DALBO®

LEVELFLEX

GB
150, 260, 300 and 400 cm solid frame
400, 450 and 600 cm hydraulic frame

MADE IN DENMARK

LEVELFLEX

Thank you for purchasing a LEVELFLEX. For **safety reasons** and to attain optimal use of the machine, please read the instructions **before use**.

Instructions that are essential to safety are marked with ∇

∇ Tighten all screw joints after a few hours of use.

∇ Operate only the machine while seated in the tractor and make sure that no one is on or in immediate proximity of the machine.

∇ Do not let children operate the machine.

∇ When driving on public roads the LEVELFLEX hydraulic must be placed in transport position.

∇ The driver is responsible for proper use of lights and signs in accordance with the Road Traffic Act.

Your LEVELFLEX has:

Manufacturing No.: _____ Type: _____

Month of manufacture: _____ Net weight in kilos: _____

If you have any inquiries concerning spare parts or service, please do always inform us of your manufacturing number. There is a list of spare parts at the back of the manual, which provides you with an overview of the single parts.

EU-DECLARATION OF CONFORMITY

DALBO A/S
DK-7183 Randbøl

declares herewith that the above machine is manufactured in accordance with the provisions of directive 2006/42/EC, which replaced directive 98/37/EC and change directives 91/368/ECC, 93/44/ECC and 93/68/ECC on harmonization of member state legislation concerning health and safety requirements related to the construction and manufacture of machines.

CE

This machine corresponds to the safety requirements in the European Safety Guidelines.

DALBO A/S Date: _____

Alessio Riulini, CEO

Contents

Use in farming

LEVELFLEX is a multi-purpose implement depending on the equipment. when installed in the front lift, it is especially suitable to form part of a seeding combination. LEVELFLEX is a combined soil packer or a roller depending on the equipment with a hydraulic operated crackerboard, which can be delivered as optional equipment.

LEVELFLEX is equipped with soil packing rings (80 or 90 cm) or with roller rings (normally 53-60 cm Crosskill rings).

The Crosskillrings are excellent for the preparation of seed-beds as they have a friable effect on clods, leaving a seed-bed in a good crumb structure. In heavy and fertile soils and where driving is relatively slow (under 6 km/h), it is recommended to use the soil packer rings, because they will provide a better packing in depth.

LEVELFLEX is built so it is **drawn** across the subsoil, although it is front-mounted. This is only possible, because the implement is specially mounted, which allows for steering corrections during operation without raising the implement.

∇ Do not use LEVELFLEX as a container, pile driver, hydraulic press or the like. If you have any questions concerning the use of the implement, feel free to contact your Dalbo distributor.

∇ During operation in stony soil and with worn drum rings, noise might occur. Use a hearing protector if necessary.

∇ During operation in dry conditions dust generation might occur. It is recommended to close the doors of the tractor and/or to use a dust mask.

Coupling and uncoupling

The front hanger is manufactured in accordance with the DS/ISO 730-1 category II. If your tractor is not suitable for this type, please contact your distributor. The arms of the front lift must be able to move sideways.

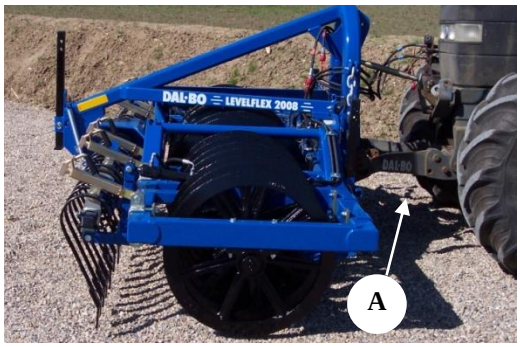
Coupling

First install the arms of the lift with the lift taps and hereafter install the top link. The top link must be adjusted so the frame head is in a horizontal position and thus, parallel with the base. Raise the implement, so the support legs are clear of the ground and then place it in an operating position.

The angle of the lift arms

With the machine placed in a position of operation, aim at placing the tractor's lift arms in an angle preferably a couple of degrees above horizontal or at least horizontal. In this way, the machine will more easily roll over any obstacles as the tractor presses the implement tilted upwards and the steering will simultaneously be maintained. (Steering can additionally be made easier if the top link is a bit shortened, so the frame head points a few degrees upwards at front).

Plate 1



Hydraulics

Depending on the type of LEVELFLEX 2000 there are different requirements for hydraulic tapping on the tractor.

