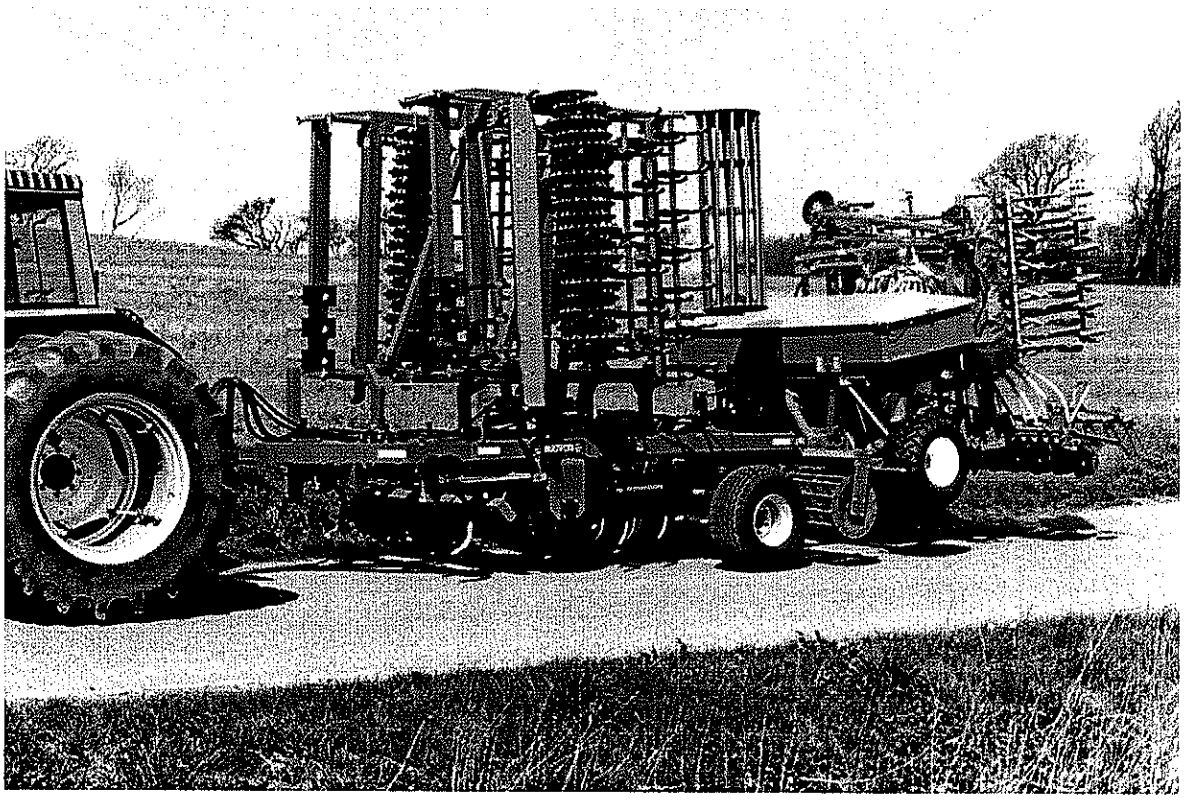
DAL·BO

MULTIFLEX
hydraulisk



GB – 450 + 500 + 600 CM

DAL-BO Multiflex
450 cm, 500 cm and 600 cm

Congratulations on your new MULTIFLEX. For **safe operation** and in order to obtain optimal use of the machine, read the rules and instructions of the following operator's manual carefully **before operating the machine.**

Important safety information is preceded by a ∇.

∇ Tighten all nuts, bolts, hydraulic fittings or any other fastened assemblies after a few hours' use.

∇ Do not operate the hydraulic system unless it is securely connected to the tractor.

∇ Operate the machine only while seated in the driver's seat of the tractor. Never allow anyone to be in the immediate vicinity of the operating area of Multiflex.

∇ Never allow children to operate the equipment.

∇ The driver is responsible for the correct use of lights and markings in compliance with the present Traffic Act and Highway Code of the local traffic legislation.

Your Multiflex has:

Serial number: _____. Type description: _____.
Month of manufacture:_____. Net weight (kg): _____.

Please always quote your machine serial number when making enquiries regarding spare parts or service. A comprehensive index of spare parts can be found in the back of this manual to give you an overview of Multiflex components and facilitate ordering.

EC DECLARATION OF CONFORMITY

Maskinfabriken DAL-BO A/S
DK-7183 Randbøl

hereby declare that the above-mentioned machine has been manufactured in compliance with the provisions of the Council Directive of 14 June 1989 on the approximation of the laws of the Member States relating to Machinery (89/392/EEC), amended 20 June 1991 (91/368/EEC) with special reference to Annex 1 of the Directive concerning the Essential Health and Safety Requirements for the design and the manufacture of Machinery.

Maskinfabriken DAL-BO A/S _____

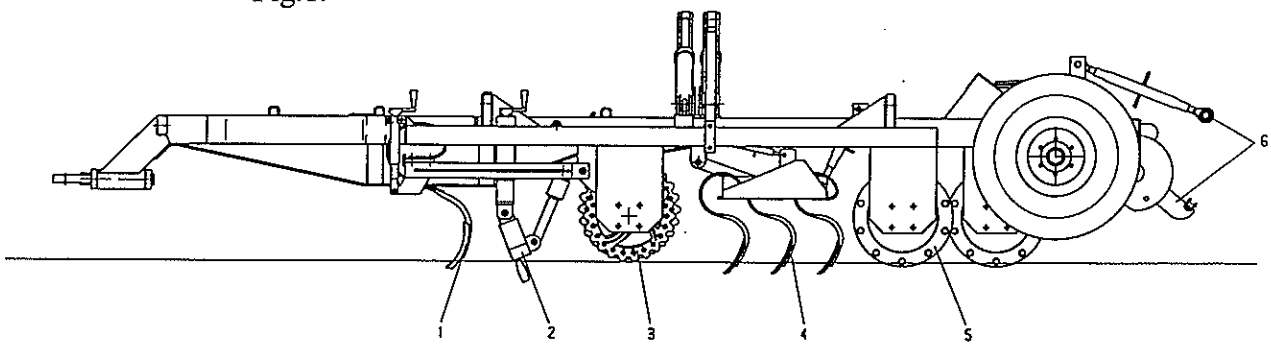
Dir. Kaj Pedersen

Table of Contents:

Usage:

Multiflex is a combination tool which is comprised of a series of implements with well-known tillage functions. Multiflex conditions the soil for an ideal seedbed and can be used together with a seed drill for the sowing of crops. Multiflex is an extremely versatile tool which has many uses. Multiflex comes in numerous special versions that can be produced upon request in order to fit your tillage needs. Special versions are not covered in this operator's manual, but this does not mean that they are not in production. If you should have any questions, contact your local dealer or DAL-BO.

