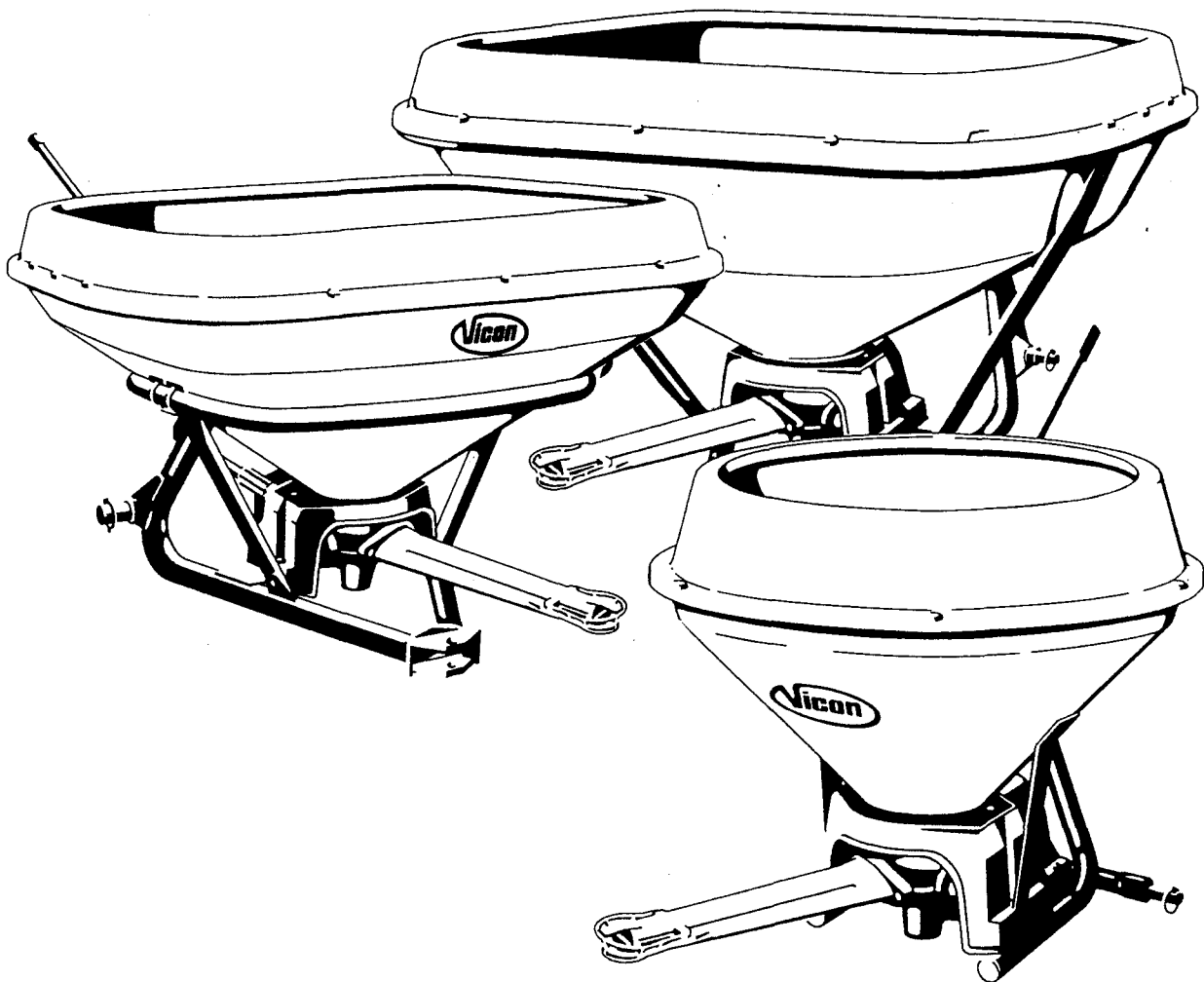




operators manual

Super Flow PS 203-1653/603-1003



CONTENTS

PREFACE	3
GENERAL DESCRIPTION	4
SAFETY REGULATIONS	5
TECHNICAL SPECIFICATIONS	6
PACKING AND ASSEMBLY	8
TRACTOR REQUIREMENTS	18
HITCHING TO THE TRACTOR	20
P.T.O SHAFT CONNECTION	22
OVERLAPPING	26
ADJUSTMENT OF THE FERTILISER TYPE	28
CALIBRATION TEST	30
SPREADING	32
BOUNDARY SPREADING	34
SPREADING POWDERED FERTILISER	36
LUBRICATION/MAINTENANCE	38
CLEANING AND TORQUES	40
ACCESSORIES	42
SPREADING PROBLEMS	45
SPREADING TABLE	47

[Empty rectangular box]

[Large empty rectangular box]

PREFACE

We are pleased that you have decided to purchase the Vicon Super Flow fertiliser spreader. We are fully confident that you will appreciate the spreader for its precision, ease of operation and long life.

In this instruction manual we will deal with the use and operation of the Vicon fertiliser spreader. It contains information concerning adjustment and maintenance, and provides directions for solving possible malfunctions.

It is very important to read this manual carefully.

If the spreader should be used incorrectly, situations may arise which lead to inaccurate spreading results, damage to the spreader and even personal injuries.

The fertiliser spreader must be operated, maintained and repaired by persons who are familiar with the machine and its functioning. Therefore make sure that this manual is made available to any person working with the fertiliser spreader.

In case spare parts have to be exchanged, only use the original Vicon parts. The use of non-original parts may affect the guarantee.

Serial number plates have been fitted to the frame of the machine and to the spreader unit.

Enter the numbers below, along with the date of purchase. They may be important later, in case of correspondence and when ordering spare parts.

SERIAL NUMBER FRAME
<input type="text"/>

DATE OF PURCHASE
<input type="text"/>

SERIAL NUMBER SPREADER UNIT
<input type="text"/>

GENERAL DESCRIPTION

The Vicon Super Flow fertiliser spreader can be used for spreading granulated and powdered fertiliser, corn and seeds.

The PS 303-1653 is mounted on the hydraulic three-point linkage of the tractor. A set of wheels is optionally available for the PS 753-1653. All spreaders are P.T.O. shaft driven. The supplied P.T.O. shaft is fitted with a slipping clutch which prevents overload when the P.T.O. shaft is switched on.

The Super Flow spreaders have a symmetrical spreading pattern: the quantity of spread fertiliser is exactly the same to both sides. From the middle of the spreader the quantity of fertiliser decreases to the left and right, which makes it possible to overlap the resulting spreading pattern to an effective spreading width of 8-14 meters.

Special spreading spouts are available for spreading at different working widths and other applications (see page 42).

Every spreader comes with a slide calculator. This will enable you to determine the required fertiliser output per hectare at any driving speed. The spreading table on page 47 will supply you with the corresponding values and the spreading quantity can be adjusted fast and without problems with the synthetic regulating bar (see also page 28).

Before you start spreading you can carry out a calibration test to check the set application rate (see page 30).

The ease of operation of the fertiliser spreader and its accuracy will be further increased by using the electronic measure, control and metering system optionally available on all Super Flow spreaders.



SAFETY REGULATIONS

Unfortunately accidents still occur on farms or in the fields every year as a result of carelessness and negligence when using tractors and agricultural machinery. The points below are regulations which will improve the safety of all persons working on your farm.

1. The tractor may only be handled by an expert. Make sure that anyone working with the machine has read this instruction manual.
2. The tractor may not carry passengers unless a special seat is available.
3. Never leave the tractor unattended with the engine running. Always switch off the engine and remove the key.
4. Never grease, lubricate, clean or adjust any component of the spreader when the P.T.O. shaft of the tractor is running.
5. Always use a protected P.T.O. shaft, and connect the chain to a fixed point to prevent the protecting sleeve from rotating.
6. Regularly check if all bolts, nuts and other connections are still secure (for torques see page 40).
7. Make sure that the protective parts remain in place.
8. When driving on public roads make sure that you do not exceed the permitted maximum width.
9. Always observe the local traffic regulations, also with regard to lighting.
10. Always be extremely careful with crop protection agents.

CAUTION: Fertiliser containing nitrate may explode when brought into contact with fire. Therefore remove all fertiliser residue from hollows and spouts prior to carrying out any welding or cutting activities on your fertiliser spreader.

TECHNICAL SPECIFICATIONS

TYPE	303	403	503	753	953
hopper capacity (ltr)	275	400	500	750	950
maximum load (kg)	500	750	900	1685	1685
hopper height (cm)	63	60	72	64	74
hopper width (cm)	105	144	144	174	174
hopper depth (cm)	105	113	113	154	154
filling height (cm)	92	89	101	94	104
frame weight (kg)	19	65	65	80	80
spreader mechanism weight (kg)	40	40	40	40	40
hopper weight (kg)	16	14	14	20	30
total weight (kg) incl. spout and P.T.O. shaft approx	80	125	130	151	158
three-point linkage (cat.)	I	I/II	I/II	I/II	I/II
revolutions P.T.O. shaft (r/min)	540	540	540	540	540
number of grease nipples P.T.O. shaft not included	5	6	6	6	6
maximum spreading width (m)	14	14	14	14	14

TYPE	1153	1353	1653
hopper capacity (ltr)	1150	1350	1650
maximum load (kg)	1725	1725	1725
hopper height (cm)	84	94	104
hopper width (cm)	174	174	174
hopper depth (cm)	154	154	154
filling height (cm)	114	123	139
frame weight (kg)	88	88	88
spreading mechanism weight (kg)	40	40	40
hopper weight (kg)	38	45	51
total weight (kg) incl. spout and P.T.O. shaft approx	174	178	184
three-point linkage (cat.)	II	II	II
revolutions P.T.O. shaft (r/min)	540	540	540
number of grease nipples P.T.O. shaft not included	6	6	6
maximum spreading width (m)	14	14	14
total weight trailed model (kg)	459	463	469
tyre size, trailed model	11.5 x 15		

PACKING AND ASSEMBLY

For reasons of transport the spreader is delivered as compact as possible.

The spreader is assembled from the following components:

- the frame
- the spreading mechanism
- the hopper (with optional extension)
- the spreading spout
- the operating lever
- the regulating bar
- the P.T.O. shaft

In case the optional agitator has been supplied, it should only be mounted when spreading powdered or damp fertiliser.

CAUTION: NEVER mount the agitator when spreading granular fertiliser, because it will pulverize the granules.

ORDER OF ASSEMBLY

The frame

PS 303

- Mount the hopper supports (1) under the washer of the cover fastening bolt (2).

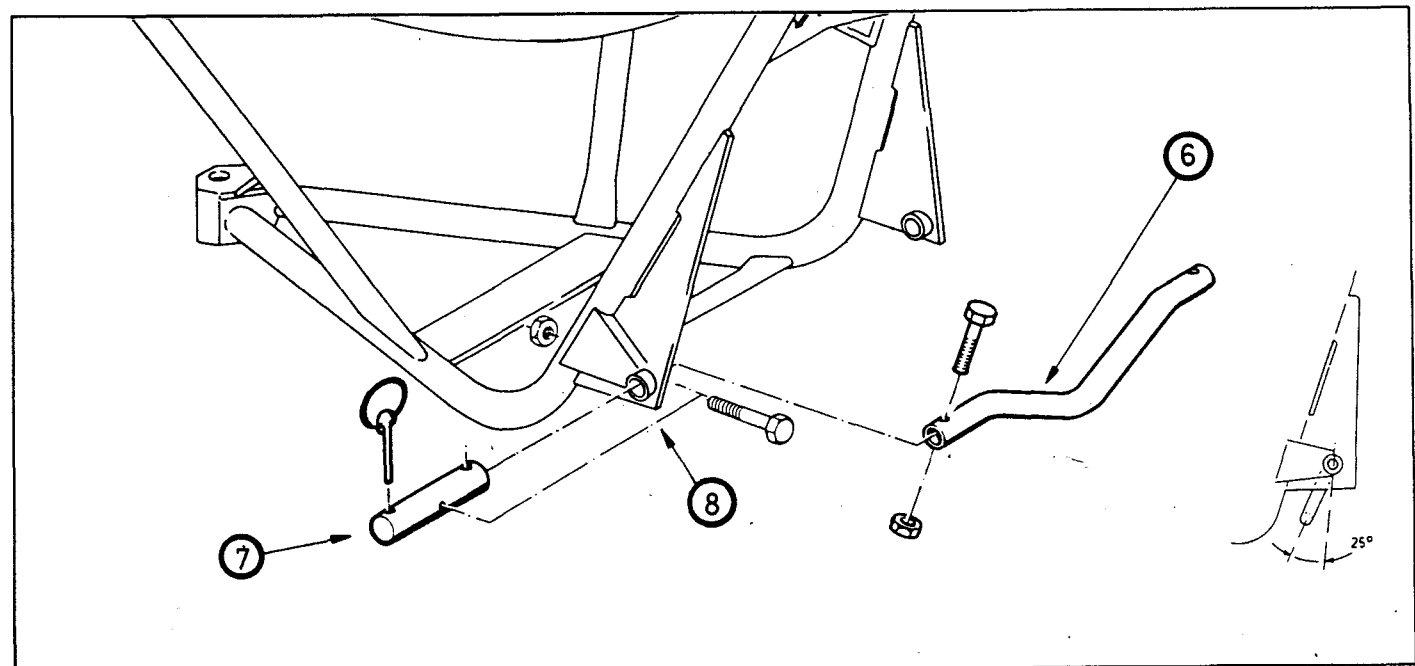
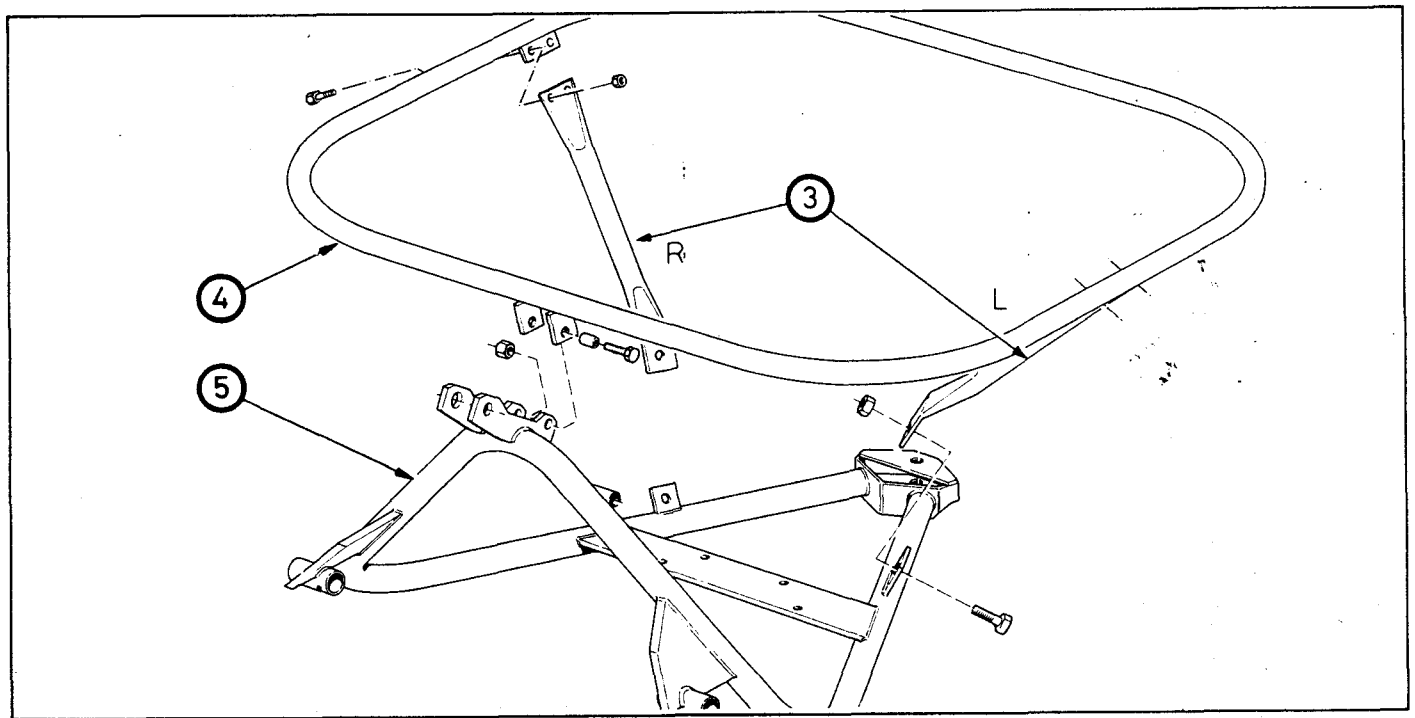
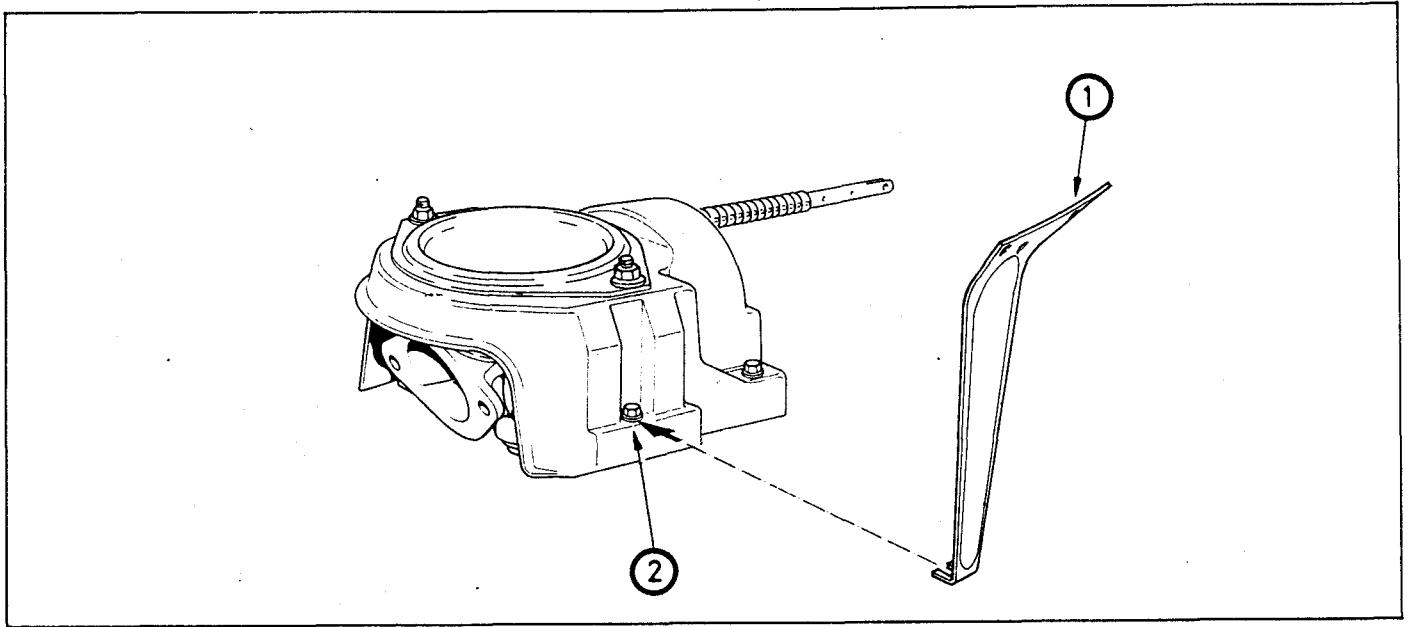
PS 403/503

- Mount the supports to the upper frame (3)
- Connect the lower (4) and upper (5) frame components by means of the supplied adjusting bushes, bolts and nuts.

PS 753-1653

For these types of frames a tubular reinforcement (6) will only have to be mounted for a hopper volume of 1150 liters or more.

- Put the tubular reinforcement (6) in the correct position, as indicated.
- Insert the linkage pins (7) from the outside of the frame into the linkage pin holes (8) and secure them with bolts and nuts.
- Next secure the tubular reinforcement with the supplied bolts and nuts.



The nylon regulating bar

- Turn the metering disc (1) of the spreader unit (5) to a closed position and push the nylon regulating bar (2) into the 'keyhole' (3).
- Next push the metering disc back to the stop (4).

The spreading mechanism

The spreader unit (5) is mounted on the frame by means of 4 M12 bolts and self-locking nuts.

- Place the spreader unit (5) on the frame.
- Insert the bolts from the top of the frame (6), screw on the four self-locking M12 nuts (7) and turn them hand-tight (the nuts must only be tightened properly after the hopper has been installed).