LEVELFLEX	Number of double-acting hydraulic tappings
Solid frame	none
Solid frame w. crackeboard	1
Hyd. frame	1
Hyd. frame w. crackerboard	2

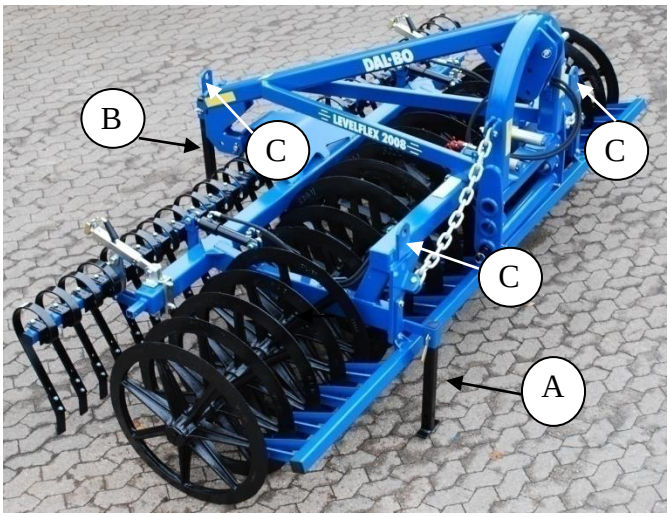
The hydraulic tubes are attached to a 1/2" female coupling, which is joined with the front lift.

∇ Remember to secure the lift arms and the top link joints with cotter pins.

Uncoupling

Uncoupling must be done in reverse order than that of coupling. **Remember to de-pressurise the cylinders before the hydraulic tubes are detached.**
It is important that the LEVELFLEX is secured with rear (A) and front (B) support legs, as this will prevent the machine from tipping over.

Plate. 2



Handling without use of the three-point linkage

If you need to move the LEVELFLEX in other ways than by use of the three-point linkage, we recommend you to hook up the machine with slings in the frame head or in the linkage, so the LEVELFLEX hangs in a state of balance.
(Look at plate. 2-C)

Weight in kg

Type	Crosskill ring	800 mm ring	900 mm ring	Crackerboard
1,5 m solid	-	900	1140	-
1,5 m solid*	-	920	1160	250
3 m solid	1110/1445	1290	1520	175
3 m solid **	-	1290	-	175
4 m solid	1425	1550	-	200
4 m solid **	-	1575	-	200
4 m hyd.	1835	1850	-	250
4 m hydr. **	-	2125	-	250
4,5 m hyd.	1955	2125	-	275
6,0 m hyd.	2450	2470	-	380

*1,5 m solid model prepare for 4 m cracker board
**solid model whit 80/90/80 rings

Operation

There are no specific transport position for the solid types (A), whereas the hydraulic types (B) must be secured with a lock during transport.

Plate 3

A

B

Transport lock

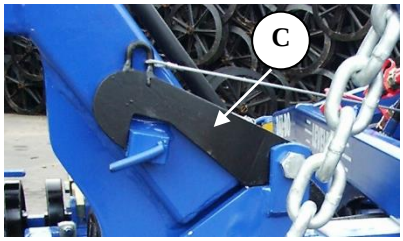
∇

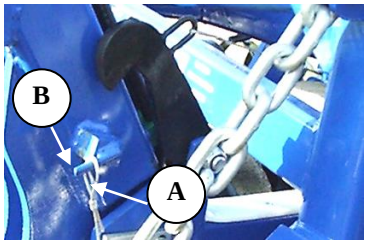
On the hydraulic types, where the side sections can be raised, the sections must be secured during transport which will be done automatically when the side sections are raised to top position. The driver of the tractor must make sure that the hook (plate 4) is in mesh and hereby keep the side sections in transport position.

Disengagement of the transport lock

Before the transport lock is disengaged, the loop (A) on the wire must be hooked onto the ratchet (B).

Plate 4





Disengagement of the transport lock can be done safely from the tractor cab by depressing the hydraulic actuating handle to the side sections and by pressing the side sections in full top position. Hereby, the hook is disengaged and the side sections can be lowered. Simultaneously with the lowering of the side sections, the loop (A) slips off the ratchet (B) and the hook (C) will again be ready for locking the side sections in transport position.

∇

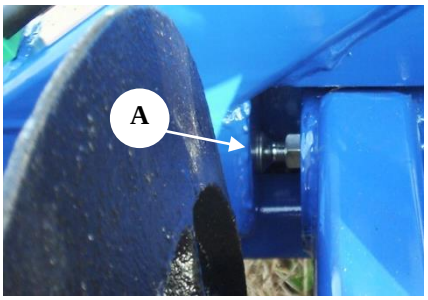
When opening the side sections, no persons must be in the implement's radius of action.

Extra weight must **not** be mounted on the LEVELFLEX, as the implement is not dimensioned for that.

Adjustment

On the LEVELFLEX 2009 hydraulic type (plate 3,b), the side section must be adjusted with the bolts (A), so the frames on the side sections and the frame head hang on a line (there is an adjustment bolt in each side of the frame head).

Plate 5



On the LEVELFLEX solid type there are no possibilities of adjustment except the adjustments, which must be made during regular maintenance.

