

**D 600 AP**  
**D 600 APG**  
**D 700 AP**

**OPERATOR'S  
MANUAL**

**ENGLISH**  
**ORIGINAL MANUAL**



**RENTWAY**

**D 600 AP**  
**D 600 APG**  
**D 700 AP**

**ORIGINAL MANUAL**

**Below chassis number 64061151**



**RENTWAY**



## Foreword

■ Thank you for choosing this AUSA dumper model which offers the best levels of performance, safety and working comfort. Remember that you are the key to maintaining these characteristics. Correct use of the dumper will enable you to take full advantage of the features it has to offer.

You should read and understand this Manual before operating the dumper. Its purpose is to provide instructions for those persons in contact with the machine and especially for the machine's operator. Its content will help you to better understand the AUSA dumper, and teach all you need to know about starting it, driving techniques, maintenance and care, designed uses of the dumper and safety instructions to be followed.

AUSA cannot be held responsible for any damages caused by the improper use of the dumper.

For any queries, complaints or spare parts orders, contact your Official AUSA Representative or Dealer.

For further information you may call, write, FAX or email to:

**AUSA Center, S. L. U.**

P.O.B. 194

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Tel. 34-938 747 552 / 938 747 311

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Web: <http://www.ausa.com>

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

**Use only original AUSA spare parts.** Only thus can you guarantee that the dumper will continue to give the same level of technical performance as when purchased. No changes should be made to the dumper without prior authorisation from the manufacturer.

Keep this manual in the document holder situated under the right engine cover **(Fig.1)**.



(fig. 1)



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## Designed use of the dumpers

- The dumpers have been designed and manufactured for the transport of loose materials, (mortar, cement, sand, gravel and rubble or materials from demolitions).

Any other use should be considered outside of the intended use and therefore improper.

Close adherence to the operation, maintenance and repair conditions specified by the manufacturer is essential for good use of this vehicle.

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

Health and safety at work and accident prevention standards should be respected during all transport, maintenance or repair operations. When driving on public roads current legislation must be adhered to (Highway Code).

AUSA shall not be responsible for any possible harm caused by any modification carried out on the dumper without their express authorisation.

### ■ Improper use

Improper use is understood to be the use of the dumper in such a way that it does not meet with the criteria and instructions of this manual and in such a way that said use may cause harm to persons or items.

The following are some of the most frequent and dangerous instances of improper use:

- Transporting people in the skip.
- Failing to comply scrupulously with the instructions for use and maintenance set out in this manual.
- Overloading
- Working on unstable, unconsolidated ground or on the edge of ditches and trenches.
- Using accessories and equipment for purposes other than those they are designed for.
- Using accessories and equipment not manufactured or authorised by AUSA.



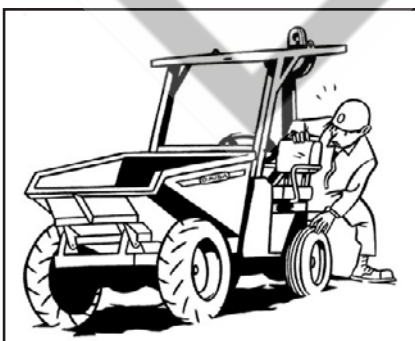
## Special safety messages



(fig. 1)



(fig. 2)



(fig. 3)

■ AUSA manufactures their dumpers in accordance with demands for intrinsic protection, as established in current law for countries of the European Economic Community, against dangers of any kind, which may present a risk to health or life, whenever the machine is used and maintained in accordance with these directives. Any hazard caused by improper use, not in compliance with these instructions or others specifically provided with the dumper will be responsibility of the user and not AUSA.

This section gives instructions on how the dumper must be used as per that contained in the 98/37/CEE Machine Safety Directive.

### ■ As the vehicle operator, think...

- Before you begin using a dumper that you are not yet familiar with, you should read this operator manual carefully and consult your superior if you have any doubts.

**(Fig.1)** The dumper should only be used by authorised and duly trained personnel.

- Make sure that you are issued with all the necessary protective gear to enable you to carry out your work safely, for instance: hard hat, ear protectors, warm clothes, reflective equipment, goggles, etc. (Fig. 2)
- The operation of the dumper whilst wearing bracelets, chains, loose clothing, long hair which is not tied back, etc. is not recommended due to the risk of being caught in controls, rotating parts, cracks, etc.

### ■ Depending on the work area, remember...

- If there is a risk of fire or explosion in the working area, either because of goods stored or because of possible fluid or gas leaks, check that the dumper is fitted with a sufficient degree of fire protection.
- If you have to work in closed spaces, make sure that the area is well ventilated in order to prevent the excessive build-up of exhaust fumes. Always turn the engine off when it is not needed.
- To drive the dumper on public roads, all necessary approvals and licenses must be obtained in accordance with the current country legislation, also incorporating the signalling and safety elements included in the legislation.
- Current legislation does not require the mounting, as standard, of a structure for protection from falling objects. However, if you must use the dumper in areas that manifest a risk of this type, the same legislation indicates that you must equip the machine with said structure.
- Use of the dumper without lighting is permitted in full daylight or in areas which are sufficiently lit.

### ■ When starting up the dumper (Fig. 3)

- Before starting work with the dumper, clean up any possible oil or fuel which may have leaked, clean and remove any grease from your hands and the soles of your shoes and remember to check the following items:

- Tyre pressure and tread condition
- Check brake functioning.
- Check for any leaks in the hydraulics, fuel and cooling systems, etc.
- Check that all protectors, covers and safety props are correctly positioned and properly attached.
- Check that there are no cracks or other structural defects visible to the naked eye.

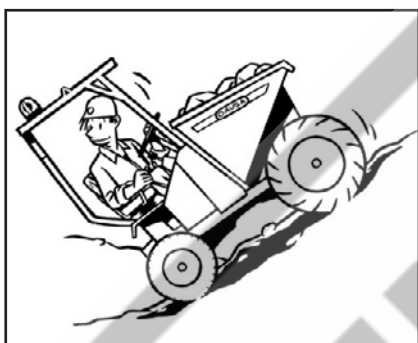




## Special safety messages



(fig. 1)



(fig. 2)



(fig. 3)

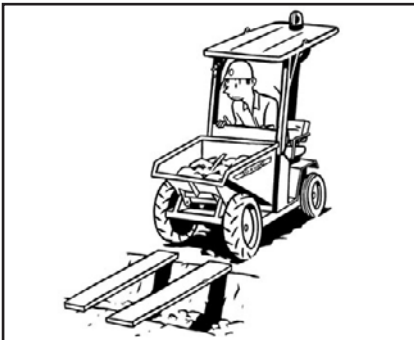


(fig. 4)

- Check the correct operation of all controls.
  - Check the following fluid levels:
    - fuel
    - brake fluid
    - hydraulic oil
    - coolant
  - Check the seatbelts and their mountings are in good condition and properly fixed. Carefully inspect the condition of this device paying special attention to:
    - Cuts or threading on the belt
    - Wear or damage to anchor points
    - Poor functioning of the seat belt buckle or the retracting roller
    - Loose threads or poor stitching
  - Check that all covers, locks and other safety elements are correctly positioned.
  - Check the correct functioning of alarms and signalling devices (for example: acoustic warning, obstruction indicator for the air admission filter, etc.)
  - Check that all the information and safety advice plates on the dumper are clean and in good condition.
  - Check that the lighting and signalling system is clean and working properly.
  - Check the electric battery connections and the level of electrolyte.
  - Adjust the seat position so that you are comfortable and can easily reach the controls.
  - Do not start the engine or operate the controls unless you are seated in the cab.
  - For your safety in the case of overturning, do not forget to correctly adjust and fasten the seat belt.
  - Keep the driving area clear of all objects or tools that could move about and might obstruct a control and prevent you from carrying out a manoeuvre when required. **(Fig. 1)**
  - Although not recommended, if you use a spray with ether to start the dumper in low temperatures, do so in well ventilated areas, do not smoke during the operation and spray small amounts.
  - These pressurised containers should be stored away from heat sources, and when empty they should neither be thrown on fires nor crushed as there may be a risk of explosion.
  - Always stop the engine before refuelling and never smoke during the process Do not mix gasoline or alcohol with the fuel
- **When operating the dumper, do not forget... (Fig. 2, 3, 4)**
- If you notice any anomaly while using the dumper, inform your superior or maintenance service immediately.
  - Keep hands, feet and the whole body in general inside the area provided for the operator.
  - Pay special attention to work on slopes, move slowly, avoid being situated crosswise and do not operate slopes which exceed the recommended gradient. A slope within the recommended gradient does not mean that this slope can be manoeuvred on with absolute safety under any load, terrain or handling conditions. Descend slopes in reverse gear, with the load, therefore, in the most stable direction. **(Fig. 2)**
  - It is not recommended to operate on slopes greater than 20% where the ground is wet or 30% where it is dry.
  - Never descend a slope with the transmission lever in neutral.
  - Give way to any pedestrians you might come across while driving.
  - The dumper must not be used to transport people, other than the driver, unless adequate seats have been provided **(Fig. 3)**.
  - Do not overload the dumper. Carry out manoeuvres gently, especially when changing direction on slippery ground.
  - Ensure that you have good visibility of the track, if the load obstructs visibility, drive in reverse gear and increase precautions **(Fig. 4)**.



## Special safety messages



(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

- When approaching a crossroads with poor visibility, slow down, sound your horn and move forwards slowly in accordance with the amount of visibility available.
- The speed of the dumper should be adjusted at all times to the work conditions and the area where it is being carried out. Regularly driving the machine at maximum speed may represent a danger to the operator and to his or her surroundings.
- Check that the resistance of the ground on which you are driving is sufficient for the loaded dumper, in particular on access to bridges, embankments, slabbed areas, loading areas, etc **(Fig.1)**.
- Before reversing the dumper, the operator should check that doing so will not put at risk either the machine itself or nearby people or objects. **(Fig.2)**
- Do not drive with the skip raised.
- Do not activate two skip movements simultaneously.
- Keep your mind completely on the job in hand. The safety of both the driver and others depends on the care taken when driving. **(Fig.3)**
- When driving on public roads with a swing skip dumper ° (D 600 APG), its longitudinal axis should be in the direction of travel.
- Depending on the ground, try to raise as little dust as possible while driving.
- The dumper is not a machine designed for towing other dumpers. If this is unavoidable, place a certain amount of load in the skip to ensure traction.
- Drive carefully and at a reduced speed; and if the trailer is not fitted with an inertia brake, make sure that the brakes are strong enough for both the dumper mass and that of the trailer.
- If the dumper has the possibility of two axle traction, consider that this must only be connected when required for surmounting a sloping obstacle or a slippery surface. Drive at a reduced speed in order to preserve the tyres and do not subject the traction-steering unit to excessive workloads.

### ■ Take care when loading and unloading the dumper...

- Do not empty the contents of the skip near a bank which is not reinforced, and unless there is a safety stop bar for the wheels at a safe distance from the edge. An 8cm side boarding cannot be considered an acceptable stopping device **(Fig.4)**.
- When tipping the load of a dumper, the centre of gravity continually moves and the condition of the ground and the prudence of the operator are essential for the stability of the machine.
- When the dumper is loaded by shovel, crane or other similar external methods, the driver must leave the cab. **(Fig.1 next page)**
- Perform the unloading manoeuvre progressively, maintaining the stability of the dumper.  
Avoid transporting materials which would stick to the dumper (for example: clayey loam) or that would get stuck in the dumper (for example: blocks of stone), as the loss of control which may be produced in the tipping manoeuvre places the stability of the dumper at risk.

### ■ When leaving the vehicle....

- Turn the engine off and switch off the ignition. Place the skip in the horizontal resting position **(Fig.2-next page)**.
- Place all controls in the neutral standby position.
- Put the parking brake on.
- Lock all mechanisms which impede use of the vehicle by unauthorised persons; the starter circuit in particular, by removing the ignition key.  
If you must leave the dumper on a slope, in addition to putting the parking brake on, immobilise the wheels with suitable chocks.
- Leave the dumper in areas specifically designated for this purpose, and not where it prevents people from passing or blocks exits or access to stairways or emergency equipment.
- As the dumper has an articulated chassis, when leaving it, always leave it in a straight position.



## Special safety messages

### ■ Good conservation is safety guaranteed, for that reason ...

- Never stop carrying out dumper maintenance. Specialised personnel should be assigned to this job, equipped with the necessary tools and appropriate instructions. Only authorised personnel should carry out maintenance and repair work.
- Unless unavoidable, all attention to the dumper should be done with the engine switched off, the skip unloaded, and all the immobilizing and locking devices engaged.
- Some operations are easier done with the skip raised. Before doing so, precautions must be taken to prevent it from accidentally tipping using the safety props designed for this purpose which are provided in each dumper model. **(Fig. 3)**
- Before disconnecting fluid systems, make sure there is no pressure in them and take steps to avoid unexpected spills. Never use a naked flame to check fluid levels and leaks.
- Regular checks should be carried out on the hydraulic system to detect any possible leaks or misalignment on the safety valves which could lead to a risk situation.
- Regular checks should also be carried out on all those elements whose excessive wear or ageing could lead to a risk situation, for example: hydraulic hoses, brake pads, tyres pattern, etc.
- In the case of the roof or operator protection arch has suffered an impact that has produced any permanent deformity, as this is a safety element it must therefore be replaced for a new one.
- All identification, instruction and warning plates attached to the dumper must be kept in a perfectly readable condition.
- Any modification which affects the capacity and safety of the dumper must be authorised by the machine manufacturer or by a responsible manufacturer, modifying where necessary the instruction manuals and plates.
- The manufacturer will not be held responsible for any incidences or accidents caused by the use of non-original spare parts or by repairs carried out by unauthorised workshops.
- When replacing tyres, ensure that they are the correct replacements and follow the tyre manufacturer's safety instructions. For safety reasons, split wheels must not be used (those made of two rims bolted together).
- Lifting the dumper for handling or inspection should be carried out using the points on the machine designed for this purpose, as indicated in this manual, and with strong enough gadget for this purpose. As the chassis is articulated, the frames must first be joined by the safety prop designed for this purpose.
- If the dumper needs to be towed, use a tow bar whenever possible, or if none is available, a cable that is strong enough for the job. In either case, it should be fixed onto the point indicated by the manufacturer and the manoeuvre should be carried out at a speed of no more than 10 Km/h (6,2 MPH). When driving a towed dumper, pay attention to the position of your hands on the steering wheel, to ensure that an unexpected turn of the wheel does not cause you injury.
- Make sure that the towing dumper has a strong enough towing and braking capability to be able to perform this operation.



(fig. 1)



(fig. 2)



(fig. 3)



## Special safety messages

- If the dumper needs to be transported on a truck platform:
  - Ensure that only a minimum amount of fuel remains in the tank.
  - Apply the brakes to the dumper.
  - Apply chocks to the wheels and fix them to the truck bed.
  - Anchor the machine firmly to the truck bed using slings or other methods to prevent any kind of movement.
- When carrying out any repair work, make especially sure that the battery terminals are protected, so that they cannot accidentally be shorted out by a tool, part, etc.
- As the chassis is articulated (articulated frame steering), before undertaking any operation on the dumper, place the safety prop between the frames, in a way that the articulations are immobilised (**Fig.1**)
- Before carrying out any welding work on the dumper, remove the electric and electronic equipment in order to avoid possible damage to the installations.
- If the dumper to be towed is hydrostatically driven, before doing so, follow the instructions indicated in this manual for the disconnection of the drive shaft, therefore facilitating towing and eliminating any risk to the hydrostatic unit.
- When changing a tyre, make sure that it is fitted with the tread pattern facing the right way.
- Before carrying out any work on the engine cooling system, wait for the temperature of the coolant to drop enough for the coolant reservoir cap to be removed safely.
- In order to avoid allergic reactions and other hazards affecting the skin, replenishing of fuel or other fluids should be carried out wearing protective gloves.
- Be environmentally friendly. When changing oil, fluids, tyres, batteries, etc., take the used materials to the corresponding recycling centres.  
If you handle or scrap mufflers that contain mineral fibre based absorbent materials, protect your skin with the appropriate gloves and clothing and take the materials to approved disposal sites for this class of materials.  
Similarly, at the end of the useful life of this vehicle, hand it to an authorised scrap centre.
- Also, if concrete spills onto the road surface, remove it before it hardens.

### ELECTROMAGNETIC COMPATIBILITY

If the machine vehicle is used in areas where there are devices that are very sensitive to electromagnetic emissions, make sure that they will not be affected by this.



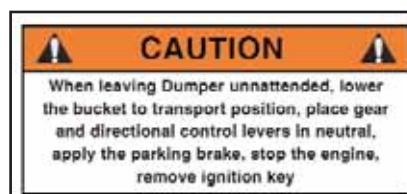
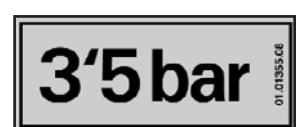
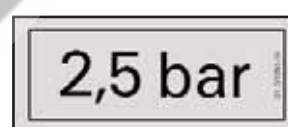
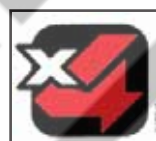
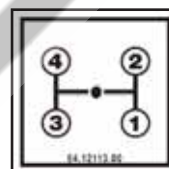
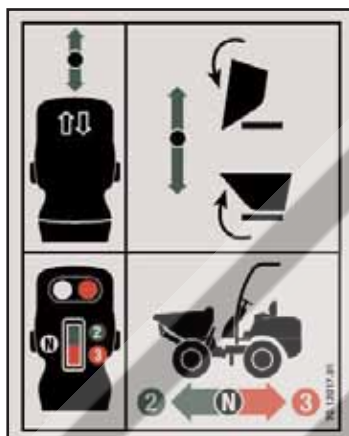
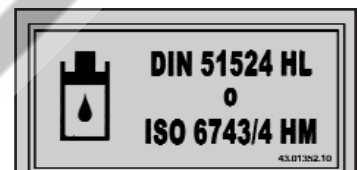
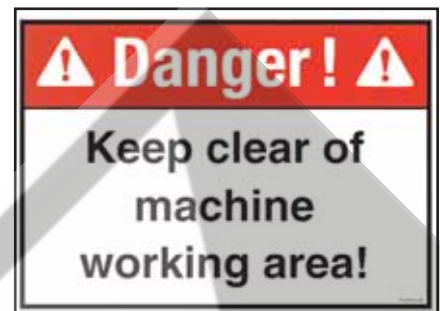
(fig. 1)





## Identification plates and decals

|                                                          |                                                                                     |
|----------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>AUSA</b>                                              | TIPO-TYPE-TYP                                                                       |
| MADE IN SPAIN                                            | MOTOR-MOTEUR-ENGINE                                                                 |
|                                                          | KW                                                                                  |
|                                                          | AÑO-ANNEE-YEAR-JAHR                                                                 |
| BASTIDOR-CHASSIS-FRAME                                   |                                                                                     |
| PESO - POIDS                                             | VACÍO-A VIDE- UNLOADED-LEER                                                         |
| WEIGHT - GEWICHT                                         | CARGADO-CHARGE-LOADED-BELASTET                                                      |
| EJE DELANTERO                                            | CARGA NOMINAL-CHARGE NOMINAL                                                        |
| ESSIEU AVANT                                             | NOMINAL LOAD-ZULASSIGE LAST                                                         |
| FRONT AXLE                                               |                                                                                     |
| VORNACHSE                                                |                                                                                     |
| EJE POSTERIOR                                            | CARGA NOMINAL-CHARGE NOMINAL                                                        |
| ESSIEU ARRIERE                                           | NOMINAL LOAD-ZULASSIGE LAST                                                         |
| REAR AXLE                                                |                                                                                     |
| HINTERACHSE                                              |                                                                                     |
| CARGA REMOLCADA EN HORIZONTAL-CHARGE REMORQUÉE EN        |                                                                                     |
| PALIER - LOAD TOWED ON THE LEVEL - ZULASSIGE ANHÄNGELAST |                                                                                     |
| CE                                                       | AUTOMOVILES UTILITARIOS, S.L.U. TEL. 99 5414 72 11- FAX 99 5414 12 10               |
|                                                          | E-mail: ausa@ausa.com Web: http://www.ausa.com P.O. BOX 194-08013 MANRESA (C/21044) |
|                                                          | 01.00773.00                                                                         |





## Specifications

### ■ Diesel engine

Kubota V3300-T, water cooled, four cylinder, four stroke with electric starter.

