



BAUER

FOR A GREEN WORLD

OPERATING MANUAL

for

Boom Cart AS 50

Basic structure of ASG 40 as AS 50



Version I-2006

BOOM CART
AS 50
E

Introduction

Thank you very much for purchasing BAUER Boom Cart AS 50!

We have pleasure to present to you the **BAUER Boom Cart AS 50**, a sprinkler boom construction that features state-of-art technology and top quality. This manual describes how to assemble, operate and service your **BAUER Boom Cart AS 50**. For reasons of clearness and because of the many possibilities this manual does not cover every information down into detail. In particular, it cannot possibly deal with every conceivable aspect of operation and maintenance.

If you need further information or if you are faced with any special problem for which this manual does not offer sufficient details, please do not hesitate to contact **BAUER** company at Kowaldstraße 2, A-8570 Voitsberg in Austria for the information you need.

We should also like to emphasise that the contents of this operating manual neither form part of or alter in any way previous or existing agreements, promises, or legal relationships. Any commitment on the part of **BAUER** is based solely on the respective purchase contract, which also contains the complete and only valid warranty arrangement. The contents of the present operating manual neither extend nor limit said contractual terms of warranty.

All information contained in the present manual is based on the latest product details available at the time of printing.

BAUER reserves the right to change without notice, without assuming any liability!

BAUER Boom Cart AS 50 is designed for safe and dependable performance provided it is operated according to the present instruction manual. Therefore, in spite of the simplicity of the boom cart, we request that you read this manual carefully before putting your **BAUER Boom Cart AS 50** into operation! All instructions given for handling, operating and servicing the cart must be strictly observed. On condition that these instructions are followed your **BAUER** boom cart will operate trouble-free to your full satisfaction for many years!

Non-observance of these instructions may cause personal injury or damage the equipment!

This operating manual is considered an integral part of the Boom Cart AS 50. Suppliers of new and used carts are advised to put down in writing that this manual was handed over together with the device.
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Please make this manual available to your staff.

We wish you success and hope you will enjoy working with your BAUER Boom Cart AS 50!

Product details

Type designation: Boom Cart

Type number: Series AS 50

Serial number¹: _____

Dealer:

Name: _____

Address: _____

Tel./Fax: _____

Date of shipment: _____

Manufacturer:

Röhren- und Pumpenwerk **BAUER** Ges.m.b.H.
Kowaldstr. 2
A - 8570 Voitsberg
Tel.: +43 3142 200 - 0
Fax: +43 3142 200-320 /-340

Owner or operator:

Name: _____

Address: _____

Tel. / Fax: _____

General Safety Instructions

Symbols and terms



The CE symbol that has to be affixed on the machine by the manufacturer outwardly demonstrates compliance of the machine with the directives for machines and other relevant EU directives.

**WARNING!**

This "Warning" symbol refers to important safety instructions in this manual. Whenever you see this symbol be aware of possible injury hazards. Read the note following the symbol very carefully and inform the other operators accordingly.

CAUTION

Non-observance of this instruction may cause damage to or destroy the machine or individual components.

NOTE

It is very important to observe this note or condition!

Qualified operators are persons who on account of their training, experience and instruction as well as their knowledge of relevant standards, rules, precautions to be taken for accident prevention, and prevailing operating conditions, have been authorised by the person in charge of plant safety to perform the respective tasks required, and in doing so are able to recognise and avoid potential hazards. Among other things, knowledge of first-aid procedures is also required.

Product liability

As defined by the product liability law every farmer is also an entrepreneur!

According to §9 PHG (Product Liability Law), liability for damage to corporeal things caused by defective products is expressly excluded. This exclusion of liability also applies to parts not manufactured by BAUER itself but purchased from external suppliers.

Duty to furnish information

Even if the customer passes on the machine later-on he is obliged to hand the operating manual on to the new receiver, too. The receiver of the machine must be instructed with reference to the mentioned regulations.

Intended use

- BAUER Boom Cart AS 50 is built exclusively for normal agricultural applications (intended use).
- Any use beyond this normal use is considered non-conforming. Manufacturer is not liable for damage resulting from such non-conforming use, the sole liability for damage from non-conforming use is with the user.
- Intended use also includes compliance with the manufacturer's operating, maintenance and service instructions.
- The BAUER Boom Cart AS 50 may be used and operated only by persons who are familiar with the device and aware of the hazards involved.
- All rules for accident prevention as well as any other generally valid specifications and regulations relating to safety, work medicine and traffic law must be strictly observed.
- Unauthorised modifications on the machine release the manufacturer from liability for damage resulting therefrom.

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1. GENERAL INSTRUCTIONS FOR SAFETY AND ACCIDENT PREVENTION

CHECK THE OPERATIONAL SAFETY OF THE MACHINE BEFORE EVERY START-UP.

1. In addition to the instructions contained in this manual, all specifications generally valid for safety and accident prevention must be observed!
2. The warning and instruction signs affixed to the machine give very important instructions for safe operation. Observing them serves your own personal safety!
3. Never put the machine into operation unless all guards and safety devices are completely mounted and in their proper working position!
4. Acquaint yourself with all equipment components and controls as well as their respective functions before starting to work. It is too late when the device is already running!
5. The operator's clothes should fit tightly. Avoid wearing loose clothes!
6. When handling slurry always keep in mind that the gasses produced are highly toxic and extremely explosive in combination with oxygen. Therefore, open fires, light tests, sparking and smoking are strictly forbidden!
7. Utmost care is required with regard to gasses in slurry and dung channels at open valves to the preliminary pit, before the main pit, or at cross channels. The same applies to mixing and withdrawal points when mixers or pumps are running!
8. When handling slurry always ensure sufficient ventilation!
9. Keep the machine clean to avoid fire hazards!

