C 150 H
C 150 Hx4

Chassis number 00083108 and after.

OPERATOR'S MANUAL

ENGLISH
Original Manual

12.14GB0.00
Revision D

TECHNICAL DOCUMENT

AUSA

C 150 H
C 150 Hx4

Tier 4 final / Stage V emissions level engine.

above chassis number 00083108

Original Manual

Updates chart

Date	Revision	Updates
22/03/2019	A	New version based on the following publication: - MOP 220716 04
21/07/2022	B	Change load chart plate.
6/10/2022	C	Add requirements for machines being placed on the Great Britain market after Brexit.
07/06/2023	D	- Change the nomenclature of the overhead guard. - Revision of tightening torques of rear axle wheel nuts.

Foreword

■ Thank you for selecting this model of AUSA forklift truck (hereafter called forklift), which offers you the best in terms of value for money, safety and operating comfort.

The preservation of these qualities over a long period of time lies in your hands.

The correct use of your dumper will allow you to make the most of its potential.

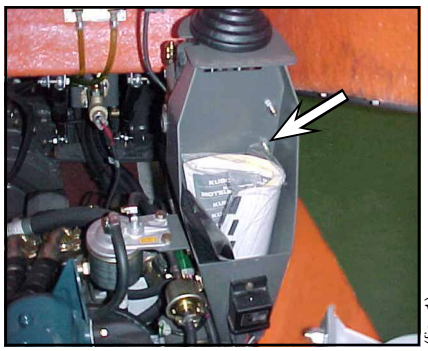
We recommend you read and study the operator's manual before using the forklift; this is to instruct all individuals who may come into contact with the forklift, especially the operator. The contents of the manual will help you to get to know your AUSA dumper, including: everything concerning start-up, driving method, maintenance, preservation, the uses for which it is designed and the safety instructions that should be kept in mind.

Any damage resulting from the incorrect use of the dumper shall not be deemed to be the responsibility of AUSA.

In the event of query, complaint or to place an order for spares, please contact an authorized AUSA representative or dealer.

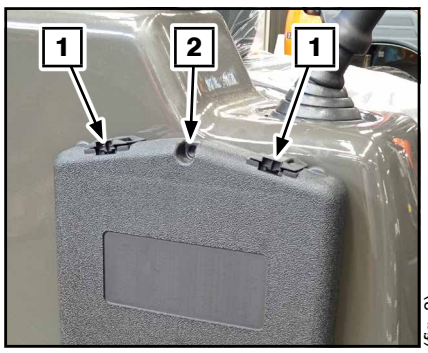
For further information, please contact:

AUSA Center, S.L.U.
Apartado P.O.B. 194
08243 MANRESA (Barcelona) SPAIN
Tel. 34 - 93 874 75 52 / 93 874 73 11
Fax 34 - 93 873 61 39 / 93 874 12 11 / 93 874 12 55
E-mail: ausa@ausa.com
Web: http://www.ausa.com



(fig. 1)

(fig. 2)



(fig. 3)

AUSA is continually improving its products and reserves the right to make the necessary modifications, without being obliged to incorporate these modifications into previously sold products. As such, we will not accept claims that are based on the data, illustrations or descriptions included in these instructions.

Only original AUSA spare parts should be used. This is the only way to guarantee that AUSA machinery has the same operational level as at the time of delivery.
No alterations should be made to the dumper without the prior authorization of the manufacturer.

Keep this manual in the hydraulic control valve hollow support. To accede to it, lean the mast forwards and turn around the cabin **(fig. 1)**.

As optional equipment or for special finishing it is offered a documents holder for manuals in the left side of the bonnet **(fig. 2)**.

To open the manuals holder, pull the attaches **(1) (fig. 3)** and open the cover.

The manual holder has an anti-vandal system to insert a lock or similar **(2) (fig. 3)**.

Foreword

CAUTION

If conflict is identified between the content of this manual and the actual operation of the machine, this may be due to the manual relating to a more recent version of the machine or to the manual not having been updated since modifications to the machine.
In this case, contact your Official AUSA Importer or Dealer to clarify any doubts or obtain another version of this manual.

Optional equipment:
Optional equipment is indicated with the following symbol (✶).
Optional equipment will only be supplied at the express request of the customer and for specific versions or countries.

Symbols

When using the forklift, you may find yourself in situations where specific considerations or explicit explanations are required.
Situations involving a risk to your safety, the safety of others, the operating order, or correct use of the machine are marked in this manual with SPECIAL SYMBOLS and accompanied by specific instructions.
Although simply reading this information will not remove the risk, the understanding and application of the instructions will assist in the correct use of the machine.
Five special (safety) symbols are used in the manual. These symbols are displayed with key words classifying the degree of danger involved. Each symbol assists in identifying the corresponding risk and indicates the action to be taken to avoid the risk. The text may be accompanied by illustrations in some cases.
The following is a list of the special (safety) symbols in order of importance:

DANGER

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

WARNING

Indicates a hazardous situation which, if not avoided, will result in minor injury or the ineffective operation of the machine.

CAUTION

Indicates situations relating to the operation of the machine.
Indicates situation which, if not avoided, will result in ineffective operation of the machine.

ENVIRONMENTAL PROTECTION

The text following this symbol includes information on recycling and environmental information.

NOTE

Indicates additional information required to complete instructions.

Symbols

WARNING

When reading this manual, pay close attention to the special symbols and explanations next to these symbols.

Contents

Uses and improper uses of the forklift

■ Uses for which the forklift is designed

Forklifts C 150 H / C 150 Hx4 have been designed and manufactured for lifting, handling and transporting loads on rough ground and industrial use. The safety of individuals and of the loads carried must be ensured through the use of forks or other accessories and equipment.

Rough terrain use.

This forklift truck is designed for transporting and lifting loads on grounds not in good condition, roughly flat, not too steep slopes and small obstacles, so that the stability conditions are not optimal.

Any use other than that described above shall be considered inappropriate and therefore improper.

Strict adherence to the operating, maintenance and repair conditions specified by the manufacturer are essential in order to maintain the forklift in good working order.

Driving, maintenance and repair of the forklift should only be carried out by suitably qualified personnel, with the necessary tools and knowledge of the control and safety procedures relative to the forklift. When handling loads or carrying out maintenance and/or repair work, the occupational health and safety regulations, together with those relative to accident prevention, should be observed.

When driving with the forklift on public highways, special care should be taken to ensure compliance with the current legislation for this type of machine (Highway Code).

AUSA does not assume responsibility for any damage resulting from modifications made to the forklift without express authorization.

❀ The texts following this symbol provide information on recycling and protecting the environment.

■ Improper use

Improper use is understood to mean the use of the forklift in a manner not in keeping with the criteria and instructions given in this operator's and safety manual and in a way which might cause damage to persons or objects.

Some of the more common and dangerous examples of improper use are given below:

- The transport of suspended loads. In case of carry out this application, take the appropriate precautions or consult an authorised AUSA dealer.
- Carrying persons other than the operator on the forklift.
- Not strictly observing the instructions for use and maintenance given in this operator's and safety manual.
- Exceeding the limits for load and center of gravity given in the relevant load charts.
- Working on unstable, unshared grounds or at the edges of trenches and ditches.
- Working on excessively steep slopes.
- The use of accessories or equipment for purposes other than those for which they have been designed.
- The use of accessories or equipment not manufactured or authorized by AUSA.

Forklift identification

NOTE

When contacting AUSA or their dealers with respect to your forklift, you should give the following details: Model, date of purchase, chassis number and engine number. This data is shown on the identification plate.

For ease of access, write this information in the spaces given below:

Forklift model:.....

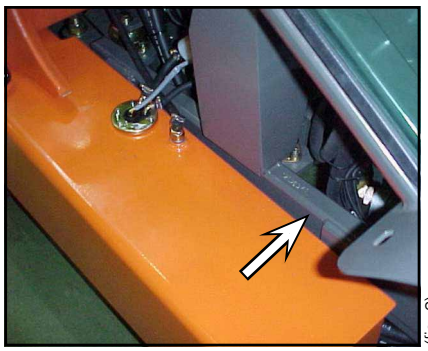
Date of purchase: .....

Chassis serial number: .....

Engine serial number: .....

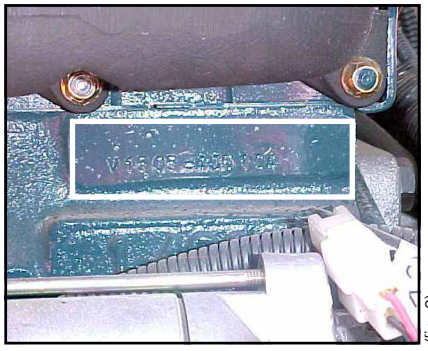
(fig. 1)

■ **Machine identification plate (fig. 1)**
This is located on the left-hand side engine cover under the driver's seat. It includes the CE mark.



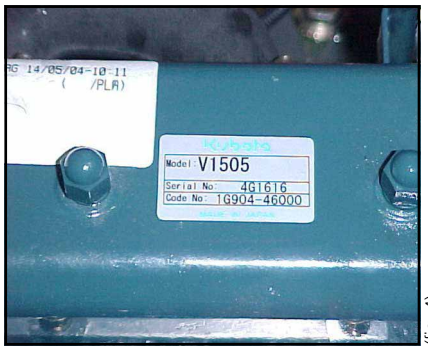
(fig. 2)

■ **Chassis number (fig. 2)**
This is engraved on the right-hand front cross of the chassis.



(fig. 3)

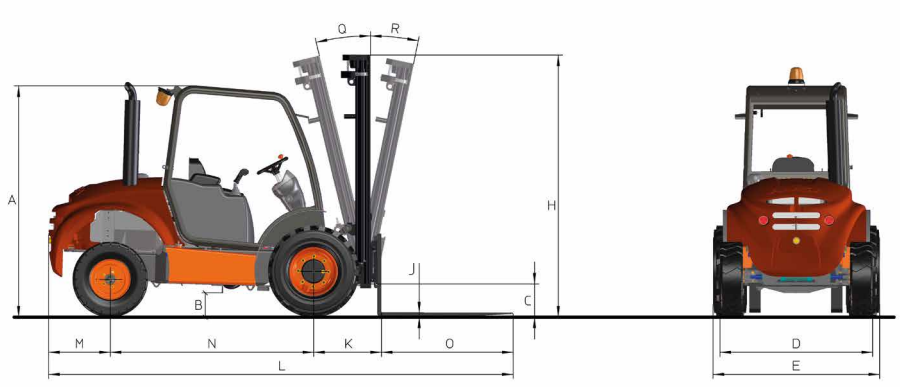
■ **Chassis number (fig. 3, 4)**
This is engraved on the right-hand side of the engine, below the exhaust manifold and is also given on a label on the rocker arm cover.



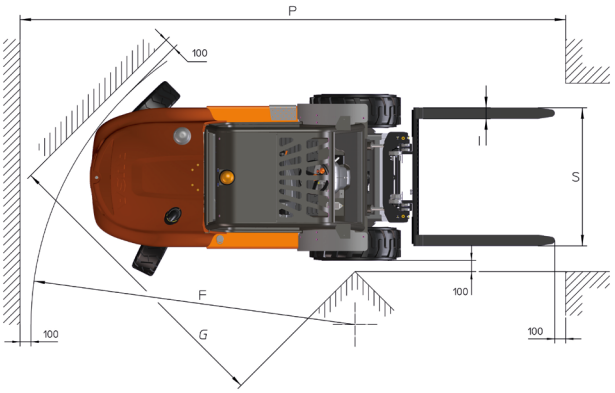
(fig. 4)

■ **Identification plates for the main components**
The identification plates corresponding to all those components not directly constructed by AUSA (for example: engines, pumps, etc.) are located on the components themselves, in the positions in which the respective manufacturers originally placed them.

Technical specifications



■ Aisle widths



	MACHINE MESURES (mm)	
	C 150 H	**C 150 Hx4**
A	2,000	2,040
B	210	240
C	215	205
D	1,227	1,247
E	1,300	1,300
F	2,570	4,000
G	2,420	2,500
I	100	100
J	35	35
K	510	510
L	3,630	3,630
M	425	390
N	1,710	1,740
O	1,000	1,000
P	4,280	5,710
S	1,260	1,260

	Degrees (º)	
Q	11	11
R	12	12

Technical specifications

Máquina	Unidad	C 150 H	C 150 Hx4
SPECIFICATIONS AND WEIGHTS			
Load capacity at 500 mm	kg	1,500	
Load capacity at 600 mm	kg	1,350	
Weight	-	-	
Unladen weight (*)	kg	2,700	
Technically permissible maximum mass	kg	4,300	
Maximum towing mass	-	-	
Trailer without brakes	kg	750	
Trailer with brakes	kg	1,500	
Maximum speed	km/h	20	
Gradeability	%	25	
Service temperature	ºC	-15 a 40	
Fuel tank capacity	l	45	
TRANSMISSION			
Type	-	Hydrostatic	
Max. Service pressure	bar	320	
Forward / Reverse selector	-	Electro-hydraulic by a switch under the joystick	
Number of speeds	-	2 speeds	
Drive pump	-	Variable displacement axial piston pump and automatic adjustment	
Drive motor	-	Variable displacement axial piston motor and 2 speeds selectable by the operator.	
Front axle	-	AUSA design - Straight with differential and wheel epicyclic gearing	
Rear axle	-	AUSA design - Steering with differential and wheel epicyclic gearing	
Traction	-	4x2	4x4 (8)
Front tyres (std) (9)	-	10.0/75-15.3	
Inflation pressures	bar	5	
Speed and load index (7)	-	131/A4	
Rear tyres (std) (9)	-	6.00-9	23x8.5-12
Inflation pressures	bar	8.5	4.5
Speed and load index (7)	-	98/A4	
MAST			
Fork carriage	-	FEM 2	
Carriage width	mm	1,260	
Lifting speed	-	-	
Without load	-	-	
Max. rpm	m/s	-	
Idle speed	m/s	-	
With load	-	-	
Max. rpm	m/s	-	
Idle speed	m/s	-	
Lowering speed		-	
Without load	-	-	
Max. rpm	m/s	-	
Idle speed	m/s	-	
With load	-	-	
Max. rpm	m/s	-	
Idle speed	m/s	-	

Technical specifications

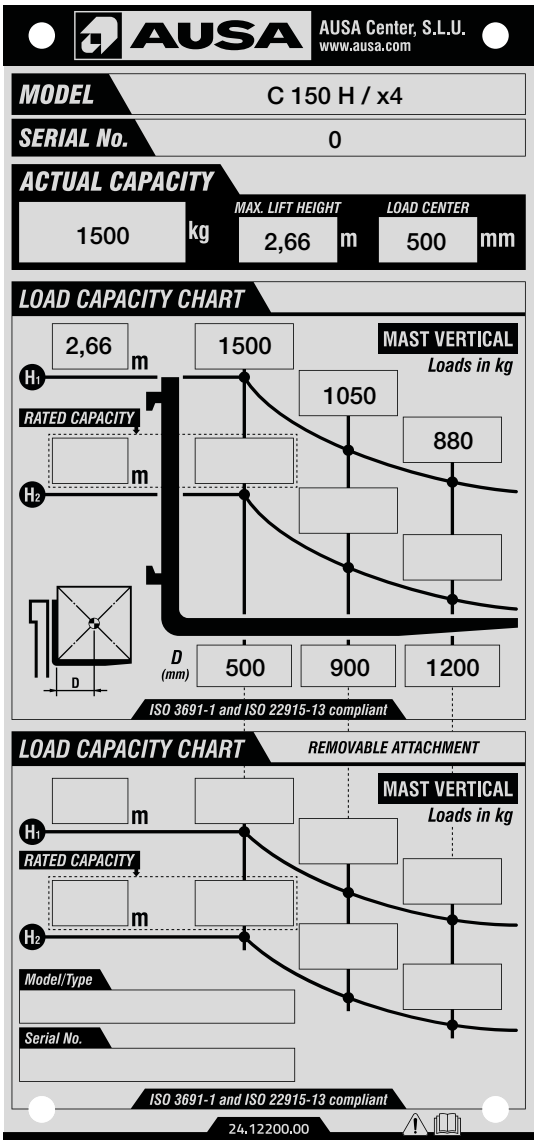
Máquina	Unidad	C 150 H	C 150 Hx4
ENGINE			
Brand	-	Kubota	
Model	-	V1505-E4B	
Power (SAE J1995)	kW	18.5	
Maximum function engine speed	rpm	2,300	
Max torque (SAE J1995)	N·m@rpm	92.6@1,700	
Nº of cilinders	-	4	
Exhaust values according to	-	EU Stage V + EPA/CARB Tier 4	
Fuel consumption (1)	l/h	3.8	
CO_2 (1)	kg/h	9.9	
Cooling system	-	Water - oil radiator	
STEERING			
Design	-	Hydraulic power steering - Two ways acting ram	
WORK HYDRAULICS			
Hydraulic tank capacity	l	40	
Principal hydraulic pump	-	Double-gear coupled in the hydrostatic pump	
Capacity	cc/rev	10.6	
Flow rate (max. rpm)	l/min	22	
Max. Service pressure	bar	200	
Steering hydraulic pump	-	Double-gear coupled in the hydrostatic pump	
Capacity	cc/rev	6	
Flow rate (max. rpm)	l/min	12	
Max. Service pressure	bar	140	60
Control valve	-	Monoblock 2 spools control valve and selecctor manifold	
ELECTRIC SYSTEM			
Starter motor	Kw	1.4	
Alternator & regulator	A	60	
Battery	V-Ah-A	12-70-640	
BRAKES			
Service	-	In the front axle. Totally enclosed multiplate oil immersed discs. Hydraulically operated.	
Parking	-	In the front axle. Totally enclosed multiplate oil immersed discs. Mecanically operated.	
SOUND LEVELS			
Sound power level A-weighted measured in the environment LwA(2)	dB(A)	98	
Sound power level A-weighted warranteed in the environment LwA(4)	dB(A)	101	
Measured uncertainty KpA(4)	dB(A)	2	
Sound pressure level A-weighted at operator's position LpA (open cabin)(3)	dB(A)	85	
Sound pressure level A-weighted at operator's position LpA (closed cabin)(3)	dB(A)	-	
VIBRATION LEVELS			
Average acceleration value to whole body(5)	m/s^2	<0.5	
Average acceleration value to arm-hand(6)	m/s^2	<2.5	

(1) Test according to standard VDI2198.
(2) According to directive 2000/14/EC and Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001.
(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) Tyres with a combination of different loads index and speed rates than those indicated, can give equivalent results in terms of load and speed conditions required for each vehicle according to the specifications of load variation with speed reduction established by the E.T.R.T.O. technical manual.
(8) AUSA FullGrip® SYSTEM is a 4wd by friction discs, hydraulically engaged pressing the button located underneath the joystick handle.
(9) Optional tyres specifications.
(*) This data can vary depending on the optional equipment.