Power:

88,45 HP / 65,1 Kw at 2600 rpm according to SAE J 1995 Norm

### ■ Transmission

Torque converter with powershuttle with 4 forward gears and 4 reverse gears using an electro-hydraulic inverter. Reduction axles at the differential output.

The inversion of the gears (forward / reverse) is done using an electric switch on the lower part of the joystick handle on the right side of the seat.

When the direction is selected, the indication light in the form of an arrow pointing in the corresponding direction is lit.

### ■ Steering

"ORBITROL" Hydraulic system, driven by a hydraulic cylinder which controls the chassis articulation.

**Work Pressure:** 115 bar

### ■ Brakes

#### Service Brake

Multiple disc oil bath

Hydraulically powered

#### Parking Brake

Multiple disc oil bath

Mechanically powered

### ■ Wheels

All four wheels are the same.

**Wheel sizes:** 405/70-20 (14PR)

**Inflation pressure front wheels:** 3,5 bar / (51 psi.). See machine identification plate.

**Inflation pressure rear wheels:** 2,5 bar / (36 psi.). See machine identification plate.

### ■ Operation temperature

From -15°C to 40°C.

### ■ Hydraulic Circuit

A 25 cc gear pump coupled to the engine.

Control valve for skip movements

**Models D 600 AP / D 700 AP:** Single spool monoblock control valve

**Models D 600 APG:** Double spool monoblock control valve

In all models the pressure relief valve is set to 170 bar.

**Models D 600 AP / D 700 AP:** 50 l hydraulic oil tank

**Models D 600 APG:** 65 l hydraulic oil tank

### ■ Electrical equipment

- Electrical starting motor of 2.5 Kw
- Battery 12 V and 92 Ah / 760A
- Alternator 12 V / 45 A
- Diesel preheating plugs
- Rotating beacon
- Horn
- Back-up alarm



## Specifications

- **Unladen weight (with full tanks).** See machine identification plate.

**Models D 600 AP:** 4.200 Kg.

**Models D 700 AP:** 4.200 Kg.

**Models D 600 APG:** 4.380 Kg.

- **Load Capacity.** See machine identification plate.

**Models D 600 AP / APG:** 6.000 Kg.

**Models D 700 AP:** 7.000 Kg.

- **Maximum Weight.** See machine identification plate.

**Models D 600 AP:** 10.280 Kg.

**Models D 700 AP:** 11.280 Kg.

**Models D 600 APG:** 10.460 Kg.

- **Maximum width**

**Models D 600 AP:** 2.295 mm.

**Models D 700 AP:** 2.405 mm.

**Models D 600 APG:** 2.190 mm.

- **Maximum gradient (fully loaded)**

60 %.

- **Vibration and sound levels**

Vibration level produced by the machine:

Root-mean-square frequency-weighted, hand-arm vibration acceleration value:

< 2,5 m/s<sup>2</sup>

Root-mean-square frequency-weighted, whole body vibration acceleration value:

< 0,5 m/s<sup>2</sup>

Sound on the operator's site:

Warranted sound power (according to 2000/14/CE):

L<sub>WA</sub> = 102 dB (A)

A weighted sound pressure in the operator's ear measured following norms EN 12053 and ISO 4871):

L<sub>pA</sub> = XX dB (A)

Measurement uncertainty: 2,5 dB (A)



## Specifications

### ■ Control panel

The controls, switches and warning lights are in the operators front protection panel, as well as the switches and warning lights for optional lighting equipment.

### ■ ROPS Protector Arch

Built in accordance with ISO 3471 Standards.



## WARNING



**The seat belt is an important part of this safety system and must always be fastened before operating the dumper. Failure to wear the seatbelt in the even of accidental overturning could result in serious injury or death by crushing caused by the dumper or the protector arch itself.**

### ■ Minimum turning radius

5,7 m.

### ■ Skip capacities

|                 | D 600 AP  | D 600 APG: | D 700 AP |
|-----------------|-----------|------------|----------|
| <b>Water</b>    | 1948 l.   | 1640 l.    | 2048 l.  |
| <b>Levelled</b> | 2647,5 l. | 2603,3 l.  | 2827 l.  |
| <b>Heaped</b>   | 3291 l.   | 3132 l.    | 3521 l.  |

### ■ Optional Equipment

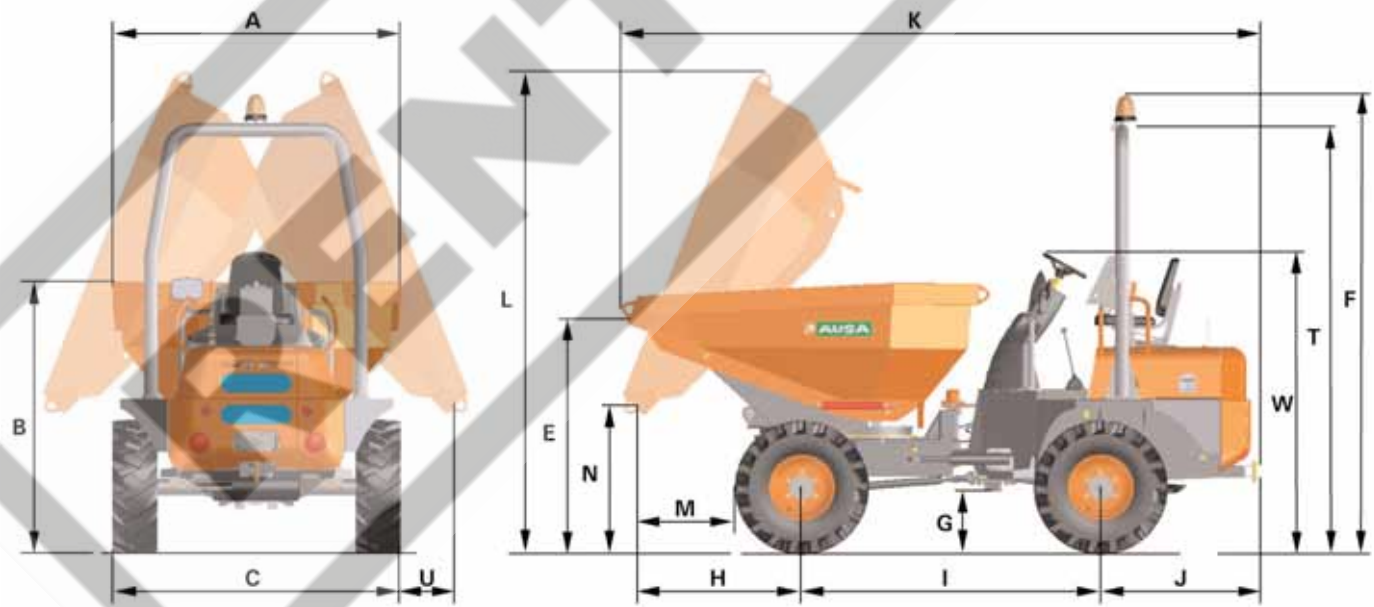
ROPS foldable Protector Arch  
Homologated lighting equipment



Specifications

Machine measurements

|   | D 600 APG | D 600 AP | D 700 AP |
|---|-----------|----------|----------|
| A | 2150      | 2295     | 2405     |
| B | 2070      | 1960     | 1960     |
| C | 2195      | 2195     | 2195     |
| E | 1790      | 1730     | 1730     |
| F | 3180      | 3180     | 3180     |
| G | 475       | 475      | 475      |
| H | 970       | 1210     | 970      |
| I | 2450      | 2450     | 2450     |
| J | 1150      | 1150     | 1150     |
| K | 4600      | 4510     | 4510     |
| L | 3600      | 2680     | 2680     |
| M | 415       | 650      | 650      |
| N | 1200      | 455      | 455      |
| T | 2900      | 2900     | 2900     |
| U | 90        | -        | -        |
| W | 2190      | 2190     | 2190     |





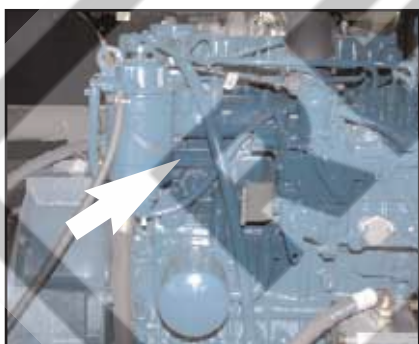
## How to identify your dumper



(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

### Important!

Please indicate model number, date of purchase and frame and serial number when consulting AUSA or your dealer for any matter. This information can be found on the identification plate.

We recommend you make a record of these numbers in the spaces provided below for handy reference and keep it in your files.

Dumper model: .....

Date of purchase: .....

Frame number: .....

Engine number: .....

■ **The machines identification plate (Fig.1)** is located on the front of the engine protector (behind the gearlever). It includes the CE trademark.

■ **The frame number (Fig. 2)** is marked on the front part of the right side of the chassis.

■ **The engine number (Fig. 3 and 4)** is marked on the left hand block behind the fuel filter and on a label on the upper part of the valve cover.

### ■ Identification plates of the main components.

Identification plates for all components not manufactured by AUSA, such as engines, pumps, etc. are attached to the components themselves, in the positions where they are originally fitted by the respective manufacturers.



## Controls Instruments Equipment

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



### ■ Identification of the components

- a- Protector arch
- b- Operator's seat with seatbelt
- c- Rotating beacon
- d- Skip
- e- Joystick
- f- Steering wheel
- g- Gearlever
- h- Parking Brake
- i- Lightning (optional)



## Controls Instruments Equipment

### ■ Pedals (fig. 1)

- a- Foot brake pedal
- b- Throttle pedal

### ■ Back-up alarm

This sounds when selecting reverse gear.

### ■ Joystick (Fig. 2)

The joystick, located to the driver's right, controls the driving direction of the dumper and the movements of the skip.

### ■ FNR switch (Fig. 3)

The FNR switch is carried out by using the electric switch **(c)** located underneath the joystick handle. When the direction arrows are not lit, the driving FNR switch is in the stop (neutral) position. By pushing the front of the switch the machine will move forwards and by pushing the back of the switch, the machine will move reverse. In each case the corresponding directional arrow will light up, green (forward) and red (reverse).

### WARNING!!

Do not make violent changes in driving direction, there as to avoid any breakage to the gearbox.

### ■ Selecting gears (Fig. 3)

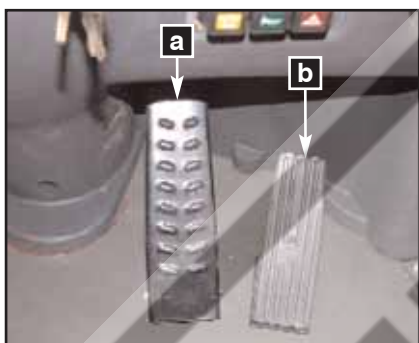
The vehicle has four gears which are selected using the gearlever **(d)**.

The positions of the gearlever **(d)**, with which to engage the different gears, are described on the plate located on the engine protector, to the right of the driver.

On the handle of the gearlever there is an electric switch **(e)** which disconnects the transmission, this should be held down in order to change gear.

### WARNING!!

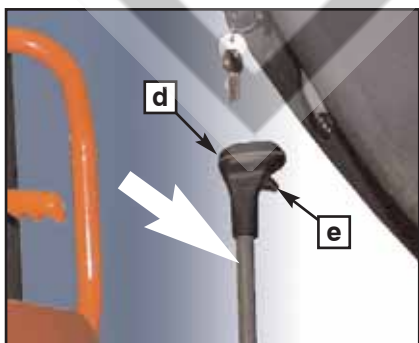
Do not move the gearlever without pressing the electric switch **(e)**, in order to avoid any possible breakage to the gearbox.



(fig. 1)



(fig. 2)



(fig. 3)



## Controls Instruments Equipment

### ■ Parking brake (Fig. 1)

The parking brake is applied using the lever **(a)** and a cable located on the left side of the operator's seat.

In order to apply it, pull the lever upwards until it is in the vertical position.

To release it, just move the lever downwards.

**NOTE:** The dumper has an acoustic warning that alerts the operator's when engaging the transmission with the park brake on.

### ■ Emergency brake.

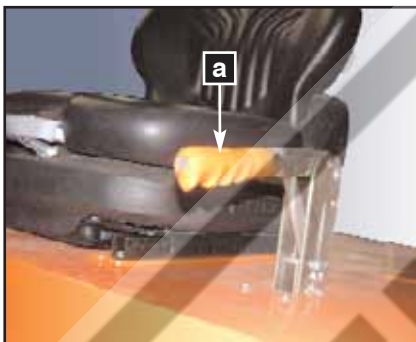
In the event of emergency use the parking brake.

### ■ Control for handling the skip (Fig. 2 y 3)

**Models D 600 AP / D 700 AP (Fig. 2).** The skip is moved by using the joystick. Pushing the lever forwards **(b)** tips the skip for unloading and pulling it backwards moves the skip back down to the resting position.

**Model D 600 APG (Fig. 3).** The skip is moved by using the joystick. Pushing the lever forwards **(c)** tips the skip for unloading and pulling it backwards moves the skip back to the resting position. The skip rotates towards the left or the right depending on whether the joystick is moved towards the driver or towards the right.

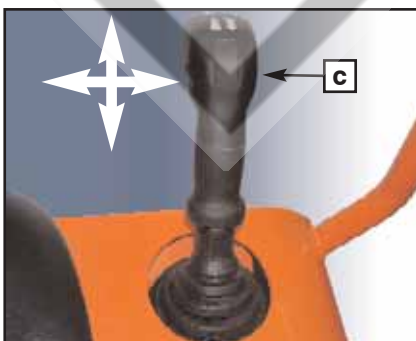
much as possible in order to fit into the turn lock. Before rotating the skip, it must be raised enough to clear the locking device. When the skip is fully lowered, you should locate it into the "V".



(fig. 1)



(fig. 2)

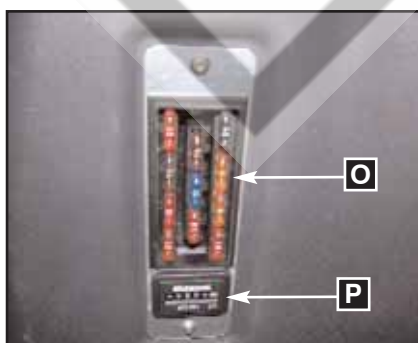
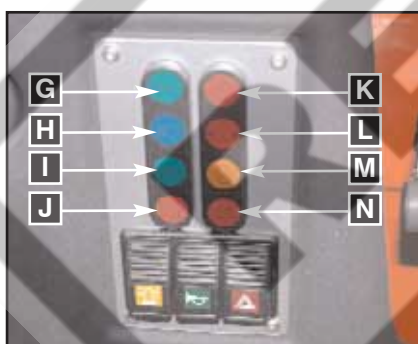
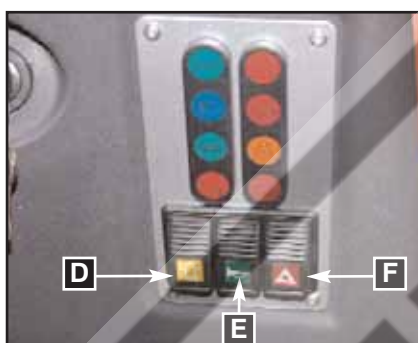
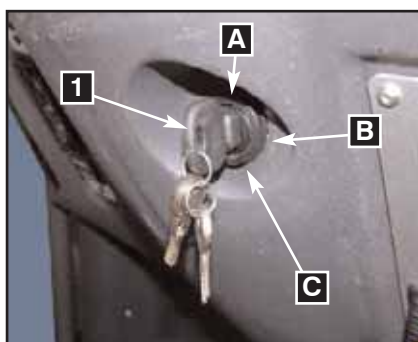


(fig. 3)





## Controls Instruments Equipment



### ■ Control panel and controls

These are situated on the front operator protector and on the joystick.

#### 1- Engine ignition, preheating and stop switch (Fig.1)

This is located on the right side of the front protector.

**(A) Stopping (B) Preheating (C) Start-up**

#### - Switches (Fig. 2).

**D- Rotating beacon**

**E- Horn**

**F- Hazzard lights (only on light version dumpers)**

These are located on the right side of the front protector. To connect, activate the button and they will light up, to turn off press the button again.

**- Warning lights.** These are also situated on the right side of the front protector **(Fig.3)**.

**G- Side lights lamp (only with lights option).** This lamp is lit when this type of lightning is selected.

**H- High beam lamp (only with lights option).** This lamp is lit when this type of lightning is selected.

**I- Turning Indicators lamp.** (only with lights option). This lamp blinks to signal a change in direction with the indicators.

**J- Engine temperature lamp.** If lit, this means that the engine temperature is too high. Stop immediately in order to determine the cause of the problem. It may be due to a low level of coolant, dirt in the radiator, thermostat malfunction or a broken alternator belt or water pump.

**K- Air filter lamp** Indicates when the air filter is dirty or clogged. The filter element must be cleaned or changed immediately.

**L- Engine oil pressure lamp.** When the ignition is activated it will light and will turn off when the engine is in operation. If the engine is functioning and the warning light is lit, the engine must be stopped immediately to prevent any damage. Check the oil level and add if necessary.

**M- Preheating lamp.** When this lamp is lit it indicates that the engine glow plugs are in operations and are heating the combustion chamber to a temperature which will enable the firing of the vaporised diesel fuel.