Fig.1:



1. Track eradicator tines in the front of the tool break up hardpan areas and loosen compaction due to tractor tracks. Depth can be adjusted on both sides by two heavy-duty spindles.
2. The levelling bar is hydraulically adjustable and has rigid, hardened teeth. A gas accumulator makes the tines springy and resilient, and a pressure gauge facilitates operation. Depth can be adjusted on both sides by two heavy-duty spindles.
   The levelling bar breaks up clods into pieces and it is particularly effective in levelling the field surface.
3. Crosskill roller rings pack and level the soil as well as crush clods. The roller bears the front weight of the frame and provides a smooth and steady working motion.
4. The harrow section consists of a three-gang harrow connected by a parallel linkage. Depth can be adjusted on both sides by two heavy-duty spindles. The parallel linkage provides a consistent penetration depth that is easily adjustable.
5. The crumbler bears the back weight of the main frame and breaks up any remaining clumps. The roller produces an even, uniform field condition that is ideal preparation for use of the seed drill.

OPTIONS:

6. The seed drill linkage is an optional accessory and it is compatible with all types of seed drills. This feature makes Multiflex useful on virtually every farm.

∇ Multiflex must **not** be used as a transport vehicle, a pile driver, a hydraulic press or anything similar. If you should have any doubt as to the possible uses of the Multiflex, contact your local dealer or DAL-BO.

∇ Persons must **not** be allowed to ride on the implement while it is being towed.

∇ During operation of Multiflex, the operator must sit in the driver's seat of the tractor. **Never** allow anyone else to ride on or be in the immediate vicinity of the equipment.

Noise:

A higher level of noise is produced when driving on rocky soil. This level is well under the danger level for the tractor driver. To protect against objectionable or uncomfortable loud noises, close the windows and doors of the tractor and/or wear hearing protection.

Dust:

∇ Driving on extremely dry soil conditions can raise a large amount of dust. It is recommended that the windows and doors of the tractor be closed or that a dust mask be used.

Handling:

Multiflex is usually delivered in 4 pieces: the middle section, the left and right side sections, and the wheel assembly. If the tractor is equipped with two double-acting and one single-acting hydraulic services, mount the attachments immediately upon delivery. Multiflex is available in 450 cm, 500 cm and 600 cm widths in the working position, and the tool can be hydraulically folded together for a transport width of 300 cm.

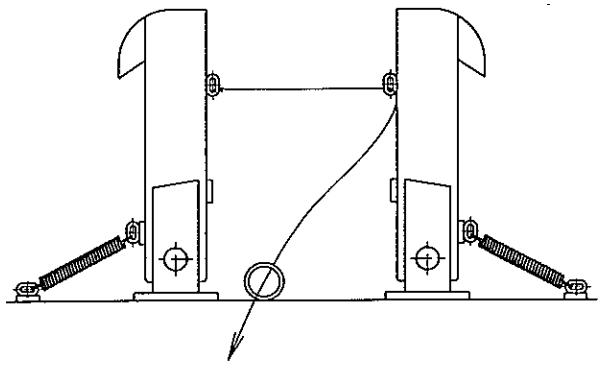
Order of Assembly:

The Pos. number refers to the lists and drawings of spare parts in the back of the manual.

1. Mount the wheel chassis with two pins (Pos. 130).
2. Mount the lift cylinders with pins (Pos. 125 and 126). The hoses for this are marked in red. Using the cylinders facilitates mounting.
3. Hitch on the side sections with pins (Pos. 39). It is best to start from the back.
4. Mount the main cylinders with pins (Pos. 35). The connections must face upwards, and the section with only one connection must be in the back. The hoses for this are marked in blue.
5. To test the equipment, connect Multiflex to a tractor. See under Connection.

6. Attach the string to the locks as shown in Fig. 2.

Fig. 2



∇ The machine's total weight can be found on page 1. The heavy-duty frame can be used for lifting. Lift by placing a strap in every corner of the main frame. Only use approved straps (not too short).

Standard Model 450 cm:

Mounting Order	Dismount. Order	Parts	Middle Section	Wings, each
1	8	Main frame	1085 kg	420 kg
2	7	Wheel chassis	245 kg	- kg
3	6	Packer roller	200 kg	180 kg
4	5	Roller section (NR. of crosskill rings)	450 kg (17)	300 kg (11)
5	4	Harrow section (NR. of "Super Q" tines)	125 kg (18)	110 kg (13)
6	3	Levelling bar (NR. of teeth)	80 kg (7)	62 kg (5)
7	2	Track eradicator tines	15,5 kg apiece	15,5 kg apiece
8	1	Seed drill (including linkage)	? kg	? kg

Mounting	Dismount.	Options	Middle Section	Wings, each
-	-	Linkage incl. turnbuckle (standard)	55 kg	- kg
-	-	Spring tine rake in 3 sections	90 kg	18 kg

Standard Model 500 cm:

Mounting	Dismount.	Parts	Middle Section	Wings, each
1	8	Main frame	1085 kg	420 kg
2	7	Wheel chassis	245 kg	- kg
3	6	Packer roller	200 kg	200 kg
4	5	Roller section (NR. of crosskill rings)	450 kg (17)	350 kg (13)
5	4	Harrow section (NR. of "Super Q" tines)	125 kg (18)	120 kg (16)

6	3	Levelling bar (NR. of teeth)	80 kg (7)	75 kg (6)
7	2	Track eradicator tines	15,5 kg apiece	15,5 kg apiece
8	1	Seed drill (including linkage)	? kg	? kg