Hydraulics

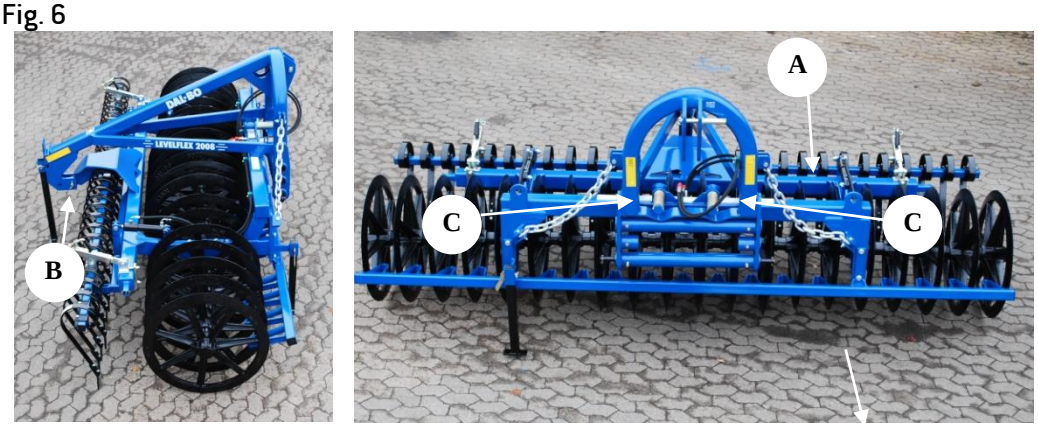
On the hydraulic model, solid variable flow control valves for the side sections have been mounted, which gives the correct oil flow to the cylinders and there are no further possibilities of adjustment.

Running

LEVELFLEX is constructed so that the implement's centre of gravity is placed close to the tractor. The result is that the implement's weight on the tractor is reduced and at the same time the implement will be easier to run.

The implement is drawn across the field, although it is mounted in the front lift, which makes it easier to run over smaller hindrances. The frame head (A) is mounted in three points (B,C) where the pulling from the tractor is transmitted through point (B), which is the only point that is mounted rigidly. This means that the steering properties are maintained which must be given a high priority if the LEVELFLEX is to be part of a seed-bed combination.

Fig. 6



When arriving at the working place, disengage the transport lock (hydraulic models), so the side sections can be lowered (see plate 4). Pressure is put on the cylinders for the side sections, so the unit is stiff. This causes a distribution of weight on to all the rings and leaves a plane surface.

As the job begins, lower the LEVELFLEX and place the lift in a floating position so the implement and the tractor can function independently of each other. If you are working in very friable soil and want a larger control over the machine then the linkage can be raised, so it does not rest on the frame head, but hangs from almost tight chains. If the rings start sinking too deep into the ground, the frame head with the packer module will quickly begin to hang from the chains.

As a point of departure it is recommended that the chains are loose and that the linkage rests on the nylon rail. Thereby the packer module can move after the surface of the ground.

∇ **Raise the LEVELFLEX when turning and driving backwards.**

∇ **When using the double-acting front lift, weight must not be transmitted from the tractor to the LEVELFLEX.**

Operating Speed

The recommended operating speed depends on the packer rings, where the Crosskillrings stand the maximum speed. To make the best possible use of the soil packer rings, use them for intractable clayey soil or on newly ploughed soil, which is not packed. Moreover, it must be recommended to drive according to the conditions.

- 80 and 90 cm packer rings: 5 to 8 km/h
- Crosskillrings (53/60 cm): 7 to 10 km/h

Scrapers

To secure cleaning of the rings, firm scrapers (A) are attached between each ring, which is specially made of spring steel.

Plate 7

However, scrapers are not attached on the LEVELFLEX with Crosskillrings, because the rings keep themselves clean.

Maintenance

A good maintenance secures a long life of the LEVELFLEX 2000 and thereby also a full benefit of the machine. Therefore, lubricator nipples (A) have been placed on the spots where hard wear takes place.

Plate 8

Grease points (amount of nipples)

	A	B	C
Solid model	2	x	x
Hydraulic model	6	2	4

The ball bearings near the rings are to be lubricated every 50th working hour. Over-greasing must be avoided, since it might destroy the sealings.

Tighten up all the screw joints after the first day of work. Split pins and screw bolts must be checked up on to avoid damage on the machine.

In general

If the nylon rail is clean and free of oil, a smooth slide of the top piece can be achieved. Therefore, the nylon rail must not be lubricated, as it would only increase the wear and collect dust (see plate 21).

∇ All screw joints must be checked frequently and tightened up whenever it is necessary.

∇ Damaged hydraulic tubes must be replaced immediately. Leaks on tubes might cause personal injury or damage on the machine.

∇ Clean your hands thoroughly if your skin has had contact with oil and grease. Change oil soaked clothing immediately, because it has a harmful effect on the skin.

