AUSA

T 204 Hx4
T 235 Hx4

OPERATOR'S MANUAL

ENGLISH
Original Manual

TECHNICAL DOCUMENT

36.14440.00

INTENTIONALLY BLANK PAGE

T 204 Hx4
T 235 Hx4

OPERATOR'S MANUAL

REVISIONS CHART

Version	UPDATES
36.14440.00	09/09/2020 Initial version

AUSA Center, S. L. U.
Head office: C/ Castelladral, 1 - 08243 Manresa - Barcelona.
POB 194
www.ausa.com

1

INTRODUCTION

CONTENTS INDEX

FOREWORD

This operator's manual has been designed and compiled with the help of engineers and technical service specialists, in order to inform the operator of the different aspects of the machine.

The machine's operator shall take the necessary time to thoroughly read and understand this manual, so that they can operate and maintain the machine safely and correctly.

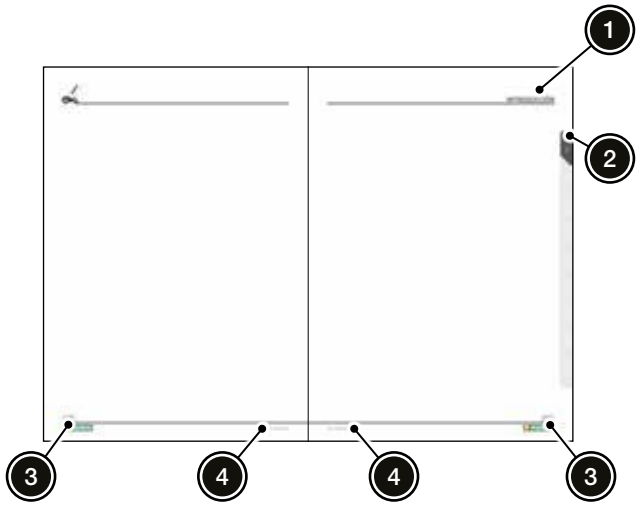
HOW TO USE THIS MANUAL

The general index lists this manual's contents. In addition, each chapter has a detailed index, indicating the page where different contents can be located.

This manual contains information regarding safety, driving, use, transportation, storage and maintenance of the machine.

The pages of each chapter present the following information:

1. Chapter name.
2. Chapter number.
3. Page number.
4. Manual reference.



Page format

Information: *This manual should be stored in the document case, located on the back of the operator's seat.*

The machine may have a document holder fitted for manuals, protected by an anti-vandal system. **ACCESSORY**

Location of the operator's manual

HOW TO USE THIS MANUAL

Machine identification

This operator's manual covers the following machine models:

- T 204 Hx4
- T 235 Hx4

Given that this operator's manual includes information about different machine models, it is very important that the operator correctly identifies the machine they are operating.

Information: *Knowing the correct machine model affects issues such as safety, operation and maintenance.*

Throughout the manual, any information which refers exclusively to one machine model is identified with the appropriate label:

T 204

T 235

PARTICULATE FILTER (DPF)

INVERSE CONTROLS

CONTINUOUS FLOW

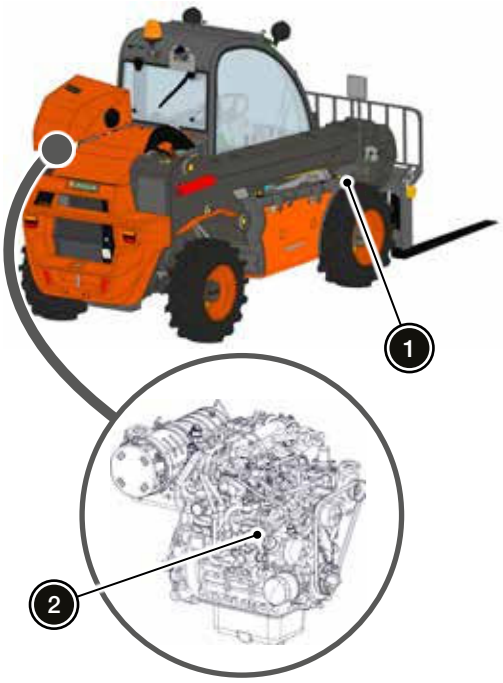
If the information has the following label, then it refers to elements and/or functionalities not included in the standard machine.

ACCESSORY

To identify the machine, it is necessary to know the following information:

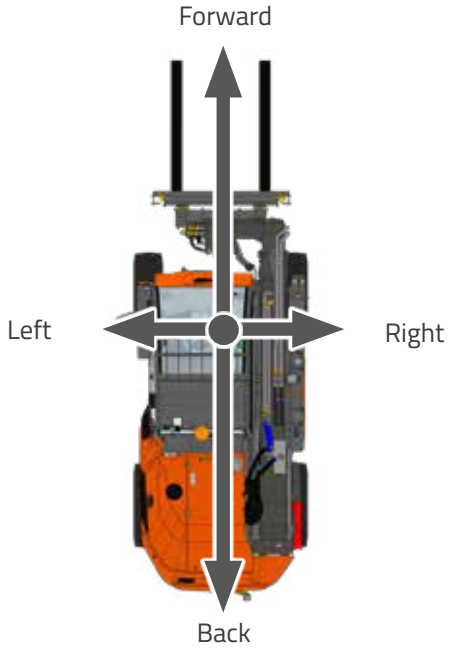
- Machine model: .....
- Date of purchase: .....
- Chassis number (1): .....
- Engine number (2): .....

Information: *The machine model is indicated on the specifications plate. For additional information, see "Identification plates and decals" in Chapter 2.*



Machine orientation

Information: *The terms right, left, forward and back, when used in this manual, refer to these positions from the operator's seat looking forward.*



Machine orientation

WARNINGS

⚠ DANGER Indicates a dangerous situation which, if not avoided will result in death or serious injury.

⚠ WARNING Indicates a dangerous situation which, if not avoided may result in death or serious injury.

⚠ CAUTION Indicates a dangerous situation which, if not avoided may result in serious or moderate injury.

NOTICE Used to indicate practices not related to physical injury.

Information: *Convenient information to take into account.*

Environment: Information *related to conditions, practices or procedures which may pose a risk to the environment.*

ABBREVIATIONS

Term	Meaning
CG	Centre of Gravity.
DPF	Diesel Particulate Filter.
ECU	Electronic Control Unit.
EGR	Exhaust Gas Recirculation
EN	European Standard.
PPE	Personal Protection Equipment.
FNR	Forward - NEUTRAL - Reverse.

Term	Meaning
HMI	Human-Machine Interface.
FOPS	Falling Object Protective Structure.
ROPS	Roll Over Protective Structure.
N/A	Not Applicable.
W/N	Without Number.
SAE	Society of Automotive Engineers.

LIABILITY AND WARRANTY

This section provides indications regarding liability and warranties related to the machine and its use.

Information: *AUSA is continually improving its products and reserves the right to make such improvements without incurring any obligation to make changes to machines previously sold. Therefore, claims cannot be made based on the data, illustrations and descriptions set forth in this operator's manual.*

Machines with built-in electronic control units

NOTICE All the connectors for the electronic control units should be disconnected during welding operations.

NOTICE Defective electronic control units and sensors should be replaced with new ones, never repaired.

NOTICE Do not disconnect the battery immediately after stopping the engine. Wait at least two minutes before disconnecting.

Spare Parts

To guarantee that the machine maintains the same technical level as the date it was supplied, always use original AUSA spare parts.

Information: *For additional information regarding spare parts, please contact the official AUSA dealer.*

Fuel

NOTICE The use of fuel that does not comply with standard EN 590/ASTM D975 does not guarantee the safe operation nor the durability of the different components of the diesel engine.

NOTICE The use of fuel that does not comply with standard EN 590/ASTM D975 will void the warranty.

NOTICE The specifications of the fuel used, as well as its sulphur content, are necessary to meet the compliance requirements in relation to exhaust gas emissions in the place where the machine is used.

Transportation

AUSA is not responsible for the transportation of the machine; this is the distributor's responsibility.

Lighting equipment

The use of the machine without lighting equipment is allowed only during daylight hours or in well-lit areas.

EC DECLARATION

In countries where applicable, the machine will be accompanied with the following declaration of conformity:

EU DECLARATION OF CONFORMITY

The manufacturer **AUSA Center, S.L.U.**, established on c/ Castelladral, 1, 08243 – Manresa – Barcelona – Spain, declares that the machine assigned below:

Generic denomination:	**SELF-PROPELLED VARIABLE REACH TRUCK**
Model/Type:	**model**
Serial number:	**chassis**
Year of manufacture:	**year_manufacture**

fulfils all the relevant provisions from the following harmonization legislation from the European Union:

Machinery Directive, 2006/42/EC
Electromagnetic Compatibility Directive 2014/30/EU
Sound level Directives of machinery used outdoors, 2000/14/EC and Regulation (EC) No 219/2009
Directive 2014/53/EU relating to the making available on the market of radio equipment, (when the machine if fitted with a radio equipment for fleet tracking)

based on the following European Standards:

EN 1459-1:2017 – Rough-terrain trucks - Safety requirements and verification – Part 1: Variable-reach trucks
EN 12895:2015 – Industrial trucks – Electromagnetic compatibility

The assessment procedure has been carried out in accordance with the provisions relating to non-dangerous machinery in the above mentioned Directives.

Name and address of the person authorized to compile the technical file:

Mr./Mrs.
AUSA Center, S.L.U.
c/ Castelladral 1, 08243 – Manresa – Barcelona

AUSA Center, S.L.U.
AUSA
08243
MANRESA

Mr./Mrs.
Manresa, dd/mm/yyyy.

INTENTIONALLY BLANK PAGE

2

SAFETY MEASURES

CONTENTS INDEX

⚠ DANGER Safety standards must be adhered to without exception.

AUSA manufactures their machines in accordance with demands for intrinsic protection, as established by current law or standards for the countries where the machine is sold, against dangers of any kind, which may present a risk to health or life, whenever the machine is used and maintained in accordance with such legislation or standards.

Any hazard caused by improper use, not in compliance with these instructions or others specifically provided with the machine will be the responsibility of the user and not AUSA.

This chapter gives instructions on how the machine must be used as per the provisions in:

- The 2006/42/EC Machine Safety Directive.
- The ISO 10896-1:2020 Standard. Safety and verification requirements.

USING THE MACHINE

Intended Use

Information: *Any use other than that intended will be considered improper.*

⚠ DANGER Health and safety at work and accident prevention standards should be adhered to during all transport, maintenance or repair operations.

⚠ DANGER Follow all operation, maintenance and repair conditions specified in this manual.

The machine has been designed and manufactured for lifting, handling and transporting both agricultural and industrial loads. The safety of people and of loads transported must be guaranteed with the use of forks or other accessories, and equipment supplied or authorised by AUSA.

The machine has been designed to transport and lift loads over floor surfaces that have not been adapted to such operations, which are almost flat, with moderate slopes and small obstacles and, therefore, under unfavourable stability conditions.

The machine has not been designed for road transport, nor for long-distance load transportation.

Information: *Any transportation longer than 1 km is considered long distance.*

Driving, maintenance and repair of the machine must only be entrusted to duly trained personnel, who have the required tools and know the intervention and safety procedures relating to the machine.

Improper Use

Information: *Improper use is defined as any use of the machine that does not conform to the criteria and instructions detailed in this manual, or any other uses different to those described here.*

⚠ DANGER Improper use of the machine may cause serious injury to persons, the machine or the environment.

Below, some of the most frequent and dangerous instances of improper use are listed:

- Transporting suspended loads. The necessary precautions must be taken or AUSA's official distributor must be contacted before transporting suspended loads.
- Transporting persons on the telescopic boom, forks or any other part that is not the operator's position.
- Lifting people.
- The use of work platforms.
- Failing to comply with the instructions for use and maintenance set out in this manual.
- Exceeded the load limits and the position of its centre of gravity, as indicated in the load charts.
  See *"Working with loads" in Chapter 4*.
- Working on unstable, unconsolidated ground or on the edge of ditches and trenches.
- Working on floor surfaces with slopes that exceed the recommended operating limits.
- Using accessories and equipment for purposes other than those they are designed for.
- Using accessories and implements not supplied or authorised by AUSA.

OPERATOR REQUIREMENTS AND QUALIFICATIONS

The operator must not use the machine until they have read and understood this manual, having completed the corresponding training and received practical training under the supervision of an experienced, qualified operator.

It is important that the operator knows and complies with the laws and standards applicable in the workplace where the machine will be operated, including those that require operator training and certification. Compliance with these laws is the responsibility of the user.

The operator of this machine should have a suitable, valid driving licence, be in good physical and mental condition, have normal reflexes and reaction times, good vision and depth perception, and normal hearing capacity. The operator must not be under any medication that may change their abilities, nor be under the effects of alcohol or any other toxic substance during their work shift.

GENERAL INSTRUCTIONS

Context	Recommendation
MODIFICATIONS TO THE MACHINE	Any modification which affects the capacity and safety of the machine must be authorised by AUSA, or by a responsible manufacturer, modifying, where necessary, the operator's manual and corresponding plates and decals.
	AUSA will not be held responsible for any incidences or accidents caused by the use of non-original spare parts or by repairs carried out by unauthorised workshops.
	Any machine modifications may alter the safety conditions and invalidate any declaration supplied in relation to the machine. Contact AUSA for additional information.
	In the case of accessories and equipment being assembled on the base frame of the machine by companies not connected to AUSA, all prescriptions and limitations of the machine in relation to mass and dimensions, efficiency of the lighting equipment and adjustments thereto, along with the need for protection or additional systems must be taken into account in order to guarantee the safety of the machine.

Context	Recommendation
USE	The machine may only be used for the purposes for which it has been designed.
MAINTENANCE	The operator shall carry out periodic services when using the machine to ensure it meets the functional safety requirements.
DAMAGE	The operator cab must be replaced with a new one if it has suffered permanent damage or deformation.
IMPLEMENTS OR ACCESSORIES	The use of implements or accessories may reduce the loading capacity of the machine.
	If the machine is equipped with implements or accessories, read carefully the specific instructions manual for that implement or accessory prior to using it. The manuals of all implements or accessories, supplied by their manufacturers, are delivered together with this operator's manual.

DURING REFUELLING

Context	Recommendation
TOXICITY	Given the fuel's toxicity, avoid direct contact with hands and inhaling the vapours. Never transfer the fuel by sucking it through a tube using your mouth.
	In high concentrations, the fuel vapours may cause dizziness, lack of concentration and even death in the case of prolonged exposure. If symptoms of dizziness are experienced, seek medical assistance immediately.
PPE	Use adequate watertight clothing, safety glasses and gloves for handling fuel.

Context	Recommendation
TRANSFERRING	When performing refuelling by transferring fuel from a tank, barrel or drum, slowly open the tank's fuel outlet valve. If the tank or drum does not have an outlet valve, use an adequate vacuum pump.
SPILLS	In the case of a fuel spill, clearly mark the area, spread absorbent material, and inform your supervisor. Take the necessary measures to avoid risks until the spilled fuel has been complete removed and the surface is sufficiently dry.
FIRES OR EXPLOSIONS	Do not smoke or cause flames or sparks in refuelling areas. Fuel vapours are explosive.
	Do not store fuel in enclosed areas. Concentrated fuel vapours may cause fires or explosions.

FOR THE OPERATOR

Context	Recommendation
TRAINING	Before using the machine, read this operator's manual thoroughly and pay attention to all the safety plates and decals installed on the machine. When in doubt, check with your supervisor.
	Operation, maintenance and repair of the machine must only be entrusted to duly trained personnel, who have the required tools and know the intervention and safety procedures relating to the machine.
MOBILE TELEPHONE	The use of mobile phones is prohibited whilst operating the machine. If necessary, a hands-free system should be employed.

Context	Recommendation
PPE	Request the necessary personal protection equipment to carry out the work in a safe and comfortable fashion, for example: ▪ Helmet. ▪ Ear protectors. ▪ Warm clothing. ▪ Reflective equipment. ▪ Safety glasses.
	In order to avoid allergic reactions and other hazards affecting the skin, replenishing of fuel or other fluids should be carried out wearing protective gloves.
ENTRAPMENT	Do not operate the machine whilst wearing bracelets, chains, loose clothing, long hair which is not tied back, etc. as they might get caught in the controls, rotating parts, on edges, etc.

DURING OPERATION

Context	Recommendation
WORKING IN ENCLOSED ENVIRONMENTS	Do not operate the machine in areas where there is a risk of fire or explosion, unless it has been prepared for that purpose.
	PARTICULATE FILTER (DPF) Disable the particulate filter (DPF) regeneration during operation in areas where there is a risk of fire or explosion.
	If the work is to be carried out in closed spaces, make sure that the area is well ventilated in order to prevent the excessive build-up of exhaust fumes. Always stop the engine when it is not required.
	Use ventilation systems to remove dust or flammable gases in the work area.
FIRE	The exhaust gas from the muffler is very hot. To prevent a fire, do not expose dry grass, mowed grass, oil or any other combustible materials to the exhaust gas. Keep the engine and muffler clean at all times.
BEFORE OPERATION	Correctly adjust and fasten the seat belt before operating the machine.
	The seat position should be adjusted to the operator's physical build.
	If the operator is not seated with the seat belt fastened, they should not start the machine, nor operate the controls.
DURING OPERATION	Keep the operator's cab clear of all objects or tools that could move about and might obstruct the controls or prevent the implementation of a manoeuvre when required.

Context	Recommendation
DURING OPERATION (continued)	Any anomaly observed whilst using the machine should be reported immediately to a superior or to the maintenance service.
	Keep your hands, feet and, in general, your body inside the operator cab.
	Ensure clear forward visibility. If the load impedes forward vision, drive in reverse exercising caution.
	PARTICULATE FILTER (DPF) Make sure that there are no flammable elements around the muffler.
	PARTICULATE FILTER (DPF) Do not touch the muffler nor become exposed directly to the gases, as there is a risk of severe burns.
	Regularly driving the machine at maximum speed may represent a danger to the operator and to his or her surroundings. In order to avoid accidents, the speed of the machine must be adapted at all times to the working conditions and the land over which it is driven, especially when loaded, as the weight on the rear wheels decreases and they could lose contact with the ground and unexpectedly divert the machine from its path.
	Move the telescopic boom and forks smoothly and slowly.
	Always drive in the travelling position, that is, with the implement/accessory lowered and the implements plate tilted.

DURING OPERATION

Context	Recommendation
DURING OPERATION (continued)	Before reversing the machine, the operator should check that doing so will not put at risk either the machine itself or nearby people or objects.
	When driving in 4-wheel steering mode, check that there is enough space for the machine to turn and move without encountering any obstacle during the operation.
	Check that the resistance of the ground on which you are driving is sufficient for the loaded machine, in particular on access to bridges, embankments, slabbed areas, loading areas, etc.
	Depending on the work to be carried out, the operator must determine the existence of hazards that might require adopting special measures.
	Pay full attention to the work. The safety of both the operator and others depends on the operator's caution.
	Depending on the ground, try to raise as little dust as possible while driving.
	The operator should ensure that there are no persons in the work area of the machine when it is in operation.
	If the machine is used in areas where there are devices that are very sensitive to electromagnetic emissions, make sure that they will not be affected by this.
	The machine is not designed to tow other vehicles. In the inevitable event that this may be necessary, a load should be placed on the forks to ensure traction.

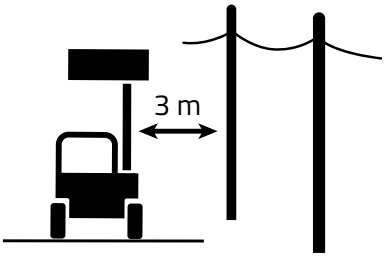
Context	Recommendation
DURING OPERATION (continued)	Do not transport objects wider than the machine's width, particularly if these are unstable.
	Do not allow other persons to stand underneath the forks after these have been lifted, regardless of whether they are carrying a load or not.
	Do not put any part of your body into the telescopic boom, or between the boomand the machine.
	When moving loads inside installations or closed spaces, a minimum series of machine and pedestrian movement indications should be followed. Please contact your supervisor for more information about these indications.
	Plan all movements and operations to prevent unnecessary manoeuvres or those that might be hazardous. Find the suitable circulation paths.
	Do not operate the machine on objects that could make the machine unstable.
	While lifting loads, pay special attention to the height of the ceiling, lamps, etc.
	Do not lift the boom if there are strong winds, especially with a voluminous load or a load that may catch the wind, as this may compromise the machine's stability.
	Do not operate the machine in a storm.
	Under no circumstances drive the machine with the telescopic boom raised, or with the load in an elevated position, as this increases the roll-over risk.
	The risk of lateral roll-over increases when turning at high speeds, regardless of whether the machine is transporting a load or not.

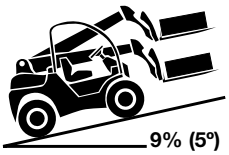
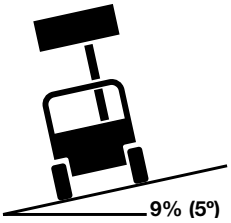
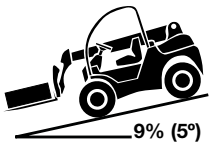
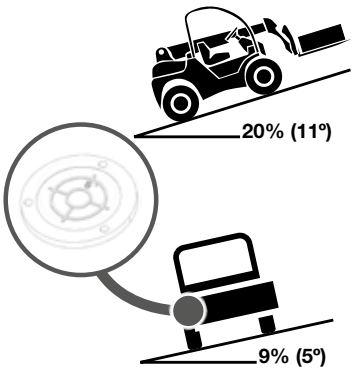
DURING OPERATION

Context	Recommendation
DURING OPERATION (continued)	Harsh acceleration or braking and quick movements of the telescopic boom will reduce the machine's stability. Uneven surfaces and moving loads will also have a negative impact on stability.
	When moving a load requiring different changes in direction, always carry out the manoeuvres on slopes with a gradient below 8.5% (5°), that is, do not exceed the 2nd line on the spirit level. See *"Controls" in Chapter 3*.
	If the machine needs to be temporarily operated on unstable or loose ground, take the necessary measures to prevent accidents.
	Pay special attention when operating on the edges of trenches or ditches, since the ground could slide down and cause the machine to roll over.
	The operator must judge whether the conditions of the terrain allow the machine to be used safely, since it is very dangerous to operate the machine on slopes. Special factors, such as rain, snow, loose gravel or soft ground, might require the operation of the machine to be interrupted.
	Make sure that openings and doors are large enough for the machine to drive through them. The aisle width must be wide enough to ensure there is a distance greater than or equal to one metre on both sides of the machine. This distance must be 1.5 m in the case of aisles with two directions.

Context	Recommendation
DURING OPERATION (continued)	Make sure that the work area is well illuminated to prevent accidents. Do not operate the machine with insufficient lighting.
	The work area must be in the suitable conditions and signposted. The areas on which the machine moves must be free from obstacles and pedestrians.
	The machine operator must be capable of communicating with pedestrians with no obstacles. In very noisy environments, pedestrians must not walk around the places where the machine is operating.
POWER LINES	Danger of electrocution or serious injury when working or parking close to power lines or electrical equipment.
	The machine is not insulated and offers no protection against contact or proximity to electrical current.
	Before raising the boom, always check if there are power lines above.
	When working close to power lines or electrical equipment (even if they are insulated), always maintain the minimum safety distance.

DURING OPERATION

Context	Recommendation
POWER LINES (continued)	Minimum safety distances depending on power line voltage:  From 0 to 50 kV: 3 m. From 50 kV to 200 kV: 5 m. From 200 kV to 350 kV: 6 m. From 350 kV to 500 kV: 8 m. From 500 kV to 750 kV: 11 m. From 750 kV to 1,000 kV: 14 m. Inform the electric company before carrying out work near overhead power lines.

Context	Recommendation
DRIVING AND OPERATION ON SLOPES	Do not operate on slopes which exceed the recommended gradient. Respect the machine's stability limits: Raising the arm while stationary.    Driving, collecting and transporting a load.  

DURING OPERATION

Context	Recommendation
DRIVING AND OPERATION ON SLOPES (continued)	Pay special attention when working on slopes; move slowly and avoid transversal orientation.
	Gradeability does not mean that this slope can be manoeuvred on with absolute safety under any load, terrain, movement or steering conditions.
	When accessing a slope, always place the machine on a straight line. Avoid driving diagonally.
	Loads must be transported on slopes in the ascending direction, with a gradient below 5.2% (3°), that is, not exceeding the 1st line on the spirit level. *See "Controls" in Chapter 3.*
	Machines operating without a load must move in the descending direction.
	For transversal driving, carry out a change in position on flat ground and select the front-wheel steering mode. See *"Controls" in Chapter 3*. Then enter the slope in a straight line.
	Only access slopes where the ground is stable, as the machine may slide (even on low gradients) on grass, brush, damp metal surfaces, frozen ground, snow, etc.
	The machine may skid sideways on stony ground, and may lose stability on ground that is uneven.
	The presence of surface stones and humidity may impair the traction and stability of the machine.

Context	Recommendation
DRIVING AND OPERATION ON SLOPES (continued)	On soft ground, the machine may sink and the wheels become buried. This increases the machine's angle (maximum slope and maximum lateral inclination), which may cause it to tip over.
	If the engine stops during operation on an incline, put the travel selector (FNR) in NEUTRAL and restart the engine.
MACHINE LOADS	The machine must not be used to transport people, other than the operator.
	Do not overload the machine. Carry out manoeuvres gently, especially when changing direction on slippery ground.
	Do not transport unstable, loose or excessively large loads. When this cannot be avoided, take the necessary precautions to prevent accidents.
	When lifting loads, especially when working close to the maximum height of the boom, make sure that the machine is on stable terrain and as horizontal as possible.
	Check the admissible load of accessories before using them. The combination of the machine's weight and the weight of the accessory reduces the nominal load.
	Always ensure that the maximum authorised weight of the machine is not exceeded, nor the maximum weight per axle. See *"Technical specifications table" in Chapter 7*.

DURING OPERATION

Context	Recommendation
MACHINE LOADS (continued)	Do not overload the machine, nor use it to transport inflammable or explosive materials or substances that are detrimental to health.
	Overloading the machine makes it unstable, hard to handle and may cause the tipping over of the vehicle or breakage of some components.
	The handling, stability and braking distance are affected when loading the machine; for this reason, it is important that the weight is correctly loaded and distributed.
	Drive at slow speed and in accordance with the ground conditions when transporting a load.
	Do not exceed the maximum weight and height detailed in the load diagrams.
	Meet the equilibrium conditions between the load and machine to hand loads safely and ensuring these are stable at all times. Please refer to the load charts to check the exact values of the weight that can be transported and the admissible centre of gravity on the machine. See *"Working with loads" in Chapter 4*.
	The equilibrium conditions of the machine-load change when driving the machine and increasing its speed. Therefore, it is necessary to pay full attention to make sure that the centre of gravity is within the specifications of the load chart. See *"Working with loads" in Chapter 4*.

Context	Recommendation
ON PUBLIC ROADS	When the machine is operating on a public road, the rotating beacon should be activated.
	The machine must be in ROAD mode when driving on public roads, where the telescopic boom remains locked in case of an involuntary movement. See *"Controls" in Chapter 3* and *"Driving on public roads" in Chapter 5*.
	When driving on public roads, the current applicable legislation should be adhered to.
	When approaching a crossroads with poor visibility, slow down, sound your horn and move forward slowly, in accordance with the amount of visibility available.
	Give way to any pedestrians you might come across while driving.
	To drive the machine on public roads, all necessary approvals and licenses must be obtained in accordance with the current country legislation where the machine is used, also incorporating the signalling and safety elements included in the legislation.

DURING MAINTENANCE

Context	Recommendation
TRAINING	Maintenance, repair, adjustment, assembly or removal tasks of the machine elements can only be carried out by people who have familiarised themselves with the operator's manual. It is recommended to obtain written confirmation of those individuals stating that they are familiar with it.
	Respect the environment. When changing oil, fluids, tyres, batteries, etc., take the used materials to the corresponding recycling centres.
	Those persons that carry out repairs, assembly, disassembly or adjustment tasks should follow the instructions contained herein or, where applicable, the instructions supplied separately by AUSA.
MACHINE STOPPED	Always keep the machine well maintained. Specialised personnel should be assigned to this task, equipped with the necessary tools and appropriate instructions. Only authorised personnel should carry out maintenance and repair work.
	Except where unavoidable, all interventions on the machine must be performed with the engine turned off, the telescopic boom without a load and at its lowest position, and with all immobilisation and locking devices applied.
	Maintenance, servicing, repair and adjustment tasks on the hydraulic engines should only be carried out with the engine turned off.

Context	Recommendation
MACHINE STOPPED (continued)	Servicing and repairs may only be carried out when the machine is stationary and the engine is turned off.
	If the engine of the machine is on, in an area with inadequate ventilation or in an enclosed area, there is a risk of fume poisoning.
ERGONOMICS	Some operations may be carried out more effectively with the boom raised. Before doing so, precautions must be taken to prevent any involuntary movement, using the devices on the machine specifically designed for this purpose. See *"Immobilising the boom" in Chapter 4*.
IDENTIFICATION PLATES AND DECALS	The plates and decals, instructions and warnings attached to the machine must be kept in a perfectly legible condition.
TOWING THE MACHINE	If the machine needs to be towed, use a tow bar whenever possible or, if none is available, a cable that is strong enough for the job. In all cases, anchor it to the points indicated by AUSA. See *"Towing" in Chapter 6.*
	Perform the manoeuvre at a speed no greater than 2 km/h, for a distance below 1 km. When driving a towed machine, pay attention to the position of your hands on the steering wheel, so that no damage is caused by wheel whiplash movements.

DURING OPERATION

Context	Recommendation
TOWING THE MACHINE (continued)	Ensure that the towing vehicle has sufficient towing and braking capability to be able to perform this operation.
	Before performing the towing operation, follow the instructions given in *"Towing", in Chapter 6*.
TOWING A TOW LOAD	Drive carefully and at a reduced speed; and if the tow load is not equipped with an overrun brake, make sure that the brakes are strong enough for both the machine mass and that of the tow load.
	Towing loads have restrictions when driving on public roads. When in doubt, check with the local authorities. See *"Towing" in Chapter 6*.
HOISTING AND ANCHORING THE MACHINE	During transportation of the machine, the user assumes responsibility for choosing the method of transportation as well as the appropriate anchoring system, ensuring that the equipment used is capable of supporting the weight of the machine being transported, and that all instructions and warnings detailed in this manual are adhered to, in addition to consulting and complying with current transport legislation in force for each country. See *"Transporting on the bed of a vehicle" in Chapter 6*.

Context	Recommendation
HOISTING AND ANCHORING THE MACHINE (continued)	The process of hoisting the machine for manipulation or inspection must be performed at the points indicated in it for this purpose.
	Before performing the hoisting operation, follow the instructions given in *"Loading Using a Crane", in Chapter 6*.
ELECTRICITY	When carrying out any repair work, pay special attention to the battery terminals. These should be protected so that they cannot accidentally be shorted out by a tool, part, etc.
	Before carrying out any electrical welding work on the machine, remove the electric and electronic equipment and disconnect the positive terminal of the battery, in order to avoid possible damage to the installations.
WHEELS	When changing a tyre, make sure that it is fitted with the tread pattern facing the right way.
	When replacing tyres, in addition to ensuring that they are the correct replacements, follow the tyre manufacturer's safety instructions. For safety reasons, split wheels must not be used (those made of two rims bolted together).
BEFORE MAINTENANCE WORK	Before carrying out any work on the engine cooling system, wait 30 minutes for the temperature of the coolant to drop enough so that the coolant reservoir cap can be removed safely.

DURING OPERATION

Context	Recommendation
BEFORE MAINTENANCE WORK (continued)	Fit the safety prop before working on the machine while the cab is lifted. See *"Access for maintenance" in Chapter 8*.
AFTER MAINTENANCE WORK	Once the adjustment or maintenance tasks are completed, place all protection devices in their original position.

Context	Recommendation
HYDRAULICS	Before disconnecting the hydraulic hoses, identify or mark them so that they may be reconnected correctly later.
	Before disconnecting fluid systems, make sure there is no pressure in them and take steps to avoid unexpected spills. See *"Depressurising the hydraulic circuit" in Chapter 4.*
	Never use a naked flame to check fluid levels and leaks.

DANGEROUS AREAS AROUND THE MACHINE

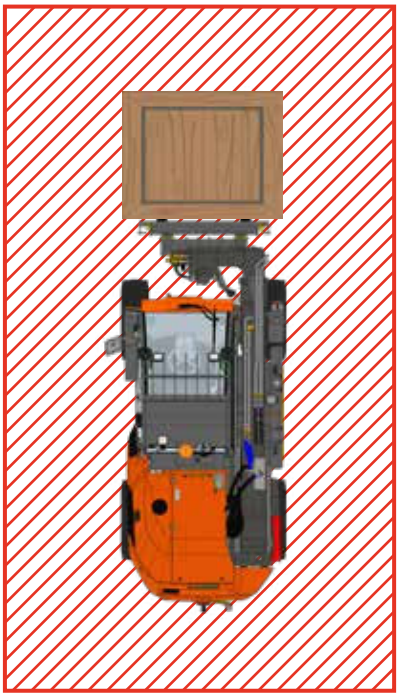
During operation and use, there are dangerous areas around the machine.

The operator must stop the machine and avoid using it if there are people within these dangerous areas, or whenever someone could enter them imminently.

