



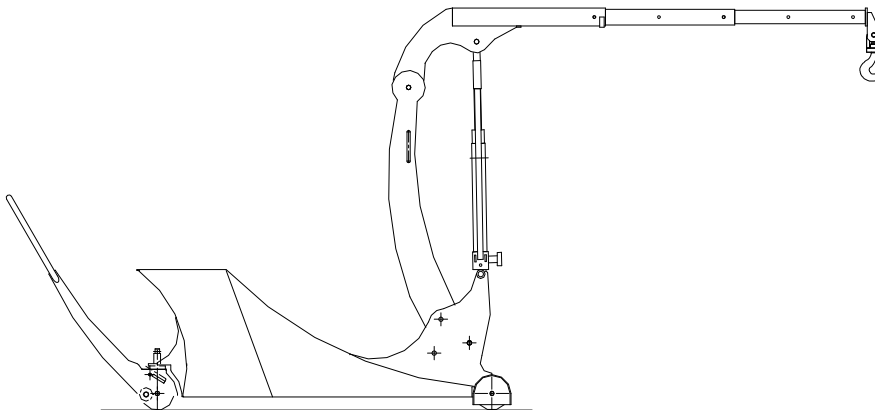
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Europas größtes Werkstattkranprogramm

Instruction Manual

HydroBull®

**counterbalance crane
ITI 250 – 500**



Note: Owner/Operator must read and fully understand this instruction manual before using this equipment!

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Note: Please fill in the serial number of the crane. It is needed for the order of spare parts (shown also on the vehicle identification plate and in the trade bill):

.....

Transport damages

The equipment referred by you was handed over duly to the carrier. If a damage should have developed nevertheless during transport, consider please the following:

1. The insurance protection covers outwardly visible, rough damage, which impairs the function of the equipment. Lacquer -, scratch -, scratching or small damages are not insured.
2. Before you acknowledge the receipt of the transmission, let from the deliverer (course/post office/forwarding business) on the waybill the damage certify itself.
3. Within 24 hours you must inform now the dispatcher of the goods or the setting carrier and request the execution of an ascertainment of the facts. For damage announced later the Federal Railroads or the carrier are not responsible!
4. To make your claims for transport damages valid it is absolutely necessary that it apart from the respective transport enterprise you also inform us - if we are the insurance mediators - immediately about arisen damage. Subsequently, you send us please the ascertainment of the facts and the waybill (in each case the original-signed papers and/or the original) too.
5. After receipt of the papers and after acknowledgment by the transport insurance company we carry out replacement immediately.

Note! Nobody replaces incorrectly determined or late announced transport damages to you!

Warranty

Nevertheless if a defect at a construction unit of your equipment should arise despite all care, we are dependent on your cooperation.

- 1) Please locate as exactly as possible the error (e.g. hydraulic pump, hydraulic cylinder, oil loss etc..)
- 2) You contact then our service department.
- 3) The assembly and disassembly of the defective parts and aggregates are so uncomplicated that a mechanic attendance for this is not intended under normal conditions.
- 4) Please send us only the defective part (not the complete equipment).
- 5) There upon immediately a free examination takes place on our part. If the warranty claims are justified, we put as fast as possible replacement to you at the disposal.

Pulling tight screws and screw connections belongs to the maintenance work which can be accomplished by you and not to our guaranteeings - also not in the guarantee period.

We carry warranty out within the Federal Republic of Germany on all parts of your equipment starting from invoice date (is identical to the distribution date) according to the legal regulations.

Guaranteeings cause neither an extension of the warranty term, nor put they a new warranty term into effect.

The warranty term for exchanged spare parts ends with the warranty term for the complete equipment.

Please have understanding for the fact that our guaranteeings can be completed due to the extremely scarcely calculated prices exclusively over this procedure.

safety regulations

The workshop crane referred by you was manufactured according to the recognized rules of the technology and - before it was released for the dispatch - factory-installed in detail tested. The operating instructions are a substantial component of the product (please keep well).