Agitator set (optional)

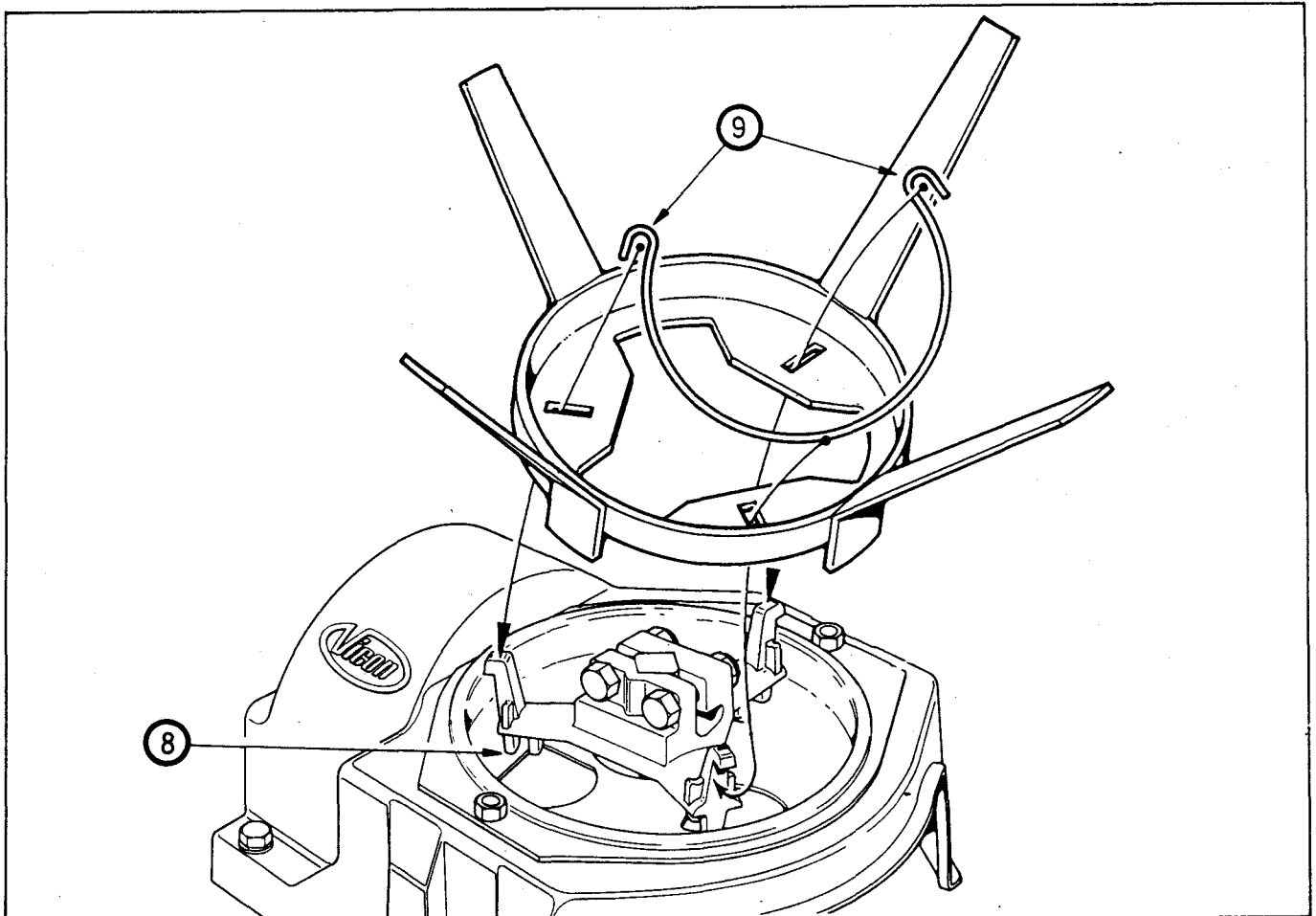
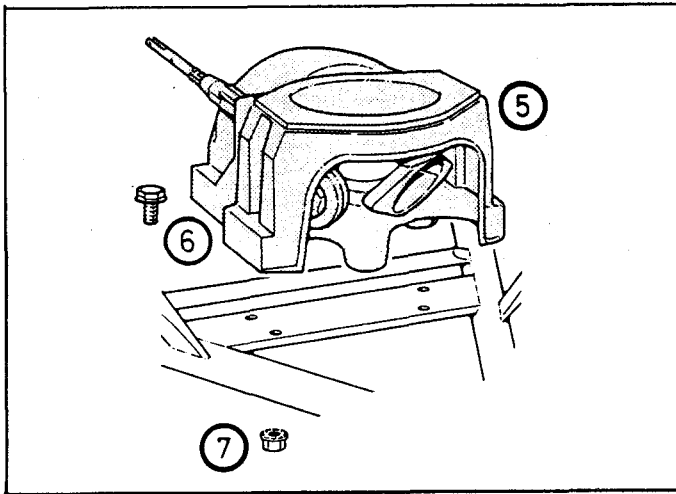
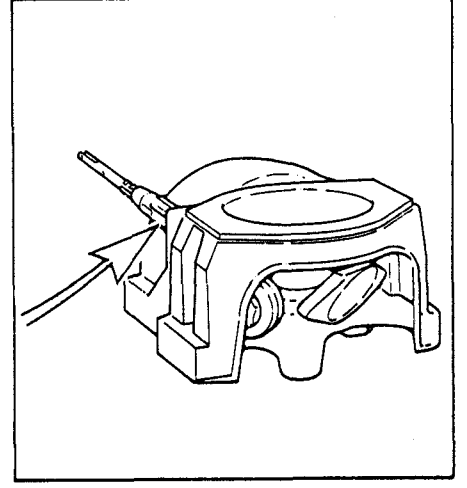
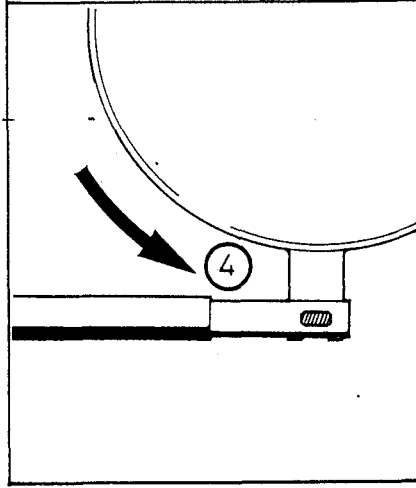
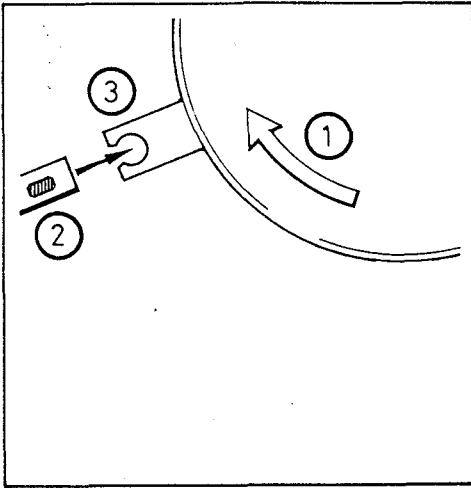
In case the spreader has been supplied with an agitator set (for spreading powdered or damp types of fertiliser) the standard agitator need not be removed.

- Tighten both clamping bolts to the correct torque: $120 + 15 \text{ Nm}$ ($12 + 1.5 \text{ kg}$).

CAUTION: The correct position of the agitator arms in relation to the apertures in the spreader plate is very important. The only correct way is shown on the facing page (8).

Mount the agitator as follows:

- Place the agitator with the spring clip over the widest support arm
- Next lower the agitator over the other two support arms
- Secure the agitator with the two hooks (9).



Hydraulic remote control (optional)

The hydraulic remote control is especially useful for trailed spreaders or tractors with closed cabs.

The spreading slide can be closed via the tipper connection of the tractor. It opens automatically, by gas pressure, when the pressure in the hydraulic system is released.

It is best to mount the hydraulic remote control prior to mounting the manual operating lever and the hopper.

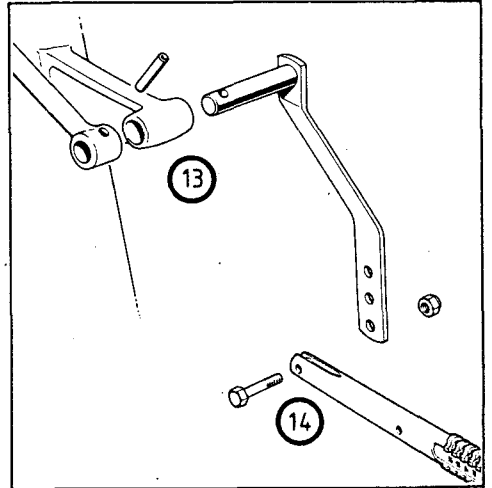
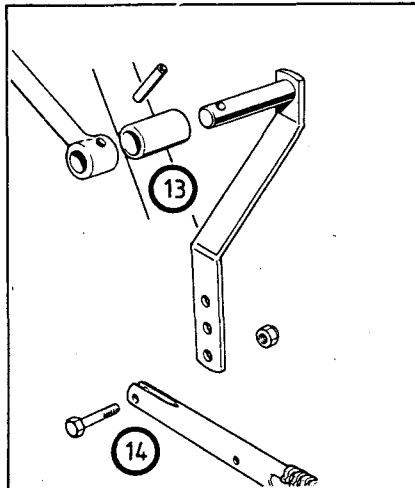
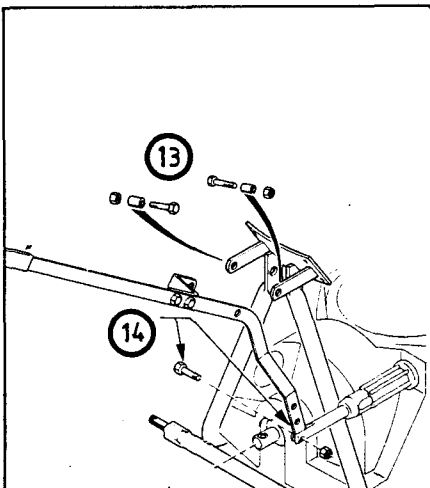
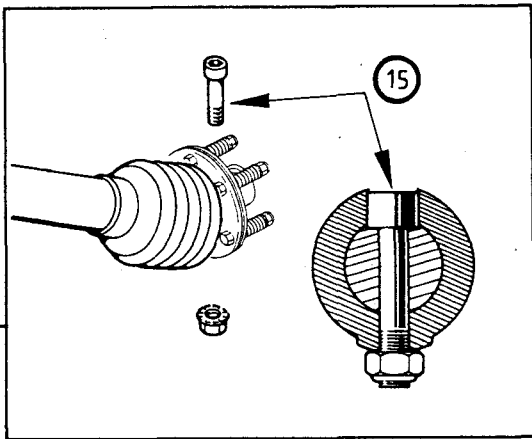
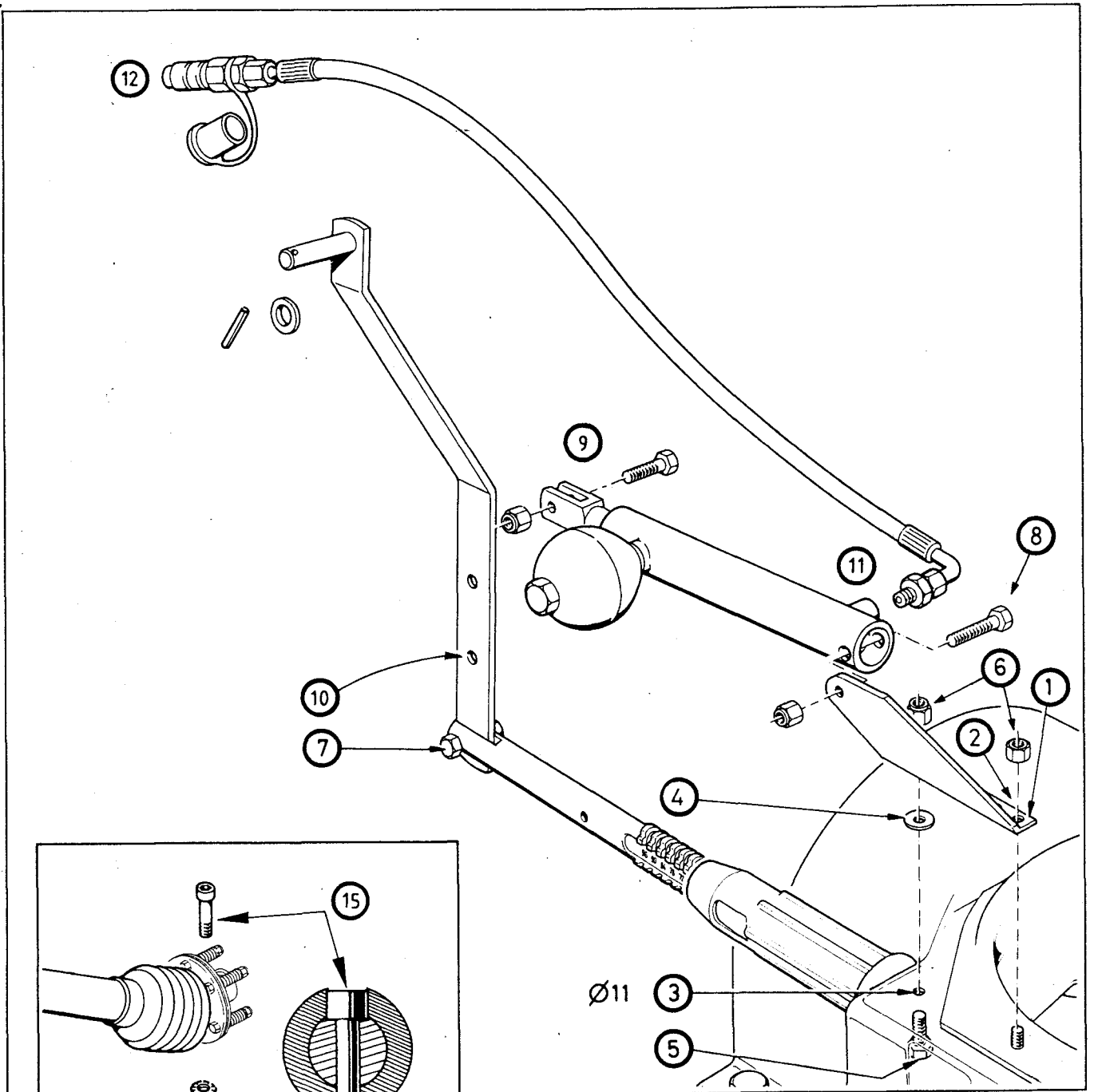
- Mount the fastening bracket (1) on the regulating plate. Use the FIRST HOLE (2).
- Drill open the blinded hole (3) in the polyester cover with an 11 mm bit.
- Place the spacer ring (4) under the bracket on the drilled hole.
- Insert the M10 bolt from the bottom of the cover through the hole, the shim and the bracket (5).
- Secure the bracket with the nuts (6).
- Next mount the nylon regulating bar in the bottom hole of the lever with the M6x25 bolt (7) and the locking nut.
- Mount the hydraulic cylinder to the fastening bracket with the M10x50 bolt (8) and the locking nut.
- Mount the other end of the cylinder to the lever with the M10x35 bolt and locking nut (9). Use the CENTRE HOLE (10).
- Then connect the hose to the cylinder (11).
- After hitching the spreader, insert the fastener of the hose into the tipper connection of the tractor (12).

The operating lever (manual control)

- Mount the lever for the manual control of the metering disc (13) as shown opposite, depending on the model you purchased.
- Next mount the nylon regulating bar in the bottom hole of the lever with the M6x25 bolt (14).

The P.T.O. shaft

- First remove any paint or burrs, then mount the P.T.O. shaft (15) with the M10 hexagonal socket head bolt as indicated.
- Do not tighten the nut yet because the length of the P.T.O. shaft may have to be adjusted.



The hopper

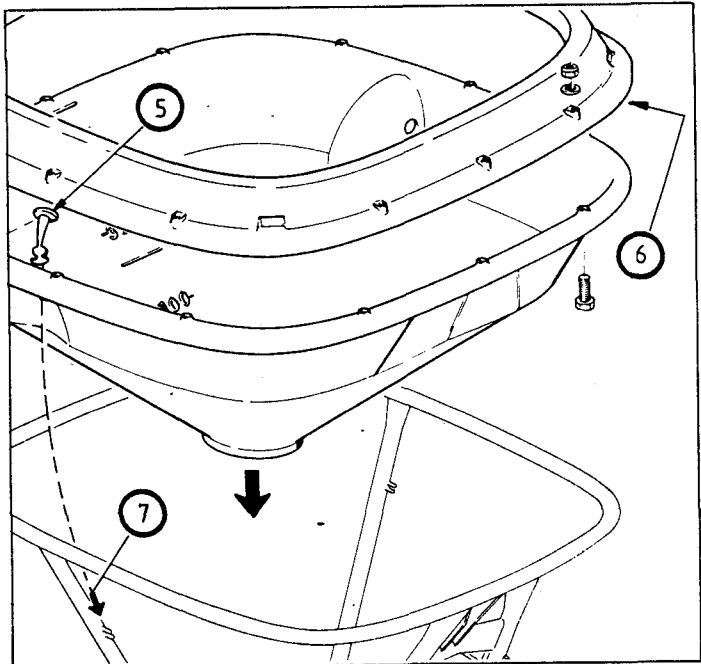
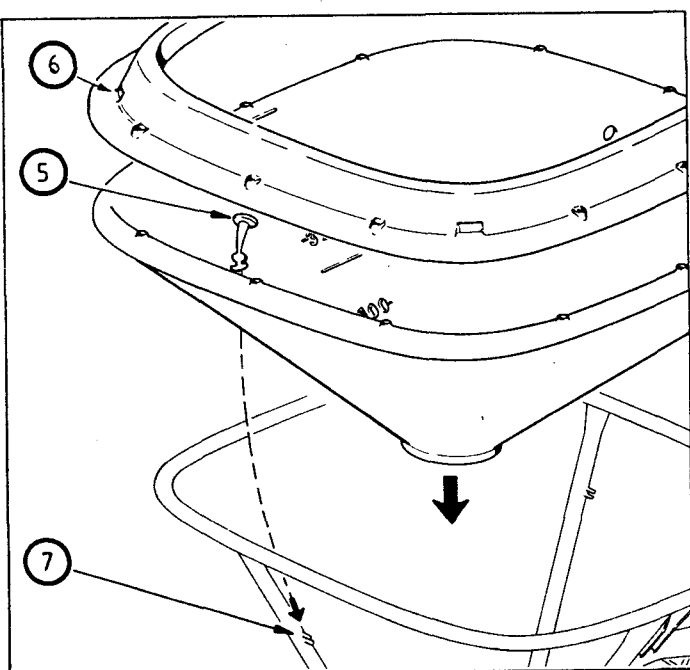
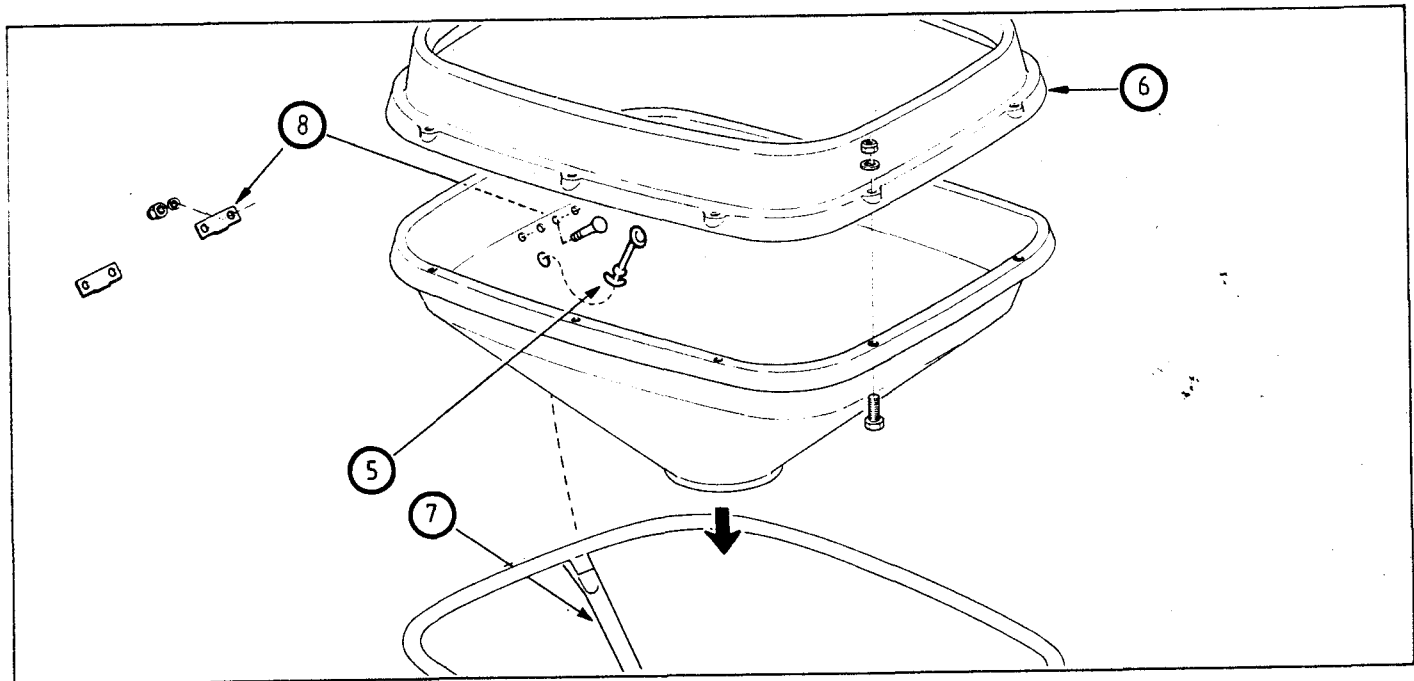
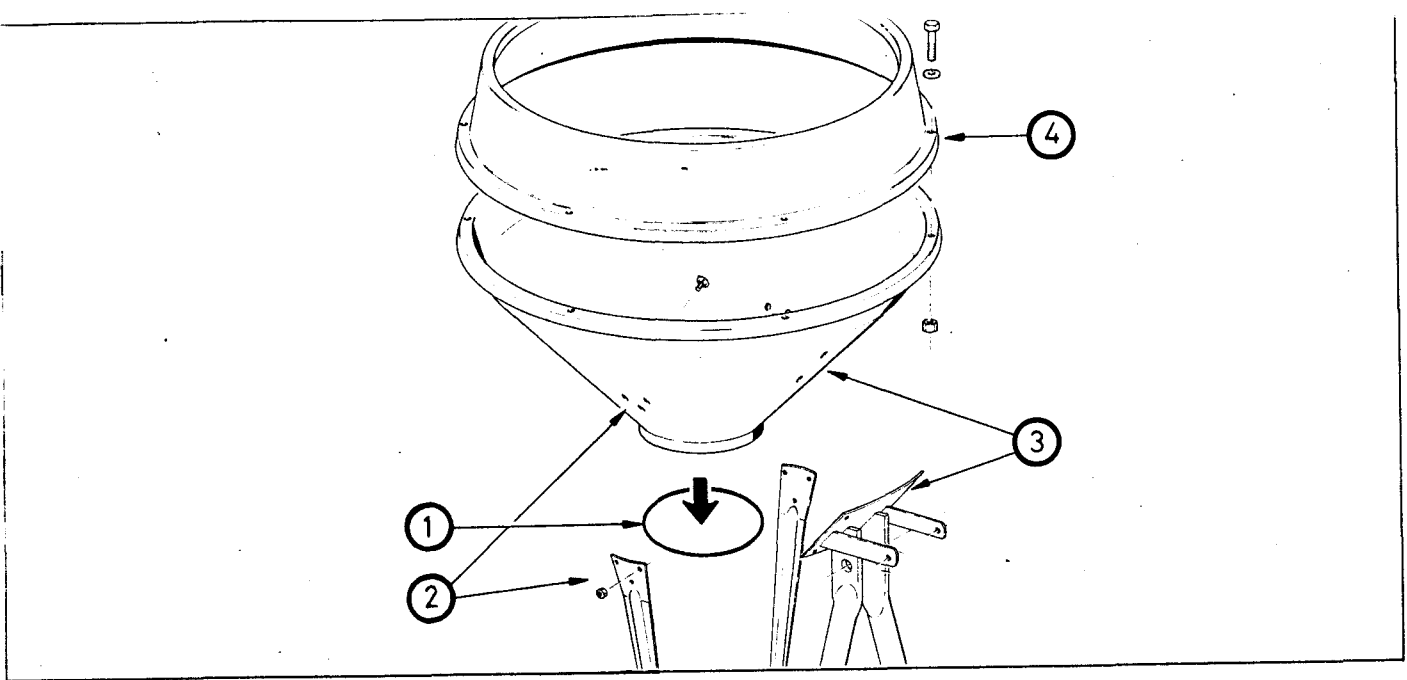
PS 303

