

Operator manual Maredo® GT 230 REV. 051 HiSpeed-Corer

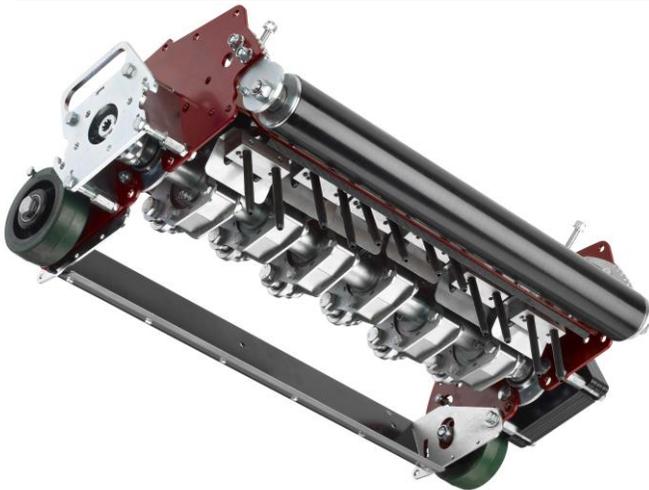
SERIAL #:

IMPORTANT NOTE:

The required (hydraulic) power depends on the working depth, soil conditions, working speed etc. The condition of the triplex greensmower and the ambient temperature determine the available capacity. Everybody should check the greensmower during work if it isn't overloaded by checking the heat built up and take the correct measurements.

MAREDO DOES NOT TAKE ANY LIABILITY FOR GREENSMOWER DAMAGES.

MAX. ENGINE REVS : 75% OF MAXIMUM
MAX GROUND SPEED: 4 KM/ 2.5 MPH



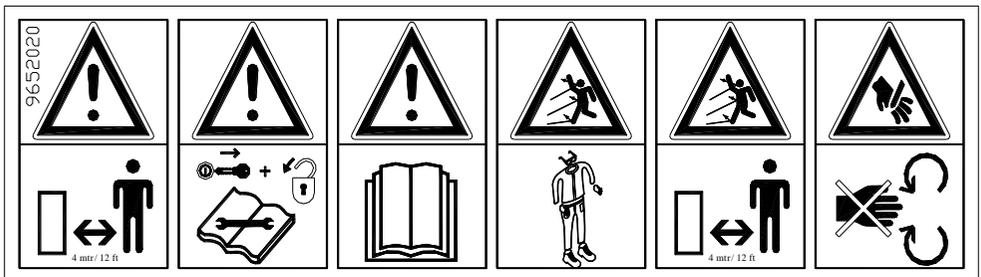
Note:

For a safe operation it is essential, that the operator reads and understands the manual of the Maredo head and the triplex machine.

MAREDO BV, RIJKSSTRAATWEG 16, 3956 CR LEERSUM, THE NETHERLANDS
WWW.MAREDO-BV.COM EN 1911

SAFETY INSTRUCTIONS

1. Never **disconnect or shortcut any of the safety devices.**
2. Every **MAREDO user must be fully informed** and understand the safe use of the MAREDO machine.
3. **Inspect the ground**, where the MAREDO machine is to be applied. Remove loose obstacles, avoid uneven areas.
4. **Drive carefully** during work and during transport.
5. Ensure that **other people are standing at least 4 mtr./ 12 ft away** from the MAREDO machine during work and transportation.
6. **Use appropriate clothing**. Wear strong shoes with steel enforced toe caps, long trousers, gloves, tie up long hair and use protection glasses for the eyes.
7. **Never overload** the MAREDO. This is visible when the head starts to vibrate or behave unstable.
8. **Check the MAREDO minimal once a week**, to ensure there are no loose bolts and nuts. Check for damages too and repair them.
9. The MAREDO **may never be used without protection covers** and safety decals.
10. **Use only original MAREDO spare parts**, in order to ensure the safe operation of the machine.
11. **Never use the MAREDO** in the dark, in heavy rains, on frozen grounds, stony conditions and/ or on slopes steeper than 30 degrees.
12. **Maintain a log book** of all repairs made.
13. Be aware that **changes made at the MAREDO**, releases MAREDO from CE regulations. You should homologate the machines yourself



FOREWORD

Congratulations on the purchase of your MAREDO®. To ensure the safe and long-lasting operation of the MAREDO machine, you and anyone using the machine, should read and understand this user's manual. Also ensure that you understand and practice the safety rules, as described in this manual.

