

MIXERS L3500 L4700 F7000
MAINTENANCE MANUAL

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USE AND MAINTENANCE MANUAL						
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Original instructions for:

	Vehicle model	Brand	Emission standard	Nominal power	Homologation	Area	Sector
MAF3523	AB L 3500	FPT	Stage IIIA/Tier 3	74 kW (99 HP)	LH684	CE	CONSTRUCTION
MAF3524	AB L 3500 T	FPT	Stage IIIA/Tier 3	74 kW (99 HP)	LH684	CE	CONSTRUCTION
MAG3522	AB L 4700	FPT	Stage IIIA/Tier 3	74 kW (99 HP)	LH684	CE	CONSTRUCTION
MAG3523	AB L 4700 T	FPT	Stage IIIA/Tier 3	74 kW (99 HP)	LH684	CE	CONSTRUCTION
MAP3519	AB F 7000	FPT	Stage IIIA/Tier 3	93 kW (125 HP)	D649	CE	CONSTRUCTION
MAP3520	AB F 7000 T	FPT	Stage IIIA/Tier 3	93 kW (125 HP)	D649	CE	CONSTRUCTION

Standards

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

- ISO 6750:2005
- M.D. 2006/42/EC

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 products by **DIECI**.

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 products by **DIECI**.

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

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



www.dieci.com

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Tax Code 01283560686 - VAT no. 01682740350

1.1 - General information

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.



NOTE

Reproduction of all or part of the contents of this manual and any multimedia attachment.

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ATTENTION

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

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.

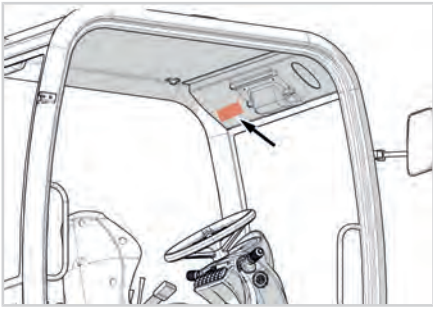


WARNING

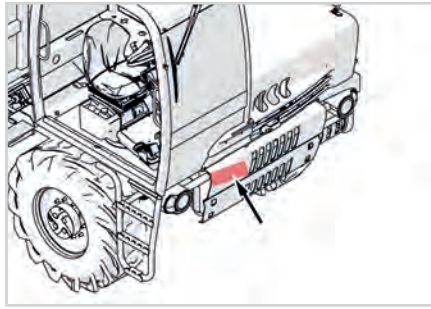
Any other use is considered contrary to the intended use by *DIECI s.r.l.* which, therefore, can not be responsible for damage to objects and the machine itself, or injury to persons that might derive from misuse.

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

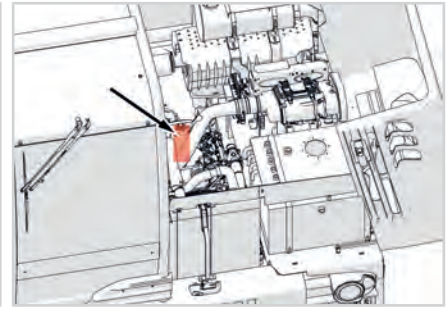
1.2 - Identification of the vehicle



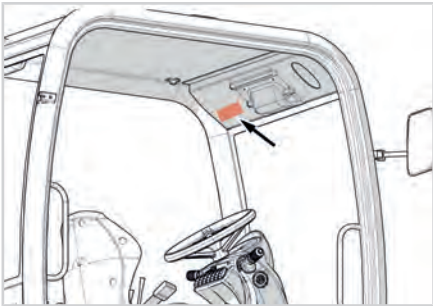
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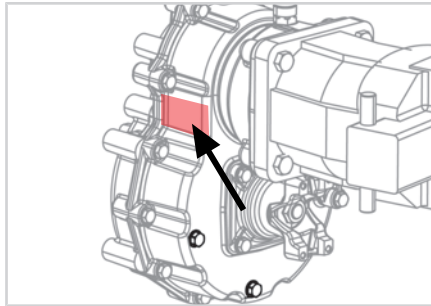
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150640-4



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 gearbox (fig. 150640-5)	.....
Owner / Operator
Address of the Dealer or Agent
Delivery date
Warranty expiry date

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Definitions

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.

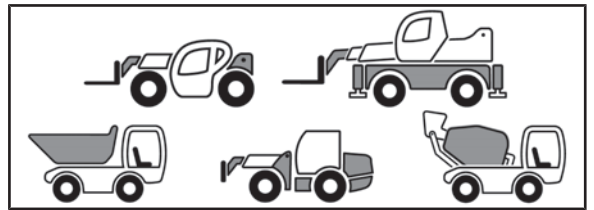
Specialized maintenance technician

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.

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.



ATTENTION

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



NOTE

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.



ATTENTION

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.

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.



NOTE

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



ATTENTION

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.

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 - 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.



ATTENTION

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

**ATTENTION**

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

**NOTE**

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

**NOTE**

Indicates an optional accessory or attachment.

2.6 - Machine general warnings

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

**ATTENTION**

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.

**ATTENTION**

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.

**NOTE**

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.
- 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.



NOTE

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

2.7 - 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.

2.8 - 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.

2.9 - 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
- Do not use the movable hydraulic parts of the vehicle to lift persons (except with special man baskets)



NOTE

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

2.10 - 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.

2.11 - 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.

2.12 - 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

2.13 - Vehicle identification label

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

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

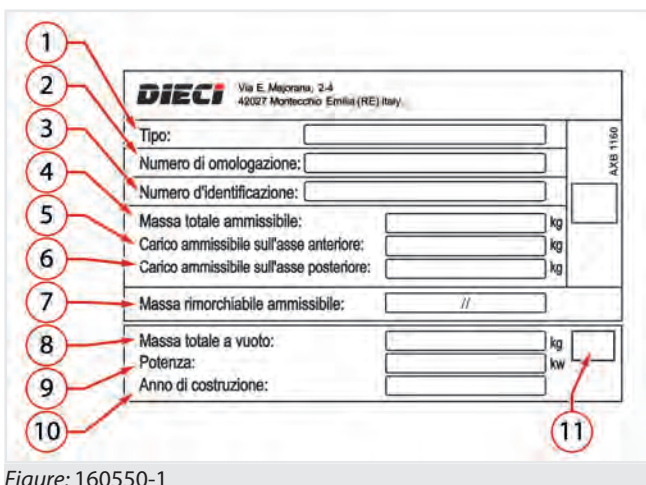


Figure: 160550-1

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.

1	Type	.....
2	Homologation number	.....

2.14 - Certification and CE marking

The vehicle 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 vehicle.



EU DECLARATION OF CONFORMITY



(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 Truck mixer Type ***** (*****) Serial number *****

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

Conformity evaluation procedure referred to in Annex V
 Drum capacity: m³ = ****
 Sound power level measured: L_{WA} = *** dB(A)
 Sound power level guaranteed: L_{WA} = *** 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
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2.15 - 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			
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		

3.1 - Exclusions from the guarantee

The guarantee does not include:

- All consumables and those subject to normal wear and tear (e.g. batteries, clutch/brake discs, lubricants, filters, belts, fuel...);
- All consumables such as oil and liquids;
- Damages and/or breakages deriving from failure to comply with/implement the operations recommended in the periodic maintenance programs illustrated in the "Use and maintenance manual";
- Damage caused by incorrect repair carried out by unauthorised workshops/personnel;
- Damages for lack of production and/or loss of the product;
- Costs for the rental of a replacement vehicle during the vehicle standstill period for repairs under warranty;
- Breakage of all types of glass, windows (doors, rear window, windshield).
- Failure to comply with, and carry out, the maintenance schedules and mandatory services prescribed by the manufacturer;
- Changes made without the manufacturer's consent;
- Repairs or maintenance carried out with non-original spare parts;
- Incorrect use of the vehicle;
- Carelessness, accidents, late notification of the defect, improper use of the vehicle, damage caused by prolonged use of the vehicle in conditions of declared failure;
- Improper use of equipment or their incorrect assembly;
- Use of lubricants/fuel with specifications other than those prescribed and recommended by the company DIECI.

DIECI is not liable for damage to the vehicle caused by incorrect use or malfunctions of other equipment connected to the vehicle.

The warranty covers only damages and/or malfunctions of the vehicle without the user being able to claim damages for production losses, for presumed or proven damage to equipment connected to the vehicle itself.

3.2 - Delivery and installation

The dealer has the obligation to perform a set of operations when the vehicle is delivered to the customer. These include a complete check to ensure that the vehicle can immediately operate, an explanation on the safety regulations and a detailed explanation on the instructions contained in the "Use and maintenance" booklet regarding use of vehicle controls, the vehicle maintenance, starting up and stop operations and the use of all the parts. All people who use the vehicle must participate in the training.

For the period of coverage of your vehicle, check the terms in the guarantee certificate.

The warranty consists in the restoration of the efficiency of parts that are unusable or inefficient due to factory defects through their replacement with original spare parts or through no-charge repair; the costs of transport/travel of the vehicle from the final customer to the dealer/importer and/or to its authorised workshops are excluded, and vice versa.

The warranty is valid only if the vehicle has been used correctly according to the manufacturer's instructions and has not been tampered with, and is immediately terminated if modifications and/or repairs to the vehicle are carried out by personnel not authorised by DIECI.

The warranty also expires in the following cases:

3.3 - Warranty: duration

The **DIECI s.r.l.** company guarantees its products for 12 months or 1500 hours 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 Centre will reserve the right to verify warranty activation.

3.4 - 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.

3.5 - Warranty: activation

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

3.6 - Warranty procedure

The correct use of the vehicle, associated with regular maintenance, can do much to prevent breakdowns. If, however, malfunctions should occur during the warranty period, the following procedure is recommended:

- Immediately inform the dealer from whom the vehicle was purchased, indicating the model and serial number. The end customer has the obligation to report any flaw or defect regarding the vehicle no later than 8 days from its discovery, under penalty of cancellation of the warranty;
- Give your dealer as much information as possible. So he can know the number of hours of service performed, the type of work you are doing and the symptoms of the problem.

Remember that normal maintenance operations, such as brakes/clutch setting up and adjustment, as well as the supply of materials used for servicing (oil, filters, fuel and antifreeze) are not covered by warranty.

3.7 - 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).

3.8 - Warranty: intervention request

3.8.1 - 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.

3.8.2 - 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.

3.9 - Non-activation, failure to grant, termination

3.9.1 - 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.

3.9.2 - 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).



NOTE

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

3.10 - 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

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, serviced or repaired only by persons who have received training in advance on the vehicle and on its safety regulations, in addition to being authorised to use the vehicle or equipment itself.



NOTE

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.



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 refuelling 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 or the equipment. The operator must always maintain control of the vehicle and equipment state and operation.
- Use the audible 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 recognise and resolve any malfunctions.
- Do not use the vehicle or equipment if a danger label or a maintenance in progress label 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 man basket).
- It is prohibited to use the mobile hydraulic parts of the vehicle to lift people except when using the man 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 travel 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 hood 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 signalling.
- Make sure to use signals that conform with the provisions in force in the country of use of the vehicle.
- For additional information with regard to the presence of a person in charge of signalling, 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 signalling.
 - 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 or lose balance with risk of tipping.
- 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



ATTENTION

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.

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.



ATTENTION

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.



ATTENTION

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	Refilling	Description
	ISO7010: M004	Wear protective goggles
	ISO7010: M008	Wear safety shoes
	ISO7010: M009	Wear protective gloves
	ISO7010: M015	Wear high visibility clothing

Icon	Refilling	Description
	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 jewellery 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.

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



ATTENTION

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.
- 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.

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.



ATTENTION

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.
- 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.

4.5.3 - Risks of batteries exploding



DANGER

The gas of the batteries may explode.

- Keep any sparks, open flames or lit cigarettes away from the upper part of the battery.
- Never place a metal object between the terminals to check the battery charge. Use a voltmeter or a densimeter.
- Do not create sparks in the battery connection during recharging phases or starting the engine with auxiliary battery.
- Do not charge the batteries if they are extremely cold, extremely hot or damages as they might explode.
- The ideal temperature for the recharging of the batteries is 16 °C (60,8 °F).
- The electrolyte in the batteries is an extremely corrosive acid.
- Should the battery explode, the electrolyte may be sprayed in the eyes with the possibility of causing blindness.
- Ensure to be wearing protective goggles when carrying out maintenance on the batteries.
- 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.

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.

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.

**NOTE**

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

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.



NOTE

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 signalling.
- 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 motor.
- Before starting the engine, make sure all control levers are in a neutral position.

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 clamps, fuses, or connectors when the vehicle is switched on or electrically powered.

Any intervention on the electric system 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 isolation switch to cut off power to the vehicle.
- Cut off power by means of the battery isolation switch 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.


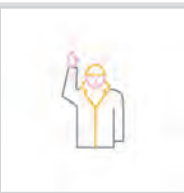
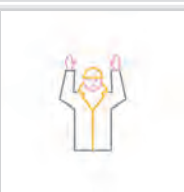
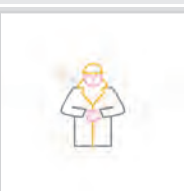
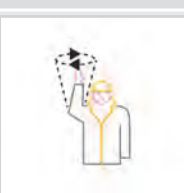
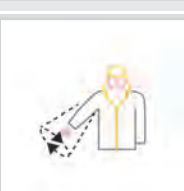
- Never carry out or interrupt any connection on the load circuit, including connections on the battery, with the engine running.
- Never ground (earth) short circuit any charging component.
- Do not use an auxiliary battery with nominal voltage exceeding 12 volt.
- Make sure the polarity is correct 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.

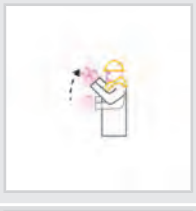
4.7.6 - Signals to multiple vehicles

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

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

Movement	Meaning	Description
	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
	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.

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.
- Always check the space around the vehicle before carrying out any manoeuvres



NOTE

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.



NOTE

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

- Spaces with dangerous or explosive atmospheres.
- Protected environments such as refineries.



ATTENTION

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.

4.7.10 - Working with scarce lighting



ATTENTION

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.



NOTE

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 vehicle in:

- Suitably ventilated closed spaces, that are nevertheless not compatible for the use of equipment with running endothermic engines.

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.
- 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 - Moving safely



WARNING

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

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



150533-1

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.



WARNING

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

The maximum slide slope must not exceed 5%



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).

4.9 - Road travel

4.9.1 - Road travel warnings



ATTENTION

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

4.9.2 - Road travel instructions

- 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.
- 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.

4.10 - Momentary stop



ATTENTION

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.

4.11 - 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.
- 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.
- 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 (if present).
- 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.

4.12 - Starting and stopping the vehicle

4.12.1 - 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.

4.12.2 - Inspections prior to starting-up

4.12.2.1 - Inspecting the machine

Carefully inspect your machine every day or before every shift.

Carry out the following inspections and operating checks:

- 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.



NOTE

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

4.12.2.2 - 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.

4.12.3 - Starting-up the engine

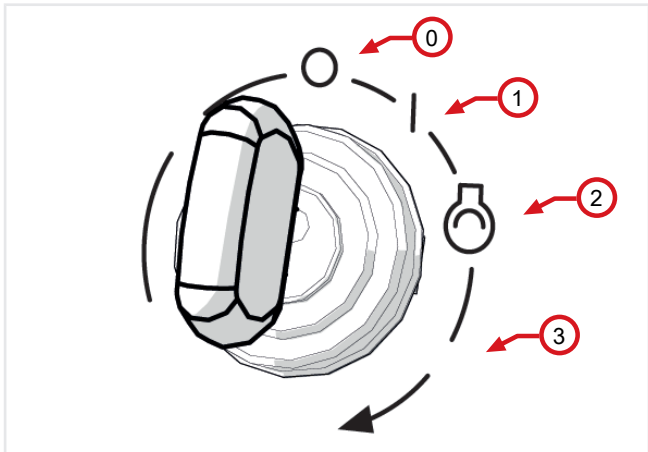


Figure: 150538-1

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 warning light
 - Battery charge indicator light
 - General alarm warning light
 - Intermittent buzzer
 - Other indicators of activated functions (e.g.: Parking brake, gears engaged, etc.)

WARNING! If other indicators remain on signalling 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 centre.

- Turn the ignition key (fig. 150538-1) to position "3" to start-up the engine. Release the starter within 5 seconds.
- 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.

- If the engine does not start within 5 seconds, try again at regular 15 second intervals to prevent overloading the starter motor.

4.12.4 - 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.

4.12.5 - 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.



NOTE

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.

4.12.6 - 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.



NOTE

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

4.12.7 - 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".

4.13 - Truck mixers safe working procedures

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



WARNING

All the products used for the production of the mix must be handled with the appropriate PPE.

Refer to their safety data sheets for additional specific directions.



DANGER

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

- Reduce the speed as much as possible and brake gently during handling operations.
- Avoid passing over unstable objects. Remove dangerous, unstable objects instead of passing over or around them. Also avoid holes or bumps. Before turning, slow down as much as possible.
- 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.
- Be careful to the lateral space. If possible, keep to the center of the passage to avoid equipment or personnel from obstructing your travel.

- Always ensure good visibility in the work area, including direct vision and visibility using wing 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.
- 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.
- 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.
- Always make sure that, during transport, the drum is always rotating in the "Mixing" mode. This reduces the loss of the load or part of it, and avoids to cause danger of damage to things and persons.
- Road use must occur with the shovel fully up and locked to the appropriate safety chain.
- Do not raise or lower the drum or the loading shovel when the machine is moving.
- Do not use the loading shovel to lift the rear wheels of the machine, during the loading or maintenance operations.
- With the engine running or drum moving, it is obligatory make operations on the ground operations while remaining at a safe distance of safety from moving parts (loading shovel, drum, etc ...).



DANGER

To check the consistency of the mix, pour a small amount of it on the ground or in a container. Do not try to check the mix from inside the drum.

The operator must not climb to check the load or to make washing operations.

The operator must not go inside the drum until it is still mounted on the machine.



DANGER

It is absolutely forbidden to use hammers, chisels or other tools to remove residual mixture from the drum or from other parts of the machine.

4.13.1 - Drum loading

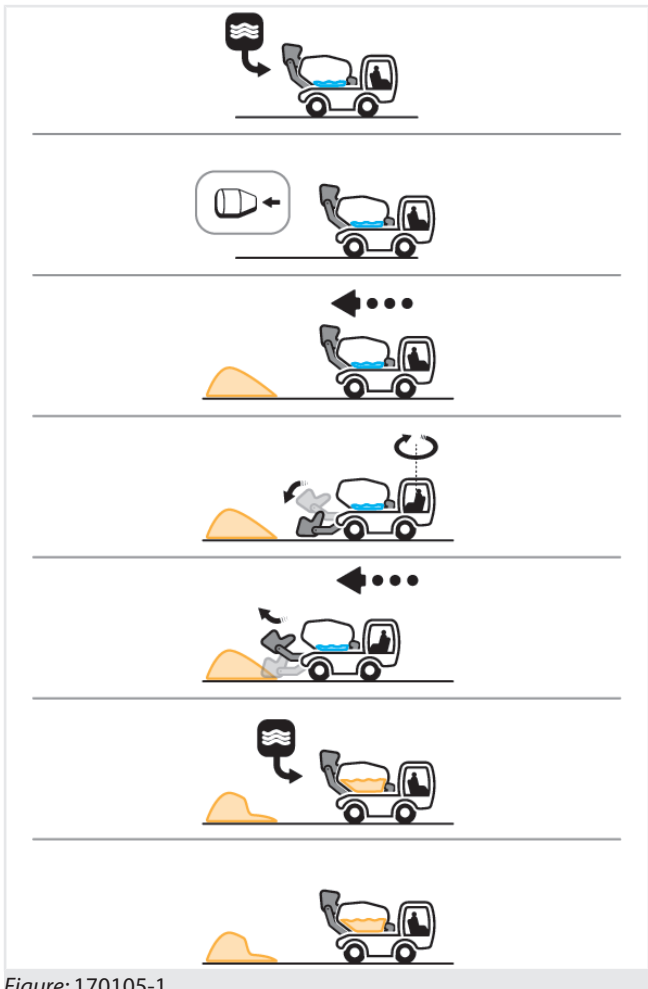


Figure: 170105-1

Proceed as follows to properly load the drum of the machine:

- Put about half of the water required for the mixture into the drum (see the "Water Pump" chapter).
- Move the machine near the pile of aggregate to be loaded.
- Turn the driver's seat, see the "Driver's seat reversal" chapter.
- Set the drum rotation in the mixing direction at maximum speed.



NOTE

Not all truck mixers can be equipped with the loading shovel. If installed, proceed as follows

- Lower the loading shovel.

CAUTION! Make sure the loading shovel is not fastened with the safety chain and that the extension duct is not assembled on the machine.

- Travel towards the pile of aggregate to be loaded, taking care to lift the loading shovel while it is filling of aggregate.
- Stop the machine travel.
- Lift the loading shovel to unload all the aggregate in the drum.
- Load about half of the aggregate required for the mixture.
- Load the concrete necessary for the mixture.
- Load the remaining amount of aggregate.
- Add water using the water pump until the desired consistency is obtained.

DANGER! It is forbidden to approach the rotating drum opening.

NOTE! To check the consistency of the mix, pour a small amount of it on the ground or in a container.

Do not try to check the mix from inside the drum.

4.13.2 - Drum unloading from a standstill

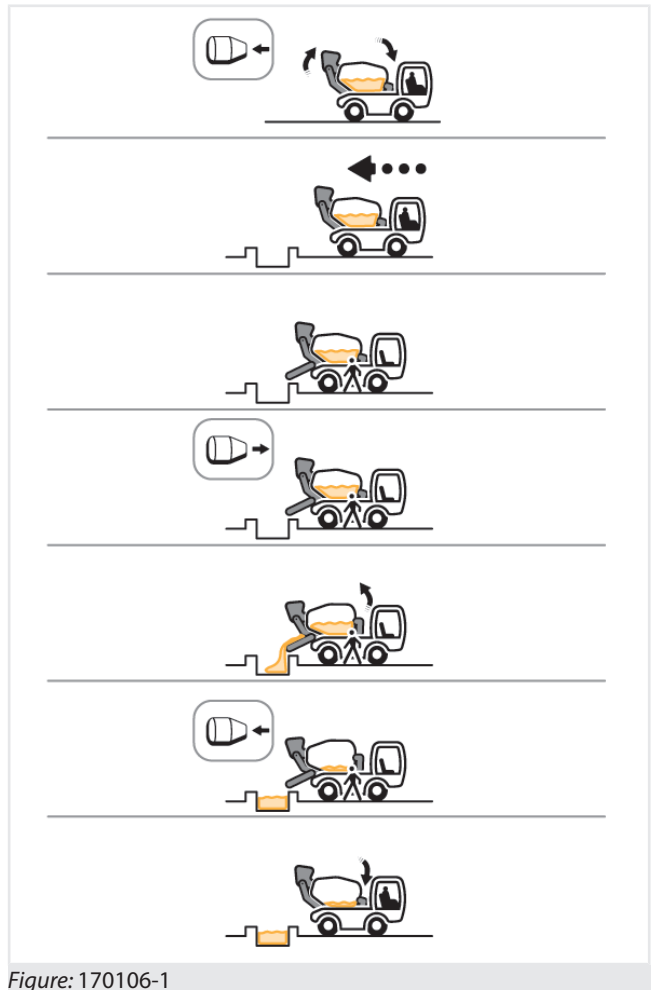


Figure: 170106-1

To successfully unload the drum of the machine perform the following procedures:

- Fully lift the loading shovel.
- Make sure that the drum is completely lowered.
- Keep the drum in rotation in the mixing direction.
- Move the machine close to the mixture unloading point.
- Place the gear lever in neutral ("N").
- Engage the parking brake.
- Go off the vehicle and move the unloading chute to the desired position.
- Install the extension chute (if present).
- Proceed to the unloading using the drum rotation controls in the cab or on the side of the machine by setting the rotation in the unloading direction.
- Use the controls in the cab to lift the drum to facilitate unloading all the mixture.

- After the unloading is complete, return the drum to the transport position (fully down) and set the drum rotation in the mixing direction.

NOTE! The drum lifting and lowering function is only available on models L3500 and L4700.

After the unloading phase, clean the drum. For the correct drum washing procedures refer to the "Drum cleaning" chapter.

4.13.3 - Drum unloading in movement

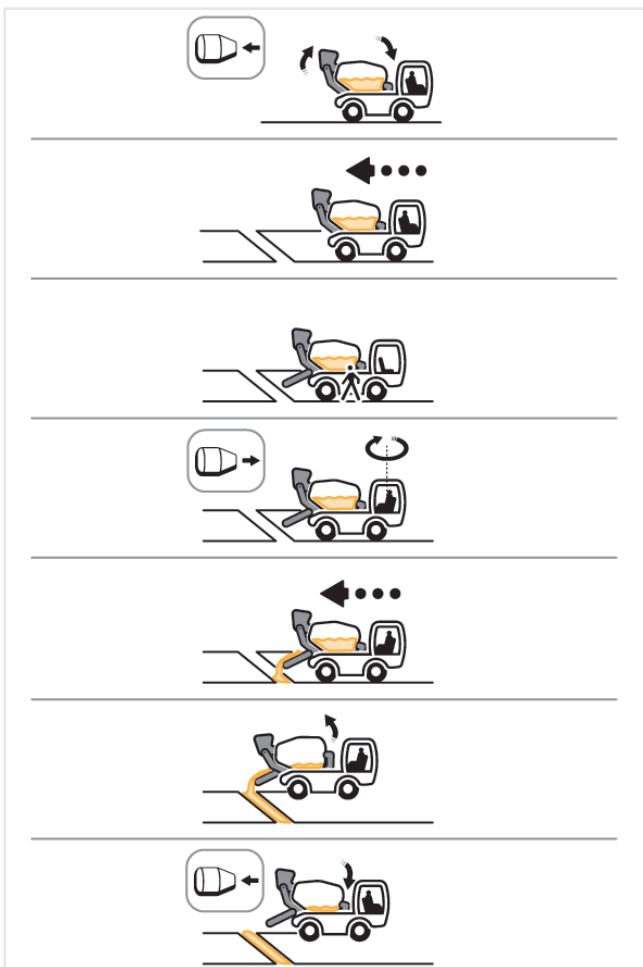


Figure: 170107-1

To successfully unload the drum of the machine perform the following procedures:

- Fully lift the loading shovel
- Make sure that the drum is completely lowered
- Keep the drum in rotation in the mixing direction
- Place the gear lever in neutral ("N")
- Engage the parking brake
- Get off the machine and move the unloading chute to the right side of the machine, so that it can be visible from the cab

- Install the extension chute (if present)
- Reverse the driving seat
- Slowly move the machine to the unloading point
- Carry out the unloading operation setting the drum rotation in the unloading direction
- Place the gear lever in "F" and move slowly
- Use the controls in the cab to lift the drum to facilitate unloading all the mixture
- After the unloading is complete, stop the machine travel, return the drum to the transport position (fully down) and set the drum rotation in the mixing direction

CAUTION! To move safely with reversed driver's seat, use the help of a person on the ground for signalling.

NOTE! The drum lifting and lowering function is only available on some models.

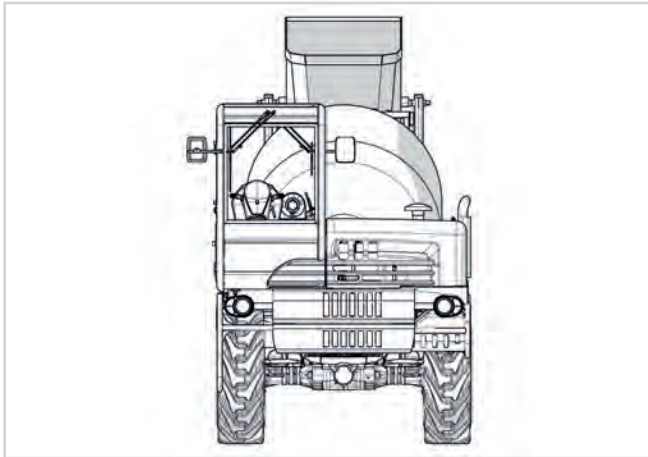
After the unloading phase, clean the drum. For the correct drum washing procedures refer to the "Drum cleaning" chapter.



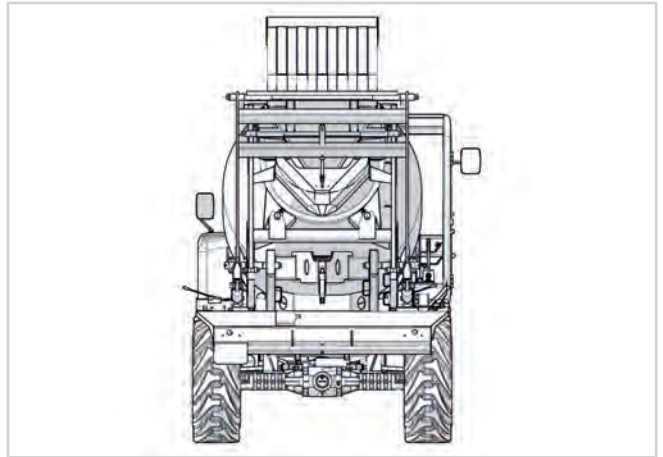
NOTE

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

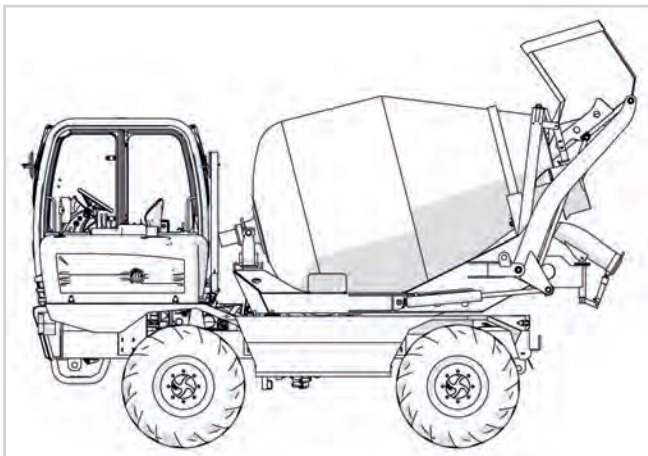
Refer to the “Definitions” manual to understand references such as: Right side, Left side, Front and Back used in the manual.



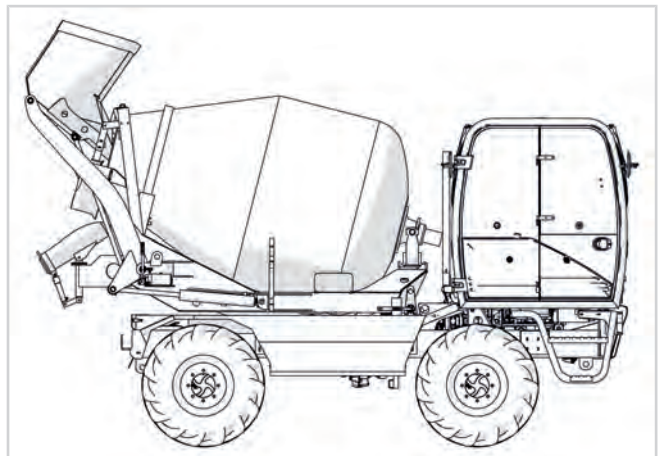
150641-1: Front view



150641-2: Rear view



150641-3: Left view



150641-4: Right view

5.1 - Left side components description

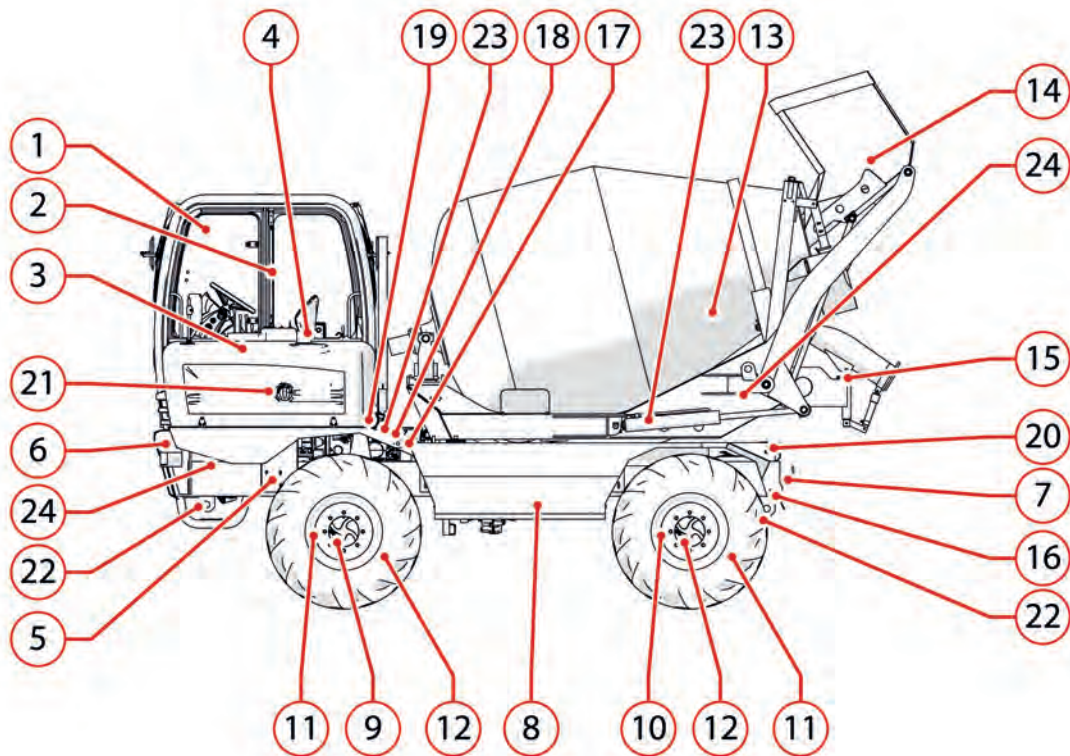


Figure: 161172-1 - Left side description

1 Cab	2 Cab glass on engine side (optional)
3 Engine hood	4 Exhaust pipe
5 Chassis	6 Front lights
7 Rear lights	8 Water tank
9 Front axle	10 Rear axle
11 Wheel	12 Epicycloidal reduction gear
13 Drum	14 Loading shovel
15 Unloading chute	16 Chute extension (optional)
17 External drum rotation controls	18 Emergency stop button
19 Pressure washer (optional)	20 Fuel tank filler cap
21 Battery isolation switch	22 Anchoring or tow hitch
23 Hook for lifting	24 -