Nevertheless in each case the valid rules for the prevention of accidents of the professional association are to consider by you with start-up and in the daily use (BGV D6 of the federation of the commercial professional association)!

At each crane the data concerning the maximum loads (carrying capacities) are durably and easily recognizably. It applies in principle only to the horizontal arm position and may not be increased with the arm in upright position!

The equipment may be proceeded under load, however the load must be absolutely lowered on chassis height before the procedure! Driving with elevated load is not permitted.

The driving speed for corridor-served crane is to be limited to slow modulation rate. In order to ensure a accident-free driving, a maximum driving speed of approx. 0,5 km/h may in no case to be exceeded! The serving has both the load and the driveway to observe. For an adequate corridor operation therefore the sufficiently broad, even and horizontal traffic routes, which can be kept free, are necessary.

With the independent leading and maintenance of cranes only persons may be employed, those

- in addition physical and mentally are suitable
- in leading and/or maintenance the crane were be/made instructed
- and their capability for this to the responsible person superior or entrepreneur opposite proved
- and from those to expect that he/she will fulfill assigned tasks reliably

The operator must guarantee that during the operation of the crane no danger exists for third parties and if necessary the employment of the crane has to interrupt immediately.

The operator must guarantee that during the operating phase of the crane no articles are in the surrounding surface of the raised load.

If malfunctions should arise, the operation of the crane is to be interrupted immediately and it has to be looked for the cause of the error.

If rope or chains are used in order to lift the load, the perfect condition of these aids has to be guaranteed before the processing starts.

The lifting aid is to be hung up with special care in the hooks of the crane arm.

The operator must make sure that after hanging up the lifting aid the safety latch of the crane hook is closed.

While the crane will proceed, oscillations of the raised load are to be avoided. If the load begins to swing, the crane must be stopped immediately. Continue transport only if no oscillations of the load are more present.

The crane may be driven manually only, the use of additional means of transport is strictly forbidden.

The user must guarantee that the soil at the area of application of the crane has a sufficient parallelism, in order to ensure the safety regulations during the operation of the crane.



The crane may not be used on bent surfaces!

The crane is to be protected against splash-water and moisture effect!

The crane is not appropriate for the constant employment in outdoor conditions!

examination

Connected with the final inspection before distribution of the equipment the UVV(first) acceptance checking takes place in accordance with BGV D6 (formerly VBG 9). When desired you can book a servicing contract for the annually returning examination with us. Form on the last page.

Any changes of the crane, which were not approved by the manufacturer before, free it from the responsibility for any occurring damages, which is caused thereby. The remove or change of safety devices causes an injury of the European safety regulations.

Start-up

The delivered equipment is a counterweight crane in special design. The crane is equipped for occasional use. Should you use it more than 5 lifting operations per week the living time and warranty period is reduced correspondingly. The equipment is intended for lifting and lowering loads. The crane is delivered completely with counterweight block and is operational after a few preparations.

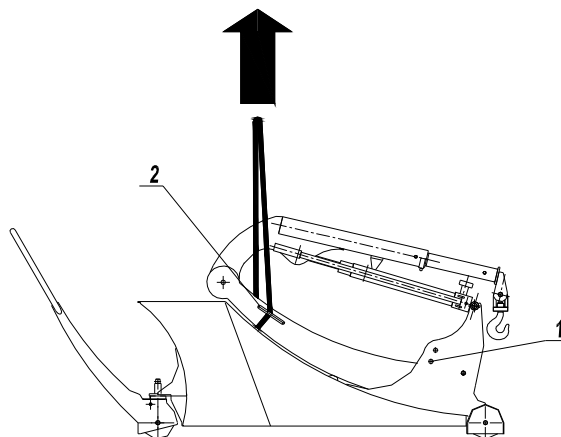
Please read the operating instructions before start-up carefully and absolutely consider the safety references.

The crane is supplied on a pallet and is to be unpacked properly.

