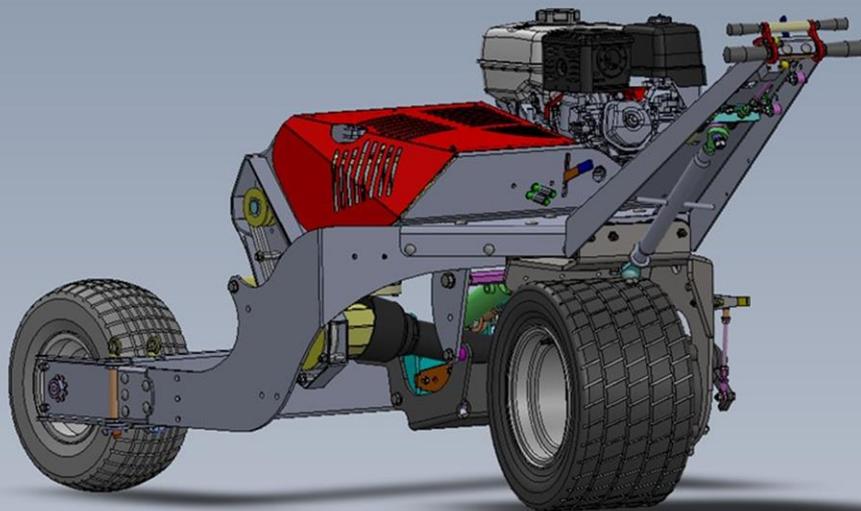




MAREDO STrac 700

Operator manual

STrac 700 Revision: 02



Serial number: _____

Note:

For a safe operation it is essential, that the operator reads and understands the manual of this **MAREDO STrac 700** and ST heads.

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1.0 Foreword

Congratulations on the purchase of a MAREDO ST series machine. To ensure a safe and long-lasting operation of this MAREDO ST machine the owner and/ or operator using this machine should read and understand this user's manual.

Ensure that you understand and practice the safety rules, as described in this manual and shown on the decal.

2.0 Technical specifications

Model	: MAREDO STrac 700 REV. 02
Transport width	: Rear wheel position behind machine: 90 cm. / 35" : Rear wheel position beside machine: 130 cm. / 51"
Working width	: 66 cm. /26"
Engine model	: HONDA GX270 9 HP
Engine oil	: 1 L 5W50 Synthetic motor oil
Hydraulic oil	: 4 L 5W50 Synthetic motor oil
Max. Forward speed	: Hydrostatic 6 km./h.
Max. Reverse speed	: Hydrostatic 4 km./h.
PTO drive	: 540 rpm. Fully mechanical
Weight	: STrac 700 only: 245 kg. / 540 lbs.
Gasoline tank	: 3 L / 0.7 Gal.
Gasoline	: Unleaded E10 (Europe) or unleaded Gas (World)

This MAREDO STrac 700 is delivered accomplished by a warranty against material, design, and assembly errors. This warranty applies for a period of 12 months, starting on the date of purchase.

3.0 EU- Declaration

We, MAREDO BV, Rijksstraatweg 16, 3956 CR Leersum, The Netherlands, hereby declare fully on our authority, that the product:

MAREDO MT200 Flex-Verticutter, with serial numbers as indicated on the machine and in 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 CEO MAREDO BV:
The Netherlands



4.0 Safety instructions

1. Never **disconnect, remove, or adapt any of the safety devices and safety covers.**
2. Every **MAREDO ST operator must be fully informed** and understand how to use the MAREDO machine safely. Reading and understanding the manual before first use of the ST machine is mandatory.
3. **Inspect the surface,** where the MAREDO ST machine will be used. Remove loose obstacles and avoid uneven areas.
4. **Drive carefully** during work and during transport.
5. Ensure that **other people are standing at least 2 m./ 6 ft. away** from the MAREDO ST machine during work and transport.
6. **The driver must wear appropriate clothing.** Wear strong shoes with steel enforced toe caps, long trousers, gloves, protection glasses and tie up long hair.
7. **Never overload** the MAREDO ST. Overloading will be noticeable when a MAREDO head starts vibrating or bouncing. The machine will become unsafe and serious damage could occur.
8. **Inspect the MAREDO ST at least once a week** on loose bolts, loose nuts, and damaged parts. Tighten or repair parts if needed.
9. A MAREDO ST **may never be used without protection covers** and safety decals.
10. **Only use original MAREDO ST spare parts** to ensure a safe operation of the machine.
11. **Never use the MAREDO ST** in darkness, in heavy rain, on frozen grounds, in surfaces which holds rocks and stones and on slopes steeper than 20 degrees.
12. The rear wheels of the STrac 700 will always need to be placed beside the machine when used in **undulated areas.**
13. The rear wheels of the STrac 700 can only be used behind the machine to pass a gate or work close to a fence or wall. It is **forbidden** to use the rear wheels behind the STrac 700 in **undulated areas** as the machine could tip over.
14. Always apply the STrac 700's **handbrake** when parking on slopes and during transport on a trailer.
15. Make sure to always **close the fuel valve** on the engine, during transport and long storage.
16. **Maintain a logbook** of all repairs on the MAREDO ST.
17. Be aware that **changes made at the MAREDO ST,** could release the manufacturer from any safety regulations. The machine should be homologated by the party who made the changes.

