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D 201 RH
D 201 RHS
D 201 RHG
D 201 RHGS

OPERATOR'S MANUAL

ENGLISH
Original Manual

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D 201 RH
D 201 RHS
D 201 RHG
D 201 RHGS

Original Manual

Above chassis number 62439

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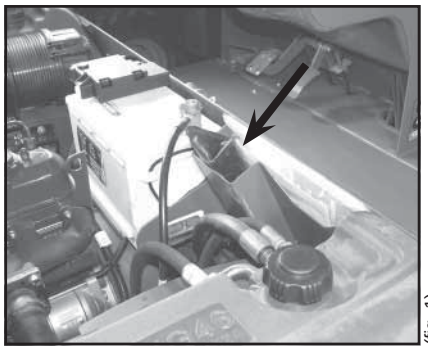
Foreword

■ Thank you for selecting this model of AUSA dumper (hereafter called dumper), 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 Manual before using the dumper; this is to instruct all individuals who may come into contact with the dumper, 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 your Official AUSA Agent - Distributor.
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

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 space on the right hand side of the engine compartment **(fig. 1)**.



(fig. 1)

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Dumper use and Inappropriate use

■ The D 201 RH, RHS, RHG and RHGS dumpers have been designed and made to transport loose materials (mortar, concrete, sand, gravel as well as rubble and demolition material) over rough terrain.

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 dumper in good working order.

Driving, maintenance and repair of the dumper should only be carried out by suitably qualified personnel, with the necessary tools and knowledge of the control and safety procedures relative to the dumper.

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

AUSA does not accept responsibility for possible damage as a result of any modification to the dumper made without their express authorization.

❀ Texts marked with this symbol provide information about recycling and environmental protection.

■ **Inappropriate use**

Inappropriate use is understood to mean the use of the dumper in a manner not in keeping with the criteria and instructions given in this 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:

- Carrying persons other than the operator in the bucket.
- Not strictly observing the instructions for use and maintenance given in this Manual.
- Exceeding load limits.
- Working on unstable, unshored 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.

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Dumper Identification

■ **Important!** When contacting AUSA or their dealers with respect to your dumper, 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:

Dumper model: .....

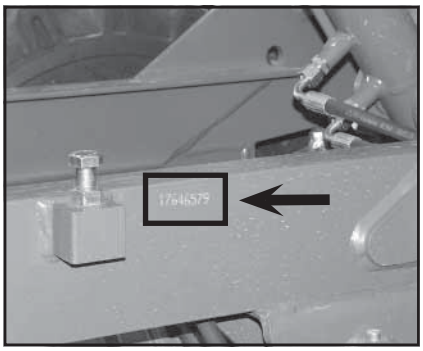
Date of purchase:.....

Chassis number: .....

Engine number:.....

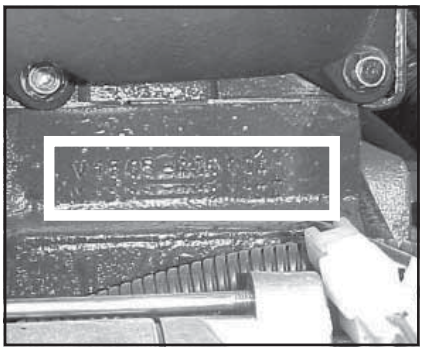
(fig. 1)

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



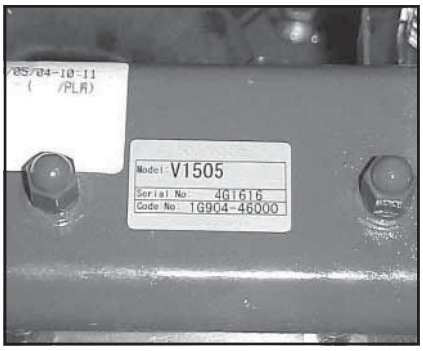
(fig. 2)

■ **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. For further information see the section **IDENTIFICATIONS PLATES AND LABELS**.

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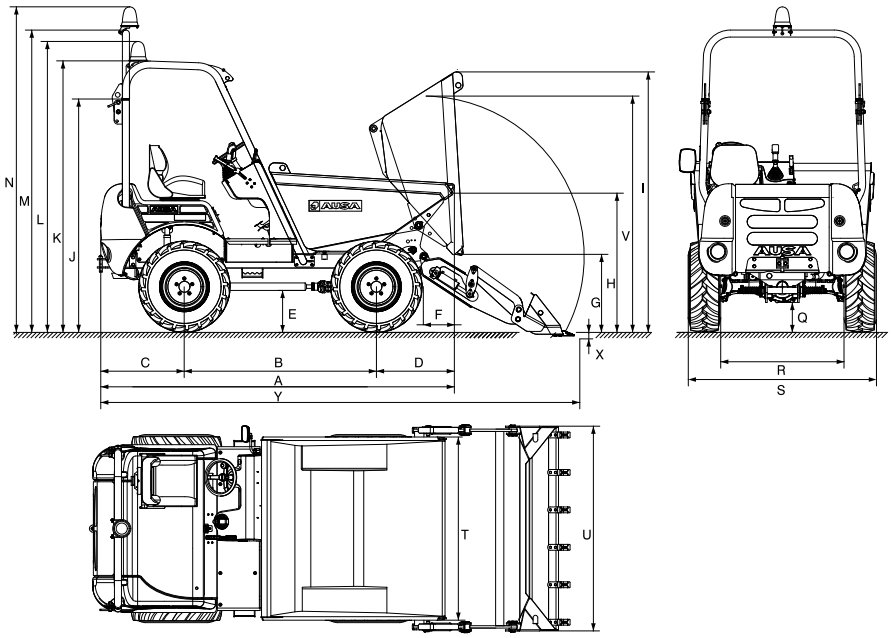
Technical Specifications



■ **Dimensions chart (in)**

	D 201 RH / S	D 201 RHG / S
A	5ft 13in	5ft 05in
B	4ft 74in	4ft 74in
C	5ft 22in / 5ft 74in	5ft 22in / 5ft 74in
D	0ft 61in	0ft 61in
E	3ft 92in	3ft 92in
F	8ft 46in	8ft 46in
G	0ft 84in	84in
H	2ft 9 in	3ft 03in
I	5ft 38in	5ft 38in
J	2ft 35in	2ft 35in
K	9ft 91in	9ft 91in
L	7ft 37in	8ft 74in
M	9in	1ft 76in
N	1ft 87in	3ft
R	- / 6ft 84in	- / 6ft 84in
S	- / 13ft	- / 13ft
T	5ft 22in	5ft 22in
U	-	71in

S: Dumper equipped with self-loading shovel
V. maximum visibility with the shovel fully retracted (patented system)

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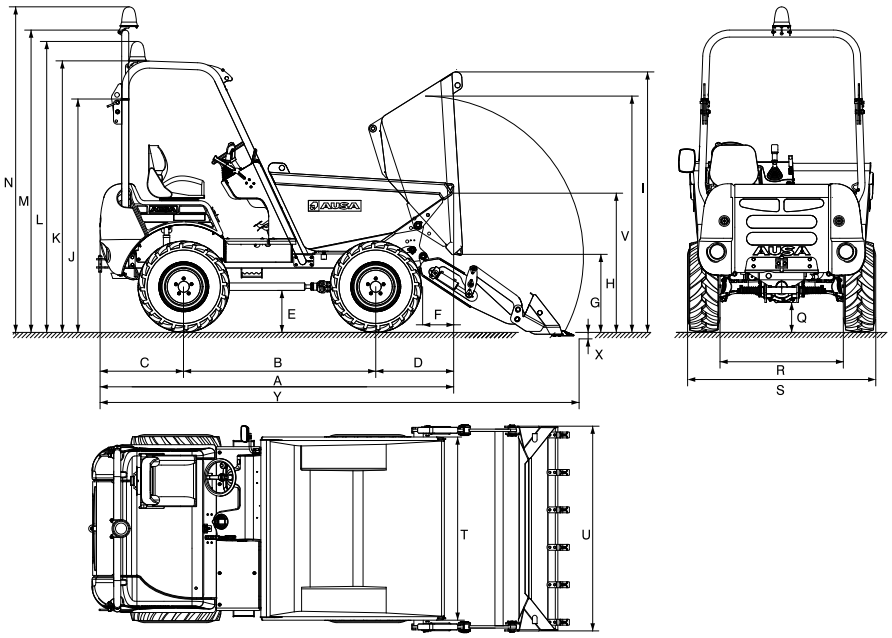
Technical Specifications



■ **Dimensions chart (mm)**

	D 201 RH / S	D 201 RHG / S
A	1565	1540
B	1445	1445
C	1590 / 1750	1590 / 1750
D	185	185
E	1195	1195
F	2580	2580
G	255	255
H	885	925
I	1640	1640
J	715	715
K	3020	3020
L	2245	2665
M	275	535
N	570	930
R	- / 2085	- / 2045
S	- / 3980	- / 3980
T	1590	1590
U	-	215

S: Dumper equipped with self-loading shovel
V. maximum visibility with the shovel fully retracted (patented system)

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Technical data

■ **Diesel engine (See the engine instructions manual)**
Kubota V1505
Power: 30,8 HP / 22.7 kW at 2600 rpm (according to SAE J 1995 Norm).
Four cylinder, four stroke, water cooled. Mixed water / oil radiator. Electric starter.

■ **Transmission**
Hydrostatic system with variable flow.
Permanent 4x4 transmission with COMPEN. system®.
Two-speed hydrostatic motor, electrically controlled

■ **FNR selector**
The drive selection (forwards/ backwards) is made using a switch on the lower part of the joystick. An indicator lamp in the form of an arrow lights up on the top of the joystick when a movement mode is selected.

■ **Steering**
“ORBITROL” hydraulic system. Drive is in the rear axle, through a double-act cylinder.

■ **Minimum external turning radius**
D 201 RH, RHS, RHG, RHGS: 4190 mm./ 13 ft 8,96 in.

■ **Maximum speed**
20 Km/h / 12 mph

■ **Gradient negotiable**
1st gear: 42 % (with full load).

■ **Brakes**
Brakes: On front axle, mechanical action. Multidisc, oil bathed.
Park brake: Cable operation applied to multiple discs on the front axle.

■ **Wheels**

Dimensions		
Model	**Front wheels**	**Rear wheels**
D 201 RH	10.0/75-15.3” (10PR)	10.0/75-15.3” (10PR)
D 201 RHS		
D 201 RHG		
D 201 RHGS		

Pressures		
Model	**Front wheels**	**Rear wheels**
D 201 RH	4 bar 58 PSI	3,5 bar 51 PSI
D 201 RHS		
D 201 RHG		
D 201 RHGS		

■ **Operating temperature**
-15 ºC to 40 ºC / 5 ºF to 104 ºF

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Technical data

■ Vibration and sound levels

Sound power level
Warrantee sound power (according to 2000/14/EC sound emissions in the environment by machinery for outdoor use):
- Lwa = 101 dB(A)

Sound pressure level on the operator's site
A weighted sound pressure in the operator's ear measured (following norms ISO 6394):
- Lpa = 85 dB(A)
- Measurement uncertainty: 2,5 dB(A)

Vibration level produced by the machine
Root-mean-square frequency-weighted, hand-arm vibration acceleration value:
< 2,5 m//s^2

Root-mean-square frequency-weighted, whole body vibration acceleration value:
< 0,5 m/s^2

■ Hydraulic circuit

Operated by a 8 cc. / 0,002 US gal. gear pump connected to the hydrostatic pump; the pump is used by both the operations and steering circuits.
Two-spools monoblock control valve and solenoid selector for the self-loading shovel movements (models RHS and RHGS).
Restrictor valve for controlling lowering speed of the bucket when loaded.

Operating pressure:
Hydraulic circuit: 320 bar / 4641,2 PSI.
Control valve: 190 bar / 2755,17 PSI.
Steering: 80 bar / 1160,3 PSI.

Hydraulic oil tank capacity: 40 l. / 8,79 US Gal.

■ Electric equipment.

Starter: Glow plugs, 1.2 kW starter motor.
Alternator: 12 V/360 W with incorporated regulator.
Battery: 12 V / 70 Ah.

Rotating beacon, horn, reverse back-up alarm, warning signal for: low engine oil pressure and coolant overheating.

■ Weights

Unladen weight:
D 201 RH: 1600 Kg. / 3527,39 lbs.
D 201 RHS: 1800 Kg. / 3968,32 lbs.
D 201 RHG: 1850 Kg / 4078,55 lbs.
D 201 RHGS: 2050 Kg. / 4519,47 lbs.

Fully laden weight:
D 201 RH: 3600 Kg. / 7936,64 lbs.
D 201 RHS: 3800 Kg. / 8377,56 lbs.
D 201 RHG: 3850 Kg. / 8487,79 lbs.
D 201 RHGS: 4050 Kg. / 8928,72 lbs.

■ Load capacity

D 201 RH, RHS, RHG, RHGS: 2000Kg / 4409,24 lbs.

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Technical data

■ **Bucket**

Bucket capacities		
	D 201 RH, RHS	**D 201 RHG, RHGS**
Water	700 l. / 184,92 US Gal.	650 l. / 171,71 US Gal.
Levelled	960 l. / 253,60 US Gal.	930 l. / 245,68 US Gal.
Heaped	1250 l. / 330,21 US Gal.	1230 l. / 324,93 US Gal.

■ **Control panel and controls**

The controls, switches and indicators lamps are incorporated into the joystick and instrument panel.

■ **Lighting (✶)**

Working lights, parking lights, indicators and hazard lights equipment.

■ **ROPS Protection arch**

Built in accordance with ISO 3471 Standards.

■ **Optional equipment (✶)**

Optional equipment is marked with an asterisk (✶). Optional equipment is only supplied at the express wish of the customer, for certain versions of the dumper or even only in certain countries:

- Shovel teeth.
- Homologated lighting equipment
- FOPS/ROPS protective roof with seatbelt, rotating beacon and rear-view mirror)
- Passenger's seat.
- Grass tires
- Closed cabin with front windshield and wiper
- Towing hitch
- Backhoe loader (only available in RHG / RHGS models)

When the dumper comes equipped with accessories fitted by the factory, please read the relevant Instruction Manual for each accessory carefully before use. Each accessory has its own Instruction Manual issued by the manufacturer, and this is provided with the dumper main Operator's Manual.

Where accessories and equipment are fitted on the basic dumper chassis by companies other than the manufacturer, the instructions and limitations of the dumper with respect to weights and sizes, the effectiveness and settings of the lighting system and the need for guards on additional systems should be observed to guarantee the dumper safety.

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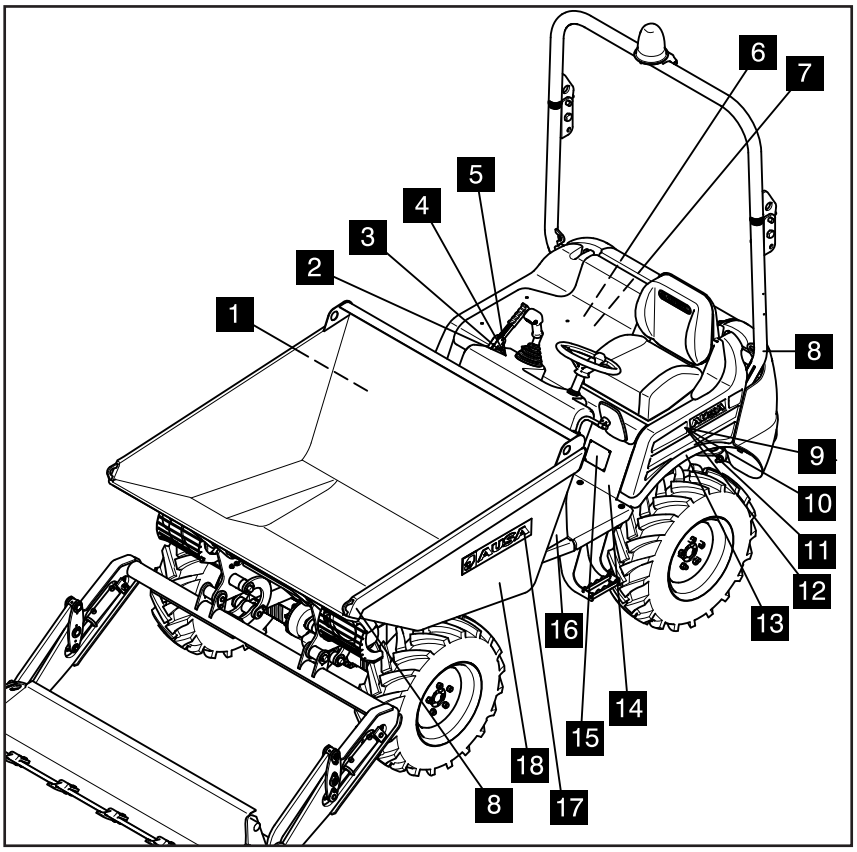
Plates and stickers



1- Axle lubrication specifications
2- Main functions of the joystick model RH
3- Main functions of the joystick model RHS
4- Main functions of the joystick model RHG
5- Main functions of the joystick model RHGS
6- Engine lubrication
7- Warning sign for engine cooling fan
8- Lifting point
9- Identification of the model RH
10- Identification of the model RHS
11- Identification of the model RHG
12- Identification of the model RHGS
13- Tire pressures
14- Certification
15- Specifications plate

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		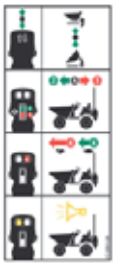		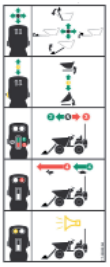		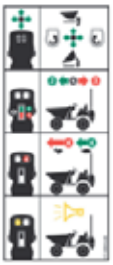		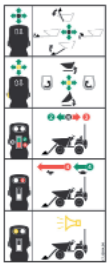	
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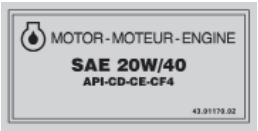									
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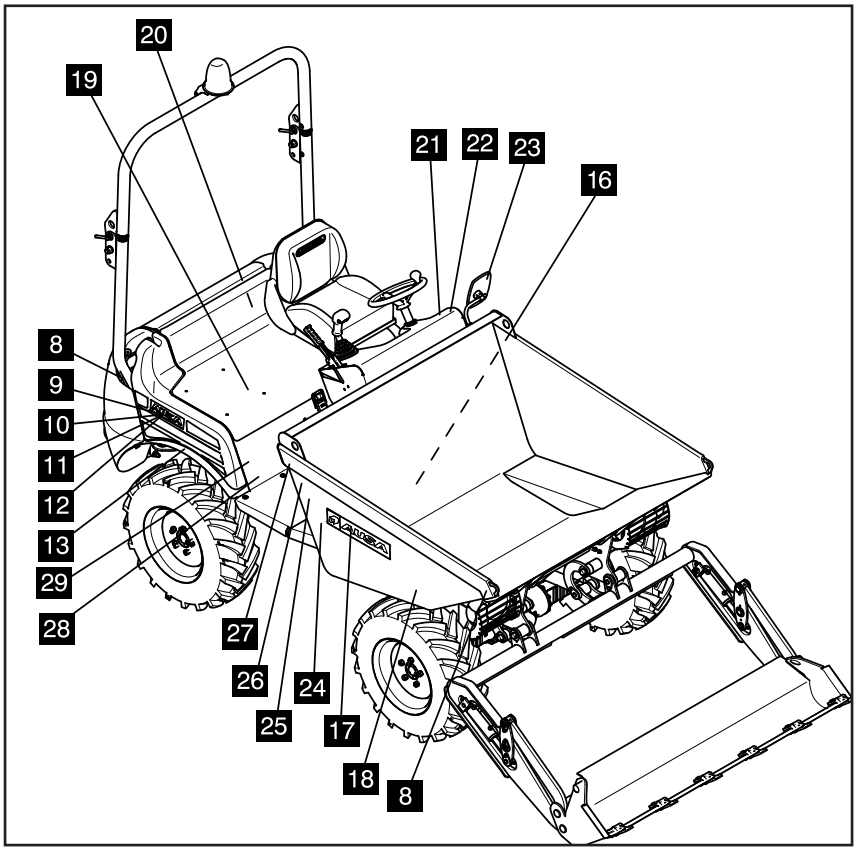
Plates and stickers



16- COMPEN system
17- Constructor identification
18- Pressure indication for the Tires
19- Reminder that it is prohibited to carry passengers in a dumper without a specific seat
20- Warning against using high pressure washing
21- Authorized use of the machine
22- Sign warning that use of seatbelt is obligatory
23- The use of protective earmuffs is obligatory
24- Warning sign indicating that the bucket must be lowered before leaving the dumper
25- Warning sign indicating that the shovel must be lowered before leaving the dumper
26- Cautious driving reminder for the dumper
27- Danger warning in the machine operating area
28- Noise level emissions
29- Lifting point

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						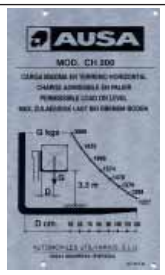			
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						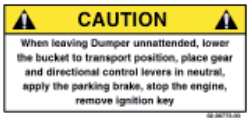		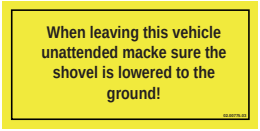	
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Special Safety Messages

General comments

■ AUSA manufactures its dumpers in accordance with the intrinsic protection requirements, as established by current legislation in the countries of the European Economic Community, regarding the dangers of any nature which may put health or life at risk, whenever the machinery is in use and maintained in accordance with these guidelines. Any danger resulting from improper use, not complying with these provisions or others which are specifically provided with the machinery, shall be the responsibility of the user and not of AUSA.
This section provides instructions on the use of the dumper, in accordance with that established by the Directive for Safety of Machinery 2006/42/EC.
Before using the dumper which is initially unfamiliar, you should read the Manual closely and resolve any doubts with a supervisor **(fig. 1)**.
The dumper must only be used by authorized and correctly trained personnel.

■ Operator clothing

Request the personal protective equipment required to carry out the work in safety, for example: helmet, protective earmuffs, outwears clothing, reflective equipment, safety goggles, etc. **(fig. 2)**.

The wearing of bracelets, chains, loose ropes, long hair which is not tied up, etc., is not recommended due to the risk of catching these in controls, rotating components, edges, etc.

■ Dumper description

A dumper is an engine-driven dumper used to carry loads with the help of special attachments designed for the intended work (bucket and, depending on the version, self-loading shovel). The dumper can tip the bucket in order to unload it. 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 drive axles.

The front of the dumper is equipped with the bucket and, depending on the version, the self-loading shovel. The unit formed by both is designed to lift and tilt the load forwards and backwards, making handling easier.

