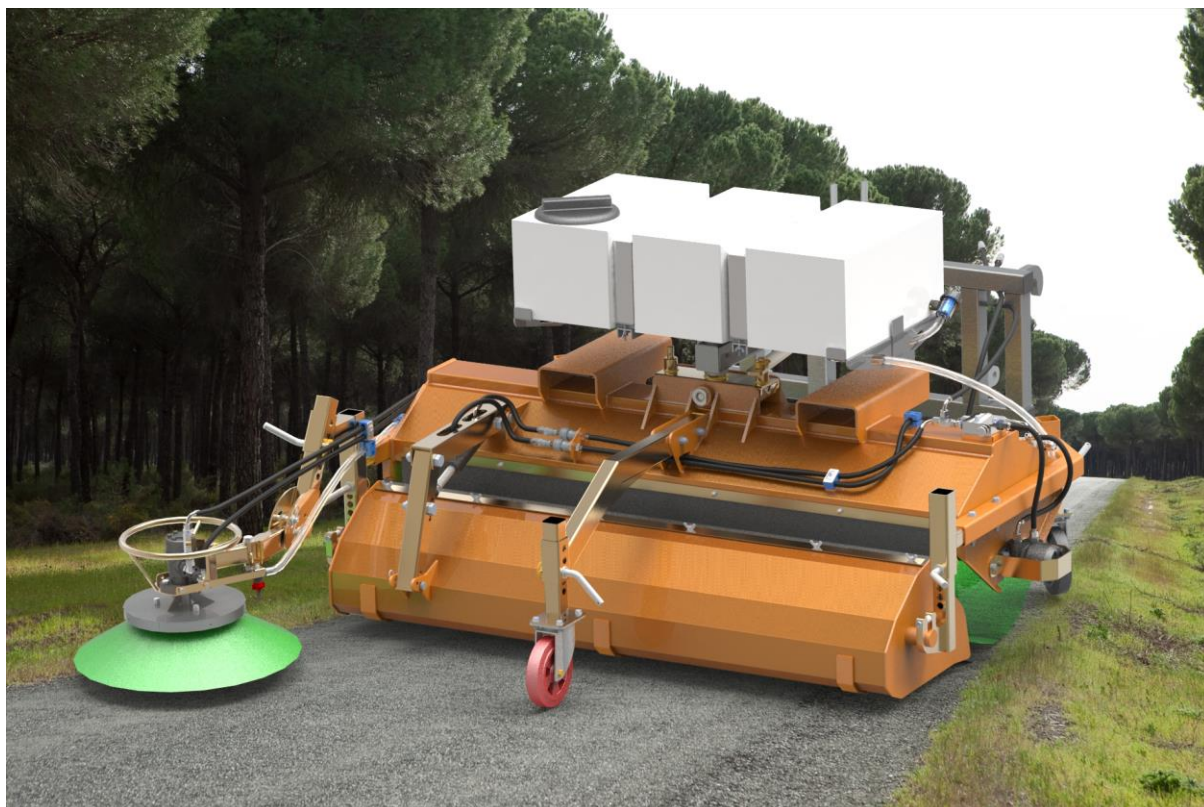


OPERATING MANUAL WARRANTY



Issue 01



Table of contents

1. Introduction.....	4
3. Safety rules at work.....	6
3.1 Usage of Sweeper.....	6
3.2 Connection and disconnection of sweeper	7
3.3 Hydraulic installation	7
3.4 The sweeper's transport	8
4.3 Maintenance	8
4.4 Working with the machine	9
4.5 The description of residual risk	10
4.6 Information and warning labels.....	11
5. Design and Operation.....	13
5.1 Basic technical data.....	13
5.2 General design of sweeper	14
5.3 Construction and operation of the hydraulic system.....	15
5.3.1 Version with side brush and hydraulic emptying of dust tank	15
5.3.2 Version with hydraulic emptying of dust tank	16
5.3.3 Standard version.....	16
5.4 Desing and operations of sprinkler system.....	18

6.Preparing work.....	19
During the installation of the roller brush you must pay attention to the same setting of push on the whole length of the roller. Uneven installation causes faster wear of the roller brush.	20
7.2 Dirt tank	20
7.2.1 Manual emptying of bath	21
7.2.2 Hydraulic emptying of bath.....	21
7.2.3 Sweeper's work without the dirt tank.....	22
When using the bath with hydraulic emptying	23
7.3 Side brush.....	23
7.4 Angling	24
7.5 Third supporting wheel	25
8 Maintenance and replacement of parts	25
8.1 Assembly and disassembly of roller brush	25
8.1.1 Hydraulic engine:	25
8.1.2 Bearing unit:	25
8.2 Installation and replacement of side brush	26
9. Defects and methods of repairing them.....	27
10. Lubrication points	28
11. Disassembly, scrapping and environment protection	28
12.Warranty	29



ATTENTION!

Read this operating manual before use and comply with its safety rules.

The operating manual is the basic equipment of the machine!

The manual should be kept in a safe place, available to the user and operator through the entire lifetime of the machine.

In the case of losing or damage you must purchase a new copy by ordering it from the points of machine sales or manufacturer.

In the case of sale or providing the machine to other user, the manual must be accompanied with the declaration of conformity for the machine.

The manufacturer reserves all rights to the operating instructions.

Copying, processing of manual, and its parts without the consent of the manufacturer - forbidden

1.Introduction

Before the first activities related to the use of sweeper, this operating manual must be read and understood and all instructions contained therein must be followed.



ATTENTION !
Read the operating manual before
use

This manual contains a description of the risks that may occur when non-compliance with safety rules during operation and maintenance of sweeper. The manual lists the precautions to be taken to minimize or avoid risks.

The manual also contains rules of proper use of sweeper and explains what maintenance work should be performed at the same time.

If the information contained in this manual is unclear, please ask for their explanation directly to the manufacturer.



ATTENTION !
This symbol warns against risk.
This warning symbol indicates to an important
information about the risk given in the manual.
Please read the given information carefully, follow
the instructions and take full precaution.

2.Intended use

KOLASZEWSKI sweeper is used for removing impurities formed on all paved surfaces. Ideal for sweeping squares, traffic routes and car parks, which are covered with paving stones, asphalt or concrete.

The possibility of installing to a lift truck, tractor or loader allows to use it in agriculture, horticulture, as well as municipal companies and industrial plants.

Using the machine in other conditions will be construed as improper. Strict compliance with the requirements for the use of the machine, maintenance and repair according to the manufacturer's recommendations is a condition for the intended use.

The machine should be operated, serviced and repaired only by persons familiar with its specific characteristics and the rules of conduct in terms of safety.

Accident prevention regulations and all basic rules of work safety and hygiene, as well as traffic rules should always be followed.

Unauthorised changes in construction of the machine without the consent of the manufacturer, exempt the manufacturer from responsibility arising from any resulting damages.

3.Safety rules at work

Sweeper can only be operated by adults who are familiar with its operation and the contents of this manual and have the appropriate qualifications. Sweeper should be operated in compliance with all the precautions, in particular:

3.1 Usage of Sweeper

- Obey this manual instructions as well as the general principles of health and safety.
- Obey the machine's warning symbols.
- Sweeper can be operated by a person with licence to driving the vehicle to which it is mounted, according to the manufacturer's recommendations.
- Please note that there are many places on the machine that could cause injury (sharp edges, projecting parts, etc.). When working, keep extra precautions when moving around these critical places and absolutely use personal protective measures such as:
 - protective clothing,
 - protective gloves,
 - protective footwear,
 - protective glasses,
- Before working with the sweeper, please read the manual instruction, safety rules and recommendations for maintenance and adjustment.
- Sweeper must be equipped with all safety shields (specified by the manufacturer) before accessing to moving parts. Shields must be complete and fully functional.
- There is the risk of residual danger and therefore the safety rules and common sense should be the basic principle of the use of the machine.
- It is forbidden to operate the machine by persons under the influence of alcohol or other drugs.
- Never allow the vehicle operating the sweeper be driven by a person other than its operator, and in any case, do not let that while working, the others remained in the vehicle and near the machine.
- It is forbidden to use the machine contrary to its purpose. Using the machine for other purposes than is specified by the manufacturer is contrary to machine's purpose and may void your warranty. Manufacturer assumes no responsibility for any consequences arising from the improper use of the machine.
- If the information contained in this manual is unclear, please contact with your dealer or manufacturer.

