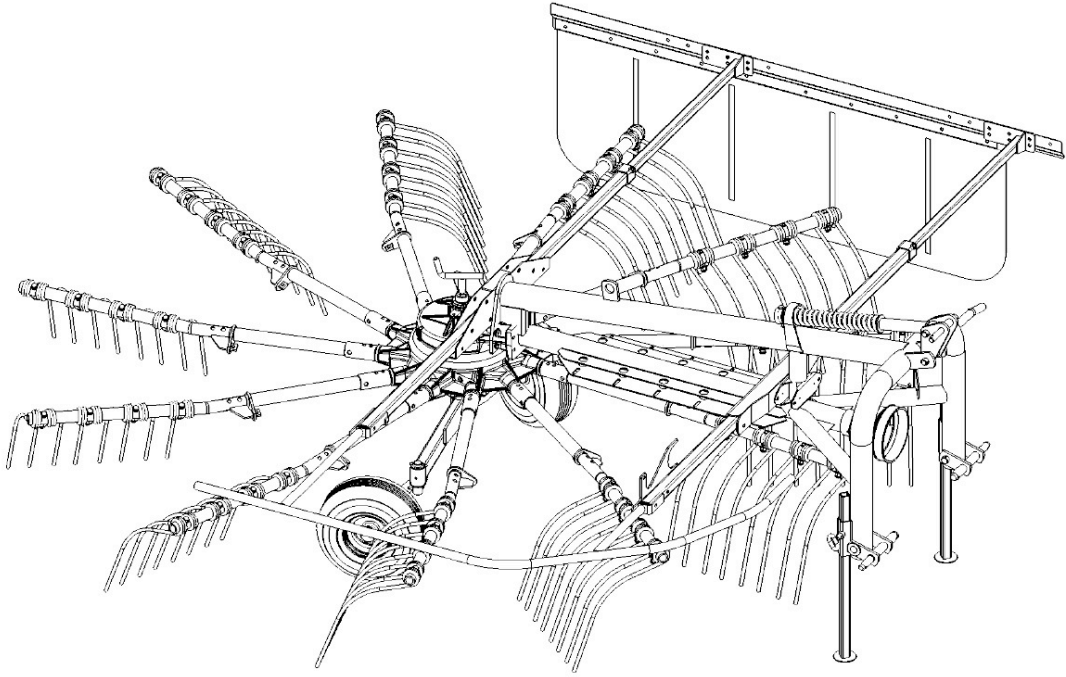




TÜRKAY TARIM MAKİNALARI
SAN. ve TİC. LTD. ŞTİ.

ROTARY WINDROWER (T-OT414-11)



Operators Manuel

INTRODUCTION

ROTARY WINDROWER

In order that the machine may become easy to collect and to bale of the cutted folder plants, machine lines up and picks the cutted grasses. The structure and the high quality of the materials used, totally for to eliminate the need for repairs.

The windrowers also helps to tillage the soil 4-8cm while the machine is working. The machine raises the soil, breaks the thickness part of the soil, pull outs the weeds from the soil and it prepares the soil to be ready for seed bed preparation.

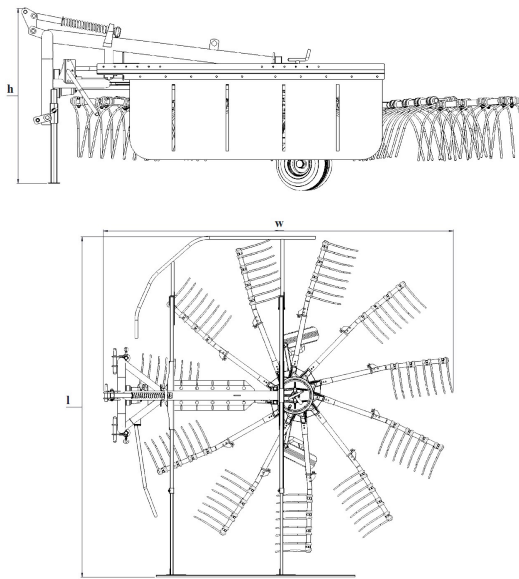
They pick the grass in the field by their arms and make them ready for the bale machines and pick up trailers.

Not to loose the moisture balance of the cut grass, for to provide the increasing time of the grass for drying and not to loose the nutriment value of the grass the tedders are used in the fields. By the tedders, the grass can be gathered in a regular way.