Always follow the safety instructions as described on the safety decal:



5.0 First start and first use

After first unpacking (See Separate MAREDO ST unpacking manual) it is important to first check the STrac 700 before starting it for the first time:

5.1 First checks and engine start

5.1.1 Check if all protection covers are in place and undamaged.

5.1.2 Check if the engine oil level is correct. This can be checked by pulling out the grey oil level stick which is located on the front of the HONDA engine (see fig. 1). Oil level should be between the marks.

5.1.3 Check if the hydraulic oil level is correct. This can be checked by pulling out the oil level stick in the hydraulic tank. Make sure the STrac 700 stands on a flat and level surface. This dipstick is easy to reach through the hole in the top cover. The oil level should be between the bottom and top mark. **NEVER START THE ENGINE WHEN THE OIL LEVEL IS TOO HIGH OR TOO LOW.** Drain oil when the oil level is too high or fill with extra oil when the level is too low. See 2.0 Technical specifications for the correct oil.

5.1.4 Check if the PTO lever is in the top position: O (see fig. 2) PTO OFF

5.1.5 Take all needed safety precautions before and during filling the gasoline tank. Make sure not to spill gasoline over the engine. **In case gasoline is spilled over or beside the engine, the engine may not be started for 20 minutes.**

Place the tank cap back right after fuelling.

5.1.6 Check and open the fuel valve on the engine (see fig 1.)

5.1.7 Put the motor switch to 'ON' (see fig 1.) and check if the Emergency Stop on the handlebar is in its top position: ON

5.1.8 For a first (cold) start put the Choke lever on 'Choke' and Throttle on 40 – 50%

5.1.9 Pull engine cord gently towards you. Make sure not pull too hard to prevent injuries. The engine should now start within 1 – 2 pulls. For a Cold start leave the Choke on for about 10 seconds and then switch the Choke off. The Engine should now run smooth. (In case it does not please see 7.0 Trouble shooting). Give the engine some time to warm up.

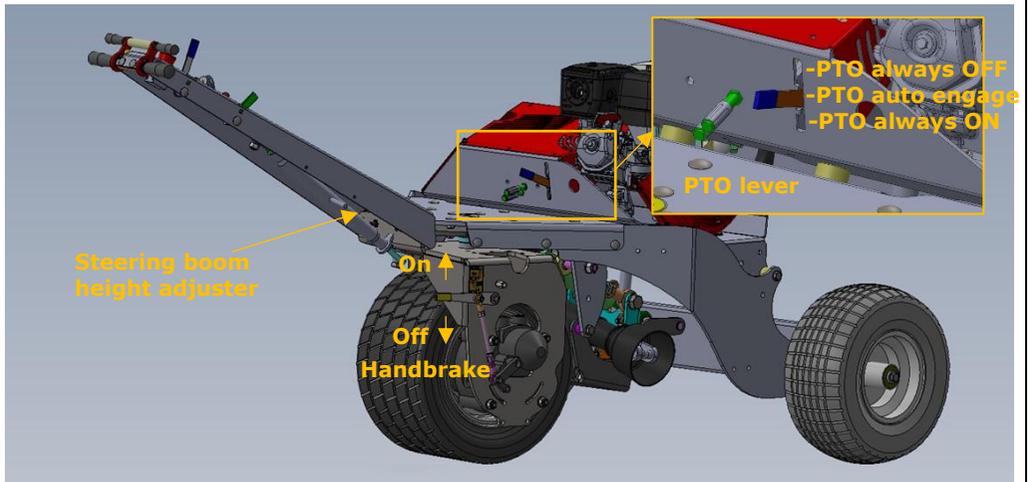
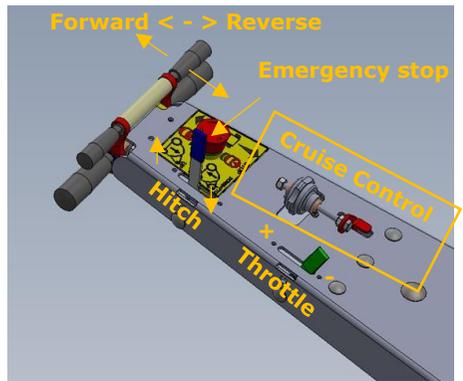
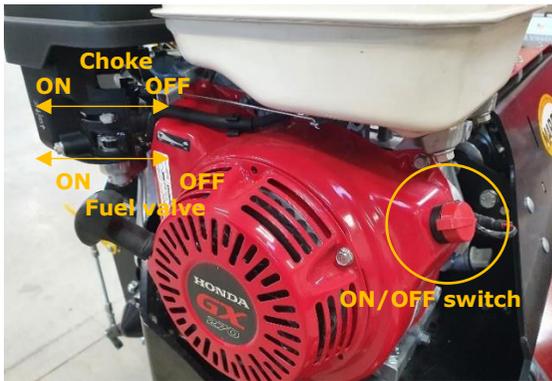


Figure 1: Engine and controls

5.2 ST head connection

5.2.1 After unpacking MAREDO ST heads (see Separate MAREDO ST unpacking manual) they are placed on a MAREDO ST Trolley. Position the MAREDO STrac 700 with the rear of the machine about 1 m/ 3' in front of the ST head which needs to be connected. The front of the ST head can be recognized by the central connection pin which is located on the front.