3.2 Connection and disconnection of sweeper

- It is forbidden to connect the device to the carrier vehicle, if used hydraulic oils are of different types
- It is forbidden to connect the sweeper when the fastening of the suspension system is not compatible with the vehicle's fastening
- The carrier to which the machine will be connected to must be in technically working condition and comply with the manufacturer's conditions
- It is forbidden to reside, operate between the vehicle and machine. Assistants on sweeper's aggregating must be outside the danger zone and be always visible to the vehicle's operator
- While connecting and disconnecting the machine take precautions
- Sweeper disconnected from the vehicle must be based on all three supporting wheels, and stored on a flat, balanced, paved surface in a place inaccessible to bystanders and animals
- To connect the machine, use only original bolts
- When adjusting, do not put your fingers and limbs between the structural elements of the machine.
- Protective covers (three-point hydraulic system) of sweeper's bolts should be made only by means of conventional protection in the form of pins. Working with other protections is prohibited.

3.3 Hydraulic installation

- The hydraulic system during operation is under high pressure.
- Check the condition of connectors and hydraulic hoses regularly, any leaks or damages are unacceptable.
- In case of emergency, immediately discontinue using the machine until the fault is rectified
- Use oil recommended by the manufacturer, it is forbidden to use sweeper when in the vehicle is different type of hydraulic oil than in the machine
- In case of injury by a stream of oil, you should immediately go to the doctor. Hydraulic oil can cause infection. If the oil gets into your eyes, rinse thoroughly with water and contact your doctor. In case of oil's contact with skin, wash the place of dirt with soap and water. Do not use solvents (gasoline, kerosene)
- Used oil must be stored in sealed containers and periodically provided to the points running its purchase (disposal).

- Rubber hydraulic hoses must be replaced every 3 years regardless of the technical condition
- Repair and replacement of the elements of the hydraulic system should only be done by qualified person

3.4 The sweeper's transport

- When driving the vehicle with a mounted, not working sweeper, make sure about the safe transport height ~ 0.3 m.
- Take special care when traveling on public roads, and adapt to the applicable provisions of the highway code.
- Adjust transport speed according to the condition of the road surface, it should not exceed 20km / h.
- Carrying persons or objects on the machine is forbidden.
- Do not leave the vehicle with the sweeper on the slopes or other inclines without securing the vehicle against self-rolling. Put a chock under the vehicle's wheels of the vehicle chocks and apply the parking brake. Leave the machine during stopover.
- Inspect the operating condition for safety, in particular, the elements of the suspension system and hydraulic system
- Reckless driving and excessive speed may cause an accident.

4.3 Maintenance

- Upon sweeper's receipt and transport check that the machine has not been damaged by checking its technical condition.
- It is forbidden for persons to stay under the raised sweeper, you could be crushed by structural elements.
- Do not use unbuttoned, hanging working clothes during operation, assembly, disassembly, adjustment. Keep them away from the structural elements that can caught them.
- Due to the natural use you should monitor the condition of: bearings, bolted joints, hydraulic system components
- Before working on the hydraulic system, the residual pressure oil must be compensated for
- Any modifications to sweeper relieve "Firma Kolaszewski" manufacturer from responsibility for damages or personal injury
- It is forbidden to do any work (maintenance, repair) under the raised and unsecured machine
- Obey the general safety and health at work
- Repair, maintenance and cleaning works should be done only when the ignition key is taken out, the vehicle's parking brake is applied and protected against access by third parties
- When replacing parts, use only original manufacturer's spare parts, Firma Kolaszewski is not responsible for problems arising from the use of non-original parts

- In case of work requiring raising of sweeper use for this purpose approved mechanical or hydraulic jacks. After lifting the machine stable and strong supports should be additionally used. It is forbidden to work only under the carrier vehicle's suspension system and use supports from fragile elements (blocks, bricks, concrete blocks, etc.)
- After lubricating remove the excess of grease

4.4 Working with the machine

- Before starting the carrier vehicle, check that the installation of outer hydraulics is not running, which can lead to uncontrolled start of the machine
- Before lifting or lowering the machine, make sure that there are no bystanders (especially children) or animals nearby. The machine operator is obliged to ensure proper visibility and space to perform the operations
- Operator's work station while working with the sweeper is the cab of the vehicle, to which the machine is mounted to. It is forbidden to exit the cab during work.
- When filling the water tank, lower the machine to the working position and turn off the engine



Failure to follow these rules may pose a risk to the operator or bystanders and may cause damage to the sweeper.

For damages resulting from non-compliance with this rules it is the user's responsibility.

4.5 The description of residual risk

The company Firma Kolaszewski put every effort to eliminate the risk of an accident. There is, however, some residual risk that could lead to an accident, and is connected mainly with the actions described below:

Table 1.

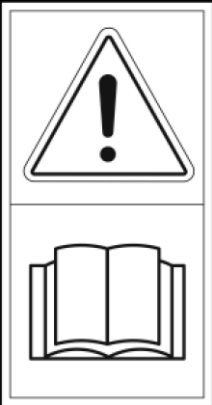


No.	Risk	Risk source (reason)	Measures to protect against risk
1	Overloading the musculoskeletal system (physical overloading)	Working in a standing position, stooped-forced, walking, moving	Getting acquainted with the manual, workplace training taking into account lifting standards while performing manual handling, proper techniques for lifting and lifting weights, using the help of another person, devices to facilitate movement such as a jack, winch
2	Fall on the same level (stumble, slip, etc.)	Uneven ground, mess – lying and standing objects, wires lying on the roads, slippery surfaces	Proper safety shoes, even ground, staying focused, keeping clean, reading the manual
3	Hitting fixed and sticking out parts of the machine	The machine and its surrounding	Proper setting of the machine, safe amount of space to move, proper organisation of work, staying focused, reading the manual
4	Being hit by moving objects	Objects, rocks, etc. thrown by the machine	Staying focused, marking the danger zone, prohibition of movement near the machine running, use of personal protective equipment – safety helmet, safety glasses, reading the manual
5	Dangerous sharp edges	Sticking out structural elements, using manual tools	Personal protective equipment – safety gloves, zipped overalls, exercising particular care
6	Hydraulic system	High pressure in the hydraulic system, bad condition of the hydraulic connectors and rubber hoses, leaks	Prohibition of movement near the machine running and its regulation, exercising particular care, use of protective equipment, use of protective glasses, regular checks of hydraulic system, reading the manual
7	The weight of the hung standing	Improper installation, aggregation, improper setting	Exercising particular care, use of personal protective equipment – safety shoes, safety gloves, safe installation


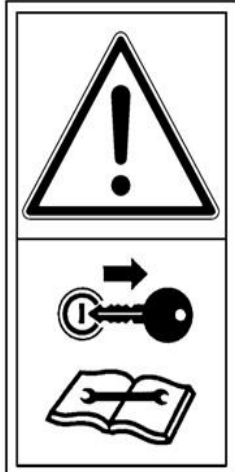

	machine	of the machine, improper operation, leaving the machine hung on the carrier vehicle	of the machine, using help of other people, using jacks, cranes, reading the manual
8	Microclimate – changing weather conditions	Work done in various weather conditions	Proper overalls, drinks, sun creams, proper rest, reading the manual
9	Noise	Too high RPM of the machine, damaged, loose, vibrating parts	Working with fully-functional machine, ongoing inspections of the machine, setting proper RPM, reading the manual

4.6 Information and warning labels

All labels should always be clear and clean, visible to the user as well as for those who may find themselves near the machine. In the absence of any sign of safety or damage, it should be replaced with a new one. All elements that have safety labels exchanged during repairs to the new should be provided with these labels. Safety signs can be purchased from the manufacturer or retailer.

TABLE 2. Information and warning labels

No.	Symbol	Description
1		Before starting work, read the instruction manual
2		The liquid under high pressure. Keep a safe distance from the working machine.
3		Risk of injury due to ejected items. Keep a safe distance from the working machine.