TRACTOR-DRIVEN MACHINES

1. Before starting inspect the area around the machine (Children) ! Make sure your view is unrestricted!
2. Riding on the machine during transport is forbidden!
3. Couple the machine according to instructions and fasten it only at the specified points!
4. Be especially careful when coupling the machine to the tractor or uncoupling it!
5. Always adjust the supports in the proper position when coupling or uncoupling the machine (stability)!
6. Always mount balancing weights properly at the points provided!
7. Observe restrictions pertaining to axle load, total weight, and transport dimensions!
8. Inspect and mount all items required for transport such as lighting, warning signals and possible safety devices!
9. Mounted or trailed machines as well as balancing weights influence road behaviour, steering and braking capacity. Therefore make sure that proper steering and braking are possible!
10. Consider the projection and/or centrifugal mass of the machine when driving in curves!
11. It is forbidden to stay in the working range of the machine while it is operating !
12. Keep out of the turning and swivelling range of the machine!
13. Only operate hinged hydraulic frames when nobody is in the swivel range!
14. Externally powered machines (e.g. hydraulic) bear a crushing and shearing hazard!
15. Nobody is allowed between the tractor and the implement unless the tractor is secured by the parking brake and /or wedges under the wheels!
16. Hinged supports must always be folded up and secured before driving away!
17. Secure the machine and the tractor against rolling!

TRACTOR-MOUNTED MACHINES:

1. Before a machine is linked to or detached from the three-point linkage, the control device must be shifted to a position in which unintentional lifting or lowering is impossible!
2. When using the three-point linkage the linkage parameters of both tractor and attached machine must correspond, if not, they have to be matched accordingly!
3. The three-point linkage bears crushing and shearing hazards!
4. When operating the external control of the three-point linkage never step in-between tractor and the machine!

5. When the machine is in the transport position make sure that the tractor's links are always properly secured on the sides.
6. When driving on the road with the machine lifted the control lever must be locked against lowering!

TRAILED MACHINES

1. When a machine is coupled to the drawbar make sure that the coupling point provides sufficient flexibility!

POWER TAKE-OFF (APPLIES ONLY TO PTO DRIVEN MACHINES)

1. It is not allowed to use any other types of PTO drive shafts except the ones prescribed by the manufacturer!
2. Drive-shaft guard tube and guard cone as well as the PTO guard – also on the machine side - must be mounted and in good working order!
3. When using a PTO drive shaft always observe the specified overlap in transport and working position!
4. Never connect or disconnect the PTO drive shaft unless the PTO is stopped, the engine turned off, and the ignition key pulled out!
5. Make sure the drive shaft is always connected and secured properly!
6. Attach the safety chain to keep the drive shaft guard from rotating with the shaft!
7. Before you turn on the PTO make sure that the selected tractor PTO speed corresponds with the permissible implement speed!
8. Before starting the PTO make sure that nobody is standing in the danger zone of the machine!
9. Never turn on the PTO when the engine is turned off or during a transport drive!
10. When working with the PTO nobody is allowed near the turning PTO or drive shaft!
11. Warning! The PTO shaft may continue turning due to its centrifugal mass after the PTO has been turned off! Keep clear of the machine during this time and do not touch until the PTO shaft stands absolutely still!
12. For cleaning, greasing, or adjusting the PTO driven implement or drive shaft, PTO and engine must be switched off and the ignition key pulled out!
13. Place the disconnected drive shaft on the provided support!
14. When drive shaft has been removed put the guard on the PTO shaft!
15. If a defect occurs repair it immediately before starting to work with the machine!

Hydraulic system

1. Hydraulic system is under high pressure!
2. When connecting hydraulic cylinders and motors, make sure the hydraulic hoses are connected as specified!
3. Before coupling the hydraulic hoses with the tractor's hydraulic system make sure that the entire hydraulic system is pressureless both on the tractor and implement side !
4. Inspect the hydraulic lines at regular intervals and replace them immediately in case of defects or ageing. Replaced hoses must comply with the technical specifications of the implement manufacturer!
5. When looking for leaks use only suitable equipment because of the injury hazard involved!
6. Liquids emerging under high pressure (hydraulic oil) may penetrate the skin and cause serious injuries! An injured person must see a doctor immediately! Danger of infection!
7. Before working on the hydraulic system the machine must be lowered, the system depressurised and the engine turned off!

Electric-driven implements

1. All work beyond normal maintenance of the implement should be performed only by a professional electrician!
2. Defective or broken plugs and sockets must be replaced by a professional electrician!
3. Never pull a plug out of the socket at the flexible electric cord!
4. Extension cables for power supply should be used only temporarily! Never use such lines permanently as a substitute for the required fixed installations!
5. Flexible lines laid across traffic areas on the farm must have at least 5 m ground clearance!
6. Always turn off the power supply before you do any work on the machine!
7. Check all electric lines for visible defects before you put the machine into operation! Replace defective cables and do not start the machine before that!
8. Never use electric-driven implements in damp situations or locations exposed to fire hazard unless they are adequately protected against moisture and dust!
9. Covering electric motors may cause heat concentration with high temperatures which could destroy the operating equipment and cause fires!

Hand-operated devices (valves)

1. Because of the slurry gasses produced in the lines, no slurry is allowed to remain in closed pipelines – bursting hazard!
2. Lay the pipelines with sufficient inclination and make sure that the selected closing order of valves allows all lines to be drained completely!
3. Protect the valves against unauthorised handling!
4. If a valve gets jammed do not apply force! Use only the operating levers supplied with the implement!
5. Observe the permissible maximum operating pressure of valves and pipelines when pumps are operated!
6. Service only when the tanks are empty!