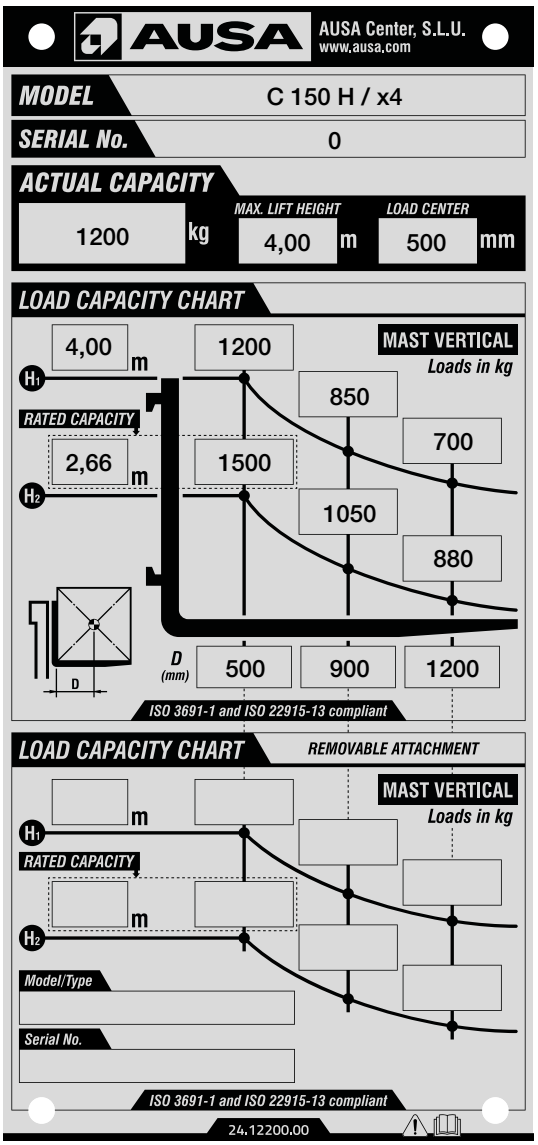
Technical specifications

Load charts for C 150 H / C 150 Hx4 (500 mm. load center)

DUPLEX MAST 2.66 m

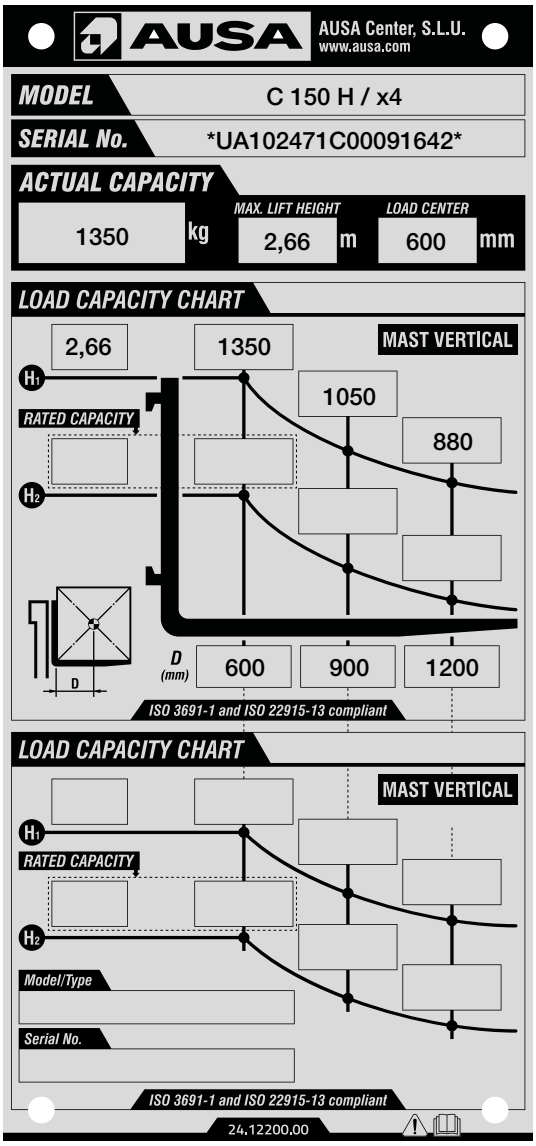


TRIPLEX MAST 4 m

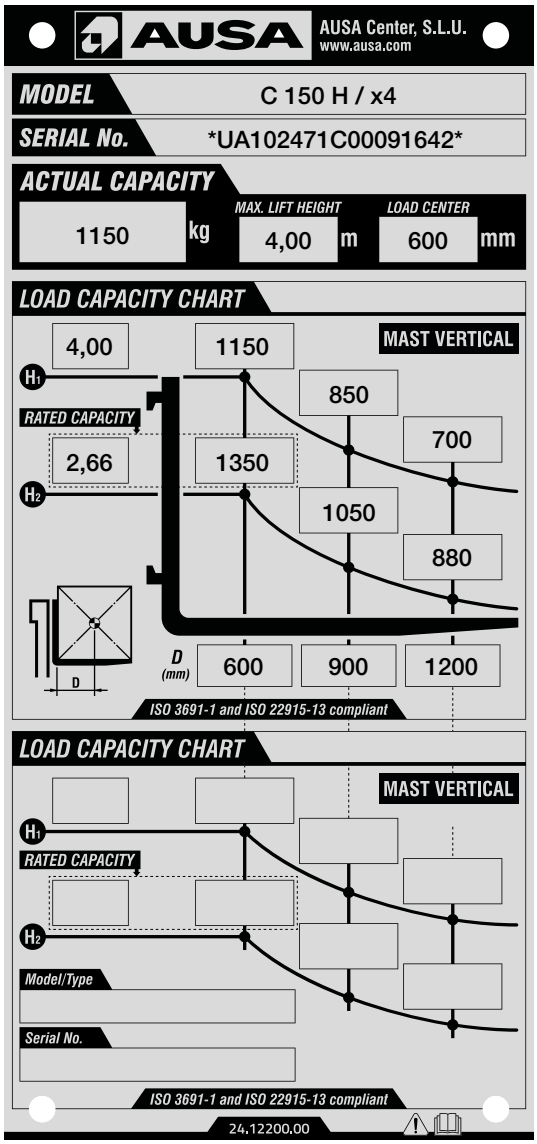


Load charts for C 150 H / C 150 Hx4 (600 mm. load center) with mast vertical (ONLY AUSTRALIAN MARKET)

DUPLEX MAST 2.66 m

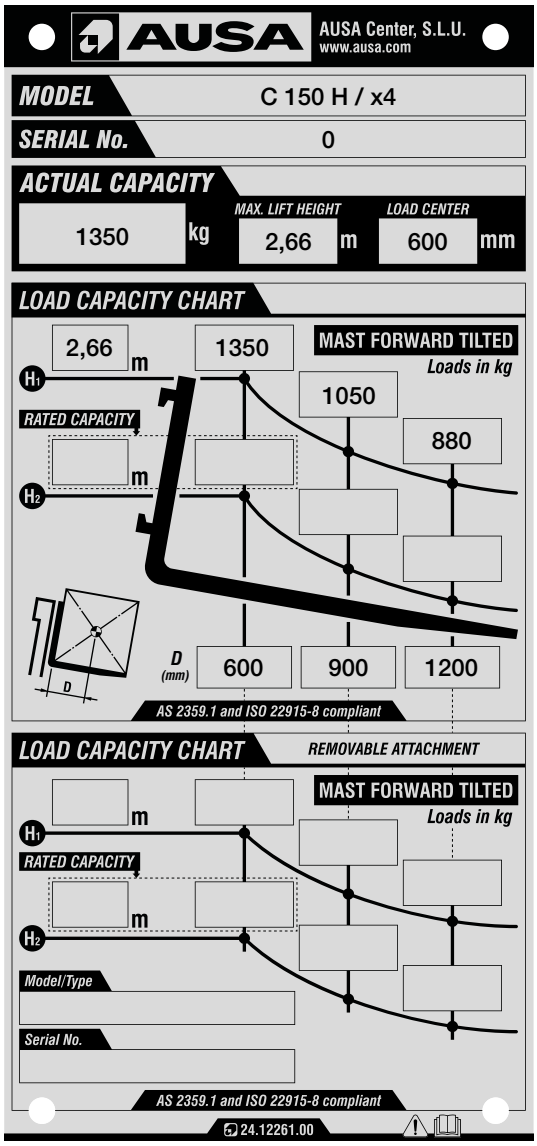


TRIPLEX MAST 4 m

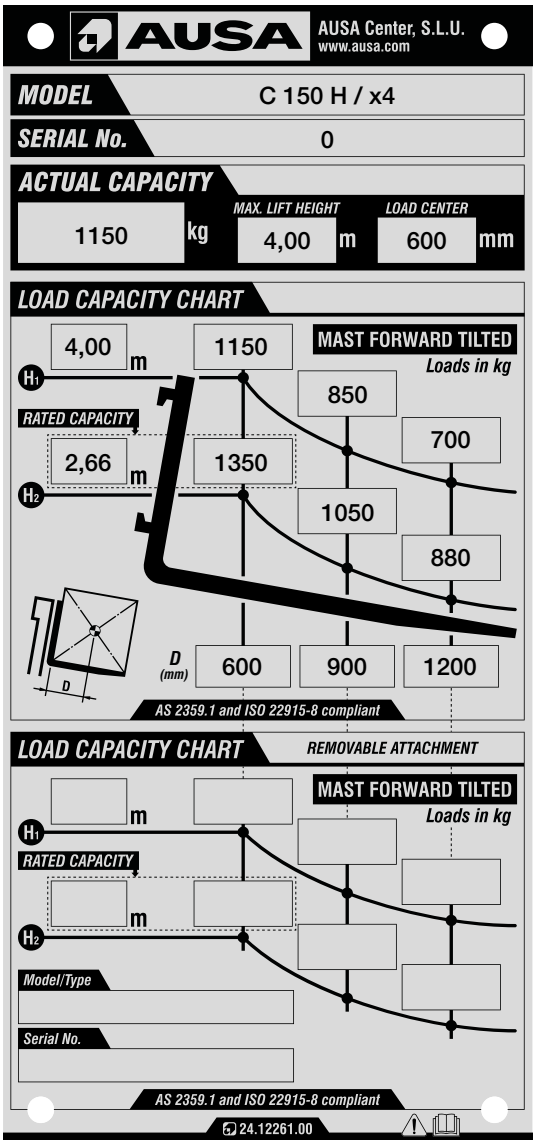


Load charts for C 150 H / C 150 Hx4 (600 mm. load center) with mast forward tilted (ONLY AUSTRALIAN MARKET)

DUPLEX MAST 2.66 m

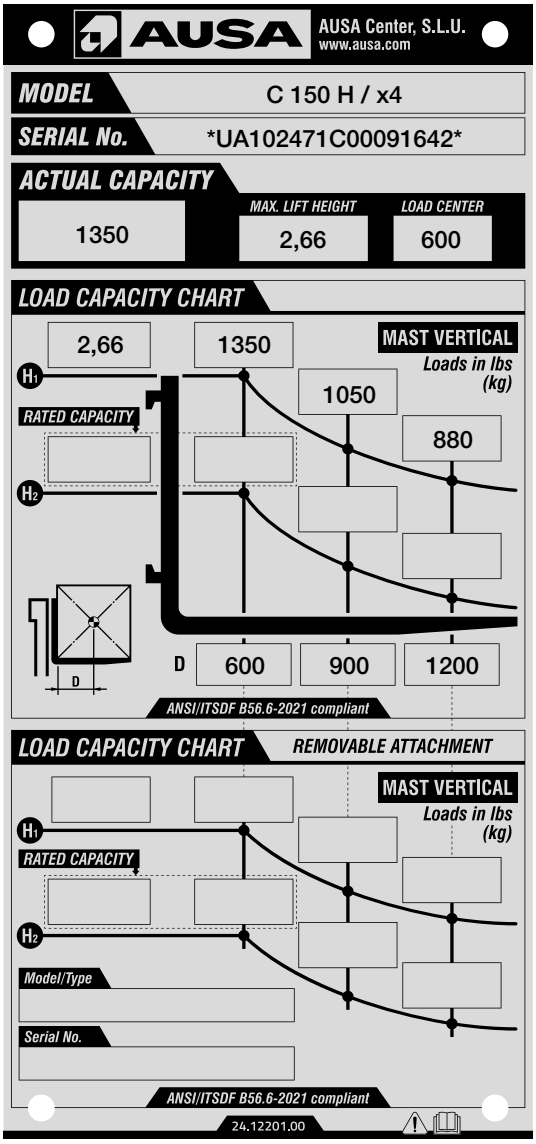


TRIPLEX MAST 4 m

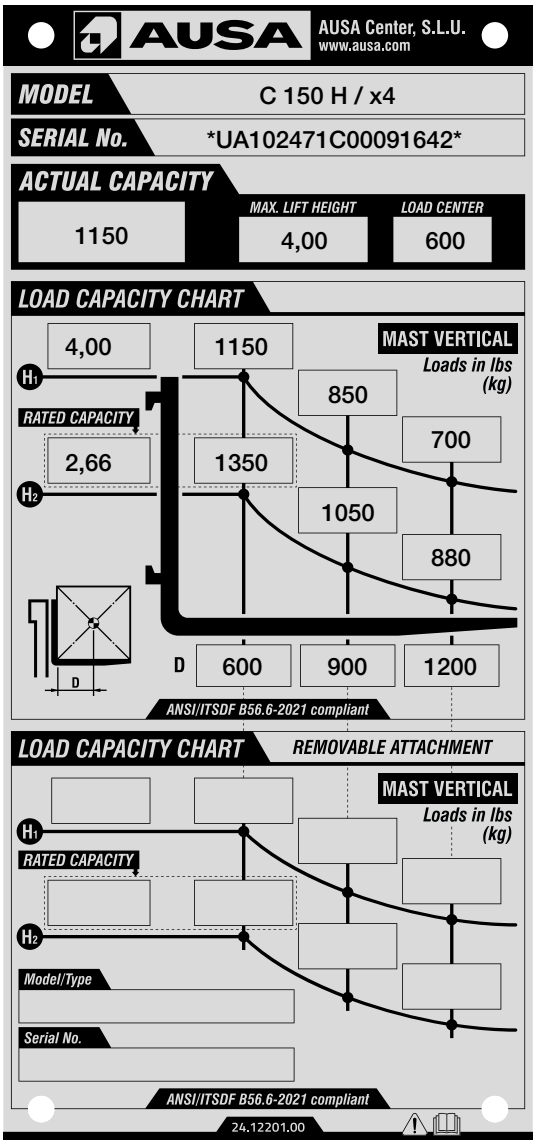


Load charts for C 150 H / C 150 Hx4 (600 mm. load center) with mast vertical (ONLY NEW ZEALAND MARKET)

DUPLEX MAST 2.66 m



TRIPLEX MAST 4 m



See annex for instructions of accessories or special finishes (if equipped).

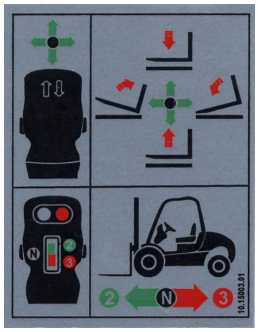
Technical specifications

■ **Optional equipment**

- Triplex mast 4 m
- Semi-closed cab with front and rear windscreens
- Fully closed, soundproof cab with heating
- GPS trackunit (only for C 150 Hx4)
- Waterproof documents holder
- Certified light equipment.
- Front and rear work lights
- Extra comfort seat, fully adjustable
- Emergency stop
- Cab with Nordic country finishing
- Fork 1,200 mm
- Load backrest support 1,260 mm
- Hydraulic line on fork carriage (4th valve C/CPL-Mast 2,66 m)
- Hydraulic line on fork carriage (4th valve C/CPL-Mast 4 m)
- Air filter with cyclone pre-filter
- Fuel water separator
- Exhaust spark arrestor
- Bio hydraulic fluid environmental friendly
- Non-standard paint colour
- Hydraulic shovel 420 l
- Load shock absorber
- Spare Wheel
- Maintenance kit (1,000 h)

Plates and decals

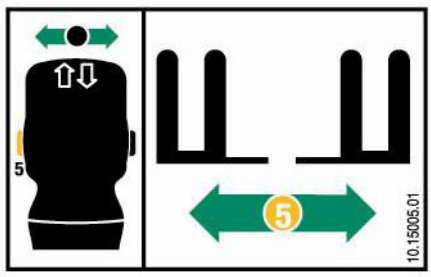
DECAL: JOYSTICK FUNCTION		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
10.15003.01	INDICATIVE DECAL 60X75	1



POSITION:

Stuck on the inside of the right front fender, in the top center position.

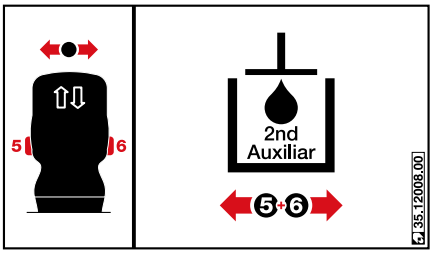
DECAL: JOYSTICK FUNCTION BUTTONS		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
10.15005.01	INDICATIVE DECAL MAST SIDE SHIFT	1



POSITION:

Stuck on the inside of the right front fender.

DECAL: JOYSTICK FUNCTION BUTTONS		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
35.12008.00	INDICATIVE DECAL 45x75 5TH V	1



POSITION:

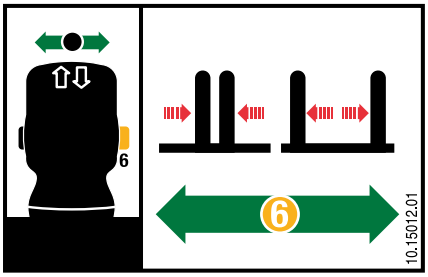
Stuck on the inside of the right front fender.

Plates and decals

DECAL:

JOYSTICK FUNCTION BUTTONS

PART NUMBER:	DESCRIPTION:	QUANTITY:
10.15012.01	INDICATIVE DECAL FORK POSITIONER	1



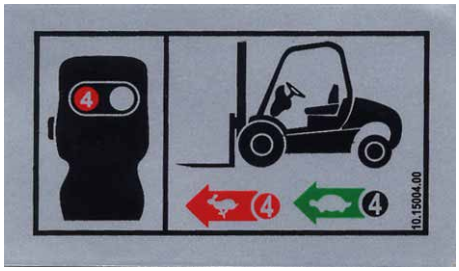
POSITION:

Stuck on the inside of the right front fender.

DECAL:

JOYSTICK FUNCTION BUTTONS

PART NUMBER:	DESCRIPTION:	QUANTITY:
10.15004.00	INDICATIVE DECAL	1



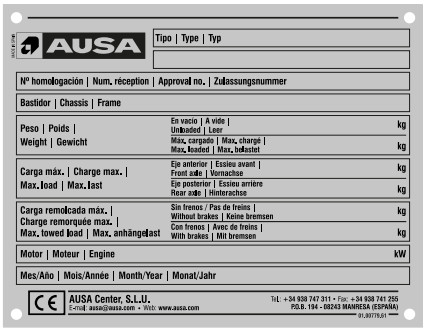
POSITION:

Stuck on the inside of the right front fender.

DECAL:

CHARACTERISTICS PLATE

PART NUMBER:	DESCRIPTION:	QUANTITY:
01.00779.61	PLATE CHARACTERISTICS 100x130	1



POSITION:

Riveted on top of the engine bulkhead, on its rear upper left-hand side (in forward direction of machine), in the holes prepared. Etched according to assembly instruction.

Plates and decals

DECAL: DANGEROUS AREA		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
45.01352.00	INDICATIVE DECAL	2

POSITION:

On both sides of the mast, above the beam.

DECAL: AUSA STICKER		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
09.09902.01	AUSA STICKER	2

POSITION:

On both sides of the mast, above the beam.

DECAL: AUSA		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
13.12136.00	AUSA STICKER	2

POSITION:

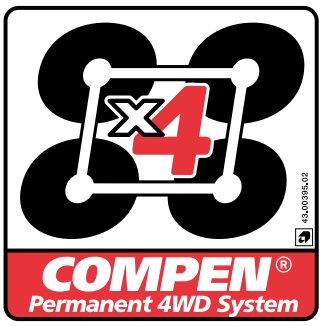
On both sides of the machine, at the bottom of the tank.

Plates and decals

DECAL:

COMPEN SYSTEM® (C 150 Hx4)

PART NUMBER:	DESCRIPTION:	QUANTITY:
43.00395.02	INDICATIVE DECAL 110X110	2



POSITION:

On both sides of the machine.

DECAL:

MACHINE MODEL INDICATION

PART NUMBER:	DESCRIPTION:	QUANTITY:
20.12001.01	INDICATIVE DECAL 45x175 MODEL C 150 H	2

POSITION:

On both sides of the machine.

PLATE:

AUSA ANAGRAM

PART NUMBER:	DESCRIPTION:	QUANTITY:
46.08099.00	AUSA ANAGRAM	1

POSITION:

Embedded in the cab front panel, on its outer side, in the upper left-hand part (in forward direction of machine).

Plates and decals

DECAL:
FRONT AXLE WHEELS INFLATED PRESSURE

PART NUMBER:	DESCRIPTION:	QUANTITY:
01.12106.01	INDICATIVE DECAL 5 BAR / 74 PSI / 500 KPA	2

POSITION:

On both sides of the machine, above the fenders of the front wheels, at the front outer end of the fenders, aligned with the outer edge.

DECAL:
REAR AXLE WHEELS INFLATED PRESSURE (C 150 Hx4)

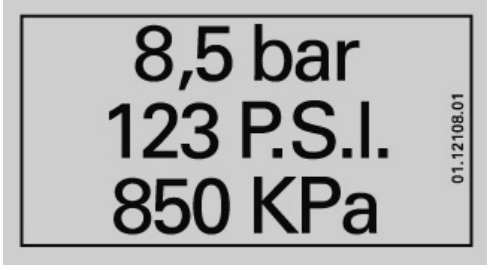
PART NUMBER:	DESCRIPTION:	QUANTITY:
01.12105.01	INDICATIVE DECAL 4,5 BAR / 66 PSI / 450 KPA	2

POSITION:

On both sides of the machine, on top of the vertical face, in the upper rear position of each tank, aligned with the bottom of the tank.

DECAL:
REAR AXLE WHEELS INFLATED PRESSURE (C 150 H)

PART NUMBER:	DESCRIPTION:	QUANTITY:
01.12108.01	INDICATIVE DECAL 8,5 BAR / 123 PSI / 850 KPA	2



POSITION:

On both sides of the machine, on top of the vertical face, in the upper rear position of each tank, aligned with the bottom of the tank.

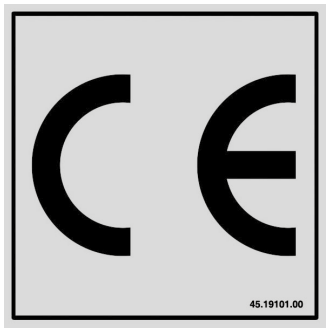
Plates and decals

DECAL:		
FUEL TYPE INDICATION		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
43.01356.01	INDICATIVE DECAL 90x45 FUEL	1

POSITION:

On the right tank of the machine, next to the fuel cap, aligned with the vertical outer wall of the tank.

DECAL:		
EC MARKING INDICATION (EXCEPT MACHINES BEING PLACED ON NON-EU MARKET).		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
45.19101.00	INDICATIVE DECAL 70x70	1



POSITION:

On the left side of the machine, at the bottom inner side of the front fenders.