■ Rudiments of static equilibrium

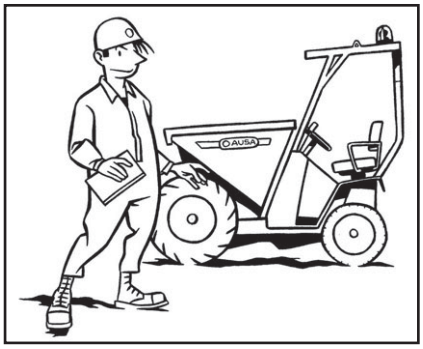
So that the dumper is able to handle loads in a stable and safe manner, certain equilibrium conditions must exist and be maintained between the load and the machinery. For this reason the dumper has been fitted with counterweights. These are designed to compensate for the weight of the load being carried, as long as the centre of gravity of the load and the dumper are within certain established limits. See the DUMPER IDENTIFICATION PLATE in order to verify the load capacity and the load centre of gravity permitted.

■ Rudiments of dynamic equilibrium

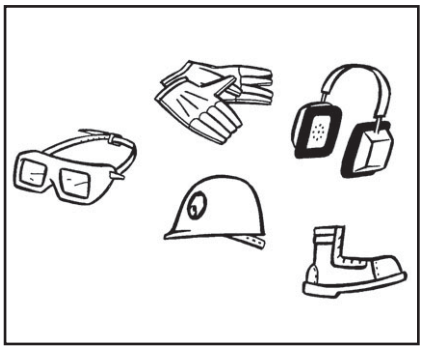
While the dumper is moving, and as it gains speed, the equilibrium conditions of the load-dumper unit are modified as the centre of gravity shifts. This is accentuated on lifting loads, turning, braking, etc. Under these conditions, a maximum of concentration is required so that the centre of gravity of the load is kept within the established limits.

■ Dumper equilibrium

The dumper counterweight counter acts imbalance of the weight even when unloading. The centre of gravity is maintained low and close to the rear of the dumper. When the load is collected, the imbalance is corrected and the centre of gravity shifts forward. If the load is within the correct limits then the correct equilibrium is maintained. As the load is lifted, the centre of gravity also rises, shifting upwards. At the moment that the centre of gravity shifts beyond the dumper, the equilibrium is lost and the dumper becomes unstable. Therefore, the dumper should not move while the bucket is raised.



(fig. 1)


(fig. 2)

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Special Safety Messages

■ **Stability**

Do not carry unstable or loose loads, or loads which are oversized with respect to the dumper **(fig. 1)**.
When the bucket is being lifted, ensure that the dumper is on stable ground and that it is as flat as possible.
Do not drive over objects which may endanger the stability of the machine.

■ **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. 2)**. This is an imaginary inverted triangle, with the lower end located on the centre of the rear axle and the two upper vertices on each of the front wheels. Stability is guaranteed when the centre of gravity of load **(C)** and the machine **(M)** always remain within an imaginary line, starting from the lower vertex of the triangle to the centre of the base of the same, located between the front wheels.

■ **Longitudinal stabilization**

The dumper must not be driven with the bucket raised. The risk of longitudinal overturning increases if the dumper 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 unsuitable speeds, while the dumper is unladen or when the load is raised. Rough ground, sharp braking or accelerating or shifts in the load make these conditions worse.

■ **The centre of gravity and the dumper capacity**

Do not overload the dumper or handle loads which shift the centre of gravity beyond that for which it is designed. Manoeuvre slowly, especially when changing direction on slippery ground.

■ **The load and counterweight**

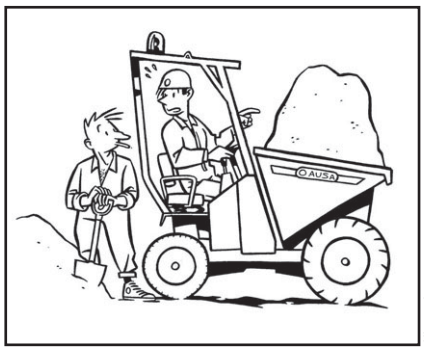
The raised load should only be tilted forwards when it is about to be unloaded.
Tilting the load forwards or backwards (swinging) is very useful for collecting or positioning the load, but affects the longitudinal and lateral stability.
If using an accessory or attachment first check the permitted load. The combination of the weight of the dumper plus the weight of the accessory reduces the nominal load.

■ **Maximum speed**

The speed of the dumper influences its stability. When turning, braking, or accelerating, the centre of gravity shifts within the triangle of stability. Sharp turns, sudden braking or accelerating cause the centre of gravity to shift sharply and it may fall outside the triangle. This is the moment when the stability of the dumper and the load are not guaranteed and there is a risk of accident.
When manoeuvring reduce the speed of the dumper and avoid turning the steering wheel sharply.

■ **The surrounding area**

Give your full attention to the task in hand. The safety of the driver and others depends upon the care taken by the driver **(fig. 3)**.



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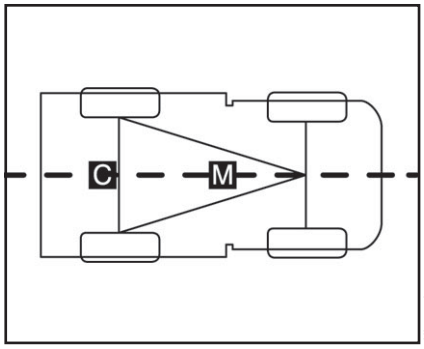
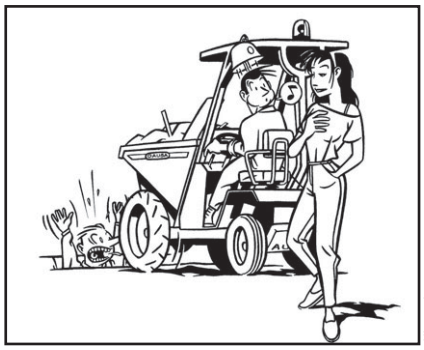


(fig. 2)



(fig. 3)

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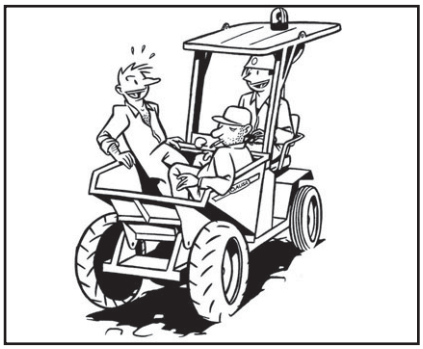
Special Safety Messages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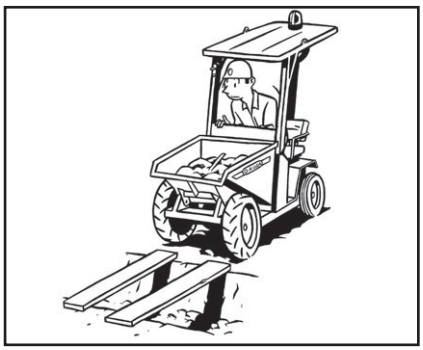
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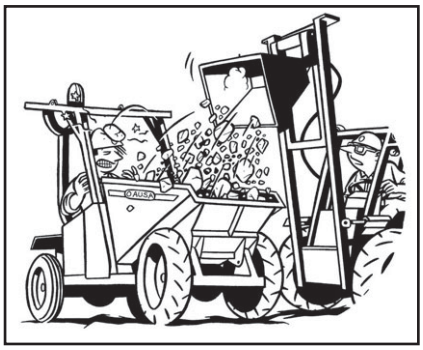
(fig. 4)

■ **Pedestrians in the surrounding area**

It is forbidden to carry persons on the dumper **(fig. 1)**.
No-one is permitted to remain or cross below the bucket when this is raised, laden or unladen.
Give way to the right to pedestrians found in your path.

■ **Access and doors**

Make sure that the passages and doors along the route are sufficiently high to allow the entire dumper to pass.
When carrying out lifting and dumping 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 dumper when loaded, especially when approaching bridges, the edges of embankments, concrete flooring, elevators, etc. **(fig. 2)**.

■ **Lighting**

The dumper working area should be adequately lit to prevent the risk of accidentally running over persons or colliding with obstacles. As soon as the daylight fades, the dumper lighting system should be switched on. If the dumper 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 dumper, this may result in an accident.

■ **The 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 dumper 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 dumper must be equipped with lighting and exhaust gas purifier systems.
The dumper 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 dumper. If it is necessary to use the radio, pull over to one side and signal the position of the dumper, using the lights or hazard warning lights.
Before handling a load using the dumper, check the load and ensure that its weight does not exceed its 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.

Do not dump the bucket contents over a bank or slope without ensuring stability and until there is a rail that will act as a stop for the wheels. A plank on the ground cannot be considered as an acceptable safety stop **(fig. 3)**.
When the dumper is loaded using a shovel, crane or other similar external method, the driver should not remain in the driver's cab **(fig. 4)**.
Dump the load progressively paying careful attention to the dumper stability. Avoid transporting material that may stick or jam in the bucket, such as clay type mud, large stones or rubble; the dumper may become unstable during unloading and cause an accident.

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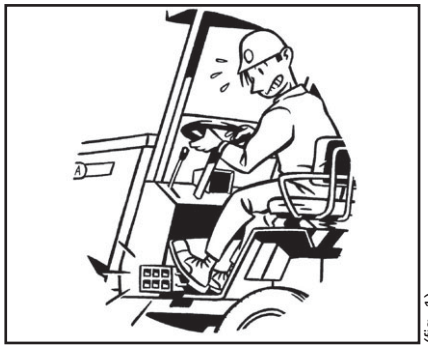
Special Safety Messages

■ **Order and cleanliness**

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

To do so, follow the **GENERAL MAINTENANCE AND LUBRICATION CHART** given in this Manual strictly, and keep the operator position 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 dumper controls **(fig. 1)**.



(fig. 1)

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Special Safety Messages

General comments about driving the dumper

■ **Dumper starting basics**

Fill up the tank with fuel while the engine is switched off and do not smoke while doing so. Follow the instructions given in the section Fuel.
Do not start the dumper, or activate the controls if you are not seated in the operator position.
Adjust the seat to your build.
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 dumper **(fig. 1)** previous page.
Before starting to work with the dumper, clean any oil or fuel spills, clean and remove grease from hands and the soles of shoes. Do not forget to carry out the operations and daily checks listed in the **GENERAL MAINTENANCE AND LUBRICATION CHART**.
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 dumper are clean and in good condition. If they are not in good condition, replace the plates.
Check that lighting and signalling components are clean and work correctly. If they do not work check the corresponding fuses and bulbs as shown in the section **PERIODIC MAINTENANCE OPERATIONS**.

■ **Work circuit**

The movement of loads within an installation or enclosure must be carried out following certain instructions concerning the circulation of dumpers and pedestrians. If you are not aware of these regulations, please check with your supervisor. Study the movements of the dumper to avoid making manoeuvres which are unnecessary, or involve risk to the surrounding areas. Find out which paths are suited to the type of dumper you are driving and the load carried. If it is necessary to drive along public roads, first check that the dumper complies with current regulations of the country.

■ **Work cycle**

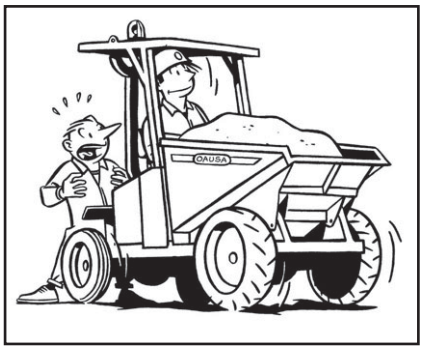
If it is necessary to move loads continuously and repeatedly, try to do so with the minimum number of movements necessary, where possible. Reducing the number of movements saves fuel and reduces the emission of exhaust gases.
If the work is very intense, remember to check the instrument panel from time to time, especially in extreme climates, as the engine will be working in particularly hard conditions.

■ **Driving with the dumper**

When approaching a junction with poor visibility, reduce speed, emit acoustic warnings and proceed slowly according to the available visibility.
The dumper speed must always be adapted to working conditions and area of operation. Systematically driving at the maximum speed permitted by the machine may put the operator and the surrounding area at risk.

■ **Driving in reverse**

Ensure good visibility of the path to be taken. If the load being carried obstructs visibility, reverse with the utmost of caution.
Before reversing, the operator should ensure there are no risks for the dumper, individuals or objects in the surrounding area **(fig. 1)**.



(fig. 1)

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Special Safety Messages

■ **Driving on gradients**

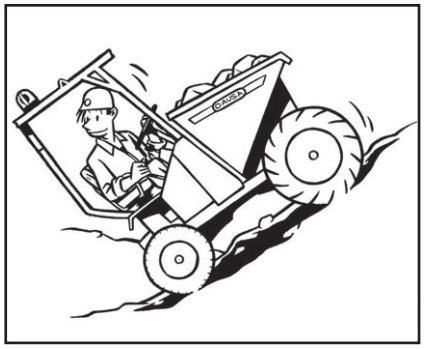
Special care should be taken when driving on gradients: move slowly, avoid placing the machine across the gradient and do not work on gradients steeper than those recommended.
The maximum permitted gradient does not imply that it is possible to manoeuvre here in absolute safety under all load, ground and operating conditions.
Gradients should be descended in reverse, with the load facing the direction of greatest stability **(fig. 1)**.
It is not recommended to work on gradients of more than 20 % in wet conditions and more than 30 % in dry conditions.

■ **Parking the dumper**

A badly parked dumper may represent a grave danger.
Leave the dumper parked in the areas designed for this purpose, without blocking passages, exits or entrances to emergency stairs and equipment.
Park on level ground. If it is necessary to park the dumper on a gradient, in addition to using the park brake, place blocks against the wheels.

When leaving the dumper **(fig. 2)**:

- Lowering the bucket.
- Lock the park brake.
- Stop the engine and remove the key from the ignition switch.
- Set all switches to position “0” (neutral).
- Block all the mechanisms to prevent use of the machine by unauthorized persons; particularly the ignition circuit, by removing the key.



(fig. 1)

(fig. 2)

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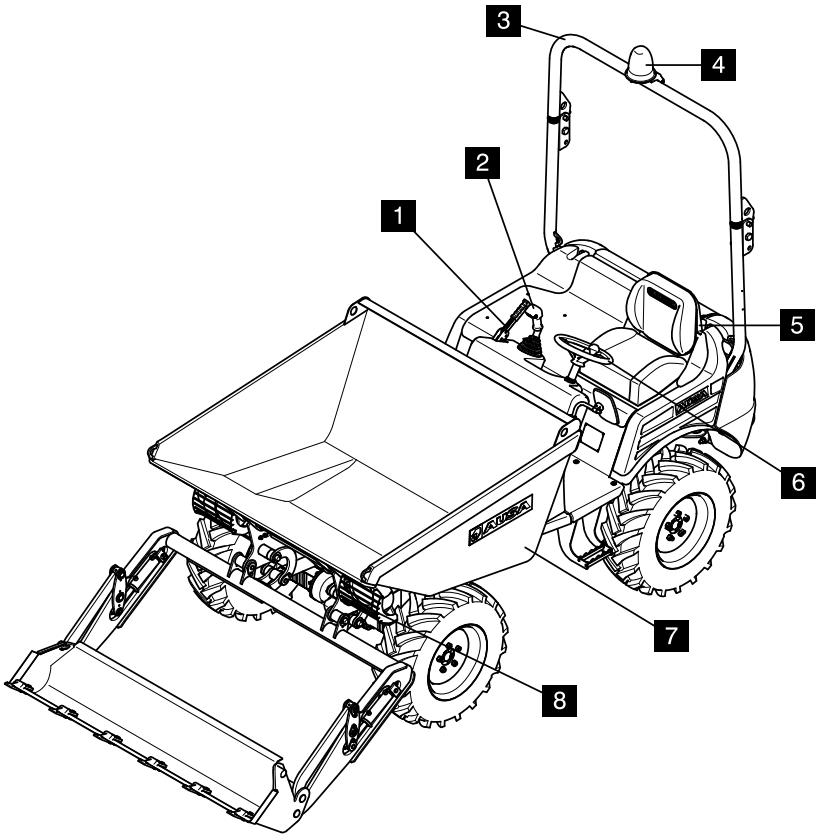
Dumper main components Identification

■ **Dumper: general points**

The terms right, left, forwards and backwards used in this Manual are defined viewed from the driver's seat, facing forwards.

■ **Description of parts**



1- Park brake
2- Joystick
3- Protection arch
4- Rotating beacon
5- Operator seat with seat-belt
6- Steering wheel
7- Bucket
8- Headlamps and indicator lights (✶)

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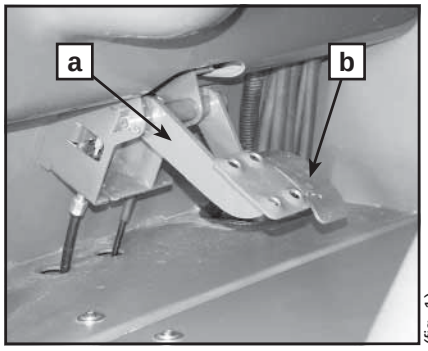
Dumper main components Identification



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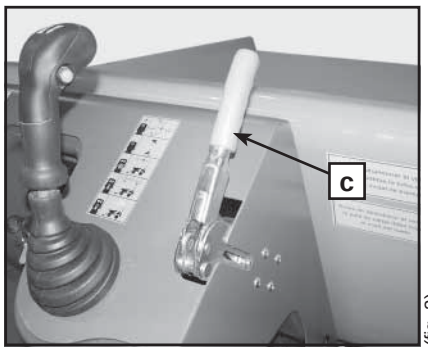

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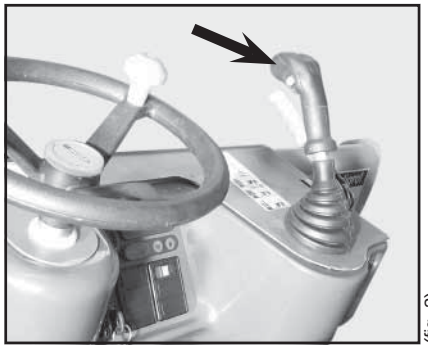
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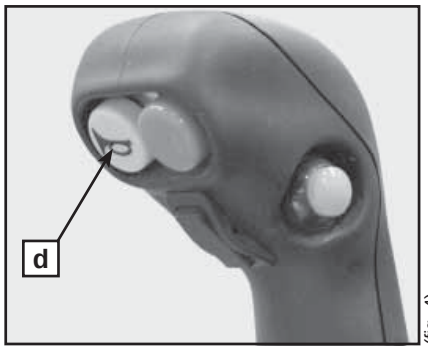

(fig. 4)

■ **Pedals (fig. 1)**

a. Service brake.
- Acts on the front axle using a cable.

b. Throttle pedal.
- Acts on the engine by a cable.

■ **Park brake.**

The park brake **(fig. 2)** is operated using the lever **(c)** located on the right hand side of the operator position.
To lock it, pull the lever upwards until it is vertical. To release, push the lever horizontal.

■ **Emergency brake**

In an emergency, use the park brake.

■ **Joystick**

The joystick **(fig. 3)**, located on the right hand side of the driver, this controls the direction of the dumper and the movements of the bucket and the self-loading shovel (models RHS and RHGS).

■ **Driving direction**

The driving direction is shifted by using the electric switch located on the lower part of the joystick. In each case the corresponding arrow showing the driving direction lights-up.
When the direction arrows are off, the direction of travel is in NEUTRAL By pressing the front of the switch the machine goes forwards and by pressing the rear of the switch the machine goes reverse.

WARNING

Avoid damages in the transmission by making gentle changes of direction.

■ **Back-up alarm**

This is activated when reverse is selected.

■ **Horn**

The horn is operated using the yellow button **(d)** located on the right of the joystick **(fig. 4)**.

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Dumper main components Identification

■ **Speed control**

The second gear (fast gear) is activated / deactivated using the red push-button **(e)** located on the left hand side of the joystick **(fig. 1)**. When the second gear is activated, a corresponding indicator light is lit on the instrument panel.

■ **Bucket controls**

The movements of the bucket and the self-loading shovel are controlled by the joystick.

RH Model

Tipping the bucket

Pushing the joystick forwards tips the bucket for unloading and pulling back lowers the bucket into rest position **(fig. 2)**.

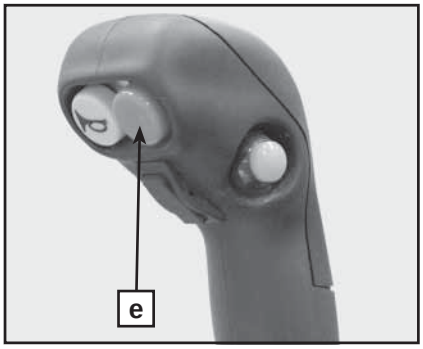
RHG Model

Tipping the bucket

Pushing the joystick forwards tips the bucket for unloading and pulling back lowers the bucket into rest position **(fig. 3)**.

Turning the bucket

Pushing the lever to the left swivels the bucket to the left; pushing the lever to the right swivels the bucket to the right. **(fig. 3)**.



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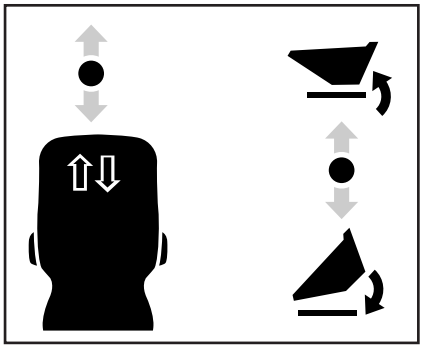

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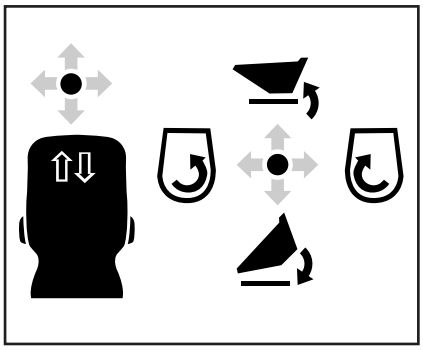

(fig. 3)

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Dumper main components Identification

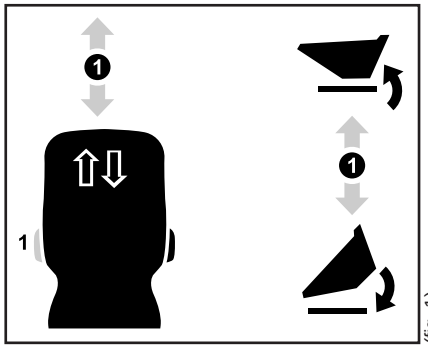
RHS Model
Tipping the bucket
Holding in the button **(1)** and pushing the joystick forward tips the bucket for unloading.
Holding in the button **(1)** and pulling back lowers the bucket into rest position **(fig. 1)**.

