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1. Foreword

Dear customer

we thank you for the confidence you have shown in us.

You have purchased a top-quality technical product which will enable you to improve your operating results.

Strautmann's many years of experience will guarantee you optimum output, quality and ease of operation.

Safety

Before putting the machine into operation, please read these operating instructions and observe the safety instructions.



In these operating instructions, we have marked all paragraphs concerning your safety by a warning triangle. Please pass all safety instructions on to other users.

The warning and information signs fixed to the vehicle give important information about safe operation. Please observe these signs for your own safety.

In case of any unclarified points, please contact either your Strautmann representative or the factory.

Machine specifications: These specifications should always be available. Please quote them when ordering spare parts.

Please copy the machine specifications of your new fodder distribution trailer from the type plate into this manual.

Vehicle Ident. No.: **Type** **Year of manufacture**

2. Correct use

The fodder distribution trailer will enable you to transport, disentangle and distribute all kinds of silage, tipping fodder and blades of grass to the stall.



Any use beyond this will be regarded as incorrect. The manufacturer will not be responsible for any damage resulting therefrom.

The user will solely bear the risk.

The observance of the operating, service and maintenance conditions specified by the manufacturer will also be part of the correct use.

The fodder distribution trailer should only be operated, serviced and maintained by people who are acquainted with the equipment and have been informed about the dangers.

Any unauthorized modifications carried out on the machine will invalidate the manufacturer's liability for any damage resulting therefrom.

Any costs caused by modifications or malfunctions due to special features of the tractor or carelessness of the operator, will not be paid by Strautmann.

Only original Strautmann spare parts are to be used.

3. Accident prevention information



For safety and accident prevention

Most accidents in farming are caused by non-observance of the simplest safety rules. May the careful observance of the following suggestions help to prevent any accidents right from the beginning.

3.1 General

Please observe the general accident prevention regulations in addition to the information included in these operating instructions. Any other generally accepted safety, industrial medicine and traffic law rules have to be kept to.



870 07 119

Acquaint yourself with all mechanisms and operator control elements and their function before starting this machine. During operation it will be too late!



The machine has been designed for one-man operation. The operator will only be allowed to operate and let the machine work if no other people are in the danger area (pay special attention to children)!

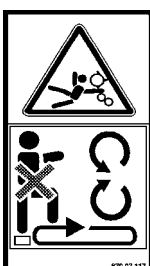
Foreign objects possibly contained in the fodder may be thrown out.

870 07 116



All safety guards must always be duly mounted. Do not open or remove safety guards with the motor running.

870 07 117



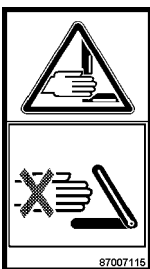
Do not step onto the loading surface with the countershaft / hydraulic system connected and the motor running.

870 07 113



Do not reach into the discharge outlet.
Never try to eliminate blockages when the machine is running.

870 07 115



Never touch moving scraper floor cross bars (risk of crushing).

3.2 Operation

Before putting the machine into operation, make sure that the road safety and operational reliability of the fodder distribution trailer correspond to the regulations and that the braking system and the lighting are working properly.

Couple the fodder distribution trailer to the tractor according to the instructions. Special attention is required during coupling and uncoupling!

870 07 130



Do not stay between the tractor and the vehicle with the motor running.

870 07 126



When leaving or uncoupling the vehicle, secure it against rolling (parking brake, chocks).

Put the supporting device into the required position and secure it after each coupling or uncoupling. Pay attention to sufficient stability.

Pay attention to the permissible axle loads, tongue loads and gross vehicle weights, in particular to the maximum tongue load absorption of the coupling device of the tractor.

Before putting the machine into operation, set the operator control elements of the hydraulic system or the countershaft to zero position.

Pay attention to the tractor's road behaviour in case of uneven load distribution due to the load and add-on parts.

The driving speed must always be adapted to the surrounding circumstances. Avoid sudden changes of direction when going uphill and downhill or traversing hills.

Ensure that the vehicle can be sufficiently steered and braked.

Make sure that there is a good view, e.g. when reversing (a guide may be necessary).

In case of central axle trailers (single axle and tandem axle vehicles with tongue load), pay attention to the risk of tipping over when the vehicle has been loaded unevenly, especially during uncoupling and after having been uncoupled. (Sufficient tongue load)

3.3 Countershaft operation

The operating instructions of the drive shaft manufacturer are to be followed.

Only drive shafts specified by the manufacturer are to be used.

The drive shaft is only to be mounted and dismantled after the motor has been switched off and the ignition key has been pulled out.

Use the drive shaft only with the correct safety cover and in proper condition and secure the protection tube against twisting.

