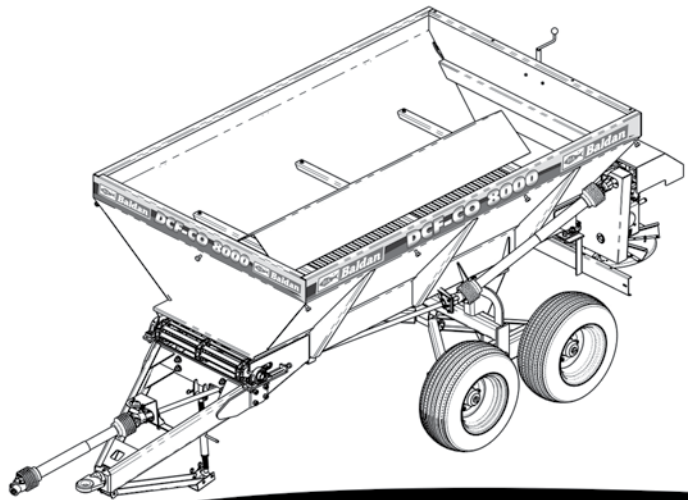


INSTRUCTION MANUAL



**Lime and Organic
Fertilizer Spreader**
DCF-CO 3000 / 6000 / 8000

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 necessities, 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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01 - SAFETY RULES

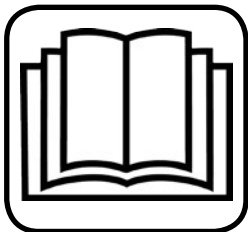


THIS ALERT SYMBOL INDICATES IMPORTANT SAFETY NOTES. WHENEVER YOU FIND IT IN THIS MANUAL, READ THE MESSAGE WITH ATTENTION TO AVOID ANY ACCIDENT.



WARNING

- *Read this instruction manual carefully to know the recommended safety rules.*



WARNING

- *Only start the tractor operations, when are you properly accommodated and with the seat belt fasted.*



WARNING

- *Never carry people over the tractor or equipment.*





WARNING

- *There are risks of serious injury by tipping when working on slopes.*
- *Never use excessive speed.*



WARNING

- *Before any equipment maintenance, make sure that is properly stopped.*
- *Avoid getting hit*



WARNING

- *Do not regulate the machine moving.*
- *To do any service on machine transmission, stop the engine.*



ALCOHOL AND DRUGS MAY GENERATE LOSS OF REFLEX AND CHANGING OF OPERATOR FISCAL CONDITIONS. SO DO NOT WORK WITH THIS EQUIPMENT, IN USE OF THIS SUBSTANCE.



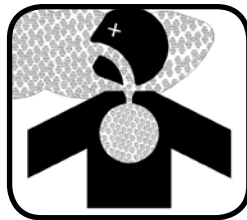
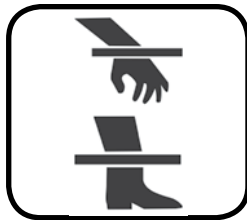
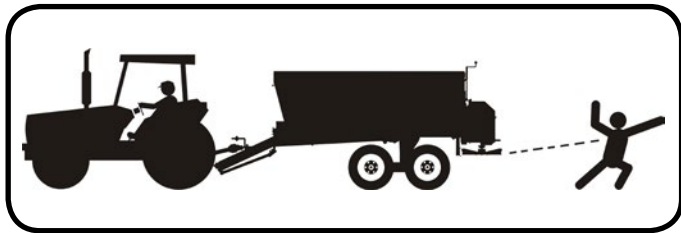
WARNING - (ROTATIVE DISCS KEEP OUT)

To avoid intoxication, injuries or death when the equipment it's working and the rotative discs it's spin round.

- *Stop the equipment, if has people less than 50 meters.*
- *Not exposed to the deriva of product.*

- *Never place hands or feet on rotative discs.*

- *Not be exposed to the air that come out of rotative discs.*
- *Make use of protection.*



ALCOHOL AND DRUGS MAY GENERATE LOSS OF REFLEX AND CHANGING OF OPERATOR FISICAL CONDITIONS. SO DO NOT WORK WITH THIS EQUIPMENT, IN USE OF THIS SUBSTANCE.



WARNING

The mismanagement of this equipment can result in serious or fatal accidents. Before placing equipment in operation, carefully read the instructions in this manual. Make sure that the person responsible for the operation is instructed on the proper handling, insurance if you have read and understood the instruction manual for this product.

- 01- **!** When operating the equipment make sure that nobody remains closer, inside or over the same.
- 02- **!** Before start the work, make sure that has nobody in front of the spreaders.
- 03- **!** Before you start the tractor engine, be firmly seated and sure you know the operation of both, tractor and implement. Make sure the gear lever is in the neutral position, the P.T.O. drive is disengaged, and that the hydraulic lever command is also in the neutral position.
- 04- **!** Do not start the tractor engine indoors without adequate ventilation, the exhaust gases are harmful to health.
- 05- **!** To verify anything inside the hopper, never rest on spreaders discs.
- 06- **!** Never do regulations with the spreader working.
- 07- **!** Do not use baggy clothes that can twist to the machine.
- 08- **!** Driving the tractor on roads keep the break pedals connected and make use of safety light.
- 09- **!** When operating on sloping land in contours, proceed carefully always keep the machine stability. In case of instability initiation, reduce speed turn the tractor hill downwards and lever lift the implement.

- 10- **⚠** Always drive the tractor at a safety complatible speed, especially in the work in rough terrain or inclines. Always keep the tractor hooked up.
- 11- **⚠** When you leave the tractor, make sure that the gear is in the neutral position, and the parking breaks applied.
- 12- **⚠** Driving the tractor on roads keep the break pedals connected and make use of safety light.
- 13- **⚠** Never get in the hopper when it is taken with the power turned on.
- 14- **⚠** Never stay in front of the spreaders.
- 15- **⚠** Never be closer of spreader discs when it´s moving.
- 16- **⚠** Never take off the spreader protection.
- 17- **⚠** Alcoholic beverages and some medications can cause loss of reflexes and change the operator's physical conditions. Therefore, never operate this equipment under the influence of these substances.
- 18- **⚠** Read or explain all the procedures above to the operator who cannot read.

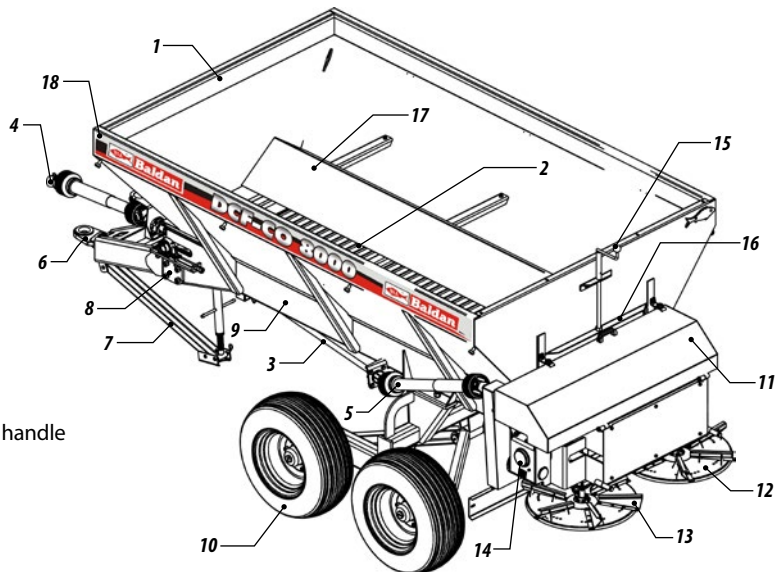
LIME AND ORGANIC FERTILIZER SPREADER - DCF-CO 3000 / 6000 / 8000

Figure 1

02 - COMPONENTS

- 01 - Hopper
- 02 - Molded straw
- 03 - Central axle
- 04 - Front PTO
- 05 - Lateral PTO
- 06 - Jumel Hitch
- 07 - Handle Support
- 08 - Streght of Belt
- 09 - Frame
- 10 - Tire
- 11 - Transmition protection
- 12 - Rotative Disc
- 13 - Adjustable flaps
- 14 - Reductor

- 15 - Flood-gate handle
- 16 - Flood-gate
- 17 - Deflector
- 18 - Sticker



03 - TECHNICAL SPECIFICATIONS

Table 1

<i>Model</i>	<i>Load Capacity (m³)</i>	<i>Total length (mm)</i>	<i>Total width (mm)</i>	<i>Total height (mm)</i>	<i>Approx weight (kg)</i>	<i>Standard tires</i>	<i>Optionals tires</i>	<i>Wheel system</i>	<i>Wheel gauge (mm)</i>	<i>Rotation TDP/PTO (RPM)</i>	<i>Required tractor power (hp)</i>
DCFc 3000	1,60	3900	1800	1700	1070	(02) 7,50 x 16	(02) 11L-15	Simples 02	1600	540	50 - 70
DCFc 6000	2,80	4600	2000	1800	1390	(04) 7,50 x 16	(04) 11L-15	Tandem 04	1600	540	75 - 90
DCFc 8000	3,80	4610	2000	1900	1480	(04) 11L-15	-	Tandem 04	1600	540	90 - 100

**Baldan reserves the right to modify any technical specifications without prior notice.
The technical specifications it's approximate and informed by regular conditions of work.**

04 - ASSEMBLING

01 - The spreader DCF-CO 3000, 6000 and 8000 leaves the factory assembled, but without tires that was take off to be easier to be loaded and to be carried.

