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Instruction manual

Vine stem cleaners Duplex



READ BEFORE YOU USE THE MACHINE !

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Machine identification

| | |
|------------------|--|
| Serial number | |
| Date of delivery | |




1. PURPOSE OF THE MANUAL

1.1 Warning symbols

| | |
|---|---|
|  | DANGER ! |
| | Indicates an imminent danger which inflicts a serious injury or even death, unless you avoid it. |
|  | WARNING ! |
| | Indicates an imminent danger which can inflict a serious injury or even death, unless you avoid it. |
|  | ATTENTION ! |
| | Indicates an imminent danger which inflicts light or medium injury, unless you avoid it. |

These warning signs must be respected for your safety. When you find any of those symbols, observe the risk of potential injury, carefully read the appropriate instructions and inform other users of the machine.

1.2 Other symbols

| | |
|---|--|
|  | Indicates the measures taken to protect the environment. |
|  | General warning symbol. |
|  | Particularly important technical instruction. |

1.3 What is this instruction manual

This manual contains all practical information for proper and safe operation, management and maintenance of your machine.

Read it carefully and respect all instructions and advices about your safety.

1.4 Definitions of motion

The terms "right" and "left" are defined by rotating clockwise and counterclockwise and are determined to the running direction of the machine.

1.5 Storing

Keep this manual by the hand at your workplace. Place for the documents will determine your senior engineer. Leave the manual to other users, even if you selling or renting your machine to third parties.

1.6 Important warning



In case of doubt about the running of the machine, do not take unnecessarily risk and do not try to take inexpertly intervention. Do not hesitate to contact your supplier. Only he is the best one to inform you, because he is instructed about the use of this machine.

2 WARRANTY TERMS

Owner of the new vine stem cleaner has a guarantee of 1 year on the parts and labor costs for repairs in case of any manufacture defects or defects of materials, parts and components except those are not manufactured by OSTRATICKÝ where the warranty period depends on the statement of the manufacturer.

The place for use the guarantee is the OSTRATICKÝ place of business.

2.1 Warranty subject

This warranty is provided on the vine stem cleaner and is expanded to all accessories in condition that was delivered with the machine.

2.2 Conditions

2.2.1 Specification

This warranty is provided to the first purchaser and can not be transferred to the third party in the case that the machine has been resold to a third party before the expiration of the warranty period.

The warranty can be used if the defective parts are returned to the manufacturer and is limited by the supply of new parts and by payment of the labor costs according to the norms established by the manufacturer. Replacement of the defective parts under warranty do not affect the warranty extension. In any case it does not oblige the manufacturer to exchange the machine protected by warranty.

2.2.2 Progress of the warranty

Warranty becomes effective from the date of the machine delivery.

It can be used only when the following operations such as inspection and regular maintenance have been carried out in accordance with the regulations in the instruction manual and interventions related to the guarantee or have been resulted from requests for changes or adjustments made in the assembling shop of the OSTRATICKÝ company or authorized representative.

2.2.3 Warranty exceptions

Warranty exceptions are:

- damage on the parts and components whose regular exchange is a part of normal maintenance
- wearing parts
- due to the time of use, damages emerged from the common material, parts and components wear out
- indirect tangible and intangible damages
- damage caused by using parts or accessories that have not been approved by the manufacturer or by disrespecting the delivery conditions
- damage emerged from putting into the operation the damaged machine before its final and complete repair

2.2.4 Warranty is not valid:

- if regular inspections have not been carried out in accordance to the instruction manual provided at delivery of the vine stem cleaner
- if revisions or interventions have been realized out of the authorized dealers network of the OSTRATICKÝ company or its representatives
- if the original parts have been replaced by inappropriate components
- if the damage is caused directly or indirectly during the mounting or modifications which are not conform to the standards or have been realized without the agreement of the manufacturer
- if the repeated failures are caused by intensive use of high-pressure cleaners
- if it turns out that the damages are caused by poor maintenance, error and inexperience of driver and also by using the machine for work for which was not determined.

2.2.5 Additional costs - specifications

The following are not admitted in the warranty:

- transport costs related to a sending parts and their replacement
- potential costs for an intervention on a place or for a transport to manufacturer's representative workshops
- labor costs caused by removing and re-installing components and accessories that are included in the equipment of the cultivator and whose removal would be proved as necessary
- costs of consumable material during the warranty repair: oil, fuel, etc.

3 IDENTIFICATION OF THE MACHINE

The identification plate is located on the machine chassis and includes:

- CE conformity marking
- year and month of production
- serial number
- machine type marking
- the highest technically permissible weight of the machine



Fill in the table on page 2 of this instruction manual (serial number and date of delivery) from the plate (use the plate attached on the machine). During the communication with your dealer tell him always the informations. He will exactly know which machine you have and will be able to inform you accurately and in the shortest time.

Do not remove the plate attached to the machine.

In the case of damage the plate, contact your dealer to replace it.

4 TERMS OF USE

4.1 Purpose of the machine

Vine stem cleaner is carried working machine, designed for aggregation with a tractor or other tool carrier fitted by proper attaching points, driven by an external hydraulic circuit of a carrying vehicle. It is designed to clean stems of grapevine from old bark, small leaves and young non-woody overgrowns in herbal state. Any other use of the machine contradict the normal use and are not permitted without the agreement of the manufacturer. The machine is produced in variants listed in the article 5.

4.1.1 Illegal use

The machine may not be used if:

- the construction of the machine has been tampered without agreement of the manufacturer
- it is hitched to a carrying vehicle that does not meet the requirements of hydraulic system to drive the vine stem cleaner
- the cleaner or any its section/part is damaged by a previous operation or is incomplete
- the operator does not have the required qualifications

4.2 Operator qualifications

The machine can be used and repaired only by persons well familiarized with the construction and operation of the machine and the necessary safety regulations.

Before using the machine, familiarize yourself with all the controls and its proper use.

During the work it will be too late to do it.


The machine is not stand-alone, it is intended to be mounted on a carrier or on a tractor, designed to work in a vineyard or orchard. Specific adaptation to certain carriers has to be supplied by the manufacturer. In other cases, the installation has to be done according to the instructions and approved by your supplier to ensure the correct mounting.

4.3 Definition of the working places

The device is commissioned by a driver of carrying vehicle.

Working places:

- place for a driver of carrying vehicle - a person qualified to operate a carrier vehicle and vine stem cleaner

| WARNING ! | |
|---|---|
|  | <p>Since the moment when a driver has to leave the place for driving, The motor of carrier vehicle must be shut down and the assembly has to be locked against the possible movement by the parking brake and wheel chocks in the case of addition slope. Key from the ignition switch of the engine has to be removed to prevent a third party to start or manipulate the assembly without the driver.</p> |

4.4 Environmental conditions

4.4.1 Working on slope terrain

Adjust the speed and method of driving on a slippery surface. Be careful when driving, after mounting the rotary stripe cultivator the weight distribution of a tractor or carrier is changed.

Drive the machine at lower speeds especially on slippery surfaces, in a curves and on a transverse slope. Avoid a sudden changes of direction. Try to control the machine as smooth as possible.

4.5 Lighting, working at night

In the case of insufficient light conditions, use the light equipment on a carrier or a tractor. For good visibility, add lights on the machine. If this is not possible, use the machine only in daylight. Use the different electric circuit from the circuit of the vine stem cleaner.

4.6 Responsibility of the manufacturer and user

Respect all regulations for the installation, operation, driving, maintenance and repair contained in this instruction manual.

Use only spare parts recommended by the manufacturer.

Do not modify your equipment or accessories without requesting the manufacturer for a written agreement.

Ignoring these principles deprives the manufacturer of responsibility.

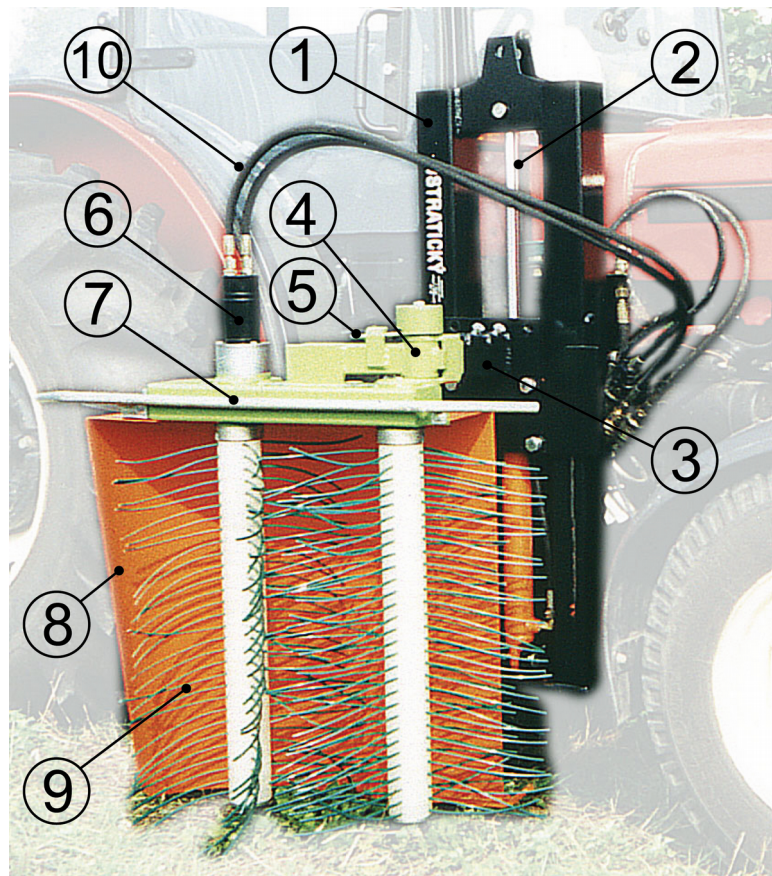
5 TECHNICAL SPECIFICATIONS

5.1 Definitions of terms used on machines

Vine stem cleaners are made in different designs. For their attachment to a tractor are used different types of suspension. The descriptions and illustrations show the commonly used combinations. However, it is possible that your machine will be combined differently. Then are valid the informations and descriptions relating to the individual components of your particular machine.

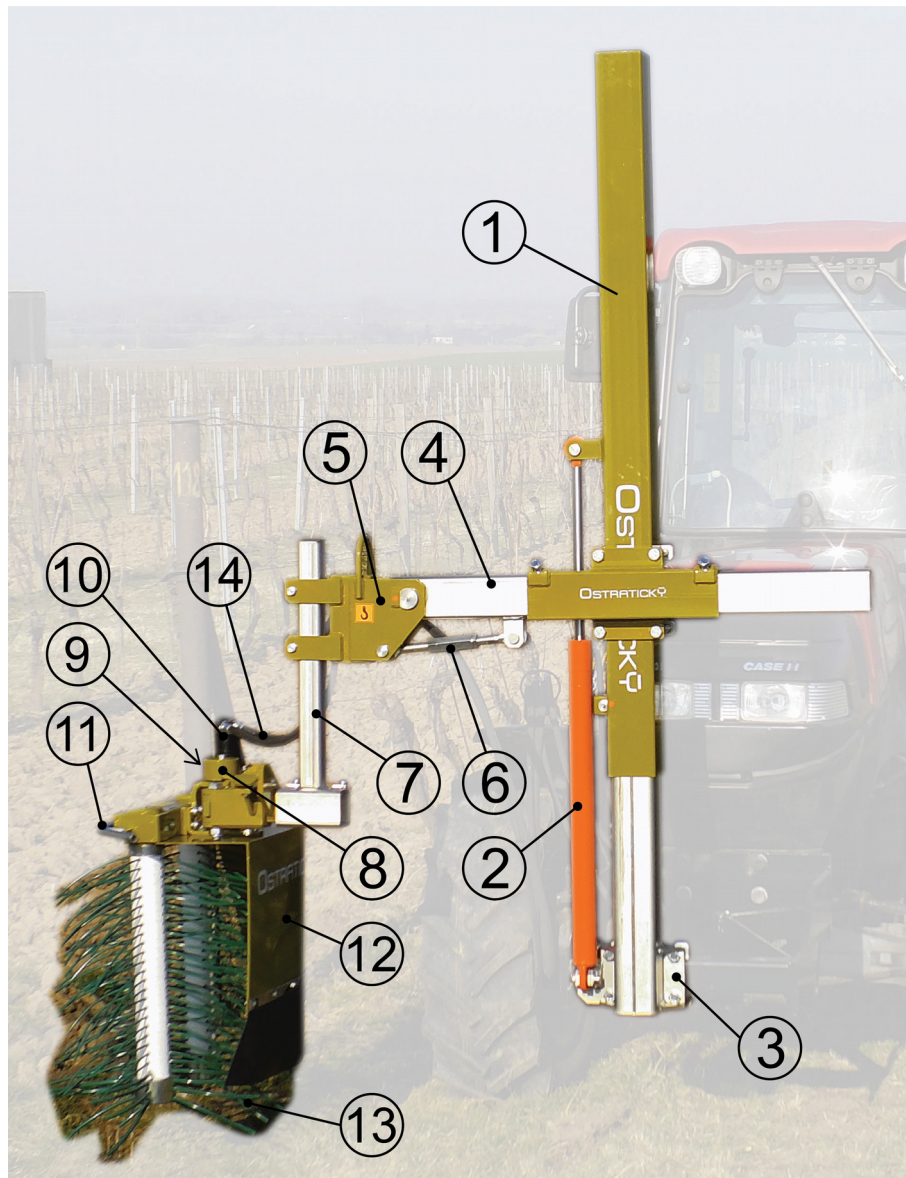
5.1.1 Vine stem cleaner- side suspension