Dangerous areas are determined as follows:

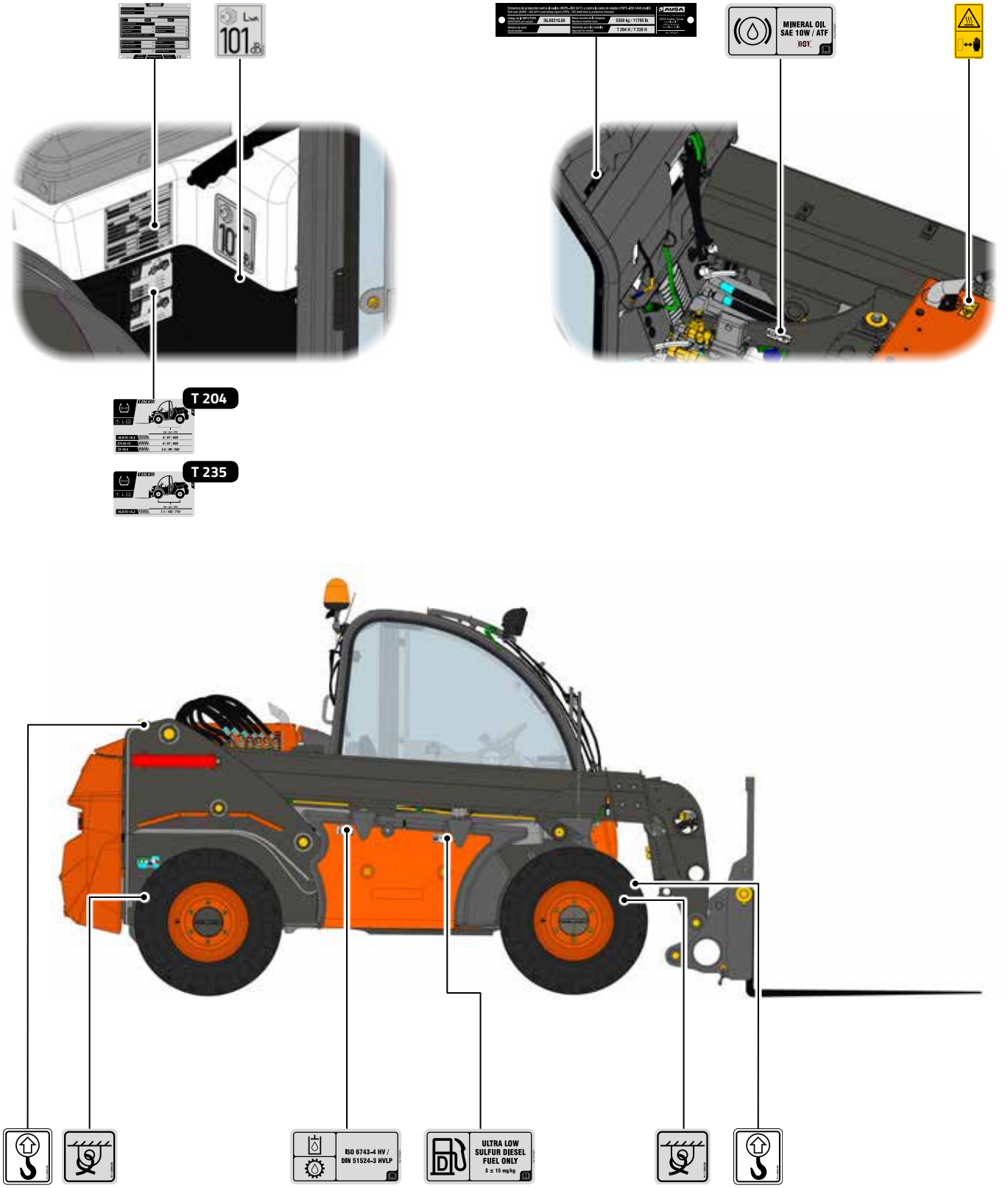
- Front and side of the machine: 2 m.
- Back of the machine: 2 m.
- Load sides: 2 m.

⚠ WARNING It is advisable to warn anyone located around the machine to keep away from dangerous areas during its use.

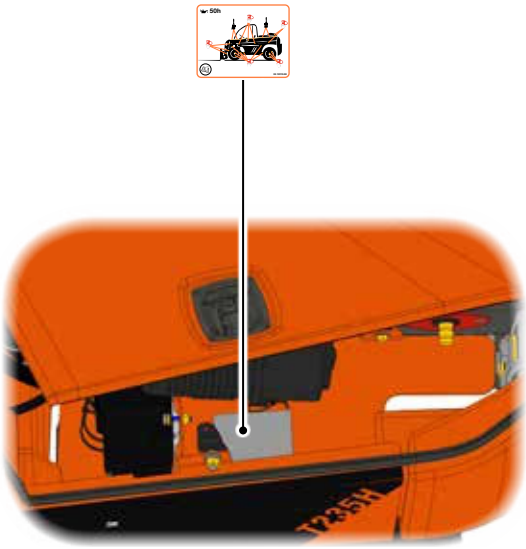


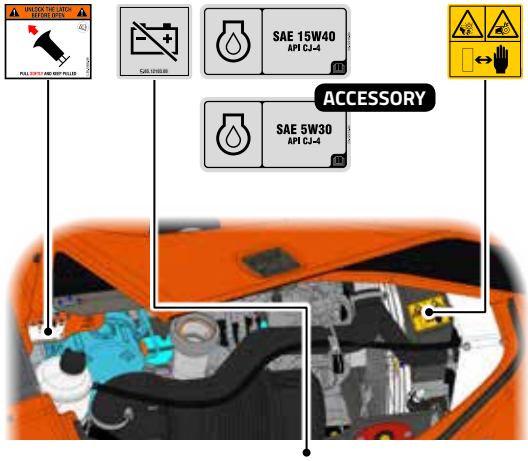
Dangerous areas around the machine.

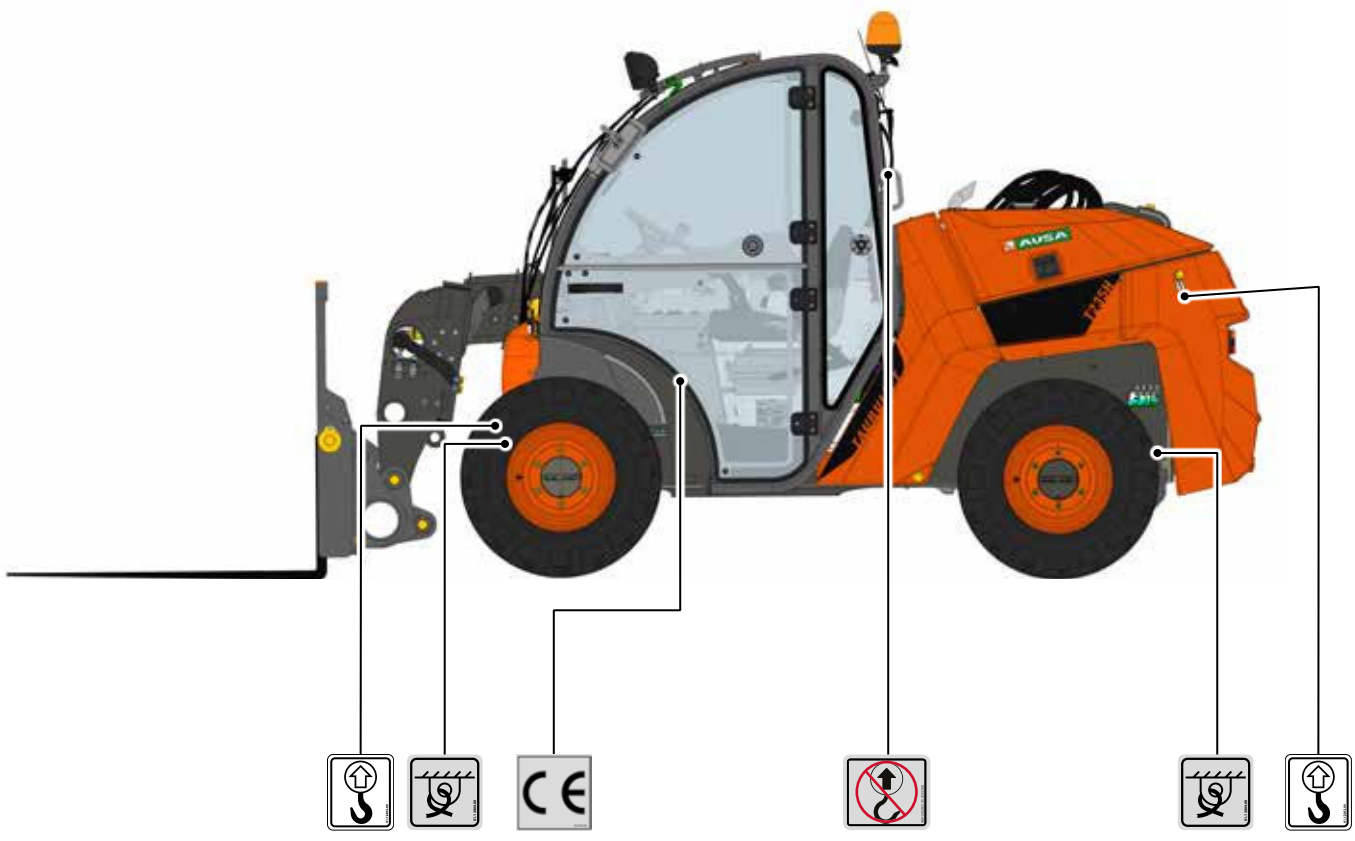
IDENTIFICATION PLATES AND DECALS



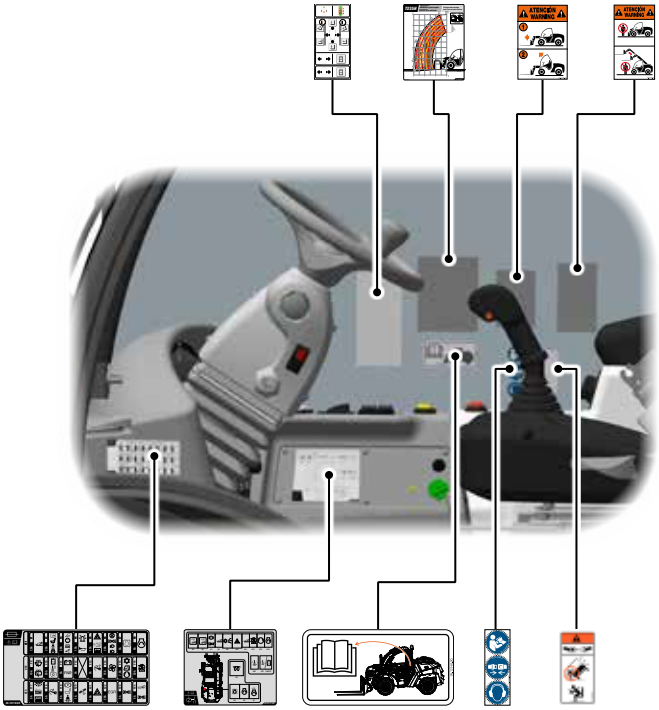
IDENTIFICATION PLATES AND DECALS

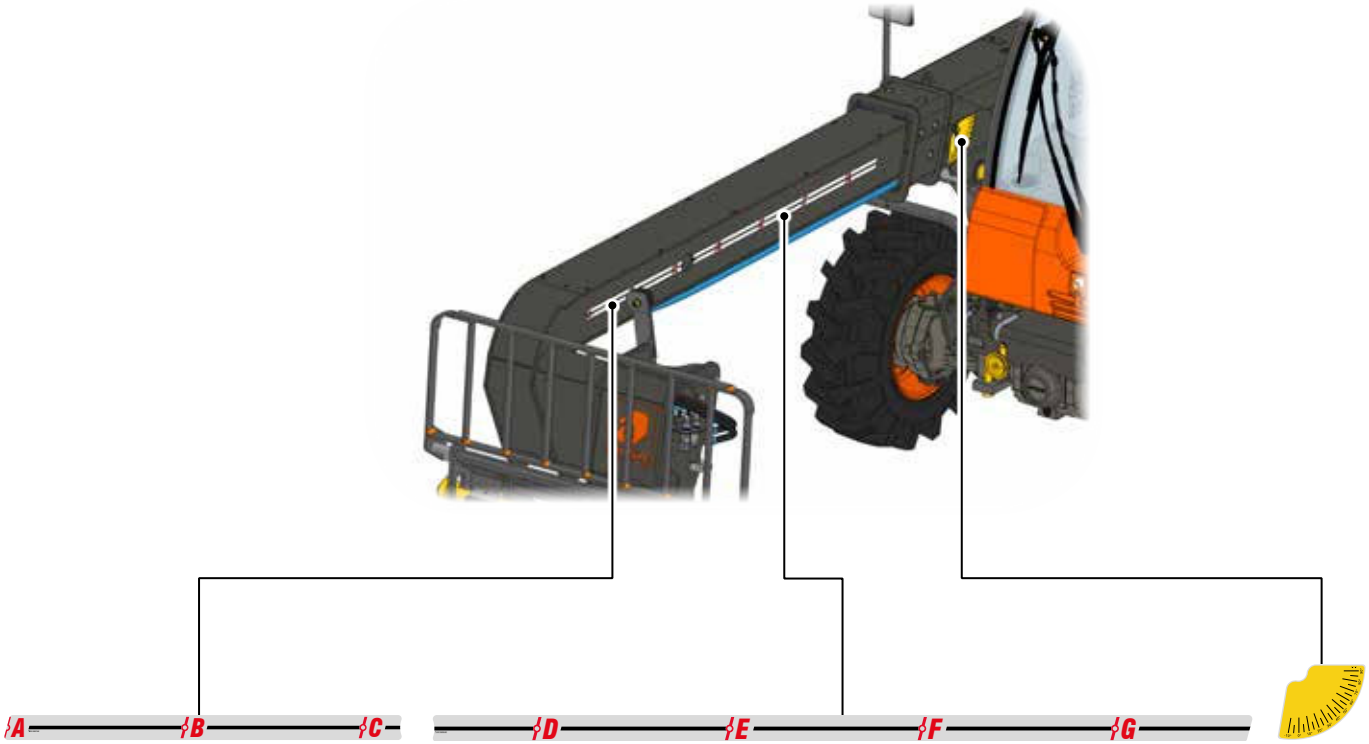






IDENTIFICATION PLATES AND DECALS





IDENTIFICATION PLATES AND DECALS

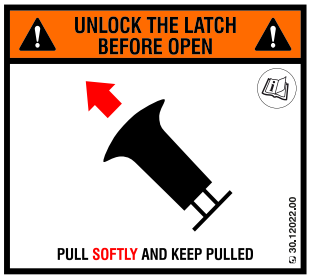
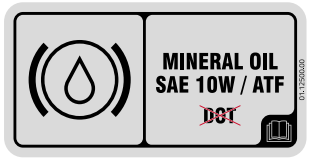
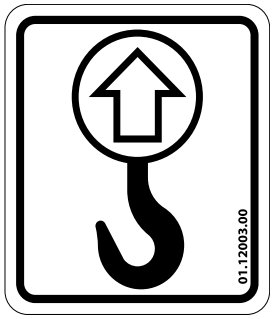
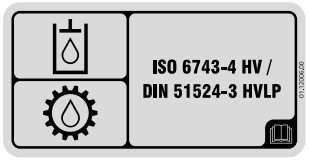
Plate	Description
	Cab opening latch.
	Danger of entrapment.
	Brake fluid type.
	Risk of burns.

Plate	Description
	Hoisting point.
	Fuel type.
	Hydraulic oil type.
	Cab rating plate (ROPS - FOPS).

IDENTIFICATION PLATES AND DECALS

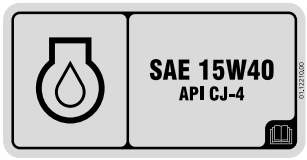
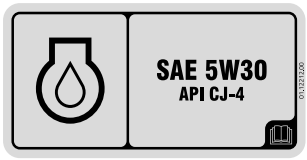
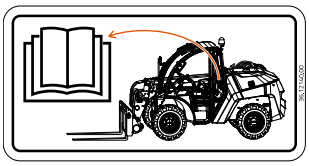
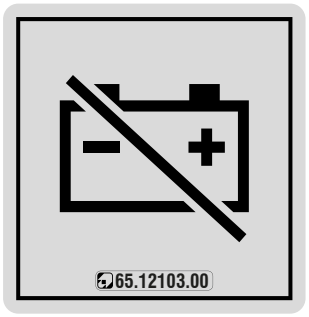
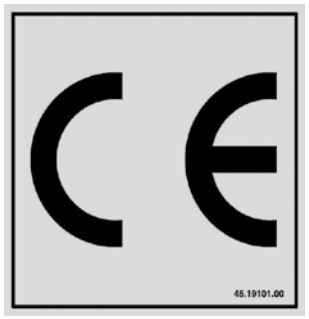
Plate	Description
	Engine oil type.
	Engine oil type. **ACCESSORY**
	Guaranteed sound power.
	Operator information on control panel: ▪ Read and understand the operator's manual. ▪ Fasten your seat belt. ▪ Use of ear protectors.

Plate	Description
	Location of the operator's manual.
	Location of the battery cut-off switch.
	Tie down point.
	CE marking.

IDENTIFICATION PLATES AND DECALS

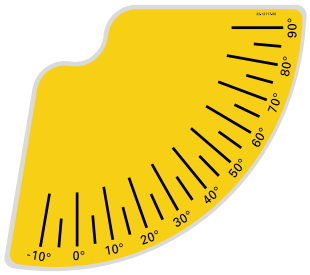
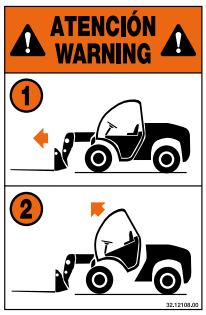
Plate	Description
	Machine specifications plate.
	Telescopic boom “A/B/C” area indicator.
	Telescopic boom “D/E/F/G” area indicator.
	Telescopic boom angle indicator.

Plate	Description
	Do not use as hoisting point.
	Use of the seat belt. Procedure in case of rolling over.
	It is prohibited to pass or to remain under or over the forks.
	Warning, cab opening.

IDENTIFICATION PLATES AND DECALS

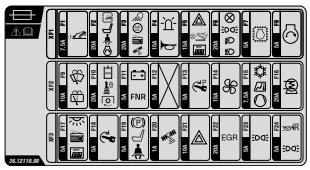
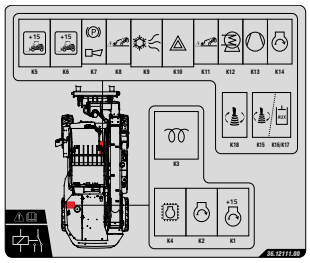
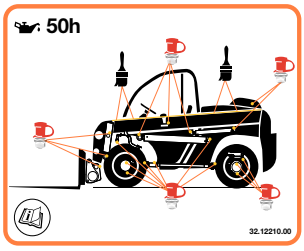
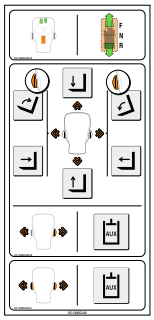
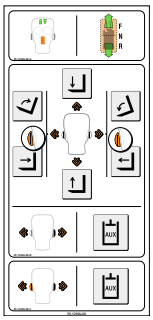
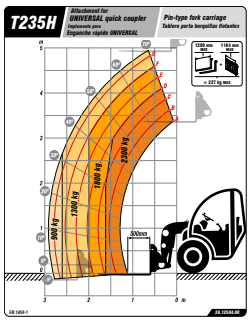
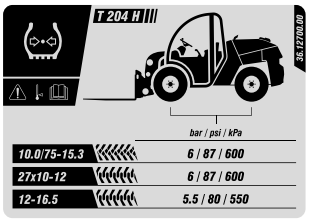
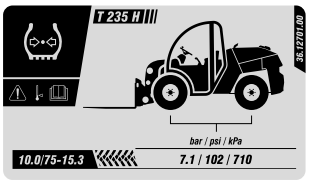
Plate	Description
	Fuse box.
	Relay box.
	Grease points indicator.
	Joystick functionality.

Plate	Description
	Joystick functionality. **INVERSE CONTROLS**
	Load chart.
	Tyre inflation pressure. **T 204**
	Tyre inflation pressure. **T 235**

INTENTIONALLY BLANK PAGE

3

OVERVIEW

CONTENTS INDEX

OVERVIEW

The machine has been designed to transport or handle loads with the help of specific implements or accessories, according to the type of task.

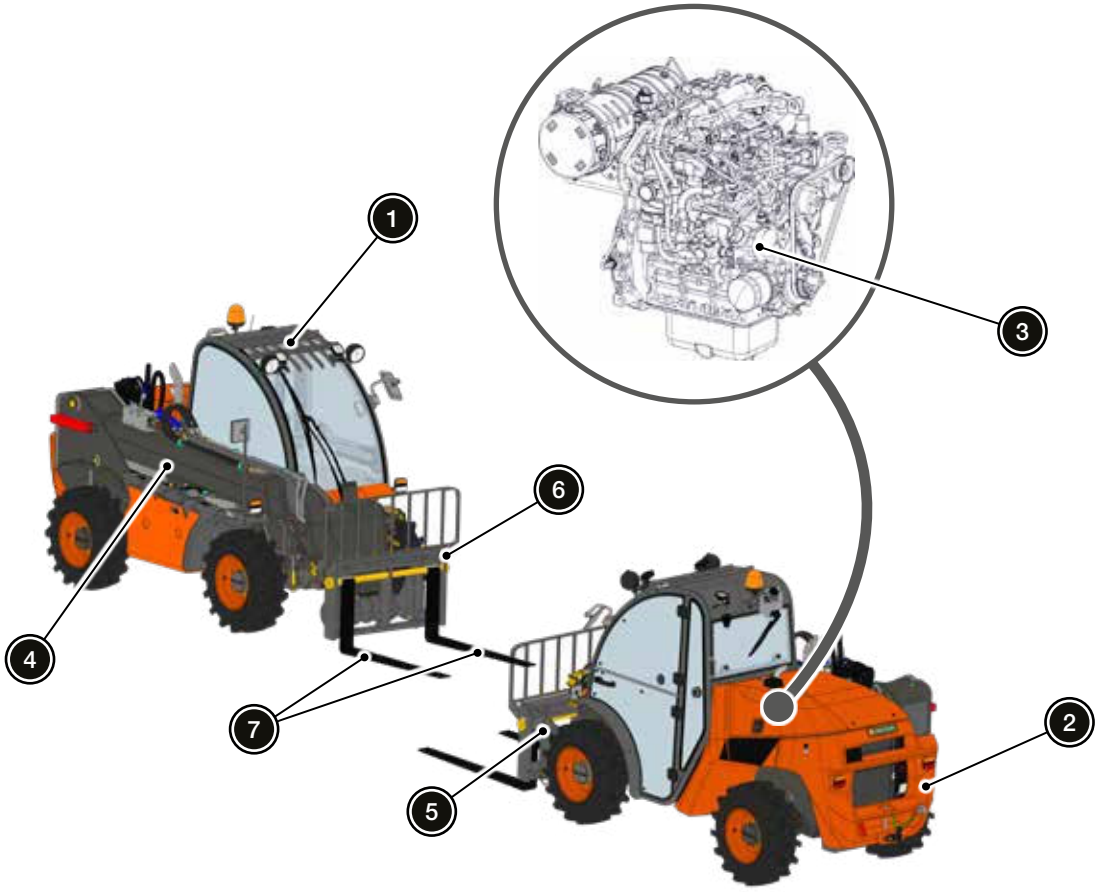
The machine moves thanks to a hydrostatic-transmission system driven by a diesel engine with particulate filter (DPF). **PARTICULATE FILTER (DPF)**

In addition, the machine features 4-wheel steering.

Information: *The cab enclosure is optional.* **ACCESSORY**

Machine Parts

Item	Part
1	Operator cab
2	Counterweight
3	Diesel engine
4	Telescopic boom
5	Implements plate
6	Fork carriage
7	Forks



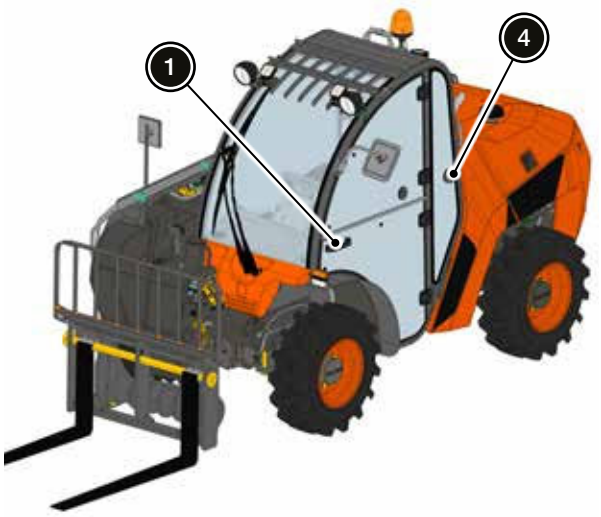
Machine Parts

OPERATOR'S POSITION

Door ACCESSORY

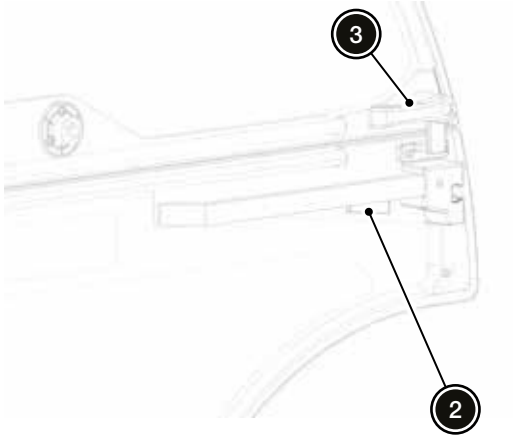
FROM THE OUTSIDE

Use the lever to open the door (1).



FROM THE INSIDE

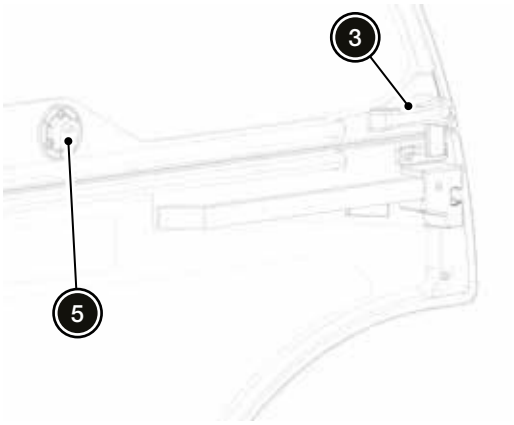
Use the lever to unlock the door (2).



Release the upper window in the door from the bottom of the door using the handle (3) and open it fully until it is secured in the stop (4).

To close the upper window of the door, unlock it by turning the knob (5).

Secure the upper window in the door to the bottom of the door using the handle (3).

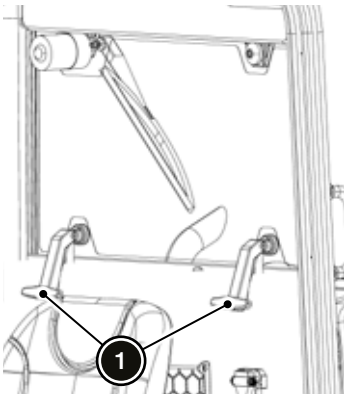


⚠ CAUTION The bottom of the door must remain closed during machine operations.

The upper window of the door must be secured open or closed.

Rear window

- Lift the levers (1) and push to open the rear window.
- Lift the levers and push to close.



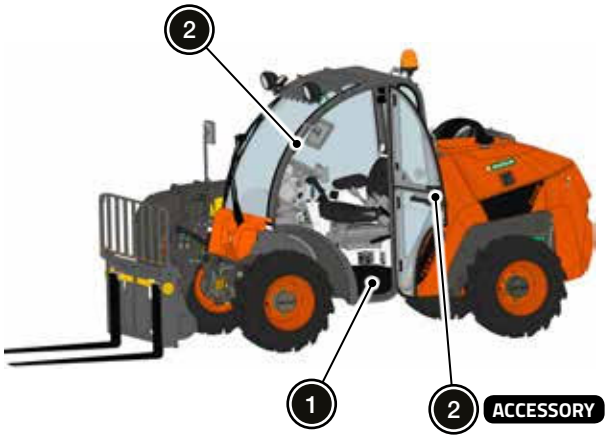
OPERATOR'S POSITION

Getting in and out of the machine

⚠ CAUTION Never grab or jerk the steering wheel to get in and out of the machine. Enter and leave the operator's position without activating any part in the process.

⚠ CAUTION Always check that your hands and the soles of your shoes are clean and dry before getting in/out of the machine.

The machine has a cab floor (1) and handles (2) to help the operator climb in and out of the machine.



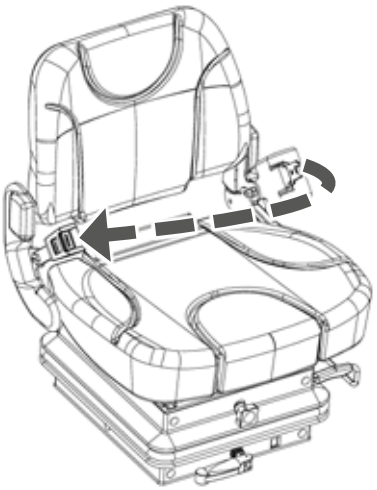
Seat belt

⚠ DANGER The seat belt is an important part of this safety system and the operator must always fasten it before operating the machine.

If the seat belt is not fastened and the machine tips over, the driver may suffer serious injury or death as a result of being crushed.

Information: *If the machine is parked on a steep slope, the seat belt roller may lock.*

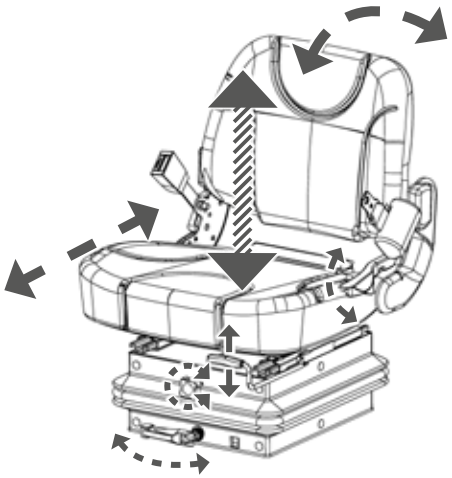
The machine's seat belt is the roll-up type.



Seat belt

OPERATOR'S POSITION

Seat adjustment

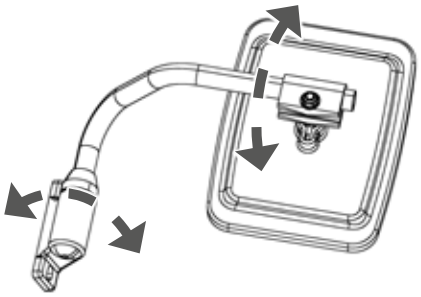


Adjust the height, position and suspension of the seat

Information: *The seat is an essential component, reducing vibrations and impacts to the operator. Consult the official AUSA distributor, if the seat is to be replaced. For additional information on the vibration levels, see "Technical Features Table" in Chapter 7.*

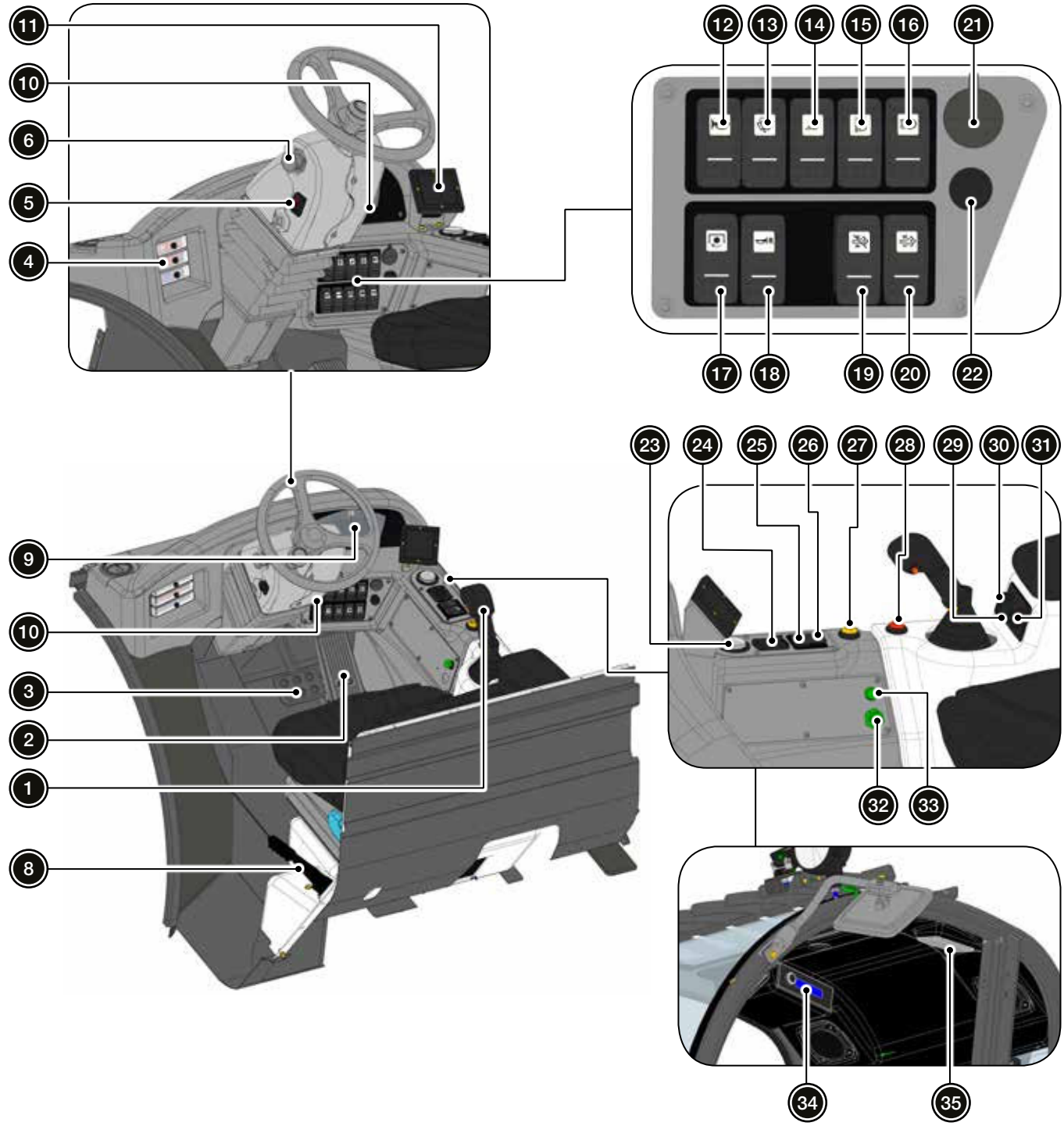
Adjust the rear-view mirrors

NOTICE Objects in rear-view mirrors are closer than they appear.