Mounting	Dismount.	Options	Middle Section	Wings, each
-	-	Linkage incl. turnbuckle (standard)	55 kg	- kg
-	-	Spring tine rake in 3 sections	90 kg	20 kg

Standard Model 600 cm:

Mounting	Dismount.	Parts	Middle Section	Wings, each
1	8	Main frame	1085 kg	470 kg
2	7	Wheel chassis	245 kg	- kg
3	6	Packer roller	200 kg	240 kg
4	5	Roller section (NR. of crosskill rings)	450 kg (17)	500 kg (19)
5	4	Harrow section (NR. of "Super Q" tines)	125 kg (18)	140 kg (21)
6	3	Levelling bar (NR. of teeth)	80 kg (7)	95 kg (8)
7	2	Track eradicator tines	15,5 kg apiece	15,5 kg apiece
8	1	Seed drill (including linkage)	? kg	? kg

Mounting	Dismount.	Options	Middle Section	Wings, each
-	-	Linkage incl. turnbuckle (standard)	55 kg	- kg
-	-	Spring tine rake in 3 sections	90 kg	30 kg

Note: Weights shown above are an approximate guide.

Connection:

The 450-cm, 500-cm and 600-cm Multiflex with standard equipment normally requires two double-acting valves and one single-acting valve. See Start-Up.

All hoses are fitted with 1/2" quick release plugs. If your tractor is not equipped with quick release couplings, contact your local dealer.
Join the connecting hose marked in white to the single-acting valve on the tractor.
Join the connecting hose marked in red to the double-acting valve on the tractor.
Join the connecting hose marked in blue to the second double-acting valve on the tractor.
The pressure pump must be able to supply a minimum required pump pressure of 160 bar.

If there are not enough hydraulic services available, the two double-acting hoses can be operated from only one double-acting service by using a changeover valve.
Multiflex is also equipped with a quick release coupling on one of the lift cylinders. This feature enables the connection of a hydraulic marker to the seed drill. It may be necessary to insert a throttle valve in order to avoid mistaken changeovers due to small pressure jolts during operation. If the seed drill should require any further hydraulic connections, contact your local dealer or DAL-BO.

Start-Up:

Connect the tow bar of the tool to the lift arms of the tractor. If the tractor is equipped with loose hitch balls, it is advisable to mount these on the tow bar before connection. Tighten the stabilising chains.

∇ Remember to secure the draft links with linch pins or something similar.
Connect the two hoses marked in red to a double-acting valve (lift/lower).
Connect the two hoses marked in blue to a double-acting valve (side wing up/ down).
Connect the last hose, marked in white, to a single-acting valve (levelling bar).

∇ **Test:** Check that all pins are secure and tighten all bolted connections. Make sure that the levelling bar is raised to the highest position. Using the lift arms, lift the front of the machine approximately 30 cm up. Lift the back of the machine completely up with the lifting cylinder.

∇ Fold up the side wings. **No persons are allowed to be in the immediate vicinity of the machine.** Check the automatic locks by trying to fold the wings down.
Pull the side wings together again and pull on the string. It should now be possible to lower the side wings. A restrictor placed by the "minus port" on one of the folding cylinders ensures that the side wings move down slowly, no matter how much the control valve is opened.
If the side wings cannot move, check the levelling bar. If the bar is not completely raised, the control valve on the right bar cylinder will block the lowering of the machine.

Mount the seed drill onto the linkage on the back of Multiflex. The seed drill must always be equipped with its own wheels to support the seed drill in a working position.

∇ Damaged hoses must be repaired or replaced **immediately**.
A ruptured hose could, under certain circumstances, cause personal injury to the user or mechanical damage to the equipment.

Lowering Speed Adjustment:

The lowering speed must not be too fast. High speeds create a safety hazard and could damage the seals of the lifting cylinders.
The lowering speed must not be too slow either, as this will hamper effective operation with the Multiflex.

Adjust the lowering speed when the seed drill is filled and the tractor engine is warm.

1. Lift the machine at both ends.
2. Set the engine speed at approximately 1500 rev/min.
3. Lower the back of the machine with the control valve completely open.
4. Check that the wheel system moves in one smooth movement.
5. If the Multiflex reaches the lowest position, but the wheel system stops moving upwards before reaching the upper stop position, further close the lowering valve on the connecting hose.
6. If the lowering speed is too slow, open the lowering valve.
7. Repeat testing until the wheel system elevates to the upper limit without stopping.

While lowering the machine, the engine speed must not be slowed to under 1500 rev/min.

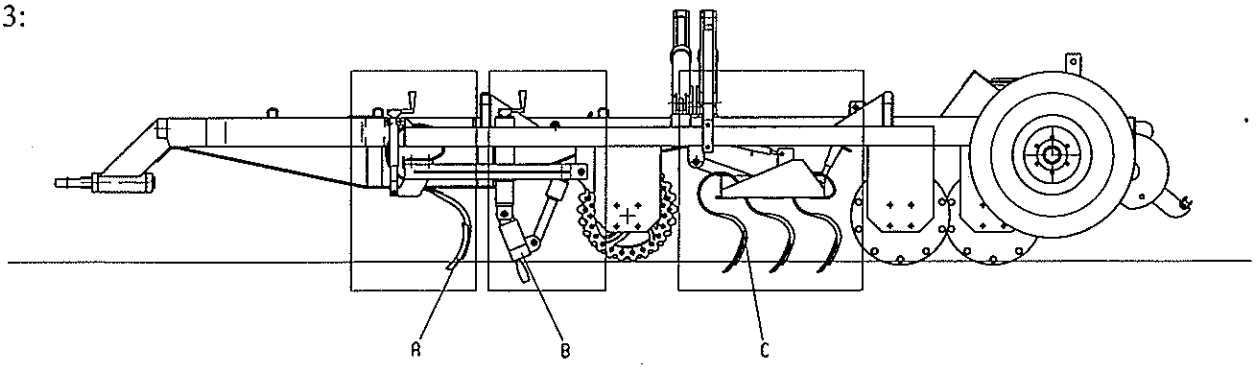
After 30 min. of work, check the lowering speed again – also with a full seed drill.