General characteristics of Rotary Windrower:

- 1- While working with the windrower, the loss of total dry material should be max. % 8.
- 2- The other materials that is mixed in the grass should be max. % 3.
- 3- They should make a good air raising in the soil.
- 4- The moving parts should not wrap out the material (grass..) to the tedder.
- 5- They should be produced from a good quality of material. And must be easy in shape and work.
- 6- The windrowers should prepare a regular and continuous rake of the grass.
- 7- The windrowers must have a high capacity of working ability.
- 8- The required power of the machine must be less.

The working width of the machine is 4,10 m. For to rake the cut grass there are springs on the arms and they are lied on the main holder by the distance of 7.5...10 cm



Pic. 1 – Dimensions of the machine

l(length)	w(width)	h(height)
2700 mm	4100 mm	1250 mm

Transporting,



**ATTENTION !
PAY ATTENTION TO BE NOT UNDER THE MACHINE WHILE
TRANSPORTING**

- Never carry anyone or any animal on the machine.
- Pay attention on the traffic rules on public roads.
- Check out the lightening, warning decals, and protection guards before starting to work.
- Pay attention to work with the machine in the daylight. Especially at nights in public roads take care to have safety decal (light decal apparatus) on the machine

Transporting the machine ,

1. Transporting with forklift : You must choose a forklift according to the weight of the machine. Hold the machine from its weight center. Connect the forklift hook on the machine from the weight center. Start transporting the machine.

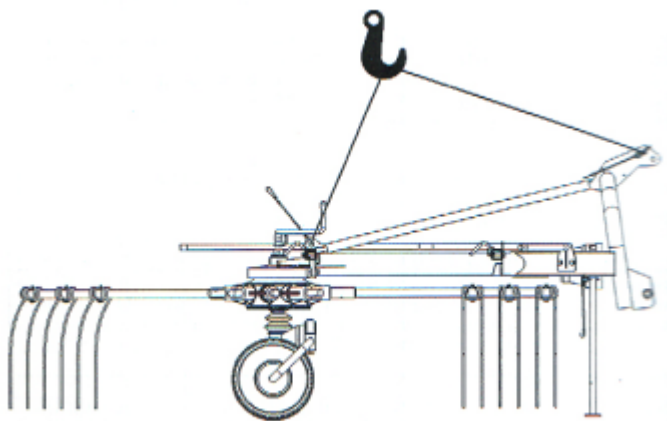
2. Transporting with crane: This method is same as transporting with forklift. Hold the machine from its weight center by crane. Pay attention if the security lock of the crane's hook is working safely.

3. Transporting with palette: Choose palette according to the machine dimensions. Transport the machine by forklift while it is on palette.



**ATTENTION !
PAY ATTENTION TO BE NOT UNDER THE MACHINE
WHILE TRANSPORTING**

- Never be under the machine or near the machine while transporting it by forklift, crane or palette.
- Take care of the security of the hook and iron ropes. Be sure that they are full of security



❖ Pic. 2 – Transporting the machine



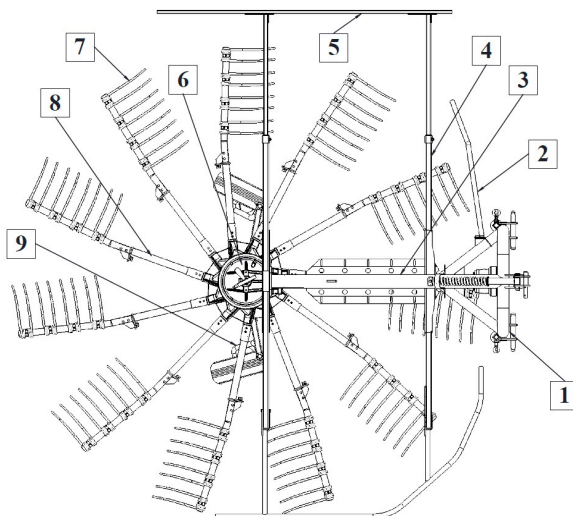
**ATTENTION !
TAKE CARE OF THE SECURITY OF THE HOOK AND
IRON ROPES. BE SURE THAT THEY ARE FULL OF
SECURITY**

INTRODUCING THE MACHINE

- The machine is connected to the tractor by its three point hitch system..

Main parts of the machine:

- 1 –Three point hitch system
- 2 - Protection
- 3 – Main holder
- 4 – Protection curtain level adjustment part
- 5 – Curtain group
- 6 – Gear-box
- 7- Springs
- 9- Wheel



Pic.3- Main parts of the machine



ATTENTION!
NEVER TOUCH THE MACHINE WITH HAND, FOOT WHILE IT IS WORKING.