Ensure sufficient tube overlapping of the drive shaft (minimum overlapping 1/3 of the profile tubes). Pay attention to a sufficient pushing path when cornering or in case of an overrunning brake.



Before switching on the countershaft, make sure that the selected speed and sense of rotation of the tractor countershaft have been adjusted to the permissible speed and sense of rotation of the machine.

Before putting the drive shaft into operation, always check the locking mechanisms for having safely engaged.

Never switch the countershaft on with the motor switched off.

In case of drive shafts with overload or free engine clutches, these clutches are to be mounted on the trailer's side.

After the countershaft has been switched off, the driven unit may still be running. Stay away from the danger zone until the machine has completely stopped.

3.4 Wheels, tyres, brakes

In order to ensure operational safety, the wheels, tyres and brakes are subject to special attention.

Retighten the wheel nuts after a short period of use and check them approx. every 50 operating hours.

Regularly check the air pressure (see Technical data).

Regularly check the wheels, tyres and brakes for wear and damage.

Before putting the vehicle into operation, connect the braking system according to the instructions (e.g. in case of overrunning brake fix the contact-breaking cable between the ring at the hand brake lever and the tractor) and check for function.

Adjustments and repairs of the braking system are only to be carried out by authorised workshops for brake services or qualified personnel.

The mounting of tyres and wheels requires sufficient knowledge and proper mounting tools.

The use of another tyre size is only allowed on consultation with the vehicle manufacturer.

3.5 Hydraulic system

Regularly check the hydraulic pipes and hoses, fittings and parts for damage and leaking.

Ensure that the hydraulic hoses never bend or rub.

During connection to the tractor ensure that the hydraulic system has been depressurized both on the tractor's and on the machine's side and that the connectors are not mixed up (accident risk due to reversed function).

Attention: The hydraulic system is under high pressure, therefore always depressurize before carrying out any maintenance and repair work.

870 07 123



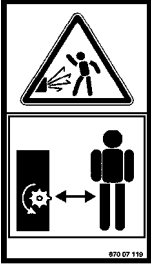
Liquids (hydraulic oil) squirting out under pressure can penetrate the skin and cause serious injuries and infections.

Never try to block leaks with your fingers.

If injuries occur, immediately contact the medical services.

3.6 Maintenance

870 07 120



Any repair, maintenance, cleaning and reequipment work and the elimination of functional defects are only to be carried out with the drive system switched off, the hydraulic system depressurized, the electrical system de-energized and the tractor motor stopped! – Pull out the ignition key.

Regularly check nuts and bolts for tightness and retighten, if necessary.

Observe and keep to the torque settings!

Dispose of oils, greases and filters properly.



When stepping onto the loading surface, always secure the rear panel against closing by means of the supporting rod 1 (see fig. 1).

Fig. 1

3.7 Road traffic

When driving along public roads and paths, the respective national legal road traffic regulations are to be observed.

In case of a full fodder distribution trailer, the fodder must be prevented from falling down onto the road.

4. Technical data

Model		FVW 100	FVW 120	FVW 140	FVW 160
Perm. gross vehicle weight	kg	6900	7800	8000	8000
Permissible axle weight	kg	5900	6550	7000	7000
Permissible tongue load	kg	1000	1250	1000	1250
Tare weight approx.	kg	2300	2690	2910	3050
Capacity approx.	m ³	10	12	14	16
with dropside height	cm	60 + 60	60 + 60	60 + 60 + 50	60 + 60 + 50
Dropside material		Steel	Steel	Steel	Steel
Width of case (l x w)	m	4.40 x 1.80	5.20 x 1.80	4.40 x 1.80	5.20 x 1.80
Total length	m	6.50	7.30	6.50	7.30
Total width	m	2.15	2.15	2.15	2.15
Total height	m	2.30	2.30	2.90	2.90
Standard tyres		11.5/80-15 (14 PR)	12.5/80-18 (12 PR)	13.5/75-430.9 (14 PR)	13.5/75-430.9 (14 PR)
Track	m	1.50	1.50	1.65	1.65
Brake		Overrunning brake with automatic reverse function or hydraulic brake			
Distribution unit	front	2 drums	2 drums	3 drums	3 drums
Discharge height					
Cross conveyor belt	mm	800	800	850	850
Drive cross conveyor belt		hydraulic			
Drive distribut./spreading	drums	mechanic			
Drive transport floor		hydraulic			
Rqd. hydraulic connections		1 single-acting control valve and free return or 1 double-acting control valve			
max. working pressure	bar	210			
Flow rate	l/min	30 - 50			
Rqd. power	kW/HP	30 / 40			
Countershaft speed	rpm	540			
Tyres					
11.5/80-15.3 (14 PR)	Air	6	-	-	-
12.5/80-18 (12 PR)	pressure	4 - 5	5	-	-
13.5/75-430.9 (14 PR)	in	4 - 5.5	4.75 - 5.5	5.25 - 5.5	
325/65 R18	bar	5	5	5	
16.0/70-20 (10 PR)		-	-	3 - 3.25	

All diagrams, technical data and weights are subject to change by way of ongoing technical development of our products and are therefore not binding for delivery.