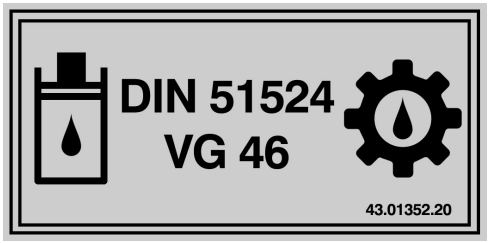
DECAL:		
UKCA MARKING INDICATION (ONLY MACHINES BEING PLACED ON THE GREAT BRITAIN MARKET AFTER BREXIT)		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
45.19102.00	INDICATIVE DECAL 70x70	1

POSITION:

On the left side of the machine, at the bottom inner side of the front fenders.

Plates and decals

DECAL:		
HYDRAULIC OIL TYPE		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
43.01352.20	INDICATIVE DECAL 70x32 HYDRAULIC OIL	1



POSITION:

On the left-hand side tank, below the filler cap, aligned with the inner edge of the tank, and centered with the cap.

DECAL:		
ENGINE OIL TYPE		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
43.01170.02	INDICATIVE DECAL 90x45	1

POSITION:

On the right tank of the machine, under the cabin.

DECAL:		
BRAKE FLUID INDICATION		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
55.00780.01	INDICATIVE DECAL 60x100 BRAKE	1

POSITION:

Into the engine compartment on the external face of the joystick control valve support, below “Transfer box oil” sticker.

Plates and decals

DECAL:

INDICATION TRANSFER BOX OIL. (C 150 Hx4)

PART NUMBER:	DESCRIPTION:	QUANTITY:
43.00396.02	INDICATIVE DECAL 60x95	1

POSITION:

Is marked on the chassis on the left side in the front wheel space.

DECAL:

ON MOVEMENTS WITH LOAD OFFCENTERED (MASTS OF MORE THAN 4 m)

PART NUMBER:	DESCRIPTION:	QUANTITY:
43.02187.02	INDICATIVE DECAL 70x210	1

POSITION:

In the bottom right-hand side of the window.

DECAL:

NOT USE WITHOUT AUTHORIZATION

PART NUMBER:	DESCRIPTION:	QUANTITY:
02.00777.00	INDICATIVE DECAL 50x120	1

POSITION:

Top left-hand corner of the dashboard.

Plates and decals

DECAL: WARNING IN CASE OF OVERTURNING THE MACHINE		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
12.12010.00	SAFETY STICKER	1

POSITION:

Top left-hand corner of the dashboard.

DECAL: ACOUSTIC OPERATOR PROTECTION		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
01.00757.00	INDICATIVE DECAL D40	1

POSITION:

Top left-hand corner of the instrument panel.

DECAL: SOUND POWER LEVEL IN THE ENVIRONMENT		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
09.12011.00	STICKER NOISE 101 DB	1

POSITION:

On the inside of the right front wheel arch, aligned with the cab floor.

Plates and decals

DECAL:

MAST TILTING FORWARD MARKER (MACHINES WITH SEMI-CLOSED AND FULL CAB)

PART NUMBER:	DESCRIPTION:	QUANTITY:
57.12010.00	INDICATIVE DECAL LOWERING MAST	1

POSITION:

Into the cabin, on the left side of the engine's cover next to the handle that releases the cabin latch.

DECAL:

HOT PARTS INDICATION

PART NUMBER:	DESCRIPTION:	QUANTITY:
02.00765.00	INDICATIVE DECAL 40x80	1

POSITION:

Inside the counterweight, near the exhaust manifold, easily readable when trying to work on the engine.

DECAL:

NOT TO TOUCH INDICATION

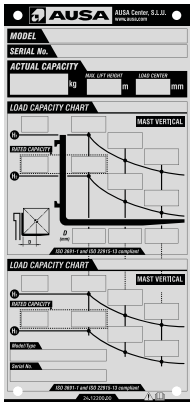
PART NUMBER:	DESCRIPTION:	QUANTITY:
02.00766.00	INDICATIVE DECAL 40x80	1

POSITION:

On the top of the radiator fan guard.

Plates and decals

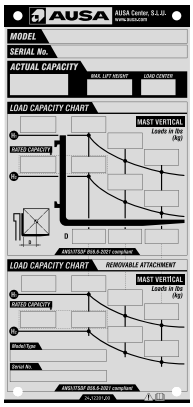
DECAL:		
LOAD CHART PLATE (ALL MARKETS EXCEPT NEW ZEALAND)		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
24.12200.00	INDICATIVE PLATE 91x156 LOAD CHART	1



POSITION:

Riveting in 4 holes provided, in the central inner part the right-hand front fender.

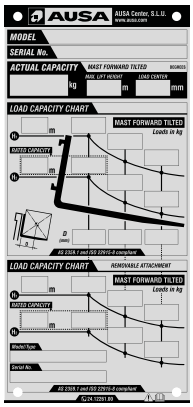
DECAL:		
LOAD CHART PLATE (ONLY NEW ZEALAND MARKET)		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
24.12201.00	INDICATIVE PLATE 91x156 LOAD CHART	1



POSITION:

Riveting in 4 holes provided, in the central inner part the right-hand front fender.

DECAL:		
LOAD CHART PLATE (ONLY AUSTRALIAN MARKET)		
PART NUMBER:	**DESCRIPTION:**	**QUANTITY:**
24.12261.00	INDICATIVE PLATE 91x156 LOAD CHART	1



POSITION:

Riveting in 4 holes provided, in the central inner part part the right-hand front fender.

Plates and decals

DECAL:

ROLLOVER INDICATIONS (ONLY AUSTRALIAN AND NEW ZEALAND MARKET)

PART NUMBER:	DESCRIPTION:	QUANTITY:
12.12003.00	INDICATIVE PLATE	1

POSITION:

On the left side of the machine, at the bottom inner side of the front fenders.

DECAL:

AUSTRALIAN STANDARD AS2359 STICKER (ONLY AUSTRALIAN MARKET)

PART NUMBER:	DESCRIPTION:	QUANTITY:
12.12015.00	INDICATIVE DECAL 100x40	1

POSITION:

On the engine bonnet, behind the seat on the left side.

DECAL:

PARKING BRAKE INDICATION (ONLY AUSTRALIAN MARKET)

PART NUMBER:	DESCRIPTION:	QUANTITY:
12.12004.00	INDICATIVE DECAL 100x38	1

POSITION:

Top left-hand corner of the dashboard.

See annex for instructions of accessories or special finishes (if equipped).

Special safety messages

WARNING

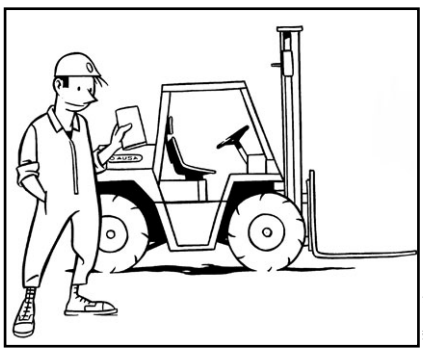
Do not operate this machine unless you have read and understand the safety and operational instructions contained in this operator's and safety manual and have been instructed and trained in the safe operation of this Forklift.
REMEMBER THAT "YOU" ARE THE KEY TO SAFETY.

■ General comments

Operator responsibilities.
Before using the forklift that is initially unfamiliar, you should read the operator's and safety manual carefully and resolve any doubts with a supervisor **(fig. 1)**.

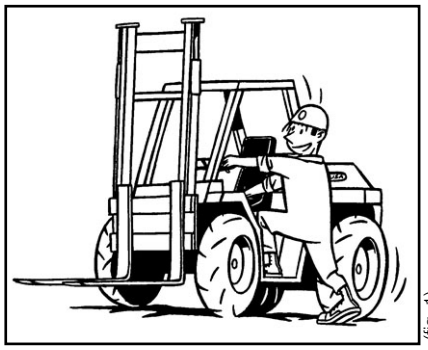
AUSA manufactures their machines in accordance with demands for intrinsic protection, as established by current law or standards for the countries where the machine is sold, against dangers of any kind, which may present a risk to health or life, whenever the machine is used and maintained in accordance 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 and Supply of Machinery (Safety) Regulations 2008, EN ISO 3691 Part 1 and EN 16307 Part 1 safety requirements.
The forklift must only be used by authorized and correctly trained personnel.

Description of a forklift truck.
A forklift truck is a powered vehicle used for transporting or handling loads with the aid of tools specific to the task to be carried out. The forklift is able to lift loads. It consists of a resistant chassis resting upon two axles. The front axle is the drive axle and the rear axle the steering axle, although versions exist in which both axles are driving axles.
At the front of the forklift there is a mast, along it moves the front carriage. The unit formed by both is designed to lift and tilt the load forwards and backwards, making handling easier

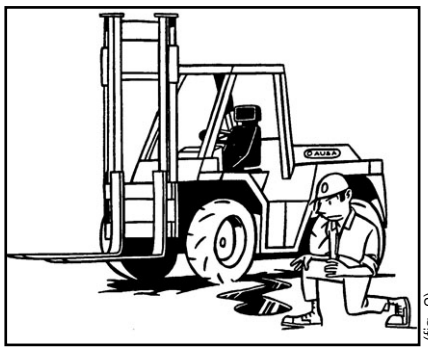


(fig. 1)

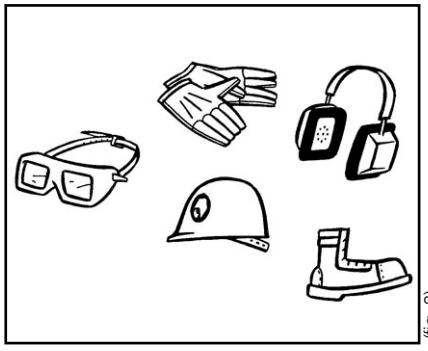
Special safety messages



(fig. 1)



(fig. 2)



(fig. 3)

(fig. 4)

■ General recommendations for driving a forklift truck

Basic information for starting up a forklift truck.

Entering and leaving the operator cabin, do not hold or pull the steering wheel to enter the driver cabin, use the handles provided on the front structure of the overhead guard. Always place one foot on the tread of the sill to prevent slipping when climbing in or out **(fig. 1)**.

Never start or operate any of the controls unless seated on the driver's seat.

Keep the driver's cab free of objects and tools. These may move around, block a control or a pedal, and prevent a manoeuvre or stop the forklift.

Before starting to work with the forklift, clean any oil or fuel spills, clean and remove grease from hands and the soles of shoes **(fig. 2)**. Do not forget to carry out the operations and daily checks listed in the **MAINTENANCE CHART** on this operator's and safety manual.

Check the correct position and fastening of all the guards, caps and safety stops.

Check that all the controls are operating correctly.

Check that informative and safety plates on the forklift are clean and in good condition. If they are not in good condition, replace them.

Wear suitable protective that will protect you in the working environment. This may include a helmet, ear plugs, protective goggles or reflective clothing **(fig. 3)**. Do not wear loose clothing or jewellery or long hair as these could become entangled in the controls, in moving parts or edges of the machine and prove dangerous.

If working in an enclosed area make certain there is sufficient ventilation to prevent excessive build-up of exhaust fumes. Under this conditions always stop this engine when not in use.

Before starting the forklift be certain to check or test the following items:

- Check for any leaks in the fuel, hydraulic or cooling system.
- Clean any oil or fuel leaks that may exist on the forklift controls or operating area.
- Check tire conditions and pressures.
- Re-tight wheel nuts if necessary.
- Check that all controls are working correctly.
- Check the operator seat belt and its attachments.
  Ensure seat belt is properly latched. Inspect carefully the condition of this security system with special attention to:
  - cuts or damages in the belt.
  - wear or damages in the metallic parts including the anchorage elements.
  - badly functioning of the buckle.
  - seams or free points of sewing.
- Check brake pedal travel and effectiveness.
- Check the following fluid levels:
  - Fuel
  - Braking fluid
  - Hydraulic fluid
  - Cooling system fluid
  - Engine oil
- Check the horn.
- Clean and check that lighting and signalling systems are clean and work correctly. If they do not work check the corresponding fuses and bulbs as shown in **MAINTENANCE OPERATIONS** on this operator's and safety manual.

Jumping on or off the forklift can cause serious injury. Always face the machine and use rails and steps to slowly get on and slowly get off the forklift.

Adjust seat position so you are comfortable and can easily reach all the controls. Now fasten your seat belt.

Always stop the engine and do not smoke when fuelling the machine **(fig. 4)**. Follow the instructions given in the section **FUEL** on this operator's and safety manual.

Special safety messages

Before starting and operating the forklift

- Stay alert. Concentrate fully on your work. Your safety and that of others depends on the care you take when operating this forklift.
- Remember that you are the key to safety. Good safety practices not only protect you but also the people around you.

The surrounding área.

Be careful around any pedestrians in the surrounding area

This forklift was designed to lift loads not people. Never transport people on any part of the forklift. Do not let people ride on the forks **(fig. 1)**.

Do not let people stand or walk under raised forks, loaded or unloaded **(fig. 2)**.

Give way to the right to pedestrians found in your path.

Do not drive rapidly. Driving too fast is dangerous to the driver and to the load. The speed at which the forklift is operated should always be suited to the working conditions and to the space available for manoeuvring.

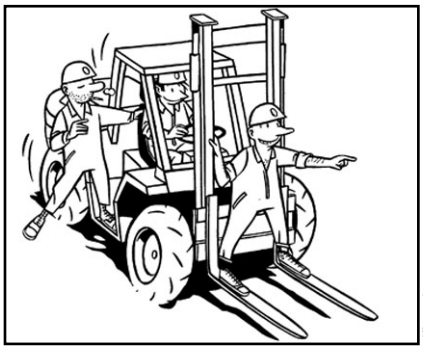
Always drive smoothly and not in a jerky fashion.

Never put any part of your body between the fork mast and the forklift body. **(fig. 3)**.

Be careful around any load edges, pressure zones or revolving movements and extensions.

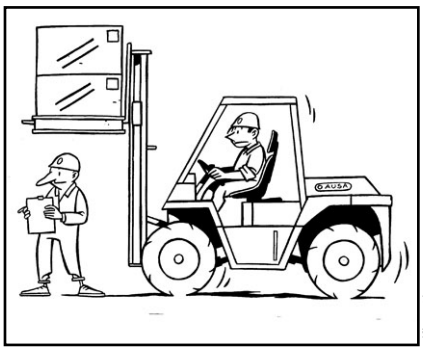
Be certain you have good visibility at all times. It is important that you can see clearly both forward and backward when operating the forklift. If the load does not allow clear forward visibility, then drive with caution in reverse. **(fig. 4)**.

This forklift is not designed to be used as a tow truck or tow machine . However if the forklift is to be towed to or from work location, see the section **TOWING THE FORKLIFT** on this operator's and safety manual.


(fig. 1)

Work circuit.

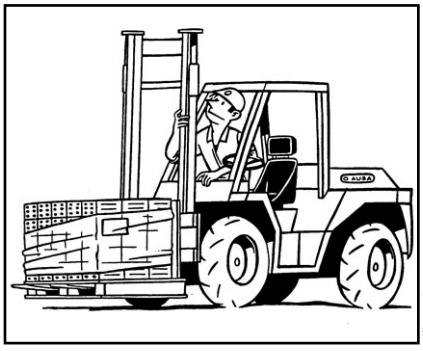
The movement of loads within an installation or enclosure must be carried out following certain instructions concerning the circulation of forklifts and pedestrians. If you are not aware of these regulations, please check with your supervisor. Study the movements of the forklift to avoid making manoeuvres which are unnecessary, or involve risk to the surrounding areas. Find out which paths are suited to the type of vehicle you are driving and the load carried. If it is necessary to drive along public highways, first check that the forklift complies with current regulations of the country. Highway use of this off-road equipment may be restricted or prohibited by the laws of a State or Province.


(fig. 2)

Work cycle.

If it is necessary to move loads continuously and repeatedly, try to do so with the minimum number of movements necessary, where possible. Reducing the number of movements saves fuel and reduces the emission of exhaust fumes.

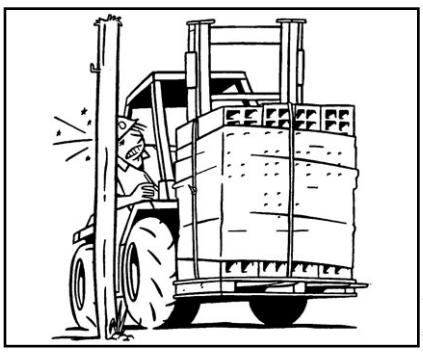
If the work is very intense, remember to check the instrument panel from time to time, especially in extreme climates, as the engine will be working in particularly hard conditions.


(fig. 3)

Forklift truck circulation.

When approaching a junction with poor visibility, reduce speed, emit acoustic warnings and proceed slowly according to the available visibility.

The speed of the forklift should at all times be adapted to the working conditions and the surrounding area. Systematically driving at the maximum speed permitted by the machine may put the operator and the surrounding area at risk.


(fig. 4)

Special safety messages

Driving in reverse.
Ensure good visibility of the path to be taken. If the load being carried obstructs visibility, drive in reverse with the utmost of caution.
Before reversing, the operator should ensure that this does not involve risks for the forklift, people or objects in the surrounding area **(fig. 1)**.

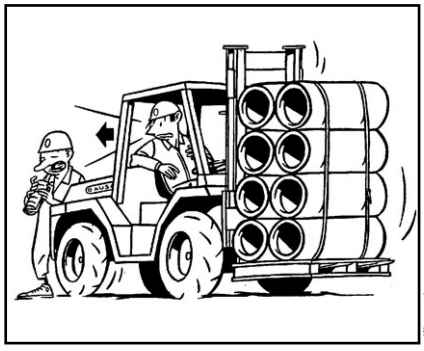
Driving on gradients.
Special care should be taken when driving on gradients: move slowly, avoid placing the machine across the gradient and do not work on higher gradients than those recommended.
The maximum permitted gradient does not imply that it is possible to manoeuvre here in absolute safety under full load, ground and operating conditions.
Gradients should be descended in reverse, with the load facing the direction of greatest stability **(fig. 2)**.

Rudiments of static equilibrium.
In order that the forklift is able to handle loads in a stable and safe manner, certain equilibrium conditions must exist and be maintained between the load and the machinery. Therefore, the forklift is fitted with counterweights at the rear. These are designed to compensate for the weight of the load being carried, as long as the center of gravity of the load and the forklift are within certain established limits. In order to calculate the values of the transportable weight and the position of the center of gravity permitted for the forklift see the LOAD CHARTS in the section **OPERATING THE MACHINE** on this operator's and safety manual.

Rudiments of dynamic equilibrium.
While the forklift is moving, and as it gains speed, the equilibrium conditions of the load-forklift unit are modified as the center of gravity shifts. This is accentuated on lifting loads, turning, braking, etc. In these conditions it is necessary to take the utmost care to ensure that the center of gravity of the load is maintained within the specifications showed on the load chart plate.

Static equilibrium of a conventional forklift.
The forklift counterweight produces a situation of imbalance when the forklift is unloaded. The center of gravity is maintained low and close to the rear of the forklift. When the load is collected, the imbalance is corrected and the center of gravity shifts forward. If the load is within the margins given on the load chart, equilibrium is maintained. As the load is lifted, the center of gravity also rises, shifting upwards. At the moment that the center of gravity shifts beyond the forklift, the equilibrium is lost and the forklift becomes unstable. Therefore, the forklift should not move while the load is raised.

Stability.
Do not carry unstable or loose loads, or loads which are oversized with respect to the forklift. If very large or wide loads must be carried, every precaution must be taken to prevent bumps or other possible accidents.
When carrying out lifting manoeuvres, particularly at height, ensure that the forklift is on stable ground as levelled as possible.
Do not drive over objects which may endanger the stability of the machine.



(fig. 1)

(fig. 2)

Special safety messages

The triangle of horizontal stability.
To prevent the loads which are being transported from falling, it is necessary to consider the triangle of horizontal stability **(fig. 1)**. This is an imaginary inverted triangle, with the lower end located on the center of the rear axle and the two upper vertices on each of the front wheels. Stability is guaranteed when the center of gravity of the combination load **(c)**+ machine **(m)** remains within the limits of this imaginary triangle.

Longitudinal stabilization.
The risk of longitudinal overturning increases if the forklift is driven while the load is raised. Sharp braking and accelerating or rapid tilting movements decrease stability.

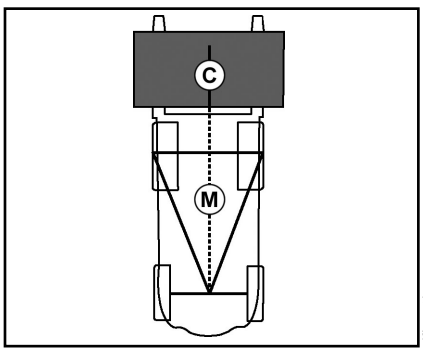
Transversal stability.
The risk of overturning sideways increases on turning at incorrect speeds, while the forklift is unloaded or when the load is raised. Rough ground, sharp braking or accelerating or shifts in the load make these conditions worse.