Maintenance

1. Never perform any maintenance, service or cleaning work or fault elimination steps unless the drive is turned off and the engine is standing still!
2. Check proper fit of all nuts and bolts regularly and tighten them, if necessary.
3. If maintenance work is required on the lifted machine always secure it by means of appropriate supports!
4. When exchanging tools with cutting edges always use proper tools and wear safe protective gloves.
5. Dispose of oil, grease and filters according to local laws and regulations!
6. Always turn off power before working on the electric system!
7. Before electric welding on the tractor and mounted machines the generator and battery cables must be disconnected!
8. Spare parts must meet manufacturer's minimum technical specifications! This is the case for instance with original spare parts for instance!

2 GENERAL

BAUER products are designed and manufactured carefully, subject to a system of continuous quality control. BAUER AS 50 Boom Cart is a spray boom extending 50 metres in width for fully mechanised and labour-saving irrigation. To set up the cart you simply unfold the boom elements by hand.

BAUER Boom Cart AS 50 is a universal appliance that can be operated on fields of varying lengths. There is no need for supervision while the system is operating.

Strict observance of all operating and service instructions contained in this manual is the basic prerequisite for many years of trouble-free operation. Therefore please make sure that all operators on your staff are familiar with the instructions given in this manual.

We warrant for this pump according to our General Terms of Sale.

3. SAFETY PRECAUTIONS FOR THE BOOM CART AS 50

1. Read this manual before you put the system into operation for the first time.
2. Never handle the PE-pipe near the device or the device itself during pull-off or retraction.



WARNING!

Danger if not handled properly!

3. Never service or set any part of the system while it is operating.
4. Keep clear of all moving parts.
5. Never expose any moving parts by removing protective elements.
6. Keep a safe distance from the sprinkler during operation.
7. Be careful in case of high connecting pressure!
8. Make sure that the water jet from spray nozzles does not hit public roads.
9. The boom cart is transported together with the Rainstar and licensed only for transport in agricultural operation. For transportation on public roads all applicable traffic requirements must be strictly adhered to.



WARNING!

For safety reasons it is not allowed to transport the Rainstar by pulling it with a jawed drawbar (OPTIONAL) connected to the tractor toolbar!

10. When you drive in curves with the boom cart lifted on the Rainstar the maximum permissible driving speed is reduced considerably, depending on the position of the system's centre of gravity!
11. Always ensure that the locks and stops are secured according to the machine's general conditions for transport.
12. Before starting to irrigate near electric power lines you should contact your local power supply company regarding safe distances.
13. Maximum permissible speed: 10 km/h

4. DESCRIPTION

Boom Cart AS 50 and Rainstar assembly is a universal system for irrigating varying lengths and widths of fields. It is best suited for grain, field and root crops as well as vegetable plantations and all kinds of grassland.

The main components of the boom cart are the three/four-wheel undercarriage and a centre support on which the boom assembly is carried in pendulum bearing.

A four-wheel trolley is available for retracting the cart to the Rainstar laterally (in this configuration the PE-pipe can be laid down in the driving lane).

An additional fifth wheel with a wheel flange prevents the trolley from being pulled aslant.

The 50 m wide spray boom is the heart of Boom Cart AS 50.

This boom consists of a centre piece carried in pendulum bearing on the centre support of the system, and 5 boom arms on each side which are held together by a cable bracing.

The first four boom arms are collapsible, the last boom arm is a slip-on assembly.

Wind bracing ensures stability in horizontal direction.

For reasons of weight and stability the boom arms and wind bracing are made of steel and aluminium.

The spray boom is equipped with full and part-circle spray nozzles. With suitable sprinklers on the ends of the boom the system can cover up to 72 m irrigated width.

The AS 50 Boom Cart is pulled with the tractor's toolbar and a draw-out hook mounted on the three or four-wheel trolley.

Retraction is carried out with BAUER Rainstar.

The cart retraction speed is infinitely adjustable. It is set by means of the ECOSTAR and shown on the display. Depending on the water supply and connecting pressure the speed may vary from 8 to 150 m/h. Connecting pressure should not exceed 11 bar.

At the end of the irrigated strip the drive is shut-off automatically by means of the shut-off frame and a system of rods.

For safety reasons the Rainstar drive is equipped with an emergency stop as well as a reversing stop. With this emergency stop the entire drive system can be stopped instantly by hand.



WARNING!

Never remove the drive cover before you have turned off the water supply to the machine and slackened the stretched PE-pipe.

Slacken the PE-pipe by carefully shifting the gear shift lever of the Rainstar downward (see Rainstar operating manual).

If the Rainstar is equipped with an overpressure-actuated shut-off valve the water supply is shut-off simultaneously.

If a low-pressure shut-off valve is mounted the pumping unit is shut-off.

After system shut-off fold up the boom arms and fix them on the left and right support brackets on the Rainstar. The rear support legs of the Rainstar are retracted hydraulically. Thereby the boom cart is hoisted into the transport position automatically. Then you can move the Rainstar and boom assembly to the next set-up position right away. After pulling off or laying down the PE-pipe you can hook up the water supply and put the system into operation again.

When driving on public roads the Boom Cart AS 50 must be folded up and secured on the Rainstar. The reel must be turned into the driving direction and locked with the pin. Jack and both rear supports must be retracted into the topmost position (transport position).

