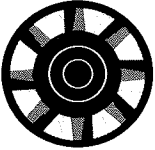


boqhülle

Type F 221



**Operating Instruction
and Spread Charts**



EC Declaration of Conformity

Manufacturer: A. P. LAURSEN A/S
BOGBALLE
DK-7171 Uldum
Tel.: 75893266
Fax: 75893766

declares on own responsibility that

BOGBALLE TYPE F/FS/FST

which is covered by this declaration, was manufactured in conformity with the following directives and other normative documents (see the technical dossier for harmonized standards):

1. DS 6010/ISO 730/I,-1977, Dimensions 3-point linkage
2. DS 6003, Quick coupling for oil outlet on tractor
3. DS 6009/ISO 500,1st edi.-1979-02-15, Power take-off & draw bar

according to the decisions in directive 89/392/EEC, annex 91/368/EEC and annex 93/44/EEC on mutual approximation of the laws of the member states on machines.

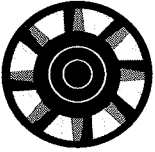
Bogballe, 29th September 1994



Henning Laursen

This machine is intended for spreading all common types of fertiliser.

Spreading of other flowing materials might also be interesting. If so we shall draw the attention to the date list of the material concerned in order to determine possible safety or health measures to be taken.



Bogballe fertilizer spreaders will render you a good service for several years provided they are properly maintained.

The spreader must be mounted on the tractor so that the spinning disc is horizontal and the height from the ground to the upper edge of the spinning disc is 2 ft/60 cm. The stabilization chains must be tightened in order to prevent the spreader from swinging from side to side when driving. Then the pto shaft is connected. When demounting the spreader the pto shaft must be taken off first. Check that the spinning disc rotates freely, and that the moving parts such as slides and adjustment levers are sufficiently greased. Avoid compressing the fertilizer by driving with a full hopper for long distances before spreading.

The spinning disc must not rotate when the slides are closed.

Avoid butting the pto shaft.

Hard lumps should be removed when filling the hopper as these might damage the slides and block the outlets.

An agitator for the spreader can be supplied and this is mounted between the two lugs on the spreading device. Do not overtighten as it must be easy to move when fitted.

In general it is only necessary to use the agitator when spreading powderized or damp fertilizers. The agitator should be in approx. vertical position when filling the hopper.

MAINTENANCE

The **gear box** is greased when mounted and needs no further greasing.

Slides and adjustment levers must be easy to move and should be greased every day.

The vanes must be easy to adjust, and turning as well as locking pins should be greased every day.

The pto shaft should be greased at least once a day.

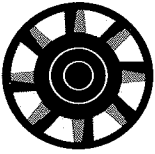
After use the machine must be cleaned, checked and oiled. After this the machine will be ready for use next time.

ADJUSTMENT OF THE SPREADER

Quantity adjustment

The spreader has 2 slides and a double lever coupled with a locking pin and a scale with figures from 0 to 5, the distance between the figures is again divided in 4, giving 20 settings.

Full spread width is obtained by opening with the coupled levers both slides.



Spreading only to the right is obtained by opening left slide.

Spreading only to the left is obtained by opening right slide.

Side adjustment

The spreader has 4 vanes, and each vane has 4 adjustment possibilities. The adjustment is made by pulling down the spring knob. With the knob in this position the vane can be moved.

When locking the vane it must be checked to see that the knob is back in the right hole.

For a centrifugal spreader it is not possible to make an exact spread chart, as the quantity spread depends on driving speed, spread width and consistency of fertilizer.

As a guide to the correct setting spread charts indicating the approximate quantities, vane position and spread width at 540 r.p.m. on the pto shaft are listed overleaf.

Control og quantity adjustment

In general we recommend making a test with e.g. 50 kilos of fertilizer in the hopper to see how far this goes. The table below shows the distance to drive to cover ¹/₄ acre / ¹/₁₀ ha.