1. Suspension post
2. Hydraulic cylinder of the lifting
3. Connecting part / tilting head
4. Side pressure joint of the working tool
5. Side pressure spring of the working tool
6. Hydraulic motor
7. Supporting rod of the cleaner
8. Protecting cover
9. Cleaning cord
10. Hydraulic hoses



(fig. 1)

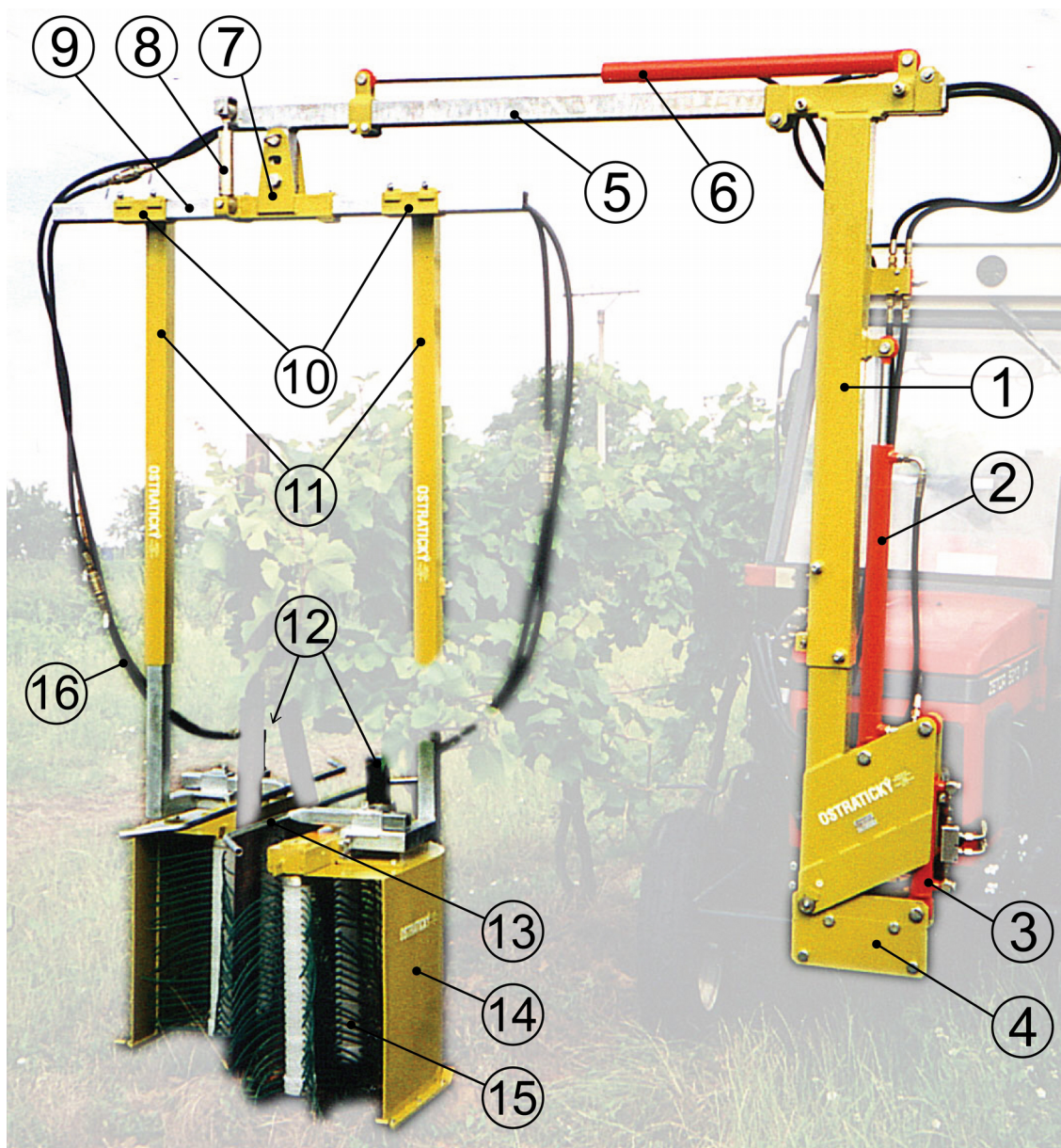
5.1.2 Vine stem cleaner - front suspension (US post)



(fig. 2)

- | | |
|---|---|
| 1. Post | 9. Side pressure spring of the working tool |
| 2. Hydraulic cylinder of the lifting | 10. Hydraulic motor |
| 3. Mounting flange | 11. Supporting rod of the cleaner |
| 4. Supporting arm with mechanical / hydraulic sideshift | 12. Protecting cover |
| 5. Tilting head | 13. Cleaning cord |
| 6. Bolt / hydraulic cylinder of setting the working angle | 14. Hydraulic hoses (are not figured) |
| 7. Holder of the cleaner | |
| 8. Side pressure joint of the working tool | |

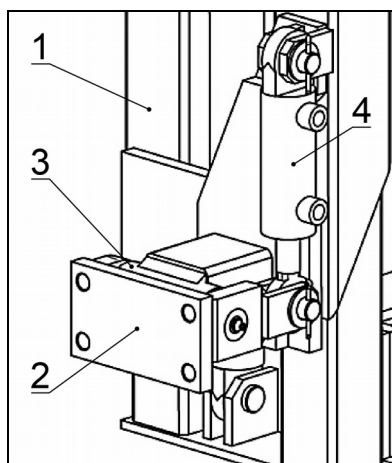
5.1.3 Tunnel vine stem cleaner - front suspension (STS post)



(fig. 3)

- | | |
|---|-----------------------------------|
| 1. Post | 9. Balance beam |
| 2. Hydraulic cylinder of the lifting | 10. Vertical arm sleeve |
| 3. Hydraulic cylinder of the post tilting | 11. Supporting arm |
| 4. Mounting flange | 12. Hydraulic motor |
| 5. Carrying arm | 13. Supporting rod of the cleaner |
| 6. Hydraulic cylinder of the extension | 14. Protecting cover |
| 7. Tilting head | 15. Cleaning cord |
| 8. Shock absorber of the tilting | 16. Hydraulic hoses |

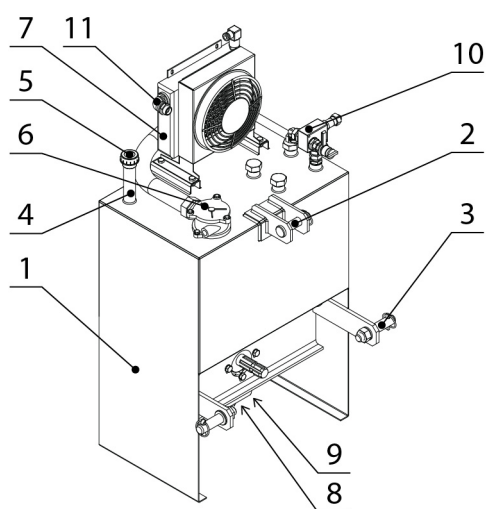
5.1.4 Tilting head of the side post



1. Suspension post
2. Mounting flange
3. Tilting head joint
4. Hydraulic cylinder of the angle setting
5. Hydraulic hoses (are not figured)

(fig. 4)

5.1.5 Independent source of the hydraulic flow - hydraulic aggregate HAN 80.1x40



1. Oil tank
2. Upper pin of the suspension
3. Lower pins of the suspension
4. Filling hole
5. Oil dipstick
6. Oil filter
7. Oil cooler
8. Pump(s)
9. Transmission
10. Pressure outlet(s)
11. Back flow outlets(s)

(fig. 5)

5.2 Operation parameters

Hydraulic quick couplings

ISO DN12,5

Machine linkage

ISO DN20

3-point linkage cat. I, II
mounting frame

Wiring

12 V

5.3 operation parameters

Operating revolutions of the cleaning shafts

500 - 700 RPM

The maximum oil flow rate (for continuous operation)

10 l/min

Maximum pressure in the hydraulic circuit:

180 bars

Maximum pressure of the return line (drain pipe)

2,5 bars

Oil purity

min. class 9, (25 µm)

5.4 Hydraulic block

Vine stem cleaners have to be supplied with special hydraulic block allowing to set up the ideal working conditions. This hydraulic block can be a part of a tractor or carrier or can be added. Specific type is always specified by the producer of the vine stem cleaner.

5.5 Oil purity

Oil purity for the drive has to accord the class quality 9, i.e. 25 μm or better, carrying vehicle has to be equipped with proper filter.

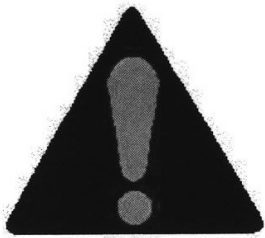
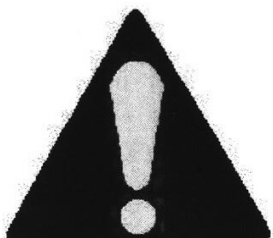
6 GENERAL SAFETY RULES

6.1 General informations

The following chapters of the instruction manual providing instructions that must be respected.

**CAUTIOUSNESS and CAREFULNESS are the main
guarantee of your safety.**

Rules and regulations that lead to the prevention of accidents and are related to safety, occupational hygiene, health, environment and the traffic protection must be observed at all times!

| | |
|---|--|
| WARNING !  | <p>Make sure that no person, no animal and no obstacle gets close to the machine before it is put into operation and during maneuvering.</p> <p>Keep children at a safe distance from the machine.</p> <p>Before any intervention on the machine, make sure that the machine can not be accidentally started.</p> <p>Before every use, after any adjustment and servicing, make sure that all safety devices are in place and in good condition and that they are ready to be used.</p> <p>Never place your hands, arms or legs near to the moving parts even at low speeds.</p> <p>Keep a safety distance from the machine.</p> |
| ATTENTION !  | <p>Before every use, check the tightness of all bolts, joints and bolts. Tight them if they are loosened.</p> <p>Make sure that land does not contain any inequalities and debris (wood, iron, plastic, etc.) that could damage the machine. When you hear an unusual noise or feel a vibration, it is necessary to stop the machine. Search and remove the cause of failure before you start a work again.</p> <p>Call your dealer if necessary.</p> |

- Maximal transport speed on the road is 25 km.h⁻¹ (15 MPH), on the field has to be appropriately reduced.
- In this instruction manual there are troubles and failures introduced and described that can occur on the product and which can user fix with the assistance of appropriately trained staff. Report other problems and failures directly to the supplier which is always available for you.

- It is forbidden to carry out any intervention on the machine or modifications that are not introduced in this instruction manual and are not approved by the manufacturer.
- The manufacturer is not responsible for damages to persons or close neighborhood, which are caused by nonobservance the instruction manual.
- In the intervening time when the product is not used and it is aggregated with carrier vehicle, do not leave the keys in the ignition box of the vehicle.
- Make the maintenance and control of the tightening bolt connections in regular intervals.
- Keep the machine clean, perform its cleanup after a work.
- All work on the machine must be carried out only during standstill time of the machine and properly locked against movement.
- It is forbidden to carry out the maintenance on the machine lifted on the suspension locked against fall by struts.
- Keep clean particularly the hydraulic machine elements.
- Do not use gasoline or other solvents and chemicals as a cleaning detergent.
- Do not use the machine until you are well familiarized its use.
- Do not make any repairs that are beyond your capabilities.

6.2 Terms of use on a road









- It is allowed to connect the cleaner to a carrier vehicle if it is not exceeded the maximum allowed weight of a carrying vehicle or the maximum allowed weight on the axles and load of the front axle is not less than 20 % of the total weight of a carrying vehicle with the machine.
- Carrying vehicle has to be in the rear equipped by a triangle for slow vehicles and on the cab roof there has to be attached orange warning flashing light.
- During the transportation on roads the machine must be in transport position as it is described in the instruction manual.
- The orange flashing light has to be activated on a carrier during the movement on a roads.
- The maximum allowed transport speed is 25 km.h-1, during a transport on roads may not be exceeded.
- Before driving, all the residues that could contaminate a road must be removed from the cultivator.
- During transport, a driver must observe the current national regulations for a road.





6.3 Warnings / signs

Warnings and signs on the machine must be observed to avoid accidents.

Make sure that all warning signs are clean and visible. in the case of damage, contact your dealer to get a new labels. in the case of repair, make sure that replacement parts have the same label as the original parts.