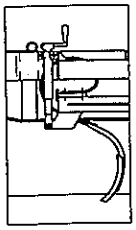
Operation:

See Fig. 3.

∇ The tractor **must** be operated from the driver's seat. **Never** allow other persons to ride on or be in the immediate vicinity of the equipment. Service of the tool should only take place after the tractor has been securely braked.

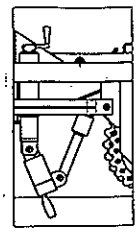
Fig. 3:



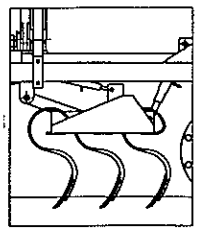


A. The working depth of the track eradicator tines can be adjusted using two spindles, one on each side. In addition, the tines may be placed on either above or beneath the bar. This feature allows the track eradicator tines running in the tractor tracks to

penetrate deeper down into the soil than the eradicator tines in the middle of the Multiflex do.



B. The levelling bar is hydraulic and can be adjusted by activating the single lever control. Two heavy-duty springs raise the bar again when the single lever control handle is set in the floating position. While driving, the pressure of the levelling bar can be read on the pressure gauge. Suspension of the levelling bar can be adjusted using two spindles located on each side of the main frame.



C. The working depth of the harrow can be adjusted by using the two heavy-duty spindles from which the harrow section is suspended. The harrow can be adjusted horizontally by adjusting the small spindle in the middle of the harrow section. When the Multiflex is standing out on the field, set the harrow section to a penetration depth stop of approximately 1 cm deeper than the desired sowing depth. The spindle scale should only be considered an approximate guide.

The wheels are completely raised in the working position, and the weight of the tool is borne by the roller section in the front and the packer roller in the back. This roller attachment can either be a closed packer roller or an open crumbler, depending on the needs of the user.
Fasten the coulters of the seed drill tightly, so that they cannot penetrate deeper than the area which has been harrowed.

Driving Instructions:

For optimal results, plant the field by sowing from side to side first, then finish by driving across the headland. The headland will be approximately 15 m wide, depending on the turning radius of the tractor. It is recommended that the lift be pre-set with "lower limit" and "fully raised" stop position settings. When turning in the field, first turn slightly in the opposite direction while lifting first with the lift until the track eradicator tines are free, then lift with the hydraulics until the Multiflex is raised. Turn completely around until the middle of the tractor is over the edge of the newly sown section. Straighten out while lowering the Multiflex, first in the lift and then the wheels. The valve is activated until the wheels are completely raised. Adjust the levelling bar with the single-acting valve. It is recommended that the pressure be set for 40-50 bar when working on hard soil that is filled with clods, set it lower for loose soil conditions. The pressure can be read on the pressure gauge located over the bar.

∇ Never reverse the tractor while the Multiflex is in the ground in the working position. Damage to the coulters and harrow tines could result. It is not advisable to make sharp turns with the seed drill in the soil, since this could bend the coulters.

Recommended driving speed: 8 - 10 km/h.
In rocky soil condition, reduce speed. Increase speed when the crosskill ring roller begins to clog up with soil clumps. The rings keep themselves cleaner and break up clods more effectively at a relatively high speed.

Maintenance:

Tighten all bolted connections and hub nuts after the first workday, or after any indication that they might be loose.

Wheel suspension chassis and cylinder - 6 lubricating points – lubricate daily
Roller bearings - 6 points – lubricate every 50 working hours
Packer roller bearings - 6 points - lubricate every 50 working hours
Drawbar - 1 lubricating point - lubricate every 50 working hours
Lubricate wheel bearings once per season.

SPINDLES:
Track eradicator tine section - 6 points – grease nipples, lubricate once per season
Levelling bar section - 6 points - grease nipples, lubricate once per season
Harrow section - 9 points- disassemble the spindles and lubricate once per season

∇ Check daily for stones or other objects which might be stuck around the piston rods or the control valve of the levelling bar.

The side wings cannot be lowered if the valve is blocked. In the worst case, unfolding the wings with the bar in a lowered position may damage the levelling bar.

Reduce any slack between the crosskill rings by moving the outer rings with the setscrews closer together. This will greatly extend the lifetime of the crosskill rings.

Adjust the wheel bearings once a year. Follow the instructions for changing the bearings, steps 1, 2, 12, 13, 14, 15.

Check the **air pressure** in the wheels, before the start of the season or after any indication of incorrect pressure.

Wheel mounting 400/60 x 15.5 - 14 ply => air pressure 4.8 bar.
Wheel mounting 500/55 x 15.5 - 14 ply => air pressure 3.9 bar.

If the Multiflex remains parked outdoors for a prolonged period of time, it should be left in the transport position with the wheels completely elevated - the Multiflex will then rest on the support legs and the packer roller in this position. This will prevent rust from developing on the piston rods and relieve the pressure on the tyres.

Optional:
The turnbuckle in connection with the linkage – disassemble and lubricate once per season.

REPAIRS:

Instructions:

∇ **Mounting and dismantling**

Remember that working under the tool can be **dangerous if the tool is not supported properly**. A leak in the hydraulic system will cause the tool to sink. **Remember to support and secure the tool before starting any** repairs and maintenance work underneath the machine.

Once the machine elements are securely supported, worn or broken parts can then be replaced easily with ordinary tools. Replacement of the roller ring should be done in a workshop. Caution should be taken when working on the hydraulic system. Make sure that the tool is in the lowered position and that the pressure in the system is relieved when working on the lines.

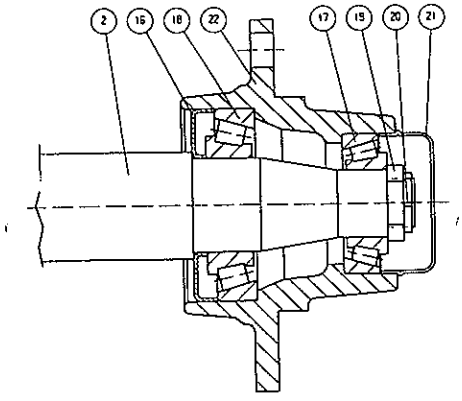
Wheels:

When changing the wheels due to puncture, fold the side wings together in the transport position and lower the Multiflex until the wheels are free. In this position, the wheels can be dismounted without using a jack.