On public roads the drawbar must be hitched to the trailer coupling. Do not exceed the maximum permissible speed of 10 km/h. For increased safety against overturning when driving in curves we recommend to set the maximum possible track width.

Basically, it is possible to drive between hydrants with the boom cart lifted on the side of the Rainstar. However, in this configuration you must always adjust the driving speed to the existing conditions and never exceed 5 km/h. For this procedure the Rainstar models E11 and E21 are provided with a weight bracket (suitable for carrying concrete balancing weights or sand bags of max. 120 kg). This will prevent the Rainstar from tipping over in the lateral transport mode.

Also note that a wider driving lane is required when transporting the Rainstar with the boom cart.

5. SHIPPING

For shipping reasons the boom cart components are delivered loose and have to be assembled before the system can be put into operation.

The boom pipes and wind braces as well as the undercarriage with the pendulum bearing and centre support are packed loosely in one box each.

6. ASSEMBLY

Assemble the system according to the following instructions:

3-wheel cart

1. Slip the pre-mounted rear wheel bases on the undercarriage with the wheels on the outside, and secure them. The flanged bracket on the frame, designed for taking up the centre support, is on the rear.



2. Mount the steered front wheel in the middle of the undercarriage.



3. Assemble the adjustable shut-off fin according to the plan and connect it up to the horizontal pipe of the Rainstar.

Connect steering fork to AS 50 front wheel



4. The adjustment of the shut-off fin varies depending on the respective Rainstar model. The adjustment has to be made per drawing sent with add on parts in the delivery.



- 5 Connect the water-carrying pipe with the flange of the horizontal pipe.



- 6 Put up the center support with the screwed-on intermediate piece on the flanged plate of the undercarriage and screw it down. Make sure that the cart lifting hook points into the direction of the steered front wheel. The hose connection points forward (not on 4-wheel cart).
As an option an intermediate piece, 360° turnable, can be mounted.



- 7 Couple the water supply hose with the water carrying pipe and connect the assembly on the center support with hose clamps. Adjust the hose length to avoid kinks.

4-wheel cart

8. Is a 4-wheel cart in use, the steered front wheel is mounted on the left or right side, according to the PE-pipe inlet on the Rainstar.



9. Mount the 360° swivelling support wheel on the opposite side. The mounting bracket with the swivel axle points backwards.



10. Mount the drawbar on the side of the steered wheel, (in line with the PE-pipe). On the 3-wheel cart, the draw bar is mounted in the centre of the cart.
The shiftable bracket for the chain tensioner is put onto the draw bar first.



11. Position the tracking wheel support on the drawbar in such a manner that the tracking wheel lies in the tracks of the cart wheels.
Chain tensioner and chain are mounted on the shiftable bracket.



12. Put the center support with the intermediate piece on the flanged plate of the undercarriage and screw it down. Thereby the cart lifting hook points into the direction of the steered front wheel. Depending on the PE-pipe run-in position to the Rainstar, the hose connection is pointing diagonally to the front left or front right.



13. Couple the water supply hose with the water carrying pipe and secure the assembly on the centre support with hose clamps. Adjust the hose length to avoid kinks.

14. Install and adjust the shut-off fin as described for the 3-wheel cart.

Boom Pendulum-center part



15. Join the upper and lower part of the pendulum center part, add the reinforcement brackets and complete the assembly.



16. Mount the pendulum center part with the horizontal wind bracing facing backwards on the center support with the pin. The guide frame is re-mounted on the center support.



17. Turn the locking bracket on the central pendulum bearing to the centre support. This prevents the assembly from oscillating and the boom arms are easier to mount.



Boom elements



18. Fix the chain links of the cables to the pendulum center part. Adjust length variations of the cables with these links.



19. The boom pipes must be assembled step by step alternating on the left and on the right and braced with cables. A complete pre-assembled boom package consisting of 4 boom pipes with wind bracing is fixed to the center part with a pin.



Cable length

Cable 1	4,74 m
Cable 2	9,80 m
Cable 3	14,74 m
Cable 4	19,70 m
Cables 5+6	3,0 m



20. Backing up the first boom pipes with the adjustable support avoids swinging of the boom and makes the following assembly easier.

Cable no. 1 is connected to the first pipe, cables 2, 3 and 4 are laid out, put through the cable supports and prepared for connection.