**N- Battery charge lamp.** With the contact activated, it will light when the alternator is not charging the battery and it will go out when the engine starts to run. If it remains lit, stop the engine and determine the cause.

#### **O- Fuse box (Fig. 4).**

Located on the left side of the front protector **(O)**. The fuse box contains 11 fuses.

See the WIRING DIAGRAM in this Manual to identify the number and function of each fuse.

#### **P- Hourmeter (Fig. 4)**

This is located underneath the fuse box **(P)**. The hourmeter registers in hours the time during which the engine is in operation. This allows the dumper maintenance to take place at the appropriate periods.

See the LUBRICATION AND MAINTENANCE CHART section in this Manual.





## Controls Instruments Equipment

### ■ Multifunction switch (Fig. 1, 2)

Located on the steering column.

**Turning indicators.** Moving the lever **(a)** from its neutral position towards the driver, the left indicator is selected and pushing the lever forwards, the right indicator is selected. When the turning indicators are selected, the lamp **(I)** (see Fig.3 of the previous page) blinks on the control panel.

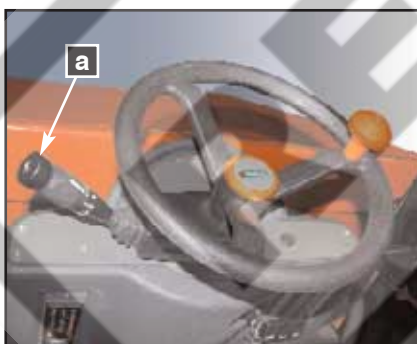
**Side lights / low beam / high beam and headlights flash lights.** By turning the lever **(a)** to the first position the position lights are turned on. By turning it to the second position the low beam lights are turned on. By pushing the lever down the high beam is turned on. Pulling the lever upwards selects the headlight flash lights.

**Horn.** Activated by pressing the end of the multifunction switch.

### ■ Use of accessories and equipment.

In the case of the vehicle being equipped with accessories, before using them, carefully read the specific instructions manual for the accessory provided by its manufacturer and supplied together with the main dumper manual.

In the case of accessories and equipment being assembled on the basic chassis of the dumper by companies not connected to the manufacturer, all prescriptions and limitations of the dumper in relation to mass and dimensions, efficiency of the lighting system and adjustments thereto, along with the need for protection for additional systems must be taken into account in order to guarantee the safety of the dumper.



(fig. 1)



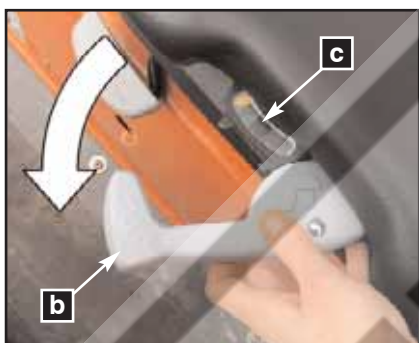
(fig. 2)



## Operating the dumper



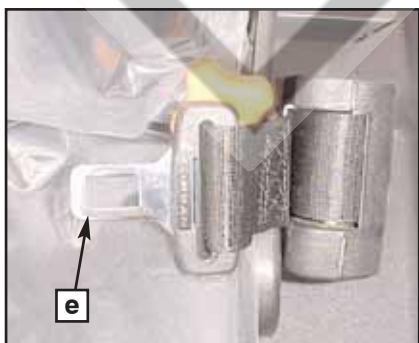
(fig. 1)



(fig. 2)



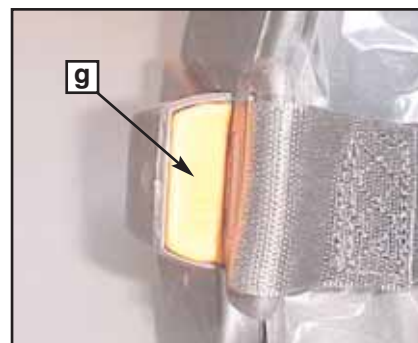
(Fig. 3)



(Fig. 3)



(Fig. 4)



(Fig. 5)



### WARNING



**Before each period of use of the dumper, check the correct operation of the steering, brakes, hydraulic controls, instruments, safety equipment and FNR Switch.**

**A machine which functions correctly is more efficient and could prevent accidents.**

**Carry out all necessary adjustments or repairs before operating the dumper.**

#### ■ Entering and exiting the operator's cab.

Do not grab and pull the steering wheel in order to enter the operator's cab, hold the handles provided for this purpose and always support your foot on the step in order to avoid slipping both when entering and exiting the cab.

#### ■ Seat adjustment (fig. 1, 2, 3)

Each day, before operating the dumper, adjust your seat to a position in which you feel comfortable.

Lift the lever (a) to release the seat. Pull the lever forwards or backwards to reach the required position. Adjust the seat to your own body.

The seat suspension can be adjusted depending on the operator's weight; to do so remove the lever (b) from its initial locations, until it is straight. Pull the lever upwards or downwards in order to completely adjust the seat suspension to the operator. For the correct position, the orange indicator should remain in the centre of the regulation indicator (c).

Using the lever located on the left side of the seat (d) the degree to which the backrest of the seat is inclined can be changed. Pulling down the backrest leans forwards and pulling up the backrest reclines backwards.

Ensure that you fasten your seatbelt.

#### ■ Seatbelt (fig. 4, 5, 6)

To fasten the seatbelt, insert the anchor point (e) into the buckle (f) until you hear the locking "click".

To unfasten the seatbelts, press button (g).

The seat belt adapts the body of the passenger using it, giving them freedom of movement but adjusting the belt to the physical constitution of the driver.

If the machine is parked on a steep slope, the retracting roller could become locked; this is normal. Additionally the retracting roller blocks the belt every time the belt is suddenly pulled or in case of sharp braking, collisions or turning operations at high speed.

#### ■ Checks

With the engine on and the dumper stopped, carry out the checks and tests indicated in the PRE-OPERATION CHECK section of this manual.



## Operating the dumper

### ■ Loading the dumper

When the dumper is loaded, respect the maximum allowed load. See the SPECIFICATIONS section in this manual

### ■ Load capacity (see dumper identification plate)

The nominal load is the load which the dumper can safely transport, it is determined by the weight of the load.

The use of attachments may reduce the load capacity.

The condition of the ground and the load method may affect safety conditions.

An overload on the skip makes the dumper unstable, hard to handle and may cause the tipping over of the vehicle or breakage of some components.

### WARNING

Handling, stability and braking distance are affected when the dumper is loaded. Correct loading and weight distribution are important. Never, overload, tow or pull a load improperly. Always ensure that the load is supported and adequately distributed before operating the dumper. Drive at slow speed and in accordance with the ground conditions when transporting a load or towing a trailer. Remember that a greater braking distance is required. Always place the load as low as possible in order to reduce the effects of a high centre of gravity. Failure to follow these recommendations could cause changes to the handling of the dumper with the possibility of an accident occurring, which could cause serious injury or even death to the operator.

### ■ The relation between the dumper and the load is conditioned by changes in:

- The use of attachments
- Changes in the dumper movement and type of terrain in which the vehicle moves
- Smoothness and stability must be maintained whilst these factors constantly vary during dumper operations.

This requires a careful judgment on the part of the operator.

### ■ Start up and stop

#### Start up (Fig. 1)

For safety reasons when starting the dumper, the operator must be seated and with the seatbelt fastened, the hand brake must be applied and a check that the gearlever and the FNR switch are in the neutral position must be carried out.

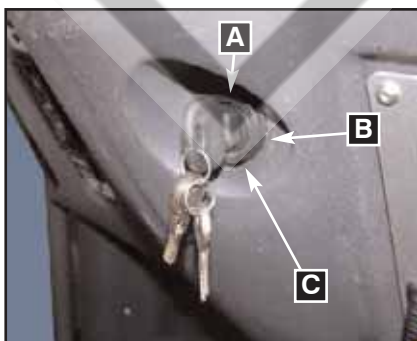
Insert the key into the ignition switch and turn it to position **(B)** until the preheat lamp turns off, press the throttle pedal a 1/4 of the way and turn the key to position **(C)** until the engine starts. Do not keep this position for more than 15 seconds. If the engine does not start repeat the previous operations. Wait for 30 seconds between each try.

**NOTE:** This dumper has a starter lock.

Take into account that the electric switch for the FNR switch must be in the neutral position.

### IMPORTANT!

In cold temperatures, slowly increase the engine revolutions to achieve good lubrication of the engine.



(fig. 1)



## Operating the dumper

### ■ Emergency start

If the engine cannot start due to a flat battery, another 12V booster battery can be used together with the corresponding jump leads to connect the two batteries. If you use the battery of another machine or dumper, avoid the two machines touching.

- 1- Apply the dumper's parking brake.
- 2- Open the dumper engine cover.
- 3- Connect the (+) positive terminal of the battery with the (+) terminal of the dumper and with the other cable connect the (-) negative terminal with the (-) of the dumper.
- 4- Start the dumper in the normal way.
- 5- Disconnect the cables from the terminals, first the (+) positive terminals and then the (-) negative terminals.

### ■ Parking the dumper and stopping the engine.

Whenever the dumper is parked, either at the end of the day or in order to carry out any maintenance work, it should be parked on level ground. Apply the dumper's parking brake. Keep the engine in idle for 1 minute, if the dumper has been working at full load. Then turn the ignition key to position "A" to stop the engine. Connect the gearlever in such a way that it creates additional holding for the machine in case of the parking brake failing. Chocking the wheels with suitable blocks is also recommended. Remove the key from the ignition and take it with you. Never leave the key in the parked dumper.





## Operating the dumper

### ■ Folding ROPS Frame Operating Procedure (fig. 1, 2, 3, 4)

The folding ROPS comprised of two sections **(h)** and **(i)** and is pivoted to approximately half of its length allowing it to be tilted towards the rear of the machine thus reducing the transportation height of the machine, but not the working height.

#### Travelling position



## WARNING



**Do not work with the machine if the ROPS frame is in the Travelling position.**

To place the ROPS protector arch in this position follow the instructions below:

- 1- Remove the two spring clips **(j)** from the locking pins **(k)** located on both sides of the ROPS frame.
- 2- Remove the locking pins **(k)**.
- 3- Carefully pull the top half of the ROPS frame **(h)** backwards lowering into the travelling position.
- 4- Once it is correctly positioned **(fig. 4)**, replace the locking pins **(k)** and fix in place using the spring clips **(j)**.

#### Working position

To return the ROPS frame to its working position reverse the above procedure.



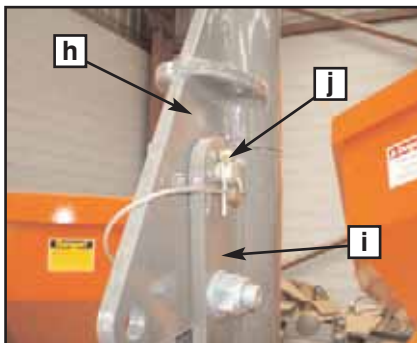
## WARNING



**Carefully ensure you position your feet on the machine or on the floor in a stable position to ensure that you do not loose your balance whilst folding back the ROPS frame. Similarly, take care to not place you hands around the protector arch fold area (as shown in fig.5) as this could cause serious injury.**



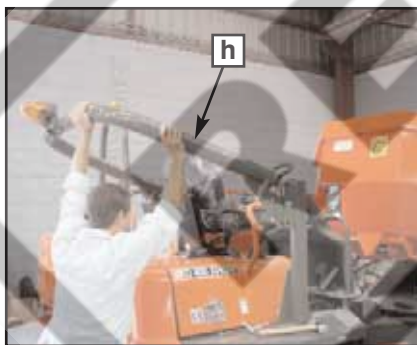
(Fig. 5)



(fig. 1)



(fig. 2)



(Fig. 3)



(Fig. 4)



## Break in period

### ■ Engine

The engine in this dumper requires a break in period of 50 hours before operating the vehicle at full load.

### CAUTION:

This dumper has a 4-stroke engine. Oil must be added to the engine base only. During this period, maximum throttle should not exceed 3/4 of the pedal movement. However, brief full acceleration and speed variations contribute to a good break in. Continued wide open throttle accelerations, prolonged cruising speeds and engine overheating are detrimental during the break in period.

### ■ First inspection (50 hours)

As with any precision part of a mechanical element, we suggest that after the first 50 hours or 30 days from purchase, whichever is reached first, the dumper is inspected by an authorised AUSA dealer. This inspection will give you the opportunity to discuss the unanswered questions you may have encountered during the first hours of operations.





## Pre-operation check



### WARNING



**The pre-operation check is very important prior to operating the dumper. Always check the proper operation of critical controls, safety systems and mechanical components before starting. Failure to carry out these operations as specified could cause severe harm or even death.**

- Check tyre pressure and condition.
- Familiarise yourself with the controls and ensure that they function correctly.
- Verify that the steering operates freely.
- Activate the throttle pedal various times to ensure it operates freely. It must return to the original position when released.
- Activate the brake pedal to ensure that the brakes function correctly. The pedal must return to the original position when released.
- Ensure that the gearlever functions correctly.
- Check fuel, engine oil, hydraulic oil, coolant and brake fluid levels.
- Check for oil leaks on the engine, in the transmission components or in the hydraulic circuit.
- Clean the lights and the lamps (if there are any).
- Ensure that the engine protector is correctly covered.
- Ensure that the seatbelt is correctly secured.  
Before starting the day, carefully inspect this devices with special attention to:
  - Cuts or threading on the belt
  - Wear or damage to anchor points
  - Poor functioning of the seat belt buckle or the retracting roller
  - Loose threads or poor stitching
- If transporting cargo, respect the load capacity. Ensure that the cargo is properly distributed.
- Review the engine parts while it is off. Check fixings.
- Check that the ignition switch, the headlights, the turning indicators, taillights and backup alarm and lights for reverse are functioning correctly.
- Start the engine and drive forward slowly a short distance and press the brake pedal to check the brakes.

**Correct any problem you may have found before operating the vehicle. Consult an authorised AUSA dealer if necessary.**



## Transporting the dumper

### ■ Securing / immobilising the dumper on the truck bed (Fig. 1, 2)

When transporting the dumper on a truck bed or low loader, carefully follow the advice given in the following chart:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | WARNING |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------|
| <p><b>Before raising the dumper onto a trailer or truck bed, make certain that the ramp is strong enough to support the weight of the dumper and that the truck bed surface is free from debris, oil, grease or ice.</b></p> <ul style="list-style-type: none"><li>• Do not transport the dumper with the fuel tank full.</li><li>• Make certain your seatbelt is properly fastened.</li><li>• Move the dumper slowly and carefully up or down the loading ramps.</li><li>• Apply the dumper's parking brake.</li><li>• Connect the gearlever in such a way that it creates additional retention for the dumper in case of the parking brake failing.</li><li>• Stop the engine and remove the key from the ignition.</li><li>• Apply chocks to the front and rear wheels.</li><li>• Firmly secure the dumper to the truck bed or low loader with chains, cables or slings at the points provided to prevent any movement.</li><li>- <b>FRONT AXLE:</b> by the lugs welded onto the chassis (Fig.2)</li><li>- <b>REAR AXLE:</b> above the rear wheels.</li><li>• Take into account that the securing systems should be adequate and sufficiently resistant for this purpose.</li></ul> |         |                                                                                     |



## Transporting the dumper

### ■ Loading the dumper with a crane (Fig. 1, 2, 3, 4)

When the dumper is loaded onto a truck using a crane and a cable or sling:

- Before moving, immobilise both parts of the sling using the joining beam provided for this purpose.(Fig. 1)
- Hook the cable or sling on the points provided for this purpose on the machine.
- FRONT PART: by the lugs welded on the front of the skip (Fig. 2)
- REAR PART: by the counterweight (Fig. 3)
- Always carry out this operation with the machine unloaded.
- Before hoisting check that the cable or sling is firmly hooked and that both the crane and the cable or sling have sufficient capacity to lift the load.
- During hoisting do not allow any person to be on the truck or any spectators within a 5m radius.
- Always undertake this operation on flat and horizontal ground.
- Use guide ropes or other systems to avoid the machine pivoting or turning. Also take into account the following recommendations.
- The slings must be long enough to form an angle wider than 45° with the horizontal.
- Always elevate the machine in the most horizontal position possible.



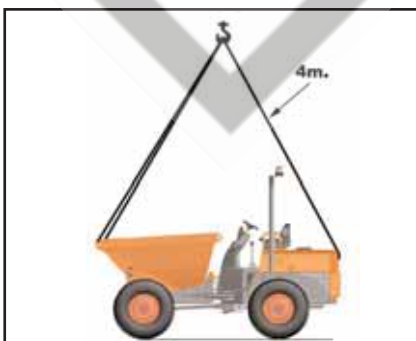
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)



## Transport du dumper

### ■ Towing the dumper (Fig. 1)

Towing dumper models D 600 AP/APG and D 700 AP is only advisable in cases of breakdown when there is no other alternative. Whenever possible, it is recommended to repair the vehicle where it is halted. Otherwise, the towing must only be done slowly and over short distances.

In order to avoid cavitation and possible transmission seizure during towing, it is imperative that the transmission universal drive shaft goes into the gearbox and the gearbox is disconnected. Failure to take this precaution may cause severe damage to the transmission.

Release the parking brake.

Drive slowly and carefully without exceeding 10 km/h (6 Mph), complying with the country regulations relating to the towing of an off-road vehicle on roads and highways. The dumper must be towed using a solid towbar to avoid any sideways oscillation, and always with the chassis fixed rigid with the safety prop included (**See Fig.1 previous page**).