- Place the rubber ring into the adjusting rim of the spreader unit (1).
- Place the hopper on this ring.
- Insert the carriage bolts from the inside of the hopper and tighten the nuts on the outside of the support plates (2) and (3).
- Now mount the hopper extension (4), with the nut on the **bottom side** of the hopper edge.

PS 403 - 1003 and 753 - 1653

- Grease the rubber tensioners (5) with vaseline or grease, and fit them to the hopper.
- Mount the extension to the hopper (6) (not applicable for the PS 403, 603 and 753), with the rings and nuts on the **top side** of the hopper extension.
- Now place the hopper on the frame, and pull the tensioners in the fork (7) on the vertical frame pipe.
When placing the 403 and 503 hoppers make sure that the projections on the frame are exactly placed around the hopper supports (8).

Now tighten the four fastening bolts of the spreading mechanism. Torque 160 Nm (16 kgm).



The spreading spout

The spreading spout of the Super Flow spreaders is supplied with a fastener, so it can be placed and removed quickly.

- Insert the bolts (1) with washers (2) into the aluminium ring (3).
- Hold the aluminium ring (3) against the flange of the discharge opening and tighten the bolts in the square nut (4) at the back.
- Slacken both bolts by two turns.
- Insert the spreading spout with the bayonet fitting through the ring (5).
- Turn the spreading spout clockwise till the stop (6).
- Tighten the bolts (1) with 80 Nm (8 kgm) (7).

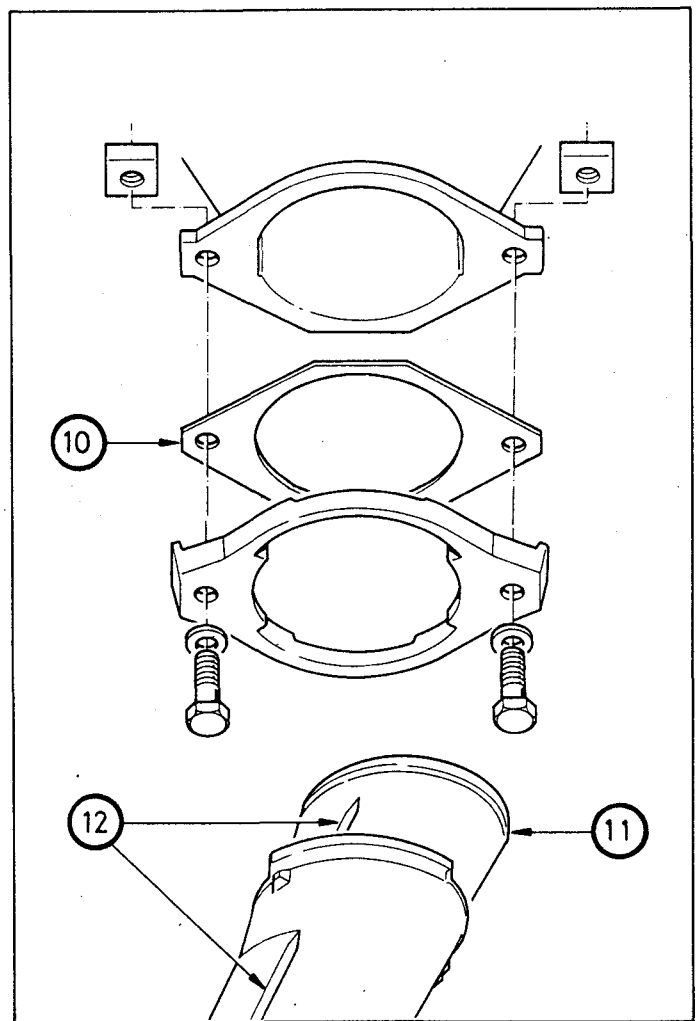
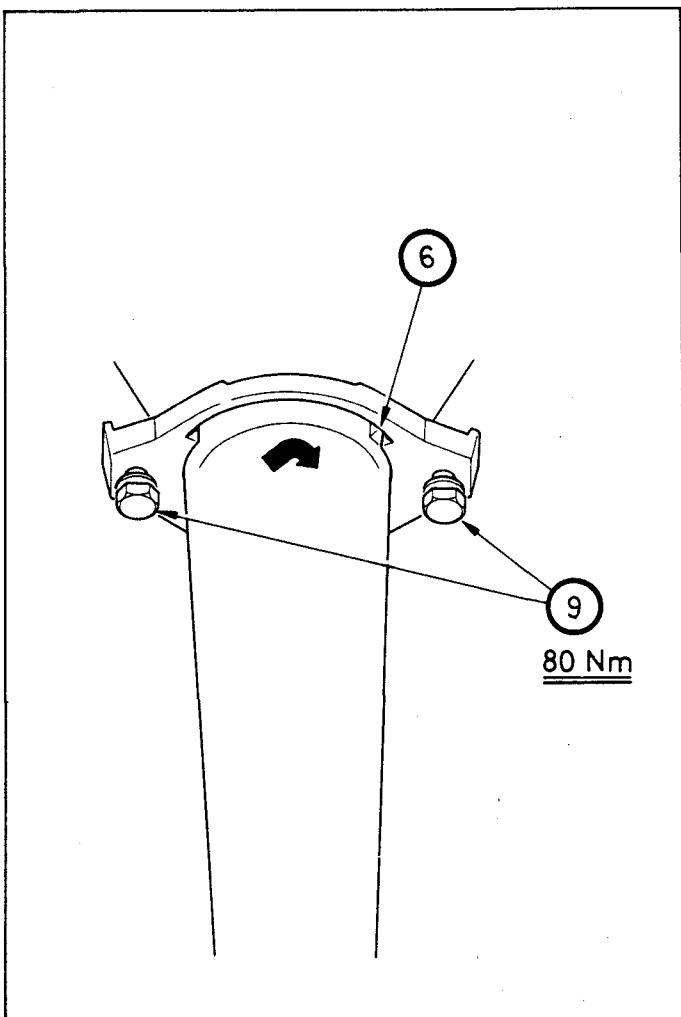
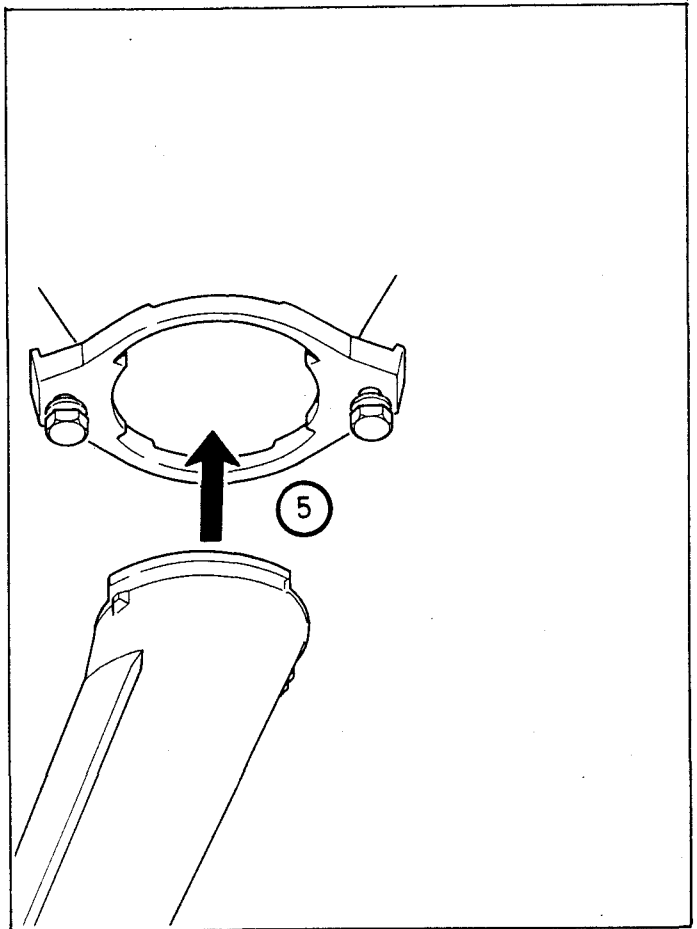
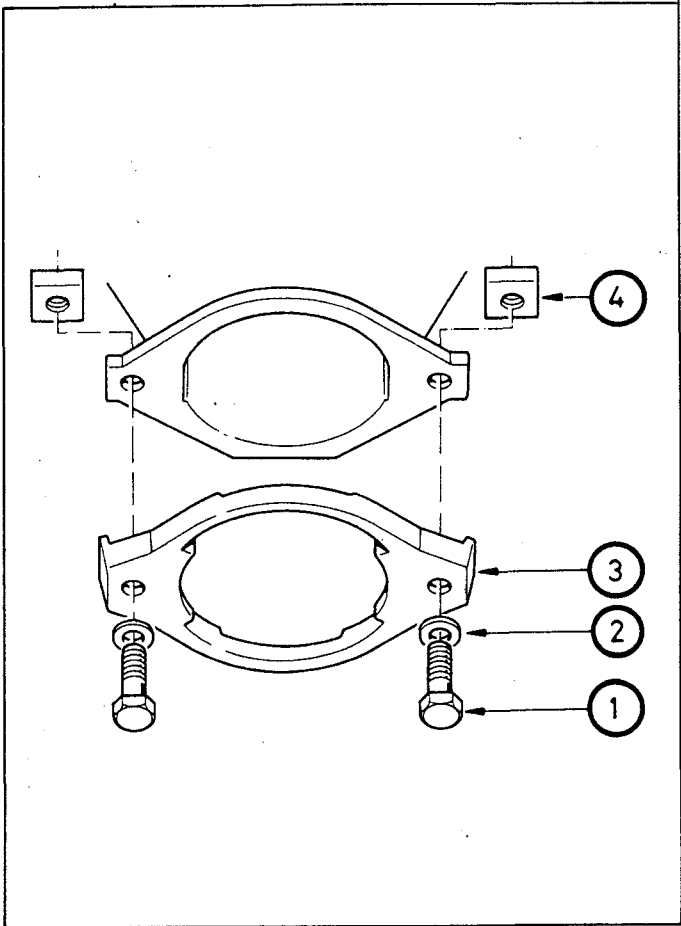
Removing the spreading spout:

- Slacken the bolts (1) by three turns.
- Turn the spout counterclockwise till the stop.
- Pull the spreading spout from the bayonet fitting.

Mounting the rubber insert (when spreading powdered fertiliser):

- Insert the shim (10) between the flange and the aluminium ring.
- Push the insert (11) into the spout and make sure that the grooves of the insert match those in the spreading spout (12).

Remove the rubber insert (11) when you have finished spreading powdered fertiliser. The shim (10) however, need not be removed.



TRACTOR REQUIREMENTS

As a rule every tractor with a hydraulic three point linkage is suited to mount the spreader.

It is important to have a correctly functioning top link adjustment (1) and a height adjustment on one of the linkage arms (2).

If your spreader is fitted with a hydraulic remote control (page 12), a tipper valve on the tractor is required.

Stabilization rods or chains (3) are necessary to limit the lateral spreader movements and to prevent the linkage arms from swinging against the tractor tyres.

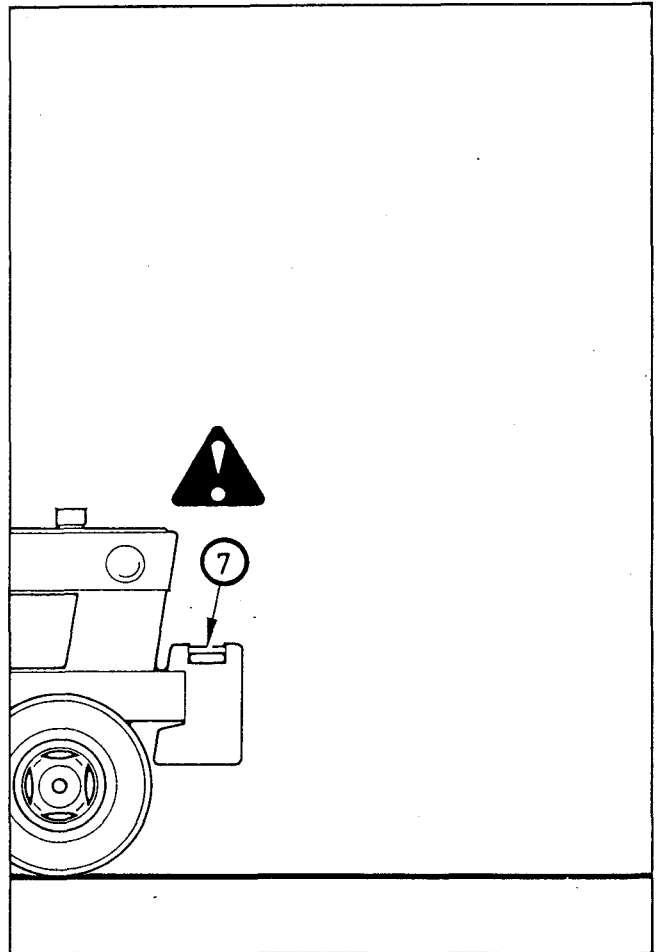
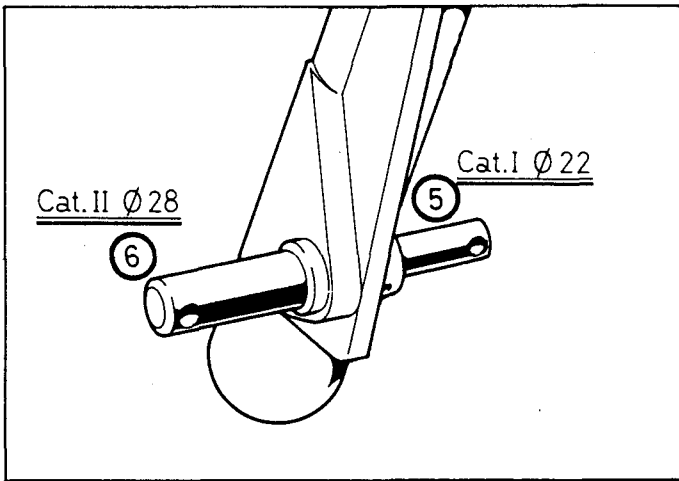
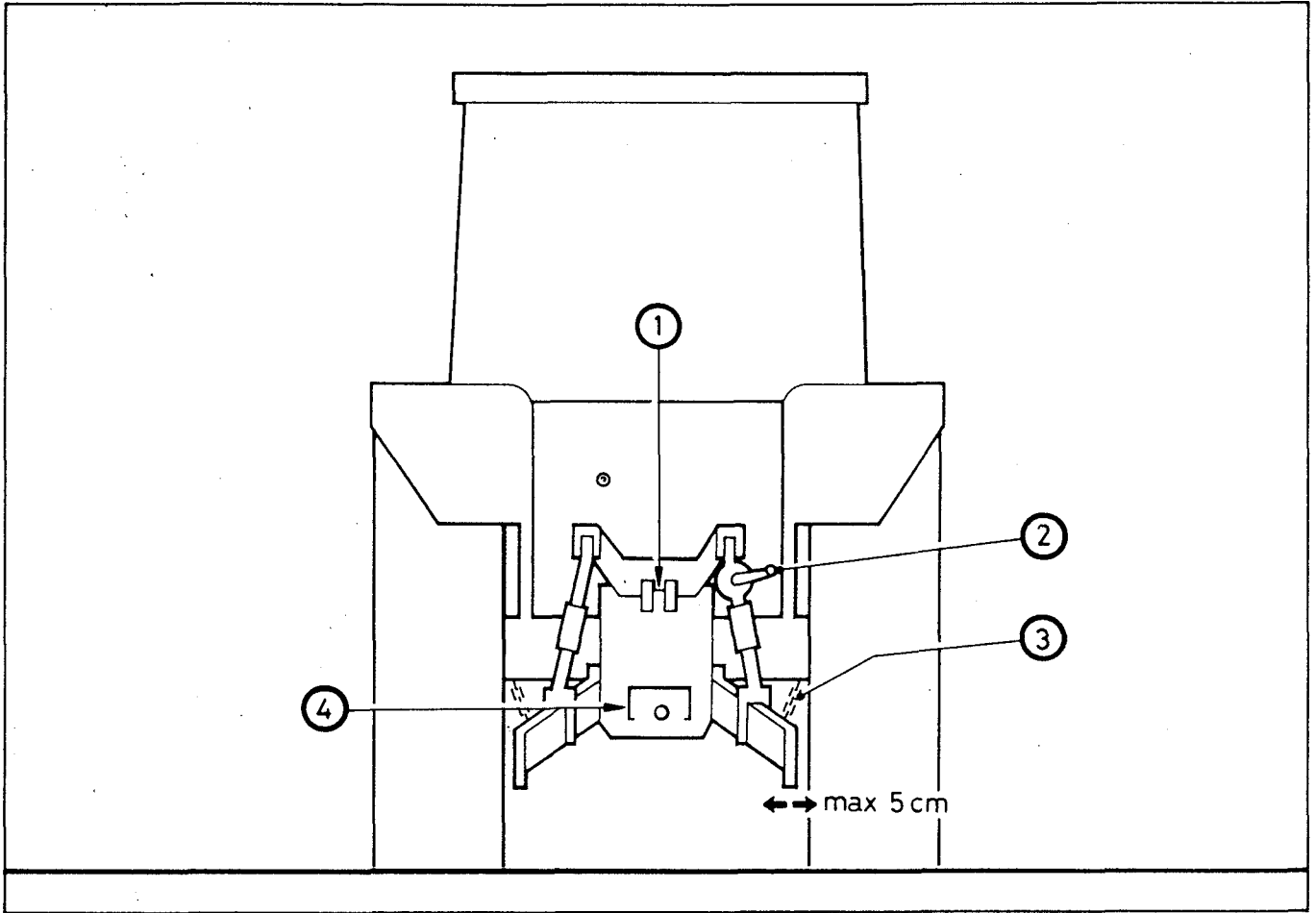
As a safety measure the P.T.O. shaft of the tractor must be protected (4).