PREPARING THE MACHINE FOR WORK

Connection of the machine to the tractor:

• Connect T-OT414-11 ROTARY WINDROWER to the tractor by its three point hitch system. Dimensions comprising the standard specifications are divided into 4 categories. Fix the upper and bottom security pins by the standards of category II. **Note:** (Category I includes the tractor max. drawbar power 40 HP. Category II includes the tractor max. drawbar power 40-100 HP. This machine produced in the standard specifications of Category II. **Table-1** Adjust the upper and lower arm for to make the tractor parallel to the ground. While adjusting this the tractor should be in a flat.

Category	Max. drawbar power (HP)	Lower hitch pin hole diameter \varnothing (mm) (max.)-(min)	Upper hitch pin hole diameter \varnothing (mm) (max.)-(min)
I40	22,10-21,84	19,56-19,3
II	40-100	28,45-28,19	25,91-25,7
III	80-225	36,85-36,32	32,26-32
IV	180-400	50,8-49,7	45,5-45,2

Table-1. (Special hitch categories-dimensions associated with implement)

Working with the machine:



Max. Input rotation speed of T-OT414-11 is 540 rpm.



ATTENTION!
STOP THE ENGINE!! THEN ADJUST AND PREPARE THE MACHINE FOR WORK

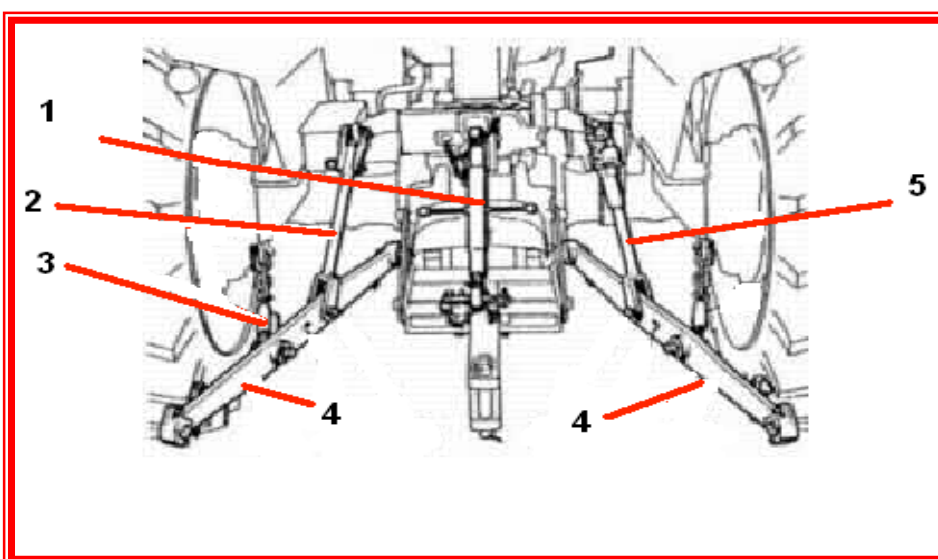
1-Upper hitch arm

2-Left hanger arm

3- Stretching chains

4-Lower hitch arm

5-Right hanger arm



Pic.4-Connecting the machine to the tractor

PREPARING THE MACHINE FOR WORK

- **Connecting the machine to the tractor:**

Firstly connect the lower non adjustable arm then adjustable arm at the end connect upper connection arm. While disconnecting the machine do the opposite.

- **Connecting the pto shaft:**

2K.T2.101.933.090 Pto shaft is used in Rotary windrower.

- Before connecting the pto, clean the surfaces of spindle and lubricate them with grease. Later shift the shaft on the pto spindle until the pin fits into safely. The shifting distance must be at least 15 cm. Take pto shaft guard in a safety position by hanger. This safety position is for the tractor and for the rotation of fixed parts.

- P.T.O shaft can only be connected when the P.T.O connection and engine are switched off and the ignition key is pulled down.