TIRES ASSEMBLING

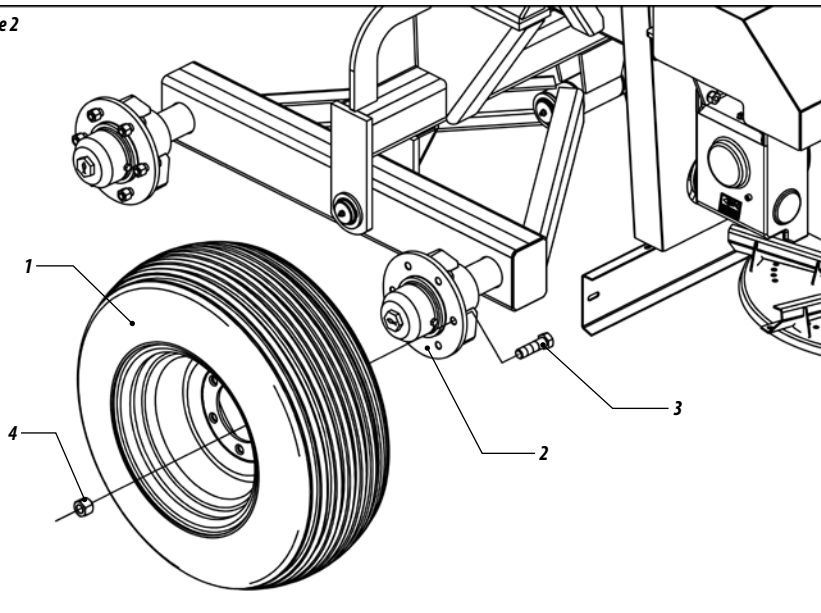
- To do the tires assembling, proceed as follow:
- 02 - Place the tire (1) on hub (2) and tight with bolts (3) and nuts (4).



WARNING

Before to start the assembling, look for a properly place, where give you condition to assemble the tires.

Figure 2



05 - TRACTOR CLAMP

- Before to clamp the DCF-CO to the tractor, make sure about the tractor it's ready to the work, notice about the follow itens:

01 - Check if does the tractor has a weight kit in front of it or front or back wheels, this will give more traction and stability to the tractor on soil.

- Clamping the DCF-CO, proceed as follow:

02 - Put on the same level the head arm (1) of DCF-CO to the tractor clamp by the regulator (2).

03 - After that, come close slowly the tractor to the DCF-CO reverse gear, watching the breaks application. Finally, clamp the DCF-CO to the tractor stick on by the clamp pin (3) and key bolt (4).

04 - After the DCF-CO clamp on tractor traction arm, bring back the holder (5), taking off the pin (6) and key bolt (7) of regulator (2), lift the holder (5) and lock it with the pin (6) and key bolt (7), as shown on Figure 03.

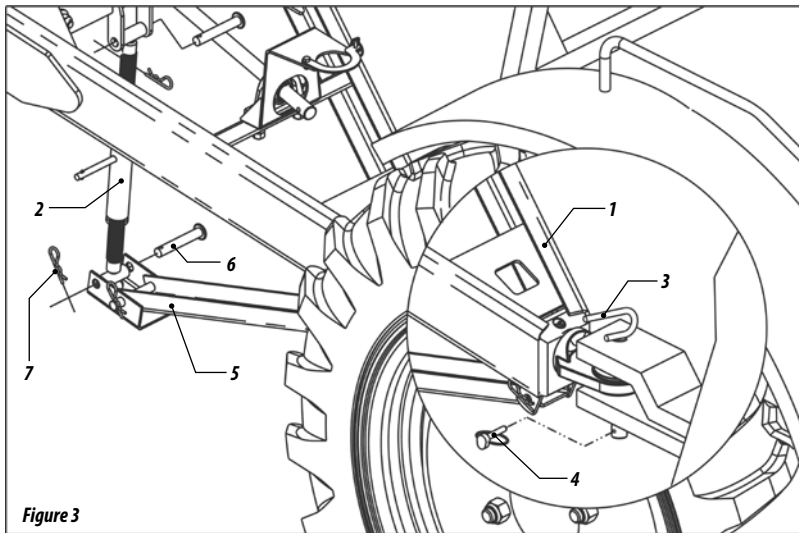


Figure 3



WARNING

When you clamp the DCF-CO, look for a safety place and easy access. Always work with reduce gear with low acceleration.

SPREADER LEVELLING

- To levelling the DCF-CO, proceed as follow:
 - 01 - The tractor must be in a flat place; after that, level the DCF-CO looking by lateral the longitudinal levelling(width) in related the soil.
 - 02 - Otherwise, should be level by tractor clamp arm, to make use of height that do the better levelling of DCF-CO.



WARNING

Read the instruction manual of tractor and make sure about the positions that it's possible to work with traction arm.

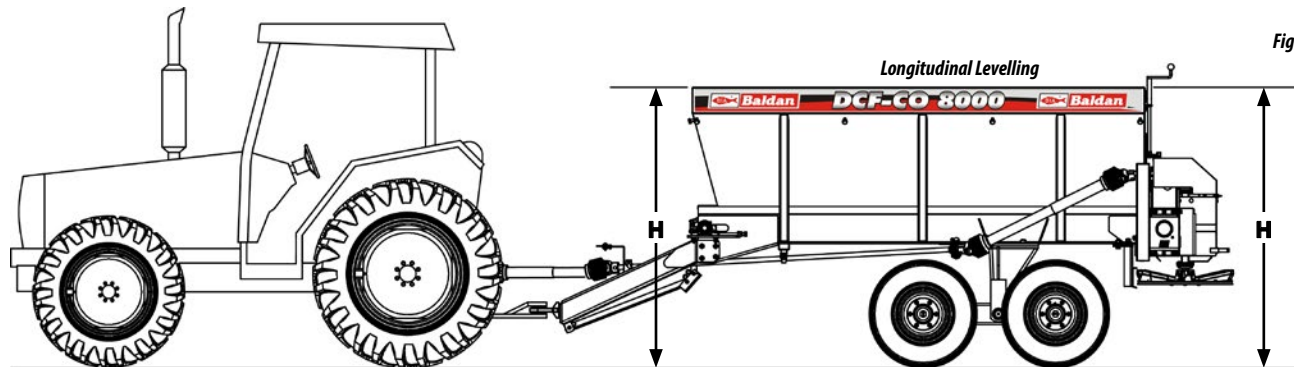


Figure 4

PTO CLAMP TO TDP

- Before the PTO hitch, check the length related to the tractor model that will move the DCF-CO. For that, proceed as follow:
- 01 - Separate the PTO connecting another part on TDP and the other one on axle of DCF-CO. Follow, turn the tractor up to the back tires be closer to the DCF-CO. Place the PTO parts side by side and check if has a minimum loose of 5a 7 cm between "male" and "female", otherwise proceed cutting the PTO as follow on next page.

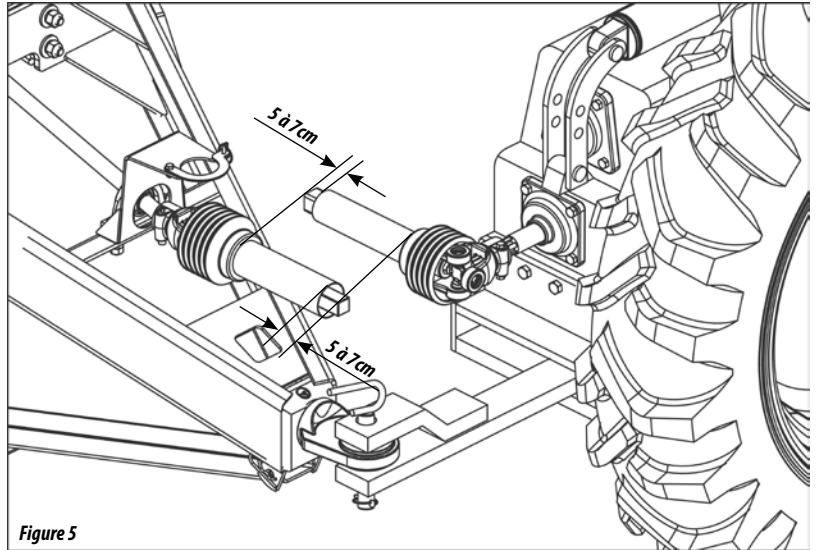
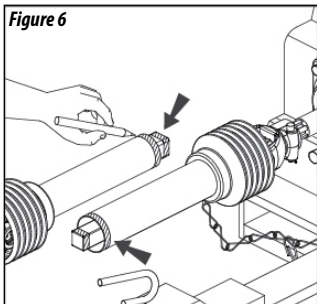