If the balls of the linkage arms are exchangeable, always use the correct category.

The spreaders are supplied with Cat. I ϕ 19 mm (PS 303 - 953) (5) and Cat. II ϕ 25 mm (PS 403 - 1653) linkage pins (6).

When using a lightweight tractor we advise you to use front weights (7).





HITCHING TO THE TRACTOR

In the standard version the fertiliser spreader is directly connected to the three point linkage of the tractor.

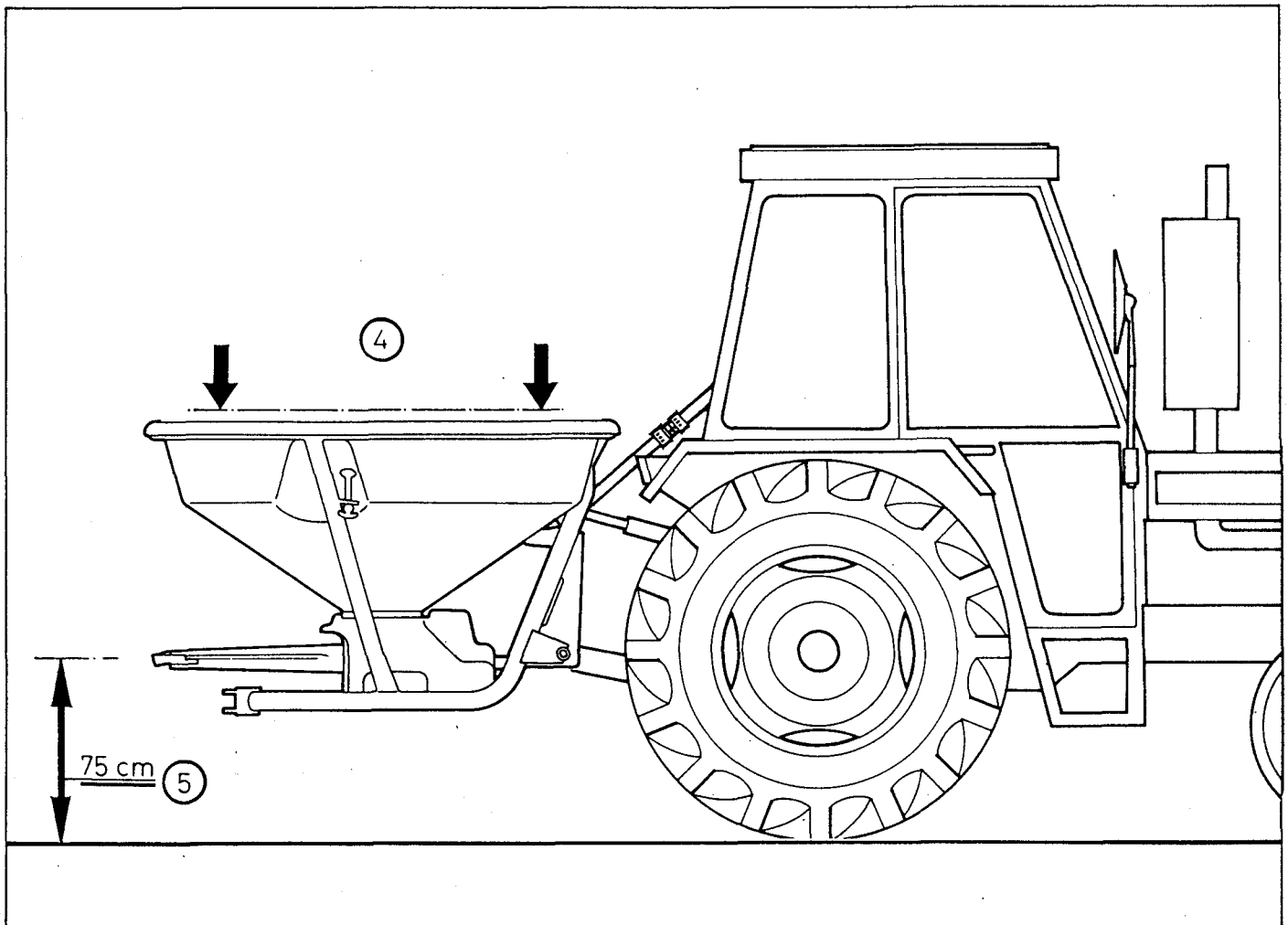
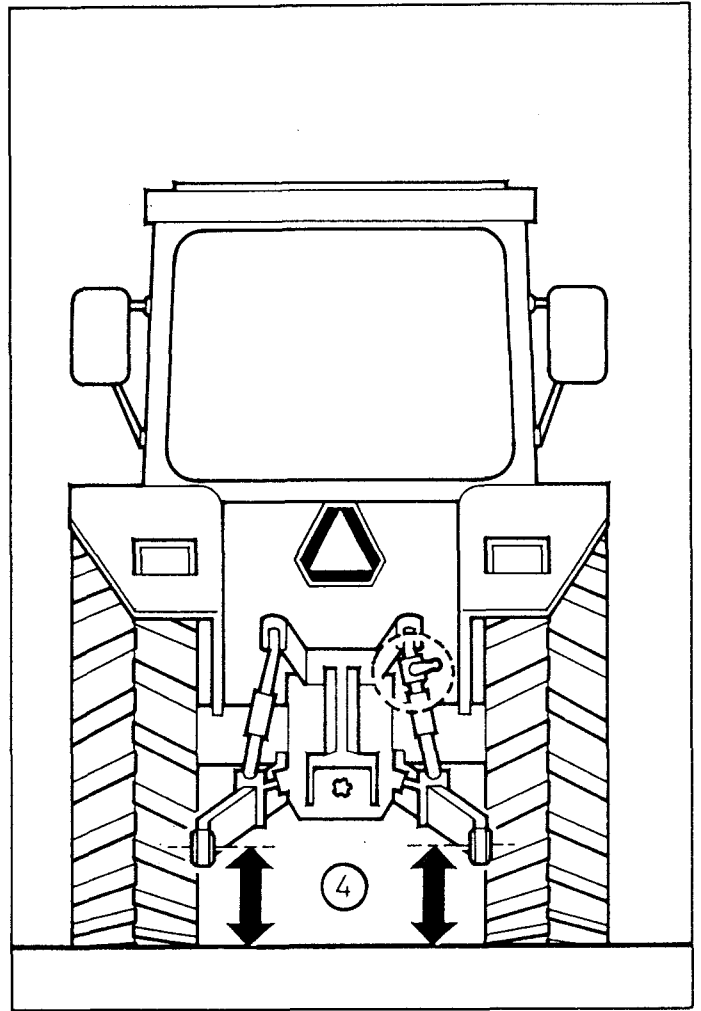
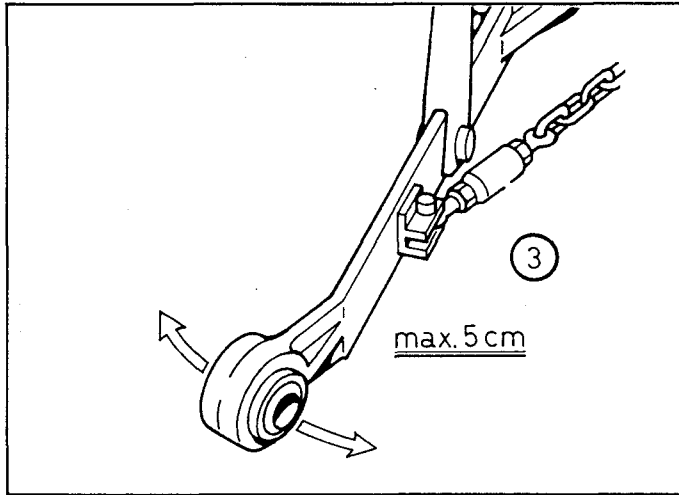
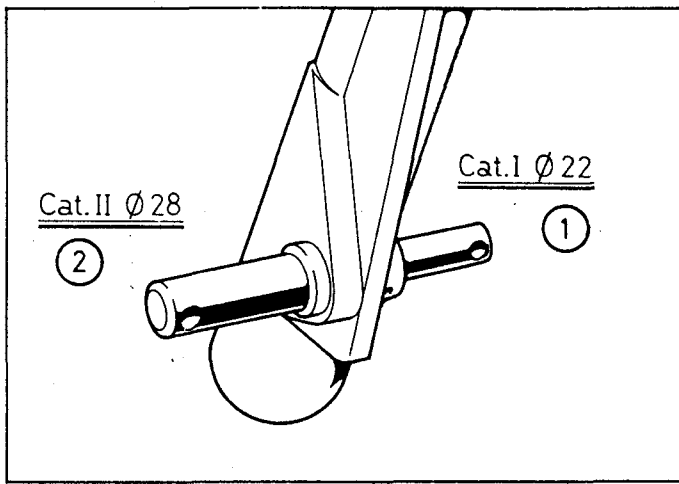
- First connect the top link to the spreader.

For the linkage arms connection, the spreaders have been supplied with Cat. I linkage pins on the inside of the frame (1) and with Cat. II on the outside (2). (The PS 303 only has Cat. I linkage pins, the 1153, 1353 and 1653 versions only have Cat. II pins.)

- Connect the spreader to the linkage arms of the tractor. If the balls of the linkage arms are exchangeable, always use the correct category.
- Finally connect the top link to the tractor.
- Use the stabilization rods or chains to limit the lateral play to a maximum of 5 cm (3).

CAUTION: The stabilization chains must NOT BE DRAWN TAUT.

- Put the spreader hopper in a horizontal position, both viewed from the side and the rear (4).
- The distance between the spreading spout and the ground must be 75 cm (5).



P.T.O. SHAFT CONNECTION

To determine the length of the P.T.O. shaft the spreader (1) must be hitched to the tractor (see page 20).

- Raise the spreader to its maximum height (2), and make sure the spreader does not touch the cab or the mud guards.

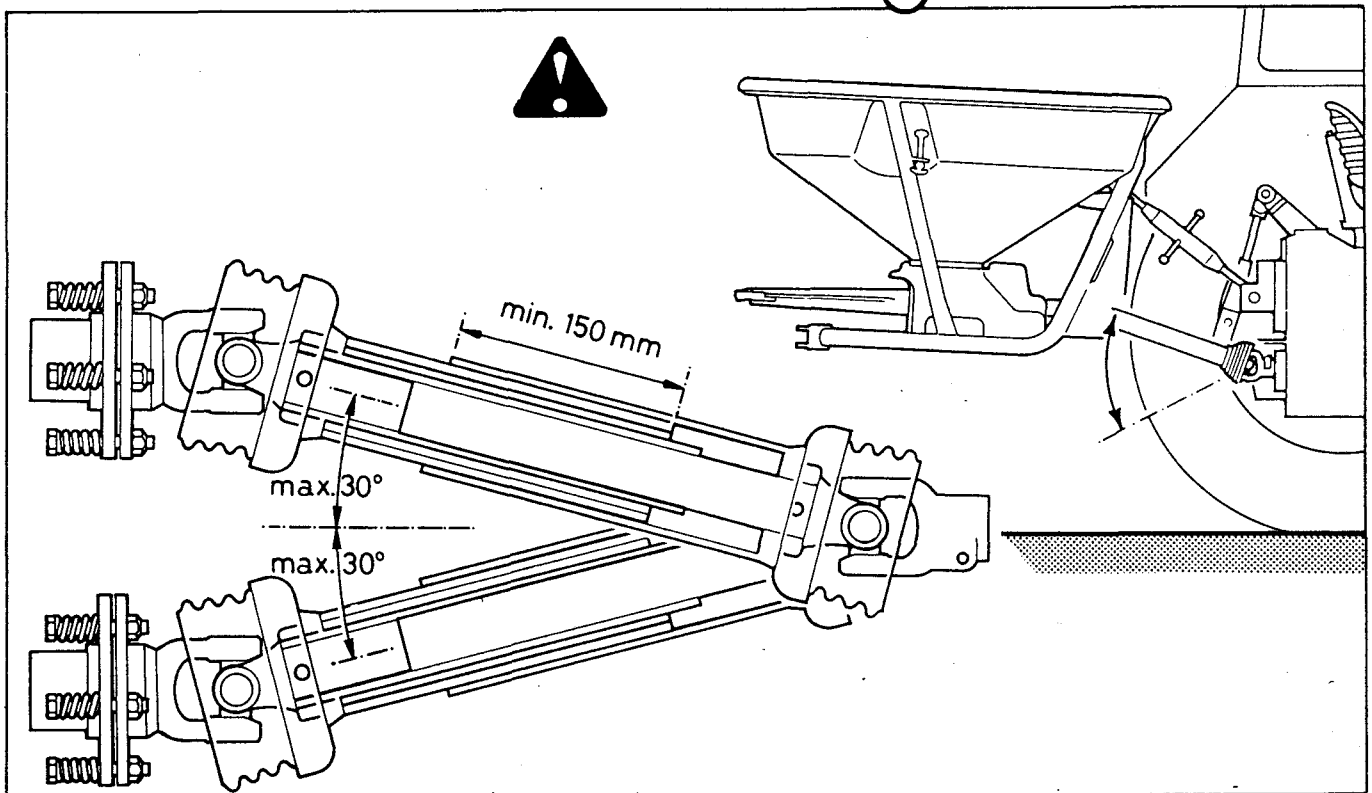
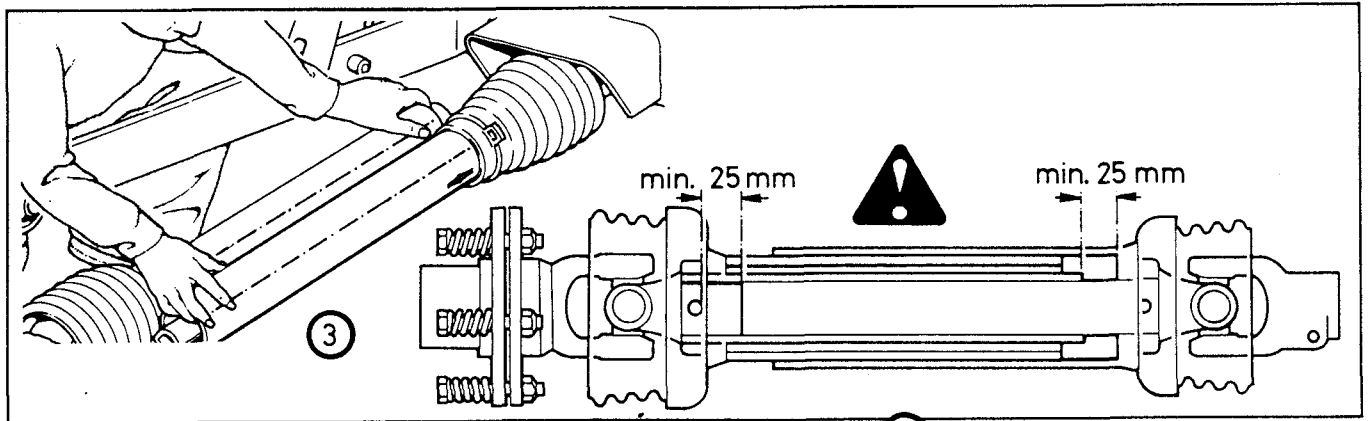
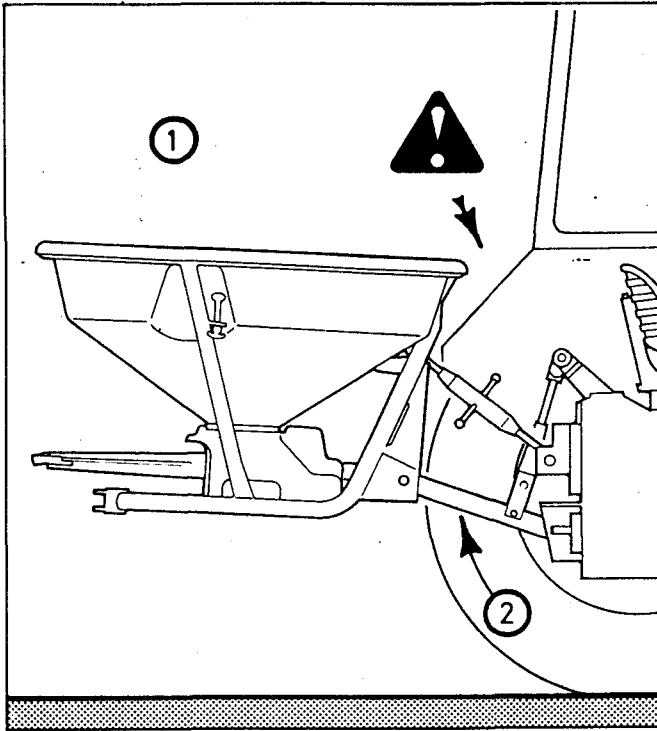
With some tractors the spreader may touch the cab when raised to its maximum height. This may be prevented by mounting the optional frame extension. This will put the spreader an extra 120 mm away from the tractor.

- Place the P.T.O. sections without telescoping them and keep them side by side (3).
- Now check the length (4): The tubes should overlap as much as possible, but at the ends there should be a clearance of at least 25 mm. The minimum overlap (when raised or lowered to its maximum position) is 150 mm!

CAUTION: The angle of the revolving P.T.O. shaft should not exceed 30° (10 past 9). Therefore the P.T.O. shaft must always be switched off when raising or lowering the spreader to its maximum position.



See next page for the shortening procedure.