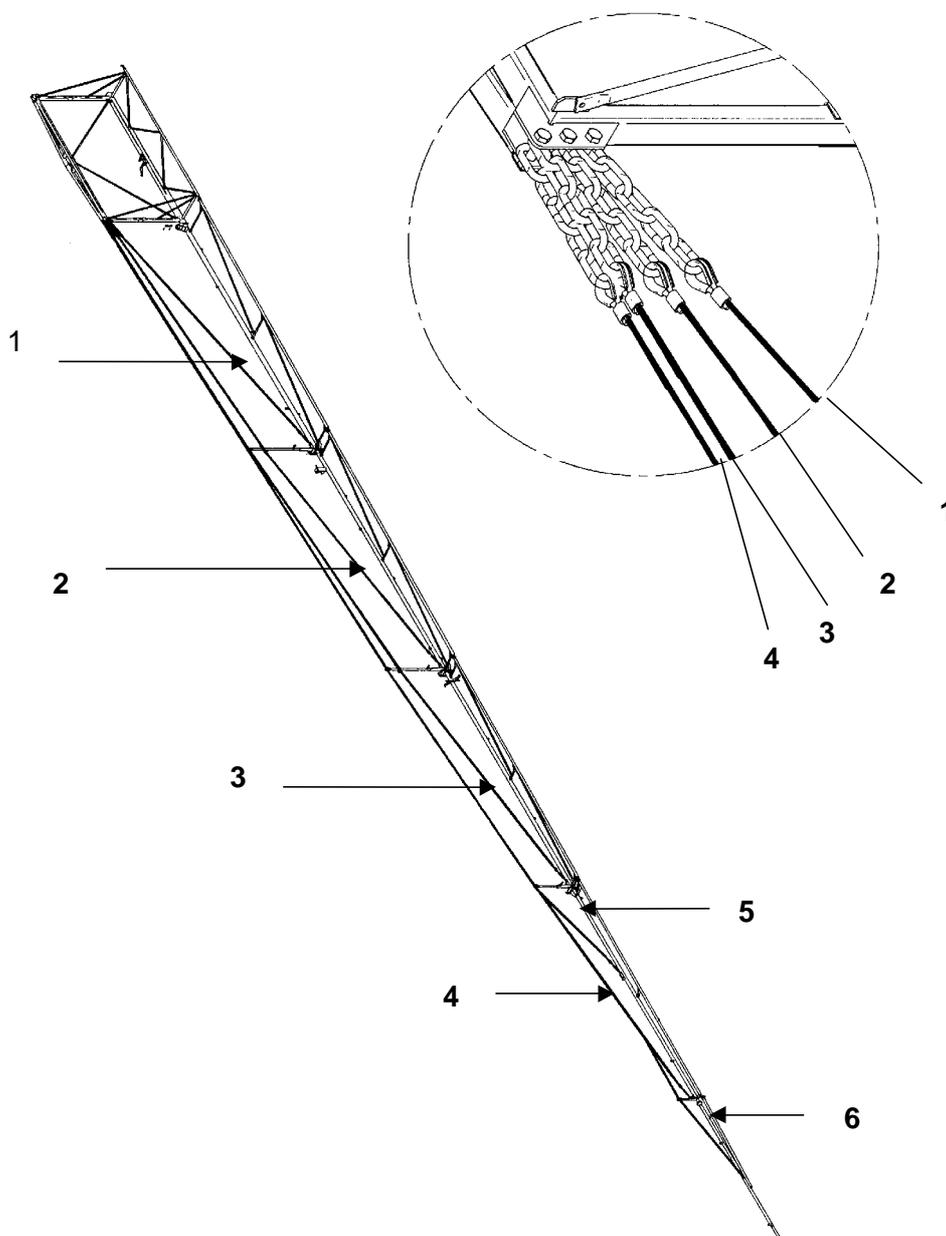


21. Rubber sealing rings are fitted into the pipe flanges.



22. A carrying handle is used for unfolding the second and third boom pipe.

23. For better orientation during assembly the cables are marked by number tags.





24. In order to ensure horizontal stability during system erection you must also mount the respective wind bracing step by step with the individual pipes.



25. Make sure that the boom pipes are mounted in a straight line by means of the adjustable hooked bolts.



26. With the turnbuckles on the cables, the boom pipes can be adjusted in a level position.



27. The last of the boom pipes cannot be folded in. They are pushed into the coupling, hooked up to the wind bracing, and coupled. Cable no. 6 is connected to the last pipe.



28. For better boom system stability it is recommended to adjust the outer boom pipes slightly upward.



29. Depending on the desired nozzle configuration – turn in spray or rotator nozzles with a teflon tape sealing.
For larger strip widths special long range end nozzles can be used.



30. The two balancing weights stabilise the boom assembly. Mount the respective suspension clamps at the end of the second or at the beginning of the third boom pipe in such a manner that the weight gets to lie between the rows in a furrow in case it touches the ground.
For operation the weights are adjusted in a way, that they hang about 10 cm above ground. They should not drag on the ground and touch the ground only in case the boom swings down on one side.

Bearing brackets on the Rainstar



31. Mount the bearing brackets on both side frame members of the Rainstar. The required mounting holes are already available.
The longer bearing bracket is mounted on the drive side of the Rainstar.





32. For road transportation the boom pipes are folded in and secured safely on the bearing brackets. Following steps are required:

- Both balancing weights are unhooked and placed in the tray
- The pendulum center part is fixed with the locking bracket
- The adjustable supports are lowered
- The cable on the end pipes is unhooked and fixed on the previous pipes
- The end pipes are uncoupled
- The wind bracing on pipes no. 4 is opened, turned upwards, secured with the spring pin and the pipes folded in and engaged
- Pipes no. 2 and 3 are folded in the same way
- For the folding of the pipe no. 2 a carrying handle is used
- The supporting legs are lifted up again
- To fold in the complete boom packet on one side, the frame of the boom is lifted with a winch on the one side which is folded. By this, the complete boom packet can be put onto the bearing bracket without effort.



- Secure the boom packet on the bearing bracket with the spring tensioned hook.



- Both end pipes are put onto the provided hooks on the boom packet ...



... and secured with pins and rubber ropes.



- The swivel wheel on the boom cart is turned to the back and locked with a pin.



33. Is a Rainstar model E 11 or E 21 used to operate a AS 50, a tray for weight deposit has to be mounted. A weight of about 120 kg (concrete blocks or sand bags) has to be placed in this tray, to ensure sufficient stability of the Rainstar, especially when the boom is lifted on the side of the Rainstar.



34. For higher crops, the AS 50 can be equipped with a hydraulic high adjustment. With a hydraulic hand pump the boom can be lifted up to a free clearance of 2,5 m. A hose extension is added to the water supply. The two balancing weights are readjusted slightly above ground level.



7. PUTTING INTO OPERATION

Before and during the first start-up, grease all bearings and guides. Use normal ball bearing grease for all points with a grease zerk, and a viscous grease with good adhesive property for all joints.

