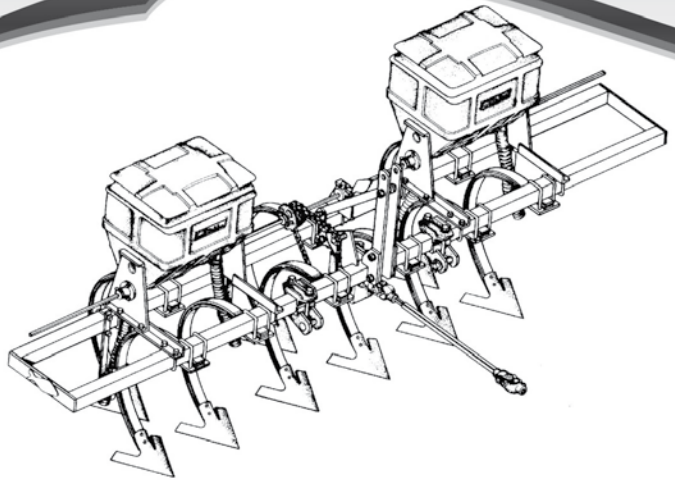
CVAC-N/CTV-N

Coverage Grower And Fertilizer



BIA®

Baldan

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Instruction Manual

INTRODUCTION

We thank you for the preference and congratulate your excellent choice in acquiring an implement of outstanding quality, manufactured in accordance with the advanced technology of ***BALDAN IMPLEMENTOS AGRÍCOLAS S/A***.

This manual will assist you, in proceeds necessaries, since when you bought until the operational proceeds application, security and maintenance.

The ***BALDAN*** guarantees that deliver this implement to the dealer, working properly, and in perfect conditions.

The dealers it's under the responsibility to keep the protection and conservation while keep the implement in your stock, and than, to assembly, tighten, lubrication and overhaul.

On time of the technical deliver, the dealer must to have conducted the user customer about the manutentation, safety, and your obligations in a possible technical assistance, the obligation to see the warranty terms and read the instruction manual. Any solicitation of warranty, please contact our Baldan technical service, by your Baldan dealer that you bought our implement.

Reaffirm the necessity to read carefully of warranty certificate and note all of items from this manual, therefore you will increase the working life of your equipment.

Instruction Manual

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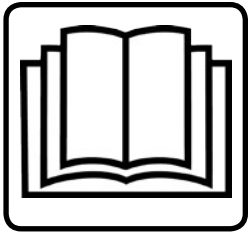
INDEX

01. Safety standards ..... **4 - 8**
02. Components **9**
03. Technical especifications ..... **10 - 11**
05. Dimensions **12**
06. Assembly
Assembly of rods *13*
07. Coupling **14**
Centering the grower *14*
Leveling the grower *15*
Coupling the propeller shaft to the tractor *16*
Length adjustment *16*
08. Adjustments **17**
Table of urea and ammonium sulfate distribution *18*
09. Practical calculation for fertilizer distribution **19**
Practical test to measure the fertilizer amount *19*
10. Operations ..... **20 - 23**
11. Maintenance **24**
Lubrication *24*
Oil change *24*
12. Cleaning **25**
13. Storage **25**
14. Identification ..... **26 - 27**
Notes: *28*

THIS SYMBOL INDICATES IMPORTANT SAFETY WARNING. WHENEVER YOU FIND IT IN THIS HANDBOOK, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE AWARE OF THE POSSIBILITY OF PERSONAL INJURY.

ATTENTION

- ***Read the instruction manual carefully, so you can learn the recommended safety practices.***



ATTENTION

- ***Only start operating the tractor when properly seated and with the safety belt fastened.***

ATTENTION

- ***Do not transport people on the tractor and not in or on the equipment.***

⚠ ATTENTION

- ***Do not operate the tractor if the front is light. With a tendency to rise, add weights on the front of the tractor or front wheels.***

⚠ ATTENTION

- ***There are risks of serious injury by tumbling when working on slopes.***
- ***Do not use excessive speed.***

⚠ ATTENTION

- ***Before performing any maintenance on your equipment, make sure it is turned off. Avoid getting hit.***

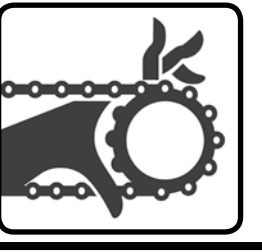
⚠ *ALCOHOL OR DRUGS CAN GENERATE SOME LOSS OF REFLEXES AND CHANGE THE PHYSICAL CONDITIONS OF THE OPERATOR, SO, NEVER OPERATE THIS EQUIPMENT UNDER USE OF THESE SUBSTANCES.*

⚠ ATTENTION

- ***There is risk of possible injury to the mower's operator and other people during cutting operations for the following reasons:***
- ***Contact of body with rotating blades.***
- ***Contact with transmission shafts and rotary shafts.***

⚠ ATTENTION

- ***Do not operate the seed drill if the transmission hoods are not properly fixed.***
- ***Only remove the hoods to make the replacement of gears, put them back immediately.***
- ***When doing any work in the machine transmission, turn the ratchets off.***
- ***Do not make adjustments with the machine in motion.***



WARNING

THE MISMANAGEMENT OF THIS EQUIPMENT CAN RESULT IN SERIOUS OR FATAL ACCIDENTS. BEFORE PLACING THE EQUIPMENT IN OPERATION, CAREFULLY READ THE INSTRUCTIONS IN THIS HANDBOOK. MAKE SURE THAT THE PERSON RESPONSIBLE FOR THE OPERATION IS INSTRUCTED ON THE PROPER AND SAFE HANDLING, IF HE HAS READ AND UNDERSTOOD THE HANDBOOK OF THIS PRODUCT.