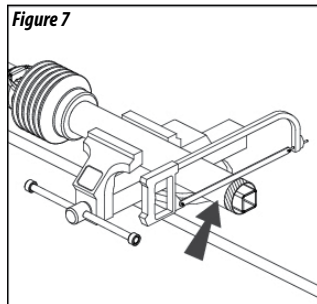
Figure 5

PTO CUT-OFF

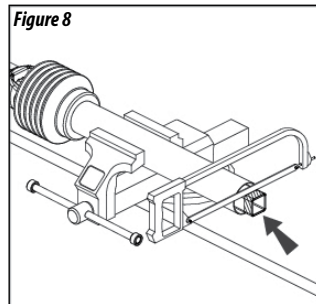
- To proceed the PTO cut-off, follow the instructions bellow:



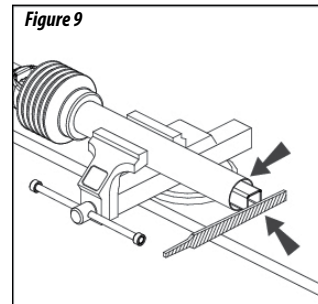
- Fasten the half parts of PTO axle closer one of other to the work position and do a indication on piece that will be cutted-off.



- Reduce the internal and external protector tubes proporcional from PTO.



- Cut-off the internal bar from PTO on the same length of protector tubes.



- Take off the sharp edge. Clean and grease tha slide bar of PTO.

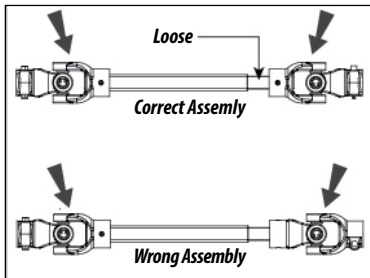


Figure 10

- Assembling, check that internal and external finish should be in the same plan, lined up. Also check the looses on telescopic axle, that must be of 5 to 7 cm.

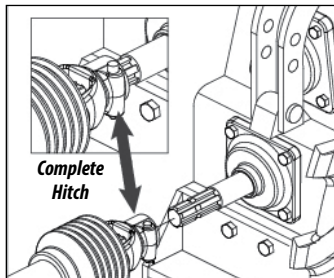


Figure 11

- Connect the axle flange on TDP tractor checking the hitch will be finished when the key bolt (1) come off.

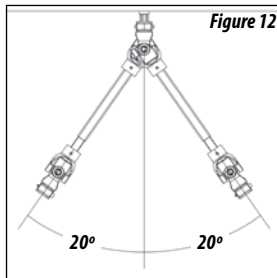


Figure 12

- The work angle must be the maximum of 20 graus.

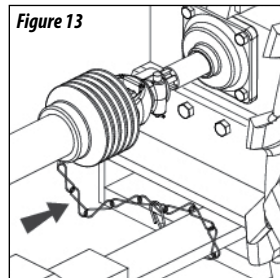


Figure 13

- Not hitch the PTO chains extended. Keep a loose and consider the angle movements.



WARNING

The wrong assembly causes excessive vibration, damage the transmission.



WARNING

To connect the PTO at TDP, the tractor must be with the engines off and the parking breaks applied.



IMPORTANT

Maneuvers where the angles of joints are greater than 20 degrees, turn off the (TDP). Not allow the tractor's tires touch the head of DCF-CO.



NOTE

Every time that you change of tractor, check again the length of PTO axle.

- 01 - The straw speed vary according the quantity of product to be distribucted and your characteristic. This speed has the function to feed the discs and obtain the equal distribution. The DCF-CO leaves the factory assembled with gears combinations 16/48 (A/B), and could work with more than 3 differents speeds, and can be obtained by gears combinations. To obtain other speeds by gears combinations, proceed as follow:
- 02 - Take off the gear (A) by the retainer ring (1) and the gear (B) by the pin with ring (2) and place the gears (C) and (D) fix them.
- 03 - After to change the gears, join the extended chain (E).

GEAR COMBINATION		
Assembly	Motor	Moved
Combinations	16 Teeth	48 Teeth
Combinations	12 Teeth	48 Teeth
Combinations	12 Teeth	16 Teeth
Combinations	16 Teeth	16 Teeth
Combinations	16 Teeth	12 Teeth

Table 2

**WARNING**

According of gear combinations assembled, will be necessary to reduce the chain by the joining that exist.
Not work with the loose chain.

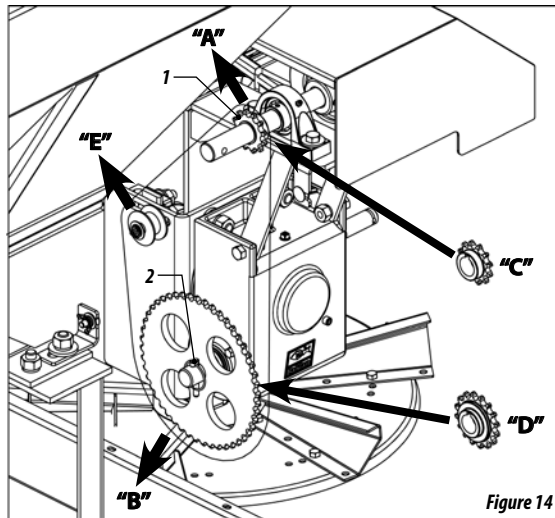
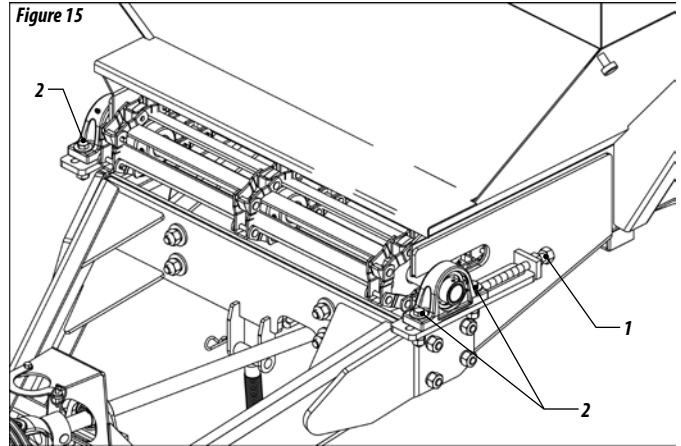


Figure 14

STRAW TENSION

- To adjust the straw tension, proceed as follow:
01 - First of all, turn off the engine of tractor and the PTO engine.
02 - After that, make sure that the DCF-CO has empty, if not, do it.
03 - After, press the straw from down to up and notice if has any loose up to 50 mm related to the DCF-CO bottom.
04 - Any greater loose, adjust the straw tension by the tensioner (1), release the bolts (2) and tight the lock-nut (3).

Figure 15



WARNING

- To regulate the straw tension, adjust the both sides equal, avoid the straw slide.
- In the first our of work, check the straw tension. After, do it daily.
- When the adjustment of straw tension finish, must be take off one or more rings, to leaves the straw stretch out.

BELT TENSION

• To adjust the belt tension, proceed as follow:

- 01 - Release the nut (1) of pulley (2), together the internal nut (3) of stretch (4).
- 02 - 2 - After that, adjust the belt tension by external nut (5) of stretch (4) and after retight the internal nut (3) and the nut (1) of pulley (2).



IMPORTANT

The allowed loose is 3,5 cm on central belt.



WARNING

*In the first our of work, check the belt tension. After, do it daily.
Not work the DCF-CO with loose belts.*

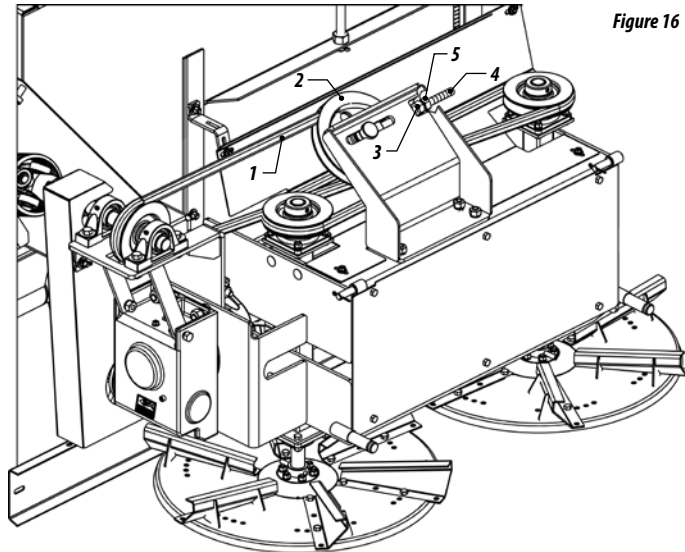


Figure 16

BELT CHANGE

- To change the belt, proceed as follow:

01 - Release the nuts (1) of the stretcher (2) and the nut (3) of the pulley (4).
Then remove the belt (5).