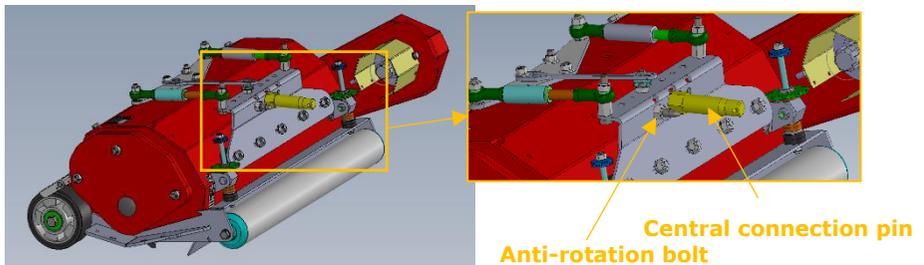


Figure 2: ST head connection.

5.2.2 Place the rear wheels in the position beside the STrac 700 as shown in the image below. To do this the square pin needs to be pulled out. Next the wheels can be put in the position besides the machine and re-locked in place by the square pin see figure 3 below.

5.2.3 Remove the round pin which locks the rear 'door' bracket in place. Either the left or right pin can be removed. Next the rear 'door' bracket can pivot open giving all access to the hydraulic hitch. See figure 4.

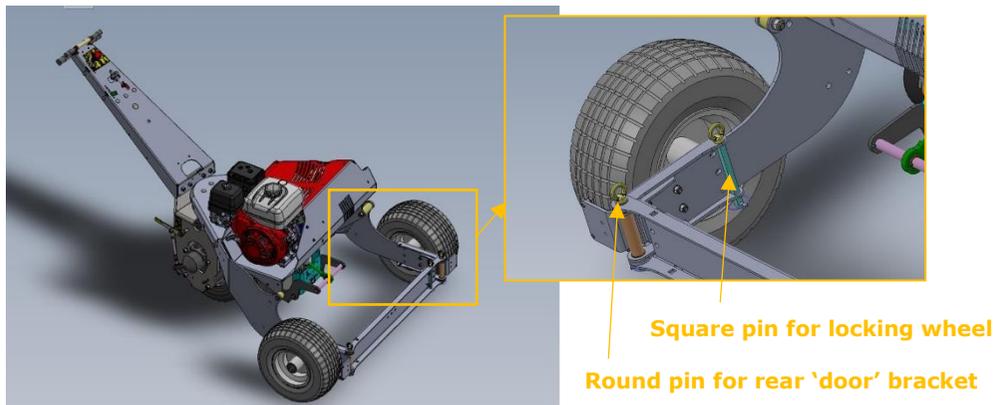


Figure 3: Rear wheel and rear 'door' bracket locking pins.

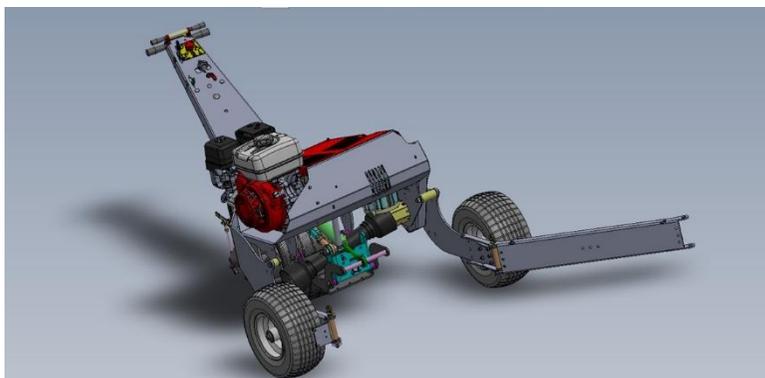


Figure 4: Rear 'door' bracket in open position

5.2.4 Push the hitch control lever on the steering boom forward till it clicks in float position. This makes that the hydraulic hitch can be moved up and down by hand. Roll the ST head on the MAREDO ST trolley forwards towards the STrac 700. Slide the central pin of the ST head into the hole of the hydraulic hitch of the STrac. When the pin is inserted all the way, it can be locked in place with an R-pin.

5.2.5 Connect the PTO to the ST head. Make sure to have the push pin of the PTO facing down to be able to reach it and push it in.

NOTE: Never connect the PTO to the ST head with the engine running. The engine must be switched off during connection and dis-connection of ST heads.

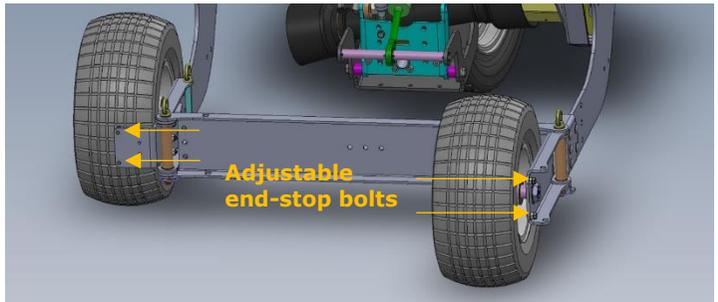
5.2.6 Close the rear 'door' bracket and re-insert the locking pin. Lock this pin in place with the secure pin. Check all connections and then start the engine and lift the ST head by moving the hitch control lever on the steering boom backwards. The ST head is now connected to the STrac 700.