Spread width feet/metres	13/4	16/5	20/6	23/7	26/8	30/9	33/10	36/11	40/12
Driving length yards/metres	273/250	219/200	183/167	156/143	138/125	121/111	109/100	100/91	91/83

Control of side adjustment

With the tractor stationary and 540 r.p.m. on the pto shafts 44-66 lbs / 20-30 kg of fertilizer should be spread on a clean, even surface.

The fertilizer spread should be gathered into 2 heaps, one on either side of the middle line of the spreader. If the weight of the two heaps is identical the side adjustment is correct.

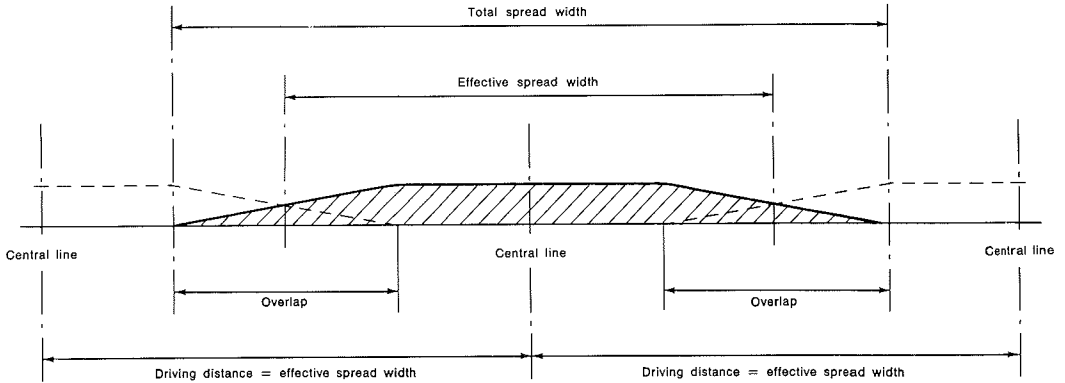
If too much has been spread to the right the vanes should be moved forwards in the direction of rotation of the spinning disc (lower figure).

If too much has been spread to the left the vanes should be moved backwards in the direction of rotation of the spreading disc (highter figure).

Adjust the position of one vane only and make a new test.

An even spread is easiest to obtain by driving around in the field.

Below we give some examples of overlap for various sorts of fertilizer.




	NPK granular	PK granular	NPK prilled Superphosphate Calcium Nitrate Calc. Ammonium Nitrate	Urea
Effective spread width feet/metres	33/10	30-33/9-10	30/9	26/8
Overlap feet/metres	23/7	23-26/7-8	20-23/6-7	13-16/4-5
Total spread width feet/metres	56/17	56/17	50-53/15-16	40-43/12-13

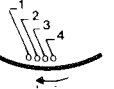
NPK granular - Spread width 33 ft./10 m.

Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectare				 Vane position Number of vanes in			
		Driving speed: 3,7-7,5 mph./6-12 km per hour				lock 1	lock 2	lock 3	lock 4
1	29/13	120/130	85/95	70/80	60/65		3	1	
1½	66/30	270/300	200/225	160/180	135/150		3	1	
2	96/43,5	390/440	295/330	235/265	195/220		3	1	
2½	130/59	530/590	395/445	315/355	265/295		3	1	
3	154/70	620/700	470/525	375/420	310/320		4		
3½	178/80,5	720/810	540/605	430/485	360/405		4		
4	200/91	810/910	610/685	485/545	405/455		3		
4½	220/100	890/1000	670/750	535/600	445/500		3		
5	236/107	950/1070	720/805	570/640	475/535		3		

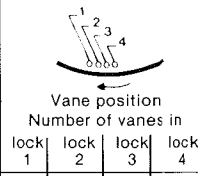
NPK prilled - Spread width 26-30 ft./8-9 m.

Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour				 Vane position Number of vanes in			
		3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
1	29/13	130/150	105/115	80/90	65/75			4	
1½	64/29	290/330	225/250	180/200	145/165			3	1
2	96/43,5	450/500	335/375	265/300	225/250			2	2
2½	122/55,5	570/640	430/480	345/385	285/320			2	2
3	150/68	700/780	520/585	415/465	350/390		2	2	
3½	174/79	800/900	600/675	480/540	400/450		3	1	
4	193/87,5	890/1000	670/750	535/600	445/500		3	1	
4½	210/95,5	970/1090	730/820	585/655	485/545		3	1	
5	227/103	1050/1180	790/885	635/710	525/590		3	1	

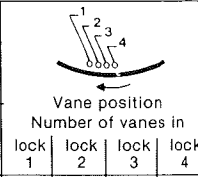
PK - Spread width 30-33 ft./9-10 m.

Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour				 Vane position Number of vanes in			
		3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
1	24/11	110/120	80/90	60/70	55/60		3	1	
1½	60/27	260/290	195/220	155/175	130/145		1	3	
2	93/42	390/440	295/330	235/265	195/220		1	3	
2½	121/55	520/580	390/435	310/350	260/290		1	3	
3	148/67	630/710	470/530	380/425	315/355		1	3	
3½	174/79	740/830	555/625	445/500	370/415		1	3	
4	192/87	820/920	615/690	490/550	410/460		3	1	
4½	208/94,5	890/1000	670/750	535/600	445/500		4		
5	223/101	950/1060	710/795	570/640	475/530		4		

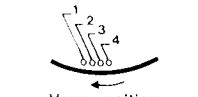
Superphosphate - Spread width 30 ft./9 m.

Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour							
		3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
1	23/10,5	110/120	80/90	60/70	55/60		1	3	
1½	56/25,5	250/280	185/210	150/170	125/140			3	1
2	85/38,5	380/430	285/320	225/255	190/215			3	1
2½	112/51	510/570	380/425	305/340	255/285			4	
3	138/62,5	620/700	470/525	375/420	310/350			4	
3½	157/1,5	710/800	535/600	430/480	355/400		1	3	
4	177/80,5	800/900	600/675	480/540	400/450		1	3	
4½	196/89	880/990	660/740	530/595	440/495		2	2	
5	212/96,5	950/1070	720/805	575/645	475/535		2	2	

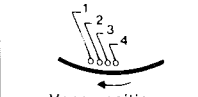
Calcium Nitrate - Spread width 30 ft./9 m.

Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour							
		3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
¾	20/9	90/100	65/75	55/75	45/50			4	
1	40/17,5	180/200	135/150	105/120	90/100			4	
1½	82/37	370/410	275/310	220/245	185/205			4	
2	119/54	540/600	400/450	320/360	270/300		2	2	
2½	155/70,5	700/780	520/585	420/470	350/390		2	2	
3	185/84	830/930	625/700	500/560	415/465		2	2	
3½	215/97,5	960/1080	725/810	580/650	480/540		3	1	
4	238/108	1070/1200	805/900	640/720	535/600		3	1	
4½	255/166	1150/1290	860/965	690/775	575/645		4		
5	270/122,5	1210/1360	910/1020	725/815	605/680		4		


Calcium Ammonium Nitrate - Spread width 30 ft./9 m.

Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour							
		3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
1	20/9	90/100	65/75	55/60	45/50			2	2
1½	46/21	210/230	155/175	125/140	105/115			2	2
2	70/32	320/360	235/265	190/215	160/180			2	2
2½	94/42,5	420/470	315/355	255/285	210/235			2	2
3	113/51,5	510/570	385/430	310/345	255/285			2	2
3½	131/59,5	590/660	440/495	350/395	295/330			2	2
4	148/67	660/740	495/555	395/445	330/370		2	2	
4½	161/73	720/810	545/610	435/485	360/405		3	1	
5	172/78	780/870	580/650	465/520	390/435		3	1	

Urea - Spread width 26 ft./8 m.