Operation of the self-loading shovel
Pushing the joystick forwards lowers the shovel arms and pulling back raises them.
Pushing the joystick to the left tilts the shovel up to load position; pushing the joystick to the right tilts the shovel down to the unloading position above the bucket **(fig. 3)**.

RHGS Model
Tipping the bucket
Holding in the button **(1)** and pushing the joystick forward tips the bucket for unloading.
Holding in the button **(1)** and pulling back lowers the bucket into rest position **(fig. 1)**.

Turning the bucket
Holding in the button **(1)** and pushing the lever to the left swivels the bucket to the left; holding in the button **(1)** and pushing the lever to the right swivels the bucket to the right **(fig. 2)**.

Operation of the self-loading shovel
Pushing the joystick forwards lowers the shovel arms and pulling back raises them.
Pushing the joystick to the left tilts the shovel up to load position; pushing the joystick to the right tilts the shovel down to the unloading position above the bucket **(fig. 3)**.



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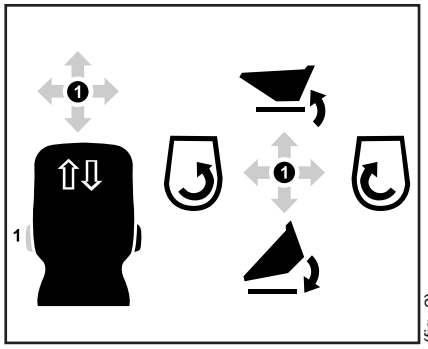

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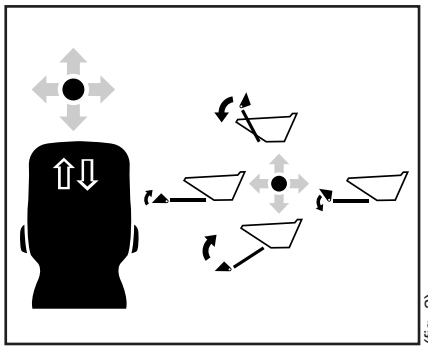
(fig. 3)

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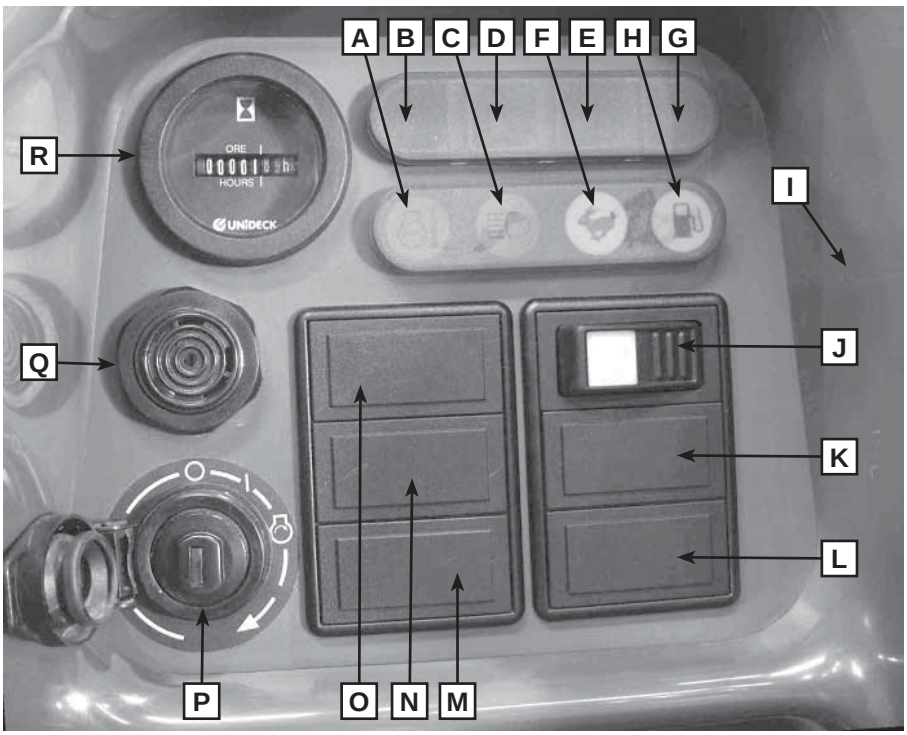
Instrument Panel

Instrument Panel



A- Coolant temperature indicator
B- Air filter warning light
C- High beam indicator light (✶)
D- Engine oil pressure warning light
E- Preheating warning light
F- Fast gear indicator
G- Battery charge warning light
H- Fuel reserve warning light
I- Fuse box
J- Rotating beacon switch
K- Working lights switch (✶)
L- Hazard warning lights switch (✶)
M- Turning indicators switch (✶)
N- Lights switch (✶)
O- Low beam/ high beam light switch (✶)
P- Starting switch
Q- Acoustic warning light
R- Hourmeter

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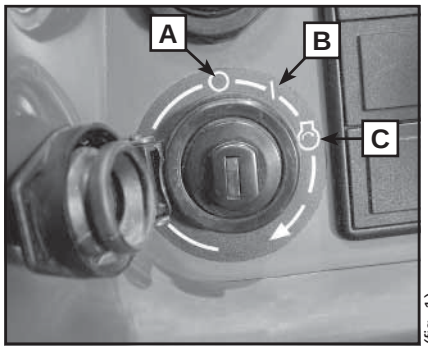
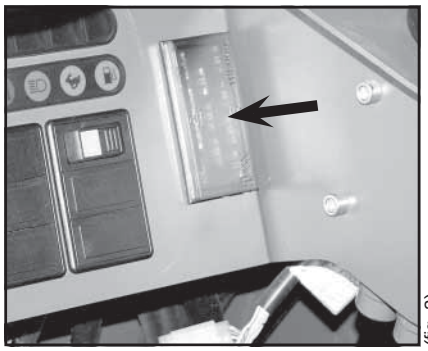
Instrument Panel



(fig. 1)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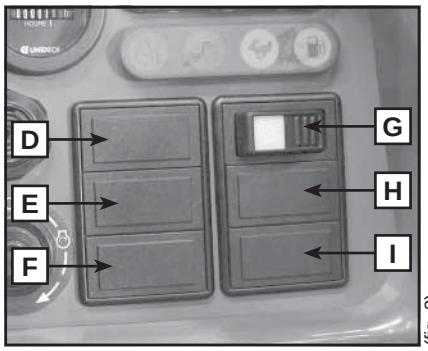

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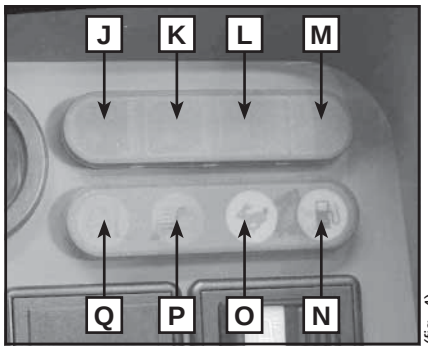

(fig. 4)

■ **Starting switch (fig. 1).**

To start the engine, see the section **STARTING** in this Manual.

A- In this position the ignition and the engine are switch off.

B- Ignition on. The engine preheating system and the indicator on the instrument panel are activated for some seconds.

C- Starter. Turning the key to position **(c)** starts the engine.

■ **Fuse box (fig. 2)**

It is located on the right hand side of the instrument panel.

See the section **ELECTRIC DIAGRAM** in this Manual to identify the number and function of each fuse.

■ **Instrument panel, switches: Operation (fig. 3)**

D- **Low beam / high beam lights switch (✶)**. The lights switch may be activated **(fig. 4)**, position **(2)** in two positions, the first turns on the low beam lights and the second will turn on the high beam lights.

E- **Side lights switch (✶)**. The switch has two positions, the first turns on the side lights and the second turns on the low beam lights.

F- **Turning indicators switch (✶)**. Pressing the right or left hand side of the switch activates the indicators.

G- **Rotating beacon switch**. To switch on, press the button. To switch off, press the button again.

H- **Working lights switch (✶)**. To connect the operating lights turn on the switch.

I- **Hazard warning lights switch (✶)**. To switch on, press the button and flashes. To switch off, press the button again.

■ **Instrument panel, indicators: Operation (fig. 4)**

J- **Air filter warning light**. This lights up when the air filter is dirty or clogged. The filter element should be cleaned or replaced immediately.

K- **Engine oil pressure warning light**. When the ignition is turned on this lights up then switches off when the engine is working. If this light comes on and a warning signal is emitted while the engine is running, the engine must be switched off immediately to prevent damage. Check the level and add oil where necessary.

L- **Glow plug indicator light**. This lights up when the preheating resistances are working and heating the combustion chamber to the temperature required in order to start the engine.

M- **Battery charge warning light**. When the ignition is on this lights up when the alternator does not charge the battery and switches off when the engine speed exceeds the idle speed. If this remains lit then stop the engine and verify.

N- **Fuel reserve warning light**. This lights up when the level of diesel in the tank falls into reserve.

O- **Fast gear indicator**. This will be lit when the second gear is engaged (fast gear).

P- **High beam indicator light (✶)**. This lights up when this type of lighting is selected.

Q- **Coolant temperature indicator**. If this lights up, this implies that the engine temperature is too high. Stop immediately to investigate the problem. It may due to a low level of coolant, dirt in the radiator that the thermostat does not work correctly or there is a breakage in the alternator belt.

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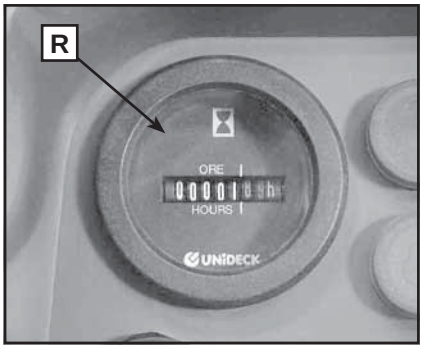
Instrument Panel

■ **Hourmeter counter (fig. 1).**

The hourmeter **(r)** records the total operating time of the engine and enables control of the service intervals. (See the section **PERIODIC MAINTENANCE OPERATIONS** and table of **LIQUIDS AND LUBRICANTS**).



(fig. 1)

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Fuel

- **Handling**
  - Only use the fuel type authorized by AUSA. Do not use fuel mixed with oil, other fuels or unsuitable additives.
  - The correct fuel for the dumper is automobile diesel. For further details regarding fuel type and required specifications see the section **LIQUIDS AND LUBRICANTS**.
  - Do not allow the fuel to come into contact with the skin and avoid inhaling the toxic fumes. High concentrations of fuel vapour may cause sickness, loss of consciousness or even loss of life in the event of prolonged exposure. If you experience symptoms such as sickness or loss of consciousness seek medical advice immediately.
  - Do not store fuel in closed spaces. The fuel vapours will alter the atmosphere of the enclosure and may cause a fire or explosion.
  - Use suitable impermeable clothing, safety glasses and gloves when handling fuel.
  - When refuelling from a tank, bucket or barrel using a siphon, the following precautions should be taken:
  - If refuelling is by gravity, from a raised tank, open the fuel output valve of the tank slowly.
  - If the tank or barrel does not have an output valve use a suitable vacuum pump.

WARNING

Never suck the fuel into the pipe by mouth to start the siphoning. The fuel and its vapours are highly toxic.

  - In the event of fuel spillage, please inform the supervisor, mark the area suitably and cover the spillage with absorbent material.
  - Take suitable measures to avoid risk until the remains of the fuel have been completely removed.

- **Refuelling**

WARNING

Smoking, naked flames or sparks are not permitted in the refueling area. Fuel vapours can be explosive.

Refuel in a well-ventilated area.
Position the dumper as close as possible to the fuel pump so that the filler hose reaches the opening of the tank easily.
Lock the park brake, stop the engine and lights, including the rotating beacon.

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Fuel

Note:
If the fuel pump is equipped with a dumper earth connection, connect this to an uninsulated metal component of the dumper.

- Lift the engine cover and lock using the hinge lock (See the section **MAINTENANCE ACCESS**).
- Clean the fuel cap and surrounding area with a cloth if they have been soiled. Do not allow dust, water, or any other substance to enter the tank.
- Open the fuel cap turning to the left.
- Fill the tank without exceeding the volume specified for the dumper (40 litres). Take care not to spill fuel outside the tank. If you do, clean immediately and dry the surface well.
- Close the fuel cap rotating it to the right. Check that the cap is correctly closed.

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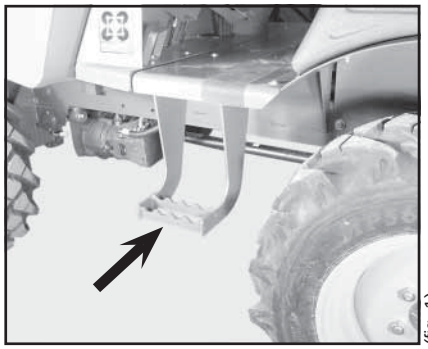
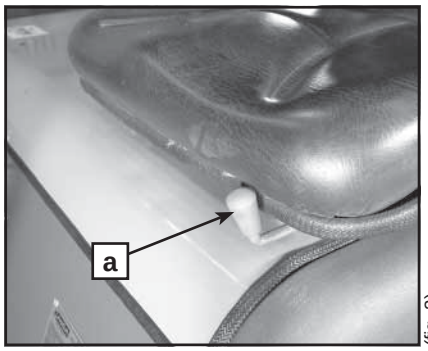
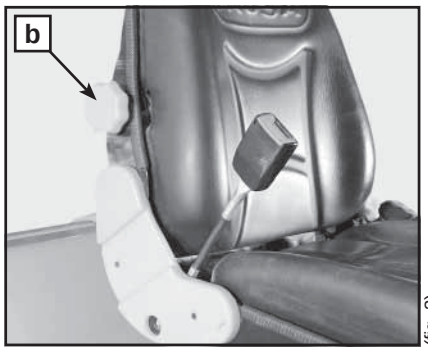
Dumper Operation



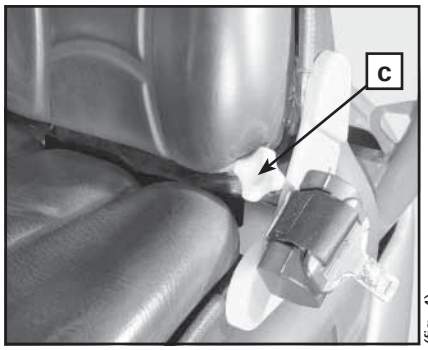
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

■ Entering and leaving the operator cab

Do not hold or pull the steering wheel to enter the driver cab, use the handles provided on the structure. Always place one foot on the tread of the sill to prevent slipping when getting in and out **(fig. 1)**.

■ Seat and steering wheel adjustment

Before using the dumper, adjust the seat to a comfortable driving position.
Rotating the lever **(a)** unlock the seat and move forwards or backwards to the desired position. The suspension of the seat can be adjusted between 60 and 120 Kg. (132 and 264 lbs) according to the weight of the operator, by turning the knob **(fig. 3) (b)**. Normally seats are adjusted to a weight of 90 Kg. (198 lbs.)
Using the wheel **(fig. 4) (c)** it is possible to adjust the seat backrest angle. The seat backrest tilts backwards when the knob is turned to the right and forwards when turned to the left.

■ Starting

WARNING

For reasons of safety, the operator should be seated and wearing the seatbelt, and the park brake should be locked.

Safety: This machine is fitted with a starter lock. Please note that to start the engine, the driving control switch must be in NEUTRAL position.

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Dumper Operation

- Insert the key into the ignition switch **(fig. 1)** and rotate to the IGNITION position **(B)**. Wait a few moments until the engine preheating indicator goes out.
- Press the throttle pedal 1/4 of the stroke and turn the key to position **(C)** to start the engine. Do not hold the key in this position for more than 15 seconds.
- If the engine does not start repeat the above steps, waiting 30 seconds between each attempt. Before re-starting the engine, the key should first be switched to position **(A)**.

■ Verifications

With the engine running and the dumper at a standstill, carry out the following checks and tests.

- Check the indicators and switches on the instrument panel.
- Check the steering by turning it gently to the left and right.
- Lift the bucket about 150 cm (6 in.)
- Check the park brake.
- Check that the brake pedal action is firm.

■ Parking the dumper and stopping the engine.

Note: Whenever the dumper is parked, whether at the end of the day or for purposes of maintenance, it should be left on level ground.

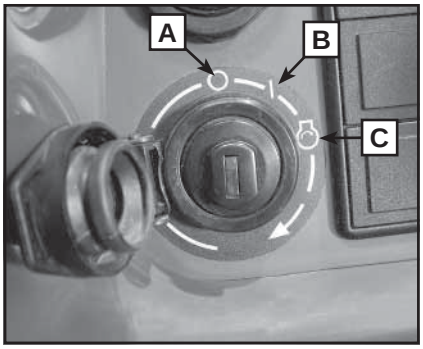
- Lower the bucket completely, lock the park brake and place the driving control switch and the joystick in NEUTRAL.
- If the dumper has been operating to full capacity, keep the engine running at idle for 1 minute.
- To stop the engine, rotate the ignition key **(fig. 1)** counter-clockwise to the position **(A)**.
- Remove the key from the ignition switch and take with you. Never leave the key in the parked dumper.

■ Dumper nominal load

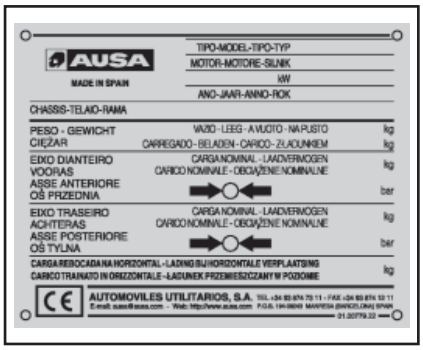
The nominal load is the load which can be safely carried by the dumper. It is determined by the height of elevation and the weight of the load. The ground conditions and the shape of the load may also reduce the weight which can be safely lifted. Excess loads may cause instability, make driving difficult and risk the dumper overturning.

Ensure that the load to be transported is within the limits indicated on the dumper identification place **(fig. 2)**; this place is located on the lower left of the driving position underneath the seat **(fig. 2)**.

The use of tools other than the standard tools delivered with the dumper may reduce the transport, load and bucket tipping capacity.



(fig. 1)



(fig. 2)

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Dumper Operation

■ **Changes to the dumper/load relation**

The dumper/load relation is modified by changes in:

- Attachable tools.
- Load height.
- Changes in the ground surface over which the dumper moves.
- Compaction and/or stability of the ground.

Dumper stability must be maintained while these factors are constantly changing. This requires careful judgment by the operator.

The stability of the machine is only maintained when the dumper is handling loads that are within its load capacity and the operator has previously identified the factors determining the dumper/load relation. Excess loads may cause instability, make driving difficult and risk overturning the dumper.

■ **Using the self-loading shovel (RHS and RHGS versions)**

As well as the general instructions appearing in corresponding sections, the following must be taken into account for versions fitted with a self-loading shovel.

Operator safety and surroundings

The self-loading operations may make reverse manoeuvres a routine. Self-loading dumpers, due to their configuration, cannot provide the operator with optimal visibility for all manoeuvres. For this reason, always concentrate on the work environment.

- When changing direction, ensure that the manoeuvre area is free of danger (pedestrians, other dumpers, obstacles, etc.).
- Whenever possible, self-loading operations should be done from a direction where the wind carries dust away. Such dust could cause a momentary loss of vision and, as a result, a distraction from the surroundings.

Note: In order to avoid dust problems during dumper loading and unloading operations, we recommend the installation of a protection roof with front windscreen.

■ **Using the self-loading dumper**

In order to remain within the limits of the dumper, please note that: The self-loading dumper is designed to carry loose loads. It has not been designed to tow or excavate solid material.

The self-loading arm must be in a 45º position in order to unload the bucket.

■ **Maintenance**

Despite suitable protection, the shovel hydraulic hoses are submitted to repetitive and alternative forces. These should be checked on a daily basis for leaks and damage etc. See the section **PERIODIC MAINTENANCE OPERATIONS**.

■ **Before starting the dumper**

Before starting to work with the dumper, clean any oil or fuel spills, clean and remove grease from hands and the soles of shoes and do not forget to make the following checks:

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Dumper Operation

■ **Mechanical verifications**
- Tire pressure and condition of the tread.
- Condition of the bucket and lifting mechanism.
- If fitted, bucket rotation and shovel lifting mechanisms.
- Brakes.
- Leaks in the hydraulic, coolant, fuel circuits, etc.
- All guards, caps and safety stops are correctly positioned and securely fastened.
- Absence of cracks and other structural defects visible at first glance.
- Check fluid levels:
  - Fuel.
  - Hydraulic circuit fluid.
  - Coolant circuit fluid.
- Check battery connections and level of electrolyte.
- Check the engine components when the engine is switched off. Check the fastenings.
- Ensure that the engine cover is correctly closed.

■ **Operator position verifications**
- Check that informative and safety plates on the dumper are clean and in good condition.
- Clean and check lighting and signalling system are operating correctly (✶).
- Check that all the controls are operating correctly.
- Check that the steering moves freely.
- Depress the throttle pedal several times to ensure that it moves freely. It should always return to the initial position.
- Press the brake pedal to ensure that the brakes are working correctly. It should always return to the initial position.
- Check that alarm and signalling devices are operating correctly (for example: acoustic warning, air intake filter clogged warning, etc.)
- Check the starting switch, headlamps, indicators, side lights, audible reverse warning signal (if fitted).

■ **Seat and seatbelt verifications**
- Adjust the seat to your build.
- Carefully inspect the condition of the seatbelt, paying special attention to:
  - Cuts or fraying on the belt.
  - Wear or damage to the fastenings including the anchorage points.
  - Poor functioning of the buckle or automatic reel device.
  - Loose stitching.
- Start the engine and drive gently several meters; press the brake pedal to ensure that the braking system operates correctly.

WARNING

Correct any problems before using the dumper. Where necessary, refer the problem to an authorized AUSA dealer

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Special Procedures

■ **Engine overheating**

If the engine is overheating and the temperature warning light in the front instrument panel is on, try the following:

- Check and clean the radiator coolant fins. See the section **PERIODIC MAINTENANCE OPERATIONS** in this Manual.
- Reduce speed but keep the dumper moving in order to allow air to circulate around the radiator.
- If the engine is still overheating after approximately one minute, stop the dumper, set the driving control switch and the joystick in NEUTRAL, lock the park brake and stop the engine.

WARNING

The radiator may be extremely hot. Use gloves before touching the radiator.

- Allow the engine to cool-down. Check the level of coolant and top up if necessary.
- If the engine continues overheating, refer the problem to an authorized AUSA dealer as soon as possible.

■ **After-use care**

When the dumper is used in salt water areas (beach areas, etc.), rinse the machine with fresh water to protect the dumper and its components from rust.
We recommend lubricating the metal components. This should be carried out at the end of every day of service.
When the dumper has been working in muddy areas, it should be washed with freshwater to protect the dumper and keep the lights clean.

Note:
Never use high-pressure water to clean the dumper. **USE ONLY LOW-PRESSURE WATER**. High pressure water may cause electric and mechanical damage.

While washing, do not direct the water at the air intake (Air filter) the instrument panel, the battery, the alternator and other electrical equipment given that this may damage components.

■ **Overturning**

In the event of the dumper overturning, the driver must avoid being trapped between the machine and the ground. Therefore, we recommend:

- Try to remain inside the operator cab.
- Hold onto the steering wheel tightly.
- Place feet firmly on the floor plate.
- Try to keep as far away as possible from the point of impact.

When the dumper overturns or is knocked onto one side, restore it to normal operating position (on all four wheels).

WARNING

DO NOT TRY TO START THE DUMPER without first checking with an authorized AUSA dealer.

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Special Procedures

- Remove the 4 glow plugs.
- Turn the key in the ignition to position **(C)**. Hold the key in position until the oil has come out of the combustion chambers **(fig. 1)**.

WARNING

The oil leaves the combustion chambers at high pressure and may cause injury.

- Re-assemble the four glow plugs.
- Check the level of engine oil and top up as required.
- If the engine oil pressure gauge remains lit after starting the engine, stop immediately to prevent internal damage and refer the problem to an authorized AUSA dealer.

■ Immersion of the dumper

If the dumper becomes submerged under water, it will be necessary to take it to an authorized AUSA dealer as soon as possible.

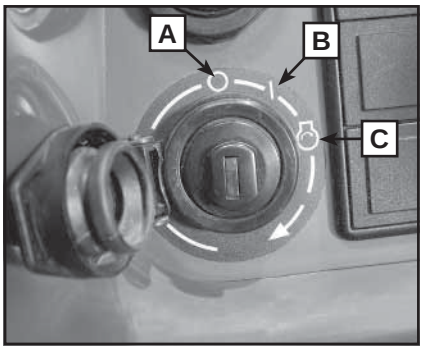
WARNING

DO NOT START THE ENGINE. The immersion of the dumper may cause serious damage to the engine if the starting procedure is not followed correctly.

- Arrange for an authorized AUSA dealer to carefully inspect the supply system as shown in the **GENERAL MAINTENANCE AND LUBRICATION CHART**.

■ Storage and pre-parking preparation

When the dumper is not to be used for more than a month it should be stored correctly. When the dumper is brought out for use again after a period of storage, special preparation is required. Ask an authorized AUSA dealer about the appropriate procedures.



(fig. 1)

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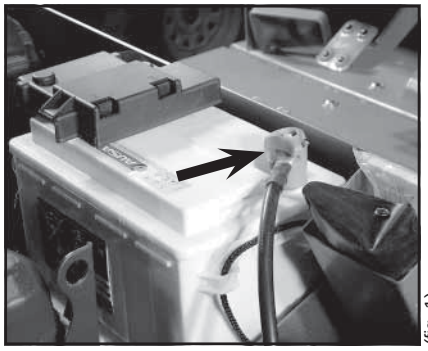
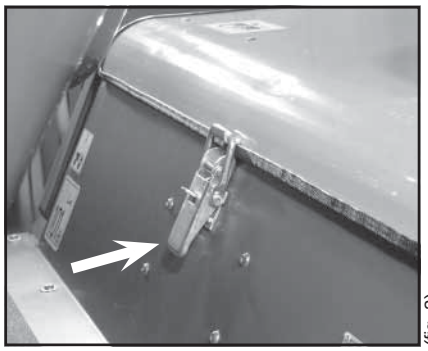
Maintenance. General comments



(fig. 1)



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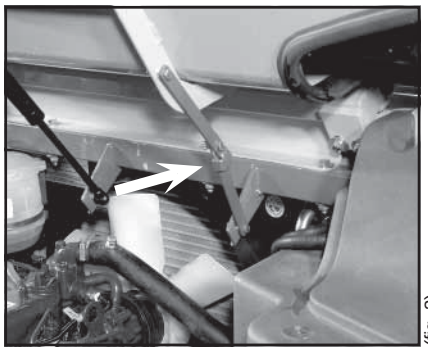

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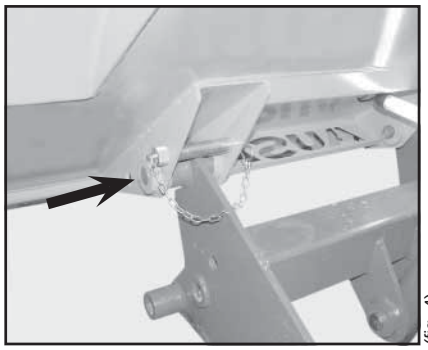

(fig. 4)

■ Regular maintenance tasks.

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 dumper, 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. In accordance with Work Equipment Directives, these systems should be inspected regularly and the results recorded on the forms provided by the Labour Authorities of each country (89/655/CEE or RD 1215/97).

All repair and **PERIODIC MAINTENANCE OPERATIONS** should be made while the dumper 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 work on the electrical system. Never use an open flame to check fluid levels.

❀ 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 centres.

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.

■ Maintenance access.

The engine, transmission and filters are located below the operator cab. To access these, lift up as follows:

- Lock the park brake.
- Stop the engine and remove the key from the ignition switch.
- Get down from the driver's cab.
- Pull on the lock **(fig. 2)** located on the lower part of the operator position.
- Lift the operator position cover and secure it in the open position by pushing the finished completely back **(fig. 3)**.

■ Bucket lock

The bucket is fitted with a safety prop to prevent movement during **Periodic Maintenance Operations**. Thus, repair and **Periodic Maintenance Operations** may be done on the dumper in safe conditions, as shown in the figure.

Once the bucket has been raised, secure in position using the safety prop **(fig. 4)**.

WARNING

When the bucket is left in the raised position in the safety prop must be inserted. This prevents the bucket from accidentally descending.

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General maintenance and lubrication chart

Periodic Maintenance Operations and intervals are defined according to the engine fitted in the dumper.

■ Initial inspection (50 hours)

As with any precision-manufactured part of a mechanical element, we recommend that the dumper be inspected by an authorized AUSA dealer after the first 50 hours of use or thirty days after purchase, whichever occurs first

This inspection gives you the opportunity to clarify any doubts which may have arisen during the first hours of use.

INITIAL INSPECTION (50 HOURS)			
		Tasks	**To be made by**
ENGINE	Oil	Change	CUSTOMER
	Oil filter	Change	CUSTOMER
SUPPLY CIRCUIT/ FUEL	Fuel pre-filter	Change	CUSTOMER
HYDRAULIC CIR-CUIT	Oil and intake filter	Change	CUSTOMER
	Fuel tank/internal filter fuel tank (suction)	Clean	DEALER
	Drain plug magnet	Clean	DEALER
	Hydraulic cartridge	Change	CUSTOMER
ELECTRICAL SYSTEM	Battery	Inspect	CUSTOMER
AXLES (FRONT AND REAR)	Oil	Change	CUSTOMER
	Tightening of bolts fastening to chassis	Inspect	DEALER
	Tighten nuts securing cardan shaft	Inspect	DEALER
	Tighten coupling at-tachment nuts	Inspect	DEALER
TRANSFER BOX “COMPEN SYSTEM”	Oil	Change	CUSTOMER
	Tighten all bolts and nuts	Inspect	CUSTOMER

EVERY 100 HOURS			
		Tasks	**To be made by**
FUEL LINE	Air filter element	Clean	CUSTOMER
ELECTRIC SYSTEM	Electric harness, cables, lines and fuses.	Inspect	DEALER

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General maintenance and lubrication chart

EVERY 200 HOURS			
		Tasks	To be made by
ENGINE	Oil	Change	CUSTOMER
	Oil filter	Change	CUSTOMER
	Engine mounts / fastenings	Inspect	DEALER
	Engine operation/idle/ max. R.P.M./vibrations	Inspect	DEALER
	Alternator belt	Inspect	DEALER
COOLANT CIRCUIT	Radiator condition/ cleaning	Inspect	CUSTOMER
	Radiator hoses and clamps	Inspect	CUSTOMER
FUEL LINE	Air intake hose to the air filter	Inspect	CUSTOMER
	Fuel pre-filter	Change	CUSTOMER
HYDRAULIC CIRCUIT	Damage to hydraulic hoses and fittings	Inspect	CUSTOMER

EVERY 400 HOURS			
		Tasks	To be made by
COOLING SYSTEM	Radiator caps/cool-ing system pressure verification	Inspect	DEALER
FUEL LINE	Fuel filter cartridge	Change	CUSTOMER
BODY / CHASSIS	Chassis and chassis fastenings	Inspect	DEALER

EVERY 500 HOURS			
		Tasks	To be made by
ENGINE	Alternator belt	Change	DEALER
COOLING SYSTEM	Radiator (interior)	Clean	DEALER
FUEL LINE	Air filter element	Change	CUSTOMER
	Fuel tank	Clean	CUSTOMER
ELECTRIC SYSTEM	Starter motor and alternator	Inspect / Clean	DEALER
TRANSFER BOX “COMPEN SYSTEM”	Oil	Change	CUSTOMER

EVERY 800 HOURS			
		Tasks	To be made by
ENGINE	Valve settings	Inspect	DEALER

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General maintenance and lubrication chart

EVERY 1000 HOURS			
		Tasks	**To be made by**
HYDRAULIC CIRCUIT	Oil and intake cartridge element filter	Change	CUSTOMER
	Tank and oil strainer	Clean	DEALER
	Drain plug magnet	Clean	DEALER
	Hydraulic cartridge	Change	CUSTOMER
AXLES (FRONT AND REAR)	Oil	Change	CUSTOMER

EVERY 1500 HOURS			
		Tasks	**To be made by**
FUEL LINE	Fuel injection nozzle injection pressure	Inspect	DEALER

EVERY 3000 HOURS			
		Tasks	**To be made by**
COOLING SYSTEM	Radiator condition/ cleaning	Clean	CUSTOMER
FUEL LINE	Fuel lines / hoses / clamps	Inspect	CUSTOMER
	Injection pump (adjustment)	Inspect	DEALER
	Fuel injection timer	Inspect	DEALER

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General maintenance and lubrication chart

EVERY WEEK			
		Tasks	To be made by
ENGINE	Leaks / damage/ support of exhaust system	Inspect	CUSTOMER
COOLING SYSTEM	Coolant	Inspect	CUSTOMER
HYDRAULIC CIRCUIT	Oil and cartridge element filter	Inspect	CUSTOMER
	Bucket movements	Inspect	CUSTOMER
	Steering movements	Inspect	CUSTOMER
ELECTRIC SYSTEM	Battery connections	Inspect	CUSTOMER
	Glow plugs.	Inspect	CUSTOMER
	Starter switch	Inspect	CUSTOMER
	Lighting system/turning indicators/indicators	Inspect	CUSTOMER
AXLES (FRONT AND REAR)	Oil	Inspect	CUSTOMER
	Oil leaks	Inspect	CUSTOMER
	Tighten wheel nuts	Inspect	CUSTOMER
	Tire condition and pressures	Inspect	CUSTOMER
TRANSFER BOX “COMPEN SYSTEM”	Oil	Inspect	CUSTOMER
	Oil leaks	Inspect	CUSTOMER
BRAKES	Service brake	Inspect	CUSTOMER
	Parking brake	Inspect	CUSTOMER
GREASING POINTS	Nipples (see lubrication points)	Grease	CUSTOMER
BODYWORK / CHASSIS	Protection roof	Inspect	CUSTOMER
	Engine compartment	Inspect / Clean	CUSTOMER
	Seat and seatbelts	Inspect	CUSTOMER
	Floor plates and access step	Inspect / Clean	CUSTOMER
	Guards	Inspect	CUSTOMER
	Plates and stickers	Inspect / Clean	CUSTOMER
	Safety system / raised bucket safety prop	Inspect	CUSTOMER
	Cleaning and protection of the dumper	Inspect	CUSTOMER

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General maintenance and lubrication chart

EVERY MONTH			
		Tasks	**To be made by**
ELECTRIC SYSTEM	Battery	Inspect	CUSTOMER
AXLES (FRONT AND REAR)	Tighten attachment bolts to chassis	Inspect	DEALER
	Tighten nuts securing cardan shaft	Inspect	DEALER
	Tighten coupling attachment nuts	Inspect	DEALER
TRANSFER BOX "COMPEN SYSTEM"	Tighten all bolts and nuts	Inspect	CUSTOMER
GREASING POINTS	Control joints (throttle pedal, brakes, etc.)	Inspect	CUSTOMER

EVERY YEAR			
		Tasks	**To be made by**
ENGINE	Oil	Change	CUSTOMER
	Oil filter	Change	CUSTOMER
FUEL LINE	Air filter element	Change	CUSTOMER
AXLES (FRONT AND REAR)	Oil	Change	CUSTOMER
TRANSFER BOX "COMPEN SYSTEM"	Oil	Change	CUSTOMER

EVERY 2 YEARS			
		Tasks	**To be made by**
ENGINE	Alternator belt	Change	DEALER
COOLANT CIRCUIT	Radiator hoses and clamps	Change	CUSTOMER
	Coolant	Change	CUSTOMER
FUEL LINE	Air intake hose to the air filter housing	Change	CUSTOMER
	Fuel lines / hoses / clamps	Change	CUSTOMER
ELECTRIC SYSTEM	Battery	Change	CUSTOMER

EVERY 6 YEARS			
		Tasks	**To be made by**
HYDRAULIC CIRCUIT	Hydraulic hoses replacement*	Change	CUSTOMER

*** Consult an authorized dealer**

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Liquids and lubricants

This section specifies the recommended **LIQUIDS AND LUBRICANTS**. See the section Regular maintenance procedures in this Manual for procedures to check fluid levels and changes.

■ LIQUIDS AND LUBRICANTS CHART (references and capacities)

FLUID OR LUBRICANT	SPECIFICATION	NOTES	REF. AUSA	C'TY (litres)	C'TY (US Gal.)
FUEL	Class A diesel according to the directive 98/70CEE and modified by the directive 2003/17 under the standard EN 590. Sulphur content lower 0.5% ASTM D975 GRADES 1D and 2D	See **FUEL** in this section		40	10,56
ENGINE OIL	4-stroke engine oil according to the requirements MIL-L-2104C / API CD or higher.	See **ENGINE OIL** in this section	461.00099.01	5,75	1.51
ENGINE COOLANT	Ethylene glycol antifreeze with corrosion inhibitors for aluminum engines with internal combustion. 30% glycol and 70% distilled water for a standard machine.	See **COOLANT** in this section	45.00075.01	5	1.32
HYDRAULIC CIRCUIT	Hydraulic oil VG 46 according to DIN 51524	See **HYDRAULIC OIL** in this section	461.00099.06	40	10.56
FRONT AXLE OIL	Transmission oil SAE 90 in accordance with API GL5 / MIL-L-2105B	-	461.00004.01	3,5	0.92
REAR DIFFERENTIAL AXLE OIL				3,3	0.87
REAR AXLE HUB REDUCTION				0,25	0.066
OIL FOR TRANSFER BOX COMPEN SYSTEM	Oil for COMPEN AUSA	See Oil for **TRANSFER BOX COMPEN** in this section	461.00099.09	1,5	0.4
BATTERY ELECTROLYTE	Distilled water	See **BATTERY ELECTROLYTE** in this section			
LUBRICATION POINTS	Calcic grease NLGI-3 consistency	See the section **LUBRICATION POINTS** in in this manual	461.00009.00		

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Liquids and lubricants

■ **Fuel**

Use clean vehicle diesel (class A), preferably in accordance with the 98/70/EEC Directive modified by directive 2003/17 or EN 590 standard equivalent. In Spain this corresponds to RD 1728/1999.

For the USA market, it should comply with Grades 1D and 2D of ASTM D975 and for supplies which do not comply with these requirements, in no event should the sulphur content be higher than 0.5% in mass.

Initially, the use of REM type biodiesel or similar is not recommended. Where this is used, it should be in proportions of under 5 % of the fuel mixture.

■ **Engine oil (fig. 1)**

Use 4-stroke engine oil which complies with MIL-L-2104C / API CD 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. However, the following table should be used to select the most appropriate viscosity according to the climate.

If different brands of oil are used, the sump should be completely drained first before adding the new oil.

AUSA RECOMMENDS "REPSOL-AUSA Efficient" FOR DIESEL ENGINES p/n 461.00099.01

■ **Coolant**

Always use ethylene-glycol antifreeze as this contains rust inhibitors for internal combustion aluminium engines. The cooling system should be filled with distilled water and anti-freeze in the following proportions:

70% water + 30% anti-freeze for a standard machine, for temperatures from -17 ºC to 127 ºC (1,4 ºF up to 261 ºF)

50% water + 50% anti-freeze for temperatures from 35ºC to 145ºC (-31 ºF up to 293 ºF)

■ **Hydraulic circuit**

VG32 for environmental temperatures usually below 10ºC (50 ºF)
VG46 for environmental temperatures between 10 ºC and 40 ºC (50 ºF and 104 ºF)
VG68 for environmental temperatures usually above 40ºC (104 ºF)

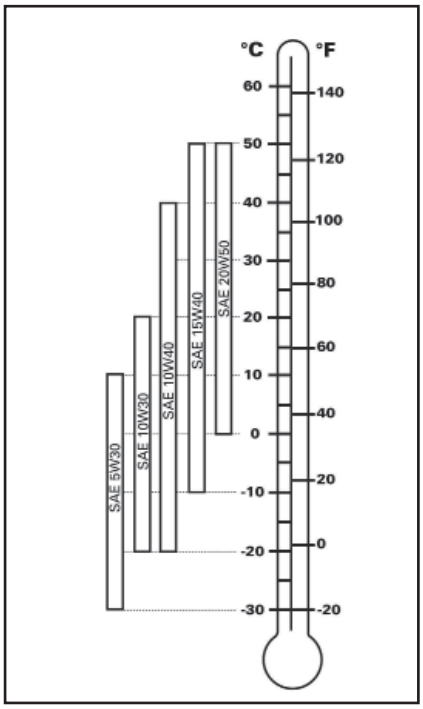
■ **Oil for TRANSFER BOX "COMPEN SYSTEM"**

Oil for COMPEN AUSA ref. 461.00099.09 characterized by:

- 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.

■ **Battery electrolyte**

This dumper is fitted with a battery which requires maintenance. Top up with distilled water as required.



(fig. 1)

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Periodic Maintenance Operations

■ **Engine**

For operating instructions, list of spare parts and general maintenance, see the engine Manual or the **GENERAL MAINTENANCE AND LUBRICATION CHART**.

■ **Break-in**

The engine fitted in this dumper requires a break-in period of 50 hours before the dumper is used fully loaded. When breaking-in, the throttle pedal should not be depressed beyond 3/4 of the way.

However, short periods of acceleration at maximum speed and sudden changes in speed help to improve the breaking-in. Long periods of acceleration at maximum speed, holding the dumper at high cruising speeds and overheating the engine during the breaking-in period are harmful.

■ **Alternator belt**

Check the tension of the alternator belt regularly. Also check for cracks or other damage. Refer to an authorized AUSA dealer for the replacement of the alternator belt.

■ **Engine oil**

Oil level: Checking

With the dumper on a level surface, while the engine is cold and switched off, check the oil level as follows:

- Pull out the dipstick and clean on a clean cloth.
- Replace the dipstick in its casing.
- Remove it again and read the oil level. This should be at the upper level **(fig. 1)**

A. Full
B. Add oil
C. Operating range

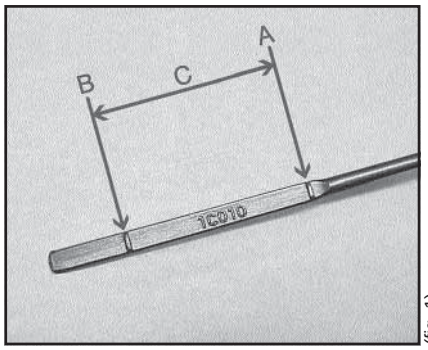
- Add oil until the level reaches the upper level.

Oil level: Correct

- Remove the dipstick and place a funnel in the opening of the oil filler neck located above the rocker arm cover.
- Top up with oil gradually until the level is correct.

CAUTION

Do not exceed the maximum level mark. Starting the engine with incorrect oil levels may cause serious damage. Clean up any spillage. Check the oil level often and top up where necessary.



(fig. 1)

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Periodic Maintenance Operations

Engine oil: Draining
The oil change should be made when the oil is warm.

WARNING

The engine oil may be very hot. To avoid the risk of burns, do not remove the drain plug or unscrew the filter if the engine is hot. Wait until the engine oil is warm.

- Ensure the dumper is on a level surface.
- Remove the dipstick.
- Clean the area around the oil drain plug.
- Place a container below the oil drain plug.
- Unscrew the oil drain plug **(fig. 1)**.
- Allow all the oil to drain from the engine.
- Clean the oil sump drain plug and replace the plug with a new plug.
- Screw on the plug by hand and tighten to 35 Nm.

❀ Dispose of used oil in authorized waste disposal centres.

Oil filter cartridge: Replacing
The oil filter cartridge **(fig. 2)** is located on the left-hand side of the engine.
- Unscrew the oil filter cartridge by turning to the left.
- Clean the base of the filter and oil the seal of the new filter element.
- Screw in the new filter element and tighten by hand, without using mechanical means.

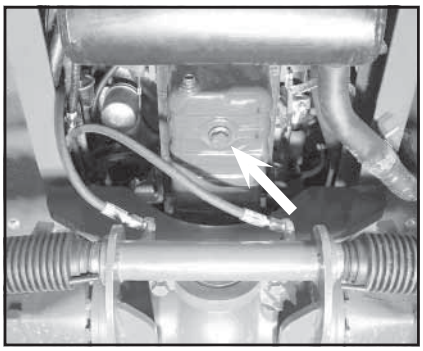
❀ Dispose of the used oil filter cartridge in an authorized waste disposal centres.

Engine oil: Filling up
- Remove the dipstick and place a funnel in the opening of the oil filler neck located above the rocker arm cover.
- Fill the engine with oil to the recommended level. See the Table of **LIQUIDS AND LUBRICANTS** (references and capacities) in this Manual for oil type and capacity.
- Start the engine and leave idling for a few minutes. Check the areas around the oil filter and oil drain plug for leaks.
- Stop the engine.
- Wait a few moments to allow the oil to flow towards the engine sump and then check the level.
- Top up if necessary.

CAUTION

Do not exceed the maximum level mark. Starting the engine with incorrect oil levels may cause serious damage. Clean up any spillage. Check the oil level often and top up where necessary.

❀ Dispose of used oil in authorized waste disposal centres.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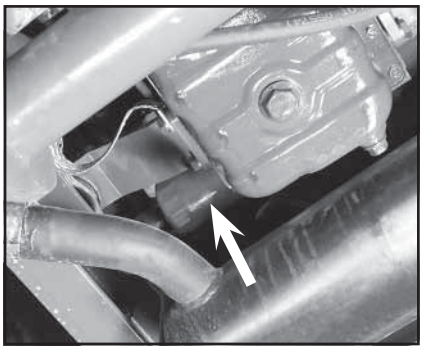
(fig. 2)

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Periodic Maintenance Operations

■ **Cooling system**
Level of coolant: Checking

WARNING

Never remove the expansion tank cap while the engine is hot. Wait until the engine is cold

The level of coolant should be between the “MIN” and “MÁX” marks on the reservoir **(fig. 1)**
If the coolant level is below the “MIN” mark, top up the reservoir with coolant. Check the engine, hoses and radiator for possible coolant leaks.

Coolant circuit: Draining
The coolant should be changed according to Table of **LIQUIDS AND LUBRICANTS** (references and capacities), or when the circuit is drained for repair purposes. To do so, proceed as follows:

- Place a container below the radiator.
- Disconnect the lower radiator hose in order to drain the radiator through this point.
- Open the drainage cock located on the left-hand side of the engine to drain the coolant **(fig. 2)**.

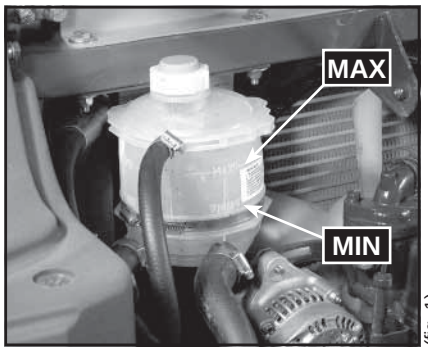
Coolant circuit: Filling and bleeding

- Before filling the circuit, re-connect the lower radiator hose.
- Close the engine drainage cock.
- The circuit is filled through the coolant reservoir.

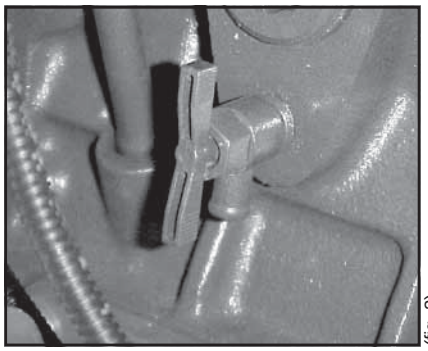
Proportions of coolant and distilled water:
Temperatures from -17 ºC to 127 (1,4ºF to 260ºF): 30 % glycol and 70 % distilled water.
Temperatures from -35 ºC to 145 ºC (-31ºF to 293ºF): 50 % glycol and 50 % distilled water.

- Start the engine until the thermostat opens.
- Then, when the engine is cold, check the level of coolant in the reservoir
- If necessary, bleed the coolant circuit using the bleeder located on the radiator hose **(fig. 3)**.

❀ Dispose of used coolant in authorized waste disposal centres.



(fig. 1)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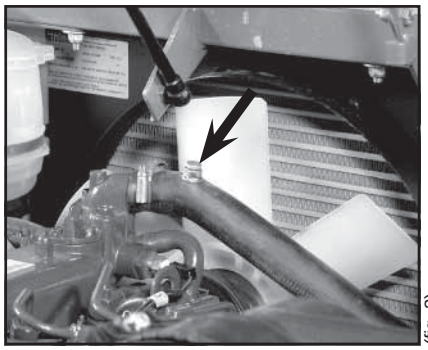
(fig. 3)

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Periodic Maintenance Operations

■ Air filter

Replacing
The air intake in the engine is through a dry filter (fig. 1, 2). The life of the engine and its performance largely depend on the correct maintenance of this filter.
The filters should be changed and cleaned as shown in the **GENERAL MAINTENANCE AND LUBRICATION CHART**.

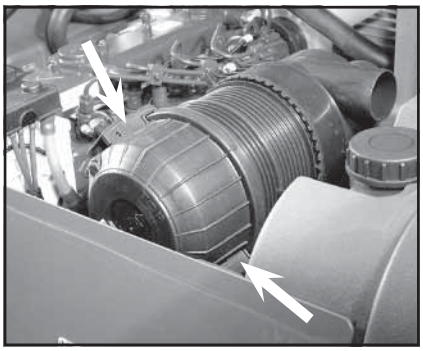
If the dumper is working in a very dusty area, the filter element will require replacement more often than specified.

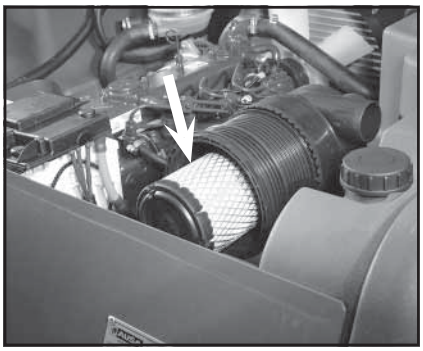
Note:
The intake filter includes a filter clogged indicator (vacuum meter). If the warning lamp on the control panel lights up, the filter element should be cleaned or replaced as soon as possible.

CAUTION

Do not start the engine when there is water inside the air filter housing. When there are fluids or dirt inside the housing, the filter cartridge should be inspected, drained or replaced.

- Unfasten the left and right-hand clamps of the filter cover and remove the cover.
- To clean the filter element, blow high-pressure air (maximum 5 bar) through the element from the inside to the outside while turning.
- Also clean the interior of the filter housing.


(fig. 1)


(fig. 2)

Air filter clogged warning lamp. Check operation
- Disconnect the air filter clogged indicator sender.
- Make a jump between the connector's contacts using, for example, a small diameter piece of electrical cable.
- The air filter clogged warning lamp in the dash panel should light up.

I
f the warning lamp does not light up, contact an authorised AUSA dealer.

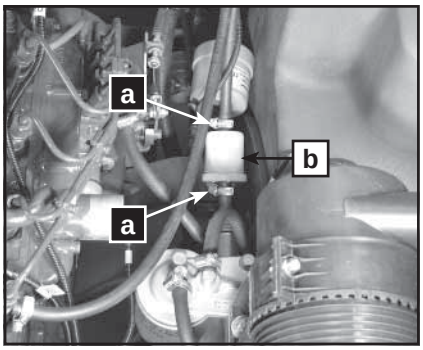
■ Fuel pre-filter

Replacing
The fuel pre-filter **(fig. 3)** is located next to the fuel tank on the inner left-hand side of the engine compartment.

Note:
The intake hose is not shown for better clarification..

WARNING

Always replace this component. Never try to clean it.



(fig. 3)

A-Clamps
B-Fuel pre-filter

- Remove the fastening clamps and the pre-filter.
- Make sure that the new pre-filter is fitted in the correct direction as shown by the arrow on the body of the pre-filter.

❀ Dispose of remains of fuel in authorized waste disposal centres.

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Periodic Maintenance Operations

■ **Fuel filter (fig. 1)**

Replacing

- Unscrew, by turning to the left, the cartridge of the fuel filter located on the inside of the rear left hand side wheel room.
- Clean the base and oil the seal of the new filter.
- Screw in the new filter element and tighten by hand, without using mechanical means.

WARNING

Take care to correctly tighten the filter element otherwise the circuit may suction air from the outside, causing faults in the supply to the engine.

❀ Dispose of remains of fuel in authorized waste disposal centres.

■ **Park brake (fig. 2, 3)**

Adjusting

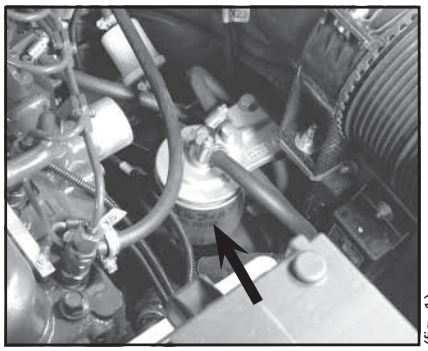
If the dumper is not correctly immobilized when the park brake is locked then the brake cable must be tightened in the following manner:

- Place the park brake lever in released position.
- Tight the park brake cables by turning the handle clockwise; turn the handle counter-clockwise to lose cables.

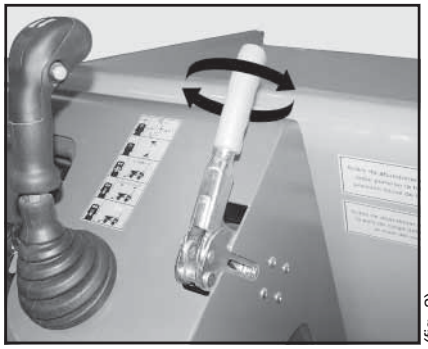
Note:

The cable sheath may also be tight at its front end.

- Also keep the cables fold-free and grease the links.



(fig. 1)



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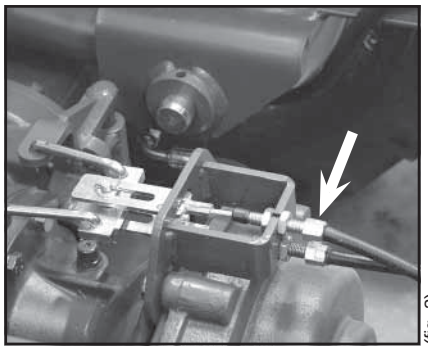

(fig. 3)

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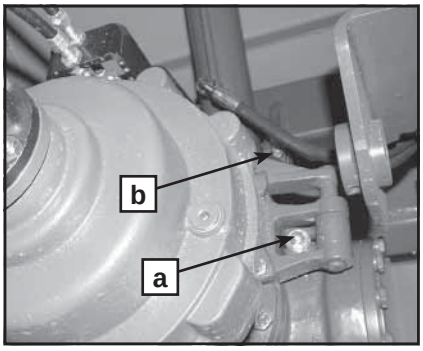
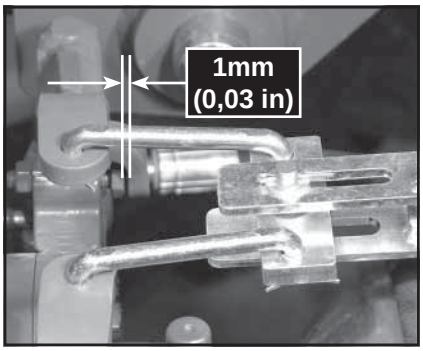
Periodic Maintenance Operations



(fig. 1)



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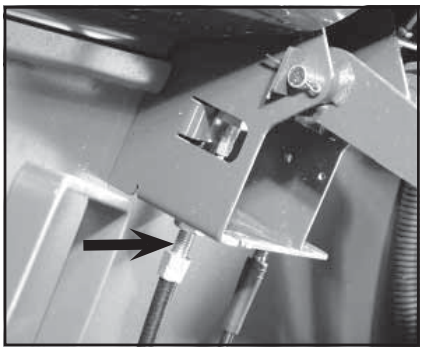
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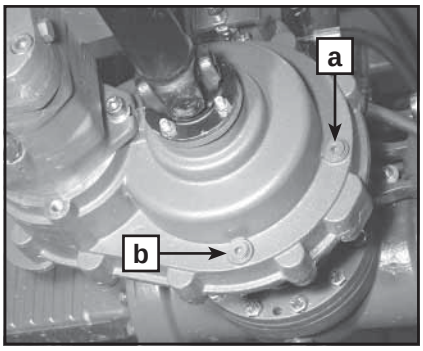

(fig. 4)

■ **Service brake (fig. 1, 2, 3)**

If, when the service brake pedal is depressed it lowers too far, it should be tightened.

- Place the parking brake lever in released position.
- Tighten the nuts **(a)** on both sides of the axle until the pedal reaches the required feeling.
- Adjust the lever stops **(b)** on both sides of the axle allowing a clearance between the lever and the stop of 1 mm. (0,03 in.)

Note:

The cable sheath may also be tight on the pedal support

WARNING

The brake pedal should have a clearance of about 1 to 1’5 mm (0,03 to 0,05 in.) The cables should be free of tension.

To replace the brake discs contact an authorized AUSA dealer.

■ **Oil for TRANSFER BOX “COMPEN SYSTEM” (fig. 4).**

Checking the level

- To check the oil level unscrew the cap **(a)**. The oil should be at the level of the housing.

Draining

To drain the oil, unscrew the plug **(b)** located on the lower part.

Topping up

- Fill in with the specified oil through the opening of the plug **(a)**. See the Table of **LIQUIDS AND LUBRICANTS** (references and capacities) in this Manual for oil type and capacity.

❀ Dispose of used oil in authorized waste disposal centres.

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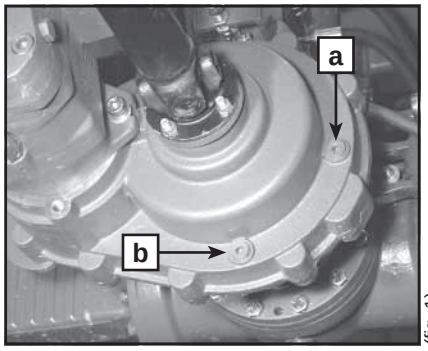
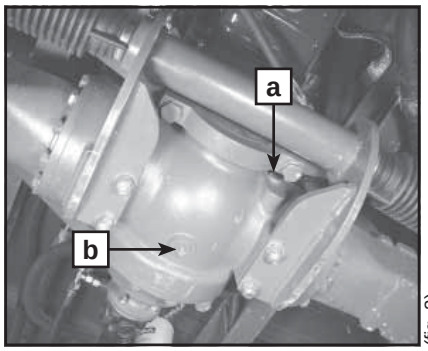
Periodic Maintenance Operations



(fig. 1)



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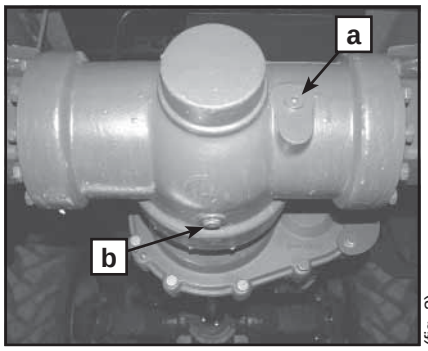

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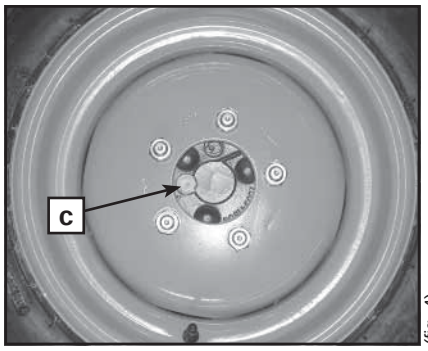

(fig. 4)

■ Rear axle oil (fig. 1)

Checking the level

- To check the oil level unscrew the cap **(a)** The oil should be at the level of the housing.

Draining

- To drain, unscrew the plug **(b)** located in the lower part.

Topping up

- Fill with the specified oil through the opening of the plug **(a)**. See the Table of **LIQUIDS AND LUBRICANTS** (references and capacities) in this Manual for oil type and capacity.

❀ Dispose of used oil in authorized waste disposal centres.

■ Front axle oil (fig. 2).

Checking the level

- To check the oil level, unscrew the cap **(a)**. The oil should be at the level of the housing.

Draining

- To drain, unscrew the plug **(b)** located in the lower part.

Topping up

- Fill with the specified oil through the opening of the plug **(a)**. See the Table of **LIQUIDS AND LUBRICANTS** (references and capacities) in this Manual for oil type and capacity.

❀ Dispose of used oil in authorized waste disposal centres.

■ Oil level in hub reduction of front and rear axles

WARNING

Never remove the drain plug of the hub reduction when the oil is hot. The steam made inside may cause injury.

Checking the level (fig. 3)

- Turn the wheel until the hub reduction plug **(c)** is in a horizontal position.
- To check the oil level in the hub reduction, use the cap **(c)**. The oil should be at the level of the housing.

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Periodic Maintenance Operations

Draining (fig. 1)

- Remove the wheel.

WARNING

If is necessary to remove the drain plug while the oil is still hot, place it on the upper part of the wheel hub, and remove the plug carefully covering it with a piece of cloth or similar.

- To drain the oil, turn the wheel reduction hub until plug **(c)** is located on the lower part of the wheel hub.

Topping up (fig. 2)

- Turn the wheel until the hub reduction plug **(c)** is in a horizontal position .
- Fill with the specified oil through the plug **(c)**. See the Table of **LIQUIDS AND LUBRICANTS** (references and capacities) in this Manual for oil type and capacity.

❀ Dispose of used oil in authorized waste disposal centres.

■ **Hydraulic circuit (fig. 3)**

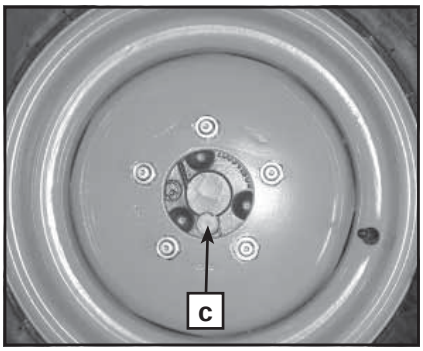
Checking the level

The verification must be done with the dumper on horizontal ground, the bucket in the lowest position, the self-loading shovel in rest position and is the engine stopped.

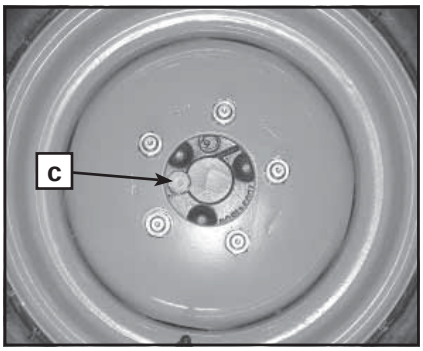
Note:

The oil tank is equipped with an oil level indicator **(b)**. During regular services, ensure that the oil level does not fall below the level of the indicator. If this occurs, add oil immediately to avoid damage to the hydraulic pumps then investigate the cause of the drop in level (i.e. leaks).

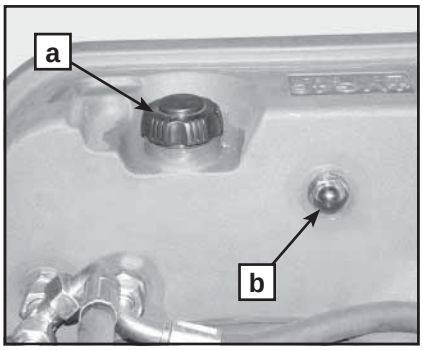
- Ensure that the oil level is visible through the indicator **(b)**.
- If necessary, add oil to the tank by removing the cap **(a)**.



(fig. 1)



(fig. 2)



(fig. 3)

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Periodic Maintenance Operations

Draining (fig. 1)

- The tank is drained through plug **(c)** on the lower part of the tank.

Topping up (fig. 1)

- Fill with the specified oil through the opening of the plug **(a)**. See the Table of **LIQUIDS AND LUBRICANTS** (references and capacities) in this Manual for oil type and capacity.

Hydraulic circuit oil. Types and operating temperatures
VG32 for environmental temperatures usually below 10ºC (50 ºF)
VG46 for environmental temperatures between 10 ºC and 40 ºC (50 ºF and 104 ºF)
VG68 for environmental temperatures usually above 40ºC (104 ºF)

Oil Strainer: Clean (fig. 2).
There is an intake filter located on the interior of the tank in the hydraulic circuit. This is a metal filter which should be cleaned every time the hydraulic oil is drained.

- To do so, remove the 6 screws **(d)** from the plate
- Before assembling, check the condition of the seal and replace if necessary.

❀ Dispose of used oil in authorized waste disposal centres.

■ **Hydraulic hoses**
All the hydraulic hoses should be replaced at least every 6 years.

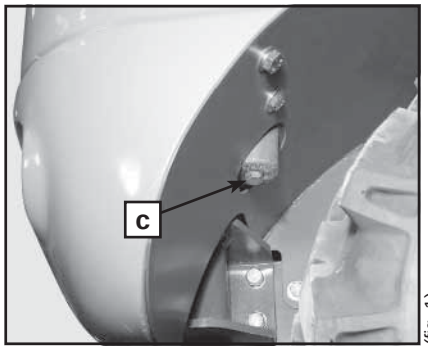
■ **Hydraulic system safety valves: adjustment (fig. 3, 4)**
There are two safety valves for preventing overpressure: one on the steering circuit and one on the operating circuit. The first is located on the hydraulic steering **(e)** and the second on the pump outlet **(f)**. These valves are set to the correct pressure in the factory, but their trim should be checked regularly and adjusted accordingly.
The adjustment should be carried out by personnel with experience of hydraulic systems and with the appropriate tools. The pressures should never exceed those given in the section **TECHNICAL SPECIFICATIONS** in this Manual.

Hydraulic steering valve (fig. 3).

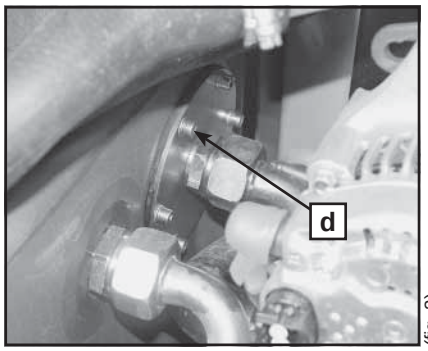
- Remove the plug **(e)**
- To increase the hydraulic pressure turn the interior screw clockwise using a screw driver. To reduce the pressure, turn the interior screw in the opposite direction.

Operation circuit valve (fig. 4).

- Remove the seal.
- Remove the plastic cover **(f)**.
- Loosen the lockrnut.
- To increase the hydraulic pressure turn the screw clockwise using an Allen key. To reduce the pressure, turn the interior screw in the opposite direction.



(fig. 1)



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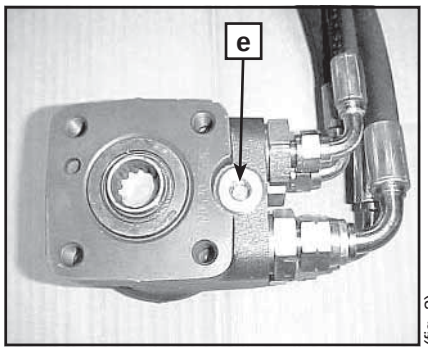

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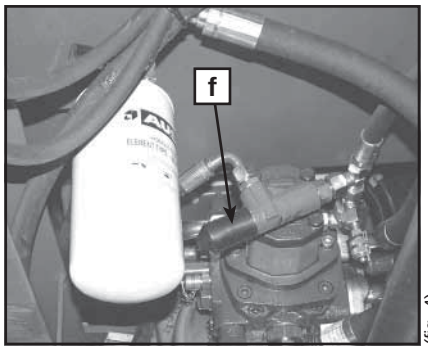

(fig. 4)

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Periodic Maintenance Operations

■ Hydrostatic transmission filter

Replacing (fig. 1)
The hydrostatic circuit has a cartridge filter **(f)** which should be replaced regularly (See the section **GENERAL MAINTENANCE AND LUBRICATION CHART**).

WARNING

Before replacing the filter element, close the valve **(g)**. The valve handle should be in a vertical position. If the valve **(g)** is not closed then the hydraulic circuit may empty.

- Undo the cartridge filter by turning it to the left.
- Clean the base of the filter and oil the seal of the new filter element.
- Screw in the new filter element and tighten by hand, without using mechanical means.

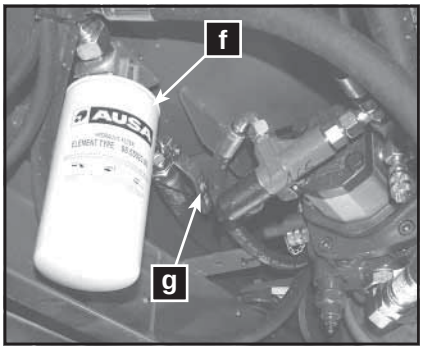
WARNING

Take care to correctly tighten the filter element otherwise the circuit may suck air from the outside, causing faults in the transmission.

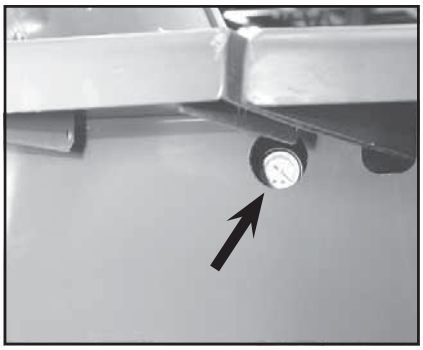
WARNING

Following replacing the filter element, open the valve **(g)**. The valve handle should be in a horizontal position. If the valve **(g)** is not opened then the hydraulic circuit will be emptied resulting in a serious fault in the pump when the engine is started.

Check whether the filter needs replacing (clogged indicator) **(fig. 2)**
The filter support has a filter clogged indicator (vacuum meter). In order to visualize the indicator, use the inspection window located under the right-hand side floor plate. When the engine is running the needle should lie in the green zone, or at a maximum, in the yellow zone. If the needle approaches or lies in the red zone, replace the cartridge filter as soon as possible.



(fig. 1)


(fig. 2)

■ Wheels

WARNING

Unless it is imperative for the work to be carried out, given that the machine does not have suspension, the use of solid tires is not recommended, as this increases the effect of impacts on the transmission and the operator.

Tire pressure: Checking
If possible, the tires should be inflated by specialized personnel in this field.
The following operations are recommended, in particular for the front wheels:

WARNING

The tire pressures of the dumper are very high. Inflating the wheels could be dangerous if not performed with care.

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Periodic Maintenance Operations

Checking and inflating tires: Safety measures

- Every day before starting working, inflate the dumper tires when cold to the pressure given by AUSA before starting the day's work (See the section **TECHNICAL SPECIFICATIONS** in this Manual).
- Checking tire pressures and inflation should be carried out with a manometer in good condition fitted with a nozzle with safety clip. The safety clip is essential for preventing the manometer nozzle from coming off the tire valve during inflation, which could cause serious injury to the operator.
- Use gloves to protect hands.

Wheel installed on the dumper

- The verification must be done with the dumper on horizontal ground, the bucket in the lowest position, the self-loading shovel in rest position and is the engine stopped.

Wheel removed

- Place the tire in a cage or other device suitable for inflating tires of this nature.

Wheel nuts: Tightening torque

The tightening torque of the wheel nuts should be checked every week. The exact values of the wheel nut torques are given in the attached table.

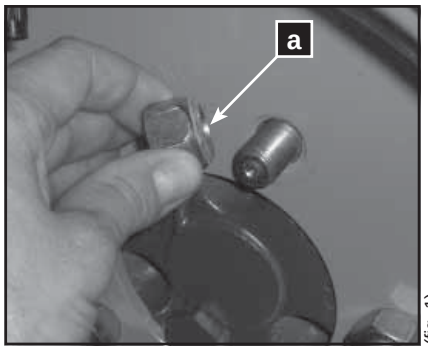
- Use a torque wrench in good condition to check the tightening torque of the wheel nuts.
- Do not force the torque wrench by using extensions (pipes or similar).
- If pneumatic wrenches have been used, the torques should still be checked using a torque wrench.

Tightening torque		
	Front wheels	Rear wheels
D 201 RH	250 ± 30 Nm (185 ± 23 lbf/ft)	
D 201 RHS		
D 201 RHG		
D 201 RHGS		

Conical section of the nut **(a) (fig. 1)**

WARNING

Always use recommended wheel nuts. The use of a different type of wheel nut may cause damage to the wheel rim.



(fig. 1)

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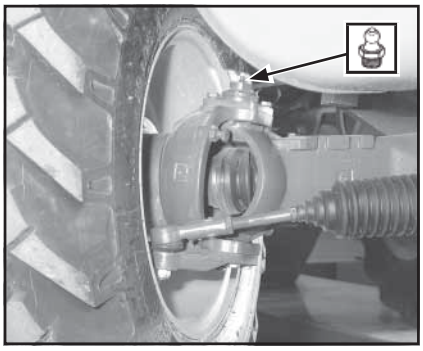
Periodic Maintenance Operations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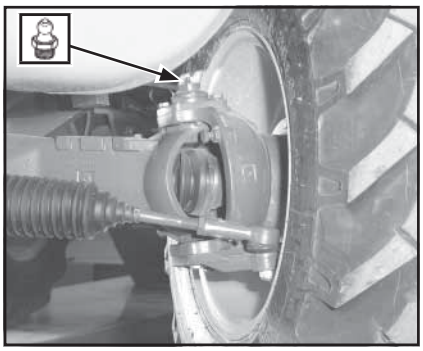
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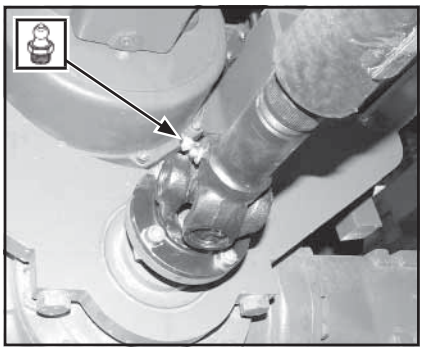
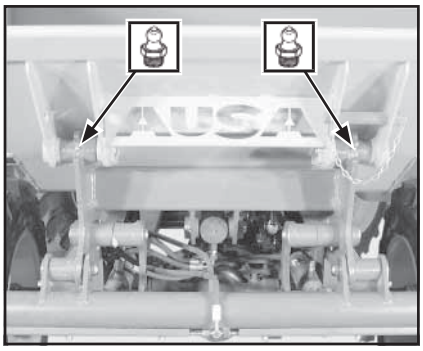

(fig. 3)



(fig. 4)

■ Greasing points

CAUTION

Before injecting lubricating grease in the grease nipples, clean carefully to prevent that, mud, dust or other external parts mixing with the grease thereby reducing or even annul lubrication properties.

Regularly grease the dumper to ensure it is effective and extend its life.
Inject lubricating grease via the grease nipples using a pump.
Stop greasing as soon as fresh grease appears through the holes.
Greasing points are indicated in the following figures:

- This symbol indicates greasing points with pump (nipples).

■ Lubrication

Rear axle
4 nipples, two on each wheel reduction joint **(fig. 1, 2)**.

Cardan shafts
1 nipple, one on each diagonal of the joint **(fig. 3)**.

Bucket
2 nipples, one on each joint of the bucket **(fig. 4)**.

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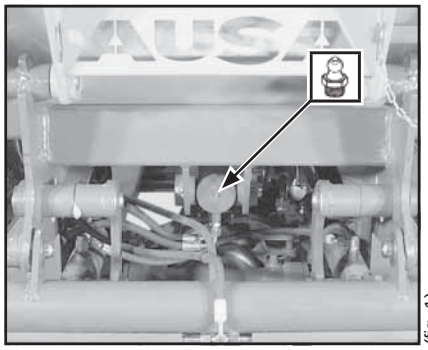
Periodic Maintenance Operations

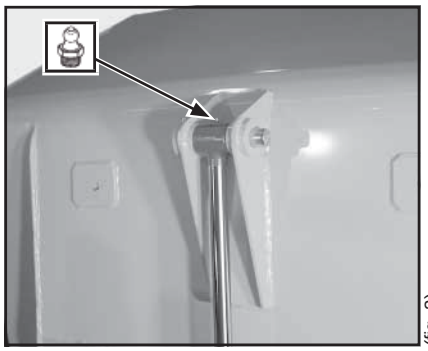
RH and RHS: 2 nipples, one on each end of the hydraulic operating cylinder **(fig. 1, 2)**.

RHG and RHGS: 2 nipples, one on each end of the hydraulic operating cylinders **(fig. 3)**.

2 nipples on the rotation crown (models RHG and RHGS) **(fig. 4)**, one on each side.



(fig. 1)



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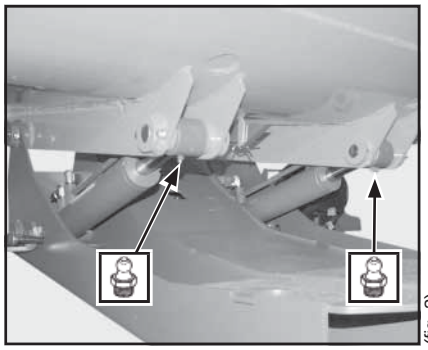
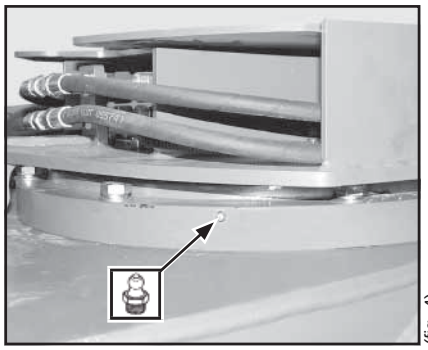


(fig. 3)



(fig. 4)

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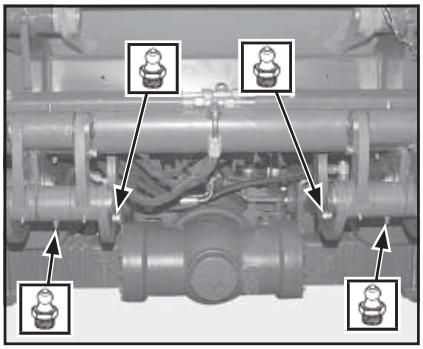
Periodic Maintenance Operations

Shovel operation (models RHS and RHGS)

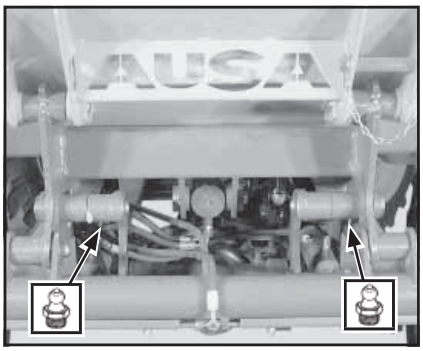
4 nipples, one on each end of the hydraulic operation cylinders on the shovel arms **(fig. 1, 2)**.

6 nipples, one on each joint in the shovel arms with the chassis **(fig. 3)**.

4 nipples, one on each end of the hydraulic tipping cylinders for the shovel **(fig. 4)**.



(fig. 1)



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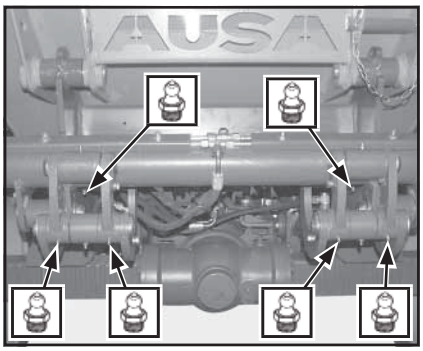

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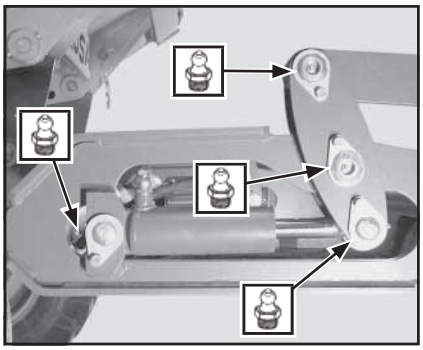

(fig. 4)

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Periodic Maintenance Operations

Shovel
2 nipples, one on each joint between the shovel and the arms **(fig. 1)**.

■ **Lighting and signalling system (✶)**

Turning indicators, side lights, stop and reverse, left and right hand side light bulbs (fig. 1): Replacing:

- Remove the bolts **(a)** and remove the lens.
- Remove the bulb by pressing it gently inwards and turning it to the left at the same time in order to release it from the lamp holder.
- Replace the bulb with a new bulb of the same type and power.

Working lights bulbs (fig. 2): Replacing

- Extract the bolts **(b)** and remove the work light rear housing.
- Remove the connector from the bulb.
- Undo the clip fastening the bulb by pressing it inwards and to the right at the same time.
- Replace the bulb with a new one of the same type and power.

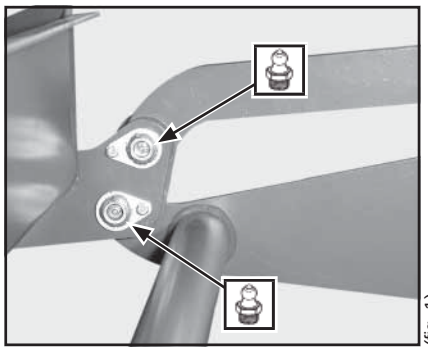
CAUTION

Do not touch the surface of the bulb glass. If it is dirty wipe gently using a clean dry cloth.

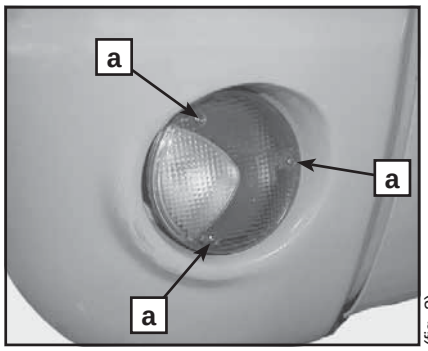
- Secure the clip again by pressing it inwards and to the left at the same time.

Turning indicator bulb

- Remove the connector from the bulb.
- Remove the bulb by pressing it gently inwards and turning it to the left at the same time in order to release it from the lamp holder.
- Replace the bulb with a new bulb of the same type and power.



(fig. 1)



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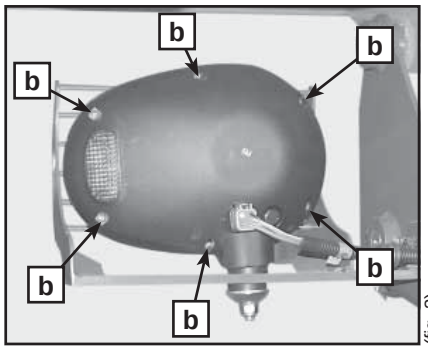

(fig. 3)

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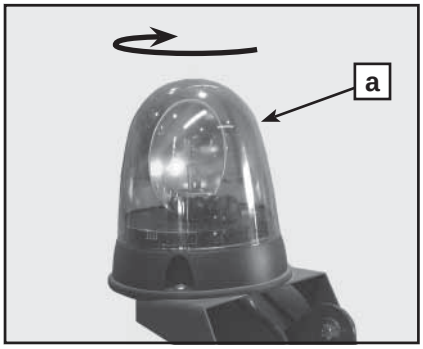
Periodic Maintenance Operations

Rotating beacon bulb (fig. 1, 2): Replacing

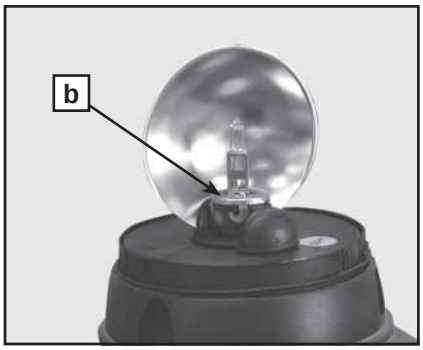
- Rotate the amber housing **(a)** for the light beacon to the left and remove it.
- Unhook the plate **(b)** from the attachment **(fig. 2)**, for the bulb by pressing inwards and to the left at the same time.
- Replace the bulb with a new bulb of the same type and power.

CAUTION
Do not touch the surface of the bulb glass. If it is dirty wipe gently using a clean dry cloth.

- Fasten the plate holding the bulb by pressing it inwards and to the right at the same time.



(fig. 1)



(fig. 2)

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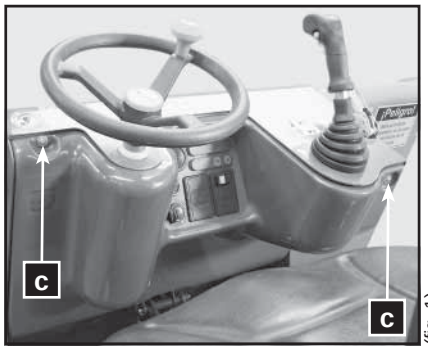
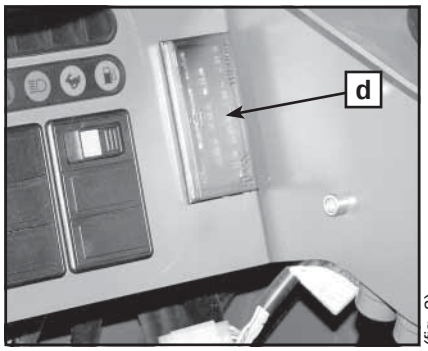
Periodic Maintenance Operations



(fig. 1)



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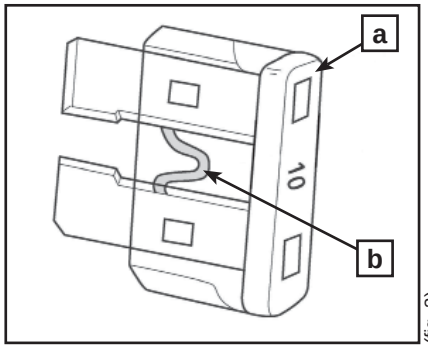
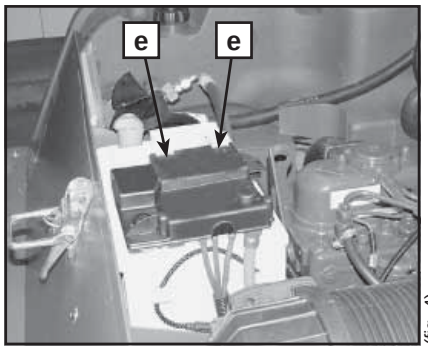


(fig. 3)



(fig. 4)

■ **Electrical equipment.**

Fuses: Checking (fig. 1, 2, 3)

- Switch off the ignition.
- Unscrew steering wheel lower cover bolts **(c)** and remove it.
- Remove the fuse guard **(d)** pulling it outwards.
- The blown fuse will have a broken filament **(b)**.

a- Fuse
b- Metal strip

- Remove blown fuses and replace with a new one of the same type.

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

Battery fuses: Checking (fig. 4)

- Switch off the ignition.
- Remove the fuse guard by pressing on the attachment tabs **(e)**.
- Check the fuse continuity using a multimeter.
- 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.

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Dumper Transport

■ **Safety measures for loading the dumper onto a lorry or trailer using ramps**

- Load the dumper onto a lorry or a trailer using ramps on flat, solid ground.

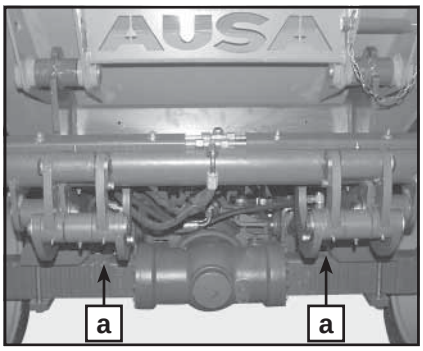
WARNING

Before loading the dumper onto a lorry or trailer make sure that ramp is strong enough to bear the weight of the machine. The lorry platform should be clean, and never greasy or frozen.
The dumper should not be transported with a full tank of fuel.

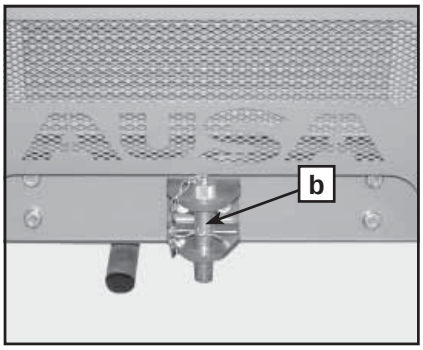
■ **Loading the dumper onto a lorry or trailer using ramps (fig. 1, 2)**

- Fasten the seatbelt.
- Lower the bucket as far as possible.
- Come up or down the dumper slowly and carefully along the loading ramps.
- Set the driving control switch and the joystick to NEUTRAL position.
- Immobilise the dumper by locking the park brake.
- Stop the engine and remove the key from the ignition switch.
- Once the machine has been loaded onto the lorry / trailer bed, place chocks in all four wheels.
- Secure the dumper tightly to the platform using suitable securing systems (chains, belts or slings) taking into account that these are sufficiently strong and suitable for this purpose.

FRONT AXLE: over the front axle **(a)**.
REAR AXLE: Using the rear counterweight towing bolt **(b)**.



(fig. 1)



(fig. 2)

■ **Safety measures for loading the dumper onto a lorry or trailer bed using a crane (fig. 3).**

WARNING

The lorry or trailer bed should be clean, and never greasy or frozen.
The dumper should not be transported with a full fuel tank.

- Load the dumper onto a lorry or a trailer bed using a crane on flat, solid ground.
- Firstly of all fully unload the dumper.
- Before lifting the dumper, check that all the cables and slings are secured correctly in the proper points and that not only the crane but also the cables or slings have sufficient capacity to lift the weight.
- When lifting, ensure that nobody is in the dumper and that there are no spectators within a radius of 5 m (16ft. 4in.) around the dumper.
- When lifting, use guide ropes to prevent the dumper from rotating freely.
- The slings on the front section should be long enough so that they are at a horizontal angle of more than 45º.
- Lift the dumper keeping it in a horizontal position.

(fig. 3)

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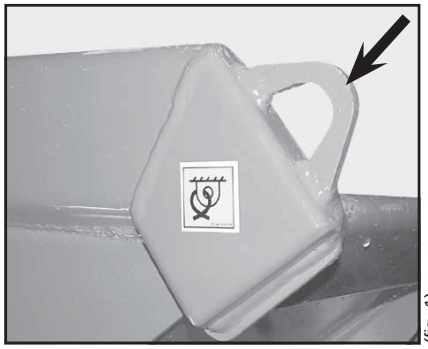
Dumper Transport

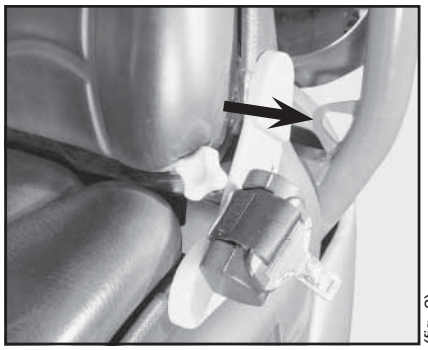
■ **Loading the dumper onto a lorry or trailer using a crane (fig. 1, 2)**

Lifting should be done from the following locations:

FRONT SECTION: Using the ears welded to the front part of the bucket
REAR SECTION: Using the ears on the protection bar / overhead protector



(fig. 1)



(fig. 2)

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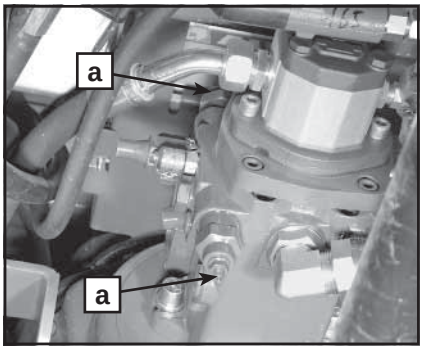
Towing the dumper

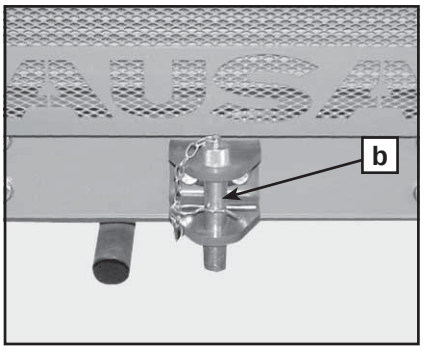
■ **Conditions for towing the dumper (fig. 1, 2)**

The dumper should only be towed in the event of breakdown when there is no other alternative, as this could seriously damage the hydrostatic transmission. Wherever possible, we recommend the repair of the dumper in the place where is stopped. Otherwise the dumper should be towed over short distances and at low speeds.

- Place the park brake lever in release position.
- Before towing the dumper, rotate clockwise 2 turns the central studs of the by-pass valves of the hydrostatic pump. To do so, loosen the counter nuts **(a)**.
- After fixing the dumper, rotate again counter-clockwise 2 turns the central studs of the by-pass valves of the hydrostatic pump and re-tighten the counter nuts.
- The dumper should be towed using a solid towing bar to prevent any lateral sway. The bar should be fixed to the rear bolt of the counterweight **(b)**.



(fig. 1)



(fig. 2)

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Electric Diagram

■ **Cables: Colour chart**

Cable colors	
A	Light blue
B	White
C	Orange
G	Yellow
H	Grey
L	Blue
M	Brown
N	Black
R	Red
S	Pink
V	Green
Z	Violet

■ **Cables: identification of colors**

In the case of two-colour cables, the first letter of the code indicates the dominant colour.
The arrangement of the figures, using the letters given on the colour chart, is as follows:

G/V-Yellow/ Green. Horizontal stripes.
G-V -Yellow/ Green. Vertical stripes.

Legend

R1.5 ——► 2.1	RED CABLE, 1.5 mm. section, GOING TO PAGE 2 ROW 1
3.3 ►—— R1.5	RED CABLE, 1.5 mm. Section, COMING FROM PAGE 3 ROW 3

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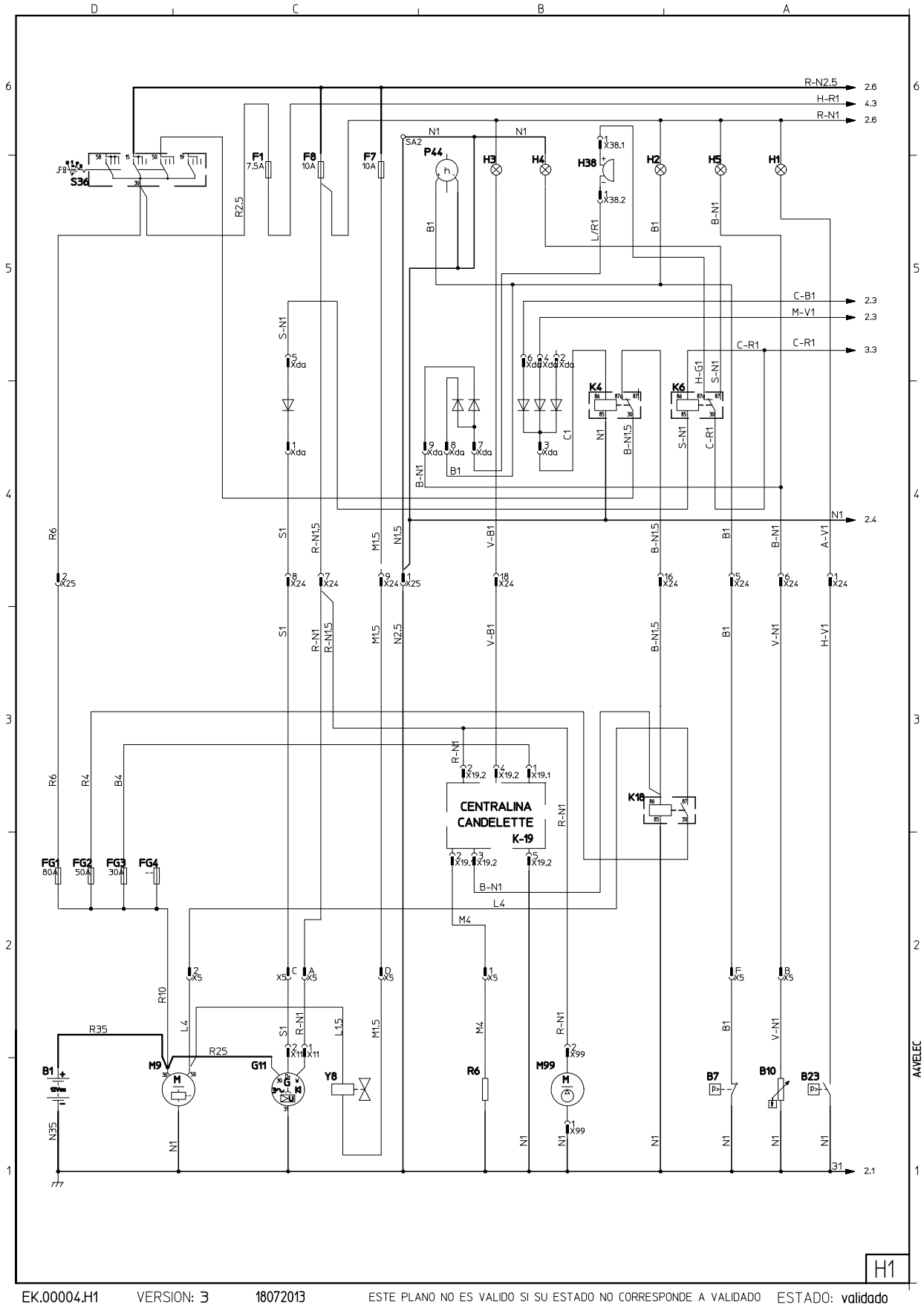
Electric Diagram H1



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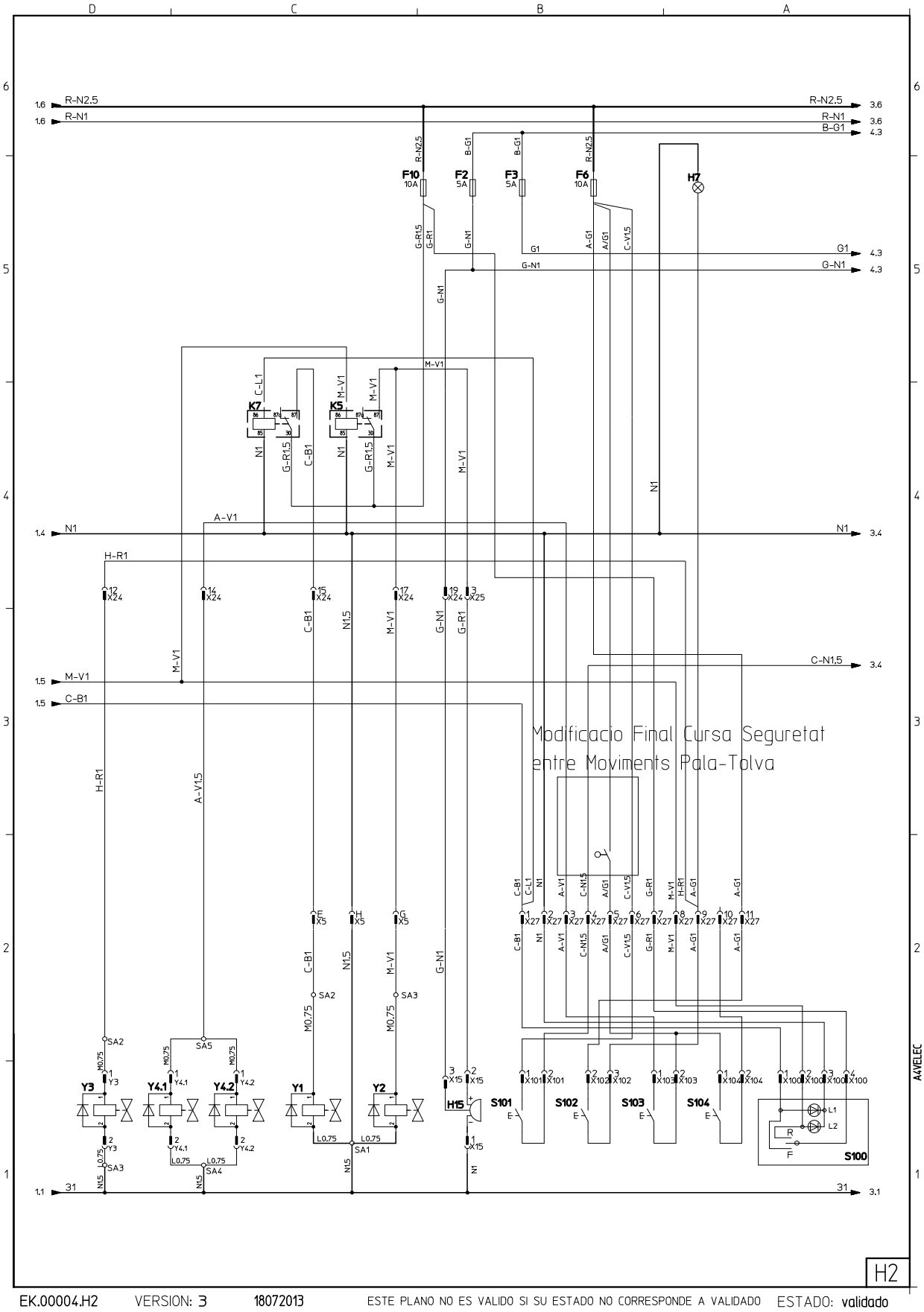
Electric Diagram

H2



EK.00004.H2 VERSION: 3 18072013 ESTE PLANO NO ES VALIDO SI SU ESTADO NO CORRESPONDE A VALIDADO ESTADO: validado

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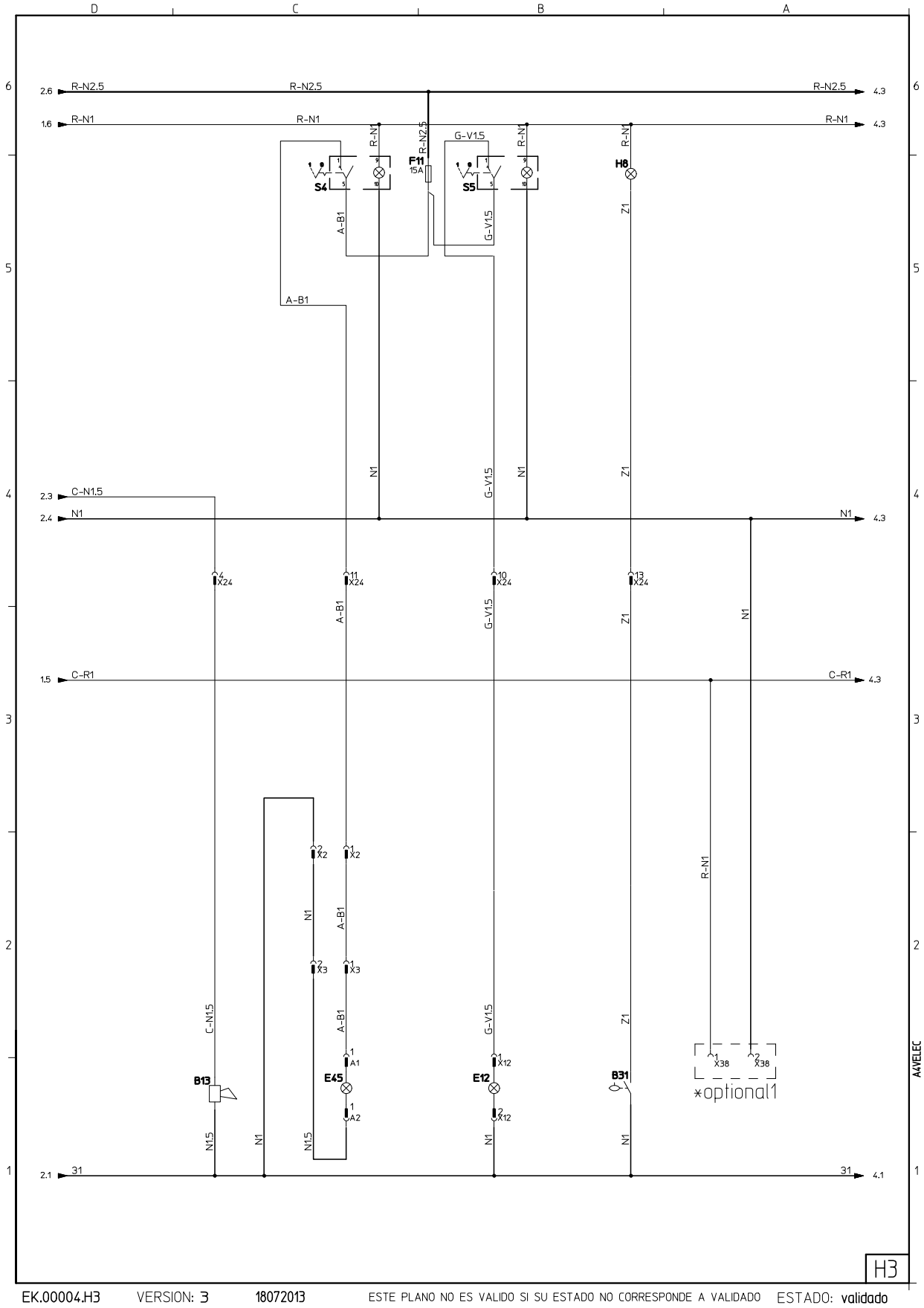
Electric Diagram H3



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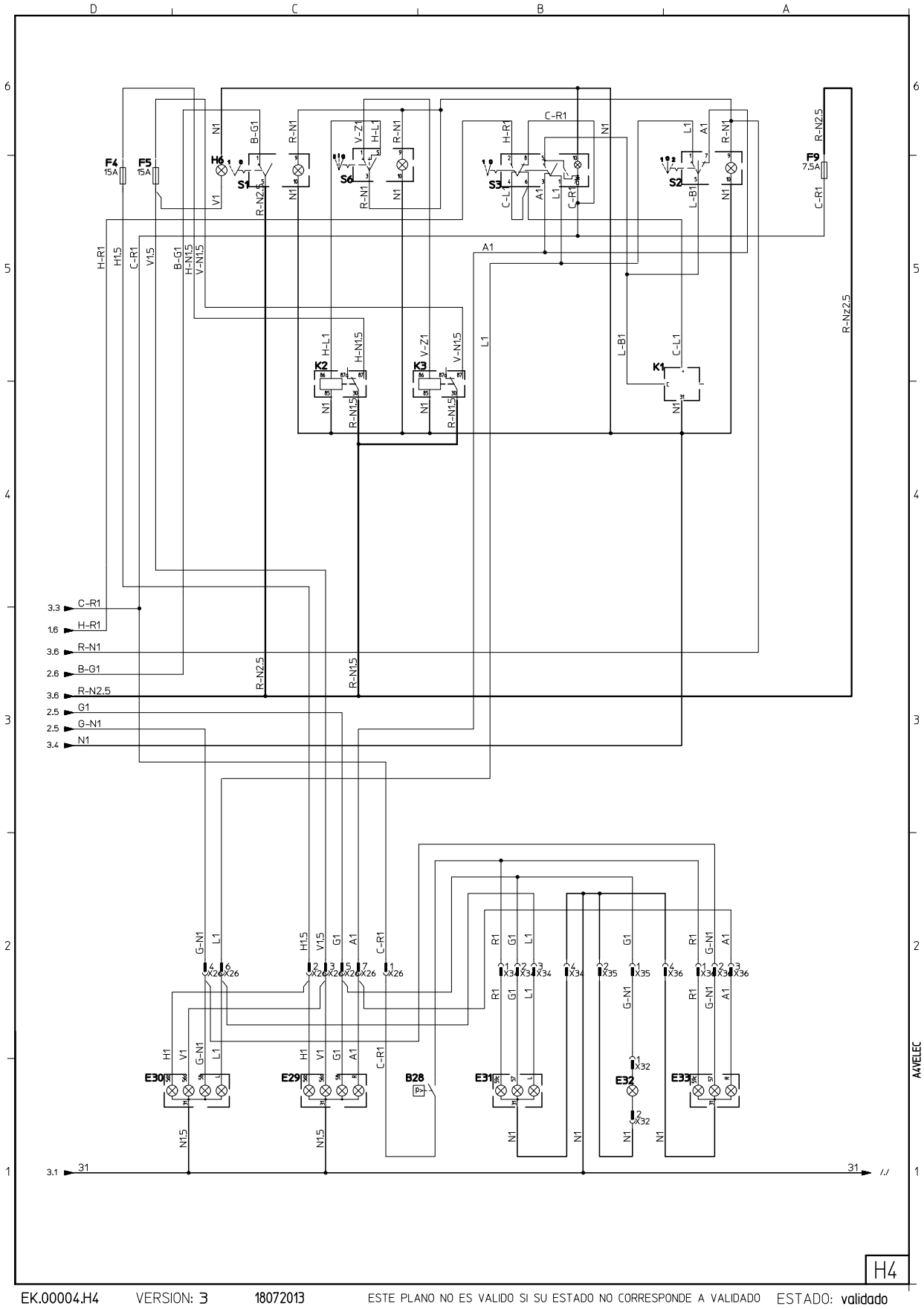
Electric Diagram

H4



EK.00004.H4 VERSION: 3 18072013 ESTE PLANO NO ES VALIDO SI SU ESTADO NO CORRESPONDE A VALIDADO ESTADO: validado

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Electric Diagram

List of electronic components

Name	Description	Diag.
B1	Battery	1
B7	Minimum engine oil pressure switch	1
B10	Coolant thermocontact	1
B13	Horn.	3
B23	Blocked air filter pressure switch	1
B28	Brake light pressure switch	4
B31	Fuel level	3
E12	Operating beacon	3
E29	Right front headlight	4
E30	Left front headlight	4
E31	Left rear lamp	4
E32	Registration plate light	4
E33	Right rear lamp	4
E45	Rotary beacon	3
F1	Fuse +30 hazard lights (7.5A)	1
F2	Left hand side parking lights fuse (5A)	2
F3	Right hand side parking lights fuse (5A)	2
F4	Main beam fuse (15A)	4
F5	Intensive lighting fuse (15A)	4
F6	Joystick switches/buttons fuse (10A)	2
F7	Engine stop solenoid fuse (10A)	1
F8	Fuse +15 lights/hazard lights (10A)	1
F9	Fuse +15 hazard lights switch and brake lights pressure switch (7.5A)	4
F10	Direction control switch and forward/reverse relays (10A)	2
F11	Working lights and rotary beacon fuse (15A)	3
FG1	General fuse +30 battery (80A)	1
FG2	Starter relay supply general fuse (50A)	1
FG3	Pre-heating exchange supply general fuse (30A)	1
FG4	Optional fuse (30A)	1
G11	Alternator with regulator	1
H1	Air filter indicator	1
H2	Engine oil pressure indicator	1
H3	Preheating indicator	1
H4	Battery charge indicator	1
H5	Antifreeze temperature indicator	1
H6	High beam lighting indicator	4
H7	2nd gear indicator	2
H8	Low fuel level indicator	3
H15	Reverse acoustic warning	2
H38	Control panel acoustic warning (breakdown warning light)	1
K1	Indicator relay	4
K2	Main beam relay	4
K3	High beam lighting relay	4

Name	Description	Diag.
K4	Starter permit relay	1
K5	Reverse gear relay	2
K6	Reverse acoustic warning relay	1
K7	Forward direction relay	2
K18	Starter relay	1
M9	Starter motor	1
M99	Fuel pump	1
P44	Hour meter	1
S1	Light switch	4
S2	Indicator switch	4
S3	Hazard light switch	4
S4	Rotary beacon switch	3
S5	Operating beacon switch	3
S6	Main beam switch	4
S36	Starter switch/ preheating/ engine stop	1
S100	Multifunction switch	2
S101	Horn button (yellow)	2
S102	2nd gear switch (red)	2
S103	3rd valve button (orange)	2
S104	4th valve button (orange)	2
Y1	Forward travel solenoid	2
Y2	Reverse travel solenoid	2
Y3	2nd gear solenoid valve	2
Y8	Engine stop solenoid	1
Y4.1	3rd function solenoid	2
Y4.2	4th function solenoid	2
X11	2 track connector	1
X12	Working lights line connector	3
X15	“DEUTSCH” 2 track connector	2
X19.1	8 track connector	1
X19.2	8 track connector	1
X2	Working lights line connector	3
X24	“MARK” 21 track connector	1
X25	3 track connector	1
X26	“MARK” 9 track connector	4
X27	“MARK” 11 track connector	2
X3	Working lights line connector	3
X32	2 track connector	4
X34	4 track connector	4
X35	2 track connector	4
X36	4 track connector	4
X5	“MARK” 21 track connector	2
X99	2 track connector	1
Xda	“MARK” 7 track connector	1

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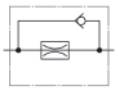
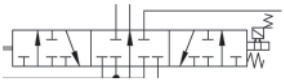
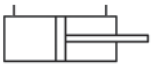
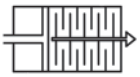
Hydraulic Diagrams

■ **Hydraulic symbols**

	Tank
	Variable flow pump
	Hydromotor
	Filter
	Radiator
	Pressure relief valve
	One-way valve
	One-way valve with spring
	Auxiliary connection valve
	Restrictor valve
	Control valve
	Deviation valve
	Orbitrol (power steering)
	Actuator cylinder
	Two-ways cylinder
	Brake pump
	Service brake (negative brake)

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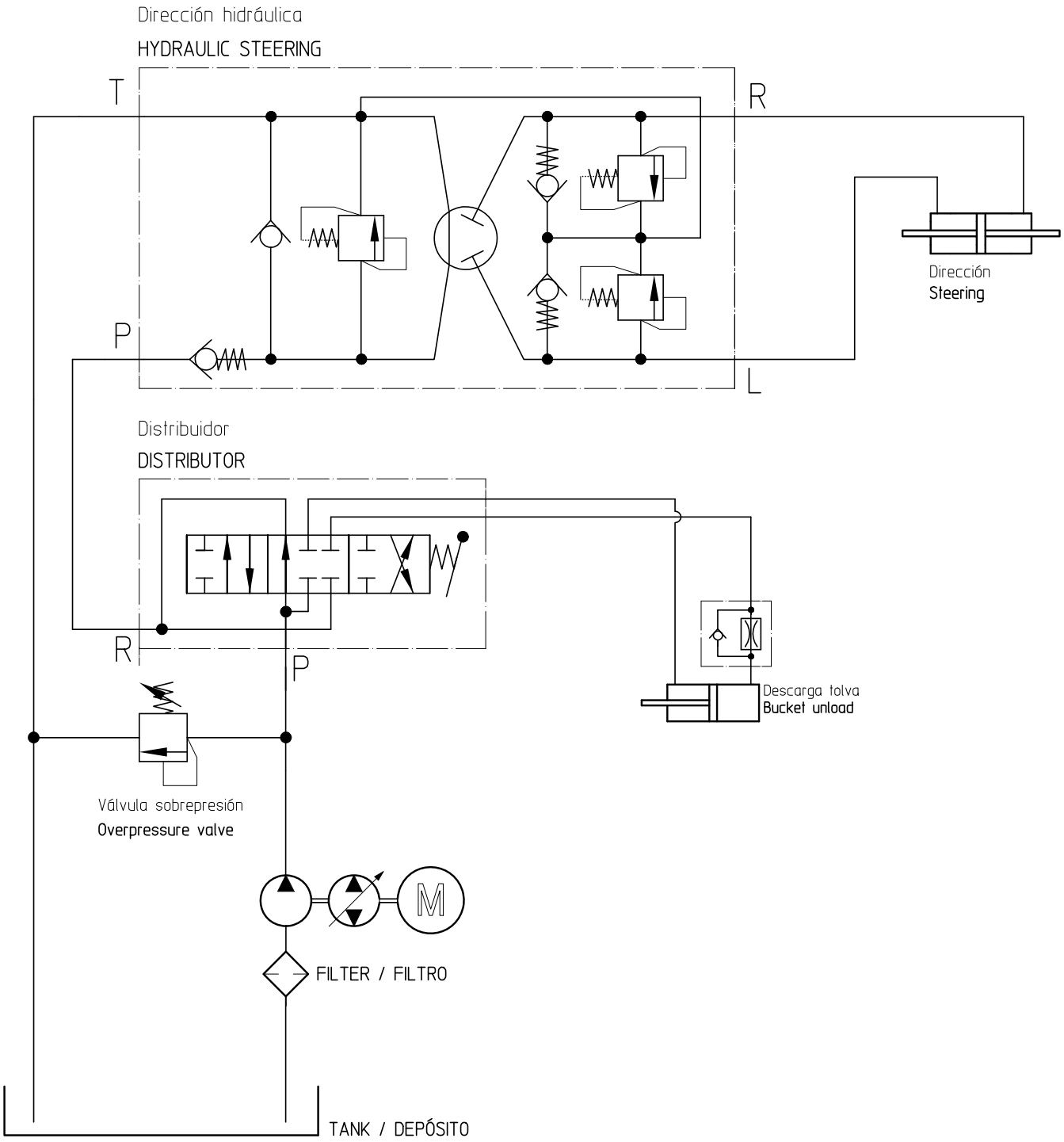
D 201 RH hydraulic diagram



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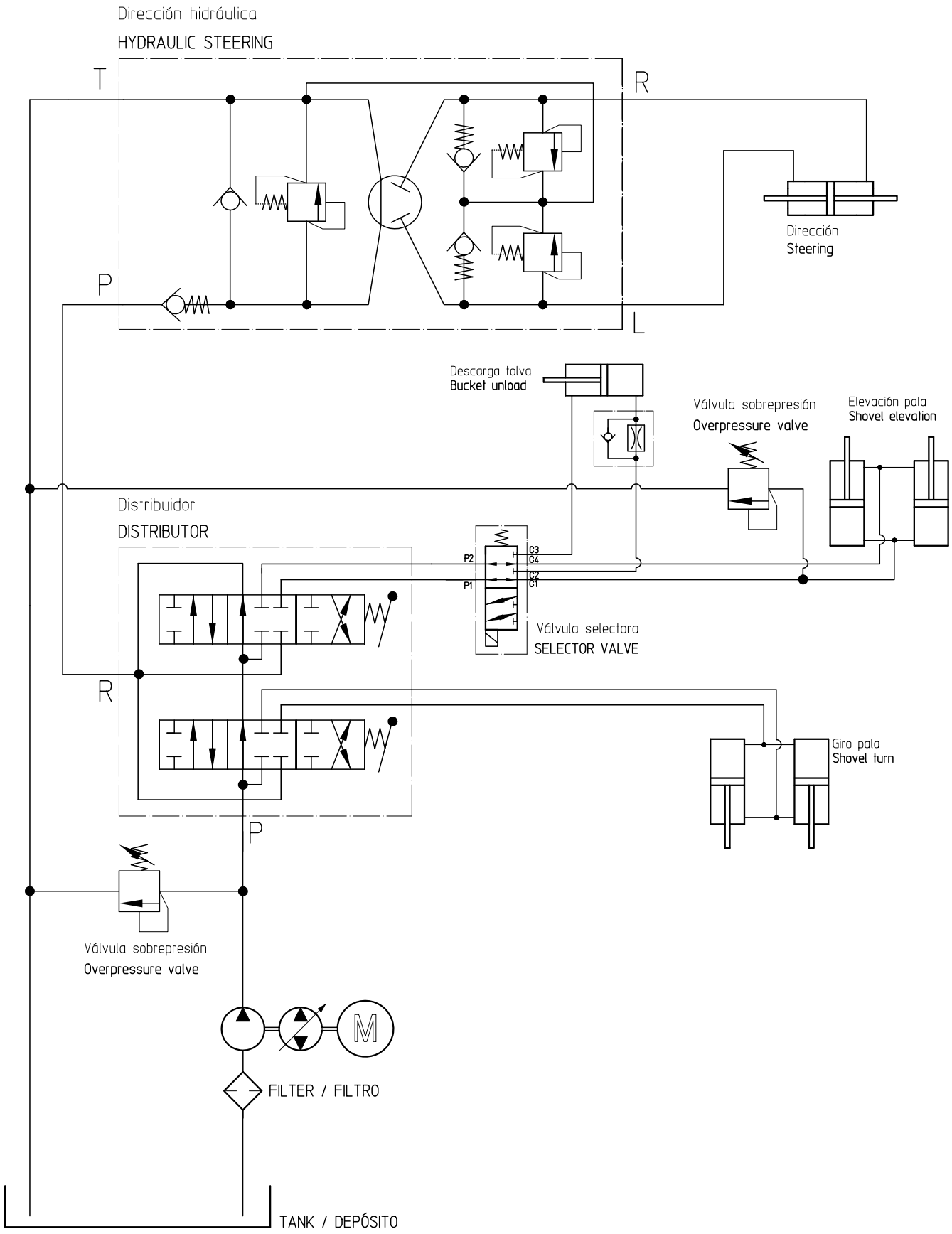
D 201 RHS hydraulic diagram



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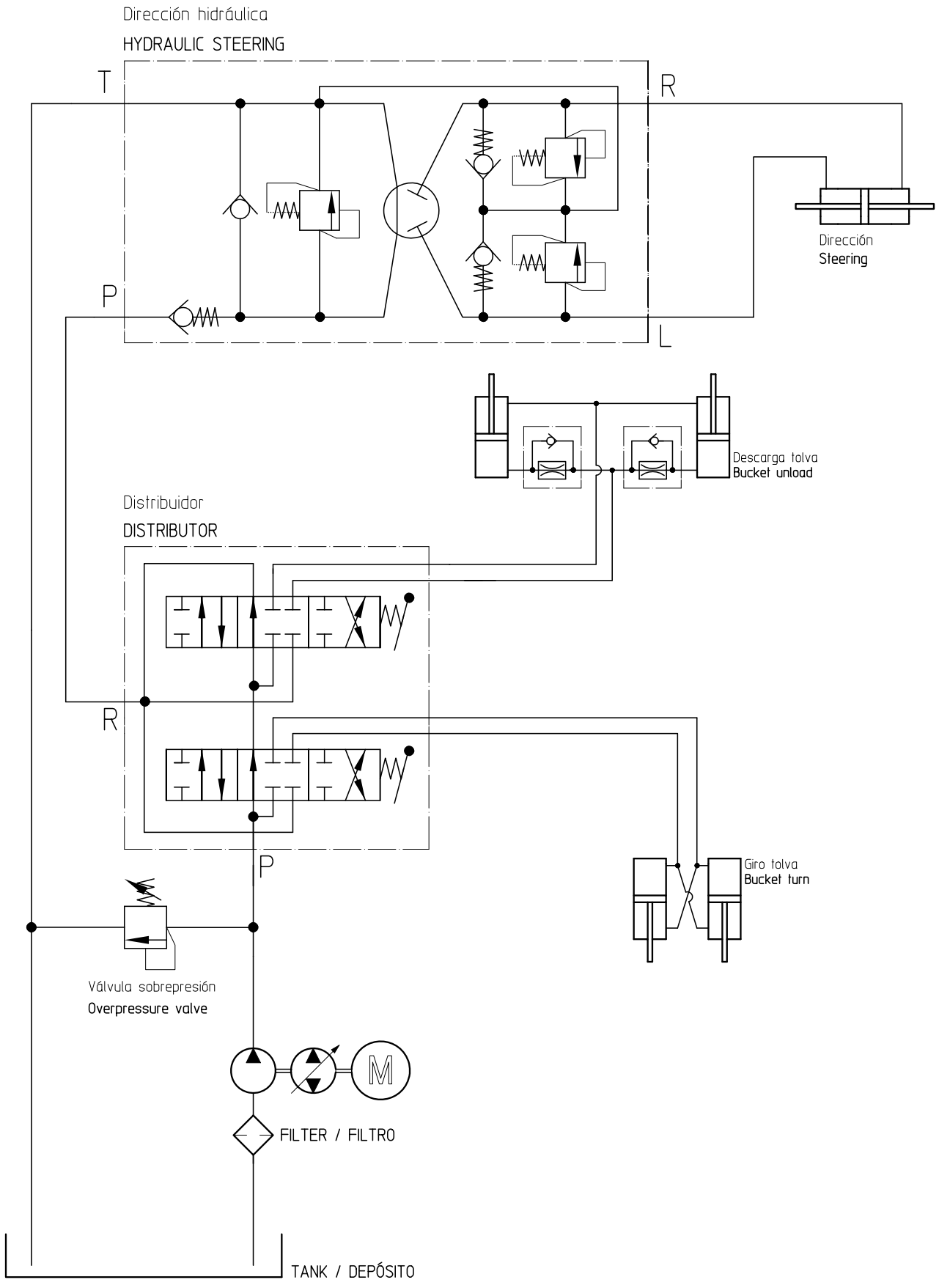
■ **D 201 RHG hydraulic diagram**



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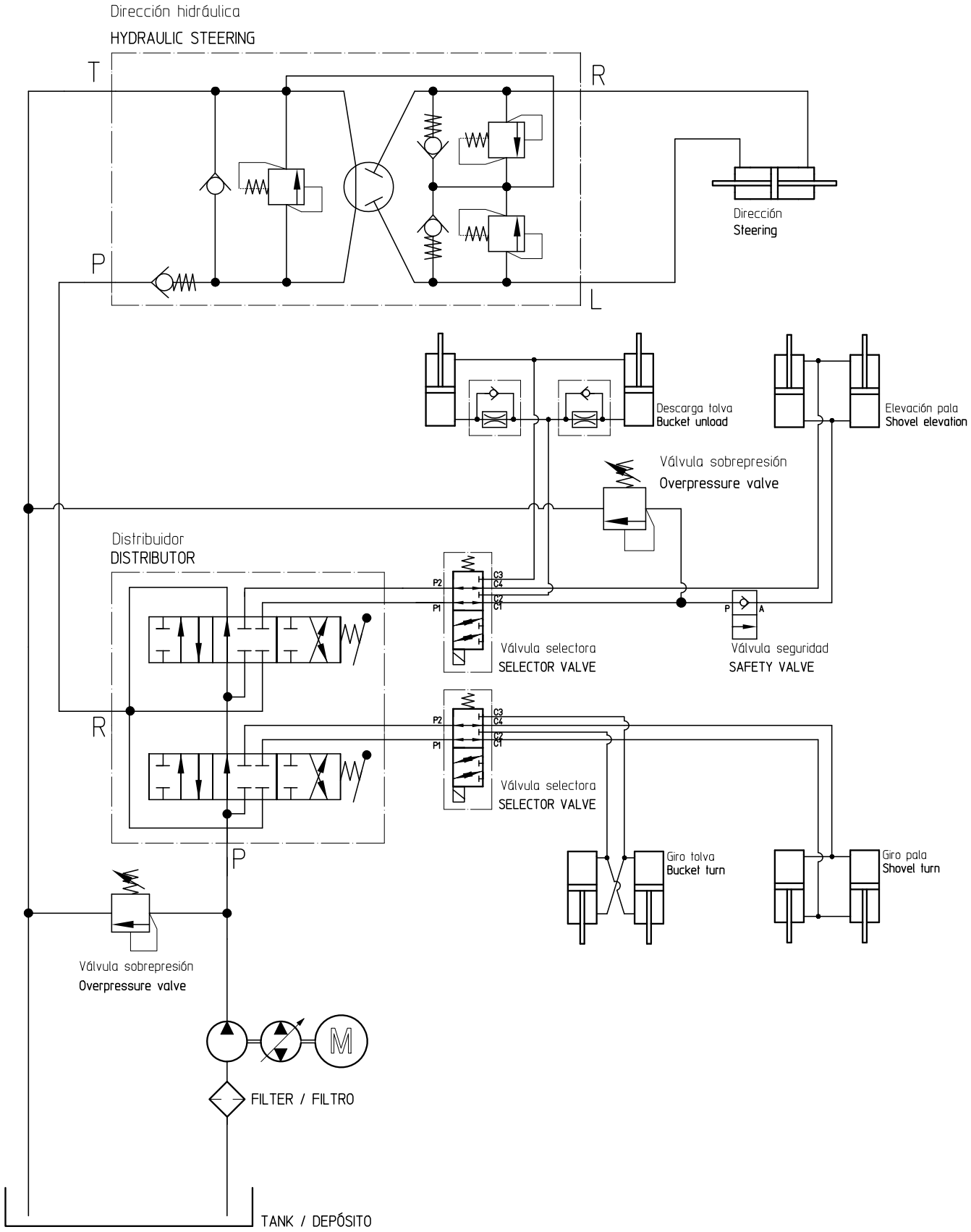
D 201 RHGS hydraulic diagram



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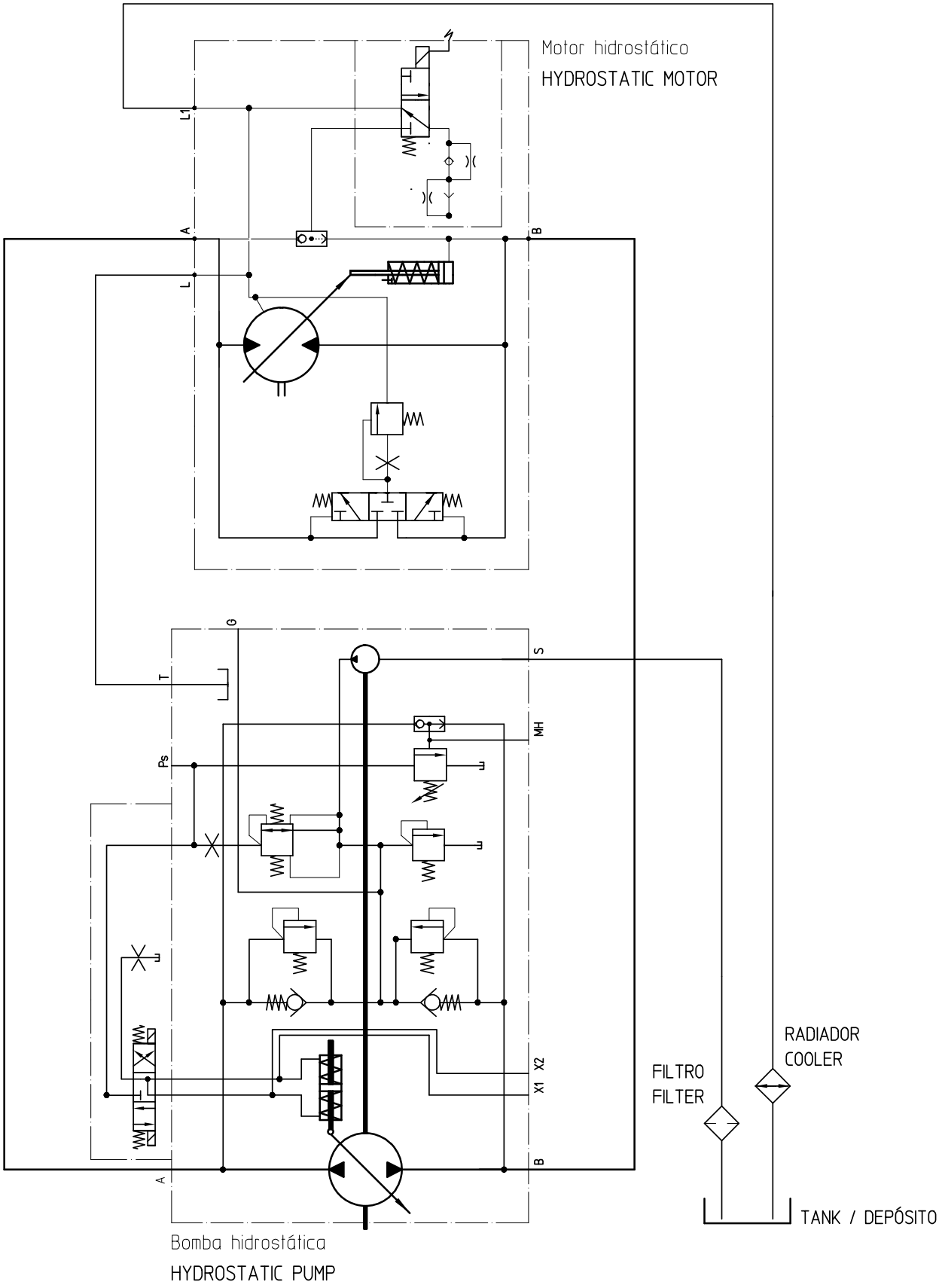
Transmission hydraulic diagram



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EC DECLARATION OF CONFORMITY

The manufacturer **AUSA Center, S.L.U.,** established on Ctra. de Vic, km 2.8, 08243 – Manresa – Barcelona – Spain, declares that the machine assigned below:

Generic denomination: **DUMPER**

Model/Type : **D XXX X**

Serial number: **XXXXXXXX**

fulfils all relevant provisions of the machinery Directive 2006/42/EC

and it conforms with the next European Directives:

Electromagnetic Compatibility Directive 2004/108/EC

Sound level Directives of machinery used outdoors, 2000/14/EC and 2005/88/EC

Exhaust emissions Directives, 97/68/EC and 2004/26/EC

and also it conforms with the following harmonized European Standards:

EN 474-1 – Earth-moving machinery – Safety – Part 1: General requirements.

EN 474-6 – Earth-moving machinery – Safety – Part 6: Requirements for dumpers.

The certification 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 Antoni Tachó Figuerola

Ctra. De Vic, km 2.8, 08243, Manresa, Barcelona, Spain

Signed by Mr Antoni Tachó Figuerola

Given at Manresa on

AUSA Center, S.L.U.
Cra. de Vic, Km. 2,8 - P.O.B. 194
08243 MANRESA (Barcelona) España

Tel. 34-93 87 47 311
Fax 34-93 874 12 11
Web: http://www.ausa.com

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