Adjust the position of the rear-view mirrors

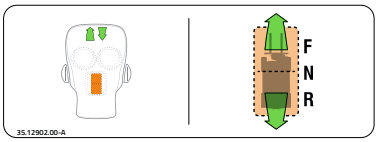
CONTROLS



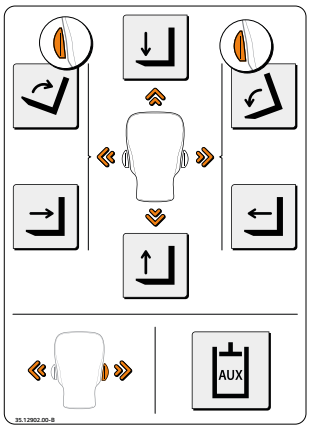
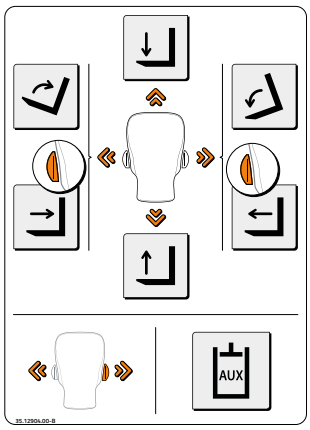
Control panel

Information: *All switches are backlit, so that they can be easily identified in low-light conditions.*

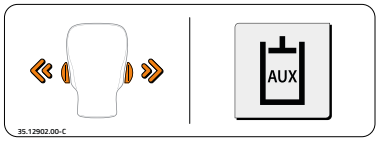
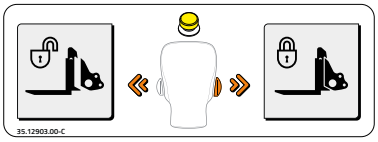
CONTROLS

Item	Part	Figure	Description
1	Joystick		***Information:*** *The operator must be sitting to enable the travel selector (FNR) and the movements of the telescopic boom.* ***Information:*** *These functions are disabled 3 seconds after the operator gets off the seat.* Allows the following machine functions to be controlled: ▪ Travel selector (FNR).  The direction of travel is chosen by a switch located on the lower part of the joystick handle. The selected travel direction is displayed on the upper part of the joystick and the HMI display: ▪ FORWARD: Forward arrow. ▪ NEUTRAL: Arrows off. ▪ REVERSE: Back arrow. ***Information:*** *The arrow indicators on the top part of the joystick handle only indicate the selector position.* *In order to enable the (FNR) travel selector, the following conditions must be met:* ▪ *Parking brake released.* ▪ *Operator seated on the seat.* *Otherwise, the (FNR) travel selector is disabled, regardless of the selection.* ***Information:*** *If the parking brake is engaged, or the operator leaves the machine while a direction of travel is selected, NEUTRAL must be selected to re-enable the travel selector (FNR).* ▪ Change speed. The yellow button on the lower part of the joystick handle alternates between fast and slow speed. ***Information:*** *When the engine is started, the selected default speed is slow.*

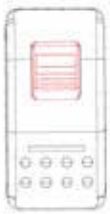
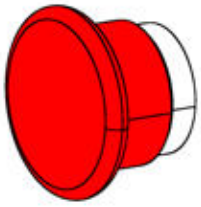
CONTROLS

Item	Part	Figure	Description
1	Joystick (continued)		▪ Boom movements.  ▪ Forward/back: Used to lift and lower the boom. ▪ Left/right: Used to extend and retract the boom . ▪ Left/right + orange push-button on the left: Used to incline the implements plate forward and backwards. ▪ Left/right + orange push-button on the right: Used to activate the 4th auxiliary hydraulic connection. ▪ Boom movements. **INVERSE CONTROLS** ▪ Forward/back: Used to lift and lower the boom. ▪ Left/right: Used to incline the implements plate forward and backwards. ▪ Left/right + orange push-button on the left: Used to extend and retract the boom . ▪ Left/right + orange push-button on the right: Used to activate the 4th auxiliary hydraulic connection. 

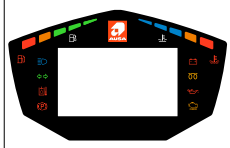
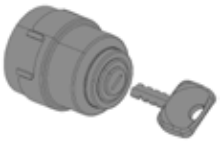
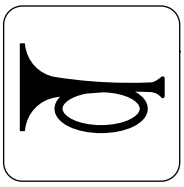
CONTROLS

Item	Part	Figure	Description
1	Joystick (continued)		▪ 5th valve **ACCESSORY** ▪ Left/right + right orange push-button and left orange push-button simultaneously: Used to activate the 5th auxiliary hydraulic connection. ***Information:*** *This function only applies to machines equipped with an implements plate with AUSA manual coupling.*  ▪ 5th bimanual valve. **ACCESSORY** ▪ Left/right + right orange push-button + bimanual push-button (27): Used to activate the 5th auxiliary hydraulic connection. ***Information:*** *This function applies only to machines equipped with a UNIVERSAL and EURO 8 quick hydraulic coupling. See "Installing implements and accessories" in Chapter 4.*  ▪ Diagnostics on the HMI display. Yellow button located on the lower part of the joystick handle. Only for technical assistance service. See *"Diagnostics display" in Chapter 5.* ***Information:*** *The red button located on the lower part of the joystick handle has no function.*
2	Accelerator pedal		Used to increase the revolutions of the diesel engine. Releasing it reduces the revolutions to idle speed.
3	Brake and slow approach pedal		The first section when pressing the pedal functions as an "inching" mode, used to slowly move the machine during approach manoeuvres, regardless of the diesel engine revolutions. When the pedal is fully pressed, the parking brake is applied.

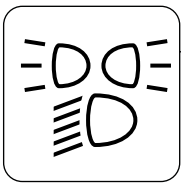
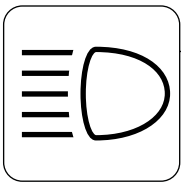
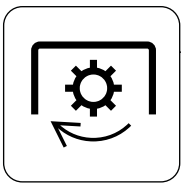
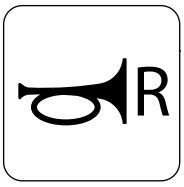
CONTROLS

Item	Part	Figure	Description
4	Fuse box		See *"Fuses" in Chapter 5*.
5	Overload system override push button		Used to momentarily disable the overload system Sliding the safety tab, press and hold the push-button for 60 seconds while operating the joystick as normal. While the button is held, the overload system audible warning will sound intermittently. ***Information:*** *If the push-button is held for more than 60 seconds, the overload system will return to its normal mode of operation. To disable again the overload system, and have an additional 60 seconds, the button must be released, pressed and held again.* **⚠ DANGER** Keep alert during this operation. The only information available to the operator is the dynamic stability of the handler. The activation of this function is the sole responsibility of the operator.
6	Emergency stop push button		Used to stop the diesel engine in case of emergency. ▪ Press to activate. ▪ To deactivate it, rearm the button turning it anticlockwise. ***Information:*** *Before starting the machine again, identify the cause of the emergency stop.*
7	Steering wheel		It is used to steer the machine, turning the wheels on the front axle or on both axles (depending on the steering mode) to the right and left. See *"Steering mode selector"* (24).
8	Parking brake		Allows the parking brake to be applied. **NOTICE** When leaving the machine without applying the parking brake, the warning buzzer is activated on the control panel.

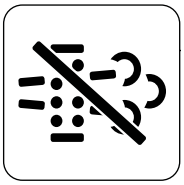
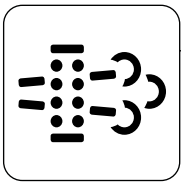
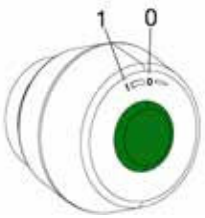
CONTROLS

Item	Part	Figure	Description
9	HMI display		See *"HMI display"*.
10	Ignition switch		It has four positions: ▪ Parking (P). ▪ Stop (0). ▪ Ignition (I). ▪ Start (II). ***Information:*** *The PARKING (P) position has been designed so that the machine can be parked, with the sidelights on and the key removed from the ignition. This is not possible in the STOP (0) position.* *When the PARKING (P) position is selected, the sidelights come on automatically, regardless of the position of the multi-function switch* **ACCESSORY**. *An intermittent audible warning is also activated to remind the operator that the lights are on and the battery might run out.*
11	Overload system screen		Provides a visual and acoustic signal of the stability limitations along the longitudinal plane and in the forward direction of travel, when the machine is stationary and on horizontal, flat, stable and solid terrain. See *"Working with loads" in Chapter 4*.
12	Horn button		When pressed, the horn activates.
13	Front windscreen wiper switch		Used to activate the front windscreen wiper; it has three positions: ▪ Deactivated and return to start. ▪ On. While it is applied, the switch remains on. ▪ Windscreen wiper. The water pump is activated when it is pressed.

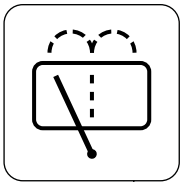
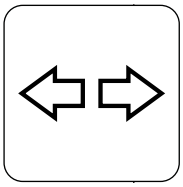
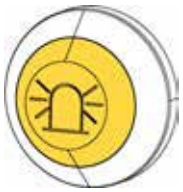
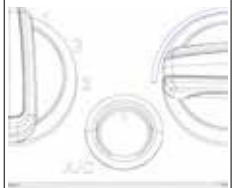
CONTROLS

Item	Part	Figure	Description
14	Work lights switch **ACCESSORY**		Used to apply the work lights, it has two positions: ▪ Off. ▪ On. While they are on, the light remains on. ***Information:*** *The sidelights come on automatically when the work lights are switched on.*
15	Lighting system switch **ACCESSORY**		Used to activate the lights; it has three positions: ▪ Off. ▪ Sidelights. ▪ Low beam. While it is applied, the switch remains on.
16	High beam switch **ACCESSORY**		Comes on when the high beam is on. While it is applied, the switch remains on. ***Information:*** *The headlights must be previously activated using the "Lighting system switch" 15).*
17	Continuous flow switch **ACCESSORY**		Used to work with continuous flow; it has three positions: ▪ On. ▪ Off. ▪ Activated in reverse direction. ***Information:*** *To start the engine, this switch must be in the Off position. See "Starting the Engine" in Chapter 4.*
18	Reverse travel alarm switch **ACCESSORY**		Used to deactivate the reverse travel alarm, only if the lighting system is on; it has two positions: ▪ On. ▪ Off. While the warning is off, the switch remains lit.

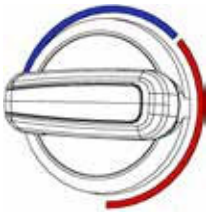
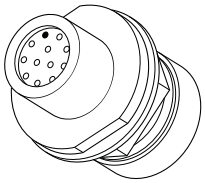
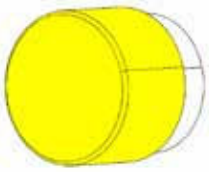
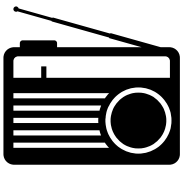
CONTROLS

Item	Part	Figure	Description
19	Switch to disable the automatic regeneration of the particulate filter (DPF) **PARTICULATE FILTER (DPF)**		Used to disable the automatic regeneration of the particulate filter (DPF); it has two positions: ▪ DPF automatic regeneration allowed. ▪ DPF automatic regeneration voluntarily disabled by the operator. While regeneration is disabled, the switch remains on. ***Information:*** *only disable automatic regeneration for as long as required and enable it again as soon as possible.*
20	Push button for particulate filter (DPF) regeneration with the machine stationary **PARTICULATE FILTER (DPF)**		Used to start the particulate filter (DPF) regeneration function with the machine stationary. See *"Regeneration with the machine stationary" in Chapter 5*.
21	12 V Power socket **ACCESSORY**		12 V Power socket. ***Information:*** *Maximum power: 120 W.*
22	WORK/ROAD mode selector		Used to select the operating mode and it has two positions: ▪ Position 0. WORK mode: The selector light is off. The movements of the joystick are unlocked. ▪ Position 1. ROAD mode: The selector light is on. The movements of the joystick are locked.
23	Spirit level		To control the inclination of the machine at all times, so that the operation limits are not exceeded, as specified in *"During operation", in Chapter 2.* ***Information:*** *There are 2 marks for 3rd and 5th separated from each other.*

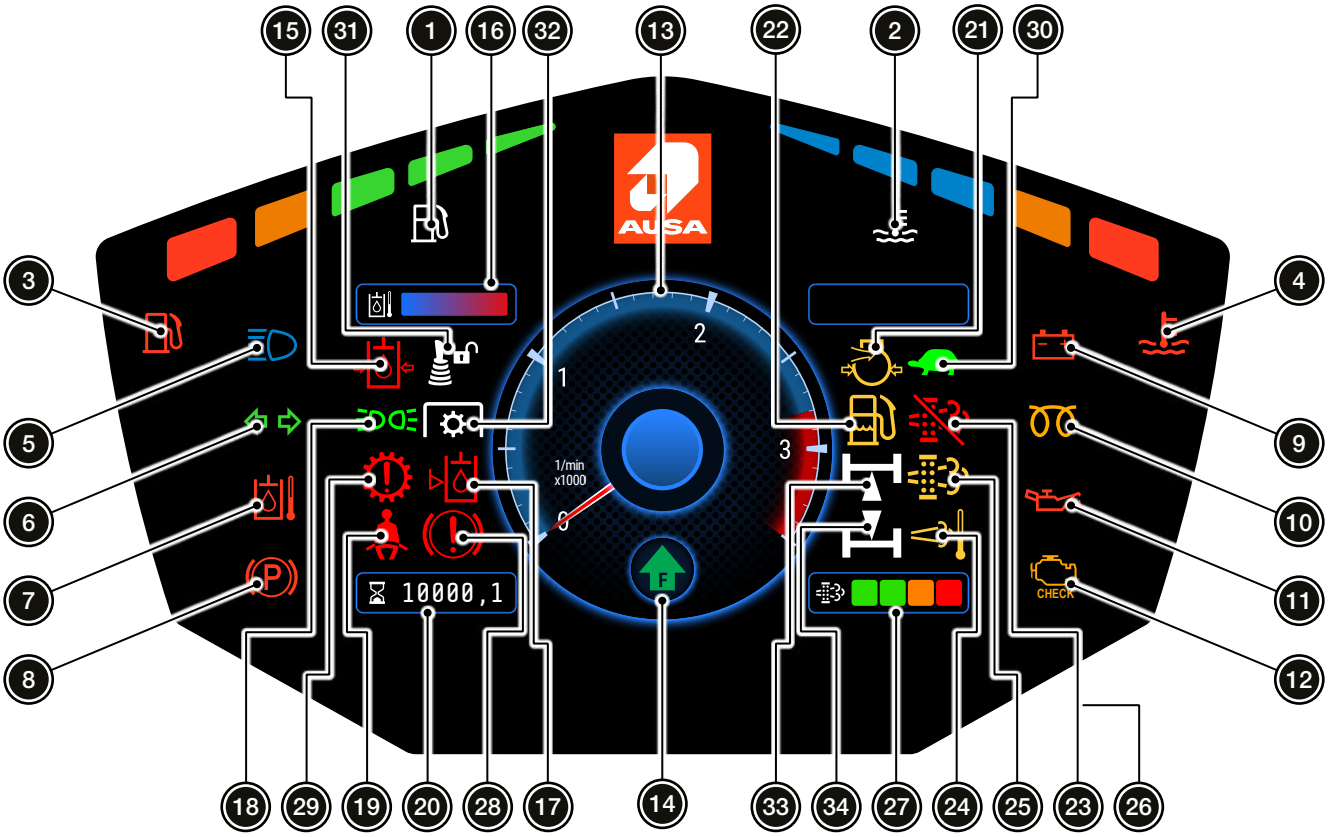
CONTROLS

Item	Part	Figure	Description
24	Steering mode selector		Used to select the steering mode and it has three positions: ▪ Position : 4-wheel steering. ▪ Position : Front-wheel only (ROAD mode). ▪ Position : "Crab mode" steering.
25	Rear windscreen wiper switch **ACCESSORY**		Used to activate the rear windscreen wipers; it has three positions: ▪ Deactivated and return to start. ▪ On. While it is applied, the switch remains on. ▪ Windscreen wiper. The water pump is activated when it is pressed.
26	Turn indicator switch **ACCESSORY**		Used to activate the indicators and it has three positions: ▪ Right-turn indicators. ▪ Off. ▪ Left-turn indicators.
27	Rotating beacon switch		Used to switch the rotating beacon on. While it is applied, the light remains on.
28	Hazard lights switch **ACCESSORY**		Used to switch the hazard lights on (the indicators come on simultaneously). While it is activated, the switch flashes.
29	Air conditioning switch **ACCESSORY**		Used to activate the air-conditioning system; it has two positions: ▪ On. The switch light will remain on while it is active. ▪ Off. ***Information:*** *The "Fan inside the cab selector" (30) must be activated and the "Heating temperature control"(31) must be set to the 'cold' position before the air-conditioning system is activated.*

CONTROLS

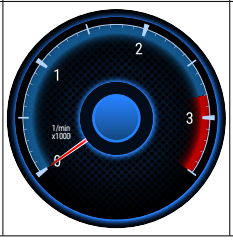
Item	Part	Figure	Description
30	Fan inside the cab selector **ACCESSORY**		Used to control the fan inside the cab; it has four positions: ▪ Fan deactivated. ▪ First fan speed. ▪ Second fan speed. ▪ Third fan speed.
31	Heating temperature control **ACCESSORY**		Used to control the heating / air conditioning temperature; it can be adjusted from cold to hot.
32	Diagnosis connector		For use by the official AUSA distributor.
33	5th bimanual auxiliary hydraulic coupling **ACCESSORY**		Used to lock and unlock the hydraulic implements plate. With the button held, move the joystick left and right, and at the same time press the right orange *"Joystick"* (1) button. ▪ Left: Unlock. ▪ Right: Lock. ***Information:*** *This function only applies to machines equipped with a UNIVERSAL and EURO 8 hydraulic implements plate.*
34	Radio **ACCESSORY**		***Information:*** *For more information about the operation of the device, please refer to the manufacturer's manual supplied with this operator manual.*
35	Courtesy light switch		Used to activate the courtesy light; it has three positions: ▪ Deactivated. ▪ Activated when the doors are opened. **ACCESSORY** ▪ Activated at all times.

HMI display



Item	Part	Figure	Description
1	Fuel level		Shows the fuel level in the tank. If it is too low, the *"Low fuel level"* (3) indicator comes on.
2	Coolant temperature		Shows the coolant temperature. If it is too high, the "*High coolant temperature*" (4) indicator comes on.
3	Low fuel level indicator		Comes on when the fuel level in the tank is too low, and it flashes when it reaches a critical level. Refuel following the indications in section *"Refuelling" in Chapter 4*.
4	High coolant temperature indicator		Comes on when the temperature of the coolant is too high. When the engine is running, there appears a flashing warning icon in the centre of the display, and a continuous audible warning sounds. If this happens, proceed as instructed in *"Engine overheating" in Chapter 5*.
5	High-beam headlights		Comes on when the high beam is on.
6	Indicators		Flashes when the indicators are on. When the flashing is too fast, this indicates that a light is not operating correctly.

CONTROLS

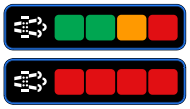
Item	Part	Figure	Description
7	High hydraulic oil temperature		Comes on when the temperature of the hydraulic oil is too high. When the engine is running, there appears a flashing warning icon in the centre of the display, and a continuous audible warning sounds. Clean the radiators following the indications in *"Basic maintenance every 50 hours" in Chapter 8*.
8	Parking brake		Comes on when parking brake is applied. **NOTICE** When leaving the machine without applying the parking brake, the warning buzzer is activated on the control panel.
9	Battery charge		Comes on when the battery is not being charged. Contact AUSA authorised dealer.
10	Cold start system		Comes on when the cold start system is in operation. Start the engine when this indicator has switched off.
11	Diesel engine oil pressure		Comes on with low diesel-engine oil pressure. When the engine is running, there appears a flashing warning icon in the centre of the display, and a continuous audible warning sounds. Stop the engine immediately and refill following the indications in *"Refilling engine oil" in Chapter 8*.
12	Check engine malfunction		Turns on under the following conditions: ▪ When a fault is detected in the engine. ▪ When the particulate filter (DPF) saturation level indicator light is orange or red. Contact AUSA authorised dealer.
13	Tachometer		Shows the engine revs in rpm, and it indicates the safe operational interval.

CONTROLS

Item	Part	Figure	Description
14	Forward NEUTRAL Reverse		Shows the selected direction of travel: ▪ FORWARD: Forward arrow. ▪ NEUTRAL: "N". ▪ REVERSE: Back arrow. ***Information:*** *In order to see the FORWARD/REVERSE arrows on the HMI display, the following conditions must be met:* ▪ *Parking brake released.* ▪ *Operator seated on the seat.* *Otherwise, the icon displayed is the NEUTRAL one, regardless of the selection.* ***Information:*** *If the parking brake is released, or the operator leaves the machine after a direction of travel has been selected, the indicator alternately flashes NEUTRAL and the direction of travel, indicating that NEUTRAL should be selected to activate the travel selector (FNR) again.*
15	Hydraulic oil filter clogged		Comes on when there is a blockage in the hydraulic oil filter. Proceed as described described in *HDR.R.02 - Change the hydraulic oil filter cartridge in the Advanced maintenance manual.*
16	Hydraulic oil temperature		Indicates the temperature of the hydraulic oil. If it is too high, the *"High hydraulic oil temperature"* indicator comes on (7).
17	Low hydraulic oil level		Comes on when the oil level of the hydraulic oil tank is too low. When the engine is running, there appears a flashing warning icon in the centre of the display, and a continuous audible warning sounds. Refill following the indications in *"Refilling hydraulic oil" in Chapter 8.*
18	Sidelights on **ACCESSORY**		Comes on when the sidelights are on.
19	Seat belt		Comes on when the presence of the operator is detected on the seat and the seat belt is not put on. With the travel selector (FNR) set to forward travel or reverse travel without the seat belt on, a flashing warning icon appears in the centre of the display and a continuous audible warning sounds. With the travel selector (FNR) in the NEUTRAL position, the flashing alarm icon does not appear in the centre of the display and the audible warning does not sound.
20	Hours of service		Indicates the period of time the operator has been using the machine.

CONTROLS

Item	Part	Figure	Description
21	Air filter clogged		Comes on when there is a blockage in the air filter. Follow the procedure described in *"Cleaning or changing the air filter" in Chapter 8*.
22	Water in the fuel		Comes on when there is water in the fuel. Drain the water following the indications in *"Emptying water from the fuel prefilter" Chapter 8*.
23	Regeneration disabled **PARTICULATE FILTER (DPF)**		Lights up when a possible automatic regeneration of the particulate filter (DPF) is disabled by the operator.
24	High exhaust gas temperature **PARTICULATE FILTER (DPF)**		Lights up (fixed light) when the exhaust gases have reached a temperature that allows the regeneration of the particulate filter (DPF).
25	Regeneration required with the machine stationary **PARTICULATE FILTER (DPF)**		Lights up (flashing light) when the regeneration of the particulate filter (DPF) needs to be performed with the machine stationary. See *"Regeneration with the machine stationary" in Chapter 5*.
26	Required maintenance **PARTICULATE FILTER (DPF)**		Lights up to indicate that the particulate filter (DPF) requires maintenance (cleaning or replacement). When the engine is running, there appears a flashing warning icon in the centre of the display with the message 'DPF ASH CLEANING REQUIRED', and a continuous audible warning sounds. ***Information:*** *The icon should appear between 3,000 and 6,000 hours of operation (depending on machine usage).* Contact AUSA authorised dealer.

Item	Part	Figure	Description
27	Saturation indicator **PARTICULATE FILTER (DPF)**		Indicates the saturation level of the particulate filter (DPF). ▪ Green icon 1: Normal operation. ▪ Green icon 1: Automatic particulate filter (DPF) regeneration required or with the machine stationary. The "Regeneration required with the machine stationary" indicator light is lit (fixed light). ▪ Green icon 2: Automatic particulate filter (DPF) regeneration required or with the machine stationary. The "Regeneration required with the machine stationary" indicator light is lit (flashing light). Although an automatic regeneration is possible, a regeneration with the machine stationary is recommended as soon as possible. See *"Regeneration with the machine stationary" in Chapter 5*. ▪ Orange icon: Particulate filter (DPF) regeneration with the machine stationary is urgently required. The "Regeneration required with the machine stationary" indicator light (flashing light) and the "Check engine malfunction" indicator light (fixed light) are lit and an audible warning sounds. The "Regeneration with the machine stationary" indicator light also appears on the full screen. The engine's power and revolutions are restricted. See *"Regeneration with the machine stationary" in Chapter 5*. ▪ Red icon: Regeneration of the particulate filter (DPF) using a service tool is required, or it needs to be replaced, depending on its condition. The "Regeneration required with the machine stationary" indicator light is lit (flashing light). In addition, if the "Check engine malfunction" indicator light is lit (fixed light), and an audible warning sounds. The "Regeneration with the machine stationary" indicator light also appears on the full screen. The engine's power and revolutions are restricted. Contact AUSA authorised dealer. ▪ All icons red (flashing light): The particulate filter (DPF) needs cleaning or replacing. The "Regeneration required with the machine stationary" indicator light is lit (flashing light). ***Information:*** *If the "Regeneration required with the machine stationary" indicator light is lit at the yellow and orange levels, this means that the regeneration function of the particulate filter (DPF) has been voluntarily disabled by the operator.* ***Information:*** *Enable it again as soon as possible for regeneration.*

CONTROLS

Item	Part	Figure	Description
28	Brake fluid level		Comes on when the brake fluid level is too low. See *"Refill brake fluid" in Chapter 8*.
29	Transmission failure		Indicates the need for a hydrostatic transmission diagnosis. Contact AUSA authorised dealer.
30	Slow / fast speed		The corresponding icon appears when activating the slow / fast speed using the yellow button located on the lower part of the joystick handle.
31	Joystick lock		Shows the locking status of the boom movements joystick. ▪ In WORK mode and with the operator sitting in the operator's position, it is always unlocked.  ▪ In ROAD mode or with the operator is not sitting in the operator's position, it is always locked.  See "*WORK/ROAD mode selector.*".
32	Continuous flow **ACCESSORY**		Comes on when the continuous flow is activated.
33	Front axle centring **ACCESSORY**		Comes on when the front axle steering is centred (wheels completely straight).
34	Rear axle centring **ACCESSORY**		Comes on when the rear axle steering is centred (wheels completely straight).

4

OPERATING THE MACHINE

CONTENTS INDEX

NOTICE The engine performance depends on the following factors:

- Fuel temperature.
- Air temperature.
- Relative humidity in the air.
- Altitude.

The higher these values, the lower the engine performance, as the power it can supply is reduced.

DAY-TO-DAY OPERATIONS

Start of the Shift

Before starting work with the machine, complete the corresponding maintenance tasks detailed in *Chapter 8*.

During the Shift

Below are a series of recommendations that should be read and understood before operating the machine:

- When continuous and repetitive movements with the load are required, try to cover the shortest possible distances with the loads, provided that the circumstances allow for this.

***Environment: Making** less movements will save on fuel and also cut down on gas emissions.*

- In the case of very intense work, check the instrument panel at regular intervals to ensure that the machine is operating within the normal parameters.

NOTICE It is of vital importance to control the machine's parameters during operation, in particular, when operating at extreme temperatures, since the engine will be operating in very demanding conditions.

Working With Loads

LIFTING A LOAD

The operator should know the weight and centre of gravity of the load to be lifted prior to handling it. If this information is not known, consult the person who has this data available.

⚠ WARNING ROLL-OVER RISK.

The excess load capacity may cause damage and/or the handler to roll over.

In addition, the nominal load capacity of the handler (see *"Technical Specifications Table" in Chapter 7*) must be known to determine the usage values within which a load can be lifted, transported and deposited in a safe way.

BEFORE PICKING UP A LOAD

Observe the terrain conditions. Adapt the movement speed, and reduce the load to be transported, should the conditions require it.

Avoid lifting stacked loads.

Check that the load has sufficient space to pass between adjacent obstacles.

Adjust the separation between the forks, so that they encompass the maximum width of the load or pallet. See "*Adjustment/Movement of the forks*".

Slowly approach a load, and align with the point of straight and levelled forks. Never lift a load with just one fork.

Never operate the manipulator without a correct and legible load chart in the operator cab that corresponds to the machine/accessory/implement combination being used.

DAY-TO-DAY OPERATIONS

TRANSPORTING A LOAD

After picking up a load and supporting it on fork carriage plate or load protector (if installed), Incline the load backwards to place it in the transportation position. Drive in accordance with the instructions described in *"Safety measures" in Chapter 2 and in "Hitches and implements".*

Drive slowly when transporting the load.

LEVELLING THE HANDLER

1. Place the machine in the best position to lift or deposit a load.
2. Apply the parking brake and place the travel selector (FNR) in NEUTRAL.
3. Observe the spirit level to determine if the machine needs to be levelled before lifting the load.
4. Lift the load from the ground.

DEPOSITING A LOAD

Before depositing a load, ensure that:

- The place where it is to be deposited supports the weight of the load safely.
- The place where it is to be deposited is level, both longitudinal and transversally.
- Consult the load chart to determine the telescopic boom extension safety zone. See *"Load chart"*.
- Incline the forks until the load is aligned with the place where it is to be deposited. Then, slowly extend the boom until the load is just above the place where it is to be deposited.
- Lower the boom until the load rests on the place where it is to remain, and the forks are free to be removed.

AFTER DEPOSITING THE LOAD

Once the load has been deposited safely in the place where it will remain, with the forks no longer bearing the load weight, the telescopic boom may be retracted and/or the handler may be moved backwards to extract the forks from beneath the load, as long as the terrain does not change the levelling conditions of the handler.

⚠ WARNING

➤ Never lift the boom/accessory/implement more than 1.2 m from the ground if the handler is not level.
➤ The load combined with the inclination of the machine may cause the handler to roll over.