Register position quantity	Lbs./kg per minute	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour							
		3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
¾	12/5,5	60/70	45/50	35/40	30/35			2	2
1	24/11	120/140	95/105	75/85	60/70			4	
1½	51/23	260/290	190/215	155/175	130/145		2	2	
2	75/34	380/430	285/320	225/255	190/215		2	2	
2½	96/43,5	480/540	360/405	290/325	240/270		2	2	
3	117/53	590/660	440/495	350/395	295/330		3	1	
3½	132/60	670/750	505/565	400/450	335/375		3	1	
4	148/67	750/840	560/630	450/505	375/420		4		
4½	160/72,5	810/910	605/680	485/545	405/455		4		
5	170/77	860/960	640/720	515/575	430/480	1	3		

Orchard Grass

Km per hour	Miles per hour	Register position quantity		 Vane position Number of vanes in lock 1 lock 2 lock 3 lock 4				Spreading width in metres	Spreading width in feet	Kilos per hectare	Lbs. per acre
		Right register in driving direction	Left register in driving direction	lock 1	lock 2	lock 3	lock 4				
6	3,7	¾	1			3	1	3,5	11,5	35	32
8	5	¾	1			3	1	3,5	11,5	26	23
10	6,2	¾	1			3	1	3,5	11,5	21	19
12	7,5	¾	1			3	1	3,5	11,5	18	16
14	8,7	¾	1			3	1	3,5	11,5	15	13


With spreading device. - Without agitator

Ryegrass

Km per hour	Miles per hour	Register position quantity		 Vane position Number of vanes in lock 1 lock 2 lock 3 lock 4				Spreading width in metres	Spreading width in feet	Kilos per hectare	Lbs. per acre
		Right register in driving direction	Left register in driving direction	lock 1	lock 2	lock 3	lock 4				
6	3,7	¾	1			2	2	4,5	15	43	38
8	5	¾	1			2	2	4,5	15	32	29
10	6,2	¾	1			2	2	4,5	15	26	23
12	7,5	¾	1			2	2	4,5	15	21	19
14	8,7	¾	1			2	2	4,5	15	18	16


With spreading device. - Without agitator

Ky. Fescue

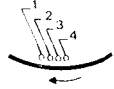
Km per hour	Miles per hour	Register position quantity		 Vane position Number of vanes in lock 1 lock 2 lock 3 lock 4				Spreading width in metres	Spreading width in feet	Kilos per hectare	Lbs. per acre
		Right register in driving direction	Left register in driving direction								
6	3,7	¾	1			2	2	4	13	45	40
8	5	¾	1			2	2	4	13	34	30
10	6,2	¾	1			2	2	4	13	27	24
12	7,5	¾	1			2	2	4	13	23	21
14	8,7	¾	1			2	2	4	13	19	17

With spreading device. - Without agitator

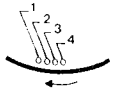
Barley - Spread width 30 ft./9 m.

Register position quantity	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour				 Vane position Number of vanes in lock 1 lock 2 lock 3 lock 4			
	3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
1	100/110					2	2	
1¼	150/170	115/130				3	1	
1½	195/220	145/165	115/130			3	1	
1¾	235/265	180/200	140/160	120/135		3	1	
2	275/310	205/230	165/185	140/155		4		
2¼	315/355	235/265	190/215	160/180		4		
2½		265/295	210/235	175/195	1	3		
2¾			225/255	190/215	1	3		
3				215/240	1	3		