5.2 - Right side components description

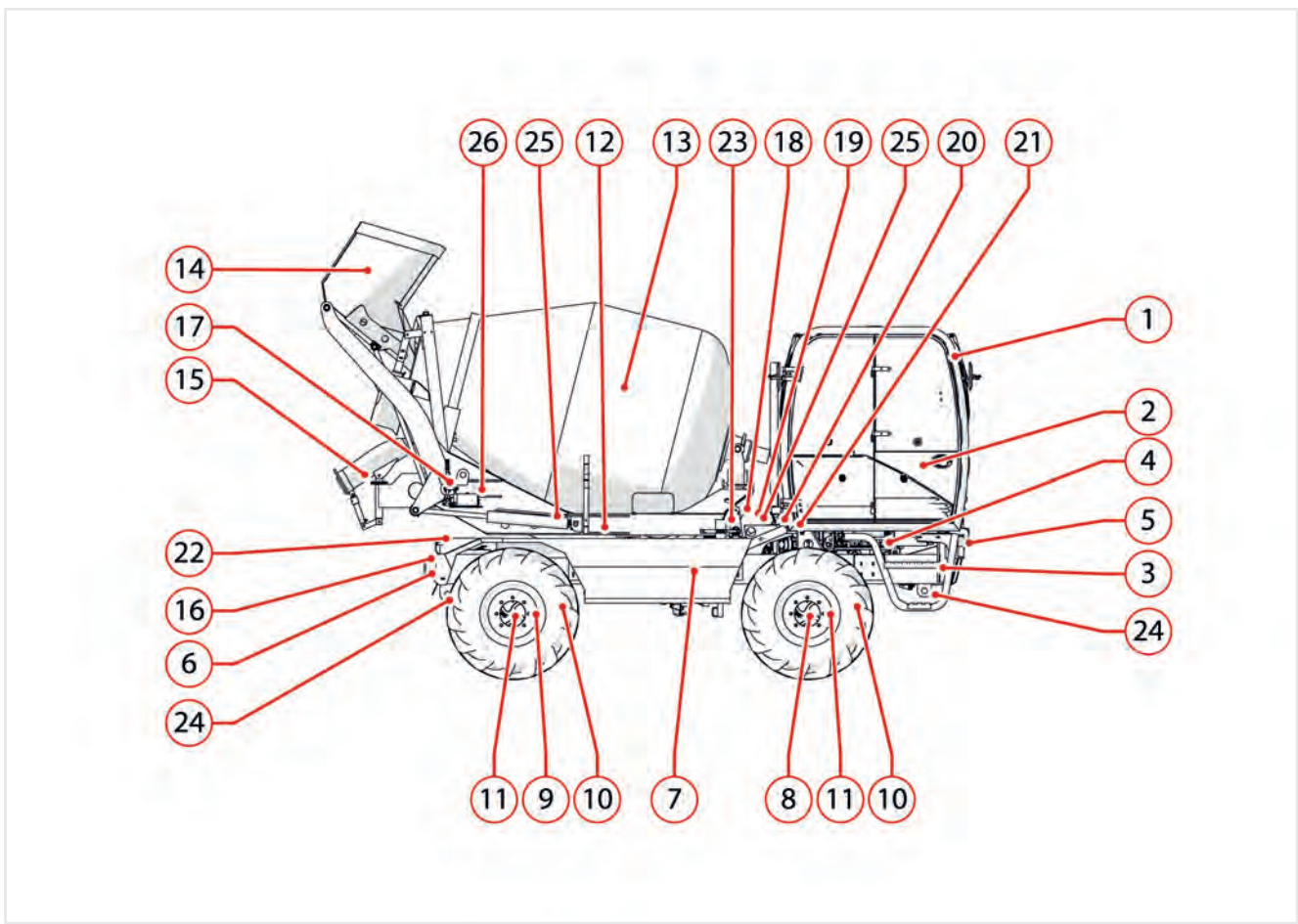


Figure: 161171-1 - Right side description

1 Cab	2 Door
3 Ladder for climbing on	4 Chassis
5 Front lights	6 Rear lights
7 Water tank	8 Front axle
9 Rear axle	10 Wheel
11 Epicycloidal reduction gear	12 Turning frame
13 Drum	14 Loading shovel
15 Unloading chute	16 Chute extension (optional)
17 Unloading chute pump	18 Emergency stop button
19 External drum rotation controls	20 Water pump
21 External water pump controls	22 Fuel tank filler cap
23 Water tank filler cap	24 Anchoring or tow hitch
25 Drum opening pump (optional)	26 Drum opening pump (optional)

5.3 - Engine components description

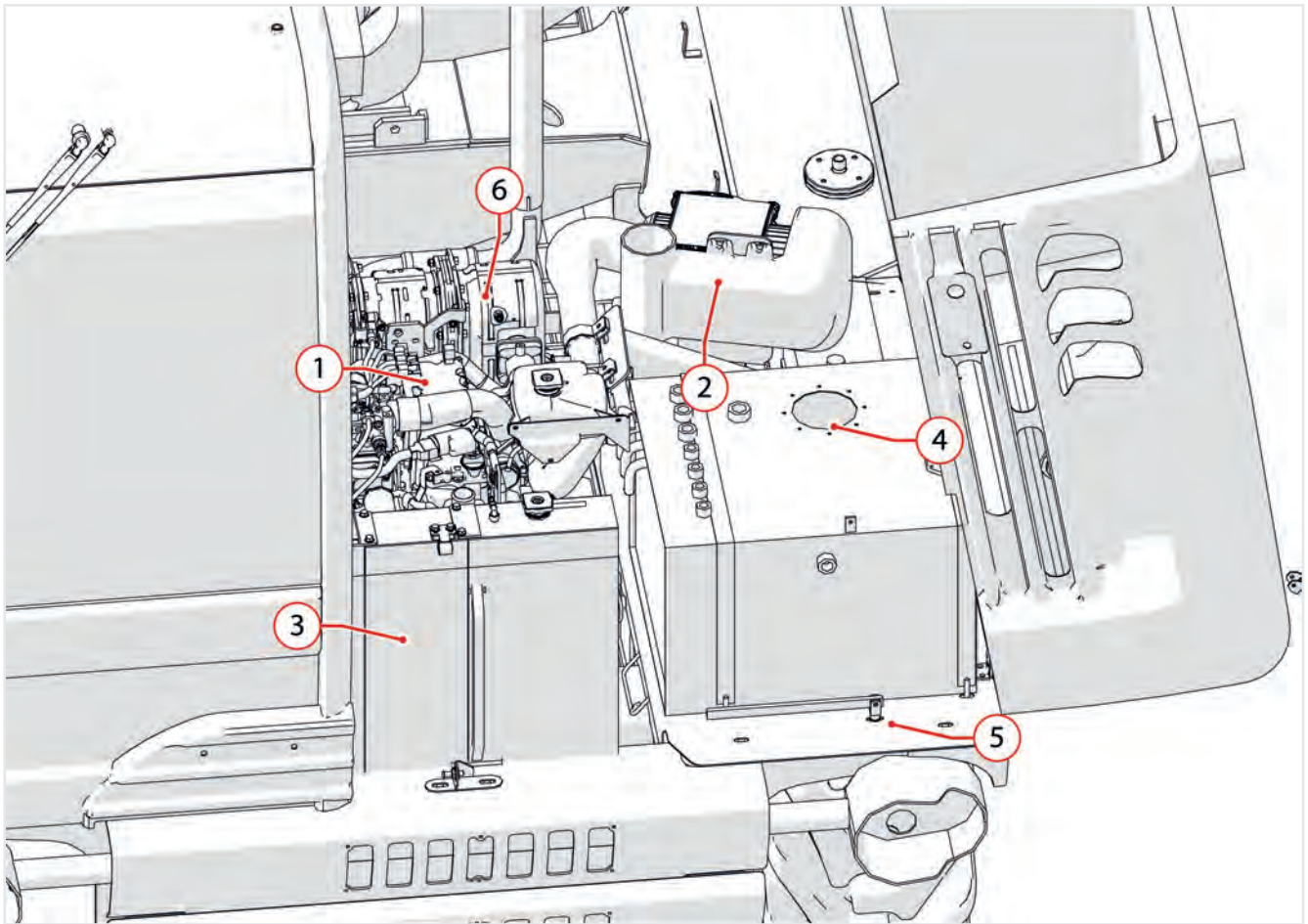


Figure: 161170-1 - Engine description

1 Engine

3 Radiator

5 Hood opening safety rod

2 Air filter

4 Hydraulic oil tank

6 Muffler

5.4 - Cab components description

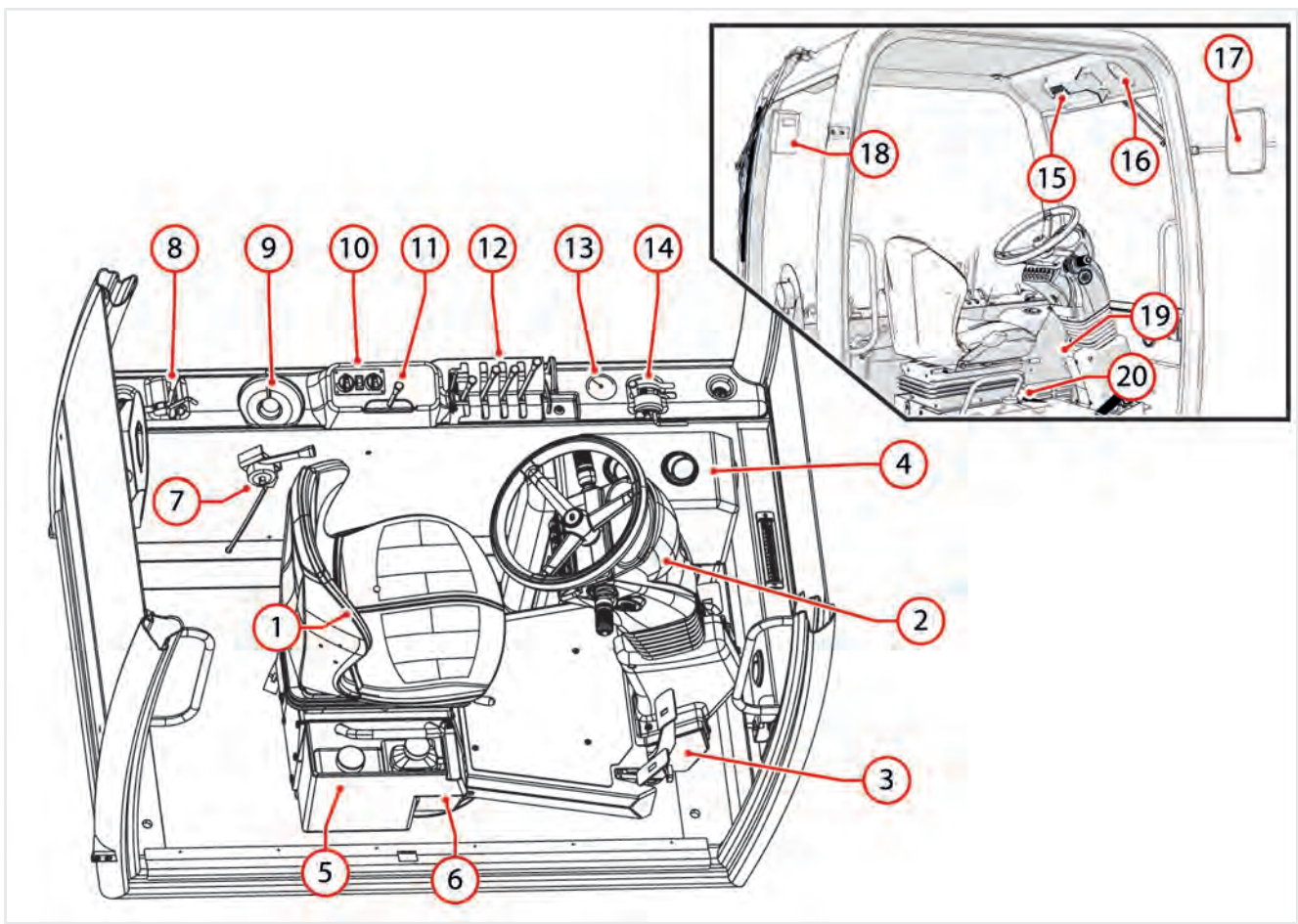


Figure: 151062-1: Cab description

1 Seat	2 Steering wheel column
3 Pedals	4 Air conditioning (If installed)
5 Wiper fluid tank	6 Brake fluid tank
7 Hand throttle (if installed)	8 Manual mixing/unloading control (if installed) [only truck mixer]
9 Manual drum rotation speed control (if installed) [only truck mixer]	10 Heating controls (if installed)
11 Hydraulic weighing system control (if installed) [only truck mixer]	12 Control levers (if installed)
13 Pressure gauge (if installed)	14 Steering selection lever
15 Roof dashboard	16 Lamp
17 Wing mirror	18 Electric weighing system (if installed) [only truck mixer]
19 Steering reversal lever	20 Travel reversal pedal

6.1 - List of safety devices

Safety devices	Additional information	
Safety devices	7.1	ROPS - FOPS Cab
	7.1.13.1	Deadman seat sensor
	7.1.13.3	Seat belts
	7.1.14	Emergency stop
	7.19	Wheel wedge

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.



ATTENTION

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 labels may become discoloured.

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.



NOTE








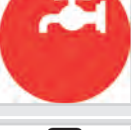



The purchase order of replacement safety stickers must be made in the same way in which any spare part is ordered (be sure to communicate the model and serial number of the vehicle or equipment when placing the order).

6.2.2 - Truck mixer symbols legend

The symbols listed below have been used to describe actions and functions of the machine and of its components, for an easier and immediate recognition during the working phases.

If in doubt, contact your agent or dealer.

Symbol	Meaning
	Drum lowering
	Drum lifting
	Drum rotation for mixture
	Drum rotation for unloading
	Drum rotation speed
	Drum rotation towards the right side of the machine
	Drum rotation towards the left side of the machine
	Loading shovel lowering
	Loading shovel lifting
	Loading shovel down tilting



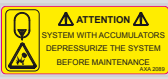

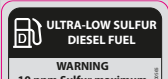
Symbol	Meaning
	Loading shovel up tilting
	Drum inlet opening
	Drum opening closing
	Unloading chute descent
	Unloading chute lifting
	Pressure washer activation
	Standard machine washing
	Water pump activation
	Water pump disabling
	Water loading in the drum
	External water tank
	Water tank on the machine

6.2.3 - Meaning of safety stickers

SIGNAL	CODE	DESCRIPTION
	AXA1431	Eyelet position for lifting hook
	AXA1432	Eyelet position for tow hitch or attachment
	DOCAD0000090	Vehicle towing point position
	DOCAD0000370	Refuelling cap position
	DOCAD0000371	Type of fuel used
	AXA1433	Hydraulic oil level indicator position
	AXA1434	Hydraulic oil filler cap position
	AXA2042	Steering mode for construction vehicle
	AXA1773	Reduce speed when travelling downhill
	AXA2708	Type of oil used in the hydraulic system ISO 46 (if installed)
	AXA2798	Type of oil used in the hydraulic system ISO 32 (if installed)
	DOCADI0000563	Type of oil used in the hydraulic system ISO 68 (if installed)
	AXA1438	Non-walkable surface
	AXA1435	Danger of gears in motion

SIGNAL	CODE	DESCRIPTION
	AXA1439	Danger of fan in motion
	AXA1440	Danger of hot radiator cap
	AXA1493	Danger, do not stand within the range of operation of the vehicle
	AXA2103	Danger, do not stand within the range of operation of the vehicle
	AXA1498	Battery isolation switch position
	DOCAD0000566	Stage V battery isolation switch position
	DOCAD0000054	Stop the engine before performing any maintenance operations
	AXA1441	Danger of hot surface
	AXA2748	Battery maintenance danger
	DOCAD0000080	DPF regeneration instructions (if installed)
	DOCAD0000049	Urea filling cap position (if installed)
	DOCAD0000102	AB gear change instructions (based on machine version)
	DOCAD0000564	AB gear change instructions (based on machine version)
	AXA1207	AB lever instruction
	DOCAD0000101	AB F7000 lever instruction
	AXA1208	Manual drum rotation accelerator sticker (if installed)

SIGNAL	CODE	DESCRIPTION
	AXA1209	AB loading unloading lever instruction
	AXA1505	Water pump lever instruction
	AXA2139	N2400 water pump lever instructions
	AXA2140	Water pump lever instructions
	DOCAD0000003	Hydraulic weighing system instructions (if installed)
	DOCAD0000092	AB levers with unloading instruction (if installed)
	AXA6284	Number 1 (if installed)
	AXA2685	Number 2 (if installed)
	DOCAD0000095	AB chute pump instruction (if installed)
	DOCAD0000096	AB drum inlet pump instruction (if installed)
	DOCAD0000097	Cement bag cutter instructions (if installed)
	AXA1497	Hand throttle use indication (if installed)
	DOCAD0000100	AB maintenance instructions
	AXA1492	Brake oil type indication.
	AXA1506	Fasten the seat belt.
	DOCAD0000053	Keep a safe distance from electrical lines.
	AXA1501	Greasing point

SIGNAL	CODE	DESCRIPTION
	DOCAD000031	Vehicle lifting points
	AXA1798	Wheel pressure indication: 4.5 bar
	AXA2089	Caution, hydraulic circuit with pressure accumulators
	DOCAD0000142	Ultra-Low sulphur Diesel 15 ppm (if installed)
	DOCAD0000565	Ultra-Low sulphur Diesel 10 ppm (if installed)

6.2.4 - Safety stickers position on the vehicle

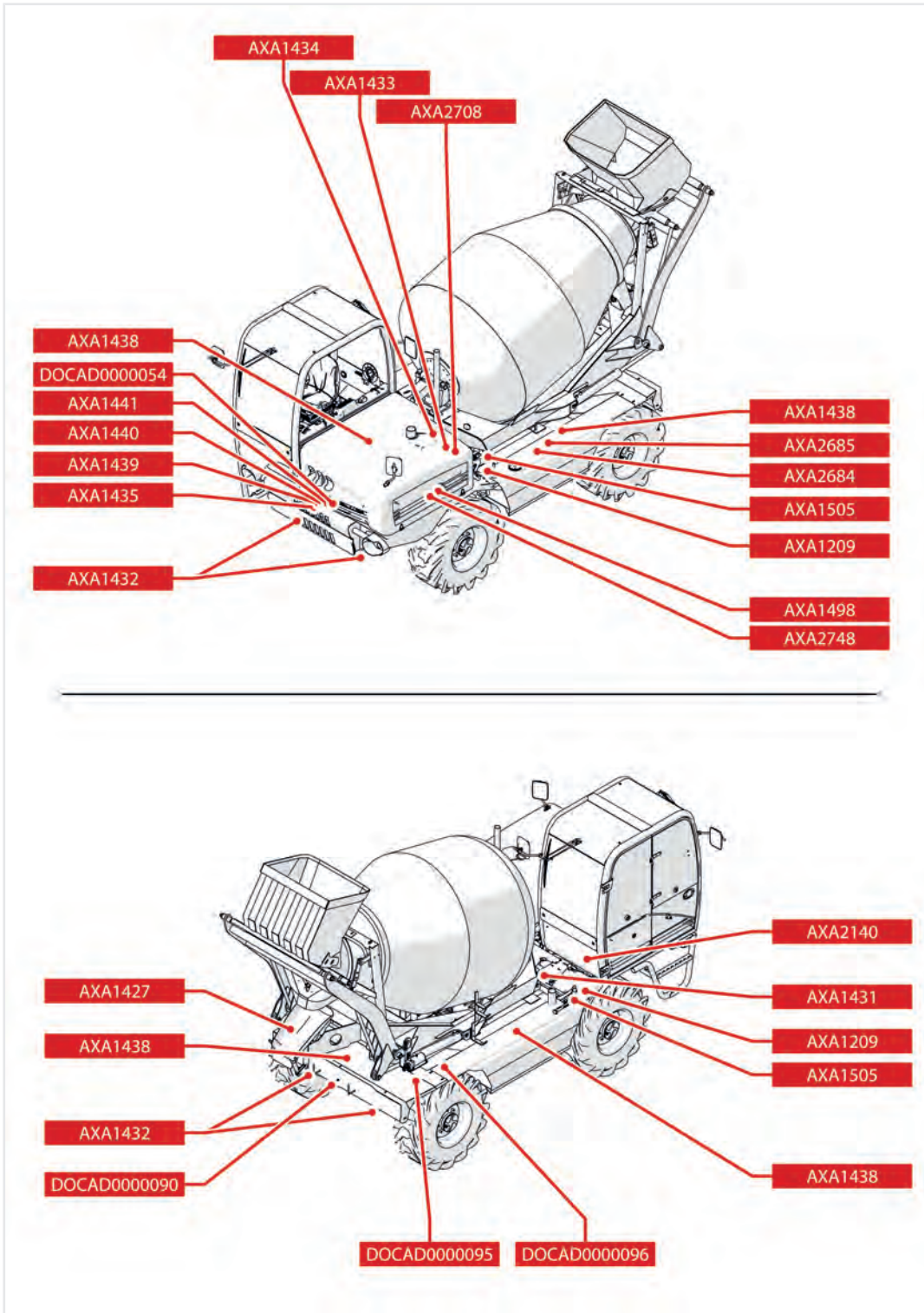


Figure: 170101-1: L3500 L4700 Stickers position

6.2.5 - Safety stickers position in the cab

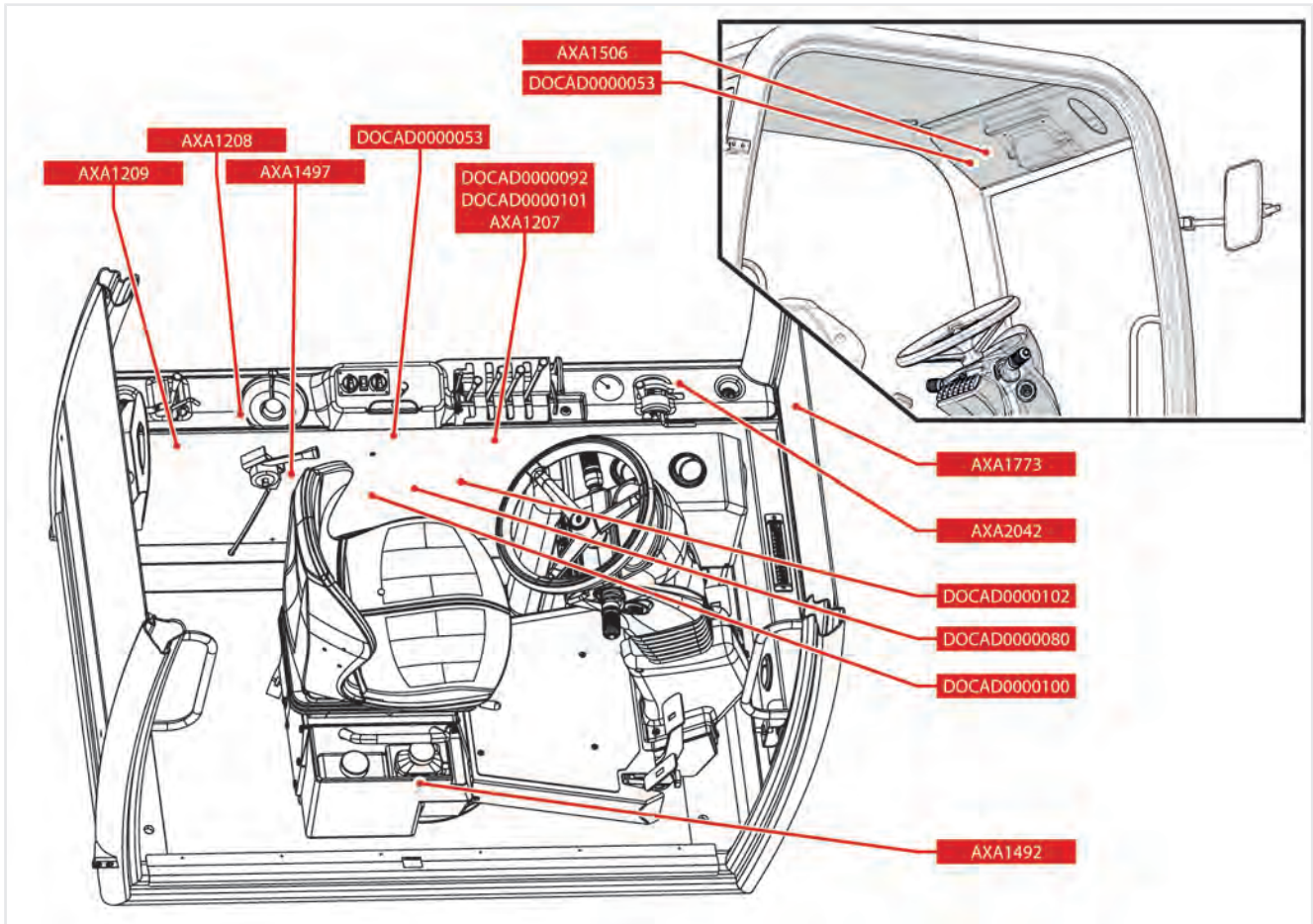


Figure: 170102-1: Cab stickers position

7.1 - ROPS - FOPS Cab

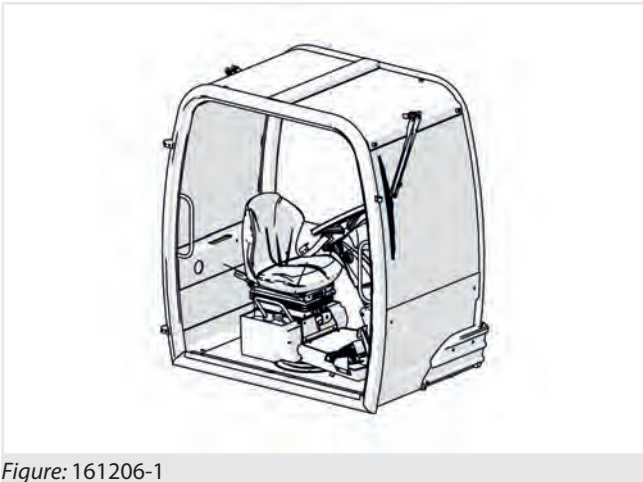


Figure: 161206-1

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.



ATTENTION

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.

7.1.1 - Door *



NOTE

* The door is an optional accessory.

The door consists of the following main components:

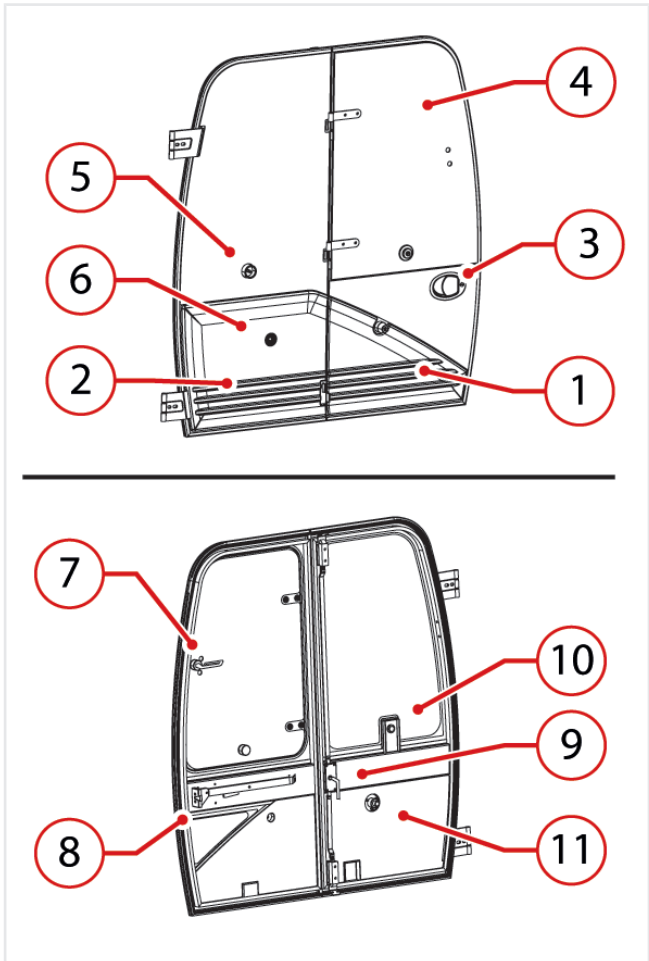


Figure: 151110-1: Door

1 Main leaf	2 Secondary leaf
3 External handle	4 Openable glass
5 Open glass lock	6 Open door lock
7 Closed glass lock	8 Internal handle
9 Secondary leaf opening handle	10 Glass unlock knob
11 Open door unlock button	

7.1.1.1 - Main leaf opening/closing

To open the door from the outside:

- Open the door using the ignition key
- Pull the handle "3" (fig. 151110-1) outward.

To open the door from inside the cab:

- Press the internal handle "8" (fig. 151110-1)
- Push the door outward.

To release the main leaf:

- Press the release button "11" (fig. 151110-1).
- Turn the glass release knob "10" (fig. 151110-1).
- Close the door.

7.1.1.2 - Door glass opening/closing

To open the door glass:

- Turn the handle "7" downward (fig. 151110-1)
- Open the glass "5" until it locks (fig. 151110-1) in the related housing on the secondary leaf.

To release and re-close the glass:

- Turn the glass release knob "10" (fig. 151110-1).
- Re-close the glass
- Secure the handle "7" (fig. 151110-1)

7.1.1.3 - Working with the door open

To operate with the door fully open, carry out the following operations:

- Fully open and lock the main leaf
- Lift the secondary leaf opening handle "9" (fig. 151110-1)
- Fully open the door
- Pull and turn the door lock, until the door is opened and locked in that position

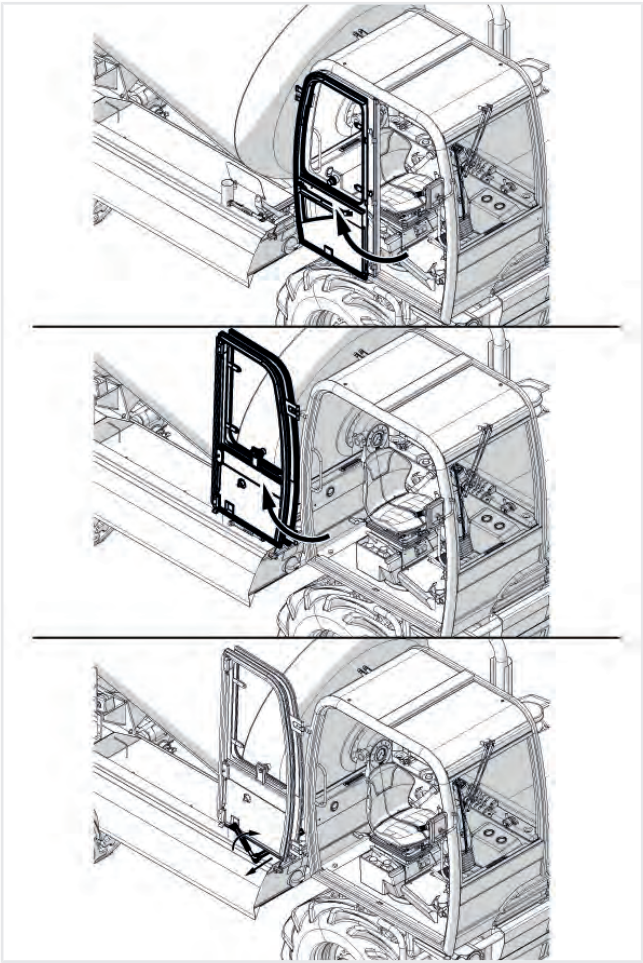


Figure: 151111-1

 **DANGER**

Be careful to the use of applications installed on the back of the machine when the door is completely open. Danger of damaging the door.

Close the door before using applications located at the back of the vehicle.

7.1.2 - Glass on engine side *

 **NOTE**

* The glass on the engine side is an optional accessory.



Figure: 151112-1

To open the glass on the engine side it is necessary to press one of the handles located at the glass sides "1" and "2" (fig. 151112-1) and drag on the side.

To close the glass drag the handle until the glass locks at the end of the stroke.

7.1.3 - Climbing in/out



NOTE

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

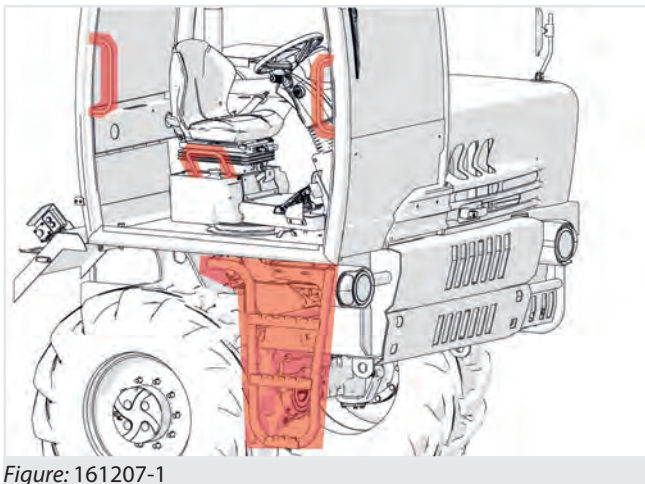


Figure: 161207-1

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.



WARNING

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.

7.1.4 - Cab lighting

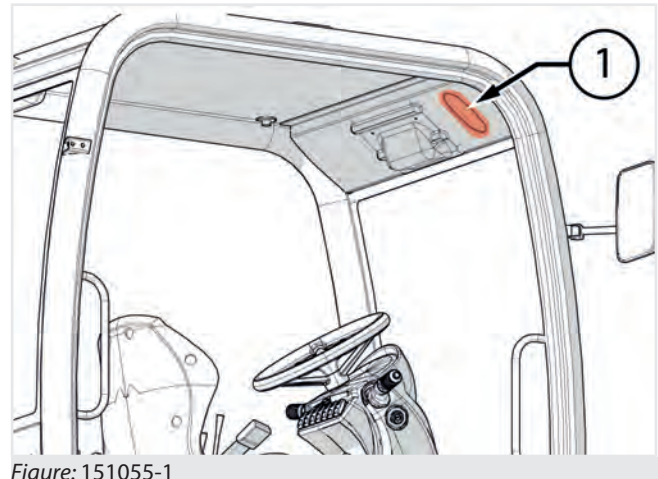


Figure: 151055-1

To turn on the lighting inside the cab act on the overhead light pressing one of the ends "1".

In the center position the lighting is turned off.

7.1.5 - Cab ventilation *



NOTE

* The cabin ventilation is an optional accessory.

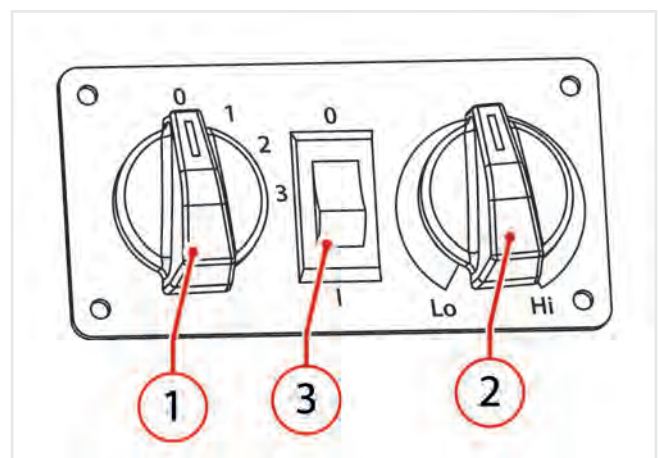


Figure: 161208-1

7.1.5.1 - 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

7.1.5.2 - 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.

7.1.6 - Air conditioning *



NOTE

* Air conditioning is an optional accessory.

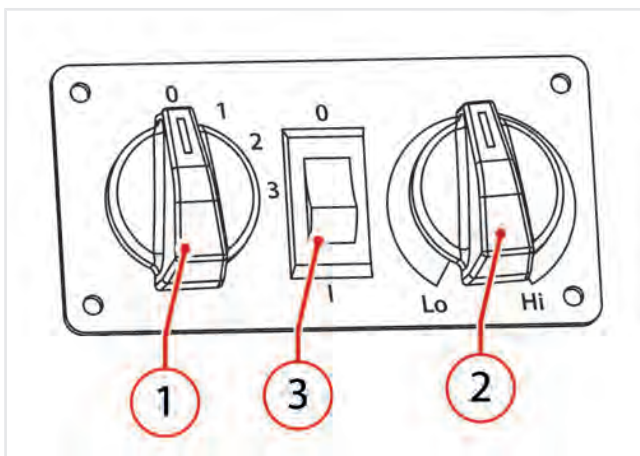


Figure: 161209-1

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 "1".
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.



ATTENTION

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.

7.1.7 - Steering wheel

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



NOTE

Refer to the "Steering selector" chapter.

7.1.7.1 - Steering wheel adjustment

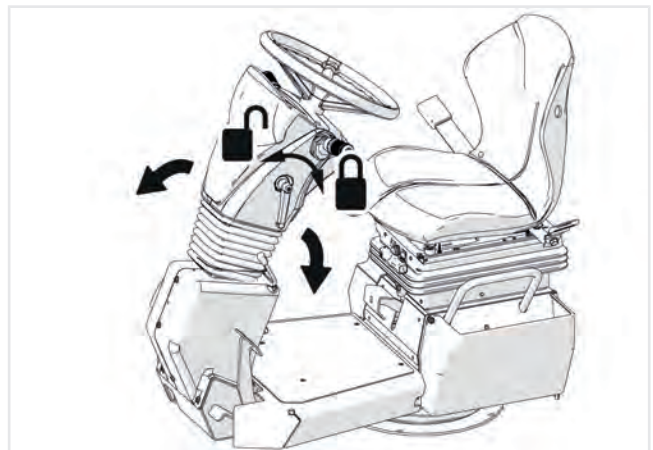


Figure: 151116-1

To adjust the steering wheel angle (fig. 151116-1):

1. Turn the steering wheel adjustment lever 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.

- 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.



NOTE

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.