Changing tyres, see Fig. 4.

1. Remove the hubcap (Pos. 21).
2. Take out the split pin (Pos. 20).
3. Unscrew the castle nut, (Pos. 19).
4. Carefully take off the hub (Pos. 22) and dismount the bearings.
5. Take off the seal (Pos.16).
6. Remove the outer ring from the bearings in the hub (Pos. 22).
7. Clean all parts.
8. Replace the outer ring from the bearings in the hub (Pos. 22).
9. Put the seal on the axle.
10. Place the inner ring from the large bearing on the axle, and then place the hub on the axle.
11. Place the inner ring from the small bearing on the axle.
12. When tightening the castle nut onto the axle, continuously rotate the wheel hub. Tighten the nut until it is difficult to turn the hub. Now loosen the nut until the split pin lines up with a hole in the axle.
13. Replace the split pin.
14. Fill the hubcap up ¾ full with lubricant and reinstall.

Fig. 4:



Track Eradicator Tines "David":

Mounting, dismounting of tines and replacement of points:
The tine is comprised of a heavy-duty upper part which is screwed together to a lower part with an M10 U-bolt and an M16 screw and nut.
The track eradicator tines can easily be changed by loosening the 4 x M14 screws on the tine bar. Next, remove the entire tine.
The replaceable point can also be changed without dismounting the tine itself. **Remember** to support the machine before beginning to work on it. Loosen the point by loosening the two M12 self-locking nuts on the lower part of the tine. Next mount a new point. The distance between the tines is 25 cm. Assemble by screwing the tine together and then fastening the tine to the holes in the tine bar.

Levelling Bar:

Levelling bar mounting, dismounting and replacement of teeth:
The teeth in the levelling bar can be easily changed by loosening the screw on the front of the levelling bar. There is no nut since there is a screw thread in the tine itself. Pull the tine off in a downward motion and mount a new tine.
Note: New teeth are first mounted in the uppermost holes, and when they have worn down 5 cm, they can be moved to the lowest hole where they can be further worn down. The rows of the levelling bar teeth are staggered from the track eradicator tines and there is a permanent distance between the teeth and tines of 25 cm.
It is not necessary to dismount the levelling bar under normal circumstances. The levelling bar should only be removed for repairs or scrapping.

∇ Dismounting of the levelling bar should take place at a workshop. It is important that great care be taken since two heavy-duty high tension springs are mounted on the bar. Take precautions that these springs are not released unexpectedly. There should be two persons to dismount the bar. One person should stand on the bar, so that the cylinder holder on the main frame becomes "loose". The uppermost pin can then be removed and the pressure on the bar can be relieved slowly until the spring is slack. The spring and the ram cylinder can now be removed, and the bar will hang perpendicularly from two pins. Secure the levelling bar before removing the pins. The bar can be secured using a crane to lift the bar slightly with 2 straps placed in the middle of the bar (approx. 1 metre apart).

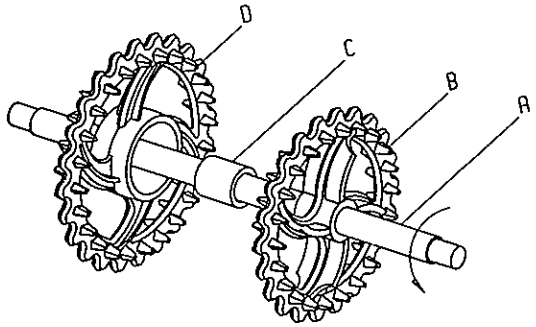
Mount in reverse order. Consult the approximated weight chart in the section on Handling.

Crosskill Rings, Bearings and Shafts:

For mounting and dismounting, see Fig. 5:
Determine the direction of rotation of the shaft (A). Start with a small ring (B). This ring should be turned in the direction as shown in Fig. 5. Next, mount a bushing (C) followed by a large ring (D). Make sure that the rings are

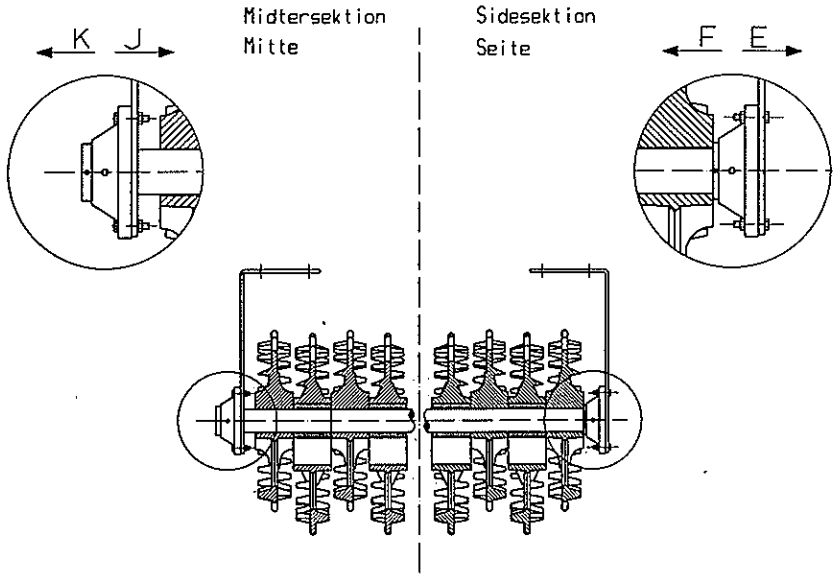
turned in the right direction with respect to the direction of the rotation of the shaft. Then mount alternately a small ring (B) a bushing (C) followed by a large ring (D).

Fig. 5:



See Fig. 5A.
The first and the last ring to be placed on the shaft should always be a small ring with 4 setscrews. This functions as a shaft collar. Tighten the setscrews. Loosely mount the bearings on the shaft and guide them into position between the bearing plates. Remember that the grease nipples must always point forward. Tighten the bearings to the bearing plates. Lastly, lock the inner ring of the bearing with setscrews in order to ensure that the bearings are positioned correctly and to avoid damage from over-tightening.