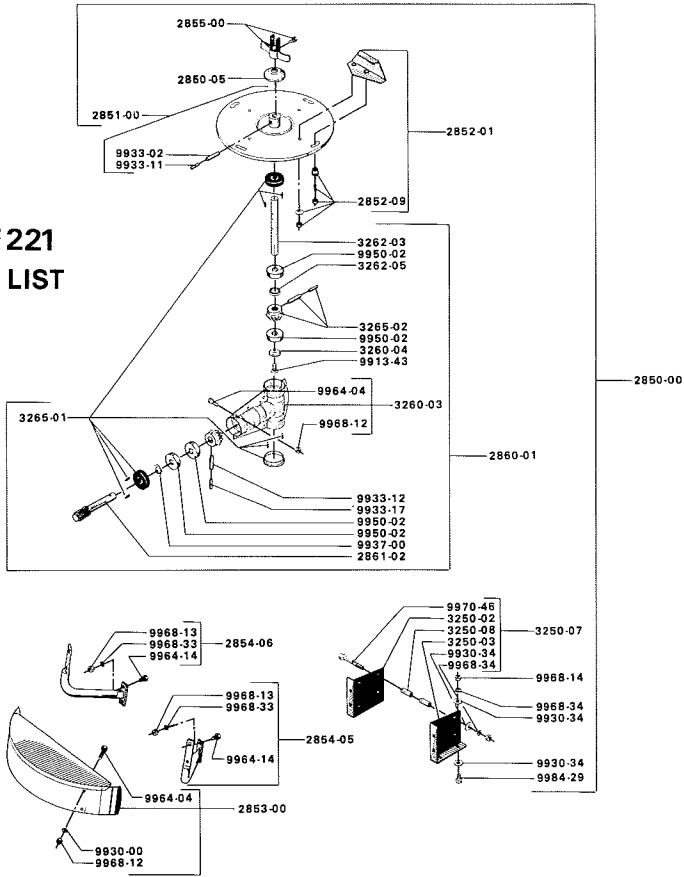
Wheat - Spread width 31 ft./9,5 m.

Register position quantity	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour				 Vane position Number of vanes in			
	3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
¼	60/70	45/50				2	2	
1	105/115	75/85	60/70			3	1	
1¼	145/160	110/120	85/95	70/80		3	1	
1½	200/225	150/170	120/135	100/110		3	1	
1¾	250/280	185/210	150/170	125/140		4		
2	300/335	225/250	180/200	150/170		4		
2¼	350/390	265/295	210/235	175/195		4		
2½		295/330	235/265	195/220		4		
2¾			265/295	220/245	1	3		
3				240/270	1	3		

Oats - Spread width 28 ft./8,5 m.

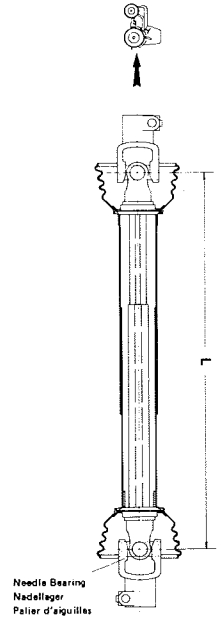
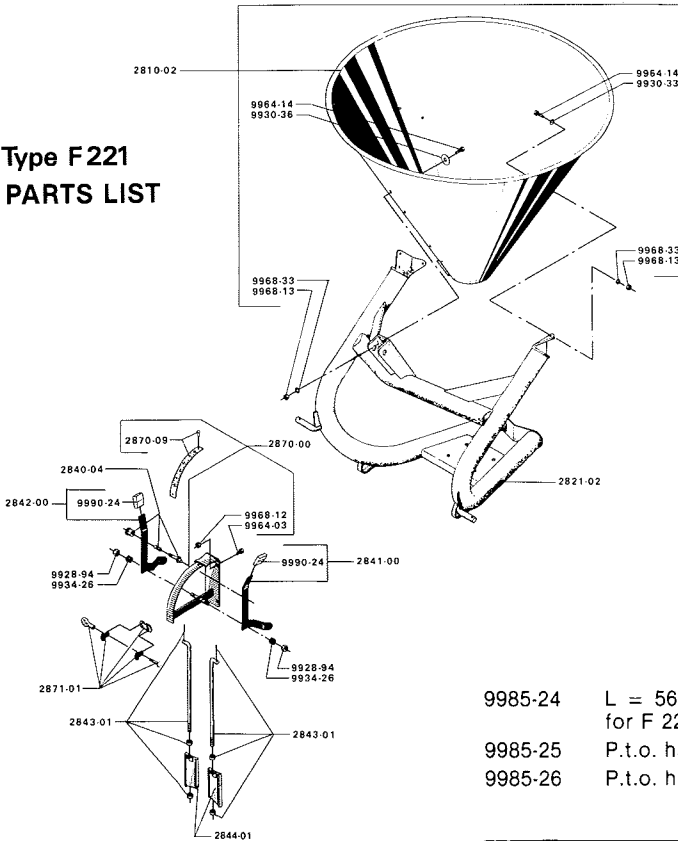
Register position quantity	Lbs. per acre/kilos per hectar Driving speed: 3,7-7,5 mph./6-12 km per hour				 Vane position Number of vanes in			
	3,7/6	5/8	6,2/10	7,5/12	lock 1	lock 2	lock 3	lock 4
1	90/100					2	2	
1¼	125/140	95/105				2	2	
1½	160/180	120/135	100/110			3	1	
1¾	205/230	155/175	125/140	105/115		3	1	
2	245/275	185/210	145/165	125/140		3	1	
2¼	285/320	215/240	170/190	140/160		4		
2½	315/355	235/265	190/215	160/180		4		
2¾		255/285	205/230	170/190		4		
3			220/245	185/205	1	3		
3¼				195/220	1	3		