Center of gravity and the capacity of the forklift truck.
Do not overload the forklift or handle loads which shift the center of gravity beyond that for which it is designed. Manoeuvre slowly, especially when changing direction on slippery ground.
Do not handle loads that are unstable, loose or disproportionate to the size of the forks and the forklift machine itself. Make certain that long or wide loads are fastened together so as to be stable and secure.

The load and counterweight.
The load should be lifted and lowered with the mast in vertical position or slightly tilted backwards. The raised load should only be tilted forwards when it is about to be unloaded.
Tilting the load forwards or backwards (swinging) is very useful for collecting or positioning the load, but affects the longitudinal and lateral stability. Therefore, when handling raised loads, do not swing the mast more than is absolutely essential.
The forklift may tip forwards when carrying a raised load with the mast tilted forwards, or in the event of sudden braking or accelerating while the load is raised.
If using an accessory, attachment or tool, first check the permitted load. The combination of the weight of the forklift plus the weight of the accessory or attachment reduces the nominal load.

WARNING

This forklift is not designed to travel with elevated load or with the mast tilted forward.
Do not tilt forward the mast with the forks elevated except to pick up or deposit the load.
The fully forward tilting mast angle is only intended to transport the forklift on a truck bed, always without load.
For operating with load do not exceed 10º for the forward tilting mast angle.

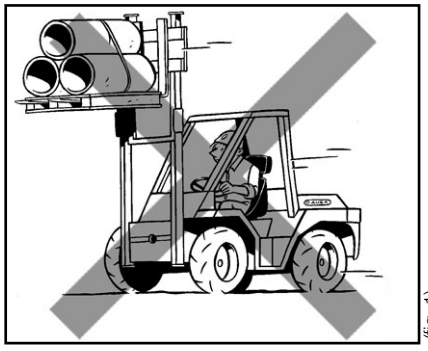


(fig. 1)

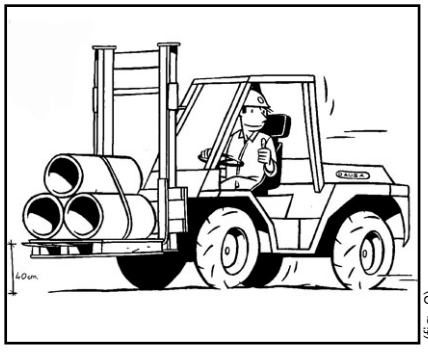
Special safety messages

Load handling

- Know the lifting capacity of your forklift and operate within those limits.
  See the **LOAD CHARTS** shown in the section **TECHNICAL SPECIFICATIONS** on this Operator's Safety Manual and shown in a plate on the left mudguard.
- Never transport loads with the forks raised -keep them as low as possible to attain maximum stability-. The risk of overturning increases when the forklift is driven with the load raised. Keep it low when in transit. **(fig. 1, 2)**.
- Do not drive on surfaces that could affect the stability of the machine.
- Only raise the forks when the machine is on a level, flat surface.
- If necessary to temporarily operate the forklift in rough, unimproved areas, be very careful when operating near an open trench, a high bank or an overhang that can fall and cause a roll over with the potential of serious injury or death. You must make a careful judgement whether you and your forklift can be safely operated near any of these areas.
- Stay off steep inclines and slopes. Hillside operation can be very dangerous due to the constant potential of rollovers.
- When operating on modest inclines or slopes:
  - Move very carefully and slowly.
  - Keep the forks and load low.
  - Keep the forks facing uphill at all times. This means driving in backwards down a slope to maintain maximum load stability.
  - Always travels directly up or down the slope.
  - Do not travel across an incline.
  - Never position the forklift sideways on a slope.
- Forks should only be raised on level stable ground. You must be the judge whether ground conditions will permit the safe operation of the forklift. Operation on an incline can be very dangerous.
  Rain, snow, loose gravel or soft ground can be factors which may prevent the use of the forklift.
- Keep the forks and the loads away from overhead obstructions.
- Never operate the forklift near or close to overhead power lines.
- If the forklift is operated in an enclosed area, use ventilation systems to replace the exhaust fumes with fresh air.
- Use ventilation systems to remove any flammable dust or steam in the working area.
- Do not overload the forklift and do not allow the load center to move. Always manoeuvre slowly and smoothly especially when changing direction.
- Keep the forks facing uphill at all times. This means reversing backwards down a slope to maintain maximum load stability.
- When depositing a load to a height, tilt the mast forward just enough to leave the load on a shelf or pile. When taking a load from a shelf, tilt the mast back just enough to stabilise the load on the forks.
- Always operate the fork tilt lever slowly and smoothly.
- Always drive with the forks in the low position and with the mast tilted slightly back.
- Make certain that long or wide loads are fastened together so as to be stable and secure.



(fig. 1)



(fig. 2)

Special safety messages

■ **Critical speed**

The speed at which the forklift moves affects its stability. When turning, braking, or accelerating, the center of gravity shifts within the triangle of stability. Sharp turns, sudden braking or accelerating cause the center of gravity to shift sharply and it may fall outside the triangle. This is the moment when the stability of the forklift and the load are not guaranteed and there is a risk of accident.

When manoeuvring reduce the speed of the forklift and avoid turning the steering wheel sharply.

Do not drive the forklift at a fast speed and then attempt a turn as the forklift may tip over. Always drive slowly when making a turn and keep the forks low when turning **(fig. 1)**.

■ **Accesses and doors**

Make sure that the passages and doors along the route are sufficiently high to allow all the forklift to pass.

When carrying out lifting manoeuvres, pay special attention to the height of the roof, lighting and other overhead installations.

■ **Ground surface**

Check that the ground is strong enough to bear the forklift when loaded, especially when approaching bridges, the edges of embankments, concrete floors elevators, etc. **(fig. 2)**.

■ **Lighting**

The forklift working area should be adequately lit to prevent the risk of accident, running over persons or colliding with obstacles. As soon as the daylight fades, the forklift lighting system should be switched on. If the forklift is not equipped with lighting, make sure that the working area is adequately lit. If this is not possible, do not continue working with the forklift, this may result in an accident.

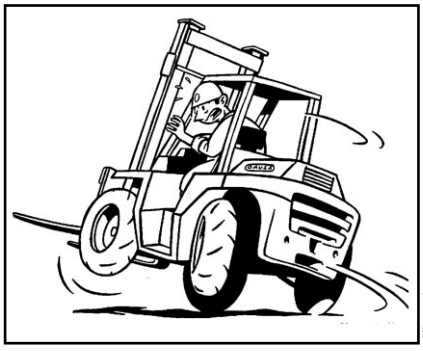
■ **Loading bay. Communication. Shelving and installations. The load**

The loading bay or area where the loads are handled should be correctly equipped and signposted. The operating area of the forklift should be free of obstacles and pedestrians, however if their presence is necessary, the pedestrians should move in areas which have been duly marked as such and they should be easily distinguished, for example, by wearing reflective jackets.

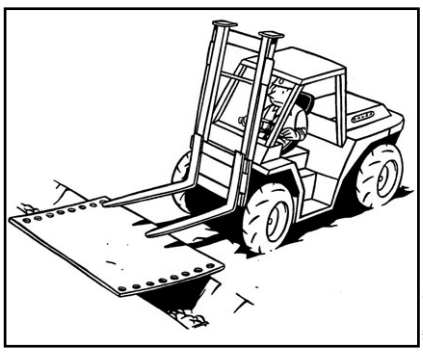
If the area is closed it should be well-ventilated and the forklift must be equipped with lighting and exhaust gas purifier systems. The forklift operator should be able to communicate normally with pedestrians. If the surrounding area is excessively noisy, pedestrians should refrain from walking in the immediate vicinity. If this is unavoidable, the utmost care should be taken. Radio communication equipment should not be handled while driving the forklift. If it is necessary to use the radio, pull over to one side and signal the position of the forklift, using the lights or hazard warning lights.

Shelving for the loads have a series of marked passageways. The width of these should be at least the width of the forklift plus 1 m. If the passageway is two-way, the width must be sufficient to allow two forklifts to pass plus an additional 1,5 m.

Before using the forklift to handle loads check the load and ensure that the weight does not exceed the forklift capacity. At the same time, check that the load is stabilized and correctly secured, to ensure that no part of the load falls off during transportation.



(fig. 1)



(fig. 2)

Special safety messages

■ **Order and cleanliness**

Carrying out a series of checks before starting the forklift and keeping the operator cab clean help to make the work safer.

To do so, follow the **MAINTENANCE CHART** given in this operator's and safety manual strictly, and keep the operator cab clean and free of earth, gravel, mud, oil or other objects which may cause falls.

Do not carry objects in the operator cab. These may injure the operator or accidentally activate the forklift controls.

■ **Cab**

WARNING

You are guarded with a protective structure of operator against falling objects according to **ISO 6055** and **ANSI/ITSDF B56.6-2021**. The seat belt is an important part of this safety system and must always be fastened before operating the forklift.

Failure to wear the seat belt in the event of an accidental tip over could result serious injury or death as you could be crushed by the machine or by the protective structure of operator.

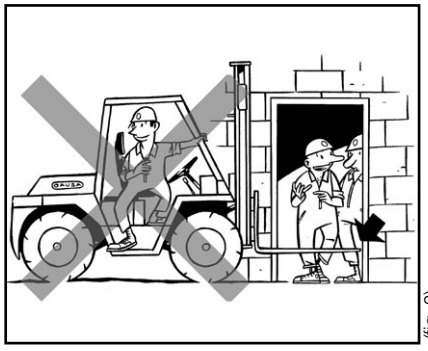
The above decal is located on the side of the machine. The protective structure of operator must be weekly inspected for excessive damage cracks permanent deformation or signs of potential cracks. If these incidents appear, structure must not be repaired but replaced for a new one.

(fig. 1)

■ **Parking the forklift (fig. 1, 2, 3)**

A poorly parked forklift truck is a risk.

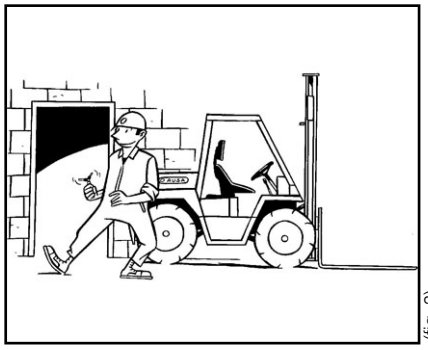
Park the forklift in the areas provided for this purpose, without obstructing the passage of others, exits or entrances to stairs and emergency equipment.



(fig. 2)

When leaving the forklift:

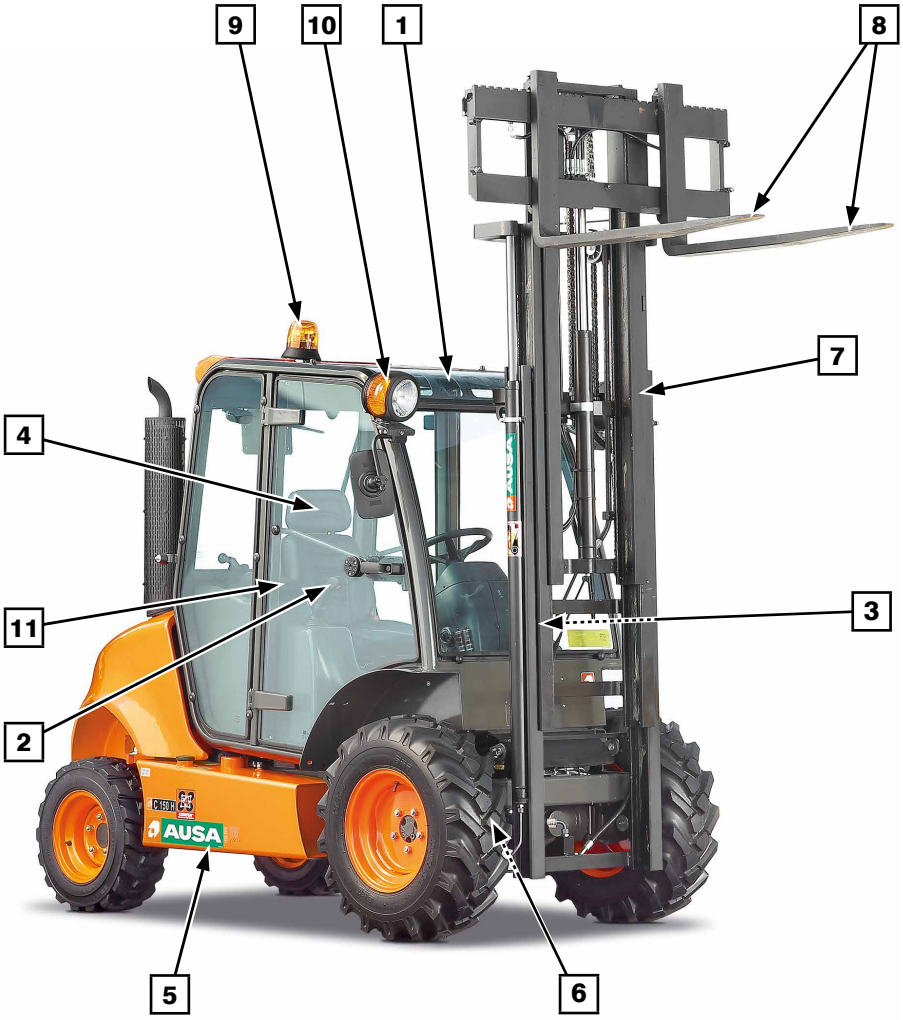
- Place the forks or attachment in the fully lowered position.
- Set all the controls in the "0" neutral position.
- Apply the parking brake.
- Do not park the forklift on a slope. If it is necessary to park the forklift on a gradient, in addition to using the parking brake, place chocks against the wheels.
- Stop the engine and cut the ignition circuit. Remove the ignition key.
- Lock all mechanisms to prevent any unauthorized person from using the machine.
- Remember that you are the key to safety. Good safety practices not only protect you but also the people around you.



(fig. 3)

Controls / Instruments / Equipment

■ Term such as right, left, front and rear when used in this Operators Manual indicate the right and left sides of the machine, the front and back of the machine, as viewed from the operators seat looking forward.



■ **Identification components**

1- Cab.
2- Driving and load control (Joystick).
3- Parking brake lever.
4- Driver seat with seat belt.
5- Diesel tank.
6- Hydraulic tank (placed symmetrically to the Diesel tank).
7- Lifting mast.
8- Forks.
9- Rotating beacon.
10- Lighting equipment (✶).
11- Arm rest (Australian market).

See annex for instructions of accessories or special components (if equipped).

Controls / Instruments / Equipment

■ **Pedals (fig. 1)**

1- Throttle pedal.
Acts on the engine by means of a cable.

2- Service brake pedal.
Acts on a pump located underneath the pedal.

3- Inching pedal or of slow approach.
With the stepped pedal, the machine stops being able to accelerate the engine for the working of the mast. Loosing it slowly the machine will begin to move.

■ **Back-up alarm**

Its sounds when the machine goes backward.

WARNING

If the forklift is equipped with lighting equipment, the acoustic warning device becomes disconnected when igniting the lights. Nevertheless, the white lights back indicating the reverse gear will continue working.

■ **Parking brake (fig. 2)**

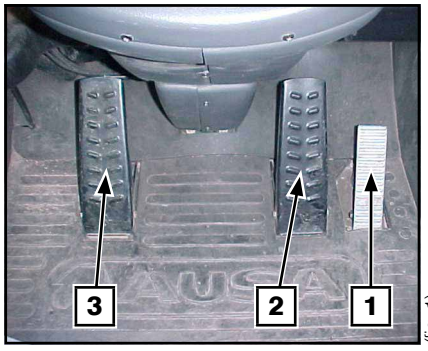
The handle of the hand brake is located left to the steering wheel. When it is operated it will be in vertical position, obtaining the blocking of the handle.
To release, push the handle towards ahead until it reaches its horizontal position.

NOTE

When leaving the machine without applying the parking brake, the instrument panel audible warning sounds.

■ **Emergency brake**

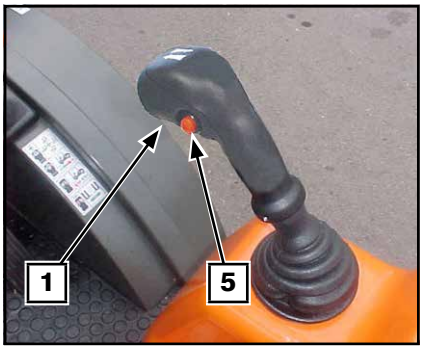
In case of emergency, use inching pedal.



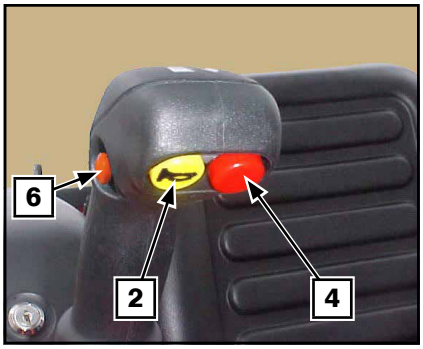
(fig. 1)


(fig. 2)

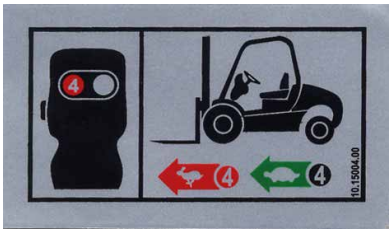
Controls / Instruments / Equipment



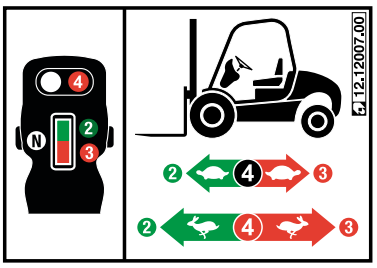
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

■ **Forward and backward direction control (fig. 1)**

By means of an electrical switch **(1)** located on the joystick at the bottom. When the lights of the arrows are off, the control switch is in neutral. Pushing the switch on the left, the machine drives forward and pushing the switch on the right, the machine drives backwards.

In each case the corresponding arrow will be lit.

NOTE

When the parking brake is engaged and the operator is not sitting on the seat the arrows light are also off and directional control is disconnected.

NOTE

Forklift trucks for Australian market, see ANNEX TO THE FORKLIFT TRUCK FOR AUSTRALIAN MARKET in this manual.

■ **Horn (fig. 2)**

The horn is activated by means of the button located to the right of the joystick **(2)**.

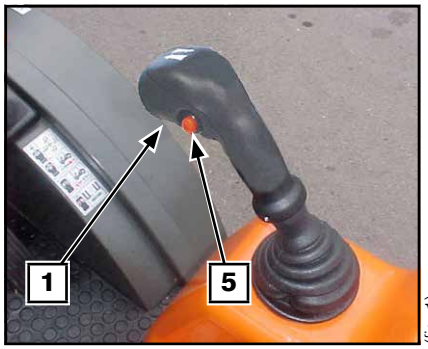
■ **Speed control (fig. 2)**

Pushing the joystick switch button **(4)** the fast speed is connected/disconnected. When it is connected the fast speed lamp on the instrument panel is lit.

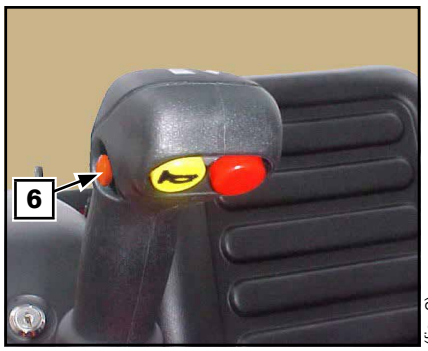
CAUTION

The fast speed does not operate in reverse drive (standard machine) **(fig. 3)**. As an option the fast speed can operate also in reverse drive **(fig. 4)**.

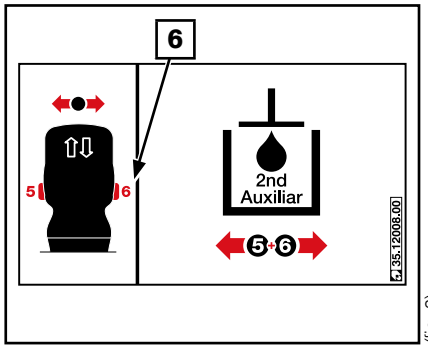
Controls / Instruments / Equipment



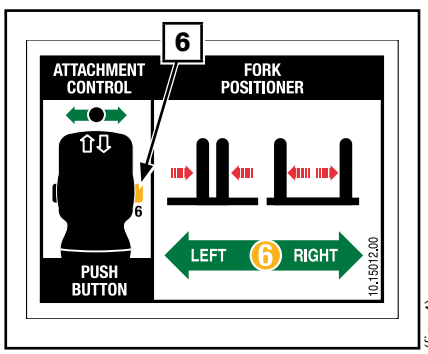
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

■ Load controls (fig. 1, 2, 3, 4, 5)

The joystick to control the load movements is located at the right of the driver.

Up and down control.
Pulling the joystick to the operator (to the left) the forks and the mast tilt backwards (raise) and pushing it to the right tilt forwards (lower).

Tilt control.
Pushing the joystick to the right will tilt the mast and the front of the forks forwards. Pulling the joystick on the left to driver will tilt the mast and front of the forks backwards.