### WARNING



**If you tow the dumper, you must disconnect the upper transmission universal drive shaft in order to avoid oil cavitation, which may cause severe damage to the gearbox.**



### WARNING



**Do not tow this dumper behind a car or other vehicle.**



(fig. 1)



## Liquids and lubricants

This section specifies the recommended liquids and lubricants. See "PERIODIC MAINTENANCE OPERATIONS" in this manual for the level checking and liquid changing procedures.

| LIQUID or LUBRICANT            | SPECIFICATION                                                                                                                                             | OBSERVATIONS                                        | AUSA REF.    | CAPACITY (UK GAL) |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------|-------------------|
| FUEL                           | DIESEL TYPE A, SULPHUR CONTENT LESS THAN 0.5% AS PER DIN 51601 & ASTM D975-77 Grade No.1D AND Z-D                                                         | See FUEL in this section                            |              | 14.28             |
| ENGINE OIL                     | Engine oil as per MIL-L-2104C / API CD or above                                                                                                           | See ENGINE OIL in this section                      | 461.00099.00 | 2.63              |
| ENGINE COOLANT                 | Ethylene-glycol antifreeze with corrosion inhibitors for aluminium internal combustion engines. 40% glycol and 60% distilled water in a standard machine. | See COOLANT in this section                         | 45.00075.00  | 1.1               |
| HYDRAULIC CIRCUIT D600/700AP   | Hydraulic oil SAE 20 as per ISO 6743/4 HM DIN 51524 HL                                                                                                    |                                                     | 461.00001.00 | 11                |
| HYDRAULIC CIRCUIT D600APG      |                                                                                                                                                           |                                                     |              | 14.29             |
| POWERSHUTTLE AND CONVERTER OIL | Mineral oil or transmission oil SAE 10W or 10W30 as per API GL4 / MIL-L-2105B                                                                             | See POWERSHUTTLE AND CONVERTER OIL in this section. | 461.00015.00 | 2.63              |
| AXLE OIL                       | Transmission oil SAE 20W-30 Oil as per API GL4.                                                                                                           | See AXLE OIL in this section                        | 461.00003.00 | 2.5               |
| TRANSFER BOX OIL               | Transmission oil SAE 90 as per API GL5 / MIL-L-2105 B                                                                                                     | See TRANSFER BOX OIL in this section                | 461.00004.01 | 0.32              |
| BRAKE FLUID                    | Brake fluid type LHM (green) with mineral base as per ISO VG32.                                                                                           | See BRAKE FLUID in this section                     | 461.00001.01 | 0.21              |
| BATTERY ELECTROLYTE            | Distilled water                                                                                                                                           | See BATTERY ELECTROLYTE in this section             |              |                   |
| GREASING POINTS                | Calcium soap grease NLGI-3 consistency                                                                                                                    | See GREASING POINTS in this manual                  | 461.00009.00 |                   |





## Liquids and lubricants

### Fuel

Use automotive clean diesel (class A), which preferably meets 98/70/CEE standard amended by standard 2003/17 or the equivalent EN 590 standard. In Spain RD 1728/1999 applies.

For the USA market, it must meet Grades 1D and 2D of the ASTM D975 standard, in supplies which do not meet these standards, the sulphur content should never exceed 0.5% mass. In principal, the use of REM type bio diesel or similar is not recommended. In case of use, the proportion used should not exceed 5% of the fuel mix.

### KUBOTA engine oil

Use oil for four stroke engines which meets requirements MIL-L-2104C / API CD or above.

Always check the API quality on the oil container label to ensure that it is the required quality.

Your dumper leaves the factory with SAE 15W40 oil viscosity. However, depending on the climate, consult the chart to select the most appropriate viscosity (**fig. 1**).

If oils of different brand names are used, ensure that you completely empty the crankcase before adding the new oil.

AUSA recommends REPSOL AUSA EFFICIENT for Diesel engines p/n 461.00099.00

### Coolant

Always use ethylene-glycol antifreeze containing corrosion inhibitors especially for internal combustion aluminium engines. The cooling system must be filled with distilled water and an antifreeze solution (60% water, 40% antifreeze in standard machines for temperatures from -17°C to 127°C)

(50% water, 50% antifreeze for temperatures from -35°C to 145°C).

### Powershuttle and converter oil

Mineral oil or transmission oil SAE 10W or 10W30 as per API GL4 / MIL-L-2105B, ALLISON C3 or CATERPILLAR TO2 for ambient temperatures from -20 to 40°C.

The following list can be used as reference:

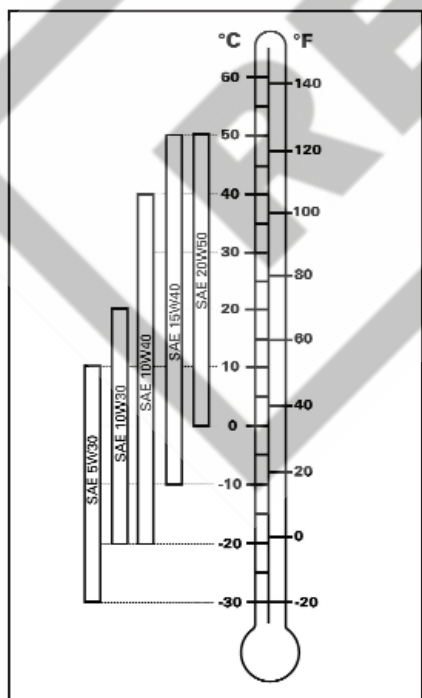
| Brand   | A.T.F. Liquid               | Mineral Oils                  |
|---------|-----------------------------|-------------------------------|
| Mobil   |                             | Delvac 1310 or Mobilube HD 80 |
| Shell   |                             | Donax TM or TA Donax TC 10W   |
| B.P.    | Autran MBX                  | Vanellus C3 10W               |
| Esso    | Torque Fluid 56             | Unifam                        |
| Castrol |                             | Castrol RX 10 or Multiplant   |
| Texaco  | Texamatic C3 , 9230 or 9226 |                               |
| Total   | Total Fluid ATX             |                               |
| Elf     | Elfmatic G3 or Elfmatic H   |                               |
| Fina    | Finamatic HD                | Kappa TD 10W                  |

### Axle oil

SAE 20W-30 Oil as per API GL4 specifications

The oil recommended by the manufacturer is:

BP TERRAC SUPER TRANSMISSION S or BP TRACTAN 8



(fig. 1)



## Liquids and lubricants

The following oils can also be used:

ESSO Torque Fluid Type 56 or 62

AGRICASTROL AS Special

GULF Universal Tractor Fluid

### ■ Transfer box oil

The oil recommended by the manufacturer is:

MOBILUBE HD 90

CASTROL DEUSON EP 90

SHELL SPIRAX 90 EP

BP HYPO GEAR 90

### ■ Brake fluid

Brake fluid type LHM (green) with mineral base as per ISO VG32

### CAUTION:

To avoid serious damage to the brake system, do not use fluids other than the recommended one, or mix different fluids for topping up. **Under no circumstances** should vegetable oil based brake fluid be used (SAE J1703).

### ■ Battery electrolyte

This dumper is equipped with a battery that requires maintenance. Add distilled water if necessary.



## Special procedures

### 1.- Engine Overheat

If the engine overheats and the temperature indicator on the instrument panel is lit, try the following:

Check and clean the radiator fins. See the PERIODIC MAINTENANCE OPERATIONS section of this manual.

#### **WARNING :**

The radiator can get very hot, wear gloves before touching the radiator.

Reduce the dumper speed but try to keep the vehicle moving to supply air to the radiator.

If the engine is still overheating after approximately 1 minute, stop the dumper and place the gearlever or the FNR switch in the neutral position, apply the parking brake and stop the engine.

Allow the engine to cool down. Check the coolant level and refill if necessary.

If the engine continues to overheat, see an authorised AUSA dealer as soon as possible.

### 2.- Post-operation care

When the dumper is used in salt water areas (beach areas, etc.), rinse with clean water to preserve the dumper and its components.

Lubrication of metallic parts is highly recommended.

This must be performed at the end of each operation day.

When the dumper is operated in muddy conditions, rinsing the dumper is recommended to preserve the dumper and its components.

**NOTE:** Never use high pressure water to clean the dumper **ONLY USE LOW PRESSURE WATER**. High pressure water can cause electrical and mechanical damage.

### 3.- Overturning

In the event that the dumper overturns: it is important that the driver avoids being trapped between the machine and the ground. To prevent this we recommend:

- Try to remain within the operator cab.
- Grasp the steering wheel firmly.
- Push feet firmly against the floor plate of the cab.
- Try to keep as far away from the point of impact as possible.

When the dumper is overturned or stays tilted on one side, replace the vehicle in its normal operating position (on all four wheels).

#### **WARNING!!**

**DO NOT TRY TO START UP THE DUMPER** without first speaking with an AUSA dealer.

- Remove the glow plugs.
- Turn the ignition key to position C (see OPERATING THE DUMPER section). Keep the key in this position until the oil has left the combustion chambers.

#### **WARNING!!**

The oil will leave the combustion chambers at a high pressure and could cause injury.

- Replace the glow plugs.
- Check the engine oil level and refill if necessary.

If the pressure lamp remains lit after starting the engine, immediately stop the engine to avoid internal damage and consult an authorised AUSA dealer to determine the cause.



## Special procedures

### 4.- Dumper immersion

Should the dumper becomes submerged, it will be necessary to take it to an authorised AUSA dealer as soon as possible.

**DO NOT START THE ENGINE!** Immersion of the dumper can cause serious damage if the correct re-start procedures are not followed before starting the engine.

#### **WARNING**

Have an authorised AUSA dealer completely inspect the fuel system as specified in the LUBRICATION AND MAINTENANCE CHART.

### 5.- Storage and pre-season preparation

When a dumper is not in use for more than one month, proper storage is necessary. Equally, after being store for a long period of time, consult an authorised AUSA dealer for the correct start up procedure. When using the dumper after storage, preparation is required.



## Periodic maintenance operations

■ **In maintenance operations only use original AUSA spare parts. This is the only way to guarantee that your dumper will remain as technically efficient as when it was purchased.**

■ In this dumper as with any other, there are parts and system which are subject to wear and misalignment, which may affect reliability and driver safety, the environment and the area, for example exhaust emissions, etc.

Necessary maintenance must be carried out periodically to ensure that the machine is kept in a condition similar to when it left the factory.

In accordance with Work Group Directives, inspections of these systems must be carried out periodically and the results recorded on the forms provided by the Work Authorities of each country. (89/655/CEE and RD1215/97).

Unless work on the engine demands that it be running, perform all repairs and maintenance on the dumper with the machine parked and unloaded, with the gearlever in neutral and the wheels blocked to keep the dumper from moving during servicing.

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

Disconnect the battery before carrying out any operation on the electrical system with the disconnecter (**Fig. 1**). Never use a flame to check fluid levels.

■ **Be environmentally friendly.**

When changing oils or other fluids, use an appropriate container to collect the fluid and ensure that you are not harming the environment during the operations and take all replaced materials (batteries, coolant, tyres, etc.) to the appropriate recycling centres.

In cases of leaks of substances which could be harmful to people or the environment, urgently take the necessary actions to reduce the impact, e.g. in oil leaks, plug the leak, place a container to collect the oil, spread absorbent material or pick up and remove the contaminated ground if necessary.

■ **Washing the dumper**

During the washing process, care must be taken to avoid aiming the pressurised water jet at the air intake (air filter), battery, instrument panel, alternator and other electrical equipment since this can damage the components.

■ **Roadside breakdown**

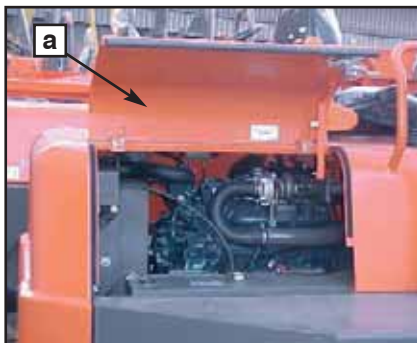
In the case of a breakdown when driving on a road, you must use the warning triangles. The triangles are offered as optional equipment.



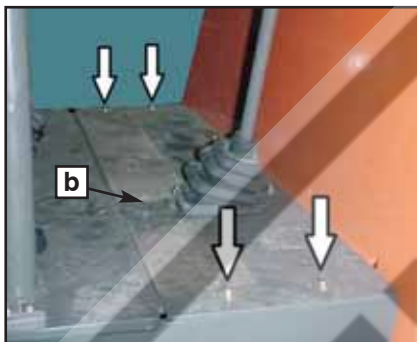
(fig. 1)



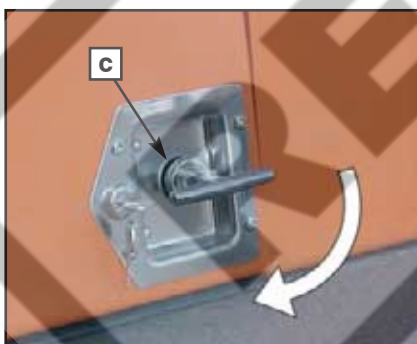
## Periodic maintenance operations



(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

### ■ Access for maintenance. (Fig. 1, 2, 3)

The engine, transmission and filters are located underneath the side covers at the rear of the machine (**Fig. 1**) and underneath the foot plate (**Fig. 2**). In order to access them you must follow this process:

- a- Engine cover**
- b- Foot plate**
- c- Engine cover lock**

To lift the side covers, lift the lock and turn it to the right (**Fig. 3**). Lift the cover (right or left) by pulling it. There are gas struts which compensate the weight and hold it in the elevated position.

To access the floor panel, unscrew the fixing screws and remove the cover.

### ■ Safety prop to avoid the descent of the skip (Fig. 4)

There is a safety prop to avoid the lifted skip from descending when maintenance operations are being carried out.

### d- Raised skip safety prop

This ensures that you work on the machine in complete safety.

### ■ Chassis articulation safety prop (Fig. 5)

Before carrying out any intervention which requires you to be located between the two parts of the chassis, immobilise the articulation with the safety prop provided for this purpose.

### e- Chassis articulation safety prop



## WARNING



**Should removal of a fixing device (brackets, cable ties, etc) be required to carry out disassembly / assembly, always replace with a new one.**

**Initial maintenance is very important and must not be neglected. See the MAINTENANCE CHART in this Manual.**

**The maintenance of some of the components can be carried out by the clients if they wish to do so.**

**Other operations must be carried out by an authorised AUSA dealer. See the MAINTENANCE CHART in this Manual**



(fig. 5)





## Periodic maintenance operations

### 1.- Engine

For operation instruction, list of spare parts and general maintenance consult the engine manual or the LUBRICATION AND MAINTENANCE CHART.

#### ■ Alternator belt

Periodically check the tension in the alternator belt. Also check for cracks or other damage. Contact an AUSA dealer for replacement of the alternator belt.

### 2.- Fuel circuit

#### CAUTION:

Never mix oil with fuel. This vehicle has a 4-stroke engine. Oil must be added to the engine base only.

Use automotive clean diesel (class A), which preferably meets 98/70/CEE standard amended by standard 2003/17 or the equivalent EN 590 standard. In Spain RD 1728/1999 applies.

For the USA market, it must meet Grades 1D and 2D of the ASTM D975 standard, in supplies which do not meet these standards, the sulphur content should never exceed 0.5% mass.

In principal, the use of REM type bio diesel or similar is not recommended. In case of use, the proportion used should not exceed 5% of the fuel mix.

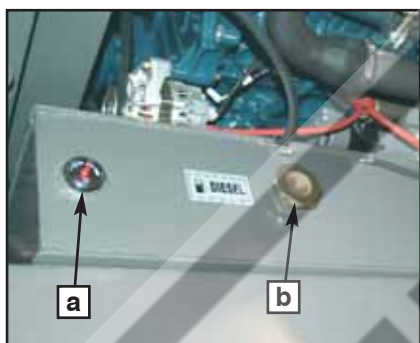
#### ■ Fuel level (Fig. 1, 2)

The fuel tank is located on the right side of the engine compartment.

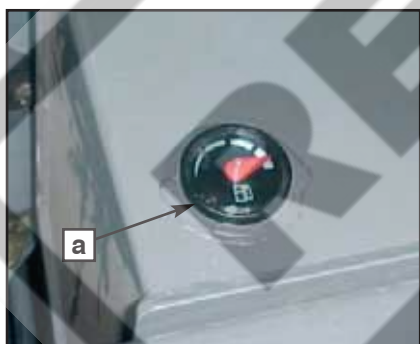
There is an indicator dial which shows the approximate amount of fuel in the tank.

**a- Fuel level indicator dial.**

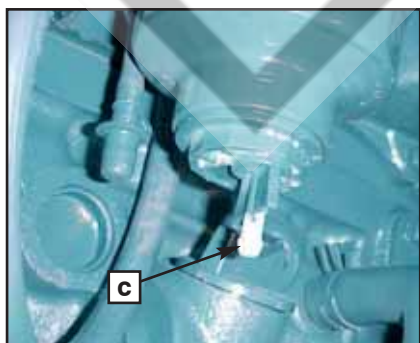
**b- Fuel filling cap.**



(fig. 1)



(fig. 2)



(fig. 1)



## WARNING



**Always stop the engine before refuelling. Open the cap slowly. If you notice internal pressure (whistling sound heard when removing the fuel tank cap) the dumper must be inspected and/or repaired before further operation. Fuel is flammable and explosive under certain conditions. Never use a flame to check fuel levels. Never smoke, light a flame or sparks in the vicinity of the fuel tank. Always work in well ventilated areas. Never top up the fuel tank before placing the vehicle in a hot area. When temperature increases, fuel expands. If the fuel tank is completely full it may overflow. Always clean any fuel or oil spillage from the dumper.**

#### ■ Draining water from the filter element. (Fig. 3)

The fuel used in this dumper may contain water which is deposited at the bottom of the filter element. It is vitally important for the protection of the engine injection system to drain the water from the filter element at the frequency indicated in the LUBRICATION AND MAINTENANCE CHART.

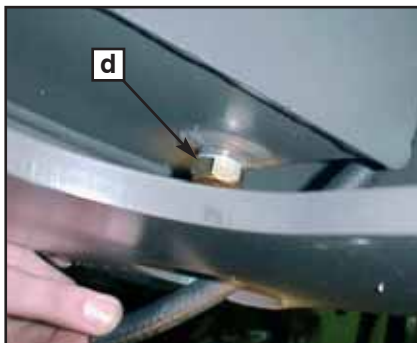
Loosen the drain (c) located at the bottom of the filter. Wait until all water has come out and re-tighten the drain.

#### WARNING!

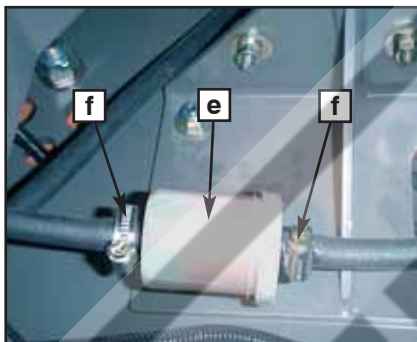
Take care to correctly tighten the drain (c) otherwise the fuel system could take in air causing engine failure.



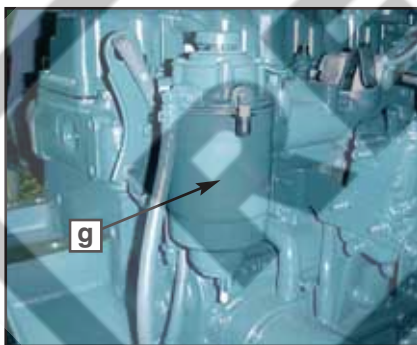
## Periodic maintenance operations



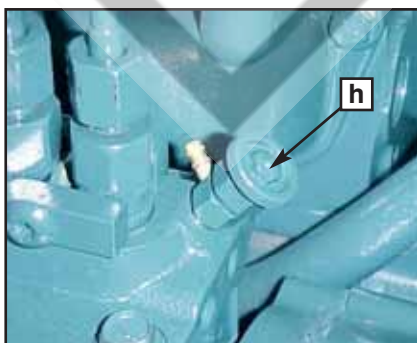
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

### ■ Draining the fuel tank. (Fig. 1)

#### d- Tank drain plug.

Draining fuel is done via the plug situated on the lower part of the tank.