Fig.5A:



Dismount in reverse order!

To change the bearings, screw the bearings off the suspension and lift the main frame. The bearing housings can then be dismounted. Dismount the bearing by loosening the setscrews in the inner ring of the bearing, then slide the bearing and bearing housing off the shaft. Next, use a piece of pipe or something similar to stick through the inner ring and help turn the bearing toward the groove in the housing. Take out the bearing and insert a new one.

Harrow Section "Super Q":

Changing tines or replaceable points:
Each tine is mounted in a fitting with an M12 screw with a self-locking nut. The tines are placed staggered on three bars, so that the distance between the tines is 10 cm for the three bars. Tine positions for the 450-cm model can be seen in Fig.6A, for the 500-cm in Fig. 6B, and for the 600-cm in Fig. 6C. The point can be changed without dismounting the whole tine. Remove the point by loosening the M10 nut behind the tine and then mount a new point. Remember to support/secure the tool before starting to work on it.

Fig. 6A = Tine placement for the 450-cm model:

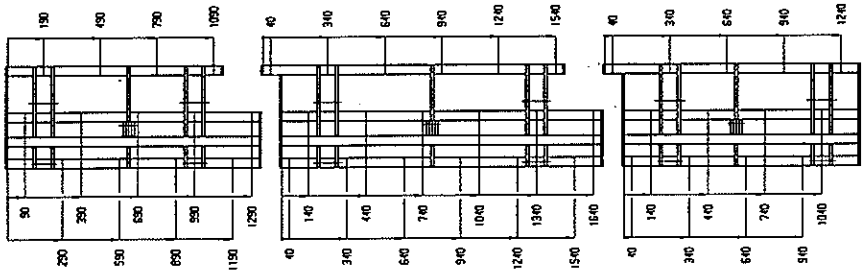


Fig. 6B = Tine placement for the 500-cm model:

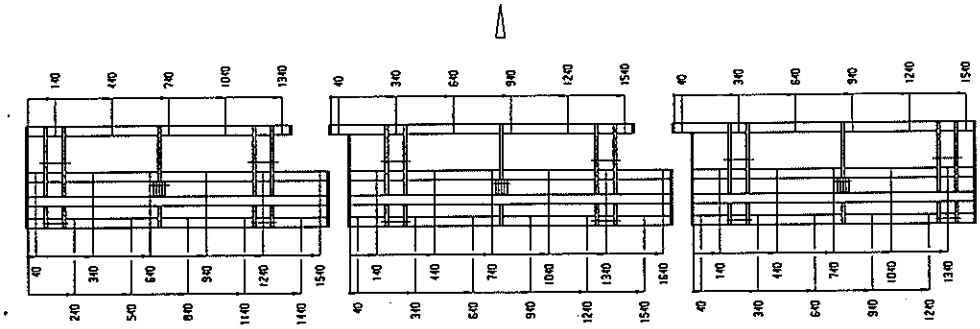
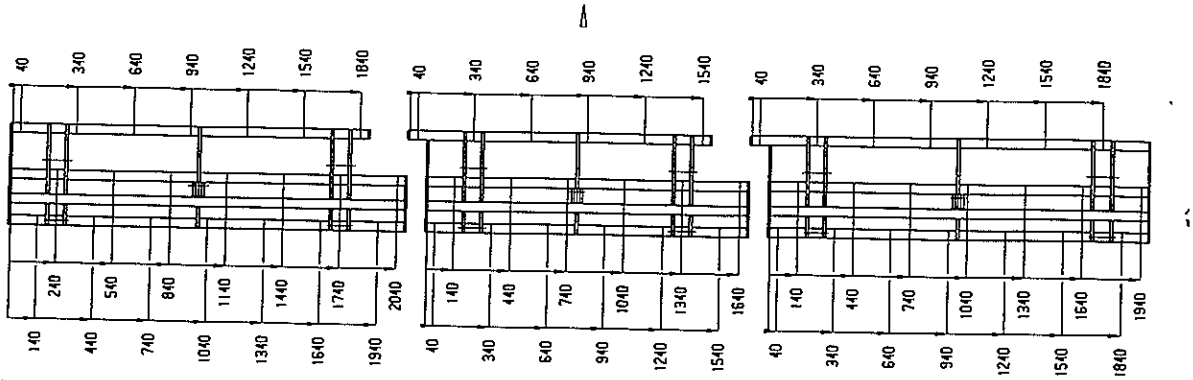


Fig. 6C = Tine placement for the 600-cm model:



Levelling Bar Rams:

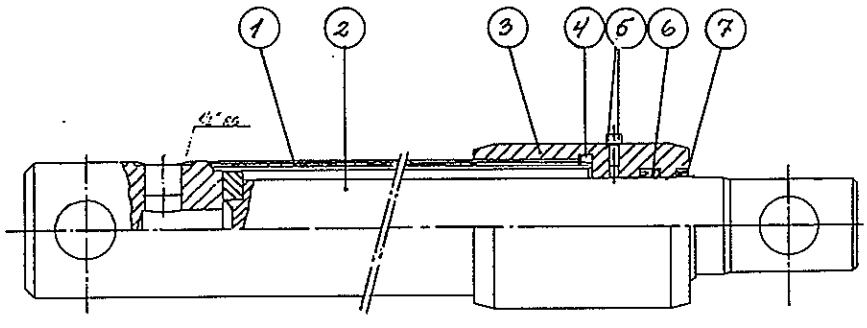
Disassembly and assembly (60/50x200-a):
Bar ram cylinder, see under dismounting of levelling bar. Weight 11,2 kg.