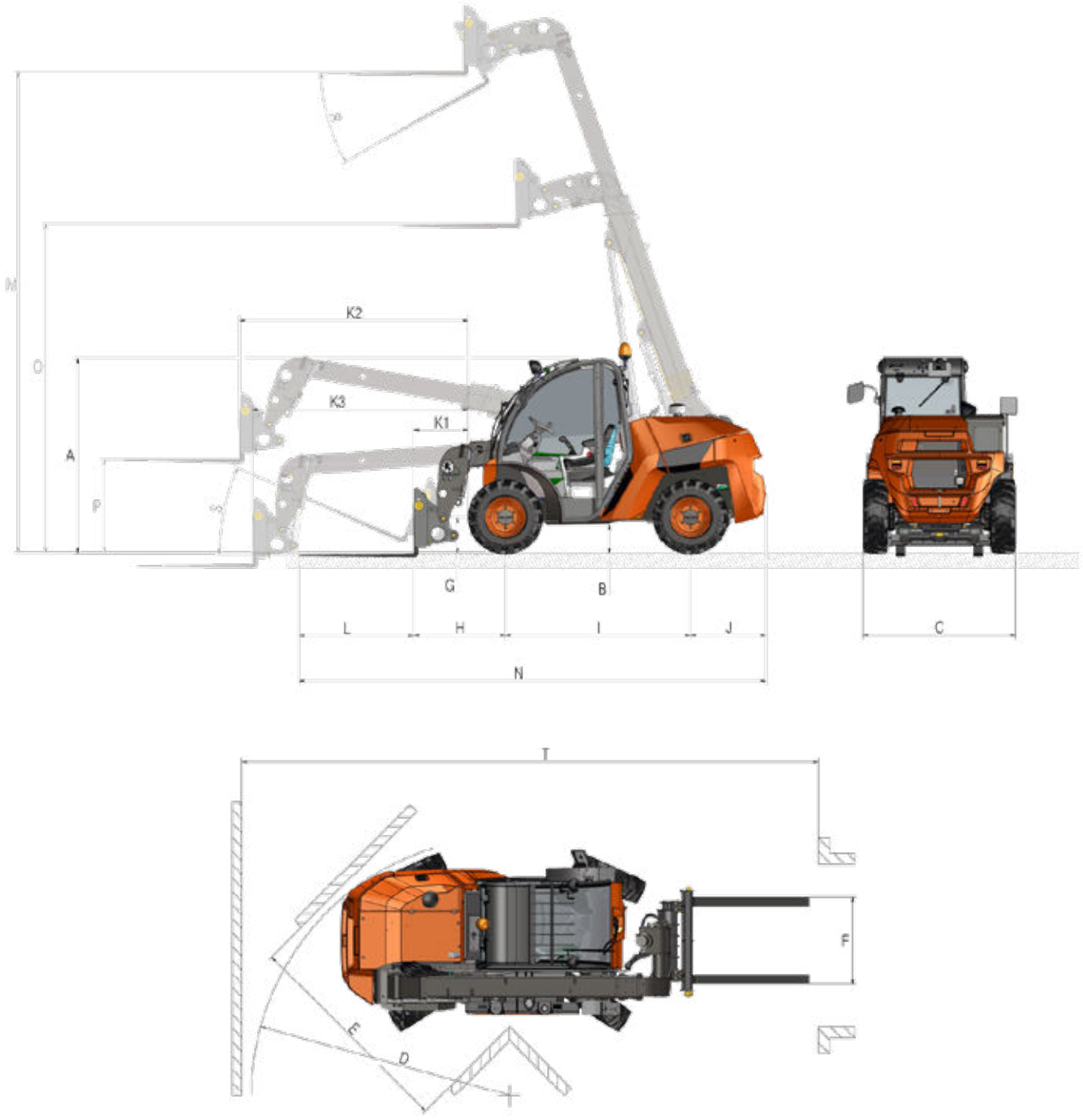
DAY-TO-DAY OPERATIONS

MACHINE DIMENSIONS AND OPERATING RANGES

The machine's dimensions and operating ranges must be taken into account when operating the machine to ensure that all operations are carried out safely.

Level	T 204 Hx4	T 235 Hx4
Dimensions (mm)		
A	2,030	2,030
B	300	300
B1	-	-
B2	-	-
C	1,590	1,590
D	3,042	3,042
E	2,468	2,468
F	905	905
G	375	375
H	820	960
I	1,925	1,925
J	790	790
K	-	-
K1	430	570
K2	2,262	2,350
K3	2,105	2,236
L	1,200	1,200
M	4,300	4,300
N	4,730	4,880
O	3,000	3,409
P	1,068	932
T	5,880	5,880
Dimensions (°)		
R	113	113
S	41	41

DAY-TO-DAY OPERATIONS



Dimensions and operating range of the machine

PARKING AND STOPPING THE ENGINE

⚠ DANGER Park the machine on level ground, both at the end of the shift and when performing maintenance tasks.

At the end of a shift, or simply when parking the machine and stopping the engine, follow these steps:

1. Perform a smooth stop, releasing the throttle pedal and gradually stepping on the brake pedal.

NOTICE If the machine has been operating at full load, keep the engine idling for at least one minute, to cool down.

2. Park the machine in areas specifically designated for this purpose, and not where it prevents people from passing or blocks exits or access to stairways or emergency equipment.
3. Lower the boom until the implements plate or the accessory/implement lowers to the ground.
4. Put all controls in their at-rest position.
5. Put the travel selector (FNR) in the NEUTRAL position.
6. Apply the parking brake.
7. Stop the engine turning the key to the STOP position, and remove the key from the ignition.

NOTICE When leaving the machine, never leave the key in the ignition.

NOTICE When parking the machine and stopping the engine, do not activate the emergency push button.

8. Remove the rotating beacon (1) inside the operator cab and cover the hole with the protective rubber plug (2).

Information: *If the machine is equipped with a closed cab* ACCESSORY*, store the rotating beacon inside the cab.*

9. Lock all mechanisms which impede use of the machine by unauthorised personnel.
10. Disconnect the battery following the procedure described in "*Disconnecting the Battery*".

⚠ DANGER Chocking the wheels with suitable blocks is recommended.

STARTING THE ENGINE

To start the engine, the following conditions must be met:

1. Battery cut-off switch in the ON position. See *"Disconnecting the Battery"*.
2. Emergency stop off.
3. Travel selector (FNR) in the NEUTRAL position.
4. Continuous flow switch in the OFF position. ACCESSORY

⚠ WARNING Before starting the engine, it is important that the travel selector (FNR) is in NEUTRAL.

The engine must not be started if these conditions are not met.

In addition, the operator should be sitting down with the seat belt fastened.

5. Sit down in the operator's position.
6. Insert the key in the ignition and turn it to the IGNITION position.

NOTICE Wait until the cold start system indicator switches off.

7. Turn the key to the START position. The engine will start. Once started, let go of the key, which will return to the IGNITION position.

NOTICE Do not keep the key in the START position for longer than 15 seconds. If the engine does not start, repeat the previous steps, waiting 30 seconds between each attempt.

NOTICE At low temperatures, increase the revs gradually so that the engine achieves a good level of lubrication.

DAY-TO-DAY OPERATIONS

Information: *If the machine has an engine-start safety device* **ACCESSORY**, *the sequence is as follows:*

1. *Sit down in the operator's position.*
2. *Fasten your seat belt.*
3. *Start the engine.*

The operator can turn the key to the IGNITION position at any time and this does not require the sequence to be followed.

Information: *If the machine is equipped with a GPS with an ignition disabler system* **ACCESSORY**, *the GPS should be activated in order to start the engine.*

REFUELLING

⚠ DANGER Refuel the machine in a well-ventilated area and with the engine off.

⚠ DANGER Never smoke during refuelling.

NOTICE The fuel must meet the specifications set forth in *"Fuel" in Chapter 1* and in *"Fuel Specifications" in Chapter 8*.

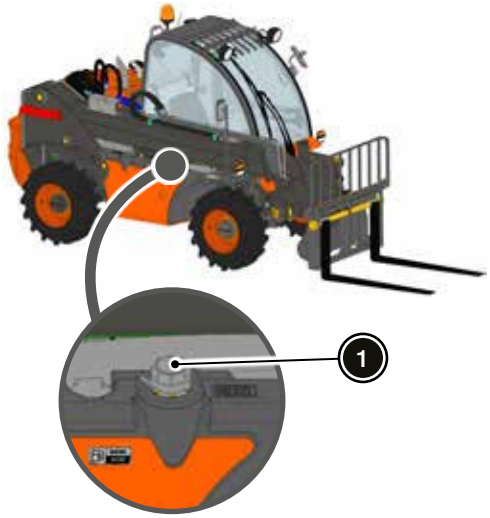
NOTICE Never mix gasoline or alcohol with the fuel.

NOTICE Do not use fuel mixtures with oils, other fuels or unsuitable additives.

1. Bring the machine near the fuel pump so that the hose reaches the tank intake comfortably.
2. Apply the parking brake.
3. Turn off the lights **ACCESSORY** and stop the engine.

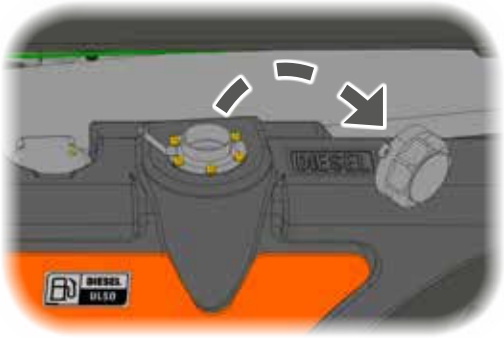
Information: *If the pump has an earth-connection point for vehicles, connect it to a non-insulated metallic point on the machine.*

4. Access the fuel tank.
5. Clean the area near the fuel tank cap (1) to prevent dirt, water or other substance from falling into the tank during the refuelling procedures.



6. Turn the fuel tank cap anticlockwise to remove it, and insert the pump hose.

NOTICE If any internal pressure is perceived (whistling sound heard when removing the fuel tank cap), contact an authorised AUSA dealer before operating the machine.



7. Fill up the tank, ensuring that its maximum capacity is not exceeded.

⚠ DANGER Avoid spilling fuel outside the tank. Immediately clean any spillage, and dry the surface thoroughly.

NOTICE Never refuel before exposing the machine to high temperatures, since there might be fuel spillages through the vent.

8. Once the tank has been filled, remove the pump hose.
9. Place the cap and turn it clockwise until it stops.

SPECIAL OPERATIONS

Running-in the engine

NOTICE Long accelerations at full throttle, maintaining a high cruising speed and overheating are detrimental to the engine during the running-in period.

The machine's engine requires a running-in period of 50 hours before it is able to operate at full load.

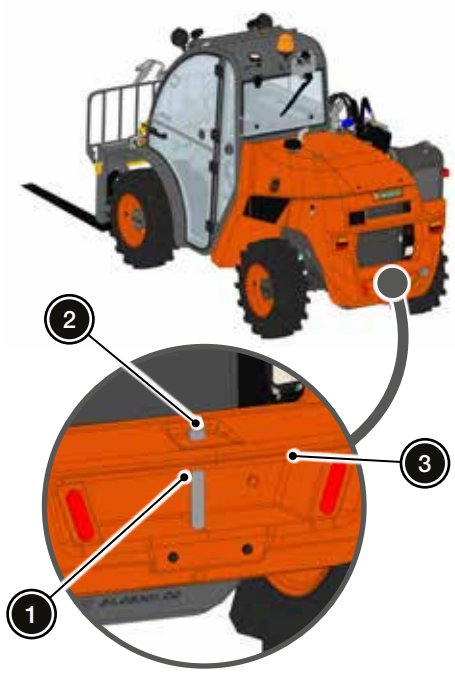
During the running in period, the throttle pedal must not be pressed down more than ¾ during normal operation of the machine.

NOTICE Once the 50 hours or 30 days running-in period is over, it will be necessary to have the machine serviced at an authorised AUSA dealer.

Tow Bars

⚠ WARNING The tow bar on this machine is for towing the machine in case of a breakdown. It is not for towing trailers. See "Towing" *in Chapter 6*.

1. Remove the safety catch (1) and pull the pin (2) of the support attached to the counterweight (3).



2. Place the pin through the support attached to the counterweight and the towing device. Lock the pin with the safety catch.

⚠ WARNING Various type of tow bars may be equipped as accessories. See "*List of machine accessories" in Chapter 9*.

Nonetheless, when towing a trailer on public roads, check and follow the applicable regulation in the country where the machine is used.

SPECIAL OPERATIONS

Transmission bypass function

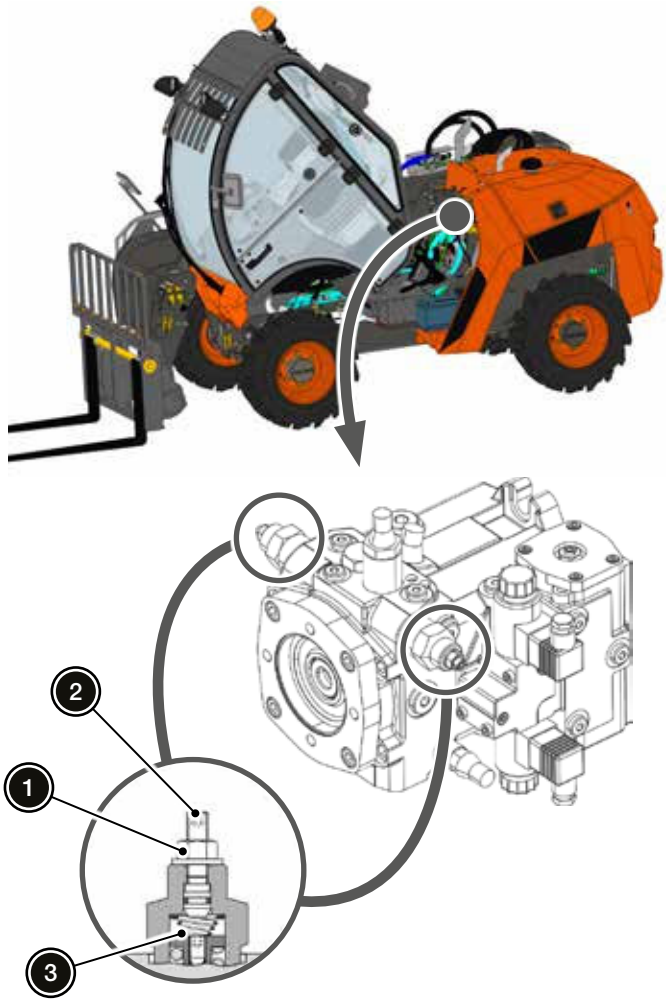
The transmission bypass function is used to enable the machine to be towed, as described in *"Towing" in Chapter 6*.

ACTIVATION

1. Stop the engine.
2. Lift the cab following the instructions in *"Access for maintenance" in Chapter 8*.
3. Access the hydrostatic system pump.
4. With a 13 mm spanner, loosen the nuts (1) on each of the two valves, turning them anticlockwise.
5. Hold the nuts (1) with a 13 mm spanner so they do not turn and, with a 4 mm Allen key, adjust the screws (2) by turning them clockwise until they make contact with the body of the valve (3).

Information: *The contact with the body of the valve (3) is perceived by an increase in resistance when turning the screws (2).*

6. Tighten the screws (2) by two clockwise turns.



DEACTIVATION

NOTICE Deactivate the transmission bypass function immediately after towing.

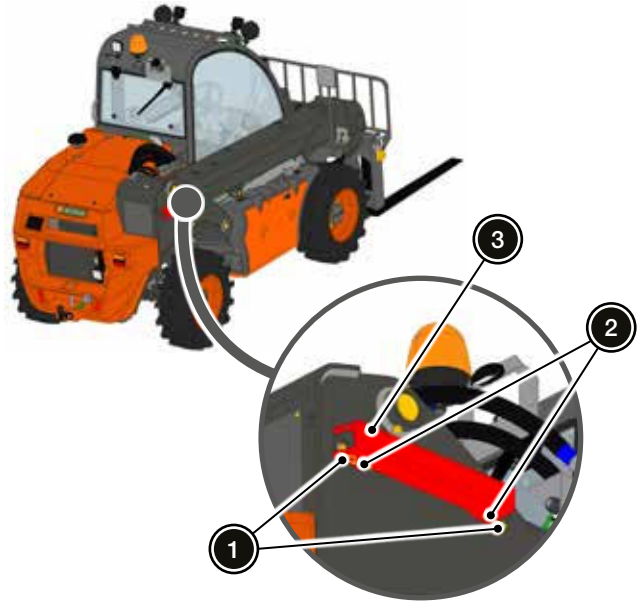
1. Loosen the screws (2) until they are no longer in contact with bodies of the valves. (3)
2. Completely loosen the screws (2), turning them anticlockwise until they reach the body of the valve (3).
3. Tighten the nuts (1) to a torque of **22 Nm**.

SPECIAL OPERATIONS

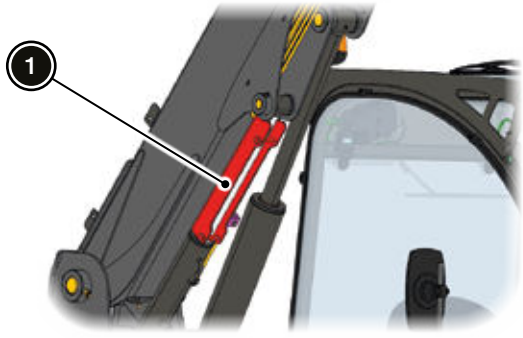
Immobilising the boom

⚠ DANGER Lock the boom when performing maintenance tasks that require the boom to be raised.

1. Remove the safety catches (1) and the pins (2) of the safety prop (3) and remove it from its support.



2. Raise the boom with the joystick following the instructions set forth in *"Controls" in Chapter 3*.
3. Place the safety prop manually in position.
4. Place the pins and the safety catches to attach the safety prop (1) to the cylinder rod.



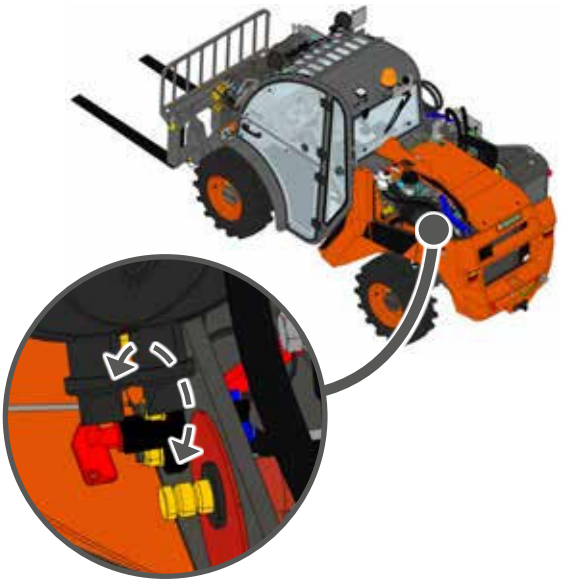
NOTICE Do not lower the boom with the safety prop installed on the cylinder rod.

Disconnecting the battery

NOTICE Before performing any maintenance operation on the electrical system, the battery should be disconnected.

Information: *It is good practice to disconnect the battery if the machine is not going to be used for more than 4 days.*

Open the engine cover and turn the battery cut-off switch.

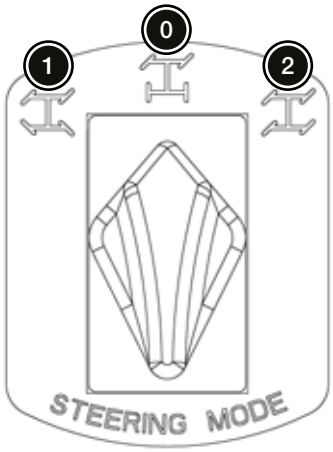


SPECIAL OPERATIONS

Front and rear wheel alignment procedure.

1. Position the machine on flat, horizontal land.
2. Turn the steering mode selector to position "1" for 4-wheel steering.
3. Turn the steering as far as it will go (to the left or the right, indifferently).
4. Turn the steering mode selector to position "0" for front-wheel steering.
5. Turn to the steering as far as it will go (to the same side as in point 3).
6. Turn the steering mode selector back to position "1" for 4-wheel steering.
7. Turn the steering (to the side opposite the one in point 3) until the rear axle turns as far as possible.
8. Turn the steering mode selector back to position "0" for front-wheel steering.
9. Turn the steering (to the same side as in point 7) until the front axle turns as far as possible.
10. Turn the steering mode selector back to position "1" for 4-wheel steering.

End of the procedure.



Steering mode selector

HITCHES AND IMPLEMENTS

Implements approved by AUSA

IMPLEMENTS INSTALLED ON THE FORK CARRIAGE

To determine if an implement is authorised for the specific task on the handler being used, it is necessary to do the following before assembly:

- The type of implement, weight and dimensions must be equal to or less than the information shown on the load chart inside the cab.
- The machine model shown on the load chart must coincide with the handler model being used.
- Hydraulically-driven implements must only be used on machines fitted with auxiliary hydraulic couplings.
- The implements must be clearly identified in accordance with standard EN 1459-1 / ANSI/ITSDF B56.6 / AS 1418.19.

Do not use the implement if any of these conditions are not met, or if the handler cannot be equipped with the corresponding load chart, or the implement is not authorised for the handler model being used. For further information, consult the official AUSA distributor.

HITCHES AND IMPLEMENTS

IMPLEMENTS FITTED ON FORKS NOT APPROVED BY AUSA

Implements fitted on the forks must be used following the criteria and instructions detailed "Implements on the forks".

Implements not supplied by or not approved by AUSA

Do not use implements that are not supplied by or approved by AUSA for the following reasons:

- AUSA is unable to define the type or load limits for implements that have been adapted to be installed on multiple machines, hand-crafted, modified or not approved.
- A handler with increased reach or overloaded may roll over with very little or no warning, causing death or serious injury to the operator or people working nearby.
- AUSA cannot guarantee the load capacity of implements not supplied by or authorised by them for working in a safe manner.

⚠ WARNING Use only authorised implements. Implements that have not been authorised for the exclusive use with the telescopic arm may damage the machine or cause accidents.

Implements on the forks

GENERAL REQUIREMENTS

- Specific implements on the forks have a specific load chart. The type of implement, its weight and dimensions must be equal to or less than the information shown on the load chart inside the cab. Should there not be a load chart available, use the one corresponding to the fork carriage where the implement is installed.
- The implements on the forks must be used on handlers with the standard forks and fork carriage.
- All implements on the forks must be firmly attached using the pins behind the heel of the forks. Do not attach using chains, slings or clamps directly on to the forks, fork carriage, forks bar and/or the boom.
- The forks of the fork carriage should support 2/3 of the load distance for any load applied.
- The weight of the implement, its mounting system and the associated load should be included in the total weight to be raised. Consult the load chart regarding the type of fork carriage installed.
- The load chart for the corresponding fork carriage is established for a load centre at 500 mm, and the combination of the implement's load centre and the weight must correspond to this distance in order to use the existing load chart.
- When the combination of the load centre and implement and/or load exceeds 500 mm, the equivalent load must be calculated in order to use the load chart. See "*Equivalent load on implements fitted on the forks*".

NOTICE When lifting loads, ensure the load centre of gravity (CG) is centred (right/left) between the forks.

HITCHES AND IMPLEMENTS

Implements not approved by AUSA

The user accepts that any responsibility for the use of implements not supplied or approved by AUSA falls completely on the part of the user, including:

- Design.
- Manufacture.
- Quality.
- Structural integrity.
- Maximum load.
- Suitability and operation.
- Overall quality.
- Any operating or safety instruction specific to the implement.
- The identification of the implement in accordance with standard EN 1459-1 / ANSI/ITSDF B56.6 / AS 1418.19.

Ensuring that the implement and its use comply with any other applicable standards.

Equivalent load

LOAD CENTRE MORE THAN 500 MM.

The fork carriages and the load charts supplied by AUSA are valid for a load centre of 500 mm. When the load centre for the application being carried out exceeds 500 mm, the equivalent load should be calculated for use with the fork carriage load chart.

The application of the equivalent load calculation is applicable for all implements plates and fork carriages.

The forks of the fork carriage should support ⅔ of the load distance for any load applied.

CALCULATING THE EQUIVALENT LOAD

The equivalent load is determined by the following calculation. The equivalent load is the value to be applied on the corresponding load chart to determine the appropriate use of the zones.

$$\frac{\text{Weight of the load on the implement (kg)} \times \text{Distance from the CG of the load (mm)}^{(1)}}{500\ \text{mm}} = \text{Equivalent load (kg)}$$

(1) The centre of gravity (CG) distance is measured horizontally from the front face of the fork.

Example:

- *Load weight = 1,225 kg*
- *Load centre of gravity = 750 mm*

The equivalent load in this example would be:

$$\frac{1{,}225 \times 750}{500} = 1{,}837.5\ \text{kg}$$

This value should be checked with the load capacity of the forks to ensure it can support the load evenly. The user should use the load chart of the accessories hitch to determine if the 1,837.5 kg can be handled, and is within the operating safety limits of the machine.

Equivalent load on implements fitted on the forks

CALCULATING THE EQUIVALENT LOAD

The equivalent load is determined by the following calculation. The equivalent load is the value to be applied on the corresponding load chart to determine the appropriate use of the zones.

$$\frac{\text{Implement weight (kg)} \times \text{Distance from the CG of the load (mm)}^{(1)} + \text{Weight of the load on the implement (kg)} \times \text{Distance from the CG of the load (mm)}^{(1)}}{500 \text{ mm}} = \text{Equivalent load (kg)}$$

(1) The centre of gravity (CG) distance is measured horizontally from the front face of the fork.

Example:

- *Implement weight = 250 kg*
- *Implement centre of gravity = 300 mm*
- *Load weight = 1,100 kg*
- *Load centre of gravity = 800 mm*

The equivalent load in this example would be:

250 × 300 = 75,000

1,100 × 800 = 880,000

$$\frac{75{,}000 + 880{,}000}{500} = 1{,}910 \text{ kg}$$

This value should be checked with the load capacity of the forks to ensure it can support the load evenly. The user should use the load chart of the fork carriage to determine if the 1,910 kg can be handled and is within the operating safety limits of the machine.

Implements supplied by AUSA

Implement	Implements plate		
	AUSA Manual	UNIVERSAL hydraulics	EURO 8 hydraulics
1,050 mm fork carriage	X	X	X
1,200 mm fork carriage with side shift and load protector		X	
1,200 mm folding forks	X	X	X
1,200 mm load protector	X	X	
FEM II fork carriage with side shift with 1,200 mm load protector		X	
Light materials hydraulic bucket (width 1,660 mm) (600 litres)	X	X	X
Light materials hydraulic bucket (width 2,050 mm) (700 litres)	X	X	X
4X1 multifunction hydraulic bucket (width 1,620 mm)	X	X	

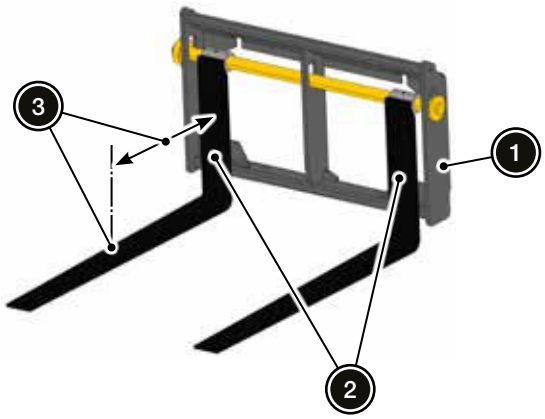
Handler/Implement/Load capacity of the forks

Before fitting an implement, check if it is approved, and whether the handler has the correct load chart. See "*Implements approved by AUSA*".

To determine the maximum load capacity of the handler and the implement, use the lowest of the following load capacities:

- Load capacity marked on the implement identification plate (1).
- The load capacity and load centre are marked on the sides of each fork (2). This nominal value specifies the maximum load capacity that each fork can safely support individually at their maximum permitted load centre (3). The maximum load capacity of the implement is multiplied by the number of forks that the implement has, up to its maximum load capacity.

HITCHES AND IMPLEMENTS



- The maximum load capacity as indicated in the corresponding load chart. See "*Implements supplied by AUSA*".
- When the load capacity of the handler differs from the load capacity of the forks or the implement, the lowest value becomes the total load capacity.

Use the correct load chart to determine the maximum load capacity for the various machine configurations. The lifting and placement of a load may require the use of more than one load chart, depending on the machine configuration.

Except for the forks for handling blocks, all other forks should be used in equal pairs; the forks for handling blocks in equal sets.

⚠ WARNING Do not use an implement if the appropriate AUSA-approved load chart is not present in the machine.

Load chart interpretation

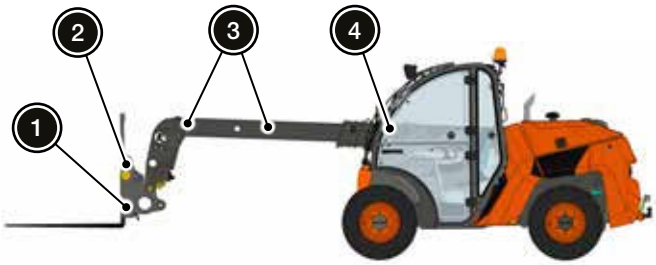
To correctly interpret the load chart, the operator must have the following information:

1. An implement supplied or approved by AUSA. See "*Implements supplied by AUSA*".
2. The corresponding load chart.
3. The weight of the load to be lifted.
4. Information about the place where the load will be deposited:
   - Height where the load is to be placed.
   - Distance from the front wheels of the handler to the place where the load is to be deposited.
5. On the load chart, identify the line corresponding to the height and follow it along up to the corresponding distance line.
6. The number within the load zone where the two lines cross is the maximum load for this height. If the lines cross in a division between load zones, use the lowest number.

The number in the load zone should be equal to or greater than the load weight to be lifted. Determine the load zone limits on the load chart and keep within these limits.

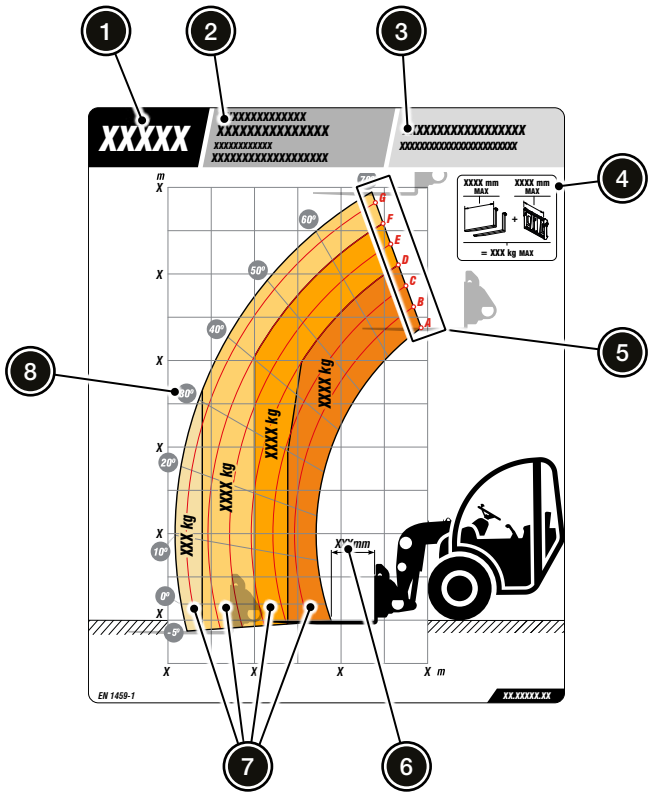
Position of the reference indicators

- Load capacity and load centre marking on the forks (1).
- Implement identification plate (2).
- Boom extension indicator (3).
- Boom angle indicator (4).



Load chart

- Machine model that this load chat is valid for (1).
- Implements plate type (2).
- Fork carriage type (3).
- The type of implement, its weight and dimensions must be equal to or less than the information supplied (4).
- Boom extension indicator (arc) (5).
- The load centre must be equal to or less than the value shown (6).
- The load zones show the maximum weight that can be safely lifted (7).
- Boom angle (8).



⚠ WARNING **Roll-over risk.** All of the capacities shown on the load chart are calculated based on the operation of the machine along the longitudinal plane, and in the direction of travel when the machine is stationary, with the chassis level on horizontal, flat, stable and solid terrain, with the forks positioned uniformly on the fork carriage, the load centred, the tyres and inflation pressure according to what is specified in the *"Tabla de características técnicas" in Chapter 7,* and the handler being in good operational conditions.

Example:

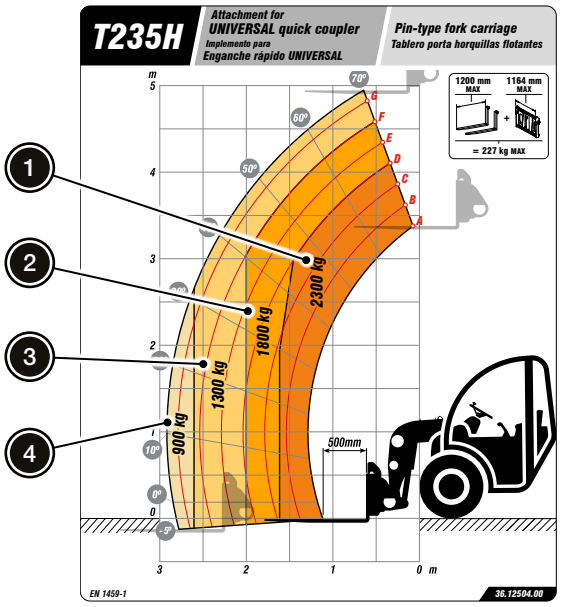
An operator using a model T 235 H handler with fork carriage. The operator is aware of the implement being used, given that:

- *The type, weight, dimensions, and load centre of the implement coincide with the load chart information.*
- *The load chart is clearly marked for the T 235 H model and corresponds with the machine and configuration for which it is to be used.*

Below are various examples and various conditions that the operator may encounter, and whether the load may or may not be lifted.

HITCHES AND IMPLEMENTS

Case	Load weight	Distance	Height	Can it be lifted
1	2,000 kg	0.9 m	4.1 m	No
2	2,275 kg	1.2 m	2.7 m	Yes
3	1,000 kg	2.7 m	1.5 m	No
4	1,680 kg	2 m	1 m	Yes



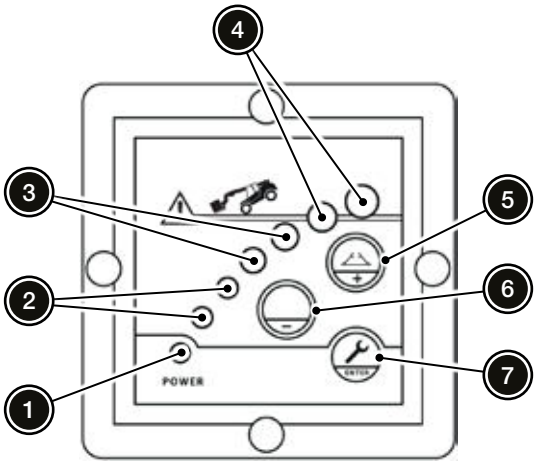
NOTICE This is a sample load chart. Do not use it to operate the machine. Use the one located inside the operator's cab.

Overload system

⚠ WARNING ROLL-OVER RISK.
The overload system only takes into account the stability limitations along the longitudinal plane; pay attention to all the operating parameters. If the operating parameters of the handler are not respected, it may lead to injury and/or cause the machine to roll over.