- Clean the area around the fuel drain plug.
- Place a container underneath the fuel drain plug.
- Unscrew the plug.
- Change the seal in the fuel drain plug. Clean the tank seal area and the oil drain plug and replace it

Ensure that there are no leaks from the fuel drain plug.

### WARNING!!

Clean any fuel spillage.

### ■ Changing the fuel pre-filter (Fig. 2)

Note: Always replace this component. Under no circumstances should you attempt to clean it.

Access the lower rear of the dumper under the engine counterweight as follows:

#### e- Pre-filter

#### f- Brackets

Remove the fixing brackets and the filter. Ensure that the new filter is located in the correct direction as indicated by the arrow marked on the filter body.

### ■ Changing the fuel filter (Fig. 3)

Unscrew the fuel filter cartridge located on the left part of the engine and remove it from its support.

#### g- Fuel filter

Clean the base and cover the seal of the new filter with clean oil. Screw in the filter element once again and tighten, do not use mechanical tools.

### ■ Fuel system bleed. (Fig. 4)

If the fuel system has taken in air, bleeding is not necessary as it has a system for expelling air from the circuit.

### WARNING!

Take care to correctly loosen the cap (h) otherwise this may cause engine faults.



## Periodic maintenance operations

### 3.- Engine oil.

#### ■ Engine oil level. (Fig. 1, 2, 3)

##### CAUTION:

Frequently check the level and refill if necessary. Do not exceed the maximum level. Operating the engine with an inappropriate oil level could severely damage the engine. Clean any spills.

With the vehicle on a level surface and the engine stopped and cold, check the oil level in the following way.

##### a- Dipstick

Pull the oil level dipstick **(a)**, remove it from its housing and clean it with a clean cloth **(Fig.1)**.



## WARNING



**The engine oil could be very hot. In order to prevent burns, does not unscrew the filter if the engine is hot. Wait until the engine oil is warm.**

Place the dipstick in its housing.

- Remove it once again from the housing and check the oil level. It must be up to or equal to the upper level mark. **(Fig. 2)**

##### b- Full

##### c- Add

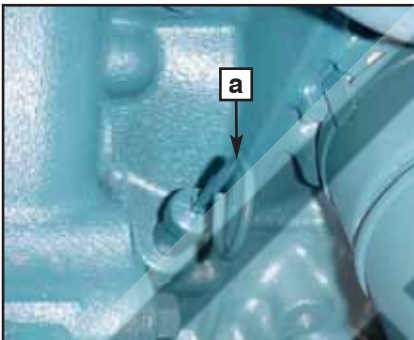
##### d- Operating range

- Add oil up to the upper level mark if required.
- To add oil, remove the oil level dipstick. Place a funnel in the oil filling hole located on the right part of the engine.

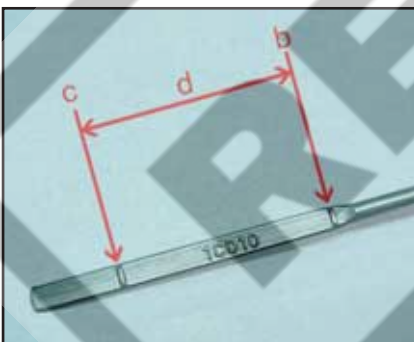
##### e- Filling hole (Fig. 3)

Do not exceed the maximum level.

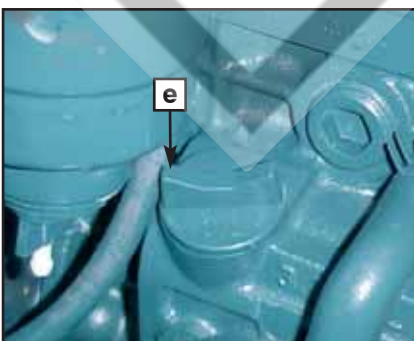
- Properly cover the oil filling hole and correctly store the oil level dipstick.



(fig. 1)



(fig. 2)



(fig. 3)



## Periodic maintenance operations

### ■ Changing the oil and the oil filter. (Fig. 1, 2)

Changing the oil and the oil filter should be carried out at the intervals indicated in the LUBRICATION AND MAINTENANCE CHART in this Manual.

#### **WARNING!**

The first engine oil change should be carried out at the 50 hour service. Initial maintenance is very important and must not be neglected.

#### **f- Oil drainage hose (Fig. 1)**

- Oil changes should be carried out when the oil is warm.
- Ensure that the dumper is on a level surface.
- Remove the dipstick.
- Clean the oil drainage hose area.
- Place a container underneath the oil drainage hose.
- Loosen the plug at the end of the oil drainage hose.

Allow the oil to drain for a while.

Unscrew the oil filter cartridge located on the left side and remove it from its support.

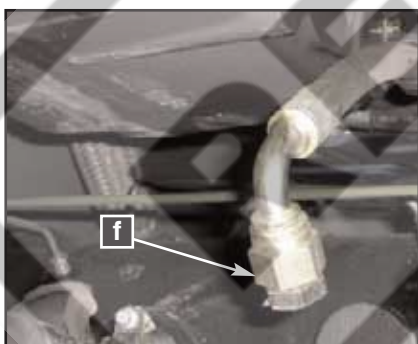
#### **g-Oil filter cartridge. (Fig. 2)**

Clean the base and cover the seal of the new filter element with clean oil.

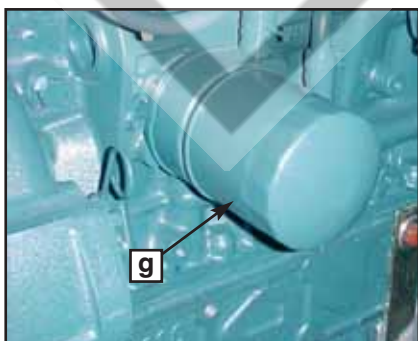
Screw in the filter element once again and tighten by hand, do not use mechanical tools.

#### **WARNING!!**

- Clean any oil spill on the engine.
- Clean the oil drainage hose area.
- Refill the engine as per the recommended oil level.
- See the LIQUIDS AND LUBRICANTS section of the Manual for capacities.
- Start the engine and leave running idle for a few minutes.
- Ensure that there are no leaks in any of the oil filter areas and on the oil drainage plug.
- Stop the engine.
- Wait a few moments to allow the oil to flow towards the engine crankcase and then check the oil level.
- Refill if necessary.
- Dispose of the oil in appropriately authorised centres.



(fig. 1)

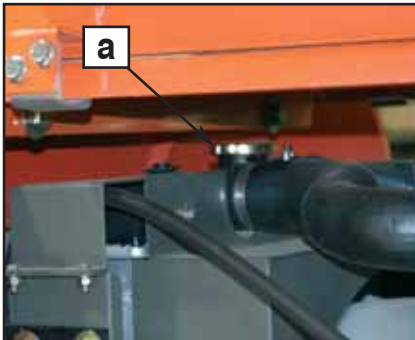


(fig. 2)





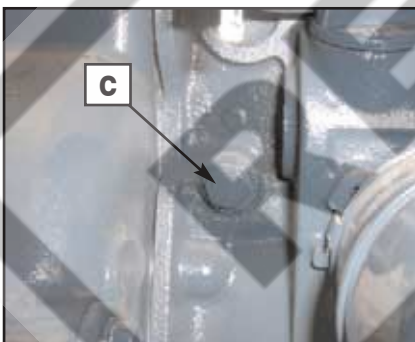
## Periodic maintenance operations



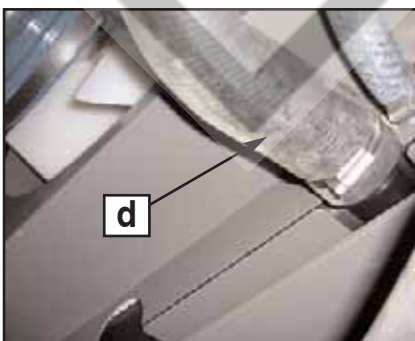
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

### 4.- Engine cooling system

Consult the LIQUIDS AND LUBRICANTS section of this Manual for the specifications of the coolant liquid to be used.

#### **WARNING !!**

Never remove the reservoir cap if the engine is hot. Wait until the engine is cold. Wait for approximately 20 minutes.

#### ■ Coolant liquid level (Fig. 1, 2)

##### **a- Upper radiator cap.**

Check via the reservoir.

##### **b- Reservoir**

Lift the left side cover.

With the vehicle on a level surface, the liquid must be between the MIN. and MAX. levels marked on the reservoir.

**NOTE:** When checking the level at a temperature lower than 20°C (68°F), the level may be below the MIN mark.

Add coolant up to MAX. mark if required. Never exceed the maximum level.

Use a funnel to avoid spills.

Place and tighten the filling cap correctly and close the cover.

**NOTE:** A cooling system which requires coolant frequently indicates that there are leaks or engine problems. See an authorised AUSA dealer.

#### ■ Changing the coolant. (Fig. 3, 4)

##### **c- Cylinder block drainage cap.**

##### **d- Lower radiator hose.**

This change should be carried out every 1000 hours or when the circuit is emptied for repair. To do so the following operations are carried out:

- Loosen the cylinder block drainage cap, located on the left side of the engine, to drain it.
- Disconnect the lower radiator hose in order to empty the radiator at this point.
- Before filling the circuit the engine drainage cap must be tightened and the hose must be connected again.
- Filling is carried out using the upper radiator cap and the reservoir.
- Start the engine and wait until the thermostat is open.
- Then with the engine cold, check the level in the reservoir.

Check the replacement schedule in the LUBRICATION AND MAINTENANCE CHART or replace when the circuit is emptied for repairs.



## Periodic maintenance operations

### ■ Radiators (Fig. 1, 2, 3, 4, 5)

**e- Radiator fins**

**f- Side engine covers**

**g- Upper radiator covers**

Periodically check the radiator area for its cleanliness.

Inspect the radiator fins. They must be clean, free of mud, dirt, leaves or any other deposit that would prevent the radiators cooling properly. Never clean the radiators when hot with your bare hands. Use gloves to remove external dirtiness. Allow the radiators to cool down before cleaning.

If water is available in the working area, rinse the radiator fins with a hose and low pressure water.



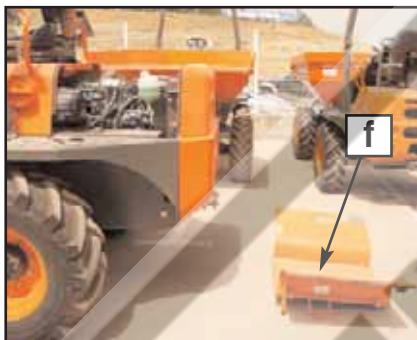
## WARNING



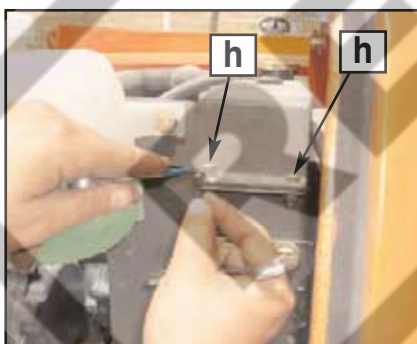
**NEVER USE HIGH PRESSURE WATER, ALWAYS USE LOW PRESSURE WATER.**



(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

Be careful not to damage the radiators when cleaning the fins. Do not use any sharp object or tool that could damage the fins. The fins are purposely thin parts to allow efficient cooling.

Pay special attention cleaning the radiator fins. This cleaning should be carried out at the intervals shown in the LUBRICATION AND MAINTENANCE CHART on this manual.

To do so:

- Remove the engine side covers **(f)**
- Unscrew the 4 fixing screws of the upper radiator cover **(g)**, the reservoir and remove the radiator cap.
- Remove the two bleeder pipes of the tanks (hydraulic oil and fuel) from both sides of the radiators.
- Remove the upper radiator cover **(g)**.
- Separate the radiators **(fig 4)**.
- Clean the surface and fins of the radiators.

Assemble again all the parts following the opposite procedure of their removal.

See an authorised AUSA dealer to check the correct performance of the cooling system.



(fig. 5)

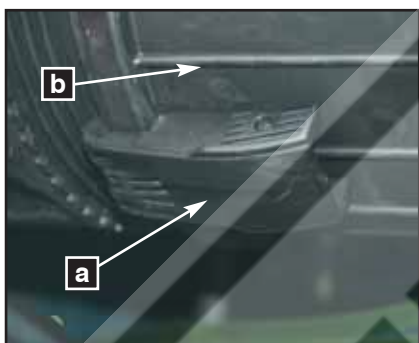




## Periodic maintenance operations



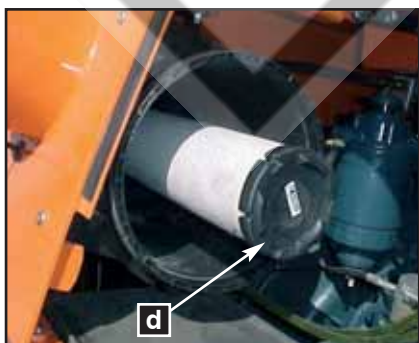
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

### 5.- Air intake system

#### ■ Cleaning the air filter (Fig. 1)

The air intake to the engine is done via a double element dry filter.

The life and performance of the engine largely depends on the correct maintenance of this filter.

Consult the frequency for renewal in the LUBRICATION AND MAINTENANCE CHART.

The internal element of the filter must be replaced on every second replacement of the outer element.

**NOTE:** If the dumper is used in dusty areas, inspect more frequently than specified in the LUBRICATION AND MAINTENANCE CHART.

**NOTE:** The air filter incorporates a clogged indicator. If the control lamp in the front instrument panel is lit, the filter element must be cleaned or replaced as soon as possible.

#### **CAUTION:**

Do not start the engine when water is found in the air filter box.

When liquids or residues are found, the air filter must be inspected, dried or replaced independently of the condition in which it is found.

Remove the air filter as explained below.

#### ■ Removing the air filter (Fig. 2, 3, 4, 5)

#### **CAUTION:**

Never remove or modify any filter component. Otherwise poor performance or engine damage could occur.

Access the filter via the left side cover.

#### **a- Clamps**

#### **b- Housing**

#### **c- Outer filter element**

#### **d- Internal filter element**

Loosen the clamps of the filter housing and remove the filter elements. Clean the filter elements of the accumulated dust and dirt, by blowing with pressurised air (maximum 5 bar) from inside out whilst turning.

Also clean inside the filter housing.

#### ■ Installing the air filter.

Assemble again all the parts following the opposite procedure of their removal.



(fig. 5)



## Periodic maintenance operations

### 6.- Powershuttle and converter

#### ■ Powershuttle and converter oil level (Fig. 1, 2)

Remove the dumper floor panel and access the upper part of the powershuttle and the converter.

##### a- Dipstick

Clean any spills.

With the vehicle on a level surface, the engine stopped and the oil cold, check the oil level in the following way.

- Pull the oil level dipstick **(a)**, remove it from its housing and clean it with a clean cloth.
- Place the dipstick in its housing.
- Remove it once again from the housing and check the oil level. It must be up to or equal to the upper level mark. **(Fig. 2)**

##### b- Full

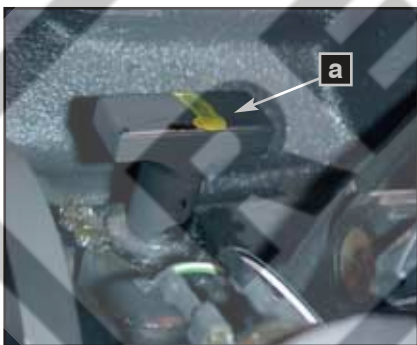
##### c- Add

##### d- Operating range

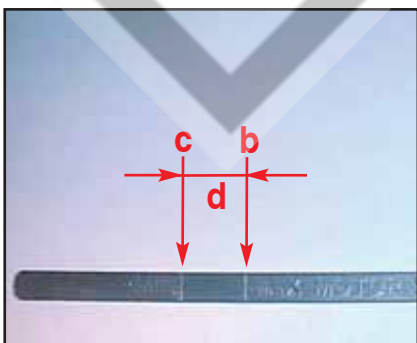
- Add oil up to the upper level mark if required.
- To add oil, remove the dipstick and place a funnel in the same hole.

Do not exceed the maximum level.

- Correctly replace the dipstick.



(fig. 1)



(fig. 2)



## Periodic maintenance operations

### ■ Changing the oil and the filter cartridge of the powershuttle and converter. (Fig. 1, 2)

#### **WARNING!!**

The first replacement of oil and filter cartridge for the powershuttle and converter should take place after 50 hours of service. Initial maintenance is very important and must not be neglected.

- Oil changes should be carried out when the oil is warm.
- Secure the dumper on a level surface.
- Remove the dipstick.
- Clean the area around the oil drainage plug.
- Place a container underneath the oil drainage plug.
- Unscrew the oil drainage plug.

#### **e- Oil drainage plug**

Allow the oil to drain for a while.

Unscrew the filter cartridge located on the right side of the powershuttle and converter and remove it from its support.

#### **f- Oil filter cartridge.**

Clean the base and cover the seal of the new filter element with clean oil.

Screw in the filter element once again and tighten by hand, do not use mechanical tools.

#### **WARNING!!**

- Clean any oil spillage.
- Change the seal in the oil drainage cap.
- Clean the area around the powershuttle and converter, the oil drainage plug and replace it.
- Refill the powershuttle and converter as per the recommended oil level.
- See the LIQUIDS AND LUBRICANTS section of the Manual for capacities.
- Ensure that in any of the oil filter areas and on the oil drainage plug there are no leaks.

### ■ Oil Strainer (Fig. 3)

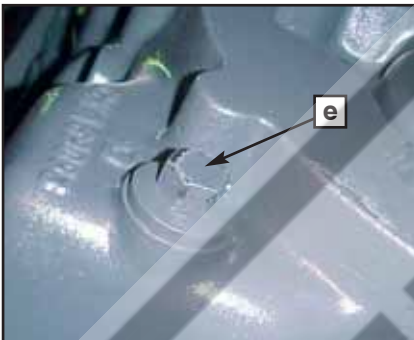
#### **WARNING!!**

The first cleaning of the oil strainer filter for the powershuttle and converter should take place after 50 hours of service. Initial maintenance is very important and must not be neglected.

To extract the filter, unscrew the two screws which secure the cover. Once extracted, it must be thoroughly cleaned and dried.

#### **g- Oil Strainer**

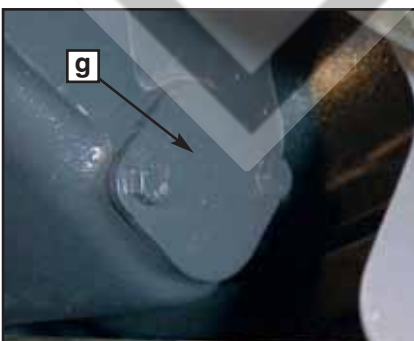
Once clean, place the filter inside its housing once again. Fix the cover, replacing the seals for new ones.