- To place the belt on, proceed as follow:

02 - Start the belt placement on (5), replace that on pulley "A".

03 - After that, place the lower part of belt (5) on pulley "B" of right distribution disc.

04 - Follow, do the twist of belt (5) and place it on pulley "C" of left distribution disc.

05 - Finally place the belt (5) on pulley "D" of stretch (2).

06 - When you finish to place the belt (5), tension it, adjusting the stretch (2) and retight the nut (3) of pulley (4).

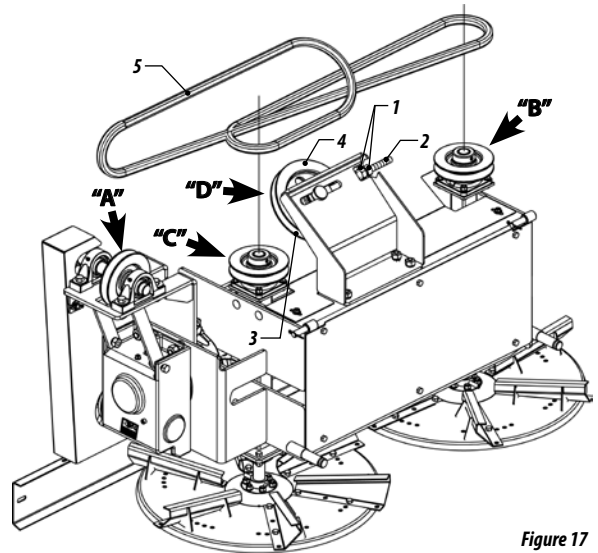


Figure 17

REGULATION OF FLOOD GATE

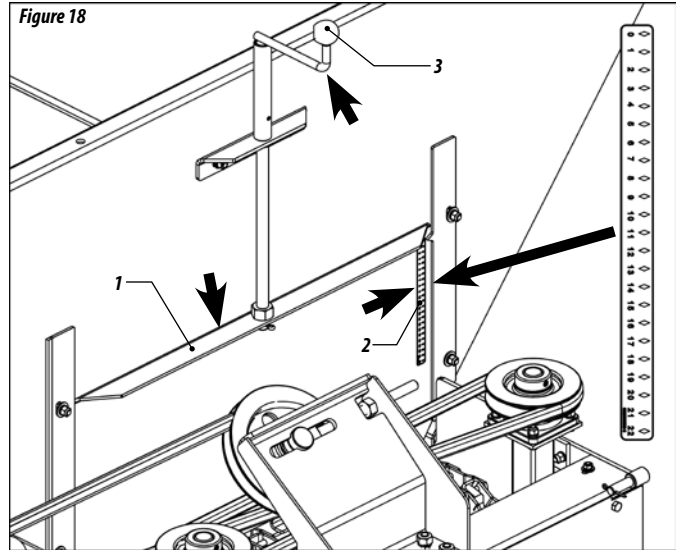
- 01 - The DCF-CO does have the flood gate (1) that by the graduation scale (2), adjust the quantity of product to be distributed. To regulate the product leak, proceed as follow:
- 02 - Turn the handle (3) adjust the opening or closing of flood gate (1) according with graduation scale (2) that goes to (0 to 22).
- 03 - Open totally the flood gate (1) when use organic fertilizer (dirt).



IMPORTANT

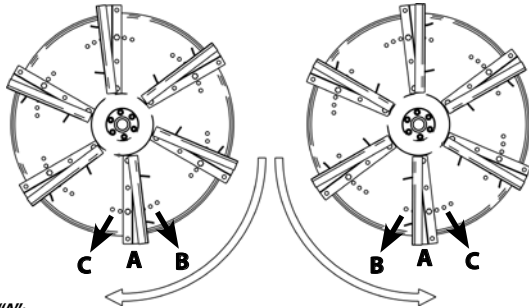
- Check the pages 28 up to 33, the table of spread, to regulate the flood gate (1) the graduation scale (2).

Figure 18



FLAPS POSITION ON SPREADER DISCS

- The spreader discs (1), has regulated flaps (2) that do the uniform distribution, even in high or lower dosage.
- Change the angle of flaps (2), to have the alteration of range on width of application and on direction of product. To adjust the flaps (2), proceed as follow:



Position "A":

Medium width of spread and direction of intermediate product.

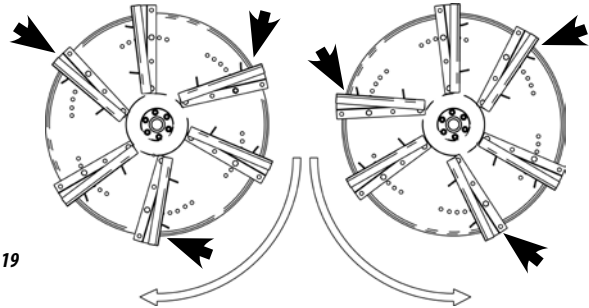
Position "B":

Smaller width of spread and direction of product more centralized.

Position "C":

Bigger width of spread and direction of product more to border.

Figures 19



NOTE

If has necessary chance the direction of product part to have better equality on distribution, can be adjust just 3 flaps in different angle, intercalate it, change the disc position.

07 - OPERATION

DEFLECTOR USE

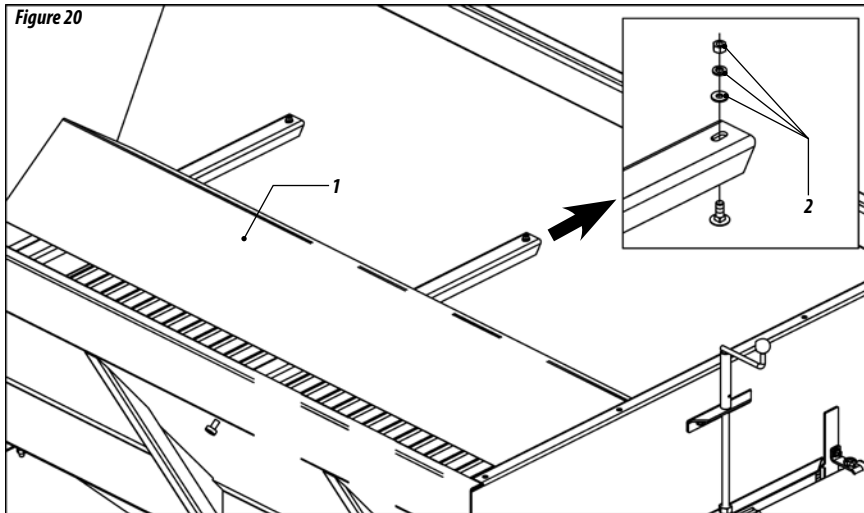
- 01 - The DCF-CO leaves the factory assembled with deflector (1). This deflector avoid the overload over the straw, allow a light work.
- 02 - Before start the works with DCF-CO, make sure if the deflector (1) it's properly fixed, tight the washer and nuts (2) avoid that the deflector (1) has been loose, damage the straw and the DCF-CO.



NOTE

- Working with calcareous, never take the deflector off (1).
- Working with organic fertilizer, you can take the deflector off (1) if you believe is necessary.

Figure 20



OVERLAPPING

- 01 - The distance between applications should be made sure by the driver, to have a equal spread in the whole area. However, when it's working, it's accept a variation until 25% on quantity spread on application.
- 02 - We recommend the distance of 7 meters between the applications on dry calcareous. To organic fertilizer, the distance between applications can vary according of the organic fertilizer.



IMPORTANT

We recommend do not increase the distance between applications.



WARNING

Ne pas laisser des animaux ou des personnes proche pendant le travail.

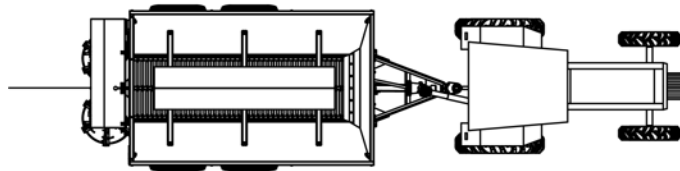
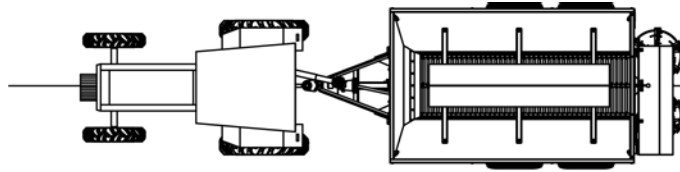


Figure 21

Distance between strides

OVERLAPPING

01 - The overlapping it's the recovering of product that it's spreaded on border immediately before this that has been done, this happen to compensate the insufficiency of distribution that happen naturally on band boarder, as shown on Figure 15.