The overload system provides a visual and acoustic indication of the forward stability limit, when the machine is stationary on solid and level terrain.

- The green LED (1) lights up when the overload system power supply is activated.
- As the forward stability limit is approached, the LEDs light up progressively, green (2), then orange (3), and finally red (4).
- When the orange LEDs light up, the audible warning sounds intermittently.
- If the red LEDs light up, the audible warning sounds continuously.



NOTICE The buttons (5), (6), and (7) are used to calibrate the device. Contact AUSA authorised dealer.

These same buttons are also used to verify the audible warning of the overload system. See *"Checking safety devices" in Chapter 8.*

OPERATING MODES

- Active mode:

  As the handler reaches the forward stability limit and the red LEDs (4) light up, the movements of the telescopic boom are automatically locked, with the exceptions of retracting and raising the boom. Retract the boom to unlock it again.

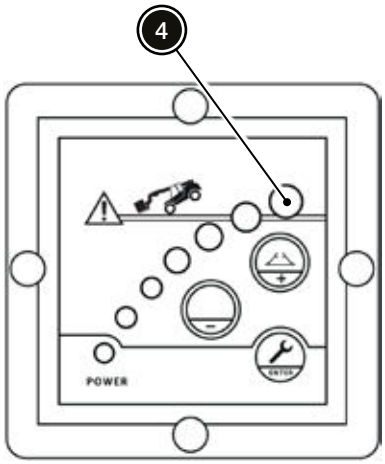
NOTICE When the load limiter automatically locks the movements of the boom, they can be unlocked momentarily. See *"Overload system override" in Chapter 3*.

- Drive in accordance with the requirements set forth in *"Safety Measures" in Chapter 2*.
- Check the overload system at the start of the shift. See *"Basic maintenance every 50 hours" in Chapter 8*.
- When picking up a load, ensure that the back axle is not completely turned in either of the two directions.

⚠ DANGER ROLL-OVER RISK.
If the green, orange, and red LEDs light up, and the audible warning sounds, immediately retract and lower the boom. Determine the cause and correct it prior to continuing the operation.

OVERLOAD SYSTEM DIAGNOSTIC.

During a warning caused by a device malfunction, the last red LED (4) will emit flashes with the error code.



During the warning, the other LEDs and the audible warning will remain deactivated.

Take into account that the device is capable of detecting up to 10 simultaneous warnings. The alarm mode will continue to be active until the all the malfunctions have been resolved.

To check the device, contact your official AUSA distributor.

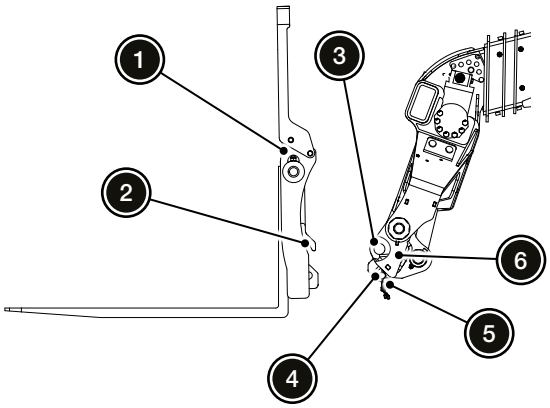
⚠ DANGER ROLL-OVER RISK.
Do not operate the machine if the overload system is malfunctioning.

HITCHES AND IMPLEMENTS

Installing implements and accessories

AUSA MANUAL IMPLEMENTS PLATE

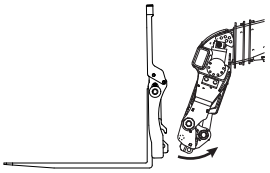
- Implement/accessory (1).
- Interlock housing (2).
- Implements plate interlocking (3).
- Safety lock (4).
- Pin (5).
- Implements plate (6).



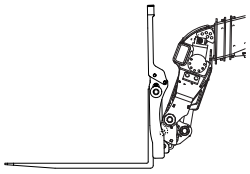
⚠ WARNING **DANGER OF ENTRAPMENT.**
Always ensure that the implement or accessory is duly installed on the implements plate, and locked with the safety lock and pin. If this is not checked, the implement/accessory/load may become unexpectedly uncoupled.

This procedure is expected to be carried out by a single person. Before leaving the cab, carry out what is described in *"Parking and stopping the engine"*.

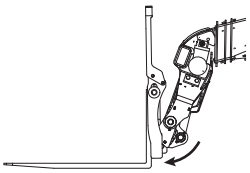
1. Incline the implements plate forwards to have free space. Ensure that the safety catch and the pin are removed.



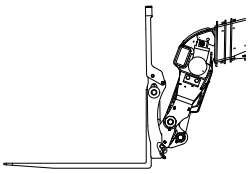
2. Align the interlock with its housing on the implement/accessory. Lift the boom slightly to introduce it into the housing.



3. Incline the implements plate backwards to attach the implement/accessory.



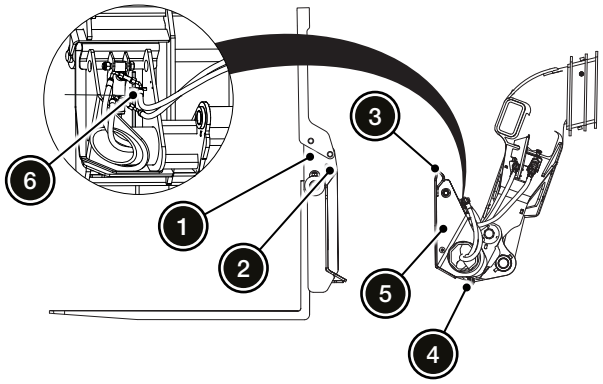
4. Insert the safety lock and the pin.



5. Connect the hydraulic hoses to the auxiliary line **ACCESSORY**. See *"Installing implements and accessories"*.

UNIVERSAL HYDRAULIC IMPLEMENTS PLATE ACCESSORY

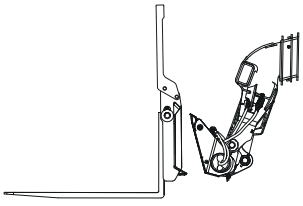
- Implement/accessory (1).
- Interlock housing (2).
- UNIVERSAL implements plate interlock (3).
- Closing latch (4).
- UNIVERSAL hydraulic implements plate (5).
- Verification rods (6).



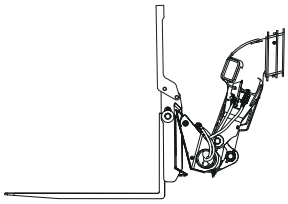
⚠ WARNING DANGER OF ENTRAPMENT.
Always ensure that the implement or accessory is duly installed on the implements plate, and locked with the safety lock and pin. If this is not checked, the implement/accessory/load may become unexpectedly uncoupled.

This procedure is expected to be carried out by a single person.

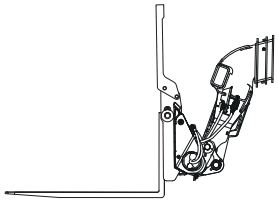
1. Incline the implements plate forwards to have free space.



2. Align the interlock with its housing on the implement/accessory. Lift the boom slightly to introduce it into the housing.

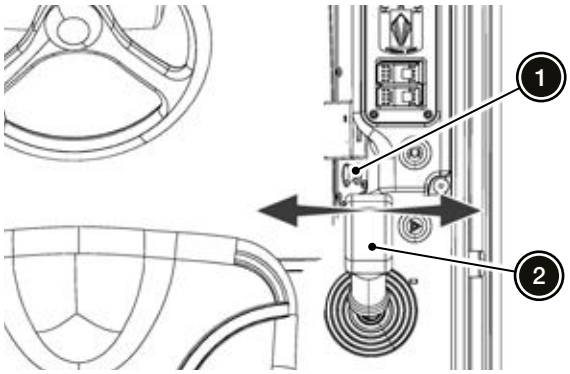


3. Check that the closing latches are unlocked. Incline the implements plate backwards to attach the implement/accessory.



4. Press and hold the button (1) and the orange button (2) and, simultaneously, move the joystick to the right to unlock, or to the left to lock the closing latches (4). At the same time, the verification rods (6) go in and come out of the UNIVERSAL implements plate groove (5).

Information: *From inside the operator cab, visually check that the verification rods (6) have entered the implements plate groove before raising the boom.*

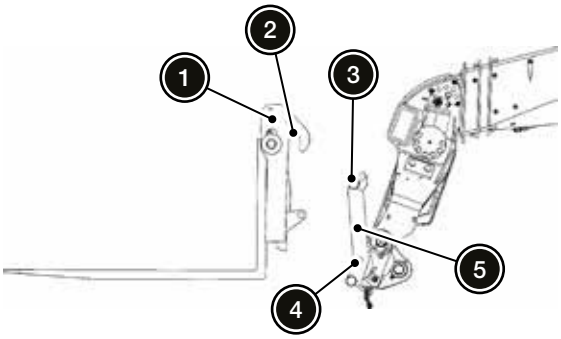


HITCHES AND IMPLEMENTS

5. Raise the boom to eye level, and visually check that the closing latches stick out through the holes of the implement/accessory. If the closing latches do not stick out through the holes, put the implement on the ground again, and return to step 2.
6. Connect the hydraulic hoses to the auxiliary line ACCESSORY. See *"Depressurising the Hydraulic Circuit"*.

EURO 8 HYDRAULIC IMPLEMENTS PLATE ACCESSORY

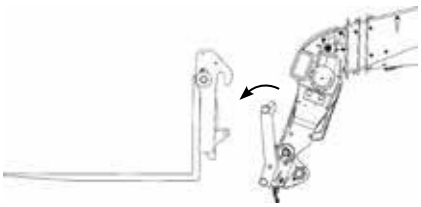
- Implement/accessory (1).
- Interlock housing (2).
- EURO 8 implements plate interlock (3).
- Closing latch (4).
- EURO 8 hydraulic implements plate (5).



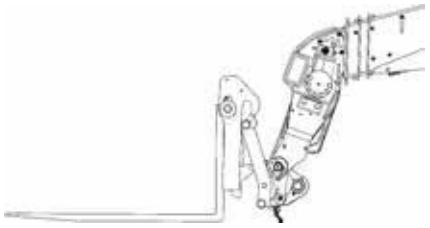
⚠ WARNING DANGER OF ENTRAPMENT.
Always ensure that the implement or accessory is duly installed on the implements plate, and locked with the safety lock and pin. If this is not checked, the implement/accessory/load may become unexpectedly uncoupled.

This procedure is expected to be carried out by a single person.

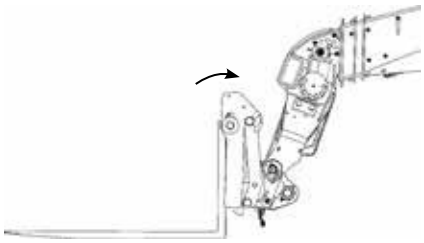
1. Incline the implements plate forwards to have free space.



2. Align the interlock with its housing. Lift the boom slightly to introduce it into the housing.

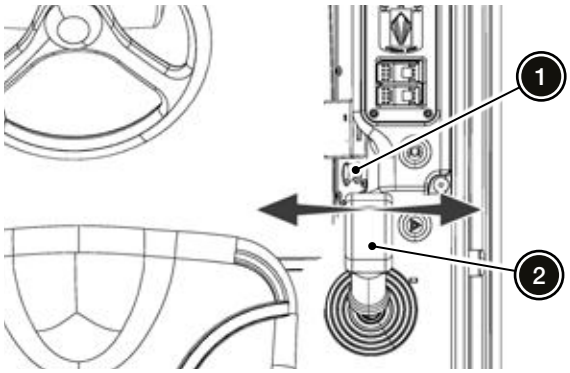


3. Check that the safety locks are unlocked. Incline the implements plate backwards to attach the implement/accessory.



4. Press and hold the button (1) and the orange button (2) and, simultaneously, move the joystick to the right to unlock, or to the left to lock the closing latches (4).

Information: *From inside the operator cab, visually check that the closing latches (4) have entered into the holes of the implement/accessory (1) before raising the boom.*



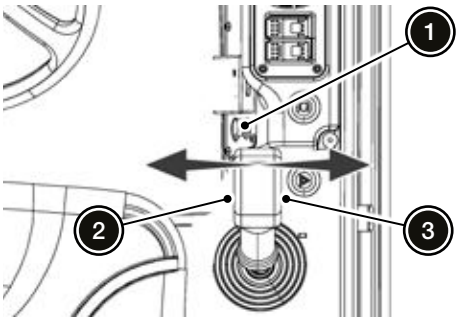
5. Connect the hydraulic hoses to the auxiliary line ACCESSORY. See *"Depressurising the Hydraulic Circuit"*.

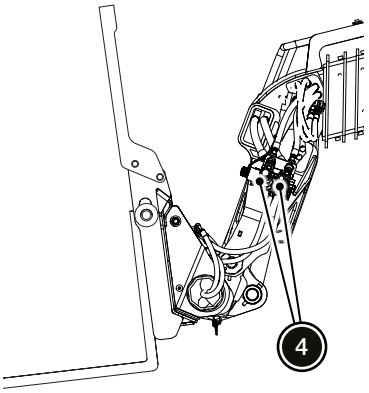
Depressurising the Hydraulic Circuit

1. Install the implement. See *"Installing Implements/ Accessories"*.
2. Carry out what is described in *"Parking and Stopping the Engine"*.
3. Turn the ignition switch to the CONTACT position.

Information: *Do not start the engine.*

4. Press and hold the buttons (1), (2) and (3) and, simultaneously, move the joystick to the right to unlock or to the left (indistinctly) to depressurise the quick auxiliary connections (4) of the hydraulic circuit.





5. Move the joystick forwards and backwards to depressurise all the hydraulic lines of the boom.

Adjust/Movement of the forks

The forks can be positioned in different locations within their fork carriage. Two different methods may be used to reposition them, depending on the fork type.

FLOATING FORKS

Information: *Apply a light coat of lubrication to facilitate the sliding of the forks along the bar.*

To slide the forks:

1. Ensure that the fork carriage is correctly assembled. See *"Installing Implements and Accessories"*, paying attention to the type of implements plate that the machine has equipped.
2. Loosen the locking screws of the forks (if equipped).
3. Raise the implements plate approximately 1.5 m and incline it forward, until the heel of the forks detaches from the fork carriage.
4. Stand at the end of the fork carriage. To slide the fork towards the centre, push by applying force to a point close to its upper hole. To slide the fork towards the ends of the fork carriage, pull applying pressure to the same point. To prevent crushing, do not put your fingers between the fork and the fork carriage.
5. Tighten the locking screws of the forks (if equipped).

To dismantle the forks bar:

1. Support the forks on the ground.
2. Loosen the locking screws of the forks (if equipped).
3. Remove the fixing components of the forks bar, and the forks bar.
4. Reassemble the forks on the bar.
5. Reinstall the forks bar, together with its fixing components.
6. Tighten the locking screws of the forks (if equipped).

HITCHES AND IMPLEMENTS

FEM-TYPE FORKS ACCESSORY

Information: *Apply a light coat of lubrication to facilitate the sliding of the forks along the fork carriage.*

To slide the forks:

1. Ensure that the fork carriage is correctly assembled. See *"Installing Implements and Accessories"*, paying attention to the type of implements plate that the machine has equipped.
2. Lift the fork carriage approximately 0.5 m, and incline the implements plate to its vertical position.
3. Unlock the forks' fixing device.
4. Stand at the end of the fork carriage. To slide the fork towards the centre, push by applying force to the upper part of the fork. To slide the fork towards the ends of the fork carriage, pull applying pressure to the upper part of the fork. To prevent crushing, do not put your fingers between the fork and the fork carriage.
5. Lock the forks' fixing device to attach them in the fork carriage grooves.

To dismantle the forks:

1. Support the forks on the ground.
2. Loosen and remove the locking screw of the lower central space in the fork carriage.
3. Slide the forks towards the centre of the fork carriage.
4. Dismantle the forks through the lower central space in the fork carriage.
5. Position the forks on top of some blocks placed at the same height as the fork carriage, to facilitate disassembly.
6. Install the forks again.
7. Install and tighten the locking screw of the lower central space in the fork carriage.

Implement/accessory operations.

NOTICE **DAMAGE TO THE EQUIPMENT.**

Some implements/accessories could come into contact with the front wheels, or with other machine components when the boom is retracted and the implement tilts. The misuse of an implement/accessory may damage the implement or other machine components.

NOTICE **DAMAGE TO THE EQUIPMENT.**

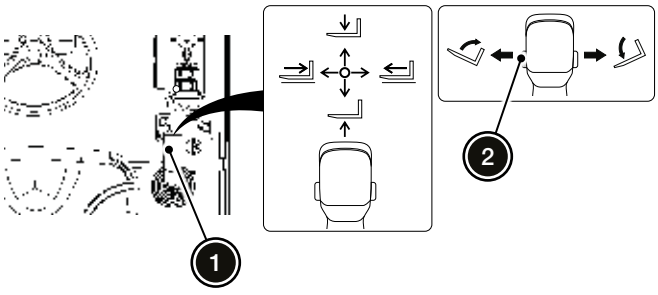
When lifting a load, avoid contact between the load and the machine components. Maintain a separation between the components of the boom and the load. Damage may be caused to the implement/accessory or the machine components if a separation is not maintained.

Information: *Use the load chart corresponding to the implement/accessory.*

Information: *To determine the maximum load, see* "Handler/Implement/load capacity of the forks".

FORK CARRIAGE

- The joystick (1) controls the raising/lowering and the extension/retraction of the boom.
- The orange button (2) enables the fork inclination process.

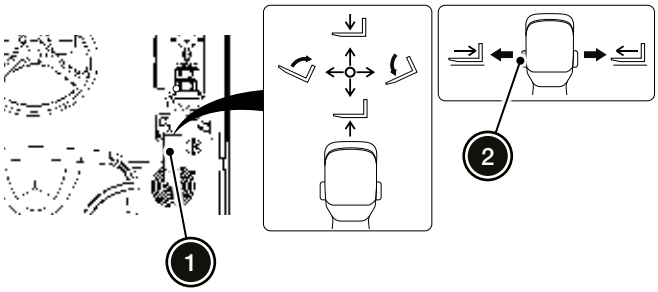


- While pressing and holding the button, move the joystick towards the left to incline it backwards.
- While pressing and holding the button, move the joystick towards the right to incline it forwards.

- Precautions to avoid damaging the implement:
  - Do not use the forks to push material. Excessive force when pushing may damage the forks or other machine components.
  - Do not try to lift loads that are attached to other objects.

FORK CARRIAGE INVERSE CONTROLS

- The joystick (1) controls the raising/lowering and the inclination of the forks.
- The orange button (2) enables the extension/retraction of the boom.

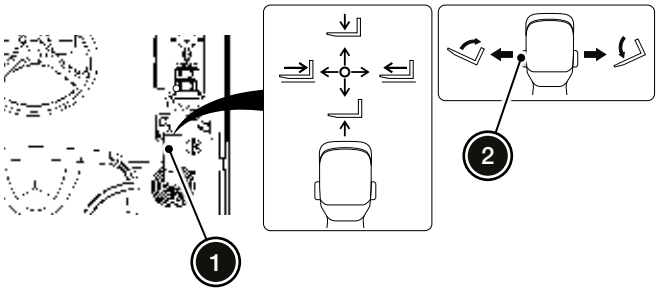


  - Move the joystick towards the left to retract the boom.
  - Move the joystick towards the right to extend the boom.

- Precautions to avoid damaging the implement:
  - Do not use the forks to push material. Excessive force when pushing may damage the forks or other machine components.
  - Do not try to lift loads that are attached to other objects.

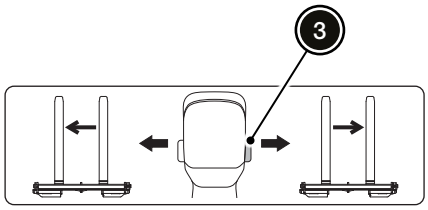
FORK CARRIAGE WITH SIDE SHIFT ACCESSORY

- The joystick (1) controls the raising/lowering and the extension/retraction of the boom.
- The orange button (2) enables the fork inclination process.



  - While pressing and holding the button, move the joystick towards the left to incline it backwards.
  - While pressing and holding the button, move the joystick towards the right to incline it forwards.

- The orange button (3) enables side shift of the fork carriage.



HITCHES AND IMPLEMENTS

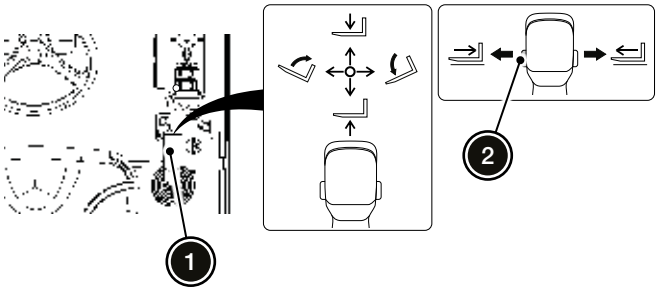
- While pressing and holding the button, move the joystick towards the right to move the forks towards the right.
- While pressing and holding the button, move the joystick towards the left to move the forks towards the left.

⚠ WARNING RISK OF CRUSHING.
Do not use the side shift function to push or pull objects or loads. Doing so may cause objects or the load to fall over.

- Precautions to avoid damaging the implement:
  - Do not use the forks to push material. Excessive force when pushing may damage the forks or other machine components.
  - Do not try to lift loads that are attached to other objects.

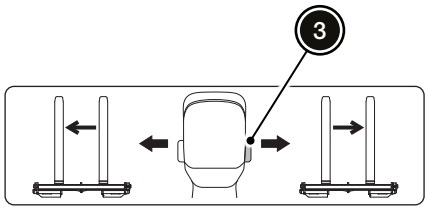
FORK CARRIAGE WITH SIDE SHIFT ACCESSORY
INVERSE CONTROLS

- The joystick (1) controls the raising/lowering and the inclination of the forks.
- The orange button (2) enables the extension/retraction of the boom.



- Move the joystick towards the left to retract the boom.
- Move the joystick towards the right to extend the boom.

- The orange button (3) enables side shift of the fork carriage.



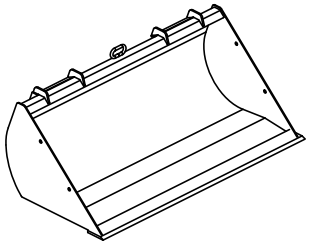
- While pressing and holding the button, move the joystick towards the right to move the forks towards the right.
- While pressing and holding the button, move the joystick towards the left to move the forks towards the left.

⚠ WARNING RISK OF CRUSHING.
Do not use the side shift function to push or pull objects or loads. Doing so may cause objects or the load to fall over.

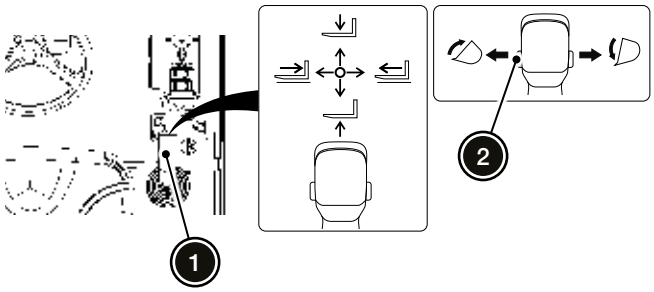
- Precautions to avoid damaging the implement:
  - Do not use the forks to push material. Excessive force when pushing may damage the forks or other machine components.
  - Do not try to lift loads that are attached to other objects.

HITCHES AND IMPLEMENTS

HYDRAULIC BUCKET ACCESSORY



- The joystick (1) controls the raising/lowering and the extension/retraction of the boom.
- The orange button (2) enables the inclination of the hydraulic bucket.

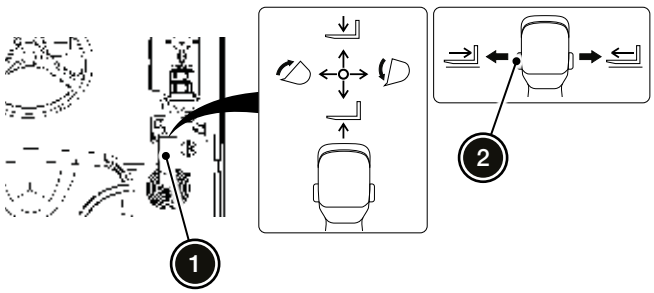


  - While pressing and holding the button, move the joystick towards the left to incline it backwards.
  - While pressing and holding the button, move the joystick towards the right to incline it forwards.
- Operation:
  - Raise or lower the boom until it reaches the appropriate height to load the material from the pile.
  - Align the handler with the bucket, and drive slowly and smoothly until the bucket is introduced into the pile.
  - Drive in accordance with the requirements set forth in *"Safety Measures" in Chapter 2*.
  - Incline the bucket forward to empty the load.
- Precautions to avoid damaging the implement:
  - Except when lifting or emptying a load, the boom must be completely retracted for all the operations with the bucket.
  - Do not deposit the load in the corners of the bucket. Distribute the material uniformly in the bucket. The load chart for the buckets are calculated assuming the load is evenly distributed.
  - Do not use the bucket to compact material. Excessive force when compacting may damage the bucket or other machine components.
  - Do not try to load hard or frozen materials. This may cause serious damage to the implements plate or other machine components.
  - Do not use the bucket for "back dragging".
  - Do not use the bucket to push material. Excessive force when pushing may damage the implements plate or other machine components.
  - Do not try to lift loads that are attached to other objects. This may cause serious damage to the implements plate or other machine components.

HITCHES AND IMPLEMENTS

HYDRAULIC BUCKET ACCESSORY INVERSE CONTROLS

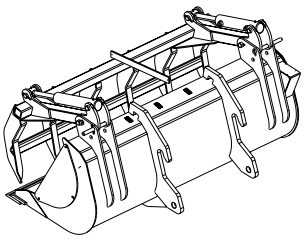
- The joystick (1) controls the raising/lowering and the inclination of the hydraulic bucket.
- The orange button (2) enables the extension/retraction of the boom.



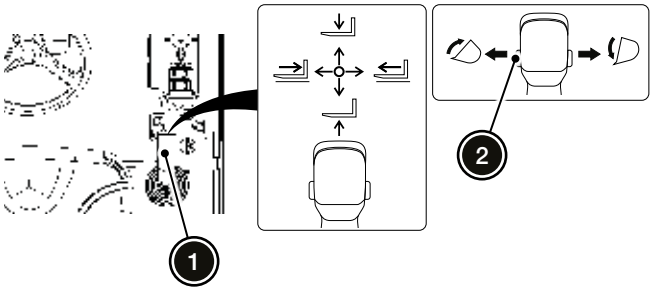
  - Move the joystick towards the left to retract the boom.
  - Move the joystick towards the right to extend the boom.
- Operation:
  - Raise or lower the boom until it reaches the appropriate height to load the material from the pile.
  - Align the handler with the bucket, and drive slowly and smoothly until the bucket is introduced into the pile.
  - Drive in accordance with the requirements set forth in *"Safety Measures" in Chapter 2*.
  - Incline the bucket forward to empty the load.
- Precautions to avoid damaging the implement:
  - Except when lifting or emptying a load, the boom must be completely retracted for all the operations with the bucket.
  - Do not deposit the load in the corners of the bucket. Distribute the material uniformly in the bucket. The load chart for the buckets are calculated assuming the load is evenly distributed.
  - Do not use the bucket to compact material. Excessive force when compacting may damage the bucket or other machine components.
  - Do not try to load hard or frozen materials. This may cause serious damage to the implements plate or other machine components.
  - Do not use the bucket for "back dragging".
  - Do not use the bucket to push material. Excessive force when pushing may damage the implements plate or other machine components.
  - Do not try to lift loads that are attached to other objects. This may cause serious damage to the implements plate or other machine components.

HITCHES AND IMPLEMENTS

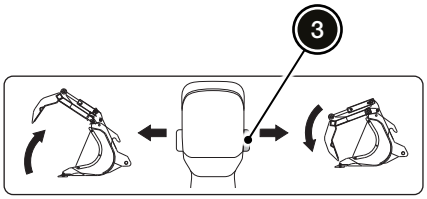
4×1 MULTIFUNCTION HYDRAULIC BUCKET ACCESSORY



- The joystick (1) controls the raising/lowering and the extension/retraction of the boom.
- The orange button (2) enables the inclination of the 4×1 multifunction hydraulic bucket.



  - While pressing and holding the button, move the joystick towards the left to incline it backwards.
  - While pressing and holding the button, move the joystick towards the right to incline it forwards.
- The orange button (3) enables opening and closing the grab.

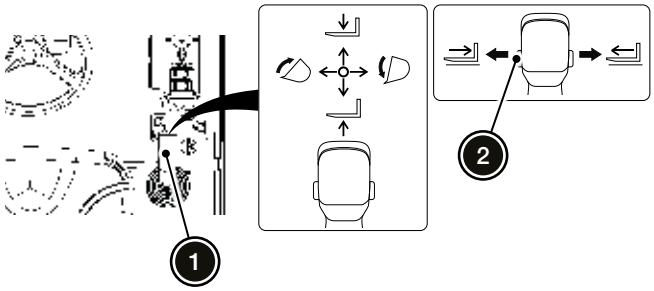


  - While pressing and holding the button, move the joystick towards the right to close the grab.
  - While pressing and holding the button, move the joystick towards the left to open the grab.
- Operation:
  - Raise or lower the boom until it reaches the appropriate height, and open the grab to load the material from the pile.
  - Align the handler with the bucket, and drive slowly and smoothly until the bucket is introduced into the pile.
  - Incline the bucket sufficiently to retain the load, close the grab and separate from the pile.
  - Drive in accordance with the requirements set forth in *"Safety Measures" in Chapter 2*.
  - Open the grab and Incline the bucket forward to empty the load.
- Precautions to avoid damaging the implement:
  - Except when lifting or emptying a load, the boom must be completely retracted for all the operations with the bucket.
  - Do not deposit the load in the corners of the bucket. Distribute the material uniformly in the bucket. The load chart for the buckets are calculated assuming the load is evenly distributed.
  - Do not use the bucket to compact material. Excessive force when compacting may damage the bucket or other machine components.
  - Do not try to load hard or frozen materials. This may cause serious damage to the implements plate or other machine components.
  - Do not use the bucket for "back dragging".
  - Do not use the bucket to push material. Excessive force when pushing may damage the implements plate or other machine components.
  - Do not try to lift loads that are attached to other objects. This may cause serious damage to the implements plate or other machine components.

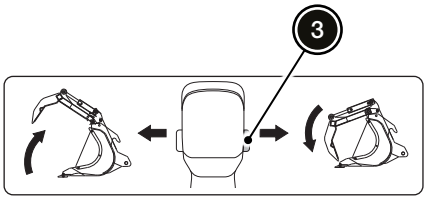
HITCHES AND IMPLEMENTS

4×1 MULTIFUNCTION HYDRAULIC BUCKET ACCESSORY INVERSE CONTROLS

- The joystick (1) controls the raising/lowering and the inclination of the hydraulic bucket.
- The orange button (2) enables the extension/retraction of the boom.



  - Move the joystick towards the left to retract the boom.
  - Move the joystick towards the right to extend the boom.
- The orange button (3) enables opening and closing the grab.



  - While pressing and holding the button, move the joystick towards the right to close the grab.
  - While pressing and holding the button, move the joystick towards the left to open the grab.
- Operation:
  - Raise or lower the boom until it reaches the appropriate height, and open the grab to load the material from the pile.
  - Align the handler with the bucket, and drive slowly and smoothly until the bucket is introduced into the pile.
  - Incline the bucket sufficiently to retain the load, close the grab and separate from the pile.
  - Drive in accordance with the requirements set forth in *"Safety Measures" in Chapter 2*.
  - Open the grab and Incline the bucket forward to empty the load.
- Precautions to avoid damaging the implement:
  - Except when lifting or emptying a load, the boom must be completely retracted for all the operations with the bucket.
  - Do not deposit the load in the corners of the bucket. Distribute the material uniformly in the bucket. The load chart for the buckets are calculated assuming the load is evenly distributed.
  - Do not use the bucket to compact material. Excessive force when compacting may damage the bucket or other machine components.
  - Do not try to load hard or frozen materials. This may cause serious damage to the implements plate or other machine components.
  - Do not use the bucket for "back dragging".
  - Do not use the forks to lever material. Excessive force when levering material may damage the implements plate or other machine components.
  - Do not try to lift loads that are attached to other objects. This may cause serious damage to the implements plate or other machine components.

5

EMERGENCY OR BREAKDOWN SITUATIONS

CONTENTS INDEX

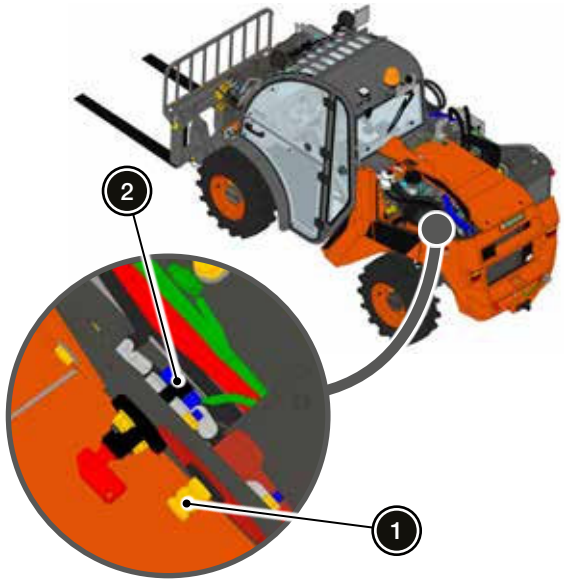
EMERGENCY START

If the engine cannot start due to a flat battery, another 12V booster battery can be used together with the corresponding jump leads to connect the two batteries. Proceed as described below:

⚠ WARNING Use only 12 V batteries. Other charging devices (such as battery chargers, etc.) might cause explosions in the battery or damage to the electrical system.