- 1) Remove the packing and cut through the fastening bands.



Danger of injury! The bands are sharp edged and are under tension!



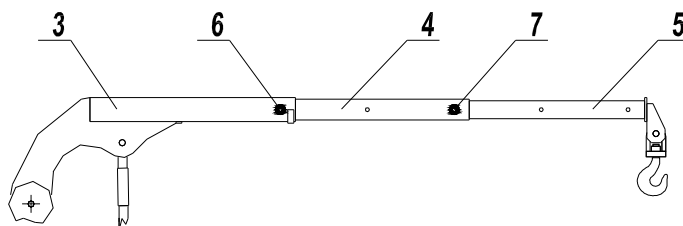
- 2) Before lifting up the crane, the column must be in turned down position as shown in the figure. The steel pin must go through the lower hole in the column rack (pos.1) and be secured by the spring pin. Put a suitable belt or rope through the handle of the column (pos. 2).
- 3) See first for the necessary load-carrying capacity of the lifting aid. Lift the complete crane off the pallet by using an suitable lifting aid.
- 4) if the steering pole is not in place, put the axle of the steering pole through the bush at the rear side of the crane, where the counter weight is, and secure the steering column by using the spring pin.
- 5) Before first start-up and each daily start-up a visual inspection is to be accomplished.
- 6) Take off any lifting devices and pull out the steel pin from the column rack. Hold the column on the handle with two hands and bring it in the upright position, then pull in the steel pin in the upper hole and secure it again with the spring pin. Check that the column does not fall down again.
- 7) The crane is now ready for use.



Watch out!
The crane does not have a service brake!

lifting and lowering load

- 8) First bring the lifting arm (position 3) into the horizontal position. Support the jib extension (pos. 4 and pos. 5), remove the spring cotters and pull the locking pins out (pos. 6 and pos. 7). Bring the jib extension into the desired carrying capacity position. Pull out the middle jib extension first and then if necessary the small jib extension. The lowest figure of carrying capacity shown on the jib extension marks the maximal permissible carrying capacities in the desired jib extension position!



Watch out!
The adjusted carrying capacity may never be less than the load which is to be lifted.

- 9) The locking pins again fasten here and with the spring cotters absolutely secure.
10) Make sure that the jib extensions do not move in the jib and are properly fastened by the locking pins!

Note: You can find the permissible carrying capacities also in the appendix in the assembly drawing and on the carrying capacity diagram at the crane.

In principle applies: The further the jib extension is pulled out, the less weight can be lifted. The arm may not be extended arbitrarily additionally!



Watch out!

If the steering wheel takes off the surface with the lifting operation, the load has to lowered immediately. The jib extension has to pulled in and/or the desired load has to reduced.

- 11) After preselected jib length the arm can be raised.
- 12) Slings and lifting aids must correspond to the valid security standards and be examined. After hanging up the slings the safety latch of the hook must be closed safely.
- 13) Hold the pump lever on the rubber handle and move it slowly from left to right and back.
- 14) The jib moves steadily upwards.
- 15) After arriving the maximum height, the hydraulics has got a hydraulic end position.
- 16) Do not manipulate the hydraulic end position otherwise serious injury or damage can occur.
- 17) If the pump lever is to operate only with difficulty or if the steering wheel takes off from the surface, lower the load immediately. The load has to be reduced or the jib extension has to be pulled in up to the next adjusting possibility.
- 18) To lower the jib open the lowering toggle at the pump by turning anti-clockwise. An opening and a closing of the drain valve has to proceed absolutely slowly and with minimal force. Depending on how far the lowering toggle is turned, the lowering goes faster or more slowly. The lowering toggle is equipped with a feather/spring, which lets the valve close when releasing the grasp immediately and automatically. Nevertheless you should lead back the lowering toggle, in order not to over-stress the feather/spring. It is meant only as a security measure.



Watch out!