6.0 Adjustments

Several adjustments can be made on the STrac 700. The most important adjustments are described under this chapter.

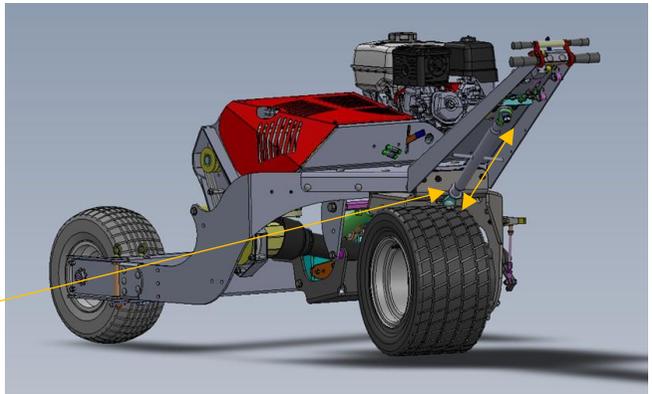
6.1 Rear wheel adjustments:

The adjustable end stop bolts can be adjusted to make the square wheel pins fit without slack.



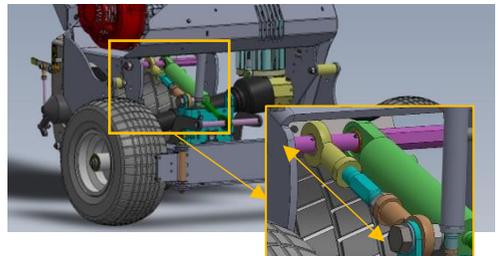
6.2 Steering boom adjustments:

The height of the handlebar can be adjusted underneath the handlebar. The push rod can be shortened or extended by turning it. Once set at the correct height, lock in position with the locking nut.



6.3 Top link adjustments:

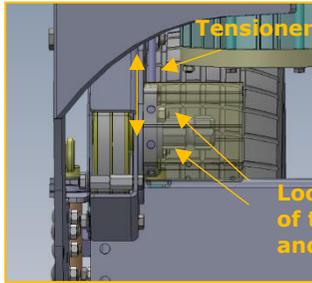
Standard the hitch of the STrac 700 is adjusted correct. If needed the top link of the hitch can be adjusted to create another pitch. Loosen the locking nut and turn on the top link. Next tighten the nut again.



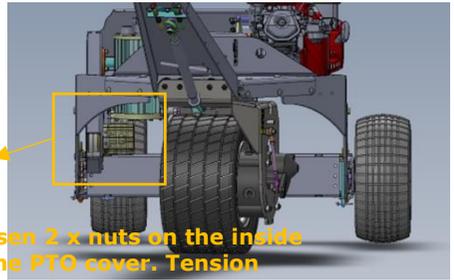
6.4 V-belt drive adjustments/ tensioning:

The PTO side drive V-belts can easily be tensioned as described here:

Do not over tension!



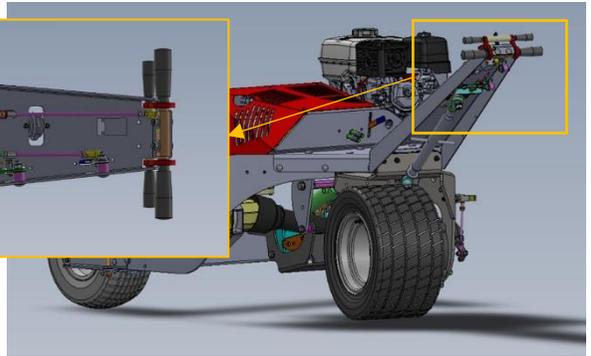
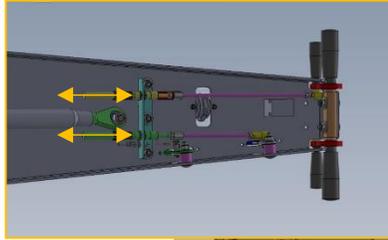
Loosen 2 x nuts on the inside of the PTO cover. Tension and re-tighten again.



6.5 Control cable adjustments:

When new, the cables are set at the correct length. After a period of use re-adjustment might be needed.

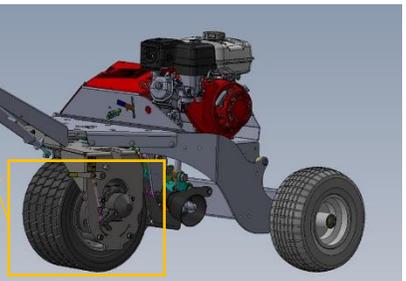
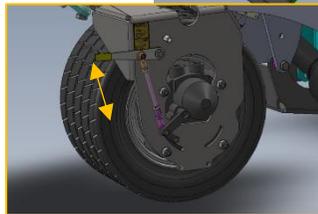
Only adjust cables under the steering boom. Only adjust the outer cables in length and only small steps at a time. Tighten the outer cable nuts well after adjusting.