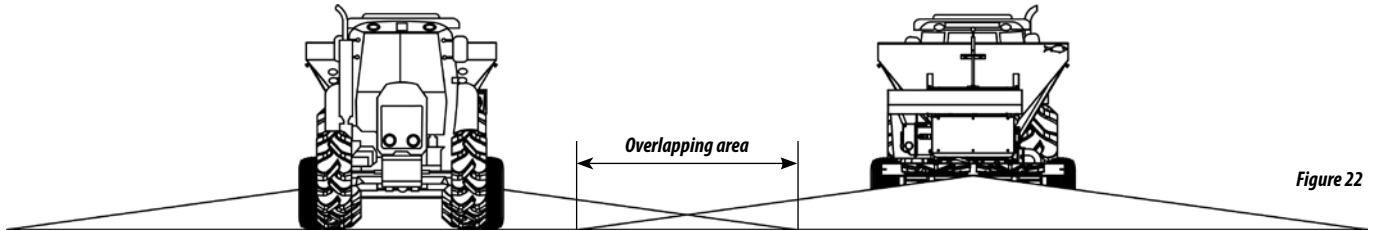


Figure 22



WARNING

- Do not make adjustments with DCF-CO moving or with PTO working.
- Do not operate the DCF-CO without protection, the rotative discs offer risk of injury.

PRACTICAL CALCULATION OF DISTRIBUTION

- 01 - For a better precision on distribution, do the admeasurement of quantity to be spreaded on local, because each soil has a condition, beyond the characteristic of products to be distributed that could be vary, with specific weight, granulometry, humidity conditions and others, that is different of others that is used on test to built tables.
- To calculate, should know:

- *Product to be distributed* = Dry Calcareous.
- *Quantity desire* = 2900 kg by Hectare.
- *Tractor Speed* = 6km/h (constante).
- *Distance between application* = 7 meters.
- *PTO* = 540 rpm (constante).



IMPORTANT

Check on tables of distribution on pages 28 to 33, what's the table that correspond to the product that will be used and what's the table correspond the match of gears on DCF-CO.

- 1 **First, transform the dosage to grams/m².**
 $2900 / 10.000 \text{ m}^2 = 0,29 \text{ kg/m}^2$ ou 290 grams / m^2 .
- 2 **After, calculate the area that will be worked in 01 hour.**
 $6.000 \text{ m/h (speed)} \times 7,0 \text{ m (Distance between application)} = 42.000 \text{ m}^2/\text{h}$.
- 3 **Follow, we know that 1 hour = 60 min. or 3.600 sec. So, divide the found area (m²) by seconds, to have m²/seconds.**
 $42.000 \text{ m}^2 / 3.600 \text{ seconds} = 11.66 \text{ m}^2/\text{second}$.
- 4 **After, multiply m²/seconds with grams/m²; so:**
 $11.66 \text{ m}^2 / \text{seconds} \times 290 \text{ g/m}^2 = 3.381 \text{ grams/seconds}$.
- 5 **Finally, transform the answer to kg and compare with the correspond table.**
 $3.381 / 1.000 = 3,38 \text{ kg/second}$.
- 6 **Check on calcareous table follow, what's the correspond the combination of gears used and after look the numbers of scale opening that correspond to the closer value of 3,38 answer of above example.**

TABLE OF CALCAREOUS DISTRIBUTION SPECIFIC TO DCF-CO MODEL								
CALCAREOUS	Motor (PTO) 16			Moved (Shaft gear) 48		TDF (RPM) 540		
	Quantity Kg/s	Speed tractor km/h						
Kg Value Kg (10.000 m ²) to different speed of Work								
Scale Opening		4	5	6	7	8	9	10
0	0,40	360	288	240	206	180	160	144
1	0,78	702	562	468	401	351	312	281
2	0,88	792	634	528	453	369	352	317
3	0,95	855	684	570	489	428	380	342
4	1,14	1026	821	684	586	513	456	410
5	1,55	1395	1116	930	797	698	620	558
6	1,65	1485	1188	990	849	743	660	594
7	1,86	1674	1339	1116	957	837	744	670
8	1,92	1728	1382	1152	987	864	768	691
9	2,11	1899	1519	1266	1085	950	844	760
10	2,24	2016	1613	1344	1152	1008	896	806
11	2,43	2187	1750	1458	1250	1094	972	875
12	2,50	2250	1800	1500	1286	1125	1000	900
13	2,62	2358	1886	1572	1347	1179	1048	943
14	2,89	2601	2081	1734	1486	1301	1156	1040
15	3,12	2808	2246	1872	1605	1404	1248	1123
16	3,40	3060	2448	2040	1749	1530	1360	1224
17	3,63	3267	2614	2178	1867	1634	1452	1307
18	3,81	3429	2743	2286	1959	1715	1524	1372
19	4,11	3699	2959	2466	2114	1850	1644	1480
20	4,37	3933	3146	2622	2247	1767	1748	1573
21	4,59	4131	3305	2754	2361	2066	1836	1652
22	4,79	4311	3449	2874	2463	2156	1916	1724

Table 3

The table was developed with 540 rpm on TDF related the transmission (motor / moved).

NOTE



TABLE OF CALCAREOUS DISTRIBUTION SPECIFIC TO DCF-CO MODEL								
CALCAREOUS	Motor (PTO) 12			Moved (Shaft gear) 48		TDF (RPM) 540		
	Quantity Kg/s	Speed tractor km/h						
		Kg Value Kg (10.000 m ²) to different speed of Work						
Scale Opening		4	5	6	7	8	9	10
0	0,30	270	216	180	154	135	120	108
1	0,59	527	421	351	301	263	234	211
2	0,66	594	475	396	339	297	264	238
3	0,71	641	513	428	366	321	285	257
4	0,86	770	616	513	440	385	342	308
5	1,16	1046	837	698	598	523	465	419
6	1,24	1114	891	743	636	557	495	446
7	1,40	1256	1004	837	717	628	558	502
8	1,44	1296	1037	864	741	648	576	518
9	1,58	1424	1139	950	814	712	633	570
10	1,68	1512	1210	1008	864	756	672	605
11	1,82	1640	1312	1094	937	820	729	656
12	1,88	1688	1350	1125	964	844	750	675
13	1,97	1769	1415	1179	1011	884	786	707
14	2,17	1951	1561	1301	1115	975	867	780
15	2,34	2106	1685	1404	1203	1053	936	842
16	2,55	2295	1836	1530	1311	1148	1020	918
17	2,72	2450	1960	1634	1400	1225	1089	980
18	2,86	2572	2057	1715	1470	1286	1143	1029
19	3,08	2774	2219	1850	1585	1387	1233	1110
20	3,28	2950	2360	1967	1686	1475	1311	1180
21	3,44	3098	2479	2066	1770	1549	1377	1239
22	3,59	3233	2587	2156	1848	1617	1437	1293

Table 4

The table was developed with 540 rpm on TDF related the transmission (motor / moved).

NOTE



TABLE OF CALCAREOUS DISTRIBUTION SPECIFIC TO DCF-CO MODEL								
CALCAREOUS	Motor (PTO) 12			Moved (Shaft gear) 16		TDF (RPM) 540		
	Quantity Kg/s	Speed tractor km/h						
		Kg Value (10.000 m ²) to different speed of Work						
Scale Opening		4	5	6	7	8	9	10
0	0,90	810	648	540	463	405	360	324
1	1,76	1580	1264	1053	903	790	702	632
2	1,98	1782	1426	1188	1018	891	792	713
3	2,14	1924	1539	1283	1099	962	855	770
4	2,57	2309	1847	1539	1319	1154	1026	923
5	3,49	3139	2511	2093	1794	1569	1395	1256
6	3,71	3341	2673	2228	1909	1671	1485	1337
7	4,19	3767	3013	2511	2152	1883	1674	1507
8	4,32	3888	3110	2593	2222	1944	1728	1555
9	4,75	4273	3418	2849	2442	2136	1899	1709
10	5,04	4536	3629	3024	2592	2268	2016	1814
11	5,47	4921	3937	3281	2812	2460	2187	1968
12	5,63	5063	4050	3375	2893	2531	2250	2025
13	5,90	5306	4244	3537	3032	2653	2358	2122
14	6,50	5852	4682	3902	3344	2926	2601	2341
15	7,02	6318	5054	4212	3610	3159	2808	2527
16	7,65	6885	5508	4590	3934	3443	3060	2754
17	8,17	7351	5881	4901	4200	3675	3267	2940
18	8,57	7715	6172	5144	4409	3858	3429	3086
19	9,25	8323	6658	5549	4756	4161	3699	3329
20	9,83	8849	7079	5900	5057	4425	3933	3540
21	10,33	9295	7436	6197	5311	4647	4131	3718
22	10,78	9700	7760	6467	5543	4850	4311	3880

Table 5

The table was developed with 540 rpm on TDF related the transmission (motor / moved).

