

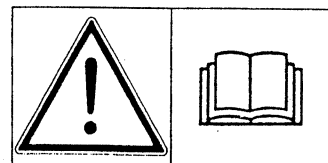
OPERATORS MANUAL

Row Fertilising Equipment

RFZ 7A / RFZ 7M / RFZ 7B



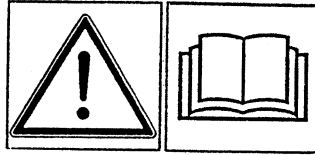
PLEASE READ CAREFULLY
BEFORE USING THE MACHINE



KUHN FARM MACHINERY (U.K.) LTD.
Stafford Park 7, Telford, Shropshire, TF 3 3 BQ
Telephone Sales: (01952) 290991 • Telephone Stores: (01952) 290503
Fax: (01952) 290091

Dear customer,

We are confident that your KUHN Row Fertilising Attachment, with its many outstanding features, will justify the faith which, by your purchase, you have shown in the machine. We have made every effort to provide you with a capable and reliable machine.

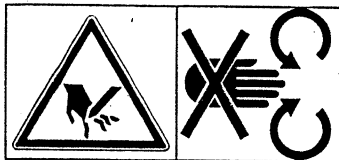


It is very important that you read and thoroughly understand these instructions and notes before installing and using the attachment. This booklet provides a comprehensive guide to its operation and all the information necessary for the efficient and safe operation, maintenance and care of your machine.

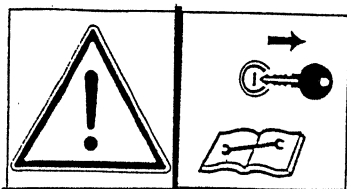
PLEASE NOTE: Warranty claims, which arise from damage due to operator errors and misuse, cannot be accepted.

SAFETY AND ACCIDENT PREVENTION

Apart from the information in this manual also observe the information in the Operator's Manual for the KUHN Fertiliser Spreader.



Danger from rotating discs/auger!
While spreading with the Row Fertiliser Attachment, the discs of the spreader are spinning.
Do not put hands into the hopper - the auger is turning.
Make sure that no person is within the spreading zone before engaging the P.T.O. and starting the spreader!



Repairs, maintenance and cleaning operations should only be undertaken with PTO disengaged, engine stopped and key removed!



When travelling on public roads make sure that the tractor and spreader both conform with the national and local road traffic regulations.
KUHN offers a suitable lighting kit for the purpose.

PROPER USE

The Row Fertilising Attachment is designed for the spreading of dry, granular fertiliser.

Any other use is inappropriate. Any defects arising therefrom will invalidate the manufacturers guarantee; any risk associated therewith is borne entirely by the user.

Appropriate use of the machine also entails the full compliance with all operating, maintenance and repair instructions issued by the manufacturer.

The Row Fertilising Attachment may only be used, maintained and repaired by persons who are familiar with the machine and who have received instructions with regard to potential danger.

All current accident prevention, safety and work-related legislation must be observed.

Any warranty claims, against the manufacturer for damage resulting from unauthorised alterations to the implement will be ruled invalid.