Shortening the P.T.O. shaft

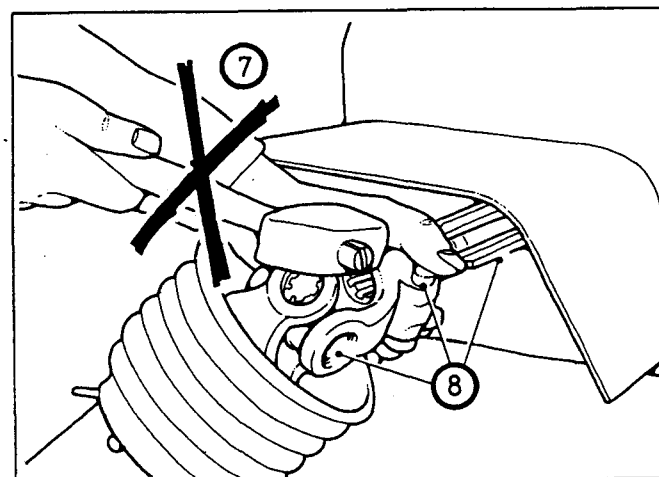
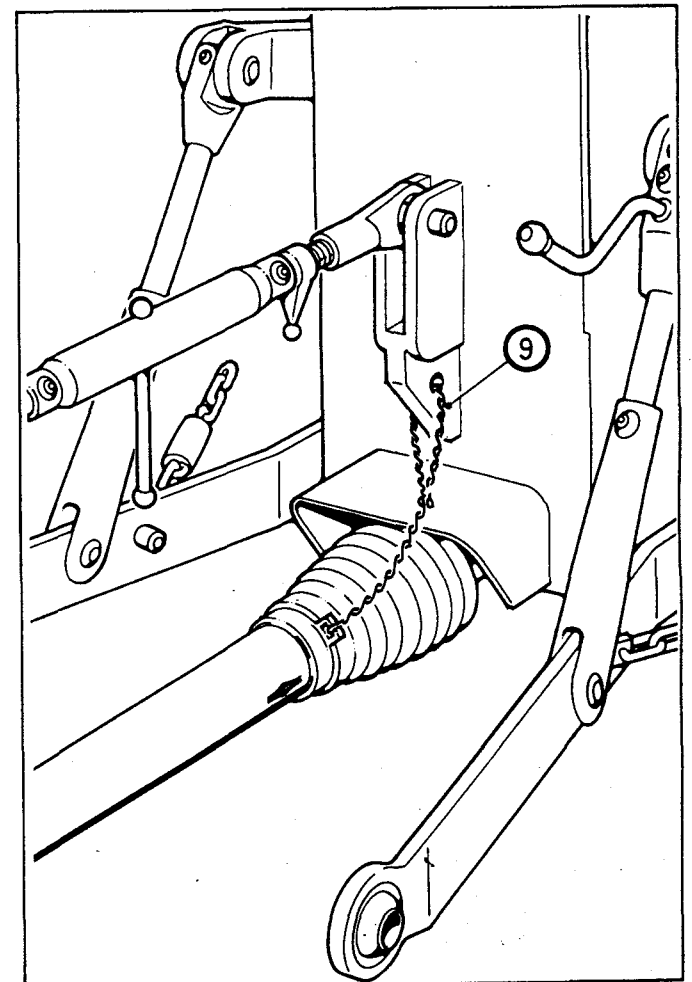
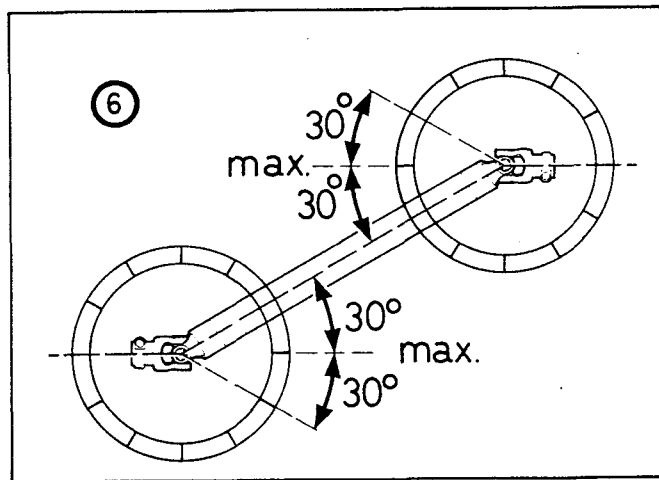
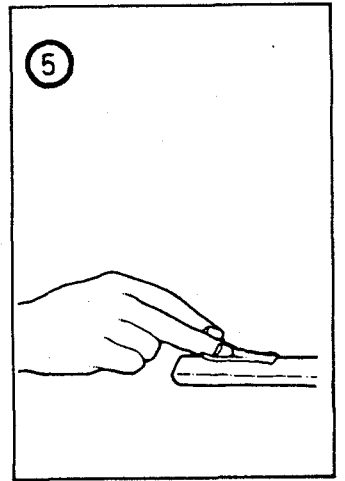
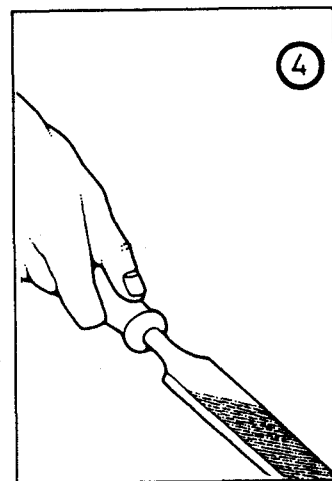
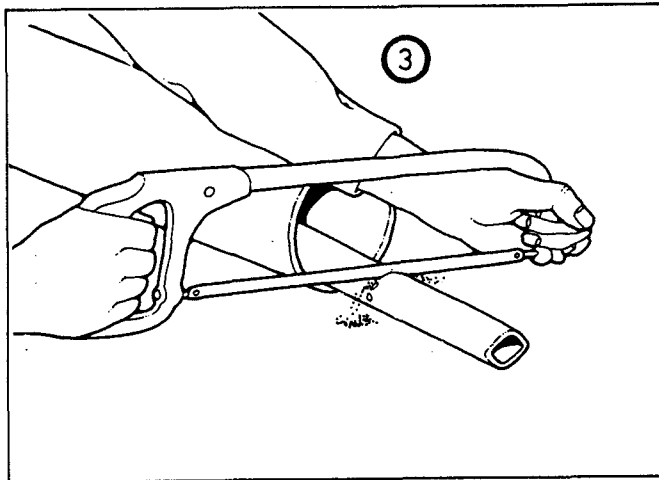
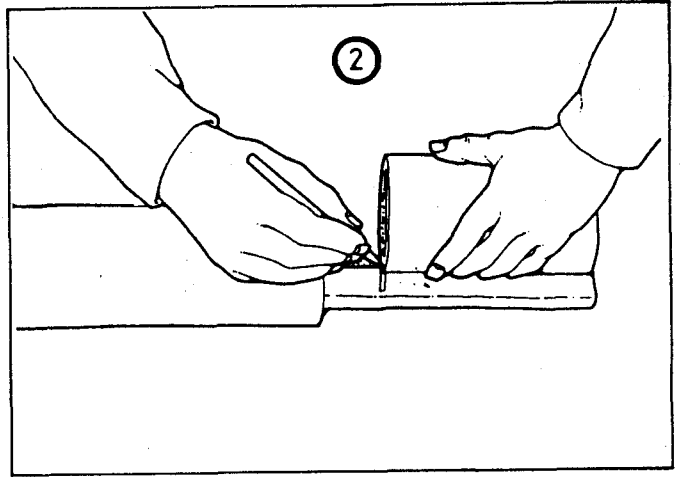
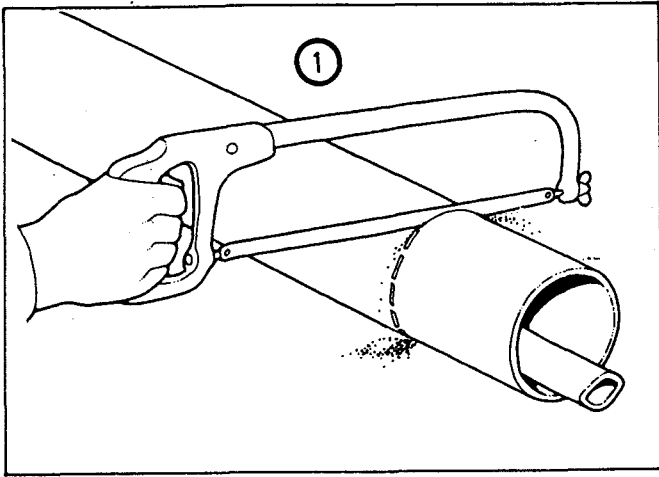
- If the P.T.O. shaft is too long, first saw down both protecting sleeves to the correct length (1).
- Next saw down a similar length (2) from both profile tubes (3).
- Remove any burrs and dust (4) and lubricate the outside of the inner profile tube (5).

CAUTION: The angle of the revolving P.T.O. shaft (6) should not exceed 30° (10 past 9). Therefore the P.T.O. shaft must always be switched off when raising or lowering the spreader to its maximum position.



If the P.T.O. shaft is too long or if the profile tubes are not lubricated, the bearings of the spreader drive may be damaged.

- Make sure that the spline shaft, the P.T.O. shaft connection and the pin of the fastener are clean and lubricated (7).
Never hammer the P.T.O. shaft connection on to the spline shaft (8)!
- Connect the chain of the protecting sleeve to a fixed point of the tractor or the machine (9).



OVERLAPPING

The Super Flow spreaders have a symmetrical spreading pattern shaped like a truncated pyramid (1); the quantity of spread fertiliser is exactly the same to the left and right of the centre (2).

In order to spread the same quantity of fertiliser everywhere the spreading pattern must overlap (3), which is possible for both the left-hand and right-hand side.

WORKING WIDTH VARIATION

The dotted line (4) indicates the optimum fertiliser spread at full overlap. In practical circumstances this line will never be perfectly straight, but "peaks and lows" will occur. That may be caused by:

- 1 - a deviating track spacing
- 2 - tractor movement (swaying)
- 3 - wind effects

Deviations of this line (4) are expressed in the Variation Coefficient (VC). The higher the deviation, the higher the VC will be. Internationally a VC of 15% is considered acceptable. The special symmetric spraying pattern of the Super Flow enables you to vary the working width below that 15% standard without affecting the spreading result.

Example:

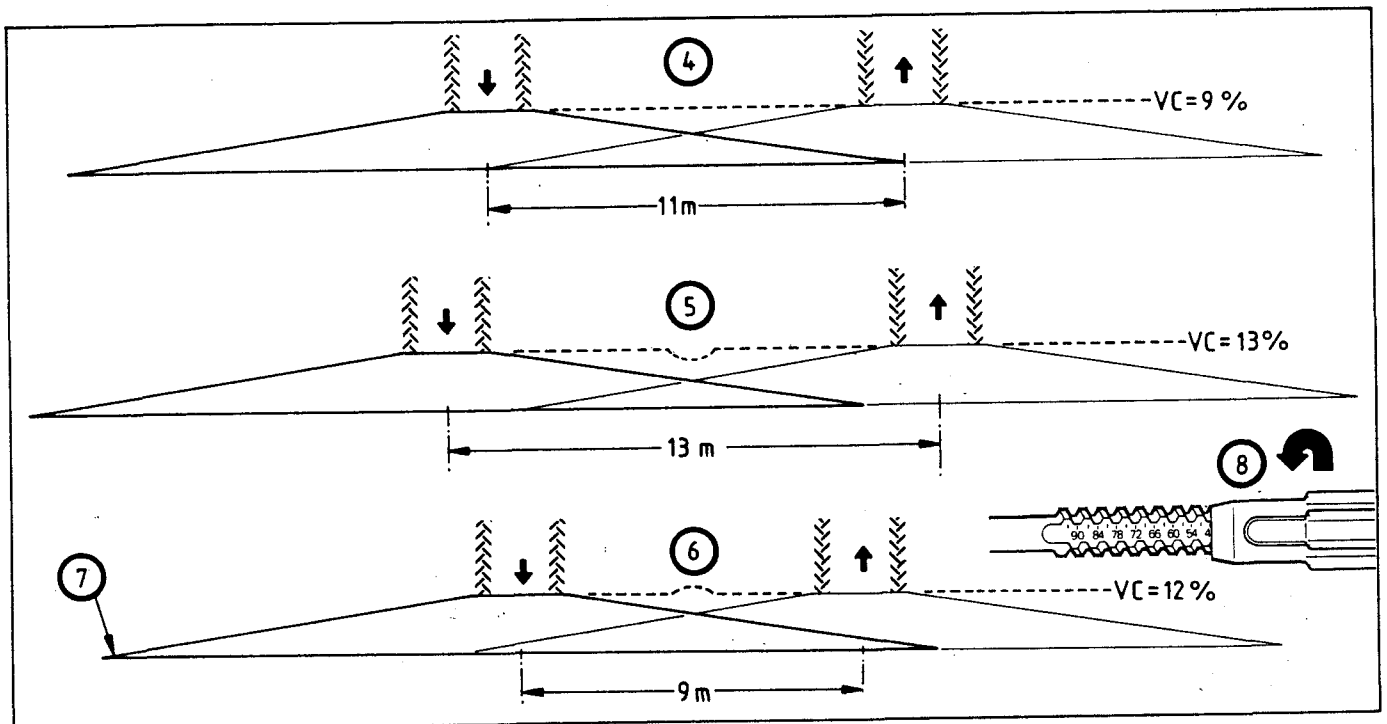
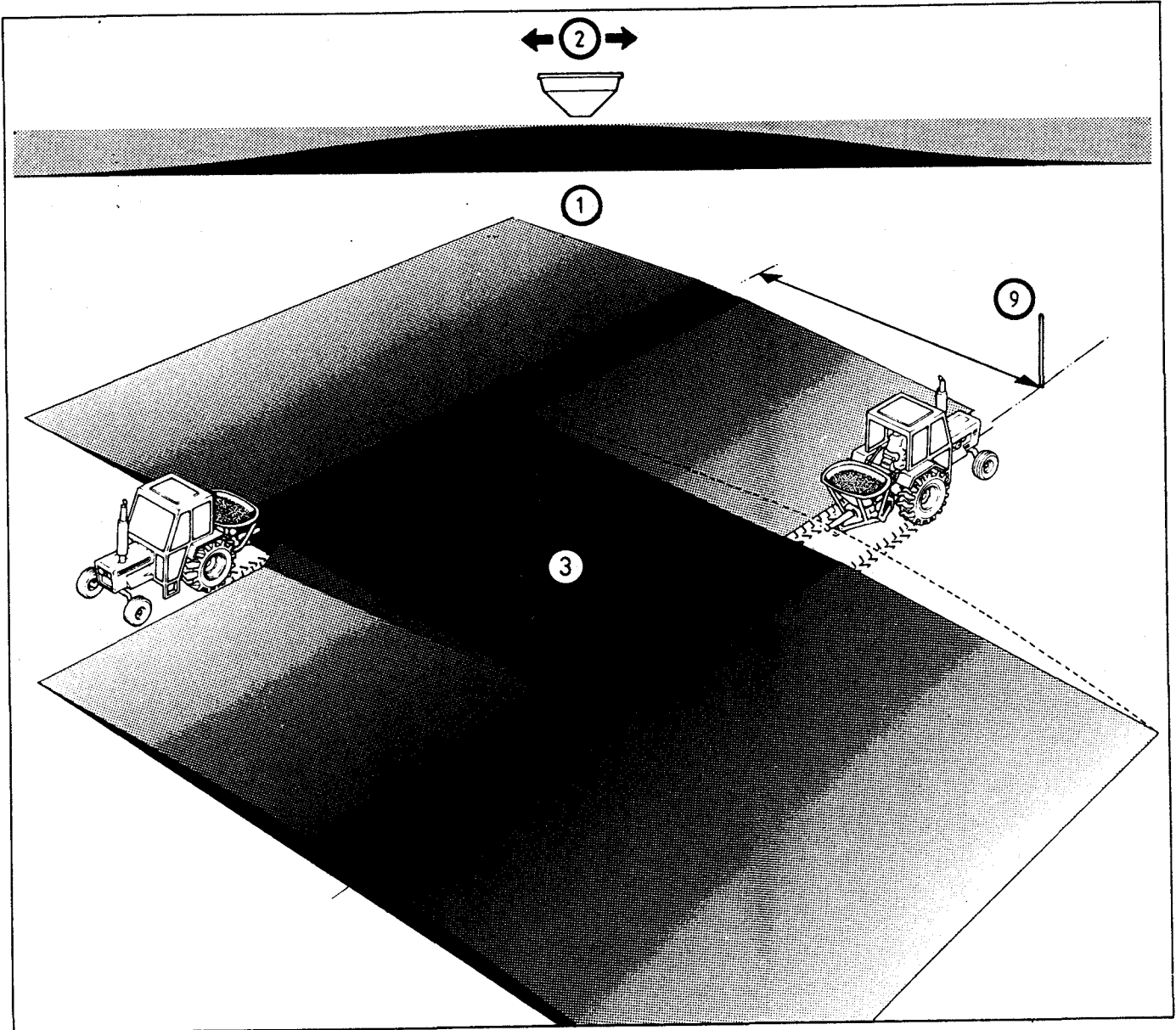
- A certain type of fertiliser has an optimal working width of 11 metres (4). The VC would then be e.g. 9 % (maximum acceptable VC is 15 %).
- If you should drive at e.g. 13 metres the spreading patterns will slightly fan out (5). The VC will then be 13 %, so still within the standard.
- If you should drive at e.g. 9 metres both spreading patterns will start converging (6). The VC will then be 11 %.

So the working width will be determined by the track spacing chosen. The spreading width of the spreader will remain unchanged (7).

Only the position of the regulating bar (8) will have to be adjusted to the working width in order to obtain a correct output in kg/ha.

The spreading table on page 47 shows, on the right-hand side, the working widths per type of fertiliser, at which the VC remains under 15%. As a result of its ideal spreading pattern the Vicon Super Flow spreader will, within these margins, easily compensate any inaccuracies in the track spacing to produce a uniformly spread field.

In practice pickets can be used to mark the tracks to be driven (9).



ADJUSTMENT OF THE FERTILISER TYPE

In order to determine the required output per hectare, the following values must be calculated in advance:

- spreading width
- application rate per hectare
- driving speed

Let's assume you wish to spread Granular Compound at a width of 12 metres, with an application rate of 330 kg/ha and a driving speed of 7 km/h. In the spreading table you can find the minimum and maximum spreading widths of Granular Compound: 8-14 metres (See the table on your hopper (5) or page 47).

With the slide calculator you can now determine the correct position of the adjusting nut (7) on the nylon regulating bar. (Check if the metrical side of the slide calculator and the loose white slide are on the same side.)

- (1) Put the hair line of the slide calculator at 12 metres and keep it in this position.
- (2) Now move the white slide with your left hand until the value of 330 kg/ha coincides with the hair line of the slide calculator.
- (3) Now hold the slide calculator firmly between thumb and indexfinger on the left-hand side, so the white slide cannot shift. Move the hair line to 7 km/h.
- (4) At kg/min the fertiliser flow per minute can be read: 46 kg/min.
- (5) Next look up at the top of the spreading table on your hopper (5) (or on page 47 of this manual) what position corresponds with an application rate of 46 kg Granular Compound per minute.
- (6) Immediately over the number 46 the position of the regulating bar is indicated: position 42.
- (7) Adjust the regulating nut of the regulating bar to position 42.

If at step (4) a flow rate is found which does not correspond with a value shown in the table, the correct adjustment can be calculated by taking the mean, since the adjustment values in the table climb by six positions per step. So intermediate positions are always possible.

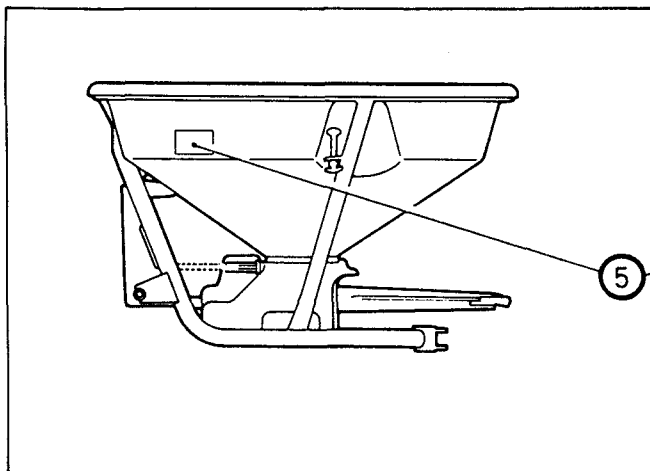
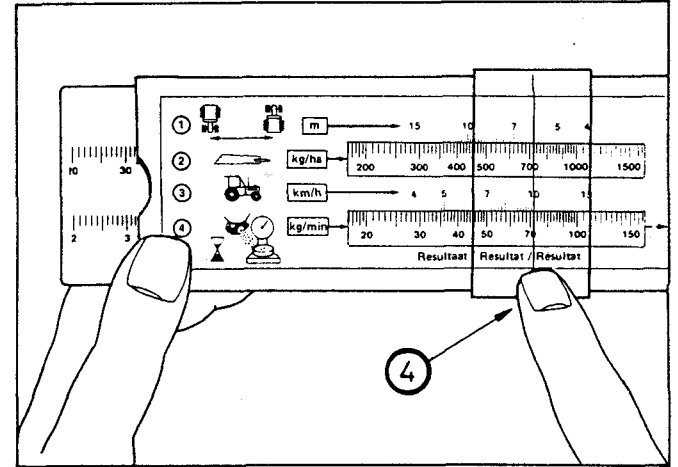
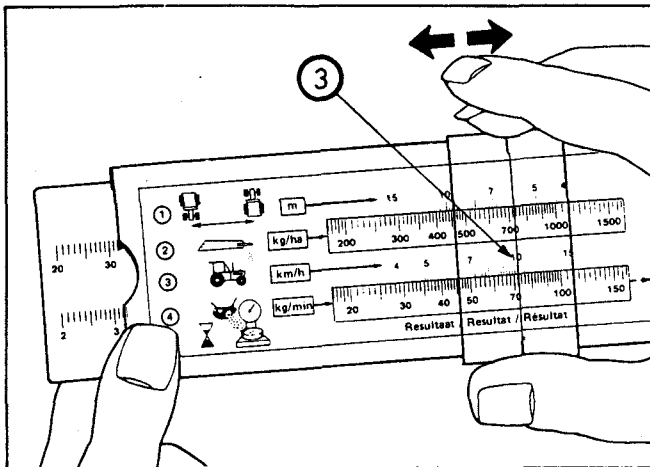
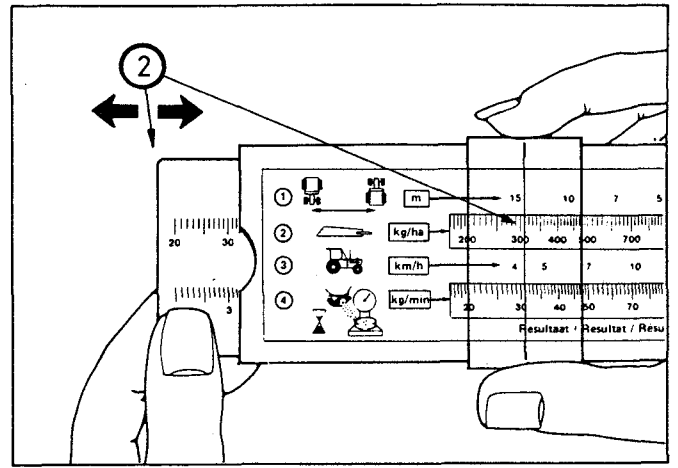
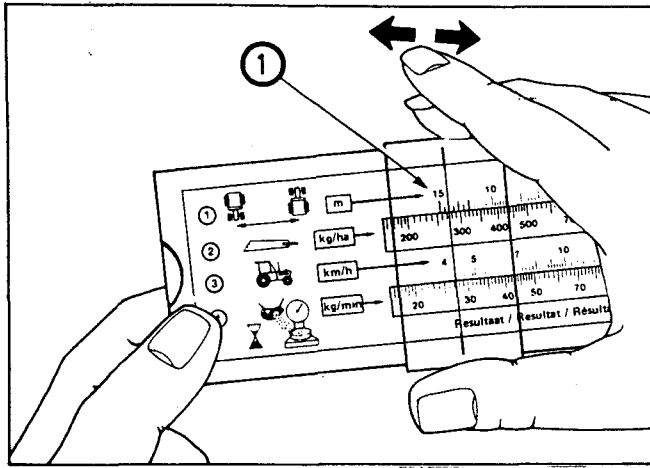
Example:

Calculated flow rate 58 kg/min.