This MAREDO machine is delivered accomplished by a guarantee against material and assembly errors. This guarantee applies for a period of 12 months, as from the date of purchase.

TECHNICAL SPECIFICATIONS

Model	: GT 230- 051
Working width	: 520 mm/ 21" per head
Working depth	: 5 -25 mm/ 0.25- 1.0".
Hole spacing	: 0- 45 x 45 mm/ 0- 1.77 x 1.77"
Driving speed	: 0.5- 4,0 km/h. / 0.3- 2,5 mph
Weight	: 52 Kg/ 120 lbs per head.

EU- declaration

We, MAREDO, Rijksstraatweg16, 3956 CR Leersum, The Netherlands, hereby declare fully on our authority, that the product: MAREDO GT 230, with serial number as indicated on the machine and written on this manual, to which this declaration applies, has been manufactured in line with NEN-EN -ISO 14121-1:2007, according to the stipulations of The Machine Directive 2006/42/EG.



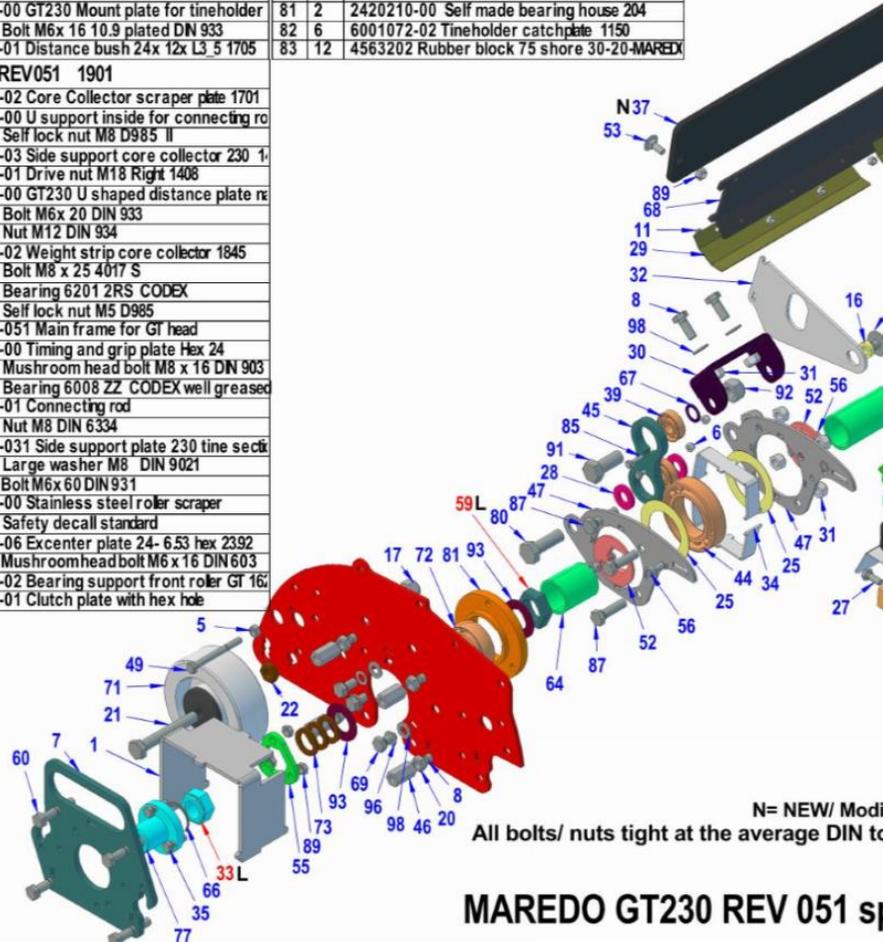
Marinus Reincke Maredo BV The Netherlands

#	Qu	GT230 REV051 1901
1	1	6004107-04 Distance plate motor mount plate
2	2	2012101 Bearing 6201 2RS CODEX
3	1	6460519-00 GT Weight square 60 black 1850
4	1	6004034-01 Washer 37-20 -4
5	2	3506000 Nut M6 DIN 934
6	21	3504004 Self lock nut M4 D985
7	1	6005155-04 Hydr motor mount plate GT 1145
8	12	3608201 Bolt M8 x 20 DIN 933
9	1	9653010 CE Decall standard
10	2	3512004 Self lock nut M12 D985
11	9	3604101 Bolt M4 x 10 DIN 933
12	6	3508008 Self lock nut with washer D6926
13	1	9653130-01 Decall GT230 White and Verdana I
14	2	6002027-02 Washer 30-12-15 1150
15	1	6012120-03 Pick up cam for GT D shackle
16	2	6710803-01 Pivot bush core collector 230
17	2	3510004 Self lock nut M10 D985
19	1	6328525-00 Plastic guide strip for GT230
20	8	3508000 Nut M8 DIN 934
21	2	3610701 Bolt M10 x 70 DIN 933
22	2	6510008-00 Special nut M10 for GT230 wheel
23	1	7033014-00 Distance bush Hex 24 L14
24	12	1823289-03 Hollow Tine GT230 1420 MAREDO
25	12	6001040-03 Shimm washer 40 - 61 - 05
26	6	6005056-00 GT230 Mount plate for tineholder
27	12	3606162 Bolt M6x 16 10.9 plated DIN 933
28	12	6004026-01 Distance bush 24x 12x L3 5 1705

#	Qu	GT230 REV051 1901
56	12	3606303 Hex socket screw M6x30 8.8 D912
57	6	6420069-01 Tine holder 230 1408
58	1	6424636-01 Main shaft for GT 24 mm M22 1152
59	1	3522026 Low height nut M22 x 1.5
60	8	3608400 Bolt M8 x 40 DIN 931
61	1	6003520-00 Front support plate GT230 for gu
62	2	3608801 Bolt M8 x 80 4017 S
64	2	7033041-00 Distance bush Hex 24 L40_6
65	5	7033066-00 Distance bush Hex 24 L56 1650
66	1	3912600 Cir clip d=26 DIN 471
67	6	3012105 Shimm washer 12-18-1 D988
68	1	6003585-04 Core collector base plate black 14/
69	6	3608161 Bolt M8 x 16 4017 SELF
70	1	6416613-01 Front roller shaft 6201 Gf 1408
71	2	4214015 Wheel D100 d10 b35 B44 black grey
72	2	2420200 Bearing SC 204 CODEX
73	4	6003026-00 Washer d18 D27 s3
74	6	3605164 Mushroom head bolt M5 x 16 DIN 603
75	1	9653000-02 New Maredo Logo oval decal 110
76	1	7060542-04 Front roller RV5 GT 1401
77	1	6735031-03 Slined drive bush GT
78	2	6508006-00 Nut M8 H6 Hex22 1408
79	1	9653026-00 RPM decall for GT230
80	6	3612351 Bolt M12 x 35 x 1.25 DIN 961
81	2	2420210-00 Self made bearing house 204
82	6	6001072-02 Tineholder catchplate 1150
83	12	4563202 Rubber block 75 shore 30-20-MAREDO

#	Qu	GT230 REV051 1901
84	6	3604121 Bolt M4
85	6	3604161 Bolt M4
86	12	6005025-00 GT2
87	24	3608301 Bolt M1
88	1	6731815-01 Dri
89	32	3506004 Self ma
90	2	3608303 Hex sc
91	6	3612311 Bolt M1
92	12	3512025 Self loc
93	2	6002037-01 Fra
94	2	6005152-02 Fro
95	3	6010176-02 Co
96	6	3608121 Spring
97	4	3008204 Mushr
98	16	3008160 Washe

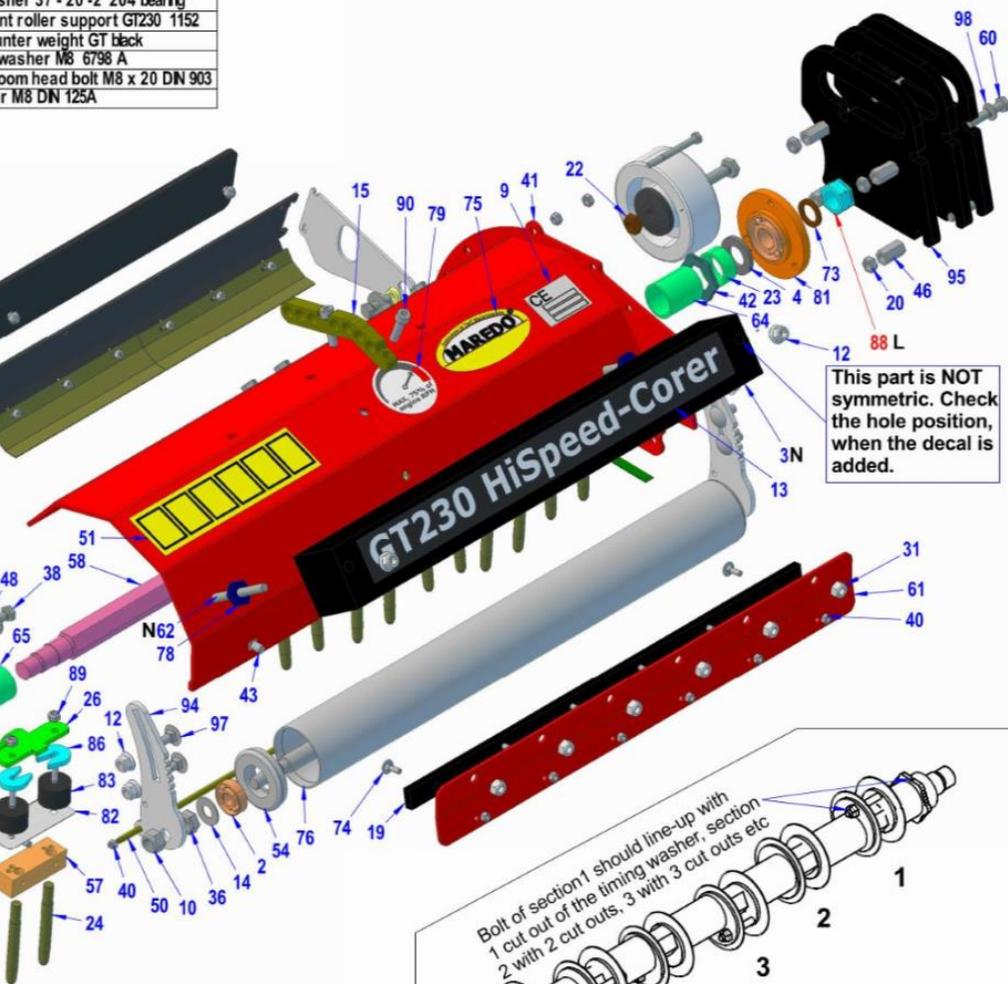
#	Qu	GT230 REV051 1901
29	3	6001582-02 Core Collector scraper plate 1701
30	3	6004114-00 U support inside for connecting ro
31	38	3508004 Self lock nut M8 D985 II
32	2	6003143-03 Side support core collector 230 1
33	1	6731816-01 Drive nut M18 Right 1408
34	12	6002122-00 GT230 U shaped distance plate re
35	3	3606201 Bolt M6x 20 DIN 933
36	2	3512000 Nut M12 DIN 934
37	1	6005570-02 Weight strip core collector 1845
38	2	3608251 Bolt M8 x 25 4017 S
39	12	2012101 Bearing 6201 2RS CODEX
40	8	3505004 Self lock nut M5 D985
41	2	7435060-051 Main frame for Gf head
42	1	6004041-00 Timing and grip plate Hex 24
43	6	3608164 Mushroom head bolt M8 x 16 DIN 903
44	6	2040152 Bearing 6008 ZZ CODEX well greased
45	6	6008092-01 Connecting rod
46	8	3508040 Nut M8 DIN 6334
47	12	6003170-031 Side support plate 230 tine secti
48	2	3008200 Large washer M8 DIN 9021
49	2	3606600 Bolt M6x 60 DIN 931
50	1	6505595-00 Stainless steel roller scraper
51	1	9653020 Safety decall standard
52	12	6006067-06 Excenter plate 24- 6.53 hex 2392
53	3	3606164 Mushroom head bolt M6 x 16 DIN 603
54	2	6012060-02 Bearing support front roller Gf 16/
55	1	6005050-01 Clutch plate with hex hole



N= NEW/ Modified
All bolts/ nuts tight at the average DIN torque

MAREDO GT230 REV 051 s

1	1901
2	x12 DIN933
3	x16 DIN933
4	Distance washer for timing
5	x 30 4017 S
6	re nut M18 Left 1408
7	de nut M6 985
8	cket screw M8 x 30 DN 912
9	2 x 30 x 1.25 DIN961
10	ck nut M12 x 1.25 DIN985
11	sher 37 - 20 - 2 204 bearing
12	nt roller support GT230 1152
13	inter weight GT black
14	washer M8 6798 A
15	oom head bolt M8 x 20 DN 903
16	r M8 DN 125A



L= USE LOCTITE (# 33, 59, 88)
 modified REV50->51 January 2019 (# 3, 37, 62)
 torque level given for the bolt/ nut size

compare part page Jan 2019

CRANKSHAFT TIMING INSTRUCTIONS:
 The bolts of the resp. individual excenter sections 1 to 6 should be in line with the cut outs of the timing washer.

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TIPS/ REMARKS

1. **Do not use the corer unit in wet conditions.** The tines may clog and your turf damaged.
2. **Clean the unit regularly with air or low pressurized water.** DON'T USE HIGH PRESSURIZED WATER. The water can enter the bearings causing them to seize.
3. **Use the trolley to move the heads easily to your triplex.** Next connect the head to your triplex. In some cases, you need to raise the head and remove the trolley, before you can mount the hydraulic motor.
4. **Be careful with tightening the hydraulic motor bolts.** Do it evenly and do not over tighten. The ears of the hydraulic motor may crack.
5. Raise the heads and see if they stay in the right position and does not hit anything. If it does, make some adjustments till it fits well.
5. Be sure that the heads do have **enough ground clearance.** Otherwise the tines can hit the ground during transport, causing the rubbers to crack.
7. **Make your first test run outside the green.** Vary with the engine throttle and the driving speed, if the holes do not look nice. Continue till you are satisfied.
8. Be sure that the **hydraulic motor speed setting of the triplex is set at its maximum.** Next use only 70-80% of the max engine rev's. NOTE: AT THE MOMENT YOU HEAR A SMALL HAMMERING NOISE, YOUR ENGINE/ REEL RPM'S ARE TOO HIGH AND/ OR YOUR RUBBERS ARE WORN.
9. If the hole edge is damaged, play with the groundspeed. You also may need to adjust your working depth. Or you may need to remove your core collector (scraper) at the back. On weak turf, this scraper can hurt the hole edges.
10. **Be careful with dropping the units on a hard (concrete) floor.** Put something (trolley or rubber carpet) underneath to protect the tines against folding. Damage to the 9heads may occur.
11. Check bolts and nuts regularly. Re-tighten if necessary.
12. The core collector has a limited capacity. Make short passes, if you want to collect all the cores to one side of the green.
13. The hole spacing in drive direction is set by the ground speed. Play with the groundspeed to get the right spacing and the correct hole.
14. Do not over-tighten the tine secure bolts, as the threaded holes get damaged.
15. **START AND STOP PROCEDURE:** Set the engine throttle at appr. 60%. Drop the heads and move forwards. Increase throttle till 75% of max revs. **At the end of the pass STOP MOVING FORWARDS** and raise the heads. If you don't stop, the tines may FOLD BACKWARDS (especially TORO) and damage the rubbers or the turf.
16. You can make curves with the heads during work, BUT DO NOT MAKE TIGHT CURVES. Damage to the units and green may appear.
17. The opening of the hollow tines should face to the rear of the machine, otherwise the hole edge will get damaged.
18. **CHECK THE (HYDRAULIC) DRIVE OF THE GREENSMOWER REGULARLY. DO NOT OVERHEAT THE (HYDRAULIC) DRIVE. MAREDO IS NOT RESPONSIBLE FOR DAMAGES TO THE GREENSMOWER.**