On request, the distribution drum drive unit can be mounted under the vehicle on the right-hand side facing the front. This will enable you to drive closely up to high troughs.

5. Functioning of the machines

The distribution unit is located at the front of the fodder distribution trailer within the visual range of the driver. The transport floor with standard hydraulic drive, high-tensile round steel chains and non-skid U-profile mounting rails ensures an even fodder supply to the distribution unit.

The continuously variable transport floor and the cross conveyor belt are operated from the tractor's seat.

Two or three horizontal helical drums with thick-walled central tube and aggressive tines ensure a well-loosened and continuous supply to the front cross conveyor belt. Compact silage blocks and long-blade grass silage are handled without any problems. If the fodder distribution trailer is loaded in layers of the various ration components a good mixing effect will be achieved when unloading.

The helical drums are driven via the tractor countershaft, 540 RPM (drive shaft with overload cam-operated clutch). An easy to open swinging rear panel and the transport floor reverse function make rearward unloading possible. The well-loosened fodder is fed to the animals to the left or to the right, as desired, by means of the hydraulically driven cross conveyor belt. (With speed adjustable from the tractor's seat as optional extra).

6. Working with the fodder distribution trailer

Before putting the machine into operation, all lubrication points have to be lubricated.

6.1 Coupling

Couple the fodder distribution trailer in horizontal position to the tractor and mount the hydraulic connectors to the quick coupling of the tractor (double-acting control valve or single-acting control valve with free return). Make sure that the hydraulic connectors are clean.

Attention! Do not mix up advance and return!
Hose with red marking = advance
Hose with blue marking = return

Before mounting the drive shaft, check whether it is not too long, in order to avoid any upsetting deformations.

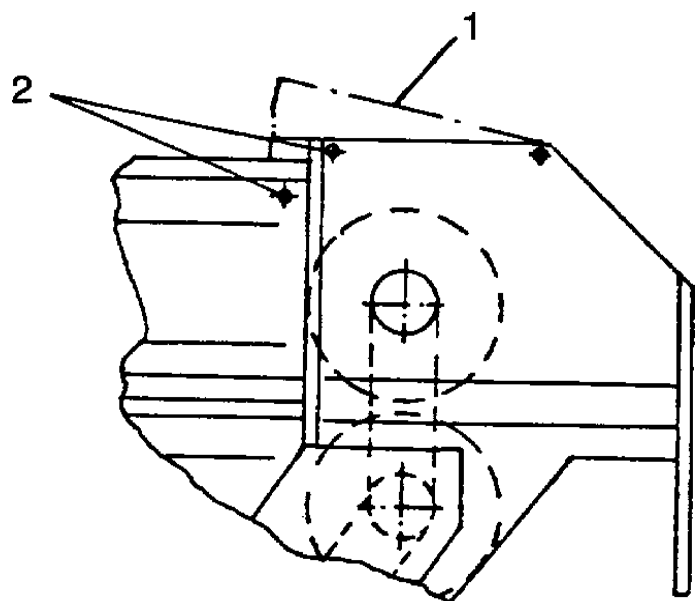
Attention! In case of overrunning brake systems, attention is to be paid to a sufficient pushing path of the drive shaft.

The overload clutch of the drive shaft must be mounted on the trailer's side. Check the drive shaft for sufficient clearance when cornering and secure the protection tube of the drive shaft against rotating by means of the locking chain.

The delivered remote control elements are mounted at the tractor within the driver's reach, after having fixed the bracket.

Now turn the supporting winch up.

If necessary, the cover 1 above the metering unit can be loosened by means of the screws 2, set upright and screwed again.



6.2 Operator control elements

All hydraulic functions of the fodder distribution trailer can be operated from the tractor's seat by means of the remote control elements (fig. 2).

For this purpose, it is necessary to pressurize the hydraulic system via the tractor control valve.