NOTICE When using a battery from another vehicle, try to prevent the vehicle from touching the machine.

1. Open the engine cover to access the battery.
2. Connect the positive terminal (+) of the auxiliary battery to the connection point (1) on the machine.
3. Connect the negative terminal (-) of the auxiliary battery to the connection point (2) on the battery disconnector.



4. Start the machine's engine normally, following the indications given in *"Starting the Engine" in Chapter 4*.
5. Disconnect the cables from the connection points.

NOTICE First, disconnect the negative terminals and then the positive.

ENGINE OVERHEAT

⚠ WARNING The radiator might be very hot; therefore, it is recommended to use gloves before handling it.

If the coolant temperature indicator light comes on, and an audible warning sounds continually when the machine is in operation, proceed as follows:

1. Reduce the speed, keeping the machine moving so that air circulates through the radiator.
2. If the indicator is still on after one minute, stop the machine. Put the travel selector (FNR) in NEUTRAL, apply the parking brake and stop the engine.
3. Wait for the engine to cool down, and perform the following checks:
   - Inspect the radiator coolant fins and clean them following the procedure in *"Basic Maintenance every 50 hours" in Chapter 8*.
   - Check the coolant level and, if it is below the minimum, refill the tank following the procedure in *"Refilling coolant" in Chapter 8*.

PARTICULATE FILTER (DPF) REGENERATION PARTICULATE FILTER (DPF)

Depending on the saturation level of the particulate filter (DPF), the machine regenerates it automatically during operation or requires the operator to intervene in the regeneration with the machine stationary.

Information: *Under certain conditions, such as short operation times or low engine load, the system might require the operator to intervene in order to regenerate the particulate filter (DPF).*

Regeneration During Operation

The saturation indicator of the particulate filter (DPF) is at the green or yellow level, which indicates that automatic regeneration is possible. This process is carried out under certain operating conditions. When this happens, the "High exhaust gas temperature" indicator light comes on.

Regeneration with the Machine Stationary

The saturation indicator of the particulate filter (DPF) is at the yellow or orange level. The "Regeneration required with the machine stationary" indicator light is lit (fixed light).

The particulate filter (DPF) requires the operator to intervene in order to perform the regeneration with the machine stationary.

If the "Check engine malfunction" indicator light also lights up (fixed light), an audible warning sounds, the "Regeneration with machine stationary" indicator light appears on the full screen, and the power and revolutions of the engine are restricted, this means that the particulate filter (DPF) urgently requires regeneration with the machine stationary.

⚠ DANGER Exhaust gases contain carbon monoxide, a colourless, odourless gas which is toxic. Inhaling it may prove fatal.

⚠ DANGER To prevent poisoning caused by inhalation of the engine exhaust toxic gases, perform the regeneration process in a well-ventilated area.

⚠ DANGER It is recommended to carry out the regeneration procedure with the machine stationary outdoors.

⚠ CAUTION During the regeneration process, exhaust gases reach extreme temperatures, which may cause fires if directed at flammable substances or materials.

⚠ CAUTION Do not park the machine on flammable surfaces that might catch fire when in contact with exhaust gases.

⚠ CAUTION It is advisable to place a metal plate to avoid damages to the surface where the gases are directed (cement, asphalt, painted surfaces, etc.).

In order to carry out the regeneration process with the machine stationary, proceed as described below:

NOTICE The switch to disable the regeneration of the particulate filter (DPF) must be in the regeneration-allowed position. See *"Control Panel" in Chapter 3*.

1. Start the engine and keep it idling.

NOTICE Do not apply any load to the engine. Do not activate the hydraulics, do not step on the accelerator nor turn the steering wheel.

NOTICE The coolant temperature must be over 50°C.

2. Apply the parking brake.
3. Press the button for regeneration with the machine stationary for 3 seconds, and then release to initiate the regeneration process.

NOTICE The engine increases revolutions automatically.

NOTICE The regeneration process takes around 20-30 minutes and finishes when the engine returns to idle.

NOTICE If any of these conditions change during the process, the regeneration procedure is interrupted.

ROLL OVER

⚠ WARNING The cab is a protective structure that protects the operator from falling objects and in the event of machine roll over.

⚠ WARNING Keep your whole body inside the operator's cab.

⚠ WARNING Fasten your seat belt.

If the machine rolls over:

- Do not jump out of the operator's cab.
- Keep your seat belt fastened.
- Hold on tightly.
- Lean in the opposite direction to which the machine is rolling over. Try to keep as far away from the point of impact as possible.

After securing the area and ensuring the well-being of the affected operator, proceed to place the machine again on its four wheels.

NOTICE Once the normal position has been restored, do not attempt to start the machine without first contacting the official AUSA dealer.

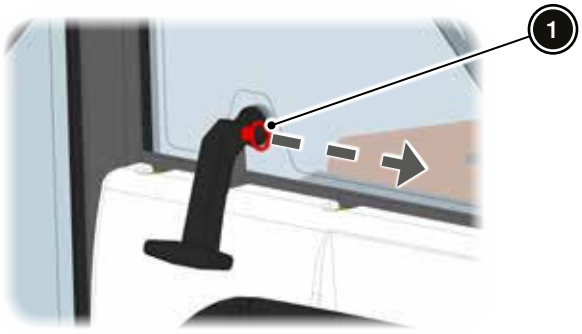
IMMERSION

NOTICE Do not attempt to start the machine's engine. Immersion can cause serious damage to the machine.
Contact AUSA authorised dealer.

EMERGENCY EXIT FROM THE CAB

Emergency exit from the cab through the rear window.

Remove the pins (1) and push to open the rear window.

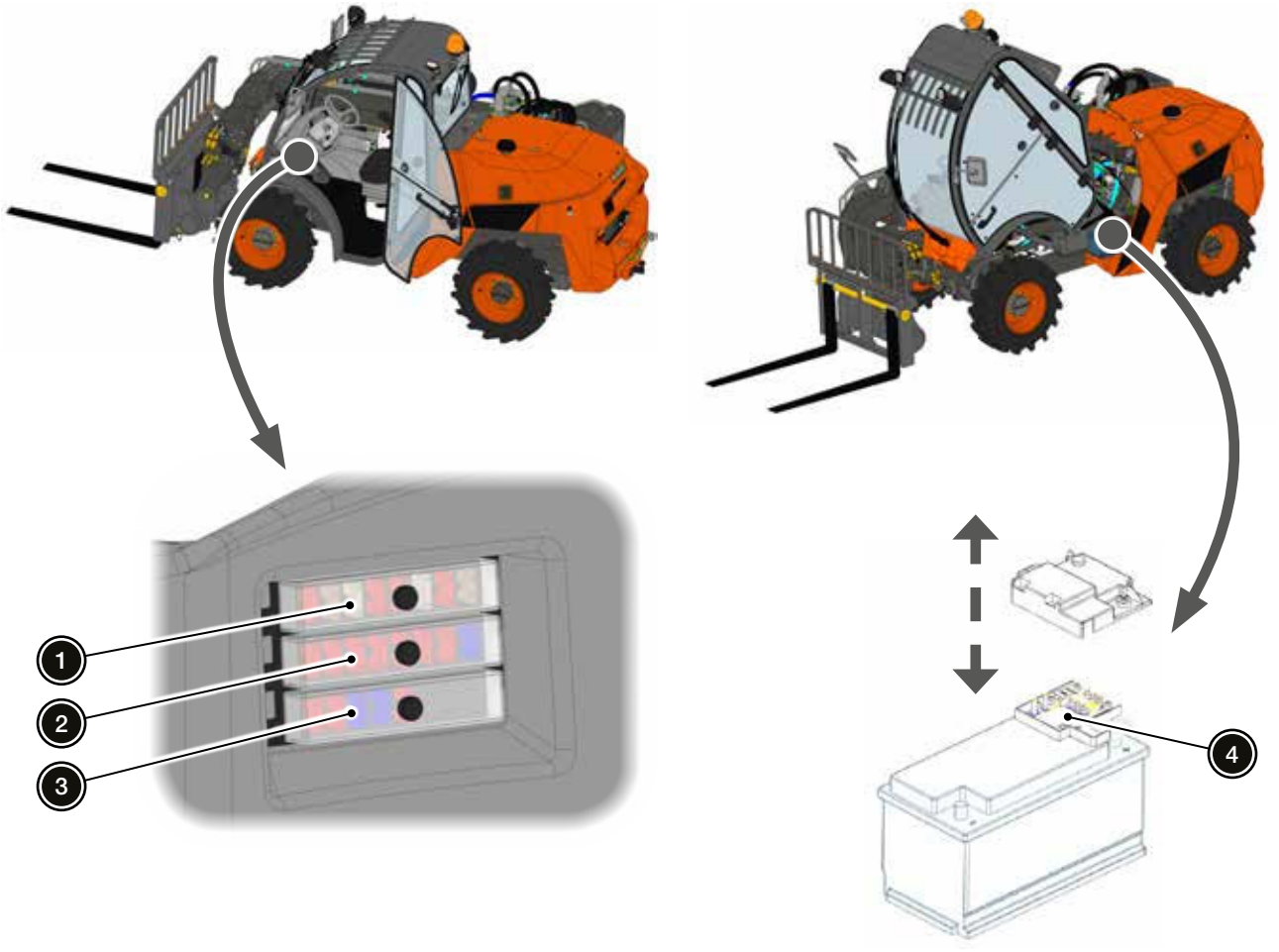


FIRE

The following table indicates the effectiveness of each extinguishing agent depending on the fire source.

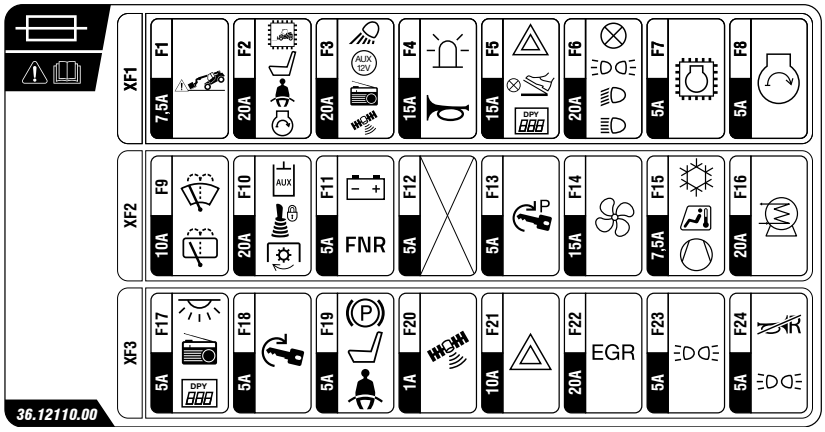
Extinguishing agent	Type of fire				
	A	B	C	D	E
	Solids that create embers	Liquids or liquefiable solids	Gases	Metals	Presence of electrical voltage above 25V
Water spray	Excellent	Acceptable for non-water-soluble liquid fuels (gasoil, oil, etc.).	Null	Null	Dangerous
Water jet	Good	Null	Null	Null	Very dangerous
Carbon dioxide (CO_2)	Acceptable Can be used for small fires Does not extinguish embers	Acceptable Can be used for small fires	Null	Null	Good
Foam	Good	Good Do not use water-soluble liquids	Null	Null	Dangerous
Normal dry powder (BC)	Acceptable Can be used for very small fires Does not extinguish embers	Good	Good	Null	Good
Multipurpose dry powder (anti-reignition) (ABC)	Good	Good	Good	Null	Good for voltages below 1,000 V; do not use with higher voltages
Special dry powder for metals	Null	Null	Null	Good	Null
Halon substitutes (FM200, NAF SIII, INERGEN, etc.)	Acceptable Can be used for small fires	Acceptable Can be used for small fires	Null	Null	Good

FUSES



Location of the fuse boxes

FUSES



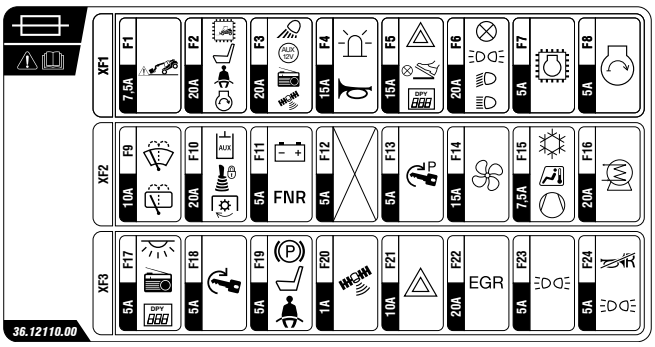
Fuse box 1 (XF1)

Fuse	Intensity (A)	Description
F1	7.5	Overload system
F2	20	Machine functions ECU / Seat sensor / Seat belt sensor / Engine start relay
F3	20	Work lights **ACCESSORY** / 12 V socket / Radio **ACCESSORY** / +15 GPS **ACCESSORY**
F4	15	Rotating beacon / Horn
F5	15	Emergency lights **ACCESSORY** / Brake lights **ACCESSORY** / +15 HMI display
F6	20	Switch lighting / Sidelights **ACCESSORY** / Low-beam headlights **ACCESSORY** / High-beam headlights **ACCESSORY**
F7	5	+15 engine ECU
F8	5	+50 engine ECU / Ignition enable

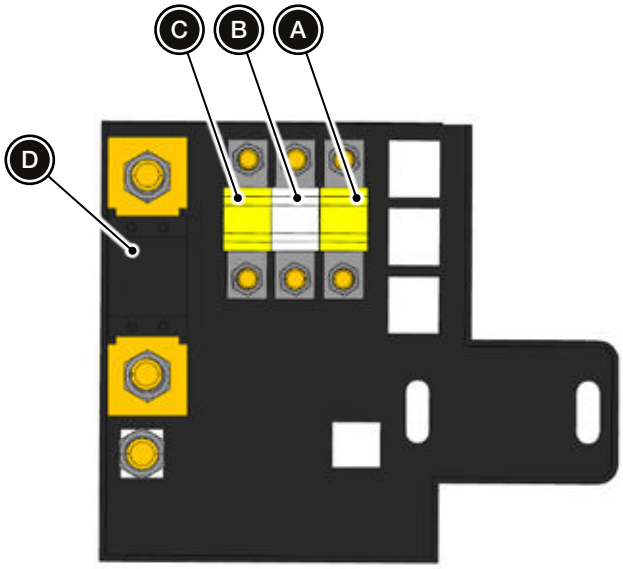
Fuse box 2 (XF2)

Fuse	Intensity (A)	Description
F9	10	Front and rear windscreen wiper
F10	20	3rd , 4th **ACCESSORY** and 5th **ACCESSORY** auxiliary hydraulic coupling / Joystick lock / Continuous flow **ACCESSORY**
F11	5	Alternator / Travel selector (FNR)
F12	5	Not used
F13	5	Ignition switch “P” position
F14	15	Fan inside the cab **ACCESSORY**
F15	7.5	AC SWITCH / AC - Heating temperature control / AC compressor **ACCESSORY**
F16	20	Air conditioning condenser **ACCESSORY**

FUSES



Fuse box 3 (XF3)



Fuse box 4 (battery)

Fuse	Intensity (A)	Description
F17	5	Courtesy light / Radio **ACCESSORY** / +30 HMI display
F18	5	Ignition switch
F19	5	Parking brake / +30 Seat sensor / +30 Seat belt sensor
F20	1	+ 30 GPS **ACCESSORY**
F21	10	Hazard lights **ACCESSORY**
F22	5	EGR Valve
F23	5	Front right sidelights and rear left sidelights and registration plate light **ACCESSORY**
F24	5	Switch to disable reverse travel alarm / Front left and rear right sidelights **ACCESSORY**

Fuse	Intensity (A)	Description
A	30	Starter motor
B	80	Main
C	30	Fuel pump and ECU supply, diesel engine
D	100	Cold start system

DIAGNOSTICS DISPLAY

To access the machine's diagnostics display, proceed as described below in less than 10 seconds:

1. Insert the key in the ignition and turn it to the IGNITION position.
2. Parking brake applied.
3. Fully depress the throttle pedal.
4. Press the yellow button located on the lower part of the joystick for one second.

Once the diagnostic screen has been accessed, navigate the different screens using the yellow button located on the lower part of the joystick.

Information: *It is possible to start the engine and drive the machine while the system is on the diagnostic display, provided the usual conditions of use are met.*

Information: *To exit the diagnostics display, turn the ignition switch to STOP*

ENGINE FAULTS

When the engine's electronic management system detects a malfunction, it switches on the "Check engine malfunction" indicator light. See *"HMI display" in Chapter 3.*

Information: *Depending on the seriousness of the malfunction detected, the engine may continue to operate with certain limitations. In these cases, the "Check engine malfunction" indicator remains on or flashes, to indicate a serious system error.*

NOTICE Contact the official AUSA dealer for a system diagnosis.

6

TRANSPORTATION, WAREHOUSE STORING AND END OF USEFUL LIFE

CONTENTS INDEX

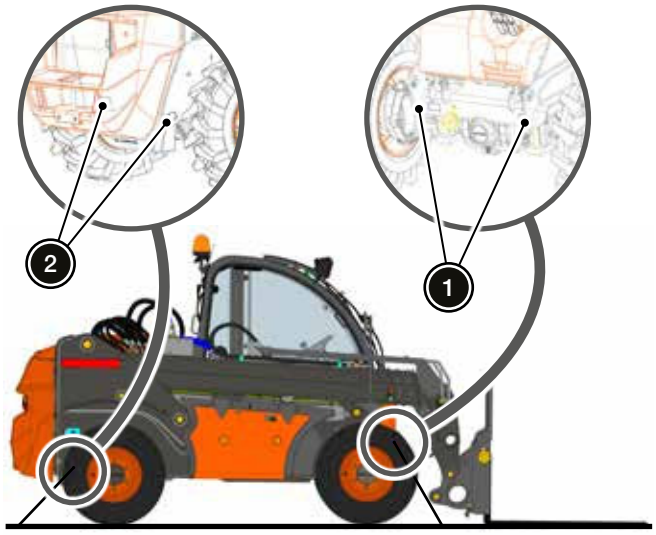
TRANSPORTING THE MACHINE

Transporting on the Bed of a Vehicle

Information: *Take into account the ADR Regulation requirements that may be applicable, according to UN No. 3528.*

Adhere to the following instructions when the machine has to be transported on the bed of another vehicle:

- When driving the machine, correctly fasten the seat belt.
- Have the minimum level of fuel in the tank. Empty the fuel tank following the procedure described in *SAC.R.02 - Emptying the fuel tank in the advanced maintenance manual*.
- Raise and lower the machine carefully using the loading ramps, with the boom as low as possible.
- Apply the parking brake.
- Lower the boom until the implements plate or the implement/accessory rests on the platform.
- Put all controls in the rest position and put the (FNR) travel selector in NEUTRAL.
- Stop the engine and remove the key from the ignition.
- Apply chocks to the wheels and fix them to the vehicle bed.
- Anchor the machine firmly to the bed using slings or another fastening system at the front (1) and rear (2) points for that purpose, to prevent any kind of movement.

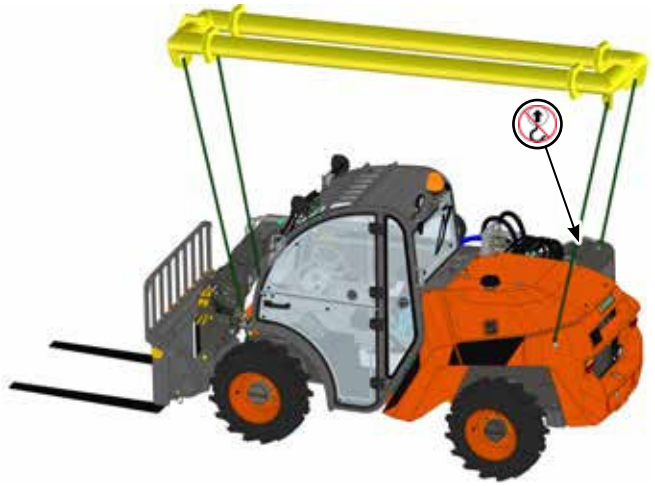


⚠ WARNING The fastening system should be suitable and sturdy enough. Do not anchor the machine by the front part of the boom. See *"Safety measures" in Chapter 2*.

TRANSPORTING THE MACHINE

Loading Using a Crane

⚠ DANGER When hoisting the machine, there must be no one on top nor within a five-meter radius around it.



When the machine is loaded using a crane, follow the indications below:

- Undertake this operation with no load on the machine, free of any loose elements, and on flat and horizontal ground.
- Lower the boom until the implements plate or the implement/accessory rests on the ground.
- Front part:
  Attach the cables or the slings at the points on the machine set for that purpose.
- Rear part:
  Thread the eyebolts at the points designed for this purpose, having first removed the plastic cap.

  These eyebolts are in the document case or in the document holder **ACCESSORY**.

⚠ WARNING Both the crane and the cables or slings have sufficient capacity to lift the machine. Check the weight of the machine on the *"Technical specifications table" in Chapter 7*.

- Carry out the necessary adjustments both on the machine and on the cables and slings, so that the machine remains level during the hoisting process.
- Before hoisting the machine, check that the cables or slings are firmly hooked.

⚠ WARNING Lift the machine in the most horizontal position possible, using guide ropes or other systems to keep the machine from turning or pivoting. Avoid brusque movements. See *"Safety measures" in Chapter 2*.

Towing

⚠ WARNING During and after the towing process, the hydrostatic group components might be hot; use suitable protective equipment.

NOTICE The machine must be towed using a solid towbar to avoid collisions.

NOTICE It is only advisable to tow the machine if there is a fault, and when there is no other alternative, as this process might seriously damage the hydrostatic transmission.

Whenever possible, it is recommended to repair the fault on site.

NOTICE It is advisable to tow slowly and over short distances.

High-speed and long-distance towing might trigger heat generation and poor lubrication, which may damage the transmission components.

NOTICE Proceed with the transmission bypass function following the steps set forth in *"Transmission bypass function" in Chapter 4*.

NOTICE Recommended towing speed: below 2 km/h.

Recommended towing distance: less than 1 km.

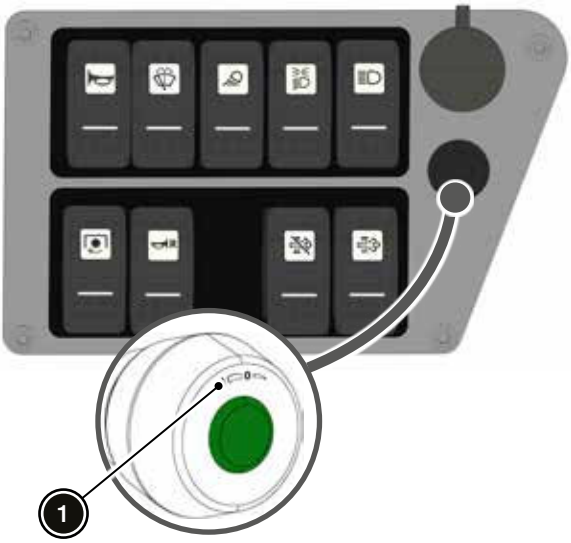
TRANSPORTING THE MACHINE

Driving on public roads

The safety recommendations described in *"During operation" in Chapter 2* must be followed when driving on public roads.

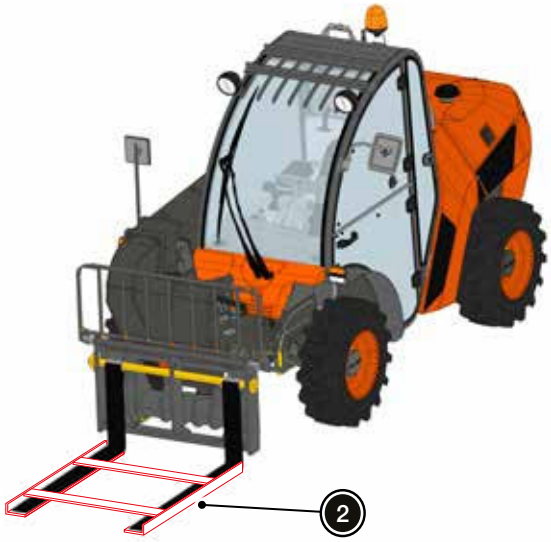
Before driving on public roads:

- Align the rear wheels. See *"Front and rear wheel alignment procedure" in Chapter 4*.
- Place the steering mode selector in front wheel steering only (ROAD mode) . See *"Controls" in Chapter 3*.
- The telescopic boom should be in the retracted position, with the boom or the implement/accessory as low as possible in order to reduce a high centre of gravity.
- Place the WORK/ROAD mode selector (1) in ROAD position. See *"Controls" in Chapter 3*.



Information: *The selector (1) light is on in ROAD mode. The movements of the joystick are locked.*

- Use the fork protection (2). **ACCESSORY**



STORAGE

NOTICE During the storage period, maintenance tasks on the machine must still be performed.

NOTICE Pay special attention to the level of the fluids and the elements that might age (tyres, weather strips, rubber gaskets, etc.).

NOTICE Before using the machine after the storage period, contact your official AUSA dealer to proceed with the necessary specific preparations.

If the machine is not going to be used for a long time, it should be stored following the recommendations below:

- Carefully clean the machine. Carefully, dry all its parts with pressure air.
- Proceed with a complete lubrication and polish of the machine.
- Perform a general inspection and replace all worn or damaged parts.
- Paint all worn or damaged parts.
- Dismantle the battery, grease the terminals with Vaseline and store it in a dry place. If is going to be used temporarily, for other purposes, check its load level periodically.
- Store the machine in a covered, well-ventilated place.
- Start the engine once a month and let it run until it reaches the operating temperature (70-80 °C).
- In temperatures below -20 °C, empty the coolant circuit.

END OF USEFUL LIFE

Machine

Environment: When *the machine reaches the end of its useful life, it must be decommissioned and scrapped by specialised companies, in compliance with local applicable laws.*

Batteries

Environment: As *there is lead and sulphuric acid in the batteries, they must be disposed of in accordance with applicable environmental regulations in the country where the machine is being used. They must be disposed of as soon as possible.*

Environment: The *batteries to be disposed of must be stored in a dry, isolated place. Do not leave them on the floor, nor on wooden pallets, and cover them.*

Environment: Make *sure that the battery is dry and that all its caps are closed. If it is necessary to leave a battery to dry in an open area, apply vaseline to the terminals.*

Environment: Label *the battery to be disposed of, indicating that its use is prohibited.*

7

TECHNICAL INFORMATION

CONTENTS INDEX

TECHNICAL SPECIFICATIONS TABLE

Feature	Unit	T 204 Hx4	T 235 Hx4
Specifications and weights			
Loading capacity to 500 mm	kg	2,000	2,300
Loading capacity to 600 mm	kg	1,884	2,188
Load capacity at maximum height	kg	1,500	1,800
Maximum elevation	mm	4,200	5,000
Maximum elevation at maximum load	mm	3,750	4,300
Maximum reach	mm	2,072	2,358
Maximum height	mm	4,980 / 5,323 (*)	5,780 / 6,123 (*)
Maximum load at maximum reach (1)	kg	1,000	800
Maximum towing mass	-	-	
▪ Trailer without brakes	kg	750	
▪ Trailer with brakes	kg	1,500	
Weights	-	-	
▪ Unladen weight (TARE) (***)	kg	4,200	4,750
▪ Maximum technical admissible mass	kg	5,950	6,200
▪ Maximum authorised mass (**)	kg	6,400	7,150
▪ Maximum mass on the front axle	kg	5,500	6,000
▪ Maximum mass on the rear axle	kg	2,750	3,000
Maximum specific pressure on the ground (wheels front/rear) (standard tyre)	kg/cm²	6	7.1
Pressure distributed on the ground (no load/full load) (standard tyre)	kg/cm²	n/d	n/d
Fuel tank capacity	l	65	
Operating temperature	° C	-15 to 40	
Transmission			
Type	-	2-speed hydrostatic.	
Drive pump	-	Variable flow, automatically-regulated, axial pistons pump.	
Drive motor	-	Variable flow and 2 speeds selectable by the operator.	
▪ Maximum service pressure	bar	420	
Front axle	-	Steering and self-locking differential.	
Rear axle	-	Steering and differential. Built-in gearbox.	
Telescopic boom			
Implements plate (standard)	-	AUSA manual hitch	
Fork carriage	-	Floating forks	
Carriage width	mm	1,050	
Long lenght	mm	1,200	

TECHNICAL SPECIFICATIONS TABLE

Feature	Unit	T 204 Hx4	T 235 Hx4
Engine			
Manufacturer	-	KUBOTA	
Model	-	D1803-CR-T-E5B	
Power (SAE J1995)	HP	42.9	
	kW	32.8	
Maximum operating speed	min-1	2,400	
Maximum torque (SAE J1995)	Nm@rpm	150.5@1,500	
No. cylinders	-	3	
Emissions	-	Stage V - EPA Tier 4f	
Consumption	l/h	n/a	
CO_2	kg/h	n/a	
Cooling system	-	Water/oil mixed radiator.	
Driving			
Maximum driving speed	kg/h	24	
Traction	-	4x4	
Gradeability at full load	%	42	
Outside turning radius	mm	2,877	
Outside turning radius to the forks	mm	3525	
Forward / Backward selector	-	Electro-hydraulic by switch on the base of the joystick.	
Front tyres (standard)	-	10/75-15.3	
▪ Make	-	BKT AS 504	
▪ Inflation pressures	bar	6	7.1
	psi	87	102
	kPa	600	710
▪ Combinations of load indexing and speed, minimum admissible values [7]	-	A4 - 146	
▪ Possible minimum combinations.	-	A8 - 135	
Rear tyres (standard)	-	10/75-15.3	
▪ Make	-	BKT AS 504	
▪ Inflation pressures	bar	6	7.1
	psi	87	102
	kPa	600	710
▪ Combinations of load indexing and speed, minimum admissible values [7]	-	A4 - 146	
▪ Possible minimum combinations.	-	A8 - 135	

TECHNICAL SPECIFICATIONS TABLE

Feature	Unit	T 204 Hx4	T 235 Hx4
Steering			
Type	-	Hydraulic. 4-wheel.	
Pressure	bar	180	
Hydraulic system			
Hydraulic tank capacity	l	70	
Main hydraulic pump	-	Double, geared, attached to the hydrostatic pump.	
▪ Displacement (standard)	cc/rev	24-8	
▪ Flow (standard) (max. rpm.)	l/min	51.8-17.28	
▪ Flow (standard) (1,600 rpm.)	l/min	34.5-11.5	
▪ Maximum service pressure	bar	240	
▪ Displacement (continuous flow)	cc/rev	24-24	
▪ Flow (continuous flow) (max. rpm.)	l/min	51.8-51.8	
▪ Flow (continuous flow) (1,600 rpm.)	l/min	34.5-34.5	
▪ Continuous flow service pressure	bar	180	
Control valve	-	Single block, with 2 spools with electrical locking system and selector solenoid valve.	
Electrical equipment			
Starter motor	kW	2.0	
Alternator	A	60	
Battery	V	12	
	Ah	92	
	A	70	
Brakes			
Service	-	Hydraulic, disc on front axle.	
Parking	-	Mechanical, disc on front axle.	
Noise levels			

TECHNICAL SPECIFICATIONS TABLE

Feature	Unit	T 204 Hx4	T 235 Hx4
A-weighted sound power level measured in the environment LwA (2)	dB(A)	101	
A-weighted sound power level guaranteed in the environment LwA (4)	dB(A)	104	
Uncertainty factor KpA (4)	dB(A)	2	
A-weighted sound power level in the operator's position LpA (open cab) (3)	dB(A)	n/a	
A-weighted sound power level in the operator's position LpA (closed cab) (3)	dB(A)	n/a	
Vibrational values			
Average acceleration value of the whole body (5)	m/s^2	< 0.5	
Average acceleration value on the boom-hand (6)	m/s^2	< 2.5	

Table Key

(*) With load protector.
(**) Data may vary depending on the accessories installed on the machine.
(***) Driving on public roads.
(1) With the load centre at 500 mm.
(2) According to Directive 2000/14/EC.
(3) According to EN 12053.
(4) According to ISO 4871.
(5) According to EN 13059 (Directive 2000/44/EC).
(6) According to ISO 5349-2 (Directive 2000/44/EC).
(7) Combinations with lower load rates and higher speed rates might be valid and equivalent, according to the specifications established by the technical manual of the E.T.R.T.O.
n/a Not available at the date of publication.

8

MACHINE MAINTENANCE

CONTENTS INDEX

Information: *In accordance with legislation governing Work Equipment (Directives 2009/104/EEC and/or RD1215/97) or applicable legislation, inspections of the main systems of the machine must be carried out, and their results must be recorded on the forms provided by the Work Authorities of each country.*

The aim of maintenance operations is to achieve an optimum performance and extend the useful life of the machine.

In order to achieve these objectives, the machine must be kept in good condition, and safe, harmless working routines must be performed.

There are two types of maintenance tasks:

- **BASIC MAINTENANCE**

These are the procedures that AUSA considers that may be carried out by the operator of the machine.