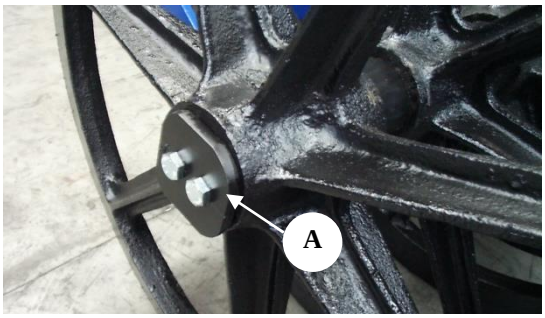
Avoid spillage of oil on the ground. Nevertheless, if spillage should happen it must be picked up and sent to destruction.

After parking in moist conditions over a longer period, the piston rods should be lubricated in oil to avoid rusting.

Backlash in the rings

In some cases due to normal tolerances of the castings washers might be placed between the bearings and the rings and also between the lock washer (A) of the shaft end and the outer ring. If unacceptable backlash occurs between the rings during use, it can be reduced by mounting a washer of a suitable size to minimize the backlash (see 'Replacement of rings/bearings').

Plate 9



Cleaning and maintenance

When the season is over, the machine should be cleaned of soil and moist collecting materials. This will also ease future maintenance and repair of the machine.

Check that the rings easily turn and are intact coincident with no unnecessary backlash in the bearings.

Check the wear of the linkage's slide bar (nylon rail) and make sure that the Taptite screws (self-tapping screws) do not stick out on the surface.

Optional equipment

Crackerboard

The crackerboard is mounted in front of the packer rings and is able to make a processing of the soil in form of a leveling and compression dependent on how it is adjusted. The crackerboard makes an excellent processing both for rough plowing as well as after a preceding cultivation of the soil, as the crackerboard both levels and crushes clods.

Running

The crackerboard is a very flexible component with several possible applications combined in one component. With a depth set approximately to 3 to 5 cm depending on the type of soil, the tines and their vibrating effect will result in a crushing of the clods. If the crackerboard is set deeper, it will result in a larger leveling effect as a small pile will be accumulated in front of the tines.

Fig. 10

The recommended direction of running, which can be used under most conditions, is to adjust the crackerboard so that the tines' angle with the surface of the ground is at approx. 70°. Working depth must be adjusted to the succeeding crop and the condition of the field. It is not the purpose of the crackerboard to function as a blade, but on the contrary to make a light cultivation of the soil. As each tine is able to move individually and hereby give way to local resistances, this moreover results in a more regularly seed-bed than what can be obtained with a leveling plank.

Hydraulics

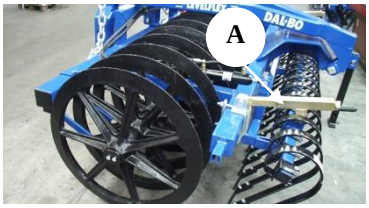
Hydraulic operation of the crackerboard's depth regulation secures an easy adjustment, so that running with the optimal depth always can be achieved. Hereby, variations in the condition of the soil within the same field are of minor importance, as it can be secured that the crackerboard continuously during running, works with the preferred amount of soil.

A double-acting extraction point for operation of the crackerboard is required.

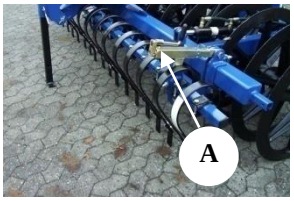
Adjustment

The angle of the tines can be adjusted manually by use of spindles (A) plate 11. The set angle will be retained independent of the depth as the tines are mounted in a parallelogram.

Plate 11



Passively adjusted tine



Aggressively adjusted tine

The angle of the tine is important for whichever work one wants to have done. If the tine is aggressively adjusted simultaneously with a working depth in the topsoil, it will produce as many vibrations as possible for comminution of clods (plate 11).

If the tine is further lowered it will result in a compression of the soil and the tine will also more easily be able to avoid any hindrances (plate11). This adjustment is recommended if a leveling of the field is preferred. At the same time an effect will be obtained, which is similar to the leveling plank with its crushing of the clods.

Efficiency

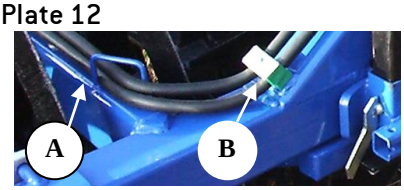
All in all the crackerboard does not require much efficiency, as the distance between the tines gives the soil the possibility to pass through. Each tine is concurrently able to move individually and hereby yield to local resistances. Hereby, a great strength is in the crackerboard's flexibility in opposition to a leveling plank, as the entire leveling organ does not have to disconnect just because of an obstacle.

If the crackerboard is adjusted to a large working depth a somewhat higher efficiency is required as a larger load of material is processed.