4		Do not approach or touch the rotating brushes
5		Turn off the engine and remove the key before starting maintenance or repair
6	16 MPa	Warning: pressure occurring in the hydraulic system
7		Places of sweeper grip when moving
8		Commercial designation

5. Design and Operation

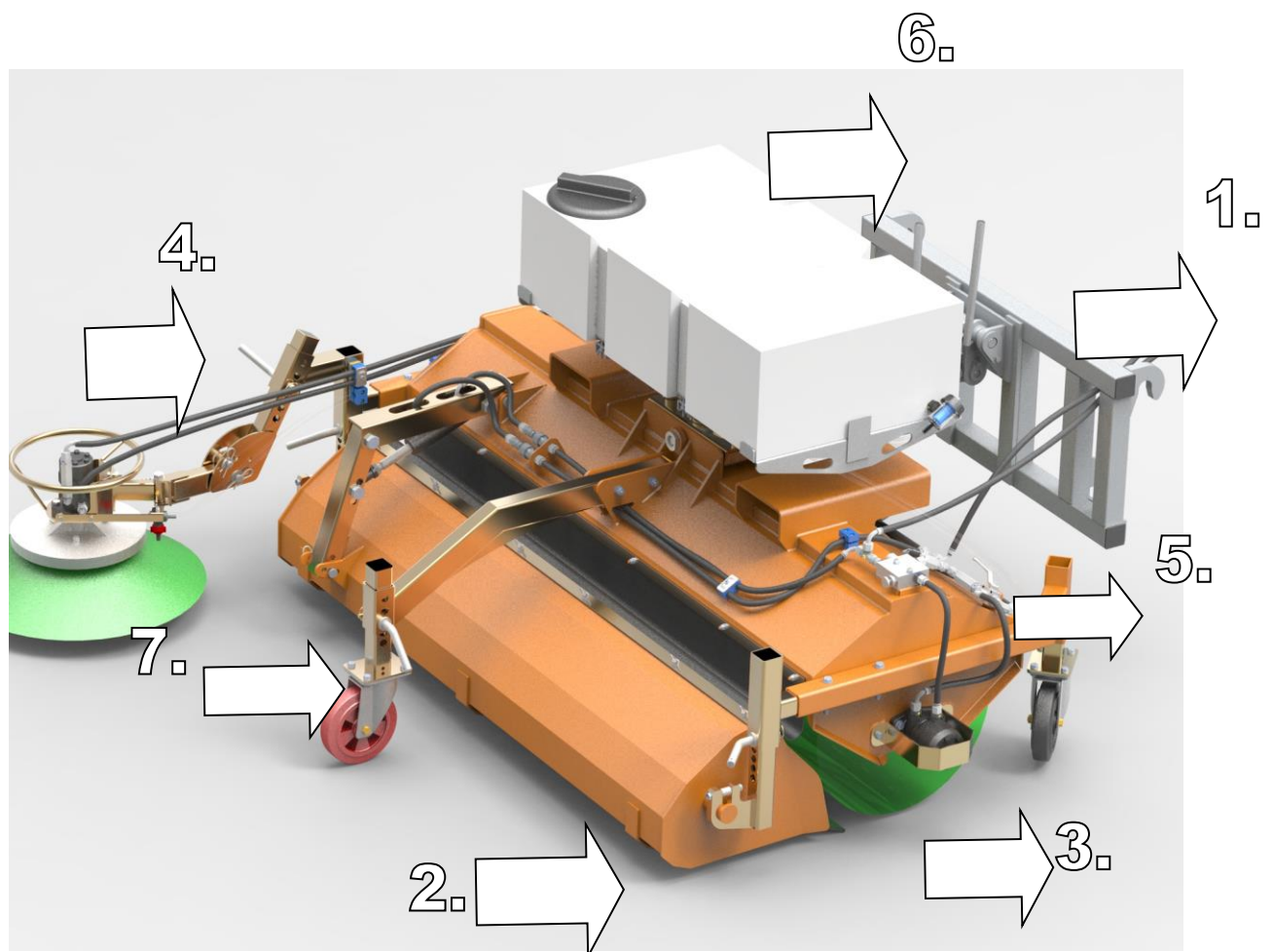
5.1 Basic technical data

Table 3.

Model	Sweeper 1500	Sweeper 1800	Sweeper 2300
Sweeping width	1500	1800	2300
Recommended sweeping speed	5 km/h		
Type of operating elements	Roller brush + side brush (option)		
Propulsion	External hydraulics of carrier vehicle		
Theoretical capacity of the dirt container	165 l	195 l	245 l

Own weight	150 kg	180 kg	190 kg
RPM of the roller brush: -recommended -max	100 150 rev/min		
Capacity of the water tank	175 dm ³		
Number of spray nozzles	5+1	5+1	7+1
Power supply of the sprinkler system	12V or 24V from the socket of the carrier vehicle		
Overall dimesions with the side brush (length x width x height)	2000x1800x1200 (mm)	2000x2100x1200 (mm)	2000x2550x1200 (mm)
Overall dimensions without the side brush (length x width x height)	2450x2250x1200 (mm)	2450x2550x1200 (mm)	2450x3000x1200 (mm)

2 General design of sweeper

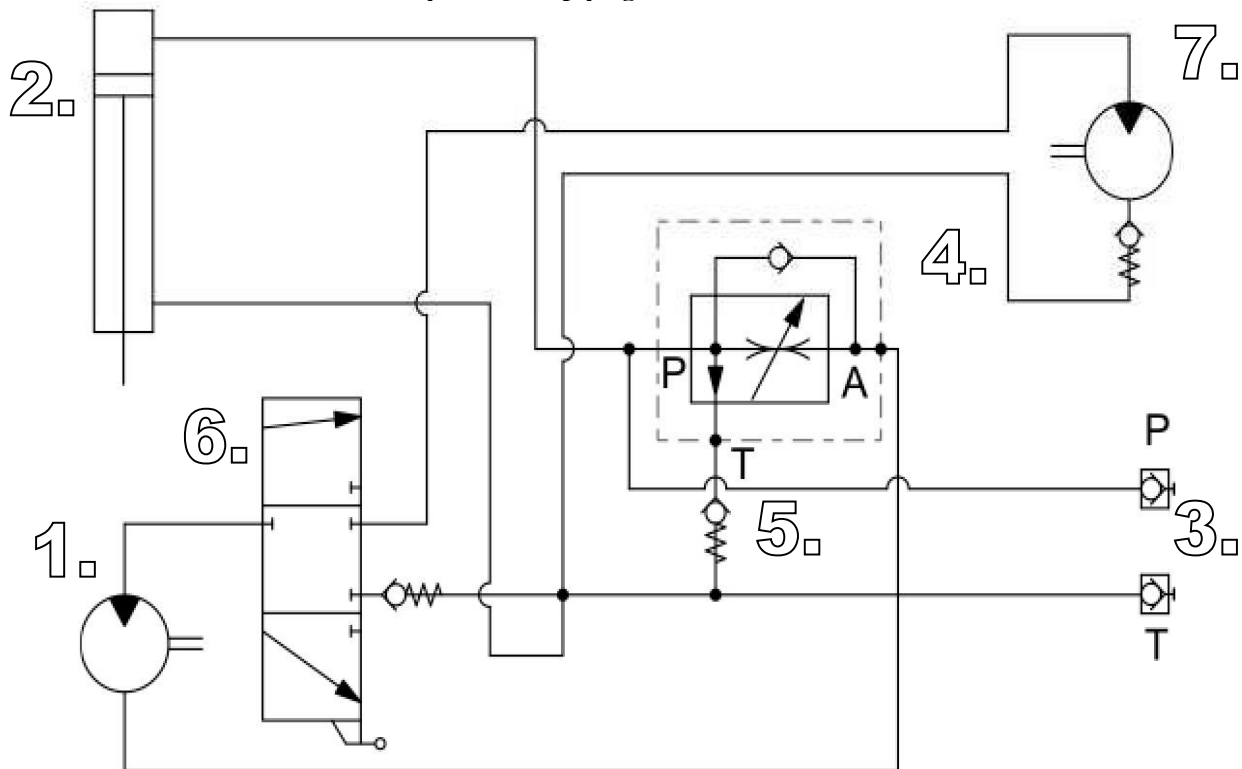


(1.) Suspension system; (2.) – Dirt tank; (3.) – Sweeping roller; (4.) – Side brush; (5.) – Hydraulic system; (6.) - Sprinkler; (8.) – Supporting wheel;

The sweeper's suspension system (1) mounted on the frame via pivot allows rotation and work before or after the carrier vehicle and the operation of the machine at an angle. The sweeping roller (3) driven by a hydraulic motor directs the dust to the tank (2), which emptying is carried from the operator's position by the hydraulic system (5). Sweepers additionally equipped with side brush (4) allow sweeping along walls or curbs. Controlling the sprinkler system (6) is carried out by the electrical system. Castor wheels are used to support the machine on the ground during work (7).