Warning signs on the vine stem cleaners


| | |
|---|--|
|   | <p>Before you use the machine read carefully the instruction manual.</p> |
|   | <p>Before service, adjusting or maintenance, lock the machine against launching, remove the key from the ignition box and follow the instruction manual.</p> |
|   | <p>Keep a safety distance.</p> |
|   | <p>ATTENTION! Risk of death or serious injury of fingers or hand - keep a safety distance.</p> |

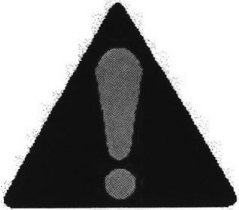

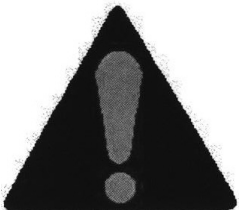
| | |
|---|---|
|  | <p>ATTENTION! Risk of death or serious injury of fingers or hand - keep a safety distance.</p> |
|  | <p>ATTENTION! Risk of death or serious injury of foot - keep safe distance.</p> |
|  | <p>ATTENTION! Danger of hitting by flying object - keep a safe distance.</p> |
|  | <p>Maximum slope ability of the machine is determined by the maximum slope ability of a carrying vehicle.</p> |

6.4 Environmental protection

The machine is put into operation by a hydraulic fluid under pressure which can have a maximum temperature even higher than 80 °C. in the case of a hose leak immediately disconnect the oil input from the machine.

Avoid leakage of hydraulic fluid into the soil and groundwater !

| Do not try to fix the hydraulic hose! | |
|---|---|
|  | <p>Contact your dealer as soon as possible.</p> |

| WARNING ! | | |
|---|---|---|
|  |  | Leaking hydraulic fluid under pressure can have sufficient force to penetrate skin and cause serious injury. Just the pressure of 20 bar is enough. in the case of this kind of injury immediately contact your doctor. |
| WARNING ! |  | Avoid any contact of hydraulic fluids and solvents with skin, eyes, mouth. Most of these products contain substances harmful to your health. Always follow all informations on a labels of containers with toxic products. in the case of accident, immediately contact your doctor and inform him about the product. |



It is recommended to have a first aid kit at hand!

6.5 Machine blocking (congestion)

Congestion of the cleaning cords may occur for several reasons. The shaft of the cleaning cords usually stops rotating.

In that case:

1. Stop the machine
2. Stop the engine, remove a key
3. Put the gear shifting lever to neutral
4. Pull up the parking brake
5. Search for a cause of the congestion
6. After you discover it, try to disengage it
7. After disengage the machine can be commissioned at the minimum power

| | |
|---|---|
|  | All moving parts of the grape hoe have to move freely and without restraints. |
|  | During the cleaning, use gloves. |

6.6 Attachment

6.6.1 General informations

Connecting the machine to a carrier may be performed only in designated areas.

Do not stand between a carrier and the machine during connecting.

Do not stand between a carrier and the machine during a lifting maneuver of a carrier.

After connecting the machine lock the connecting device.

Verify the correct locking and connection condition before driving.

Make sure that connecting the machine does not cause overload or poor weight distribution to a carrier, which could disrupt its stability.

6.6.2 General issues - independent source of hydraulic flow

Connecting the hydraulic aggregate to a carrier may be performed only in designated areas.

Try to secure the compatibility of the hydraulic aggregate and the carrier (minimal weight, minimal engine power, connection type, carrier power characteristics, etc.).

Do not stand between the carrier and the hydraulic aggregate, before you shift the neutral, pull up the handbrake of the carrier, turn off the auxiliary drive.

Do not stand between the carrier and the hydraulic aggregate during a lifting maneuver of the carrier.

After connecting the machine lock the connecting device.

Verify the correct locking and connection condition before driving.

Make sure that connecting the hydraulic aggregate does not cause overload or poor weight distribution to the carrier, which could disrupt its stability.

Make sure that hydraulic aggregate connection does not limit the maneuverability of the carrier vehicle.

6.6.3 PTO / gearbox joint shaft

Vine stem cleaner can be supplied by the independent source of the hydraulic flow. These units are driven by PTO shaft. Follow the rules in the next chapters.

6.6.3.1 Safety related to auxiliary drive and PTO shaft

Make sure before use, that the speed and rotation of the auxiliary drive of the carrier are compatible to expected use of the machine.

Make sure, that the covers of the auxiliary drive are in good condition. Immediately replace the in case of their damage.

Do not turn on the auxiliary drive of the carrier, if the motor is stopped.

Turn off the auxiliary drive, if the bend angle of the PTO shaft could be exceeded, particularly during the turning, ascending and descending.

Every contact of the gearbox joint shaft with the carrier or with the machine can cause damages.

6.6.3.2 Safety related to the gearbox joint shaft

Use only the gearbox joint shaft recommended by the manufacturer.

Pay attention to correct overlap of the gearbox joint shaft tubes as in the working so in the transporting position.

Pay attention to safety regulations of the manufacturer of the gearbox joint shaft.

Turn off the auxiliary drive, stop the motor and remove the key from ignition, before turning on or off the gearbox joint shaft.

Make sure before every use that the gearbox joint shaft is in good condition and that it is correctly secured.

Make sure that the cover of the gearbox joint shaft is on its place and in good condition. Replace it in case of damage.

The gearbox joint shaft has to be provided with a protective cap after disconnecting.

Make sure that machine connection does not limit the maneuverability of a carrier vehicle.

6.7 Basic maintenance and repair

6.7.1 General issues

Regular maintenance and repairs must be performed by qualified person.

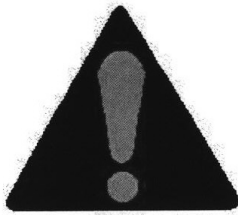
Keep the machine and its accessories in perfect condition.

Ensure the good quality and purity of the hydraulic fluid.

Note the regularity of maintenance intervals.

6.7.2 Stopping the machine

Before every intervention:

| | |
|---|--|
| WARNING ! | |
|  | Since the moment when a driver has to leave the place for driving, the motor of carrier vehicle must be shut down and the assembly has to be locked against a possible movement by the parking brake and wheel chocks in a case of addition slope. Key from the ignition switch of the engine has to be removed to prevent a third party to start or manipulate the assembly without the driver. |

6.7.3 Stopping the parts during the machine movement

Before any action:

1. turn off the drive and the engine of a carrier vehicle
2. disconnect the ignition box, pull out the power supply 12VDC
3. wait until all moving parts are stopped
4. disconnect the hydraulic hoses

6.7.4 Stability of the machine and its parts

Before every intervention:

1. lower the machine to the appropriate working height and secure it against the fall
2. do not enter under the unsecured device

6.7.5 Cooling a hot parts of the machine

Let the hydraulic fluid in the machine cool down.

6.7.6 Welding

Disconnect the battery of a carrier vehicle during a welding on the machine, if the machine is connected. Protect flexible pipes, hoses, electrical cords and all plastic parts against a damage by the incandescent sparks that could cause a loss of hydraulic fluid or short circuit.

6.7.7 Interventions into the electrical circuits



Before you start any electrical work, disconnect the battery. It is not recommended to interfere the electrical circuit without the necessary experience and without a wiring diagram.

6.7.8 Interventions into hydraulic

Before any intervention to the hydraulic circuit, make sure that it is not under pressure. Eliminate the pressure before disconnecting hydraulic circuits. It is recommended not to interfere the hydraulic circuit without a necessary experience and without hydraulic diagram.

6.7.9 Repairs

Remove or have one's removed any failure that could threat the safety.
Repair any leaks or damage of the hydraulic circuit.

| | | |
|---|---|--|
|  |  | Do not stop the leakage by bare hands or other body parts. |
|---|---|--|

Defective or damaged covers and fuses have to be replaced immediately.



Hoses or pipes, that have already been used in another circuit, may not be used again.

Rigid pipe must not be welded. When the flexible or rigid pipe is damaged, it must be immediately replaced.

Repairs of the parts under pressure or under voltage (springs, batteries, etc.) require specific working procedures and tools. It can be performed only by qualified persons.

7 ENVIRONMENTAL PROTECTION

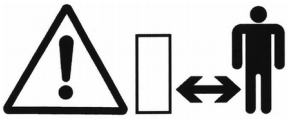
7.1 Storing, preventing of losses and environmental damage

| | |
|--|--|
|  | <p>When removing the used hydraulic fluid and other lubricants, observe the regulations for environmental protection. Do not spill any used lubricants and hydraulic fluids it on a ground and do not throw it into a waste.</p> |
|  | <p>Recommendation:</p> <p>Let your supplier or your authorized staff perform the maintenance which is necessary to prevent such losses. Wash the places on a skin that came into contact with hydraulic fluid and lubricants during a work very carefully by water and soap. Keep children away from the hydraulic fluids and lubricants. Follow the instructions on the packaging of these products.</p> |

8 MANIPULATION



During transport, acceptance, installation and storing to its place you must use appropriate device. Make always sure about right securing on the designated places before handling. During a transport on a carriage the device must be attached to a palette.

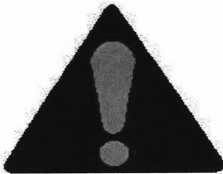
The machine can be optionally equipped with a stand with wheels. Four turntable wheels can be used only for a setting to certain position and they cannot be used for pulling the machine over long distances.

| | |
|---|---|
|  | <p>During the manipulation keep the safe distance from the machine.</p> |
|---|---|

8.1 Instructions for safe handling

- perform the measures against the fall of the device on hydraulic suspension
- do not enter under the unlocked machine
- do not allow any unauthorized person to operate with the machine
- do not try to put the machine into operation if it is defective
- never wear loose or opened clothing as scarves, loose coats, ties, etc., which could stuck in the moving parts of the machine
- never use the machine under the influence of alcohol, drugs, medication or in any event of excessive fatigue

| | |
|---|--|
|  | All moving parts of the grape hoe have to move freely and without restraints. Before any initiation of the works, check it visually. |
|  | During the cleaning, use protective gloves. |

| | |
|---|--|
| WARNING ! | Since the moment when a driver has to leave the place for driving, the motor of carrier vehicle must be shut down and the assembly has to be locked against the possible movement by the parking brake and wheel chocks in the case of addition slope. Key from the ignition switch of the engine has to be removed to prevent a third party to start or manipulate the assembly without the driver. |
|  | |

9 MOUNTING AND INSTALLATION

9.1 Receiving the machine

9.1.1 Unloading delivered machine

Vine stem cleaner is usually supplied assembled, stored on the shipping pallet. If the machine is supplied dismantled, its usually provided as pre-assembled groups:

- working tool (cleaner) with hydraulic control
- linkage of the working tool (by type)

9.1.2 Equipment on request

- connecting frame on a tractor or connecting tube
- set of parts for assembling the pressure-less outlet
- oil flow control valve
- oil flow control valve with safety valve
- hydraulic or electric-hydraulic control valve for controlling the functions
- electrically operated STOP button
- various special hydraulic components

9.1.3 Delivery

The machine can be coated by a packaging foil for transport. When unpacking, be careful about using a hook to prevent damage a of the electric cable or hydraulic hose.

To move the machine, use a transport pallet or forklift.

The machine can be optionally equipped with a stand with wheels. Four turntable wheels can be used only for the setting to certain position and they cannot be used for pulling the machine over long distances. Do not move the machine over long distances in any case. The wheels are designed only for routing the machine during the connection and for pulling the machine into a workshops niche during the storage.

During the receiving, check that the machine is complete (parts, accessories and all ordered items) and that is not damaged. In a case of damage make a listing, take photos and let it sign by an independent person.

9.2 Staff qualification

The machine can be assembled only by persons who are trained and familiarized with its construction and methods of mounting and with putting into operation. Any special tools are not necessary to mount the machine. Common tools used in a workshop are sufficient.

9.3 Mounting methods

Mounting procedures shown below are standard mounting procedures. In a case of differences contact your dealer or an authorized representative of the manufacturer.

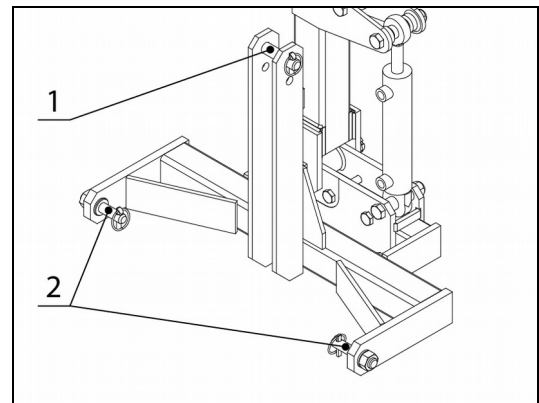
9.3.1 Connecting the machine to a carrier vehicle, mechanical mounting

9.3.1.1 Connecting the machine to a carrying vehicle using the supporting frame

a) front - connecting to the 3-point linkage

Vine stem cleaners use for a connection to a carrying vehicle usually the 3-point linkage category I or II. Make always sure before connecting the machine, that the category of the 3-point linkage is the same as the machine suspension dimensions. Always properly check the perfectness and safety of the connection between the machine and carrier. You will prevent possible damage to the machine or injury.

1. Remove the pin (1) from the machine suspension.
2. Connect the machine to a carrying vehicle using the lower pins (2), do not use damaged pins in any case.
3. Connect the upper pin (1) to the 3-point linkage.
4. Using the safety pins assure to safe and properly securing the machine.

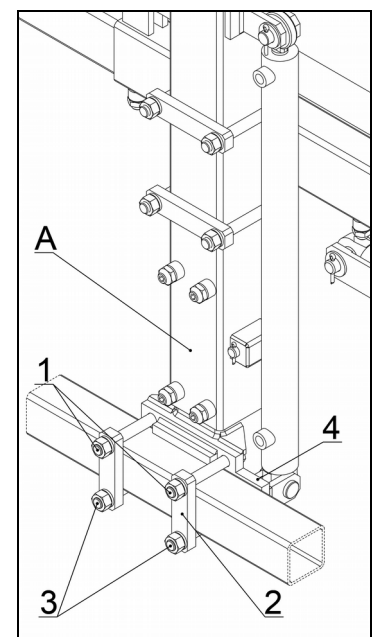


(fig. 6)

b) front - connection to the connecting tube
70x70x5 mm, US post

Attach the lifting post (A) to adequately strong and professionally welded supporting frame.

1. Lift the lifting post (A) to vertical position so the flange (4) is headed down.
2. Put the fastening bolts (1) to upper holes of the flange (4), mount on them the shackles (2), spring pads and secure them by the nuts.
3. Lean the lifting post (A) by the upper bolts (1) on the supporting frame tube.
4. Insert the lower fastening bolts (3) to lower holes of the flange (4), put them through the shackles, put on them the spring pads and secure them by the nuts.
5. Adjust desired position of the lifting post (A).
6. Thoroughly tight all bolts.
7. Connect the hydraulic system of the machine to the carrying vehicle.

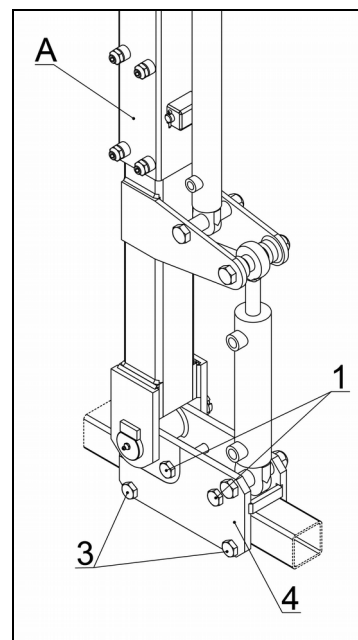


(fig. 7)

b) front - connection to the connecting tube 70x70x5 mm, STS post

Attach the lifting post (A) to adequately strong and professionally welded supporting frame.

1. Lift the lifting post (A) to vertical position so the flange (4) is headed down.
2. Put the fastening bolts (1) to upper holes of the flange (4), put on them the spring pads and secure them by the nuts.
3. Lean the lifting post (A) by the upper bolts (1) on the supporting frame tube.
4. Insert the lower fastening bolts (3) to lower holes of the flange (4), put on them the spring pads and secure them by the nuts.
5. Adjust desired position of the lifting post (A).
6. Thoroughly tight all bolts.
7. Connect the hydraulic system of the machine to the carrying vehicle.

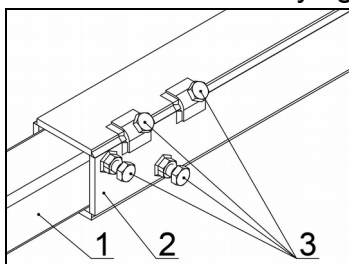


(fig. 8)

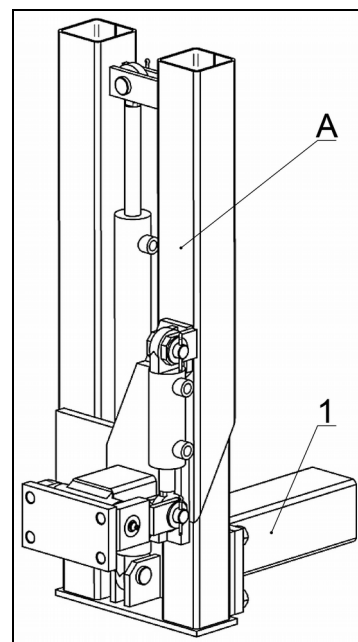
c) side - connection to the connecting tube

Attach the lifting post (A) to adequately strong and professionally welded supporting frame.

1. Slide the connecting tube (1) of the cleaner lifting post (A) into the tube (2) of the connecting frame on the tractor.
2. Set desired overlap of the cleaner over the edge of a tractor.
3. Secure connecting tube (1) in the tube (2) of the connecting frame by the bolts (3).
4. Thoroughly tight all bolts.
5. Connect the hydraulic system of the machine to a carrying vehicle.



(fig. 9)



(fig. 10)

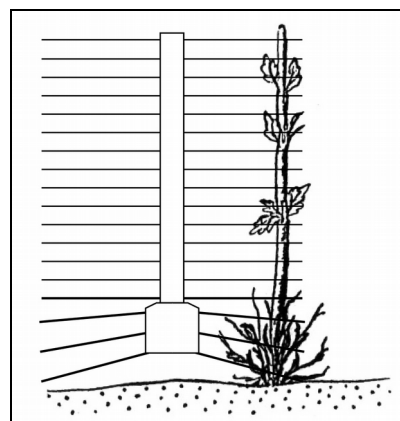
9.3.1.2 Connecting the machine to a carrying vehicle using the supporting frame

Carrying vehicle uses the universal connection by the connecting frame in extraordinary cases where is not possible to connect vine stem cleaner with a carrier vehicle using a 3-point linkage. The basic part of the supporting frame usually consists of the connecting tube:

- rectangular thick-walled tube 80x80x8 mm – lifting post 01E, 02E
- rectangular thick-walled tube 100x100x8 mm – lifting post 01, 02
- rectangular thick-walled tube 120x120x8 mm – lifting post 01, 02
- rectangular thick-walled tube 70x70x5 mm – lifting post US, STS

9.3.1.3 Connecting the machine to a tractor using the supporting frame - mounting height

It has to be observed correct height of the working tool for work and transport when mounting the universal connecting frame to connect the cleaner to a tractor. Observing this mounting height is necessary to secure optimal cleaning of the plants trunks in different terrain conditions and to reach sufficient lift to transport position for safe drive. Vine stem cleaner has to be always mounted so it will not lower headroom of the carrying vehicle in transport position.



(obr. 11)

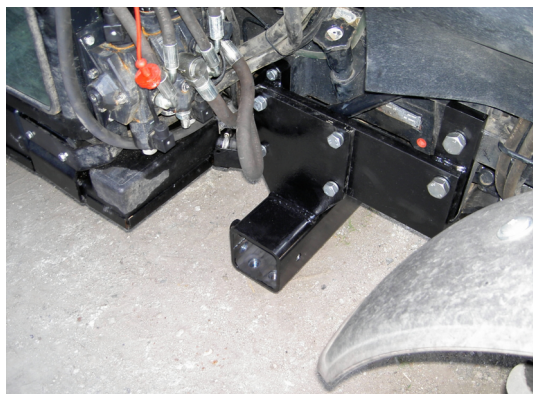
9.3.1.4 Mounting the machine to the side of a tractor

The supporting frame must be executed with consideration to the desired height position of the vine stem cleaner on a tractor and with consideration on the size and direction of the force that will have an effect on the machine during the work.

The holder of the connecting pipe must be adequately rigid and mounted on a tractor to ensure a sufficiently stable position of the machine at work.

If you are not sure, consult it with your local dealer or service center for your tractor.

Pay attention that the connecting pipe holder has been attached to a tractor always at least in three different points.



(fig. 12)



(fig. 13)

9.3.1.5 Mounting the machine to the front of a tractor

Suspension on the frame with a rectangular thick-walled tube 70x70x5 mm (this frame can also be used to attach the post of the knife trimmers).

Installation of supporting tube and mounting flange must be made with regard to desired height position of the vine stem cleaner on a tractor and the size and direction of the force that will effect on the machine during the work.

Holder of the supporting tube must be adequately firm and mounted on a tractor to ensure a stable position of the machine during the work. If you are not sure, consult it with your local dealer or service center for your tractor.



(fig. 14)



(fig. 15)

9.3.2 Hydraulic assembly

| | |
|----------|---|
| ! | <p>Before you connect the hydraulic quick couplings of the machine, provide that they are cleaned of dirt (soil, sand, dust). In addition, provide the purity of hydraulic quick couplings of the carrier and make sure that there is not residual pressure.</p> |
|----------|---|

Hydraulic hoses of the OSTRATICKÝ machines are ended by the quick couplings and marked by colored caps according to the following scheme:

| | | |
|---|----------|---------------|
| main functions (drive of the machines) | = | RED |
| lifting | = | BLUE |
| tilting | = | GREEN |
| sliding | = | YELLOW |
| pressure-less outlet (back flow from the control valves) | = | BLACK |
| pressure-less outlet (back flow from the hydraulic motors) | = | BLACK |

Hydraulic hoses of the cleaner connect to the hydraulic system of the tractor as follows:

Main functions (drive of the machines)

- single acting hydraulic circuit with the arrested working position and flow control

Lifting

- double acting hydraulic circuit with arrested floating position

Tilting

- double acting hydraulic circuit without arrested end positions

Sliding

- double acting hydraulic circuit without arrested end positions

Pressure-less outlet (backflow from the control valves)

- special outlet of the hydraulic system of the tractor, maximum pressure of the backward line 2,5 bars



Pressure-less outlet (backflow from the hydraulic motors)

- special outlet of the hydraulic system of the tractor, maximum pressure of the backward line 2,5 bars

9.3.3 Electric assembly

Vine stem cleaners can be optionally equipped with electrical STOP button. This device is connected via standard three pole socket. Its use is described in the chapter 10.2.3. Make always sure about the perfectness of the wiring during using the device or riding the machine.

9.4 Ballasting the carrier - wheel tractors

| | |
|---|--|
|  | If you are using the tractor with insufficient weight, it is necessary to weight it adequately. |
|  | Pay attention that you do not cross the maximum allowed load up of the axles during the ballasting. It can disturb stability of the tractor / carrier. |

Several solutions for ballasting:

1. Wheel ballast on the left rear wheel.
2. Wheel ballast on the left front wheel.
3. Ballast hanged in the rear 3-point linkage.
4. Tank on the hydraulic switchboard provided by the ballasts.
5. Combination of these four methods.

These additional weights must be added in sufficient quantity to provide sufficient stability of tractor and machine. In a case of ballasting the chassis of the carrier or tractor observe the manufacturer's regulations of the tractor.

10 PUTTING INTO OPERATION AND WORK WITH THE MACHINE

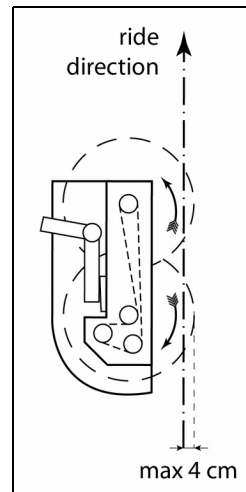
10.1 Mechanical features and description of the adjustment



10.1.1 Side mounted

10.1.1.1 Setting the working position

Side mounting of the cleaner does not allow individual setting the working width. However this is allowed by riding the carrier in row. Ride it so the cleaning cords will not overlap the plant trunk more than 4 cm.



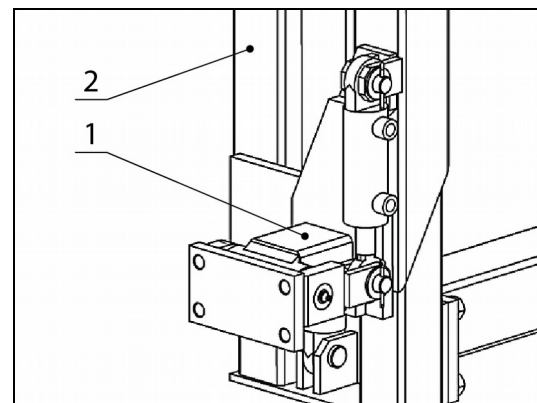
(fig. 16)

10.1.1.2 Setting the working height

By changing the position of connecting part:

1. Place connecting part (1) to deseired working height on the post (2).
2. Weld back flange of connecting post (2) to the post (2).

It has to be observed correct height of the working tool for work and transport when mounting the cleaner holder. Observing this mounting height is necessaray to secure optimal plants trunks cleaning range in different terrain conditions and to reach sufficient lift to transport position for safe drive.

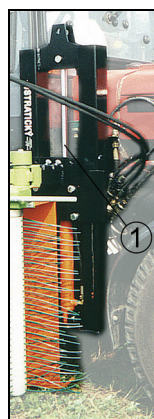


(fig. 17)

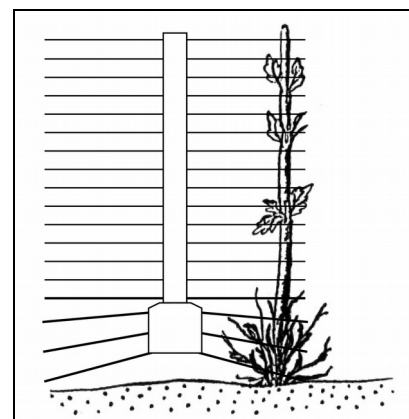
Hydraulically

1. Start the carrier (tractor).
2. Use the control levers of carrier and adjust the hydraulic cylinder (1) to set desired working height.

The correct working height is that the bottom cords nearly reach the ground, but they do not touch the soil.



(fig. 18)



(fig. 19)

10.1.1.3 Setting the angle

It is necessary for proper function of the cleaner to secure that the machine will always work in vertical position.

1. Set the position of the cleaner by hydraulic cylinder of the tilting head, if your machine is equipped with hydraulic setting the angle.
2. Set the position of the cleaner by extensible bolt of the tilting head, if your machine is equipped with mechanical setting the angle. Do not forget to secure its nut after the setting.
3. It is recommended to use the machine without angle setting only on flat properties.

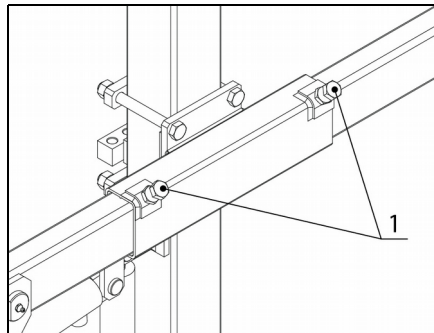
10.1.2 Front mounted - lifting post US

10.1.2.1 Setting the working position

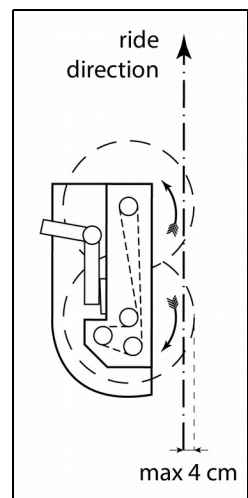
Mechanical extension:

1. Loose the bolts (1).
2. Choose desired working position.
3. Thoroughly tight the bolts (1).

Pay attention when setting the working width that the cleaning cords will not overlalp the plant trunk more than 4 cm.



(fig. 20)

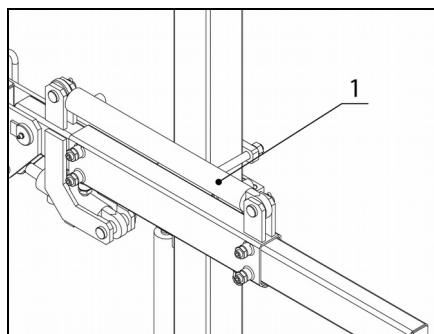


(fig. 21)

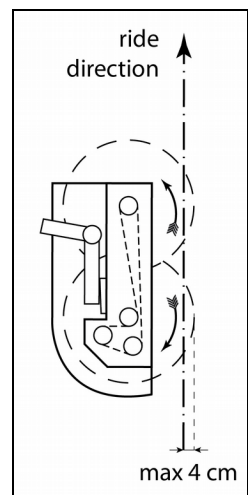
Hydraulic extension:

1. Start the carrier (tractor).
2. Use the control levers of carrier and adjust the hydraulic cylinder (1) to set desired working width.

Pay attention when setting the working width that the cleaning cords will not overlalp the plant trunk more than 4 cm.



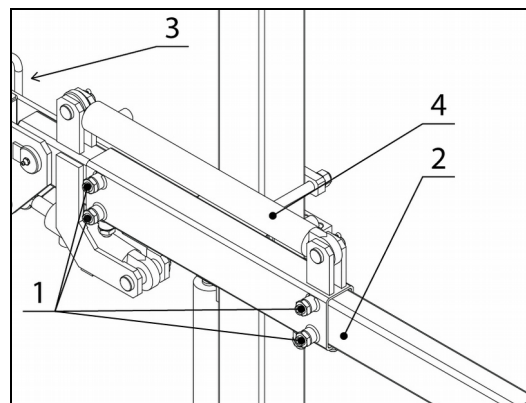
(fig. 22)



(fig. 23)

Setting the clearance of the slides of the hydraulic working width setting

1. Loose the bolts (1) nuts.
2. Reduce the clearance between the slide and the carrying arm (2) of the working tool (3) by gradual tightening the bolts (1).
3. Increase the clearance between the slide and the carrying arm (2) of the working tool (3) by gradual loosening the bolts (1).
4. Set up the smallest possible clearance of the slides under the bolts (1) following the steps 2. and 3. so the hydraulic cylinders (4) move smoothly and without any resistance.
5. Thoroughly tight the bolts (1) nuts.



(fig. 24)



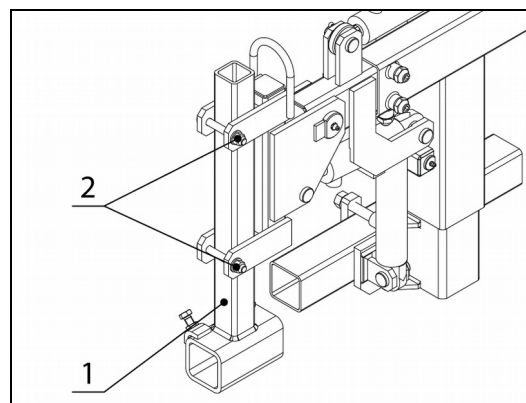
Insufficient clearance between the sliders and supporting arm (2) can lead to early wear out the supproting arm, excessive clearance between the sliders and supporting arm (2) can lead to breach the firmness of mounting the supporting arm.

10.1.2.2 Setting the working height

By changing the position of cleaner holder:

1. Secure holder (1) of the cleaner against the fall.
2. Loose the nuts (2).
3. Set desired working height by moving the cleaner holder (1).
4. Thoroughly secure the cleaner holder (1) by bolts and nuts (2).

It has to be observed correct height of the working tool for work and transport when mounting the cleaner holder. Observing this mounting height is necessary to secure optimal upkeep of the plants trunks in different terrain conditions and to reach sufficient lift to transport position for safe drive.

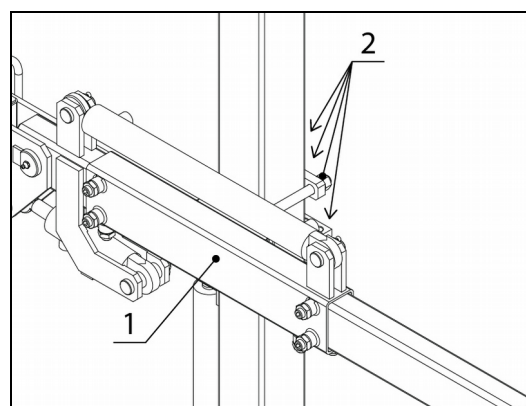


(fig. 25)

By changing the supporting arm sleeve position on the post:

1. Secure supporting arm (1) against the movement.
2. Loose the nuts (2).
3. Set supporting arm (1) to desired position.
4. Secure the supporting armr (1) by bolts and nuts (2).

It has to be observed correct height of the working tool for work and transport when changing position of the supporting arm. Observing this mounting height is necessary to secure optimal plants trunks cleaning range in different terrain conditions and to reach sufficient lift to transport position for safe drive.

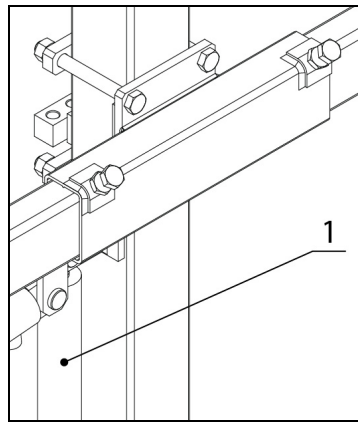


(fig. 26)

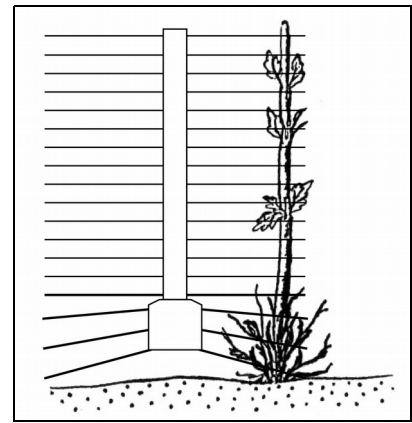
Hydraulically:

1. Start the carrier (tractor).
2. Use the control levers of carrier and adjust the hydraulic cylinder (1) to set desired working height.

The correct working height is that the bottom cords nearly reach the ground, but they do not touch the soil.



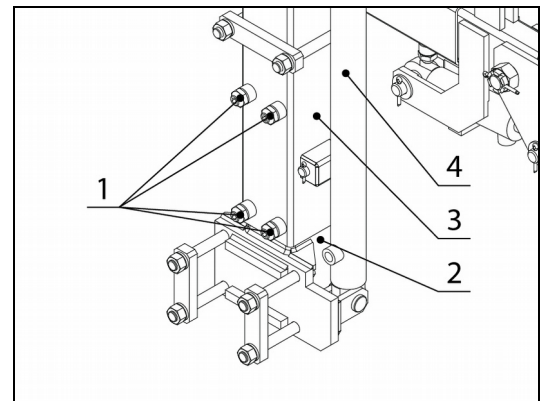
(fig. 27)



(fig. 28)

Setting the clearance of the slides of the hydraulic working height setting

1. Loose the bolts (1) nuts.
2. Reduce the clearance between the slide and the tube (2) of the lifting post by gradual tightening the bolt (1).
3. Increase the clearance between the slide and the tube (2) of the post by gradual loosening the bolt (1).
4. Set up the smallest possible clearance of the slides under the bolts (1) following the steps 2. and 3. so the hydraulic cylinders (4) move the jacket (3) smoothly and without any resistance.
5. Thoroughly tight the bolts (1) nuts.



(fig. 29)

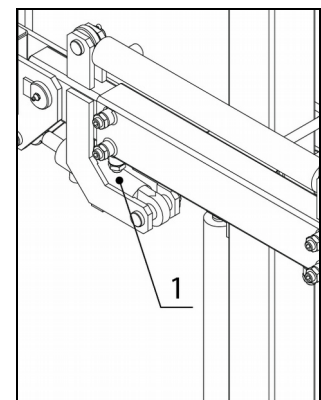


Insufficient clearance between the sliders and lifting post tube (2) can lead to early wear out the supporting arm, excessive clearance between the sliders and lifting post tube (2) can lead to breach the firmness of mounting the supporting arm.

10.1.2.3 Setting the angle

It is necessary for proper function of the cleaner to secure that the machine will always work in vertical position.

1. Set the position of the cleaner by hydraulic cylinder of the tilting head, if your machine is equipped with hydraulical setting the angle.
2. Set the position of the cleaner by extensible bolt of the tilting head, if your machine is equipped with mechanical setting the angle. Do not forget to secure its nut after the setting.
3. It is recommended to use the machine without angle setting only on flat properties.

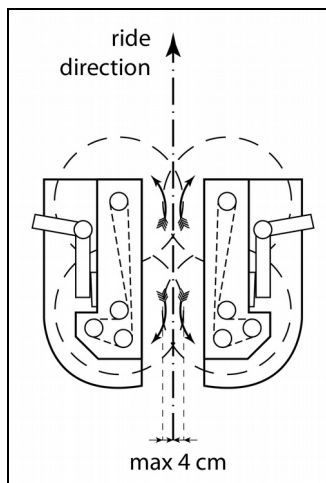


(fig. 30)

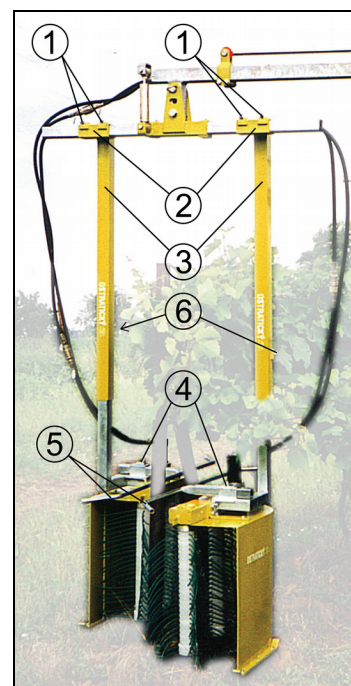
10.1.3 Front mounting - STS post

10.1.3.1 Setting the working position

1. Loose the sleeves (2) bolts (1) of the supporting arms (3).
2. Set the working position of the cleaner by moving the sleeves (2) of the supporting arms (3). The cleaning cords must on both sides overlap cleaned trunk maximally about 4 cm.
3. Thoroughly secure the sleeves (2) bolts (1) of the supporting arms (3).
4. Loose the bolts (4) of supporting rods (5) and set their distance so the will be at least 2 cm far from the wides post on the property.
5. Thoroughly tight the supporting rods (5) bolts (4).



(fig. 31)



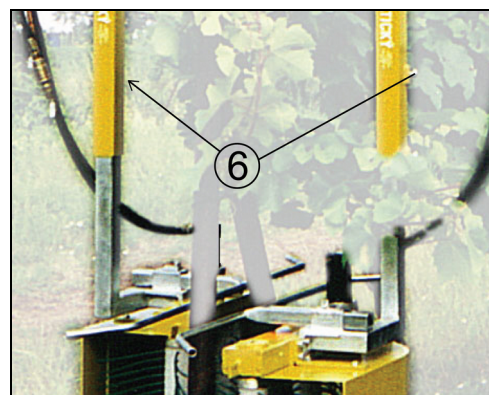
(fig. 32)

10.1.3.2 Setting the working height

By changing the supporting arms position

1. Secure both cleaners against the fall.
2. Loose the bolts (6).
3. Set desired working height.
4. Thoroughly tight the bolts (6).

It has to be observed correct height of the working tool for work and transport when changing position of the supporting arm. Observing this mounting height is necessary to secure optimal plants trunks cleaning range in different terrain conditions and to reach sufficient lift to transport position for safe drive.