6.6 Handbrake adjustment:

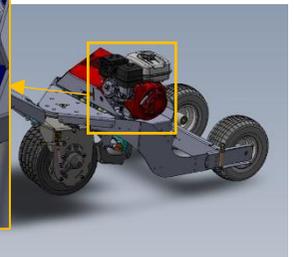
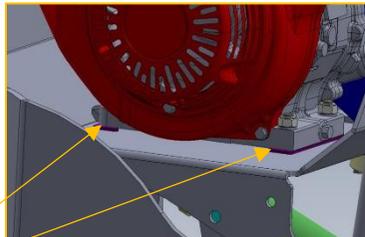
When new the handbrake is adjusted correct. After a period of use re-adjustment might be needed. Release the locking nut on the

handbrake threaded rod and turn the adjuster to shorten the rod. Re-tighten the lock nut again after adjusting.



6.7 Pump chain drive adjustment/ tensioning:

To adjust the pump chain drive the whole engine needs to be adjusted. This can be done by adding or removing filler plates under the engine.



7.0 Maintenance

On each STrac 700 an Hour/tach meter is located below the air filter. Follow maintenance according to the interval as shown in the table below:

STrac 700	Before each use	Every 8 hours	Every 50 hours	Every 100 hours	Every Year	Every 500 hours
Clean air filter			X			
Replace air filter						X
Check engine oil level	X					
Change motor oil					X or	X
Check hydraulic oil level		X				
Change hydraulic oil + replace filter					X or	X
Check tyre pressure				X		
Grease PTO		X				
Grease steering pin			X			
Check and tension V-belts				X		
Check Emergency stop	X					
Check and re-adjust handbrake						X
Check and tension pump chain drive			X			

7.1 Clean air filter: Remove the top nut of the plastic air filter housing. Remove the air filter housing and remove the nut which holds the air filter. Take the air filter out and clean it carefully with compressed air blowing from the inside to the outside of the filter. Always replace damaged air filters. Replace air filters once a year or every 500 hours.

7.2 Check oil level: see 5.1.2

7.3 Replenish motor oil: Take precautions to prevent oil spills. Carefully remove the oil drain plug from the bottom of the engine. Let all oil drain into an oil pan. When all oil is out, re-insert the drain plug and carefully fill the engine with the correct engine oil (see 2.0 Technical specifications) For checking the oil level see 5.1.2.

7.4 Check hydraulic oil level: see 5.1.3

7.5 Replenish hydraulic oil: Take precautions to prevent oil spills. Carefully remove the oil drain plug from the bottom of the hydraulic by using an Allen wrench. Remove the red top cover of the STrac 700 by removing 6 bolts. Remove the plastic cap off the top of the hydraulic tank. This can be done by removing three bolts. Now the hydraulic return filter can be removed and replaced by a new filter. Mount the cover back on the filter housing and mount the red STrac 700 cover back in place. Let all oil drain from the tank into an oil pan. Re-insert the drain plug. Fill the tank to a level just below the top mark on the oil level stick. Start the engine and check for leaks. Let the engine run for 1 – 2 minutes and then stop the engine and check the hydraulic oil level again. If necessary, add more oil.

7.6 Grease PTO: use a grease gun filled with EP2 grease. Turn the PTO covers in a way that the grease nipple can be reached through this hole. Grease 1 x grease nipple of the joint and 1 x grease nipple for the PTO cover per side. Do not over grease!

7.7 Grease steering pin: Turn the steering boom all the way left or right. Look straight from the front into the gap between the front wheel frame and central frame. Here you can see the grease nipple positioned on a bushing. Grease this nipple. Do not over grease!

7.8 Check and tension V-belts: There are in total 5 V-belts in the drive lines of the STrac: three for the PTO clutch and two for the side drive.

7.8.1 Check the triple PTO clutch V-belts: Remove the red top cover of the STrac 700. The three clutch V-belts can be found next to the engine. If these V-belts start slipping, all V-belts need to be replaced. This can easily be done by removing the engine. Take out the four bolts and nuts and bend the motor over forwards to get the pulleys away from under the V-belts and pump-chain. Replace the three V-belts and re position the engine again in the opposite way. Make sure the drive line of the chain and V-belts is aligned. Place the red top cover back in place.

7.8.2: Check the STrac 700 double side V-belt drive: Remove the black side cover on the opposite side of the engine. It is held in place with four nuts. Check the V-belt tension and re-tension if necessary. Re-tensioning can be done on the bottom. Loosen up the two bolts that hold the lower bearing house. Next use the tensioning nut on the STrac to tighten V-belts. Re-tighten the bolts which hold the bearing house and check if the V-belts are not adjusted too tight. Do not over tension the V-belts as this may seriously damage the bearings.

7.9 Check and re-adjust cables: Cables control the throttle, the hydrostatic forward-backward movements, and the hydraulic control valve. It might be necessary to re-adjust these cables. These cables can only be adjusted under the steering boom. Make sure to make small changes at a time when adjusting the cable. When these controls have

improved the cables need to be screwed tight to prevent them from coming loose.

7.10 Check and re-adjust handbrake: An engaged handbrake should hold the STrac 700 always in place. The handbrake can be re-adjusted if it becomes too loose. This can be done by loosening up the locking nut on the connection rod between lever and wheel motor. Shortening this rod means tightening the handbrake. Make sure to lock the locking nut back in place after adjusting.

8.0 Storage

When the STrac 700 will be stored and un-used for a longer period please make sure to follow the next steps:

8.1 Disconnect the ST head from the hitch of the STrac. Next raise the hitch in the top position.

8.2 Drain all fuel from the tank and system by removing the drain plug underneath the carburettor.

8.3 Check and set the correct tyre pressure.

8.4 Lower the steering boom to the lowest position. In this position the steering boom rubbers are in the best position.

8.5 Place the STrac 700 in a dry spot and cover the STrac with a tarp to protect it against dust and moisture.

When the STrac will be taken back in use, make sure to follow all steps as described under 5.0 First start and first use.

9.0 Transport

9.1 Transport on an open trailer or open truck: Always close fuel valve during transport (See figure 1).

Apply handbrake.

Reduce the working depth of the attached ST head to 0 and lower the head onto the MAREDO ST trolley.

Always use a minimum of two straps for securing the ST machine for transport. Connect the straps to the central frame of the STrac and not on the handlebar.

9.2 Transport in a closed trailer or closed van/truck: Always close fuel valve during transport (See figure 1). Drain fuel system (see 8.2)

Apply handbrake.

Reduce the working depth of the attached ST head to 0 and lower the head onto the MAREDO ST trolley.

Always use a minimum of two straps for securing the ST machine for transport. Connect the straps to the central frame of the STrac and not on the handlebar.

10.0 Trouble shooting

Problem:	Possible cause:	Solution:
Engine does not start.	Fuel tank empty. Engine oil level too low. Emergency stop engaged. Broken spark plug. PTO engaged during start.	Refuel. Add engine oil. Disengage Emergency stop. Replace spark plug. Dis-engage PTO.
Engine runs poor.	Fuel tank nearly empty. Wrong fuel in fuel tank. (see 2.0 for correct fuel) Choke still engaged. Clogged air filter. Contaminated fuel system.	Stop and refuel. Stop, drain fuel, and refuel. Disengage choke. Clean or replace air filter. Drain and clean fuel system.
PTO does not engage.	PTO lever not in the correct position. V-belts need to be re-tightened.	Put the PTO lever in the correct position. Re-tighten or replace V-belts.
STrac 700 does not drive or lift the hitch.	Broken chain drive. Hydraulic oil leak. Hydraulic oil level too low.	Replace chain and sprockets. Stop, check for leaks, and repair the leak. Stop and fill hydraulic tank to the correct level.
STrac 700 is hanging to one side.	Unequal tyre pressure.	Check tyre pressure.
STrac 700 does not move forwards or backwards	Handbrake still engaged. Wheel stuck. Hydraulic oil level too low.	Dis-engage handbrake. Check if front wheel can rotate free and remove obstacle(s). Check hydraulic oil level.
STrac 700 vibrates	Loose components. Clogged ST head.	Check and repair loose parts. Clean ST head and reduce working depth of ST head.
Engine is stuck and does not rotate	PTO clutch still engaged.	Dis-engage PTO clutch.
Square (rear) wheel locking pin does not fit correct in the holes.	Wheel bracket stop bolts not adjusted correct. Wheel turned while ST head is not in float position. Brackets not aligned.	Adjust the stop bolts. Lower ST head and try again. Push gently against the bottom of the rear wheel or pull on the bottom of the side leg to align the holes.
Round pin for locking rear 'door' bracket does not fit	Brackets are not aligned	Push or pull the rear 'door' bracket gently left and right until the holes align. Or lift the rear wheel a little to let holes align.
STrac 700 is unstable in undulated areas	Wheels are in the rear position	Position wheels beside the machine

11.0 Options manual: ST170 FlexFraise-Mower

The MAREDO ST170 FlexFraise-Mower is designed as a light renovation head. Be careful not to overload the MAREDO STrac 700 while using the ST170 head.

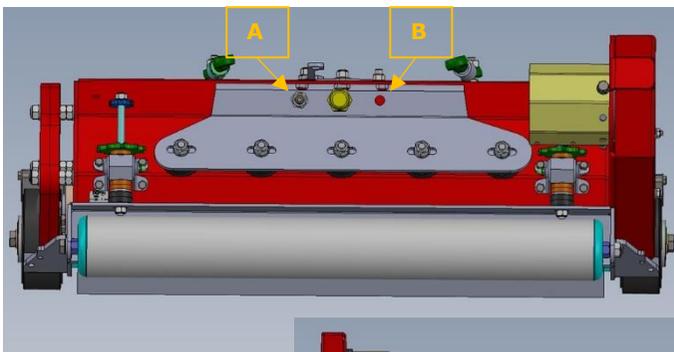
11.1 First start: After connecting the ST170 to the STrac 700 (See 5.2 ST head connection) It is important to start always start at a working depth adjusted at 0 mm. Working depth can be adjusted by the two quick adjusters on the front roller. Actual adjusted working depth can be checked by reading the depth indicator decals on the front of the ST head. Working depth can be increased gently until the desired result is accomplished.

11.2 Lock ST head: The ST170 can be locked in two ways:

11.2.1 Lock left to right rotation pivoting around the central connection pin:

Locking bolt in position A = fixed position.

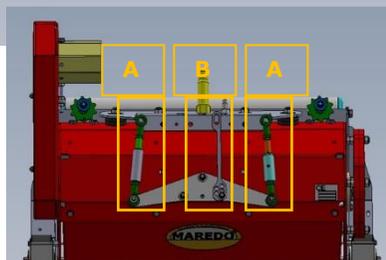
Locking bolt in position B = flexible position, ST head can pivot around central connection pin.



11.2.2 Limit forward to backwards pivoting:

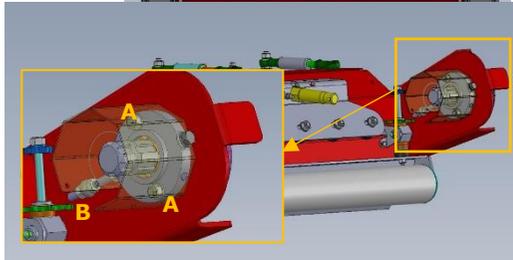
Option A: 2 x pushrods.

Standard B: 1 x locking strip with adjustable hole position.



11.3 Check chain drive: After the first 8 working hours the side chain drive needs to be checked and re-adjusted if needed. After that, every 100 hours the chain drive needs to be checked.

To tension the chain first loosen the two nuts 'A' on the inside of the PTO cover. Next use tensioner 'B' on the underside to tension the chain by moving the whole top sprocket tensioning assembly upwards. Tension till the chain can be pushed in 5 mm/ 0.2". If the top sprocket tensioning assembly is in the top position and the chain is still too loose, re-adjust the sprocket tensioning assembly all the way to the bottom and check by folding the chain if it can be shortened with one chain link. When possible, remove one chain link and re-tension.



11.4 Maintenance: Clean and check for broken or loose parts. Only use original MAREDO spare parts. Always clean with low pressure water or compressed air. Never use a high-pressure washer.

12.0 Options manual: ST200 Flex-Verticutter

The MAREDO ST200 Flex-Verticutter is a high quality verticut-/ scarification head. Be careful not to overload the MAREDO STrac 700 while using the ST200 head.

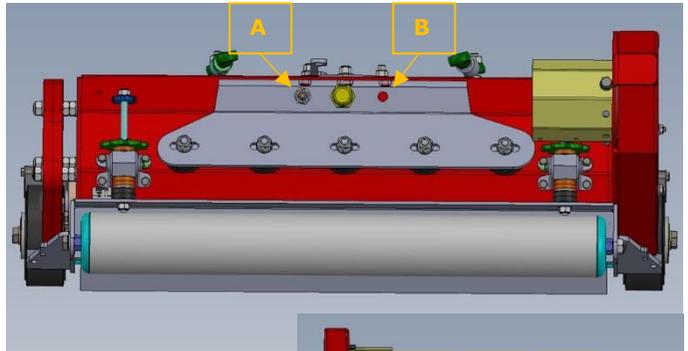
12.1 First start: After connecting the ST200 to the STrac 700 (See 5.2 ST head connection) Working depth can be adjusted by the two quick adjusters on the front roller. Actual adjusted working depth can be checked by reading the depth indicator decals on the front of the ST head. Working depth can be increased gently until the desired result is accomplished.

12.2 Lock ST head: The ST200 can be locked in two ways:

12.2.1 Lock left to right rotation pivoting around the central connection pin:

Locking bolt in position A = fixed position.

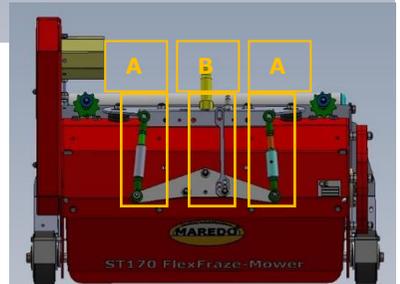
Locking bolt in position B = flexible position, ST head can pivot around central connection pin.



12.2.2 Limit forward to backwards pivoting:

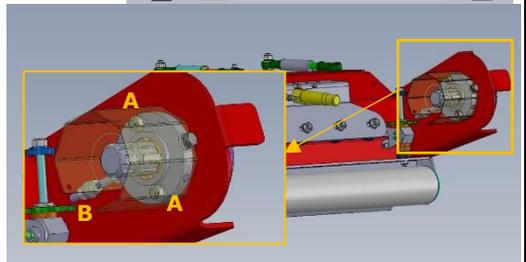
Option A: 2 x pushrods for optimal flexibility.

Option B: 1 x locking strip for reducing flexibility.



12.3 Check chain drive: After the first 8 working hours the side chain drive needs to be checked and re-adjusted if needed. After that, every 100 hours the chain drive needs to be checked.

To tension the chain first loosen the two nuts 'A' on the inside of the PTO cover. Next use tensioner 'B' on the underside to tension the chain by moving the whole top sprocket tensioning assembly upwards. Tension till the chain can be pushed in 5 mm/ 0.2". If the top sprocket tensioning assembly is in the top position and the chain is still too loose, re-adjust the sprocket tensioning assembly all the way to the bottom and check by folding the chain if it can be shortened with one chain link. When possible, remove one chain link and re-tension.



12.4 Maintenance: Clean and check for broken or loose parts. Only use original MAREDO spare parts. Always clean with low pressure water or compressed air. Never use a high-pressure washer.

13.0 Options manual: ST210 VibeSpike-Aerator

The MAREDO ST210 VibeSpike-Aerator is a vibratory spike aerator. The vibration of the spikes breaks compaction.

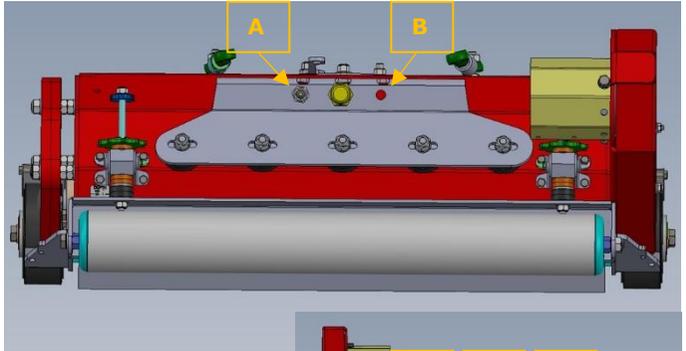
13.1 First start: After connecting the ST210 to the STrac 700 (See 5.2 ST head connection) Working depth can be adjusted by the two quick adjusters on the front roller. Actual adjusted working depth can be checked by reading the depth indicator decals on the front of the ST head. Working depth can be increased gently until the desired result is accomplished.

13.2 Lock ST head: The ST210 can be locked in two ways:

13.2.1 Lock left to right rotation pivoting around the central connection pin:

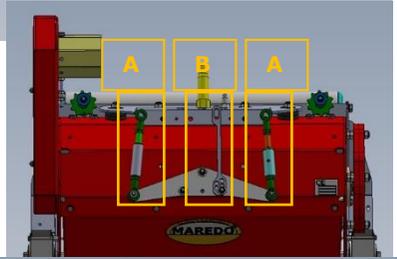
Locking bolt in position A = fixed position.

Locking bolt in position B = flexible position, ST head can pivot around central connection pin.



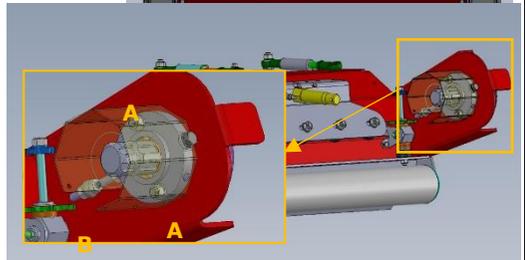
13.2.2 Limit forward to backwards pivoting:

Option A: 2 x pushrods for optimal flexibility.
Option B: 1 x locking strip for reducing flexibility.



13.3 Check V-belt drive: After the first 8 working hours the side V-belt drive needs to be checked and re-adjusted if needed. After that, every 100 hours the belt tension needs to be checked.

To tension the V-belts first loosen the two nuts 'A' on the inside of the PTO cover. Next use tensioner 'B' on the underside to tension the V-belt by moving the whole top pulley tensioning assembly upwards. Tension till the belts can be pushed in 5 mm/ 0.2". **Do not over tension the belts as it may seriously damage the drive line.**

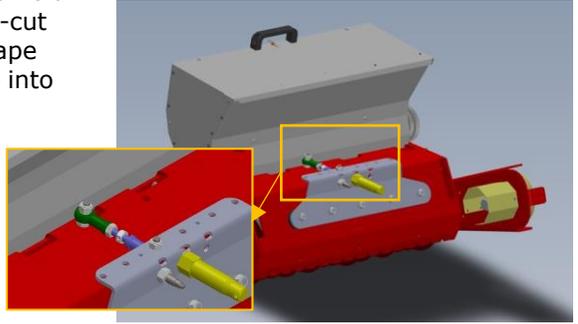


13.4 Maintenance: Clean and check for broken or loose parts. Only use original MAREDO spare parts. Always clean with low pressure water or compressed air. Never use a high-pressure washer.

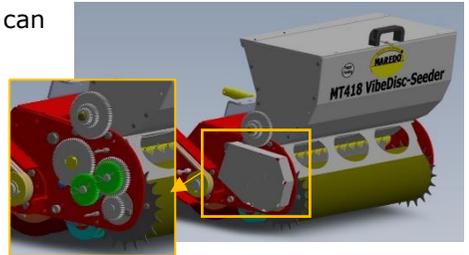
14.0 Options manual: ST418 VibeDisc-Seeder

The MAREDO ST418 VibeDisc-Seeder is a disc overseeder. Vibratory discs pre-cut slits. Smaller discs placed in a V-shape open the slit and allow seed to drop into the slit.

14.1 First start: After connecting the ST418 to the STrac 700 (See [5.2 ST head connection](#)) Working depth can be adjusted by turning the top link on top of the ST418 head. Extending the top link will decrease the working depth. Shortening the top link will increase working depth. Make sure to lock the top link with the locking nut after adjusting.



After the depth adjustment seed dosing rate can be set. This can be done by changing gear reductions in the gearbox beside the rear roller. The highlighted green gears in the image on the right can be interchanged for other gear reductions. A dosage decal on the inside of the gearbox shows which dosage amount comes with which gear reduction. The extra gears are standard supplied.



14.2 Lock ST head: See [11.2 Lock ST head](#)

14.3 Check V-belt drive: See [13.3 Check V-belt drive](#).

14.4 Maintenance: Clean and check for broken or loose parts. Only use original MAREDO spare parts. Always clean with low pressure water or compressed air. Never use a high-pressure washer. Always remove seed from seed box after each use. Clean funnels with compressed air blowing through the funnels.

15.0 Spare parts

Part number:	Description:
5011225	Honda air filter
5013200	Spark plug
4711906	Hydraulic return filter
999903	5W50 Engine + Hydraulic oil



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