The stay of persons under floating and lifting loads is strictly forbidden!

driving and stopping

- 19) Driving and stopping take place likewise by hand. The crane does not have a service brake and is only to be stopped manually. Consider also the safety regulations. The braking of the crane takes place via applying gently the steering wheel at the pole. If the steering pole stands vertical then it is in the "brake on" position and the crane can not be proceeded. Is the steering pole in a more angle

position then the brake of the crane is in position "brake off". In the end positions the steering pole has in each case a supported fastening.



Watch out!
The locking device is not a service brake!

lowering the column

- 20) The column can put down in a position where it is situated on the body of the crane in order to reduce the height.
- 21) First bring the jib extension in position 2
- 22) Lower the jib up to the minimum jib height
- 23) Unsecure the steel pin and secure the column to prevent it from falling down by holding it with the hands.
- 24) Pull out the steel pin at the column rack
- 25) Slowly put down the column on the base of the crane
- 26) pull the steel pin in an now not used hole and secure it with the spring pin



Watch out!
Never hold your hands or bring any article between the column and the base of the crane when the column is unsecured!

Note: It is possible that when pumping depending upon speed and weather easy screeching noises and more easily oil film arise. This is construction dependent and has no influence on the function.

The crane is only to be used for the intended purpose. A going out over the description or other use is not permitted. For any arising damage the supplier is by all means not to be made responsible.

maintenance and care

In principle the equipment is maintenance-poor and arranged very user-friendly. Consider please nevertheless the following points, in order to ensure the efficiency and the perfect enterprise of the crane. Maintenance and cleaning must be accomplished regularly. Generally maintenance and cleaning may be accomplished only by considering the safety regulations and the rules for the prevention of accidents! Special maintenance and repairs may be accomplished only by special-trained technical personnel. For execution the crane is to be relieved and the jib is to be lowered up to the minimum.

Hydraulic system

In principle no screw connection may be unscrewed or pulled tight, as long as the hydraulic system is at pressure. If leaky places are found, then the load is to be lowered. Before the unscrewing the screw connections etc. the outside environment must be well cleaned. Dripping quantities of oil are to be taken up immediately. If the crane does not reach its indicated vertical height, it is to be examined whether the lowering valve is correctly closed. If that is the case, it is to be examined whether the level of the hydraulic oil is sufficient. Therefore the oil control screw at the upper front part of the pump housing must be unscrewed with pushed in lifting cylinder piston. The oil level must lie appr. 2 mm under the threat. If the level is not sufficient, then new hydraulic oil with a clean oil syringe is to be refilled. Use only mark hydraulic oils (viscosity 22cSt with 50°C, for instance SHELL TELL US 22 or similar). Subsequently, screw in and tighten the oil control screw again.

Lifting cylinder

If the equipment is parked in damp areas or in the open-air-surrounding, the lifting cylinder piston should be brought in, so that it is protected from impurities.

Fastening parts

Screws and screw connections are to be examined regularly and to pull tight if necessarily.

Control elements

Handles and actuators are to be kept clean and exchanged when damaged.