Function 1 cross conveyor belt, running from right to left or vice versa

Function 2 transport floor, advance and return

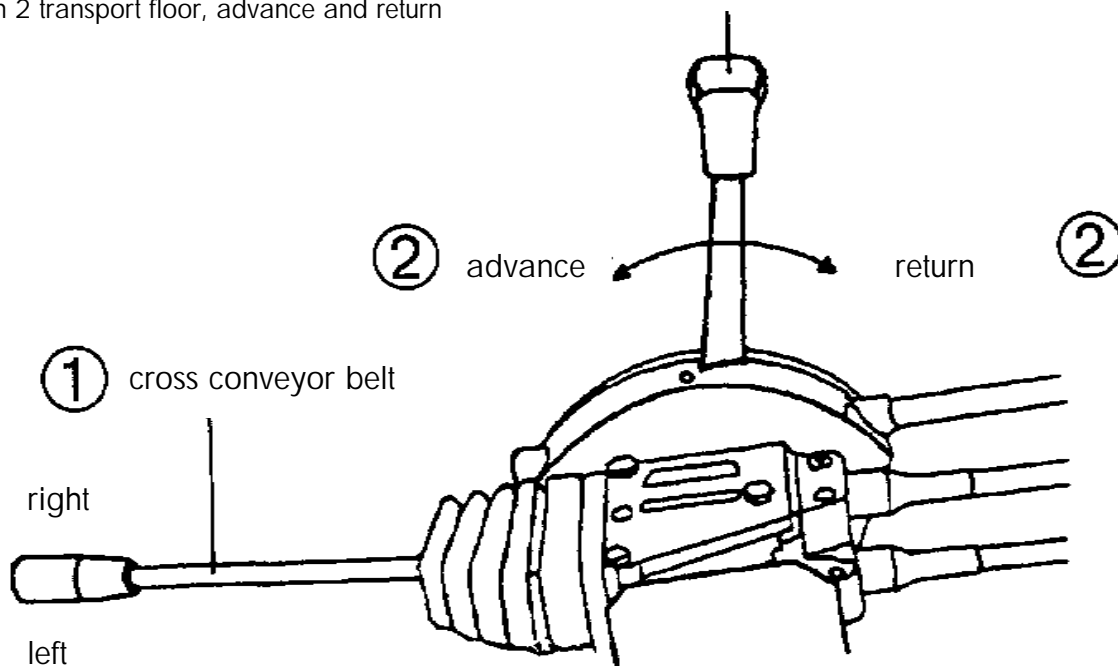


Fig.2

The transport floor speed can be continuously adjusted by means of the individual position of the transport floor operating lever.



Attention!

Before depressurizing the hydraulic system again via the tractor control valve, all hydraulic functions must be switched off, i.e. the control lever must be set to zero position. Risk of accident!

6.3 Practical use

The fodder distribution trailer should be loaded evenly. Make sure that the tongue load is sufficient, especially when the vehicle is uncoupled.

Drive the loaded fodder distribution trailer into the stall and select the running direction of the cross conveyor belt by means of the operating lever. Pressurize the hydraulic system via the tractor control valve.

In case of a low tractor engine speed switch on the drive shaft so that the distribution drums start running.

Now switch on the transport floor and drive through the stall at a steady speed. Adjust the speed of the distribution drums and the advance speed to each other so that the cross conveyor belt distributes an even swathe of fodder.

The swathe thickness can be achieved by selecting the corresponding speed of travel. When the distribution drums are blocked, let the transport floor reverse until the drums are free again.

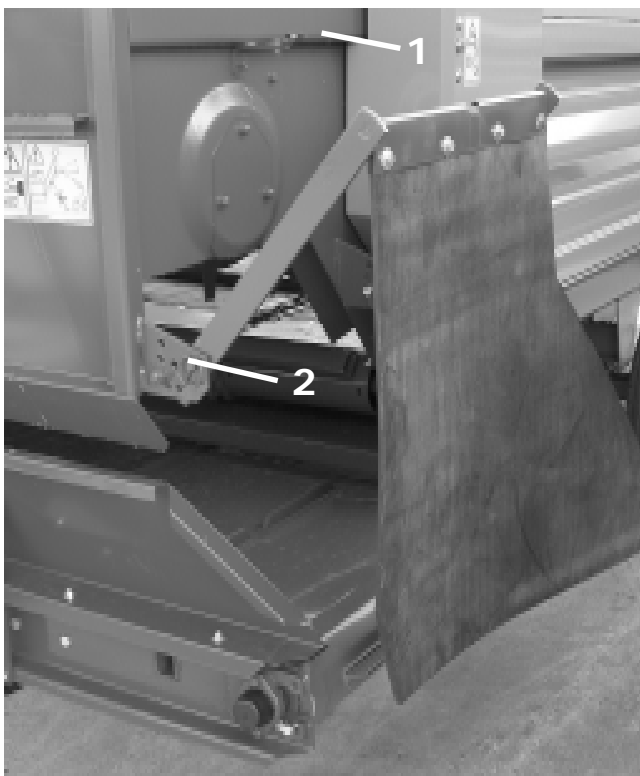
Attention! Do not damage rear panel.