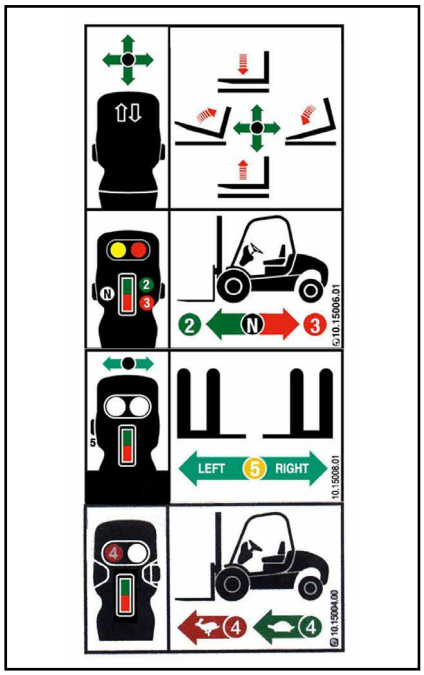
Side shift control.
Pushing the joystick switch button **(5)** and pulling the joystick to the left (operator) will move the forks to the left and pushing the joystick to the right will move the forks to the right. Always center the carriage when in transit or when transporting a load.

4th hydraulic control for attachments (✶).
Pushing the joystick switch button **(5)** and pushing the joystick to the operator or pulling it to the right, the auxiliar hydraulic circuit (4th valve) is on and hydraulic pressure is supplied to the quick hydraulic couplings located on the left side of the mast.

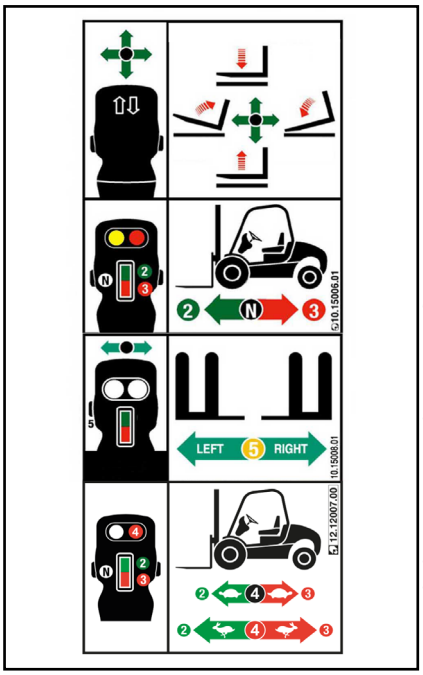
Fork positioner (✶).
By holding down button **(6)** of the joystick and pulling it to the left (towards the operator), close the forks.
By holding down button **(6)** of the joystick and pulling it to the right, spread the forks.

WARNING

The fork positioner allows the operator to set the forks with a variable gap matching different pallet size without removing the forks manually.
Be aware this attachment is NOT foreseen for lateral pushing operation (similar to an hydraulic clamp).
This type of operation is forbidden, it could be dangerous for the persons and it is considered a misuse, consequently, the manufacturer does not accept any claim for damages caused in this way.



(fig. 5) STANDARD MACHINE



(fig. 5) FAST SPEED IN REVERSE DRIVE MACHINE

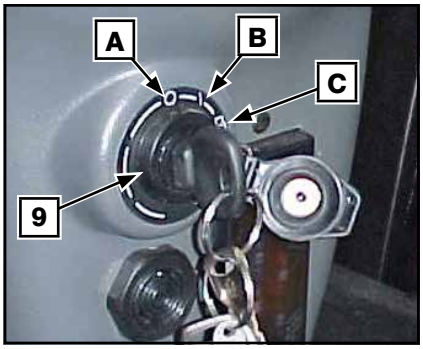
Instrument panel and controls

■ Components

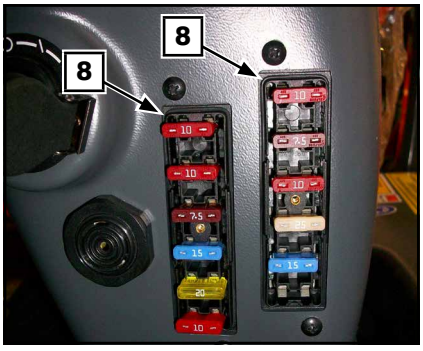
1- **Multifunction Instrument (fig. 1).**
2- **Heating fan switch (version with closed cabin).** It has 2 speeds.
3- **Lighting switch (only in forklift with lights).** This switch has two positions, the first connect the parking lights and the second connects the low beams.
4- **Hazard lights (only in forklift with lights).** To switch on, push the button, it will light, to switch off push the button again.
5- **Turning indicators switch (only in forklift with lights).** Push the lever to the right or to the left according to the side chosen for turning.
6- **Rotating beacon switch.** To switch on, push the button, it will light, to switch off push the button again.
7- **Windshield wiper switch.** To connect the windshield wiper press to the right of the switch. To operate the water pump of the windshield wiper, press again to the right the same switch.
8- **Fuse box.** The fuse box has places for 11 fuses. See **ELECTRIC DIAGRAM** at the rear of this manual to identify the number and function of each fuse.
9- **Starter switch and pre-heating (B). Starter (C) and engine stop (A) (fig. 2).**
10- **Emergency stop button (fig. 4) (if fitted).** All operational functions can be interrupted at any time by pressing the emergency stop button. It is placed on the left side of the steering column. Pressing this button, the Diesel engine stops. Reset the button by turning it clockwise to put the forklift in service again.

NOTE

Forklift trucks for Australian market, see ANNEX TO THE FORKLIFT TRUCK FOR AUSTRALIAN MARKET in this manual.



(fig. 2)



(fig. 3)

(fig. 4)

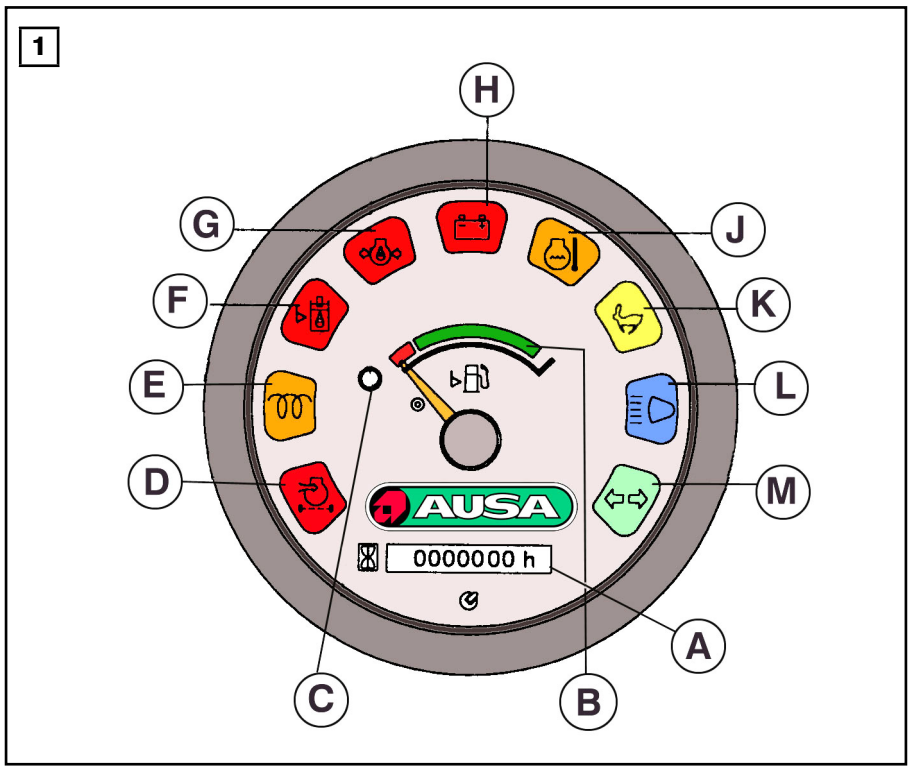
(fig. 1)

Instrument panel and controls

■ **Multifunction instrument**

A- **Hourmeter.** This gauge indicates the total running time of the forklift engine to enable servicing of the engine at proper intervals. (See **MAINTENANCE CHART** for servicing frequency).
B- **Fuel level.** This gauge indicates the diesel fuel level.
C- **Fuel lamp.** When the diesel fuel level is at the minimum level this alarm is lit.
D- **Air filter lamp.** When the air filter of the diesel engine becomes clogged with dirt, this lamp will light. The air filter should be immediately cleaned or serviced.
E- **Engine pre-heat lamp.** When this lamp glows it indicates that the engine pre-heat plugs are in operation and heating the combustion chamber to a temperature that will enable firing of the vaporized diesel fuel.
F- **Hydraulic oil lamp.** When the hydraulic oil level is at minimum level this lamp is lit.
G- **Oil pressure lamp.** When this lamp is lit it means that the engine oil level is low causing low oil pressure to the engine. The engine should be stopped immediately to prevent engine damage. Add oil to the engine until the proper level is reached.
H- **Charge battery lamp.** This gauge shows the condition of the battery and will tell you if the battery charge is too low or if the alternator is not charging properly. Once the engine starts to run, this red lamp will go out. If it remains lit, stop the engine and determine the cause.
J- **Engine temperature lamp.** This gauge shows the temperature of the coolant in the engine cooling system. When this lamp glows it means that the engine is operating at high temperature which could damage the engine. The engine should be stopped immediately to determine the cause of the high temperature. It could be low coolant, debris in the radiator or a thermos-tat, which does not operate correctly.
K- **Fast speed lamp.** This lamp is lit when the faster speed is selected.
L- **High beam lamp (only in forklift with lights).** This lamp is lit when high beams are selected.
M- **Turn signal lamp (only in forklift with lights).** This lamp will blink indicating turn signals are operating.

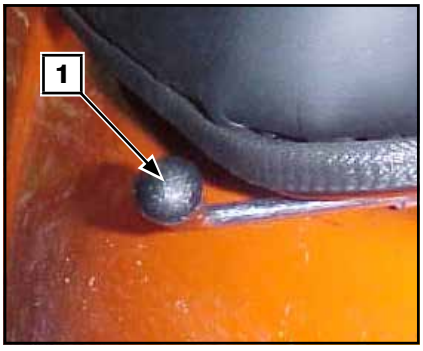
(fig. 1)



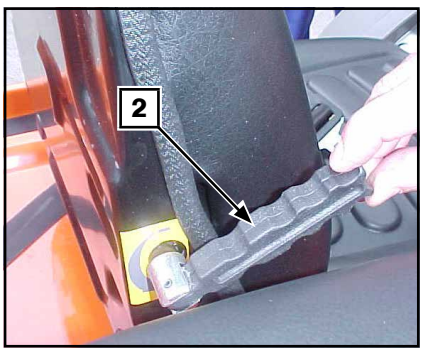
Operating the machine

(fig. 1)

(fig. 2)



(fig. 3)



(fig. 4)

WARNING

Before each period of operation, check the forklift for correct operation of the steering, brakes, hydraulic controls, instruments and safety equipment. Check the neutral position of directional control lever. A machine that runs correctly is more efficient and can prevent accidents.
Make all necessary adjustments or repairs before you operate the machine.

■ Come in and come out of the forklift (fig. 1)

Don't hold and pull of the steering wheel to come in/off the forklift, use the handles located on the cab and always support your foot on the rough bands of the step, to prevent any downfall when you come in or come out.

■ Adjusting the seat and the steering wheel (figs. 2, 3, 4, 5, 6)

Before starting work with the forklift each day adjust the seat for the most comfortable position.
To move the seat backwards and forwards reach under the right side of the seat and locate a small lever **(1)**. Press the lever and move the seat to the desired position. According to the weight of the driver, set the seat with the lever **(2)**. There are 24 turns of the lever from minimum driver weight of 60 kg to maximum of 120 kg Normally it is adjusted for a driver weighting 90 kg.
To adjust the tilting backrest of the seat to your comfort turn on the knob **(3)**. Securely fasten the seat belt.
The seat belt is equipped with a safety switch, if the belt is not fastened the dumper can not be started. (Australian market)
To adjust the steering wheel in a comfortable position, loose this lever **(fig. 6)** move the column adequately and tight it again.

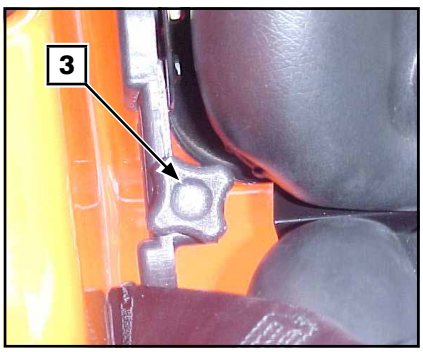
■ Starting the engine (fig. 2, pag. 53)

For safety reasons, when starting the engine the driver should be sitting on his seat, the parking brake engaged, because in opposite case the forklift doesn't start.
Insert the key in the switchboard of take-off and turn it to the position **(B)** of contact until the witness of warm-up goes out, press the pedal of the accelerator 1/4 of his career and turn the key to the position **(C)** until the engine take-off. Do not support it in this position more than 15 seconds. If the engine fails to start, repeat all above steps. Allow 30 seconds between attempts.

■ Jump starting the machine

Starting the machine by means of a booster battery can be done by using other 12 volt batteries which may then be connected to the starter motor. If using another machine for this purpose make certain the two machines do not touch. Two persons must be used for this operation.

1- Apply the parking brake.
2- Open the machine's cab.
3- Connect the positive (+) cable of the booster batteries to the positive (+) terminal of the forklift battery. Then have you connect the negative (-) cable of the booster batteries to a good ground connection on the frame of the forklift.
4- Start the machine engine in the normal fashion.
5- Disconnect the booster cables in the same order, first disconnect the booster cables from the positive (+) terminal of the forklift battery and then disconnect the booster cables from the negative (-) terminal of the forklift battery.



(fig. 5)


(fig. 6)

Operating the machine

■ Annex to the forklift trucks for Australian market

(According to ISO/TS 3691-8:2012)

Starting security sequence (fig. 1)

Being ready to start the engine:

1- Turn the starter switch to position **(b) IGNITION**.
2- Seat down in the operator's seat
or
1- Seat down in the operator's seat
2- Turn the starter switch to position **(b) IGNITION**.

After that:
3- Fasten the seatbelt

The seatbelt must be fastened after the starter switch is turned to position **(b)** IGNITION.

After following this safety sequence, the forklift engine is ready to be started. But the standard conditions must be accomplished as well (below described)

Starting the engine
After completing the starting security sequence described above, starting the engine is only allowed with the directional travel control in NEUTRAL position.

For safety reasons:
- the park brake should be locked (ON)
- the operator should be seated

Driving with the forklift Truck
- the arm rest should be put it down **(fig. 2)**.
- seatbelt should be fastened at all times. If the seatbelt is unfastened while driving, the transmission cuts and the forklift stops.

Operating the machine

■ Checking

With the starter engine and the stop forklift to check or test the following:

- Check all the instruments on the instruments panel.
- Test steering, both right and left, while moving slowly.
- Raise the forks about 150 mm above the ground.
- Test the parking brake.
- Test the foot brakes for correct firmness of operation.

■ Forklift nominal load

The Rated Capacity of this forklift is the weight the machine is capable of lifting under safe operating conditions. The lifting capacity of a forklift is determined by the height and weight limits of the load. Poor ground conditions as well as shape of the load may reduce the weight that can be safely lifted. Overloading the forks can make the forklift unstable, hard to handle, and may be in danger of tipping over.
Inspect the load you intend to lift and make certain it is within the limits of the load charts located on the left hand side mudguard.

■ Load center (fig. 1, 2)

To rate the lifting capacity of forklifts manufacturers have standardized on a certain size of load. The rated capacity of this forklift is based on a cube measuring 1 m., in all three dimensions with the center of gravity in the center of this cube. This is known as 500 mm or 600 mm (depending on models and markets) load center from both the vertical face of the mast and from the lifting surface of the forks. It is important to keep load center in mind for as the load center increases the lifting capacity of the forklift decreases.

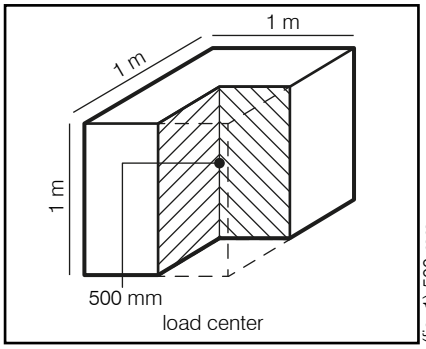
■ Load capacity

With the load center of the load at 500 mm. from vertical face of the forks, the C 150 H / C 150 Hx4 has a rated capacity of 1,500 Kg.

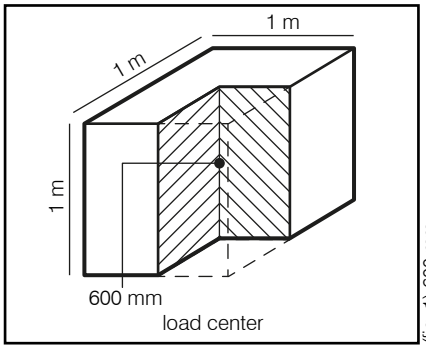
With the load center of the load at 600 mm from vertical face of the forks, the C 150 H / C 150 Hx4 has a rated capacity of 1,350 kg.

If the load is too heavy split it and re-stack it. Use of attachments other than the pallet forks that came with this machine may reduce lifting capacity and affect other machine handling characteristics.

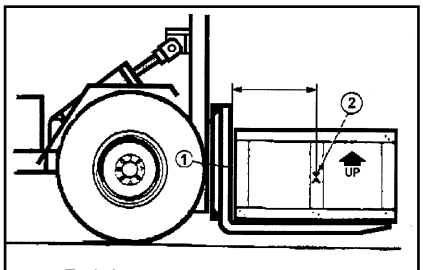
Reproduced copies of the load charts are included in the section **TECNICAL SPECIFICATIONS** on this operator's and safety manual. Study the load charts of your machine carefully and make certain you understand it before lifting loads on the forks.



(fig. 1) 500 mm



(fig. 1) 600 mm



1- Fork face
2- Load center
(fig. 2)

Operating the machine

■ Alteration to the forklift & load relation

The relationship between the forklift and the load is altered by changes in:

- Removable attachments (see **LOAD CHARTS** in this manual).
- Height of the forks.
- Changes in the motion of the machine and the grade of the ground on which it is moving.
- Smoothness and stability of the ground.
- Machine stability must be maintained while these factors change constantly during forklift operation.

This requires careful judgement on the part of the operator.

■ Lifting capacity

Machine stability is maintained only when the forklift handles loads within its rated lifting capacity. The Load Capacity Charts are included in the section **TECHNICAL SPECIFICATIONS** on this operator's and safety manual. The lifting capacity of the machine is determined by the safe height and weight limits of the load. An overload on the forks makes the forklift unstable, hard to handle, and will present the danger of tipping over.

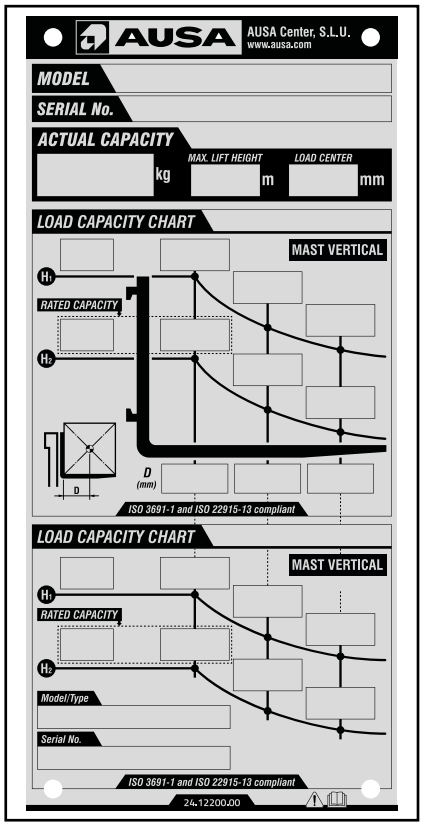
■ Load charts (fig. 1, 2)

The charts you can see in the section **TECHNICAL SPECIFICATIONS** on this operator's and safety manual shows how much your forklift can lift as the load center increases out to 10 cm of the load center from 500 mm or 600 mm (depending on the models and the markets) nominal. Note how the lift capacity decreases as the load center increases. This chart is reproduced as a machine plate and is located on the left side of the operator's cabin for ease of reference during machine operation.

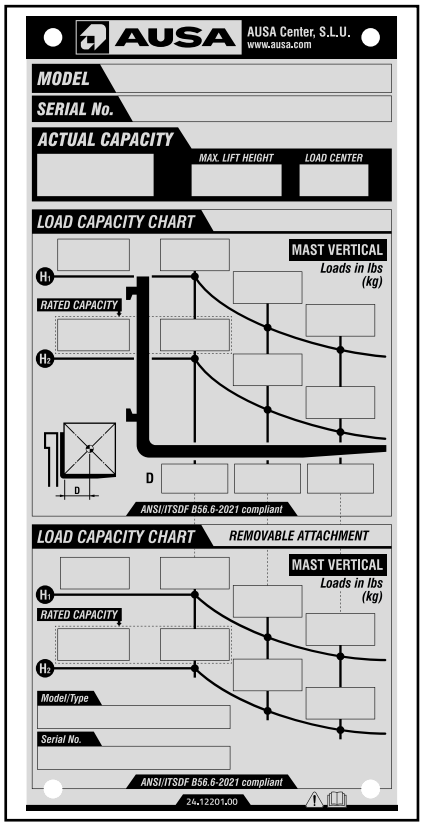
The charts you can see in the section **TECHNICAL SPECIFICATIONS** on this operator's and safety manual represents the load that can be lifted on a level surface, with the load evenly displaced (like a square box with the weight centered), at certain lift height (depending on the mast height and use).