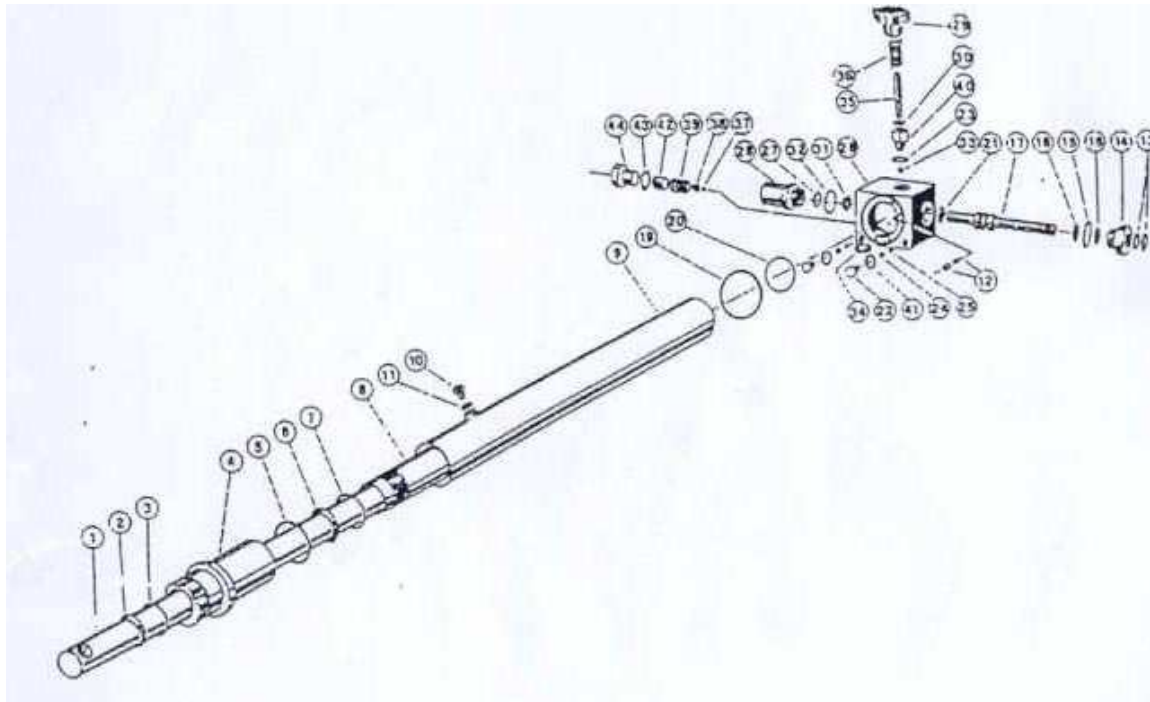
Wheels

Damaged wheels of the crane are to be exchanged and the wheels are to be kept clean. Wheel lugs are to be oiled regularly, in order to ensure the operation smoothness.

Safety eddy hook

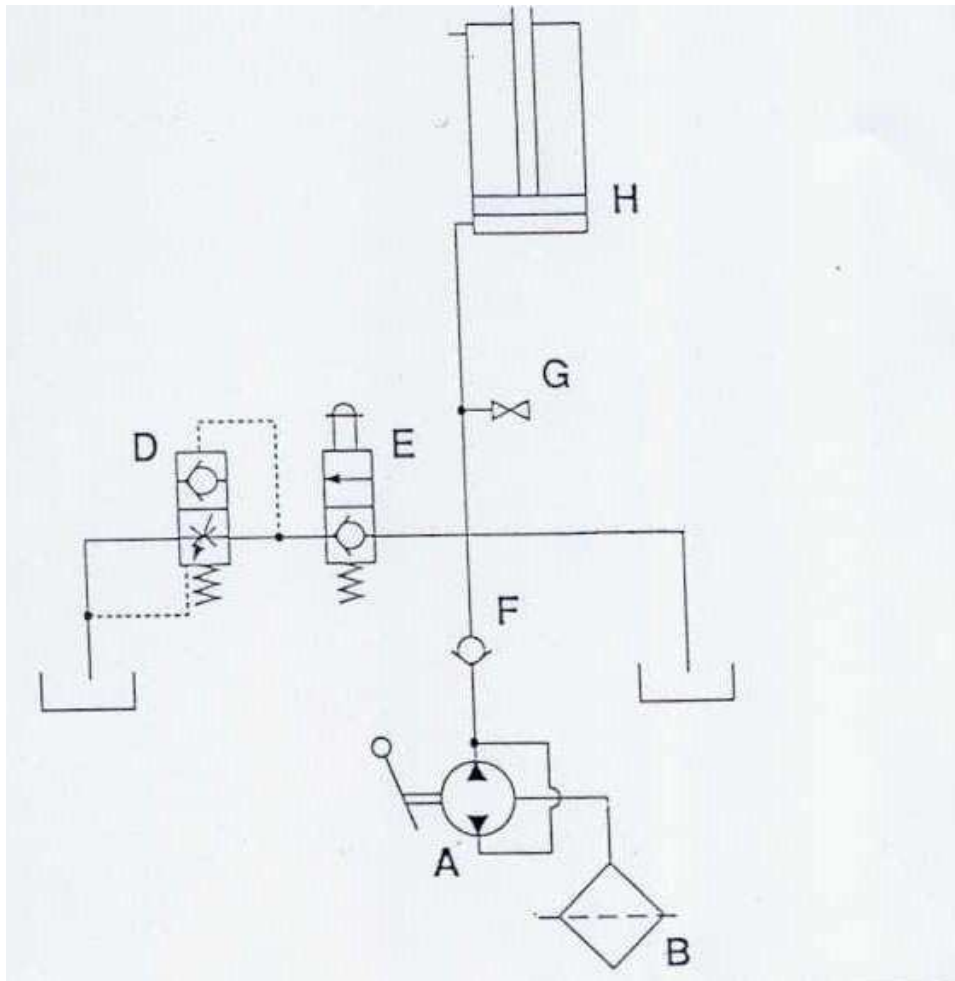
The safety hook is to be cleaned regularly and easily oiled at the swivel joint. The snap rings of the hook pin may not be damaged or be missing and have correctly to sit in the intended groove. The safeguard latch of the hook must be low-friction and close automatically.