Tighten the wheel nuts before you put the system into operation for the first time, and check tyres for the prescribed pressure (see Technical Data).

Proceed further according to the instructions for putting into operation the Rainstar.

Please refer to the Boom Cart Performance Charts with regard to required precipitation rate settings.

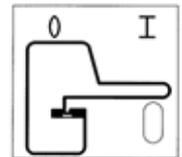
PE-PIPE PULL-OFF



35. Remove locking pin on swivel wheel and loosen it at the wheel (adjustment only for transport with RAINSTAR)



36. Lower hydraulic Rainstar supporting legs and AS 50 slowly. Move gear shift lever to „PE-pipe pull-off“ position. (see Rainstar operating instructions)



37. Pick up the draw-out hook on the draw bar with the tractor toolbar and pull the boom cart through the field with the boom arms opened up. The pendulum center part has to be locked with the locking bracket during the pull out procedure.



38. Do not exceed 5 km/h pull-off speed!
Never stop abruptly. Slow down gradually when stopping during or at the end of the pull-off.



39. During the operation of the AS 50 the draw out hook is uncoupled and fixed in a holding sleeve. The tracking wheel is lowered, the chain engaged and tensioned with the lever. Thereby the tracking wheel is pressed into the ground. With the sliding bolt the tension lever is fixed.



MOVING OF BOOM



40. When the AS 50 has reached the end position at the Rainstar and the unit has switched off, The Rainstar and the boom can be transported into the next position. First the AS 50 is lifted hydraulically and then it is moved into the next operating position.

- When the opposite strip is irrigated next, the lifted boom is turned manually or with a mechanical or hydraulic device (option) 180° into the opposite irrigation position, lowered down and pulled out by tractor again.
- If the parallel strip next to the finished one is irrigated next, the Rainstar and the lifted AS 50 (not folded) are transported together to the next position.
- The boom can also be transported on the rear of the Rainstar, 90° to the transport direction.

For these operations the boom does not have to be folded.

In order to lift the wheels of the boom higher from the bottom, it is necessary to fix the middle part of the boom to the Rainstar frame with 2 wire ropes before lifting the machine. (see drawing sent with add on parts).

As soon as the boom arrives in the endposition and the Rainstar shuts off, the chain links at the end of the rope need to be pulled through the mounting link (detail A) and fixed. Due to the hydraulic lifting of the boom the ropes get stretched. Therefore the boom lifts higher from the bottom which facilitates the swivelling and turning of the Rainstar.





CAUTION!

If you have to pull off the PE-pipe in a wide bend make sure that you pull it in a straight line for about the first 80 to 100 metres (at 90° to the reel) before you start the bend.



ATTENTION!

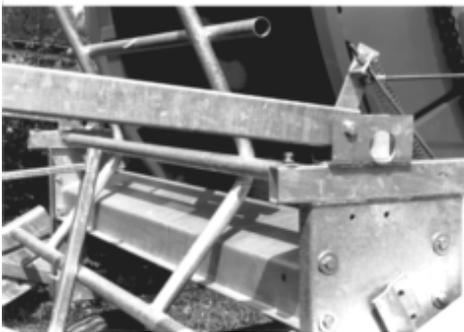
Before pulling out the PE pipe both wire ropes need to be hanged out in order to prevent damages to the boom cart.



WARNING!

If the pipe has been exposed to the sun for a longer period of time or if for some other reason the surface temperature rises beyond 35 °C you have to pump water through it for a few minutes to cool it off before pull-off or retraction.

8. SHUT-OFF AND SAFETY EQUIPMENT



In order to be able to operate the Rainstar system unattended it is equipped with a final and safety shut-off. The final shut-off is activated when the boom cart presses against the shut-off frame, which in turn actuates the shut-off lever through a system of rods. This procedure will stop the drive. To avoid troubles with faulty PE-pipe windings the shut-off is also actuated by the shut-off tube built into the shut-off frame as an overwinding protection.

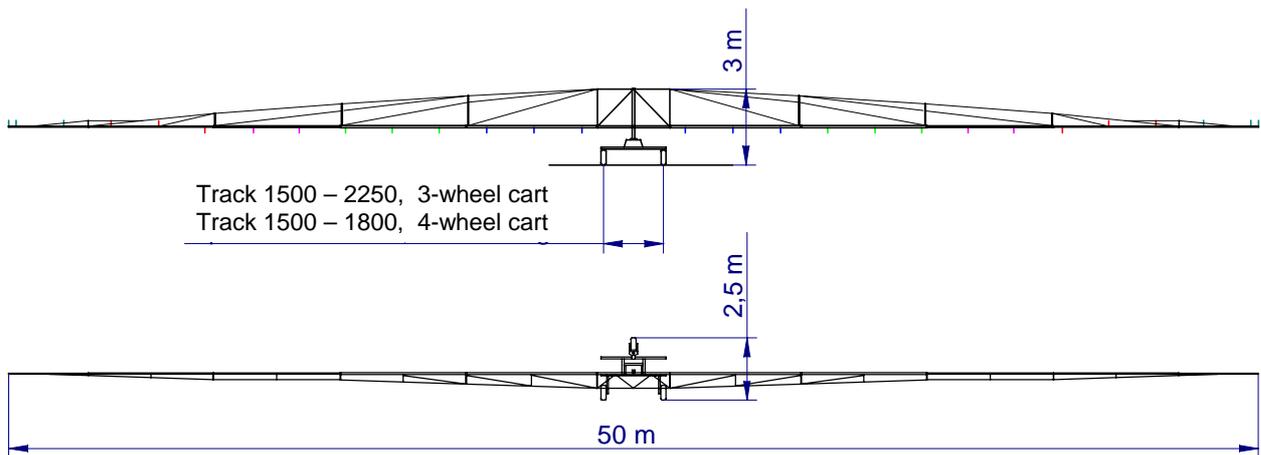
8.1.1 SERVICE AND MAINTENANCE

We have to emphasise it again and again: proper service and maintenance influence the operational reliability and service life of a machine to a great extent. At the end of the irrigation season the boom cart requires a thorough check-up, cleaning and careful lubrication.