See *"Basic Maintenance Plan"*.

- **ADVANCED MAINTENANCE**

It is recommended that these procedures are carried out by the official AUSA dealer.

See *"Advance Maintenance Plan"*.

PRELIMINARY CONSIDERATIONS

⚠ DANGER All repair and maintenance operations shall be carried out with the machine unloaded, the travel selector (FNR) in NEUTRAL and the wheels blocked with suitable chocks. In addition, the boom should be completely retracted, and the implements plate or the implement/ accessory resting on the ground.

⚠ DANGER Unless otherwise specified, do not start the engine during maintenance operations.

⚠ WARNING Lock the boom when carrying out maintenance tasks that require the boom to be raised, following the procedure described in *"Immobilising the boom" in Chapter 4*.

⚠ WARNING Before performing any tasks on the electrical system, disconnect the battery following the indications specified in *"Disconnecting the battery" in Chapter 4*.

NOTICE Keep the work area clean during maintenance operations.

NOTICE Clean using only lint-free fabrics.

NOTICE Any open line or hose must be plugged immediately to avoid oil spillage and prevent foreign bodies from entering the circuit.

Manipulating Fluids

⚠ WARNING In the event of a fire, use fire extinguishers with dry carbon dioxide or foam. Do no use water. See *"Fire" in Chapter 5.*

⚠ CAUTION Prolonged skin exposure to the fluids may cause irritation; the use of rubber gloves and protective goggles is recommended.

⚠ CAUTION After handling fluids, wash your hands thoroughly with water and soap.

NOTICE Fluids must be stored in a locked place, with suitable label identification.

NOTICE Consider applicable local legislation in relation to the storage of chemical products and/or flammable liquids.

Information: *In the event of accidental spillage, use sand or an approved absorbing powder. Then, scrape the compound and dispose of it as a chemical substance.*

Environment: In *the event of leaks, take all the necessary precaution to contain them and reduce their impact.*

Environment: Keep *used fluids in special containers for their subsequent disposal through specialised collection points.*

- **CONTACT WITH THE EYES**

Rinse thoroughly with running water. If eye irritation persists, visit the nearest heath centre.

- **INGESTION**

Do not induce vomiting, and visit the nearest heath centre.

- **EXCESSIVE AND/OR PROLONGED SKIN CONTACT**

Wash with water and soap.

ACCESS FOR MAINTENANCE

Engine cover

The engine cover will be lifted according to the procedure described below to access specific components that require maintenance:

1. Unlock by turning the catch (1).

Information: *This catch may have an antivandalism device.*

2. Open the engine cover.

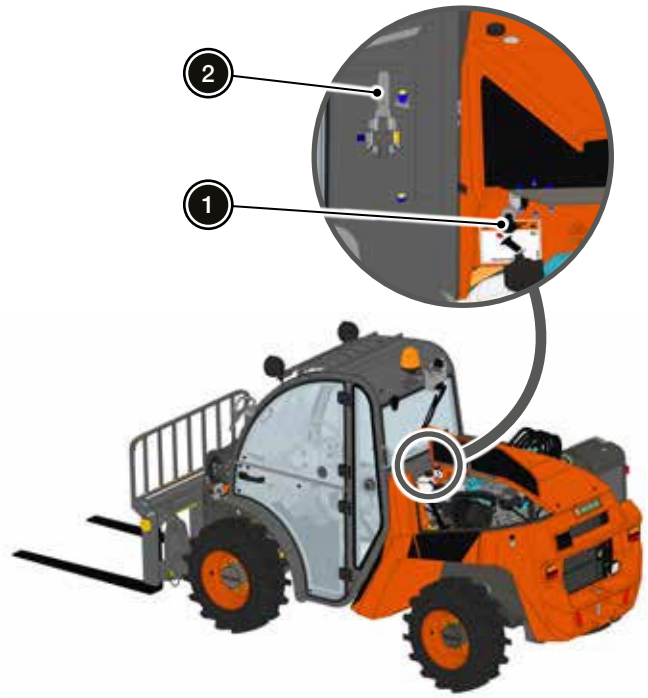
Operator cab

The operator cab will be lifted according to the procedure described below to access specific components under the cab that require maintenance:

NOTICE Before lifting the operator cab, extend the telescopic boom at least 11 centimetres with the purpose of preventing both components from being damaged.

1. Open the engine cover and pull on the lock (1) and, without releasing it, then pull on the handle (2).

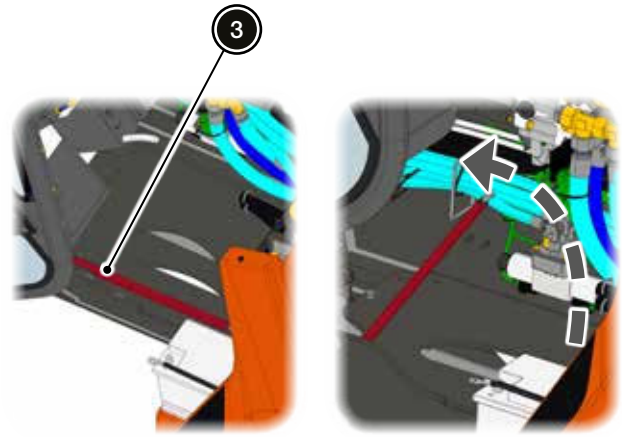
Information: *In machines with a closed cab, secure the upper window of the door to the lower part before the cab is lifted.*



ACCESS FOR MAINTENANCE

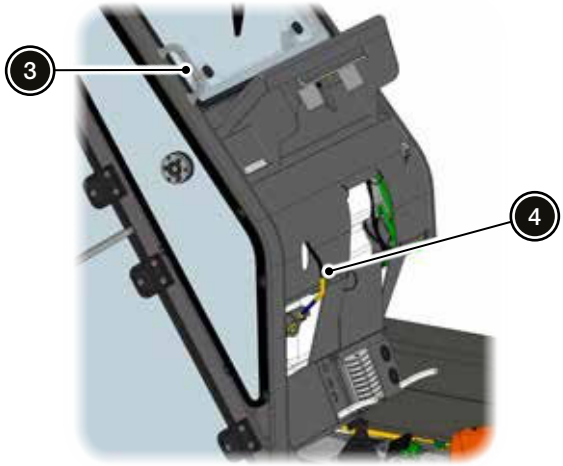
2. Lift the operator cab.

3. Attach the safety prop (3).



Information: *Pull on the handle (3) to lower the cab.*

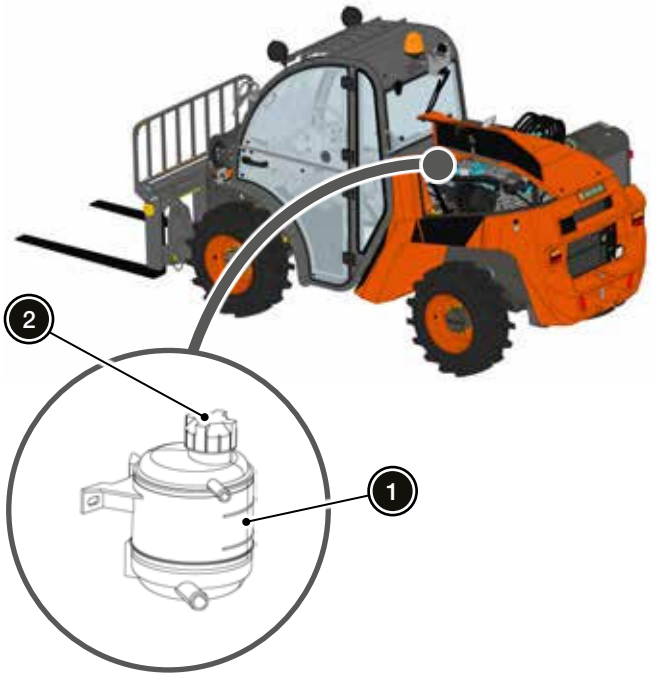
NOTICE To lower the cab, do not pull on the cable (4) because it is not designed for this purpose and this could cause overheating in the machine's brake system.



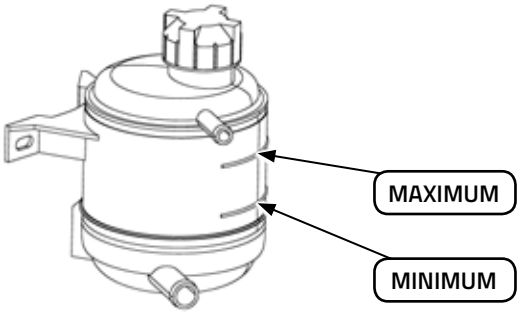
CORRECTIONS, ADJUSTMENTS OR REPLACEMENTS

Refilling the Coolant

1. Open the engine cover to access the coolant tank (1).
2. Remove the coolant tank cap (2).



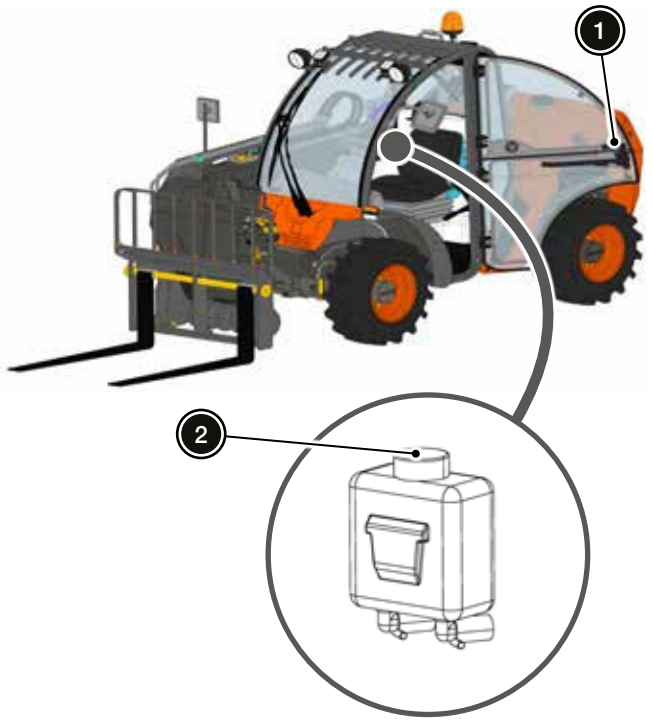
3. Fill the tank with coolant until it is between the minimum and maximum level.



4. Replace the coolant cap and close the engine cover.

Refilling the windscreen washer fluid

1. From inside the cab, access the windscreen washer fluid tank (1).
2. Remove the windscreen washer fluid tank cap (2).



3. Fill the tank with windscreen washer fluid.
4. Fit the windscreen washer fluid tank cap.

CORRECTIONS, ADJUSTMENTS OR REPLACEMENTS

Refilling Engine Oil

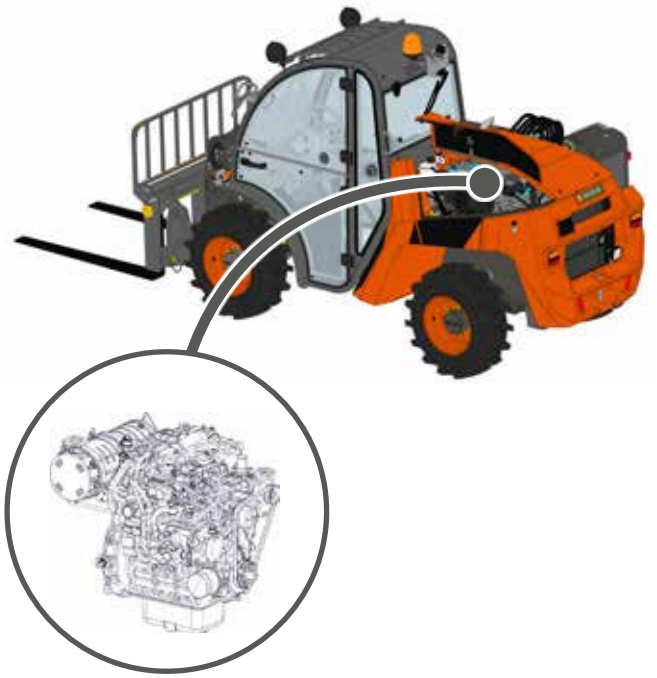
NOTICE Part of the fuel might get mixed with the engine oil during the particulate filter (DPF) regeneration process. This may cause the oil to dilute and increasing quantity.

If the oil level increases over the maximum mark on the dipstick, this means that the oil has diluted excessively, and may cause malfunction. If this happens, change the oil immediately following the procedure described in the advanced maintenance manual.

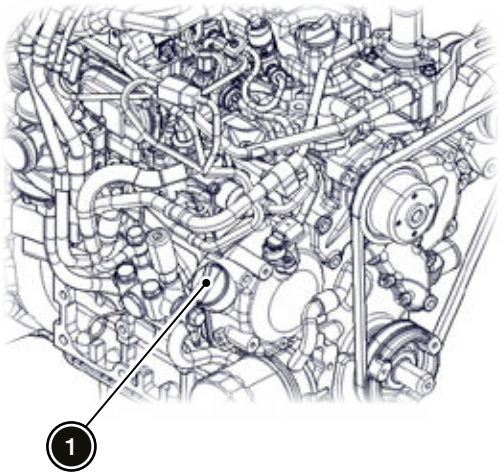
If the DPF regeneration interval is too high, a system diagnosis is required.

Contact AUSA authorised dealer.

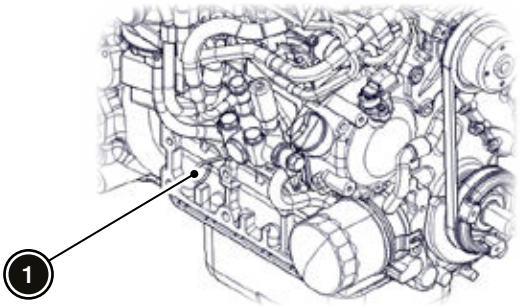
1. Open the engine cover to access the engine compartment.

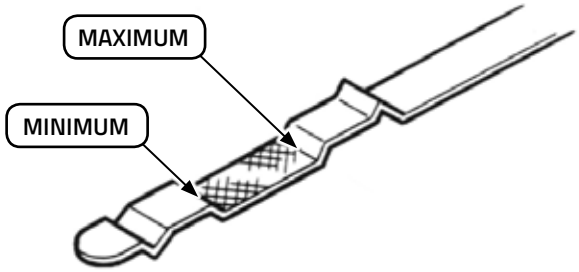


2. Remove the engine oil filling cap (1).



3. Fill with oil until it is between the minimum and maximum level on the dipstick (1).





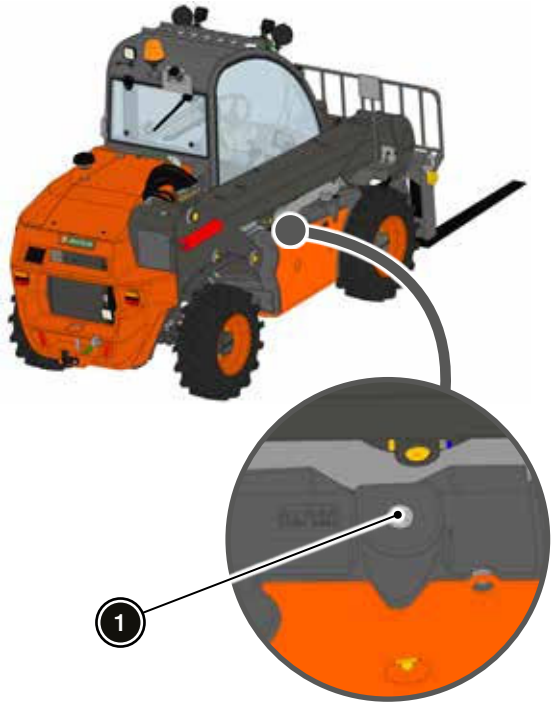
Information: *Use a funnel to avoid oil spills.*

4. Replace the engine oil filling cap.
5. Close the engine cover.

CORRECTIONS, ADJUSTMENTS OR REPLACEMENTS

Refilling Hydraulic Oil

1. Place the machine on a horizontal surface.
2. Apply the parking brake.
3. Turn off the lights ACCESSORY and stop the engine.
4. Access the hydraulic oil tank intake.



5. Clean the area around the hydraulic oil tank cap (1) to prevent accumulated dirt, water or other substances from entering the tank during refilling.
6. Unscrew and remove the hydraulic oil tank cap (1) with a 16 mm Allen key.
7. Fill up the tank, ensuring that its maximum capacity is not exceeded. To do so, check that the level is at the centre of the mark (1).

NOTICE When checking the oil level, the telescopic boom should be in the retracted position, with the boom, the implements plate or the implement/accessory resting on the ground.

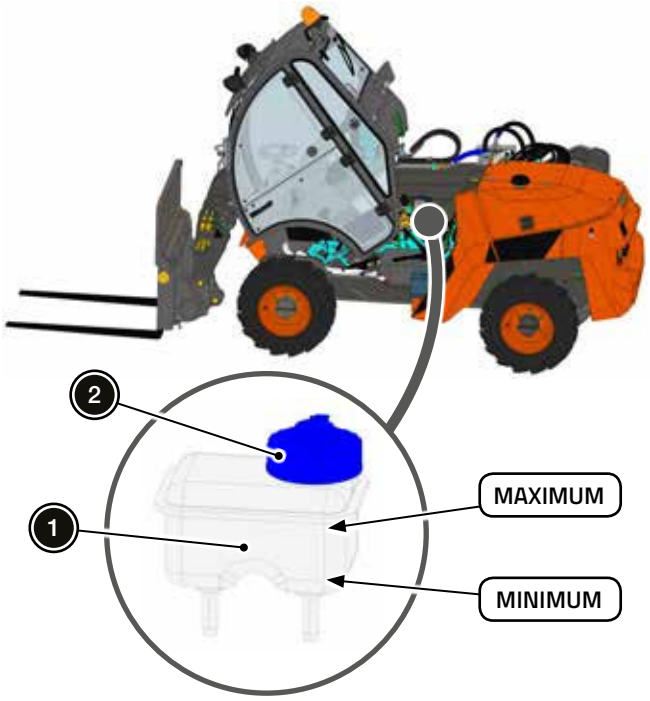
Information: *Avoid spilling oil outside the tank. Immediately clean any spillage, and dry the surface thoroughly.*

Information: *Use a funnel to avoid oil spills.*

8. Screw on the tank cap and tighten to a maximum torque of **35 Nm**.

Refilling Brake Fluid

1. Lift the operator cab to access the brake fluid tank (1).
2. Remove the tank cap (2).



3. Fill the tank with brake fluid up to the maximum mark, avoiding spills.
4. Fit the tank cap (2) and lower the operator cab.

CORRECTIONS, ADJUSTMENTS OR REPLACEMENTS

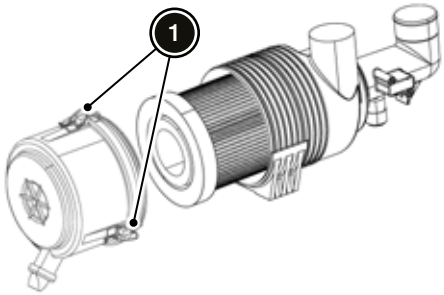
Changing or cleaning the air filter

⚠ CAUTION Before carrying out any task on the machine, ensure that the engine is off and the keys are removed from the ignition.

Allow the engine to cool down for 30 minutes to avoid the risk of burns.

1. Open the engine cover to access the air filter.

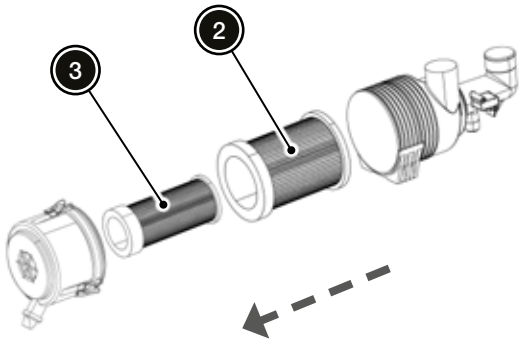
2. Pull the clamps (1) to remove the filter cover.



3. Clean the filter cover with pressurised air or water.

NOTICE The cleaning air pressure must not exceed 5 bar.

4. Extract the external filter (2) and clean it with pressurised air.



NOTICE If there are signs of damage on the external filter, replace it with a new one.

5. Extract the internal air filter (3).

NOTICE Do not clean the internal air filter with pressurised air. If necessary, replace it with a new one.

6. Clean inside the filter housing.

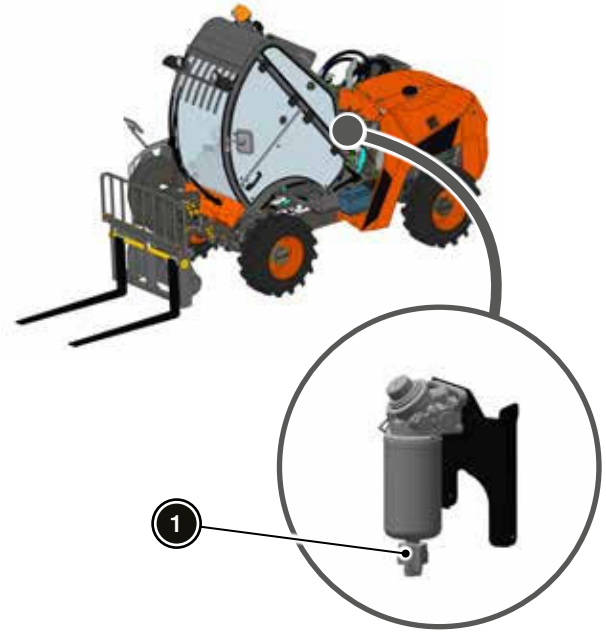
NOTICE Exercise special caution when cleaning the housing with pressure air, so that no foreign objects enter the suction line.

7. Install the internal air filter (3) back in place inside the housing.
8. Install the external air filter (2) back in place inside the housing.
9. Install the filter cover and secure it using the clamps (1).
10. Close the engine cover.

CORRECTIONS, ADJUSTMENTS OR REPLACEMENTS

Emptying water from the fuel prefilter.

1. Lift the operator cab to access the fuel prefilter.

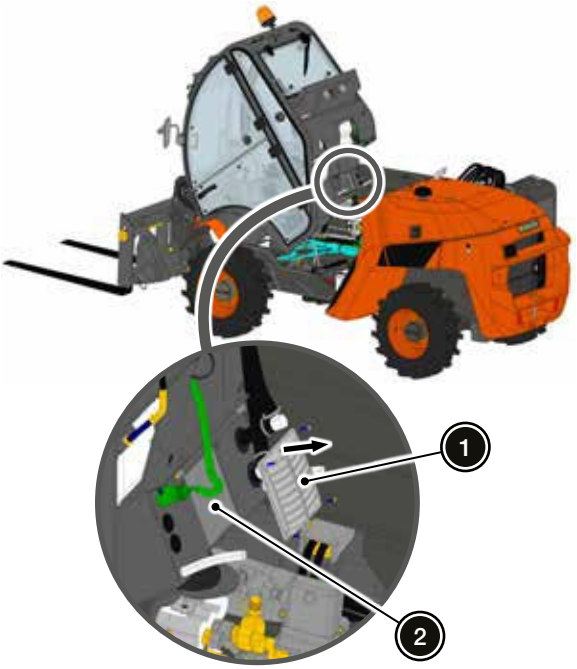


NOTICE Place a container under the filter to collect spills. Loosen the drain screw (1) in the prefilter.

2. Wait for all the water to come out.
3. Tighten the prefilter drain screw to a torque of **1.6±0.3 Nm**.
4. Lower the operator cab.

Changing or cleaning the fan filter inside the cab ACCESSORY

1. Lift the operator cab to access the fan filter inside the cab.
2. Remove the filter cover (1) by removing the bolts holding it in place using a 10 mm spanner.
3. Extract the filter (2) and clean it with pressurised air or replace with a new one.



4. Install the filter cover and secure it using the four bolts.
5. Lower the operator cab.

FLUIDS AND LUBRICANTS

NOTICE Always check the labels on fluids and lubricants containers to ensure that they meet the required specifications.

Fluid or lubricant	Specifications	Observations	Capacity
Fuel	▪ Diesel EN 590 ▪ Diesel ASTM D975	See *"Fuel specifications"*.	65 litres
Engine oil	▪ API rating CJ-4 ▪ SAE 15W40	See *"Engine oil"*.	7 litres
Engine coolant	Antifreeze mixture of ethylene-glycol and clean soft water that contains anti-foaming agents and corrosion inhibitors for aluminium and light-alloy internal combustion engines.	See *"Engine coolant"*.	7.5 litres
Hydraulic circuit oil	▪ ISO VG-32 (ambient temperature below 10 °C) ▪ ISO VG-46 (ambient temperature between 10 °C and 40 °C) (1) ▪ ISO VG-68 (ambient temperature above 40 °C)	ISO 6743/4-HV DIN-51524 Part 3 HVLP.	-
Hydraulic tank oil			70 litres
Hydraulic circuit oil **ACCESSORY**	▪ ISO HLP-32 (ambient temperature below 10 °C) ▪ ISO HLP-46 (ambient temperature between 10 °C and 40 °C) (1) ▪ ISO HLP-68 (ambient temperature above 40 °C)	Synthetic and biodegradable.	-
Hydraulic tank oil **ACCESSORY**			70 litres
Front-axle differential oil	▪ API GL-5 LS ▪ SAE 80W90 ▪ MIL-L-2105-B	Use oils with LS additive.	3.5 litres
Front and rear axle hub reduction oil.			0.4 litres
Rear axle differential oil			3.6 litres
Transfer box oil			0.7 litres
Brake fluid	SAE 10W OIL or ATF liquid	See *"Brake fluid"*.	0.5 litres
Calcium grease for grease points	Consistency NLGI-3	-	-
Telescopic boom skids grease (2)	EUROLUBE Z 4 AZ R4 NLGI Grade 1	-	-

Table Key

(1) The machine leaves the factory with ISO VG-46 / HLP-46 oil for the hydraulic circuit.

(2) Grease reference available in the Replacement Parts Manual.

FLUIDS AND LUBRICANTS

Fuel Specifications

- The use of diesel EN 590 or ASTM D975 fuels is recommended.
- Do not use fuels with a sulphur content above 0.0015% (15 ppm).
- Apart from being necessary in order to meet approval requirements, a low sulphur level is also compulsory in areas regulated by US EPA. In those areas, use No.2-D S15 diesel fuel as per the following criterion:
  - As an alternative to No.2-D.
  - As an alternative to No.1-D for ambient temperatures below -10 °C.

Information: *No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service (SAE J313).*

- Fuel cetane rating:
  - Minimum recommended: 45.
  - A rating over 50 is recommended, especially in ambient temperatures below -20 °C or heights above 1,500 m.

Engine Oil

The machine leaves the factory with oil 10W-40.

Substitute the type of engine oil depending on ambient temperature.

- SAE 10W-30, 10W-40 or 15W-40 (ambient temperature greater than 25 °C).
- SAE 10W-30, 10W-40 or 15W-40 (ambient temperature between -10 °C and 25 °C).
- SAE 5W-30 or 5W-40 (ambient temperature below -10 °C).

NOTICE If different brands of oil are used, empty the sump completely before adding the new oil.

Brake Fluid

NOTICE To avoid serious damage in the brake system, do not use fluids other than the recommended one. When refilling, do not mix different fluids.

NOTICE Do not use, under any circumstances, synthetic DOT 4 brake fluid, according to SAE J1703.

Engine Coolant

The antifreeze mixture must comply with the following specifications:

- UNE-26.361 - 88
- INTA 157413
- BRITISH STANDARD 6580
- AFNOR NFR 15601
- ASTM D 3306, D 4985
- SAE J 1034

Information: *The machine leaves the factory with a coolant concentration of 50-50% for temperatures between -35 °C and 145 °C (in pressurised circuit).*

BASIC MAINTENANCE PLAN

As part of the basic maintenance plan, the following tasks must be performed:

- Basic maintenance every 8 hours.
- Basic maintenance every 50 hours.

NOTICE All these tasks are essential for the correct and safe operation of the machine.

Contact the official AUSA dealer if any parts are loose, detached or damaged, or if there are vibrations, noises, etc.

ADVANCE MAINTENANCE PLAN

The following tasks should be carried out as part of the advanced maintenance plan:

- Advance maintenance first 50 hours.
- Advanced maintenance every 250 hours.
- Advanced maintenance every 500 hours.
- Advanced maintenance every 1,000 hours.
- Advanced maintenance every 1,500 hours.
- Advanced maintenance every 3,000 hours.

NOTICE All these tasks are essential for the correct and safe operation of the machine.

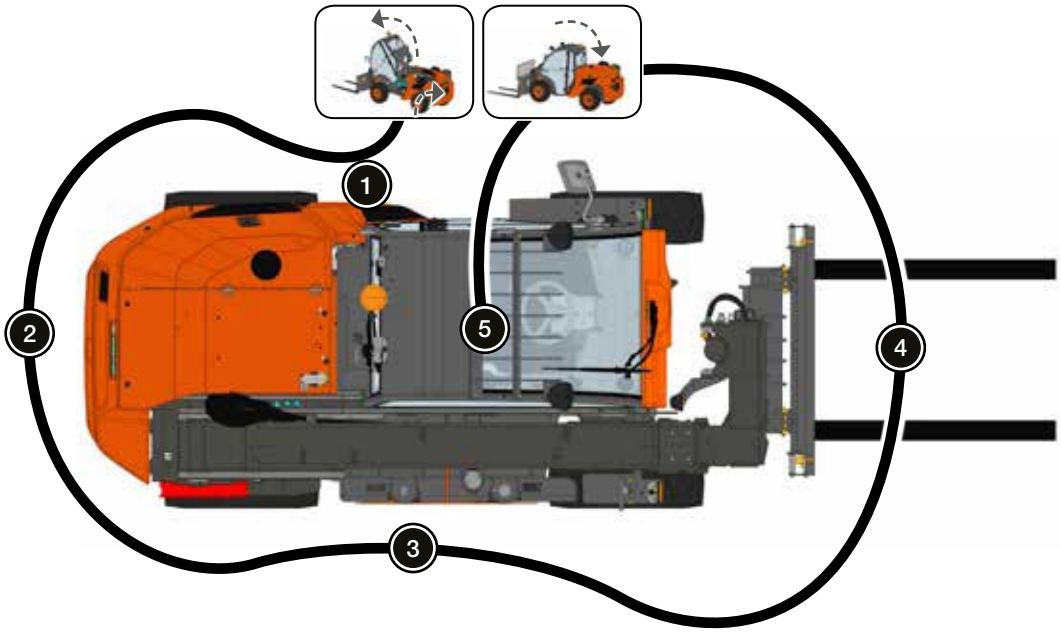
These tasks should not be carried out by the machine operator, but by qualified technicians from an official AUSA distributor.

INTENTIONALLY BLANK PAGE

AT THE BEGINNING OF THE SHIFT

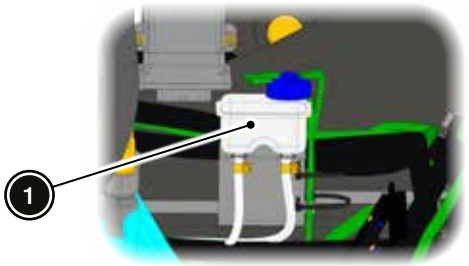
NOTICE If any anomaly is detected during the daily inspection, contact the official AUSA dealer.

Before using the machine, check the following: To make the daily inspection more efficient, it is recommended to follow the sequence below.

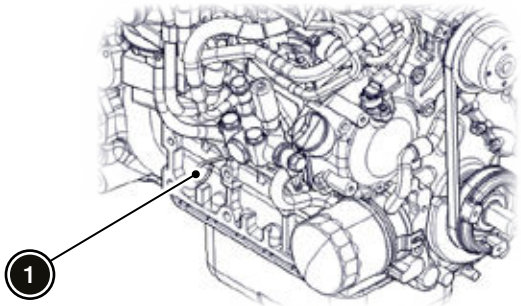
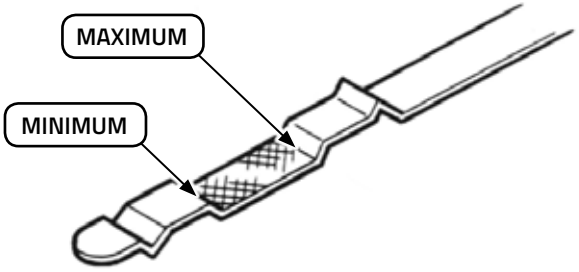


Position	Task	Description
General	If the machine includes accessories, carry out their appropriate maintenance operations. ACCESSORY	The maintenance tasks for optional elements are described in *Chapter 9*.
	Check the following components for leaks: ▪ Engine. ▪ Transmission. ▪ Hydraulic system. ▪ Cooling system. ▪ Brake system. ▪ Exhaust system.	**NOTICE** Replace any damaged hose or tube immediately. The replacement components must always have the same characteristics as the original ones. If the path of a hose or tube is modified, pay special attention to their acceptable radii in order to avoid bottleneck effects. ▪ Sleeves and clamps. ▪ Hoses. ▪ Couplings. ▪ Fluid stains on the floor or on any part of the machine.