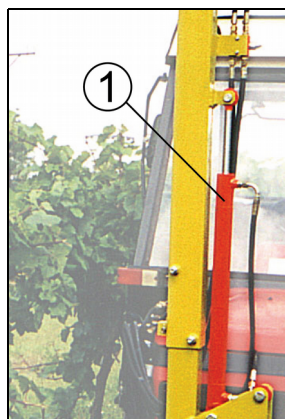


(fig. 33)

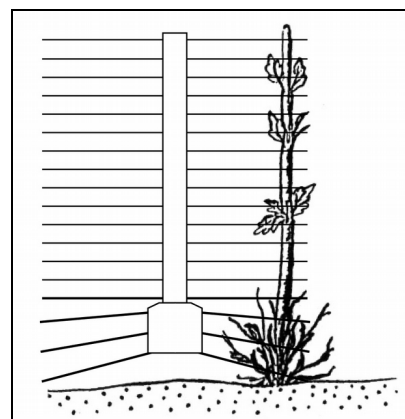
Hydraulically

1. Start the carrier (tractor).
2. Use the control levers of carrier and adjust the hydraulic cylinder (1) to set desired working height.

The correct working height is that the bottom cords nearly reach the ground, but they do not touch the soil.



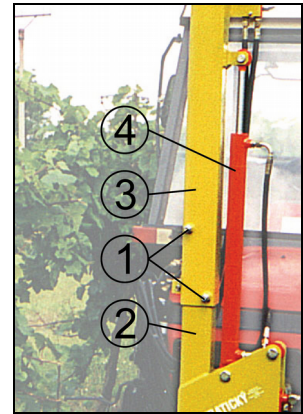
(fig. 34)




(fig. 35)

Setting the clearance of the slides of the hydraulic working height setting

1. Loose the bolts (1) nuts.
2. Reduce the clearance between the slide and the tube (2) of the lifting post by gradual tightening the bolts (1).
3. Increase the clearance between the slide and the tube (2) of the post by gradual loosening the bolts (1).
4. Set up the smallest possible clearance of the slides under the bolts (1) following the steps 2. and 3. so the hydraulic cylinders (4) move the jacket (3) smoothly and without any resistance.
5. Thoroughly tight the bolts (1) nuts.

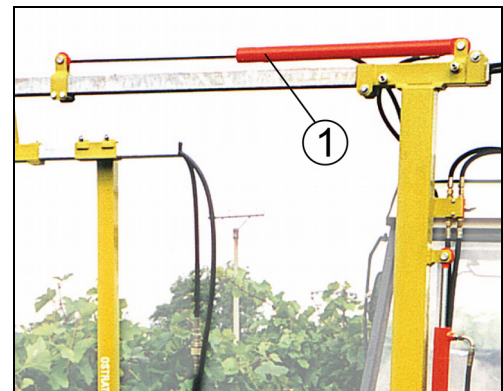


(fig. 36)

| | |
|---|---|
|  | <p>Insufficient clearance between the sliders and lifting post tube (2) can lead to early wear out the supporting arm, excessive clearance between the sliders and lifting post tube (2) can lead to breach the firmness of mounting the supporting arm.</p> |
|---|---|

10.1.3.3 Setting the extension

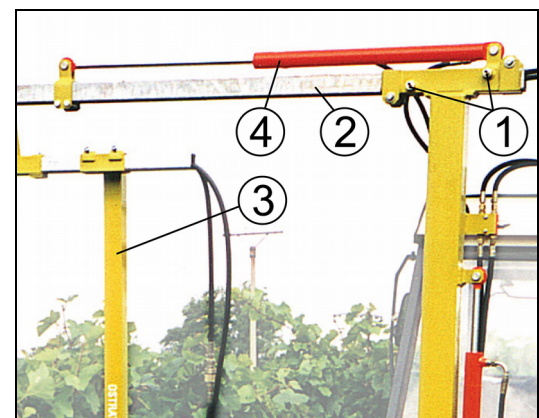
1. Start the carrier (tractor).
2. Use the control levers of carrier and adjust the hydraulic cylinder (1) to set desired working extension.



(fig. 37)

Setting the clearance of the slides of the hydraulic working extension setting

1. Loose the bolts (1) nuts.
2. Reduce the clearance between the slide and the carrying arm (2) of the working tool (3) by gradual tightening the bolts (1).
3. Increase the clearance between the slide and the carrying arm (2) of the working tool (3) by gradual loosening the bolts (1).
4. Set up the smallest possible clearance of the slides under the bolts (1) following the steps 2. and 3. so the hydraulic cylinders (4) move smoothly and without any resistance.
5. Thoroughly tight the bolts (1) nuts.



(fig. 38)

10.1.3.4 Setting the angle

It is necessary for proper function of the cleaner to secure that the machine will always work in vertical position.

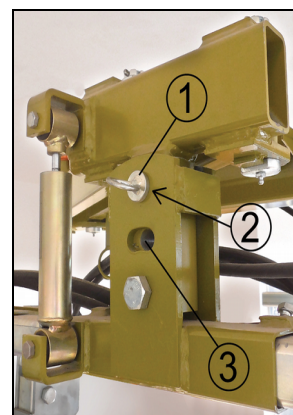
1. Set the position of the cleaner by hydraulic cylinder (1) of the tilting head, if your machine is equipped with hydraulical setting the angle.
2. Set the position of the cleaner by extensible bolt (1) of the tilting head, if your machine is equipped with mechanical setting the angle. Do not forget to secure its nut after the setting.
3. It is recommended to use the machine without angle setting only on flat properties.



(fig. 39)

10.1.3.5 Arresting the transport position

| | |
|--|--|
| | <p>To transport the machine must be the pin (1) secured in the hole (2) of transport position, To work on the property must be the pin (1) secured in hole (3) of the working position.</p> |
|--|--|

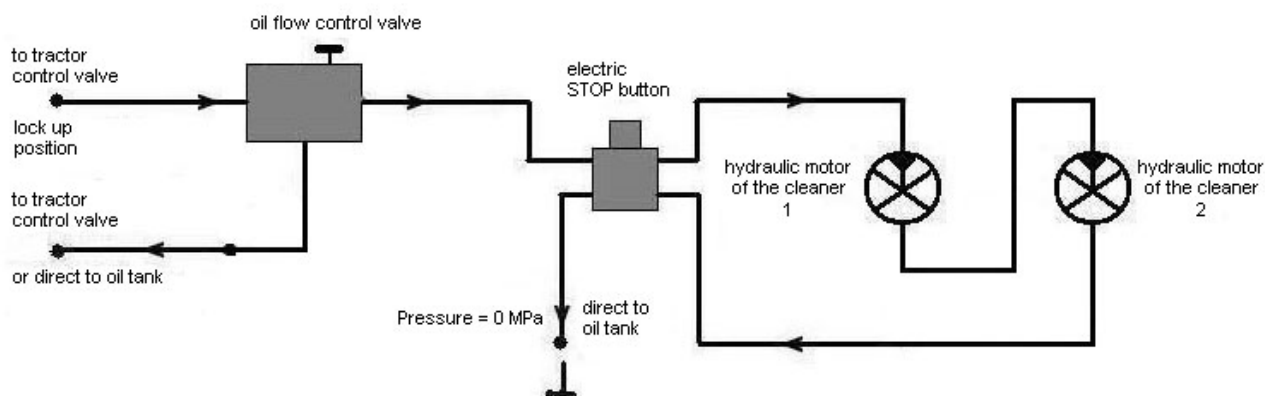


(fig. 40)

10.2 Hydraulic functions and the settings description

10.2.1 Hydraulic diagram of the machine

1. On this machine is necessary specific setting of hydraulic system.
2. Working tool(s) need(s) for its drive 10 l/min.

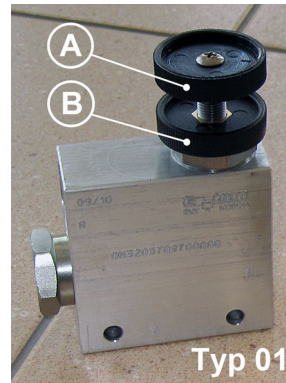


(fig. 41)

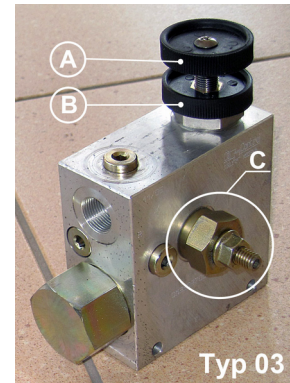
10.2.2 Adjusting the machine oil flow

1. Turn on the oil flow to the machine and set working revolutions of the tractor motor, typically 1500 - 1600 RPM.

2. Set rotation speed of cleaning shafts by proper speedometer using the control ring (A) on the oil flow control valve (fig. 42, 43) - rotation speed of the cleaning shafts must be 500 - 700 RPM. Set optimal value of the oil flow and secure the setting by the ring/nut (B).



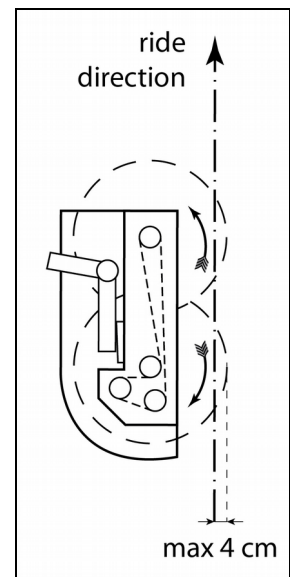
(fig. 42)



(fig. 43)

The machine is now adjusted and ready to work. Check the settings several times during first days of work and then every time in case of any problems.

Check rotation direction of the cleaning cords (fig 44).



(fig. 44)

Oil flow control valve type 03 - with safety valve

If is your machine equipped by the oil flow control valve (fig 42) with safety valve (fig. 43, lett. C), adjust this valve so the disengaging pressure will be lower than 10 MPa (default setting). By correct setting you will protect the cleaner against potential damage in vegetation with curved trunks.

10.2.3 Using the STOP button

The electric operated STOP-button is optional equipment. It is an solenoid operated valve connected to the hydraulic system of the vine stem cleaner. It is designed for immediate stop the hydraulic motors of the vine stem cleaner. Control button of the hydraulic valve of the STOP button must be placed in the cab in reach of a driver.

Using:

1. For this feature must be the cleaner in working position, the cleaning cords must rotate.
2. Press the control button marked STOP.
3. Pressing this button will cause immediate interruption of the cleaner hydromotor(s) oil flow.
4. The working tool is immediately ready to work after releasing the STOP button.



(fig. 45)

The electrical STOP button is primarily designed to avert any danger that can cause damage to plants by the cleaning cords of the cleaner.

10.3 Putting the vine stem cleaner into operation

Vine stem cleaner is designed for aggregation with middle class tractors. Necessary condition for proper aggregation is the carrier weight, which must be unconditionally convenient for the machine because of the stability of the machine at work with regard to machine side range, where is danger of overturn due the insufficient weight of the carrier. It is prohibited to aggregate the machine with lack of weight carriers for this reason. The manufacturer is not responsible for any defects or damage to property or persons caused by the machine aggregation with improper carrier.

It is possible to drive the machine directly from the hydraulic system of the carrier if it provides sufficient hydraulic power. In other case, it is necessary to equip the machine by the hydraulic aggregate, which can be supplied as an optional equipment. Movement of the machine is controlled by the electrohydraulic remote controller, it is necessary to connect it to the wiring (12 V) of the carrier by a plug. It is necessary to equip the carrier by the plug in case of its absence.

10.3.1 Putting the working tool into operation

1. Set the revolutions of the carrier engine to minimum.
2. Activate the drive or the pump (if the carrier has the system for turning on on its own pump) in case of carriers provided with independent hydraulic pump or generators of the hydraulic power driven by PTO.
3. Add an oil to the vine stem cleaner using the distributor placed between the oil source an pruning machine engine, if your machine is equipped like this.
4. Gradually raise the engine mode to the nominal engine revolutions when the cleaner shafts rotate.
5. Do not turn off the hydraulic system of the vine stem cleaner at the end of the row, just lower the carrier engine revolutions. Set the engine to working mode after finishing the maneuvering.



Stopping and putting into operation in the full throttle mode damages hydraulic engine and transmission.

Familiarize with disposable performances in case of a carriers equipped with the pump with variable power and check that they are compatible with used hydraulic motor. Pay attention to avoid launching the vine stem cleaner with the pump powered on maximum drive.

Always adjust drive speed of the machine during the work to vegetation condition, so it will not cause overloading the machine and excessive stressing the drive mechanism.

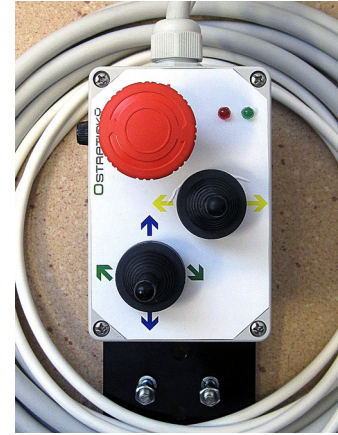
10.3.2 The machine driven by hydraulic source of the carrier

10.3.2.1 Putting the vine stem cleaner into operation by using the control levers of the carrier

1. Put the working tool into operation by moving the lever of the carrier, to which the working tool is connected to position "turned on".
2. Turn off the working tool drive so you move the lever of the carrier, to which the working tool is connected to position "turned off".

10.3.2.2 Putting the vine stem cleaner into operation by using the control unit

1. Put the working tool into operation by pulling up the button cap (4) on the control unit (fig. 46). You must get over the safety lock before pulling. First of all turn the button in direction of the arrows.
2. Turn off the working tool drive so you press the button cap (4) on the control unit (fig. 46).



(fig. 46)

10.3.3 Stroj poháněný nezávislým zdrojem hydraulického toku

It is possible to equip the machine with the hydraulic aggregate in case of insufficient power of the hydraulic system of the carrier, which provides easy supply of the hydraulic oil necessary for drive the working tool of the machine. Hydraulic aggregate is connected and driven by the PTO shaft of the carrier with maximum allowable revolutions of the PTO 540 RPM. Make sure before every launching about correct adjusting of the PTO. In other case can be the damaged whole machine, on which is not applied the warranty.

1. Put the working tool into operation by turning on the PTO shaft lever, to which is the independent hydraulic flow source pump connected.
2. Turn off the working tool drive so you turn off the PTO shaft lever, to which is the independent hydraulic flow source pump connected.

10.4 Getting started


Always properly check the perfectness of the machine connection, wiring and functionality, before first machine launch.

Daily machine inspection:

- connection of the machine to the carrier
- functionality of the wiring
- safety covers
- perfectness of the hydraulic system
- attachment of the working tools

If you find any malfunction of the machine, connection of the wiring, carrier or another failures, which can have affect on the machine functionality, work or health safety, it is unconditioinally necessary to remove this failure and do not ever use the machine unless it is not in perfect condition. Using the machine, which is not in perfect condition may cause damage on yours property or a people moving close to the machine.

10.4.1 Working with the machine

| | |
|---|--|
|  | <p>Always properly check the perfectness of connection with a carrier before starting the machine, wiring and functionality of the machine.</p> |
|---|--|

It is necessary to eliminate any failure and do not ever use the machine in damaged condition, if you find any machine, wiring, carrier or any other malfunction that can affect functionality of the machine, work safety, or health. Using the machine, that is not in

perfect condition can cause a property or health damage of people that are close to the machine.

10.4.2 Adjusting the cleaning shafts rotation speed

| | |
|---|---|
|  | Pay attention to all safety measures when carrying this operation. Stop the machine and a carrier. |
|---|---|

You will need a device for contact or contactless scanning the speed - tachometer, to adjust correct rotation speed of the cleaning shafts.

Using the contactless device:


1. Attach a piece of reflection tape on the cleaning cord.
2. Put the vine stem cleaner into operation.
3. Set the selector of the measuring device to RPM.
4. Set digital tachometer to scan by optical insertion 15 or 20 cm from reflective tape. Display shows directly in RPM.
5. Adjust hydraulical power of the machine by the power regulators.

Using the contact device:

1. Put the vine stem cleaner into operation.
2. Set the selector of the measuring device to RPM.
3. Put the tachometer to the rotor shaft. Display shows directly in RPM.
4. Adjust hydraulical power of the machine by the power regulators.

10.4.3 Vine stems cleaning

Be especially cautious when providing this activity and pay in attention to danger caused by possible flying chips or small pieces of wood from the machine. Vine stem cleaners are high revolutions working machines. Do not ever step close to the machine until they are not in absolute standstill. Adjust during the work speed of the carrier to the working conditions.

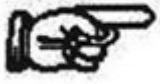
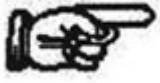

| | |
|---|---|
|  | You risk serious injury or property damage of yours or persons close to the machine by disrupting any of regulations of the manufacturer. The manufacturer does not hold responsibility for damages caused by unskilled intervention to the machine by person, which is not authorized to provide the maintenance or repair the machine. |
|---|---|

10.5 Putting the machine into operation at a workplace

10.5.1 Preliminary checks

- checking the oil level
- checking the presence of all protective devices, good condition of working tools, tightness of the hydraulic system (preventing the oil leakage)

10.5.2 Putting the vine stem cleaner into operation

| | |
|---|---|
|  | Check thoroughly the hydraulic connections and pressures. Higher than 2,5 bars pressure in the outflow circuit can lead to hydraulic motors damage. |
|  | Respect all regulations for putting the carrier or tractor into operation. |
|  | Keep safety distance from the machine. |

10.6 Stopping the machine

10.6.1 The device for normal stop the vine stem cleaner

The vine stem cleaner on a wheel tractor, portal tractor or harvester can be stopped by device for stopping the hydraulical circuit of the carrier. This device is mechanical or electronical, it depends on the type of a carrier.

The vine stem cleaner mounted on a suspension post electrical hydraulic block OSTRATICKÝ has an electronical device and switch for stopping the machine. Stopping the vine stem cleaner by this device means that the main hydraulic circuit is shut down. Use proper device of the tractor.

10.6.2 Method of re-entry into operation after a sudden stop


Follow earlier described instructions to put into operation.

11 MAINTENANCE AND REPAIR

11.1 Staff qualification

Other interventions during the maintenance and repairing than those that require the seller intervention, must be performed by a trained person.

11.2 Types of interventions during the maintenance - regular checks and inspections

| | |
|---|---|
| Caution for operation | Make an overall inspection of the machine, check the tightness of all bolt connections, the perfection of all hydraulic and electric components: |
|  | <ul style="list-style-type: none"> - before 1st use - no later than after the first 2 worked hours and then: <ul style="list-style-type: none"> - no later than after 4 worked hours - no later than after 10 worked hours Then ALWAYS BEFORE USING THE MACHINE. |

| | |
|---|--|
| Type of control Mechanical: <ul style="list-style-type: none"> - working tools tightening - safety covers perfectness - tightness of all bolts - suspension securing pins - bolts of the frame | Frequency before every use before every use before every use before every use before every use |
| Hydraulic: <ul style="list-style-type: none"> - hydraulic hoses condition (tension, blockage, wear out by friction) - hydraulic components leakage (tightness) - hydraulic cylinders leakage (sealings) Recommended hydraulic fluid: <ul style="list-style-type: none"> - hydraulic oil of category HM 46 Electrical: <ul style="list-style-type: none"> - cables condition - connectors condition - control elements condition | before every use before every use before every use before every use before every use before every use |
| Greasing: <ul style="list-style-type: none"> - lubricate all places marked by ● with a grease gun - use universal lubricant | before every use before every use |



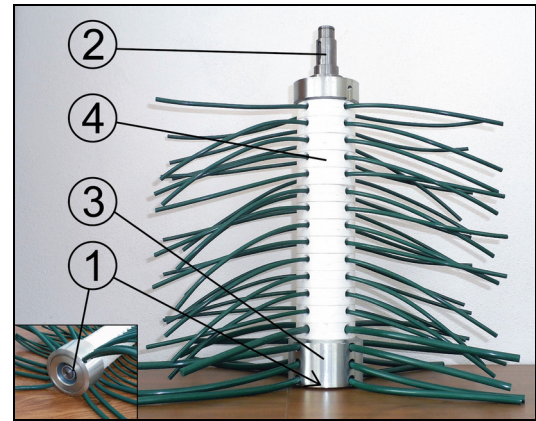
Clean the machine after every maintenance by following the steps in chapter 12.

11.3 Fast wearing parts

- cleaning cords
- cleaning cords carrier (plastic rings, metal carrier)
- drive belt
- rubber cover
- pressure spring
- supporting rod of the cleaner
- hydraulic motor sealings
- hydraulic extension sliders (US, STS)
- sliders of the hydraulic setting the working height (US, STS)
- shock absorber of the tilting (STS)
- hydraulic cylinders sealings

11.3.1 Cleaning cords replacement

1. Loose the securing nut (1) of the shaft (2).
2. Remove metal carrier (3) from the shaft (2).
3. Remove the cords carriers (4) from the shaft (2).
4. Replace damaged cords by the new ones.
5. Put back the cords carriers (4) back to the shaft as described in chapter 11.3.1.2.
6. Put metal carrier (3) back on the shaft (2).
7. Thoroughly secure metal carrier (3) by the nut (1).
8. Repeat the steps on the second shaft if needed.



(fig. 47)

11.3.1.1 Methods of inserting the cords to the carriers:



cleaning cord 5 mm wide

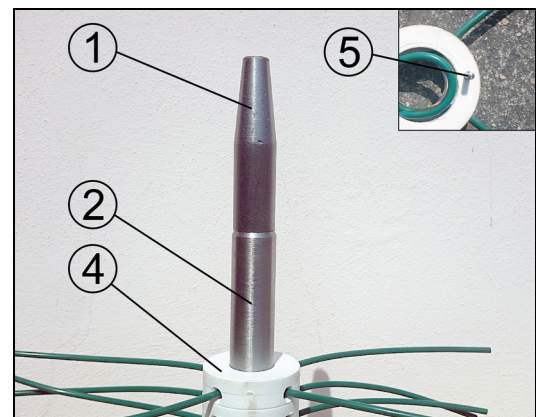


cleaning cord 8 mm wide

| Cord diameter | Required cord length | Used in |
|---------------|----------------------|---|
| 5 mm | 490 mm | - plastic carriers (4) |
| 8 mm | 450 mm | - plastic carrier (4) above metal sleeve (3), metal carrier (3) |

11.3.1.2 Use of the slipping spike

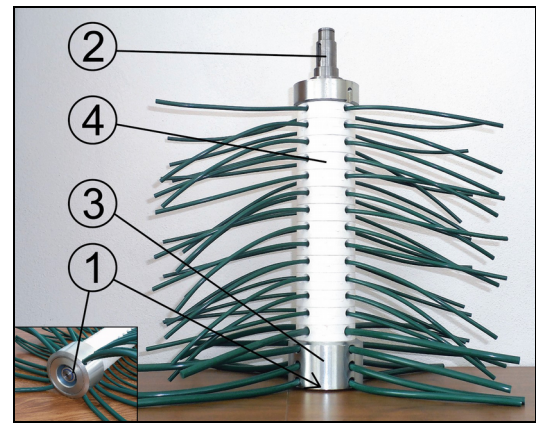
1. Mount on the shaft (1) the slipping spike.
2. One by one slip the carriers (4) and (3) on the shaft (2), so the cleaning cords will face down. Do not forget to secure each carrier by securing pin (5).
3. The cords in diameter 5 mm and 490 mm length are inserted to plastic carriers. The cords in diameter 8 mm and 450 mm length are inserted to carrier (3) and to first plastic carrier above it, see chapter 11.3.1.1.



(fig. 48)

11.3.2 Cleaning cords carriers replacement

1. Loose securing nut (1) of the shaft (2).
2. Remove the metal carrier (3) from the shaft (2).
3. Remove the cords carriers (4) from the shaft (2).
4. Replace worn out carriers (4) by the new ones.
5. Put back to the carriers (3) and (4) cleaning cords as described in chapter 11.3.1.1.
7. Put the carriers (4) back to the shaft (2) as described in chapter 11.3.1.2.
8. Put the shaft (2) back to the carrier (3).
9. Thoroughly secure metal carrier (3) by the nut (1).
10. Repeat the steps on second cleaning shaft if needed.



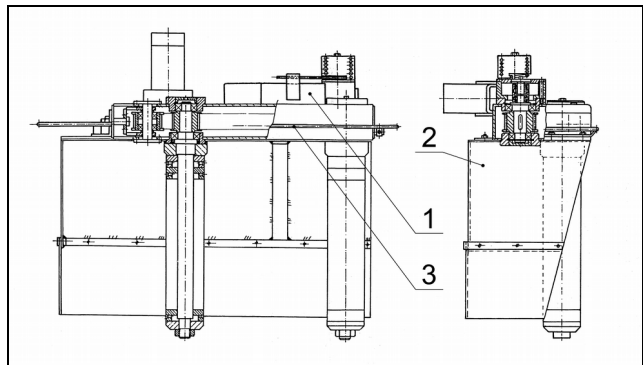
(fig. 49)

| Cord diameter | Required cord length | Used in |
|---------------|----------------------|--|
| 5 mm | 490 mm | - plastic carriers (4) |
| 8 mm | 450 mm | - plastic carrier (4) above metal sleeve (3), metal carrier (3) |

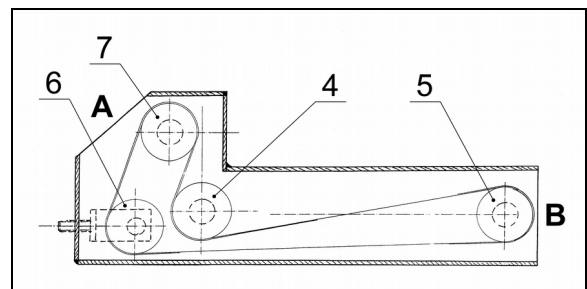
11.3.3 Drive belt replacement

Disassembly:

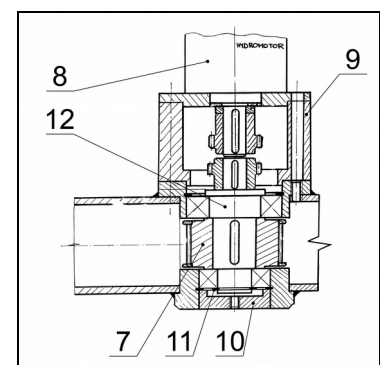
1. Remove the suspension (1), rotor cover (2) and supporting rod (3) from the cleaner.
2. Loose tightening fork (17) - about 3 revolutions of the nut (18), fig. 51.
3. Remove gearbox covers (A) and (B).
4. Remove rotary hydraulic motor (8) and circular flange (9).
5. Remove covering cap (10) of drive belt hub and securing ring (11).
6. Remove drive shaft (12) of the drive belt pulley (7) and pull this drive belt pulley (7) through the hole (A) out of the gearbox.
7. Remove covering caps (13) and securing rings (14) of rotor shafts (19) and (20).
8. Remove covers (15) on both sides of gearbox, remove cap (16) of tightening belt pulley (6).
9. Pull the belt pulley (6) through the hole (A) out.
10. Remove both shafts (19) and (20) with cords, PAY ATTENTION for securing rings (14).
11. Remove old belt with belt pulleys (4) and (5) through the hole (B) of the gearbox.