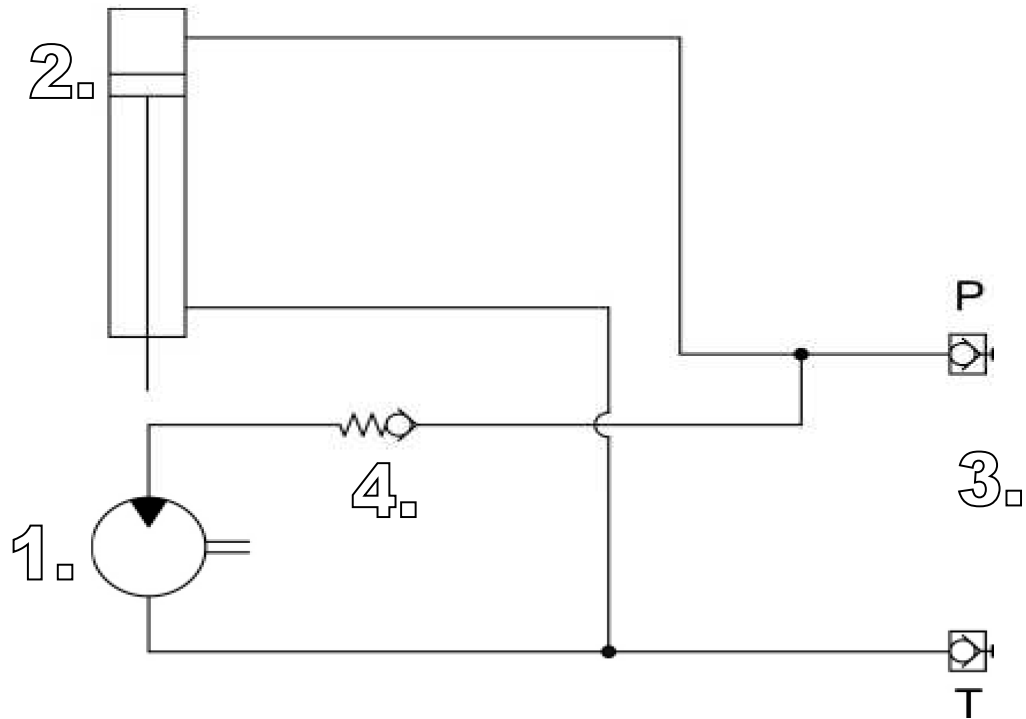
5.3 Construction and operation of the hydraulic system

5.3.1 Version with side brush and hydraulic emptying of dirt tank



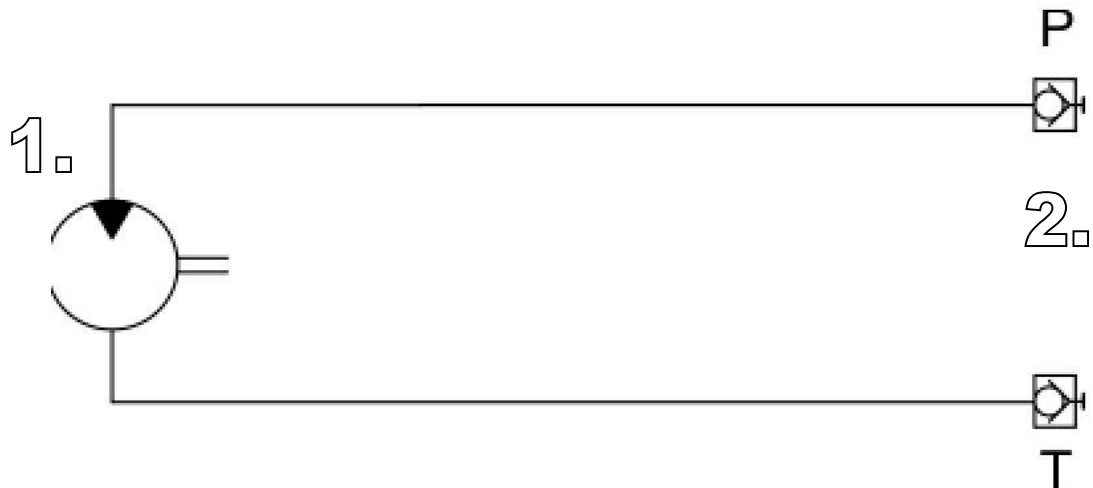
(1) - hydraulic motor of sweeping roller's drive; (2) - hydraulic cylinder of dirt tank's tipper; (3) - hydraulic couplings; (4) - flow regulator; (5) - non-return valve; (6) - three-way ball valve; (7) - hydraulic motor of side brush's drive

5.3.2 Version with hydraulic emptying of dirt tank



(1) - hydraulic motor of sweeping roller's drive; (2) - hydraulic cylinder of dirt tank's tipper; (3) - hydraulic couplings; (4) - non-return valve

5.3.3 Standard version



(1) - hydraulic motor of sweeping roller's drive; (2) - hydraulic couplings

The duties of the user associated with the hydraulic system operation include:

- leakage checking of cylinder and hydraulic connections;
- check the technical condition of hydraulic hoses and couplings;

The hydraulic system should be completely tight. Check seals locations, if you see a leak, stop using the machine until the fault has been rectified.



Danger

Do not attempt to repair the hydraulic system on your own, repairing any defects must be performed by trained personel.



Danger

Before working, reduce the residual pressure

During work, use personal protective equipment, ie. Protective clothing, footwear, gloves, goggles. Avoid oil contact with eyes and skin. In the event of injury or irritation, rinse with plenty of water and consult a doctor.



ATTENTION

Hydraulic oil in the form of oil mist is harmful to the respiratory tract



ATTENTION

In case of fire toxic compounds are released, the fire should be extinguished using carbon dioxide (CO₂), foam or extinguishing steam, in any case, do not use water !!!

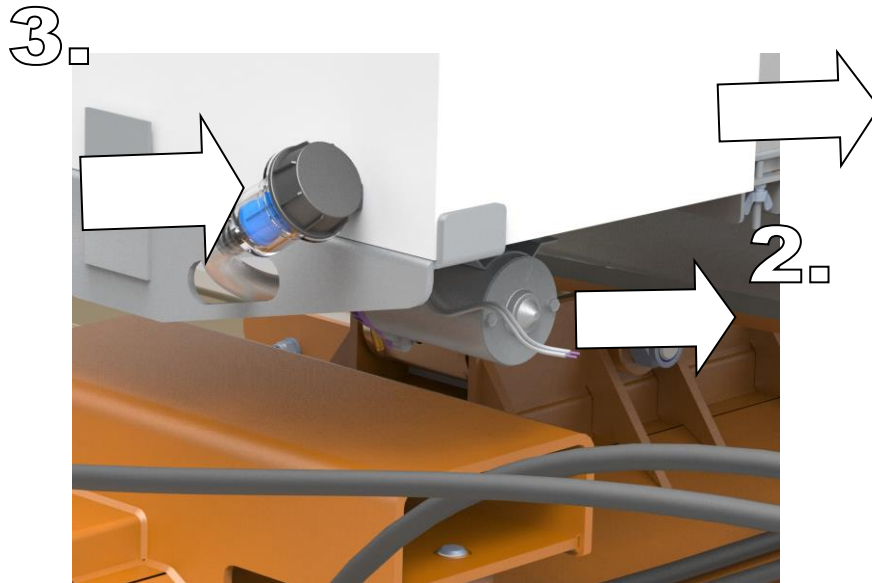
For work with the new sweeper, the manufacturer recommends the use of hydraulic oil HL32

Table 4 Characteristics of hydraulic oil HL32

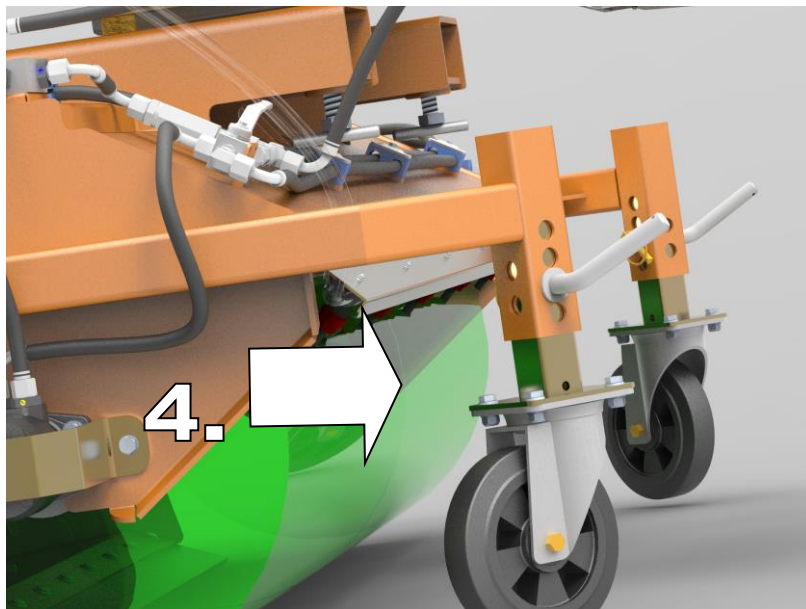
NO.	TITLE	VALUE
1	Viscosity classification acc. to ISO 3448VG	32
2	Kinematic viscosity at 40 ° C	28.8 - 35.2 mm ² /s
3	Quality classification acc. to ISO 6743/99	HL
4	Quality classification acc. to DIN 51502	HL
5	Flash-point, ° C	above 210
6	Maximum operating temperature, ° C	80

5.4 Desing and operations of sprinkler system

1. □



The main elements of a sprinkler system are water tank (1) water pump (2) water filter (3) spray nozzles (4) placed on the strip spray behind the sweeping roller and on the attachment of side brush effectively prevent the formation of dust during machine operation. Controlling the system is done via a plug connected to the vehicle's electrical system. Operation of the sprinkler system involves periodic review of the water system as well as cleaning water filter located on the suction hose (it is recommended to clean once a year, the frequency of cleaning depends on the degree of dirt in water) and strainers located in the nozzles.



6.Preparing work

Before starting work:

- make a visual assessment of the sweeper's condition, if you detect any defects promptly remove them
- attach the sweeper onto the carrier vehicle,

- connect the sweeper's hydraulic hoses to sockets of one section hydraulic distributor outside the vehicle,
- lift up sweeper at about 30 cm from the ground to check the accuracy of couplings' connection, if the sweeping roller will rotate in the wrong direction or it will not rotate, then switch places of couplings' pins,
- set sweeper so that it is based on all three supporting wheels, suspension components marked with a red arrow in Fig. They have to be in the middle position as shown in the figure, which allows for independent work of sweeper in relation to the carrier vehicle

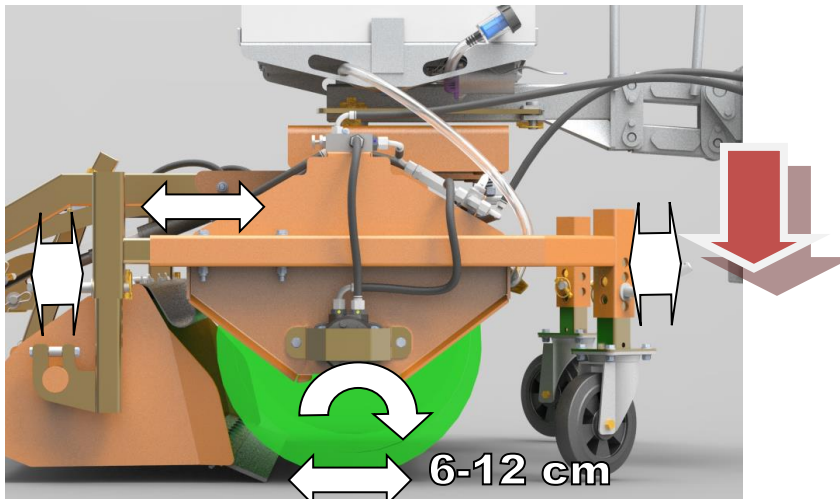


DANGER

During the aggregate, do not stand between the machine and the vehicle. The person who helps to aggregate the machine should be placed outside the danger zone and be visible all the time for the operator.

7. Proper installation of the sweeper

7.1 Roller brush



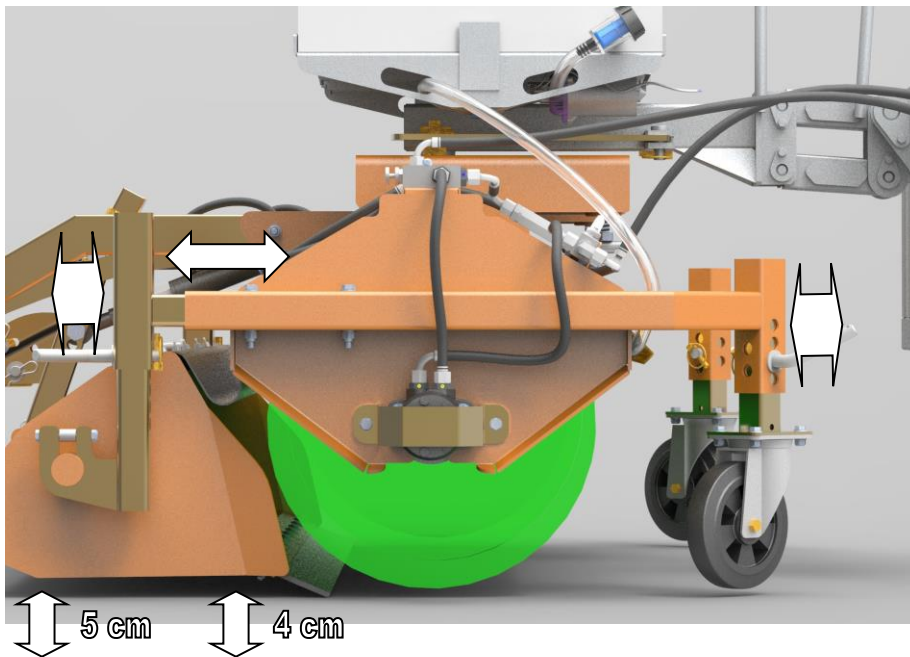
Roller brush should be installed properly. The installation of the roller brush and the tank should be done simultaneously.

The working surface of the roller brush should be set between 6 and 12 cm (Look, picture 1). Depending on the amount of impurities, the push may be set individually. The setting of the push is done by moving converging wheels in the rails. The mounting of the tank and servomotor should be set before each usage.



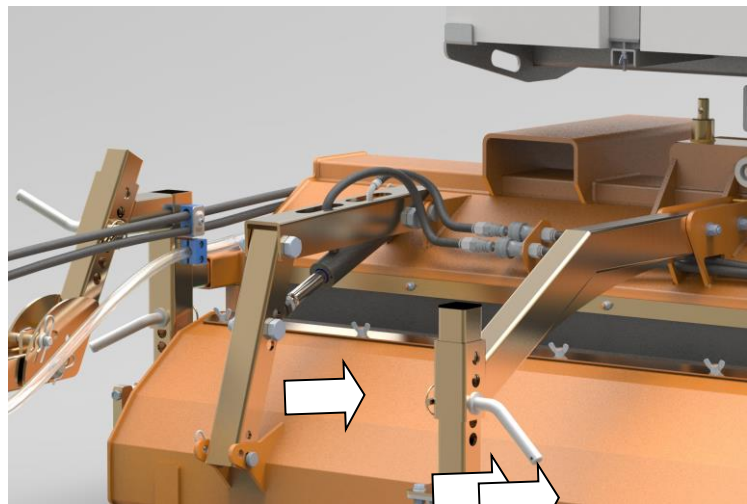
During the installation of the roller brush pay attention to the same setting of push on the whole length of the roller. Uneven installation causes faster wear of the roller brush.

7.2 Dirt tank



The height of the dirt tank should be set between 4-5 cm with a slight lean towards the swept surface. The regulation of the lean of the spoon is done by screwing or unscrewing rod tip or Roman screw, depending on the version. In case the roller brush is worn, or when the push of the brush is too small, you should:

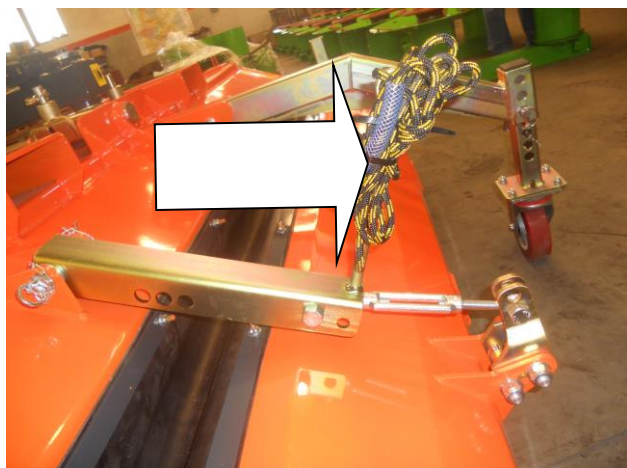
- lower and set proportionally the height of the tank in the rails in relations to the suport wheels (front and back)
- tighten the tank against the roller brush. To do so, you must unscrew 4 screws M12x90, move the rails towards the brush and tighten the screws
- proper regulation of the serwomotor in the regulatory holes (actuator arm, dirt tank)



ATTENTION: Too big push of the brushes against the cleaned surface causes faster wear of the brushes

7.2.1 Manual emptying of bath

Bath opening and closing is done by pulling the cord which causes the joint to break in order to open and close.



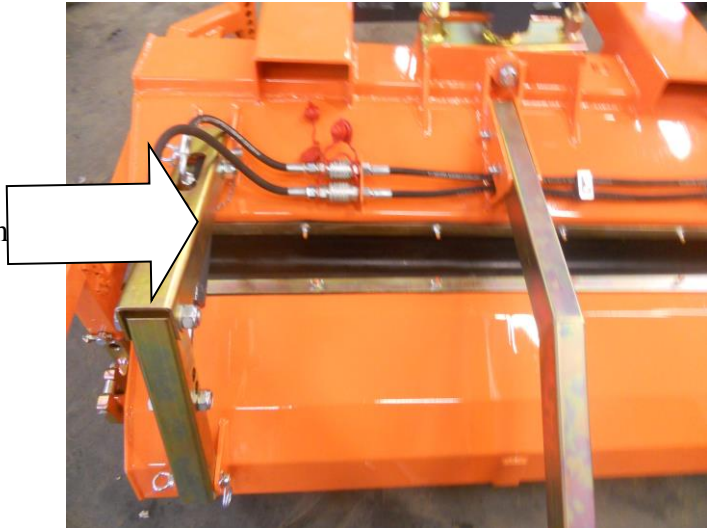
7.2.2 Hydraulic emptying of bath

The bath emptying is made via the change of the direction of oil in the hydraulic system where the return of oil creates the pressure needed for bath opening.

After the bath emptying the original oil circuit is re-set in order to allow the sweeper to work.



ATTENTION !!!
Bath opening and closing can be performed only with raised sweeper!!!

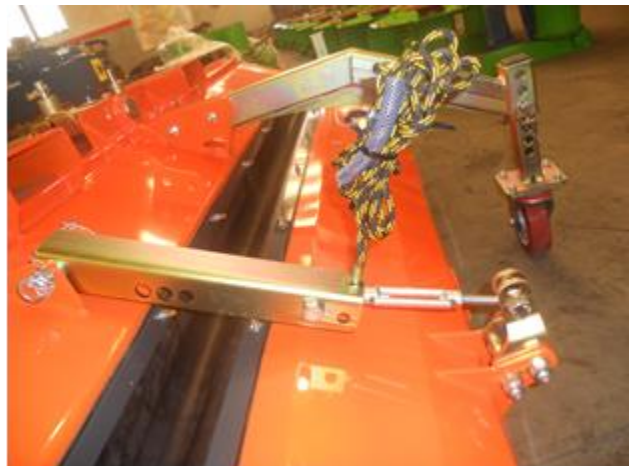


7.2.3 Sweeper's work without the dirt tank

We can easily dismantle bath to use the sweeper to work without tank as well as re-install it.

When using the tank with manual emptying

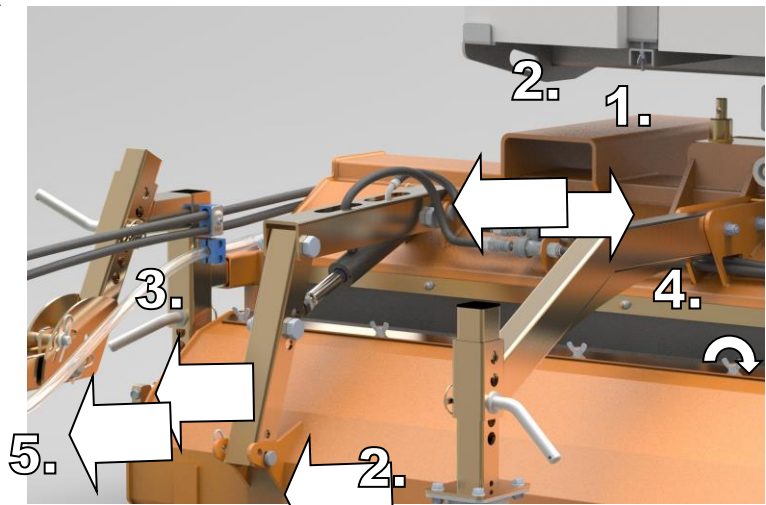
Hinge for opening and closing the bath, guide should be loosen bolts and then take out the bolts pins blocking in the body. Then remove the protective sleeve (secured with screws M10x90) from the guide. Lift up the tank so that it is possible to retrieve from the rails. To refit the bath the operation should be done in reverse order and adjusted.



When using the bath with hydraulic emptying

Disconnect the servomotor from the installation by unplugging the servomotor where the quick release “Push Pull” clutch bushings are mounted, (1) next, remove upper and lower bolt (2) of the servomotor mounting, secured with the “B” type cotter (3)

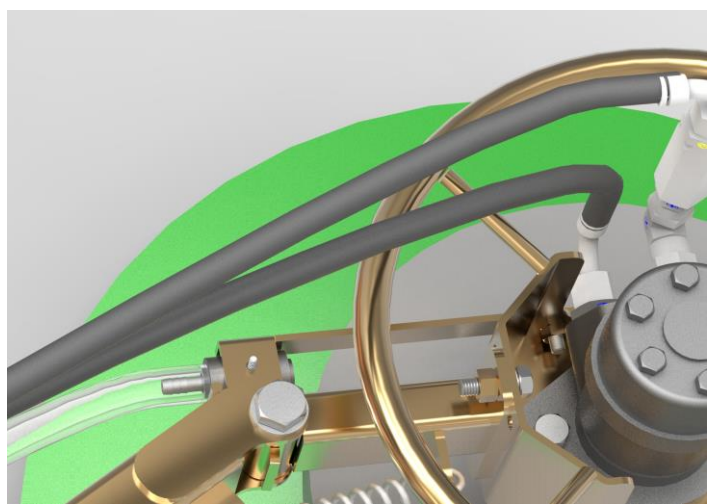
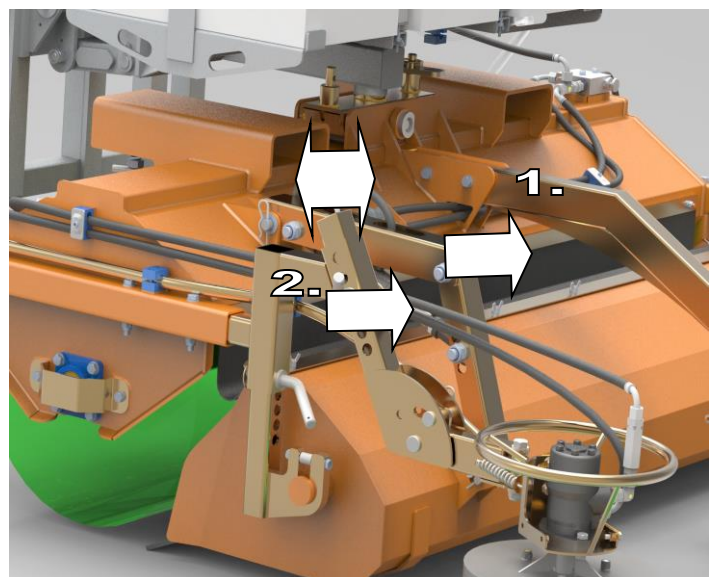
Unscrew the M8 wingnuts of the dirt tank’s rubber screen, remove the pressing bar, put the lower holes of the rubber screen on the body screws and secure them with M8 wingnuts (4). Next, unscrew M10x90 nuts (5) in order to remove the locking and remove the bath from the rails.

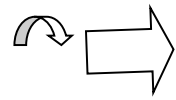


Attention!!!! Do not remove the screen completely. The rubber screen secures from the stones and other materials that the sweeper may throw during the operation without the bath.

7.3 Side brush

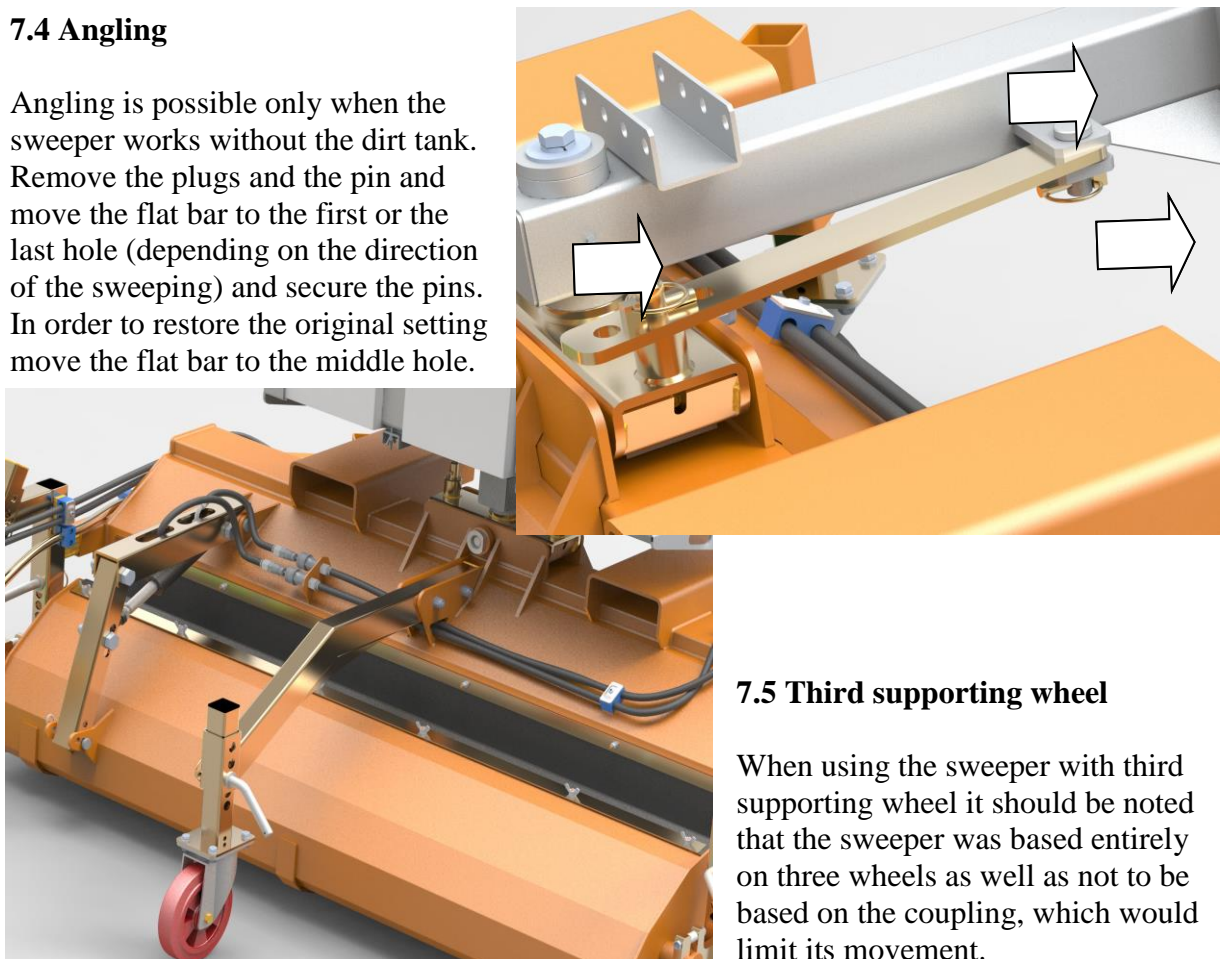
Setting the height of the side brush is performed by change of the position in the holes. By setting the correct height of the brush the optimal wear of the brush is set. The push of the brush is regulated with M10x30 adjusting screw placed above the arm of the brush. Loosen the M10x30 screws (2 pcs.) and turn the rack clockwise. The brush should be set the way 1/3 of its surface touch the ground. Fasten the screws. When there is no need to use the side brush, remove the pin (1) lift the brush and secure it with the pin in the hole (1) and change the position of the ball valve to close the flow of the hydraulic fluid to the brush.





7.4 Angling

Angling is possible only when the sweeper works without the dirt tank. Remove the plugs and the pin and move the flat bar to the first or the last hole (depending on the direction of the sweeping) and secure the pins. In order to restore the original setting move the flat bar to the middle hole.



7.5 Third supporting wheel

When using the sweeper with third supporting wheel it should be noted that the sweeper was based entirely on three wheels as well as not to be based on the coupling, which would limit its movement.

Picture 11: Third supporting wheel

When operating and shutdown the sweeper without dirt tank

While operating and shutdown: After connecting the sweeper to vehicle and Turing shutdown.

The front supporting wheel must be fitted!!!

Reason: If the front supporting wheel will not be fitted, the whole machine weight will Rest on roller brush and cuase its deformity.

8 Maintenance and replacement of parts

8.1 Assembly and disassembly of roller brush

Before replacing, make sure that the sweeper is disconnected from the power supply and the resulting pressure in the hydraulic system has been released.

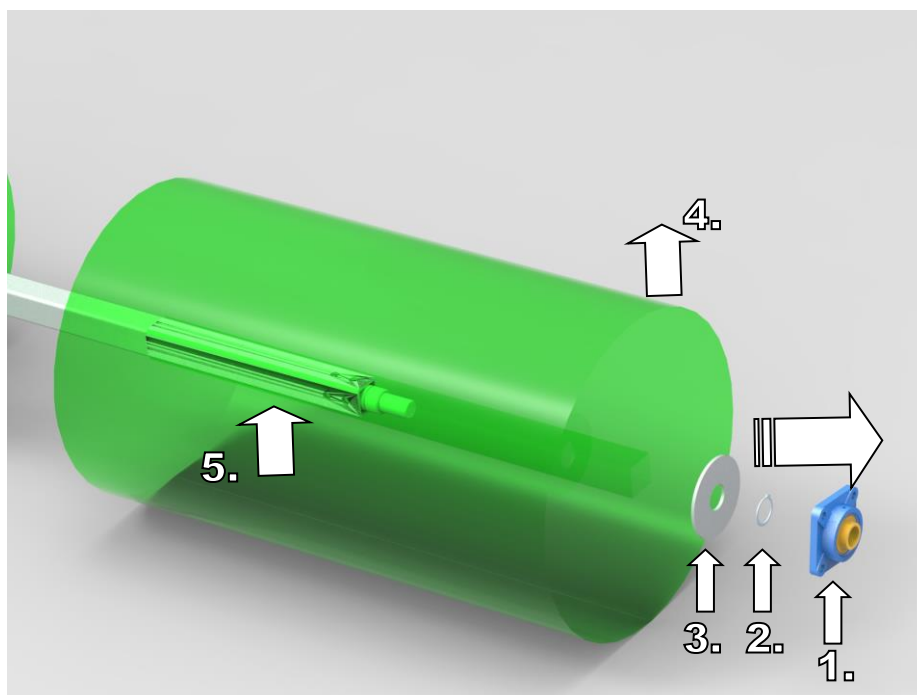
8.1.1 Hydraulic engine:

Unscrew the fixing screws of engine cover and next the hydraulic engine with the body. Attention !!! This operation does not need removing the hydraulic motor from the shaft, instead unscrew the engine's hydraulic hoses.

8.1.2 Bearing unit:

Unscrew the cover screws of bearing unit (1) from the body. Bolt securing the longitudinal movement need to be loosened using the 4 mm Allen key and unscrew the bolts connecting the bearing cover with the body. Cover with bearing remove from the shaft. Lift the machine (eg. using a forklift), secure with stable supports. Then remove the retaining ring Z40 (2) and remove the flange securing (3) longitudinal move of brush's segments (4) - which allows for the exchange of individual segments of the roller brush by sliding them out of the shaft (5).

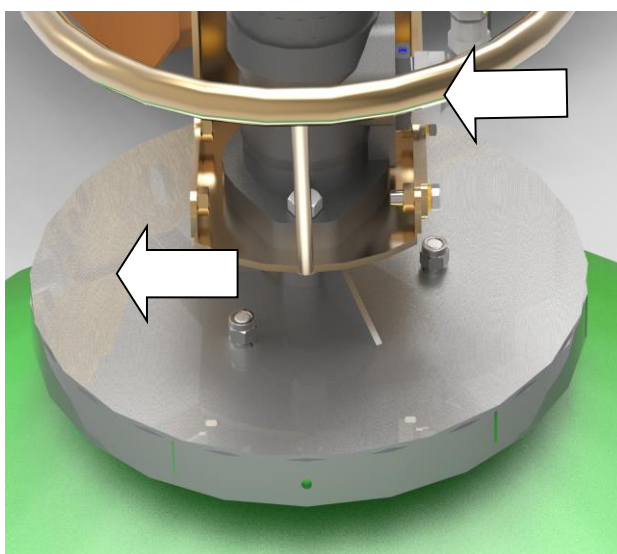
During assembly carry out the same action, but in reverse order. Use new washers under screws and new retaining ring.



Attention:

- Pin of shaft should be lubricated before installation.
- It should be noted that the brush roller has not twisted during assembly.

8.2 Installation and replacement of side brush



Unscrew M10x40 screws (3 pcs.) to disassembly the side brush. Remove the worn brush and replace with new one and then rescrew the screws.

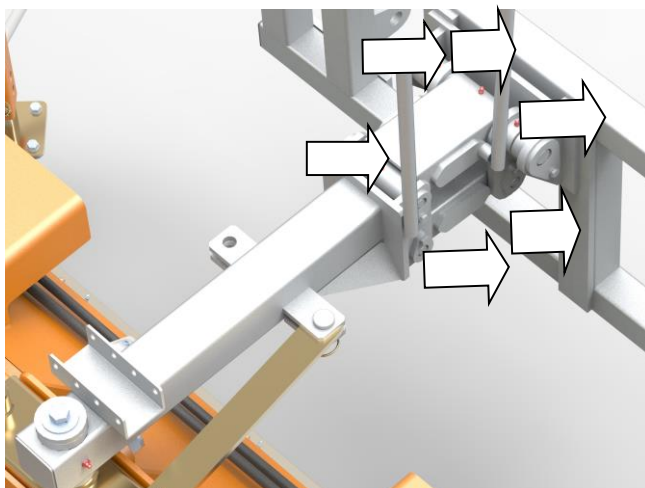
9. Defects and methods of repairing them

TABLE 4

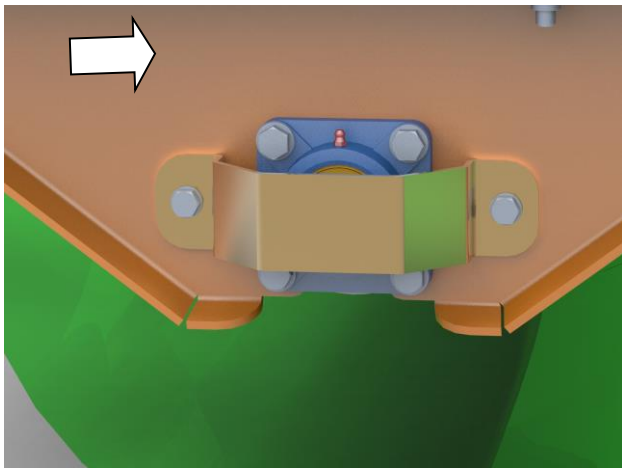
TYPE OF DEFECT	REASON	METHOD OF REPAIR
Sweeping roller does not rotate or rotates in the	Not connected or incorrectly connected hydraulic system	Check connection

wrong direction	Not operated or incorrectly operated circuit of vehicle's hydraulic system	Include correct hydraulic circuit in the vehicle
	Damaged hydraulic system	Report to the service centre
Side brush does not rotate	Not connected or incorrectly connected hydraulic installation	Check connection
	Side brush's driver turned off	Turn on the brush drive's lever distributor
	Damaged hydraulic system	Report to the service centre
Side brush rotates too slow or too fast	Incorrectly adjusted oil flow regulator in the sweeper's installation	Set the brush's rotation using knob of oil flow regulator
Dust tank does not open or does not close	Not connected or incorrectly connected hydraulic installation	Check connection
	Not operated or incorrectly operated circuit of vehicle's hydraulic system	Change the direction of oil flow in the hydraulic circuit using the distributor's lever in a vehicle
Sprinkler system does not work	Sprinkler system does not work	Connect the plug to the socket of vehicle's electrical system
	Not connected electrical installation of water pumps power	Check the connection plug's socket in the vehicle
	Lack of water in the tank	Make up with water
	Plugged sprinkler system	Check the efficiency of the system, clean the mesh cartridges of water filter and sprinklers
	Damaged water pump	Report to the service centre
Sweeper does not collect the dirt correctly	Too low rotation speed of sweeping roller	Increase the engine speed
	Incorrectly set pressure of the sweeping roller	Adjust according to instruction
	Incorrectly set dirt tank	Adjust according to instruction
	Incorrectly set side brush	Adjust according to instruction
	Too high speed driving	Adapt the speed of driving
	Dirt tank is full	Empty the tank
	Excessively worn brushes	Change
Rapid wear of brushes	Incorrectly set pressure of the sweeping roller. Incorrectly set side brush	Adjust according to instruction
Throwing dirt from the sweeper	Too high rotation of brushes. Incorrectly set brushes. Incorrect setting on the vehicle	Check and adjust according to instruction

10. Lubrication points



Lubrication points of the suspension system should be lubricated at least once a week with machine grease LT43



Lubrication point on shaft bearing
(Assuming continuous use for 8 h) should be lubricated everyday before work with machine grease LT43

11. Disassembly, scrapping and environment protection



Protect your hands (body) against injury and harmful effects of grease, oil.

Wear protective gloves and tools in good condition.

Machine parts, which during disassembly can move or rotate must be adequately protected.

Worn or damaged parts obtained during repair (scrapping) must be stored in a separate location with limited access of people and animals. Worn parts must be delivered to the scrap yards. Worn plastic parts must be sent to a storage point (disposal) of chemical waste.

At the time of refilling or change of oil do not allow to spill it. Used oils should be stored in sealed containers and periodically provided to the points that purchase them (disposal).



Abandoned parts or machine elements, spilled oil may result in accidents and cause environmental pollution and violate applicable laws.

12. Warranty

WARRANTY CARD

Serial no.	Type
Year built	KJ

Under this warranty, the manufacturer undertakes to repair for free, the physical defects revealed during the warranty period, which is valid for 12 months from the date of sale.

The manufacturer is exempt from responsibility under the guarantee in case of:

- Mechanical damage to the machine after the transfer to the user;
- Improper operation, maintenance, machine storage, in particular, contrary to the instructions;

- Repairs by unauthorized persons without the consent of the manufacturer to carry them out;
- Design changes without consulting with the manufacturer;

The warranty card is valid if it has the seller's signature and the date of sale certified by company stamp of a traded unit. It must not contain erasures and corrections by unauthorized persons.

The duplicate of warranty card may be issued upon written request upon presentation of proof of purchase by the user.

In the case of unjustified request for warranty service, costs associated will be on the user's account.

User reports complaints immediately after the occurrence of the damage, either directly to the seller or manufacturer.

The manufacturer provides warranty service within 14 days from the date of notification to the date of repair.

The warranty is extended by the period of repair, counting the date of notification to the time of the service if the defect has prevented the use of the machine.

The warranty does not cover natural wear of parts such as bearings, support wheels, roller brushes, side brushes, hydraulic installation components (hydraulic couplings, hydraulic engines, rubber hoses, valves and controls, etc.), sprinkler system components (water pump, water filter, spray nozzles), rubber cover, fasteners, etc.

Sale date:

(day, month, year)

(signature and stamp of store)

RECORD OF WARRANTY REPAIRS

Filled in by the manufacturer

The date of claim: _____

The extent of claim and replaced parts: _____

Date of settling the claim: _____

Warranty extender until: _____

(signature and stamp of service)

The date of claim: _____

The extent of claim and replaced parts: _____

Date of settling the claim: _____

Warranty extender until: _____

(signature and stamp of service)

The date of claim: _____

The extent of claim and replaced parts: _____

Date of settling the claim: _____

Warranty extender until: _____

(signature and stamp of service)

The date of claim: _____

The extent of claim and replaced parts: _____

Date of settling the claim: _____

Warranty extender until: _____

(signature and stamp of service)