This value is between 46 - 60.4 kg and so within positions 42 - 48.

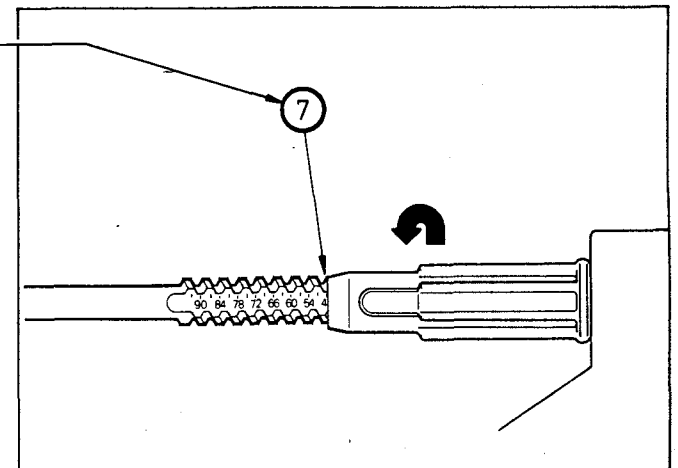
The difference between these six positions amounts to 14.4 kg/min, so one position equals $14.4 : 6 = 2.4$ kg.

The adjustment will be $\frac{58 - 46}{2.4} = 5$ positions higher than the next lowest position, viz: Position 47 (42 + 5).



Fertilizer:	setting \rightarrow 6								score
	18	24	30	36	42	48	54	60	
Prylled Fertilizer	21.0	31.2	42.9	55.2	74.0	94.0	118.8	146.8	
Granular Compound	10.5	15.0	22.8	32.7	46.0	60.4	82.4	105.2	130.6
Nitro Chalk	18.6	26.4	36.6	48.2	65.2	82.4	104.0	131.2	
Betrex	16.5	24.6	36.0	48.5	68.8	84.5	112.8	138.6	
Basic Stog		57.9	75.1	106.9	136.2	164.3			Stirring
Magnetox	23.4	32.4	44.7	58.8	79.2	100.0	131.2	158.8	
Wheat	14.4	24.0	32.7	46.8	60.5				

Fertilizer:	setting \rightarrow 6								score
	18	24	30	36	42	48	54	60	
Prylled Fertilizer	21.0	31.2	42.9	55.2	74.0	94.0	118.8	146.8	
Granular Compound	10.5	15.0	22.8	32.7	46.0	60.4	82.4	105.2	130.6
Nitro Chalk	18.6	26.4	36.6	48.2	65.2	82.4	104.0	131.2	
Betrex	16.5	24.6	36.0	48.5	68.8	84.5	112.8	138.6	
Basic Stog		57.9	75.1	106.9	136.2	164.3			Stirring
Magnetox	23.4	32.4	44.7	58.8	79.2	100.0	131.2	158.8	
Wheat	14.4	24.0	32.7	46.8	60.5				



CALIBRATION TEST

The spreading tables at the back of your manual have been determined by means of the most modern equipment. Practical circumstances, however, will always be different from the test situation in which Vicon has determined the values for the spreading tables.

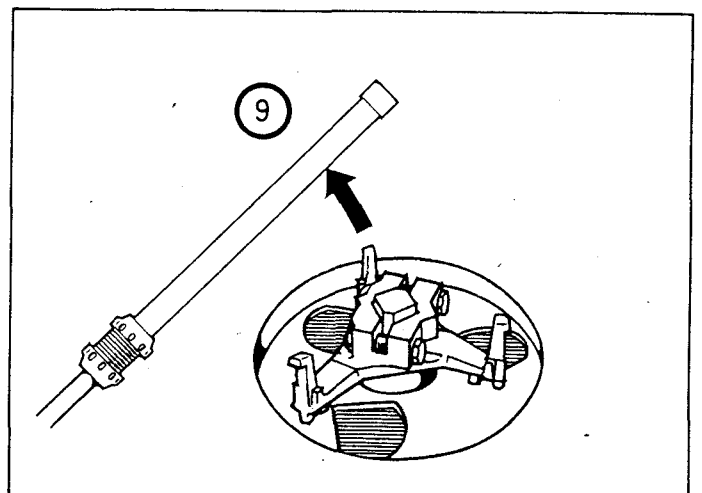
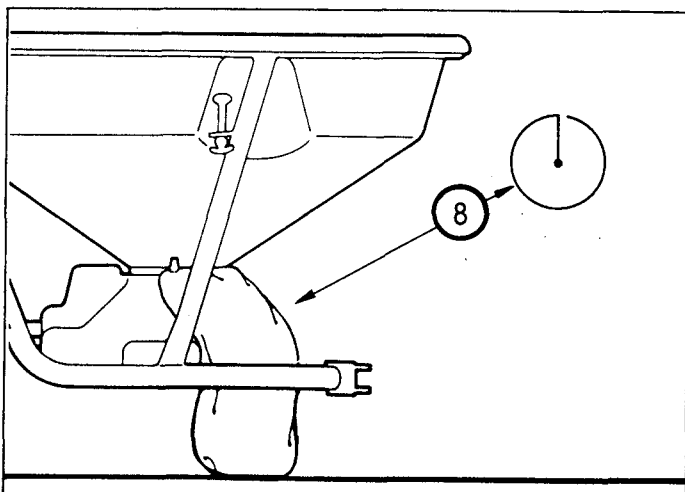
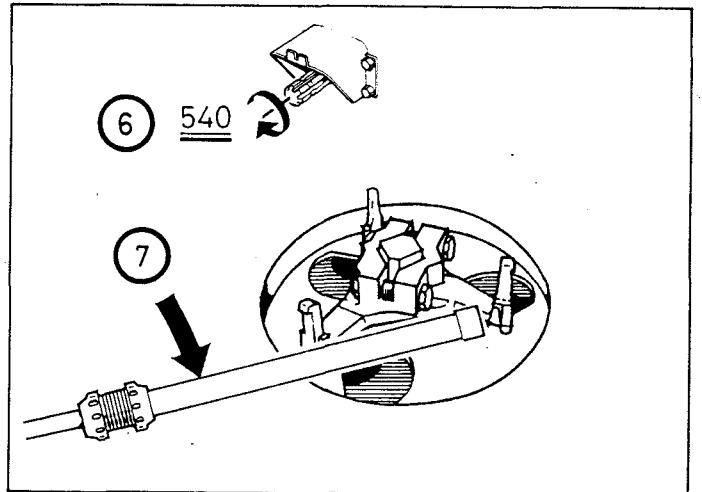
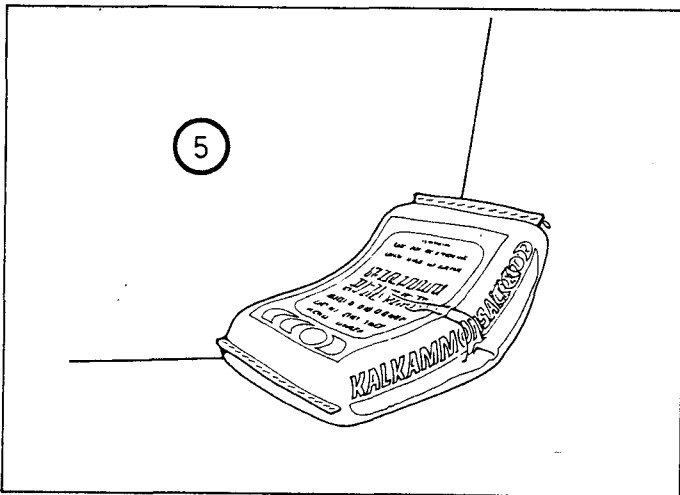
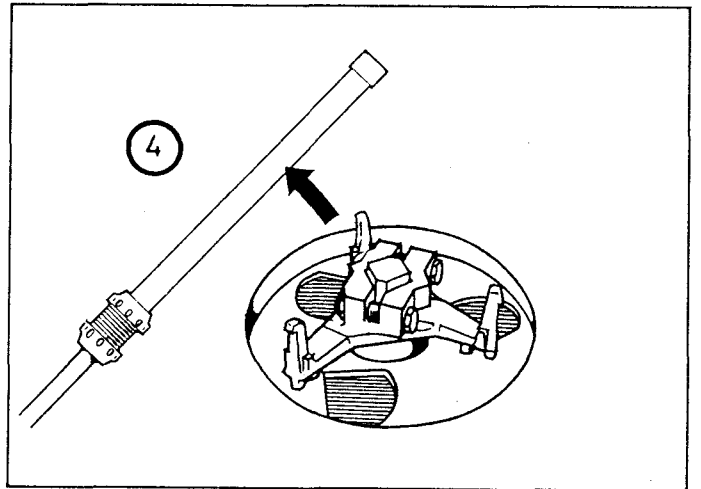
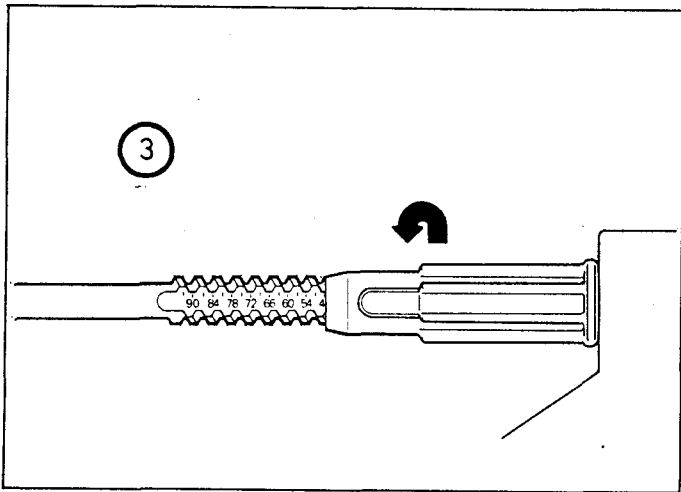
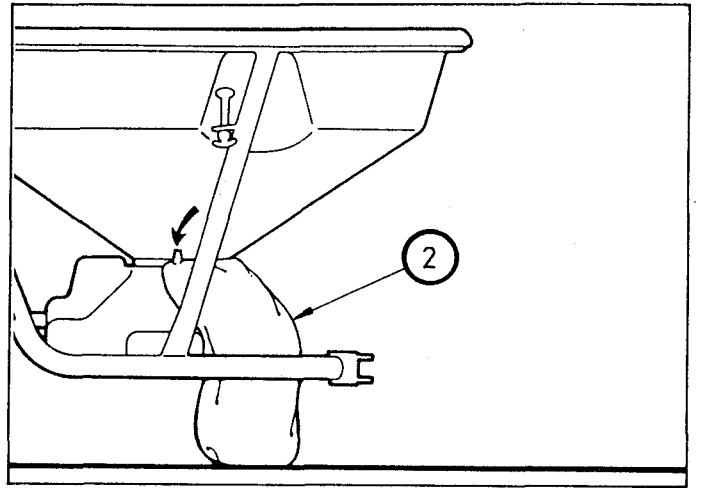
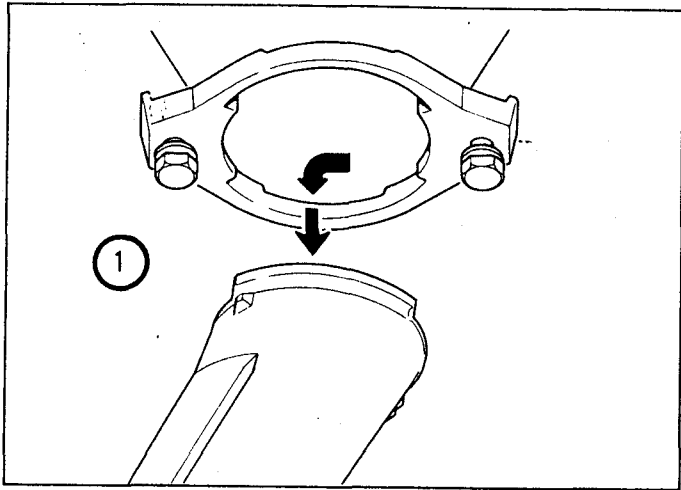
A calibration test will enable you to detect and, if necessary, correct any differences in fertiliser and application rate. This can be done rapidly and effortlessly because the spreading spout of the Super Flow spreaders can be removed and put back in no time.

Let us consider the example used on the previous page:

Fertiliser	:	Granular Compund 12.10.18
Row width	:	12 metres
kg/ha	:	330
kg/min	:	46
Position regulating bar	:	42

You can now carry out the calibration test as follows:

- Remove the spreading spout by slackening the bolts by three full turns and by moving the spout counterclockwise for 90° (1). Next tighten the nuts again.
- Attach the calibration bag with the eyes to the special connection lips on the spreader unit (2).
- Put the regulating bar in position 42 (3) and close the metering disc (4).
- Fill the hopper to 50% of its maximum capacity (5).
- Adjust the P.T.O. shaft speed to 540 r/min (6).
- Open the metering disc (7) and leave it open for exactly one minute (8).
- Close the metering disc (after one minute) (9).
- Now weigh the collected output. If this equals 46 kg the correct position has been set. If it is more than 46 kg, put the regulating bar in a lower position; if it is less, put the regulating bar in a higher position (see 'adjustment of the application rate' page 28).
- Now put back the spreading spout and tighten the bolts with 8 kg (80 Nm).
Be sure to mount the spout in the correct upright position !



SPREADING

- Close the metering disc before filling the hopper (1).
- Switch off the P.T.O. shaft (2).
- Only load the fertiliser into the hopper shortly before spreading to prevent 'settlement'.
- Check the height of the spreading spout once more on the field; low tramways may reduce the distance between the spout and the field too much (3). In that case it will suffice to slightly shorten the top link. The spout height should be 75 cm above ground level (4).

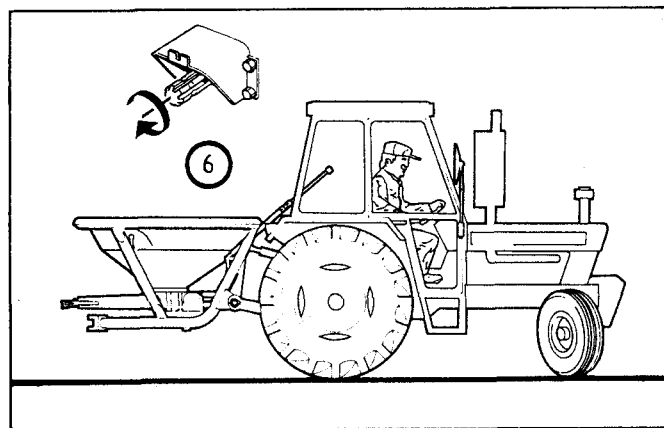
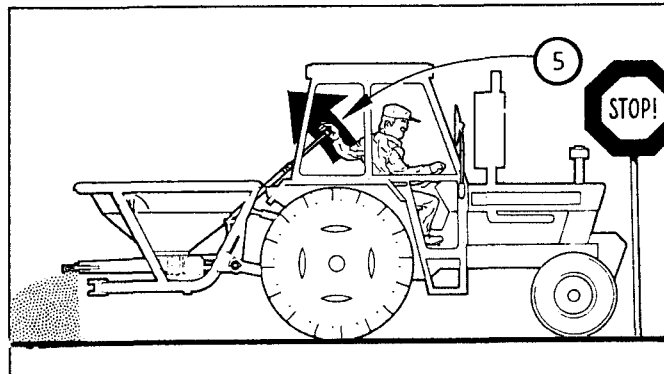
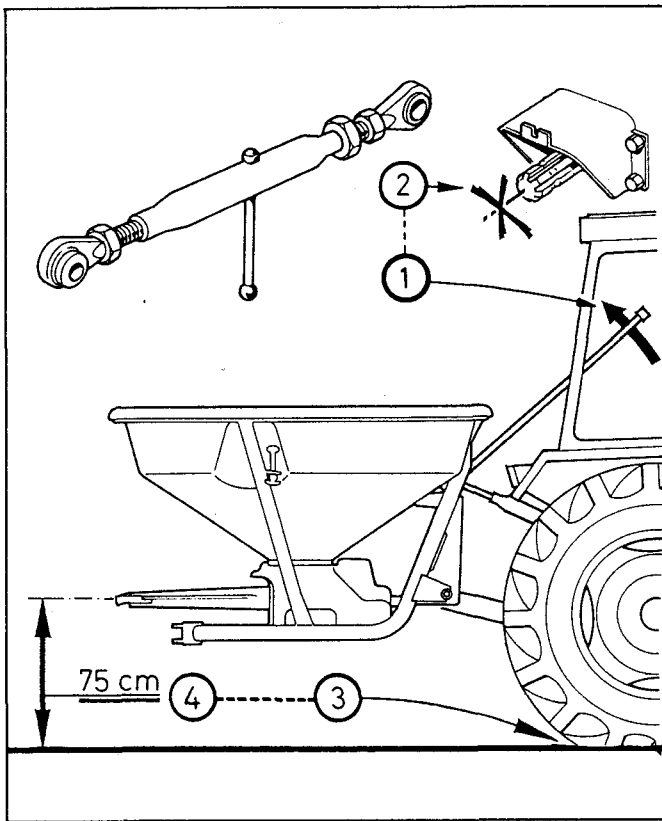
For correct headland spreading we advise you to keep twice the row width clear.

- Switch on the P.T.O. shaft, and select the correct gear (while stationary).
- Next increase the P.T.O. shaft speed to 540 r/min, and open the metering disc of the spreader directly when you drive off.

Stop spreading

- Always first close the metering disc (7).

When turning on the headland for the next spreading run, the P.T.O. shaft need not be switched off (8). For a longer interruption, however, switching off the P.T.O. shaft is necessary to prevent pulverization of the fertiliser.



BOUNDARY SPREADING

When spreading along ditches or other field boundaries you can reduce the P.T.O. shaft rotation speed to 400 r/min. Spreading will then take place across a smaller width so that the fertiliser will not fall into the ditch or on the neighbouring field. With the help of the slide calculator (1) you can also determine half the application rate per hectare and set this with the adjusting bar (2).

In order to overlap you will have to select a tramway at the next run which will drop the last granules up to the previous tractor run. Of course you can also keep to the selected row width.

An extra spreading spout (3) for boundary spreading is also available. This will produce an asymmetrical spreading pattern with an optimal spreading limitation (4).