MANUFACTURER

RAUCH Landmaschinenfabrik GmbH, D - 76547 Sinzheim

**Row Fertilising Attachment : TYPE RFZ 7A/7 M
suitable for Spreader type ADS, MDS and ZSA**

**Row Fertilising Attachment Type RFZ 7 B
suitable for Spreader Type ZSB**

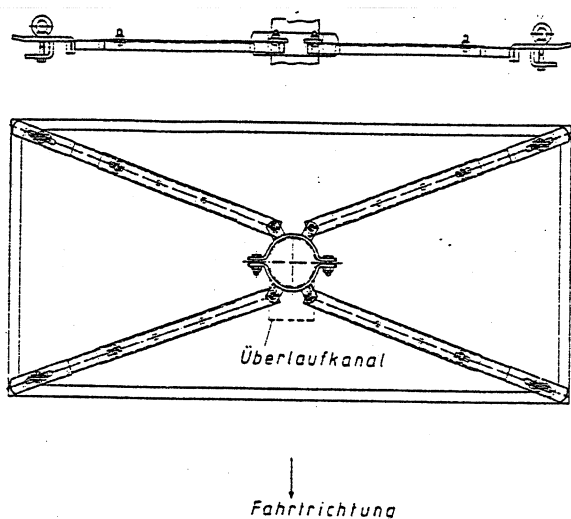
ACCEPTING THE ROW FERTILISING ATTACHMENT

On delivery please check that the Row Fertiliser Attachment kit is complete.
The kit consists of the following:

- Row Fertiliser Spreader complete with frame including attachment bracket with bolts for fitting to the shutter mechanism of the spreader
- Supporting brackets consisting of:
 - 4 off adjustable supporting arms
 - 2 off half-shells
 - Rate adjustment operating levers complete with Bowden cable
 - 1 set delivery hoses with hose clamps and hose supports
 - 1 set delivery hoses complete with distributor plates.

For ease/economy of transport the Row Fertiliser Attachment is delivered in knocked-down form.

ASSEMBLY AND ATTACHMENT TO THE SPREADER

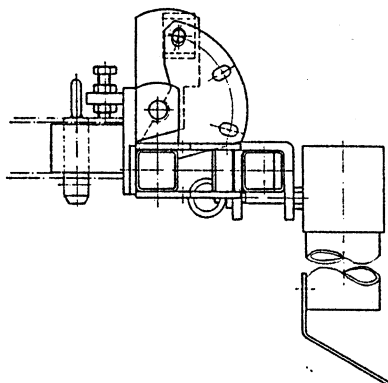


1. Remove the agitator finger from the hopper.
2. Place the row fertiliser attachment onto the agitator shaft (with overflow channel facing forwards). Make sure that the drive-pin on the agitator shaft engages in the keyway of the auger - it may be necessary to turn the spreading disc slightly. When the transfer pin is engaged properly, the base of the row fertiliser attachment rests on the hopper floor.
3. Fasten supporting arms for the row fertiliser unit on to the hopper sides.



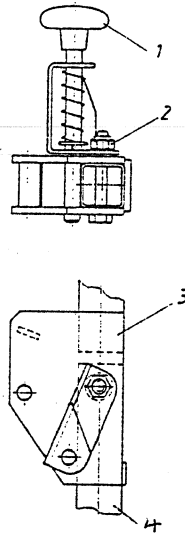
Make sure that the mounting arms are level. Adjust the supporting arms so that the row fertiliser attachment stands vertically.

ATTACHMENT OF FRAME - (CENTRE SECTION)



Secure the Attachment bracket, plus the mounting frame (centre section) to the shutter aperture of the spreader and align using the 2 adjustment screws so that the mounting frame is in a horizontal position.

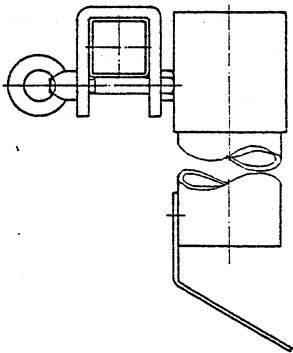
ASSEMBLY OF MOUNTING FRAME



Attach both side sections of the mounting frame to the centre section.

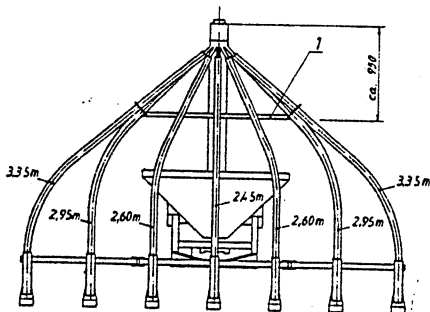
(1 = Securing bolt, 2 = M12 x 70 bolt
3 = Mounting frame/ centre section,
4 = mounting frame side section)