Hydraulic aggregate (hydraulic incl. spare parts catalogue)



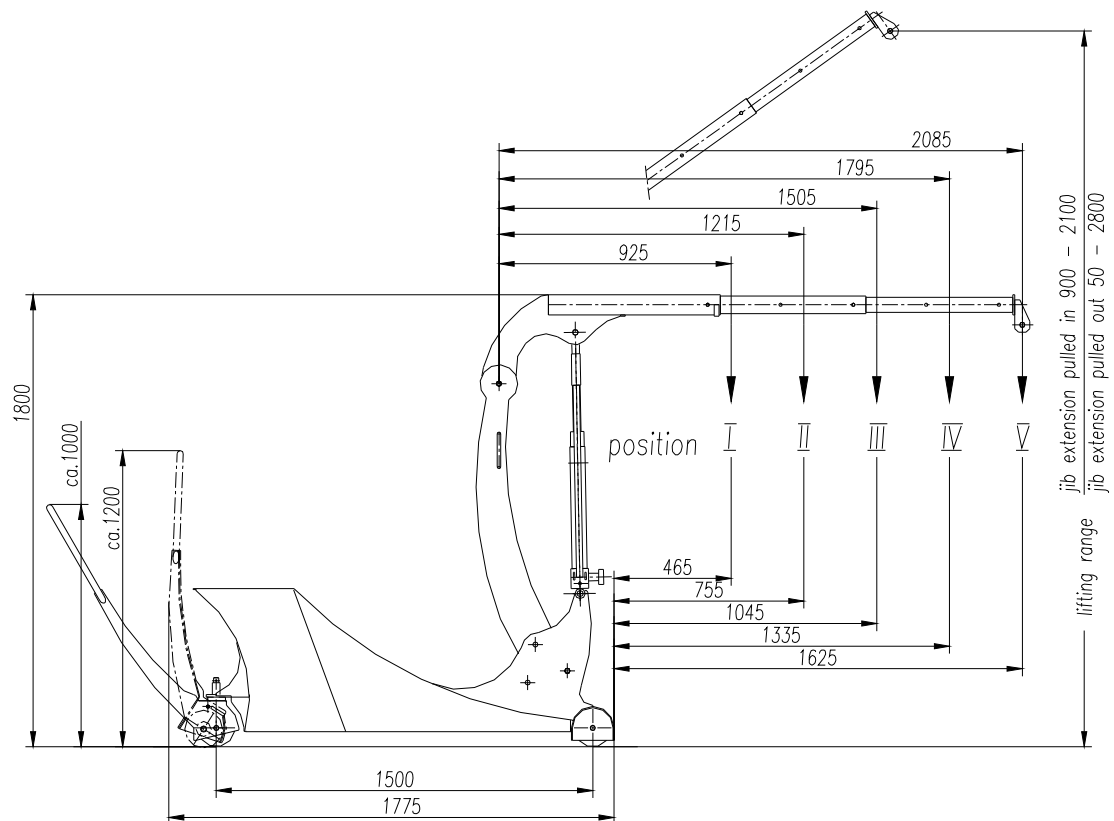
pos.	component	part number
01	piston	OMED 5003.1
02, 03, 05, 06, 07	sealing ring set	OMED 5111.1
04	guide ring	OMED 5001.1
08, 20	Cylinder incl. sealing ring	OMED 5002.1
09, 19	Öl tank incl. sealing ring	OMED 5004.1
10, 11	oil controll screw and sealing	OMED 5029.1
13, 15, 16, 18, 21	pump piston sealing set	OMD 5122.1
14	guide busher	OMED 5006.1
17	pump piston	OMD 5050.1
23, 30, 33	lowering valve sealing	OMED 5047.1
26, 12, 24, 25, 34, 22	pump body	OMD 5042.1
27, 28, 31, 32	secondary pump body.	OMD 5113.1
29	handle	OMED 5046.1
35	lowering valve lever	OMED 5059.1
36	spring	OMED 5045.1
37, 38, 39, 42, 43, 44	over pressure valve	OMED 5062.1