When you stop boundary spreading:

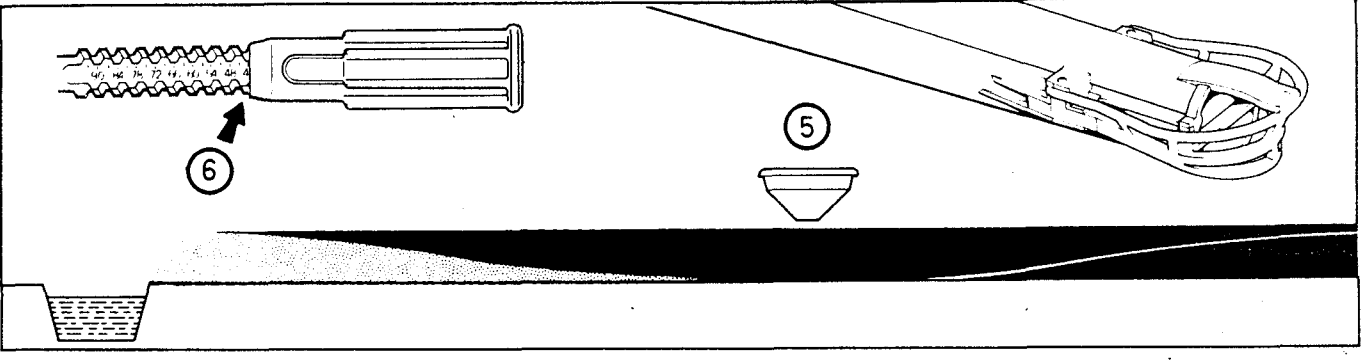
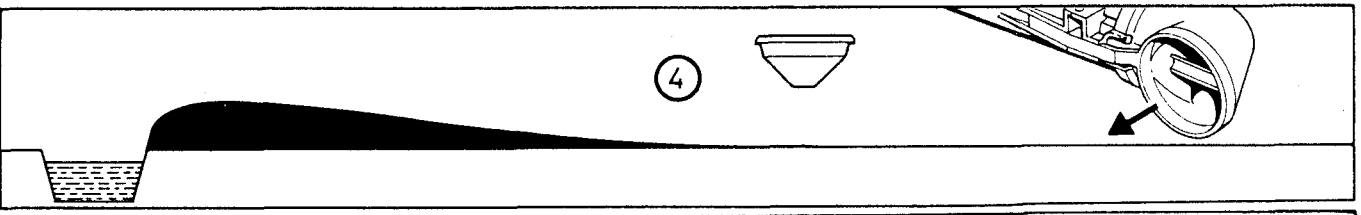
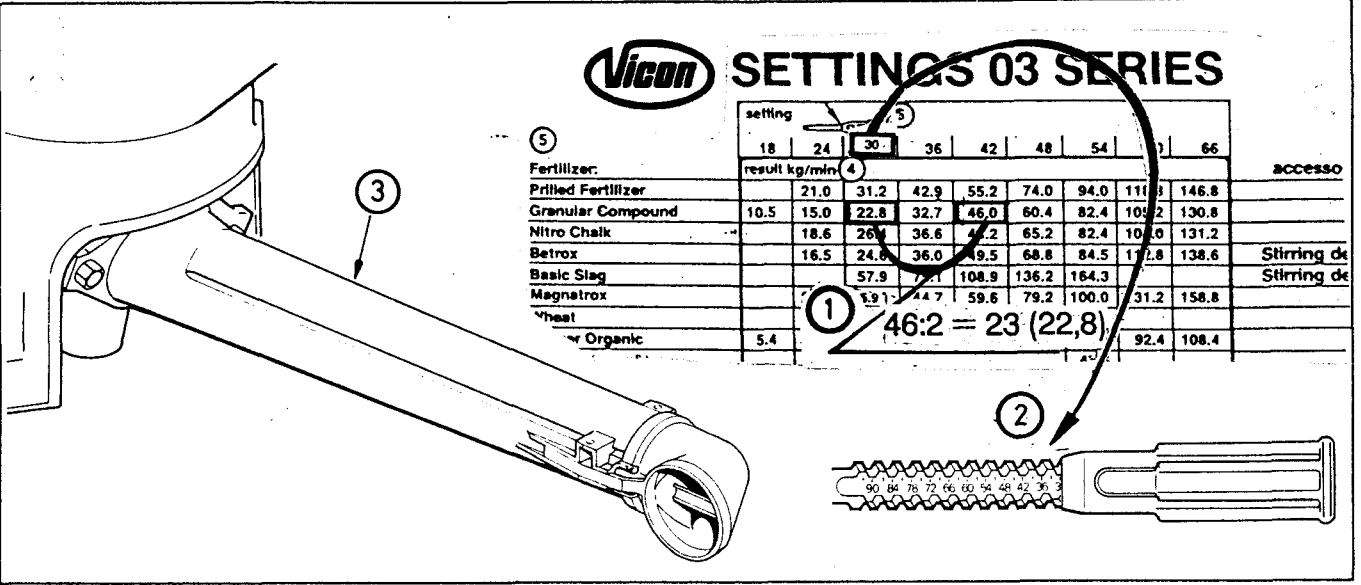
- keep to the previously selected row width again (5),
- increase the P.T.O. shaft rotation speed back to 540 r/min,
- **put the adjustment of the spreader unit back to the position for normal spreading (6).**

(If you have been using a spout for boundary spreading, replace it by the normal spreading spout. Tighten the bolts to 80 Nm !)

Vicon SETTINGS 03 SERIES

Fertilizer:	setting										accesso
	18	24	30	36	42	48	54	60	66	72	
result kg/min											
Pilled Fertilizer	21.0	31.2	42.9	55.2	74.0	94.0	111.8	130.8	146.8		
Granular Compound	10.5	15.0	22.8	32.7	46.0	60.4	82.4	109.2	130.8		
Nitro Chalk	18.6	26.4	36.6	48.2	65.2	82.4	109.2	131.2			
Betrox	16.5	24.0	36.0	49.5	68.8	84.5	112.8	138.6		Stirring de	
Basic Slag			57.9	77.1	108.9	136.2	184.3			Stirring de	
Magnetrox		59.1	84.7	59.6	79.2	100.0	131.2	158.8			
Wheat											
Wheat Organic	5.4							92.4	108.4		

① $46:2 = 23 (22,8)$

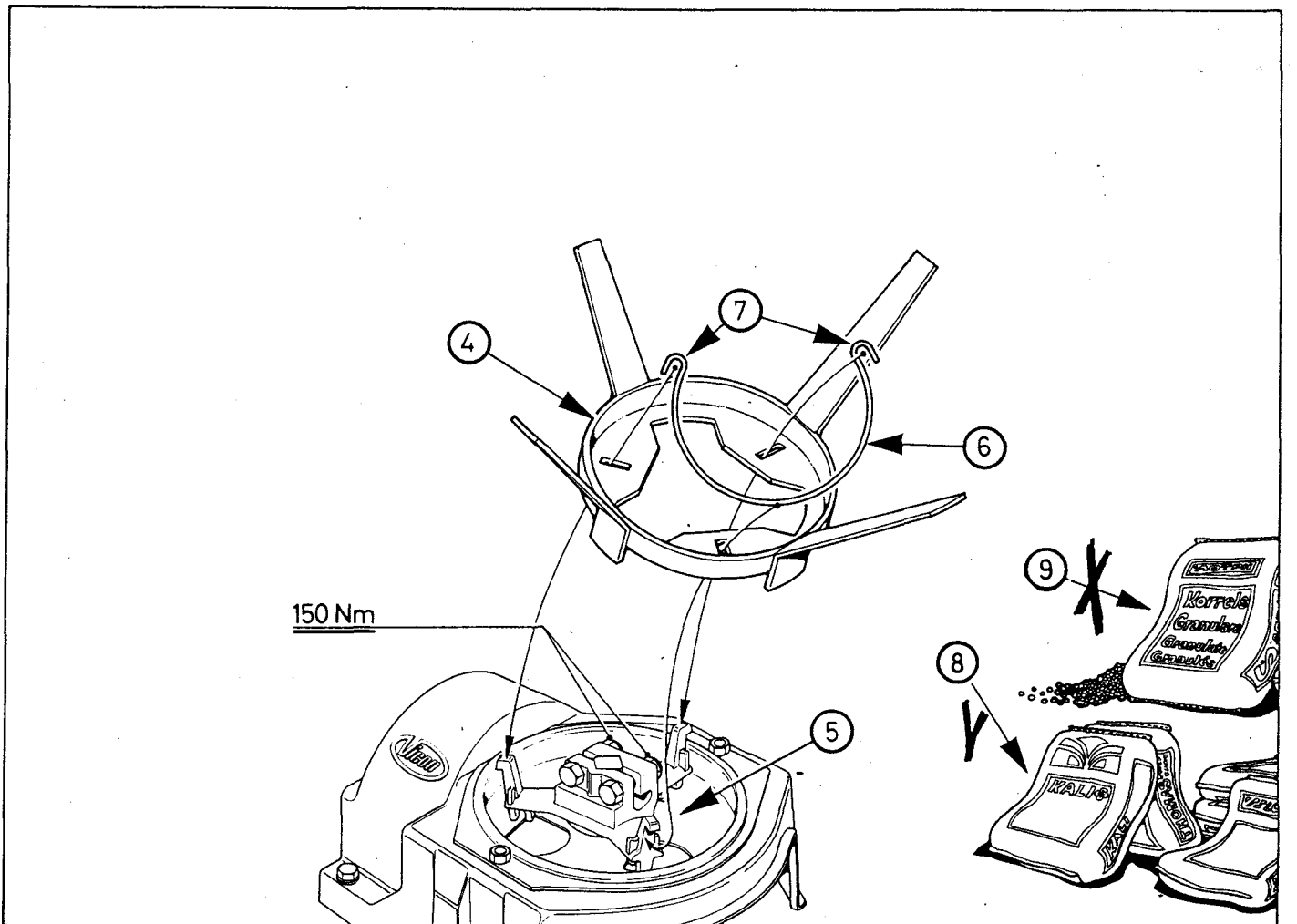
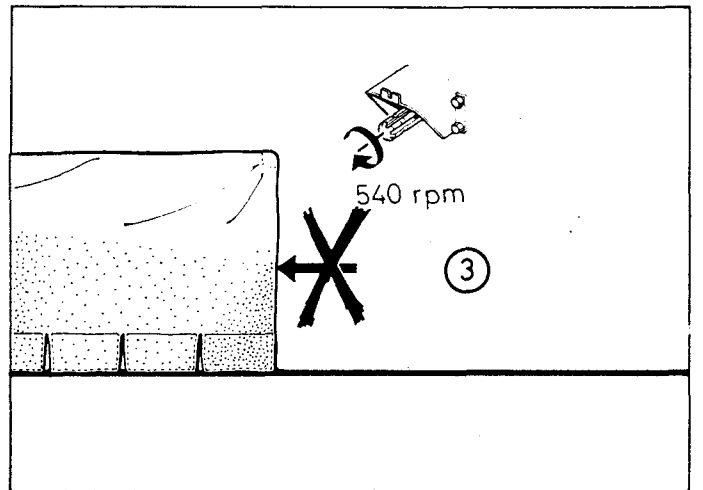
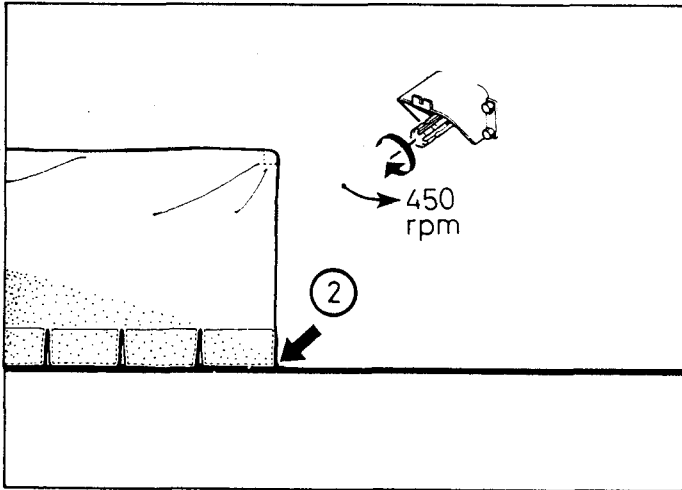
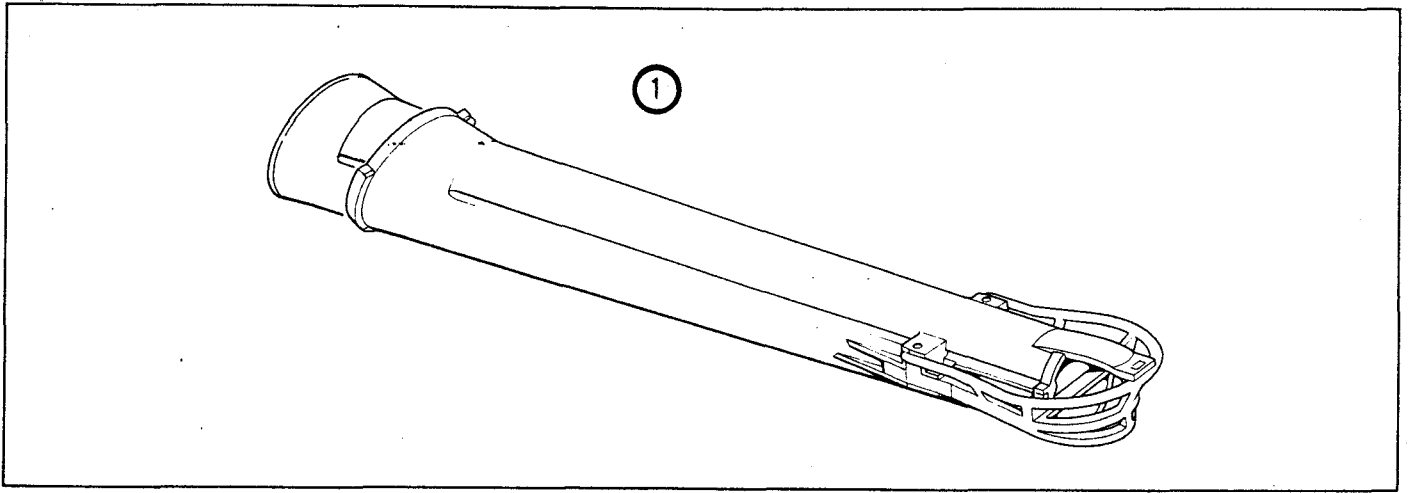


SPREADING POWDERED FERTILISER

To spread powdered fertiliser correctly we advise you to follow the procedure below:

- Remove the spreading spout and place the special rubber insert (1).
- When a windscreen (2) is used, the spreading width will determine the P.T.O. shaft rotation speed. A too high rotation speed will result in an excessively high output at the end of the windscreen (3). So in this case the correct rotation speed is **very important**.
- Mount the agitator crown (4) with the spring clip (6) (see also page 10).

When you want to spread granular fertiliser again (9) you must **ALWAYS** first remove the agitator crown (4) and the spring clip (6). The standard agitator can remain in place when spreading granular fertiliser.



LUBRICATION

Lubricate the spreader after every 10 working hours.

With grease:

- the cleaned P.T.O. shaft tubes (1)
- the cross pieces (2)
- the protecting sleeve bearings (3)
- the five grease points on the spreader unit (4)
- the pivot point of the operating lever (5)

With oil:

- the splines and fastener of the P.T.O. shaft (6)
- all other parts without a coating

MAINTENANCE

Apart from the usual lubrication and cleaning the VICON spreader hardly requires any maintenance.

Only the spreading band of the spreading spout (7) requires occasional replacement. Thousands of kilos of fertiliser are distributed by this spreading band, which inevitably causes wear (8). This wear has a negative influence on the spreading pattern of the spreader, so this spreading band should timely be replaced:

- Use a punch to remove both stainless steel pins from the spout (9) and take the spreading band from its groove.
- Mount a new spreading band (10).

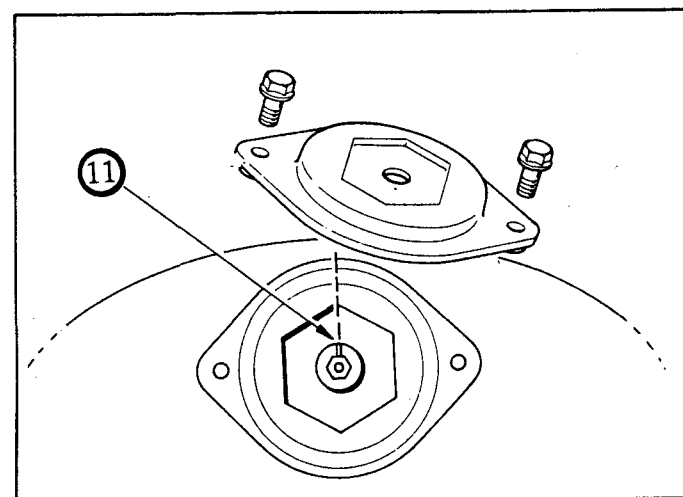
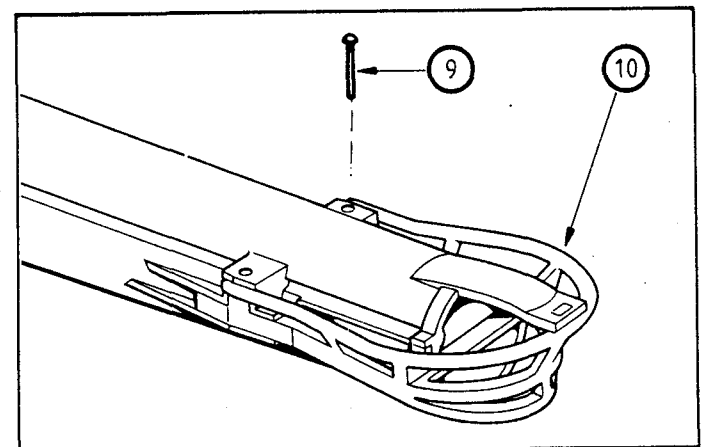
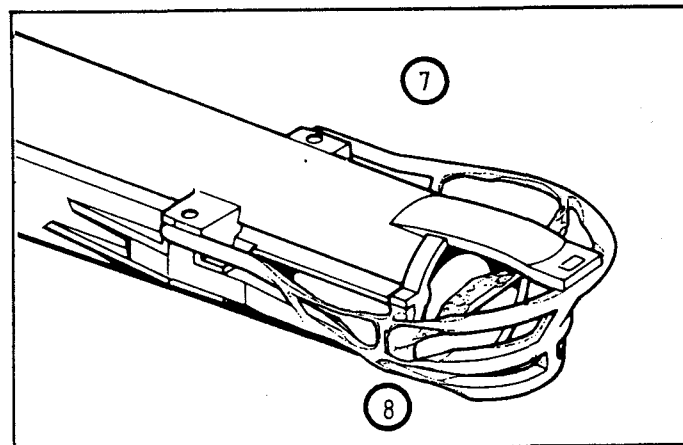
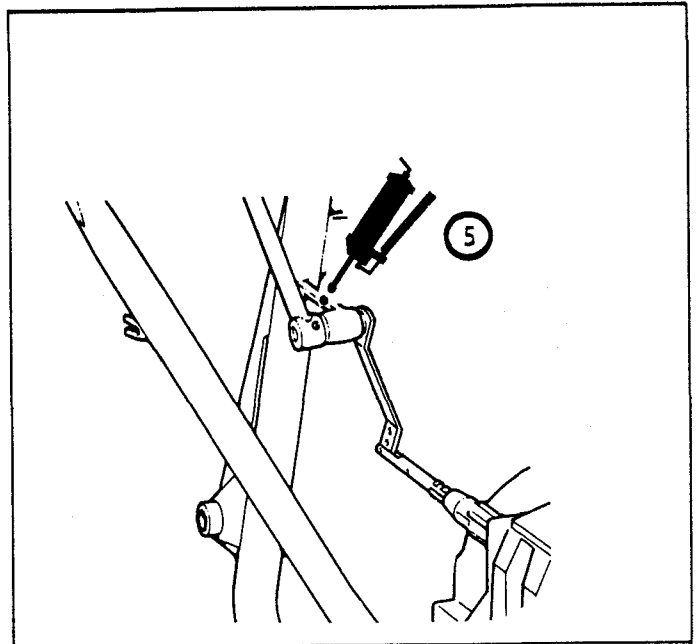
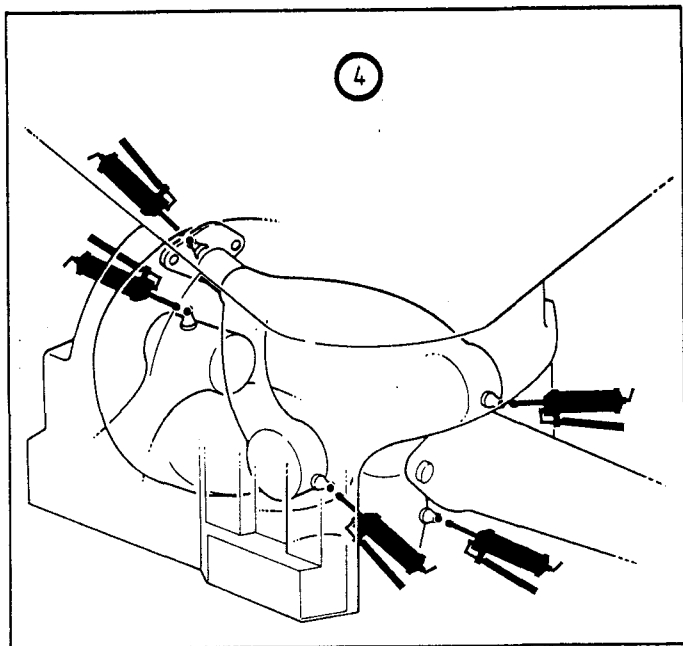
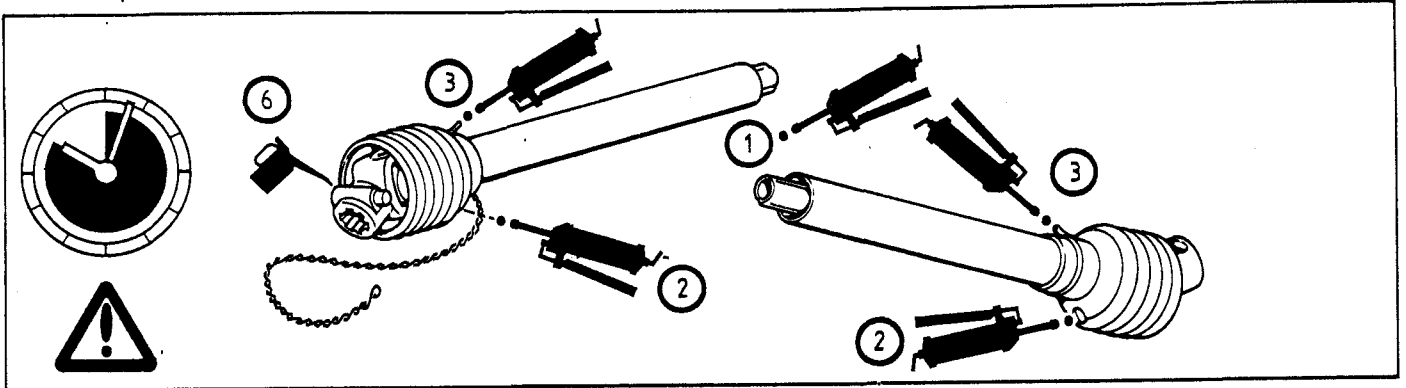
Also regularly inspect the bearing in the flywheel.