Machine component	Service interval	Lubricant, grease, oil
Wheel bearings on boom cart	every 250 running hours	Alvania Grease 3
Steering pins on steering front wheels	every 250 running hours or as required	Alvania Grease 3
Center support with height adjustment (sliding elements)	as required	Alvania Grease
Screwed joints, wheel nuts	Before putting into operation and after 50 running hours.	Tightening torques

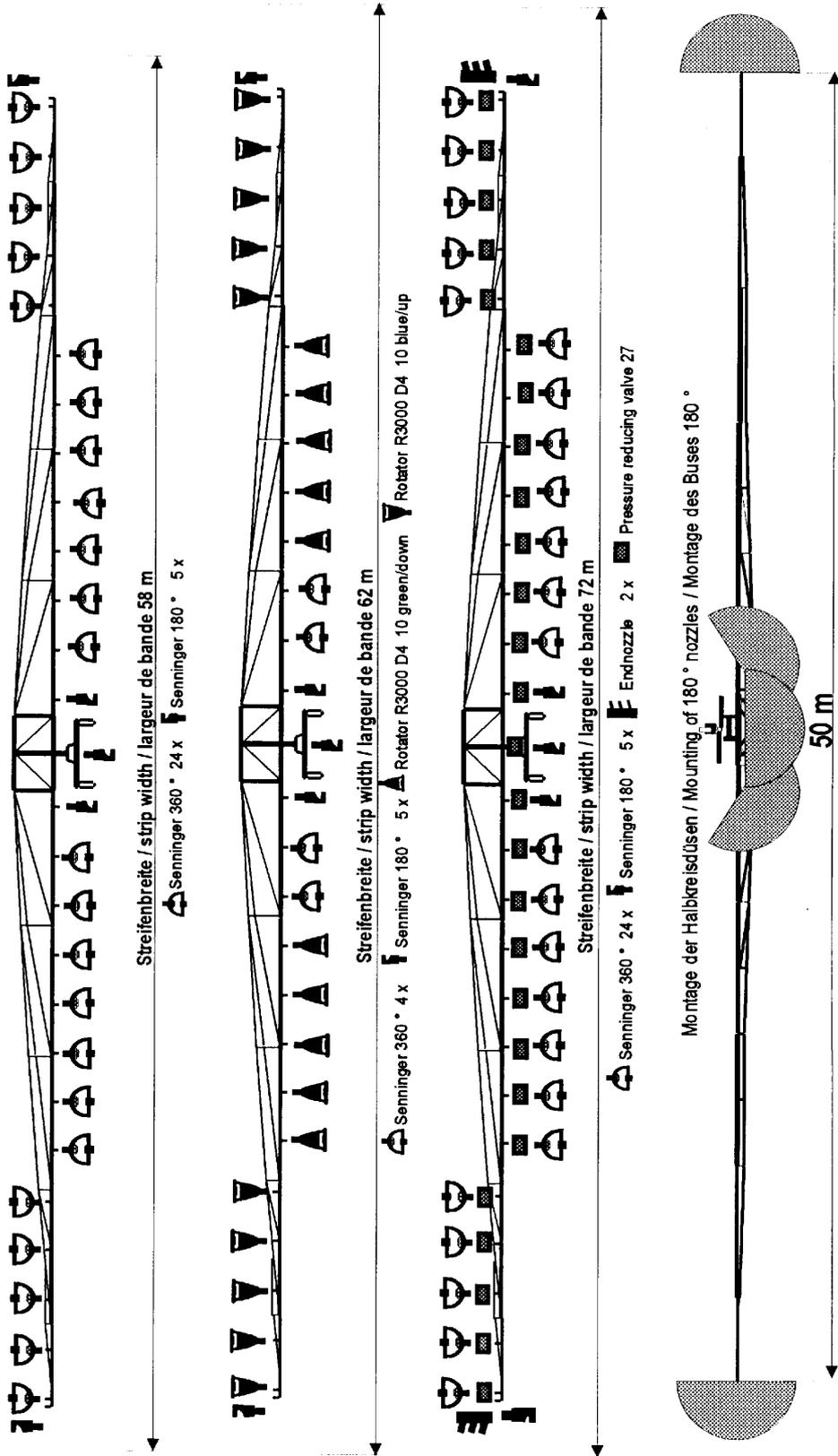
9 TROUBLESHOOTING

FAULT	CAUSE	REMEDY
Boom does not parallel to the ground level	<p>The locking bracket is not open, boom can not swing freely.</p> <p>Balancing weights are not used, or not connected at the same distance from the center.</p>	<p>Open locking bracket.</p> <p>Connect balancing weights correctly.</p>
4-wheel cart does not keep track	Track wheel is not, or not sufficiently pressed into the ground.	Press track wheel with the tension lever into the ground.