The horizontal axis **"D"** (often referred to as the **"X"** axis), represents the distance in inches that the load center is moved forward from the face of the forks.

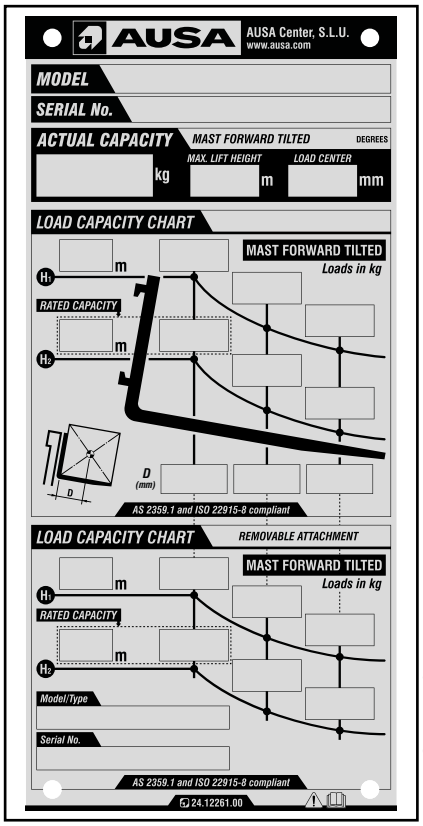
The vertical axis **"G"** (often referred to as the **"Y"** axis), shows the load weight in Pounds or kilos.



(fig. 1) (ALL MARKETS EXCEPT NEW ZEALAND)



(fig. 2) (ONLY NEW ZEALAND MARKET)



(fig. 3) (ONLY AUSTRALIAN MARKET)

Operating the machine

■ **Forklift rated capacity**

The rated capacity is the weight the forklift is capable of lifting under safe operating conditions. Is stablished by the height and weight of the load. Poor ground conditions as well as the shape of the load may reduce the weight that can be safely lifted. Overloading can lead to instability, operation difficulty and danger of forklift tipping over.
Check the load you intend to lift and make certain it is within the limits of the load chart located on the left hand side of the cab.

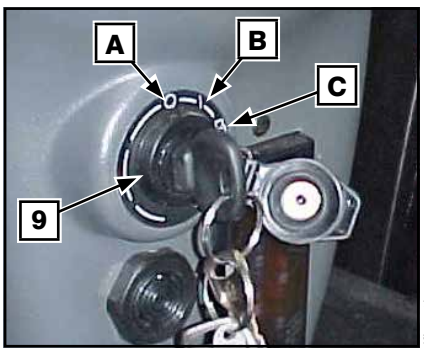
■ **Parking the forklift and stopping the engine**

Make certain that the forklift is parked on level ground when leaving it overnight. Also park it on level ground before any scheduled maintenance is attempted. Lower the brackets to the ground, apply the parking brake and push directional switch to neutral. Run the engine at idle for 1 minute if the forklift has been working at full load as this procedure will cool the engine components evenly. Now turn off the key switch in a counter-clockwise motion, to position **(A)**, to stop the engine. Remove the key from the ignition and take it with you. Never leave the key in a parked forklift.

NOTE
When leaving the machine without applying the parking brake, the instrument panel audible warning sounds.

■ **Be environmentally friendly**

What changing oil and other fluids, use an appropriate container, and don't harm the environment during the operation and take old elements (battery, coolants, etc) to recycling centers.
In case of escapes of dangerous substances for people or environment, try minimize their impact. For example, in oil escapes, block the leak, put a container to collect the fluid, spread absorbent material or pick up polluted mud if necessary.
At the end of the life of the machine give it up for it's taking apart to suitable and authorized centers.



(fig. 1)

Before starting the machine

WARNING

These checks are very important prior to operating the forklift. Always check the proper operation of controls, safety systems and mechanical components before starting. If not done as specified here, severe injury or death amight occur.

- Check tire pressure and condition of the tire.
- Familiarize with the controls and ensure they work properly.
- Verify steering operates freely.
- Activate throttle pedal several times to ensure it operates freely. It must return to idle position when released.
- Activate the brake pedal to make sure the brakes fully apply. Pedal must fully return when released.
- Ensure that the direction control works correctly.
- Check fuel, engine oil, hydraulic oil, coolant and brake fluid.
- Check for oil leaks on the engine, hydraulic circuit and drive train components.
- Clean headlights and taillights. (if exist).
- Ensure operator's compartment is properly closed.
- Ensure seat belts are properly latched.
  Before initiating the day, inspect carefully the condition of this device with special attention to:
  - Cuts or gossips in the tape.
  - Wear or damages in ironworks including the anchorage points.
  - Badly functioning of the clasp of closing or of the winder.
  - Seams or free points of sewing.
- If you transport cargo, respect load capacity. Make sure that the load is correctly distributed.
- Look and feel for engine parts while engine is off. Check fasteners.
- Check operation of starter switch, headlights, side lights, taillights indicator lights and back-up alarm (if exist).
- Start engine and drive forward slowly a few feet and apply brake pedal to test them.

Correct any problem you may have found.
See an authorized AUSA dealer as necessary.

Transporting the machine

■ Fixation / immobilization of the forklift on a platform (fig. 1)

When transporting the forklift on a trailer or truck bed, carefully follow the instructions in the caution decal.
Once the machine is loaded upon a truck/trailer, wedges must be placed in the front and back wheels.
Then, the forklift must be tied firmly to the platform to prevent any displacement placing the fixation systems as showed in **(fig. 1)**.
FRONT AXLE: over the front wheels.
BACK AXLE: by the bolt of the counterbalance.

WARNING

Before you put the forklift on a trailer or truck bed, make certain that the ramp is strong enough to support the load and that the parking surface is fee of debris, oil, grease or ice.

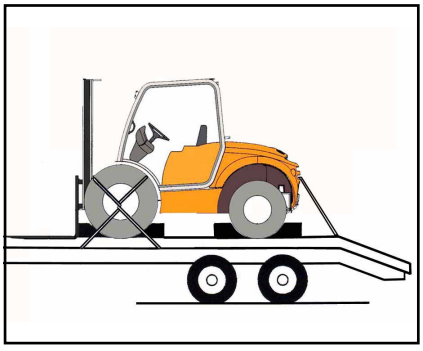
- Do not transport the forklift with a full diesel fuel tank.
- Make certain your seat belt is properly fastened.
- Move the forklift slowly and carefully up the ramp onto the trailer.
- Shift the directional control switch to neutral.
- Apply the parking brake.
- In transit position lower the forks to their lowest level.
- Put blocks under the tips of each fork and tilt the mast slightly forward.
- Stop the engine and remove the key.
- Put chocks at the front and rear of the forklift tires.
- Tie the forklift to the platform using suitable systems of fixation (chains, strap or slings) considering that they must be sufficiently resistant and adapted for this purpose.

■ Loading onto a trailer by crane (fig. 2)

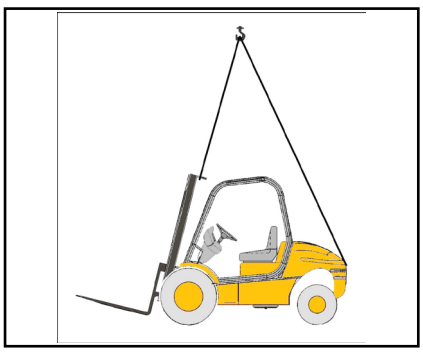
If a sling and crane are used to load the forklift onto a trailer or truck, attach the sling as shown in the next figure.
Before lifting check that the sling cable is firmly attached. While lifting the forklift do not permit riders on the forklift or by spectators within 5 m.
To lift the machine with a crane, bear in mind the following advice:

- Front slings must not be shorter than 2.5 m.
- Always raise the machine in a balanced position.
- Keep the angle of inclination of the front sling approximately the same as the angle of inclination of the mast tilted backwards.

See annex for instructions of accessories or special finishes (if equipped).



(fig. 1)



(fig. 2)

Transporting the machine

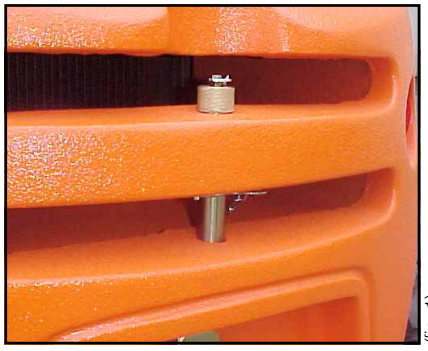
■ Towing the forklift (fig. 1, 2)

The towing of forklift is only recommended in case of damage, when there is no other options, because can break the hydrostatic transmission. When possible, it is strongly recommended to solve the problem where the forklift id stopped. When is not possible, towing must be done at low speed and short distances.

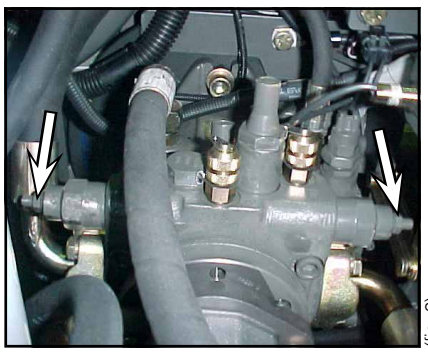
Before towing the forklift should thoroughly crowd together the central screws of the valves of maximum pressure of the hydrostatic pump, to make it will loosen it the locknuts **(fig. 2)**.

Once the machine is repaired loose the central screws of the control valves of the hydrostatic pump and tighten again the lock nuts

The forklift must be towed with a solid tow-bar to prevent any lateral sway, attach the tow bar to the bolt at the rear of the counter weight **(fig. 1)**.



(fig. 1)



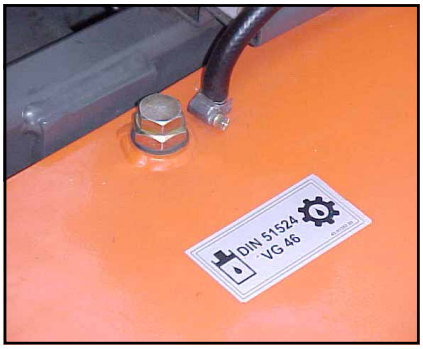
(fig. 2)

Fluids and lubricants

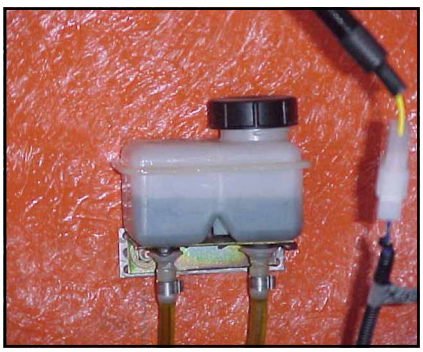
This section specifies the recommended liquids and lubricants. Consult PERIODIC OPERATIONS OF MANINTENANCE in this manual for the procedures of level checking and changes of liquids.			
LIQUID or LUBRICANT	**SPECIFICATION**	**OBSERVATION**	**CAPACITY (Liters)**
FUEL (fig. 1)	DIESEL according to EN 590 of EU (EN = "European Norm")	See **FUEL** in this article	45
ENGINE OIL	Oil for engines as established in API CF or more.	See **ENGINE OIL** in this section.	6
ENGINE REFRIGERANT LIQUID (fig. 2)	Ethylene glycol antifreeze 50% glycol and 50% distilled water for a standard machine.	See **REFRIGERATING LIQUID** in this section.	7
HYDRAULIC CIRCUIT (fig. 3)	Hydraulic oil ISO VG-46 Grade According to ISO 6743/4-HV and DIN 51524 Part 3 – HVLP Class	See **HYDRAULIC OIL** in this article	40
FRONT AXLE OIL	Transmission oil SAE 90 EP (extreme pressure) in accordance with API GL5 / MIL-L-2105B or higher	-	3
REAR AXLE DIFFERENTIAL OIL x4			0.5
REAR AXLE TRANSFER BOX OIL x4			0.25
TRANSFER BOX OIL x2			1
TRANSFER BOX OIL x4 (COMPEN)	Oil for transmissions SAE 90 as established API GL5 LS / MIL-L-2105D with additive LIMITED SLIP	See **TRANSFER BOX OIL x4 (COMPEN)** in this section.	1.6
BRAKES FLUID AND INCHING (fig. 4)	Brake fluids type LHM (green) of mineral base according to ISO VG32.	See **BRAKES FLUIDS AND INCHING** in this section	0.5
WINDSCREEN WIPER WASHER (fig. 5)	-	-	1.5
GREASING POINTS	Oil calcic consistency NLGI-3	See **GREASING POINTS** in this section	-
MAST CHAINS	SAE 20 or SAE 40 oil	- SAE 20 in winter - SAE 40 in summer	-

(fig. 1)


(fig. 2)



(fig. 3)


(fig. 4)


(fig. 5)

Fluids and lubricants

■ Fuel

In order to satisfy the exhaust gas legislation, these engines may only be operated with an ultralow sulphur diesel fuel.
Diesel fuel specification type and sulphur content rate (ppm) used, must be compliant with all applicable emission regulations for the area in which the engine is operated.

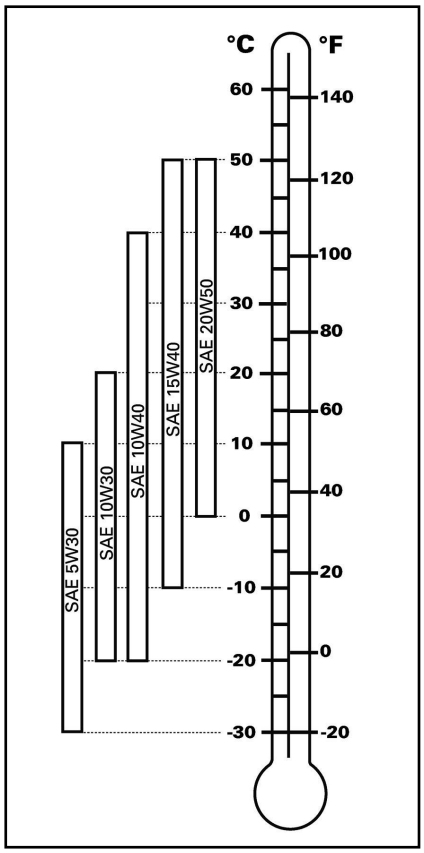
The following fuel specifications / standards are approved:

- Cetane rating: The minimum recommended fuel cetane rating is 45. A cetane rating greater than 50 is preferred, especially for ambient temperatures below -20ºC or elevations above 1,500 m.
- DO NOT USE fuels that have sulphur content greater than 0.0015 % (15 ppm).
- Diesel fuels specified to EN 590 or ASTM D975 are recommended.
- The use of ultralow sulphur fuel is mandatory for these engines in all the areas in which the engine is operated. Therefore, please use No.2-D S15 diesel fuel as an alternative to No.1-D, and use No.1-D S15 diesel fuel as an alternative to No.1-D for ambient temperatures below -10ºC.
- No.2-D is a distillate fuel of lower volatility for engines in industrial and heavy mobile service. (SAE J313)

1) SAE: Society of Automotive Engineers
2) EN: European Norm

■ Engine oil

Use the oil defined by the manufacturer of the diesel engine (consult the instructions handbook provided with the machine documentation).
Use 4-stroke engine oil which complies with API CF requirements or higher.
Always check the API quality on the label on the oil drum /container to ensure the quality is as required.
The machinery leaves the factory filled with oil of a viscosity of SAE 20W40 API CF-4 classification with a low-sulphur fuel in use. However, the following table should be used to select the most appropriate viscosity according to the climate **(fig. 1)**.
If different brands of oil are used, the sump should be completely drained first before adding the new oil.
If high-sulphur fuel is used. Change the lubricating oil at shorter intervals than recommended in the **GENERAL MAINTENANCE AND LUBRICATION CHART** (by half approximately).



(fig. 1)

■ Coolant

Always use antifreeze mix ethylene-glycol type and clean soft water as this contains antifoam and rust inhibitors for internal combustion aluminium engines. The coolant mix should meet with the following standards:

- UNE 26.361/88
- INTA 157413
- British Standard 6580
- AFNOR NF R15-601
- ASTM D 3306, D 4985
- SAE J-1034

Your machine leaves the Factory with an antifreeze volumen of 50% for temperatures from -35 ºC to 145 ºC (in pressurized circuit)

Fluids and lubricants

■ **Hydraulic circuit**
- VG 32 for environmental temperatures usually below 10 ºC
- VG 46 for environmental temperatures between 10 ºC and 40 ºC
- VG 68 for environmental temperatures usually above 40 ºC

■ **Oil in the transfer box x4 ‘’COMPEN SYSTEM”**

Oil for transmissions SAE 90 as per API GL-5 LS / MIL-L-2015D for limited slip differentials or self-locking differentials.

AUSA recommends oil for COMPEN AUSA, which meets with the following characteristics:
- Additives modifying the friction factor.
- A “high-pressure” and anti-wear capacity.
- Good anti-rust and anti-corrosion characteristics.
- Excellent thermal stability.
- Avoids vibrations and noise in the system

■ **Brake fluid and Inching**

Liquid brakes type (green) LHM of mineral base according to ISO VG32.

CAUTION

To avoid serious damage to the brake system or inching system do not use fluids other than the recommended one, or mix different fluids for topping up. Under no concept use synthetic brake fluid (DOT 4) in accordance with SAE J1703.

Periodic maintenance operations

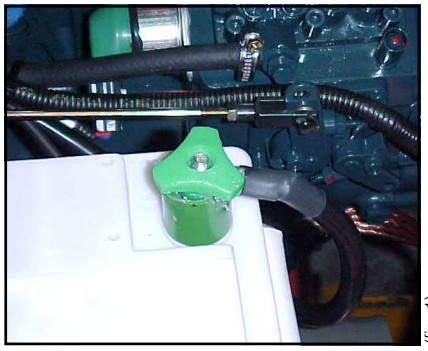
Only original AUSA spare parts should be used during PERIODIC MAINTENANCE OPERATIONS. This is the only way to guarantee that the AUSA machinery will have the same operational level that it had upon delivery.

This forklift, as with any machine, contains parts and systems which are subject to wear or require re-adjusting, and which may affect the reliability of the machine and the safety of the operator, the environment and the surrounding area, such as for example, exhaust gas emissions. The necessary maintenance should be carried out regularly in order to ensure similar conditions to those existing on leaving the factory.

Equipment Directives, these systems should be inspected regularly and the results recorded on the forms provided by the Labour Authorities of each country (2009/104/ EC).

All repair and periodic maintenance operations should be made while the forklift is unloaded, the park brake locked and the wheels blocked in order to keep the dumper stationary.

Disconnect the battery **(fig. 1)** before carrying out any maintenance or repairs to the electrical system. Never use an open flame to check fluid leaks or levels.

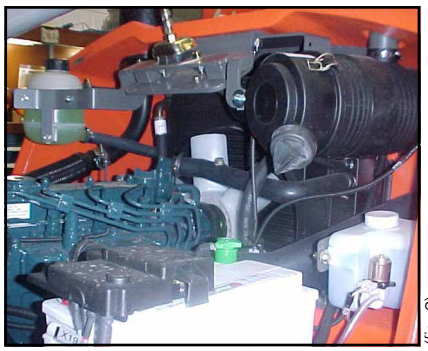


(fig. 1)

❀ **Respect the environment.**

When changing oil or other fluids use a suitable container to collect the old one. Take care not to cause damage to the environment and take all the replaced materials (batteries, coolant, etc.) to the appropriate recycling centers.

In the event of leaks of substances which may be harmful to persons or to the environment, immediately take the necessary measures to reduce their impact, for example in the case of oil leaks, plug the leak, use a recipient to collect the oil, sprinkle absorbent material or collect up and remove the contaminated soil if necessary.

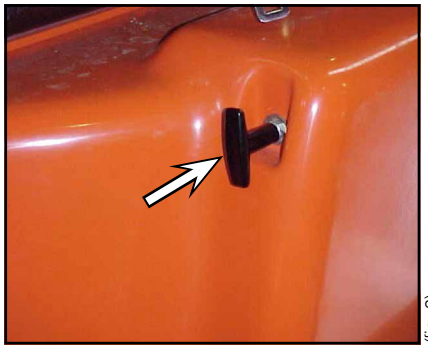


(fig. 2)

■ **Access from maintenance (fig. 2, 3, 4, 5)**

The engine, the transmission and filters are located under operator's compartment **(fig. 2)**, to access them, you have to tip it as follows:

- Start the machine and to incline the mast forward, (operative sat down in the machine) to push the joystick toward the right until it arrives to the position but early.
- Pull the control located at the left side next to the seat **(fig. 3)**, to unblock the latch of the cabin, then lift and tilt it forward.
- To prevent the falling down of the cabin when carry out maintenance operations, insert the proper safety pin **(fig. 4, 5)**.