If you install a new aluminium bearing housing, make sure that the mark (11) on the locking plate faces the outside of the flywheel.

The slipping clutch in the P.T.O. shaft must always be adjusted to 300 Nm (30 kg).

CAUTION: Fertiliser containing nitrate may explode when brought into contact with fire. Therefore remove all fertiliser residue from hollows and tubes prior to carrying out any welding or cutting activities on your fertiliser spreader.





CLEANING

General: Before cleaning always grease all grease points. After cleaning grease all points again, as this will considerably increase the service life of your spreader.

The spreader can be cleaned quickly and easily:

- close the metering disc (1), run the spreader slowly and spray the inside of the hopper clean (2)
- open the metering disc (3) and next spray the agitator and regulating plate clean (4)
- switch off the P.T.O. shaft (5), switch off the engine and take the hopper from the frame.
- next, hose down the outside of the spreader (6)
- clean and grease the P.T.O. shaft tubes every 10 working hours (7)
- lubricate the regulating slide with a little oil (8).

At the end of the spreading season:

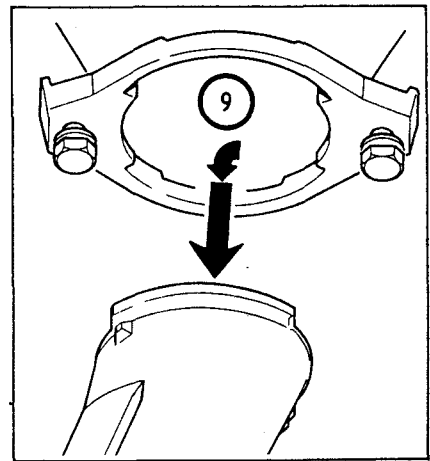
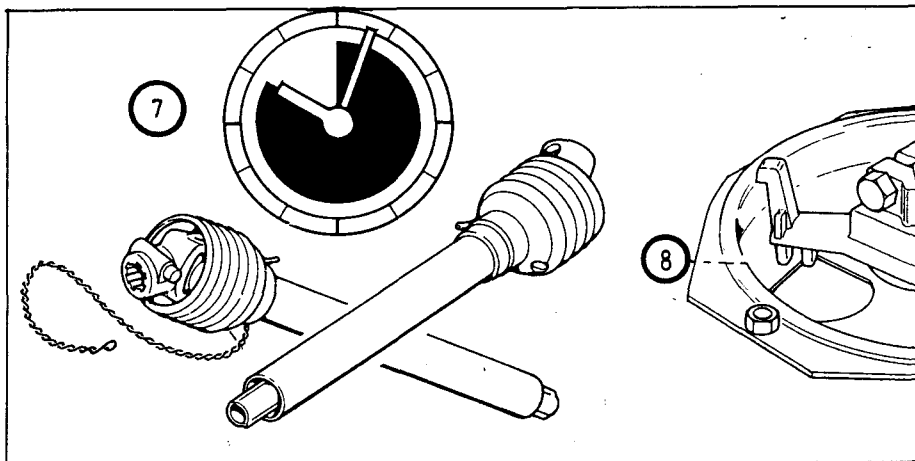
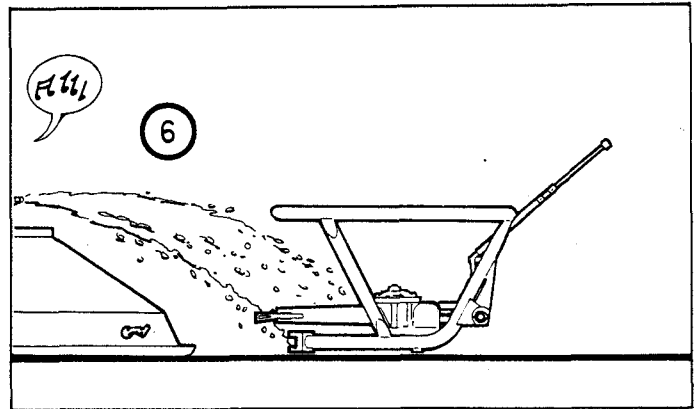
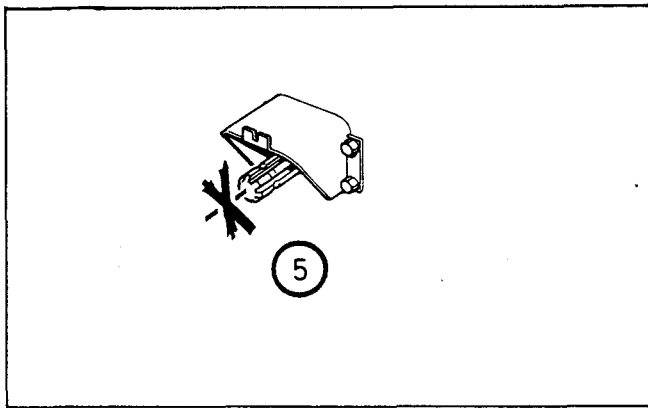
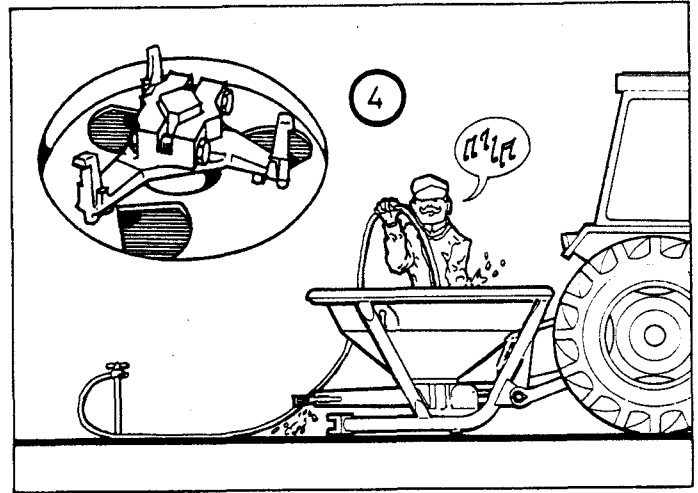
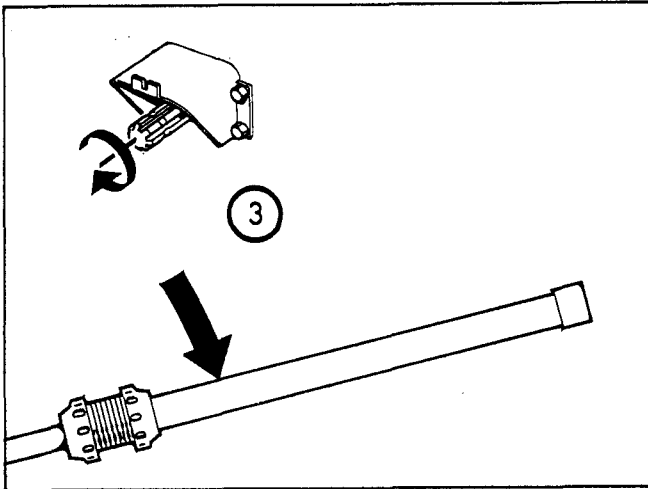
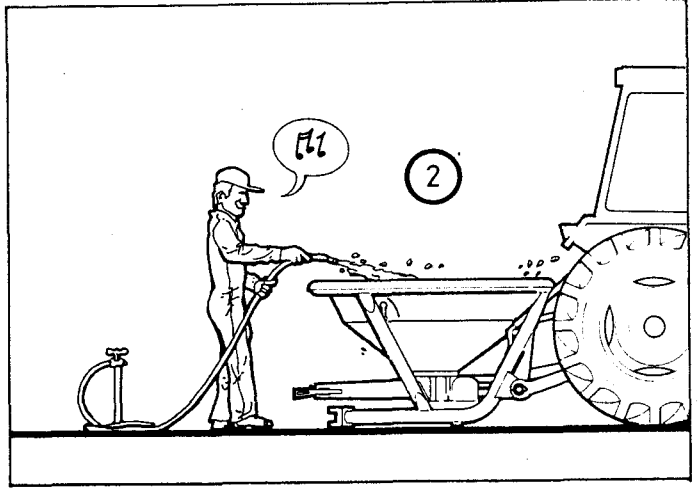
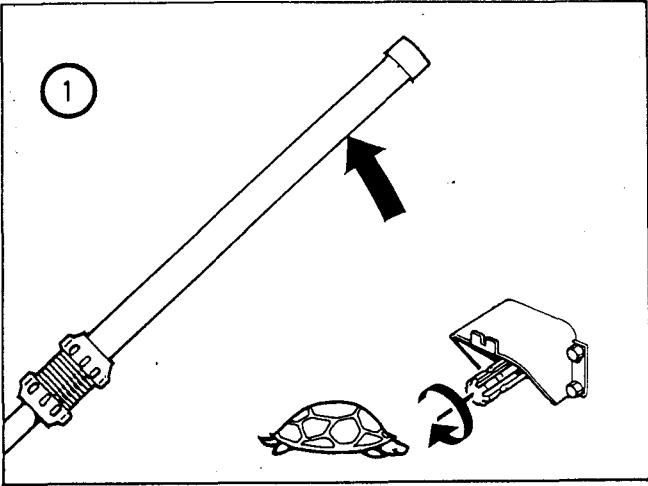
- Remove the spreading spout (9) and store it in the hopper. Again grease and lubricate all necessary points.

TORQUES

Directions for torques (in Nm) for self-locking nuts, hexagonal bolts and nuts. The lowest value is for cast iron, hardened surfaces, greasy threads etc.

Quality	4.6		8.8		10.9		12.9	
	0.10	0.13	0.10	0.13	0.10	0.13	0.10	0.13
Thread:								
M5	1.7	2	5	6	7	9	8	10
M6	3	4	9	10	13	15	15	18
M8	8	9	21	25	31	36	36	42
M10	16	19	40	50	60	70	70	85
M12	27	32	70	85	105	120	120	145
M14	42	50	115	135	165	195	195	230
M16	65	76	175	210	260	300	300	350
M18	90	110	250	290	350	420	410	490
M20	125	150	350	420	500	600	580	700
M22	170	200	470	560	670	800	780	930
M24	210	250	600	710	860	1020	1000	1180

For torques of bolts and nuts with a knurled bottoms, like Tensilock and Whizlock add 10% extra.



ACCESSORIES

A number of practical accessories are available which will optimize the spreading results of your Super Flow spreader

Vicontrol

The electronic measure, control and metering system referred to on page 4.

Both the ease of operation and the accuracy of your spreader will be increased by the application of this unique accessory.

Correct metering under any circumstances will yield a saving which by far exceeds the purchase cost of this instrument. In addition, the Vicontrol serves as a hectare counter, remote control, metre counter and speedometer.

Ask your dealer for documentation on the Vicontrol.

Anti-spill extension

This extension will prevent the loss of fertiliser when driving along field boundary tracks when the spreader is filled to the brim. This anti-spill extension can only be mounted on the PS 603 and 753.

Calibration bag

Variations in flow rate of supplied fertiliser batches must be checked with a calibration test. The calibration bag is a simple and efficient tool to simplify this procedure (see page 30).

After a calibration test the fertiliser output can be adjusted to within a kilo. This may result in a considerable saving on fertiliser.

Linkage arm extensions

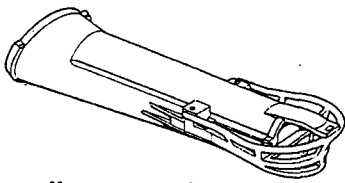
These extensions will move the spreader slightly further away from the tractor, preventing possible damage to the cab and the spreader when raised to its maximum position.

Delayed fertilising set

With the help of the delayed fertilising frame, delayed fertilising at any required height becomes possible, while retaining the low filling height.

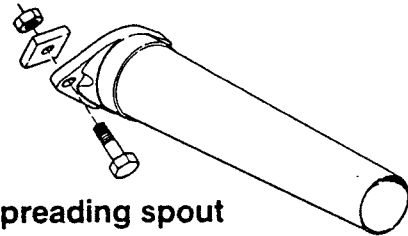
Special spreading spouts

For special applications you can replace the standard spreading spout by one of the spreading spouts as shown opposite. Vicon also supplies rubber inserts to prevent blocking of the spreading spout when spreading powdered fertiliser.



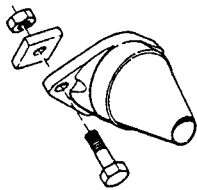
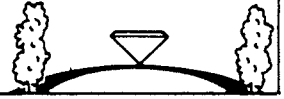
short spreading spout

for small spreading widths
spreading width: 4-8 m
spreading pattern:



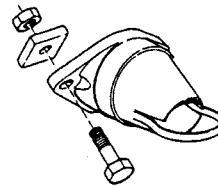
band spreading spout

for orchards
spreading width: 2-8 m
spreading pattern:



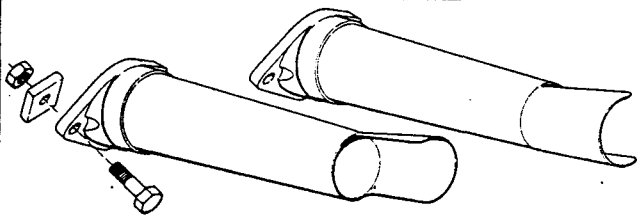
strip fertilization spout

for pesticides
spreading width: 0,75-1,50 m
spreading pattern:



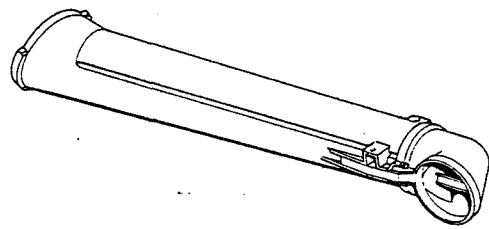
narrow spreading spout

for orchards and green strips
spreading width: 1,5-2 m
spreading pattern:



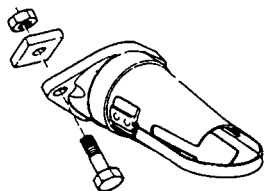
asymmetrical spout, left/right

for fish ponds and spreading along edges
spreading width: 4-6 m
spreading pattern:



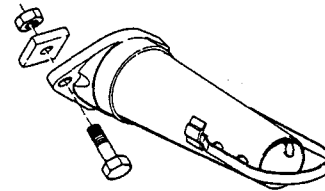
boundary spout

spreading pattern:



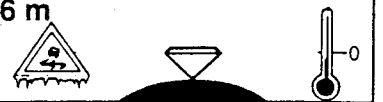
salt and grit spreading spout-short

for road construction and combatting icy conditions
spreading width: 2-4 m
spreading pattern:



salt and grit spreading spout-long

for road construction and combatting icy conditions
spreading width: 5-6 m
spreading pattern:



Powder spreader

The Super Flow spreaders can also be directly supplied as spreaders for powdered fertiliser. Their special agitator set and hopper shape ensure a correct processing and an optimal fertiliser powder flow.

Super Flow powder spreaders are available with a hopper capacity of 400, 500, 600 and 800 litres.

Windscreen

A 6 meter windscreen can be supplied as additional set for the Super Flow 403-803 powder spreaders for spreading powdered fertiliser. A special powder spout is included.

Set of wheels

Vicon also supplies a trailed version of the 753-1653 models which makes it possible to combine spreaders with a large hopper capacity with lightweight tractors.

Hydraulic remote control

A hydraulic remote control is available for spreaders which are not supplied with the Vicontrol measure, control and metering system. A useful accessory when closed cabs or trailed spreaders are used. Only one single-acting hydraulic valve is required.

Fine metering set

Vicon supplies a special fine metering set for spreading small quantities of seed. Two of the three apertures are blocked so that a very accurate adjustment of small outputs becomes possible.

Spout for boundary spreading

For boundary spreading to the left or the right a special spout is available. It produces an asymmetrical spreading pattern with an optimal spreading limitation.

Folding tarpaulin

All Super Flow spreaders are available with a folding tarpaulin. This reduces the risk of damp fertiliser and losses during transport.

SPREADING PROBLEMS

The Vicon Super Flow spreaders have been specially designed for a long and untroubled service life. If the spreading results should not be up to expectations the problem will mostly involve an error listed in one of the groups below:

A. OPERATING ERRORS

- incorrect P.T.O. shaft rotation speed
- spreader not mounted correctly to the tractor
- incorrect height adjustment of the spreader
- the spreading spout or spreading band are soiled
- spreader not balanced correctly
- incorrect driving speed
- incorrect row width

B. FERTILISER ERRORS

- strongly diverging fertiliser quality, lumps can reduce the fertiliser output considerably
- damp or sticky fertiliser
- pulverized or broken granules in the fertiliser
- too high variation in granule size, an optimal spreading result requires granules of the fraction 2 - 4,75 mm.

C. SPREADER ERRORS

- damaged components in the spreader unit
- worn out spreading band
- incorrectly adjusted regulating slide

D. ERRORS RESULTING FROM WEATHER CONDITIONS

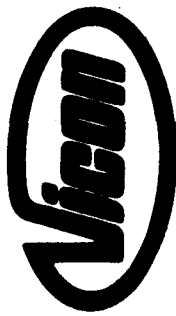
- too much wind (never spread at more than force 3, = 5 m/sec)
- air humidity too high

If you want to spread a type of fertiliser not included in the table you can easily calculate the application rate in kg/min yourself with the following formula:

$$\frac{\text{application rate in kg/ha} \times \text{driving speed in km/h} \times \text{driving width in meters}}{600} = \text{quantity in kg/min}$$


Example: $\frac{450 \times 8 \times 10}{600} = 60 \text{ kg/min}$


Adjust the regulating bar to a 60 kg fertiliser flow in one minute.

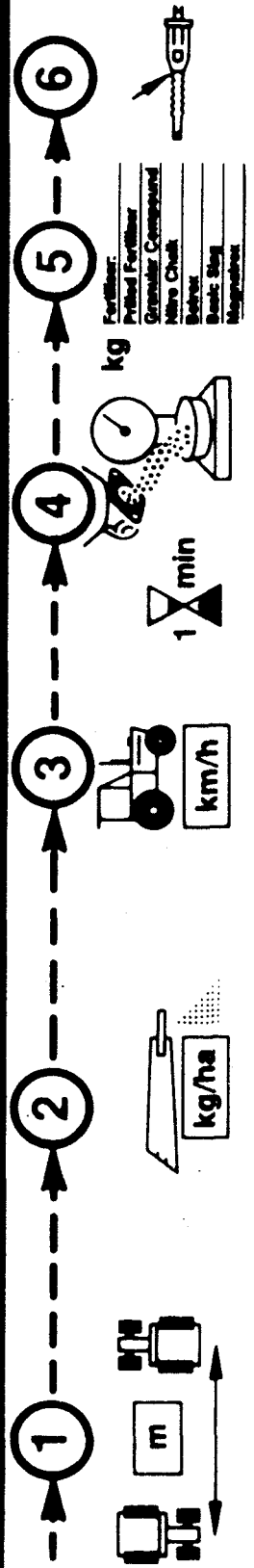


SETTINGS 03 SERIES

tekst

	setting  6											driving width (m)
	18	24	30	36	42	48	54	60	66			
5 Fertilizer:	result kg/min 4											
Prilled Fertilizer	21.0	31.2	42.9	55.2	74.0	94.0	118.8	146.8				9-12
Granular Compound	10.5	15.0	22.8	32.7	46.0	60.4	82.4	105.2	130.8			10-12
Nitro Chalk		18.6	26.4	36.6	48.2	65.2	82.4	104.0	131.2			10-12
Betrox		16.5	24.6	36.0	49.5	68.8	84.5	112.8	138.6			10
Basic Slag			57.9	75.1	108.9	136.2	164.3					9
Magnatrox		23.4	32.4	44.7	59.6	79.2	100.0	131.2	158.8			9
Wheat		14.4	24.0	32.7	46.8	60.5						12
Palmer Organic	5.4	11.4	17.4	24.9	36.9	48.8	66.4	92.4	108.4			9-12
Field Beans		8.7	12.9	20.1	28.0	36.4	47.6					10.5
Calcsified Seaweed	8.1	12.3	19.8	29.4	41.2	59.2	76.6	101.4	120.0			10
NPK 10.10.20		18.9	27.0	36.6	49.8	66.0	85.2	106.4	137.2			8-12
C.A.N. 27% N		20.1	30.3	41.7	55.2	72.0	92.0	120.0	148.8			8-12

	setting  6											driving width (m)
	6	9	12	15	18	21	24	30	36			
Small settings												
Rape-, kale- and turnipseed	3.3	5.0	7.7	9.8	12.0							12
Rye grass	2.8	5.2	8.7									4-5



17890818 RT