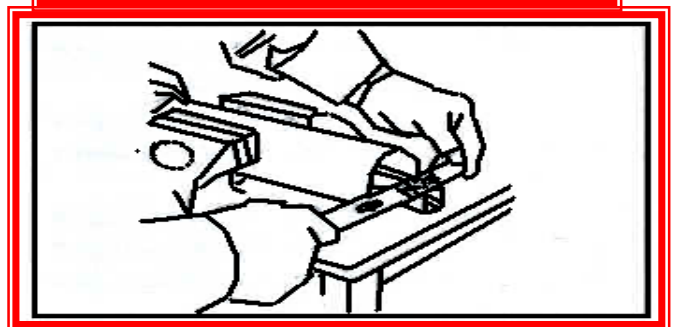
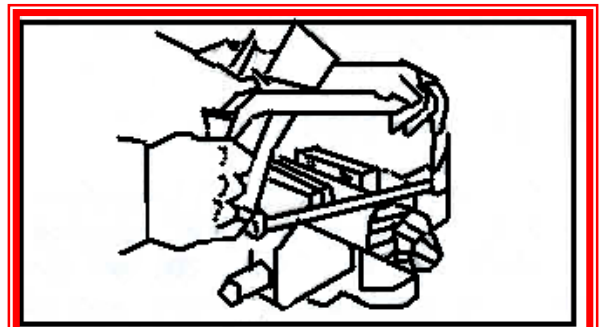
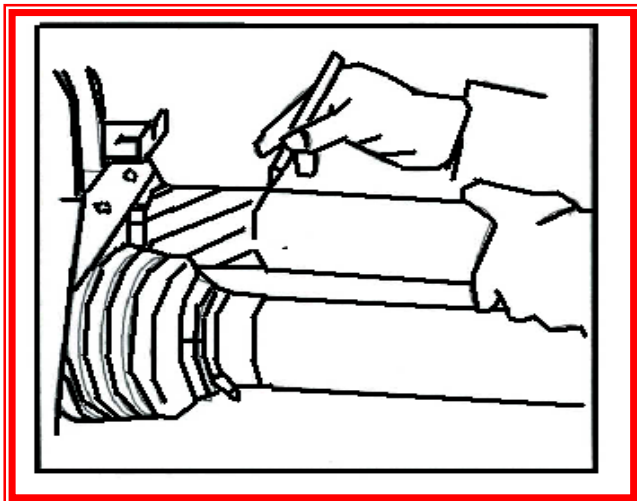
- Connect the prescribed P.T.O. shaft and secure the P.T.O shaft connection by a chain. Make sure that the P.T.O shaft is in proper position on both ends. The adjustment of the P.T.O shaft is necessary for different tractors. To find out the right length. Shorten both shafts and protection tubes for exactly the same length.

To find the right length:

Connect the machine to the tractor.

Pull out the P.T.O shaft entirely and connect each separate half of the shaft to the tractor and compare them with each other.

If the covering of the P.T.O shaft and P.T.O shaft does not run into the block at horizontal position. In case you need to shorten the P.T.O shaft. Shorten the shaft in exactly the same length. (Pic.5)



Pic.5– Cutting the shaft spindle for a suitable length for the tractor

PREPARING THE MACHINE FOR WORK

- Pay your best attention to proper mounting and securing of the P.T.O shaft..
- Make sure that nobody is in the area of danger of the implement before switching on the P.T.O shaft connection.
- When working with the P.T.O shaft connection nobody is allowed to be in the area of rotating connection on the P.T.O shaft.
- After switching off the P.T.O shaft connection the danger of rotating heavier parts remains. Do not get close to the implement during this period. You can start to work only when the rotation is completely stopped.
- P.T.O shaft protection must be fitted on. And must be in perfect condition..
- Use only original P.T.O shafts prescribed by your manufacturer. Because the manufacturer will not take any responsibility if another shaft is used.

Transporting the machine to the field to prepare for work:

Start the engine of the tractor for a minute. Hold the machine with main hydraulic arm. Attach the security lock for not to damage to the hydraulic system while driving. Stretch the stretching chains to prevent swinging. Transport the machine empty (without fertilizer) to the field. Fill the fertilizer to the tank in the field.