scheme of the hydraulic system



- A) pump
- B) oilfilter
- D) valve for monitoring the lowering speed
- E) lowering valve
- F) Check valve
- G) pressure gauge connection (optional)
- H) hydraulic cylinder with piston

Assembly drawing



data sheet Hydrobull		type	I.T.I 250	I.T.I 350	I.T.I 500
A1	carrying capacity on jib length position I (925 mm)	kg	250	350	500
A2	carrying capacity on jib length position II (1215 mm)	kg	165	230	360
A3	carrying capacity on jib length position III (1505mm)	kg	120	170	265
A4	carrying capacity on jib length position IV (1795 mm)	kg	95	135	210
A5	carrying capacity on jib length position V (2085 mm)	kg	80	110	175
S	lifting height max	mm	2800	2800	2800
B	driving through width	mm	800	800	800
LF	chassis length (wheel base)	mm	1500	1500	1500
GL	length overall	mm	1775	1775	1775
K	height (coulmn in down position, without steering pole)		1020	1020	1020
	3 wheels	mm	150	150	150
	weight	kg	600	600	600

Servicing contract

Hereby we assign you the execution of the annual UVV examination including maintenance for the following equipment:

.....
equipment

type designation :..... serial number.....

year of construction :.....

location of the equipment:.....
(please absolutely necessary)

Performance specification:

1. Examination of the entire hydraulic system
2. examination of the insurance of operation
3. examination of the welding seams
4. examination of the connecting elements
5. examination of the wheels
6. overload examination
7. certificate for the trade supervisory board as well as the professional association in the test book

The account takes place at the current valid price list. The costs of spare parts, operating and auxiliary materials, as well as labour costs of additional repairs are not included. Any other repairs are require permission by the customer.

If this order up to the year end is not recalled, it keeps running in each case for the next year.

Client:

Company:.....

Address:.....

Telefon:.....Date:.....

Telefax:..... signature:.....

Repair order (dispatch by post office or fax)

Hereby we assign you the repair of the in the following described equipment:

Equipment:

Type serial number.....

year of construction:.....

location of the equipment:
(please absolutely necessary)

Special safety regulations:.....

Partner for the equipment:.....

Attainable daily in the time from..... to..... o'clock.

Repairing parts (please mark)

wheels steering element

hydraulics Battery

battery charger other:.....

Client:

Company:.....

Address:.....

Telefon:.....Date:.....

Telefax:..... signature:.....