Refitting

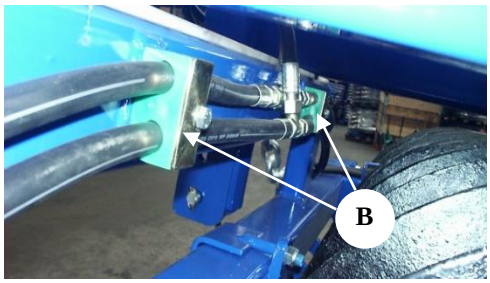
The crackerboard can be mounted from the factory, but if needed it can also be delivered later. The hose straps (A) and the hose carriers (B) are welded on where the hydraulic tubes of the crackerboard are to be led through.

Plate 12



The hose carriers (B) make sure that the hose is secured and that it is not squeezed.

Plate 13



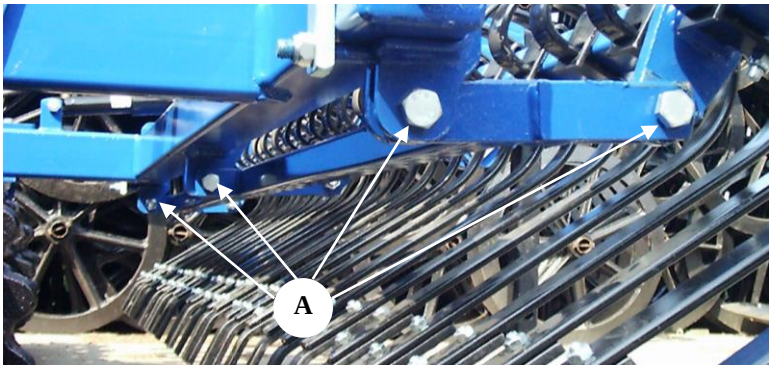
Stiff type

Hyd. type

Maintenance

Tighten up all screw joints after the first working day. It is important that the bolts which the crackerboard is hinged around (A) plate 14 as well as the maintaining hinges are adequately tightened, so the crackerboard can move freely (self-tightening screw nuts are used). All screw joints must be checked regularly and tightened according to necessity.

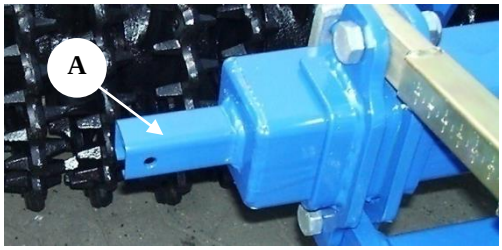
Plate 14



Indication lights

When driving on public roads, indication lights must be mounted. All models have a particular constructed attachment for mounting of indication lights.

Plate 15



Although this requires that the tractor has a 7-pole female socket (a farm trailer socket) connected with the front lift.

REPAIR

∇ All repair and maintenance of the LEVELFLEX must be carried out while the packer is securely placed on the ground and thus rests safely on the base.

∇ It is **extremely dangerous** to stay underneath the LEVELFLEX before the implement is supported properly. If the packer is attached to the tractor, it is important that the tractor is braked properly.

∇ **When changing the bearings, shafts and rings, the frame head must be supported by a solid support.** However, it is recommended that the LEVELFLEX is mounted in the tractor's three-point linkage with the LEVELFLEX resting on the base. When repairing the side sections (hydraulic models), the sections must be lowered and rest on the base.

Replacement of bearings/shafts/rings

The procedure for replacing bearings and shafts depends on the model and the type of ring. Due to normal tolerances on the casting, washers might in some cases be placed between the bearings and the rings and also between the locking screw of the shaft end and the outer ring. It depends on the new rings whether the washers can be used again or not, as the rings must be firmly fixed but only to the extent that the lock washer (plate 9) can be tightened as close as possible to the shaft end. There must be no air between the lock washer and the shaft end since the lock washer **must** press against the shaft end.

If the rings are difficult to pull off the shaft, try using a high pressure cleaner to wash between the ring and shaft in order to remove fixed rust and soil. If the repair is not an urgent matter, the shaft can be placed in an upright position and derusting liquid can be applied, where after the shaft with the rings are left through the night.

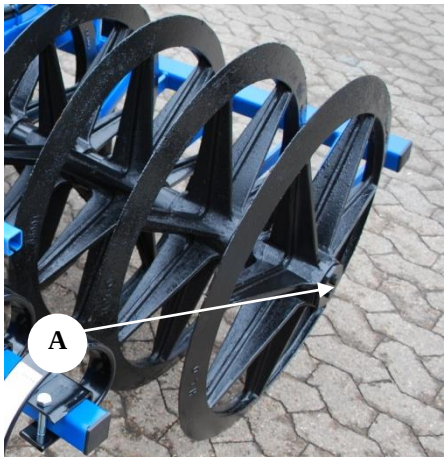
A ring can be so tight that it is necessary to cut through the shaft and thereafter the ring can be pulled off in a hydraulic press. This requires a new shaft, as the old shaft cannot be welded together again. If there is only one solid ring, then it will be more economical to cut it through with an angle grinder and thereby spare the shaft.