NOTE



TABLE OF CALCAREOUS DISTRIBUTION SPECIFIC TO DCF-CO MODEL								
CALCAREOUS	Motor (PTO) 16		Moved (Shaft gear) 16		TDF (RPM) 540			
	Quantity Kg/s	Speed tractor km/h						
Kg Value (10.000 m ²) to different speed of Work								
Scale Opening		4	5	6	7	8	9	10
0	1,20	1080	864	720	617	540	480	432
1	2,34	2106	1685	1404	1203	1053	936	842
2	2,64	2376	1901	1584	1358	1188	1056	950
3	2,85	2565	2052	1710	1466	1283	1140	1026
4	3,42	3078	2462	2052	1759	1539	1368	1231
5	4,65	4185	3348	2790	2391	2093	1860	1674
6	4,95	4455	3564	2970	2546	2228	1980	1782
7	5,58	5022	4018	3348	2870	2511	2232	2009
8	5,76	5184	4147	3456	2962	2592	2304	2074
9	6,33	5697	4558	3798	3255	2849	2532	2279
10	6,72	6048	4838	4032	3456	3024	2688	2419
11	7,29	6561	5249	4374	3749	3281	2916	2624
12	7,50	6750	5400	4500	3857	3375	3000	2700
13	7,86	7074	5659	4716	4042	3537	3144	2830
14	8,67	7803	6242	5202	4459	3902	3468	3121
15	9,36	8424	6739	5616	4814	4212	3744	3370
16	10,20	9180	7344	6120	5246	4590	4080	3672
17	10,89	9801	7841	6534	5601	4901	4356	3920
18	11,43	10287	8230	6858	5878	5144	4572	4115
19	12,33	11097	8878	7398	6341	5549	4932	4439
20	13,11	11799	9439	7866	6742	5900	5244	4720
21	13,77	12393	9914	8262	7082	6197	5508	4957
22	14,37	12933	10346	8622	7390	6467	5748	5173

Table 6

The table was developed with 540 rpm on TDF related the transmission (motor / moved).

NOTE



TABLE OF CALCAREOUS DISTRIBUTION SPECIFIC TO DCF-CO MODEL								
CALCAREOUS	Motor (PTO) 16			Moved (Shaft gear) 12		TDF (RPM) 540		
	Quantity Kg/s	Speed tractor km/h						
		Kg Value (10.000 m ²) to different speed of Work						
Scale Opening		4	5	6	7	8	9	10
0	1,60	1440	1152	960	823	720	640	576
1	3,12	2808	2246	1872	1605	1404	1248	1123
2	3,52	3168	2534	2112	1810	1584	1408	1267
3	3,80	3420	2736	2280	1954	1710	1520	1368
4	4,56	4104	3283	2736	2345	2052	1824	1642
5	6,20	5580	4464	3720	3189	2790	2480	2232
6	6,60	5940	4752	3960	3394	2970	2640	2376
7	7,44	6696	5357	4464	3826	3348	2976	2678
8	7,68	6912	5530	4608	3950	3456	3072	2765
9	8,44	7596	6077	5064	4341	3798	3376	3038
10	8,96	8064	6451	5376	4608	4032	3584	3226
11	9,72	8748	6998	5832	4999	4374	3888	3499
12	10,00	9000	7200	6000	5143	4500	4000	3600
13	10,48	9432	7546	6288	5390	4716	4192	3773
14	11,56	10404	8323	6936	5945	5202	4624	4162
15	12,48	11232	8986	7488	6418	5616	4992	4493
16	13,60	12240	9792	8160	6994	6120	5440	4896
17	14,52	13068	10454	8712	7467	6534	5808	5227
18	15,24	13716	10973	9144	7838	6858	6096	5486
19	16,44	14796	11837	9864	8455	7398	6576	5918
20	17,48	15732	12586	10488	8990	7866	6992	6293
21	18,36	16524	13219	11016	9442	8262	7344	6610
22	19,16	17244	13795	11496	9854	8622	7664	6898

Table 7

The table was developed with 540 rpm on TDF related the transmission (motor / moved).

NOTE



TABLE OF PARGET DISTRIBUTION SPECIFIC TO DCF-CO MODEL								
PARGET	Motor (PTO) 16			Moved (Shaft gear) 48		TDF (RPM) 540		
	Quantity Kg/s	Speed tractor km/h						
Kg Value (10.000 m ²) to different speed of Work								
4		5	6	7	8	9	10	
0	0,22	198	158	132	113	99	88	79
1	0,34	306	245	204	175	153	136	122
2	0,46	414	331	276	237	207	184	166
3	0,58	522	418	348	298	261	232	209
4	0,70	630	504	420	360	315	280	252
5	0,82	738	590	492	422	369	328	295
6	0,94	846	677	564	483	423	376	338
7	1,060	954	763	636	545	477	424	382
8	1,180	1062	850	708	607	531	472	425
9	1,300	1170	936	780	669	585	520	468
10	1,420	1278	1022	852	730	639	568	511
11	1,540	1386	1109	924	792	693	616	554
12	1,660	1494	1195	996	854	747	664	598
13	1,780	1602	1282	1068	915	801	712	641
14	1,900	1710	1368	1140	977	855	760	684
15	2,020	1818	1454	1212	1039	909	808	727
16	2,140	1926	1541	1284	1101	963	856	770
17	2,226	2003	1603	1336	1145	1002	890,4	801
18	2,380	2142	1714	1428	1224	1071	952	857
19	2,500	2250	1800	1500	1286	1125	1000	900
20	2,620	2358	1883	1572	1347	1179	1048	943
21	2,740	2466	1973	1644	1409	1233	1096	986
22	2,860	2574	2059	1716	1471	1287	1144	1030

Table 8

The table was developed with 540 rpm on TDF related the transmission (motor / moved).

NOTE



OPERATION

1 Before start to work, do a complete recall on DCF-CO. Should lubricate the crosshead, check the oil level of multiply box and retight nuts and bolts. Check the locking of pin and cotterpin.

2 The ideal rotation is 540 rpm on TDP. Check the totation on engine, in the tractor manual. this rotation on tractor engine, has a variation by tractor to tractor.

3 Before you load the DCF-CO, check if has anyone stuff in side the bucket, make sure if the clamp it's complete and in the same level. Put the handle support in the transport posição and keep the traction bar of tractor firm.

4 Always check the transport straw tension.

5 The medium speed recommended is 6 to 7 km/h.

6 The distance between applications should be the same to not implicate in the equal distribution.

7 During the whole work, keep the same rotation of engine, avoiding the variation of medium speed of tractor, to not have inefficiency or gaps on producto distribution.

8 To connect or unconnect the PTO, the TDP should be tuned off.

9 The weight of product it's related with granulometry and density.

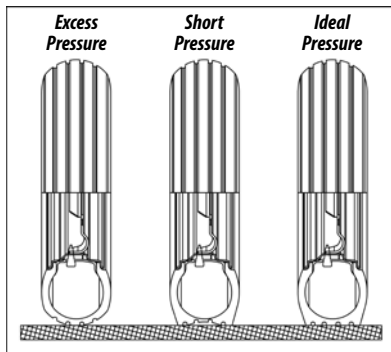


08 - MAINTENANCE

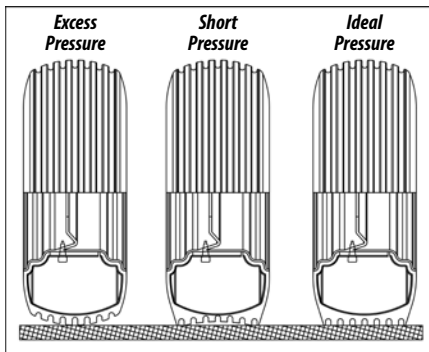
TYRES PRESSURE

01 - 1 - the tyres should be always calibrated, to avoid early wearing to excess or short pressure.

02 - 2 - Before to calibrate the tyres, check the model that has in your DCF-CO and check below the right pressure.



Figures 23



IMPORTANT

The tyres on DCF-CO are:

Model	Standard Tyres	Optional Tyres
DCF-CO 3000	(02) 7.50 x 16	(02) 11L-15
DCF-CO 6000	(04) 7.50 x 16	(04) 11L-15
DCF-CO 8000	(04) 11L-15	-

TYRES 7.50 x 16 : USE 60 lbs / pol².

TYRES 11L-15 : USE 52 lbs / pol².

LUBRIFICATION

- 01 - The lubrication is indispensable for a good performance and more resistance by moved spare partes of DCF-CO, this will give economic of maintenance.
- 02 - Before start the work, lubricate carefully all grease points, note the intervals of lubrication on follow page.
- 03 - Make sure about the quality of oil, about your efficiency and purity, avoiding to use products with water, clay or dust .