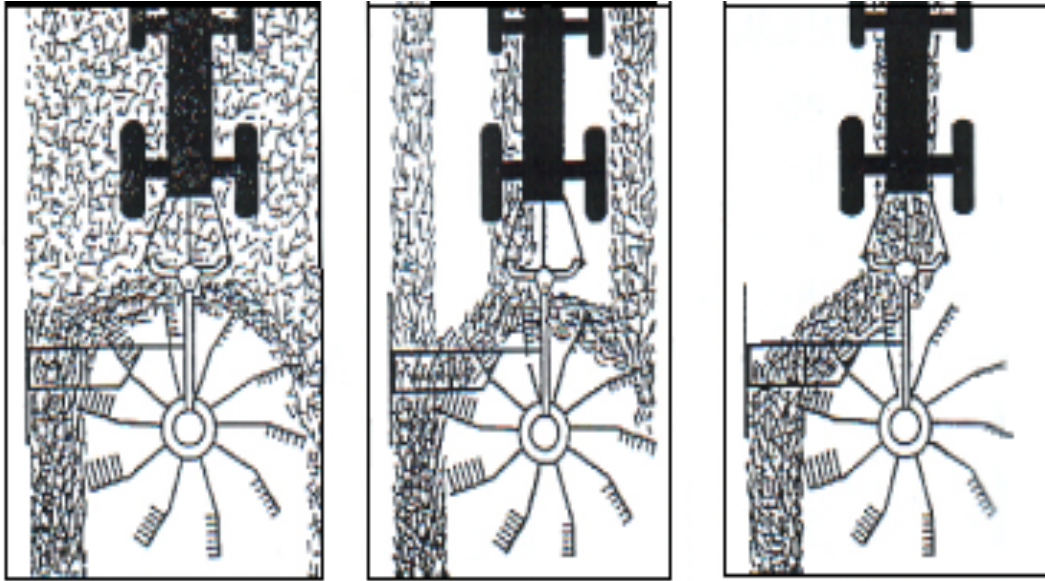
- In transporting position, raise the machine up and lock the security pin to prevent the machine fall down.
- In turnings, take into consideration the load which is outside the centre of gravity and/or constant weight of the implement.
- Working with tractor in the tendency fields can give damage to the machine. But if you have to work in these tendency fields take care of working, do not turn the road bend fastly and sharply. For working in tendency fields you must be careful about if the tractor is decked out with the additional weights.

Before starting to work with the machine in the field:

Start the height adjustment of the machine from the ground by the Tractor's hydraulic arm in the position control level. In the position control level, if you move the hydraulic arm slowly the machine rises up, then it stops in a fixed level, then if you give movement to the arm the machine will go up again and then will stop. But the machine does not rise up to the max. upper level as in the drawbar control level.

Note: If the machine or the implement rises completely up, the front arm is in draw position. If the machine or the implement does not rise up completely it is in position control level. This position control level provides the machine to work on the soil by holding the machine in a specific height. While working with Tedder the position control level must be chosen.

PREPARING THE MACHINE FOR WORK



Pic.6– Working in the field with the Windrower

MAINTENANCE AND REPAIR

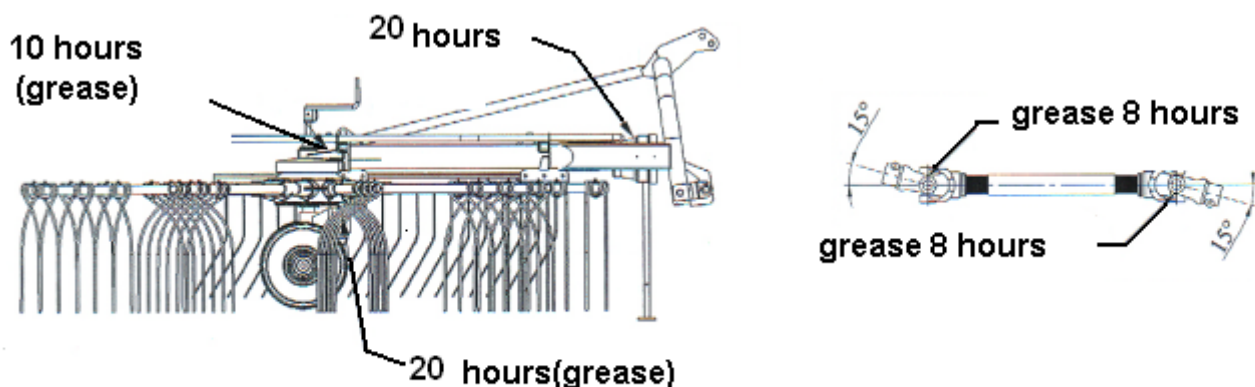


ATTENTION !
MAINTENANCE, REPAIRS, CLEANING MAY ONLY BE
EXECUTED WHEN THE DRIVE AND THE ENGINE ARE
SWITCHED OFF AND THE IGNITION KEY IS PULLED OUT.

T-OT424-11 Rotary windrower is produced by full of quality. So this machine will not need so much maintenance and repair after working with the machine.

Take care about the items that is written below for maintenance and repair :

- Change the broken and weared springs of the machine
- Lubricate the grease nipples everyday periodically
- Control the gear box oil level in each 30 hours of work. Change the oil of the gear box after controlling the oil level in the period of 300 hours work. Use SAE 140 oil in the gear box
- Make sure you get familiar with all devices and elements for handling and with the functions before starting with the work.



