

Operating and Parts manual

Turf Tidy

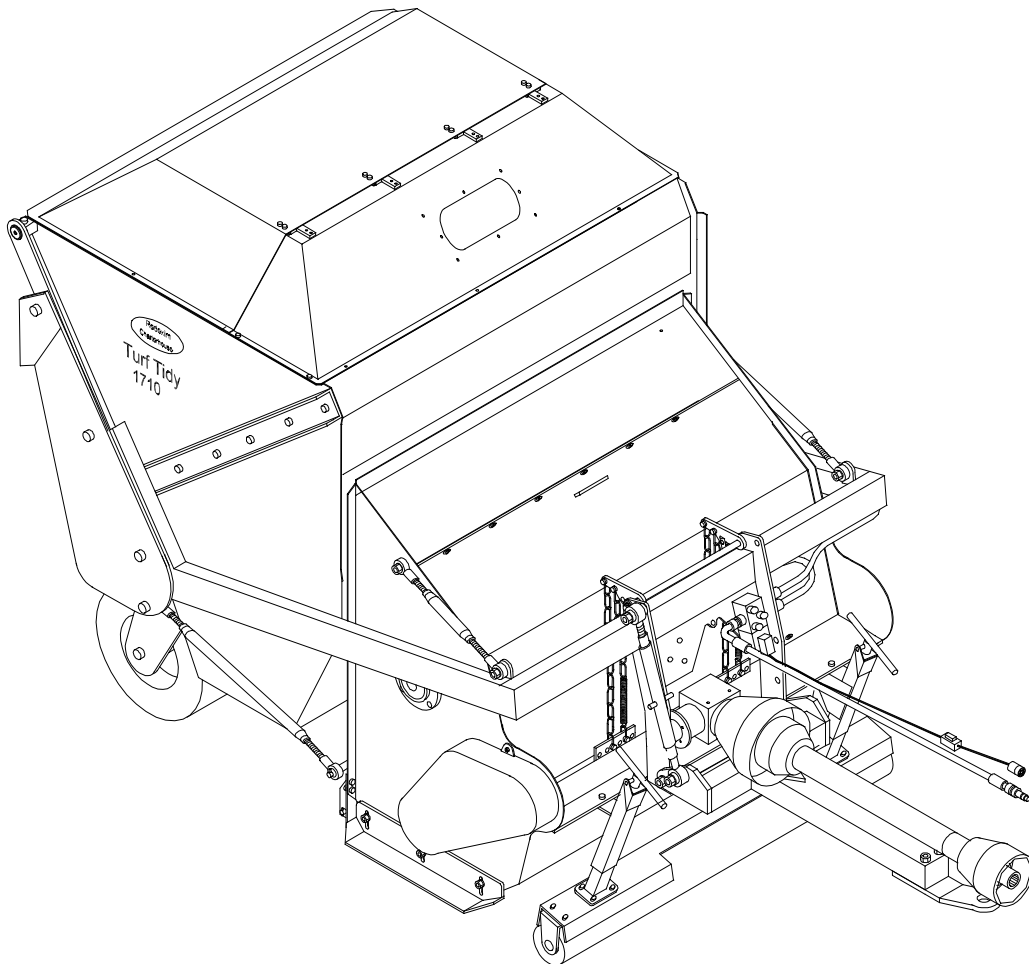
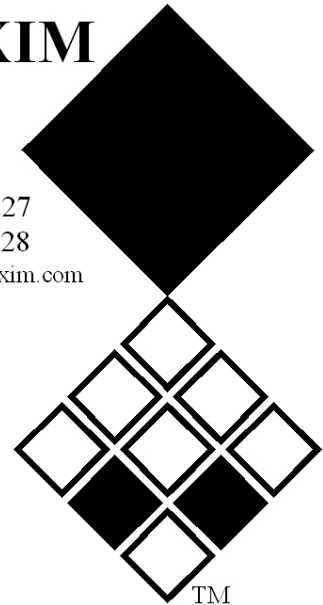
Model 1310 & 1710

Serial number:

Translation of the original operating instructions

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NOTE:

IN ORDER TO ENSURE THE SAFE USE AND TO ACHIEVE THE BEST PERFORMANCE, IT IS ESSENTIAL THAT THIS OPERATING MANUAL IS CAREFULLY READ BEFORE THE TURF TIDY IS USED.

FOREWORD.

Congratulations on the purchase of your TURF TIDY. To ensure the safe and lasting operations of this TURF TIFY you (and anyone using the machine) should read and understand this users manual. A complete knowledge of the contents of the manual is necessary in order to ensure the safe use of this machine.

The TURF TIDY is not an independently operating machine. It is the responsibility of the user to use the correct tractor. The user will also need to check the tractor / TURF TIDY combination on safety aspects, noise level, user instructions and risk analysis.

The TURF TIDY is intended exclusively for grass fields or areas on which grass can grow.

On the following page, we will begin with the safety instructions. Every user must be familiar with these instructions and must follow them carefully. Below you will find a registration card, which should be returned to us so that we are able to process any future claims.

In this manual, many instructions are given which are stated in a number sequence. The user must follow the instructions according to this sequence. **If the * appears this refers to safety instructions.** If the @ is used, this refers to a tip and/ or note.

All information and technical specifications provided at the moment that this document is published are the most recent ones. Design specifications may be changed without prior notice.

This document is a translation of the original operating instructions.

Upon request, the original operating instructions are available in Dutch.

GUARANTEE CONDITIONS.

THIS TURF TIDY PRODUCT IS DELIVERED TO THE CUSTOMER ACCOMPANIED BY A GUARANTEE AGAINST DEFECTS IN THE MATERIALS USED. THIS GUARANTEE APPLIES FOR A PERIOD OF 12 MONTHS AS OF THE DATE OF PURCHASE.

TURF TIDY GUARANTEES ARE SUBJECTED TO THE "GENERAL CONDITIONS FOR SUPPLY OF PLANT AND MACHINERY FOR EXPORT, NUMBER 188", WHICH ARE PUBLISHED UNDER THE AUSPICES OF THE UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE.

REGISTRATION CARD.

For your own record, copy the information from the registration card to the table hereunder.

Serial number of machine	
Name of your distributor	
Date of purchase	
Any remarks	

SAFETY INSTRUCTIONS.

1. Always use the TURF TIDY with the correct tractor as described in the technical information
2. The user is responsible for a safe Tractor/TURF TIDY combination. The combination must be tested for noise, safety, risk and easy usage. It is also necessary to draw up user instructions.
3. Every TURF TIDY user must be fully informed of the information contained in the user manual.
4. Inspect the ground where the TURF TIDY is to be applied. Remove loose obstacles, avoid uneven ground.
5. Never step off the tractor if the engine is still running.
6. Ensure that other people are standing at least 4 mtr. (14') away from the TURF TIDY.
7. Use appropriate clothing. Wear strong shoes with a steel inforced toe cap, long trousers, tie up long hair. Do not have any loose pieces of clothing.
8. Never try to force the TURF TIDY, a situation which is visible in the unstable behavior of the TURF TIDY.
9. Check the TURF TIDY once a week to ensure there are no loose screws or nuts and bolts.
10. The TURF TIDY may never be used without protection covers and safety stickers.
11. NEVER crawl underneath the TURF TIDY.
12. Always switch off the engine and uncouple the power take off, before starting any maintenance, adjustment or repair. Also block the TURF TIDY against sinking and block it against forward/backward movement or sliding.
13. Use only the original TURF TIDY spare parts in order to ensure the safe operation of the machine.
14. Never use the TURF TIDY in the dark, in heavy rain, on frozen ground, stormy conditions or on slopes greater than 20 degrees.
15. Before operating the machine, also read the instructions and the maintenance information for the power take off. This component has its own certification mark.
16. Maintain a log book of repairs.
17. If any modifications are carried out on the machine the CE certification mark will be no longer valid. The User/Dealer himself must then have the machine re-certified.

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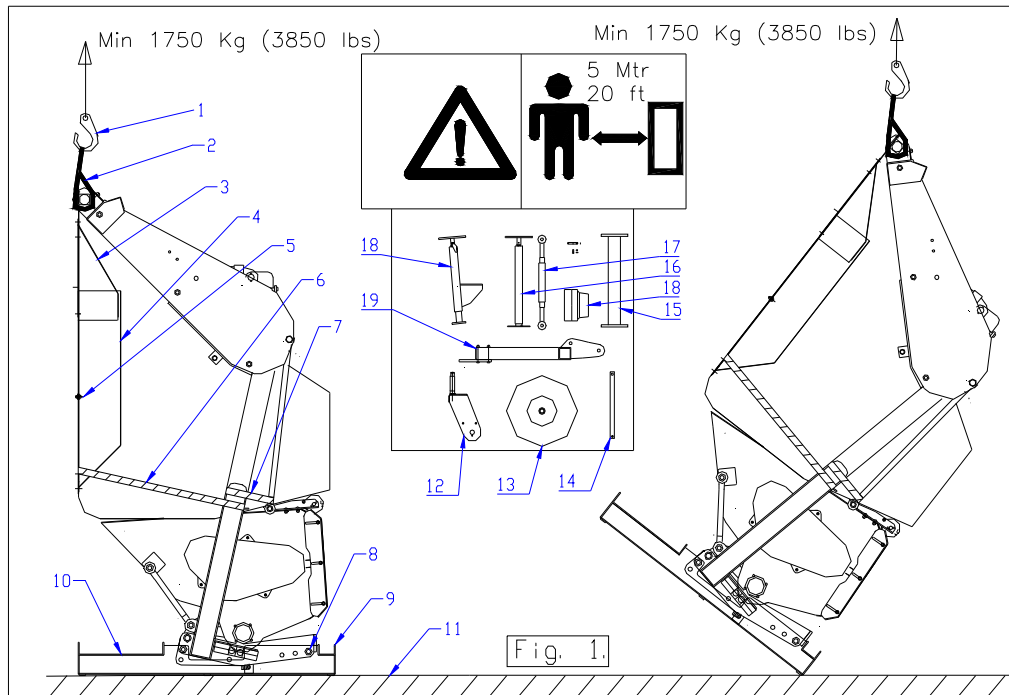
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1.0 TECHNICAL SPECIFICATIONS.