7.1.8 - Steering selector

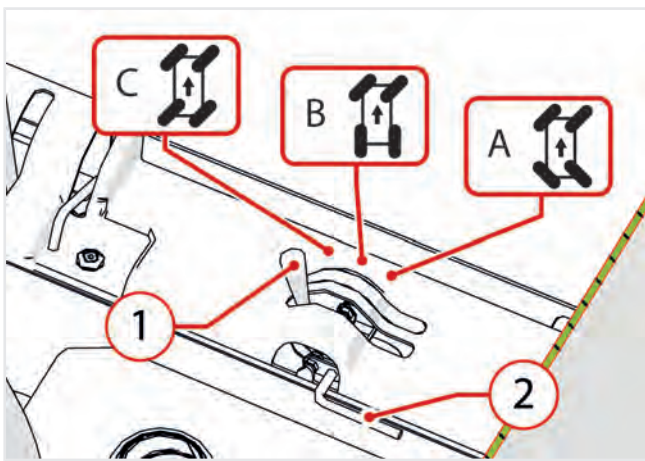


Figure: 150313-1

The steering selector (fig. 150313-1) is used to change the wheels steering mode:

To select a steering mode, move the lever indicating the corresponding symbol:

A - 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.

B - Front-steering wheels

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

C - Transverse

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



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.



DANGER

It is absolutely forbidden to use the transverse steering modes when the driver's seat is facing the back of the machine.



ATTENTION

For road travel is mandatory to select the 4-wheel steering mode and lock the selector with the dedicated fastener "2".

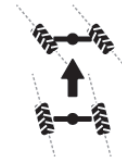
Manual wheel alignment



ATTENTION

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

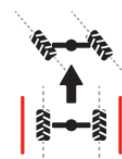
1



2



3



4



5

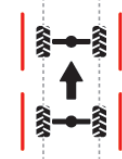


Figure: 150312-2

During normal use of the vehicle, 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 vehicle 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 vehicle 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.

- Turn the driver's seat to the stroke end and release the pedal.

NOTE! After turning the driver's seat, the power steering indicator light will turn on and an intermittent buzzer will operate.

- Make sure the driver's seat is properly secured.
- Lower the power steering reversal lever to make the steering wheel movements consistent with the wheels movement. The light and intermittent acoustic signal will be switched off.



DANGER

It is strictly forbidden to work with the driving seat partially rotated.

With the driver's seat turned towards the drum, the visibility of the field of action is very low, so for the operations it is required to use a person on the ground to give indications.

7.1.9 - Driver's seat reversal

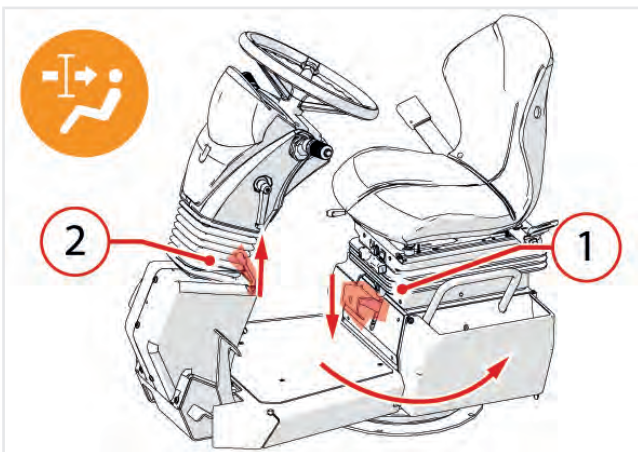


Figure: 151113-1

It is possible to rotate the operator's seat to allow better maneuverability and visibility operating with the applications placed on the back of the machine.

To correctly reverse the driver's seat, it is necessary to:

- Stop the machine (possibly on a level ground).
- Press the parking brake switch.
- Place the gear lever to neutral ("N" position).
- Fully open the door (if available as an option).

WARNING! Make sure that there are no obstacles to the rotation of the seat on the bottom of the cab (rags, gloves, dirt, etc ...), the seat may become jammed or the sensors may not work properly.

- Press the driver's seat reversal pedal, placed under the operator's seat.
- Keeping the pedal pressed, manually rotate the driving seat with the help of the handles in the cab.



WARNING

With driver's seat reversed, also the movement selection lever function will reverse to keep the direction of travel (forward/reverse) consistent with the operator's position.



DANGER

Avoid long travels operating with reversed driver's seat.

It is not allowed to travel for long distances with the driver's seat reversed. If this should be necessary (e.g. driving uphill) the presence of a person on the ground to give indications, is required

It is not allowed to drive the vehicle on the road with the driver's seat reversed.

Driver's seat restoring

To restore the driver's seat in the transport position, carry out the following operations:

- Stop the machine (possibly on a level ground).
- Press the parking brake switch.
- Place the gear lever to neutral ("N" position).
- Fully open the door (if available as an option).

WARNING! Make sure that there are no obstacles to the rotation of the seat on the bottom of the cab (rags, gloves, dirt, etc ...), the seat may become jammed or the sensors may not work properly.

- Press the driver's seat reversal pedal, placed under the operator's seat.
- Keeping the pedal pressed, manually rotate the driving seat with the help of the handles in the cab.
- Turn the driver's seat to the stroke end and release the pedal.
- Make sure the driver's seat is properly secured.
- Lift the power steering reversal lever to make the steering wheel movements consistent with the wheels movement. The light and intermittent acoustic signal will be switched off.

7.1.10 - Multifunction lever

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

7.1.10.1 - Direction indicators

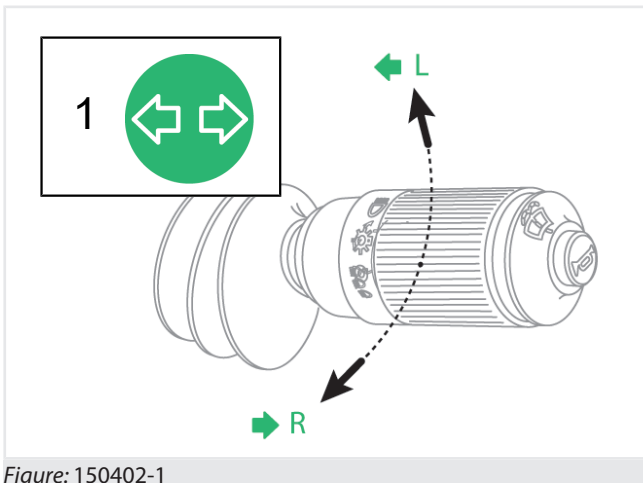


Figure: 150402-1

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.



ATTENTION

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

7.1.10.2 - Horn

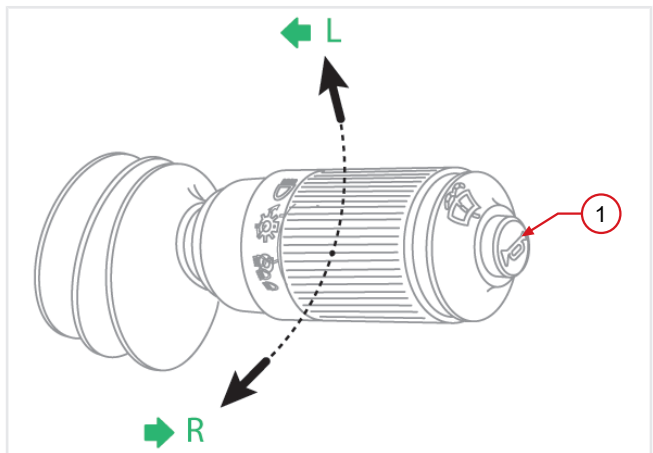


Figure: 150403-1

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

7.1.10.3 - Front window wiper

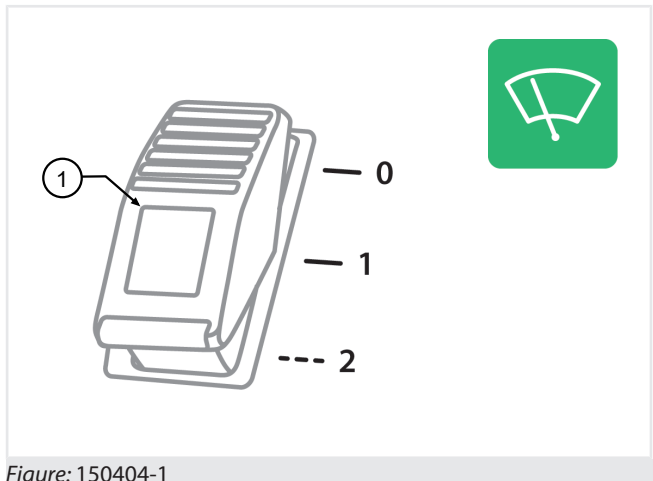


Figure: 150404-1

Press the switch "1" (fig. 150404-1) in intermediate position "1" to activate the front window wiper. To turn off the front window wiper return the switch "1" in position "0".



WARNING

Worn blades cause viewing difficulties and scratches to the glass.

Replace the blades if they are damaged or worn.

7.1.10.4 - Rear wiper

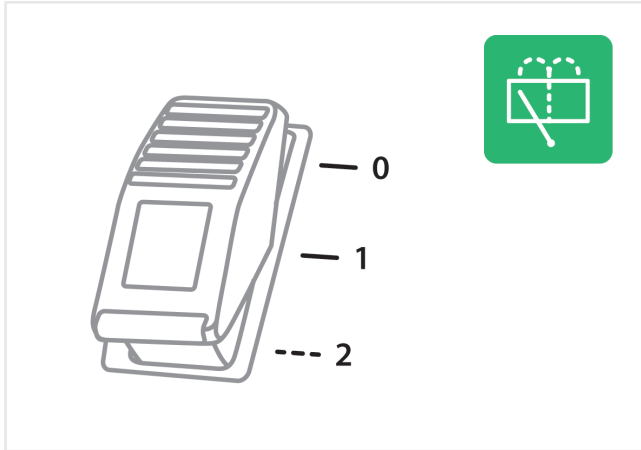


Figure: 150404-1

Press the switch "1" (fig. 150404-1) in intermediate position "1" to activate the rear wiper. To turn off the rear window wiper return the switch "1" in position "0".



WARNING

Worn blades cause viewing difficulties and scratches to the glass.

Replace the blades if they are damaged or worn.

7.1.11 - Lights turning on

7.1.11.1 - Sidelights and low beam lights

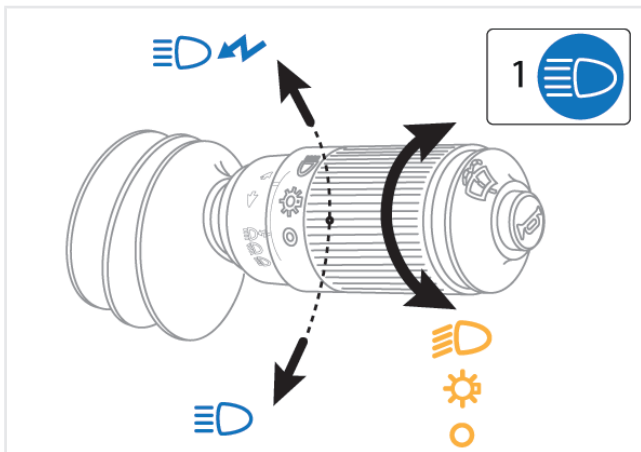


Figure: 150407-1

To turn on the front and rear sidelights of the vehicle, turn the multifunction lever (fig. 150407-1).

The lever has 3 stable positions:

- 0- Lights off
- 1- Side lights on
- 2- Low beam lights on

When the side light are activated the instrument panel of the vehicle lights on.



NOTE

It is possible to turn on the side lights 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.

7.1.11.2 - High beam lights

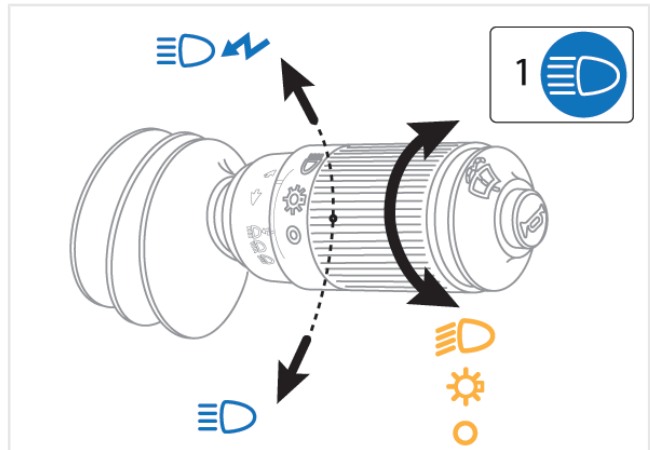


Figure: 150408-1

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. 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, push the multifunction lever downwards. 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.

7.1.11.3 - Rotating light

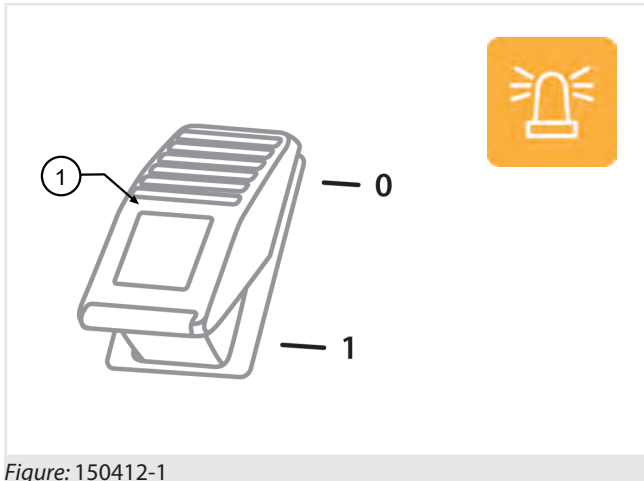


Figure: 150412-1

The rotating light "1" (fig. 150412-1) must be positioned 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.



ATTENTION

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 vehicle to know the cases in which it is necessary and/or allowed to use the rotating light.



NOTE

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.

7.1.12 - Emergency Lights

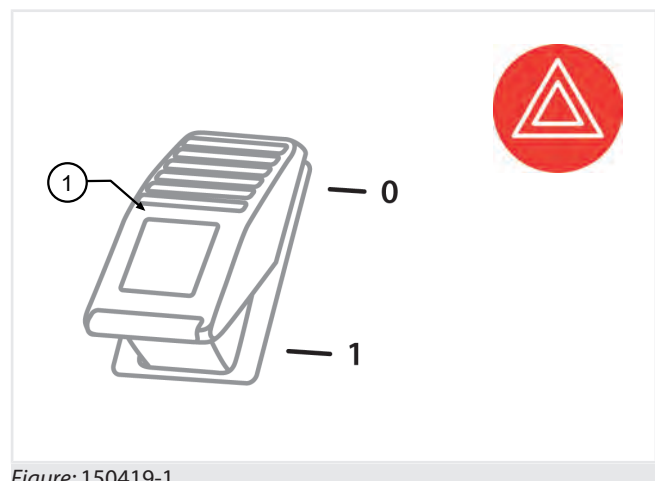


Figure: 150419-1

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

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

7.1.13 - 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.

7.1.13.1 - Deadman seat sensor

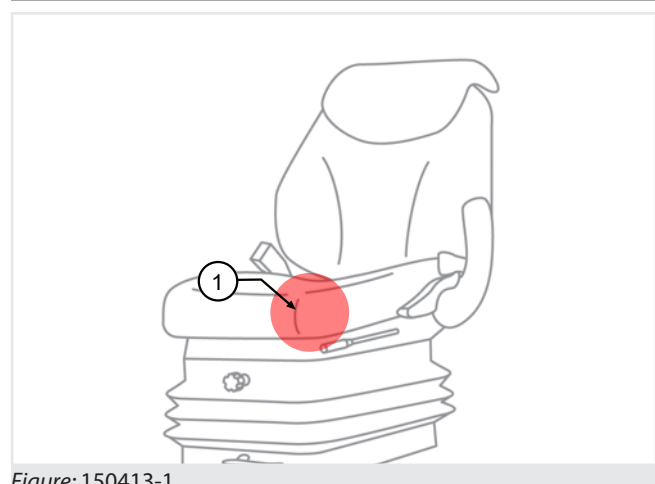


Figure: 150413-1

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 machine, the operator must sit in the driver's seat and set the movement selection lever in position "N".



NOTE

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

7.1.13.2 - Seat adjustment



ATTENTION

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:

Horizontal seat position

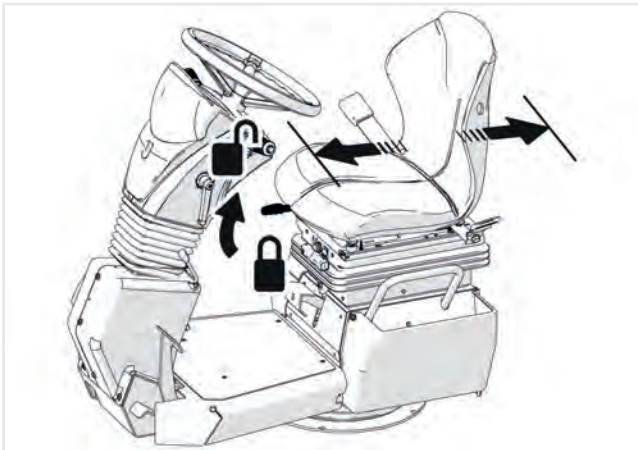


Figure: 151115-1

For the longitudinal adjustment of the control unit move the lever (fig. 151115-1) sliding the seat on the guides. Once established the desired position, release the lever. Make small movements to ensure that the stop pin is engaged in its seat.

Mechanical suspension degree

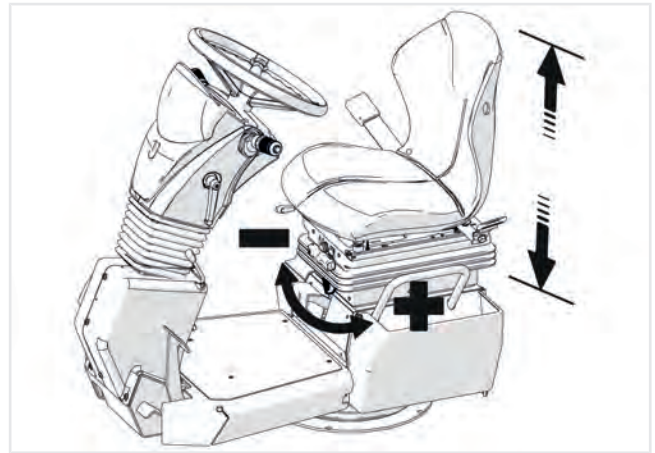


Figure: 151115-2

For the suspension degree adjustment rotate the lever (fig. 151115-2). Turning the handle clockwise will decrease the suspension, while turning the lever counter-clockwise will increase the suspension.

Mechanical suspension degree

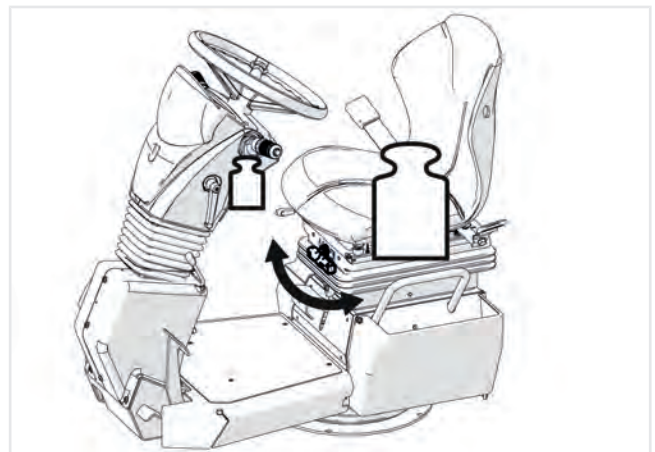


Figure: 151115-3

To adjust the seat height, turn the knob (fig. 151115-3). Turning clockwise will lower the seat while rotating counterclockwise will raise the seat.



WARNING

Always fasten the seat belts when operating the vehicle.

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.

To fasten the seat belt is necessary to:

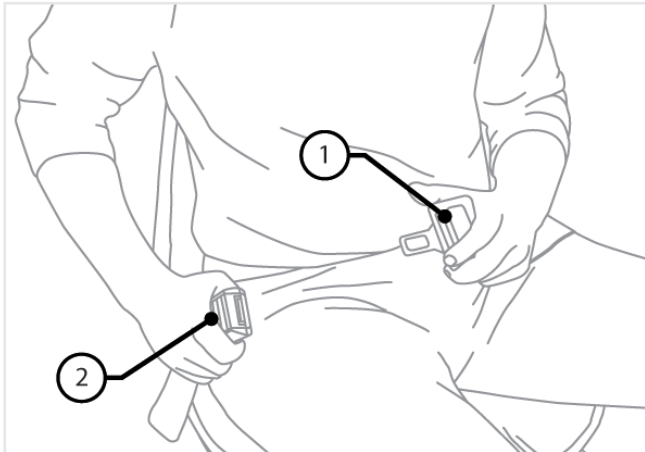


Figure: 150416-1

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

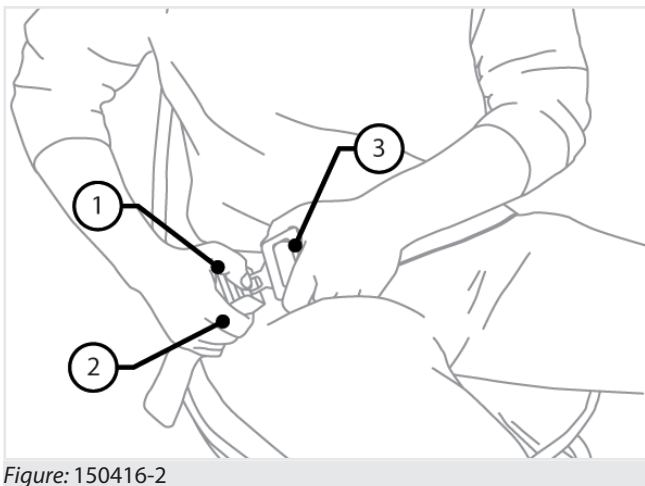


Figure: 150416-2

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

To remove the belt it is necessary to:

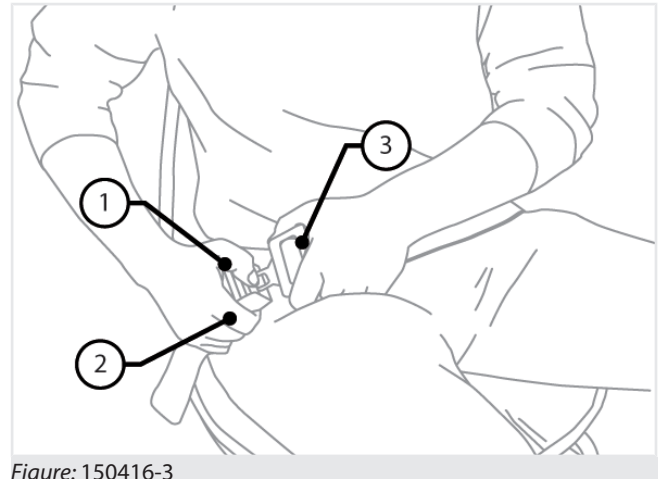


Figure: 150416-3

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

7.1.14 - Emergency stop



Figure: 150420-1

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



ATTENTION

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 cut-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.

7.1.15 - 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
- 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

7.2 - Instrument panel

7.2.1 - Components

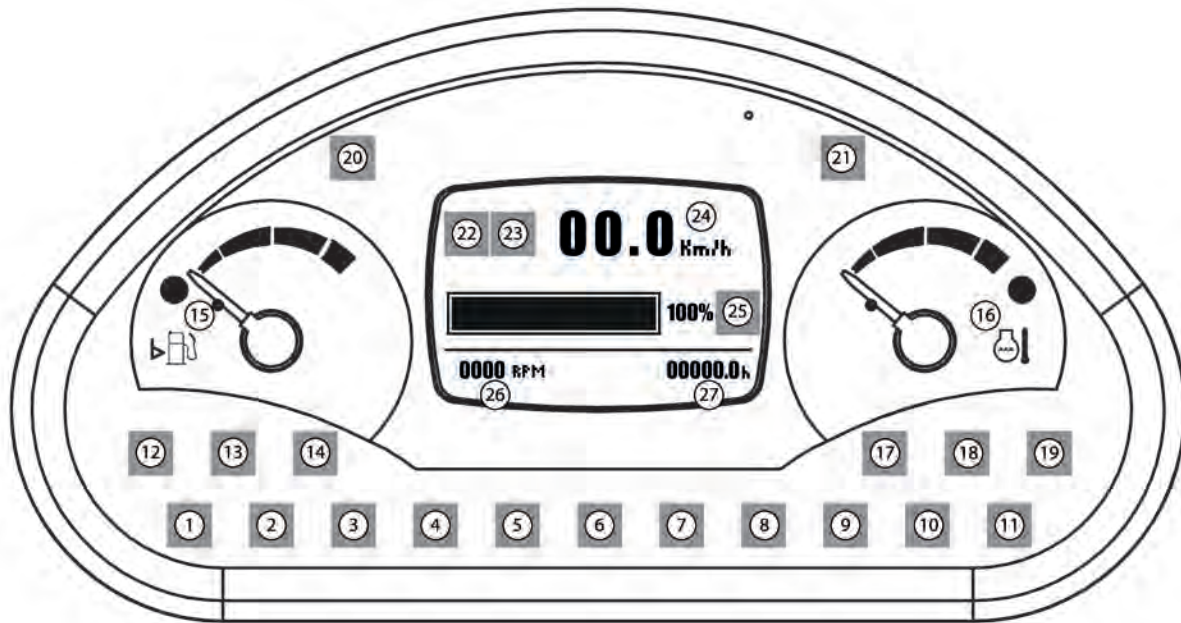













Figure: 161210-1: Dashboard description

Position	Indicator light	Indicator light	Description	
1		Red	Fixed	Generator, battery failure
2		Red	Fixed	Engine oil low pressure
3		Yellow	Fixed	Glow plugs
4		Red	Fixed	Engine errors
5		Red	Fixed	Hydrostatic oil filter clogging
6		Green	Fixed	Direction indicators
7		Green	Fixed	Gear correctly engaged
8		Yellow	Fixed	Slow gear engaged *
9		Yellow	Fixed	Fast gear engaged *

Position	Indicator light		Description
10		Green Fixed	Side lights
11		Blue Fixed	High beam
12		Yellow See AdBlue chapter	AdBlue quality [active for engines with AdBlue]
13		Yellow See AdBlue chapter	AdBlue level [active for engines with AdBlue]
14		Yellow See AdBlue chapter	AdBlue system error [active for engines with AdBlue]
15	-	-	Fuel level
16	-	-	Engine oil temperature
17		Yellow See the DPF chapter	DPF regeneration in progress [active for engines with DPF]
18		Yellow See the DPF chapter	DPF regeneration disabled [active for engines with DPF]
19		Yellow See the DPF chapter	DPF regeneration request or in stand-by [active for engines with DPF]
20		Red Fixed	Parking brake engaged
21		Yellow Fixed	Reversed power steering controls
22	-	-	Not used
23		- Fixed	Water in Fuel (Presence of water in the fuel filter)
24	-	-	Tachometer
25	-	-	See AdBlue chapter AdBlue level
			See the DPF chapter DPF clogging gage
26	-	-	Engine rpm
27	-	-	Hour meter

7.3 - Parking brake

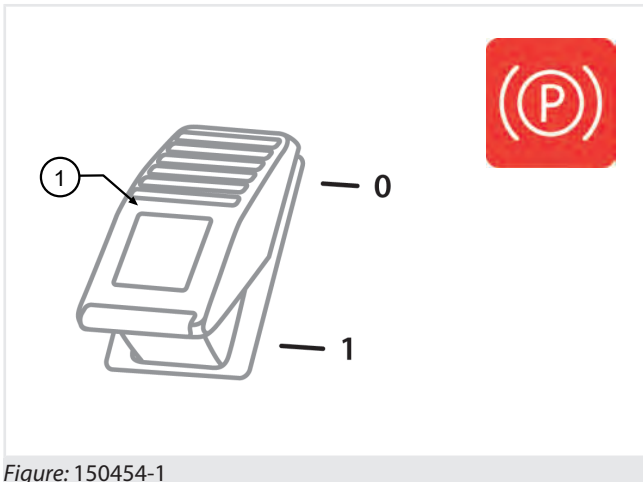


Figure: 150454-1

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



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

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

The parking brake must be engaged:

- Every time the operator leave the vehicle, even in case of momentary stop
- Whenever the vehicle 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, vehicle weight, size of wheels and tires can affect the efficiency of the parking brake.



NOTE

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.

7.3.1 - Pressure gauge



Figure: 150742-1

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



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).

7.3.2 - Braking circuit errors list



NOTE

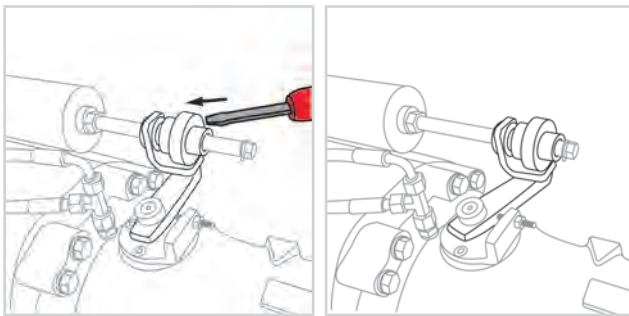
In case the vehicle is in error, contact a *Dieci* service center to solve the problem, indicating the error code reported.

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

Icon	Example	Description
	00000000	Parking brakes errors or brakes failure

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

7.3.3 - Deactivating the external parking brake manually



150562-1

150562-2

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
- Place a screwdriver on top of the crown (fig. 150562-1)
- With a rubber mallet give a sharp blow on the handle of the screwdriver to push the crown inward to release the lock.
- With the crown unlocked at the stroke end, towards the outside of the vehicle (fig. 150562-2), the parking brake is disengaged and it is possible to tow the vehicle.



NOTE

The parking brake, even if disengaged, will return automatically into operation when the engine is started.



DANGER

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

7.4 - Transmission

7.4.1 - Movement selection lever



ATTENTION

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 engine.

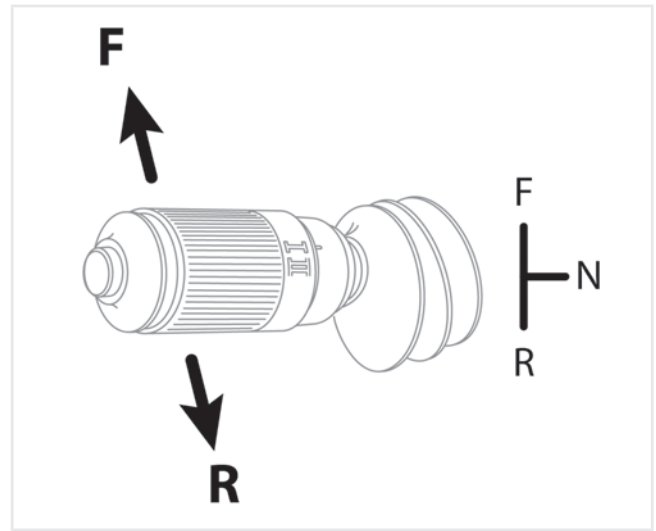


Figure: 150457-1

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.

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



NOTE

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.

7.4.2 - Manual gear shift selection

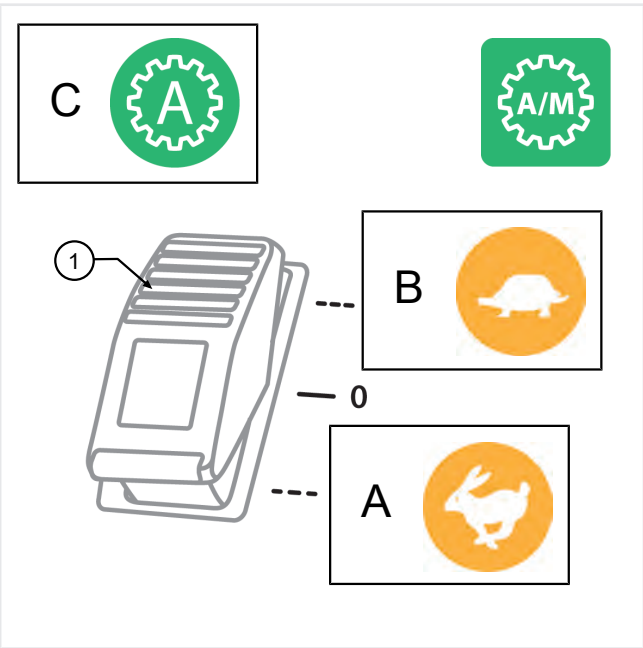


Figure: 150458-1

The "1" button (fig. 150458-1) allows changing the manual gear shift.

To change the manual gear shift:

- Stop the vehicle completely.
- Press the inching and brake pedals and hold.
- Press "1" for a few seconds:
- Down to shift the **Fast** gear, the indicator light "A" on the instrument panel turns on to indicate its selection.
- Up to shift the **Slow** gear, the illumination of the "B" on the instrument panel turns on to indicate its selection.
- Wait that the related indicator light turns on.
- Release the inching and brake pedals.
- Drive slowly and gradually to allow the gear to fit properly. The indicator light "C" indicates the gear properly shifted.



NOTE

Shift the first gear to operate on the work site.

Shift the second gear for long trips with no load, at clear work sites, with good visibility, in the absence of obstacles, with consistent and level ground floor, without transit of people.



WARNING

Never try to shift gears with the vehicle in motion.



NOTE

The "1" and "2" gear selection on the movement selection lever is not active.

7.4.3 - Service braking pedal

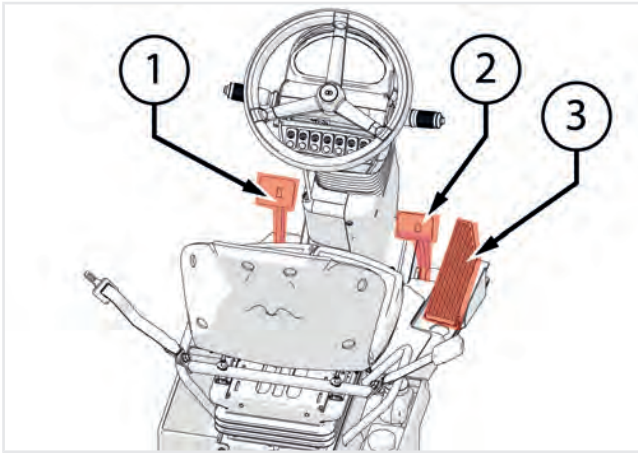


Figure: 150311-1

Press the service brake pedal "2" (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.



150311-2



WARNING

In the case of restricted use of the pedal periodically check its proper operation. In case of problems contact the *Dieci* service centre.



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 centre.

7.4.4 - Inching Pedal

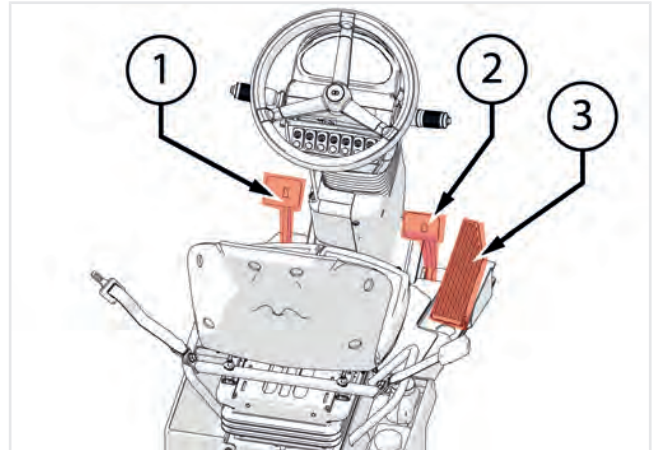


Figure: 150740-1

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.



DANGER

Do not press the inching pedal at high speeds, the vehicle brakes suddenly and the diesel engine risks over-revving.