Changing the seals:

See Fig. 7.
REMOVAL:

1. Empty the oil from the cylinder. If necessary, use compressed air to move the piston back and forth in order to press the oil out.
2. Move the piston to the middle position. Unscrew the Allen screw (Pos. 5). Loosen the gland. If the gland is stuck, warm up the very front of the socket to approximately 300° C. Cool slowly. When the gland has been loosened, pull the piston out towards the gland. Unscrew the gland completely and pull the piston rod out. The piston rod and the gland are now completely off.
3. Screw the sleeve off the end of the piston rod.
4. Pull the gland off the piston rod.
5. Remove the seals (Pos. 4+6+7) using a tool such as an awl or a screwdriver.
6. Clean all parts thoroughly to remove rust or deposits. Remove any burrs by grinding/polishing.

Fig.7:



ASSEMBLY:

1. Lubricate the new seals and fit them into the gland (Pos. 4+6+7). Mount the scraper ring (Pos. 7) with the help of a piece of tube that fits outside around the lip.

2. Lubricate the screw threads on the gland and the cylinder casing with grease (corrosion-inhibiting, anti-seize lubricant).
3. Mount the gland onto the piston rod.
4. Mount the sleeve and lock it onto the end of the piston rod using Loctite.
   Do not refill the oil for the first 12 hours after the application of Loctite.
5. Lubricate the inner side of the cylinder casing and the piston rod with lubricating oil, then guide the piston rod into the casing.
6. Screw on the gland and tighten.
7. Screw the Allen screw (Pos. 5) into the gland using Loctite.

Lifting Rams:

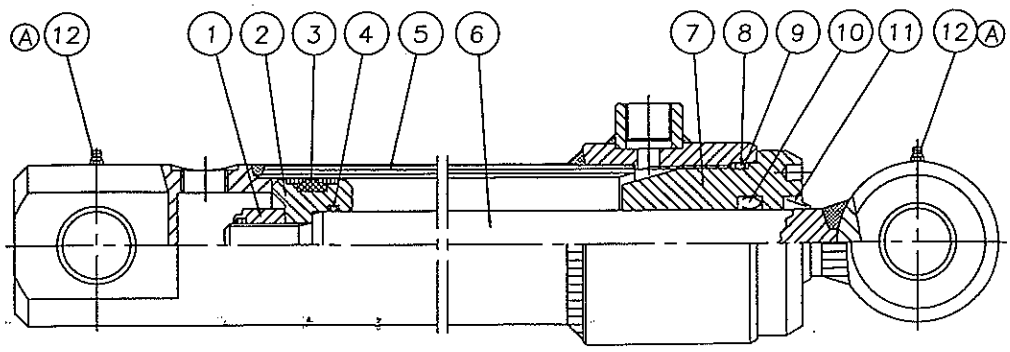
Dismounting and mounting (80/50x350):
Park Multiflex on level ground before dismounting the lifting ram cylinders. Raise the wheels to the highest position. Brake the tractor and turn off the engine. Secure the wheel frame firmly to the main frame to prevent it from rocking. Relieve the pressure in the system and disconnect the hoses. It is recommend that a bucket be placed underneath to collect the oil.
Take out the split pins and remove the cylinders. The cylinders weigh 21 kg apiece. Note that the cylinder is full of oil that will run out if the piston rod is pulled. It is advisable to empty the contents of the cylinder into a bucket immediately after dismounting it.

Mount in reverse order.
Check that the hoses are connected correctly and that the fittings are tight.

Changing the seals:
See Fig. 8.
DISASSEMBLY:

1. Empty the oil from the cylinder. If necessary, use compressed air to move the piston back and forth in order to press the oil out.
2. Move the piston into the middle position. Unscrew the gland (Pos. 7) 30 mm. If the gland is stuck, warm up the very front of the socket to approximately 300° C. Cool slowly. When the gland has been loosened, pull the piston out towards the gland. Unscrew the gland completely and pull the piston rod out.
3. Remove the locking nut (Pos. 1).
4. Remove the sleeve (Pos. 2).
5. Pull the gland off the piston rod (Pos. 7).
6. Remove the seals in the gland and in the sleeve (Pos. 3+4+8+9+10+11). A tool such as an awl or a screwdriver may be used.
7. Clean all parts thoroughly, and inspect for damage or corrosion. Check for chips, burrs, and check for rust around the scraper ring (Pos. 11) on the gland. Remove any rust that is found.

Fig. 8:



ASSSEMBLY:

1. Mount the new seals in the gland and in the sleeve. Mount the scraper ring (Pos. 11) by using a special mandrel or a piece of pipe that fits outside around the lip. Mount the sleeve (Pos. 3) using a round bar or screwdriver.
2. Lubricate the screw thread on the gland and the ram casing with grease (corrosion-inhibiting, anti-seize lubricant).
3. Mount the gland (Pos. 7) onto the piston rod.
4. Mount the sleeve (Pos. 2) and screw on the locking nut with Loctite. Make sure that the screw thread is absolutely free any oil or other impurities before applying Loctite.
   Do not refill the cylinder with oil for the first 12 hours after the application of Loctite.
5. Lubricate the seal (Pos. 3) on the sleeve and the inside the far end of the ram casing with lubricating oil. Push the piston into the middle position.
6. Screw on the gland and tighten.

Folding Rams:

Dismounting and mounting (80/40x700):
Multiflex must be in a working position (with side wings folded down) before dismounting the two ram cylinders that are used in the hydraulic folding system. It is important that the control valve on the levelling bar is not activated, that is, that the bar is elevated in the highest position. Relieve the pressure in the system. Disconnect the hoses. It is advisable to place a bucket underneath to collect the oil.
Take out the split pins and remove the cylinders. They weigh 25,6 kg apiece. Please note that the cylinder is full of oil that will run out if the piston rod is pulled. It is therefore advisable to empty the cylinders into a bucket immediately after dismounting.
Mount in reverse order.
The pilot controlled check valve (NR. 48 on the spare parts list) must be a single-acting valve which blocks the return flow from the hose. It is connected

to the pressure gauge. Check that the hoses are connected correctly and that the fittings are tight.

To change the seals, see Lifting rams, Fig. 8.

∇ In case clothes should become stained with oil, remove the stained clothes immediately and wash the affected skin area thoroughly.

General Information – Hydraulic System:

Assemble in reverse order of disassembly.
Check that the hoses are connected correctly and that the fittings are tight.

∇ In case clothes should become stained with oil, remove the clothes immediately and wash the affected skin areas thoroughly.