<u>Model:</u>	<u>1310</u>	<u>1710</u>
Working width:	1300 mm (60")	1700 mm (72")
Tractor speed @ 540 rev's at PTO		
Sweeping	1-10 km/h (0.6- 6 mph)	1-10 km/h (0.6- 6 mph)
Scarifying	1-5 km/h (0.6- 3 mph)	1-5 km/h (0.6- 3 mph)
Flail mower	1-2 km/h (0.6- 1.5 mph)	1-2 km/h (0.6- 1.5 mph)
PTO speed:	Up to 540	Up to 540 rpm
Weight:	890 Kg (1960 lbs)	990 Kg (2180 lbs)
Slit spacing side-to-side: (as scarifier)	24 mm (0.95 ")	24 mm (0.95")
Recommended min. tractor size:		
As Sweeper:	20 HP	25 HP
As Scarifier:	28HP	32 HP
As Flail mower:	35 HP	40 HP
Tractor hydraulic requirements	Single acting outlet Maximum 175 bar (2500 psi)	Single acting outlet Maximum 175 bar (2500 psi)
Tractor hitch	Trailed ring and pin Short coupled at 3-point bottom arms	Trailed ring and pin
Hopper Capacity	1.8 cubic meter (63 cubic ft)	2.3 cubic meter (81 cubic ft)
Tipping height	1680 mm (67")	1680 mm (67")
Transmission oil	SAE 90	SAE 90
Rear Tire Pressure	0.8- 1.8 bar (11- 25 psi)	0.8- 1.8 bar (11-25 psi)
Electrical power	12 Volt DC, 15 Amp	12 Volt DC, 15 Amp
Lubrication grease	EP 2	EP 2
Standard items	Set scarifier blades PTO shaft Product manual Draw bar	Set scarifier blades PTO shaft Product manual Draw bar
Shipping dimension	120 x 170 x 228 cm(LxWxH) (48"x 68" x 92")	120 x 207 x 228 cm (LxWxH) (48"x 83" x 92")

2.0 FIRST SETUP, LIFTING MACHINE FROM PALLET.

The machine stands vertically up on the pallet. To remove the pallet and place the machine horizontal on the ground, handle as follows (see fig.1)



Place

the machine with pallet on a hard leveled floor 11, fig 1.

1. Remove all separate packed components 12 –19 etc. from the pallet, the head and (inside) the hopper.
2. Connect a cable or chain with a length of 2800 mm (112”) and a load capacity of 4000 Kg (9000 lbs) with two well rated D shackles around the pivot shafts of the hopper 2, fig.1.
3. Connect the cable to a hoisting crane 1, fig.1., with a lift capacity of minimum 1750 Kg (4000 lbs). A fork lift truck may be used as well, if the fork length and lift capacity do match. Enter from side 11, fig.1., when using a lift truck.
- **Ensure the fork lift capacity is enough at the lift point.**
- **Ensure that the string is securely tightened.**
4. Carefully raise the machine with pallet attached.
- **No bystanders allowed within a distance of 5 mtr (20’).**
5. When the machine starts to tip at the pallet end, slowly and gently start dropping the machine.
- **Ensure the crane/ lift point can move with the machine when the machine tips. The string should stay secured all the time.**
6. Gently lower the machine, that tips around the pallet, till it is close to the ground.
7. Assemble both rear wheels 13, shafts 14, castor supports 12 and connector beam 15 .
8. Drop the Turf Tidy gently with the wheels on the ground.

9. Block the wheels from moving. Disconnect the cable.
10. Connect the cable at the pallet side of the Turf Tidy and raise the machine.
 - **Be sure the unit is well secured, so it doesn't move when lifting**
 - **The cable should be well secured to the chassis of the machine and lifting device.**
11. Raise the Turf Tidy and remove the pallet by disassembling the fixing points 8.
12. Put the jack stand 16 on the Turf Tidy.
13. Lower the machine till it stands on the jack.
14. Next the machine can be prepared for the tractor, see chapter 2.1.

PS. If you are not sure how to assemble the parts, please study the spare part pages at the end of this manual for a full understanding.

3.0 PREPARING THE TURF TIDY.

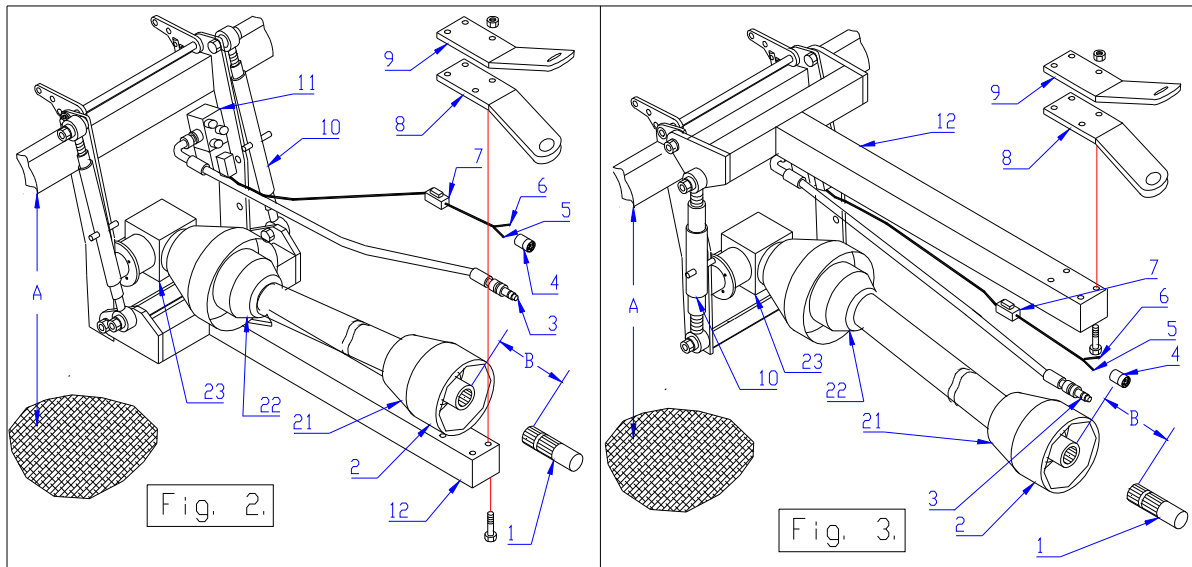
3.1 THE PULLED VERSION.

Both models are standard delivered as pulled versions.

Remove all straps that hold the machine together.

Start assembling the several items:

- Top cover and door of hopper. They are reversed (4 in Fig.1.) and bolted (5) on the hopper. Remove them completely. Mount the smallest front one first. Add the pivots. Mount the door to the pivots only. Align the cover and door before finally tightening all bolts and nuts. Check whether the door pivots well.
- Add the PTO cover to the gearbox.
- The rear roller may need assembly
- The front roller with the two jacks has to be mounted to the head.



The Turf Tidy draw bar 1 can be fitted in two position, see Fig.2 and 3. This allows the machine to cope with an upper and bottom tractor hook up point.

The draw bar plate 8 can be bolted on in four positions. Since it is bent, it can be set at two different positions (8 and 9), above and under the main draw bar box section. Choose the position at which the draw bar plate aligns the best with the tractor hook up. Tighten all bolts carefully.

Connect the Turf-Tidy to the tractor.

With turnbuckles 10 we can adjust the machine height to the ground. The size A should be 805 mm (32"). When correctly adjusted, we will use the maximum stroke of the head.

For PTO information, see Chapter 5.

Next the hydraulic hose should be connected to a (single) acting outlet of the tractor. Use a correct quick connector 3.

*** A flow reducer is built in right after the quick connector. That may never be taken out, since the drop speed of the head and hopper would become unsafe high and damage may appear.**

Standard the Turf Tidy is equipped with an electrically operated switch valve 11. This valve will switch the single input from the head to the hopper, when activated.

When 12 Volt DC is applied to the solenoid, the valve switches. It may take up to 12 Amp. An electrical switch 7 is standard built into the cable. The connector 4 is not standard delivered all the times, as we have many different systems.

However we advise to connect one of the wires e.g. 5 to the mass and the other one 6 to the Brake Light connector point at the tractor (used for trailers lightening). So when we use the brake, the switch valve switches, when switch 7 is on.

*** This means that when we tip the hopper, the tractor driver has to put the brake on, which is what we want during emptying the hopper.**

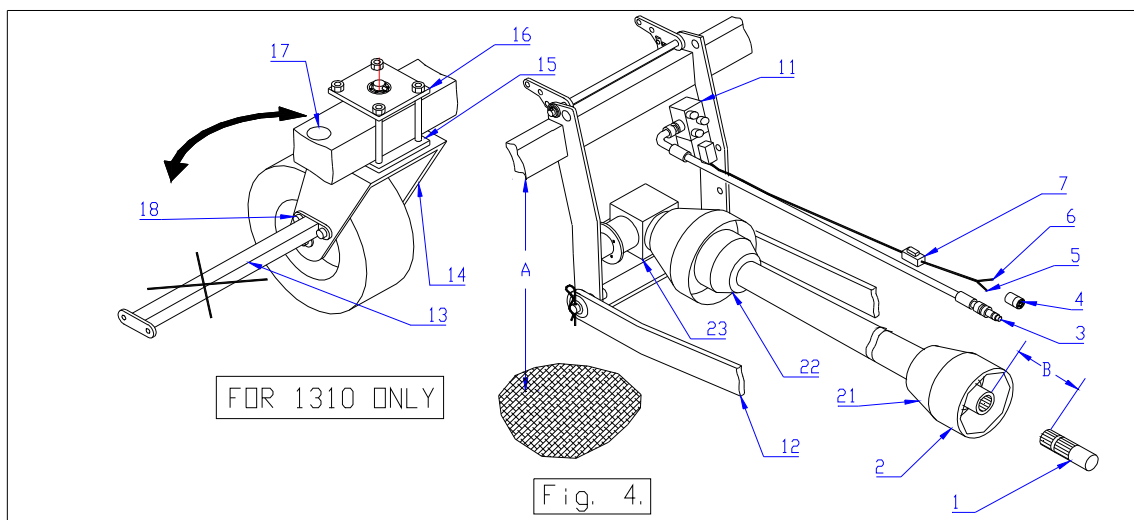
In case such a brake light connection point is not available, a continuous 12Volt point may be connected to the wire 6. (5 has to be on the mass). By using the switch 7, the driver can swap between the two hydraulic systems.

- **Be sure a fuse is built in the 12 Volt supply point.**
- **Guide the hydraulic hose and electric cable nicely, so they aren't caught.**

@ If the wire is too short, it may be extended, so it can be positioned at the correct place for the driver.

@ It doesn't make a difference which wire is 12 Volt and which one is connected to the mass.

3.2 THE SHORT- COUPLED- VERSION.



The model 1310 can be used as a short coupled version as well, which means that the machine is connected to the two bottom arms 12 of the tractor's 3-point linkage, see Fig.4.

Read Chapter 3.1. carefully as well, regarding all comments and notes for the hydraulics and electrical connections.

Our short coupled version works different than other comparable machines on the market. The 3-point linkage has to be set at a certain height which should be kept all the time. It needs to be set at a height till $A = 805 \text{ mm}$ (32"). The head is raised and lowered as with the pulled version. The great advantage of this system is that no matter how full the hopper is loaded, the weight on the head stays always the same, since the hopper weight is carried by the 3-point linkage.

At the moment the machine is transformed to a short-coupled-version, the connecting beam 13 between the rear wheel castor supports 14 has to be removed. This enables the rear wheels to turn when the machine swings.

- **When the machine is rebuilt to a pulled version, the connecting beam 13 has to be mounted right away.**
- **Be careful driving the short coupled version. Turning the tractor means that the machines swings away.**
- **Be carefull with overloading the main chassis of the Turf-Tidy when short coupled.**
- **Block the side movement of the bottom arms of the 3-point linkage.**
- **Do not use the 1710 as a short-coupled-version.**
- **The maximum transport speed is to be reduced to 20 km/h (14 mph).**

@ See the part pages for information on the part number of the kit.

17. Safety decal 911.280.402: **Keep distance to the machine, switch off engine and lock machine when maintaining or adjusting and be aware of moving parts.**
 18. Lift cable.
 19. Shoe. **Should be close to the ground all the time. So adjust them when height is altered.**
 20. Nut holding the shoes.
 21. Main V-belt drive cover.
 22. Rear roller for anti scalping. Should be approximately 10 mm (3/8") above the ground
 23. Manual box with operating manual and decal RA: **Read manual first.**
 24. Top guide rod head. Is adjustable. See manual for further instructions, when necessary.
 25. Access door head. **SHOULD ALWAYS BE ON AND SECURED.**
 26. Bottom guide rod head. Is adjustable. See manual for further instruction.
 27. Rear wheel.
 28. Safety decal: Keep fingers away.
- **All safety decals and protection covers should be on the machines all time. If damaged or lost, replace them immediately.**
 - **Never creep under the tipped hopper.**
 - **When tipping or dropping the hopper, everyone should stand clear 4 mtr (16') from the machine.**
 - **Do not stand between the tractor and the machine**
 - **When adjustments are needed, switch the engine off.**

5.0 PTO.

The PTO is a very important item. It drives the machine from the tractor and ensures the safe operation when correctly maintained and installed. The PTO shaft has its own CE certification. Read the PTO shaft manual, which is connected to the shaft itself.

Some important notes on the PTO drive, see Fig.2,3,4.:

1. It is very important that the joint angles 21 and 22 are the same. If the difference is more than 10 degrees, the rotational speed to the gearbox 23 starts to be irregular. This will create vibrations in the drive line towards the rotors and will cause damages to the machine.
 2. The difference under 1 arises e.g. when we make (tight) turns with the machine when used as a sweeper. That will create damages to the machine in the end. If people want to make (tight) turns during work a wide angle PTO is necessary.
 3. Under normal conditions (making straight passes) we will not create vibrations on the drive line if the machine is well set, see chapter 3.
- **The unit may not be used when the PTO cover is damaged. Replace immediately.**
 - **Be sure the PTO protection cover is assembled and undamaged too**
 - **For maintenance, see the instructions on the PTO shaft.**
 - **The maximum speed of the PTO is 540 rpm's**

5.1 PTO LENGTH.

The length of the PTO is very important. When too long, the transmission of the tractor and/or TURF TIDY may be damaged. When the overlap length of the tubes drops under 300 mm (12") anytime, the PTO may get damaged as well.

The size B, fig.2,3,4., should be 100 mm (4") minimum to allow the PTO tubes to move freely all the time. If this distance B is less, the PTO should be cut till size B is achieved.

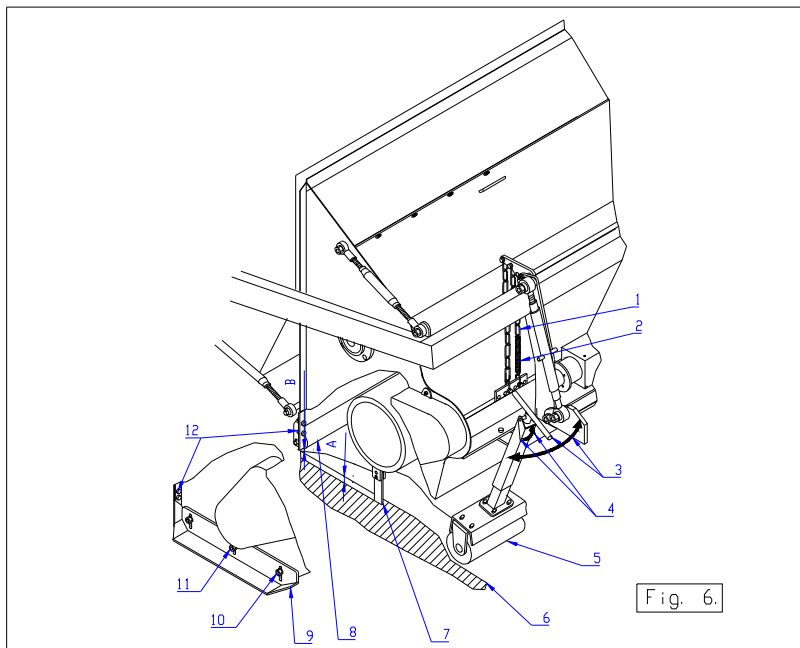
*** the length changes when the head is raised or when another tractor is used or when (tight) turn are being made. Check size B for the worst case.**

6.0 WORKING DEPTH ADJUSTMENT.

The position of the head to the ground can be adjusted. As a scarifier, the knives should go in the ground. As a sweeper or flail mower, the head should work at a higher position. That can all be achieved.

6.1 ADJUSTING THE FRONT ROLLER.

The head is mainly supported by the front roller 5, see fig.6. The front roller should support the head all the time. The rear roller should be B= 10 mm (5/8") from the ground all the time, which will prevent the head from scalping the turf.



With flail mowing or sweeping, the front roller can be exchanged with castor wheels, see the options in the manual. With the castor wheels, we can make turns with the unit as well, which is barely possible with the standard front roller mounted on.

To adjust the front roller, work as follows see fig.6.:

- **Be sure the engine is shut down**
- **The head should be raised and secured with D shackle 13 (see fig 5.)**
- **Don't creep under the machine.**
- **Be sure the machine is blocked.**

1. Use both turn buckles 3 to adjust the front roller position. The turn buckles are secured with lock 4.
@ Do not adjust one side more than two turns, compensate the other side first.
2. When the correct depth A is achieved, continue to work with the machine.

6.2 ADJUSTING THE REAR ROLLER.

As mentioned in 5.1, the rear roller 22 (Fig 5.) should be close to the ground to prevent scalping of the turf when the machine is used as a scarifier or sweeper.

To adjust the rear roller, work as follows see fig.6.:

- **Be sure the engine is shut off**
- **The head should be raised and secured with D- shackle 13 (see fig.5.)**
- **Don't creep under the machine.**
- **Be sure the machine is blocked.**

Adjusting the rear roller goes as follows, see fig 6.:

1. Slacken nut 12.
2. Move the roller up or down by hand.
3. When the desired position is achieved, tighten nuts 12 at both sides.

@ Be sure both sides are set the same.

6.3 WEIGHT COMPENSATION SPRINGS.

The roller can support the head all the time.

However when small turns are made with the machine during work, the weight from the head has to be reduced. If not the head is pushed sideward and damages will appear to the head and the lift mechanism.

The spring load 2 (Fig.6.) can be adjusted by shortening or lengthening the chain 1. If the spring load is increased, (tighter) turns are easier to make.

The spring load 2 can only be changed when the head is fully up and secured. Choose the next chain shackle (adjust both springs evenly). The spring load also retracts the hydraulic cylinder when the unit is lowered and the valve is opened for a little longer.

7.0 GROUND SPEED / POWER REQUIREMENTS.

The ground speed is directly related to the power needed for the job. The more power, the lower the forward speed.

If we are transmitting too much power, the following may happen:

- the V belts may start to slip.
- The blades are swinging more around the pins, causing excessive wear on pins and holes
- The blades are wearing quicker and in a wrong direction.
- Due to the swinging of the blades, the secure clips on the pins may break and blades coming off the rotor.

The machine is heavily built, so you wouldn't notice an overload quickly. It is however important to judge the power requirements. Take the following notes in considerations:

When used as a scarifier:

- what is the working depth. The deeper, the more power.
- What is the toughness of the material we are cutting. The tougher, the more power.
- What is the ground speed. The more speed, the more load on a blade.
- Condition of the blades. The more worn, the more the power.

- When used as a sweeper:

- More material to collect asks for more power.
- The heavier the material, the more power.
- Undulations and other obstacles that are hit by the brushes, will increase the power
- The faster we go, the more power is needed.

- When used as a flail mower:

- The tougher the grass, the more power is required.
- Thicker/more grass increases the load on the blades.
- The more speed, the more power is required.
- Worn blades will increase the power requirement dramatically.

The general ruling is that when the load on the blades increases, the ground speed has to be reduced. See for guidelines the Technical Specs.

Some scarifier blades and the flail blades can pivot around the pins. The centrifugal force has to keep the blades at their position. When the load increases, the blades are swinging around the pins, which will wear the pins and loosen the secure clips. The ground speed has to be reduced.

Since the centrifugal force is directly related to the rpm's of the rotor, it is recommended to increase the rev's on the rotor / PTO, which will increase the load resistance on the rotatable blades. We can go up to 750 rpm on the PTO in rough conditions.

When fixed (scarifier) blades are used, the maximum rpm on the PTO should be 540 rpm. For the brushes 300-400 rpm's on the PTO will do.

8.0 GENERAL NOTES ON USING THE TURF TIDY.

The TURF TIDY can only be used when the circumstances are right. First some items regarding the working area:

1. Are there any loose objects on the field. If so, these must be removed first.
2. Are there any slopes? The maximum slope for the TURF TIDY is 20 degrees. Always operate the TURF TIDY from the top to the bottom of a slope.
3. Is there any danger of flying objects such as golf balls, which could distract the attention of the driver? If so, the Turf Tidy can not be used at that moment.
4. Is there any danger of subsidence of land/ mud slides? If so, the Turf Tidy cannot be operated on the field at that moment.
5. Is the ground frozen or very wet? Postpone the operation till the circumstances are better.
6. If the ground is very compacted, adjust forward speed and depth of working.

Next some items related to the TURF TIDY:

1. Do not overload the Turf Tidy, see chapter 6.0
2. Do not make (tight) turns. If you need to do so, check the weight compensation (chapter 5.3) and the PTO (chapter 4.0).
3. Do not allow anybody close to the machine.
4. Tipping the hopper may only be done on a hard leveled ground.
5. Never drive with the Turf Tidy when the hopper isn't down.
6. Do not overload the hopper. It will not tip and emptying by hand is necessary

9.0 ROAD TRANSPORTATION OF TURF TIDY.

The user is responsible for the transport of the TURF TIDY behind the tractor along the public streets. Check on the national legislation's. Across open ground a maximum speed of 25 km/h (16 mph) applies. In view of the weight of the TURF TIDY, a higher speed could be dangerous for the driver and bystanders. The machine could also suffer damage due to jolt which can occur with higher speeds.

10.0 PROBLEM ANALYSIS.

Machine vibrates	Missing blades/ brushes Rotor out of balance PTO shaft damaged Drive line vibrates Ground conditions Are the brushes damaged Damage to machine Rotor bearings failed Overspeeding	Check and replace Check for damages and or material wrapped around Check carefully Adjust working conditions Use wide angle PTO Check and replace. Check items Check and replace Check PTO rpm's
Blades/ pins/ secure clips bending/ breaking	Overload Field obstacle Wrong type blade	Check ground conditions and Adjust working parameters Rough uneven grounds Remove them first Decrease PTO rpm's Change blades Change to other type of blade Adjust working depth Check rpm's PTO
No clean surface	Ground very wet Not enough draft	If possible, postpone job Reduce ground speed Increase PTO speed Add brushes to main rotor Increase PTO speed
Unstable behavior head	Too much weight compensation Rough ground Rotors out of balance	Reduce weight compensation Use front roller, not wheels See "machine vibrates"
Damage to the turf	Bad turf conditions Blunt blades	Reduce working depth Reduce forward speed Use other blades Replace/ swap blades

11.0 MAINTENANCE.

Pre-Delivery-Inspection	Grease rotor bearings Check bolts/ nuts Connect the unit to a tractor Run unit for 5 min Check oil level gearbox	4 shots each EP 2 See instructions in this manual Look and listen
After first 20 hours (new or repaired)	Grease PTO shaft bearings Grease rotor bearings Check bolts/nuts Check oil level gearbox Inspect blades/ brushes Inspect the overall machine	2 shots each EP 2 4 shots each EP 2
After every 100 hours	Grease PTO shaft bearings Grease rotor and rollers bearings Check bolts/nuts Check oil level gearbox Inspect blades/ brushes Inspect the machine Clean head and hopper inside	2 shots each EP 2 4 shots each EP 2
After every 500 hours	Change gearbox oil Grease and adjust wheel bearings Check all bolts/ nuts Check components for wear	Use SAE EP 90

12.0 EU-Declaration

We, Redexim Utrechtseweg 127 3702 AC Zeist Holland, hereby declare fully on our authority that the product:

TURF TIDY 1310/ 1710, WITH MACHINE NUMBER AS INDICATED ON THE MACHINE AND MENTIONED IN THIS MANUAL,

to which this declaration relates is according to the stipulation of the 2006/42/EC directive for machines.

Zeist, 01/10/09



A.C. Bos

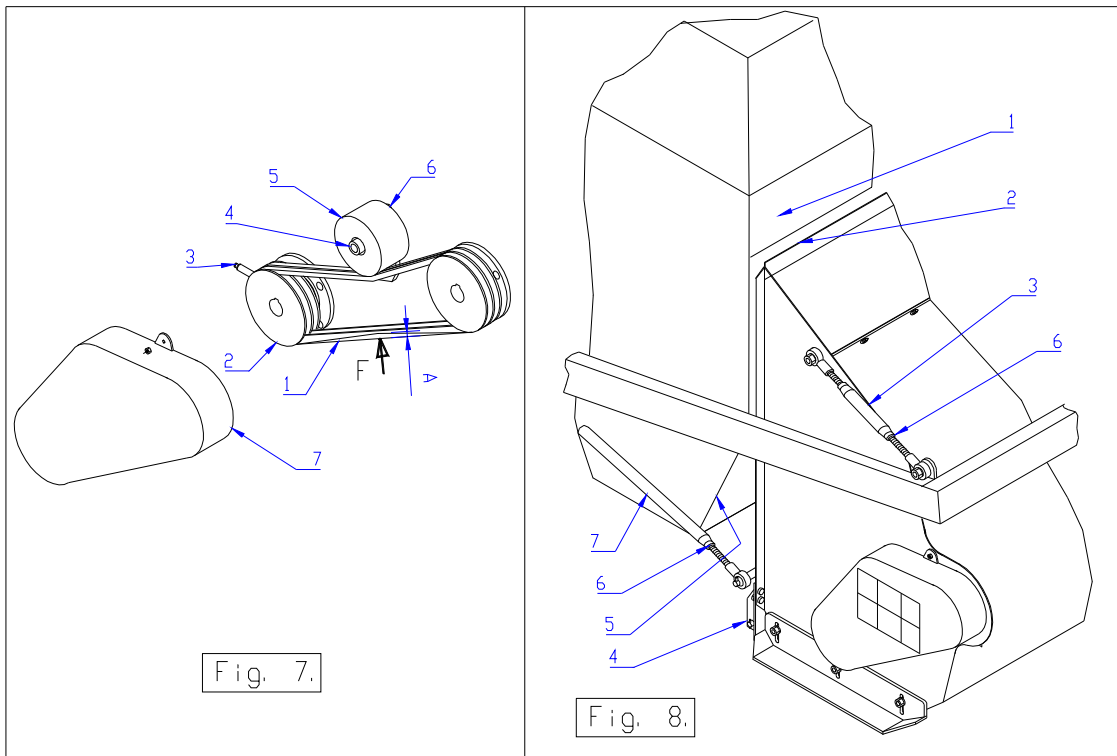
Manager Operations & Logistics
Redexim Holland

13.0 TECHNICAL ISSUES.

13.1 BELT TENSION ADJUSTMENT.

The main rotor is driven directly from the gearbox via 2 V-belts at the right side of the head. At the left side, the V belt drive for the second rotor is taken from the main rotor.

Both belts are tensioned via an identical idler.



Tensioning the belts goes as follows, see Fig 7:

1. Switch off engine and lower the head on the ground.
2. Remove the protection cover 7. NOTE. The cover at the left side (second rotor) can only be removed when the head is fully down or better the main frame is fully up. Disassemble the cable 18 and spring 16 (fig 5), and move the main frame up via the support jack. Next the cover can be removed.
3. Check the tension. When a force of 150 N (33 lbs) is applied per belt, A should be 5-10 mm (1/4" - 1/2").
4. If the tension isn't correct, slacken nut 4 and push the idler 5 down by hand. The idler will slide into its support plate 6. Tighten nut 4 and check the tension as mentioned under 3).

5. Rotate the pulleys by hand and check the alignment. If okay, assemble the protection cover.

@ When the V-belts are worn, adjusting the tension wouldn't help preventing the slip. Replace the V-belts.

@ Do not overtighten the belts. Damage to the machine may appear.

13.2 REPOSITIONING THE HEAD.

The head is positioned in the main frame with two top guide rods 3 (see Fig.8.) and two bottom guide rods 7. All these rods have pivot eyes at their ends, which makes the head extremely flexible.

Since the head is so flexible, the head should have a certain distance to the hopper. This distance can be adjusted, within certain limits, as follows:

1. When the head is fully down, the rubber seal 2 (Fig.8.) may be against the hopper edge 1. Adjust the length of top guide rod 3 to accomplish this. Adjust both sides the same all the time. Next lock the rod with the two nuts 6.
2. When the head is fully raised, the rear roller 4 (in highest position) may not hit the hopper 5. A clearance of 5 mm (5/16") is required. This should be adjusted with the bottom guide rod 7. Adjust both sides evenly and lock it with nuts 6.

After the adjustment has been carried out, check whether the head does not hit the main frame at any place during its full stroke. If so, readjust the rods.

14.0 OPTIONS, SAFETY NOTES.

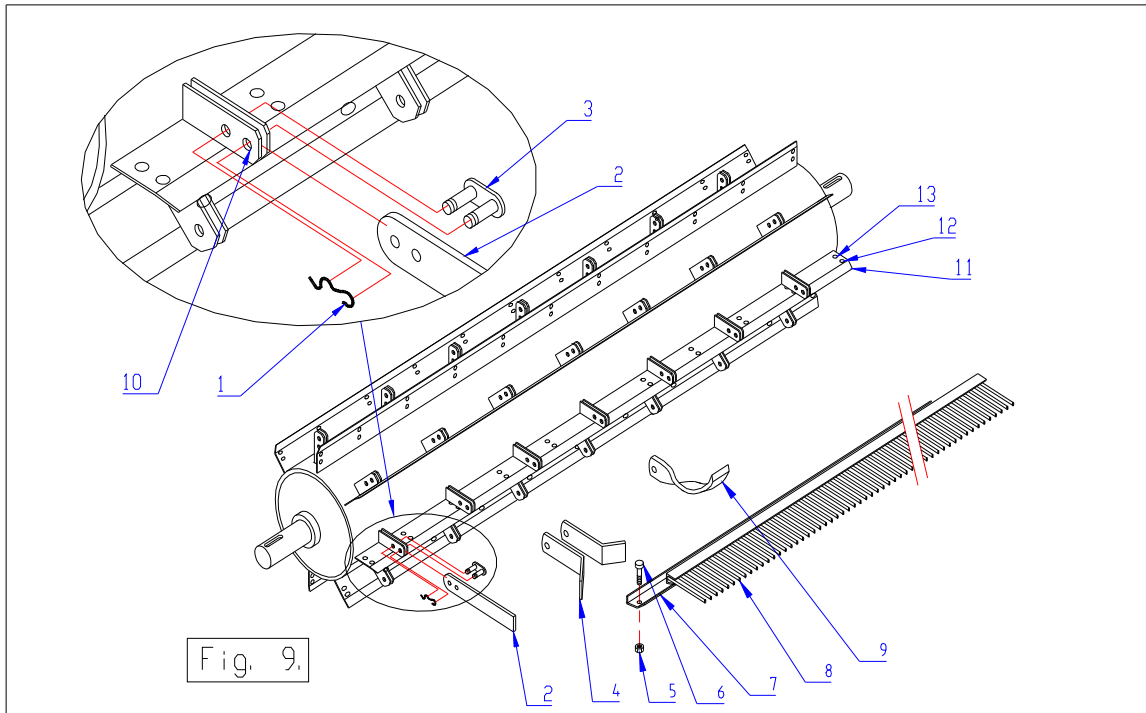
The main rotor can be equipped with several attachments, which are explained later.

Maintaining and exchanging items on the main and second rotor is done via the access door 25 of the head (see Fig. 5). Some important notes:

- **The machine may never run without the access door correctly fitted.**
- **When repair, maintenance is planned, the head should be firm on the ground, or secured with D- shackle 13 (Fig 5).**
- **Be sure that the secure spring pins 1 (Fig .9.) are correctly assembled.**
- **If the lock pin 3 or the secure spring pin 1 is worn, they should be replaced immediately.**
- **Check that the brushes (when mounted) are tightly fitted.**

14.1 SCARIFYING BLADES.

The Turf Tidy is standard delivered with fixed scarifier blades 2 (see Fig. 9.).



When hard objects are to be expected, reduce the rpm's of the PTO till about 300 rpm's. The blades may break and dangerous circumstances may appear.

Do not replace any worn blades for new ones. Always replace the full set, because the balance may be jeopardized.

If not all material is picked up, two brush elements can be assembled. Assemble them in the position closest to the rotor center (hole 13). These two brushes should always be opposite each other on the rotor.

If you want to enlarge the distance between the slits, remove 4 rows of blades, out of the standard 8.

14.2 FLAIL BLADES.

Two flail blades are available, see fig. 9.:

1. Back to back flail blades, # 4
2. Plain flail blades # 9.

Both blades are to be assembled into hole 10.

For part numbers of the blades and the kits, see the attached spare part pages.

It is very important to read and understand chapter 6.0, which explains centrifugal forces, wear, load on the blades and ground speed.

14.3 BRUSH KIT.

The Turf Tidy can also be used as a sweeper. A brush kit is necessary to transform the unit into a sweeper unit.

Sweeping can be done on grass or hard surfaces.

With grass sweeping, we advise using the standard front roller 5 (fig.6.). If we want to sweep hard areas, the wheel assembly is needed.

If the wheels are used on grass, undulations and/ or soft areas may create extra pressure on the brushes, since the head isn't at a fixed distance to the ground all the time.

It is also important that the weight compensation is well set, chapter 6.3, because too much pressure on the brushes will hurt them.

The PTO speed has to come down to 300-350 rpm's, since too many rpm's may hurt / wear the turf and/ or brushes.

The brushes are mounted on the main rotor strips 11 into holes 12.

The other hole 13 can be used if we want to create extra draft in combination with scarifier blades. See chapter 14.1.

Brush element 10 is clamped between back up strip 7 and main rotor strip 11, with bolts 6 and nut 5. Do not over tighten.

We can use 2 or 4 brush elements on the rotor in an equal sequence. Never use one or three, because the rotor will be out of balance. NOTE. We can not use 8 brushes. On one of the main rotor strips 11 the holes aren't available. Start mounting the brush on the next one after this one without holes.

@ If the brushes are set too tight to the ground, serious damage may appear to the machine and/ or brushes.

@ If many undulations are present, reduce the rpm's of the PTO and adjust the working depth (brushes further away from the ground).

@ If you want to collect leaves or other larger parts on grass surfaces, scarifier blades can be added to the brushes (two rows opposite from each other), or two brushes can be added at the scarifier outfit (brushes in hole 13). In both cases the heavier material will be picked up and/ or shredded by the scarifier blades and swept by the brushes. In most cases however, only the scarifier blades will do the job, without the brushes.

@ In some applications, plain flail blades can be used in stead of the scarifier blades to achieve the same as written above. Check the correct depth settings.

14.4 CASTOR WHEEL KIT FOR HEAD.

As already explained in the manual, a castor-wheel-kit (see Fig.11 for one item) is available for supporting the head, in place of the standard front roller.

Disconnect the jacks 3 (Fig. 6.) from the head and mount at each side of the head at the same position a castor wheel assembly.

Adjusting the depth goes the same as described for the front roller. The tire pressure should be 1-2 bar (14-22 psi).

@ Wheels are necessary when the Turf-Tidy is used as a sweeper on hard surfaces only. It can be used on grass as well (specially when mowing), but we advise using the front roller as a start.

@ If tire imprints are faceable reduce the tire pressure, or change the weight compensation, see chapter 5.3.

@ Do not make tight turns at slow speeds. The castor-wheel-supports may be damaged, because of the trust force applied.

14.5 DUAL WHEEL KIT 1310.

The Turf Tidy 1310 can be equipped with dual wheels at the back for less imprints on the turf. Basically two extra wheels with support (14 in Fig.4) are added to the Turf-Tidy.

Remove bar 13 (Fig.4.) and add the supports with plates 15 and 16 into holes 17 of the main frame. Tighten the bolts.

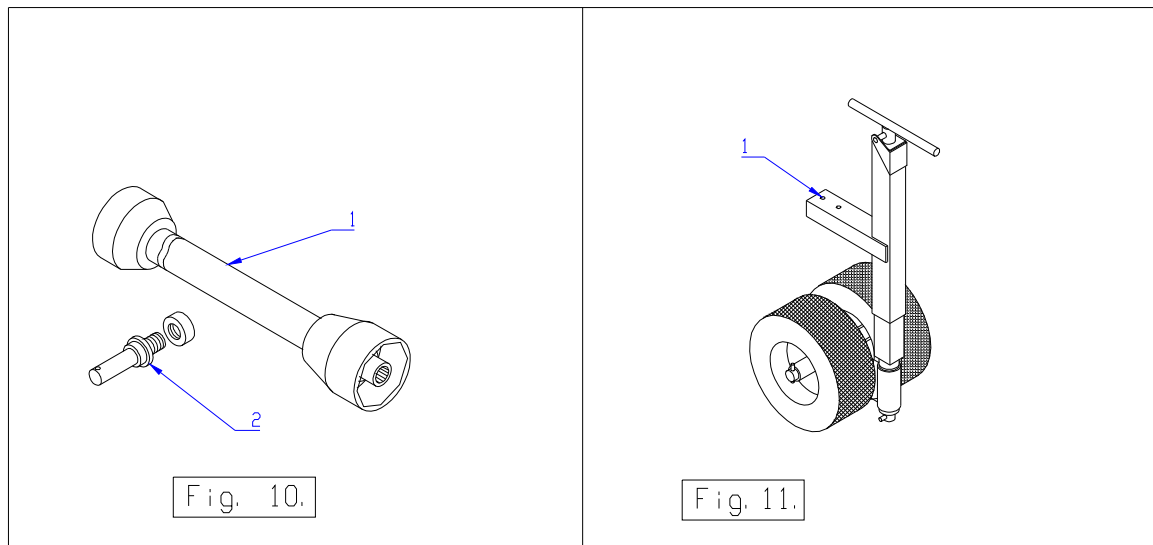
The bolts 18 that have come out, should be used to connect both wheel supports 15 together in the same holes.

@ Dual wheels for the 1310 are only possible when the 1310 is used as a pulled version. It can't be used for the short-coupled-version.

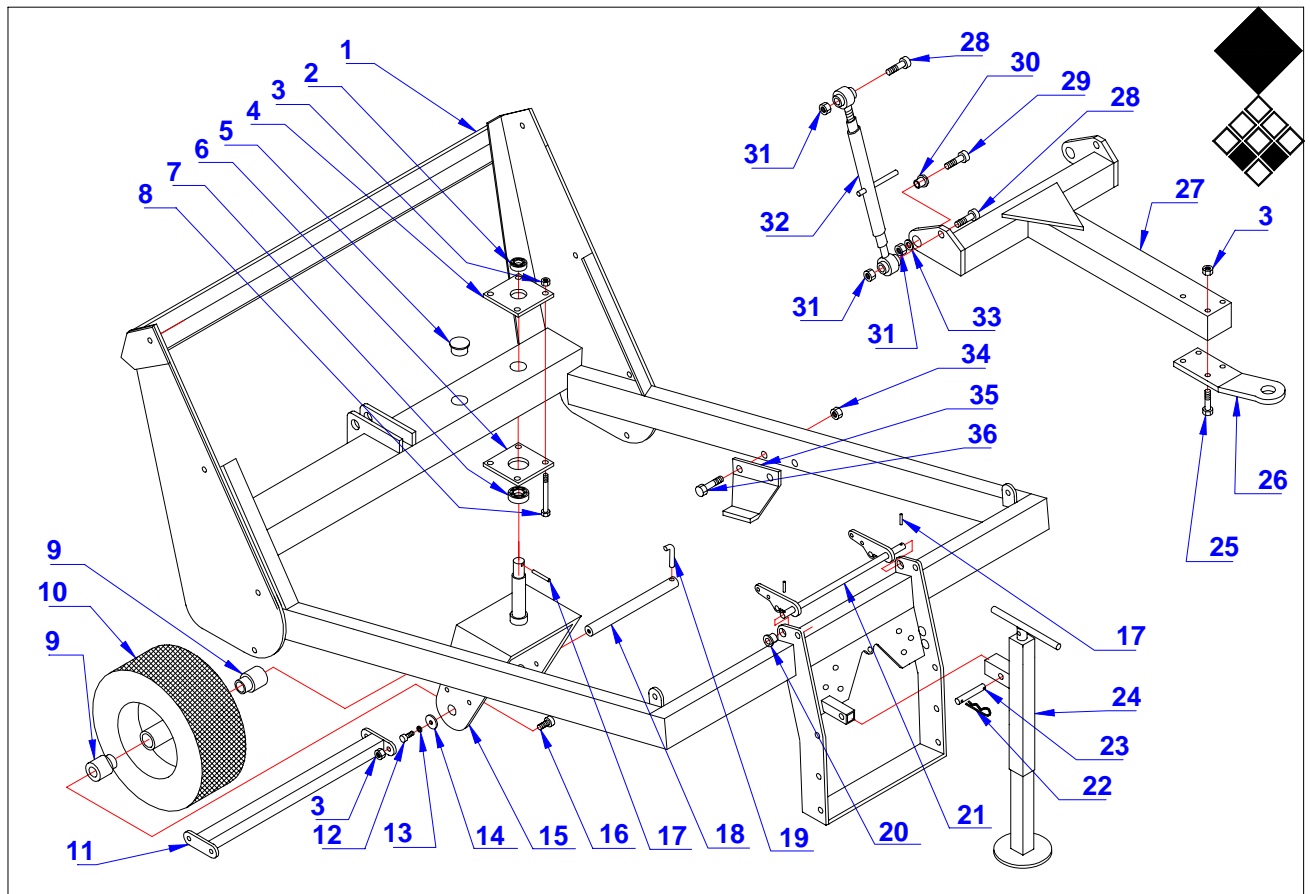
- **Tractor engine is shut off.**
- **The Turf Tidy is well supported and lifted from the ground at the wheel side**
- **The whole machine is well blocked against any movement**

14.6 SHORT COUPLED KIT.

In chapter 2.2 the short-couple-version is described for the 1310 only. A kit is available which includes a shorter PTO, see Fig.10.

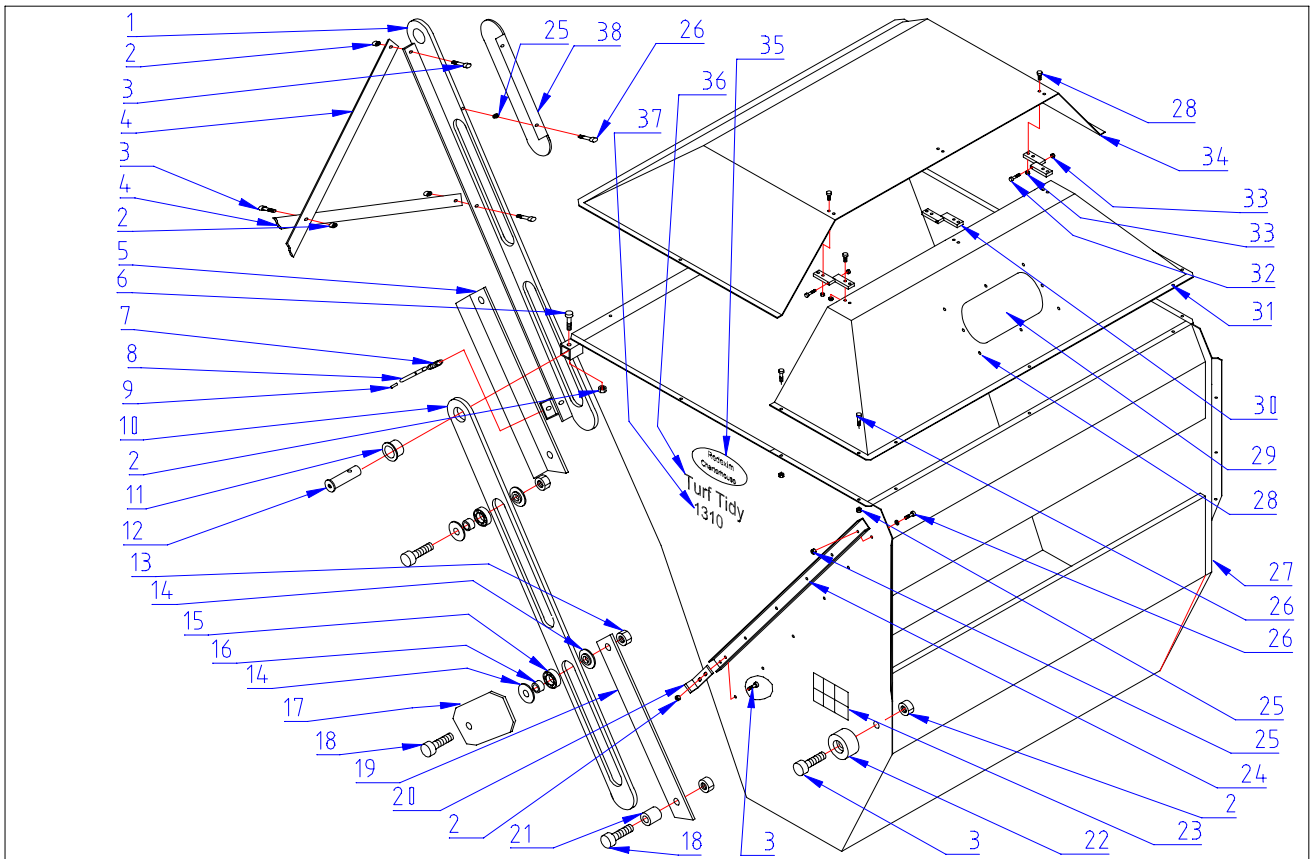


Please refer to chapter 2.2 for more detailed information regarding setup and using the short-coupled-version.



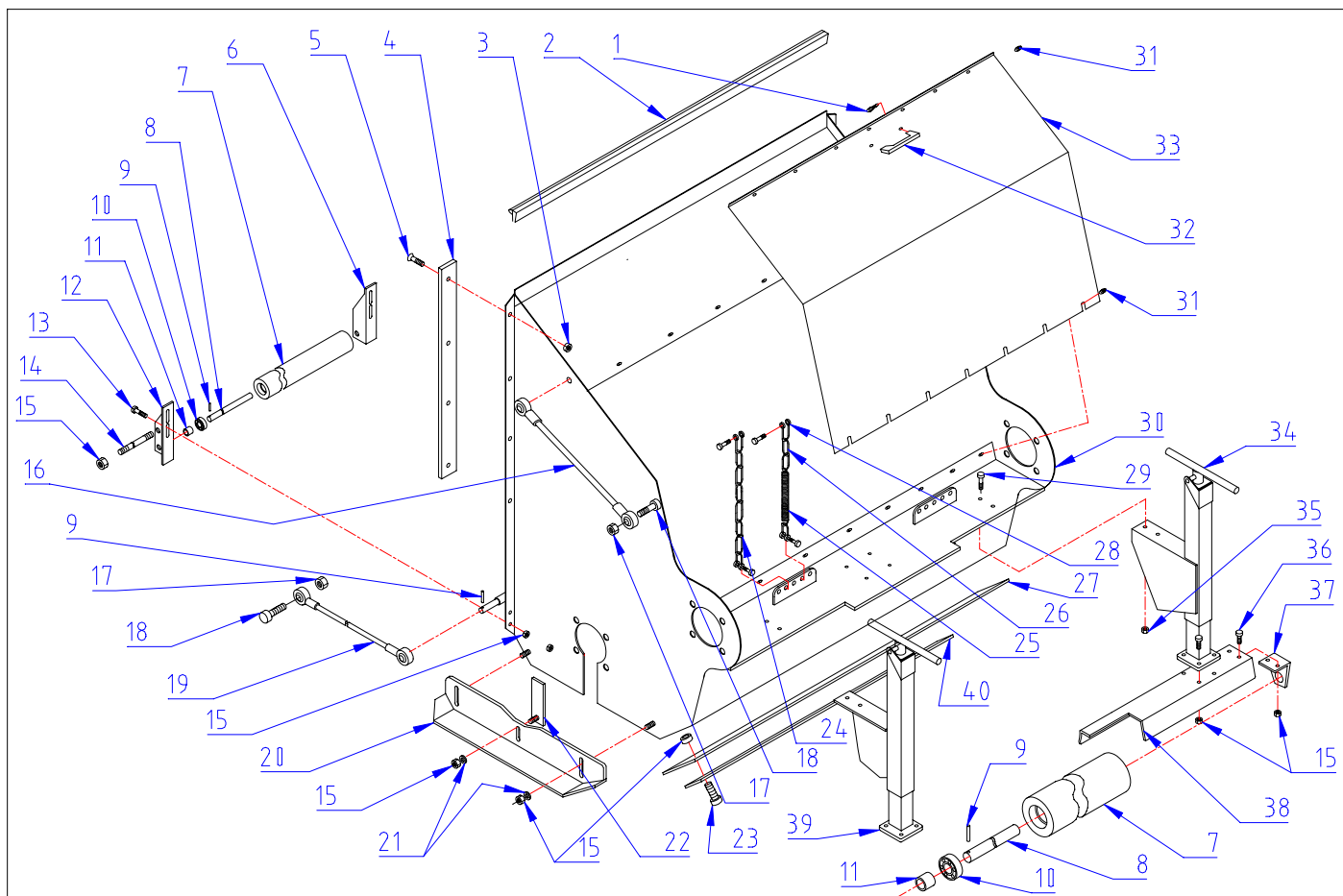
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	Part # 1310	Part# 1710	DESCRIPTION	REMARKS	QUA
1	494.170.218	494.207.218	Main frame		1
2	713.250.120	Same	Ball bearing 6005 2RS		2/ / 4
3	830.100.100	Same	Self lock nut M10		16
4	464.101.100	Same	Bearing plate castor top		2 / 4
5	444.104.500	Same	Plastic stop		2 / 0
6	464.101.110	Same	Bearing plate castor bottom		2 / 4
7	713.300.160	Same	Ball bearing 6206 2RS		2 / 4
8	802.101.130	Same	Bolt M10 x 130		8 / 16
9	404.250.700	Same	Distance bush wheel		4 / 8
10	511.542.236	Same	Wheel complete		2 / 4
11	474.507.940	-	Secure beam between wheels		1 / -
12	802.120.350	Same	Bolt M12 x 35		2
13	866.120.020	Same	Spring washer M12		2
14	864.120.031	Same	Large washer M12		2
15	470.102.650	Same	Castor wheel support		2 / 4
16	804.100.350	Same	Bolt M10 x 35		4 / 4
17	878.060.300	Same	Roll pin 6 x 30		2
18	416.252.940	416.255.710	Wheel shaft		2
19	424.060.480	Same	Lock pin		2
20	410.250.140	Same	Sleeve bearing bush		2
21	474.255.730	Same	Lift arm assv head		1
22	523.030.750	Same	R pin		2
23	424.140.750	Same	Pin for iack		1
24	460.505.900	Same	Jack		1
25	802.101.100	Same	Bolt M10 x 110		4
26	464.152.140	Same	Draw bar eve plate		1
27	462.805.560	Same	Draw bar		1
28	824.200.800	Same	Bolt special 20x80		4
29	802.200.600	Same	Bolt M20 x 60		2
30	404.200.200	Same	Pivot bush draw bar		2
31	830.200.200	Same	Self lock nut M20		6
32	522.194.450	Same	Top link		2
33	866.200.041	Same	Large washer M20		2
34	830.080.080	Same	Self lock nut M8		4
35	468.051.150	Same	Bracket for hopper stop		2
36	802.080.700	Same	Bolt M8 x 70		4



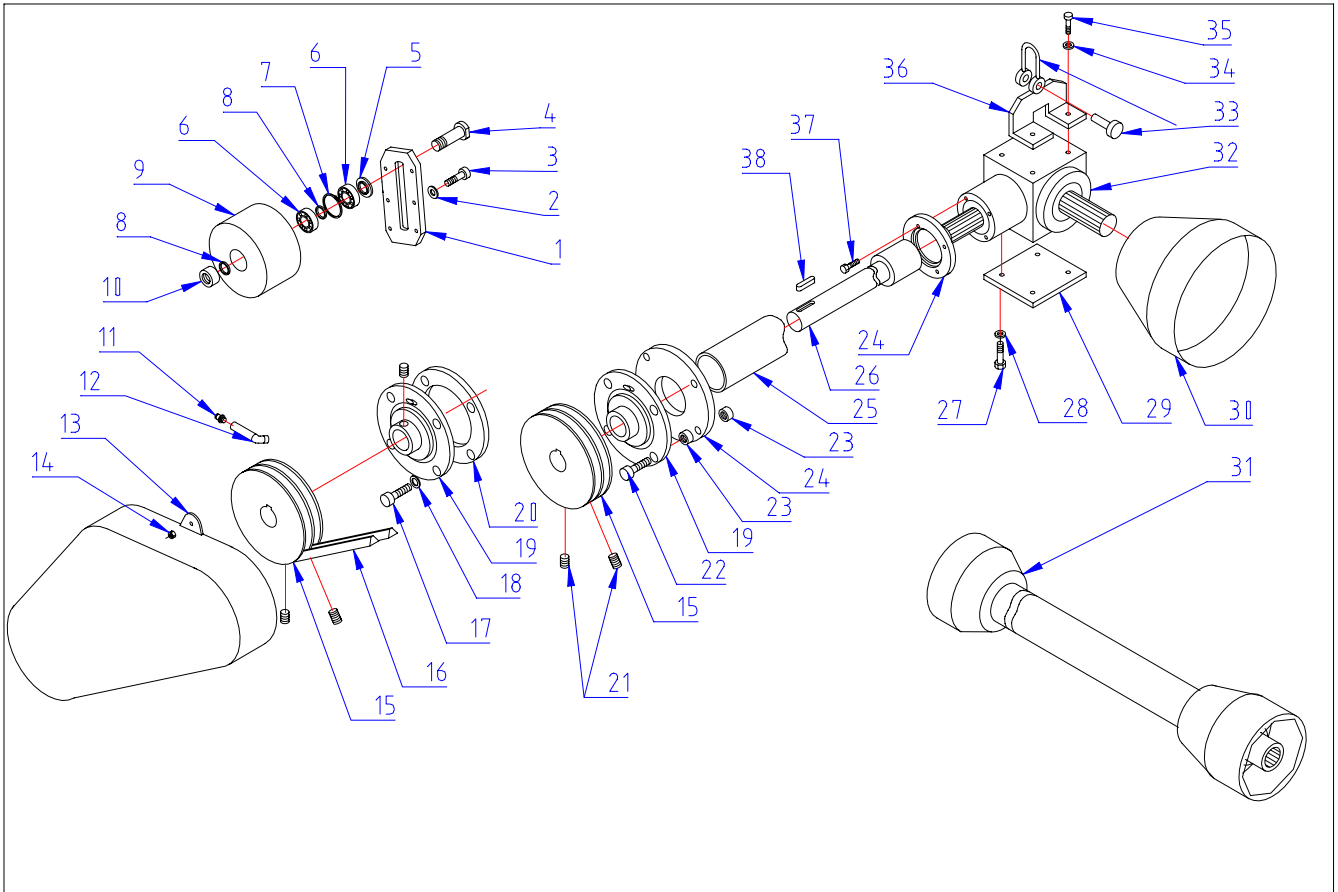
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	Part# 1310	Part# 1710	DESCRIPTION	REMARKS	OUA
1	464.159.111	Same	Hopper guide arm left		1
2	830.100.100	Same	Self lock nut M10		11
3	802.100.300	Same	Bolt M10 x 30		11
4	464.109.181	464.109.216	Strip for cross section		2
5	468.065.310	Same	Secure beam left		1
6	802.100.650	Same	Bolt M10 x 65		2
7	576.250.630	Same	Compression spring		2
8	424.201.120	Same	Secure pin hopper		2
9	878.040.300	Same	Roll pin 4 x 30		2
10	464.159.112	Same	Hopper guide arm right		1
11	732.400.170	Same	Sleeve bearing bush		2
12	418.400.970	Same	Pivot pin hopper		2
13	830.160.160	Same	Self lock M 16		6
14	412.160.041	Same	Distance washer		8
15	716.200.140	same	Roller LR 5004 NPPU		4
16	402.160.140	Same	Distance bush bearing		4
17	468.021.750	Same	Safety plate main frame		2
18	802.160.600	Same	Bolt M16 x 60		6
19	468.065.320	Same	Secure beam right		1
20	464.101.500	Same	Hopper stop strip		2
21	406.160.220	Same	Distance bush		2
22	444.150.400	Same	Hopper stop		2
23	911.280.402	Same	Safety decal		2
24	468.049.100	Same	Reinforcement U channel hopper		2
25	830.080.080	Same	Self lock nut M8		18
26	804.080.200	Same	Bolt M8 x 20		18
27	494.154.117	494.154.227	Hopper		1
28	858.060.150	Same	Screw M6 x 15		16
29	480.025.000	Same	Window for hopper		1
30	472.100.640	Same	Hinge strip		6/8
31	468.029.155	468.029.185	Front top cover hopper		1
32	802.060.500	Same	Bolt M6 x 50		3/4
33	830.060.060	Same	Self lock nut M6		15/20
34	468.029.156	468.029.195	Hopper top door		1
35	900.260.403	Same	Redexim label		2
36	941.260.402	Same	Label Turftidy		3
37	941.260.408	941.260.411	Label 1310 / 1710		2
38	468.025.000	Same	Safety plate hopper beam		2



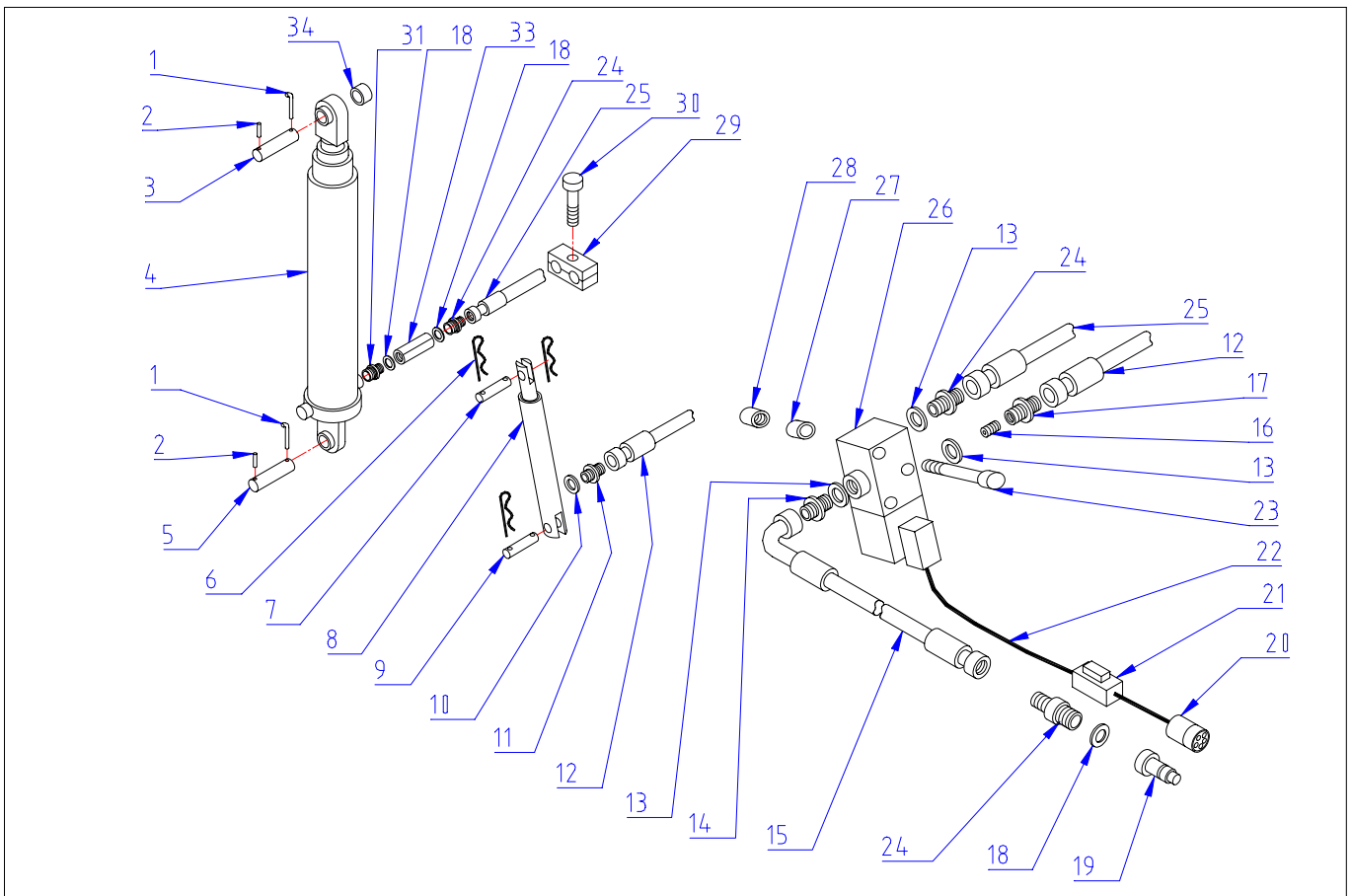
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	Part# 1310	Part# 1710	DESCRIPTION	REMARKS	QUA
1	858.060.150	Same	Screw M6 x 15		2/4
2	446.039.140	446.039.176	Rubber U seal head		2
3	830.060.060	Same	Self lock nut M6		8
4	444.084.900	Same	Plastic guide strip head		2
5	816.060.200	Same	Tapered head screw		8
6	468.052.620	Same	Rear roller support left		1
7	488.151.367	488.151.751	Rear/ front roller		2
8	416.159.142	416.159.180	Rear / front roller shaft		2
9	878.060.300	Same	Roll pin 6 x 30		4
10	713.150.130	Same	Sealed ball bearing 6302 2RS		4
11	402.150.120	Same	Distance bush roller		4
12	468.052.625	Same	Rear roller support right		1
13	820.080.200	Same	Mushroom head bolt M8 x 20		4
14	416.089.142	416.089.181	Rear roller scraper		1
15	830.080.080	Same	Self lock nut M8		28
16	478.253.310	Same	Top guide arm head		2
17	830.200.200	Same	Self lock nut M20		4
18	824.200.800	Same	Bolt special M20x80		4
19	478.257.970	Same	Bottom guide arm head		2
20	468.044.970	Same	Shoe for head		2
21	864.080.031	same	Large washer M8		6
22	470.031.200	same	Safety plate head		2
23	804.080.300	Same	Bolt M8 x 30		2
24	482.064.550	Same	Cable/ Chain for lifting head		2
25	575.311.720	Same	Spring		2
26	482.062.100	Same	Chain for spring		2
27	446.089.140	446.089.176	Rubber seal strip head		1
28	846.100.471	Same	D Shackle		8
29	802.100.350	Same	Bolt M10 x 35		4
30	494.065.140	494.065.178	Head body		1
31	830.080.085	same	Self lock nut with washer M8		12/16
32	444.151.250	Same	Handle		1/2
33	468.035.280	468.035.284	Access door head		1
34	460.505.456	same	Front roller jack left		1
35	830.100.100	Same	Self lock nut M10		4
36	804.080.200	same	Bolt M8 x 20		12
37	468.050.800	same	Front roller support plate		2
38	468.059.137	468.059.175	Front roller support beam		1
39	460.505.454	same	Front roller jack right		1
40	468.059.135	468.059.171	Rubber seal strip support		1



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	Part # 1310	Part# 1710	DESCRIPTION	REMARKS	QUA
1	468.152.900	same	Idler support plate	Both side the same	1
2	866.080.020	same	Spring washer M8		6
3	804.080.200	same	Bolt M8 x 20		6
4	416.200.680	Same	Idler shaft		1
5	412.200.020	Same	Distance washer		1
6	713.200.120	Same	Bearing 6004 2RS		2
7	872.042.180	Same	Circlip D =42		1
8	412.200.020	Same	Distance washer		2
9	428.421.200	Same	Idler		1
10	830.200.200	Same	Self lock nut M20		1
11	880.060.100	Same	Grease nipple M6 135 degrees		2
12	478.061.200	Same	Extension tube grease nipple		2
13	456.025.720	Same	V belt cover		1
14	830.060.060	Same	Self lock nut M6		3
15	646.301.500	Same	V belt pulley main rotor		2
16	642.171.250	Same	V Belt XPB 1250		2
17	804.100.250	Same	Bolt M10 x 25		8
18	866.100.020	Same	Spring washer M10		8
19	741.300.350	Same	Bearing complete PMEY 30		2
20	468.101.550	Same	Bearing mounting plate		2
21	818.080.201	Same	Set screw M8 x 20		4
22	802.100.350	Same	Bolt M10 x 35		4
23	830.100.100	Same	Self lock nut M10		8
24	444.061.200	same	Plastic secure ring for tube		2
25	444.805.470	444.807.400	Protection tube		1
26	420.305.850	420.307.770	Main drive shaft		1
27	804.120.250	Same	Bolt M12 x 25		4
28	866.120.020	Same	Spring washer M 12		4
29	468.041.150	Same	Distance plate gearbox		1
30	629.210.190	Same	Protection cover gearbox		1
31	613.809.100	Same	Complete PTO		1
32	622.170.211	Same	Gearbox		1
33	846.100.471	Same	Secure D shackle		1
34	866.120.020	Same	Spring washer M 12		2
35	804.120.250	Same	Bolt M12 x 25		2
36	468.061.400	Same	Safety bracket head		1
37	804.080.200	Same	Bolt M8 x 20		8
38	884.080.350	Same	Key 10 x 8 x 35		2



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	Part# 1310	Part# 1710	DESCRIPTION	REMARKS	QUA
1	424.060.480	Same	Lock pin		2
2	878.060.450	Same	Roll pin 6 x 45		2
3	414.351.590	Same	Pin for hvdraulic cvlinder top		1
4	534.765.220	534.765.250	Telescopic cvlinder		1
5	414.350.720	Same	Pin for hvdraulic cvlinder bottom		1
6	523.030.750	Same	R clip		4
7	424.140.550	Same	Pin for cvlinder		1
8	534.351.100	Same	Hydraulic cvlinder head		1
9	424.140.750	Same	Pin for hvdraulic cvlinder		1
10	874.170.020	Same	Copper washer G 3/8"		1
11	543.130.170	Same	Nipple G3/8" x G1/4"		1
12	541.130.400	Same	Hose for head cvlinder		1
13	874.210.020	Same	Copper washer 1/2"		3
14	543.130.210	Same	Nipple G1/4 x G1/2	Till serial number C1109	3
14	543.170.210	Same	Nipple G3/8 x G1/2		1
15	541.131.600	Same	Main supply hose	Till serial number C1109	1
15	541.191.610	same	Main supply hose		1
16			Reducer	Part # of 17	
17	543.139.219	same	Nipple with flow reducer		1
18	874.210.020	Same	Copper washer G 1/2"		3
19	545.210.800	Same	Quick connector		1
20	568.406.000	Same	Electrical pluug 7 connectors		1
21	564.156.000	Same	Switch		1
22	563.052.000	Same	Electrical cable		1
23	802.080.700	Same	Bolt M8 x 70		3
24	543.130.210	same	Nipple G1/4 x G1/2"	Till serial number C1109	2
24	543.170.210	same	Nipple G3/8 x G1/2"		3
25	541.132.950	541.133.000	Hose for hopper cvlinder	Till serial number C1109	1
25	541.192.950	541.193.000	Hose for hopper cvlinder		1
26	535.702.012	Same	Electrical operated switch valve		1
27	402.080.120	Same	Distance bush		3
28	830.080.080	Same	Self lock nut M8		3
29	547.180.300	Same	Hose clamp		7/9
30	802.080.400	Same	Bolt M8 x 40		7
31	543.210.210	same	Nipple G 1/2"x G1/2"		1
32	543.130.210	Same	Nipple G 1/4 x G1/2"	Till serial number C1109	1
33	536.281.000	Same	Safetv flow reducer		1
34	406.360.440	same	Distance bush		2