7.4.5 - Accelerator pedal

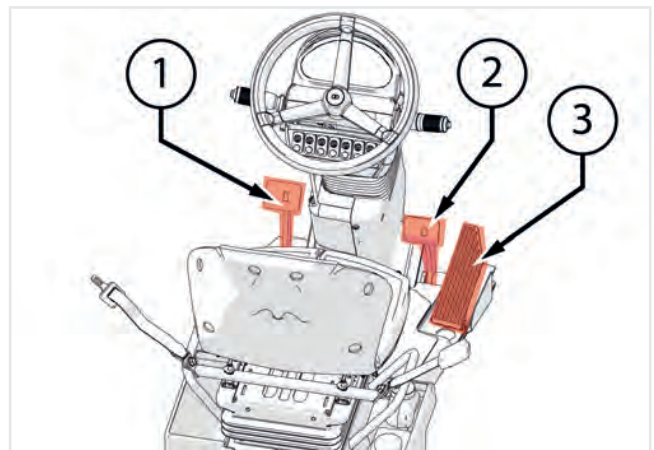


Figure: 150741-1

Press the accelerator pedal "3" (fig. 150741-1) to increase the engine speed, when the pedal is released the engine rpm will decrease.



NOTE

The maximum speed of the vehicle varies with the inflation pressure and the size and wear of the tyres.

7.4.6 - Manually disable off the 2-gear hydrostatic transmission



DANGER

Deactivate the traction only in case it is necessary to tow the vehicle in case of damage to the engine and/or transmission.

In case it is necessary to tow the machine with the engine and/or transmission failure, it is possible to manually disable the transmission.

Carry out the following operations:

- Make sure that the vehicle engine is turned off
- Place chocks under the wheels to prevent sudden movements of the vehicle
- Turn the lever of the hydraulic valve (fig. 150745-1), to turn off the hydraulic supply to the reduction gear (the valve is located under the vehicle, near the reduction gear).

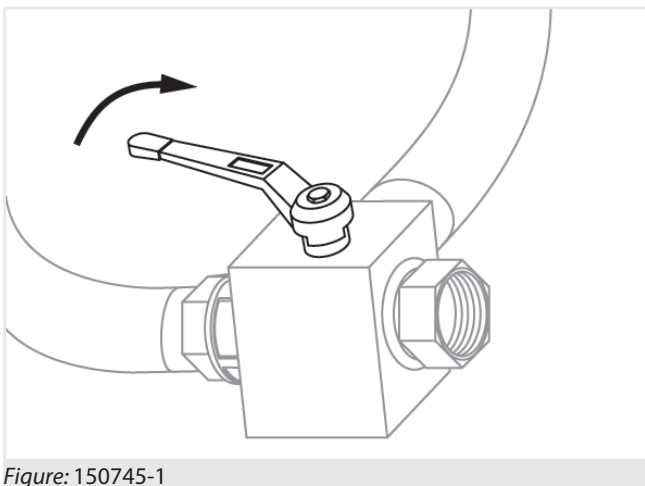


Figure: 150745-1

DANGER! Rotating the handle a jet of oil under pressure may leak out from the valve. Use appropriate safety equipment to protect eyes and skin from hot oil under pressure.

- Using a screwdriver, move the gear selection pin in neutral, at half stroke "2" (fig. 150745-2)
- If possible, before towing the vehicle turn on the instrument panel and check that the indicator lights of the forward and reverse gear are off.

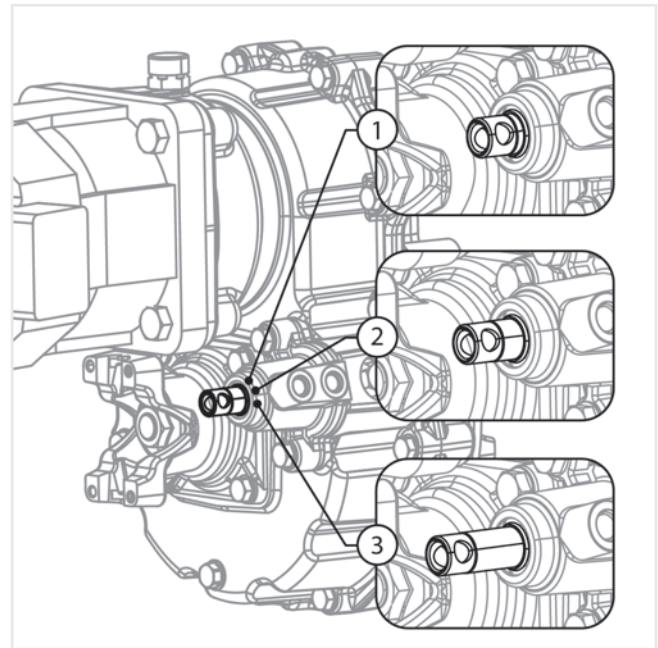


Figure: 150745-2



ATTENTION

Once the towing operations are completed open the valve again returning the lever (fig. 150745-1) to the starting position.

7.5 - Electronic hand throttle

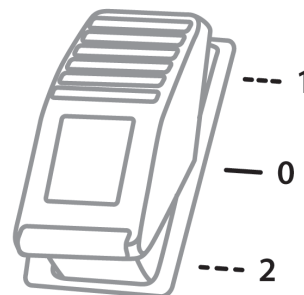


Figure: 150743-1

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.



ATTENTION

With the hand throttle in operation, the vehicle travel is disabled.



ATTENTION

When turning off the machine, 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.



WARNING

Perform rotation with the engine at low rpm so as to prevent anomalous unbalancing.

The drum must be aligned longitudinally to the vehicle when driving on the road.

The drum must be aligned longitudinally to the vehicle when performing the loading phase.

WARNING! If the door is installed on the machine as an option, do not rotate the drum if it is fully open, there is the danger of damaging the machine.



161211-2

7.6 - Drum side rotation control lever



WARNING

Make sure the vehicle is perfectly level before rotating. The vehicle is unbalanced on the unloading side if the drum is turned sideways.

Only perform this operation on level ground so as to prevent accidental overturning.

Move the lever "1" (fig. 161211-1) as follows to move the drum sideways:



161211-1

- Push the lever towards side "A" to rotate the drum towards the left side of the vehicle
- Push the lever towards side "B" to rotate the drum towards the right side of the machine

A buzzer is heard during this operation.

Release the lever for it to return to the central idle position and the movement will be stopped; the drum will then stop in the position reached.

7.7 - Loading shovel control lever

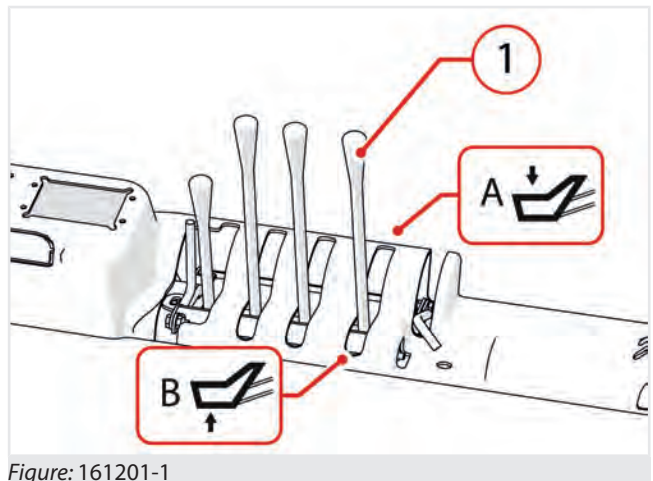


Figure: 161201-1

Move the relative lever "1" (fig. 161201-1) as follows to move the loading shovel:

- Push the lever towards side "A" side to lower the loading shovel
- Pull the lever towards side "B" to lift the loading shovel

Release the lever for it to return to the central idle position and the movement will be stopped; the loading shovel will then stop in the position reached.

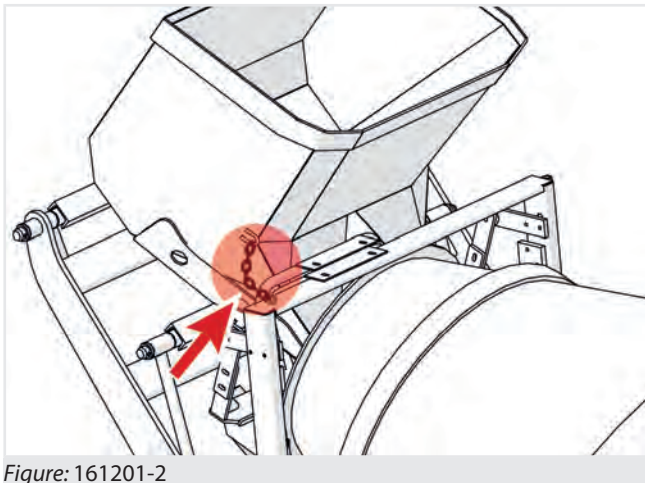


Figure: 161201-2

The shovel must be raised completely and fastened with the relative chain when driving on the road.

Make sure the loading shovel is not fastened with the safety chain (fig. 161201-2) before moving the loading shovel.



WARNING

Do not lift the rear wheels of the vehicle while the shovel is in the loading phase or when maintenance is being performed.

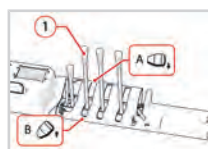
Do not lower the loading shovel when the drum is raised.

Do not use the loading shovel to load the drum turned to one side as there is a risk of the vehicle overturning on the side. Only use the loading shovel when the drum is aligned with the vehicle.

7.8 - Drum lifting control lever

Move the lever "1" (fig. 161205-1) as follows to lower the drum:

- Push the lever towards side "A" to lower the drum, bringing it back to transport mode
- Pull the lever towards side "B" to lift the drum, thereby facilitating the unloading procedure



161205-1

Release the lever for it to return to the central idle position and the movement will be stopped; the drum will then stop in the position reached.



WARNING

The drum must be completely lowered when driving on the road.

The drum must be completely lowered during the loading phase.

Do not raise the drum while the loading shovel is lowered. There lies the risk of the loading shovel being damaged or broken.

7.9 - Mixing/Unloading Button

*



NOTE

* Attachments available for some vehicle models.

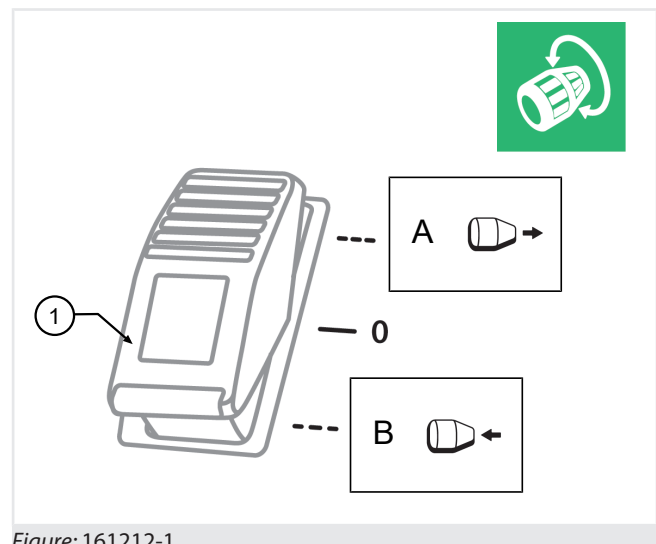


Figure: 161212-1

The mixing/unloading button "1" (fig. 161212-1) allows the drum to rotate and consequently mix or unload the contents of the drum.

- Press the button on side "A" to rotate the drum for it to unload its contents.
- Press the button on side "B" to rotate the drum for it to mix its contents.

Press the button on the same side repeatedly or keep it pressed to increase the speed of rotation.

Simply press the button on the opposite side to decrease the speed or stop rotation.

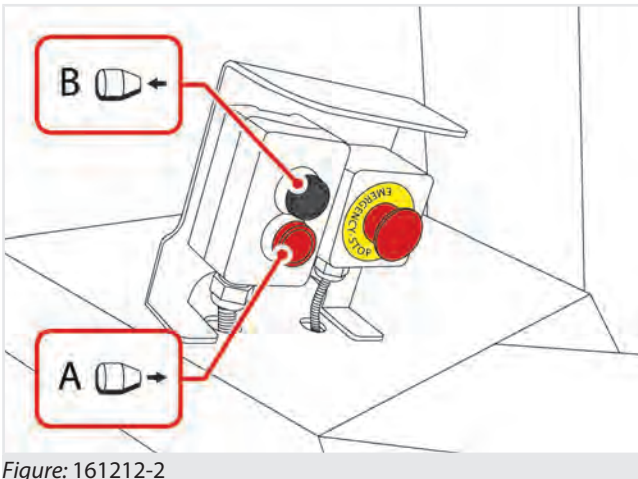


Figure: 161212-2

For easier access during the ground working phases, the same controls are shown on both sides of the vehicle (fig. 161212.2).

The operating principle is the same as for rotation, rotation inversion, acceleration and deceleration.

- Press the BLACK button "B" to rotate the drum for it to mix its contents.
- Press the RED button "A" to rotate the drum for it to unload its contents.

Increasing the engine rpm will also increase the speed of drum rotation.

NOTE! Refer to the "Safe working procedures" chapter for more information regarding the loading, mixture and unloading procedures.



WARNING

It is strictly forbidden to go near the opening of the drum as it rotates.



DANGER

It is strictly prohibited to check the quality of the mixture through the opening of the drum.

7.10 - Mixing/unloading control lever *



NOTE

* Attachments available for some vehicle models.

The mixing/unloading lever "1" (fig. 161213-1) allows the drum to rotate and consequently mix or unload the contents of the drum.

- Push the lever from side "A" to rotate the drum for it to unload its contents.
- Set the lever to "N" to stop the drum from rotating.
- Pull the lever from side "B" to rotate the drum for it to mix its contents.

Increasing the engine rpm will also increase the speed of drum rotation.

Lever "2" allows to lock the lever "1" to prevent accidental activation.

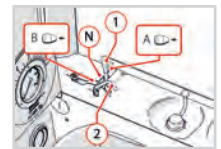
NOTE! The cab lever locking safety device "2" also acts on the lever outside the cab at the side of the vehicle.

For easier access during the ground working phases, the same control is located on the side of the vehicle (fig. 161213-2).

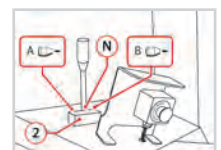
The operating principle is the same as for rotation, rotation inversion, acceleration and deceleration.

- Pull the lever from side "A" to rotate the drum for it to unload its contents.
- Set the lever to "N" to stop the drum from rotating.
- Push the lever from side "B" to rotate the drum for it to mix its contents.

NOTE! Refer to the "Safe working procedures" chapter for more information regarding the loading, mixture and unloading procedures.



161213-1



161213-2



WARNING

Bring the drum rotation speed to the minimum before inverting the drum rotation direction.



WARNING

It is strictly forbidden to go near the opening of the drum as it rotates.



DANGER

It is strictly prohibited to check the quality of the mixture through the opening of the drum.

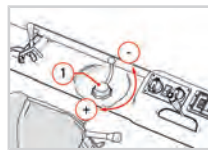
7.11 - Drum rotation speed control lever *



NOTE

* Attachments available for some vehicle models.

The drum rotation speed control lever "1" (fig. 161225-1) allows the drum rotation speed to be adjusted without increasing the engine rpm.



161225-1

- Turn the lever anticlockwise to reduce the rotation speed.
- Turn the lever clockwise to increase the rotation speed.

Increasing the engine rpm will also increase the speed of drum rotation.

NOTE! Refer to the "Safe working procedures" chapter for more information regarding the loading, mixture and unloading procedures.



WARNING

Bring the drum rotation speed to the minimum before inverting the drum rotation direction.



WARNING

It is strictly forbidden to go near the opening of the drum as it rotates.



DANGER

It is strictly prohibited to check the quality of the mixture through the opening of the drum.

7.12 - Concrete batch control *

7.12.1 - Loading shovel control lever with excess material unloading *



NOTE

* The "Loading shovel control with excess material unloading lever" is an optional attachment.

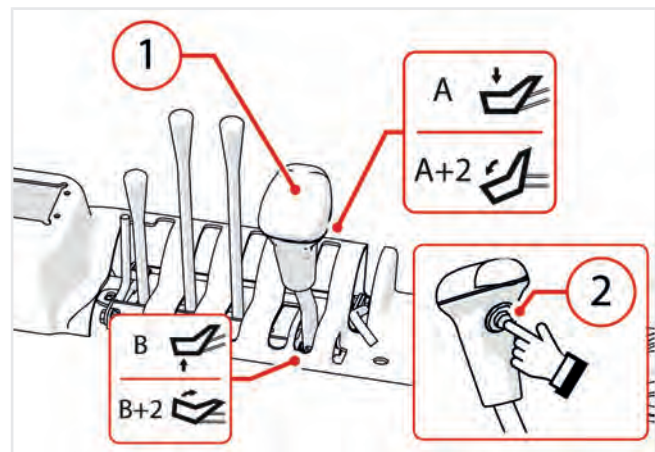


Figure: 161202-1

If the electronic weighing machine indicates that if too much material is going to be put into the drum to comply with the selected recipe, the "Loading shovel control with excess material unloading lever" allows the excess material to be unloaded.

Move the relative lever "1" (fig. 161201-1) as follows to move the loading shovel:

- Push the lever towards side "A" side to lower the loading shovel
- Pull the lever towards side "B" to lift the loading shovel

To unload the loading shovel, press the button "2" on the lever "1" and simultaneously:

- Push the lever towards side "A" side to tilt the shovel downwards.

- Pull the lever towards side "B" to tilt the shovel upwards.

Release the lever for it to return to the central idle position and the movement will be stopped; the loading shovel will then stop in the position reached.

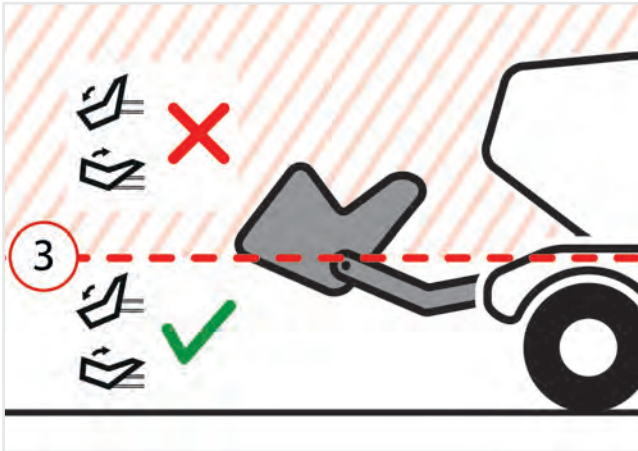


Figure: 161202-2

It is only possible to perform the shovel tilting movements when the shovel boom is lowered below the line "3" (fig. 161202-2).

If the boom is lifted and the downward tilting movement is activated, the lowering movement of the arm is activated first and only when it is below the line "3" (fig. 161203-2) the tilting movement will be activated.

If the blade is tilted downwards and the boom lifting control is activated, the upward tilting movement is first activated and only when the shovel is in the stand-by position the boom lifting movement will be activated.

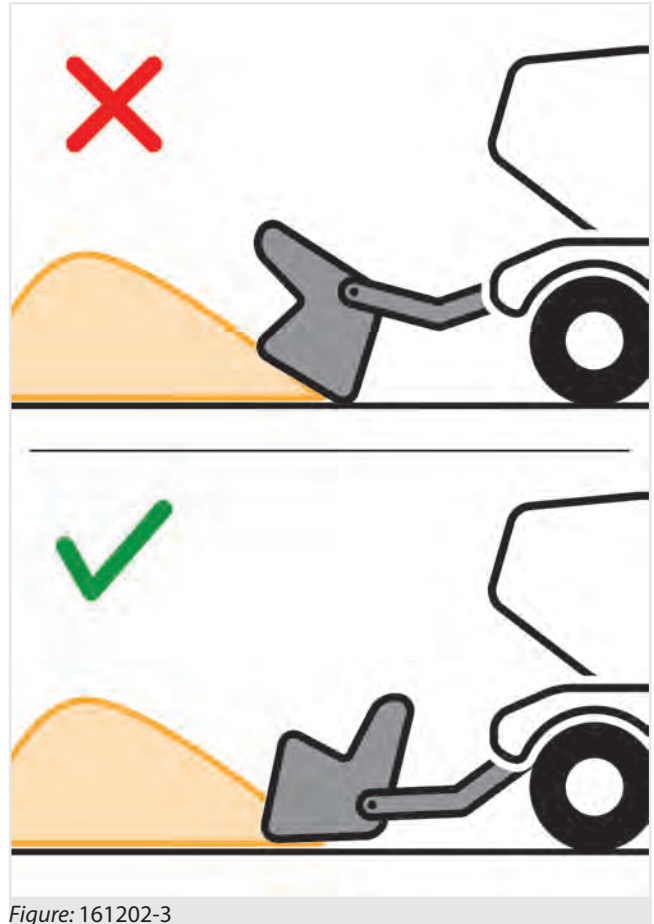


Figure: 161202-3

WARNING! Load the shovel only with the shovel horizontal (in stand-by position). Carrying out the loading with shovel tilted downwards could damage the shovel boom.

Before loading the shovel, swing the shovel upwards until it is in the stand-by position.

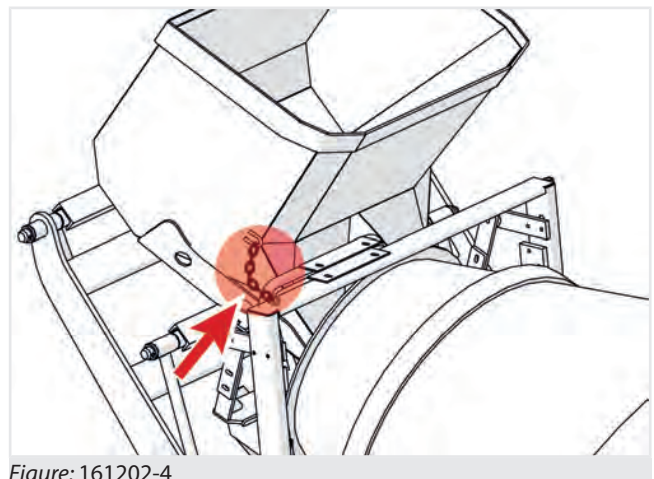


Figure: 161202-4

NOTE! The shovel must be raised completely and fastened with the relative chain when driving on the road.

CAUTION! Make sure the loading shovel is not fastened with the safety chain (fig. 161202-4) before moving the loading shovel.



WARNING

Do not lift the rear wheels of the vehicle while the shovel is in the loading phase or when maintenance is being performed.

Do not lower the loading shovel when the drum is raised.

Do not use the loading shovel to load the drum turned to one side as there is a risk of the vehicle overturning on the side. Only use the loading shovel when the drum is aligned with the vehicle.

7.12.2 - Electronic weighing system *



NOTE

The Electronic weighing system is part of an optional attachment.

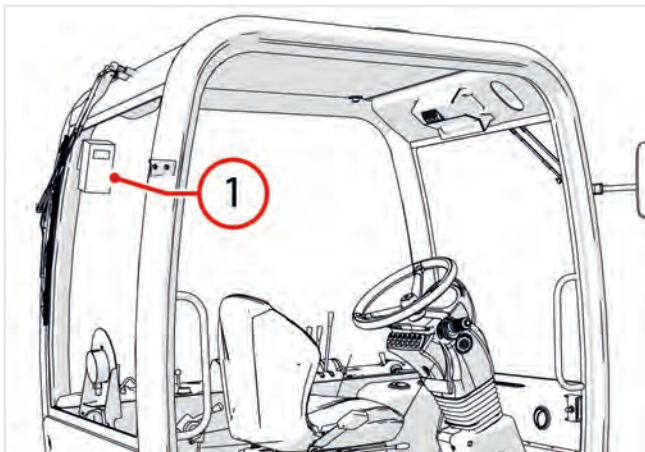


Figure: 161212-1

The electronic weighing system "1" (fig. 161212-1) provides an indication of the amount of material in the loading shovel while the drum is being filled.

NOTE! The instrument provides approximate guidelines and therefore cannot be used to buy or sell material



NOTE

Refer to the manufacturer's manual for information on technical data, use and maintenance.

7.13 - Unloading chute pump

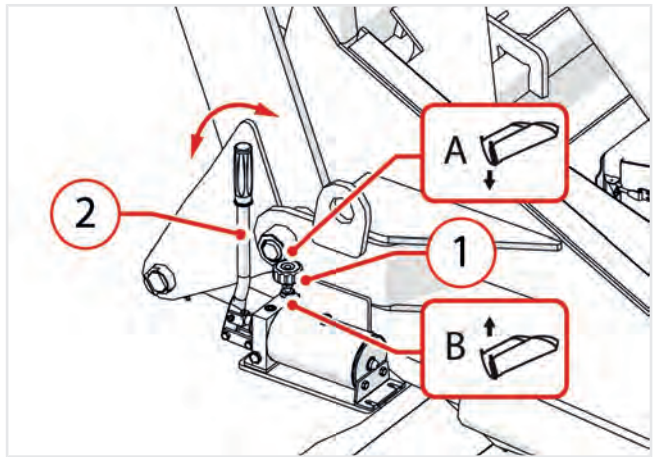


Figure: 161240-1

The unloading chute pump allows the inclination of the unloading chute to be adjusted.

To lift the chute it is necessary to (fig. 161240-1):

- Tighten the knob "1" fully.
- Move the lever "2" until the chute is in the desired inclination.

To move the chute down it is necessary to (fig. 161240-1):

- Loosen the knob "1"

Manually lower the chute to the desired inclination.

7.14 - Chute extension *



NOTE

The chute extension is an optional accessory.

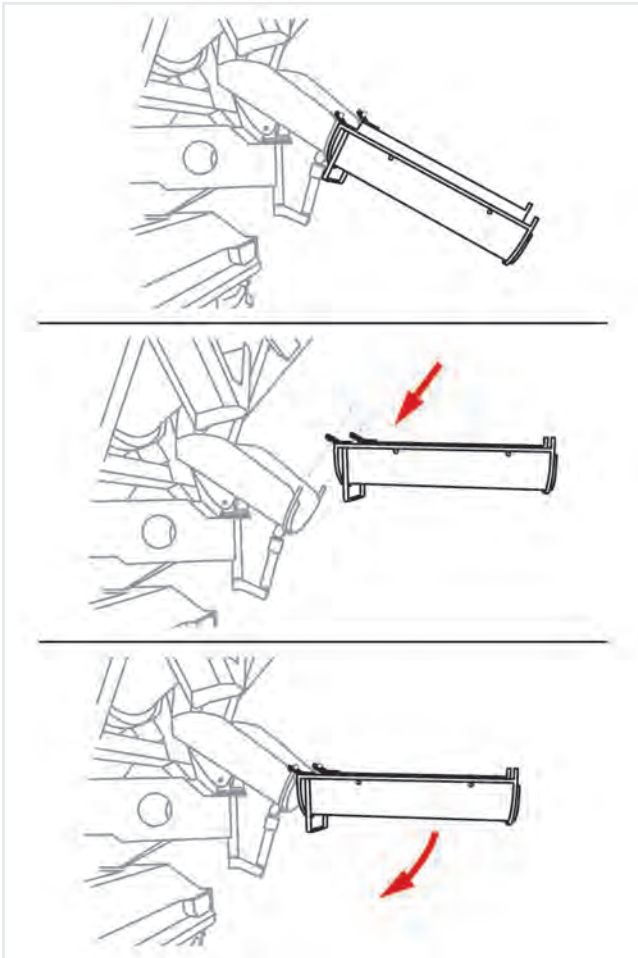


Figure: 161245-1

The extension chute (fig. 161245-1) allows the mixture to be unloaded more precisely.

To install the chute extension it is necessary to:

- Remove the chute extension from its transport housing,
- Insert the two closing mechanisms in the housings on the chute while keeping this horizontal.
- Lower the tip of the chute so as to fasten it to the vehicle.

7.15 - Drum opening pump *



NOTE

* The drum opening pump is an optional accessory, which is only present if the vehicle is equipped with a loading hopper.

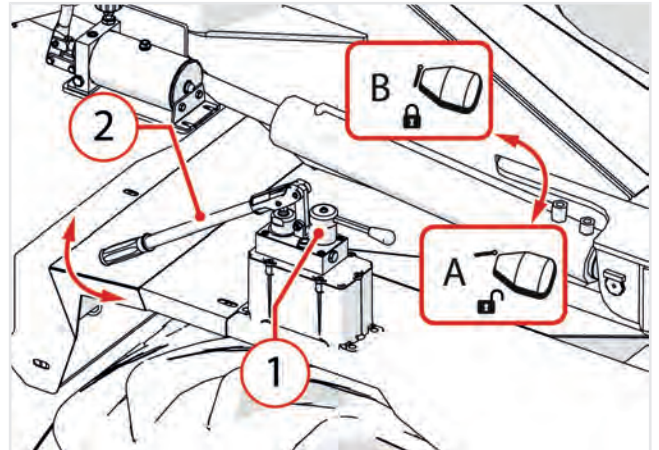


Figure: 161241-1

The drum opening pump (fig. 161241-1), allows the drum opening to be adjusted to dose the amount of mixture during the unloading phase or to close the drum opening and allow a larger amount of mixture to be transported, thereby preventing mixture being lost during the trip.

To open the drum opening it is necessary to:

- Move the lever "1" in position "A".
- Operate the lever "2" until the drum opening is open.

To close the drum opening it is necessary to:

- Move the lever "1" in position "B".
- Operate the lever "2" until the drum opening is closed.

7.16 - Cement bag cutter *



NOTE

* The cement bag cutter is an optional accessory.

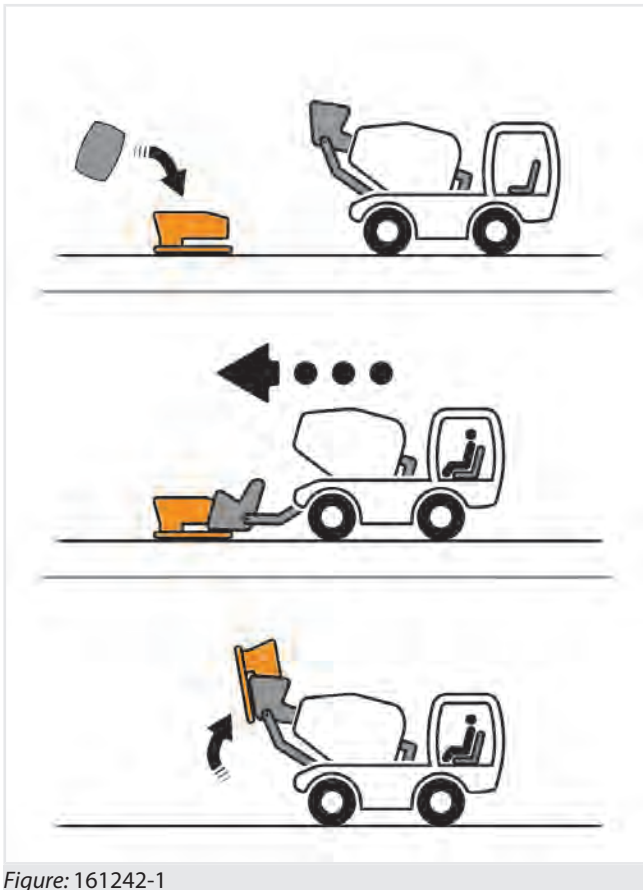


Figure: 161242-1

The cement bag cutter (fig. 161242-1) allows the cement to be easily and quickly loaded in the drum of the vehicle.

Use:

- Position the bag cutter and the vehicle on level ground.
- Load the bag cutter, by dropping the cement bags on the serrated blade of the bag cutter.
- Once the desired amount is reached, remove the cut bags to prevent them from being caught in the mixture.
- Lower the loading shovel of the vehicle.
- Reverse the vehicle until the bag cutter is inserted in the loading shovel.
- Raise the loading shovel and the bag cutter to load the cement in the drum.
- Once the loading process is complete, lower the loading shovel and remove the bag cutter.

7.17 - Hydraulic weighing system *



NOTE

* The hydraulic weighing system is an optional attachment.

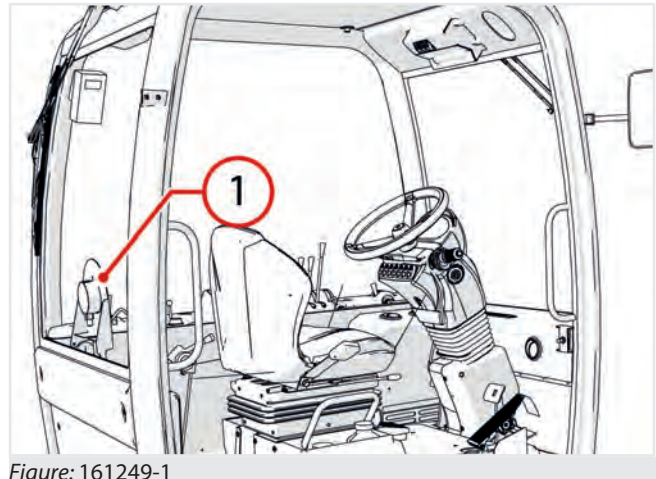


Figure: 161249-1

The hydraulic weighing system provides an indication of the amount of material in the drum.

- Proceed as follows to use the hydraulic weighing system:
- Place the machine on a level ground
- Stop the drum from rotating
- Raise the loading shovel completely
- Raise the drum by a few centimeters
- Operate the weighing system control lever (fig. 161249-2), by moving it towards the rear part of the vehicle
- Take a reading from the dial while shifting the lever "1" (fig. 161249-1)

Release the lever and lower the drum again once the weighing process is complete

NOTE! The instrument provides approximate guidelines and therefore cannot be used to buy or sell material

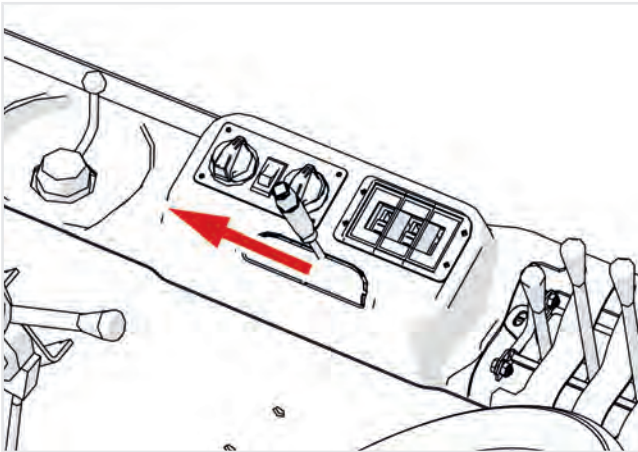


Figure: 161249-2



WARNING

It is recommended to not operate other commands during the weighing phase so as not to cause irreparable damage to the equipment

7.18 - Water pump

The water pump can be used for the following functions:

- Fill the tanks of the vehicle by drawing water from an external tank
- Supply the drum by drawing water from an external tank
- Supply the drum by drawing water from the tanks of the vehicle
- Wash the vehicle by drawing water from an external tank
- Wash the vehicle by drawing water from its tanks

The water pump is used by positioning the taps according to the guidelines in the relative chapter and operating the pump from one of the control levers.



ATTENTION

It is forbidden to drive with the water pump activated.

Disconnect the water pump once the pumping operations are complete.



NOTE

Verify that the tanks of the vehicle are full before commencing the pumping operations and drawing from them.

7.18.1 - Water pump description

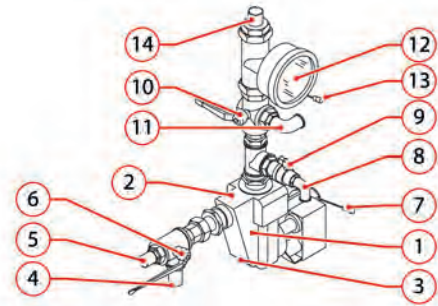


Figure: 161244-1: Water pump description

1 Water pump	2 Water pump filler cap
3 Water pump drain cap	4 Pipe to draw water from the tanks
5 Sleeve to draw water from the tanks	6 Inlet tap: tank selection
7 Water pump control external lever	8 Pressure washer or vehicle washing sleeve
9 Washing tap	1 Outlet tap: drum or tank selection
1 Water pipe to tanks	1 Liter meter
1 Liter meter reset lever	1 Water pipe to drum
3	4

7.18.2 - Water pump control lever

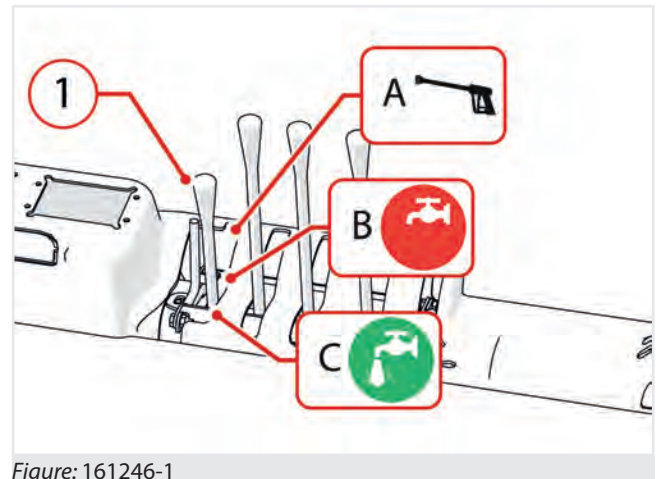


Figure: 161246-1

NOTE! Set the taps on the pump according to the desired operation before operating the water pump control lever.