01- ⚠ **When operating the equipment, do not allow people to stay very close or on it.**

02- ⚠ **In making any assembling and disassembling service in the discs, always use safety gloves.**

03- ⚠ **Do not wear loose clothing as they can become entangled in moving parts.**

04- ⚠ **When turning the tractor engine on, be properly seated on the operator's seat and aware of the correct and safe management of both tractor and implement. Always put the selector lever in neutral, turn off the power take-off command and place the hydraulic commands in the neutral position.**

05- ⚠ **Do not run the engine in indoor environments without adequate ventilation, as the exhaust fumes are harmful to health.**

06- ⚠ **When maneuvering the tractor to the implement hitch, make sure that there is plenty of room and that there is nobody very close, always do the maneuvers in low gear and be prepared to brake in emergency situations.**

07- ⚠ **Do not make adjustments with the implement in operation.**

08- ⚠ **When working on slopes, proceed with caution when trying to maintain the necessary stability. In case of unbalance, reduce the throttle and turn the wheels of the tractor to the side of the slope.**

09- ⚠ **Always drive the tractor at speeds compatible with safety, especially when working on uneven ground or slopes. Keep the tractor always engaged.**

10- ⚠ **When driving on roads, keep the tractor brake pedals interconnected and use safety signs.**

11- ⚠ **Do not operate the tractor if the front is light. If there is a tendency to rise, add weights on the front or front wheels.**

12- ⚠ **Leaving the tractor, put the shifter in neutral and apply the parking brake.**

13- ⚠ **Alcoholic beverages and some medications can cause loss of reflexes and change the physical conditions of the operator. Therefore, never operate this equipment, under the influence of these substances.**

14- ⚠ **Read or explain all the procedures above to the operator who cannot read.**

COVERAGE GROWER AND FERTILIZER - CVAC-N / CTV-N

02. COMPONENTS

01 - Frame
02 - Flexible rod
03 - Hoe
04 - Fertilizer tank
05 - Shaft
06 - Gears
07 - Chain
08 - Chain tensioner
09 - Hose
10 - Reduction gear
11 - Hydraulic coupling
12 - Coupling plate
13 - Propeller shaft