(fig. 1)



(fig. 2)



(fig. 3)



## Periodic maintenance operations

### 7.- Transfer box

#### ■ Transfer box oil level (Fig. 1)

##### a- Level plug

With the dumper on a level surface, check the oil level in the following way:

- Unscrew the level plug. The oil should spill out of the hole.
- If necessary, add oil through the same level hole.

#### ■ Changing the transfer box oil

Oil changes should be carried out when the oil is warm.

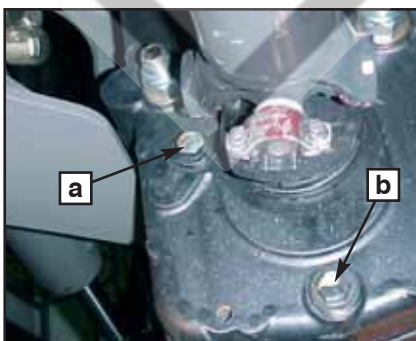
- Clean the area around the drain plug.
- Place a container underneath the oil drain plug.
- Unscrew the oil drainage plug.

##### b-Oil drainage plug

- Change the seal in the oil drainage plug.
- Clean the transfer box seal area, the oil drainage plug and replace it.
- Refill the transfer box as per the recommended oil level. See the LIQUIDS AND LUBRICANTS section of the Manual for capacities.
- Ensure that there are no leaks from the oil drainage plug.

#### **WARNING!!**

Clean any oil spillage.



(fig. 1)



## Periodic maintenance operations

### 8.- Axles (Fig. 1, 2, 3)

#### ■ Differential oil level

**a- Level plug**

**b- Bleeder plug**

With the dumper on a level surface, check the oil level in the following way:

- Unscrew the level cap. The oil should spill out of the hole.
- If necessary add oil via the vaporiser cap or via the level cap.

#### ■ Changing differential shaft oil (Fig. 3)

Oil changes should be carried out when the oil is warm.

- Clean the area around the drainage cap.
- Place a container underneath the oil drainage cap.
- Unscrew the oil drainage cap.

#### **c- Oil drainage cap**

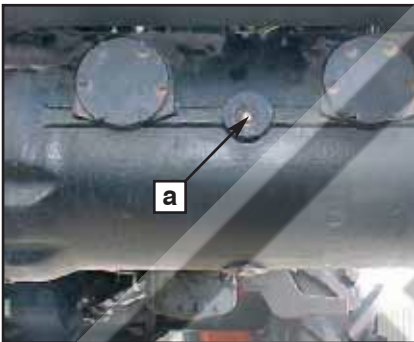
Change the seal in the oil drainage cap. Clean the shaft seal area and the oil drainage cap and replace the cap.

Refill the differential shafts as per the recommended oil level. See the LIQUIDS AND LUBRICANTS section of the Manual for capacities.

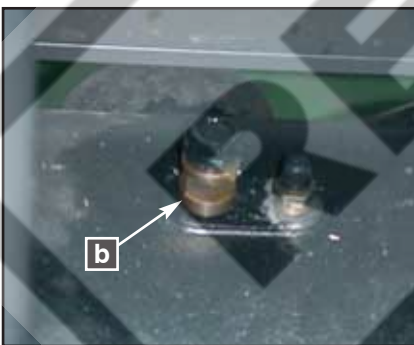
Ensure that there are no leaks from the oil drainage cap.

#### **WARNING!**

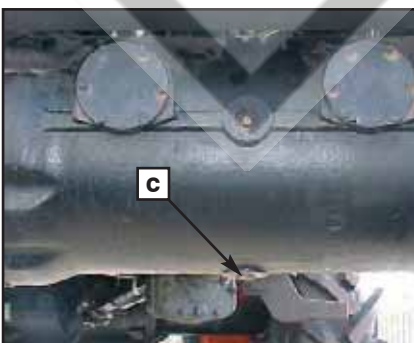
Clean any oil spillage.



(fig. 1)



(fig. 2)

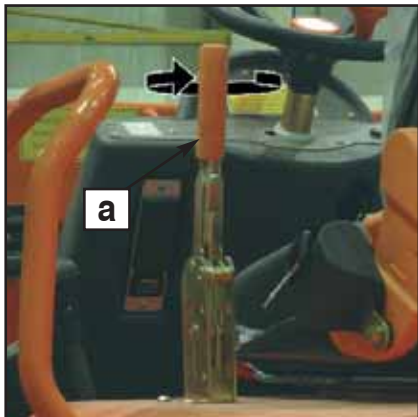


(fig. 3)





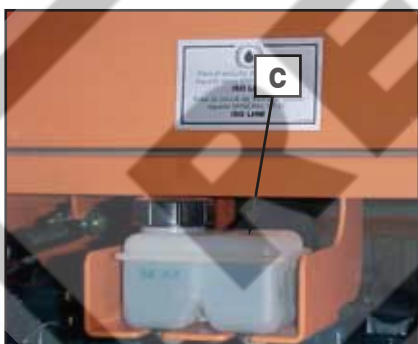
## Periodic maintenance operations



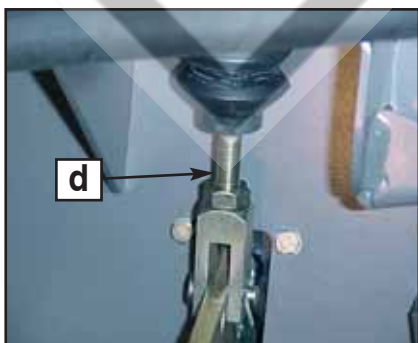
(fig. 1)



(fig. 2)



(fig. 3)



(fig. 4)

### 9.- Service and parking brake

Check the following to keep the brakes in good operating conditions.

- Fluid line leaks.
- Spongy feel to the pedal and no feeling of tightening

#### **WARNING!!**

Brake fluid replacement or any brake system repair should be performed by an authorised AUSA dealer.

#### ■ **Parking Brake (Fig. 1, 2)**

**a- Handle**

**b- Cable cover**

If applying the parking brake does not immobilise the dumper, the cables must be tightened. To do so:

- Turn the handle at the end of the lever in a clockwise direction to tighten the cables and in the opposite direction to loosen the cables.
- The cable cover can also be tightened at the front end.
- Always maintain the cables free from excessive bends and the links greased.

#### ■ **Service Brake**

The brakes are self-adjusting and therefore require no adjustment.

#### ■ **Brake fluid level. (Fig. 3)**

The reservoir is located above the brake pump, under the floor panel.

With the dumper on a level surface, the brake fluid must be between the MIN. and MAX. levels marked.

#### **c- Brake fluid reservoir**

**NOTE:** Never exceed the maximum level.

Use a funnel to avoid spills.

Place and tighten the filling cap correctly and close the cover.

**NOTE:** A brake system which frequently required brake fluid indicates that there are leaks. See an authorised AUSA dealer.

#### ■ **Changing the brake fluid.**

Check the replacement schedule in the LUBRICATION AND MAINTENANCE CHART or replace when the circuit is emptied for repairs. To do so, contact an authorised AUSA dealer.

#### ■ **Brake master cylinder. (Fig. 4)**

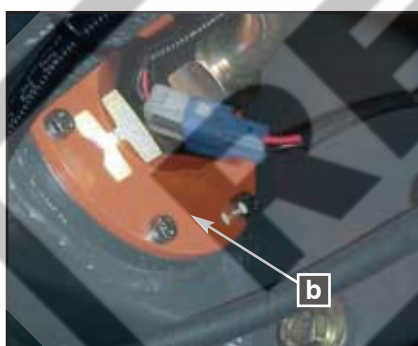
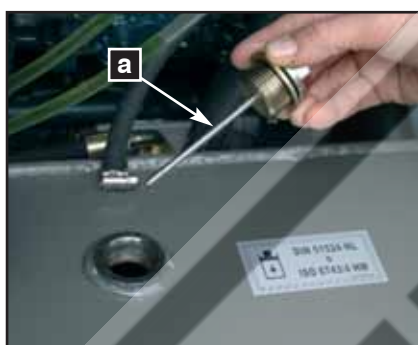
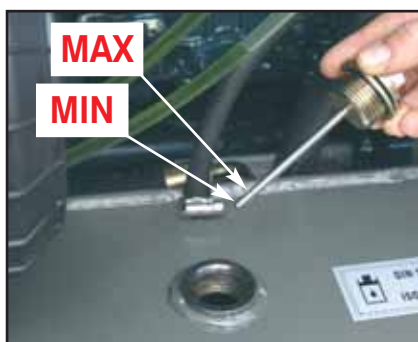
If the pedal has too much play, this can be corrected using the pedal tappet that drives the brake master cylinder, which has a locknut system.

#### **d- Pump tappet**

Allow the pusher to have play of between 1 and 1.5 mm, ensuring that the master cylinder has no internal pressure.



## Periodic maintenance operations



### 10.-Hydraulic Circuit

#### ■ Hydraulic oil level. (Fig. 1, 2)

The hydraulic oil tank is located on the left side of the engine compartment.

Place that the dumper is on a level surface.

The oil level must always be checked with the skip in the lower position and with the engine stopped.

#### a- Filling cap and dipstick

Unscrew the filling cap which includes the dipstick. The oil level should be between the MIN. and MAX. level marks.

If necessary, add oil through the same filling hole. Use a funnel to avoid spills.

Place and tighten the filling cap correctly and close the cover.

**NOTE:** Never exceed the maximum level.

**NOTE:** A hydraulic system that requires frequent top ups indicates that there are leaks. See an authorised AUSA dealer.

#### ■ Changing the hydraulic oil (Fig. 3, 4)

##### b-Hydraulic oil strainer filter

##### c- Tank drainage plug

Draining fuel is done via the plug situated on the lower part of the tank.

- Clean the area around the drainage plug.
- Place a container underneath the oil drainage plug.
- Unscrew the plug.

In the hydraulic circuit there is a strainer filter located inside the tank. It is a metallic filter which must be cleaned each time the hydraulic oil is replaced.

Change the seal in the oil drainage plug.

- Clean the tank seal area and the oil drainage plug and replace it.
- Refill the tank as per the recommended oil level. See the LIQUIDS AND LUBRICANTS section of the Manual for capacities.

Ensure that there are no leaks from the oil drainage plug.

#### **WARNING!**

Clean any oil spillage.



## Periodic maintenance operations

### ■ Safety valve regulation (Fig. 1, 2)

There are two safety valves to avoid over pressures in the steering circuit and the load handling systems.

#### a- Steering circuit safety valve

#### b- Load handling system safety valve

The first is located on the hydraulic steering and the second is externally connected to the control valve.

These valves are set at the correct working pressure in factory, but the settings need to be checked periodically and adjusted if necessary. This work must only be done by trained mechanics with knowledge of hydraulics and with the appropriate tools. Pressures should never exceed those indicated in the SPECIFICATIONS section of this Manual.

- Hydraulic steering valve: Remove the cap by unscrewing it and turn the internal screw with a screwdriver in a clockwise direction to increase the hydraulic pressure and anti-clockwise to reduce it.
- Circuit pressure regulation valve: Loosen the locknut and turn the screw in a clockwise direction to increase the hydraulic pressure and anti-clockwise to reduce it.

### ■ Hydraulic hoses.

All hydraulic hoses must be changed at least every 6 years.

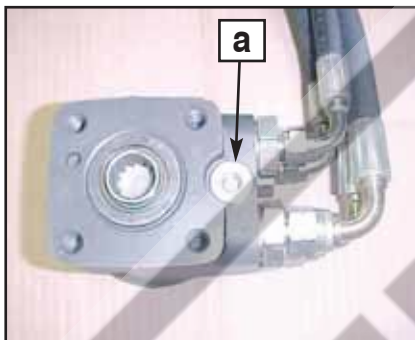
## 11.-Electrical circuit

### ■ Battery.

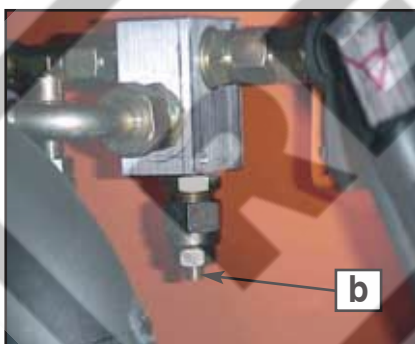
The battery is located in the engine compartment to the right.

Check that the battery has no external damage, lifted plates or electrolyte leaks. Check the electrolyte density. It should have a value of between 1.27 and 1.28. Clean the battery terminals of rust.

Apply dielectric grease or vaseline on the positive terminal to protect it from rust.



(fig. 1)



(fig. 2)



(fig. 3)



## WARNING



**Never charge the battery when it is mounted on the dumper.**

### ■ Battery isolator (Fig. 3)

There is a battery isolator on the negative terminal (-).

Disconnection of the battery is recommended during repairs to the electrical installation, welding and long storage periods.



## Periodic maintenance operations

### ■ Fuses.

If a fuse is damaged, replace it with another fuse of the same amps.

### CAUTION:

Do not use fuses with higher amps, this may cause important damage. The fuses are located in a box behind the battery and the instrument and control panel in front of the operator.

### ■ Fuses at the rear of the battery. (Fig. 1)

FG1: Instrument and control panel permanent live fuse (80A)

FG2: + starter relay fuse (50A)

FG3: + glow plugs fuse (30A)

### ■ Instrument and control panel fuses (Fig. 2)

F1: Hazard lights fuse (7.5A)

F2: Reverse alarm / left side lights fuse (5A)

F3: Right side lights fuse (5A)

F4: Low beam fuse (10A)

F5: High beam lights fuse (10A)

F6: FNR switch fuse (7.5A)

F7: Front and reverse solenoids + horn fuse (10A)

F8: Alternator excitation / stop solenoid fuse (10A)

F9: Instrument and control panel lamps fuse (7.5A)

F10: Rotating beacon fuse (15A)

F11: Optionals fuse (10A)

To remove the fuses from the housing, remove the fuse box cover and extract the fuse.

### ■ Checking the fuses. (Fig. 3)

Check whether the internal filament is blown.

### TYPICAL PROCESS

**a- Fuse**

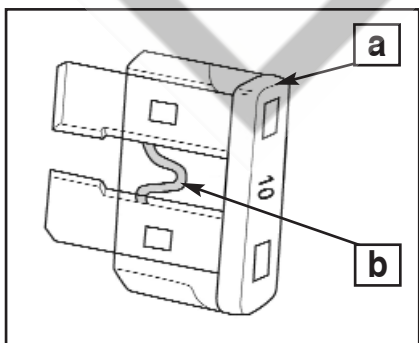
**b- Check if it is blown.**



(fig. 1)



(fig. 2)



(fig. 3)



## Periodic maintenance operations

### 12.-Wheels

Unless it is essential for the type of work to be carried out, the use solid tyres is not recommended, as this increase the effects of impacts on the transmission and the operator.

Occasionally, the wheel nuts must me removed in order to apply lubricant. This operation is very important when the dumper is used in salt water or muddy environments. Remove the wheel nuts one by one, lubricate each one and screw them on again.

#### ■ Re-tighten the wheels

Weekly or every 50 hours of operation, the wheel nuts should be retightened.

#### ■ Wheel nut torque loading: 270 Nm.

#### ■ Tyre pressure

#### **WARNING!!**

Tyre pressure largely effects the steering and stability of the dumper. A low tyre pressure in the tyres could make them deflate and spin out. A high pressure in the tyre can make it blow out. Always follow the recommended pressure. As the tyre pressure is high, do not use a manual pump. Inflating the wheels could be dangerous if the operation is not carried out with caution. If possible, it is recommended that this operation be carried out by specialists in the field.

We recommend that the following instructions are followed:

- Park the dumper on flat ground with the engine off.
- Always inflate the tyres when they are cold, to the pressure indicated in the SPECIFICATIONS section of this manual before beginning work with the dumper.
- Tyre pressure changes according to the temperature and altitude. Recheck the pressure if one of these conditions changes.
- Checking the pressure and inflating the tyre, must be carried out with a pressure meter in good operational condition and equipped with a nozzle which has a safety clamp, to avoid it slipping from the tyre valve during inflation.
- Use gloves to avoid any injury to the hands by any incorrect function of the air nozzle.
- If the tyre is being inflated away from the dumper, first protect it with a special protection cage designed for this purpose.
- Carrying a anti-puncture repair kit is recommended.

#### ■ Tyre/Wheel condition

Check the tyres for possible damage or wear. Replace if necessary. Do not rotate the tyres if they are directional.

For correct operation their rotation must maintain a specific direction.

#### ■ Removing the wheel (Fig. 1)

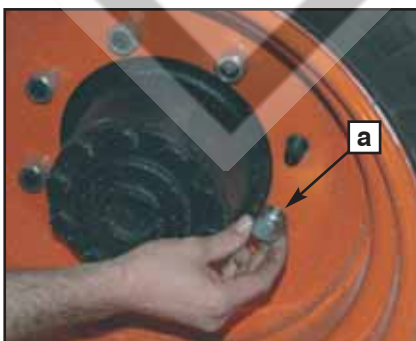
Loosen the nuts and raise the dumper. Place a support beneath it. Remove the nuts and then remove the wheel.

When assembling, apply lubricant to the threads. Slowly tighten the nuts in a criss-cross sequence, applying a final torque of 270 Nm.

#### **a- Coned part of the wheel nut**

#### **WARNING!!**

Always use the recommended wheel nuts. Using a different nut could cause damage to the wheel.



(fig. 1)





## Periodic maintenance operations

### 13.- Lubricating cables (Fig. 1)

All cables must be lubricated with cable lubricant.

#### **WARNING!!**

Using another lubricant could cause the cable or control to malfunction (throttle pedal, etc.). Always wear eye protectors and gloves when lubricating cables.

### 14.- Body/Chassis

#### ■ **Engine Area**

Check the engine compartment to see if there is any damage or leak. Ensure that all rubber hoses are free from cuts, splits, cracks or damage of any kind and that the fittings are correctly fitted. Examine the support devices of exhaust, battery and tanks. Check the electrical connection for corrosion and tension on the cables. Replace or repair damaged parts.

#### ■ **Chassis supports**

Check the condition and tighten all dumper supports. Retighten if necessary.

#### ■ **Seat belts**

Check the fixture and locking of seatbelts. Before starting the day, carefully inspect this devices with special attention to:

- Cuts or threading on the belt.
- Wear or damage to anchor points
- Poor functioning of the seat belt buckle or the retracting roller
- Loose threads or poor stitching

Consult an authorised AUSA dealer for the replacement of damaged parts.

#### ■ **Dumper cleaning and protection**

Never use water at high pressure to clean the dumper. ONLY USE LOW PRESSURE WATER. High pressure water can cause electrical and mechanical damage.

Damaged painted parts must be repainted to prevent corrosion.

When required, wash the body with soap and water (use only neutral soap) Apply non abrasive wax.

#### **CAUTION:**

Never clean plastic parts with inappropriate detergent, degreasing agents, solvents, acetone, etc.



(fig. 1)



## Maintenance chart

| D 600 AP / APG - D 700 AP MAINTENANCE AND LUBRICATION CHART | EVERY                     |        |        |        |        |         |         |         |      |       |      |         |                    |
|-------------------------------------------------------------|---------------------------|--------|--------|--------|--------|---------|---------|---------|------|-------|------|---------|--------------------|
|                                                             | Initial Inspection (50 h) | 125 h. | 250 h. | 500 h. | 750 h. | 1000 h. | 1500 h. | 3000 h. | Week | Month | Year | 2 years | to be performed by |
| <b>ENGINE</b>                                               |                           |        |        |        |        |         |         |         |      |       |      |         |                    |
| Oil (1)                                                     | R                         |        | R      |        |        |         |         |         |      |       | R    |         | CUSTOMER           |
| Oil filter (1)                                              | R                         |        |        | R      |        |         |         |         |      |       |      |         | CUSTOMER           |
| Alternator belt (1)                                         | I                         |        | I      | R      |        |         |         |         |      |       |      | R       | DEALER             |
| Valve clearance                                             |                           |        |        |        |        | I       |         |         |      |       |      |         | DEALER             |
| Turbo charger (2)                                           |                           |        |        |        |        |         |         | I       |      |       |      |         | DEALER             |
| <b>FUEL SYSTEM</b>                                          |                           |        |        |        |        |         |         |         |      |       |      |         |                    |
| Air filter element (4)                                      |                           | C      |        | R(5)   |        |         |         |         |      |       | R    |         | CUSTOMER           |
| Intake air line                                             |                           |        | I      |        |        |         |         |         |      |       | R(6) |         | CUSTOMER           |
| Fuel pipes and clamps                                       |                           |        |        |        |        |         |         |         | I    |       | R(2) |         | CUSTOMER           |
| Fuel filter cartridge                                       |                           |        |        | R      |        |         |         |         |      |       |      |         | CUSTOMER           |
| Fuel pre-filter (1)                                         | C                         |        | C      |        |        |         |         |         |      |       |      |         | CUSTOMER           |
| Fuel tank                                                   |                           |        |        | C      |        |         |         |         |      |       |      |         | CUSTOMER           |
| Injection pressure at the fuel injection nozzle (2)         |                           |        |        |        |        | I       |         |         |      |       |      |         | DEALER             |
| Injection pump (timing) (2)                                 |                           |        |        |        |        |         | I       |         |      |       |      |         | DEALER             |
| Fuel injection timer (2)                                    |                           |        |        |        |        |         | I       |         |      |       |      |         | DEALER             |
| <b>COOLING SYSTEM</b>                                       |                           |        |        |        |        |         |         |         |      |       |      |         |                    |
| Radiator hoses and clamp bands                              |                           |        | I      |        |        |         |         |         |      |       |      | R       | CUSTOMER           |
| Water jacket (radiator interior)                            |                           |        |        | C      |        |         |         |         |      |       |      |         | DEALER             |
| Radiator (exterior) (4)                                     |                           |        |        | C      |        |         |         |         |      |       |      |         | DEALER             |
| Coolant                                                     |                           |        |        |        |        |         |         | I       |      |       | R    |         | CUSTOMER           |
| <b>POWERSHUTTLE AND CONVERTER</b>                           |                           |        |        |        |        |         |         |         |      |       |      |         |                    |
| Oil and filter (1)                                          | R                         |        |        |        | R      |         |         |         | I    |       |      |         | CUSTOMER           |
| Oil strainer and circuit cleaning (1)                       | R/C                       |        |        |        | R/C    |         |         |         |      |       |      |         | CUSTOMER           |
| <b>ELECTRICAL SYSTEM</b>                                    |                           |        |        |        |        |         |         |         |      |       |      |         |                    |
| Battery electrolyte                                         | I                         |        | I      |        |        |         |         |         |      |       |      |         | CUSTOMER           |
| Battery connections                                         |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |
| Dash panel indicators / Warning lights (3)                  |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |
| Battery                                                     |                           |        |        |        |        |         |         |         |      | I     |      | R       | CUSTOMER           |
| Damage to harness and loose connections                     |                           |        |        |        |        |         |         |         |      |       | I    |         | CUSTOMER           |

(1) Initial Inspection The initial maintenance is of vital importance and must not be neglected.

(2) To be carried out by an authorised AUSA dealer.

(3) Daily inspection item.

(4) More often in severe operating conditions such as sandy or dusty areas, areas with snow, or wet or muddy areas.

(5) ...or after cleaning 6 times

(6) Replace only when necessary



## Maintenance chart

|                                                                    | EVERY                     |        |        |        |        |         |         |         |      |       |      |         |                    |  |
|--------------------------------------------------------------------|---------------------------|--------|--------|--------|--------|---------|---------|---------|------|-------|------|---------|--------------------|--|
| D 600 AP / APG - D 700 AP MAINTENANCE AND LUBRICATION CHART        | Initial Inspection (50 h) | 125 h. | 250 h. | 500 h. | 750 h. | 1000 h. | 1500 h. | 3000 h. | Week | Month | Year | 2 years | to be performed by |  |
| I: Inspect, verify, clean, lubricate, replace if necessary         |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| C: Clean                                                           |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| L: Lubricate                                                       |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| R: Replace                                                         |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| GREASING POINTS                                                    |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| Central pivot                                                      |                           |        |        |        |        |         |         |         | L    |       |      |         | CUSTOMER           |  |
| Nipples (see section "Greasing points" in this manual)             |                           |        |        |        |        |         |         |         | L    |       |      |         | CUSTOMER           |  |
| Cables and articulations (throttle, lifting rams...)               |                           |        |        |        |        |         |         |         | L    |       |      |         | CUSTOMER           |  |
| TRANSFER BOX                                                       |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| Oil (1)                                                            | I                         |        |        |        | R      |         |         |         | I    |       | R    |         | CUSTOMER           |  |
| Oil leaks                                                          |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Tightness of all nuts and bolts                                    |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| AXLES (FRONT AND REAR)                                             |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| Oil (1)                                                            | I                         |        |        |        | R      |         |         |         | I    |       | R    |         | CUSTOMER           |  |
| Oil leaks                                                          |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Torque of wheel nuts                                               |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Tightness of chassis fixing screws                                 |                           |        |        |        |        | I       |         |         |      |       |      |         | DEALER             |  |
| Tightness of universal drive joint fixing nuts                     |                           |        |        |        |        |         |         |         |      | I     |      |         | DEALER             |  |
| Tightness of flange fixation nut                                   |                           |        |        |        |        |         |         |         |      | I     |      |         | DEALER             |  |
| Tyre condition and pressure                                        |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| BRAKES                                                             |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| Brake fluid (3)                                                    |                           |        |        |        | R      |         |         |         | I    |       |      |         | DEALER             |  |
| Parking brake adjustment (3)                                       | I                         |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| BODY / CHASSIS                                                     |                           |        |        |        |        |         |         |         |      |       |      |         |                    |  |
| ROPS frame                                                         |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Seat belts (3)                                                     |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Foot plate, access steps and handles (3)                           |                           |        |        |        |        |         |         |         | I/C  |       |      |         | CUSTOMER           |  |
| Guards and covers (3)                                              |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Plates and decals (3)                                              |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Central pivot nut torque torque                                    |                           |        |        |        |        | I       |         |         |      |       |      |         | DEALER             |  |
| Safety system / articulated blocking link bar and skip safety prop |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |
| Engine compartment cover locks (3)                                 |                           |        |        |        |        |         |         |         | I    |       |      |         | CUSTOMER           |  |

(1) Initial Inspection The initial maintenance is of vital importance and must not be neglected.

(2) To be carried out by an authorised AUSA dealer.

(3) Daily inspection item.

(4) More often in severe operating conditions such as sandy or dusty areas, areas with snow, or wet or muddy areas.

(5) ...or after cleaning 6 times

(6) Replace only when necessary

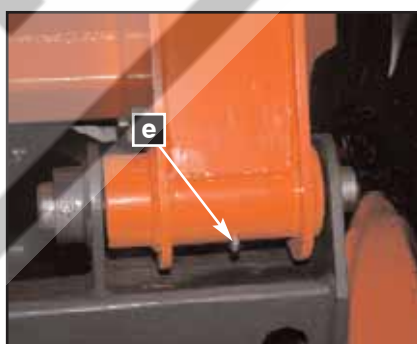


## Greasing points

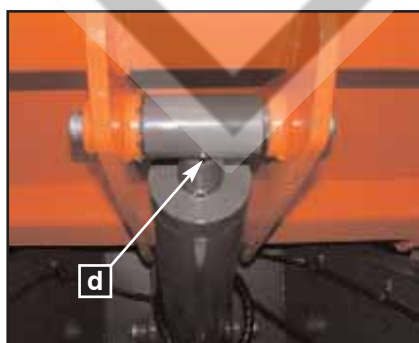
### ■ GREASING POINTS (fig. 1, 2, 3, 4, 6)

- 6 nipples on the centre pivot **(a)**
- 2 nipples on the steering ram **(b)**
- 3 nipples on the universal drive shaft joints, one on each cross and one on the groove **(c)**.
- 2 nipples on each ram, one on each articulation pin **(d)**
- 1 nipple on each skip pivot pin **(e)**
- 8 nipples on the swing turntable (only on model D 600 APG) **(f)**
- 1 nipple on the brake pedal pin **(g)**

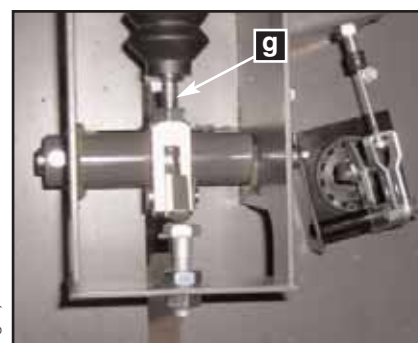
See LUBRICATION AND MAINTENANCE CHART for greasing intervals.  
See LIQUIDS AND LUBRICANTS for the type of grease to be used.



(fig. 5)



(fig. 6)



(fig. 7)



## Wiring diagram

| WIRES COLOURS |        |
|---------------|--------|
| <b>A</b>      | Blue   |
| <b>B</b>      | White  |
| <b>C</b>      | Orange |
| <b>G</b>      | Yellow |
| <b>H</b>      | Grey   |
| <b>L</b>      | Blue   |
| <b>M</b>      | Brown  |
| <b>N</b>      | Black  |
| <b>R</b>      | Red    |
| <b>S</b>      | Pink   |
| <b>V</b>      | Green  |
| <b>Z</b>      | Violet |

**Remark:** In the bicolor cables, the longitudinal or traverse shape of the marks on the protective coating are to indicate the color. For example:

G - V: Yellow / Green with traverse marks

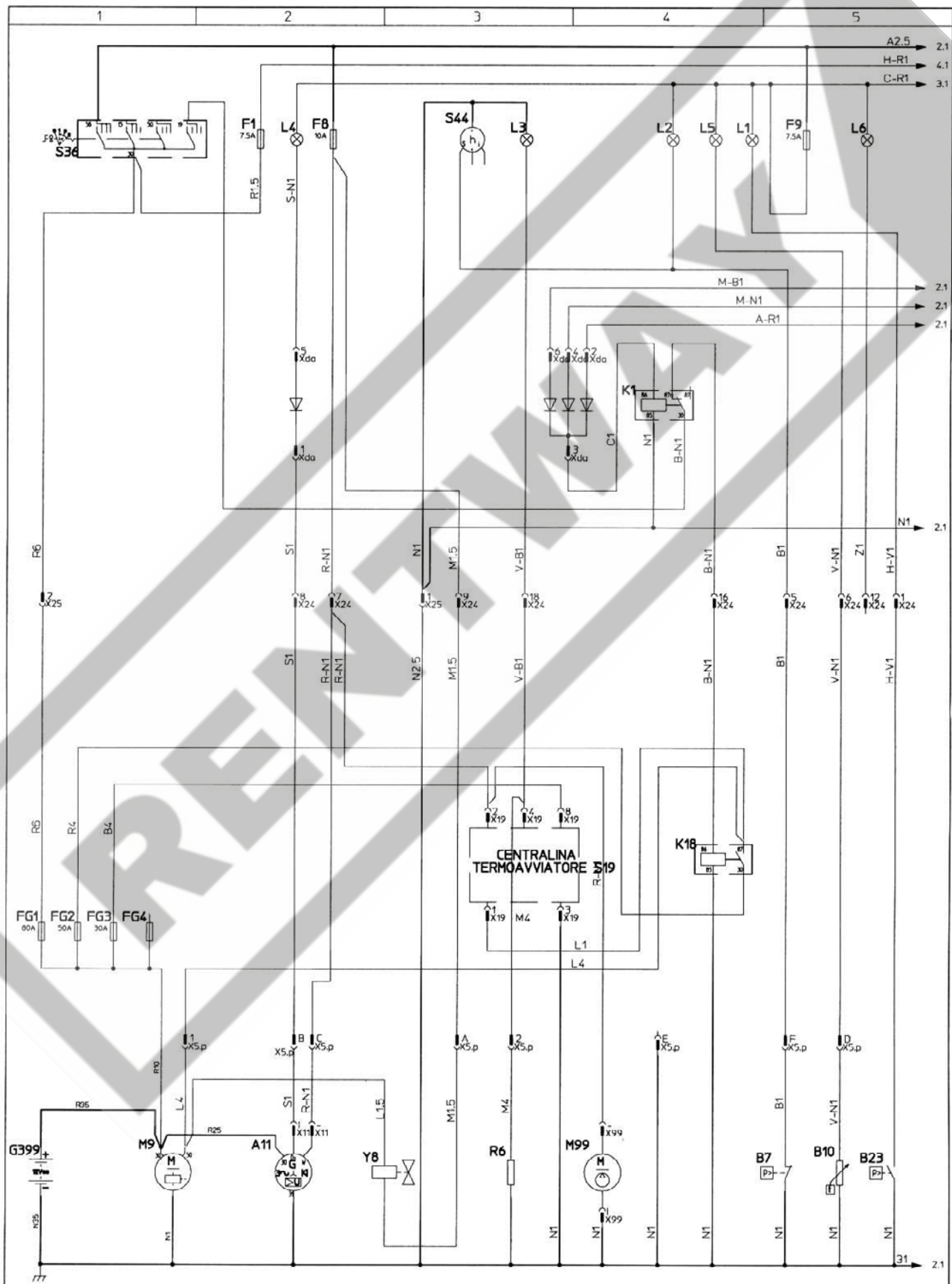
G / V : Yellow / Green with longitudinal marks