The water pump control lever (fig. 161246-1) allows the water pump or pressure washer to be activated (if available as an optional).

- Set the lever to "A" to activate the pressure washer (if available as an optional).
- Set the lever to "B" to switch the water pump off.

- Set the lever to “C” to activate the water pump.

The same control is located outside the cab, next to the water pump.

NOTE! The cab lever locking safety device also acts on the lever outside the cab at the side of the vehicle.

7.18.3 - Liter meter

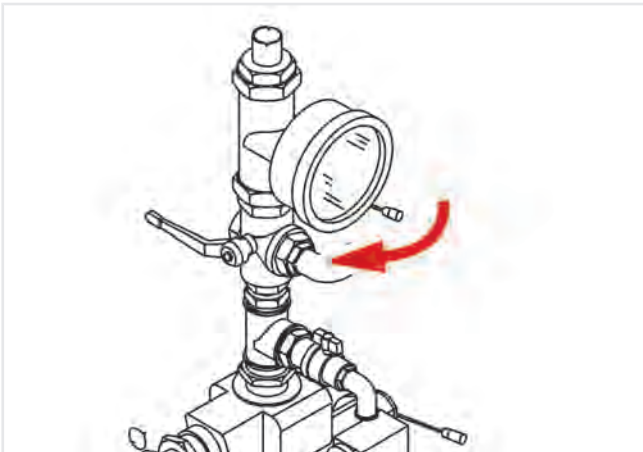


Figure: 161246-1

The liter meter on the water pump (fig. 161246-1)) allows the liters of water poured into the drum to be monitored.

The maximum capacity of the Liter meter is 500 L (132 gal).

Move the liter meter reset lever to the left to reset the liter meter.

7.18.4 - Using the water pump

Proceed as follows to operate the pump:

- Stop the vehicle on level ground
- Set the gear lever to “N”
- Engage the parking brake
- Make sure the tank (external or that of the vehicle) is full
- Set the taps in the correct position for the desired use
- Bring the engine to 3/4 of the maximum rpm via the hand throttle
- Operate the water pump control lever to activate the water pump

After use, always stop the water pump, disconnect the water pump control lever and bring the engine back to the minimum rpm.



ATTENTION

During the winter season, empty the water pump, by loosening the drain cap, so as to prevent damaging it due to freezing.



ATTENTION

Be careful so as not to draw air with the pump.

Check that the tanks are full enough or that the external float is always under water.

7.18.5 - First time the vehicle is used, tanks topping up

Proceed as follows when using the pump for the first time or after not being used for a prolonged period of time:

- Hook the pipe from the external water tank to the sleeve that draws water from the external tanks of the pump
- Verify that the clamps are tightened correctly so as to prevent air intake
- Immerse the pipe in the water that is to be drawn, making sure that the float is constantly under the water
- Loosen the filler cap and fill the water pump
- Close the cap
- Fill the pipe of the external water float.
- Follow the instructions described in the “Using the water pump” to activate the water pump.

NOTE! Maximum pump head is 5 m (16.4 ft).

7.18.6 - Pressure washer *



NOTE

* The pressure washer is an optional accessory.



Figure: 161247-1

The pressure washer on the left side of the vehicle (fig. 161247-1) allows the vehicle to be cleaned with a high pressure water jet.

Proceed as follows to use the pressure washer:

- Stop the vehicle on level ground
- Set the gear lever to "N"
- Engage the parking brake
- Make sure the tank of the vehicle is full
- Bring the engine to 3/4 of the maximum rpm via the hand throttle
- Operate the water pump control lever to activate the pressure washer

After use, always stop the pressure washer, disconnect the water pump control lever and bring the engine back to the minimum rpm.



WARNING

The high pressure water jet is dangerous if directed towards people. It is recommended to pay utmost attention.

It is recommended to wear goggles during use.





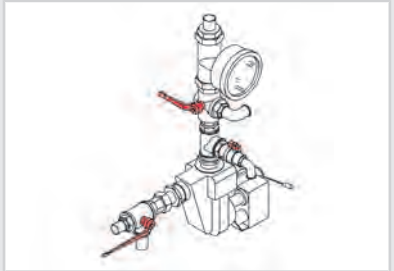


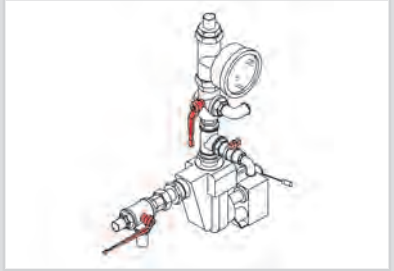


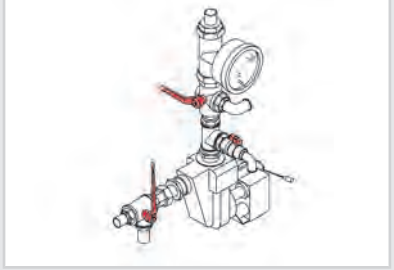

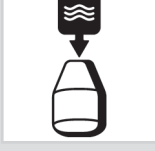



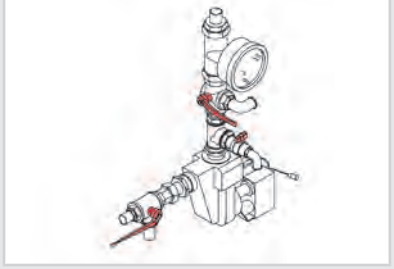
NOTE

Refer to the pressure washer manual for warnings regarding its use, cleaning operations and maintenance.

Pressure washer maintenance

- Check the oil level of the pressure washer with the relative dipstick (fig. 161247-1) and top-up, if necessary.
- Replace or clean the inlet filter (inside the water tank) when pressure drops are noted.

7.18.7 - Position of the taps

Input	Extension	Description	Position of the taps
 External water tank	 Vehicle washing	Outlet tap: To the left Washing tap: Open Inlet tap: To the left	
 External water tank	 Drum	Outlet tap: Downwards Washing tap: Closed Inlet tap: To the left	
 Vehicle water tank	 Vehicle washing	Outlet tap: To the left Washing tap: Open Inlet tap: Upwards	
 Vehicle water tank	 Drum	Outlet tap: Downwards Washing tap: Closed Inlet tap: Upwards	
 External water tank	 Vehicle water tank	Outlet tap: To the right Washing tap: Closed Inlet tap: To the left	

7.19 - Wheel wedge

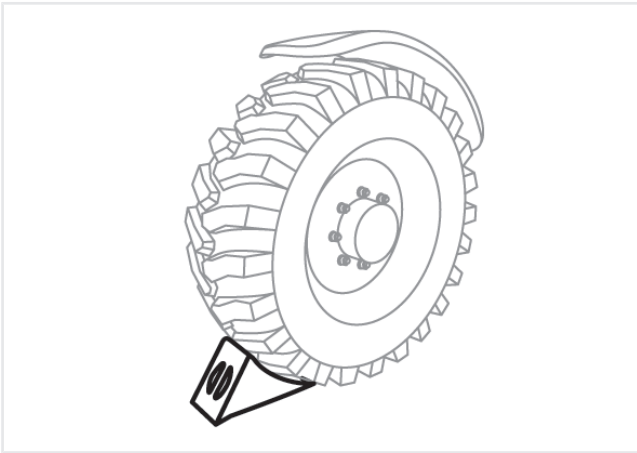


Figure: 150460-1

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.

- Wait until the water is adequately heated.
- Remove the water heater extension from the socket and from the socket on the hood.



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.



NOTE

In case of malfunction contact the *Dieci* service center.

7.20 - Water heater *



NOTE

The Water heater is an optional accessory.

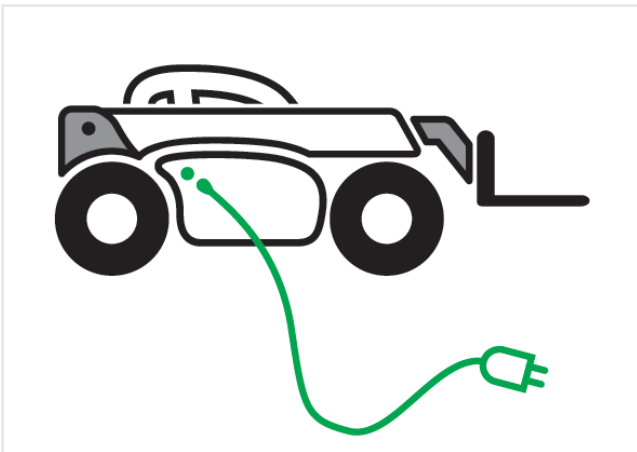


Figure: 150493-1

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 hood.

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.

7.21 - FPT Series NEF4, Stage IIIA /Tier 3



NOTE









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.

**NOTE**

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
	Adaptor cable for engine diagnostics (Only FPT engines)
	Protruding load signal (only Italy)
	Rotating light

9.1 - Emergency procedures list

Emergency procedure	Additional information	
Emergency procedure	7.1.15	Warnings in case of vehicle tipping
	7.3.3	Deactivating the external parking brake manually
	7.4.6	Manually disable off the 2-gear hydrostatic transmission
	9.2	Vehicle towing
	9.2.1	Vehicle towing with electrical panel on
	9.3	Drum unloading in case of emergency
	10.4.6	Start up with auxiliary batteries
	10.4.6.1	Cable connection and engine start-up
	10.4.6.2	Cables removal

9.2 - 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.



ATTENTION

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.



ATTENTION

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.

9.2.1 - Vehicle towing with electrical panel on

If it is necessary to tow the vehicle with the electrical panel in operation (for example, transmission failure) follow the following steps:

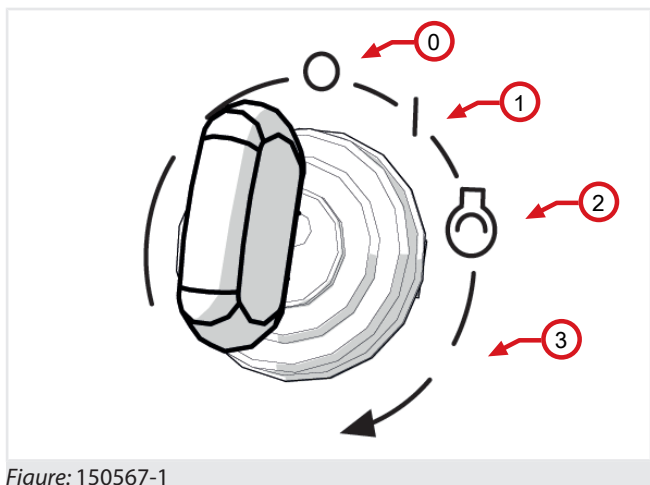


Figure: 150567-1

- Turn the vehicle off by turning the ignition key "0" (fig. 150567-1).

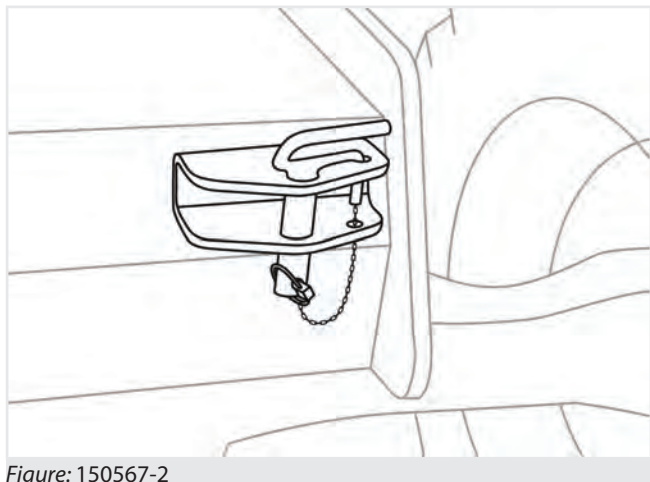


Figure: 150567-2

- 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 vehicle is in a stable configuration and lock the wheels with chocks to prevent accidental movement of the vehicle.
- 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.

9.2.2 - Towing the machine with engine in failure

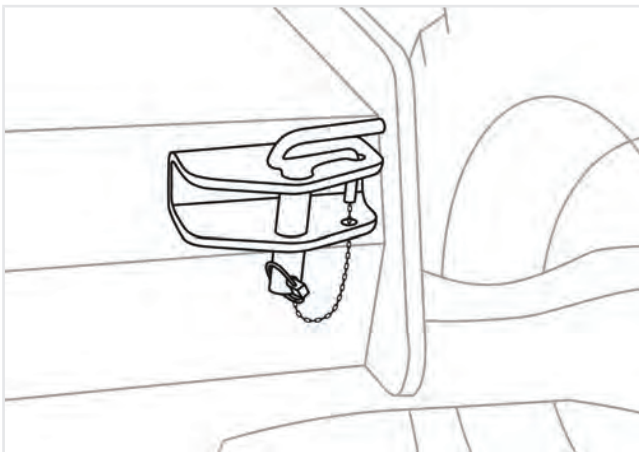


Figure: 150568-1

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".



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.

9.3 - Drum unloading in case of emergency

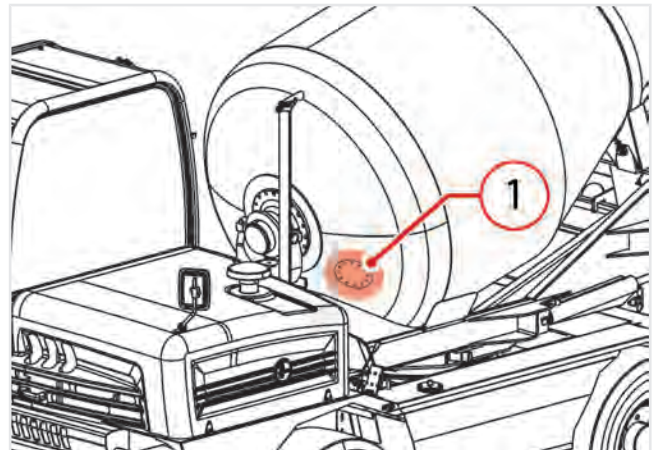


Figure: 170103-1

WARNING! Only expert and trained personnel must perform these operations.

In case of failure of the machine which prevents normal operations for emptying the drum from its contents, carry out the following operations:

- Place wedges under the wheels to prevent the vehicle from moving suddenly.
- If possible, turn the drum so as to position the hatch (fig. 170103-1) in the highest part.
- Loosen all the bolts and remove the hatch.
- If possible, slowly turn the drum so as to let the contents slowly flow through the hatch.

CAUTION! Pay utmost attention if the hatch finds itself under the mixture level as the latter could come out suddenly when the hatch is opened.



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.



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.

10.1 - 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** vehicle 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.



ATTENTION

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

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.



ATTENTION

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.

10.1.1 - 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.

- 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.
- 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.



NOTE

Only use lubricants suggested by DIECI; never utilize used lubricants.

10.1.2 - 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
	Wear protective goggles <ul style="list-style-type: none"> • Wear protective glasses in case of operations involving the use of compressed air.
	Wear safety shoes
	Wear protective gloves <ul style="list-style-type: none"> • 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 jewellery 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.

10.2 - Preliminary maintenance operations

10.2.1 - 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 unauthorised personnel from approaching the vehicle.
- Disconnect the battery isolation switch.
- Allow the engine to cool down.

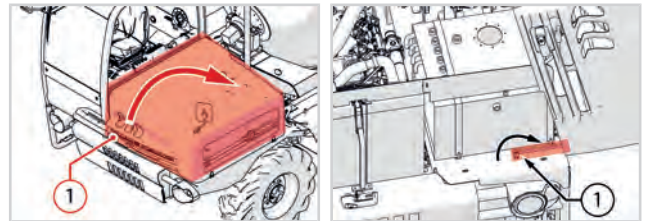
10.3 - Engine hood opening



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.



150722-1

150722-2

To open the engine hood it is necessary to:

- 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 isolation switch.
- Pull the handle "1" (fig. 150722-1) to open the hood.
- Lift the engine hood.
- Release the hood gradually to ensure that the hood remains open.
- Turn the lock rod "2" (fig. 150722-1) to lock the hood.

To close the engine hood it is necessary to:

- Turn the lock rod "2" (fig. 150722-2) in the rest position.
- Close the engine hood with light pressure. Always check the proper closing before starting to work or before leaving the vehicle.
- Reactivate the battery isolation switch.

10.4 - Battery



DANGER

To avoid the risk of explosion of the batteries:

- Keep sparks, free flames and cigarettes away from the top of the batteries because the gases that they can produce are highly flammable.
- Do not charge damaged batteries.
- 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.



ATTENTION

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.
- 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 loses 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.

10.4.1 - 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.

10.4.2 - "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.

10.4.3 - 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 increase 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.
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.

10.4.4 - Battery isolation switch



WARNING

Use this switch only when the engine is stopped.

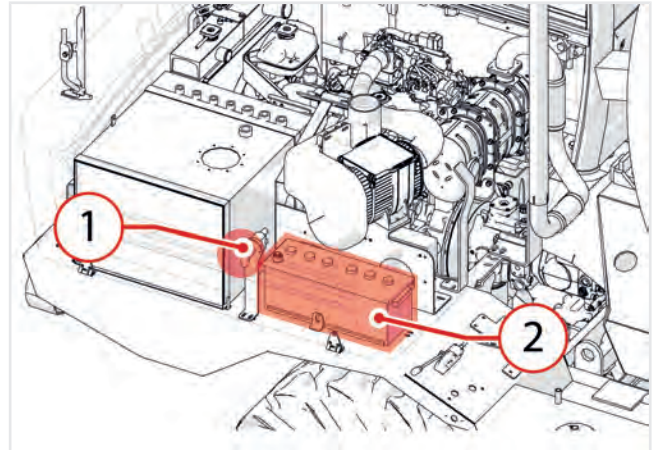


Figure: 150731-1

The battery isolation switch "1" (150731-1) 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".
- Turn the battery isolation switch counterclockwise to the off position.

10.4.5 - Battery: Replacement

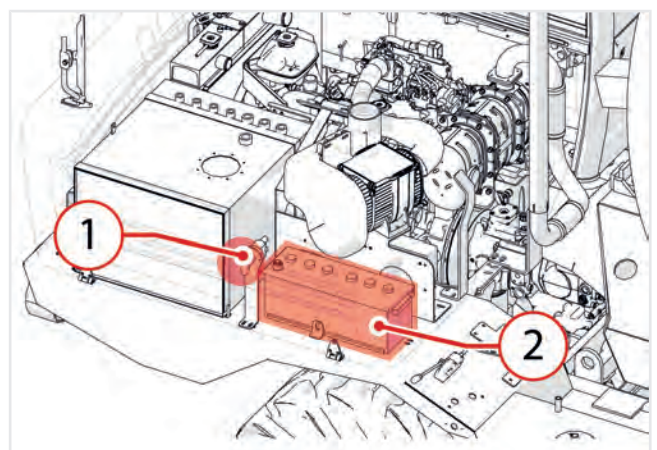


Figure: 150732-1

The vehicle is equipped with a battery located inside the engine hood "2" (fig. 150732-1).

Before removing the battery disconnect it from the electrical circuit through the appropriate battery isolation 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.
- To access the battery it is necessary to remove the protection guards.
- Disconnect the NEGATIVE cable (black) from the battery.
- Disconnect the POSITIVE cable (red) from the battery.
- Remove the battery from the vehicle.
- Place the new battery.
- Connect the POSITIVE (red) cable to the battery.
- Connect the NEGATIVE (black) cable to the battery.
- Reactivate the battery isolation switch.
- Close the engine hood.

- Cables and grippers 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 grippers for corrosion or damage. Make sure the grippers 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.

10.4.6 - 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 cables and first connect the earth cable (-) and then the positive cable (+).
- 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.

10.4.6.1 - Cable connection and engine start-up

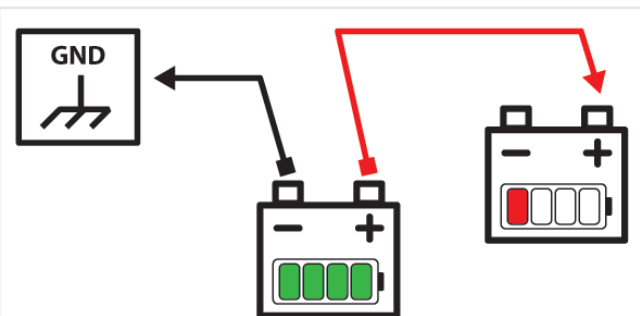


Figure: 150539-1

1. Make sure the ignition key is in position "O".
2. Connect the cable from the negative clamp "-" 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.

10.4.6.2 - 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.
2. Disconnect the negative cable "-" from the earth of the running engine and therefore from the fully charged battery.

10.5 - 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.

10.5.1 - Specifications for recommended fuel



NOTE

To achieve good performance, see the engine manual of the vehicle to know the best features.

10.5.2 - 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.
- 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.

10.5.3 - Refueling

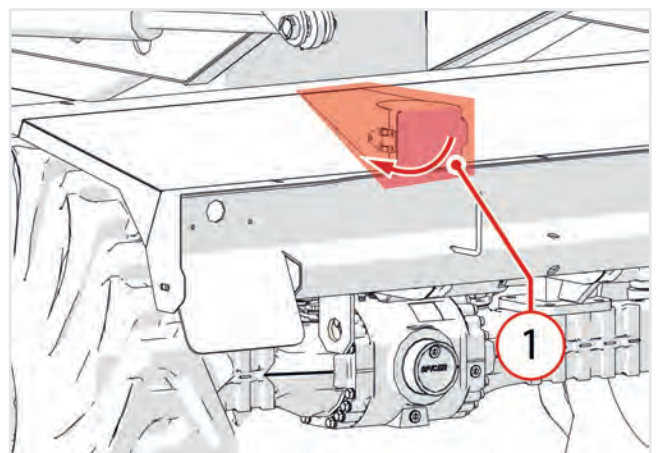


Figure: 150724-1

When refueling (fig. 150724-1) it is necessary to:

- Park the vehicle and turn off the engine
- Open the fuel tank cap
- Open the fuel cap
- Refuel

- Close the fuel cap

10.6 - Safety stickers: Inspection

- Check that all safety stickers are intact and in good condition.

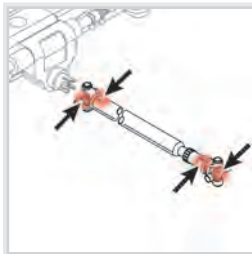


NOTE

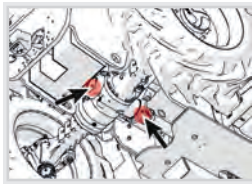
Refer to the chapter "Safety Stickers Cleaning" for cleaning the safety stickers.

10.7 - Lubrication

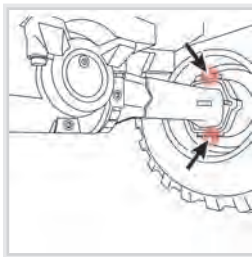
Lubricate the points shown in the figure until grease comes out and clean the lubricators from dirt or deposits.



Drive shafts lubrication points.



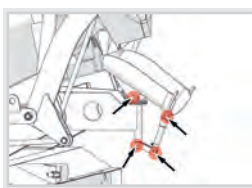
Swinging axle lubrication points.



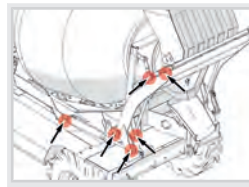
Wheels lubrication points.



Lubrication points for drum lifting cylinders and drum rotation fifth wheel (if any).



Unloading chute lubrication points.



Loading shovel lubrication points (if installed)

10.8 - Engine maintenance



NOTE

For the engine maintenance operations, refer to it manual.

10.8.1 - Belts: Check and adjustment

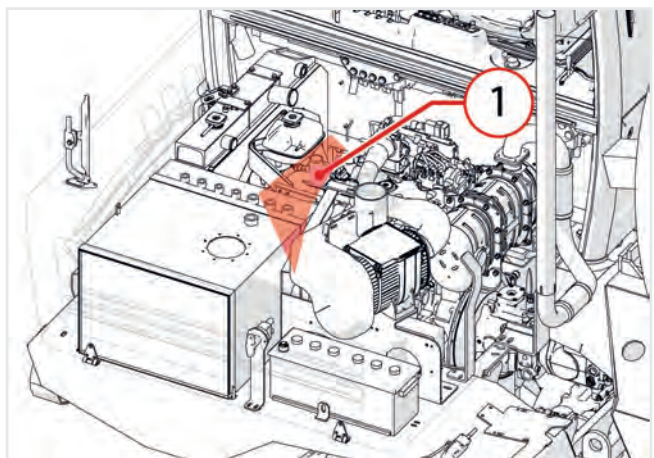


Figure: 150726-1

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.

NOTE! If the belt does not appear in good condition, replace it with a new one.

10.8.2 - Engine oil: Check and filling up

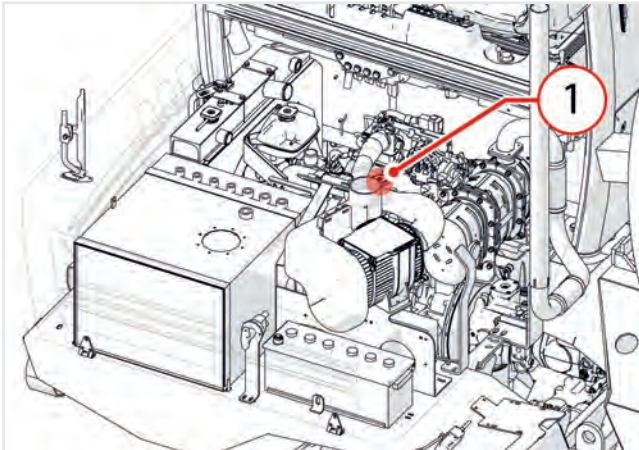


Figure: 150727-1

- 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".

For the amount and type of oil, refer to the engine manual.



WARNING

Do not fill beyond the "MAX" mark; if the amount is excessive, oil burns with production of smoke and there is a possible damage to the exhaust gas treatment systems.

Never operate the engine with the oil level below the "MIN" mark.

10.9 - Air filter: Cleaning and replacement



ATTENTION

The inspection, cleaning and replacement must be carried out with the vehicle in the maintenance position.

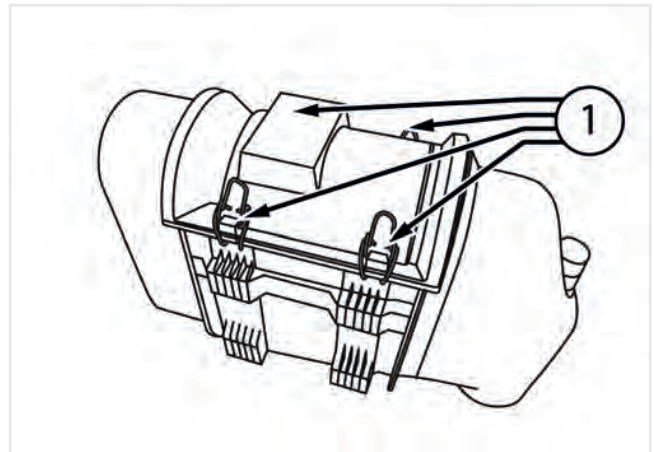


Figure: 151061-1

An air filter (fig. 151061-1) in bad conditions results in the reduction of power, excessive fuel consumption and reduced engine life.



151061-2

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.



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 intake sleeves, 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.



ATTENTION

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.

For proper cleaning of the filter it is necessary to:

- Prepare the vehicle in the maintenance position.
- Open and lock the hood.

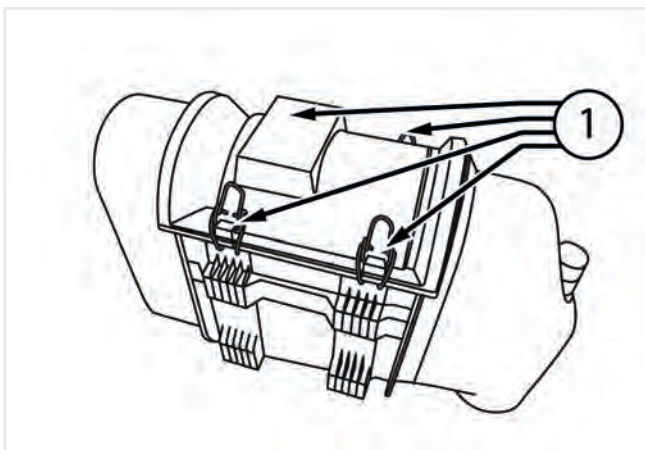


Figure: 151061-3

- Open the filter cover (fig. 151061-3) pulling the locking levers "1" located on the four corners.

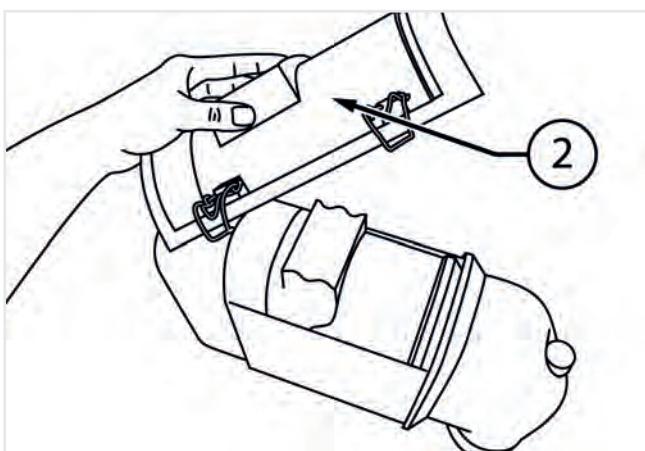


Figure: 151061-4

- Lift the cover "2" (fig. 151061-4)

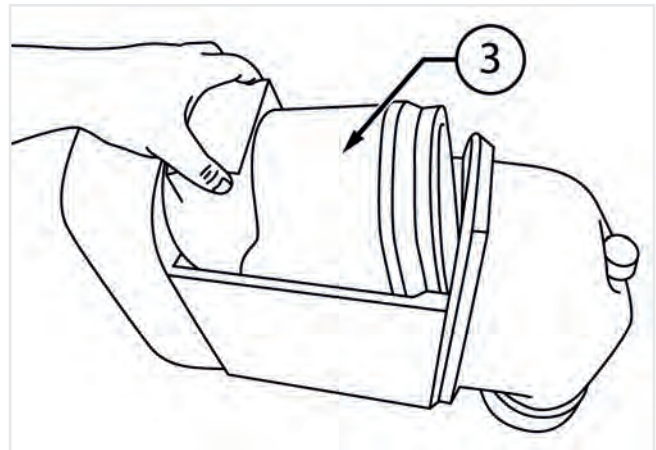


Figure: 151061-5

- 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.

For a correct cleaning of the suction 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.

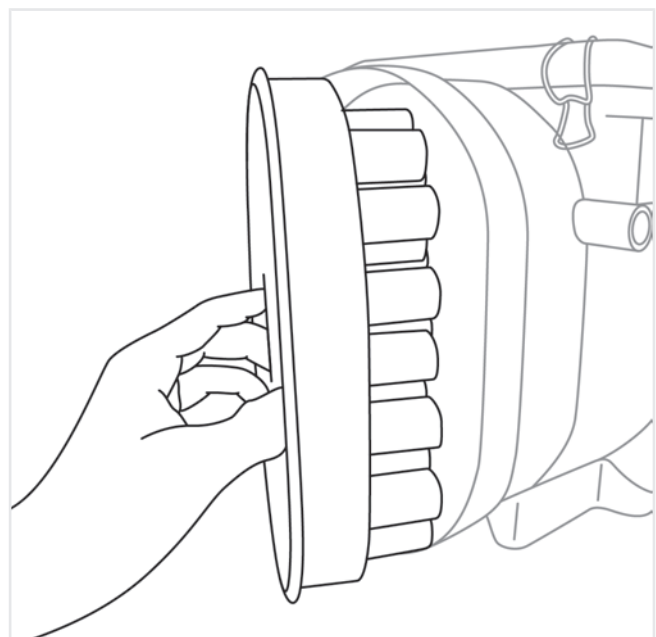


Figure: 151061-6

- 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.



NOTE

In case the connection gasket between the suction duct and the filter is damaged, it must be replaced.

10.10 - Radiator maintenance

10.10.1 - Air recirculation grids and nets

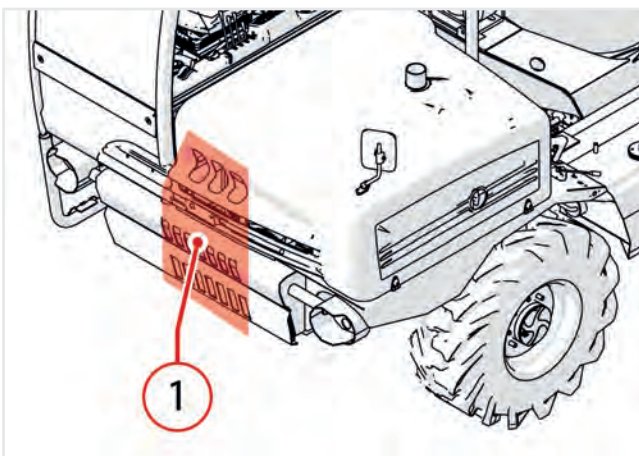


Figure: 150728-1

Check that the air recirculation networks and grids "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.

10.10.2 - Radiator: Checking and cleaning

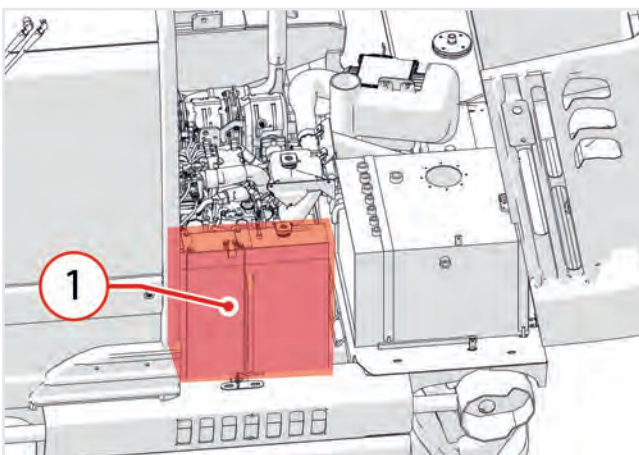


Figure: 150729-1

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.

10.10.3 - Radiator: Liquid filling up and replacement



DANGER

Do not remove the filling cap of the radiator when the system is hot, otherwise it could cause leakage of boiling coolant. Once the system has cooled, turn the filling 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.

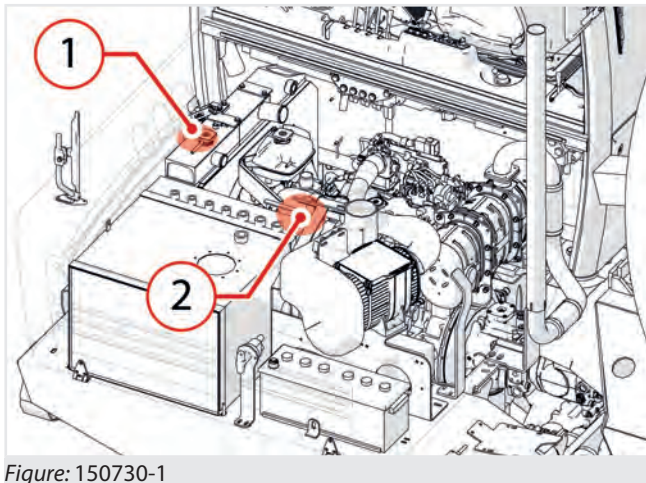


Figure: 150730-1

Filling up

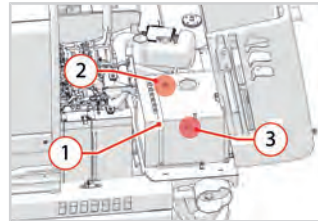
- Prepare the vehicle in the maintenance position.
- Open the engine hood.
- Slowly unscrew the filler cap "1" (fig. 150730-1) counterclockwise until it reaches the safety latch.
- Exhaust the residual pressure and steam.
- Add the coolant up to the level of **30 mm** (1.2 in) below the cap.
- Put back the cap.
- Close the engine hood.

Coolant replacement

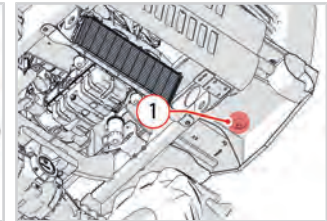
- Prepare the vehicle in the maintenance position.
- Open the engine hood.
- Remove the discharge sleeve "2" (fig. 150730-1) to drain water from the radiator.
- Remove the filling cap "1" to speed draining.
- Allow the cooling system to completely drain.
- Rinse the radiator with clean demineralized water introducing it from the filling 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.
- 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.

10.11 - Hydraulic system maintenance



150980-1



150980-2

10.11.1 - Hydraulic oil: Check and replacement

The hydraulic oil tank is located under the cab, on the right side "1" (fig. 150980-1).

The level can be checked through the transparent scale placed on the right side of the vehicle "3".

The level is correct when the oil is visible from the transparent scale "3" with all the cylinders of the vehicle in the transport position.



NOTE

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 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.
- Check the oil level through the transparent graduated scale "3" (fig. 150980-1). Under the best conditions, the oil level reaches the middle of the transparent indicator.
- If necessary:
 - Remove the cap "2" (fig. 150980-1) located on the tank
 - Add oil until the correct level is reached.

Oil change

To change the oil in the tank 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.
- Place a container under the drain plug (located under the tank).
- Remove the filling cap "2" (fig. 150980-1) located on the oil tank.
- Remove the drain plug "4" (fig. 150980-2) to drain the oil.
- Put back the drain plug "4" (fig. 150980-2).
- Fill the tank with the oil indicated
- Check the level through the indicator "3" (fig. 150980-1) after starting the engine and operated all hydraulic controls to remove air bubbles, if any.
- If necessary, top up the level.

- Install the new filter and tighten with a wrench.
- Put back the drain plug "1" (fig. 150980-2).
- Fill the tank with the oil indicated.
- Check the level through the indicator "2" (fig. 150980-1) after starting the engine and operated all hydraulic controls to remove air bubbles, if any.
- If necessary, top up the level.

10.11.2 - Hydraulic oil intake filter: Replacement

The internal hydraulic oil intake filters "1" (fig. 150980-1) are located inside the hydraulic oil tank; to replace them, completely empty the tank. It is therefore advisable to carry out the replacement of the intake filters in conjunction with the oil change.

To replace the intake filter, carry out the following operations:

- 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.
- Place a container under the drain plug (located under the tank).
- Remove the filling cap "2" (fig. 150980-1).
- Remove the drain plug to let the oil drain "1" (fig. 150980-2).
- After completely draining the oil, remove the flange "2" (fig. 150980-1) to access to the intake filters.
- Unscrew the intake filter "1" (fig. 150980-1) located inside the tank with an adjustable spanner.

10.11.3 - Hydraulic oil return filter:

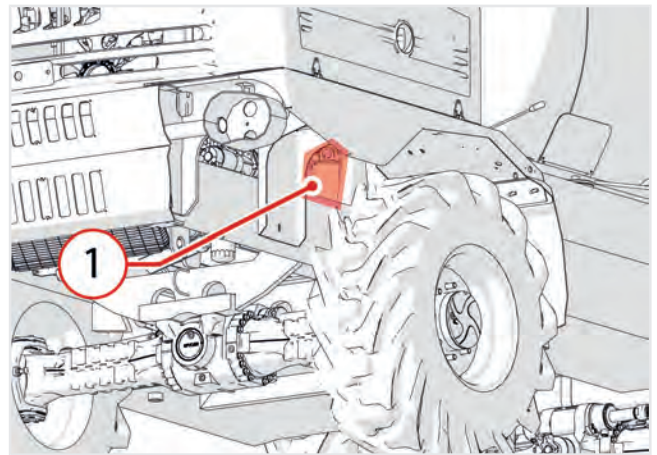


Figure: 150738-1

To replace the hydraulic oil filter (fig. 150738-1) 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.

10.12 - 2 speed transmission maintenance

10.12.1 - Oil change: Inspection

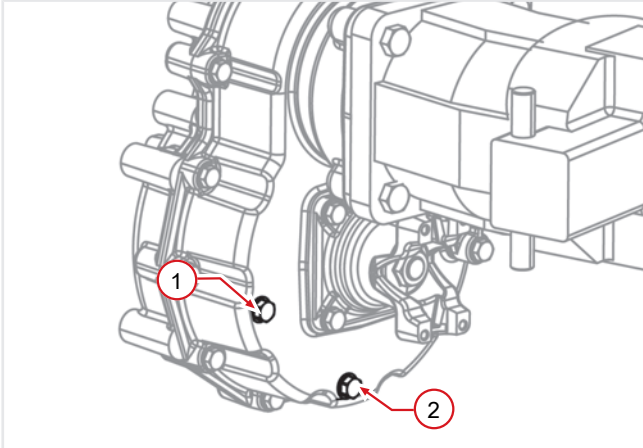


Figure: 150619-1

- Set the vehicle 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

10.12.2 - Oil change: Check and replacement

- Set the vehicle in the maintenance position.
- Place a container under the gearbox.
- Remove the level cap "1" (fig. 150619-1) and the drain plug "2".
- Allow the oil to completely drain out.
- Refit the drain plug and tighten it securely.
- Top-up with approved type of oil from cap "1" until the oil seeps through.

10.13 - Brakes maintenance

10.13.1 - Brake: Inspection

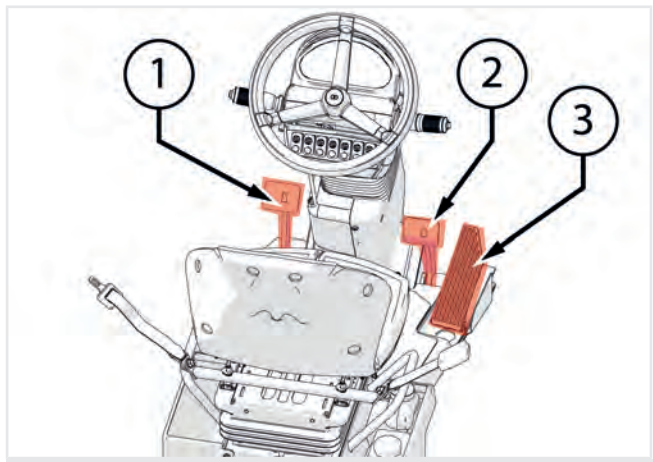


Figure: 150708-1

Visually check that the joints of the pedals (fig. 150708-1) are not damaged and that the pedal stroke is not excessive or too elastic.



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, it is recommended not to intervene personally on the braking system trying to eliminate possible anomalies.

10.13.2 - Brakes oil: Check and replacement

When the Brake fluid low level indicator light (fig. 151059-2) flashes on the central instrument, it means that the brake fluid level has dropped below the minimum (MIN) and therefore it must be restored.



151059-2

To access the tank, open the engine hood and check that the oil level is always above the minimum level (MIN) indicated on the tank "1" (fig. 151059-1). If necessary top up from the cap.

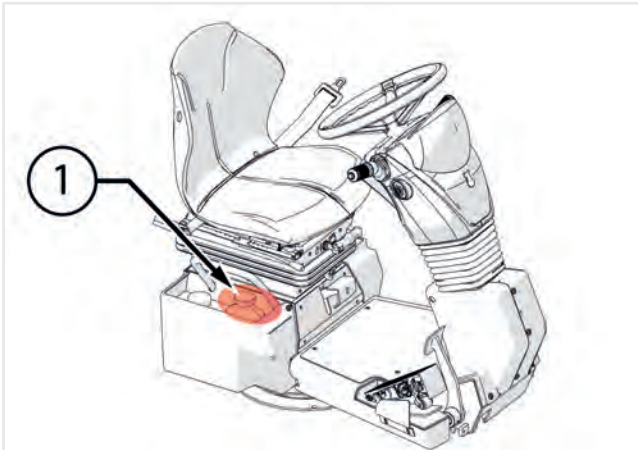


Figure: 151059-1

WARNING! If the Brake fluid low level indicator light (fig. 151059-2) stays on even after adding oil, contact a Dieci authorized service center to solve the problem.

A slight lowering of the level is due to normal wear of the brake discs.

Do not press the brake pedal until the topping up is completed. Make sure the tank is closed before acting on the pedal.

10.14 - Wheel maintenance

10.14.1 - Epicycloidal reduction gear oil: Check and replacement

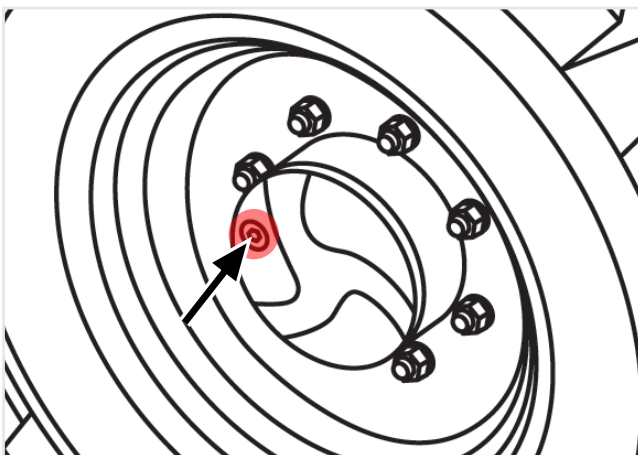


Figure: 150577-1

The oil cap of the epicycloidal reduction gear is located on the wheel hub (fig. 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.
- Close the cap and tighten it securely.

10.14.2 - Wheel nuts tightening



NOTE

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.

10.14.2.1 - Wheel nuts tightening: Inspection

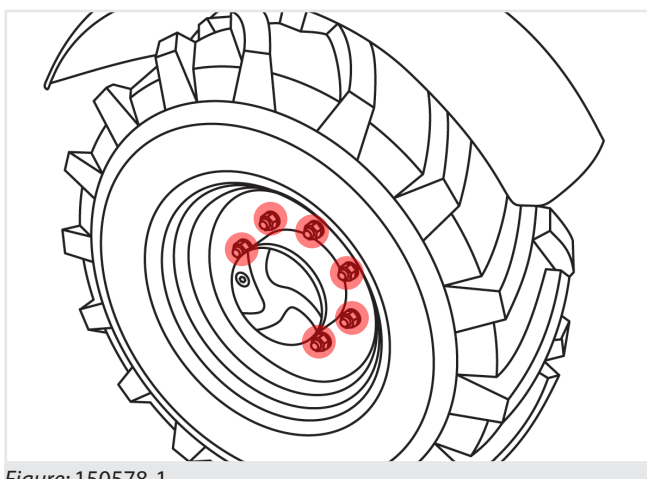


Figure: 150578-1

Check that the nuts of the front and rear wheels are tightened well, using a torque wrench (with a torque multiplier, if necessary).

Tapered nut	Torque
M18x1.5	460 N·m (339,02 ft·lbs)
M22x1.5	740 N·m (545,38 ft·lbs)

10.14.3 - Tyres



ATTENTION

The diagrams notebook in the cab and the "Technical data" chapter show the tyres available for your vehicle model and the relative inflation pressures.



ATTENTION

On receiving the vehicle check the air pressure of the tyres.

- Check the tyre pressure regularly. The pressure must be checked with cold tyres.
- The tyre pressure must always be at the levels indicated.
- Check the size of the tyres installed and the number of canvasses for the correct inflation pressure.



DANGER

Tyres showing cuts or excessive wear must be replaced immediately.

- At each use, check that the tyre shoulders are not damaged.

- Keep oil, grease and corrosive liquids away from the tyres to avoid deterioration of the rubber.
- To obtain the maximum efficiency do not use tyres with more than 80% of tread wear.



WARNING

Inflating or operating on the tyres can be dangerous.

To operate on tyres or install them, contact specialised 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 tyre 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 tyres 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 tyre 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 tyre unless the rim is mounted on the vehicle or secured in such a way that it cannot move in case the tyre or rim should break suddenly.
- Do not inflate any tyre over the pressure indicated by **DIECI**. If the bead chafer does not settle on the rim, when arriving to this pressure deflate the tyre 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.



ATTENTION

When fitting a new or repaired tyre, use a valve adapter of spring type with distant pressure gauge that allows the operator to stay well away from the tyre during inflation.

Use a safety cage.

10.14.3.1 - Tyre pressure: Inspection

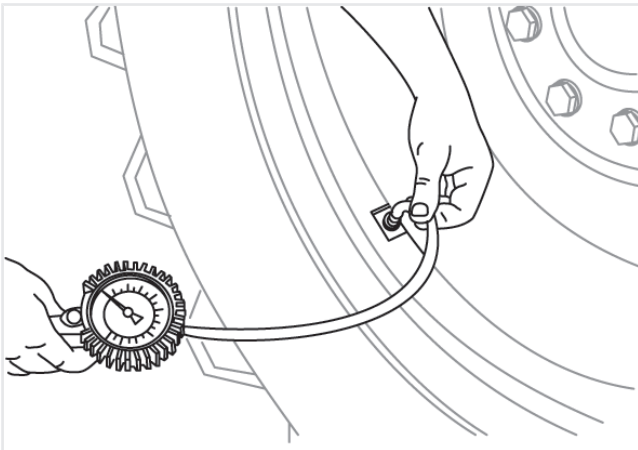


Figure: 150578-1

Verify and adjust the pressure of the front and rear tyres.

Check that the tread and the sides are not damaged.

Connect a pressure gauge to the tyre valve and verify that the inflation pressure is correct.

10.14.3.2 - Tires filled with urethane



NOTE

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.



ATTENTION

The maximum permitted speed with tires filled with urethane is 20 km/h (12.4 mph).

10.14.3.3 - Pneumatic symbols key

Icon	Description
	Tyre dimensions Indicates the tyre pressure.
	Tread pattern Indicates the design with which the tyre tread is carved.
	Load index and Speed index The load index corresponds to the maximum load that the tyre can support. The speed index indicates the maximum speed at which the tyre can bear the weight corresponding to its load index.
	Tyre pressure For most vehicle models, tyre pressure is the same for all wheels.
	Front axle tyre pressure For some vehicle models, the tyres must be inflated with different pressures between the front axle and the rear axle.
	Rear axle tyre pressure For some vehicle models, the tyres must be inflated with different pressures between the front axle and the rear axle.

10.15 - Drum maintenance

Drum gearbox oil: Check and replacement

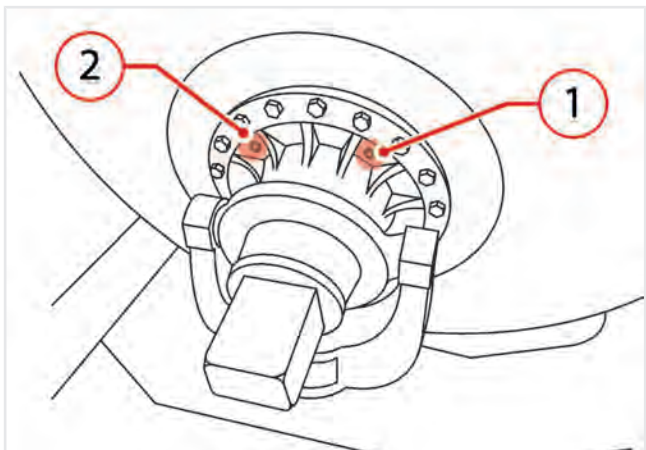


Figure: 170108-1

The drum gearbox is located on the bottom of the drum, to check or change the oil in the gearbox of the drum (fig. 170108-1) it is necessary to:

- Prepare the vehicle in the maintenance position.
- Turn on the machine and fully lift the drum setting the gearbox and the drum in a horizontal position.
- Rotate the drum so as to stop the cap "1" in the lower part of the drum and the cap "2" in horizontal position.
- Turn off the machine and lock the drum lifting cylinder with the appropriate support rod.
- Position a container under the drum cap to collect any oil spill.
- Unscrew the cap "2".
- In case of check:
 - Check that the oil is just below the cap "2" hole.
 - If necessary, top up with recommended oil.
- In case of change
 - Unscrew the plug "1" and let the oil drain completely.
 - Refit the lower cap and tighten it securely.
 - Refill with new oil from the cap left open until it reaches the level.
 - Refit the cap and tighten it securely.

10.16 - Lighting

The vehicle 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.



ATTENTION

Refer to the "Maintenance" chapter before making any adjustments or maintenance.



NOTE

The bulbs are very fragile. Handle with care.

The low beam bulbs must not be handled with bare hands.

10.16.1 - Headlight

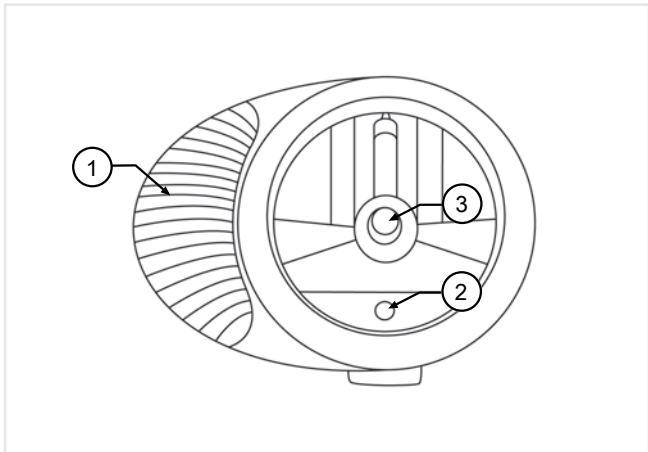


Figure: 150301-1

- | | |
|---|---|
| 1 | Direction indicator - 21 W |
| 2 | Front side light- 4 W |
| 3 | Low beam and high beam light - 60/55 W H4 |

To access the bulbs:

- Prepare the vehicle in the maintenance position.
- Turn off the battery isolation 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 sealing gasket.

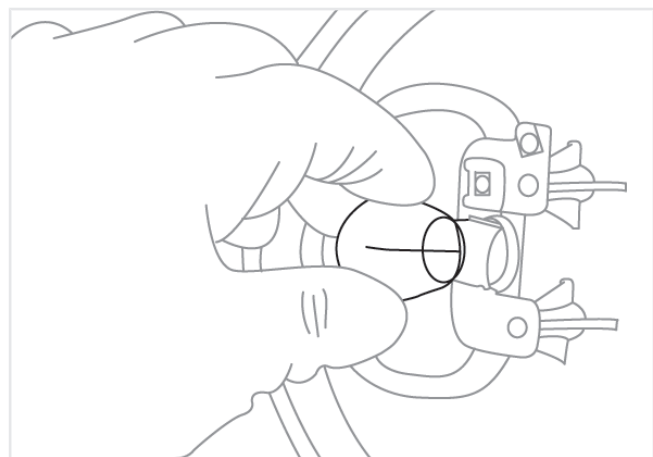


Figure: 150302-1

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.

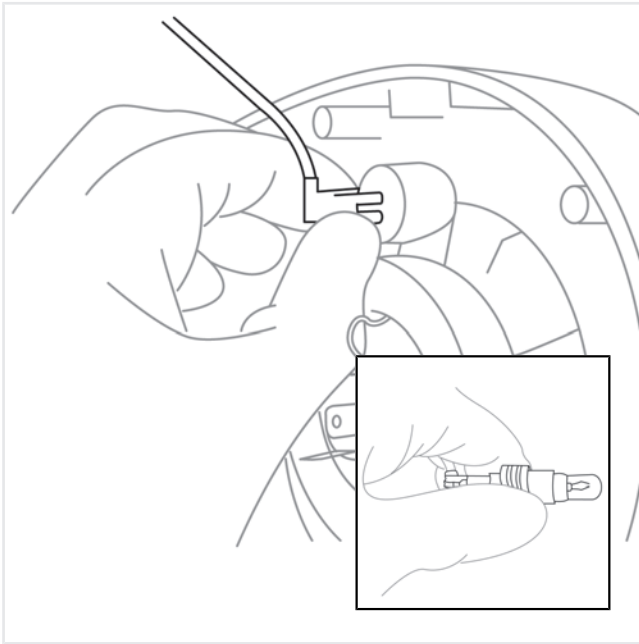


Figure: 150302-2

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.

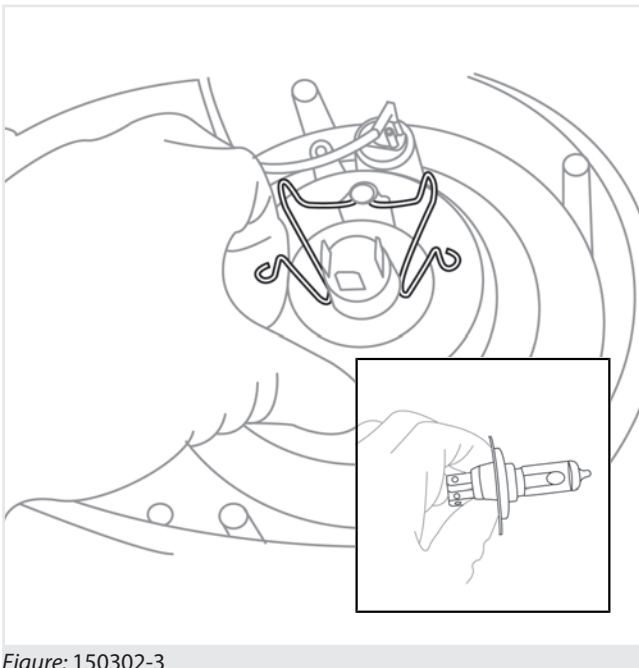


Figure: 150302-3

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.

10.16.2 - Tail light

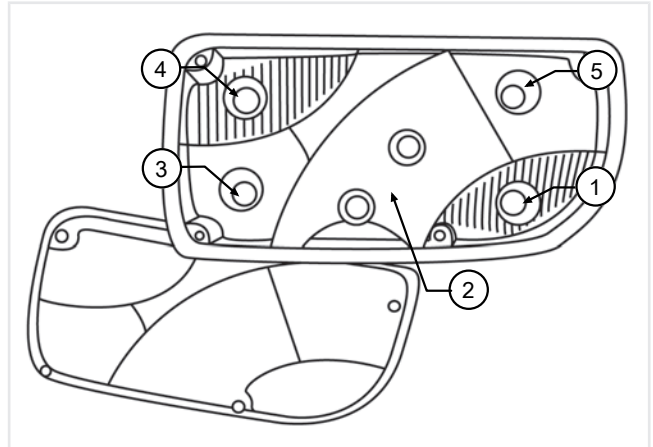


Figure: 120304-1

- | | |
|---|----------------------------|
| 1 | Reversing light - 21 W |
| 2 | Rear side light- 5 W |
| 3 | Braking light - 21 W |
| 4 | Direction indicator - 21 W |
| 5 | Rear fog light - 21 W |

To access the bulbs:

1. Prepare the vehicle in the maintenance position.
2. Turn off the battery isolation 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 sealing 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.

10.16.3 - Work light *



NOTE

* The work light is an optional accessory.

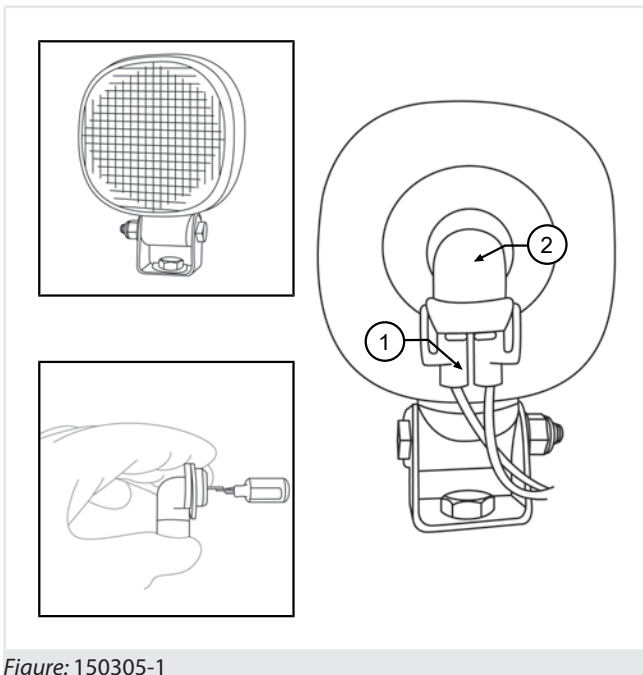


Figure: 150305-1

Work light bulb replacement

To access the bulbs (fig. 150305-1):

- Prepare the vehicle in the maintenance position.
- Turn off the battery isolation 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.



Figure: 150303-1

The LED work light (fig. 150303-1) does not require maintenance.

10.17 - Window washer fluid tank

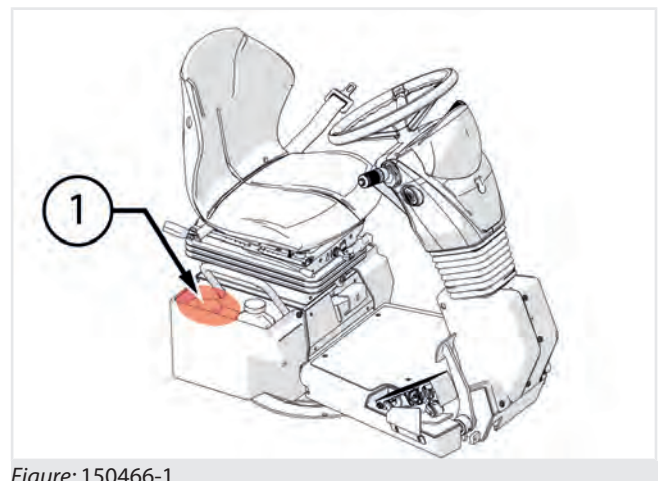


Figure: 150466-1

The washer fluid tank is located on the right side of the seat "1" (fig. 150466-1).

To add liquid to the tank:

- Remove the filling cap.
- Add washing fluid to fill the tank.
- Put back the cap.



ATTENTION

During the winter, mix antifreeze fluid to the water.

10.16.4 - Led work light*



NOTE

* The LED work light is an optional accessory.

10.18 - Differential Axles Maintenance

10.18.1 - Differential axles oil: Check and replacement

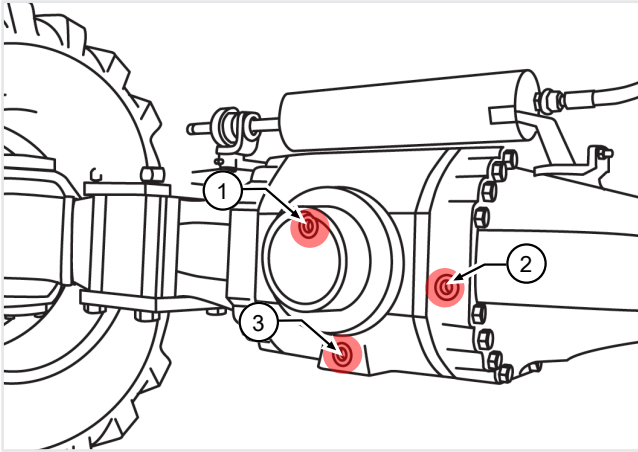


Figure: 150579-1

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.

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 plug "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.



WARNING

Replace oil in the differential axles after the first 100 hours of use.

Failure to replace the running-in oil will compromise the correct operation of the differential axles

10.19 - 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

10.20 - Torque specifications - fasteners

10.20.1 - Torque specifications - fasteners: 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	10.87	12248	13.59	14697	16.31	19596	21.75	27557	30.58	33069	36.70
	0.14	9080	13.53	11349	16.91	13619	20.29	18159	27.05	25536	38.04	30643	45.65
M10	0.10	15297	21.13	19121	26.41	22945	31.69	30594	42.25	43023	59.42	51627	71.30
	0.14	14175	26.27	17719	32.84	21263	39.41	28350	52.55	39867	73.89	47841	88.67
M10	0.10	16384	22.12	20480	27.66	24575	33.19	32767	44.25	46079	62.23	55295	74.67
	0.14	15222	27.80	19027	34.75	22833	41.70	30443	55.61	42811	78.20	51373	93.84
M12	0.10	22021	35.83	27526	44.79	33031	53.75	44041	71.67	61933	100.78	74320	120.94
	0.14	20406	44.53	25507	55.66	30609	66.79	40812	89.06	57391	125.24	68870	150.29
M12	0.10	23334	37.26	29167	46.57	35001	55.88	46667	74.51	65626	104.78	78751	125.74
	0.14	21669	46.70	27087	58.38	32504	70.06	43338	93.41	60945	131.36	73134	157.63
M14	0.10	31610	59.04	39513	73.80	47415	88.57	63220	118.09	88903	166.06	106684	199.27
	0.14	29346	73.92	36682	92.40	44019	110.89	58692	147.85	82535	207.91	99043	249.49
M16	0.10	42581	89.78	53227	112.23	63872	134.67	85163	179.56	119760	252.51	143712	303.02
	0.14	39588	113.06	49485	141.32	59382	169.59	79176	226.12	111341	317.98	133609	381.57
M18	0.10	51457	124.03	64322	155.03	77186	186.04	102914	248.06	144723	348.83	173668	418.59
	0.14	47752	155.02	59690	193.78	71628	232.53	95503	310.05	134302	436.00	161162	523.20
M18	0.10	55415	130.17	69269	162.72	83123	195.26	110830	260.35	155855	366.12	187026	439.34
	0.14	51578	164.67	64472	205.84	77366	247.01	103155	329.35	145062	463.15	174075	555.77
M20	0.10	65534	173.72	81918	217.16	98301	260.59	131068	347.45	184315	488.60	221178	586.32
	0.14	60886	218.17	76108	272.71	91329	327.26	121772	436.34	171243	613.61	205491	736.33
M20	0.10	70115	181.58	87643	226.97	105172	272.36	140229	363.15	197198	51.68	236637	612.82
	0.14	65319	230.55	81649	288.19	97979	345.82	130638	461.10	183710	648.42	220452	778.10

	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	81221	236.88	101526	296.10	121831	355.32	162442	473.76	228433	666.23	274120	799.48
	0.14	75534	298.75	94417	373.43	113301	448.12	151068	597.49	212439	840.22	254927	1008.27
M22	0.10	86164	246.02	107705	307.53	129246	369.04	172329	492.05	242337	691.94	290804	830.33
	0.14	80332	313.41	100415	391.76	120498	470.11	160664	626.82	225933	881.46	271120	1057.75
M24	0.10	98516	308.56	123145	385.70	147773	462.84	197031	617.12	277075	867.83	332490	1041.40
	0.14	91693	390.33	114617	487.92	137540	585.50	183387	780.67	257887	1097.82	309465	1317.38
M24	0.10	104079	319.62	130099	399.52	156119	479.43	208152	639.23	292723	898.92	351268	1878.71
	0.14	97096	408.12	121370	510.15	145644	612.18	194192	816.24	273083	1147.84	327699	1377.41
M27	0.10	127922	448.43	159903	560.54	191884	627.65	255845	896.87	359782	1261.22	431738	1513.46
	0.14	119185	569.67	148981	712.09	178778	854.51	238370	1139.34	335208	1602.20	402250	1922.64
M30	0.10	16818	623.80	201022	779.75	241226	935.70	321635	1247.60	452299	1754.43	542759	2105.32
	0.14	149957	795.14	187446	993.93	224936	1192.72	299914	1590.29	421754	2236.34	506105	2683.61

10.20.2 - Torque specifications - fasteners: 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	1220	0.54	1525	0.68	1830	0.82	2440	1.09	3431	1.53	4117	1.84
	0.14	1126	0.60	1407	0.83	1689	1.00	2252	1.34	3167	1.88	3800	2.26
M3.5	0.10	1638	0.84	2048	1.05	2457	1.26	3276	1.68	4608	2.36	5529	2.84
	0.14	1511	1.03	1889	1.28	2267	1.54	3023	2.05	4251	2.89	5101	3.47
M4	0.10	2115	1.25	2644	1.56	3173	1.88	4231	2.50	5950	3.52	7140	4.22
	0.14	1951	1.53	2439	1.91	2926	2.29	3902	3.06	5487	4.30	6584	5.16
M5	0.10	3462	2.46	4327	3.08	5192	3.70	6923	4.93	9736	6.93	11683	8.32
	0.14	3197	3.02	3996	3.78	4795	4.53	6394	6.04	8991	8.50	10789	10.20
M6	0.10	4875	4.24	6093	5.30	7312	6.35	9749	8.47	13710	11.92	16452	14.30
	0.14	4499	5.19	5624	6.48	6749	7.78	8998	10.37	12654	14.59	15184	17.51
M7	0.10	7135	6.97	8918	8.71	10702	10.45	14269	13.94	20066	19.60	24079	23.52
	0.14	6600	8.60	8250	10.76	9899	12.90	13199	17.21	18561	24.20	22274	29.04
M8	0.10	8947	10.20	11184	12.75	13421	15.30	17894	20.41	25164	28.70	30197	34.44
	0.14	8266	12.54	10332	15.67	12398	18.80	16531	25.07	23247	35.26	27897	42.31
M10	0.10	14245	20.11	17806	25.14	21367	30.16	28489	40.22	40063	56.56	48075	67.87
	0.14	13167	24.76	16459	30.95	19751	31.14	26335	49.52	37033	69.64	44440	83.56
M12	0.10	20767	34.43	25958	43.03	31150	51.64	41533	68.86	58406	96.83	70087	116.20
	0.14	19204	42.42	24005	53.03	28806	63.63	38408	84.84	54011	119.31	64814	143.17
M14	0.10	28390	54.77	35487	68.46	42585	82.15	56780	109.53	79847	154.03	95816	184.84
	0.14	26261	67.56	32827	84.45	39392	101.34	52522	135.13	73860	190.02	88632	228.03
M16	0.10	39242	85.14	49053	106.43	58863	127.72	78484	170.29	110369	239.47	132442	287.36
	0.14	36364	105.80	45455	132.26	54546	158.71	72729	211.61	102274	297.58	122729	357.09
M18	0.10	47533	117.48	59416	146.85	71300	176.22	95066	234.96	133687	330.41	160424	396.49
	0.14	43986	145.16	54983	181.45	65979	217.74	87972	290.32	123711	402.26	148453	489.92
M20	0.10	61238	166.08	76548	207.61	91857	249.13	122476	332.17	172232	467.11	206678	560.54

	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)
	0.14	56747	206.39	70934	257.98	85121	309.58	113494	412.78	159601	580.47	191522	696.56
M22	0.10	76305	227.22	95382	284.02	114458	340.82	152610	454.43	214608	639.05	257530	766.85
	0.14	70792	283.79	88490	352.74	106188	425.69	141584	567.58	199102	798.16	238923	957.80
M24	0.10	88232	287.16	110291	358.94	132349	430.73	176465	574.31	248154	807.63	297784	969.15
	0.14	81762	356.84	102202	446.05	122643	535.26	163524	713.68	229955	1003.61	275946	1204.33
M27	0.10	115779	420.40	144724	525.05	173668	930.06	231558	840.08	325628	1181.36	390753	1417.63
	0.14	107442	525.08	134302	656.35	161162	787.62	214883	1050.16	302179	1476.79	362615	1772.15
M30	0.10	141000	572.83	176249	716.03	211499	859.24	281999	1145.65	396561	1611.08	475873	1933.29
	0.14	130771	714.49	163463	893.11	196156	1071.73	261541	1428.97	367792	2009.49	441351	2411.39

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 authorised Agent or Dealer.

DIECI s.r.l. does not consider itself liable for damage deriving from the use of non-original spare parts.

11.1 - 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.

11.2 - Assistance to owner / operator

In order to obtain a good service from your Dealer, please obtain these fundamental data before contacting the service centre:

1. Specify your name, address and telephone number.
2. Indicate the model and serial number of the vehicle 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

11.3 - 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



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




12.1 - Engine

PROBLEM	CAUSE	SOLUTION	
It does not set in motion	Direction of travel lever engaged	Place the lever in neutral	
	Parking brake deactivated	Activate it	
	No fuel	Fill the tank	
	Battery isolation switch disconnected	Connect the battery isolation switch	
	Low Battery	Recharge the battery or replace it	
	Fuse failure	Replace the fuse	
	Other	Consult the Use and Maintenance manual of the engine	



12.2 - Hydraulic transmission system

PROBLEM	CAUSE	SOLUTION	
The vehicle does not go in any direction	Insufficient hydraulic oil level	Check the hydraulic oil level	
	Hand throttle engaged	Disengage the hand throttle	
	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	
	Parking brake in operation	Disengage the brake	
	Electrical circuit failure	Repair the circuit	
	Hydrostatic transmission failure	Repair or replace the transmission	
The transmission ByPass tap has been opened (if installed)	Close the ByPass tap		
The vehicle loses speed	Hydraulic oil intake filter clogged	Remove the oil filter and replace it	
	Inching pedal failure	Check the correct operation of the pedal and of the valve	






12.3 - Brakes



PROBLEM	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 brake discs	
	Brake master cylinder failure	Repair or replace	
	Unsuitable fluid in the circuit or in the differential sump	Check the brake oil specifications indicated	

12.4 - 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	

12.5 - Drum

PROBLEM	CAUSE	SOLUTION	
The drum does not turn on itself	Drum rotation hydraulic pump failure	Install a pressure gauge and check the pressure	
	Low operating pressure	Calibrate the distributor	
	Hydraulic motor failure	Disconnect the drain hose and check for proper oil spill. Replace if necessary	
	Electrical buttons failure (if installed)	Check the current on the coil and if the coils are burnt	
The counter-frame does not turn (if installed)	Low operating pressure	Calibrate the distributor (services pump)	
	Hydraulic motor failure	Disconnect the drain hose and check for proper oil spill. Replace if necessary	

PROBLEM	CAUSE	SOLUTION	
The counter-frame does not move up (if installed)	Stopped fifth wheel that remains engaged	Check the cylinder operation	
	Low pressure	Calibrate the distributor (services pump)	
	Lifting cylinders internal oil leak	Replace the gaskets	

12.6 - Loading shovel

PROBLEM	CAUSE	SOLUTION	
The machine does not lift the loading shovel	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	
	Lifting cylinders internal leak	Replace the gaskets	

Cleaning the vehicle and all its components is fundamental for it to be kept in proper working order.

13.1 - 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.

13.2 - 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.

13.3 - 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.
- 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.

13.4 - Safety stickers cleaning



ATTENTION

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.

13.5 - Drum cleaning

To properly clean the drum, follow these tips:

1. Place the machine on a level ground
2. Fully lift the drum
3. Lower the loading shovel until it reaches the ground
4. Place the gear lever in neutral ("N")
5. Engage the parking brake
6. Set the drum rotation in the mixing direction
7. Clean the drum inside and outside using the appropriate spray nozzle or pressure washer (if provided) remaining at a safe distance from the machine
8. At the end of the cleaning operation, set the drum rotation in the discharge direction to discharge any residual water and mixture.
9. Lower the drum
10. Lift the loading shovel



ATTENTION

Never leave residues of mixture inside the drum, in order to avoid that this may consolidate and adhere to the internal blades.



DANGER

It is absolutely forbidden to use hammers, chisels or other tools to remove residual mixture from the drum or from other parts of the machine.



DANGER

During the washing operation is strictly forbidden to climb on the machine or get inside the drum.



NOTE

To remove any remaining mixture inside the drum, it is advisable to put into the drum, using the loading shovel, some medium-sized pebbles with water and rotate the drum in the mixing direction for some minutes.

In case a thorough cleaning inside the drum is required, contact an authorized *Dieci* workshop.



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.

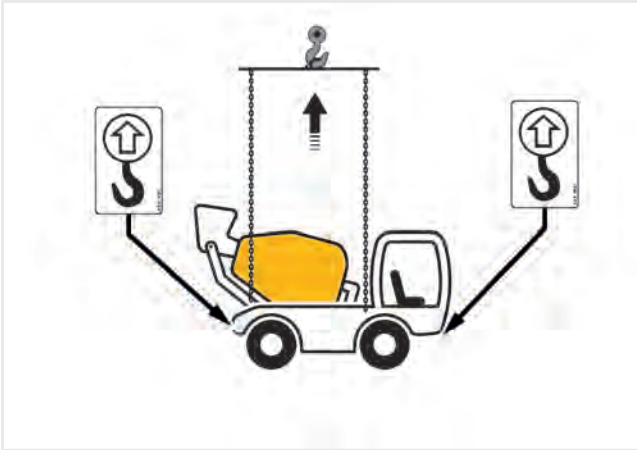


Figure: 150522-1

The weight of the vehicle is shown on a special riveted metal plate; check the overall dimensions for the maximum and minimum height values from 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.



DANGER

Before lifting the vehicle, make sure no unauthorised personnel are in the surrounding area.



ATTENTION

Lifting cables with a minimum unit capacity of 6 tons (13220 lb) are required.

Before lifting the vehicle, make sure to:

- Remove any equipment installed on the vehicle.
- Align the drum to the frame (if installed).
- Lift the loading shovel (if installed) and fasten it with the appropriate chain.
- Engage the parking brake, place and the movement selection lever at "N" and switch off the vehicle.
- Close all windows and the cab door (if installed).

**WARNING**

Always check the good condition of the anchors (ropes, chains, wedges, etc...).

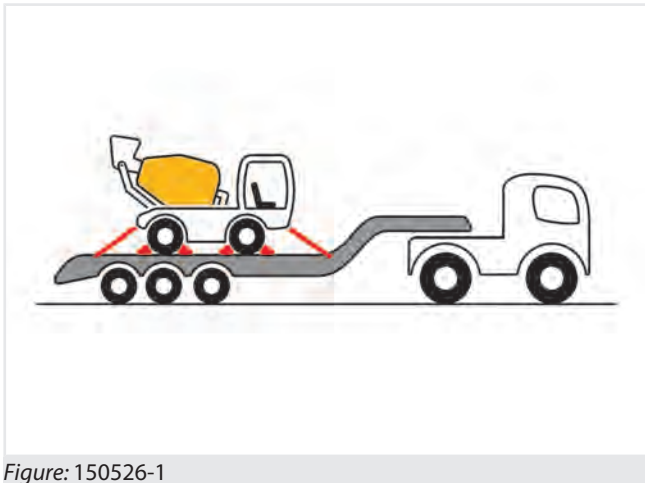


Figure: 150526-1

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.



Figure: 150526-2

Take the following precautions when loading or unloading a vehicle:

- Choose solid and level ground.
- Remove any attachments installed on the vehicle.
- Align the drum to the frame (if installed).
- Lift the loading shovel (if installed) and fasten it with the appropriate chain.
- Use a platform or a ramp.
- Always select the slowest speed.
- Load the vehicle on to the transport vehicle, making sure that the ramps are positioned properly and safely.
- Once the vehicle is in a safe position, switch the engine off and engage the parking brake.
- Close all windows and the cab door (if installed).
- Anchor the vehicle to the transport vehicle with chains or cables through the relative hooks (fig. 150526-2).
- Apply wedges to the front and rear wheels of the transport vehicle.

16.1 - 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.

16.2 - 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.

16.3 - 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.
- 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.

- 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.

17.1 - 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.

17.2 - 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.

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)

19.1 - Truck mixer AB L3500

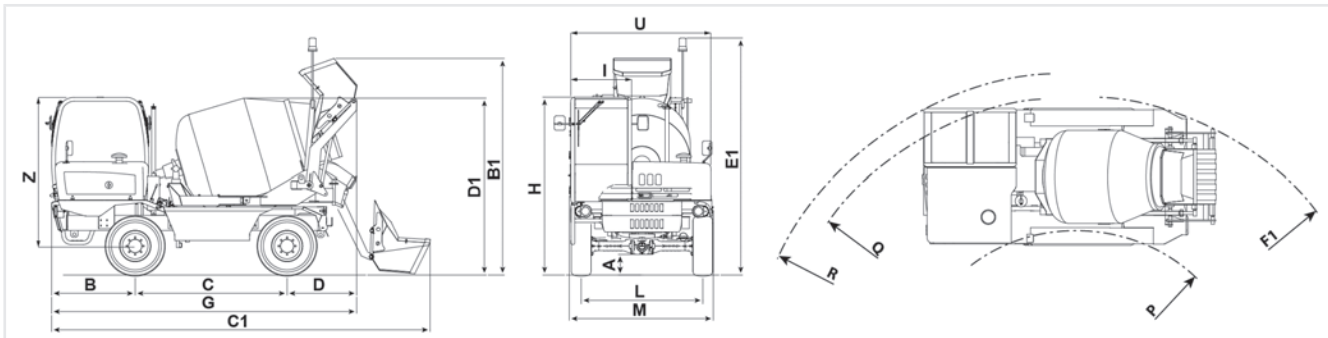


Figure: 161175-1: Dimensions with loading shovel

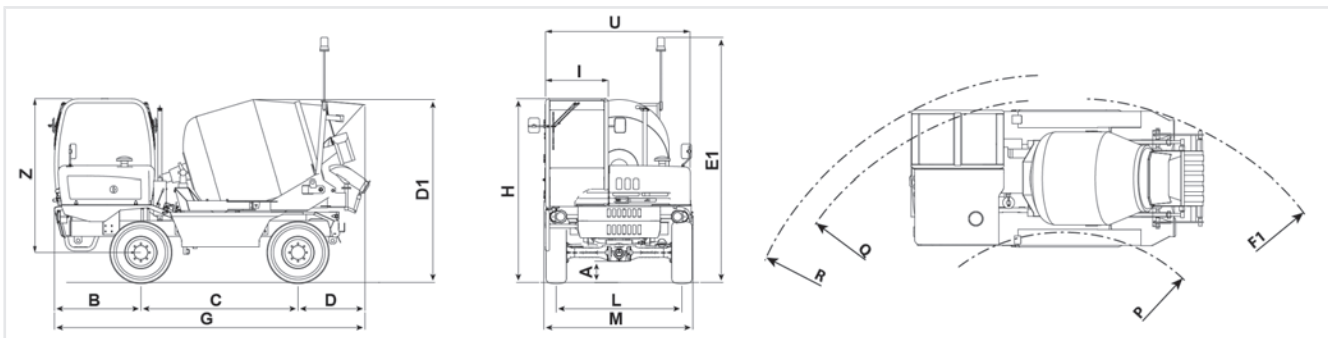


Figure: 161175-2: Dimensions with loading hopper

	MAF3523	MAF3524
Vehicle model	AB L 3500	AB L 3500 T
Notes	Self-priming water pump.	Self-priming water pump. Loading from hopper.
Sector	CONSTRUCTION	CONSTRUCTION
Homologation	LH684	LH684
Technical type	682	682
Version	-	-
A	320 mm (12,6 in)	320 mm (12,6 in)
B	1380 mm (54,3 in)	1380 mm (54,3 in)
C	2500 mm (98,4 in)	2500 mm (98,4 in)
D	1150 mm (45,3 in)	1070 mm (42,1 in)
G	5030 mm (198 in)	4955 mm (195,1 in)
H	2900 mm (114,2 in)	2900 mm (114,2 in)
I	1000 mm (39,4 in)	1000 mm (39,4 in)
L	2000 mm (78,7 in)	2000 mm (78,7 in)
M	2370 mm (93,3 in)	2370 mm (93,3 in)
P	3030 mm (119,3 in)	3030 mm (119,3 in)
Q	5330 mm (209,8 in)	5330 mm (209,8 in)
R	5750 mm (226,4 in)	5750 mm (226,4 in)
U	2310 mm (90,9 in)	2310 mm (90,9 in)
Z	2440 mm (96,1 in)	2440 mm (96,1 in)
B1	3530 mm (139 in)	-
C1	6230 mm (245,3 in)	-

	MAF3523	MAF3524
D1	2900 mm (114,2 in)	2900 mm (114,2 in)
E1	3870 mm (152,4 in)	3870 mm (152,4 in)
F1	5340 mm (210,2 in)	5340 mm (210,2 in)
Concrete yield	2,5 m ³ (88 ft ³)	2,5 m ³ (88 ft ³)
Shovel capacity	500 L (132,09 gal)	-
Water tank capacity	630 L (166,43 gal)	630 L (166,43 gal)
Unladen weight	5900 kg (13007 lb)	5900 kg (13007 lb)
Maximum mass	12300 kg (27117 lb)	12300 kg (27117 lb)
Maximum permitted mass on front axle	6300 kg (13889 lb)	6300 kg (13889 lb)
Maximum permitted mass on rear axle	6500 kg (14330 lb)	6500 kg (14330 lb)
Brand	FPT	FPT
Model	NEF	NEF
Fueling	Diesel	Diesel
Displacement	4485 cm ³ (274 in ³)	4485 cm ³ (274 in ³)
Operation	4-stroke	4-stroke
Cooling system	Liquid	Liquid
Nominal power	74 kW (99 HP)	74 kW (99 HP)
@rpm	2200 rpm	2200 rpm
Maximum torque	#VALUE!	#VALUE!
@rpm	0	0
Number and arrangement of cylinders	4, Vertical in line	4, Vertical in line
Injection	Mechanical direct	Mechanical direct
Consumption	-	-
@rpm	-	-
Intake	Turbocharger after-cooler	Turbocharger after-cooler
Air Filter	Replaceable cartridge for dry filter	Replaceable cartridge for dry filter
Emission standard	Stage IIIA/Tier 3	Stage IIIA/Tier 3
Exhaust gas treatment	-	-
Alternator	?	?
Battery	?	?
Starter motor	?	?
Hydraulic pump type	Open-loop gear pump with drum rotation speed controller	Open-loop gear pump with drum rotation speed controller
Transmission type	Hydrostatic with variable flow pump	Hydrostatic with variable flow pump
Hydraulic motor	Hydrostatic with continuous automatic adjustment	Hydrostatic with continuous automatic adjustment
Reversal	Electro-Hydraulic	Electro-Hydraulic
Transmission gearbox	Servocontrolled 2-speed	Servocontrolled 2-speed
Inching	With hydraulic pedal for controlled forward movement	With hydraulic pedal for controlled forward movement
Type of axles	2 steering, with 4 planetary reduction gears	2 steering, with 4 planetary reduction gears
Driving axles	Front and rear	Front and rear
Service braking	Oil bath on front and rear axle	Oil bath on front and rear axle

	MAF3523	MAF3524
Parking braking	Acting on the rear axle	Acting on the rear axle
Front axle	Swinging, self-locking	Swinging, self-locking
Type of steering	4 wheels / transversal / 2 wheels	4 wheels / transversal / 2 wheels
Engine oil quantity	10,00 L (2,64 gal)	10,00 L (2,64 gal)
Engine oil specifications	DIECI ENGINE HP SAE 15W-40; (< -20°C / < -4°F) DIECI ENGINE EVOLUTION TIR4 SAE 10W-30	DIECI ENGINE HP SAE 15W-40; (< -20°C / < -4°F) DIECI ENGINE EVOLUTION TIR4 SAE 10W-30
Front axle oil quantity	7,50 L (1,98 gal)	7,50 L (1,98 gal)
Front reduction gears oil quantity	1,25 L (0,33 gal)	1,25 L (0,33 gal)
Front axle oil specifications	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90
Rear axle oil quantity	7,50 L (1,98 gal)	7,50 L (1,98 gal)
Rear reduction gears oil quantity	1,25 L (0,33 gal)	1,25 L (0,33 gal)
Rear axle oil specifications	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90
Transmission gearbox oil quantity	1,50 L (0,4 gal)	1,50 L (0,4 gal)
Transmission gearbox oil specifications	(from -10°C/14°F to +35°C/95°F) DIECI UTTO FLUID WB SAE 10W/30; (from -30°C/-22°F to +10°C/14°F) DIECI MTF III FLUID	(from -10°C/14°F to +35°C/95°F) DIECI UTTO FLUID WB SAE 10W/30; (from -30°C/-22°F to +10°C/14°F) DIECI MTF III FLUID
Braking circuit oil quantity	1,20 L (0,32 gal)	1,20 L (0,32 gal)
Braking circuit oil specifications	DEXRON II	DEXRON II
Coolant quantity	7,00 L (1,85 gal)	7,00 L (1,85 gal)
Coolant specifications	Antifreeze Red	Antifreeze Red
Grease quantity	4,00 kg (9 lb)	4,00 kg (9 lb)
Grease specifications	NLGI - 1	NLGI - 1
Hydraulic system (total)	145,0 L (38,3 gal)	145,0 L (38,3 gal)
Hydraulic oil type	DIECI Hydro Telehandler Fluid ISO46	DIECI Hydro Telehandler Fluid ISO46
Air conditioning refrigerant quantity	1,10 kg (2 lb)	1,10 kg (2 lb)
Air conditioning refrigerant specifications	R134A	R134A
Fuel tank	90,0 L (23,78 gal)	90,0 L (23,78 gal)
Acoustic pressure: Reference standard for stopped and running vehicle	-	-
Acoustic pressure: Value with stopped vehicle	-	-
Acoustic pressure: Value with running vehicle	-	-
Acoustic pressure: Reference standard perceived by the operator	-	-
Acoustic pressure: Value perceived by the operator with open cab	-	-
Acoustic pressure: Value perceived by the operator with closed cab	-	-
Acoustic power: Reference standard	-	-

	MAF3523	MAF3524
Acoustic power: Measured value	-	-
Acoustic power: Guaranteed value	-	-
Reference standard for seat vibrations	-	-
Value for seat vibrations	-	-
Uncertainty for seat vibrations value	-	-
Reference standard for steering wheel vibrations	-	-
Value for steering wheel vibrations	-	-
Uncertainty for steering wheel vibrations value	-	-
Gearbox	Coaxial hydraulic gear motor	Coaxial hydraulic gear motor
Drum general features	Drum lifting to facilitate unloading. Trilateral unloading by rotation over the fifth wheel. Open-loop gear pump with drum rotation speed controller.	Drum lifting to facilitate unloading. Trilateral unloading by rotation over the fifth wheel. Open-loop gear pump with drum rotation speed controller.
Standard tires	12.5x18"	12.5x18"
Optional tires	-	-

19.2 - Truck mixer AB L4700

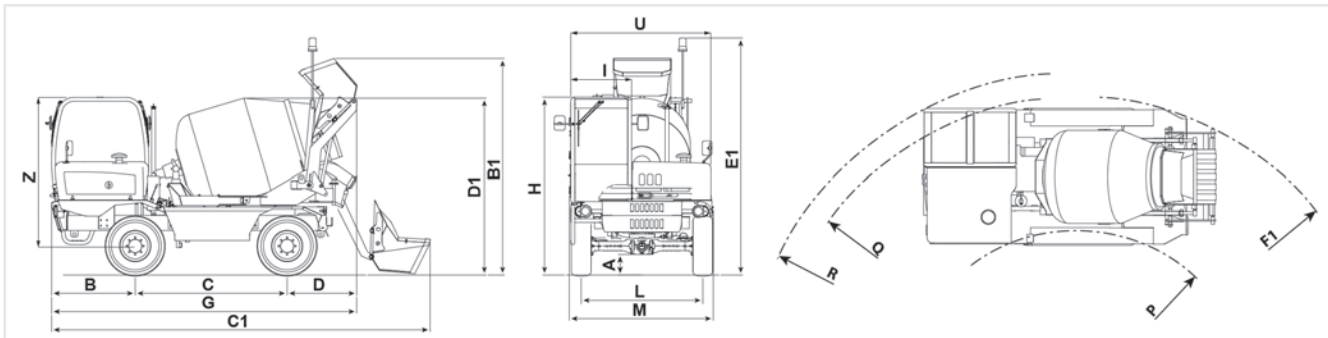


Figure: 161175-1: Dimensions with loading shovel

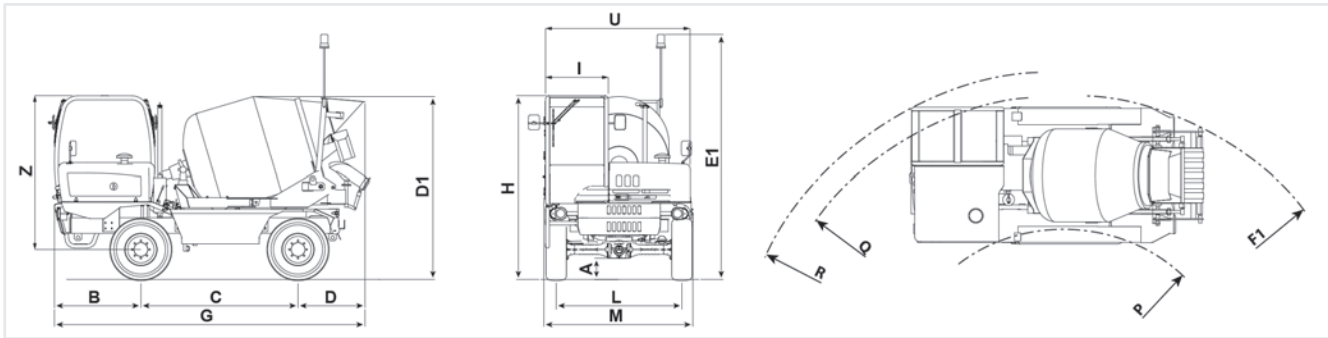


Figure: 161175-2: Dimensions with loading hopper

	MAG3522	MAG3523
Vehicle model	AB L 4700	AB L 4700 T
Notes	Self-priming water pump.	Self-priming water pump. Loading from hopper.
Sector	CONSTRUCTION	CONSTRUCTION
Homologation	LH684	LH684
Technical type	682	682
Version	-	-
A	360 mm (14,2 in)	360 mm (14,2 in)
B	1380 mm (54,3 in)	1380 mm (54,3 in)
C	2500 mm (98,4 in)	2500 mm (98,4 in)
D	1640 mm (64,6 in)	1410 mm (55,5 in)
G	5520 mm (217,3 in)	5290 mm (208,3 in)
H	3140 mm (123,6 in)	3140 mm (123,6 in)
I	1000 mm (39,4 in)	1000 mm (39,4 in)
L	1980 mm (78 in)	1980 mm (78 in)
M	2400 mm (94,5 in)	2400 mm (94,5 in)
P	3000 mm (118,1 in)	3000 mm (118,1 in)
Q	5370 mm (211,4 in)	5370 mm (211,4 in)
R	5740 mm (226 in)	5740 mm (226 in)
U	2310 mm (90,9 in)	2310 mm (90,9 in)
Z	2440 mm (96,1 in)	2440 mm (96,1 in)
B1	3820 mm (150,4 in)	-
C1	6660 mm (262,2 in)	-

	MAG3522	MAG3523
D1	3170 mm (124,8 in)	3170 mm (124,8 in)
E1	4070 mm (160,2 in)	4070 mm (160,2 in)
F1	5590 mm (220,1 in)	5340 mm (210,2 in)
Concrete yield	3,5 m ³ (124 ft ³)	3,5 m ³ (124 ft ³)
Shovel capacity	600 L (158,5 gal)	-
Water tank capacity	630 L (166,43 gal)	630 L (166,43 gal)
Unladen weight	6700 kg (14771 lb)	6400 kg (14110 lb)
Maximum mass	14460 kg (31879 lb)	14460 kg (31879 lb)
Maximum permitted mass on front axle	6400 kg (14110 lb)	6400 kg (14110 lb)
Maximum permitted mass on rear axle	8300 kg (18298 lb)	8300 kg (18298 lb)
Brand	FPT	FPT
Model	NEF	NEF
Fueling	Diesel	Diesel
Displacement	4485 cm ³ (274 in ³)	4485 cm ³ (274 in ³)
Operation	4-stroke	4-stroke
Cooling system	Liquid	Liquid
Nominal power	74 kW (99 HP)	74 kW (99 HP)
@rpm	2200 rpm	2200 rpm
Maximum torque	#VALUE!	#VALUE!
@rpm	0	0
Number and arrangement of cylinders	4, Vertical in line	4, Vertical in line
Injection	Mechanical direct	Mechanical direct
Consumption	-	-
@rpm	-	-
Intake	Turbocharger after-cooler	Turbocharger after-cooler
Air Filter	Replaceable cartridge for dry filter	Replaceable cartridge for dry filter
Emission standard	Stage IIIA/Tier 3	Stage IIIA/Tier 3
Exhaust gas treatment	-	-
Alternator	?	?
Battery	?	?
Starter motor	?	?
Hydraulic pump type	Closed-loop axial piston pump with drum rotation speed controller	Closed-loop axial piston pump with drum rotation speed controller
Transmission type	Hydrostatic with variable flow pump	Hydrostatic with variable flow pump
Hydraulic motor	Hydrostatic with continuous automatic adjustment	Hydrostatic with continuous automatic adjustment
Reversal	Electro-Hydraulic	Electro-Hydraulic
Transmission gearbox	Servocontrolled 2-speed	Servocontrolled 2-speed
Inching	With hydraulic pedal for controlled forward movement	With hydraulic pedal for controlled forward movement
Type of axles	2 steering, with 4 planetary reduction gears	2 steering, with 4 planetary reduction gears
Driving axles	Front and rear	Front and rear
Service braking	Oil bath on front and rear axle	Oil bath on front and rear axle

	MAG3522	MAG3523
Parking braking	Acting on the rear axle	Acting on the rear axle
Front axle	Swinging, self-locking	Swinging, self-locking
Type of steering	4 wheels / transversal / 2 wheels	4 wheels / transversal / 2 wheels
Engine oil quantity	10,00 L (2,64 gal)	10,00 L (2,64 gal)
Engine oil specifications	DIECI ENGINE HP SAE 15W-40; (< -20°C / < -4°F) DIECI ENGINE EVOLUTION TIR4 SAE 10W-30	DIECI ENGINE HP SAE 15W-40; (< -20°C / < -4°F) DIECI ENGINE EVOLUTION TIR4 SAE 10W-30
Front axle oil quantity	7,50 L (1,98 gal)	7,50 L (1,98 gal)
Front reduction gears oil quantity	1,25 L (0,33 gal)	1,25 L (0,33 gal)
Front axle oil specifications	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90
Rear axle oil quantity	7,50 L (1,98 gal)	7,50 L (1,98 gal)
Rear reduction gears oil quantity	1,25 L (0,33 gal)	1,25 L (0,33 gal)
Rear axle oil specifications	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90
Transmission gearbox oil quantity	1,50 L (0,4 gal)	1,50 L (0,4 gal)
Transmission gearbox oil specifications	(from -10°C/14°F to +35°C/95°F) DIECI UTTO FLUID WB SAE 10W/30; (from -30°C/-22°F to +10°C/14°F) DIECI MTF III FLUID	(from -10°C/14°F to +35°C/95°F) DIECI UTTO FLUID WB SAE 10W/30; (from -30°C/-22°F to +10°C/14°F) DIECI MTF III FLUID
Braking circuit oil quantity	1,20 L (0,32 gal)	1,20 L (0,32 gal)
Braking circuit oil specifications	DEXRON II	DEXRON II
Coolant quantity	7,00 L (1,85 gal)	7,00 L (1,85 gal)
Coolant specifications	Antifreeze Red	Antifreeze Red
Grease quantity	4,00 kg (9 lb)	4,00 kg (9 lb)
Grease specifications	NLGI - 1	NLGI - 1
Hydraulic system (total)	145,0 L (38,3 gal)	145,0 L (38,3 gal)
Hydraulic oil type	DIECI Hydro Telehandler Fluid ISO46	DIECI Hydro Telehandler Fluid ISO46
Air conditioning refrigerant quantity	1,10 kg (2 lb)	1,10 kg (2 lb)
Air conditioning refrigerant specifications	R134A	R134A
Fuel tank	90,0 L (23,78 gal)	90,0 L (23,78 gal)
Acoustic pressure: Reference standard for stopped and running vehicle	-	-
Acoustic pressure: Value with stopped vehicle	-	-
Acoustic pressure: Value with running vehicle	-	-
Acoustic pressure: Reference standard perceived by the operator	-	-
Acoustic pressure: Value perceived by the operator with open cab	-	-
Acoustic pressure: Value perceived by the operator with closed cab	-	-
Acoustic power: Reference standard	-	-

	MAG3522	MAG3523
Acoustic power: Measured value	-	-
Acoustic power: Guaranteed value	-	-
Reference standard for seat vibrations	-	-
Value for seat vibrations	-	-
Uncertainty for seat vibrations value	-	-
Reference standard for steering wheel vibrations	-	-
Value for steering wheel vibrations	-	-
Uncertainty for steering wheel vibrations value	-	-
Gearbox	Coaxial hydraulic gear motor	Coaxial hydraulic gear motor
Drum general features	Drum lifting to facilitate unloading. Trilateral unloading by rotation over the fifth wheel. Closed-loop axial piston pump with drum rotation speed controller.	Drum lifting to facilitate unloading. Trilateral unloading by rotation over the fifth wheel. Closed-loop axial piston pump with drum rotation speed controller.
Standard tires	405/70x20"	405/70x20"
Optional tires	-	-

19.3 - Truck mixer AB F7000

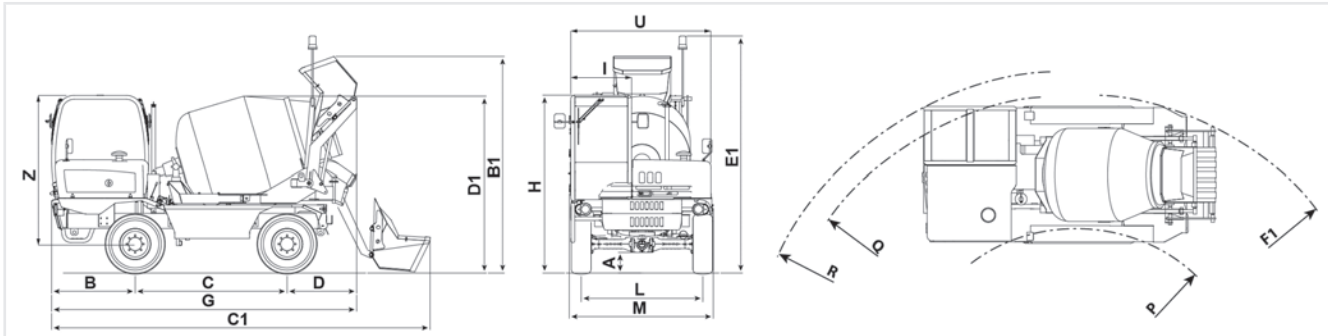


Figure: 161175-1: Dimensions with loading shovel

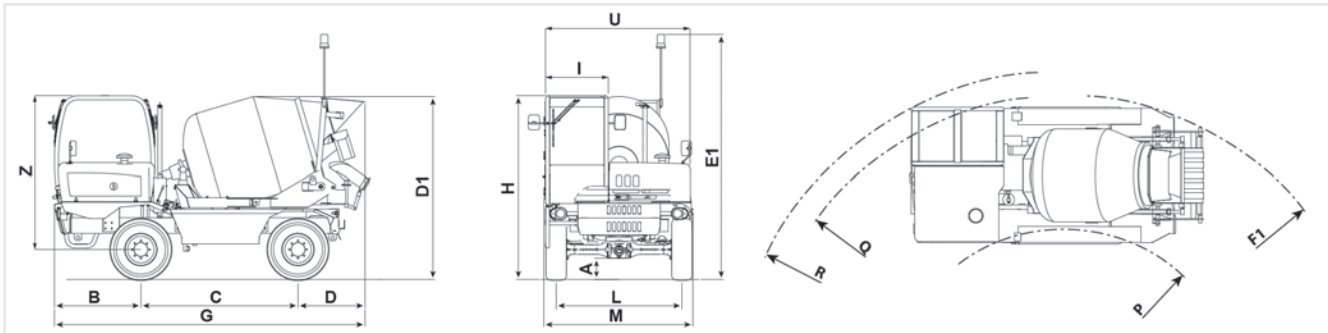


Figure: 161175-2: Dimensions with loading hopper

	MAP3519	MAP3520
Vehicle model	AB F 7000	AB F 7000 T
Notes	Self-priming water pump.	Self-priming water pump. Loading from hopper.
Sector	CONSTRUCTION	CONSTRUCTION
Homologation	D649	D649
Technical type	648	648
Version	-	-
A	410 mm (16,1 in)	410 mm (16,1 in)
B	1215 mm (47,8 in)	1215 mm (47,8 in)
C	3210 mm (126,4 in)	3210 mm (126,4 in)
D	2050 mm (80,7 in)	1675 mm (65,9 in)
G	6475 mm (254,9 in)	6100 mm (240,2 in)
H	3050 mm (120,1 in)	3050 mm (120,1 in)
I	1000 mm (39,4 in)	1000 mm (39,4 in)
L	1920 mm (75,6 in)	1920 mm (75,6 in)
M	2370 mm (93,3 in)	2370 mm (93,3 in)
P	3750 mm (147,6 in)	3750 mm (147,6 in)
Q	6020 mm (237 in)	6020 mm (237 in)
R	6370 mm (250,8 in)	6370 mm (250,8 in)
U	2310 mm (90,9 in)	2310 mm (90,9 in)
Z	2500 mm (98,4 in)	2500 mm (98,4 in)
B1	3850 mm (151,6 in)	-
C1	7490 mm (294,9 in)	-

	MAP3519	MAP3520
D1	3070 mm (120,9 in)	3070 mm (120,9 in)
E1	4000 mm (157,5 in)	4000 mm (157,5 in)
F1	6450 mm (253,9 in)	6450 mm (253,9 in)
Concrete yield	5,0 m ³ (177 ft ³)	5,0 m ³ (177 ft ³)
Shovel capacity	600 L (158,5 gal)	-
Water tank capacity	850 L (224,55 gal)	850 L (224,55 gal)
Unladen weight	7400 kg (16314 lb)	7400 kg (16314 lb)
Maximum mass	18000 kg (39683 lb)	18000 kg (39683 lb)
Maximum permitted mass on front axle	9500 kg (20944 lb)	9500 kg (20944 lb)
Maximum permitted mass on rear axle	9500 kg (20944 lb)	9500 kg (20944 lb)
Brand	FPT	FPT
Model	NEF-TCA-93	NEF-TCA-93
Fueling	Diesel	Diesel
Displacement	4485 cm ³ (274 in ³)	4485 cm ³ (274 in ³)
Operation	4-stroke	4-stroke
Cooling system	Liquid	Liquid
Nominal power	93 kW (125 HP)	93 kW (125 HP)
@rpm	2200 rpm	2200 rpm
Maximum torque	525 Nm (387 lbft)	525 Nm (387 lbft)
@rpm	1500 rpm	1500 rpm
Number and arrangement of cylinders	4, Vertical in line	4, Vertical in line
Injection	Mechanical direct	Mechanical direct
Consumption	230 g/kWh (378,35 lb/Hp h)	230 g/kWh (378,35 lb/Hp h)
@rpm	2200 rpm	2200 rpm
Intake	Turbo compressor after-cooler	Turbo compressor after-cooler
Air Filter	Replaceable cartridge for dry filter	Replaceable cartridge for dry filter
Emission standard	Stage IIIA/Tier 3	Stage IIIA/Tier 3
Exhaust gas treatment	-	-
Alternator	-	-
Battery	-	-
Starter motor	-	-
Hydraulic pump type	Closed-loop axial piston pump with drum rotation speed controller	Closed-loop axial piston pump with drum rotation speed controller
Transmission type	Hydrostatic with variable flow pump	Hydrostatic with variable flow pump
Hydraulic motor	Hydrostatic with continuous automatic adjustment	Hydrostatic with continuous automatic adjustment
Reversal	Electro-Hydraulic	Electro-Hydraulic
Transmission gearbox	Servocontrolled 2-speed	Servocontrolled 2-speed
Inching	With hydraulic pedal for controlled forward movement	With hydraulic pedal for controlled forward movement
Type of axles	2 steering, with 4 planetary reduction gears	2 steering, with 4 planetary reduction gears
Driving axles	Front and rear	Front and rear

	MAP3519	MAP3520
Service braking	Oil bath with servo brake on front and rear axle	Oil bath with servo brake on front and rear axle
Parking braking	Acting on the front axle	Acting on the front axle
Front axle	Swinging, self-locking	Swinging, self-locking
Type of steering	4 wheels / transversal / 2 wheels	4 wheels / transversal / 2 wheels
Engine oil quantity	10,00 L (2,64 gal)	10,00 L (2,64 gal)
Engine oil specifications	DIECI ENGINE HP SAE 15W-40; (< -20°C / < -4°F) DIECI ENGINE EVOLUTION TIR4 SAE 10W-30	DIECI ENGINE HP SAE 15W-40; (< -20°C / < -4°F) DIECI ENGINE EVOLUTION TIR4 SAE 10W-30
Front axle oil quantity	9,00 L (2,38 gal)	9,00 L (2,38 gal)
Front reduction gears oil quantity	1,25 L (0,33 gal)	1,25 L (0,33 gal)
Front axle oil specifications	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90
Rear axle oil quantity	9,00 L (2,38 gal)	9,00 L (2,38 gal)
Rear reduction gears oil quantity	1,25 L (0,33 gal)	1,25 L (0,33 gal)
Rear axle oil specifications	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90	DIECI GEAR EP/E LS 85W-90 API GL-5, MIL-L-2105D; (< -20°C / < -4°F) DIECI SPECIAL LS SYNT AXEL OIL 75W-90
Transmission gearbox oil quantity	1,80 L (0,48 gal)	1,80 L (0,48 gal)
Transmission gearbox oil specifications	(from -10°C/14°F to +35°C/95°F) DIECI UTTO FLUID WB SAE 10W/30; (from -30°C/-22°F to +10°C/14°F) DIECI MTF III FLUID	(from -10°C/14°F to +35°C/95°F) DIECI UTTO FLUID WB SAE 10W/30; (from -30°C/-22°F to +10°C/14°F) DIECI MTF III FLUID
Braking circuit oil quantity	1,50 L (0,4 gal)	1,50 L (0,4 gal)
Braking circuit oil specifications	DEXRON II	DEXRON II
Coolant quantity	14,00 L (3,7 gal)	14,00 L (3,7 gal)
Coolant specifications	Antifreeze Red	Antifreeze Red
Grease quantity	4,00 kg (9 lb)	4,00 kg (9 lb)
Grease specifications	NLGI - 1	NLGI - 1
Hydraulic system (total)	120,0 L (31,7 gal)	120,0 L (31,7 gal)
Hydraulic oil type	DIECI Hydro Telehandler Fluid ISO46	DIECI Hydro Telehandler Fluid ISO46
Air conditioning refrigerant quantity	4,50 kg (10 lb)	4,50 kg (10 lb)
Air conditioning refrigerant specifications	R134A	R134A
Fuel tank	90,0 L (23,78 gal)	90,0 L (23,78 gal)
Acoustic pressure: Reference standard for stopped and running vehicle	-	-
Acoustic pressure: Value with stopped vehicle	-	-
Acoustic pressure: Value with running vehicle	-	-
Acoustic pressure: Reference standard perceived by the operator	-	-
Acoustic pressure: Value perceived by the operator with open cab	-	-

	MAP3519	MAP3520
Acoustic pressure: Value perceived by the operator with closed cab	-	-
Acoustic power: Reference standard	Directive 2000/14/EC	Directive 2000/14/EC
Acoustic power: Measured value	106 dB(A)	106 dB(A)
Acoustic power: Guaranteed value	107 dB(A)	107 dB(A)
Reference standard for seat vibrations	-	-
Value for seat vibrations	-	-
Uncertainty for seat vibrations value	-	-
Reference standard for steering wheel vibrations	-	-
Value for steering wheel vibrations	-	-
Uncertainty for steering wheel vibrations value	-	-
Gearbox	Coaxial hydraulic gear motor	Coaxial hydraulic gear motor
Drum general features	Rear front exhaust. Closed-loop axial piston pump with drum rotation speed controller.	Rear front exhaust. Closed-loop axial piston pump with drum rotation speed controller.
Standard tires	405/70x24"	405/70x24"
Optional tires	-	-

19.4 - 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 1: Environmental conditions table

19.5 - 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.

19.6 - 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.

19.7 - DIECI Hydro Telehandler Fluid ISO46

The sticker shown aside (170350-1) indicates that the hydraulic circuit is filled with hydraulic oil DIECI Hydro Telehandler Fluid ISO46.



170350-1

Specifications:

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 Vehicle 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.

Chemical-physical characteristics

Properties	Analysis method	Unit of measure	Value
Density at 15°C	ASTM D1298	kg/l	0.88
Viscosity at 40°C	ASTM D445	cSt	46.6
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

19.8 - DIECI Hydro Telehandler Fluid ISO32



NOTE

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

Specifications:

ISO 6743-4 HV, Afnor NFE 48-602, ISO 11158, DIN 51524 Part 3 HVL, Afnor NFE 48-603 HV, ASTM D6158, Denison HF-0 / HF-1 / HF-2, Eaton Vickers I-286-S / M-2950-S, Cincinnati Vehicle 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

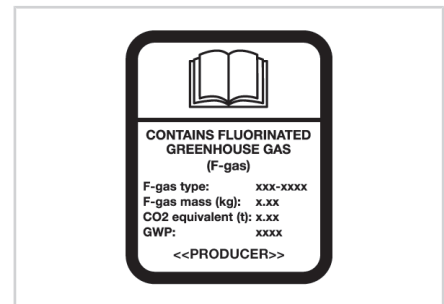
Chemical-physical characteristics:

Properties	Analysis method	Unit of measure	Value
Colour	-	-	Green-Blue
Density at 15°C	ASTM D1298	kg/l	0.878
Viscosity at 40°C	ASTM D445	cSt	32.4
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


19.9 - Declaration of conformity for F-Gas

In accordance with Art. 12 of EU Reg.No. 517/2014 concerning the fluorinated gases contained in the air-conditioning system, on the vehicles there are:

- Label indicating the amount of fluorinated gases present (Fig. 170501).
- Declaration of Conformity (a facsimile is shown below)



170501-1



(Declaration of conformity with article 14 of Regulation (EU) No 517/2014 of the European Parliament and of the Council)

We Dieci s.r.l. (VAT number 01682740350), declare under our sole responsibility that when placing on the market pre-charged equipment, which we import to or manufacture in the Union, the hydrofluorocarbons contained in that equipment are accounted for within the quota system referred to in Chapter IV of Regulation (EU) No 517/2014 of the European Parliament and of the Council as:

[please tick the relevant option(s): coverage by the quota system is achieved by one or more of the options below]

A. we hold authorisation(s) issued in accordance with Article 18(2) of Regulation (EU) No 517/2014 and registered in the registry referred to in Article 17 of that Regulation, at the time of release for free circulation to use the quota of a producer or importer of hydrofluorocarbons subject to Article 15 of Regulation (EU) No 517/2014 that cover(s) the quantity of hydrofluorocarbons contained in the equipment.

B. *[for importers of equipment only]* the hydrofluorocarbons contained in the equipment have been placed on the market in the Union, subsequently exported and charged into the equipment outside the Union, and the undertaking that placed the hydrofluorocarbons on the market made a declaration stating that the quantity of hydrofluorocarbons has been or will be reported as placed on the market in the Union and that it has not been and will not be reported as direct supply for export in the meaning of Article 15(2)(c) of Regulation (EU) No 517/2014 pursuant to Article 19 of Regulation (EU) No 517/2014 and Section 5C of the Annex to Commission Implementing Regulation (EU) No 1191/2014.


C. *[for equipment manufactured in the Union only]* the hydrofluorocarbons charged into the equipment were placed on the market by a producer or importer of hydrofluorocarbons subject to Article 15 of Regulation (EU) No 517/2014.

Signed for and on behalf of: Ennio Manghi, Director at DIECI S.r.l.

Montecchio Emilia, 31.01.2017

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

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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.

20.1 - Type of logs

20.1.1 - 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.



NOTE

The checks specified in the Control Log are in addition to the routine maintenance described in the Maintenance Log.

20.1.2 - 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 ...).



NOTE

Consult the *DIECI* service center to establish appropriate timelines when working in particularly heavy environments.

20.2 - Instructions for compiling the logs

20.2.1 - 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.



NOTE

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.

20.2.2 - 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.

20.2.3 - Logs compiling

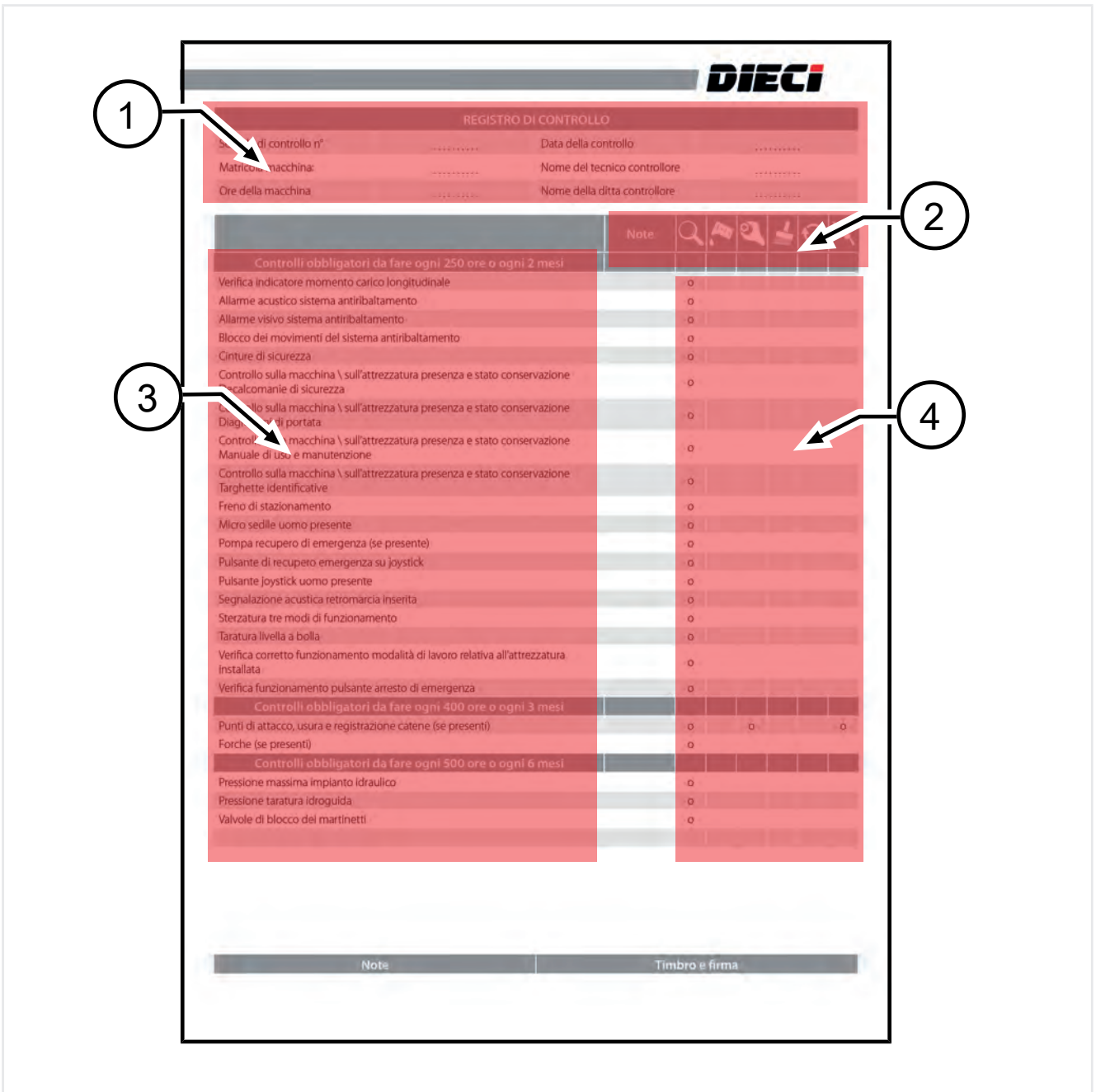









Figure: 150606-1

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.

20.2.4 - Logs legend

Symbol	Description
	Control - Check
	Refueling
	Adjustment
	Cleaning
	Replacement
	Lubrication
	Intervention at an authorized service center

20.2.5 - Intervals legend



NOTE

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

20.3 - 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	.....

	Maintenance							
250h / 2m	Seat belts	O						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	O						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	O						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	O						
250h / 2m	Parking brake	O						
250h / 2m	Deadman seat microswitch	O						
250h / 2m	Reverse gear engaged acoustic signal	O						
250h / 2m	Three operation mode steering	O						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	O						
250h / 2m	Emergency stop button	O						
500h / 6m	Hydraulic system maximum pressure	O						
500h / 6m	Power steering calibration pressure	O						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	<input type="checkbox"/>						
250h / 2m	Parking brake	<input type="checkbox"/>						
250h / 2m	Deadman seat microswitch	<input type="checkbox"/>						
250h / 2m	Reverse gear engaged acoustic signal	<input type="checkbox"/>						
250h / 2m	Three operation mode steering	<input type="checkbox"/>						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	<input type="checkbox"/>						
250h / 2m	Emergency stop button	<input type="checkbox"/>						
500h / 6m	Hydraulic system maximum pressure	<input type="checkbox"/>						
500h / 6m	Power steering calibration pressure	<input type="checkbox"/>						








Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	O						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	O						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	O						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	O						
250h / 2m	Parking brake	O						
250h / 2m	Deadman seat microswitch	O						
250h / 2m	Reverse gear engaged acoustic signal	O						
250h / 2m	Three operation mode steering	O						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	O						
250h / 2m	Emergency stop button	O						
500h / 6m	Hydraulic system maximum pressure	O						
500h / 6m	Power steering calibration pressure	O						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

Maintenance								
250h / 2m	Seat belts	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	<input type="checkbox"/>						
250h / 2m	Parking brake	<input type="checkbox"/>						
250h / 2m	Deadman seat microswitch	<input type="checkbox"/>						
250h / 2m	Reverse gear engaged acoustic signal	<input type="checkbox"/>						
250h / 2m	Three operation mode steering	<input type="checkbox"/>						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	<input type="checkbox"/>						
250h / 2m	Emergency stop button	<input type="checkbox"/>						
500h / 6m	Hydraulic system maximum pressure	<input type="checkbox"/>						
500h / 6m	Power steering calibration pressure	<input type="checkbox"/>						








Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	O						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	O						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	O						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	O						
250h / 2m	Parking brake	O						
250h / 2m	Deadman seat microswitch	O						
250h / 2m	Reverse gear engaged acoustic signal	O						
250h / 2m	Three operation mode steering	O						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	O						
250h / 2m	Emergency stop button	O						
500h / 6m	Hydraulic system maximum pressure	O						
500h / 6m	Power steering calibration pressure	O						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	<input type="checkbox"/>						
250h / 2m	Parking brake	<input type="checkbox"/>						
250h / 2m	Deadman seat microswitch	<input type="checkbox"/>						
250h / 2m	Reverse gear engaged acoustic signal	<input type="checkbox"/>						
250h / 2m	Three operation mode steering	<input type="checkbox"/>						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	<input type="checkbox"/>						
250h / 2m	Emergency stop button	<input type="checkbox"/>						
500h / 6m	Hydraulic system maximum pressure	<input type="checkbox"/>						
500h / 6m	Power steering calibration pressure	<input type="checkbox"/>						








Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	O						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	O						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	O						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	O						
250h / 2m	Parking brake	O						
250h / 2m	Deadman seat microswitch	O						
250h / 2m	Reverse gear engaged acoustic signal	O						
250h / 2m	Three operation mode steering	O						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	O						
250h / 2m	Emergency stop button	O						
500h / 6m	Hydraulic system maximum pressure	O						
500h / 6m	Power steering calibration pressure	O						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	<input type="checkbox"/>						
250h / 2m	Parking brake	<input type="checkbox"/>						
250h / 2m	Deadman seat microswitch	<input type="checkbox"/>						
250h / 2m	Reverse gear engaged acoustic signal	<input type="checkbox"/>						
250h / 2m	Three operation mode steering	<input type="checkbox"/>						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	<input type="checkbox"/>						
250h / 2m	Emergency stop button	<input type="checkbox"/>						
500h / 6m	Hydraulic system maximum pressure	<input type="checkbox"/>						
500h / 6m	Power steering calibration pressure	<input type="checkbox"/>						








Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....

	Maintenance							
250h / 2m	Seat belts	O						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	O						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	O						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	O						
250h / 2m	Parking brake	O						
250h / 2m	Deadman seat microswitch	O						
250h / 2m	Reverse gear engaged acoustic signal	O						
250h / 2m	Three operation mode steering	O						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	O						
250h / 2m	Emergency stop button	O						
500h / 6m	Hydraulic system maximum pressure	O						
500h / 6m	Power steering calibration pressure	O						

Notes	Stamp and signature

CONTROL LOG			
Control sheet no.	.....	Control date	.....
Vehicle serial number:	.....	Controller technician name	.....
Vehicle hours	.....	Controller company name	.....








Maintenance								
250h / 2m	Seat belts	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and status of conservation of Safety Stickers	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of the Use and maintenance manual	<input type="checkbox"/>						
250h / 2m	Control over the machine for the presence and conservation status of Identification labels	<input type="checkbox"/>						
250h / 2m	Parking brake	<input type="checkbox"/>						
250h / 2m	Deadman seat microswitch	<input type="checkbox"/>						
250h / 2m	Reverse gear engaged acoustic signal	<input type="checkbox"/>						
250h / 2m	Three operation mode steering	<input type="checkbox"/>						
250h / 2m	Travel permitted only with driving seat properly positioned forward or reversed	<input type="checkbox"/>						
250h / 2m	Emergency stop button	<input type="checkbox"/>						
500h / 6m	Hydraulic system maximum pressure	<input type="checkbox"/>						
500h / 6m	Power steering calibration pressure	<input type="checkbox"/>						








Notes	Stamp and signature








20.4 - Maintenance log

The following are some sheets for filling in the Maintenance Log.

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	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	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	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	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter (if the closed cab option is present)				o			
50h / 1m	Brakes oil level	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						





	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		

Maintenance								
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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








MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....








	Maintenance							
0h	Air conditioning system	<input type="radio"/>			<input type="radio"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="radio"/>						
0h	Brake			<input type="radio"/>				
0h	Parking brake	<input type="radio"/>						
0h	Electrolyte level and battery charge	<input type="radio"/>						
0h	Lighting	<input type="radio"/>						
0h	Hydraulic oil level	<input type="radio"/>						
0h	Alternator belts \ services	<input type="radio"/>						
0h	Engine oil level	<input type="radio"/>						
0h	Radiators	<input type="radio"/>			<input type="radio"/>			
0h	Radiator expansion tank	<input type="radio"/>	<input type="radio"/>					
0h	Tires pressure	<input type="radio"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="radio"/>						
10h / 1m	Window washer tank	<input type="radio"/>	<input type="radio"/>					
10h / 1m	Safety stickers	<input type="radio"/>						
10h / 1m	Safety devices	<input type="radio"/>						
10h / 1m	Coolant	<input type="radio"/>						
10h / 1m	Engine oil level	<input type="radio"/>						
10h / 1m	Metal structural work, no cracks	<input type="radio"/>						
10h / 1m	Radiators				<input type="radio"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)							<input type="radio"/>
50h / 1m	Prop shafts							<input type="radio"/>
50h / 1m	Axles oscillation							<input type="radio"/>
50h / 1m	Wheels reduction gear pins							<input type="radio"/>
50h / 1m	Mechanical joints of parking brake on the axle							<input type="radio"/>
50h / 1m	Mechanical joints							<input type="radio"/>
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="radio"/>			
50h / 1m	Brakes oil level	<input type="radio"/>						
50h / 1m	Hydraulic oil level	<input type="radio"/>						
50h / 1m	Hydraulic system leaks	<input type="radio"/>						
50h / 1m	Air filter				<input type="radio"/>			
50h / 1m	Fuel filter				<input type="radio"/>			
50h / 1m	Coolant	<input type="radio"/>						
50h / 1m	Engine oil level	<input type="radio"/>						
50h / 1m	Tires pressure	<input type="radio"/>						








Maintenance								
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**

Maintenance								
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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						

MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	<input type="checkbox"/>			<input type="checkbox"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="checkbox"/>						
0h	Brake			<input type="checkbox"/>				
0h	Parking brake	<input type="checkbox"/>						
0h	Electrolyte level and battery charge	<input type="checkbox"/>						
0h	Lighting	<input type="checkbox"/>						
0h	Hydraulic oil level	<input type="checkbox"/>						
0h	Alternator belts \ services	<input type="checkbox"/>						
0h	Engine oil level	<input type="checkbox"/>						
0h	Radiators	<input type="checkbox"/>			<input type="checkbox"/>			
0h	Radiator expansion tank	<input type="checkbox"/>	<input type="checkbox"/>					
0h	Tires pressure	<input type="checkbox"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="checkbox"/>						
10h / 1m	Window washer tank	<input type="checkbox"/>	<input type="checkbox"/>					
10h / 1m	Safety stickers	<input type="checkbox"/>						
10h / 1m	Safety devices	<input type="checkbox"/>						
10h / 1m	Coolant	<input type="checkbox"/>						
10h / 1m	Engine oil level	<input type="checkbox"/>						
10h / 1m	Metal structural work, no cracks	<input type="checkbox"/>						
10h / 1m	Radiators				<input type="checkbox"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)						<input type="checkbox"/>	
50h / 1m	Prop shafts						<input type="checkbox"/>	
50h / 1m	Axles oscillation						<input type="checkbox"/>	
50h / 1m	Wheels reduction gear pins						<input type="checkbox"/>	
50h / 1m	Mechanical joints of parking brake on the axle						<input type="checkbox"/>	
50h / 1m	Mechanical joints						<input type="checkbox"/>	
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="checkbox"/>			
50h / 1m	Brakes oil level	<input type="checkbox"/>						
50h / 1m	Hydraulic oil level	<input type="checkbox"/>						
50h / 1m	Hydraulic system leaks	<input type="checkbox"/>						
50h / 1m	Air filter				<input type="checkbox"/>			
50h / 1m	Fuel filter				<input type="checkbox"/>			
50h / 1m	Coolant	<input type="checkbox"/>						
50h / 1m	Engine oil level	<input type="checkbox"/>						
50h / 1m	Tires pressure	<input type="checkbox"/>						








	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		

Maintenance								
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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
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	Maintenance							
0h	Air conditioning system	<input type="radio"/>			<input type="radio"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="radio"/>						
0h	Brake			<input type="radio"/>				
0h	Parking brake	<input type="radio"/>						
0h	Electrolyte level and battery charge	<input type="radio"/>						
0h	Lighting	<input type="radio"/>						
0h	Hydraulic oil level	<input type="radio"/>						
0h	Alternator belts \ services	<input type="radio"/>						
0h	Engine oil level	<input type="radio"/>						
0h	Radiators	<input type="radio"/>			<input type="radio"/>			
0h	Radiator expansion tank	<input type="radio"/>	<input type="radio"/>					
0h	Tires pressure	<input type="radio"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="radio"/>						
10h / 1m	Window washer tank	<input type="radio"/>	<input type="radio"/>					
10h / 1m	Safety stickers	<input type="radio"/>						
10h / 1m	Safety devices	<input type="radio"/>						
10h / 1m	Coolant	<input type="radio"/>						
10h / 1m	Engine oil level	<input type="radio"/>						
10h / 1m	Metal structural work, no cracks	<input type="radio"/>						
10h / 1m	Radiators				<input type="radio"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)							<input type="radio"/>
50h / 1m	Prop shafts							<input type="radio"/>
50h / 1m	Axles oscillation							<input type="radio"/>
50h / 1m	Wheels reduction gear pins							<input type="radio"/>
50h / 1m	Mechanical joints of parking brake on the axle							<input type="radio"/>
50h / 1m	Mechanical joints							<input type="radio"/>
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="radio"/>			
50h / 1m	Brakes oil level	<input type="radio"/>						
50h / 1m	Hydraulic oil level	<input type="radio"/>						
50h / 1m	Hydraulic system leaks	<input type="radio"/>						
50h / 1m	Air filter				<input type="radio"/>			
50h / 1m	Fuel filter				<input type="radio"/>			
50h / 1m	Coolant	<input type="radio"/>						
50h / 1m	Engine oil level	<input type="radio"/>						
50h / 1m	Tires pressure	<input type="radio"/>						








	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**








Maintenance								
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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	<input type="checkbox"/>			<input type="checkbox"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="checkbox"/>						
0h	Brake			<input type="checkbox"/>				
0h	Parking brake	<input type="checkbox"/>						
0h	Electrolyte level and battery charge	<input type="checkbox"/>						
0h	Lighting	<input type="checkbox"/>						
0h	Hydraulic oil level	<input type="checkbox"/>						
0h	Alternator belts \ services	<input type="checkbox"/>						
0h	Engine oil level	<input type="checkbox"/>						
0h	Radiators	<input type="checkbox"/>			<input type="checkbox"/>			
0h	Radiator expansion tank	<input type="checkbox"/>	<input type="checkbox"/>					
0h	Tires pressure	<input type="checkbox"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="checkbox"/>						
10h / 1m	Window washer tank	<input type="checkbox"/>	<input type="checkbox"/>					
10h / 1m	Safety stickers	<input type="checkbox"/>						
10h / 1m	Safety devices	<input type="checkbox"/>						
10h / 1m	Coolant	<input type="checkbox"/>						
10h / 1m	Engine oil level	<input type="checkbox"/>						
10h / 1m	Metal structural work, no cracks	<input type="checkbox"/>						
10h / 1m	Radiators				<input type="checkbox"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)						<input type="checkbox"/>	
50h / 1m	Prop shafts						<input type="checkbox"/>	
50h / 1m	Axles oscillation						<input type="checkbox"/>	
50h / 1m	Wheels reduction gear pins						<input type="checkbox"/>	
50h / 1m	Mechanical joints of parking brake on the axle						<input type="checkbox"/>	
50h / 1m	Mechanical joints						<input type="checkbox"/>	
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="checkbox"/>			
50h / 1m	Brakes oil level	<input type="checkbox"/>						
50h / 1m	Hydraulic oil level	<input type="checkbox"/>						
50h / 1m	Hydraulic system leaks	<input type="checkbox"/>						
50h / 1m	Air filter				<input type="checkbox"/>			
50h / 1m	Fuel filter				<input type="checkbox"/>			
50h / 1m	Coolant	<input type="checkbox"/>						
50h / 1m	Engine oil level	<input type="checkbox"/>						
50h / 1m	Tires pressure	<input type="checkbox"/>						








	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		








Maintenance								
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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 name	technician
Vehicle hours	Maintenance name	company



	Maintenance							
0h	Air conditioning system	<input type="radio"/>			<input type="radio"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="radio"/>						
0h	Brake			<input type="radio"/>				
0h	Parking brake	<input type="radio"/>						
0h	Electrolyte level and battery charge	<input type="radio"/>						
0h	Lighting	<input type="radio"/>						
0h	Hydraulic oil level	<input type="radio"/>						
0h	Alternator belts \ services	<input type="radio"/>						
0h	Engine oil level	<input type="radio"/>						
0h	Radiators	<input type="radio"/>			<input type="radio"/>			
0h	Radiator expansion tank	<input type="radio"/>	<input type="radio"/>					
0h	Tires pressure	<input type="radio"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="radio"/>						
10h / 1m	Window washer tank	<input type="radio"/>	<input type="radio"/>					
10h / 1m	Safety stickers	<input type="radio"/>						
10h / 1m	Safety devices	<input type="radio"/>						
10h / 1m	Coolant	<input type="radio"/>						
10h / 1m	Engine oil level	<input type="radio"/>						
10h / 1m	Metal structural work, no cracks	<input type="radio"/>						
10h / 1m	Radiators				<input type="radio"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)							<input type="radio"/>
50h / 1m	Prop shafts							<input type="radio"/>
50h / 1m	Axles oscillation							<input type="radio"/>
50h / 1m	Wheels reduction gear pins							<input type="radio"/>
50h / 1m	Mechanical joints of parking brake on the axle							<input type="radio"/>
50h / 1m	Mechanical joints							<input type="radio"/>
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="radio"/>			
50h / 1m	Brakes oil level	<input type="radio"/>						
50h / 1m	Hydraulic oil level	<input type="radio"/>						
50h / 1m	Hydraulic system leaks	<input type="radio"/>						
50h / 1m	Air filter				<input type="radio"/>			
50h / 1m	Fuel filter				<input type="radio"/>			
50h / 1m	Coolant	<input type="radio"/>						
50h / 1m	Engine oil level	<input type="radio"/>						
50h / 1m	Tires pressure	<input type="radio"/>						








Maintenance								
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**

Maintenance								
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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						

MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance technician name	.....
Vehicle hours	.....	Maintenance company name	.....

	Maintenance							
0h	Air conditioning system	<input type="checkbox"/>			<input type="checkbox"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="checkbox"/>						
0h	Brake			<input type="checkbox"/>				
0h	Parking brake	<input type="checkbox"/>						
0h	Electrolyte level and battery charge	<input type="checkbox"/>						
0h	Lighting	<input type="checkbox"/>						
0h	Hydraulic oil level	<input type="checkbox"/>						
0h	Alternator belts \ services	<input type="checkbox"/>						
0h	Engine oil level	<input type="checkbox"/>						
0h	Radiators	<input type="checkbox"/>			<input type="checkbox"/>			
0h	Radiator expansion tank	<input type="checkbox"/>	<input type="checkbox"/>					
0h	Tires pressure	<input type="checkbox"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="checkbox"/>						
10h / 1m	Window washer tank	<input type="checkbox"/>	<input type="checkbox"/>					
10h / 1m	Safety stickers	<input type="checkbox"/>						
10h / 1m	Safety devices	<input type="checkbox"/>						
10h / 1m	Coolant	<input type="checkbox"/>						
10h / 1m	Engine oil level	<input type="checkbox"/>						
10h / 1m	Metal structural work, no cracks	<input type="checkbox"/>						
10h / 1m	Radiators				<input type="checkbox"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)						<input type="checkbox"/>	
50h / 1m	Prop shafts						<input type="checkbox"/>	
50h / 1m	Axles oscillation						<input type="checkbox"/>	
50h / 1m	Wheels reduction gear pins						<input type="checkbox"/>	
50h / 1m	Mechanical joints of parking brake on the axle						<input type="checkbox"/>	
50h / 1m	Mechanical joints						<input type="checkbox"/>	
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="checkbox"/>			
50h / 1m	Brakes oil level	<input type="checkbox"/>						
50h / 1m	Hydraulic oil level	<input type="checkbox"/>						
50h / 1m	Hydraulic system leaks	<input type="checkbox"/>						
50h / 1m	Air filter				<input type="checkbox"/>			
50h / 1m	Fuel filter				<input type="checkbox"/>			
50h / 1m	Coolant	<input type="checkbox"/>						
50h / 1m	Engine oil level	<input type="checkbox"/>						
50h / 1m	Tires pressure	<input type="checkbox"/>						






	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		

Maintenance								
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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 name	technician
Vehicle hours	Maintenance name	company








	Maintenance							
0h	Air conditioning system	<input type="radio"/>			<input type="radio"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="radio"/>						
0h	Brake			<input type="radio"/>				
0h	Parking brake	<input type="radio"/>						
0h	Electrolyte level and battery charge	<input type="radio"/>						
0h	Lighting	<input type="radio"/>						
0h	Hydraulic oil level	<input type="radio"/>						
0h	Alternator belts \ services	<input type="radio"/>						
0h	Engine oil level	<input type="radio"/>						
0h	Radiators	<input type="radio"/>			<input type="radio"/>			
0h	Radiator expansion tank	<input type="radio"/>	<input type="radio"/>					
0h	Tires pressure	<input type="radio"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="radio"/>						
10h / 1m	Window washer tank	<input type="radio"/>	<input type="radio"/>					
10h / 1m	Safety stickers	<input type="radio"/>						
10h / 1m	Safety devices	<input type="radio"/>						
10h / 1m	Coolant	<input type="radio"/>						
10h / 1m	Engine oil level	<input type="radio"/>						
10h / 1m	Metal structural work, no cracks	<input type="radio"/>						
10h / 1m	Radiators				<input type="radio"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)							<input type="radio"/>
50h / 1m	Prop shafts							<input type="radio"/>
50h / 1m	Axles oscillation							<input type="radio"/>
50h / 1m	Wheels reduction gear pins							<input type="radio"/>
50h / 1m	Mechanical joints of parking brake on the axle							<input type="radio"/>
50h / 1m	Mechanical joints							<input type="radio"/>
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="radio"/>			
50h / 1m	Brakes oil level	<input type="radio"/>						
50h / 1m	Hydraulic oil level	<input type="radio"/>						
50h / 1m	Hydraulic system leaks	<input type="radio"/>						
50h / 1m	Air filter				<input type="radio"/>			
50h / 1m	Fuel filter				<input type="radio"/>			
50h / 1m	Coolant	<input type="radio"/>						
50h / 1m	Engine oil level	<input type="radio"/>						
50h / 1m	Tires pressure	<input type="radio"/>						




Maintenance								
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**








Maintenance								
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	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	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	Mechanical joints of parking brake on the axle						o	
50h / 1m	Mechanical joints						o	
50h / 1m	Cab ventilation filter (if the closed cab option is present)				o			
50h / 1m	Brakes oil level	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						





	Maintenance							
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		








Maintenance								
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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

MAINTENANCE LOG			
Maintenance sheet no.	.....	Maintenance date	.....
Vehicle serial number:	.....	Maintenance name	technician
Vehicle hours	.....	Maintenance name	company

	Maintenance							
0h	Air conditioning system	<input type="radio"/>			<input type="radio"/>			
0h	Filters (air, engine oil, hydraulic oil, fuel, air conditioning system, cab)	<input type="radio"/>						
0h	Brake			<input type="radio"/>				
0h	Parking brake	<input type="radio"/>						
0h	Electrolyte level and battery charge	<input type="radio"/>						
0h	Lighting	<input type="radio"/>						
0h	Hydraulic oil level	<input type="radio"/>						
0h	Alternator belts \ services	<input type="radio"/>						
0h	Engine oil level	<input type="radio"/>						
0h	Radiators	<input type="radio"/>			<input type="radio"/>			
0h	Radiator expansion tank	<input type="radio"/>	<input type="radio"/>					
0h	Tires pressure	<input type="radio"/>						
0h	Wear check (on both the vehicle and equipment if installed)	<input type="radio"/>						
10h / 1m	Window washer tank	<input type="radio"/>	<input type="radio"/>					
10h / 1m	Safety stickers	<input type="radio"/>						
10h / 1m	Safety devices	<input type="radio"/>						
10h / 1m	Coolant	<input type="radio"/>						
10h / 1m	Engine oil level	<input type="radio"/>						
10h / 1m	Metal structural work, no cracks	<input type="radio"/>						
10h / 1m	Radiators				<input type="radio"/>			
50h / 1m	Grease level in the automatic lubrication system (if installed)							<input type="radio"/>
50h / 1m	Prop shafts							<input type="radio"/>
50h / 1m	Axles oscillation							<input type="radio"/>
50h / 1m	Wheels reduction gear pins							<input type="radio"/>
50h / 1m	Mechanical joints of parking brake on the axle							<input type="radio"/>
50h / 1m	Mechanical joints							<input type="radio"/>
50h / 1m	Cab ventilation filter (if the closed cab option is present)				<input type="radio"/>			
50h / 1m	Brakes oil level	<input type="radio"/>						
50h / 1m	Hydraulic oil level	<input type="radio"/>						
50h / 1m	Hydraulic system leaks	<input type="radio"/>						
50h / 1m	Air filter				<input type="radio"/>			
50h / 1m	Fuel filter				<input type="radio"/>			
50h / 1m	Coolant	<input type="radio"/>						
50h / 1m	Engine oil level	<input type="radio"/>						
50h / 1m	Tires pressure	<input type="radio"/>						

Maintenance								
50h / 1m	Wheel nuts tightening	o						
250h / 2m	Seat belts	o						
250h / 2m	Rear view mirrors	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	Cab ventilation filter (if the closed cab option is present)					o		
500h / 6m	Brakes oil					o		
500h / 6m	Electrical system	o						
500h / 6m	Hydraulic oil filter(s)					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	Drum gearbox oil	o						
500h / 6m	Transmission oil	o						
1000h / 1y	Differential axle oil					o		
1000h / 1y	Epicycloidal reduction gear oil					o		
1000h / 1y	Cab structure	o						**
1000h / 1y	Brakes oil circuit				o			**
1000h / 1y	Brakes oil circuit: Pressure	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 flexible pipes	o						**
1000h / 1y	Hydraulic system: Movements speed	o						**

Maintenance								
1000h / 1y	Hydraulic oil					o		
1000h / 1y	Engine valves clearances	o						**
1000h / 1y	Coolant					o		
1000h / 1y	Engine speeds	o						**
1000h / 1y	Fuel tank				o			
1000h / 1y	Drum gearbox oil					o		
1000h / 1y	Chassis: bearings and pivot bushes	o						**
1000h / 1y	Chassis: structure	o						**
1000h / 1y	Transmission oil					o		
2000h	Axles oscillation	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	FPT engine AdBlue tank filter					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						