(fig. 3)

(fig. 4)

(fig. 5)

Periodic maintenance operations

■ **Machine cleaning**

During the clean operations, not to direct the water jet to pressure on the intake (air filter), the steering column, battery, alternator and other electric devices because can deteriorate their components.

■ **Breakdown in road**

In case of breakdown when driving on public roads, warn other users of the road with the hazard warning triangles (✶). They could be stored under the cabin; raising it.

■ **Break-in period**

A break-in period of 50 operating hours is required before running the forklift's engine at sustained full throttle.

During this period, maximum throttle should not exceed 3/4. However, brief full acceleration and speed variations contribute to a good break-in. Continued wide open throttle accelerations, prolonged cruising speeds and engine overheating are detrimental during the break-in period.

■ **50-Hour initial inspection**

As with any precision piece of mechanical equipment, we suggest that after the first 50 hours or 30 days after the purchase, whichever comes first, your vehicle be inspected by an authorized AUSA dealer.

This inspection will give you the opportunity to discuss the unanswered questions you may have encountered during the first hours of operation.

WARNING

While reading this Operator's Manual, remember that:

The following covers the maintenance items that can be performed by the customer if desired.

Other items found in **MAINTENANCE CHART** must be performed by an authorized AUSA dealer.

NOTE

Among other things, this section gives the procedures to replace the fluids and the lubricants.

Refer to **FLUIDS AND LUBRICANTS** for procedures to check levels and refill.

■ **Engine**

For information on correct operation, spare parts and general maintenance, see separate Engine Manual. Also review the **MAINTENANCE CHART** in this operator's manual.

Alternator belt.

Control periodically the tension of the alternator strap. Also, verify if there are cracks or other damages. See an authorized AUSA dealer to replace the alternator strap

Periodic maintenance operations

■ **Oil engine**

Engine oil level.

CAUTION
Check level frequently and refill if necessary. Do not exceed the maximum mark. Operating the engine with an improper level may severely damage it. Wipe off any spillage.

With vehicle on a level surface and engine cold, not running, check the oil level as follows:

- Pull the level rod, remove it from its lodging and clean it with a clean cloth.
- Place the level rod in its lodging.
- Remove and check oil level. It should be near or equal to the upper mark overfill **(fig. 1)**.

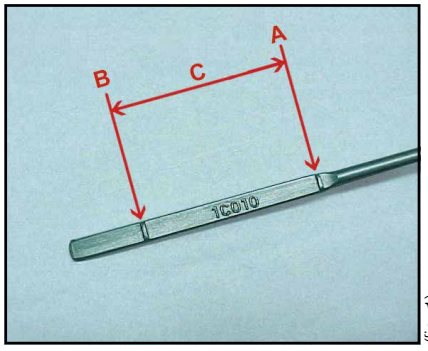
A. Full
B. Add
C. Operating range

- Add oil up to upper mark if required.
- To add oil, remove dipstick. Place a funnel in the oil filling orifice located upon the balance beams cap.

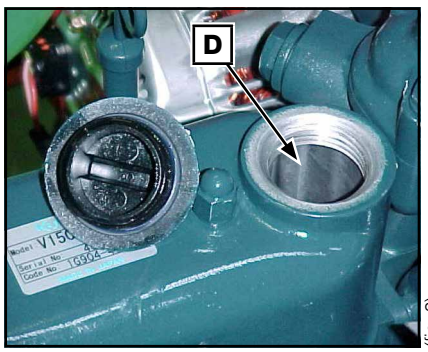
D. Filling orifice (fig. 2)

Do not exceed the maximum mark.

- Tighten correctly the oil filling cap and place correctly the level rod.



(fig. 1)



(fig. 2)

Periodic maintenance operations

Oil Change and Oil Filter Replacement.

CAUTION

The first substitution of the oil of the engine must be done after the first 50 hours of service. The initial maintenance is very important and must not be neglected.

Oil change should be done with a warm oil.
Ensure vehicle is on a level surface.
Remove dipstick.
Clean the oil drain plug area.
Place a drain pan under the oil drain plug area.
Unscrew oil drain plug.

A. Oil drain plug (fig. 1)

WARNING

The engine oil can be very hot. To prevent burning yourself, do not remove the engine drain plug or the filter cover if the engine is hot.
Wait until engine oil is warm.

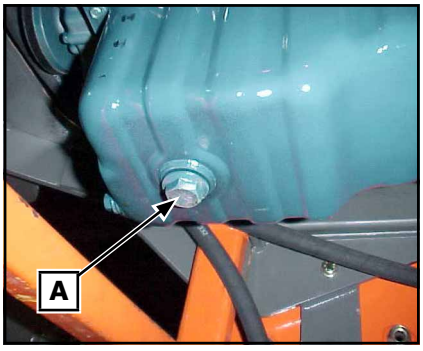
Allow enough time for oil to flow out of oil filter.
Unscrew the oil filter cover, located on the left side and remove.

B. Oil cartridge filter (fig. 2)

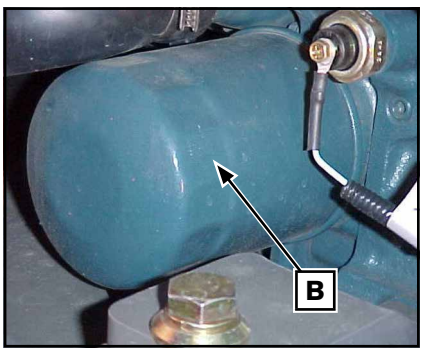
Clean the base and grease with clean oil the joint of the new filter element.
Screw the filter element and tighten it without using mechanical means.

CAUTION

Wipe out any oil spillage on engine.
Change gasket on oil drain plug **(A)**. Clean gasket area on engine and oil drain plug then reinstall plug.
Refill engine at the proper level with the recommended oil. Refer to **LIQUIDS AND LUBRICANTS** in this manual for capacity.
Start engine and let idle for a few minutes. Ensure oil filter area and oil drain plug areas are not leaking.
Stop engine.
Wait a while to allow oil to flow down to crankcase then check oil level.
Refill as necessary.
Reject the used oil in the authorized centers.

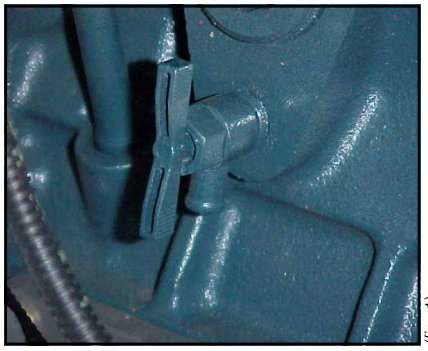


(fig. 1)

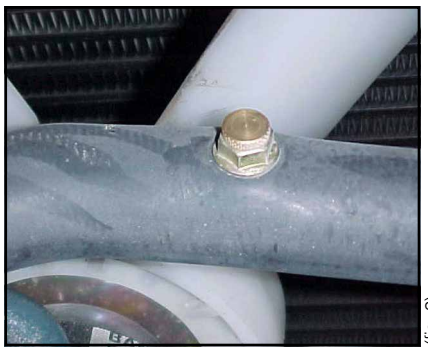


(fig. 2)

Periodic maintenance operations



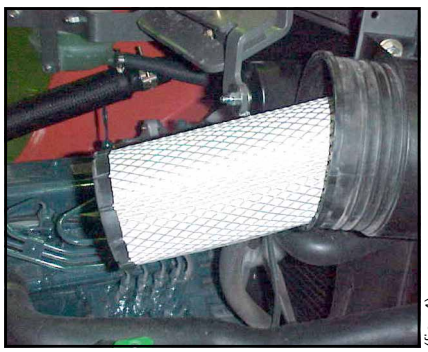
(fig. 1)



(fig. 2)

(fig. 2) (✶)

(fig. 3)



(fig. 4)

■ **Engine cooling circuit (fig. 1, 2)**

As coolant, antifreeze quality CC 50% is recommended.

WARNING

Never remove the cap of the coolant tank or for the radiator when the engine is hot, until the engine is cold, wait 20 minutes aprox.

Add coolant.

This operation is done by the coolant tank.

Coolant replacement.

The change must be made every 2 years or when the circuit must be emptying. To make this, follow next steps:

- Quit drainage cap of cylinder block, located at the right side of the engine, for emptying **(fig. 1)**.
- Unplug the inferior sleeve of the radiator to drain the radiator by this point.
- Before opening the circuit we must screw up the cap of the drainage engine and plug the sleeve again.
- The filling is made by the radiator with a flexible tube and a funnel, until it is absolutely filled, then caps it and fill the water reservoir.
- Start the engine until the thermostat is opened.
- Then with the cold engine, the level of the water reservoir must be checked.
- If it is necessary to purge the circuit use the bleeder located in the sleeve of the radiator **(fig. 2)**.

■ **Air filter (fig. 3, 4)**

The engine uses a dry type filter.

Correct maintenance of the air filter is essential for the engine performance as well as to the life of the engine. To clean the filter element of accumulated dust and dirt, remove the filter element and, from the inside, blow out the element using air line with pressure not exceeding 60 psi (5 bar), while it is turned.

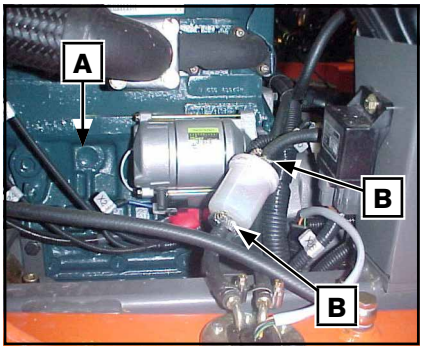
Check periodicity of renovation in **MAINTENANCE CHART**.

If the forklift works in dusty area, the filter element should be changed more frequently than normal specification.

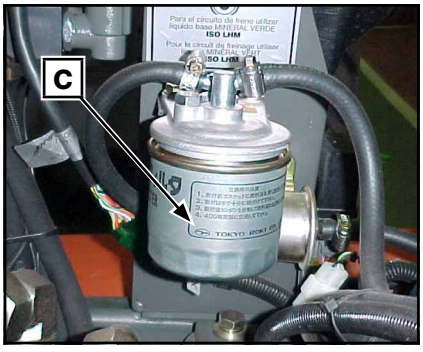
NOTE

The filter has a clogged indicator (vacuum-meter). If this indicator in the control panel is lit, the filter element should be serviced as soon as possible.

Periodic maintenance operations



(fig. 1)



(fig. 2)


(fig. 3)


(fig. 4)

■ **Fuel prefilter (fig. 1)**

NOTE
Always replace this component. Never try to clean it.

A-Pre-filter
B-Flanges

Disassemble the supporting flanges and the filter. Make sure that the new filter is mounted in the correct sense as indicates the arrow marked in the body of the filter.

■ **Fuel filter (fig. 2)**
Consult the periodicity of renovation, in the **MAINTENANCE CHART**.

Fuel filter replacement.
Unscrew the fuel filter cartridge located in the left part of the engine and remove it of its support.

C.Fuel filter

Clean the base and grease with clean oil the joint of the new filter element.
Screw the filter element and tighten it without using mechanical means.

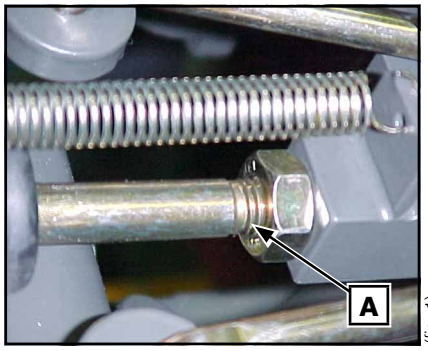
To protect engine injection system, is very important to use clean gas-oil A type with less than 0,5% in sulphur, as established in DIN 51601 regulations or ASTM D975-77 Degree Nº 1-D and 2-D.

■ **Lean of the mast with the stopped engine (emergency movement) (below chassis # 121.76429) (fig. 3)**
1- Locate the connector next to the steering column.
2- Use an external battery to feed the connector with 12V DC. and ground (-).
3- Pushing the handle of joystick to the right will allow us to make the movement of tilting of the mast.

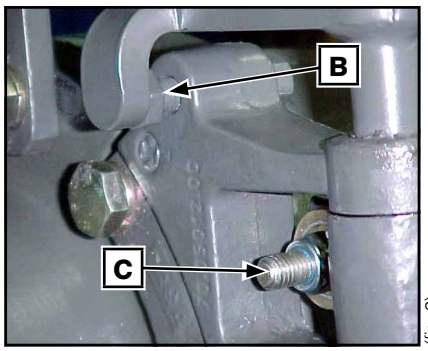
NOTE
In order to facilitate this movement, it is recommended to apply a small load in the end of the forks.

■ **Parking brake (fig. 4)**
When to apply the hand brake you do not need any strain, it means the hand brake fails to apply the brakes correctly and adjustments have to be made as follows:
- Put the gear lever in neutral and lift the front of the forklift so the front wheels are off the floor.
- Let the hand brake firmly and check if the front driving wheels are locked. If not, the linkage should be adjusted.
- Turn the grip of the end of the handle in the clock direction to tighten the cables and in the opposite direction to loose them.
- The linkage and cables should be kept clean.

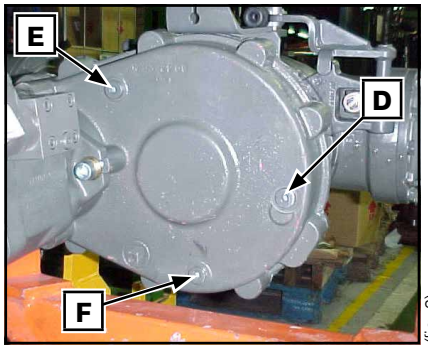
Periodic maintenance operations



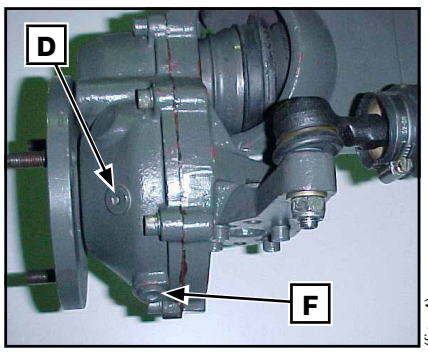
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

■ **Service brake (fig. 1, 2)**

If the pedal has an excessive free movement, it is possible to correct it regulating the pusher of the pedal commanding the brake pump. This one has a nut system lock **(A)**. The pusher must have a free movement between 1 and 1.5 mm, making sure that the pump is free of internal pressure.

If when driving the brake the pedal low in excess, it must be tightened. To do so:

- Lift the machine so that the front wheels do not have contact with the ground.
- Tighten the nut **(C)** until obtaining the wished tact in the pedal.
- Graduate the end of the handle **(B)** and leave some free movement between the handle and the end of 1 mm.

For the substitution of the brake discs, contact with an AUSA authorized distributor.

■ **Transfer box oil level (fig. 3)**

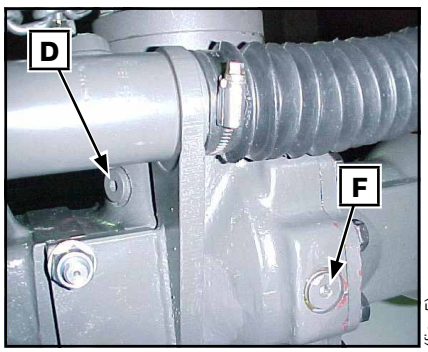
- To check the oil level in the transfer box, remove plug **(D)** to see if the oil is just below this hole level. Add oil if necessary trough plug **(E)**.
- To drain the oil, unscrew plug **(F)** at the bottom of this box.

See **MAINTENANCE CHART**.

■ **Oil level in the engine back axis (models 4x4) (fig. 4, 5)**

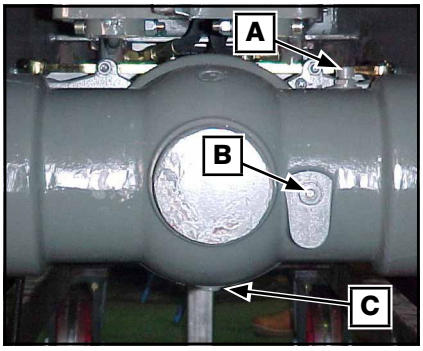
- To verify the level unscrew the cork **(D)**. The oil must be at level of the lodging.
- To drain it, unscrew the lid **(F)** located in the inferior part.
- To fill or to add oil in the reduction of the wheels, use the orifice **(D)** of the level.
- To fill or to add oil to the differential, use the orifice of the unsteam lid.

See **MAINTENANCE CHART**.

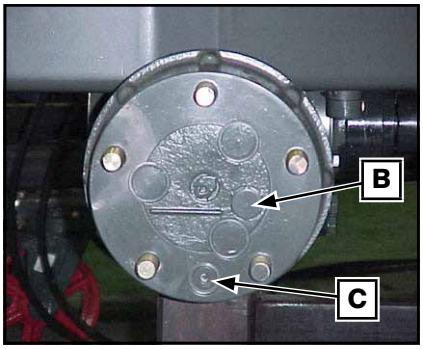


(fig. 5)

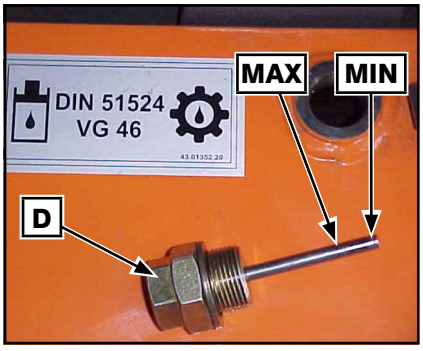
Periodic maintenance operations



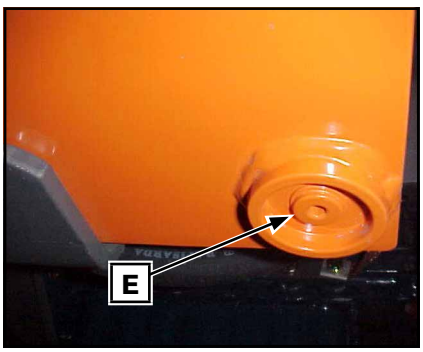
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

■ **Front axle oil level**

To check the oil level in the axle, place the machine on level ground.
The oil of the differentials and transfer box, is internally communicated.

Differentials (fig. 1).

To check the oil level in the differentials, remove plug **(B)**. To drain the oil, unscrew plug below differential box **(C)**. If necessary, add oil by the steam cap **(A)**.

Final Reductions (fig. 2).

For the filling and level control of the oil of the reducer, use the hexagonal lid **(B)** located in the bucket rolls. Turn it until the reducing mark is situated in the horizontal position. Open the lid and to fill until it overflows. To drain the oil:

- Remove the wheel.
- Remove the allen lid **(C)** and position the hole in the inferior part of the bucket roll.

See **MAINTENANCE CHART**.

■ **Hydraulic oil level and filter (fig. 3, 4)**

The oil level should check with the forks in low position of rest and with the engine stopped. Place the machine on level ground. To loose the bar **(D)** and check if the oil arrive to the superior mark. If necessary, add oil by the hole of the oil bar.
The drain of the tank have to make by the plug **(E)** located in the inferior side of the tank. In the hydraulic diagram there are an aspiration filter, located inside of the tank. It's a metallic filter that should clean periodically.

NOTE

The oil tank is equipped with an indicator of low level of oil. When this level is reached, the warning light on the dashboard will be on and an acoustic alarm will also sound. Add oil immediately to prevent any damage in the hydraulic pumps.

Periodic maintenance operations

■ **Safety valves adjustment (fig. 1, 2)**

There are safety relief valves on both the hydraulic steering block and on the load handling control valve. The lines in figure 1 and 2 show the plugs where the hydraulic steering pressure **(fig. 1)** and the load control hydraulic pressure **(fig. 2)** are adjusted. Although they are set at the correct working pressure at the factory, if the hydraulic system fails these safety valves must be reset. However this work must only be done by trained mechanics with knowledge of hydraulics and correct pressure gauge tools. The pressure must not be set higher than set forth in the **SPECIFICATIONS** section of this manual.

- **Steering Block Valve:**
  Take off the cap **(A)** and turn the screw underneath clockwise to increase the hydraulic pressure.

- **Load Control Valve:**
  Take out the cover nut **(B)** and turn the screw underneath clockwise to increase the hydraulic pressure.

■ **Filter of the hydrostatic transmission (fig. 3)**

The hydrostatic diagram is equipped with a cartridge filter that it should to be substituted perio-dically. Consult the **MAINTENANCE CHART**.
The support of the filter goes provided of an obturation indicator (vacuummeter). With the engine started, the needle has to be located in the green area or as maximum in the yellow one. If it comes closer or it locates in the red area, to replace the cartridge filter as soon as possible.

■ **Wheels**

Tyres pressure.

It is recommended that experienced tire personnel should only do tire inflation, as tire inflation can be dangerous if not done with care.
The following procedure steps should be taken when inflating the tires, with special caution exercised when working on the front axle tires.