TABLE OF EQUIVALENT AND GREASES

<i>Manufacturer</i>	<i>Grease Type</i>
<i>Petrobrás</i>	<i>Lubrax GMA 2</i>
<i>Atlantic</i>	<i>Litholine MP 2</i>
<i>Ipiranga</i>	<i>Super Grasa Ipiranga Ipiranga Super Grasa 2 Ipiflex 2</i>
<i>Castrol</i>	<i>LM 2</i>
<i>Mobil</i>	<i>Mobilgrease MP 77</i>
<i>Texaco</i>	<i>Marfak 2 Agrotex 2</i>
<i>Shell</i>	<i>Retinax A Alvania EP 2</i>
<i>Esso</i>	<i>Multipurpose grease H Litholine MP 2</i>
<i>Bardahl</i>	<i>Maxlub APG 2 EP</i>

Table 2



If there were other manufacturers or and other. Equivalent trends that are not listed in this. Table, consult the manufacturer's technical manual.

LUBRICATION POINTS



WARNING

To lubricate the DCF-CO, do not overstep the quantity limit of new grease.

LUBRIFICATE EACH 5 HOURS OF WORK

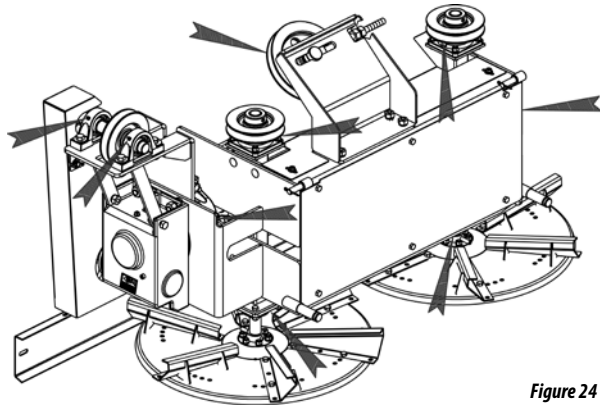


Figure 24

LUBRIFICATE EACH 8 HOURS OF WORK

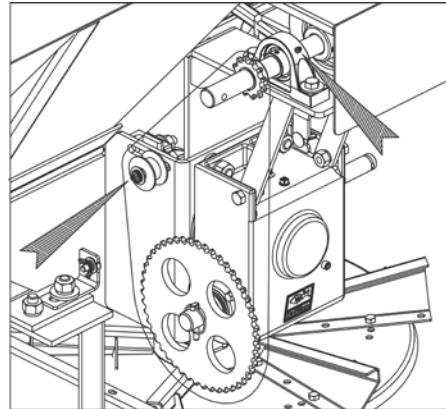


Figure 25

LUBRICATION POINTS

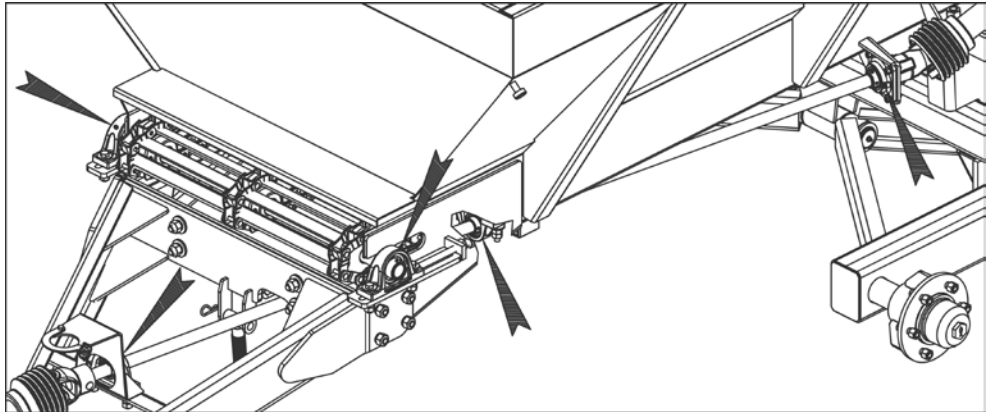


WARNING

To lubricate the DCF-CO, do not overstep the quantity limit of new grease.

LUBRIFICATE EACH 8 HOURS OF WORK

- 01 - Lubricate the crosshead (1) with grease each 8 hours.
- 02 - The telescopic axle (2) must be lubricated every week.



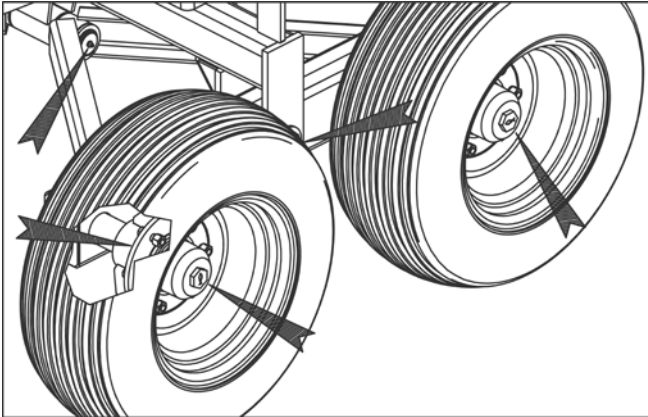
LUBRICATION POINTS



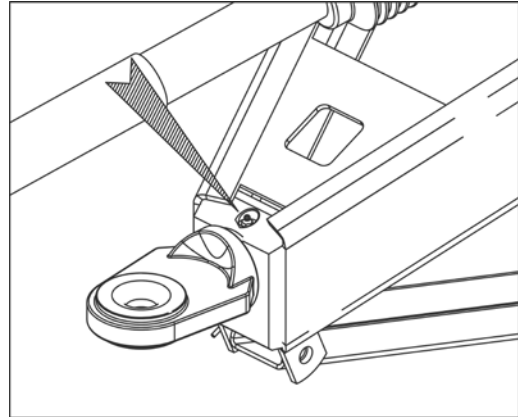
WARNING

To lubricate the DCF-CO, do not overstep the quantity limit of new grease.

LUBRIFICATE EACH 24 HOURS OF WORK



LUBRIFICATE EACH 30 HOURS OF WORK



OIL CHANGE

- 01 - Check periodically the oil level of gear box (1), through the bolt indicator level (2) and refill wherever you need.
 - To change the totality oil from gear box (1), proceed as follow:
- 02 - Take off the drain plug (4), the plug of breather (3) and the bolt indicator level (2) leave all the oil finish from gear box (1).
- 03 - After that, replace the drain plug (4) and fill by plug of breather (3) until the oil leak by breath level (2).
- 04 - Finish replacing the nut indicator level (2) and the plug of breather (3).



NOTE

*Change the oil in the first 200 hours of work.
After, change each 1000 hours of work.
When it's in use a determinate oil brand avoid to fill the level with another oil brand and different specifications.*



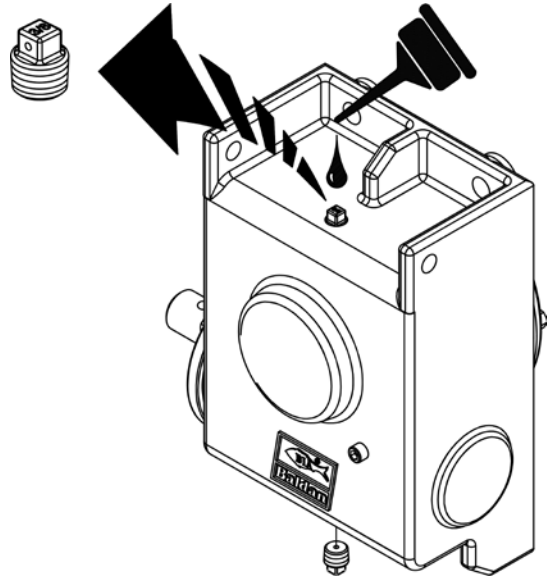
IMPORTANT

Before to put the DCF-CO working, take off the plug ("A") of gear box and put in your place the plug of breath ("B").



WARNING

*Do not fill the oil over the level.
Only use oil: 85W 140 API GL5 MIL-L 2105D
SAE J30.*



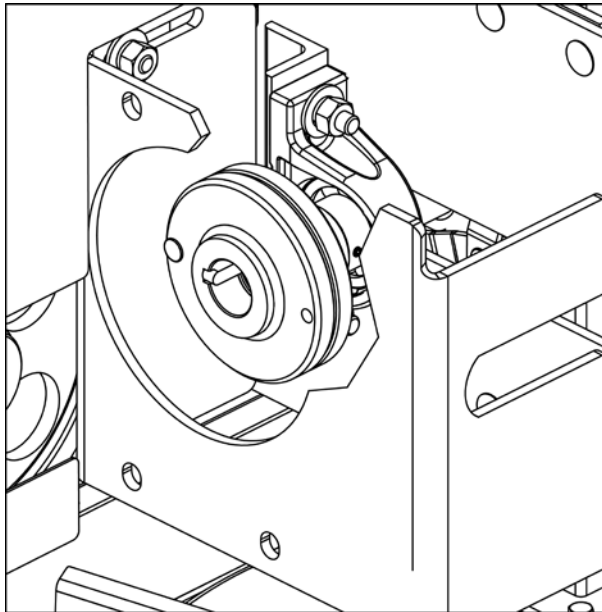
SAFETY FUSE

- 01 - The safety fuse (1) of reductor, has the purpose of avoid damages on transimtion system occurred by over efforts to the scaled.
- If the safety fuse (1) start to rupture constantly, check:
- 02 - If has no strange objects locking the straw.
- 03 - If the product isn't to much compressed over the straw, what could happen with products as dry powder.
- 04 - The regulation of straw stretcher, one of sides could be more stretcher than other one.