Pic.7-.The parts that you will lubricate the grease nipples.

- Cleaning, lubrication or adjusting of the implement, driven by the P.T.O shaft can be done when the connection and the engine are switched off and the ignition key is pulled out.
- Maintenance and repair must be done after the shaft and machine is disconnected from the tractor.
- Put the machine in a closed area after work, lubricate the parts and take care against rust.
- Control the nuts and screws every day to see if they are tightened enough. If not tighten them.
- Change the broken and weared parts.
- Choose the suitable parts while making maintenance. The parts must be safety

MAINTENANCE AND REPAIR

- Use adequate tools and gloves during repairs, maintenance and cleaning
- Lubricate the grease nipples everyday periodically.
- Use original spare parts.
- Control the gear box oil level in each 30 hours of work. Change the oil of the gear box after controlling the oil level in the period of 400 hours work. Use SAE 140 oil in the gear box. Fill out the oil from the oil plug in the gear box and wash the gear box with diesel oil before changing it's oil.
- If you perform any maintenance on the lifted implement, always secure the implement by a suitable holder.
- Call Turkey technical service for the maintenance of the machine. (**Table.2**)

CONTROL(A)	MAINTENANCE(B)			VARIATION(C)	
Maintenance Period ⇒	Daily	Weekly	30 hours	100 hours	400 hours
Lubrication (Level control of gear box oil) Variation of oil(SAE140)			A	C	
Oil leakage control	A				
Lub.grease nipples	B				
Tightness control (bolt-nut)	A		C		
Cleaning	B				

Table 2- Maintenance Periods

WORKING SAFETY

Safety decals:

There are 3 types of main safety decals. These are shown as,

Danger : When you see this alert symbol and heading be alert to the danger of injury or death of men and animals.

Alert : When you see this heading, be alert to the possibility of serious injuries because of using the machine out of the using rules.

Attention : When you see this heading, be alert to the possibility of damage to equipment, crop, building, etc. but to financial and/or juridical problems as well.



**ATTENTION !
READ OPERATORS MANUAL BEFORE STARTING TO
WORK WITH THE MACHINE.**

- All machines have stickers glued on. In this sticker machine type, address of manufacturer, machine serial number, model of the machine is prescribed.



- Besides the instructions from this reader's manual take into consideration all generally used safety and accident regulations



- Stay away from slewing and unfolding area of the machine, this because of the danger of squeezing.



- It is prohibited to touch the machine until all parts are standing still..
- When the machine is operating there is a possibility of amputation of limbs. It is prohibited to be in the danger area when there is danger of amputation.



- Stay away from the area of rotating and turning of the machine.



- Keep distance, objects (stones and other debris) can be flung away at very high speed.



- Stop the engine and ensure it cannot be re-started during performance of work on the machine.

WORKING SAFETY

- Make sure all operators are provided with the instruction manual and are aware of the risks and the safe operating procedures. They should particularly be aware of the safe use of the machinery, clearing blockages and the recommended procedure for grinding the knives of the machine..
- Safety and warning decals, placed on the machine, give important instructions for safe work. Take them into consideration for your safety.
- Avoid wearing loose-fitting clothes. Clothes should fit tight to the operator's body.
- Implements should be connected according to the instructions, fastened to the prescribed devices and secured.
- Never left the driving seat during driving.
- Strating devices for remote control should be secured in a way that, they can not be unintentionally released during transport or work.
- When disconnecting the machine from the tractor, place it on the flat ground.
- Never left the driving seat during driving
- Never jump, sit or climb on the machine while it is connected to the tractor.
- Stopping or operating the machine must be done by the driver. No one may drive the tractor except the driver.
- Use protection for hearing and glasses while working with the machine if the tractor does not have a closed cabin.

TECHNICAL DOCUMENTATION

TECHNICAL VALUES: (T-OT414-11) Rotary Windrower

TECHNICAL VALUES	
WORKING WIDTH (m)	4.10
TRANSPORTING WIDTH (m)	2.50
NUMBER OF ARMS IN ROTOR	11
NUMBER OF SPRINGS IN ROTOR	3
TRACTOR REQUIRED POWER (min) HP	60
WEIGHT (Kg)	546

Table 3 –Technical Values

MANUFACTURER INFORMATION

TURKAY TARIM MAKINALARI SAN. ve TIC. LTD. STI.