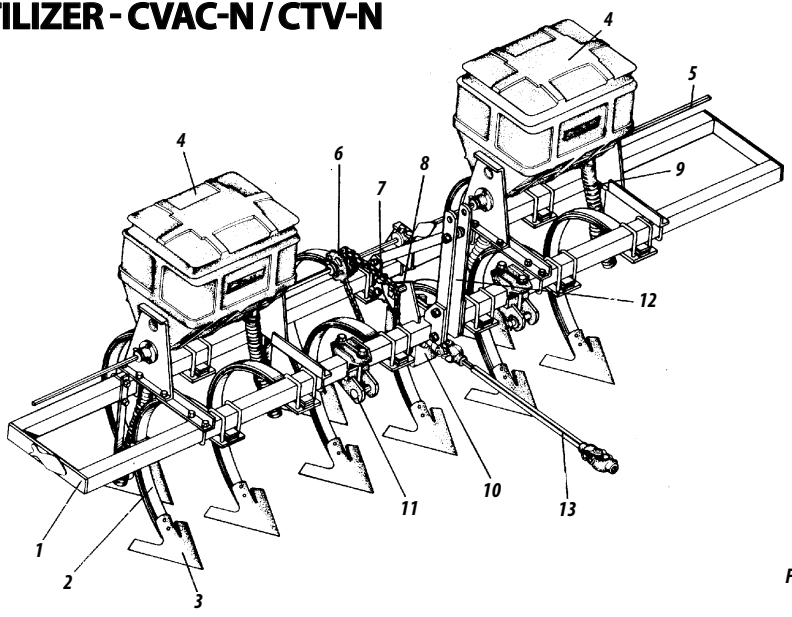


Figure 1

03. TECHNICAL ESPECIFICATIONS

Table 1

Model	No. of Hoes	No. of Tanks	Clearance (mm)	Frame width (mm)	Size of Hoes	Tank capacity (L)	Approx. weight (Kg)	Required Tractor Power (Hp)
CVAC-N	6	2	660	2250	8" - 10"	100	300	40 - 51
CVAC-N	7	2	660	2900	8" - 10"	100	355	51 - 57
CVAC-N	9	2	660	2900	8" - 10"	100	380	51 - 66
CVAC-N	9	3	660	2900	8" - 10"	100	416	51 - 66
CVAC-N	9	2	660	3300	8" - 10"	100	398	51 - 66
CVAC-N	9	3	660	3300	8" - 10"	100	434	51 - 66
CVAC-N	10	3	660	3300	8" - 10"	100	446	51 - 75
CVAC-N	10	3	660	3650	8" - 10"	100	457	51 - 75
CVAC-N	11	3	660	3300	8" - 10"	100	458	51 - 75
CVAC-N	11	3	660	3650	8" - 10"	100	469	51 - 75
CVAC-N	13	3	660	3650	8" - 10"	100	493	65 - 85
CVAC-N	13	4	660	3650	8" - 10"	100	528	65 - 85
CVAC-N	13	4	660	4200	8" - 10"	100	557	65 - 85
CVAC-N	13	3	660	4200	8" - 10"	100	530	65 - 85
CVAC-N	15	3	660	4200	8" - 10"	100	558	70 - 91
CVAC-N	15	5	660	4200	8" - 10"	100	621	70 - 91
CVAC-N	15	4	660	4200	8" - 10"	100	586	70 - 91
CVAC-N	16	5	660	4500	8" - 10"	100	605	70 - 91
CVAC-N	19	3	660	5500	8" - 10"	100	635	70 - 91
CVAC-N	19	6	660	5500	8" - 10"	100	695	70 - 91

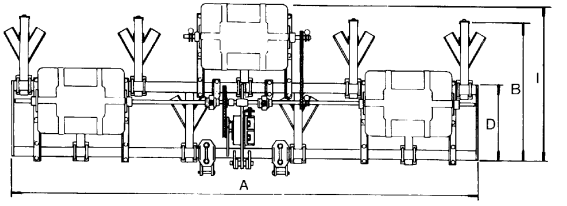
04. TECHNICAL ESPECIFICATIONS

Table 2

Model	No. of Hoes	Clearance (mm)	Frame width (mm)	Size of Hoes	Approx. weight (Kg)	Required Tractor Power (Hp)
CTV-N	7	660	2250	8”- 10”	230	40 - 51
CTV-N	9	660	2900	8”- 10”	294	40 - 51
CTV-N	9	660	3300	8”- 10”	311	40 - 51
CTV-N	10	660	3300	8”- 10”	325	51 - 57
CTV-N	11	660	3300	8”- 10”	338	51 - 57
CTV-N	11	660	3650	8”- 10”	348	51 - 57
CTV-N	13	660	3650	8”- 10”	374	51 - 57
CTV-N	13	660	4200	8”- 10”	397	55 - 66
CTV-N	15	660	4200	8”- 10”	425	55 - 75
CTV-N	16	660	4500	8”- 10”	445	75 - 85
CTV-N	19	660	5500	8”- 10”	516	75 - 85

The Baldan reserves the right to change the specifications of this product without prior notice.
The technical specifications are approximate and valid in normal working conditions.

05. DIMENSIONS



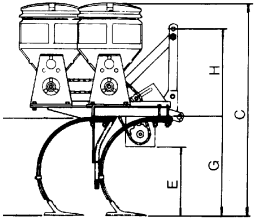


Figure 2

Model	No. of Hoes	A	B	C		D	E	F	G	H	I	
				Single box	Double box						Single box	Double box
CTV-N	7	2250	880	--	--	465	--	700	670	610	--	--
CTV-N	9	2900	880	--	--	465	--	700	670	610	--	--
CTV-N	9/10/11	3300	880	--	--	465	--	700	670	610	--	--
CTV-N	11/13	3700	880	--	--	465	--	700	670	610	--	--
CTV-N	13/15	4200	880	--	--	465	--	700	670	610	--	--
CTV-N	16	4600	880	--	--	465	--	700	670	610	--	--
CTV-N	19	5500	880	--	--	465	--	700	670	610	--	--
CVAC-N	6/7	2250	880	1450	1550	450	500	700	670	610	850	950
CVAC-N	9	2900	880	1450	1550	450	500	700	670	610	850	950
CVAC-N	9/10/11	3300	880	1450	1550	450	500	700	670	610	850	950
CVAC-N	10/11/13	3700	880	1450	1550	450	500	700	670	610	850	950
CVAC-N	13/15	4200	880	1450	1550	450	500	700	670	610	850	950
CVAC-N	16	4600	880	1450	1550	450	500	700	670	610	850	950
CVAC-N	19	5500	880	1450	1550	450	500	700	670	610	850	950

Table 3

06. ASSEMBLY

01 - Check the parts with the parts list that is inside the packing box.

02 - The simplest and safest process to assemble the grower is the use of racks or the like.

03 - Assemble the frame Item 1 Figure 03, the coupling plates of the 3rd point Item 2with screws Item 3.

04 - Insert the adjustment arm item 4 between the coupling plates item 2 and fix with the screw Item 5, fix also the frame with the screw Item 6.

05 - Attach the top bracket item 8 through the clamp item 9, nut item 10 in frame item 1. The dimension between the lower couplings must be according to the tractor that will pull the grower, these dimensions should be:

- Tractor Cat I = 685 mm
- Tractor Cat II = 826 mm

ASSEMBLY OF RODS

01 - The rods must be assembled according to the spacing of the crop to be grown.

02 - Make the marking on the frame where the rods will be assembled, then place the flexible support item 11 clamps item 12 and fix with nuts item 13.