∇ It is **dangerous** to disassemble individual elements of the hydraulic system without first taking steps to ensure that these parts are properly secured and safe to work on.

Crumbler:

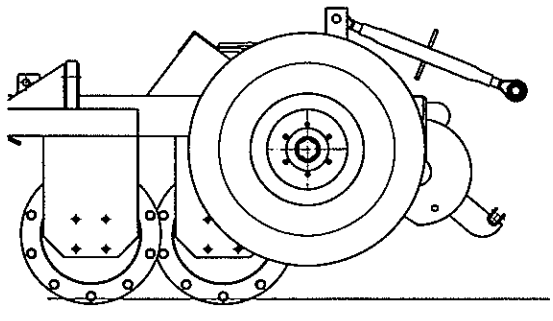
Mounting and dismounting, see Fig. 9:

For 450 cm:
The crumbler is a 3-part tool with a 160-cm middle section and two 143-cm side sections.

For 500 cm:
The crumbler is a 3-part tool with a 160-cm middle section and two 168-cm side sections.

For 600 cm:
The crumbler is a 3-part tool with a 160-cm middle section and two 218-cm side sections.

Fig. 9:



Place the bearing housings with the bearings loosely on the shaft. Roll the crumbler into place behind the tool, then tighten the bearing housings onto the suspension with 4 M16 x 50 screws. Next, lock the inner ring of the bearings with setscrews in order to ensure correct placement of the bearings and to avoid any possible damage due to over-tightening.
Remember to turn the bearing housing so that the grease nipples can be lubricated!

Dismount in reverse order.

Hydraulics:

See the spare parts drawing in the back of the manual.

Scrapping:

Disassemble the machine in the following order, starting with the side wings in a folded down position, then the middle section:

Dismount the seed drill.
1. Track eradicator tines
2. Levelling bar
3. Crosskill roller
4. Harrow section
5. Crumbler

∇ Carefully support the frame, then relieve the pressure in the hydraulic system and bring the tractor / pumping station to a complete standstill.
6. Dismount the wheels
7. Hydraulic system

Send oil hoses, oil, tyres, and hoses to be destroyed. The rest can be used for recycled metal.

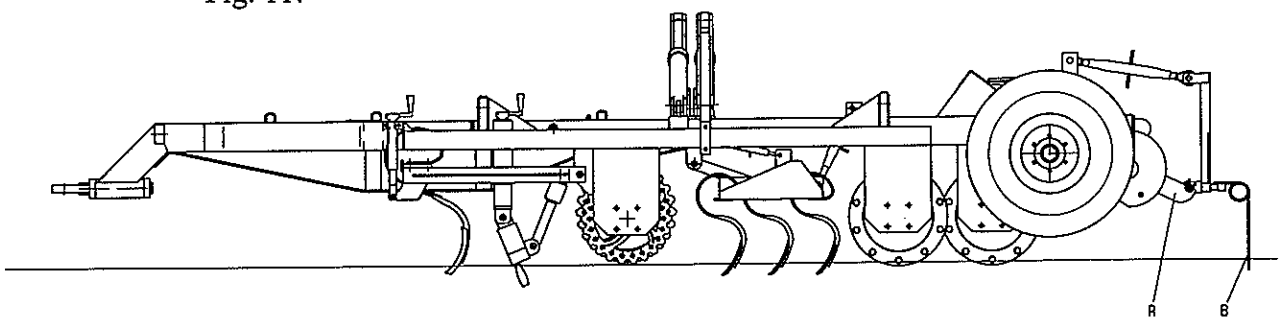
OPTIONS:

Usage:

See Fig. 11.

A. The linkage is fitted on the back of the tool for mounting a seed drill. The seed drill must be equipped with its own wheels.
B. The spring tine rake attachment can be used to level off the field surface when a seed drill is not mounted to the Multiflex. The spring tine rake is a 3-part implement that can be manually folded together for transport.

Fig. 11:



Operation:

∇

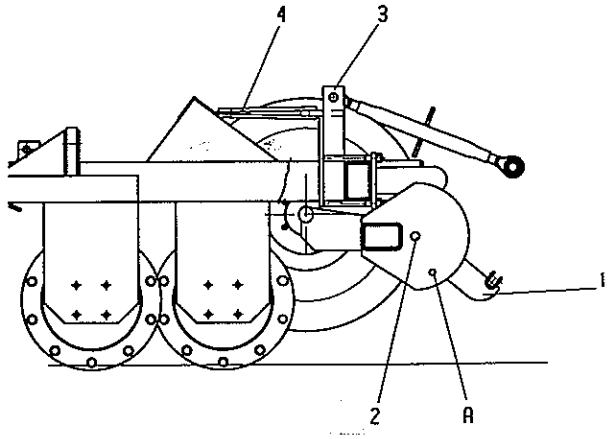
The operator must sit in the driver's seat of the tractor during operation of the tool. Do **not** allow anyone to ride on or be in the immediate vicinity of the equipment except the driver.

- The spring tine rake for the 450-cm, 500-cm and 600-cm Multiflex is a 3-part implement and can be mounted on the linkage on the back of the tool. Use the turnbuckle to set the angle on the spring tine rake and the lift to raise the rake up off the ground. The spring tine rake can easily be mounted and dismounted on the three-point hitch. To fold into the transport position, manually flip the outer sections in over the middle section and lock with the pins.

Linkage:

Mounting and dismounting, see Fig. 12:
Mount the lift arms (Pos. 1) for category 2 axle DS 6010 into the fittings for the wheel frame. Fasten the turnbuckle stay (Pos. 2) to the turnbuckle (Pos. 3) onto the first permanent tillage frame, as shown in Fig. 12.
Mount the supports (Pos. 4). Tighten the linkage, and lastly tighten the supports securely.
Dismount in reverse order.

Fig. 12:



Spring Tine Rake:

Mounting and dismounting, see Fig. 10:
Mount the spring tine rake onto the three-point hitch mounted behind Multiflex. Use the turnbuckle to set the angle on the rake. If a tine on the rake needs to be changed, dismount it easily by loosening the M10 nut on the U-bolt. Mount the new tine.

SPARE PARTS: