

## 1 Equipment

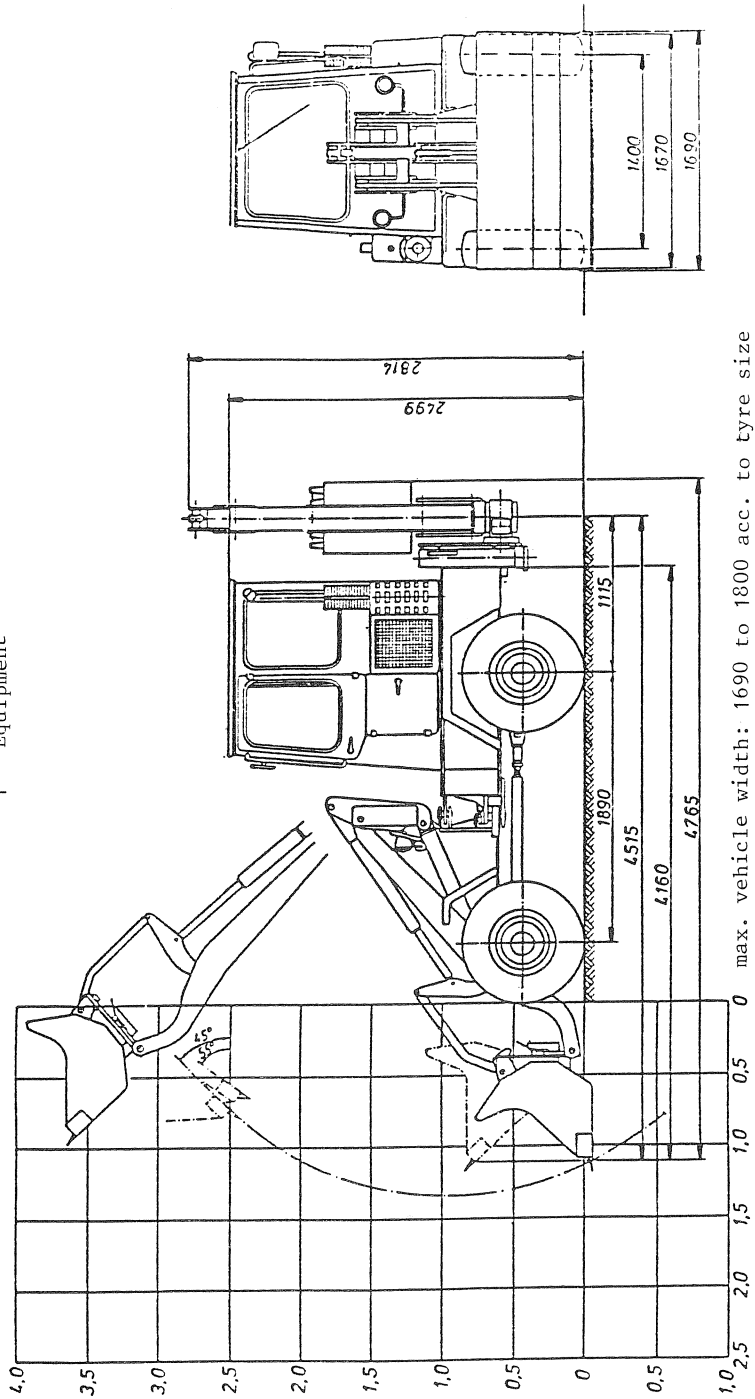


Illustration 1

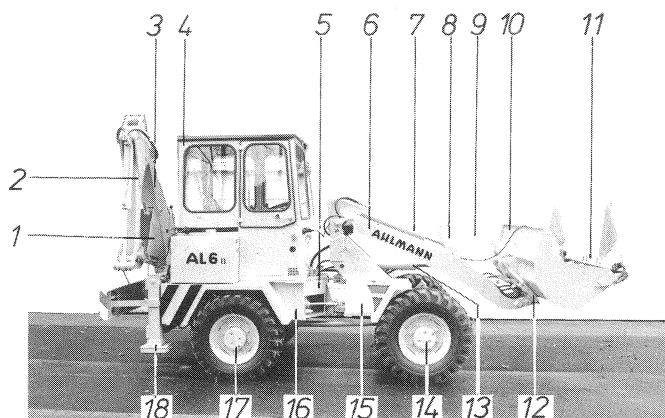


Illustration 2

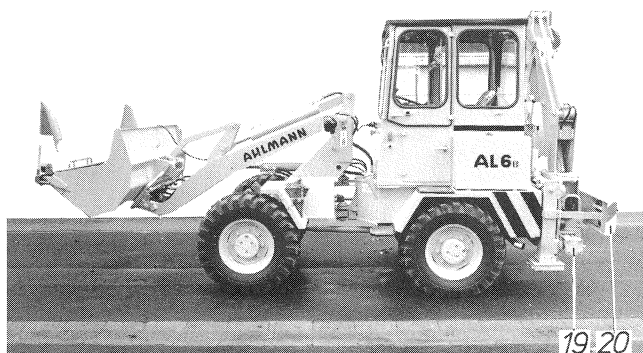


Illustration 3

- |                              |  |
|------------------------------|--|
| 1 - rear-mounted backhoe     | 11 - bucket protection                 |
| 2 - rod                      | 12 - quick-change frame                |
| 3 - outrigger                | 13 - lifting cylinder                  |
| 4 - driver's cabin           | 14 - front axle                        |
| 5 - oscillating articulation | 15 - front chassis                     |
| 6 - shovel arm               | 16 - rear chassis                      |
| 7 - tipping cylinder         | 17 - rear axle                         |
| 8 - shift lever              | 18 - rear-mounted backhoe support      |
| 9 - drag-link                | 19 - rear-mounted backhoe slewing unit |
| 10 - bucket/attachments      | 20 - anti-collision protection         |

## General informations

"Right" and "Left" for basic vehicle are seen from driver's stand. "Right" and "Left" for rear-mounted backhoe are seen from driver's seat in working position.

Rights to alter vehicle specifications are reserved.

### 1.1 Description and technical datas

Diesel engine, air-cooled or water-cooled

air-cooled

- air-cooled diesel engine, Klöckner-Humboldt-Deutz, type F2L511,
- 2 cylinder, 4-stroke, direct fuel injection,
- displacement 1650 cm<sup>3</sup>
- bore 100 mm, stroke 105 mm
- output 25,7 kW (35 hp) at 3000 min<sup>-1</sup>, acc. to DIN 6270 continuous rating B,
- fuel consumption 225 g/kW/h,
- starter 2,4 kW (3,3 hp), 12 V,
- dry air cleaner
- three-phase generator 33 A, 12 V,

water-cooled

- water-cooled diesel engine, Perkins, type 3.1524,
- 3 cylinder, 4 stroke, direct fuel injection,
- displacement 2500 cm<sup>3</sup>
- bore 91,44 mm, stroke 127 mm,
- output 33 kW (45 hp), at 2000 min<sup>-1</sup>, acc. to DIN 6270 continuous rating B,
- fuel consumption 232 g/kW/h,
- starter 2,3 kW (3,2 hp), 12 V,
- dry air cleaner
- three-phase generator 45 A, 12 V,

## Chassis

- diesel engine
- the axial piston pump for travelling hydraulic is driven by the diesel engine.
- high pressure hoses connect the axial piston pump with the axial piston motor.
- the axial piston motor is directly connected with the reduction gear of the rear axle with hub reduction drive. The torque of the axial piston motor is transmitted via drive shaft directly from the reduction gear in the rear axle to the front axle again fitted with hub reduction.

### ATTENTION

- the max. speed of the axial piston motor has been adjusted and set by the factory. Removing the seal results in loss of warranty.
- the front axle is equipped with a multiple-disk-self-locking differential. This self-locking differential is available as an optional extra for the rear axle if required, at extra cost.
- the loader excavator is equipped with 4 equal sized tyres.

Standard tyres are:

- 12,5-18/MPT/6PR for loader excavator with water-cooled engine
- 10,5-18/6PR for loader excavator with air-cooled engine

## Tyres

tyre size	loader equipped					
	with - bucket		with - bucket - backhoe - rear-mounted grab		with - fork-lift attachment - telescopic high-lift	
	front bar	rear bar	front bar	rear bar	front bar	rear bar
12,5-18/MPT/6PR/TL/L2 (tubeless)	1,8	* 1,8	* 1,8	2,0	2,0	* 1,8
10,5-18/6PR/TL (tubeless)	2,0	* 2,0	* 2,0	2,5	2,5	2,0
15,5/55-R18/14PR	1,8	* 1,8	* 1,8	2,0	2,0	2,0

\* Water-filling with anti-freeze

Other tyre sizes upon request

### NOTE!

If backhoe or rear-mounted grab will be installed later, the water filled tyres have to be mounted from the rear axle to the front axle. (The rear right wheel against the front left wheel and the rear left wheel against the front right wheel).

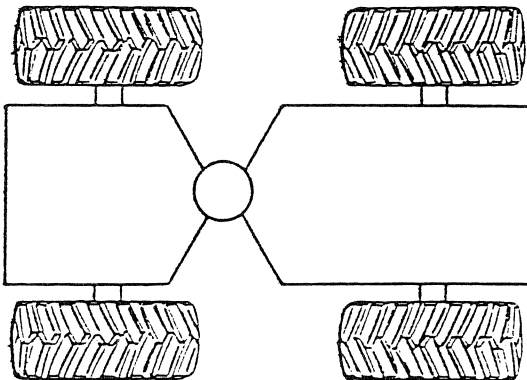


Illustration 4

Tread positioning

## Operating characteristics

### Operating characteristics (with standard tyres)

- working speed 0 - 9 km/h
- Travelling speed 0 - 20 km/h

Noise insulation: Conform with the current German regulations.

Pushing force  
on dry concrete surface 2400 daN

Gradeability  
with payload without backhoe 54 %

Gradeability  
with backhoe and water filling  
in front tyres 45 %

Ground clearance: 280 to 325 mm acc. to tyre size

Minimum external turning radius R = 3800 mm

Oscillation of front chassis 11° up, 11° down  
height difference of the  
wheels 260 mm

Articulation of front chassis 40° to the left, 40° to the right

### Axle loads/Weights

	with air cooled engine	with water cooled engine	
front	1450 kg	1400 kg	without backhoe and without payload, with standard bucket/ quick-change frame and water filling in the rear mounted tyres
rear	2150 kg	2400 kg	
total weight	3600 kg	3800 kg	
front	1100 kg	1050 kg	with backhoe, rear-mounted grab without payload, with standard bucket/quick-change frame and water filling in the front mounted tyres
rear	3400 kg	3750 kg	
total weight	4500 kg	4800 kg	

## Steering System

The hydrostatic steering system is fed by a gear pump via a priority valve. The oil flow is led via a servo valve into the steering cylinder by means of a little expenditure of energy at the steering wheel.

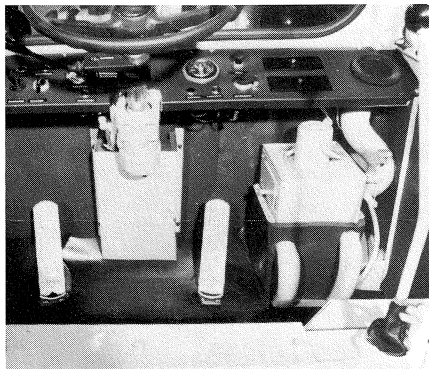
Max. steering pressure 175 bar

### Emergency steering

It is possible to steer the vehicle in the event of an engine failure, but with a much higher expenditure of energy at the steering wheel. The towing speed should not exceed 5 km/h.

## Braking System

### Service brake



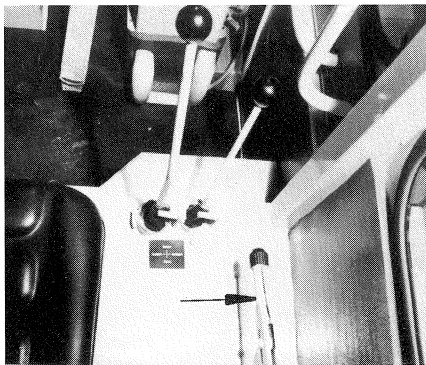
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Foot operated service brake acts via a foot pedal which is mounted at the left side of the steering column and via a Bowden cable on a throttle in the axial piston pump. The driving speed will be slowed down or the vehicle will be stopped by adjustment of the throttle, which is independent on the driving speed.

### NOTE !

When the foot pedal is fully pressed down the drum brake of the parking brake becomes operative and prevents movement of the vehicle.

### Parking brake



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The loader excavator is equipped with a parking brake which is manually actuated. The parking brake becomes operative via a Bowden cable on the reduction gear (rear axle) by actuating the hand lever which is placed at the right side of the driver's seat.

## Electrical Installation

Voltage 12 V

Battery 66/88 Ah 12 V standard

Three-phase current generator capacity see engine

Starter capacity see engine

Hourmeter

2 head lights, front

Emergency flash device

Direction flash lights

Tail lights

Working lights not standard

The light unit complies with German road travel regulations.

## Battery

The loader excavator is equipped with a battery which is maintenance free acc. to DIN and which has a higher cold starting capacity. This battery needs no topping up.

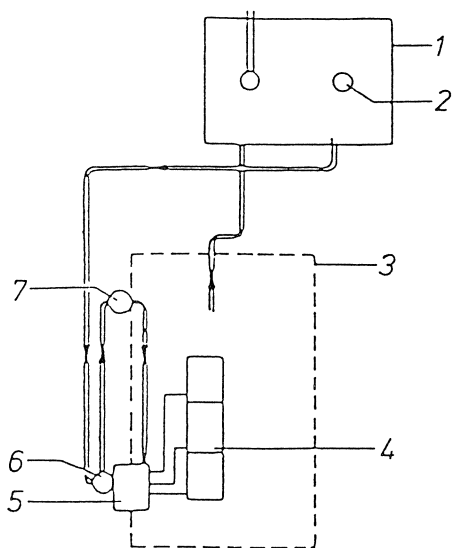
The battery has to be kept dry and clean.

Terminals should be covered with a thin layer of acid-free grease which must not touch the acid.

## ATTENTION!

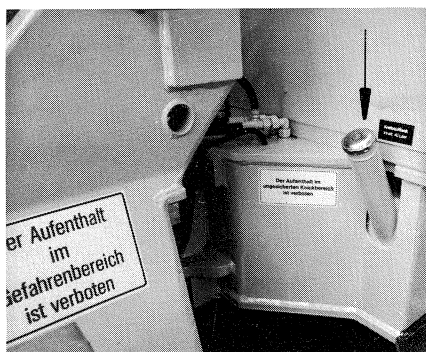
Welding at the loading excavator with electrical welding equipment has to be done only then when the battery terminals have been disconnected before starting the welding.





- 1 Fuel tank
- 2 Fuel filler socket
- 3 Diesel engine
- 4 Injection nozzle  
(2 cylinders resp.  
3 cylinders)
- 5 Injection pump
- 6 Fuel supply pump
- 7 Fuel filter

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#### Fuel delivery unit

The fuel tank is placed at the left side under the cabin. The fuel level in the tank will be checked by means of an electrical fuel gauge inside the cabin. The filler socket is at the left side of the at the rear side of the chassis (ill. 8/ arrow).

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## Lifting and Tipping System

- a lifting cylinder      100/55 mm
  - a tipping cylinder      80/45 mm
- } double acting

will be fed from a gear pump with a capacity of 57 l/min via a pilot valve.

- Max. operating pressure - 190 plus, minus 5 bar with  
aircooled engine  
- 200 plus, minus 5 bar with  
watercooled engine.

All movements of the shovel arm and of the shovel are controlled via a hand lever during sitting on the driver's seat. The hand lever is directly connected with the pilot valve via a linkage and this enables a stepless handling starting with very slow to maximum speed.

## Shovel position

- tilt angle             $45^\circ$
- dump out angle     $55^\circ$  (in highest position)

## Lifting and clearing capacity

	aircooled engine	watercooled engine
- lifting capacity	3250 daN max.	3450 daN max.
- breakout capacity at shovel edge	3600 daN	3800 daN
- thrust capacity on dry concret ground	2400 daN	2400 daN
- tipping load		
- vehicle not articulated, shovel arm with standard shovel, max. elongation	2750 kg	3200 kg
- vehicle articulated, shovel arm with standard shovel, max. elon- gation	2420 kg	2800 kg

### Cycle times

- lifting            5,0 sec.
- lowering        3,0 sec.
- dumping out    2,8 sec.
- tilting          2,0 sec.

## Position of bucket resp. attachment

The driver can read the position of the bucket resp. attachment, if he sits on the driver's seat, by means of coloured marks on the connecting rod and on the shift lever.

The bucket bottom is set parallel to the ground if the marks on the shift lever and on the connecting rod show one line.

## Outfit

### Comfortable driver's seat

With shock absorber and weight adjustment, mounted on sliding rails; adjustable back-rest; can be turned 180° for backhoe operation.

### Well arranged instrument board

Electrical hourmeter, electrical fuel gauge, 12 V socket, pull switch for anti-collision light and several control lights.

### Driver's cabin

ROPS cabin, lockable side doors, left door with lock, if required with hinged rear window, easy access from the left side, front- and rear windscreen wipers, sun shade, defroster nozzle for front window, excellent allround visibility, heating.

### One set of service tools

### One articulation lock

### Two wheel chocks

Extras: Allround light  
Radio

## NOTE!

The standard equipment as supplied by the factory, is in line with the usual standard. Local regulations in Germany or elsewhere may require the installation of additional equipment. It is the user's/distributor's responsibility to ensure that this equipment is added

In accordance with transport regulations the loader is supplied with a minimum of fuel.