When the bearings are mounted on the shaft, it is important that the protruding shaft ends are of equal length on both sides.

Solid model w. 80 and 90 cm rings

1. The packer frame is supported so the rings only just lean against the base.

Plate 16

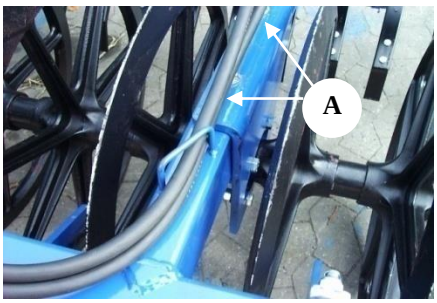


2. Remove the locking bolts and the washer (A) so the rings outside the bearings can be pulled off the shaft.
3. Loosen the pointed screws in the bearings and remove the bolts in the bearings (two in each).
4. Pull the bearings off the shaft. If the shaft is to be replaced, then lift the frame head off the rings so the shaft with the rings are free and now the shaft can be pulled out of the rings (a 80 cm ring weighs about 45 kg).
5. New rings, bearings or shaft can be mounted. Notice that the shaft ends must be of equal length on each side of the rings (after mounting the bearings, the protruding shaft ends, which are to be of equal length, are measured).
6. Put together in reverse order. The locking bolts and the pointed screws must be secured with Locktite (see also the introduction to the chapter on 'Repair').

Solid model m. Crosskillring

1. Follow point 1 and 2 as described in the instructions to the 80 and 90 rings.

Plate 17



2. Remove the bolts in the bearing plates (A).
3. Unscrew the pointed screws in the bearings and the bearing plates can be pulled off the shaft. Then the bearings can be replaced individually on the bearing plates
4. Put together in reverse order (see the introduction to the chapter on 'Repair').

Notice the rotational direction of the drum rings. Alternation occurs between the small and the large rings, where a washer closest to the bearings is followed by a small ring. Remember the bushings underneath the large rings (see also the introduction to the chapter on 'Repair').

Hyd. model w. 80 cm rings

Plate 19

1. Remove the bolts in the bearings, where after the frame head and the side section can be lifted off the rings and the shaft by use of the three-point linkage or a crane.
2. Remove the locking bolts and the lock washer, and then the rings outside the bearings can be pulled off the shaft.
3. Unscrew the pointed screw in the bearings so the bearings can be pulled off the shaft.
4. Put together in reverse order. The locking bolts and the pointed screws must be secured with Locktite (see also the introduction to the chapter on 'Repair').

If it is only the middle section in which the bearings, the shaft or the rings are to be replaced, then it is done with the side sections in upright position. **Remember that the transport lock must be in mesh**. Hereafter, the same procedure as in 'Replacement of bearings on the solid model' with 70 rings is adopted. In order to replace the bearings, the shaft or the rings on the side sections, the side sections must be removed.

1. Remove the hose carriers of the linkage for the crackerboard, so the tubes can be disengaged.
2. Remove split pins and spikes on the cylinder heads for the side sections.
3. Remove the locking bolts and the shaft for the side section's centre of rotation. Remember that the side sections must rest on the base. Use a crane or front loader to disengage the side sections from the frame head. Mount the slings so the section hangs in balance. Let the side section only just rest on the base with the rings, but still hanging in the slings.
4. Remove the locking bolts and the inmost ring can be pulled off the shaft.
5. The pointed screws of the bearings can now be unscrewed and the bolts of the bearing plates can be removed.

6. The bearing plates with bearings can be pulled off the shaft and new bearings, shaft or rings can be mounted.
7. Put together in reverse order. The locking bolts and the pointed screws must be secured with Locktite.
8. Mount the cylinder spikes of the side sections in the correct direction, which means that the rivet head should be in mesh with the rivet stop. Remember the split pins.
9. Check the hydraulic tubes for squeezing.

Hyd. model w. Crosskillring

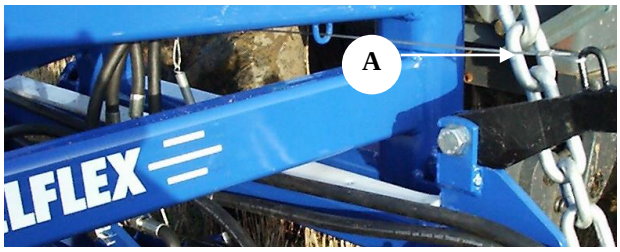
1. Follow the instructions in points 1 to 3 as in 'Replacement of bearings, shafts and rings' to 80 cm rings.
2. Loosen the bolts in the bearings of the bearing plates and remove them. In this way the shaft can be rolled away from the bearing plates. Thereafter, loosen the pointed screws in the bearings and the bearings can be pulled off the shaft.
3. Hereafter, follow the instructions in points 8 to 9 as in 'Replacement of bearings, shafts and rings' for 80 cm rings. Notice the rotational direction of the rings. Alternation occurs between small and large rings, where a large ring is placed innermost to the side section with a Ø300 washer (A) uttermost to the bearing. Remember the bushings underneath the large rings.