03 - For CVAC-N, put the hose support item 14 on the frame and fix it with the clamp item 18.

04 - Place the hoses in item 16 item in the tank outputs item17 fixing them with the clamp item 18. Put the hoses in brackets item 14.

05 - Be careful to leave the hose brackets behind the rods, this will facilitate the fertilizer distribution behind and beside the hoes.

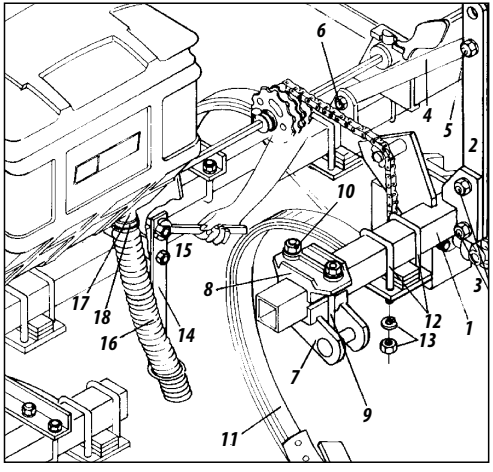


Figure 3

07. COUPLING

01 - Engage the lower left arm of the tractor with the coupling pin item 1, figure 04 on the bracket "A" of the grower.

02 - Engage the 3rd point of the tractor in support "B" of the grower.

03 - Finally and with the aid of the height adjustment lever "D", engage the lower right arm of the tractor in support "C" of the grower.

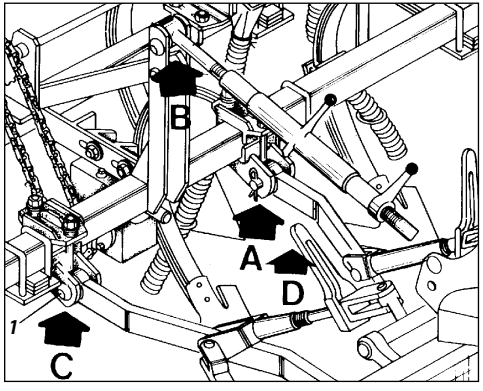


Figure 4

CENTERING THE GROWER

01 - To center the grower in relation to the longitudinal axis of the tractor, proceed as follows:

02 - Align the top hitch of the grower with 3rd point of the tractor, checking if the distances "D" of the lower arms of the hydraulic are equal in relation to tractor tires as shown in figure 05. The lower arms must be leveled with each other.

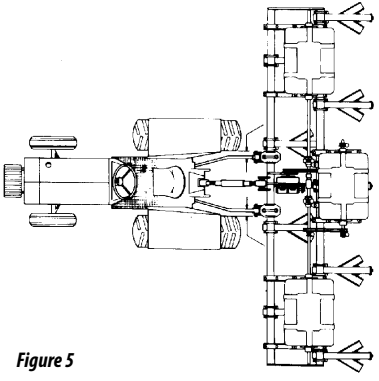


Figure 5

LEVELING THE GROWER

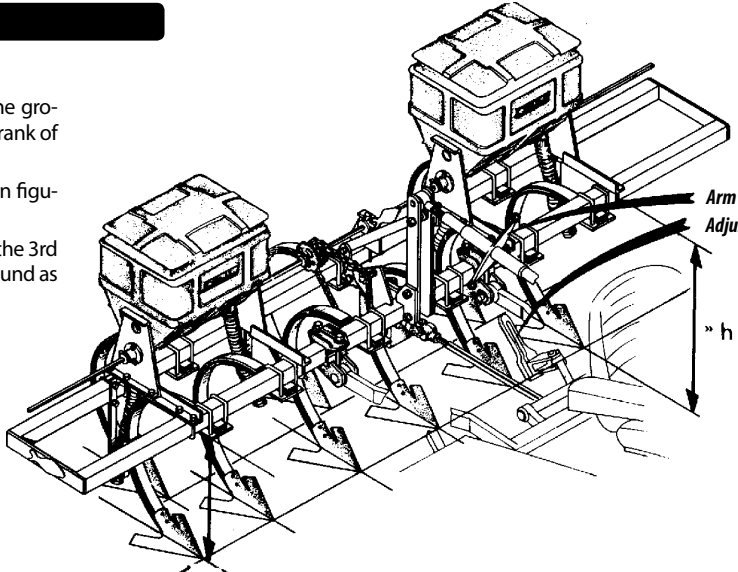
- To level the grower, proceed as follows:

01 - The tractor should be on level ground, then, level the grower in the transverse direction (width) through the crank of the right lower arm of the hydraulic coupling.

02 - Observe that the measures "h" should be as shown in figure 06.

03 - Longitudinal leveling (length) is made by the arm of the 3rd point. Note that the rods should be parallel to the ground as shown in figure 06.

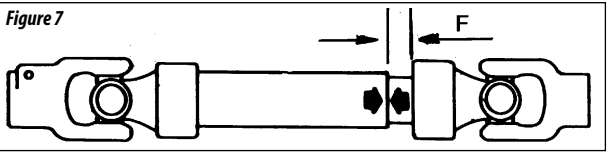
Figure 6



COUPLING THE PROPELLER SHAFT TO THE TRACTOR

01 - After coupling the grower to the 3 points of the tractor, centralize and level it, check clearance "F" in the telescopic shaft of figure 07, which should be at least 20mm. If there is clearance, adjust the length of the propeller shaft.

Figure 7



LENGTH ADJUSTMENT

01 - To adjust the length, cut proportionally the two parts of the propeller shaft.

02 - Wipe burrs off.

03 - When assembling the propeller shaft, observe the alignment of the fork inner ears to avoid vibration and prolong the life of your implement, as shown in figure 07.

04 - Connect the propeller shaft to the grower gearbox, and use the key and cotter pin.

05 - When connecting the propeller shaft to the tractor PTO, the tractor must be with the engine off and the parking brake applied.

06 - Connect the flange (cooled side) on the output shaft of the tractor PTO, as Figure 08. Note that the coupling will only be completed when the latch looses.

07 - Before connecting the grower, make sure the propeller shaft is free and with the cotter pin.

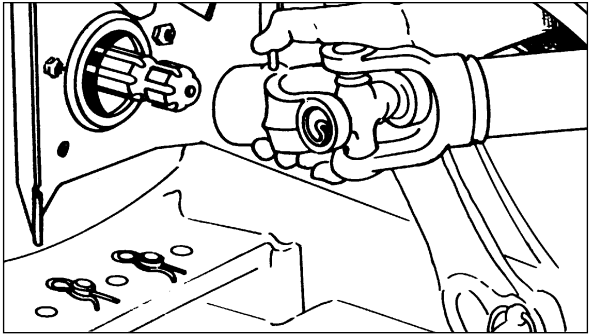


Figure 8

08. ADJUSTMENTS

HOW TO STRETCH THE CHAIN

01 - To stretch the chain, loosen the nut of the stretcher item 1, and slide it up to the desired tension, then retighten the nut item 1, figure 09.

POSITION OF FERTILIZER TANKS

01 - Depending on the spacing, the crop, you can modify the position of the fertilizer tanks, loosen the nuts of the clamps item 2 that hold the tanks item 3 on the frame item 4.

02 - Loosen the screw of lock item 5 that fixes the shaft item 6.

03 - Slide the tanks on the frame and the shaft to the desired position. Slide the latch item 5 and retighten the screw.

04 - Change the position of the hose supports.

ADJUSTMENT THE SPACING BETWEEN RODS

01 - The spacing between rods must be adjusted according to the type of crop to be worked.

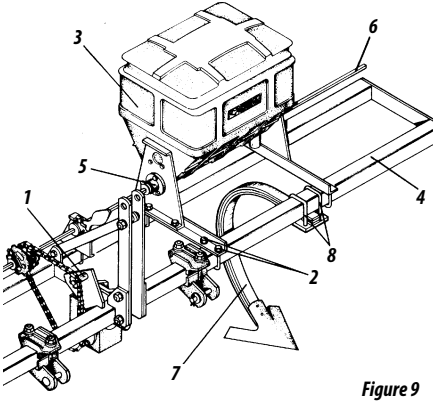


Figure 9

02 - To adjust the spacing, loosen the nuts on the clamps item 8 figure 09, slide the rods item 7 to the desired position. Tighten the nuts of clamp.

FERTILIZER ADJUSTMENT

01 - The fertilizer adjustment is made by changing the reducing shaft gear. The first column of the table indicates the gears to be used for applying different amounts of fertilizer at different spacing between lines.

TABLE OF UREA AND AMMONIUM SULFATE DISTRIBUTION

Gears		Spacing / Grams in 50 mts per line		Amount in kilogram per hectare in the spacings below																	
Motor (Gear)	Moved (Shaft)			400		500		600		700		800		900		1000		1200		1400	
		S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea	S. Amo.	Urea
8	19	348	270	174	134	139	107	116	89	100	77	87	67	77	59	69	54	58	45	50	38
8	17	390	300	195	150	156	120	130	100	111	86	97	75	87	66	78	60	65	50	56	42
8	15	440	340	220	170	176	136	147	113	126	97	110	85	98	75	88	68	73	57	63	48
8	14	470	370	235	185	188	148	157	123	134	106	117	92	104	82	94	74	78	62	67	53
8	13	500	400	250	200	200	160	167	133	143	114	125	100	111	89	100	80	83	67	71	57
8	12	530	430	265	215	212	172	177	143	151	123	132	107	118	95	106	86	88	72	76	61
10	15	560	460	280	230	224	184	187	153	160	131	140	115	124	102	112	92	93	77	80	66
10	14	590	490	295	245	236	196	197	163	169	140	147	122	131	109	118	98	99	82	84	70
10	13	620	520	310	260	248	208	207	173	177	149	155	130	138	115	124	104	103	87	88	74
10	12	650	550	325	275	260	220	217	183	186	157	162	137	144	122	130	110	108	92	93	78
12	15	670	580	335	290	268	232	223	193	191	166	167	145	145	129	134	116	112	97	96	83
12	14	730	620	365	310	292	248	243	207	209	177	182	155	162	138	146	124	122	103	104	88
12	13	790	660	395	330	316	264	263	220	226	189	197	165	175	147	158	132	132	110	113	94
12	12	850	700	425	350	340	280	283	233	243	200	212	175	189	155	170	140	142	117	121	100
12	10	910	740	455	370	364	296	303	247	260	211	227	185	202	164	182	148	152	123	130	106
14	10	1050	850	525	425	420	340	350	283	300	243	262	212	233	189	210	170	175	142	150	121
12	8	1050	950	575	475	460	380	389	317	329	271	287	237	255	211	230	190	192	158	164	136
14	8	1250	1050	625	525	500	420	417	350	357	300	312	262	278	233	250	210	208	175	179	150
15	8	1350	1150	675	575	540	460	450	383	386	329	337	287	300	255	270	230	225	192	193	164

OBS.: To fertilize both sides of the plant at one time (e.g. sugar cane), multiply the amount shown in table by two.

NOTE

To fertilize both sides of the plant at one time, multiply the amount shown in table by two.

Example:
To distribute 111 kg/ha of ammonium sulfate, with spacing of 900 mm, assemble the 8-teeth gears on the 13-teeth reducer on the shaft.

09. PRACTICAL CALCULATION FOR FERTILIZER DISTRIBUTION

- To perform the calculation, proceed as follows:

01 - Determine the spacing between lines and know the amount of fertilizer to be distributed per (Ha).

- Example: CVAC with spacing of 900 mm to distribute 111 kg of ammonium sulfate per hectare, use the formula below:

Formula Data:

E = Spacing between lines (mm)
Q = Amount of fertilizer to be distributed [kg]
A = Area to be fertilized [m^2]
D = Distance of 50 meters (test)
X = Grams of fertilizer in 50 meters

- ***Solve***

$$X = \frac{E \times Q}{A} \times D \qquad X = 9{,}99 \times 50$$

$$X = \frac{900 \times 111}{10.000} \times 50 \qquad X = 499{,}50 \text{ grams in 50 meters}$$

PRACTICAL TEST TO MEASURE THE FERTILIZER AMOUNT

01 - For greater accuracy in the fertilizer or seed distribution, do the test to find the amount to be distributed on the planting site, because for each type of soil, there is a different condition.

02 - Check the test distance in the table, we chose 50 linear meters.

03 - Fill the seed tanks at least halfway. Run at least 10 meters outside the testing area, so that the seeds and fertilizer fill the feeders.

04 - Put containers at the fertilizer output. Move the tractor to the demarcated area always at the same for fertilizing.

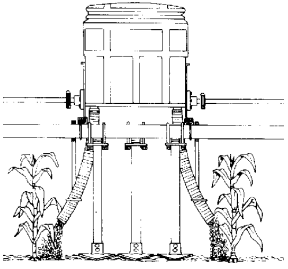
05 - After running along the demarcated area, remove the recipient from the fertilizer output and weight it and compared with the table in the second column (grams per line in 50 meters). If necessary, exchange gears.

10. OPERATIONS

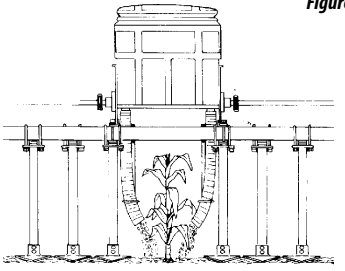
01 - Fertilization System.

02 - Figure 10 on the following pages show the assembly and the operation systems for each grower model, which may have other forms of assemblage depending on the type of crop to be cultivated.

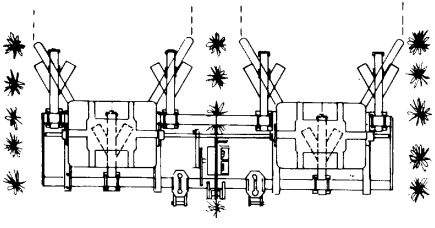
Figure 10



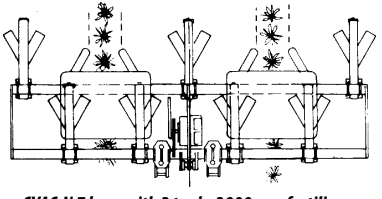
Fertilization system on one side of the plant



Fertilization system on both sides of the plant

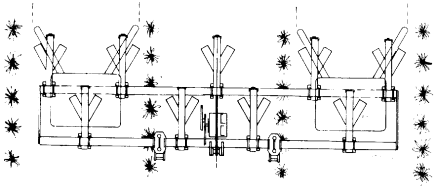


CVAC-N 6 hoes with 2 tanks 2900 mm fertilizes the 2 sides of the plant

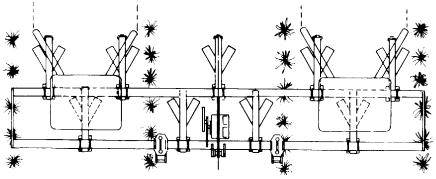


CVAC-N 7 hoes with 2 tanks 2900 mm fertilizes the 2 sides of the plant

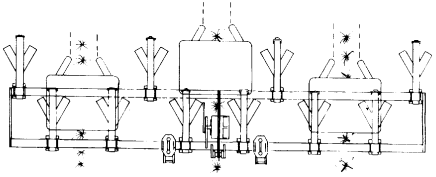
Figure 10



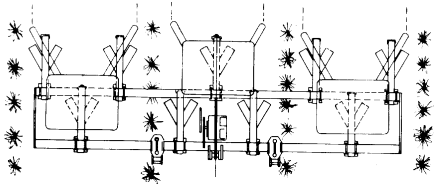
CVAC 9 hoes with 2 tanks 2900 mm fertilizes one 2 sides of the plant



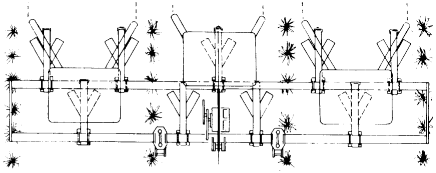
CVAC 9 hoes with 2 tanks 3300 mm fertilizes one 2 sides of the plant



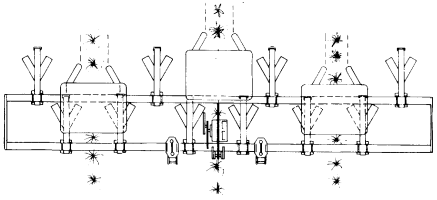
CVAC 10 hoes with 3 tanks 3300 mm fertilizes one 2 side of the plant



CVAC 9 hoes with 2 tanks 2900 mm fertilizes one 2 sides of the plant

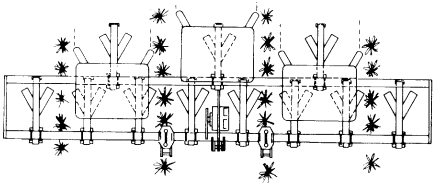


CVAC 9 hoes with 2 tanks 3300 mm fertilizes one 2 sides of the plant

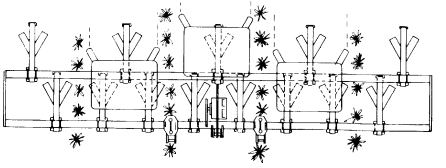


CVAC 10 hoes with 3 tanks 3700 mm fertilizes one 2 sides of the plant

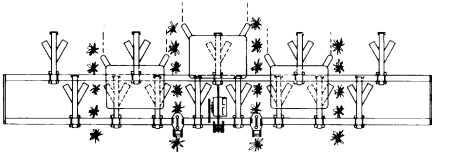
Figure 10



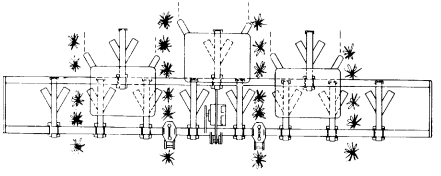
CVAC 10 hoes with 3 tanks 3300 mm fertilizes one 2 side of the plant



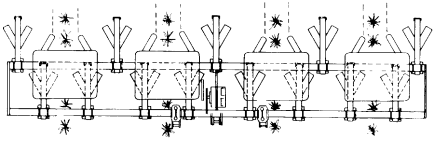
CVAC 13 hoes with 3 tanks 3700 mm fertilizes one 2 sides of the plant



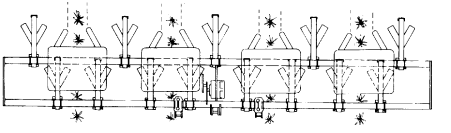
CVAC 13 hoes with 3 tanks 4200 mm fertilizes one 2 sides of the plant



CVAC 11 hoes with 3 tanks 3700 mm fertilizes one 2 sides of the plant

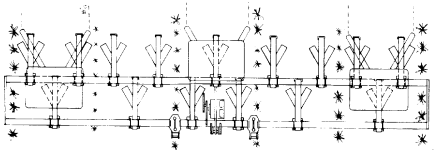


CVAC 13 hoes with 4 tanks 3700 mm fertilizes one 2 sides of the plant

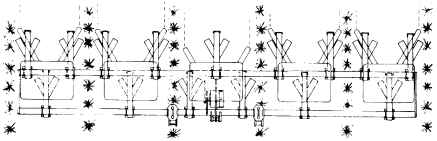


CVAC 13 hoes with 4 tanks 4200 mm fertilizes one 2 sides of the plant

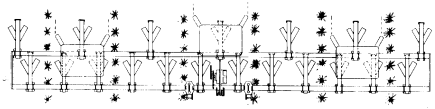
Figure 10



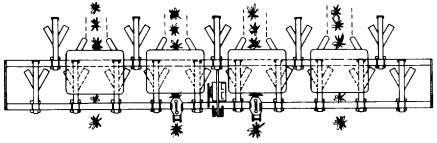
CVAC 15 hoes with 3 tanks 4200 mm fertilizes one 1 side of the plant



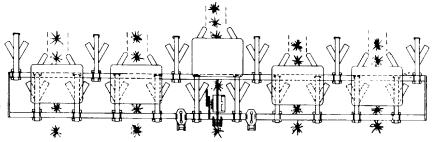
CVAC 15 hoes with 5 tanks 4200 mm fertilizes one 2 sides of the plant



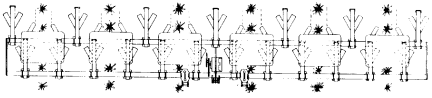
CVAC 19 hoes with 3 tanks 5500 mm fertilizes one 1 side of the plant



CVAC 15 hoes with 4 tanks 4200 mm fertilizes one 2 sides of the plant



CVAC 16 hoes with 5 tanks 4600 mm fertilizes one 2 sides of the plant



CVAC 19 hoes with 6 tanks 5500 mm fertilizes one 2 sides of the plant

ATENTTION

The implement should not be lifted completely with the PTO on. To transport or carry out any maintenance, keep the PTO shaft off. When operating with the grower, do not allow people to stay near or on the implement.

11. MAINTENANCE

LUBRICATION

01 - Lubrication is essential for optimal performance and durability of moving parts of your disc harrow.

02 - Before start working, carefully lubricate all grease fittings, always observing re-lubrication intervals, making sure about the quality of the lubricant, as its efficiency and purity, avoiding the use products contaminated by water, dirt, etc.

03 - Before lubricating wipe all grease fittings with a clean, lint-free cloth and replace those that are damaged, if any.

04 - Lubricate all grease fittings every 8 hours of work.

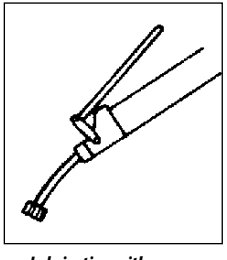
OIL CHANGE

01 - Check the oil level in the gearbox figure 12 daily, and complete as necessary. Change the oil every 1500 hours of work, always using SAE 90 mineral oil.

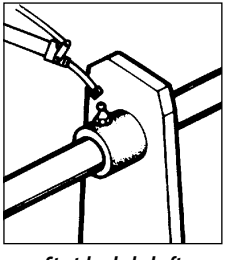
02 - When a particular brand of oil is in use, avoid completing the oil level with another brand and other specification.

03 - Lubrication points.

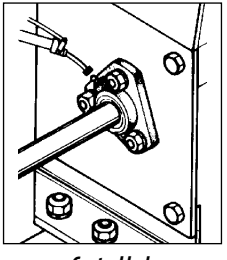
Figures 11



Lubrication with grease

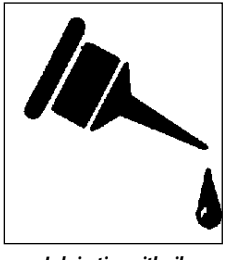


Stretcher hub shaft



Central hub

Figure 12



Lubrication with oil

12. CLEANING

01 - When assembling or disassembling any part of the grower, use appropriate methods and tools.

02 - When the disc harrow remains inactive for an extended period, make a general cleaning, make sure the cover is not worn out. If so, apply a general coat, protective oil and lubricate the disc harrow completely.

03 - To clean the tanks, rotate the shaft until all the fertilizer comes out.

04 - Remove the internal parts of the tanks and do a general cleaning of parts.

05 - Check the PVC channel at the bottom of the tank, if it is worn, replace it.

06 - Make the cleaning in the tanks, sweeping or washing the internal parts, remove the hose and wash them with water, replace them again.

07 - When assembling the internal parts of the tank, observe the correct assembly of the channel because the fertilizer outlet holes, both the channel and the tank must match.

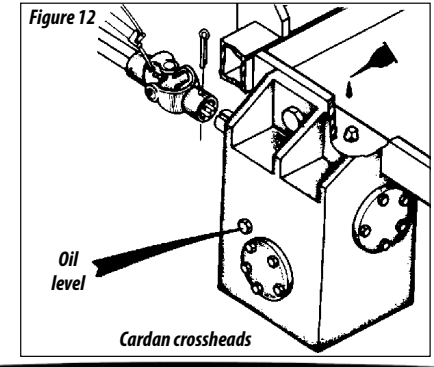


Figure 12

13. STORAGE

01 - At the end of each work, the plow should be cleaned and inspected, checking for worn or broken parts. Apply a layer of oil on all surfaces that may present or drying or corrosion.

02 - Check the entire plow and paint it when necessary. Store in a flat surface in a protected location away from animals and children.

14. IDENTIFICATION

- In order to refer parts catalogues or apply technical support from Baldan, always indicate model (1), serial number (2), manufacture date (3) located on the identification tag.

ALWAYS REQUIRE BALDAN ORIGINAL PARTS

MARKETING
EDITING CATALOGS AND MANUALS

Code: 6055020145-6
Revision: 01
CPT: CVACN15016

ATTENTION

The drawings in these instructions are merely illustrative.

CONTACT

*In case of doubt **do not** operate the equipment, please contact our **After-sales Service.***
Phone: 0800-152577
e-mail: export@baldan.com.br

PRODUCT IDENTIFICATION

- Do the identification below to always have the properly informations about your equipment life time.

Owner: _____

Dealer: _____

Farm: _____ *City:* _____ *Country:* _____

Model: _____

Warranty Number: _____ *Serial Number:* _____

Purchase Date: _____ / _____ / _____ *Invoice Number:* _____

NOTES:

6 0 5 5 0 2 0 1 4 5 6

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