ATTACHMENT OF DELIVERY TUBES TO MOUNTING FRAME



Attach the delivery tubes to the mounting frame. The distances between the individual delivery tubes depends on the chosen spread pattern. (see spreading examples)

ATTACHMENT OF DELIVERY HOSES



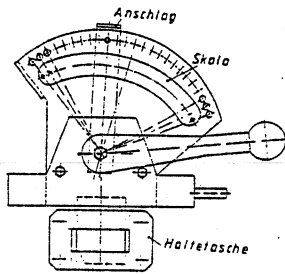
Attach one hose end on each of the delivery hoses to the hose nipples and secure with the hose clamps.

In order to hold the two outer delivery hoses at an optimum angle, the hose support (1) must be used. The hose ends can then be inserted into the delivery tubes.



Before attempting to assemble the hoses, note the varying hose lengths!

ASSEMBLING THE METERING SLIDE OPERATING LEVER



Fix the flow-rate adjustment operating lever in a suitable position in the tractor cab using the bracket supplied.



Route the Bowden cable so as to avoid tight turns/kinks!

CALIBRATING THE APPLICATION RATE

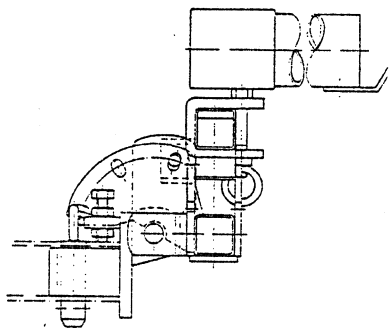
Set the stop on the quadrant by referring to the recommended setting in the calibration chart, corresponding to your chosen forward speed and application rate.

When starting spreading, the hopper shutters are opened via the operating lever. When turning at the end of the field the hopper shutters must be closed without disengaging the P.T.O.



Check before spreading that the hopper shutters are completely closed and lock the adjustment lever stops at the correct quadrant setting for the intended flow-rate.

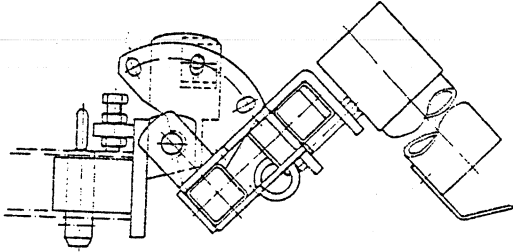
FILLING THE SPREADER



In order to allow the spreader into its lowest position ready for filling, the mounting frame is tilted backwards and locked with the securing belts. The delivery tubes point horizontally backwards.

TRAVELLING ON ROADS

For travelling on the road the 2 outer frame sections are moved backwards and locked with the securing bolts.

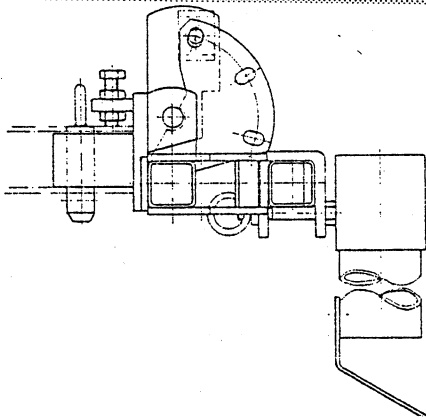


The mounting frame is then tilted 45 degrees upwards and secured in the centre hole with the securing bolt.