Plate 20

Replacement of the nylon rail

1. Lift the top piece by using the tractor's three-point linkage or by using a jack until the chains (A) are tight. Support the top piece to avoid the possibility of squeezing.
2. Remove the self-tapping screws in the nylon rail.
3. Remove the nylon rail and mount a new rail in reverse order.

Plate 21



Replacement of the cylinders for raising and lowering the side sections

Repair must be done with the LEVELFLEX lowered and with the side sections in a downward position, so the implement rests on the ground. Remember to depressurise the cylinder before loosening the hydraulic tubes.

Plate 22

1. Remove the tubes. (To avoid pollution of the ground during repair, it is recommended to pick up the oil in a tray).
2. Remove split pins and rivets, so the cylinder is free.
3. Mounting of a new cylinder must be done in reverse order. Remember to make sure that the spike is in mesh with the spike stop and secure the spikes with the split pins.

∇

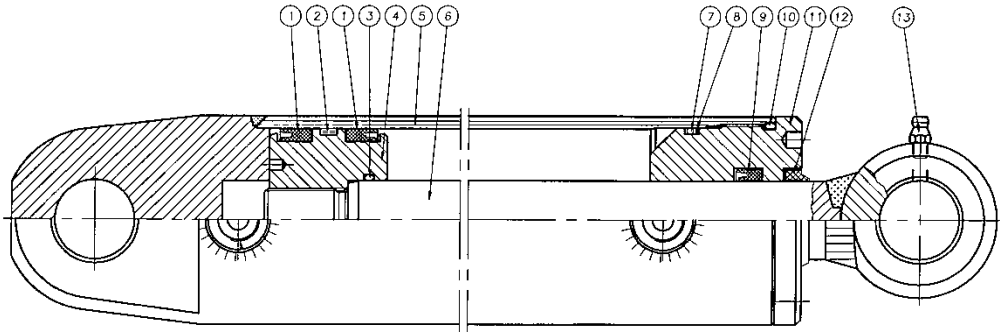
4. Carefully raise and lower the side sections a few times after the mounting in order to air the system. No persons must be in the implement's radius of action.

Replacement of the set of packings

Repair must be done with the LEVELFLEX resting on the base and with the side sections lowered. Repair can be done either with the LEVELFLEX mounted in the lift on the tractor or unfastened while standing on both support legs. Remember to depressurise the cylinders before loosening the hydraulic tubes.

1. Remove the tubes (to avoid pollution of the ground during repair, it is recommended to pick up the oil in a tray).
2. Remove the split pins and the rivets where after the cylinder is free.
3. Drain the cylinder of oil by moving the piston back and forth.

Plate 23



4. Slide the piston into a middle position and then unscrew the top piece (plate 11) approx. 25 mm (a special tool is needed to remove the top piece. If the top piece is very tight try heating up the front part of the socket. When the top piece is unscrewed 25mm, pull out the piston towards the top piece so the top piece can be unscrewed completely, where after the piston rod (pos. 6) can be pulled out of the cylinder tube (pos. 5).
5. Remove the locking nut in the end of the piston rod.
6. Pull the sleeve shoe (pos. 4) off the piston rod.
7. Pull the top piece (pos.11) off the piston rod.
8. Remove the packings in the top piece and the sleeve shoe (pos. 1+2+3+7+8+9+10+12).
9. Clean all the different parts and check for cuttings, burrs, etc. Check for any rust gatherings around the scraber ring (pos. 12) in the top piece. If any rust is found it must be removed.

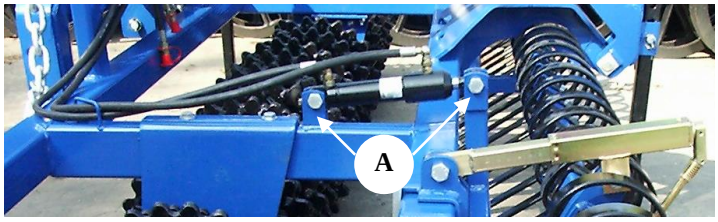
Mounting

1. Mount the new packings in the top piece and the sleeve shoe.
2. Apply grease or rust-preventive anti-seizure agent to the thread of the top piece (pos. 11) and the cylinder tube.
3. Mount the top piece (pos. 11) on the piston rod.
4. Mount the sleeve shoe (pos. 4), then screw on the locking nut and lock it with Loctite. Make sure that the thread is completely clean and free of oil and dirt before using Loctite. **After using Loctite do not fill with oil before 12 hours hereafter.**
5. Lubricate the sleeve on the sleeve shoe as well as the internal part of the cylinder tube with oil and slide the piston into a middle position.
6. Screw on the top piece and tighten it.
7. Mount the cylinder. Make sure that the spike is in mesh with the spike stop and secure the spikes with the split pins.
8. Mount the tubes. Make sure that the tubes are not squeezed and that the connections are tight.