# Wiring diagram

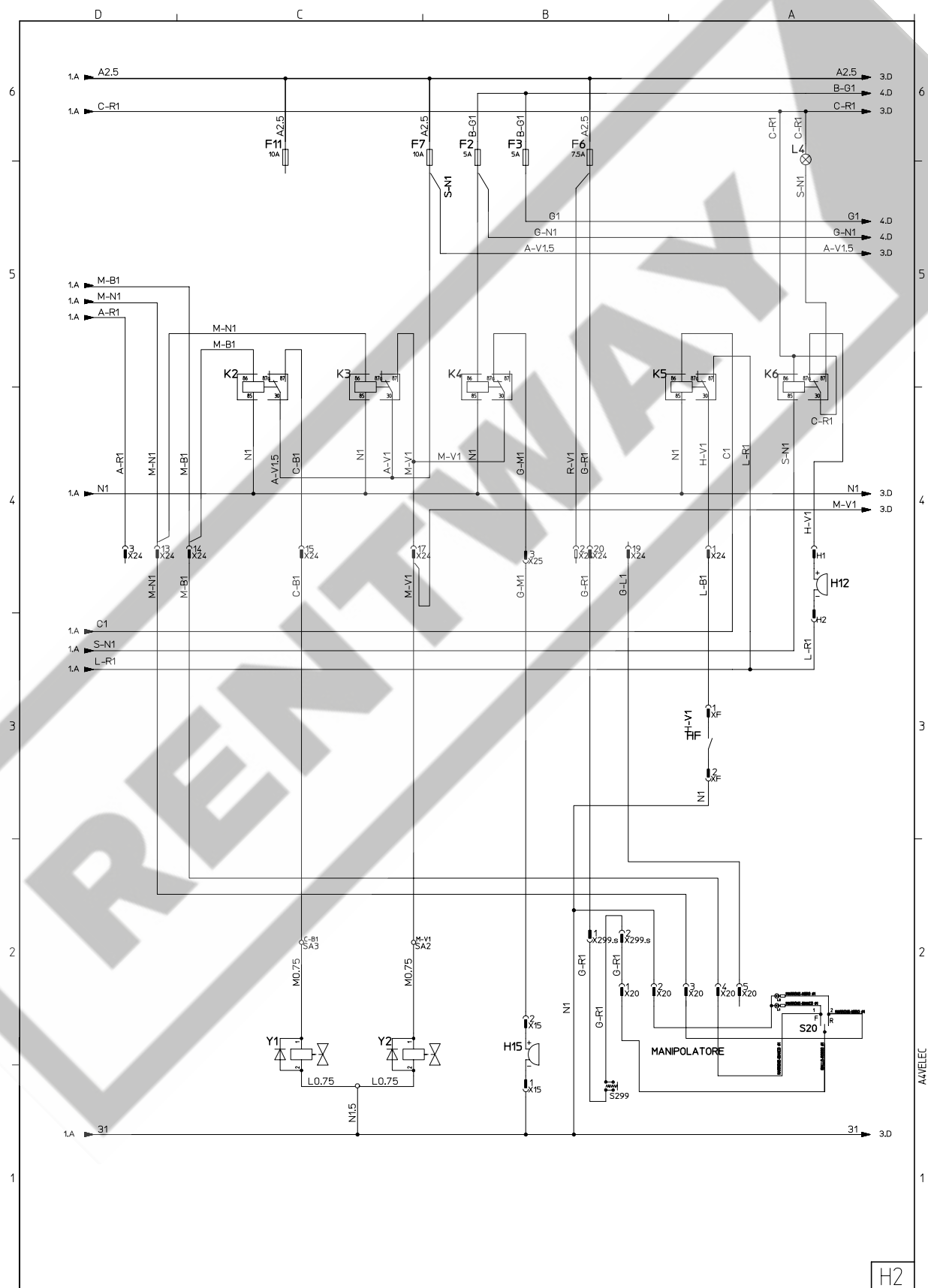
1





# Wiring diagram

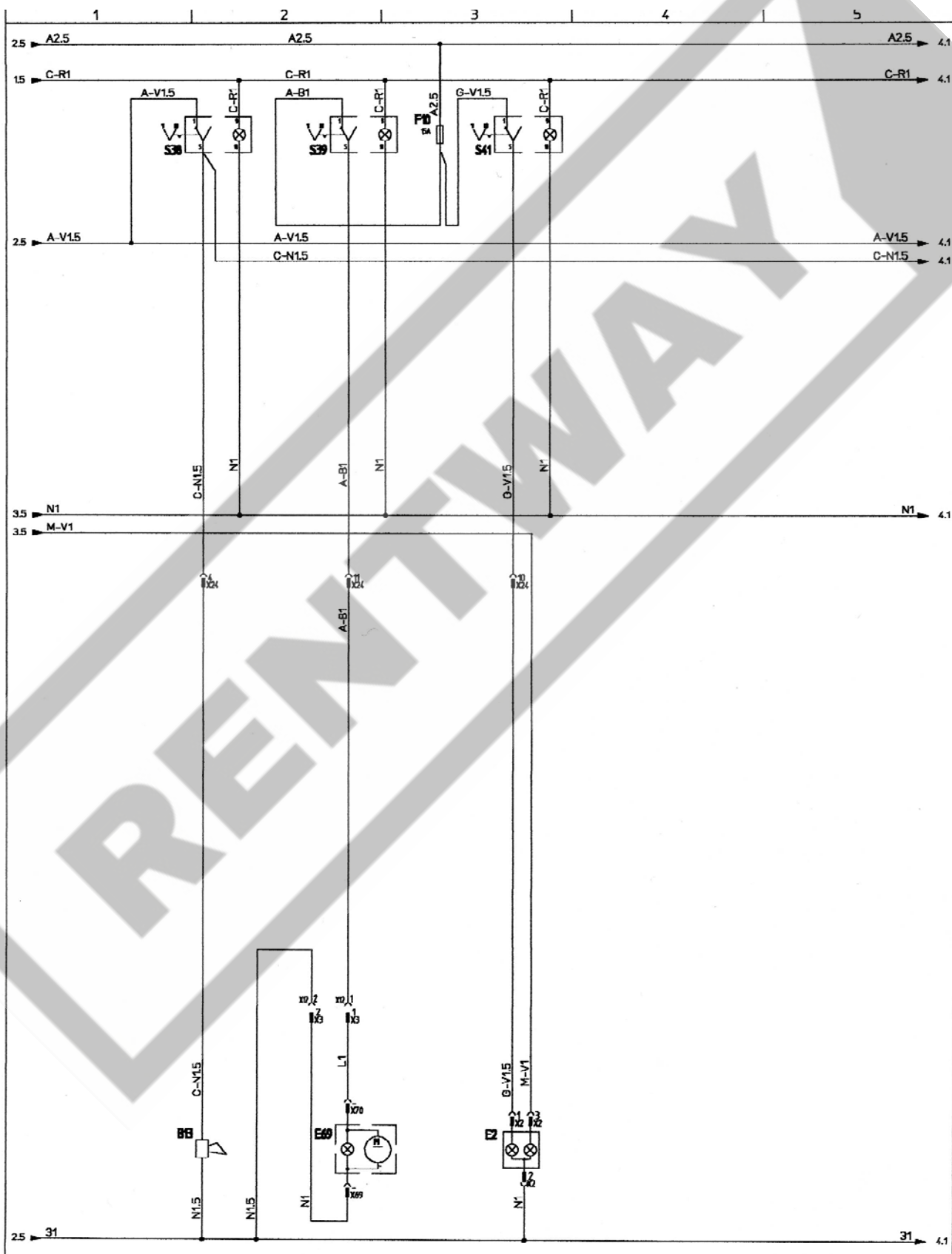
2





# Wiring diagram

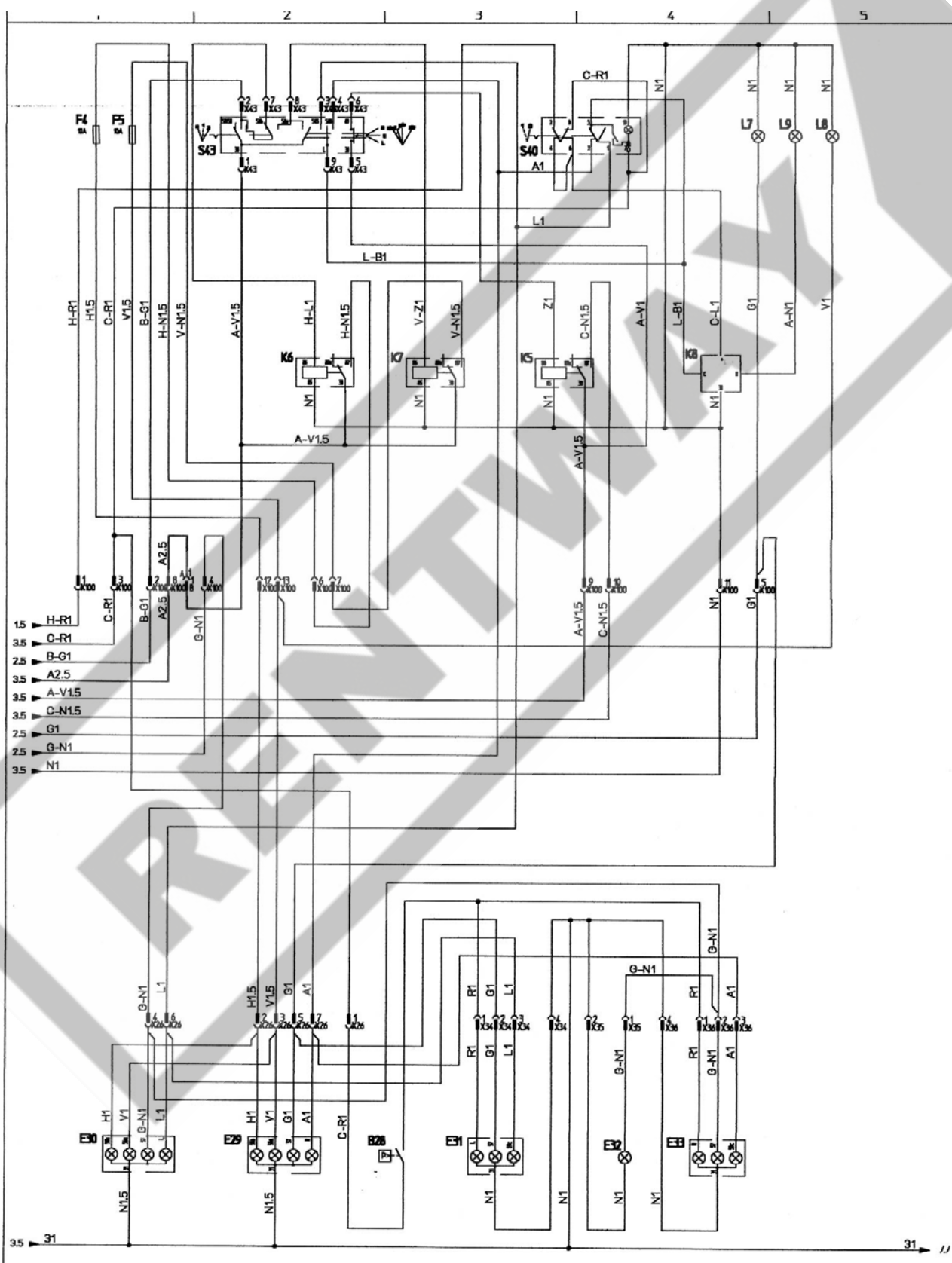
3





# Wiring diagram

4





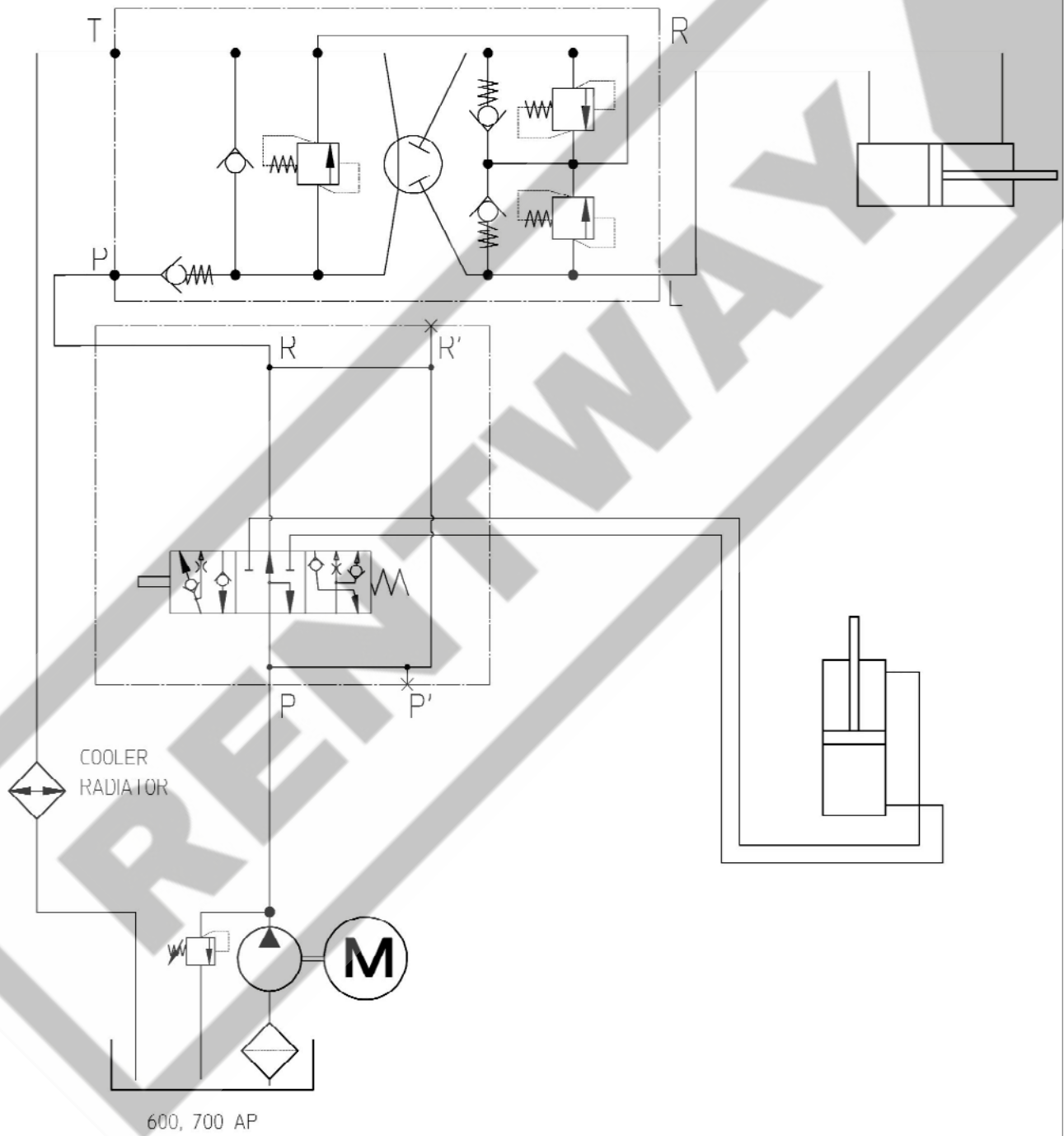
## Wiring diagram

| Item | Description                                                            | Sh | Item | Description                         | Sh |
|------|------------------------------------------------------------------------|----|------|-------------------------------------|----|
| A11  | Alternator                                                             | 1  | K2   | Forward relay                       | 2  |
| B7   | Engine oil pressure switch                                             | 1  | K3   | Reverse relay                       | 2  |
| B10  | Coolant temperature warning switch                                     | 1  | K4   | Reverse alarm relay (night silence) | 2  |
| B13  | Horn                                                                   | 3  | K5   | Handbrake relay                     | 2  |
| B23  | Air filter blockage indicator                                          | 1  | K5   | Horn relay                          | 4  |
| B28  | Brake lights switch                                                    | 4  | K6   | Dash panel buzzer relay             | 2  |
| E2   | Work lights                                                            | 3  | K6   | Low beam relay                      | 4  |
| E29  | Right headlight                                                        | 4  | K7   | High beam relay                     | 4  |
| E30  | Left hand headlight                                                    | 4  | K8   | Flasher relay                       | 4  |
| E31  | Rear left hand light                                                   | 4  | K18  | Starter motor relay                 | 1  |
| E32  | Number plate light                                                     | 4  | L1   | Air filter blockage warning lamp    | 1  |
| E33  | Rear right hand light                                                  | 4  | L2   | Engine oil pressure warning lamp    | 1  |
| E69  | Rotating / Flashing beacon                                             | 3  | L3   | Pre-heat warning lamp               | 1  |
| F1   | Hazard lights fuse (7'5A)                                              | 1  | L4   | Battery charge warning lamp         | 1  |
| F2   | Reverse alarm / left side lights fuse (5A)                             | 2  | L5   | Coolant temperature warning lamp    | 1  |
| F3   | Right side lights fuse (5A)                                            | 2  | L6   | Low level fuel warning light        | 1  |
| F4   | Low beam fuse (10A)                                                    | 4  | L7   | Sidelights indicator lamp           | 4  |
| F5   | High beam fuse (10A)                                                   | 4  | L8   | High beam indicator lamp            | 4  |
| F6   | FNR switch fuse (7'5A)                                                 | 2  | L9   | Flasher indicator lamp              | 4  |
| F7   | Front and reverse solenoids + horn fuse (10A)                          | 2  | M9   | Starter motor                       | 1  |
| F8   | Alternator excitation / stop solenoid fuse (10A)                       | 1  | M99  | Electric fuel pump                  | 1  |
| F9   | Dash panel lights fuse (7'5A)                                          | 1  | S36  | Ignition barrel                     | 1  |
| F10  | Flashing / Rotating beacon fuse (15A)                                  | 3  | S38  | Horn switch                         | 3  |
| F11  | Options fuse (10A)                                                     | 2  | S39  | Flashing / Rotating beacon switch   | 3  |
| FG1  | Permanent live main fuse (80A)                                         | 1  | S40  | Hazard light switch                 | 4  |
| FG2  | Starter motor relay main fuse (50A)                                    | 1  | S41  | Working light switch                | 3  |
| FG3  | Pre-heat relay main fuse (30A)                                         | 1  | S43  | Headlight / sidelight switch        | 4  |
| FG4  | Optional fuse                                                          | 1  | S44  | Hourmeter                           | 1  |
| G399 | Battery                                                                | 1  | S999 | Gears selector lever switch         | 2  |
| H12  | Dash panel buzzer                                                      | 2  | Y1   | Forward solenoid                    | 2  |
| H15  | Reverse alarm                                                          | 2  | Y2   | Reverse solenoid                    | 2  |
| HF   | Handbrake switch                                                       | 2  | Y8   | Stop solenoid                       | 1  |
| K1   | Engine start relay (Forward and Reverse switch - joystick- in neutral) | 1  |      |                                     |    |



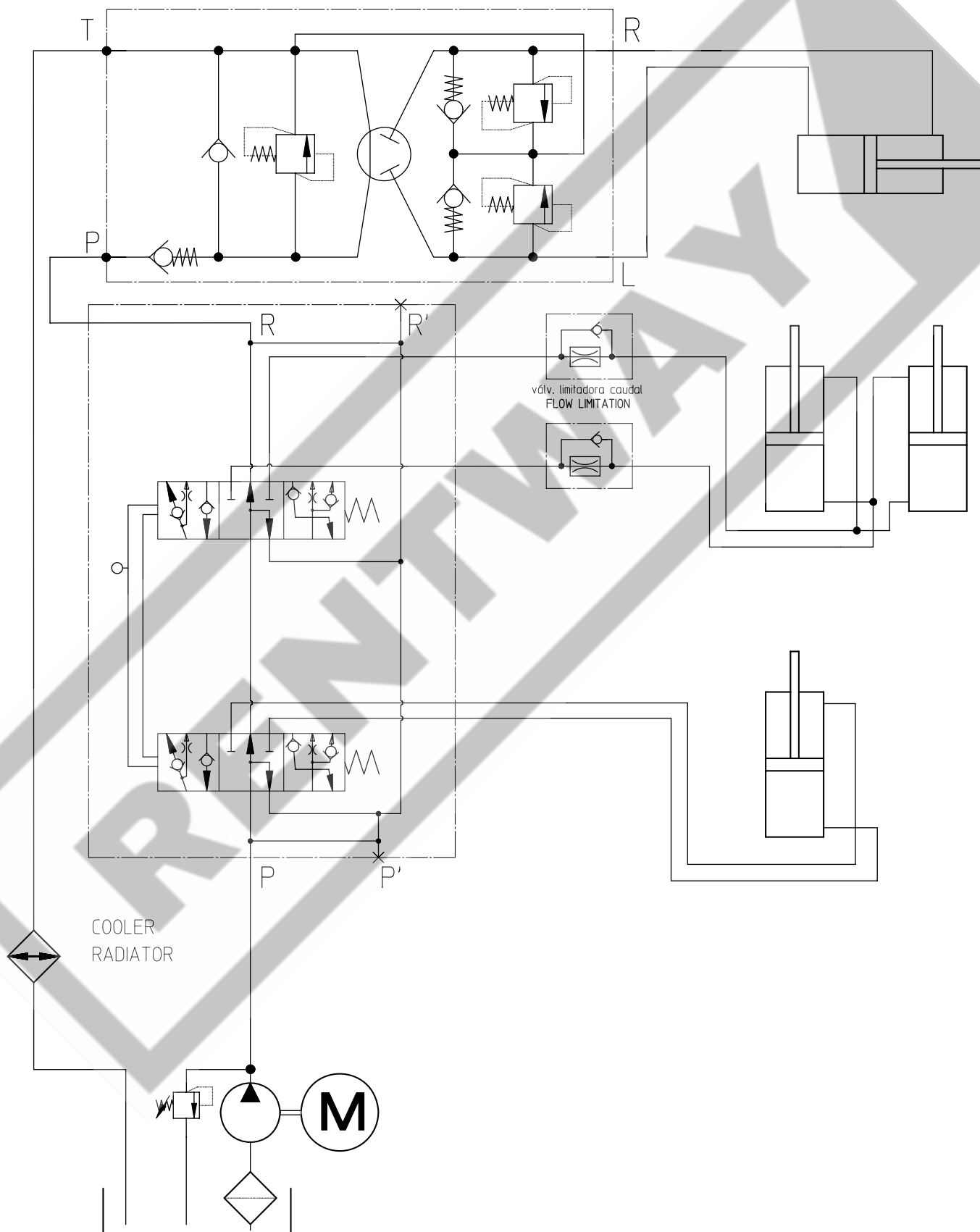


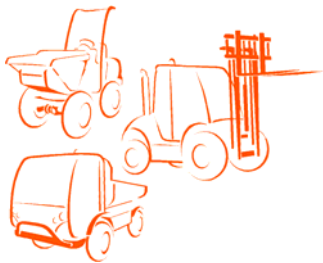
## Hydraulic diagram AP





## Hydraulic diagram APG





## 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



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