WARNING

Only use original fuse from factory, because only this, has the control hardness.



OPERATIONAL MAINTENANCE

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
<i>Has no flow of product over the discs or the quantity it's not enough.</i>	<i>The floodgate can be closed.</i>	<i>Regulate the floodgate opening as shown on table.</i>
	<i>Strange objects locking the straw.</i>	<i>Check and do the straw cleaning.</i>
	<i>Esteira, corrente de transmissão ou fuzível rompido.</i>	<i>Check the straw join, the chain or change the fuse.</i>
	<i>Wrong assembly of gear.</i>	<i>Do the correct assembly of gears according the want speed.</i>
<i>Distribution of product on soil it's not equal.</i>	<i>Distance to far between one application and other one.</i>	<i>Reduce the distance between applications and work as the recommended distance.</i>
	<i>Wrong positions of flaps over the spreader discs.</i>	<i>Check the position of flaps if is not inverted according the direction of rotation of spreader discs. In case of inversion, proceed the correct assembly of them.</i>
	<i>Rotation of making power</i>	<i>Make sure about the PTO rotation, that should be 540 Rpm.</i>
	<i>Strong wind.</i>	<i>Wait to reduce the wind or use a damper (optional).</i>

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
<i>Distribution track to close</i>	<i>Flaps positions over spreader discs.</i>	<i>Regulate the over flaps discs to the opener position.</i>
<i>Vibration or excessive noise during the operation.</i>	<i>Strange objects inside the DCF-CO.</i>	<i>Check and take off if has.</i>
	<i>Wrong PTO assembly or crossarms wear.</i>	<i>Do the properly PTO assembly or replace the crossarms with excess wear.</i>
	<i>Loose bearings or damage.</i>	<i>Retight the bearings or replace in case of damage.</i>
	<i>Straw regulation.</i>	<i>Tension the transport straw.</i>
	<i>PTO rotation.</i>	<i>Keep the rotation 540 Rpm.</i>
<i>Recommended dosage it´s not obtained.</i>	<i>Dosage system. Work speed over the recommended.</i>	<i>Increase the flow of floodgate. Reduce the work speed.</i>
<i>Recommended dosage bigger.</i>	<i>Dosage system. Work speed lower the recommended.</i>	<i>Reduce the flow of floodgate. Adjust the recommended work speed.</i>
<i>Fuse rupture with frequency.</i>	<i>Straw working over speed. Strange objects locking the straw.</i>	<i>Reduce the straw speed and increase the flow of floodgate. Check and do the straw cleaning.</i>

09 - PRECAUTION

- 01 - Check the conditions of all pins and bolts before to start the DCF-CO.
- 02 - Each 8 hours of work, retight the nuts and bolts.
- 03 - The displacement speed should be carefully control as the condition of soil.
- 04 - The Baldan's spreader, models DCF-CO 3000, 6000 e 8000 are used to many applications, requiring knowledge and attention during the work.
- 05 - Only local conditions, may define the better way to operate.
- 06 - To assembly or disassembly any piece of DCF-CO, work with properly tools.
- 07 - Always make sure about wear pieces.
- 08 - Under needed of replacement, always ask by original Baldan spare parts.

GENERAL CLEANING

- Due corrosive action of fertilizer, we recommend that do a cleanliness at DCF-CO before to storage, to prolong the life time of your equipment. To it proceed as follow:
- 01 - First do a general cleaning, removing all of residues of product that are inside or outside of DCF-CO. After that, watch complete.
- 02 - After, check if the paint doesn't wore, if this happened, paint all the points.
- 03 - Follow, take off the transmissions chain and keep it in bath oil to the next work. We recommend that take off the belts and store to avoid dryness.
- 04 - Lubricate totally the DCF-CO and check the pieces if has ware or loose, do the necessary adjustment or the replacement of pieces, leaving the equipment ready to the next work.
- 05 - After of all precaution of maintenance, store your DCF-CO in the safety place, properly supported.



WARNING

Do not use detergent chemical to wash the DCF-CO, this will damage the paint.

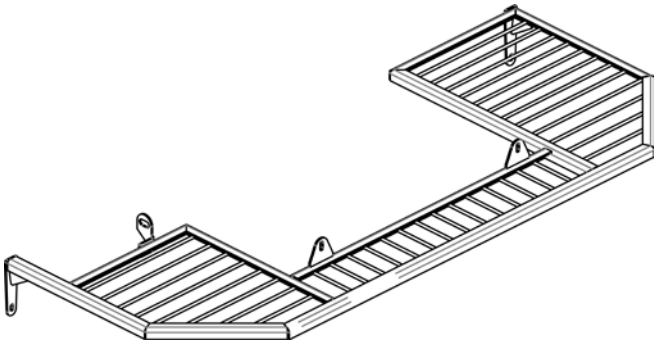


10-OPTIONAL

- The DCF-CO has optional that could be buy for a better safety and also to several kind of work.

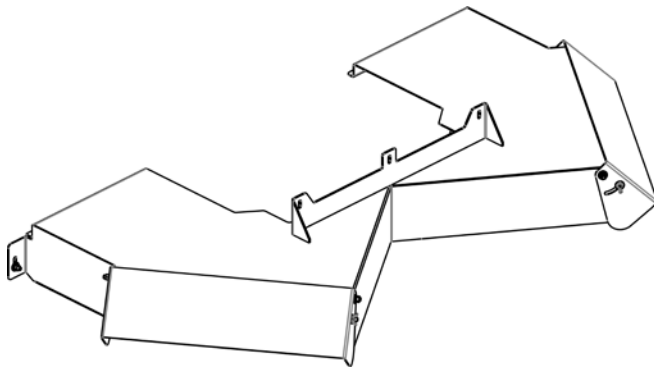
PROTECTION GRILL OF DISCS

- The protection grill it's used on spreaders discs to keep safety during the work with DCF-CO.



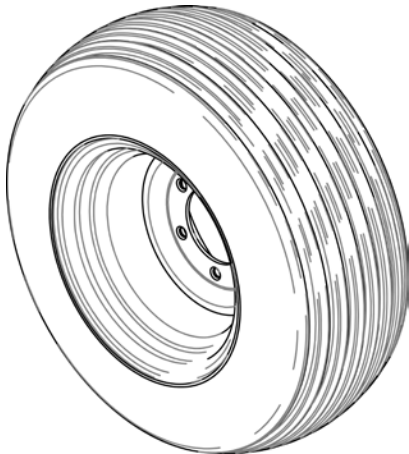
GUIDING BOX

- The guiding bom is used to works where the application of fertilizer should be guide in line, for example over the top of trees.



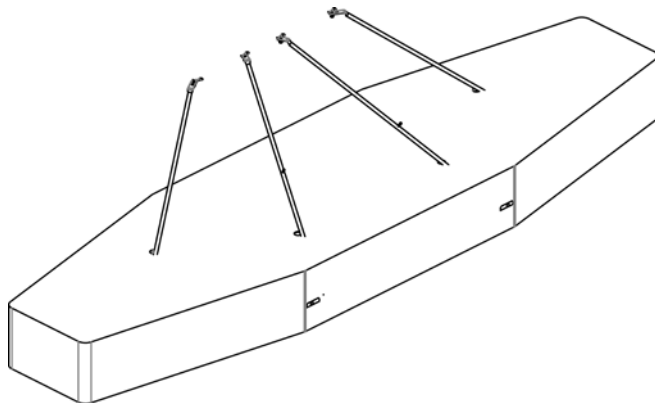
TYRES 11L-15

- To work in clay soils, the DCF-CO 3000 and 6000 should be acquired with tyres 11L-15.



DEFLECTOR

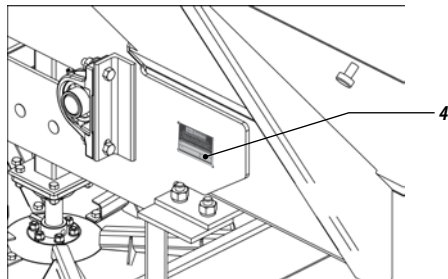
- The deflector it's used to spread the powder products mainly when have wind. The deflector use, give more equality on spread, retain the product.



18-IDENTIFICATION

- To consult the spare part catalogue or ask a technical assistance from Baldan, always indicate the model (1), serial number (2) and manufacture date (3), that you will find in the identification tag (4).

ALWAYS ASK FOR ORIGINAL BALDAN SPARE PARTS



MARKETING
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WARNING

The draws contained in this instruction manual 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 certified number: _____ *Serial number:* _____

Purchase date: _____ / _____ / _____

Invoice. Nr: _____



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[illegible]



6 0 5 5 0 1 0 5 2 8 7



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