Replacement of the cylinders for the crackerboard

The repair is done when the LEVELFLEX is lowered and with the side section in a downward position, so the entire implement rests on the ground. Remember to depressurise the cylinder before the hydraulic tubes are loosened.

Plate 24



5. Remove the tubes. (To avoid oil pollution of the ground during repair, it is recommended to pick up the oil in a tray).
6. Remove bolts and nuts (A), where after the cylinder is free.

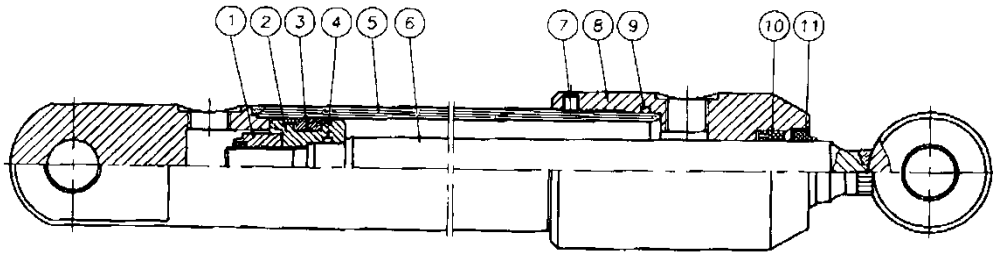
7. Mounting of a new cylinder is to be done in reverse order. Use self-tightening nuts and avoid tightening them too much, because the cylinder eye must be able to turn around freely in the fork for the meshing of the crackerboard.
8. After the mounting, raise and lower the crackerboard a few times in order to air the system. **Be careful that the tubes are not squeezed and that the connections are tight.**

Replacement of the set of packings

The repair is done when the LEVELFLEX is resting on the ground and the side sections are lowered. The repair can be done either with the LEVELFLEX mounted in the lift on the tractor or unfastened while standing on both support legs. Remember to depressurise the cylinders before the hydraulic tubes are loosened.

1. Remove the tubes. (To avoid pollution of the ground during repair, it is recommended to pick up the oil in a tray).
2. Remove the split pins and the rivets, where after the cylinder is free.
3. Drain the cylinder of oil by moving the piston back and forth.

Plate 25



4. Slide the piston into centre position, where after the top piece (pos. 8) is unscrewed approx. 25 mm. A special tool is needed to remove the top piece. If the top piece is very tight, a minor heating of the socket's front part will loosen it. When the top piece has been unscrewed 25 mm, the piston can be pulled out towards the top piece and then the top piece can be screwed off entirely, where after the piston rod (pos. 6) can be pulled out of the cylinder tube (pos. 5).
5. Remove the locking nut at the bottom of the piston rod.
6. Pull the sleeve shoe (pos. 2) off the piston rod.
7. Pull the top piece (pos. 8) off the piston rod.
8. Remove the packings in the top piece and the sleeve shoe (pos. 1+3+4+7+9+10+11).
9. Clean all parts and check for cuttings, burrs etc. Check for any rust gatherings around the scraber ring (pos. 11) in the top piece. If any rust is found it must be removed.

Mounting

1. Mount the new packings in the top piece and the sleeve shoe.
2. Apply grease or rust-preventive anti-seizure agent to the thread of the top piece (pos. 8) and the cylinder tube.
3. Mount the top piece (pos. 8) on the piston rod.

4. Mount the sleeve shoe (pos. 2) and then screw on the locking nut and lock it with Loctite. Make sure that the thread is completely clean and free of oil and dirt before using Loctite. After using Loctite do not fill with oil before 12 hours hereafter.
5. Lubricate the sleeve of the sleeve shoe (pos. 2) as well as the inside of the cylinder tube with oil and then slide the piston into a middle position.
6. Screw on the top piece and tighten it.
7. Mount the cylinder. Use self-tightening nuts and avoid tightening the nuts too hard. The cylinder eye must be able to turn around freely in the fork.
8. Mount the tubes. Make sure that the tubes are not exposed to any squeezing and that the connections are tight.

Scrapping

The first step of the scrapping is to remove the hydraulic tubes and pick up the oil. Drain the cylinders of oil, where after the oil and the tubes should be sent to destruction.

If necessary, dismantle the LEVELFLEX to make it easier to handle. The shaft with the rings is removed as described in the first part of the instruction 'Replacement of bearings, shafts and rings'.

Remove the side sections from the frame head by pulling out the shafts, which the side sections are hinged around, so that the side sections are free.

The rings are made of cast iron and the tines of hardened steel. The frame is made of ordinary black iron. All the iron of the machine can be sent to recycling.

Spareparts