Important practical hints

Always activate the unit functions in the following order when unloading:

1. Switch on cross conveyor belt
2. Switch on distribution drums via drive shaft
3. Switch on transport floor

Thus, a blockage of the distribution drums is almost impossible. Rubber flaps are mounted in front of the discharge outlets of the cross conveyor belt in order to ensure an even discharge of a swathe of fodder as requested.



The rubber flaps can click into the spring 1 (fig. 3) so that they do not laterally project over the trailer. For distribution they only have to be folded down. Furthermore, the position of the flaps can be adapted to the distribution volume and the kind of fodder during distribution by repositioning the screws 2 (fig. 3).

Fig. 3

7. Upkeep and maintenance

Regularly check all nuts and bolts for tightness and retighten, if necessary.

7.1 Cross conveyor belt

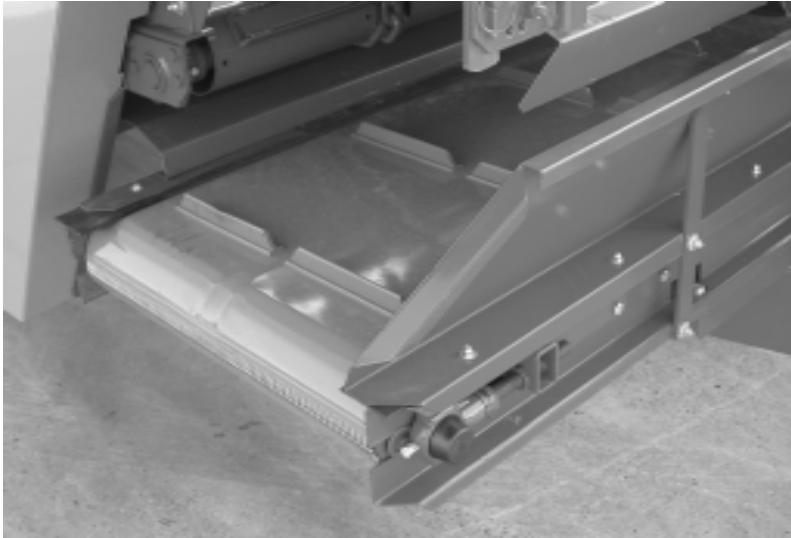


Fig. 4

The cross conveyor belt is tightened by means of the clamp bolts 1 (fig. 4). Make sure that the conveyor belt runs in central position and does not bump on the left- or right-hand side.

The cross conveyor belt should be purged of fodder remainders from time to time. For this purpose, loosen the clamp bolts (1) on the left and right-hand side (see fig. 4) and turn the conveyor belt until the joining element (2) (belt connector) is in a position that allows to dismount the connecting wire and to remove the conveyor belt. Now the deflection and supporting rollers and the cross belt frame can be purged of fodder remainders.

7.2 Scraper floor and drive roller chains

The scraper floor chains are tightened automatically. If the max. tightening path of this automatic system is exhausted after some time, two or four links will have to be taken out of each round steel chain.

When carrying out repair work, the chain tension can be relieved by loosening the counter nut 1 (fig. 5) and unscrewing the clamp bolt 2.

In this case, first the click 3 is to be released from the interlocking position by tightening the nut 4. Retighten after repair work and check click for function.

The drive roller chains for the distribution drums have to be retightened manually.