AT THE BEGINNING OF THE SHIFT

Position	Task	Description
General	Check the condition of plates and decals.	See *"Identification plates and decals"* in *Chapter 2*.
	Verify that the following parts are in good condition: ▪ Protectors. ▪ Covers. ▪ Caps and plugs. ▪ Safety stops. ▪ Locks. ▪ Lights and pilot lights. **ACCESSORY**	N/A
	Check the tyre pressure and wear.	See *Chapter 7*.
1	Check the condition of the operator cab, the lock and the cab locking elements.	N/A
	Check the condition of the engine cover and its lock and of the gas strut.	N/A
	Check the condition of the safety prop on the operator cab, its fastening elements and support points.	N/A
	Check the condition of the battery, the fuses and their connections.	N/A
	Check the condition of the fan filter inside the cab. **ACCESSORY**	N/A
	Check the level of the brake fluid (1) and, if necessary, refill the tank.	See *"Refilling Brake Fluid"*. 
	Check the hydraulic blocks and the hydraulic oil filter cartridge.	Check for oil leaks. Check hoses and connections.

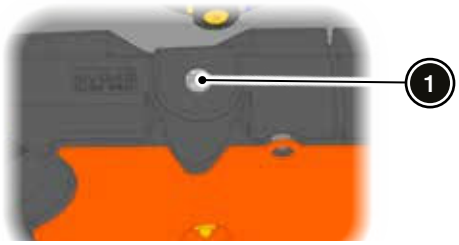
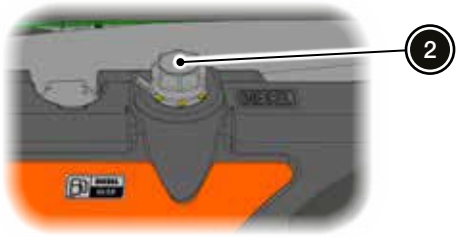
AT THE BEGINNING OF THE SHIFT

Position	Task	Description
	Inspect the universal joint.	Condition and fixing nuts.
	Inspect the brake.	Condition of the disc, the calliper and the cable.
	Check the condition of the air filter element. Clean it if necessary.	See *"Changing or cleaning the air filter".*
	Check the condition of the air filter intake pipe.	Check for abrasions or cracked rubber. Check that the flanges are attached properly.
	Check the condition of alternator belt.	N/A
	Check the condition of the engine mounts.	N/A
	Check the condition of the electrical installation, solenoid valves, sensors and their connections.	N/A
1	Check the engine oil level (1) and fill if needed.	 This should be between the minimum and maximum marks. If necessary, refill following the instructions in *"Refilling engine oil"*. 

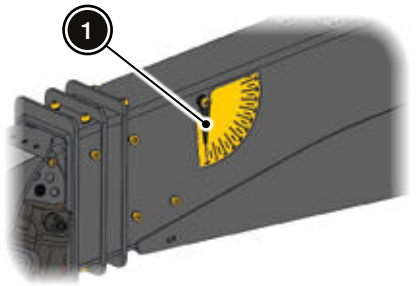
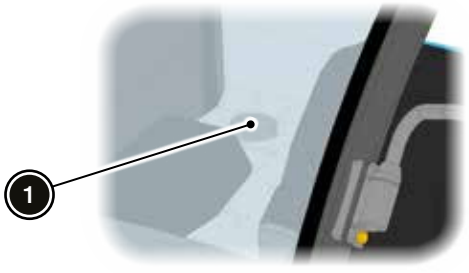
AT THE BEGINNING OF THE SHIFT

Position	Task	Description
1	Check the coolant level (1).	See *"Refilling Coolant"*. 
	Check the state of the fan blades. Check for abrasions or missing parts.	N/A
2	Verify the condition of the following elements: ▪ Pilot lights. **ACCESSORY** ▪ Towing hitch (bolt and fastening pin). ▪ Registration plate. ▪ Registration plate light. **ACCESSORY**	N/A
	Verify the condition and cleanliness of the radiator. Clean it if necessary.	See "*Basic maintenance every 50 hours*".
	Check the rear axle.	Damage to steering cylinder, oil leaks, hoses and connections. Load sensor.
	Check the telescopic boom safety prop. **ACCESSORY**	Correctly in place.

AT THE BEGINNING OF THE SHIFT

Position	Task	Description
	Check the hydraulic oil level (1) and, if necessary, refill the tank.	See *"Refilling hydraulic oil"*. 
3	Check the fuel level (1) and, if necessary, refill the tank (2).	See *"Refuelling"* in *Chapter 4*.   **⚠ WARNING** Do not smoke while handling fuel. Always refuel with the engine stopped.
	Boom sensor.	N/A
	Check the telescopic boom elements for damage, cracks, oil leaks or other defects.	▪ Boom skids. Wear, anchor points, cleaning and lubrication. ▪ Damage to cylinders, oil leaks, hoses and connections.
	Check the condition of the fuel and hydraulic oil tanks.	Check for damage. Check anchor points.

AT THE BEGINNING OF THE SHIFT

Position	Task	Description
4	Check the implements plate elements for damage, cracks, oil leaks or other defects.	▪ Implements. ▪ Accessories. ▪ Cylinders, oil leaks, hoses and connections. ▪ Hydraulic blocks. ▪ Fork carriage. ▪ Forks.
	Check that the boom angle indicator (1) moves freely.	
5	Check the operator cab for damage, cracks or other defects.	▪ Steps and handles to access the operator's position. ▪ Structural damage.
	Check the windscreen washer fluid level (1). **ACCESSORY**	See *"Refilling windscreen washer fluid"*. 
	Check the state of the fuses.	N/A
	Check that the manuals and eyebolts for hoisting the machine are in the document holder.	N/A
	Check the condition of the seat and its mounting brackets. Lubricate it if necessary.	Check the correct operation of the sensor. See *"Checking safety devices"*.

AT THE BEGINNING OF THE SHIFT

Position	Task	Description
5	Check the seat belt sensor.	▪ Verify that the buckle enters and exits the slot easily. ▪ Check that, once engaged, the buckle does not come out of the slot without pressing the unlocking button. ▪ Verify that the anchor points of the different seat belt elements are firmly attached. ▪ Check that the belt has no cuts or frayed parts. ▪ Verify the good condition of the seams. ▪ Check the correct operation of the sensor.
	Check the service hours counter to know whether it is necessary to perform advanced maintenance tasks.	The frequency for these types of tasks is as follows: ▪ 250 hours. ▪ 500 hours. ▪ 1,000 hours. ▪ 1,500 hours. ▪ 3,000 hours.
	Check that the lighting ACCESSORY and signalling equipment of the machine work correctly.	N/A
	Check the control panel.	Verify the correct operation of the following elements: ▪ Buttons. ▪ Switches. ▪ Selectors. ▪ Indicators. ***Information:*** *Check the "Check engine malfunction" indicator light.*
	Check the overload system.	See *"Overload system override push button" in Chapter 3.*
	Verify the operation of the reverse travel alarm disabler.	Check that, when travelling in reverse, the audible warning sounds normally.
	Check the correct operation of the horn.	N/A

AT THE BEGINNING OF THE SHIFT

Position	Task	Description
5	Verify that the rotating beacon works properly.	N/A
	Check the emergency stop function.	With the engine on, press the emergency stop button to check that it triggers a complete stop of the machine.
	Check the operation of the NEUTRAL position of the travel selector (FNR).	See *"Checking safety devices"*.
	Check the saturation condition of the particulate filter (DPF). **PARTICULATE FILTER (DPF)**	If necessary, perform a manual regeneration. See *"Particulate filter (DPF) regeneration" in Chapter 5*.
	Check the operation of the parking brake.	See *"Checking safety devices"*.
	Check the WORK / ROAD mode selector.	See *"Controls" in Chapter 3*. The joystick should be locked in ROAD mode.
	Check that the travel selector works correctly in its three positions: ▪ 4-wheel steering. ▪ Front-wheel only (ROAD mode). ▪ "Crab mode" steering.	See *"Controls" in Chapter 3*.

Position	Task	Description

5	Check the machine elements.	▪ Turn the steering wheel until it stops in both directions, and check that it moves freely, with no stiff points.
		▪ Check that the steering wheel does not have free play.
		▪ Press the pedals several times to ensure that they move freely and that, when released, they return to their original position.
		▪ Start the machine's engine, advance slowly and press the brake pedal to verify its correct operation.
		▪ Move the telescopic boom with the joystick to check its correct operation.
		  ▪ Raise and lower.
		  ▪ Extend and retract.
		  ▪ Incline the implements plate / fork carriage forward and backward.
		  ▪ 5th auxiliary hydraulic coupling. ACCESSORY
		  ▪ Continuous flow. ACCESSORY
		▪ Verify that the travel selector (FNR) operates correctly in its three positions:
		  ▪ Forward.
		  ▪ NEUTRAL.
		  ▪ Reverse.

CHECKING SAFETY DEVICES

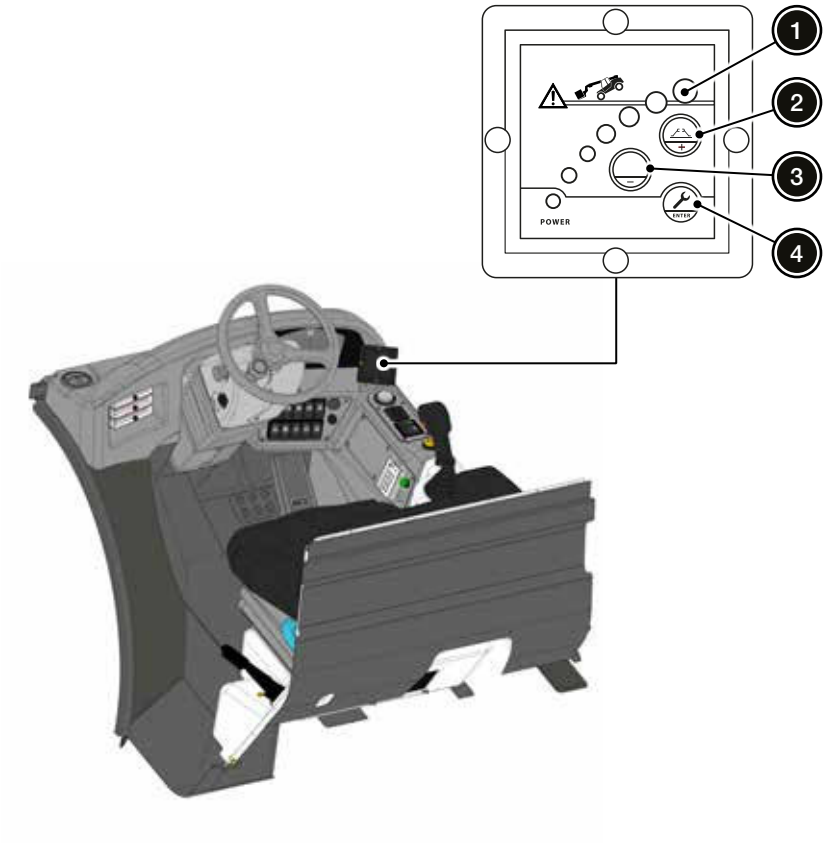
Overload system

The overload system is designed to permanently monitor the front stability of the handler. This system performs a two-step test:

1. The first step (1 second duration) performs a button-checking test. If there is an error, the red LED (1) starts flashing and a continuous audible warning sounds. Contact AUSA authorised dealer.
2. The second step (5 second duration) performs a test to check that the LEDs light up and the audible warning sounds.

NOTICE This test is carried out automatically after the engine is started.

After the two-step test, during the machine operation, when the overload system is active, press any of the buttons (2), (3) or (4) to check the audible warning sounds.



Safety devices

CHECKING SAFETY DEVICES

Operator presence sensor

The operator's seat (5) is equipped with a system that detects the presence of the operator. The movements and motions of the joystick (8) are locked if the operator is not seated. If the system detects a loss of pressure during the operation, after a three-second delay, the following occurs:

1. With the parking brake (6) applied or released and the (FNR) travel selector (7) in NEUTRAL:
   - The movements of the joystick (8) are locked. The continuous flow function **ACCESSORY** is still working.
   - The movements of the joystick (4) unlock when the operator returns to the seat.
2. With the parking brake (6) released, and the (FNR) travel selector (7) in forward travel or reverse travel:
   - The movements of the joystick (8) are locked and the transmission changes automatically to NEUTRAL.
   - The movements of the joystick (8) unlock when the operator returns to the seat. With (FNR) travel selector switch, select NEUTRAL, so that the system restarts before selecting forward or reverse travel.

Seat belt fastened sensor

The seat belt lock (9) is equipped with a system that detects if the seat belt is fastened. If the system detects that the operator has removed his seat belt during the operation, an indicator appears on the HMI display or, with the travel selector (FNR) set to forward travel or reverse travel, a flashing warning icon appears in the centre of the display and an intermittent audible warning sounds.

Ignition switch

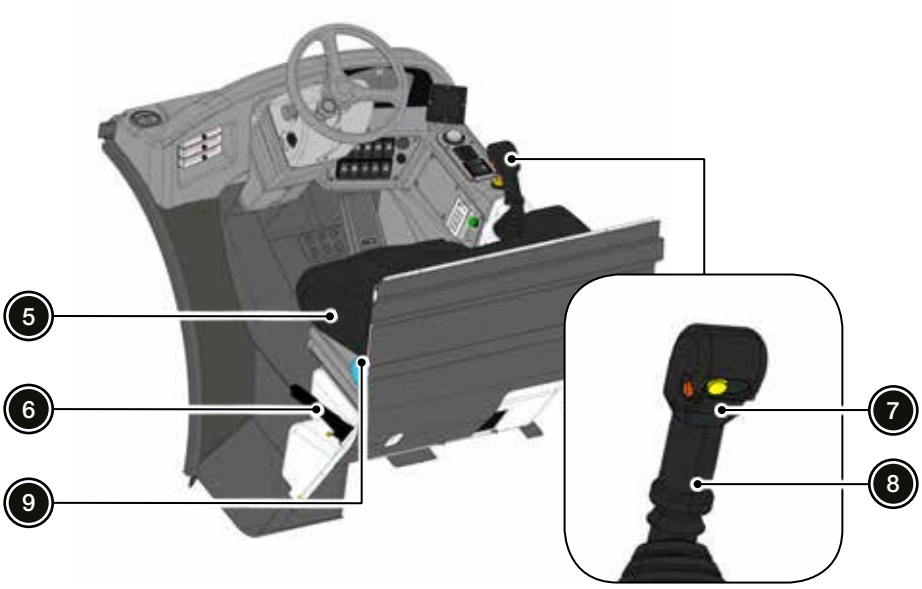
The ignition switch should start the engine with the travel selector (FNR) in NEUTRAL and the operator sitting in the operator's position.

Parking brake

With the parking brake applied, the machine movement should remain in NEUTRAL.

⚠ DANGER Do not operate the machine if an abnormal operation is detected in any of these devices.

Contact AUSA authorised dealer.



Safety devices

AT THE END OF THE SHIFT

NOTICE If the machine is used in areas with salt water (beaches, etc.) or mud, rinse with clean water to protect it against corrosion, and keep the lights clean. Lubrication and protection of metallic parts is highly recommended.

At the end of the working day, clean the machine so that dirt does not cause premature wear of the components, and it does not affect their correct operation.

NOTICE Damaged painted parts must be repainted to prevent corrosion.

⚠ CAUTION If volatile and easily flammable aerosols or corrosion protection products are used, take the following recommendations into account:

- Try to ventilate the area sufficiently.
- Do not smoke, nor use fire or open flames.

***Environment: To** prevent harm to the environment, the machine must only be cleaned at a wash station provided for such purpose, or in a washing bay.*

NOTICE Clean with neutral soap.

Do not use flammable or abrasive cleaning products; using incorrect cleaning products or procedures damages the machine's operating safety and endangers the health of the cleaning staff.

NOTICE Do not use degreasing agents, solvents, acetone, etc. to clean plastic parts.

NOTICE When washing, do not direct pressurised water spray towards the following components:

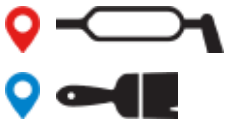
- Suction intake (air filter).
- Battery.
- Alternator.
- Control panel.
- Other electrical equipment which might get damaged.

Task	Description
Clean the signalling and lighting system. **ACCESSORY**	N/A
Clean the operator's position.	▪ Seat. **⚠ CAUTION** Keep the seat belt clean. Coarse dirt damages the operation of the lock and the roller. The seat belt must only be cleaned when it is fastened, using a mild soap solution. Do not clean it with chemical products, as they might damage the fabric. ▪ Cab floor. ▪ Access steps. ▪ Handles.
Cleaning the air filter.	Check the condition of the air filter and, if necessary, clean it following the procedure described in *"Changing or Cleaning the Air Filter"*.
Cleaning all identification plates and decals.	N/A
Check the saturation condition of the particulate filter (DPF). **PARTICULATE FILTER (DPF)**	If necessary, perform a manual regeneration. See *"Particulate filter (DPF) regeneration" in Chapter 5*.

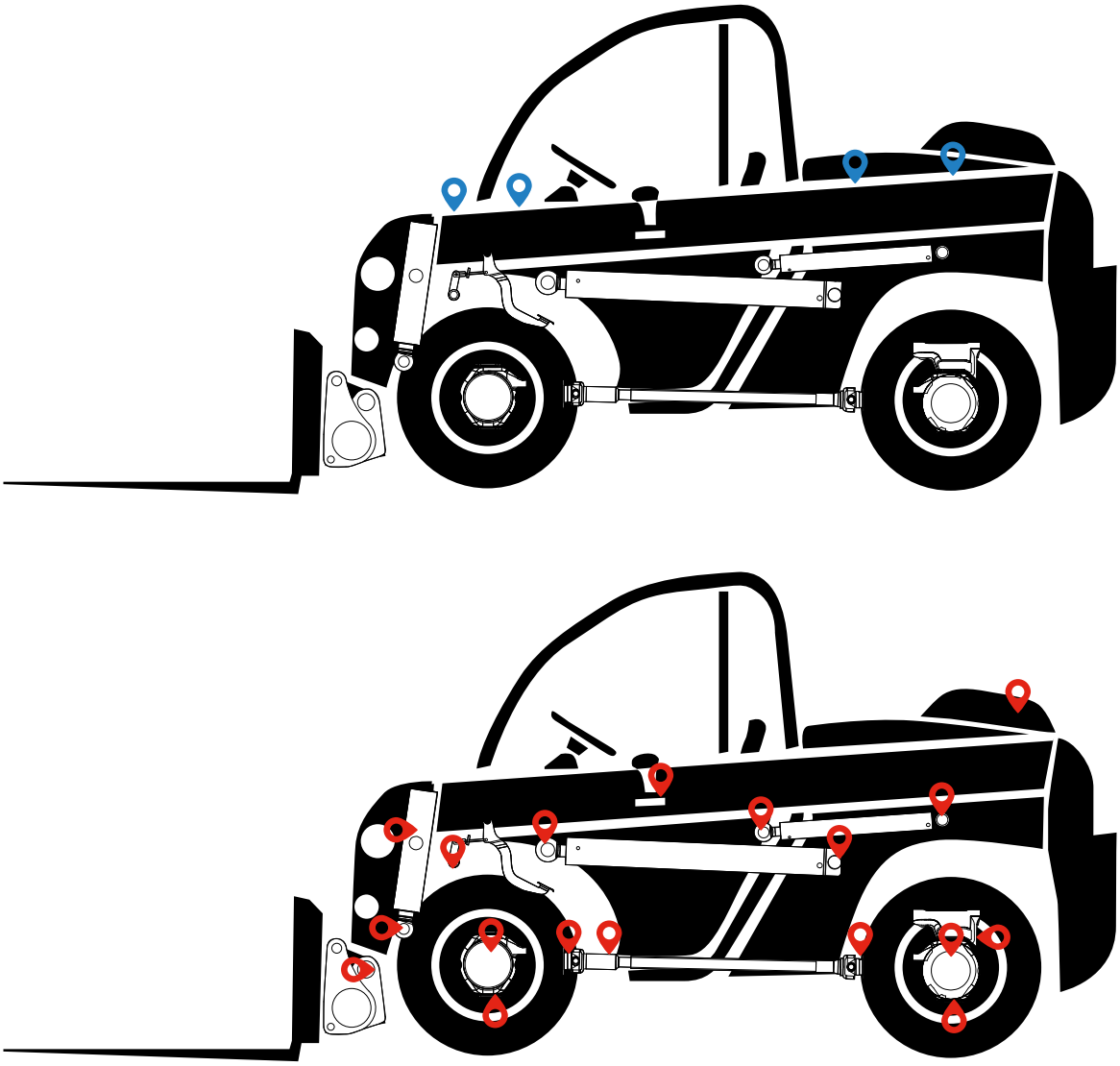
AT THE BEGINNING OF THE SHIFT

NOTICE If any anomaly is detected during this inspection, contact the official AUSA distributor.

Every 50 hours, and before using the machine, the following checks should be carried out, together with those relative to basic maintenance every 8 hours.

Task	Description
If the machine includes accessories, carry out their appropriate maintenance operations. **ACCESSORY**	The maintenance tasks for optional elements are described in *Chapter 9*.
Retighten the fastening nuts on the wheels.	Front and rear wheels: **350 ± 50 Nm**.
Emptying water from the fuel prefilter.	See the procedure described in *"Emptying water from the fuel prefilter"*.
Lubricating all grease points.	The greasing points are indicated with the following icons in the figure below: 

AT THE BEGINNING OF THE SHIFT



AT THE END OF THE SHIFT

Task	Description
Clean the radiator.	**⚠ CAUTION** Allow the radiator to cool down before cleaning. **⚠ CAUTION** Use gloves to remove external residues from the radiator. **NOTICE** Do not use high-pressure water to clean the radiator fins, as they might get damaged. **NOTICE** Direct the water spray parallel to the radiator fins.

INTENTIONALLY BLANK PAGE

INITIAL INSPECTION

A general inspection of the machine's main components should be completed within the first 50 hours or 30 days of the machine's operation (whichever comes first).

To carry out this inspection, it is necessary to perform the following maintenance tasks, together with those relative to basic maintenance every 50 hours:

Task	Description
Changing the engine oil and oil filter.	See *MTR.R.01 in the Advanced maintenance manual.*
Changing the hydraulic oil filter cartridge.	See *HDR.R.01 in the Advanced maintenance manual.*
Checking the tension of the alternator belt.	See *MTR.R.02 in the Advanced maintenance manual.*
Changing the fuel prefilter.	See *SAC.R.02 in the Advanced maintenance manual.*
Changing the oil from the differentials and the hub reductions. (1)	See *TRN.R.01 in the Advanced maintenance manual.*
Changing the oil from the transfer box. (1)	See *TRN.R.02 in the Advanced maintenance manual.*
Tighten the parking brake.	N/A

(1) Although AUSA recommends an oil change during the check after the initial 50 hours, the axle manufacturer allows for this change to be made after 100 hours and within no more than 250 hours.

INTENTIONALLY BLANK PAGE

ADVANCE MAINTENANCE EVERY 250 HOURS

Every 250 hours, the following tests should be performed, together with:

- those relative to basic maintenance every 8 hours.
- those relative to basic maintenance every 50 hours.

Task	Description
Changing the engine oil and oil filter.	See *MTR.R.01 in the Advanced maintenance manual.*
Checking the tension of the alternator belt.	See *MTR.R.02 in the Advanced maintenance manual.*
Changing the fuel prefilter. [2]	See *SAC.R.02 in the Advanced maintenance manual.*
Changing the fan filter inside the cab. **ACCESSORY**	See *"Changing or cleaning the fan filter inside the cab"*.
Checking the radiator hoses and clamps.	N/A.
Checking for wear on the telescopic boom skids.	N/A.
Check all mechanic anchor points.	Check that there are no abnormal noises or vibrations in the following items: ▪ Engine. ▪ Transmission. ▪ Exhaust system. ▪ Hydraulic system. ▪ Counterweight. ▪ Mobile parts. ▪ Chassis.
Check the battery connections.	▪ Inspect the battery to confirm that there is no external damage. ▪ Verify that there has not been electrolyte loss. ▪ If there is rust on the terminals, clean them and apply dielectric grease or Vaseline.
If the machine includes accessories, carry out their appropriate maintenance operations. **ACCESSORY**	The maintenance tasks for optional elements are described in *Chapter 9*.

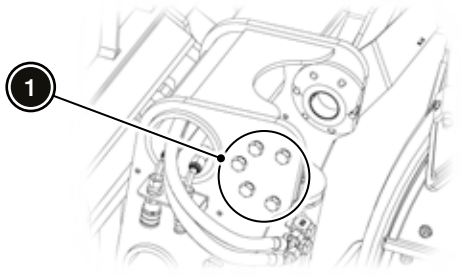
[2] Or yearly, whichever comes first.

INTENTIONALLY BLANK PAGE

ADVANCE MAINTENANCE EVERY 500 HOURS

Every 500 hours, the following tests should be performed, together with:

- those relative to basic maintenance every 8 hours.
- those relative to basic maintenance every 50 hours.
- those relative to basic maintenance every 250 hours.

Task	Description
Changing the engine oil and oil filter.	See *MTR.R.01 in the Advanced maintenance manual.*
Changing the air filter. [2]	See "Changing or cleaning the air filter".
Changing the fuel filter. [2]	See *SAC.R.01 in the Advanced maintenance manual.*
Changing the alternator belt. [3]	See *MTR.R.02 in the Advanced maintenance manual.*
Changing the coolant fluid.	See *REF.R.01 in the Advanced maintenance manual.*
Cleaning the fuel tank.	See *SAC.R.02 in the Advanced maintenance manual.*
Inspecting the tightness of the universal joint fixing nuts.	N/A
Checking the fixing screws (1) on the upper brackets of the tilting cylinder.	 Tightening torque: **160 Nm**.
Calibrating the overload system	See *Roll Over Protective Structure COBO Technical Manual.*
Ensuring the counterweight is properly attached.	N/A.

[2] Or yearly, whichever comes first.
[3] Or biannually, whichever comes first.

INTENTIONALLY BLANK PAGE

ADVANCE MAINTENANCE EVERY 1,000 HOURS

Every 1,000 hours, the following tests should be performed, together with:

- those relative to basic maintenance every 8 hours.
- those relative to basic maintenance every 50 hours.
- those relative to advanced maintenance every 250 hours.
- those relative to advanced maintenance every 500 hours.

Task	Description
Changing the hydraulic oil and cleaning the oil filter.	See *HDR.R.01 in the Advanced maintenance manual.*
Changing the hydraulic oil filter cartridge.	See *HDR.R.02 in the Advanced maintenance manual.*
Changing the oil from the differentials and the hub reductions.	See *TRN.R.01 in the Advanced maintenance manual.*
Changing the oil from the transfer box.	See *TRN.R.02 in the Advanced maintenance manual.*
Changing the fan filter inside the cab. **ACCESSORY**	See *"Changing or cleaning the fan filter inside the cab".*
Checking the set of valves.	See the *Engine workshop manual.*
Checking the DPF rubber sleeve. (2)	See the *Engine workshop manual.*
Checking the EGR valve rubber sleeve. (2)	See the *Engine workshop manual.*
Checking the exhaust manifold. (2)	Cracks, gas leaks, anchors or damage.

(2) Or yearly, whichever comes first.

INTENTIONALLY BLANK PAGE

ADVANCE MAINTENANCE EVERY 1,500 HOURS

Every 1,500 hours, the following tests should be performed, together with:

- those relative to basic maintenance every 8 hours.
- those relative to basic maintenance every 50 hours.
- those relative to advanced maintenance every 250 hours.
- those relative to advanced maintenance every 500 hours.

Task	Description
Checking the injection pressure of the fuel injection nozzle.	See the *Engine workshop manual.*
Checking the EGR valve cooler.	See the *Engine workshop manual.*
Replacing the oil separator element.	See the *Engine workshop manual.*
Checking the positive crankcase ventilation valve (PCV).	See the *Engine workshop manual.*
Changing the air-filter intake hose. (3)	N/A
Replacing the rubber oil separator hose. (3)	See the *Engine workshop manual.*
Replacing the rubber DPF hose. (3)	See the *Engine workshop manual.*
Replacing the intake hose (after the air flow sensor). (3)	See the *Engine workshop manual.*
Replacing the pressurised rubber hose of the differential pressure sensor. (3)	See the *Engine workshop manual.*
Replacing the rubber hose of the EGR valve radiator. (3)	See the *Engine workshop manual.*
Replacing all engine water hoses. (3)	See the *Engine workshop manual.*
Replacing all engine oil hoses. (3)	See the *Engine workshop manual.*
Changing the radiator hoses and clamps. (3)	N/A
Changing the fuel hoses and clamps. (3)	N/A
Changing the brake fluid. (3)	N/A
Changing the battery.	N/A

(3) Or biannually, whichever comes first.

INTENTIONALLY BLANK PAGE

ADVANCE MAINTENANCE EVERY 3,000 HOURS

Every 3,000 hours, the following tests should be performed, together with:

- those relative to basic maintenance every 8 hours.
- those relative to basic maintenance every 50 hours.
- those relative to advanced maintenance every 200 hours.
- those relative to advanced maintenance every 1,000 hours.
- those relative to advanced maintenance every 1,500 hours.

Task	Description
Checking the turbo compressor.	See the *Engine workshop manual*.
Checking the EGR valve system.	See the *Engine workshop manual*.
Cleaning the DPF. **PARTICULATE FILTER (DPF)** [4]	N/A
Changing the telescopic boom skids.	N/A
Changing the hydraulic hoses and connections. [4]	N/A

[4] Between 3,000 and 6,000 hours. It will depend on each machine's conditions of use.
[5] Or every six years, whichever comes first.

INTENTIONALLY BLANK PAGE

9

ACCESSORIES

CONTENTS INDEX

LIST OF MACHINE ACCESSORIES

The machine may include the following accessories.

Information: *For additional information, consult the official AUSA dealer.*

Driver's seat
Soundproof ROPS/ FOPS heated operator cab.
Closed, soundproof operator cab with air conditioning system.
Implements plates
Implements plate with UNIVERSAL quick hydraulic coupling, with 5th bimanual auxiliary hydraulic coupling.
Implements plate with EURO 8 quick hydraulic coupling, with 5th bimanual auxiliary hydraulic coupling.
Safety
Front windscreen protective grill.
Lighting and driving
Approved lighting equipment.
3rd work light.
Advanced equipment
Inverse controls on joystick.
Accessories
Car radio (only on closed cab).
Nordic countries finish (92 Ah battery, antifreeze liquid and oils for low temperatures).
Sealed case for holding manuals.
Ball-type tow bar.
5th auxiliary hydraulic coupling.
Continuous flow with 4th auxiliary hydraulic coupling.
Continuous flow with 5th auxiliary hydraulic coupling.
Ball tow bar.
Rear electrical outlet for tow bar.
Air filter with cyclonic prefilter.
Non-standard paint colour (only pieces that were originally orange).
Biodegradable hydraulic oil.

Forks
1,200 mm folding forks.
1,200 mm load protector (only available with AUSA manual implements plate and UNIVERSAL hydraulic implements plate).
FEM II fork carriage with side shift and 1,200 mm load protector (with UNIVERSAL hydraulic accessories hitch only).
Implements
Hydraulic bucket (600 litre capacity; 1,660 mm width). For AUSA manual implements plate.
Hydraulic bucket (600 litre capacity; 16,60 mm width). For UNIVERSAL hydraulic implements plate.
Hydraulic bucket (600 litre capacity; 1,660 mm width). For EURO 8 hydraulic implements plate.
Hydraulic bucket (700 litre capacity; 2,050 mm width). For AUSA manual implements plate.
Hydraulic bucket (700 litre capacity; 2,050 mm width). For UNIVERSAL hydraulic implements plate.
Hydraulic bucket (700 litre capacity; 2,050 mm width). For EURO 8 hydraulic implements plate.
4X1 multifunction hydraulic bucket (1,620 mm width). For AUSA manual implements plate.
4×1 multifunction hydraulic bucket (16,20 mm width). For UNIVERSAL hydraulic implements plate.
Transportation
Customs photographs.
Tyres
All terrain wheels 27x10-12" - TT 14PR (SSL type). Tyre width 256 mm; machine width 1,960 mm; total machine height 1,960 mm.
Regional regulations
French finishes.
Spare Parts
▪ Standard spare tyre (1 unit). ▪ Low profile tyre 27x10-12" TT 14PR (with T 204 H only). ▪ Large tyre 12x16.5" (with T 235 H only).

INTENTIONALLY BLANK PAGE


AUSA

INTENTIONALLY BLANK PAGE

AUSA Centre
C/ Castelladral 1
08243 Manresa - BARCELONA
+34 93 874 73 11
ausa@ausa.com

AUSA Spain
Pol. Ind. Coslada-Marconi 15-17
28823 Coslada - MADRID
+34 91 669 00 06
ausa.madrid@ausa.com

AUSA France
11 Rue Gustave Eiffel
66350 TOULOUGES
+33 (0) 468 54 38 97
ausa.france@ausa.com

AUSA Central Europe
+49 (0) 2384 9889905
info@ausa.de

AUSA U.K.
+44 (0) 7703 609009
ausa.uk@ausa.com

AUSA U.S.
400 Continental Blvd 6th Floor
90245 El Segundo, CA.
+1 (310) 426 2305
ausa.us@ausa.com

AUSA Brazil
Avenida Belizario Ramos 2276
Lages - SC, 88506-000
+55 11 9 87866014
ausa.brasil@ausa.com

AUSA China
Room 403, Moma Building, N.199
Chaoyang bei road, Chaoyang District
100026 BEIJING
+86 10 8598 7386
ausa.china@ausa.com

ER 0887/1997

GA 2002/0405

Distribuído por *Distribué par* ***Distributed by*** *Verteilt durch:*

www.ausa.com