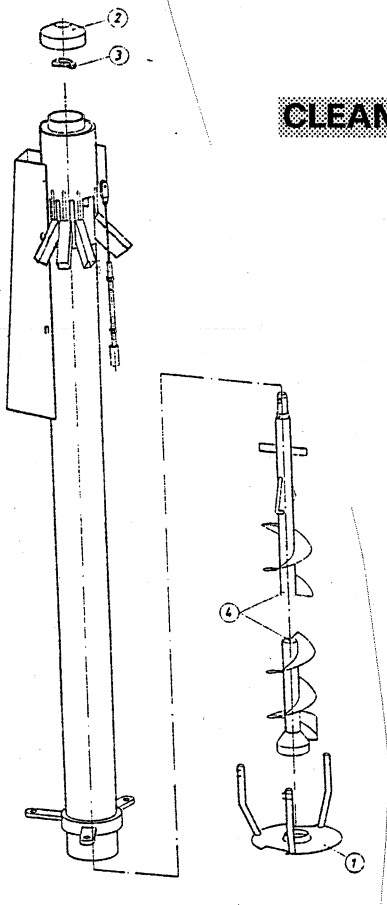
Should you require to tow a trailer, the delivery hoses must be pulled out of the delivery tubes and the mounting frame must be removed.

Before travelling, check that the securing bolts on the mounting frame side sections are properly engaged and that the bolt in the spreader mouth is secured!

SPREADING



When spreading, the mounting frame is folded down completely and locked with the securing bolt.

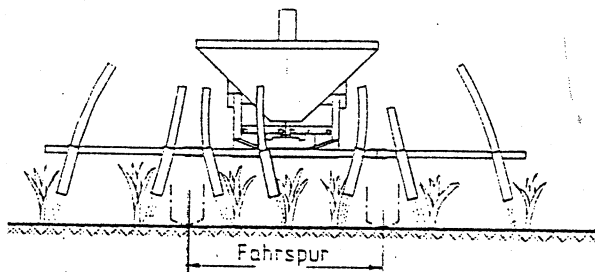


CLEANING AND LUBRICATING

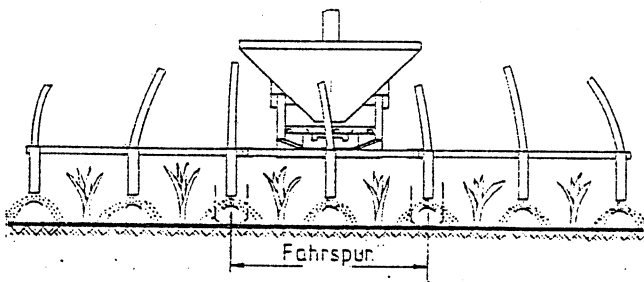
For cleaning, the row fertilising attachment should be detached from the spreader and the baseplate (1) removed (3 pins). Remove the upper plastic cap (2) and the circlip (3).

The auger (4) can now be withdrawn downwards. Before reassembly, grease the auger upper bearing housing and the hole for the agitator shaft.

SPREADING EXAMPLES



Spreading on to the plant rows WITHOUT using distributor plates.



Spreading between the plant rows WITH the distributor plates in place.

SPREADING ON LESS THAN 7 ROWS

Should you wish to fertilise less than 7 rows, the redundant hoses should be routed back into the hopper. (If necessary attach shortened hoses so that the fertilizer can return unimpeded into the hopper.)

RFZ CALIBRATION CHART FOR USE WITH MDS AND ZSB

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
C.A.N.	5,25 m	300 U/min	kg/min***																							
			km/h																							
			6	24	62	99	137	179	221	263	305	348	390	451	511	572	606	640	674	708	742	776				
			8	18	46	75	103	134	166	197	229	261	292	338	383	429	454	480	505	531	556	582				
10	14	37	60	82	107	133	158	183	209	234	270	307	343	364	384	404	425	445	466							
12	12	31	50	69	90	110	131	153	174	195	225	256	286	303	320	337	354	371	388							

*** Calibration quantity per minute

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
C.A.N.	5,25 m	540 U/min	kg/min***																							
			km/h																							
			6	36	93	149	206	275	343	412	473	533	594	657	721	784	834	884	934	984	1034	1084				
			8	27	69	112	154	206	257	309	354	400	445	493	540	588	625	663	700	738	775	813				
10	22	56	90	124	165	206	247	284	320	356	394	432	470	500	530	560	590	620	650							
12	18	46	75	103	137	172	206	236	267	297	329	360	392	417	442	467	492	517	542							