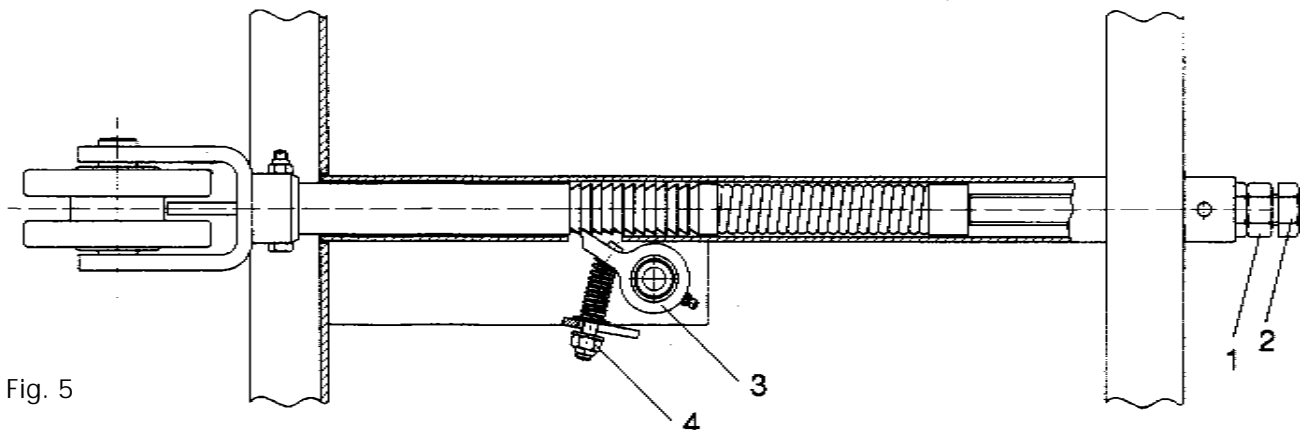


Fig. 5

7.3 Axles

Axles should not be overloaded. Overloading shortens the service life of the bearings and causes damage to the axles.

Furthermore, the following mistakes may cause overloading and are to be avoided:

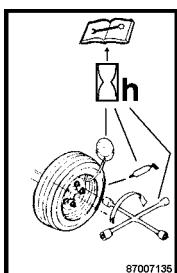
Driving up kerbs, travelling at high speeds.

In order to keep up operational safety, the wheel brakes must be correctly adjusted at all times.

Maintenance schedule: Axles

After the first working trips:	Check seat of wheel nuts. Retighten wheel nuts, if necessary (Md 300 Nm). Check float of wheel hub bearing.
After 50 service hours:	Check float of wheel hub bearing.
Every 100 service hours:	Lubricate brake camshaft (not reqd with nylon bushings), check brake lever setting and adjust, if necessary.
Every 500 service hours:	Adjust float of wheel hub bearing: Remove dust cap and split pin, tighten axle nut until the hub is lightly stopped and loosen again up to the next split pin hole. Fix the nut by split pin and check run.
Every 1000 service hours:	Relubricate wheel hub bearing with rolling bearing grease. Check the brake linings for wear. Reline brakes, if necessary.

The maintenance schedule is based on medium axle loading and brake wear. In case of a greater load, especially a greater wear of the brakes, the maintenance intervals must be shortened accordingly.



The air pressure is to be checked regularly.
(See Technical data)

7.4 Lubrication

All bearings are to be lubricated according to the lubrication chart.
Before starting lubrication work, remove any dirt from the lubricating nipples.

10 h = grease every 10 service hours

50 h = grease every 50 service hours

10 h = oil every 10 service hours

50 h = oil every 50 service hours

The spur feedgear mechanism has been permanently lubricated with 0.75 l of flowing grease.

The angular gear at the main drive has been filled with 0.75 l of flowing grease.

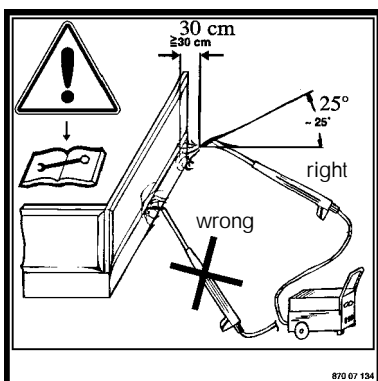
The level is to be checked once a year.

Grease losses have to be compensated for immediately.

Attention! Where lubricants threaten to penetrate the fodder or the soil, only use environmentally friendly, biodegradable oils and greases.
Your local dealer will provide information.

In case of longer downtimes:

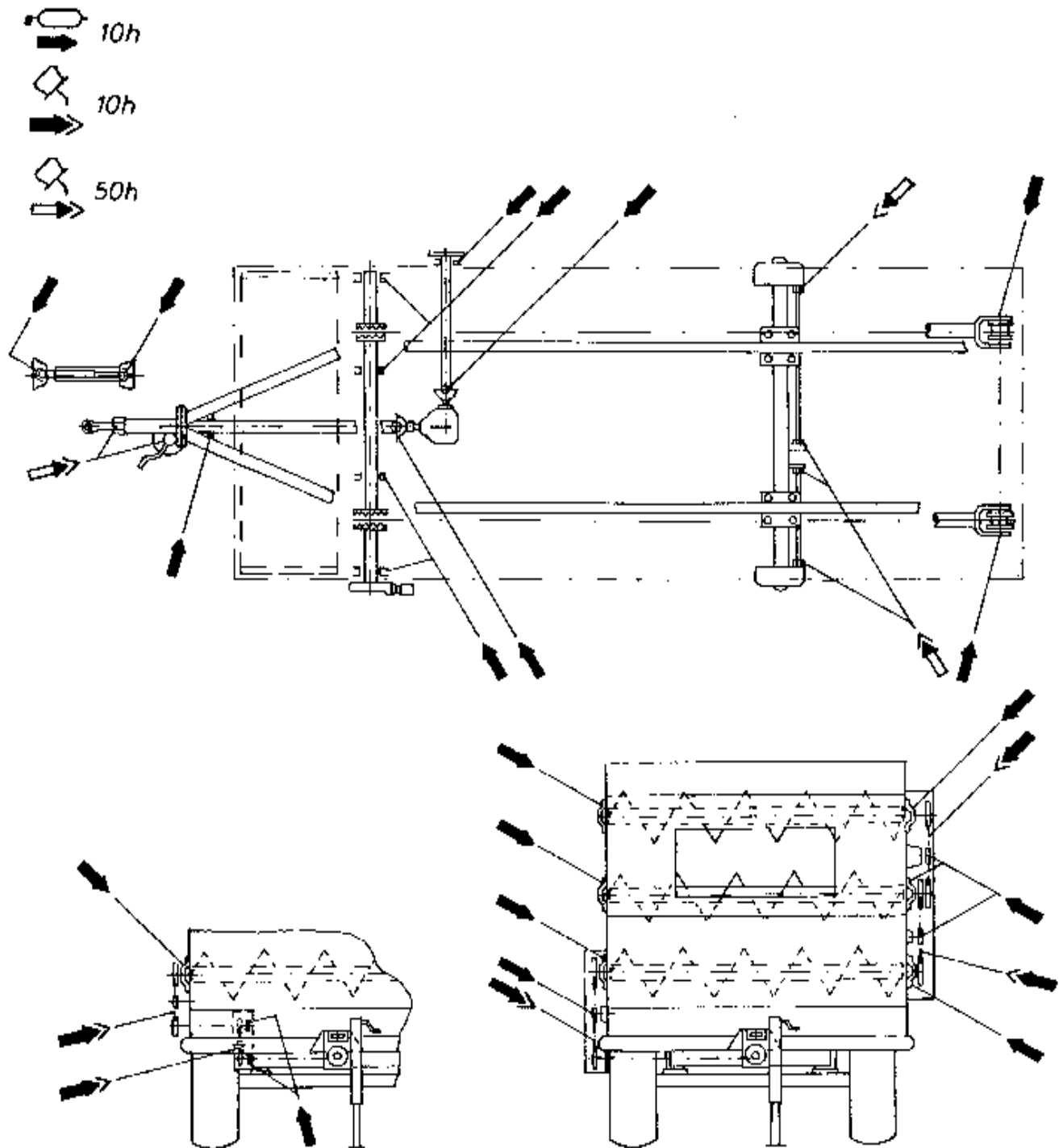
Clean the vehicle thoroughly, lubricate, oil and grease. Touch up damaged paintwork.



Attention when using a high-pressure water diffuser.

1. Minimum distance between spraying nozzle and vehicle 30 cm.
2. Minimum spraying angle between nozzle and vehicle 25°.
3. Max. spraying pressure 80 bars
4. Max. water temperature 60°C.
5. Do not use any chemical additives.

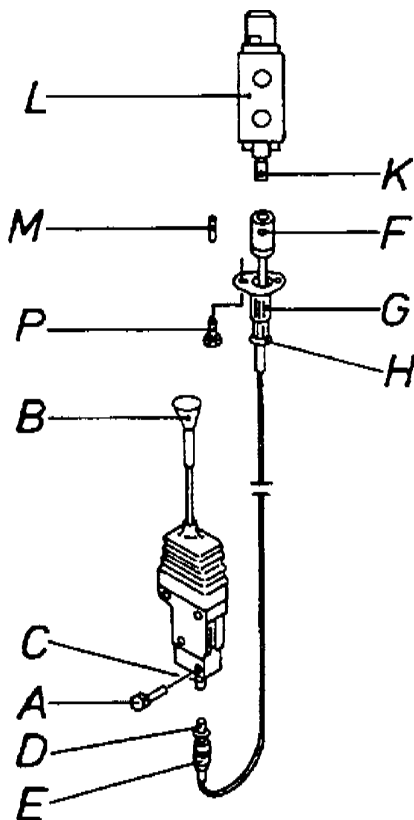
7.5 Lubrication chart



8. Assembly and disassembly of remote control cable

To assemble the remote control cable at the control panel or the control valve proceed as follows:

Connection to the control panel:



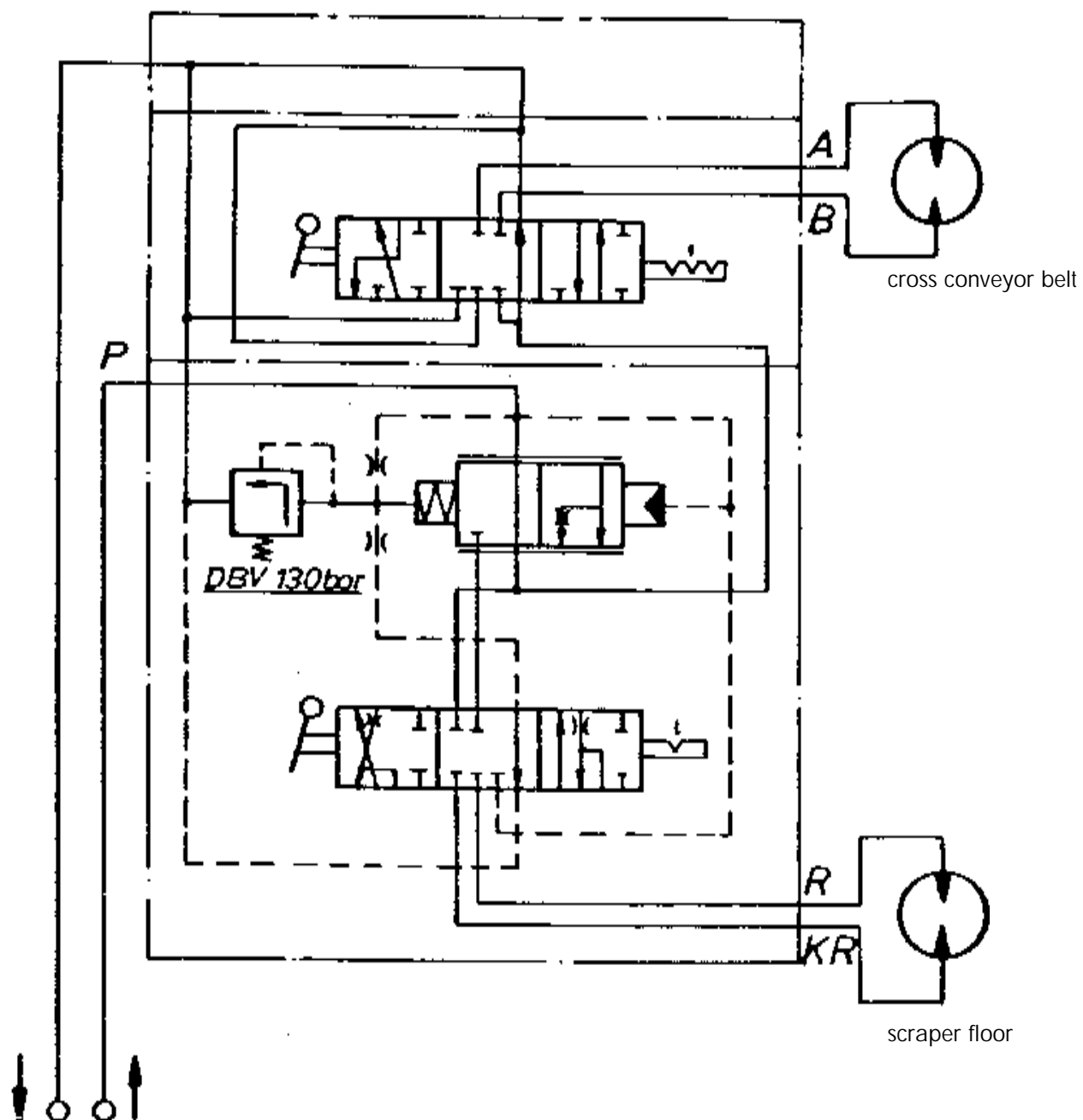
1. Remove locking screw (A).
2. Operate lever (B) until connecting pin (C) is visible.
3. Screw in the threaded sleeve (D) of the remote control cable into the connecting pin (C).
4. Release operating lever (B) and insert the sleeve (E) completely into the housing.
5. Reassemble locking screw (A).

Connection to control valve:

6. Operate lever (B) again until the connecting sleeve (F) is sticking out of the adaptor (G). It may be necessary to loosen the locking nut (H) and unscrew the adaptor (G).
7. Plug sliding pin (K) of control valve (L) into connecting sleeve (F) by means of pin (M).
8. Move the adaptor (G) until it fits closely to the valve box (L).
9. Fasten the adaptor to the control valve by means of two screws (P) M 6 x 16 and tighten locking nut (H).

When disassembling the remote control cable, proceed in reverse order. When changing the adaptor (G), remove the locking nut from the connecting sleeve (F) and unscrew the connecting sleeve.

9. Hydraulics diagram



10. Hydraulics diagram

Cross conveyor belt with adjustable speed

Adjustable cross conveyor belt model