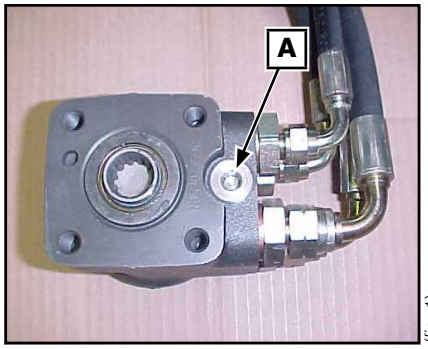
- Park the machine on level ground and turn the engine off.
- Always inflate tyres before it has been operated and the tires are still cold. Only inflate tires to the level recommended by AUSA. (See **SPECIFICATIONS** in this manual).
- Check tire air pressure with a tire pressure gauge. The inflation valve must be secured with a clamp to prevent a possible whip lash if the valve is suddenly disengaged.
- Always wear goggles to prevent injury from an unforeseen air jet.
- If a tire is inflated after being removed from the machine, the tire should only be inflated after it has been placed under a protective cage.

Tightening torque.

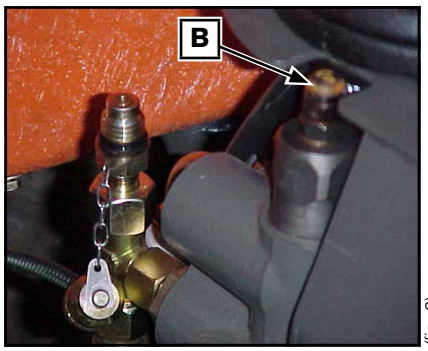
You should check weekly the torque wrench of the nuts of the wheels fixation.

Front axle: 184 lb ft (32 mKg ± 4) (250 ± 30 Nm).
Rear axle x2: 184 lb ft (32 mKg ± 4) (250 ± 30 Nm).
Rear axle x4: 110 lb ft (15 mKg ± 4) (150 ± 20 Nm) (until chassis number 95994).
Rear axle x4: 184 lb ft (32 mKg ± 4) (250 ± 30 Nm) (from chassis number 95994).

CAUTION
If not essential because of the specific job to do, and because this machine hasn't suspension, solid tyres or strips are not recommended because the effect of impacts are bigger.



(fig. 1)



(fig. 2)

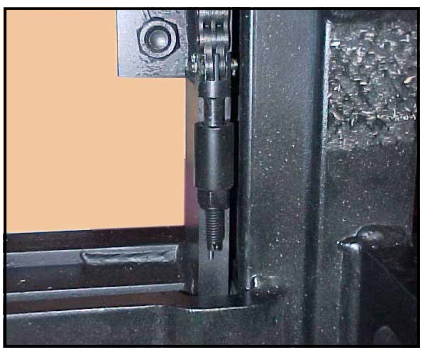

(fig. 3)

Periodic maintenance operations

■ Mast chains (fig. 1)

When the forklift is delivered to the owner, the length of the mast chain must be measured and noted in a permanent record. The chain must be replaced when their length has increased 3%. To tighten the mast chain, loose and tight the nuts arrowed.

The confirmation of the lengthening you can make counting the links that there is in a meter of chain of 5/8" in passing. Nominally they should have 63 links. The change should be carried out when 62.5 links are counted, maximum 61.



(fig. 1)

Periodic maintenance operations

■ Electrical system

Fuses (fig. 1, 2): checking.

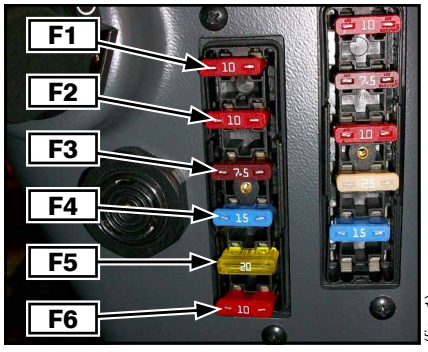
- Switch off the ignition.
- Remove the protective cover from the fuses by pulling it outwards.
- The burnt fuse can be recognised as the metal strip which is visible in the center of each fuse will have melted (viewing window).
- Remove the burnt fuse and replace with a new fuse of the same type.

CAUTION

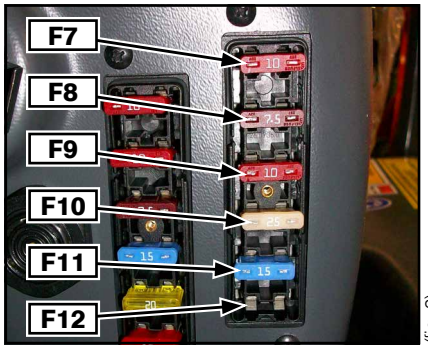
Do not use fuses of a higher value, this could cause major damage.

Fuses: power and protected circuits.

F1	Low beam fuse	(10A)
F2	High Beam fuse	(10A)
F3	Side lights / brake lights / reverse relay fuse	(7'5A)
F4	Windscreen wiper fuse	(15A)
F5	Ignition feed stop solenoid / fuel pump / +15 pre-heating / +15 alternator fuse	(20A)
F6	Ignition feed warning lights (+15) / horn fuse	(10A)
F7	Seat switch / hand brake / timer relay fuse	(10A)*
F7	Seat switch / hand brake / timer relay fuse	(10A)**
F8	3rd.and 4rth.service solenoids (side shift or attachments) fuse	(7.5A)
F9	Dash panel lights / heater motor fuse	(10A)
F10	Flashing / rotating beacon and working lights fuse	(25A)
F11	Permanent live warning lights switch (+30)	(15A)
F12	Scombox GPS optional fuse (5A) / Trackunit GPS optional fuse	(1A)



(fig. 1)



(fig. 2)

Battery fuses (fig. 3): Checking.

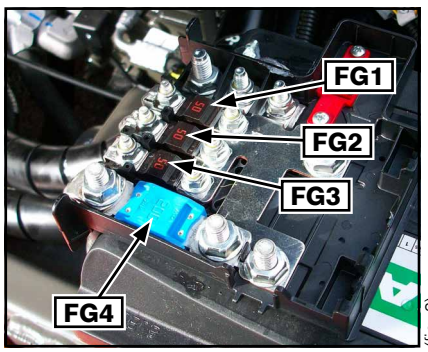
- Switch off the ignition.
- Remove the protective cover from the fuses.
- The burnt fuse can be recognised as the metal strip which is visible in the center of each fuse will have melted (viewing window).
- Remove the burnt fuse and replace with a new fuse of the same type.

CAUTION

Do not use fuses of a higher value, this could cause major damage.

Fuses: power and protected circuits.

FG1	Battery general fuse +30	(50A)
FG2	Starter motor relay main fuse	(50A)
FG3	Pre-heat relay main fuse	(50A)
FG4	General fuse	(200A)



(fig. 3)

Greasing points

■ Greasing points

Rear axle (fig. 1).

x 2 models

1 nipples in axle articulation.
2 nipples, 1 on each wheel kingpin.

x 4 models

4 nipples, 2 on each articulation of the wheel reduction gears.
1 nipples in axle articulation.

Universal drive joints (x4 models) (fig. 2, 3).

2 nipples on each joint.

Mast support (fig. 4).

2 nipples, 1 on each articulation mast axle.

Mast articulation tilting cylinder (fig. 5).

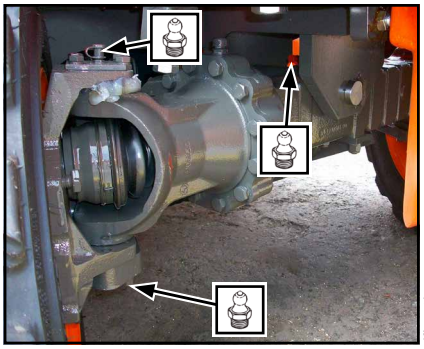
2 nipples, 1 on each articulation axle.

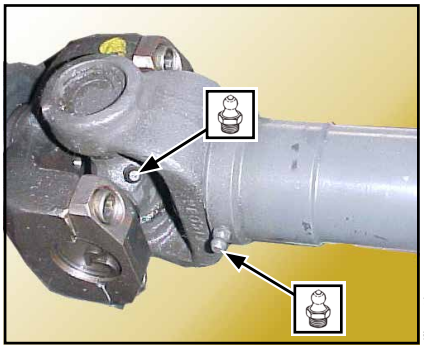
Chassis tilting cylinder articulation (fig. 6).

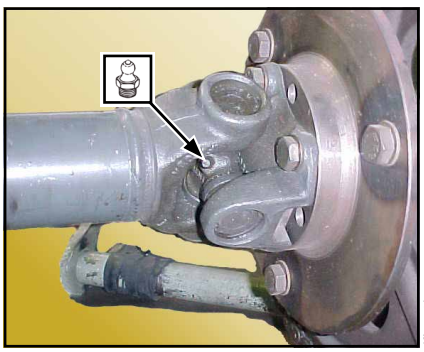
2 nipples, 1 on each support

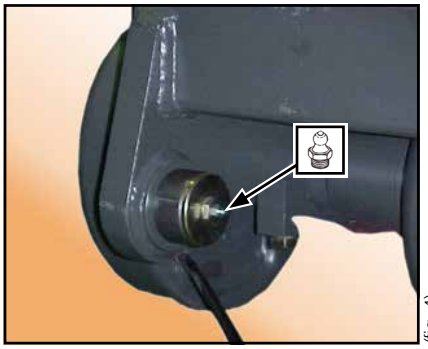
Control valve joints (fig. 7).

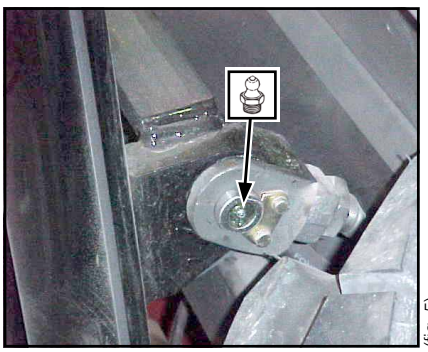
3 nipples, 1 on each joint.

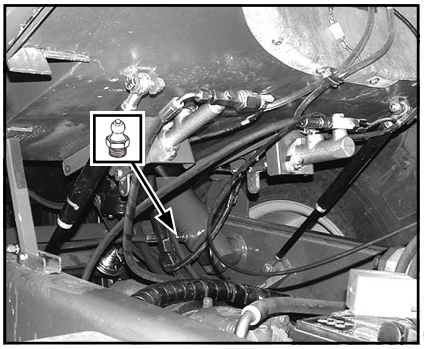

(fig. 1)

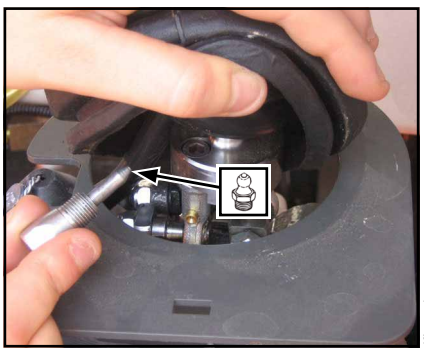

(fig. 2)


(fig. 3)


(fig. 4)


(fig. 5)


(fig. 6)


(fig. 7)

Greasing points

Access doors hinges (if fitted) (fig. 1).
4 nipples, one on each door hinge

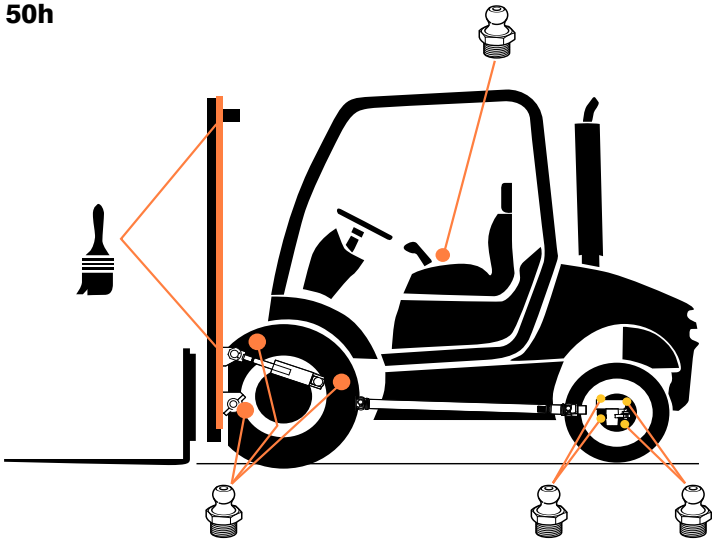
Mast chains.
Apply oil with a brush or use oil in spray bottle **(fig. 2)**.

Mast inner profiles.
Add grease with a brush **(fig. 2)**.

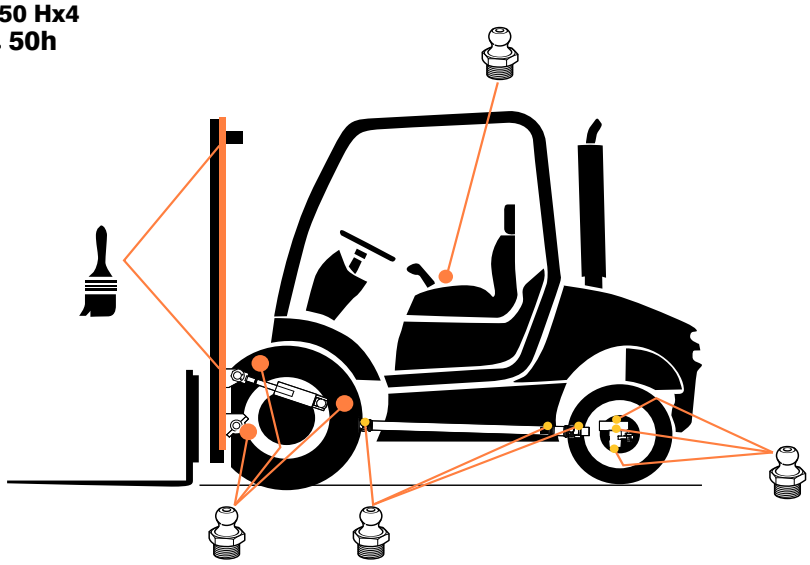
Fork carriage side-shift.
Add grease with a brush **(fig. 3)**.

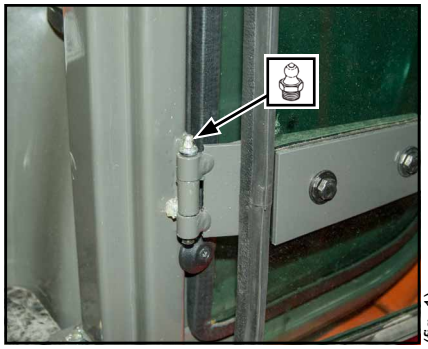
See **MAINTENANCE CHART** for greasing periods.
See **FLUIDS AND LUBRICANTS** for this type of grease to be used.

C 150 H
50h

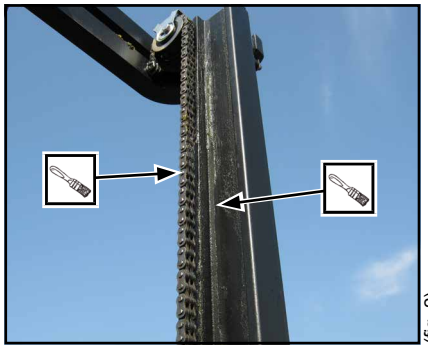


C 150 Hx4
50h

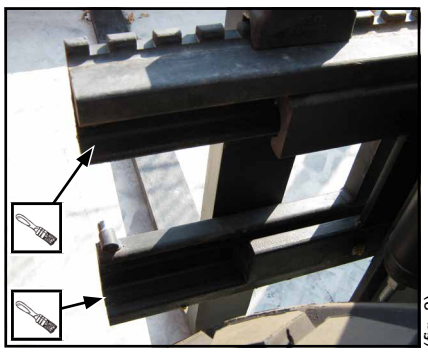




(fig. 1)



(fig. 2)



(fig. 3)

Maintenance chart

I: Inspect, verify, clean, lubricate, replace if necessary **C:** Clean **L:** Lubricate **R:** Replace	EVERY												
	Initial inspection (50 h)	100 h.	200 h.	400 h.	600 h.	800 h.	1,000 h.	1,500 h.	3,000 h.	Every week	Every month	Every year	Every 2 years
ENGINE													
Oil and oil filter [1]	R		R [6]									R	
Alternator belt [1]	I	I		R									R [8]
Valve clearance						I							
FUEL CIRCUIT													
Air filter element [4]		C			R [5]							R	
Pipeline for air inlet			I										R [7]
Fuel pipe and clamp										I			R [2]
Fuel filter cartridge				R									
Fuel prefilter [1]	R			R									
Fuel tank				C									
Injection pressure of the mouth piece for fuel injection [2]								I					
Injection pump (timing) [2]									I				
Fuel injection timer [2]									I				
COOLING SYSTEM													
Radiator hoses and clamp bands			I										R
Radiator (internal)				C									
Coolant										I			R
ELECTRICAL SYSTEM													
Battery electrolyte	I	I											
Battery connections										I			
Dash panel indicators [3]										I			
Battery											I		R
Damages in the elctrical cables and lose connections												I	
HYDRAULIC CIRCUIT													
Oil [3]							R			I			
Suction strainer							C						
Hydraulic cartridge	R						R						
Mast movements [3]										I			
Damages in the hoses and in hydraulic connections			I										
Steering [3]										I			
Replacement of hydraulic hoses	REPLACE EVERY 6 YEARS												

[1] Initial inspection. The initial maintenance is very important and must not be neglected.
[2] To be performed by an authorized AUSA dealer.
[3] Daily inspection item.
[4] The air filter must be cleaned more often in dusty conditions than in normal conditions.
[5] After cleaning 6 times.
[6] ... Or at least once a year.
[7] Replace only in case of being necessary.
[8] ... Or every 400 hours.

Maintenance chart

	EVERY												
I: Inspect, verify, clean, lubricate, replace if necessary **C:** Clean **L:** Lubricate **R:** Replace	Initial inspection (50 h)	100 h.	200 h.	400 h.	600 h.	800 h.	1,000 h.	1,500 h.	3,000 h.	Every week	Every month	Every year	Every 2 years
GREASING POINTS													
Masts guides and chains										C/L			
Nipples (see greasing points)										L			
Control links (accelerator, lifting cylinders...)										L			
TRANSFER-BOX													
Oil [1]	I				R [6]					I		R	
Oil leaks										I			
Tightening of all the screws and nuts										I			
Axles (front and rear)													
Oil [1]	I				R [6]					I		R	
Oil leaks										I			
Tighteninig the wheel nuts										I			
Tightening of the fixation screws to the chassis							I						
Tightening the fixation nuts of the cardan shaft											I		
Tightening the fixation nuts for flanges											I		
Condition of tires and pressures										I			
BRAKES													
Brake fluid [3]							R			I			R
Setting of the service brake [3]	I									I			
Setting of the parking brake [3]	I									I			
BODY/FRAME													
Protective structure of operator										I			
Seat belt [3]										I			
Floor plate and access steps [3]										I/C			
Protectors [3]										I			
Plates and decals [3]										I/C			
Tipped cabin safety latch										I			
Cabin lock										I			
Counterweight fastenings					I								

[1] Initial inspection. The initial maintenance is very important and must not be neglected.
[2] To be performed by an authorized AUSA dealer.
[3] Daily inspection item.
[4] The air filter must be cleaned more often in dusty conditions than in normal conditions.
[5] After cleaning 6 times.
[6] ... Or at least once a year.
[7] Replace only in case of being necessary.
[8] ... Or every 400 hours.

Hydraulic Diagrams / Electric Diagram

Available in the AUSA service private zone on the website

Contact an authorized AUSA representative or dealer

EC Certificate of Conformity

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

DUPLICATE

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 ROUGH-TERRAIN FORKLIFT 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 ISO 3691-1:2015/A1:2020 – Industrial trucks – Safety requirements and verification – Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks.

EN 16307-1:2020 – Industrial trucks – Safety requirements and verification – Part 1: Supplementary requirements for self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks.

EN 12895:2015+A1:2019 – 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

UK Certificate of Conformity

Machines being placed on the Great Britain market after Brexit will be accompanied with the following declaration of conformity:

AUSA

UK CA

DUPLICATE

UK DECLARATION OF CONFORMITY

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

Generic denomination:	**SELF-PROPELLED ROUGH-TERRAIN FORKLIFT TRUCK**
Model/Type:	**modelo**
Serial number:	**bastidor**
Year of manufacture:	**año_fabricacion**

fulfils all the relevant provisions of the following UK Regulations, (and their amendments):

Supply of Machinery (Safety) Regulations 2008
Electromagnetic Compatibility Regulations 2016
Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001
Radio Equipment Regulations 2017, (when the machine if fitted with a radio equipment for fleet tracking)

based on the following UK designated standards:

EN ISO 3691-1:2015/A1:2020 – Industrial trucks – Safety requirements and verification – Part 1: Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks.
EN 16307-1:2020 – Industrial trucks – Safety requirements and verification – Part 1: Supplementary requirements for self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks.
EN 12895:2015+A1:2019 – 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 Regulations.

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

Mr./Mrs. Antoni Tachó i Figuerola
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c/ Castelladral 1, 08243 – Manresa – Barcelona

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