Type F221 PARTS LIST



2850-00	Spreader aggregate	3265-02	2 gear wheels with pins
2850-05	Tightening washer	9913-43	Lock screw, M10 x 20 mm
2851-00	Spreader disc	9930-00	Washer, ø6 mm
2852-01	Vane, complete	9930-34	Washer, ø10 mm
2852-09	Locking pin w/spring and nut	9933-02	Pin, ø8 x 40 mm
2853-00	Shield, complete	9933-11	Pin, ø5 x 40 mm
2854-05	Mounting for shield, left	9933-12	Pin, ø8 x 45 mm
2854-06	Mounting for shield, right	9933-17	Pin, ø5 x 45 mm
2855-00	Spreading device, complete	9937-00	Seeger circlip, UK 25 x 1,2 mm
2860-01	Gear, complete	9950-02	Ball bearing, 6305 x 2 RS
2861-02	Drive shaft	9964-04	Set screw, M6 x 15 mm
3250-02	Console, right	9964-14	Set screw, M8 x 20 mm
3250-03	Console, left	9964-29	Set screw, M10 x 25 mm
3250-07	Console set	9968-12	Nut, M6
3250-08	Spacer	9968-13	Nut, M8
3260-03	Gear housing	9968-14	Nut, M10
3260-04	Washer	9968-33	Starwasher, ø8 mm
3262-03	Exit shaft	9968-34	Starwasher, ø10 mm
3262-05	Spacer for gear-wheel	9970-46	Bolt, M10 x 110 mm
3265-01	Gasket set		

Type F 221 PARTS LIST



- 9985-24 L = 560 mm, standard P.t.o. Shaft
for F 221
9985-25 P.t.o. half, tractor
9985-26 P.t.o. half, machine

2810-02	Hopper, F221	9928-94	Selflocking nut, M10
2821-02	Frame	9930-33	Washer, $\varnothing 8$ mm
2840-04	Locking pin w/spring and plastic knob	9930-36	Washer, 25 x 8,3 x 3 mm
2841-00	Adjustment handle, left - compl.	9934-26	Spring
2842-00	Adjustment handle, right - compl.	9964-03	Set screw, M6 x 10 mm
2843-01	Connecting rod, compl.	9964-14	Set screw, M8 x 20 mm
2844-01	1 set of registers	9968-12	Nut, M6
2870-00	Scale bow, compl.	9968-13	Nut, M8
2870-09	Scale	9968-33	Starwasher, $\varnothing 8$ mm
2871-01	Scale stop, compl.	9990-24	Plastic handle

bøgballe

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