*** Calibration quantity per minute

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
UREA	5,25 m	300 U/min	kg/min***																							
			km/h																							
			6	56	121	185	250	311	373	434	489	545	600	641	681	722	738	755	771	788	804	821				
			8	42	90	139	188	233	279	325	367	408	450	480	511	541	554	566	579	591	603	616				
10	34	72	111	150	187	224	260	294	327	360	384	409	433	443	453	463	473	483	493							
12	28	60	93	125	156	186	217	245	272	300	320	341	361	369	377	386	394	402	410							

*** Calibration quantity per minute

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
UREA	5,25 m	540 U/min	kg/min***																							
			km/h																							
			6	65	141	218	294	381	469	556	622	688	754	828	901	975	1015	1056	1096	1136	1176	1216				
			8	49	106	163	220	286	351	417	466	516	565	621	676	731	762	792	822	852	882	912				
10	39	85	131	176	229	281	334	373	413	452	497	541	585	609	633	657	682	706	730							
12	32	71	109	147	191	234	278	311	344	377	414	451	488	508	528	548	568	588	608							

*** Calibration quantity per minute

The quoted spread-widths and quantities are calculated on an average row spacing of 75 cm. For wider or narrower spacings, adjust the rate up or down in proportion. If less than 7 rows are used, the quantity spread is reduced in proportion to the working width, so that kg/ha stays constant.

CALIBRATION CHART FOR USE WITH ZSA AND ZSN

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
C.A.N.	5,25 m	300 U/min	kg/min***																							
			km/h																							
			6	30	77	124	171	224	276	328	381	435	488	541	595	648	707	766	825	884	943	1002				
			8	22	58	93	129	168	207	246	286	326	366	406	446	486	530	574	619	663	707	751				
			10	18	46	74	103	134	165	197	229	261	293	325	357	389	424	460	495	530	566	601				
12	15	38	62	86	112	138	164	191	217	244	271	297	324	353	383	412	442	471	501							

*** Calibration quantity per minute

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
C.A.N.	5,25 m	540 U/min	kg/min***																							
			km/h																							
			6	46	102	158	214	303	391	480	559	637	716	789	863	936	997	1058	1119	1180	1241	1302				
			8	34	76	118	160	227	293	360	419	478	537	592	647	702	748	793	839	885	931	976				
			10	28	61	95	128	182	235	288	335	382	430	474	518	562	598	635	671	708	745	781				
12	23	51	79	107	151	196	240	279	319	358	395	431	468	498	529	559	590	620	651							

*** Calibration quantity per minute

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
UREA	5,25 m	300 U/min	kg/min***																							
			km/h																							
			6	60	131	203	274	345	417	488	551	615	678	726	774	822	843	864	885	906	927	948				
			8	45	98	152	205	259	312	366	413	461	508	544	580	616	632	648	664	679	695	711				
			10	36	79	122	164	207	250	293	331	369	407	436	464	493	506	518	531	544	556	569				
12	30	66	101	137	173	208	244	276	307	339	363	387	411	421	432	442	453	463	474							

*** Calibration quantity per minute

Fertiliser type	Spread width	PTO speed	Quantity (kg/ha)																							
			6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
UREA	5,25 m	540 U/min	kg/min***																							
			km/h																							
			6	68	155	243	330	421	511	602	688	774	860	931	1003	1074	1116	1158	1200	1242	1284	1326				
			8	51	116	182	247	315	383	451	516	580	645	698	752	805	837	868	900	931	963	994				
			10	41	93	146	198	252	307	361	413	464	516	559	602	644	670	695	720	745	770	796				
12	34	78	121	165	210	256	301	344	387	430	466	501	537	558	579	600	621	642	663							

*** Calibration quantity per minute

The quoted spread-widths and quantities are calculated on an average row spacing of 75 cm. For wider or narrower spacings, adjust the rate up or down in proportion. If less than 7 rows are used, the quantity spread is reduced in proportion to the working width, so that kg/ha stays constant.