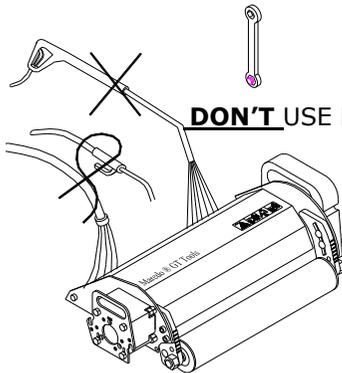
FIRST SETUP:

The heads are standard delivered with the motor connection at the Right-hand side.

We can easily swop this to the Left Side by removing the clutch parts and mount them at the other side of the machine (swop the side weights at the same time). Make sure you mount them in exact the same position as before (do not mirror them).

Next, a parts kit is needed to mount the head to your triplex greensmower. Maredo has several kits available. Each kit comes with its own mounting instructions and parts-list.

MAINTENANCE

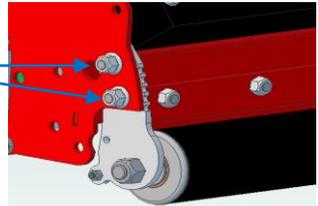


CHECK BOLTS
AND NUTS REGULARLY

DON'T USE HIGH PRESSURIZED WATER TO CLEAN

ADJUSTMENTS/ IMPORTANT NOTES

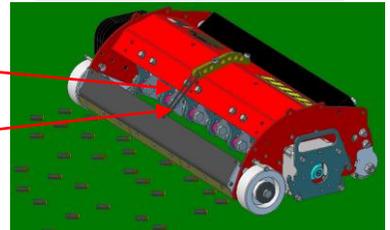
The working depth can be changed, by moving The front roller up or down. Loosen the 2 × 2 bolts, adjust both sides evenly and tighten again. DO NOT OVERTIGHTEN THESE NUTS



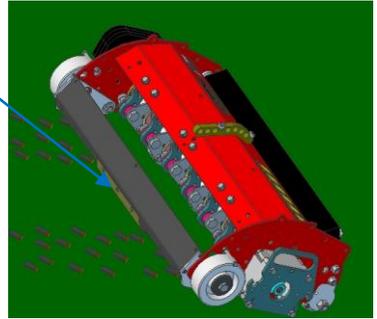
The rear scraper can be removed or simply be tied up. Use a ty-rap or rope and pull the scraper up.

If the core collector is too aggressive, put an elastic band in the centre, which takes some weight off.

In case the core collector hit the rear wheel, move the complete head forward, or remove the scraper completely.



The bottom scraper plate is split in 3 sections. If we work with one and position it in the centre of the triplex wheel behind, we can make longer passes. The cores will be divided and laid down aside the wheel. We can make long passes without the wheel squeezing the cores anymore.



The rubbers are a wear part. The life time depends on the usage. Replacement is easy. The opening of the hollow tine should face to the rear. Do not over tighten the tine secure bolts. The timing of the cams is very critical. The sequence is: 1,6,2, 4,3,5. Check and re-tighten (+Loctite) the main nut on the main shaft. Otherwise the tine sections become loose and vibration occurs. For inspection or easy rubber replacements, you can easily turn the complete tine sections around, if you loosen the U bracket from the main frame.