AUSLEGERSTATIV / BOOM CART / TRAINEAU-RAMPE AS 50

Düsenbestückung / Nozzelling / Equipment en Buses



10. APPENDIX FOR SLURRY BOOM ASG 40

1. For the basic assembly of the boom ASG 40 follow the instructions of the AS 50 (item 6 in the operating instructions) except items 6.26. – 6.27.
2. The ASG 40 consists of a 3- or 4-wheel cart with the same center unit as the AS 50, 4 foldable pipes and a pluggable pipe on either side, and 9 slurry distribution nozzles.
3. The center nozzle is mounted behind the cart on a boom pipe, to avoid spraying slurry on the track. This boom pipe is coupled into the center outlet on the cart and is stabilized by a cable.
4. All other slurry distribution nozzles are screwed into the 2" pipe sockets on the foldable boom pipes. The remaining ¾" pipe outlets for the sprinklers and clear water spray nozzles have to be closed with plugs.
5. In the end position of the ASG 40 (end of irrigation strip), the boom can be lifted by the hydraulic system of the Rainstar as the AS 50. It is not necessary to fold the boom for moving the unit into the next operating position. The Rainstar can be transported with the lifted boom on the side (boom in driving direction beside the tractor) or on the rear.
6. For road transportation the ASG 40 is folded and the boom arms are put onto the bearing brackets on the Rainstar and secured, as described in the AS 50 instructions.

The pipe with the center nozzle is disconnected and also put on the bearing brackets.

10.1 TECHNICAL DATA OF ASG 40

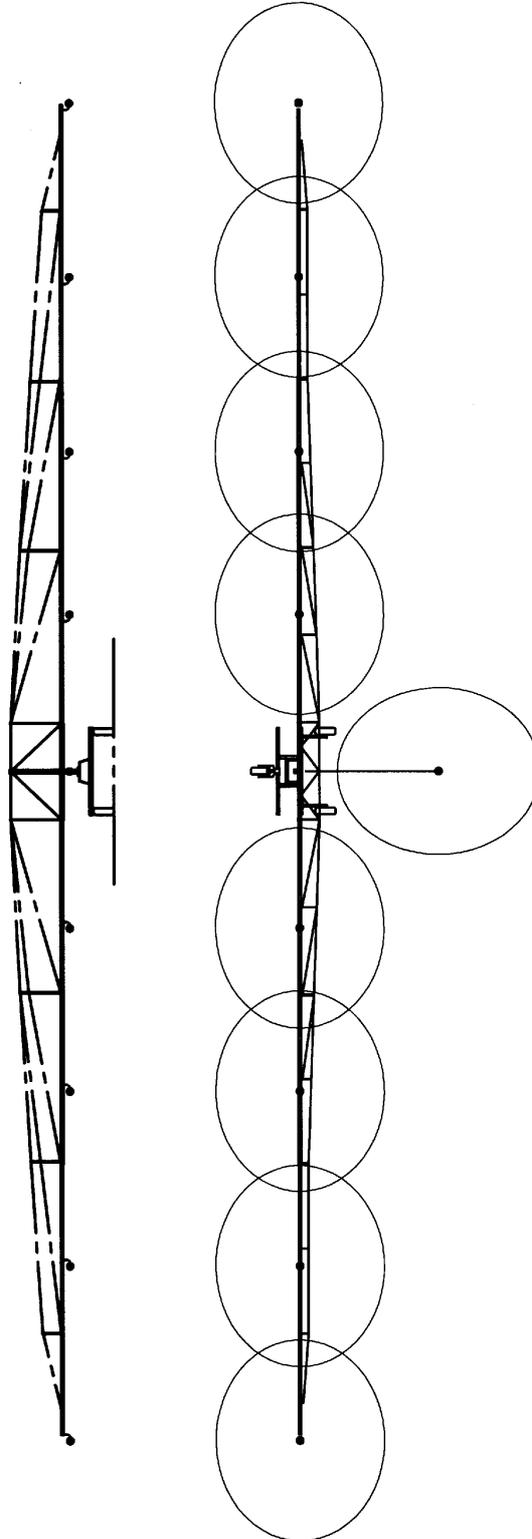
System width of ASG 40	40 m (131,2 ft)
Number of distribution nozzles	9
Irrigated width	47 m (154,2 ft)
Capacity	45 – 75 m ³ /h (198 – 330 USgpm)
Pressure at nozzles	0,5 – 1,0 bar (7 – 15 psi)

The stated capacity is based on water. Depending on the contained dry matter content and viscosity of the slurry, the capacity can change.



SLURRY BOOM ASG 40

System width 40 m (131,2 ft)



SLURRY DISTRIBUTION NOZZLE

Liquid enters nozzle chamber, starts rotating and exits nozzle in a rotating movement. Splash plate ensures uniform distribution

Nozzle diameter: 30 mm (1,18")





11 CONFORMITY CERTIFICATE

Declaration of Conformity

in accordance with the General EC Practices for Machinery 98/37/EC, Annex II A

We,

Röhren- und Pumpenwerk BAUER Gesellschaft m.b.H.
Kowaldstraße 2, A - 8570 Voitsberg - Austria
Tel. +43 3142 200 - 0, Telefax: +43 3142 200 -320/ -340

herewith declare that in respect of its conception and design and in the types and styles which we market the machine mentioned below fully corresponds with the relevant fundamental provisions for safety and health stipulated in the General EC Practices for machinery.

This declaration becomes null and void should any modification be made on the machine without our prior consent

Designation: BAUER Boom Cart

Basic models: Series AS 50

This range of machines has been developed and manufactured according to the standard:

EN 908-Juni 1994

which also contains normative reference to

EN 292-1 - 1991, EN 292-2 - 1991 und EN 294 - 1992.

Voitsberg, Feb 2000

Johann Langmann

Technical Director