deadman seat microswitch	o						
250h / 2m	Emergency recovery pump (if any)	o						
250h / 2m	Emergency recovery button on joystick	o						
250h / 2m	Deadman joystick button	o						
250h / 2m	Reverse gear engaged acoustic signal	o						

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	Controls							
250h / 2m	Three operation mode steering	o						
250h / 2m	Spirit level calibration	o						
250h / 2m	Installed equipment working mode correct operation check	o						
250h / 2m	Emergency stop button operation check	o						
250h / 2m	Emergency buttons operation check	o						
400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
400h / 3m	Forks (if present)	o						
500h / 6m	Hydraulic system maximum pressure	o						
500h / 6m	Power steering calibration pressure	o						
500h / 6m	Jacks block valves	o						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Controls							
250h / 2m	Longitudinal load momentum indicator check	o						
250h / 2m	Anti-tipping system acoustic alarm	o						
250h / 2m	Anti-tipping system visual alarm	o						
250h / 2m	Anti-tipping system movements block	o						
250h / 2m	Seat belts	o						
250h / 2m	Control over the vehicle \ equipment for the presence and status of conservation of Safety Stickers	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Capacity Diagrams	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of the Use and maintenance manual	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Identification labels	o						
250h / 2m	Parking brake	o						
250h / 2m	Deadman seat microswitch	o						
250h / 2m	Emergency recovery pump (if any)	o						
250h / 2m	Emergency recovery button on joystick	o						
250h / 2m	Deadman joystick button	o						
250h / 2m	Reverse gear engaged acoustic signal	o						
250h / 2m	Three operation mode steering	o						
250h / 2m	Spirit level calibration	o						
250h / 2m	Installed equipment working mode correct operation check	o						
250h / 2m	Emergency stop button operation check	o						

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	Controls							
250h / 2m	Emergency buttons operation check	o						
400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
400h / 3m	Forks (if present)	o						
500h / 6m	Hydraulic system maximum pressure	o						
500h / 6m	Power steering calibration pressure	o						
500h / 6m	Jacks block valves	o						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Controls							
250h / 2m	Longitudinal load momentum indicator check	o						
250h / 2m	Anti-tipping system acoustic alarm	o						
250h / 2m	Anti-tipping system visual alarm	o						
250h / 2m	Anti-tipping system movements block	o						
250h / 2m	Seat belts	o						
250h / 2m	Control over the vehicle \ equipment for the presence and status of conservation of Safety Stickers	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Capacity Diagrams	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of the Use and maintenance manual	o						
250h / 2m	Control over the vehicle \ equipment for the presence and conservation status of Identification labels	o						
250h / 2m	Parking brake	o						
250h / 2m	Deadman seat microswitch	o						
250h / 2m	Emergency recovery pump (if any)	o						
250h / 2m	Emergency recovery button on joystick	o						
250h / 2m	Deadman joystick button	o						
250h / 2m	Reverse gear engaged acoustic signal	o						
250h / 2m	Three operation mode steering	o						
250h / 2m	Spirit level calibration	o						
250h / 2m	Installed equipment working mode correct operation check	o						
250h / 2m	Emergency stop button operation check	o						
250h / 2m	Emergency buttons operation check	o						
400h / 3m	Chains (if any) connection points, wear and adjustment	o		o			o	
400h / 3m	Forks (if present)	o						
500h / 6m	Hydraulic system maximum pressure	o						

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	Controls							
500h / 6m	Power steering calibration pressure	o						
500h / 6m	Jacks block valves	o						

Notes	Stamp and signature

24.6 Maintenance log

The following are some sheets for filling in the Maintenance Log for rotary vehicles.

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

Notes	Stamp and signature

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

Notes	Stamp and signature

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	o			o			
0h	Anti-tipping device inspection with load	o						
0h	Brake			o				
0h	Parking brake	o						
0h	Electrolyte level and battery charge	o						
0h	Lighting	o						
0h	Hydraulic oil level	o						
0h	Alternator belts \ services	o						
0h	Engine oil level	o						
0h	Radiators	o			o			
0h	Radiator expansion tank	o	o					
0h	Tires pressure	o						
0h	Wear check (on both the vehicle and equipment if installed)	o						
10h / 1m	Window washer tank	o	o					
10h / 1m	Boom chains (if installed)	o						
10h / 1m	Safety stickers	o						
10h / 1m	Safety devices	o						
10h / 1m	Coolant	o						
10h / 1m	Engine oil level	o						
10h / 1m	Metal structural work, no cracks	o						
10h / 1m	Radiators				o			
50h / 1m	Grease level in the automatic lubrication system (if installed)						o	
50h / 1m	Prop shafts						o	
50h / 1m	Axles oscillation						o	
50h / 1m	Wheels reduction gear pins						o	
50h / 1m	Ropes and chains (if installed)	o					o	
50h / 1m	Wear pads	o					o	
50h / 1m	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter				o			
50h / 1m	Hydraulic oil level	o						
50h / 1m	Hydraulic system leaks	o						
50h / 1m	Air filter				o			
50h / 1m	Fuel filter				o			
50h / 1m	Coolant	o						
50h / 1m	Engine oil level	o						
50h / 1m	Tires pressure	o						

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	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Ropes and chains (if any) coupling points, wear and adjustment	o		o			o	
250h / 2m	Turret rotation fifth wheel teeth						o	
250h / 2m	Boom chains (if installed)			o				
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	o						
250h / 2m	Anti-tipping device	o						
250h / 2m	Electrolyte level and battery charge	o						
250h / 2m	Torque specifications - Hydraulic Fittings			o				
250h / 2m	Alternator belts \ services	o		o				
250h / 2m	Torque specifications - fasteners			o				
500h / 6m	Differential axle oil	o						
500h / 6m	Epicycloidal reduction gear oil	o						
500h / 6m	Forks: wear	o						
500h / 6m	Cab ventilation filter					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					o		
500h / 6m	Block valves	o						
500h / 6m	Air filter					o		
500h / 6m	FPT fuel filter					o		
500h / 6m	FPT engine oil filter					o		
500h / 6m	FPT engine oil					o		
500h / 6m	KUBOTA fuel filter					o		
500h / 6m	KUBOTA engine oil filter					o		
500h / 6m	KUBOTA engine oil					o		
500h / 6m	Turret rotation gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Equipment condition	o						**
1000h / 1y	Forks support plate: wear	o						**
1000h / 1y	Telescopic boom: conditions	o						**
1000h / 1y	Telescopic boom: bearings and pivot bushes	o						**
1000h / 1y	Wear pads: wear	o						**
1000h / 1y	Cab structure	o						**
1000h / 1y	Brake			o				**
1000h / 1y	Electrical system: cables condition	o						**
1000h / 1y	Electrical system: Lighting and signaling	o						**
1000h / 1y	Electrical system: Acoustic signal devices	o						**
1000h / 1y	Hydraulic system: Jacks	o						**
1000h / 1y	Hydraulic system: Pipes and hoses	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		

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	Maintenance							
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Wheels and tires conditions	o						**
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Turret rotation gearbox oil					o		
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	o						**
2000h	Ropes and chains (if installed)					o		**
2000h	Hydraulic system: Capacity	o						**
2000h	Hydraulic system: Pressures	o						**
2000h	Hydraulic oil tank				o			**
2000h	Alternator and Starter motor	o						**
2000h	Radiators	o			o			**
3600h	AdBlue tank filter FPT engine (only Stage IIIB/Tier 4i and Stage IV/Tier 4f engine sizes)					o		**
4000h	Prop shafts	o				o		**
4000h	Reduction gears universal joint	o						**
4000h	Wheels reduction gear clearance	o						**
4000h	Steering ball joints	o						**
4000h	Wheels reduction gear pins	o						**
4000h	Brakes wear	o						**
2y	Air conditioning system (if installed): Dissipater filter					o		**
2y	Air conditioning system (if installed): Oil refrigerant	o						**
2y	Air conditioning system (if installed): Pressure switches	o		o				**
2y	Air conditioning system (if installed): Condenser and evaporator coils				o			**
2y	Air conditioning system (if installed): Condensate and exhaust valve tank				o			**

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