(fig. 50)



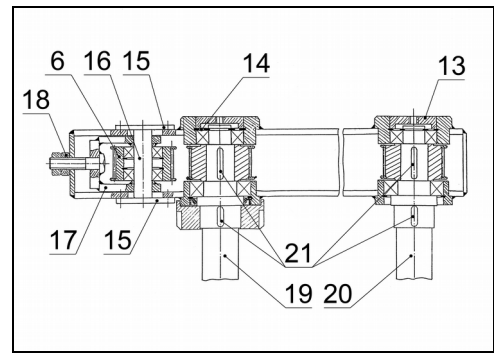
(fig. 51)



(fig. 52)

Assembly:

1. Insert new belt to the gearbox through the opening (B).
2. Insert belt pulley (4) to the gearbox and mount main shaft (19) of the rotor, secure it by securing ring (14).
3. Insert to belt the belt pulley (5) and place it to such position so you should insert to it the shaft (20) and secure it by securing ring (14). Insert the shaft (20) to belt (5) and secure it by the ring (14).
4. Insert to belt the tightening pulley (6) and place it to such position so you should insert to it and to tightening fork (17) the pin (16). Secure tightening belt pulley (6) by pin (16).
5. Insert to belt the belt pulley (7) and place it to such position so you should insert to it the drive shaft (12). Mount the shaft (12) of the drive belt pulley.
6. Perform timing of lower belt pulleys (19) and (20) by turning one of them so the grooves (21) will be each other turned about 45°. This timing is necessary to avoid of cleaning cords wear out.
7. Tight bothside toothed belt by tightening fork (17) and nuts (18). Thoroughly tight nuts (18). Tightening of bothside toothed belt perform carefully. The belt must be sufficiently tightened, you will avoid of bearings and belt wear out.
8. Place back the covers (15) over the pin (16) of tightening belt pulley (6) and secure them by point welds.
9. Mount back cover caps, covers (A) and (B), rotor cover, cleaner suspension and supporting rod.
10. Mount back the hydraulic motor.



(fig. 53)

11.3.4 Rubber cover replacement

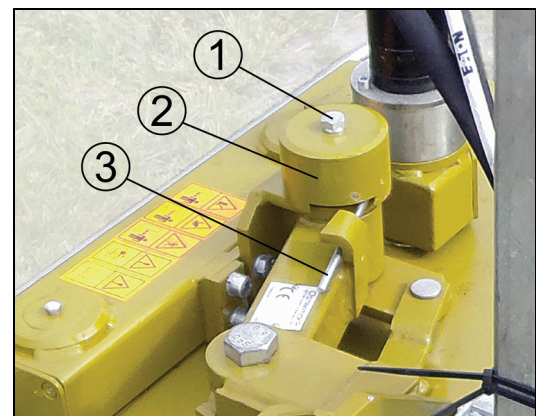
1. Loose and remove bolts and nuts (1).
2. Replace worn out rubber cover (2).
3. Mount back spare rubber cover (2) by the bolts and nuts (1).



(fig. 54)

11.3.5 Side pressure spring replacement

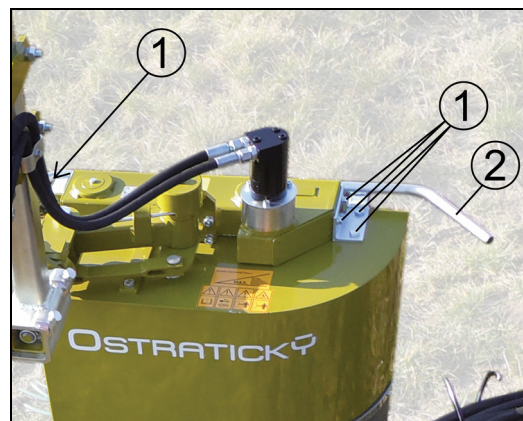
1. Secure the cleaner against movement in working position.
2. Loose and remove bolt (1).
3. Remove side pressure spring (3) cover (2).
4. Remove worn out side pressure spring (3).
5. Place back spare side pressure spring (3).
6. Mount back side pressure spring (3) cover (2).
7. Secure the side pressure spring (3) cover (2) by the bolt (1).



(fig. 55)

11.3.6 Supporting rod replacement

1. Loose and remove bolts (1).
2. Remove worn out supporting rod (2).
3. Mount back spare supporting rod (2) by the bolts (1).



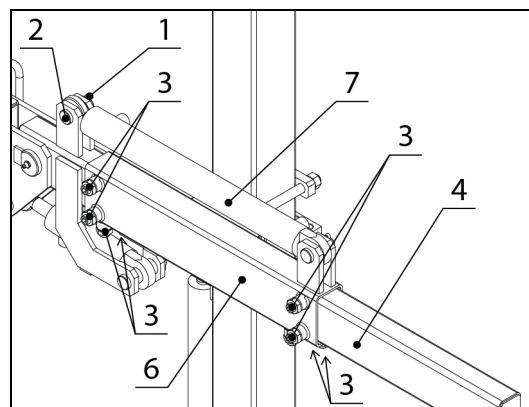
(fig. 57)

11.3.7 Hydraulic motor seals replacement

Contact your dealer or authorized representative of the manufacturer to replace hydraulic motor seals.

11.3.8 Sliders of the extension replacement

1. Secure the cleaner against the movement.
2. Completely unscrew the bolts (3) of the sliders of extension.
3. Remove the cotter pin (1) of the pin (2) of the hydraulic cylinders of the extension and secure the cylinder against the fall.
4. Remove the pin (2) of the hydraulic cylinder (7) of the extension.
5. Slide the arm (4) out of the sleeve (6).
6. Remove worn out sliders.
7. Fill the holes of the sliders bolts (3) by a grease and insert new sliders of extension.

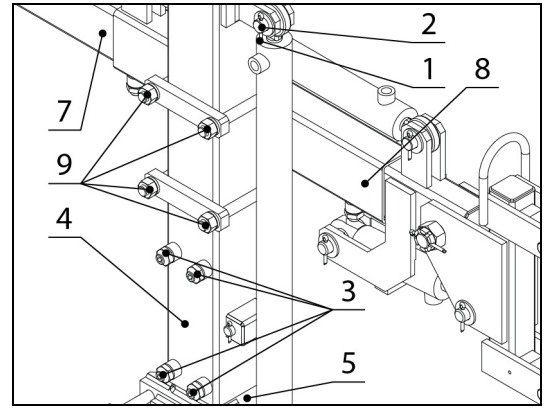


(fig. 58)

8. Slide the arm (4) back to sleeve of the cleaner.
9. Secure the hydraulic cylinder (7) of the extension by the pin (2) and its cotter pin (1) in working position.
10. Mount back the bolts (3) of the sliders of extension and adjust their smooth working by following the steps in chapter 10.1.2.1.

11.3.9 Sliders of the post replacement

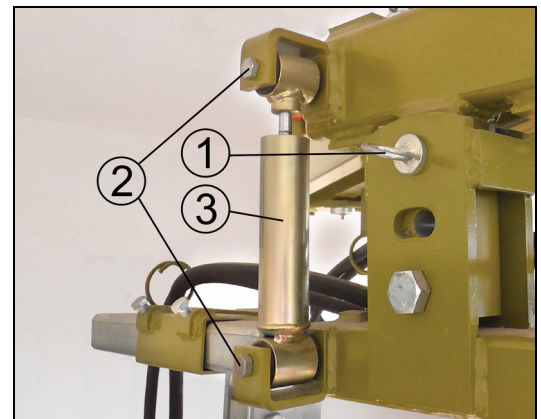
1. Secure the cleaner against the movement.
2. Secure the sleeve (8) with supporting arm against the fall.
3. Remove the sleeve (8) with supporting arm (7) and cleaner by loosening the bolts (9).
4. Completely unscrew the bolts (3) of the lifting sliders.
5. Remove the cotter pin (1) of the pin (2) of hydraulic cylinder of lifting and secure it against the fall.
6. Remove the pin (2) of hydraulic cylinder of lifting.
7. Slide out the lifting post jacket (4).
8. Remove worn out sliders.
9. Fill the holes of the sliders bolts (3) by a grease and insert new sliders of lifting.
10. Slide back on the inner tube (5) the lifting post jacket (4).
11. Secure the hydraulic cylinder of extension by the pin (2) and its cotter pin (1).
12. Mount back in the lifting post jacket (4) the sleeve (8) with the supporting arm (7) and the cleaner.
13. Mount back the bolts (3) of lifting sliders and set their smooth working by following the steps in chapter 10.1.2.2.



(fig. 59)

11.3.10 Tilting head shock absorber replacement

1. Insert the pin (1) to the hole for transport position and secure the cleaner against movement.
2. Loose and remove bolts (2) and remove the shock absorber (3).
3. Mount back spare shock absorber (3) and secure it by he bolts (2).



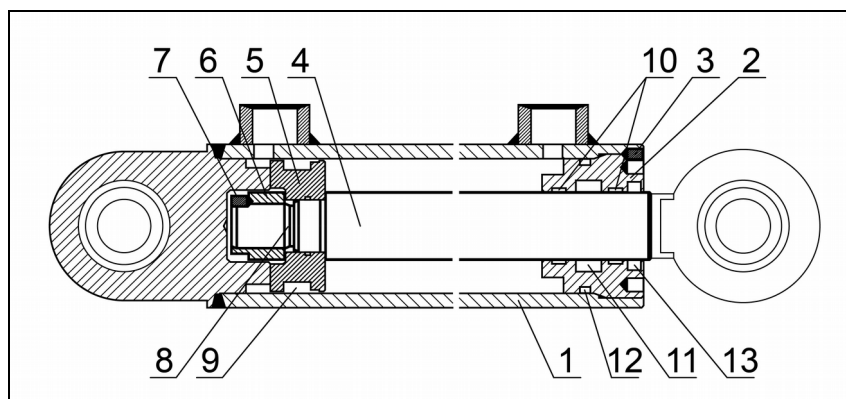
(fig. 60)

11.3.11 Replacement of the seals of the hydraulic cylinders

1. Drill off securing pin (3).
2. Unscrew the cap (2) from the body (1) of the cylinder, remove the piston rod (4).
3. Drill off the pin (7) and loose the nut (6).
4. Remove the piston (5) from the piston rod (4).
5. Slide out the piston rod (4) from the cap (2).
6. Step by step replace worn out sealing parts. Put the new part back on their places. We recommend you to replace entire set at once.
7. Insert the piston rod (4) to the cap (2).
8. Mount the piston (5) on the piston rod (4), secure it by the nut (6) and securing (7).
9. Slide the piston rod (4) back to the body (1) of the cylinder, screw on the cap (2) and secure it by the securing pin (3).
10. Check the tightness of the hydraulic cylinder.

Seals set contains:

- sealing ring (8)
- piston cup set (9)
- guide strips, 2 pc (10)
- cap cuff (11)
- sealing ring (12)
- dust seal (13)



(fig. 61)

11.4 Mechanical malfunctions

| Problem | Reason | Measures |
|--------------------|--------------------------|---|
| - machine blockage | - cleaner(s) blockage | - release blocked cleaner, remove plants residues, resp. other coiled objects which discourage the movement |
| | - side pressure blockage | - release blocked side pressure, remove plants residues, resp. other coiled objects which discourage the movement |
| | - extension blockage | - release blocked extension, remove plants residues, resp. other coiled objects which discourage the movement |

11.5 Electro-hydraulic malfunctions

| Problem | Reason | Measures |
|-------------------------|----------------------------------|---|
| - Machine does not work | - hydraulic source does not work | <ul style="list-style-type: none"> - start the tractor - check the carrier (pump, limiter) - check connection of the hydraulic hoses - check functionality of the hydraulic source - check the gearbox |

| Problem | Reason | Measures |
|---------------------------------|---------------------------------|--|
| | - electric source does not work | - check the connection of the electric cables - check if the voltage to the solenoid valves is available - check the electric control of hydraulic circuit |
| - cleaning shafts do not rotate | - low oil pressure | - check functionality of the hydraulic source |

11.6 Recommissioning the machine after the intervention

After electrical, mechanical and hydraulic intervention on the machine, observe the commands to put into operation in the instruction manual.

12 CLEANING THE MACHINE

12.1 Preparing the machine for cleaning

At first, place the machine on a cleaning area.

12.2 Personal protective equipment

Wear clothing suitable for cleaning machines. This clothing means mostly suitable footwear, protective goggles, protective gloves, head protection.

12.3 Cleaning method

Sweep up the machine or blow it by compressed air. If the machine needs cleaning, wash it by rinse water, avoid the housings and electrical cables, hydraulic hoses and hydraulic control valves. In the case the machine is very dirty, use a detergent for washing and cleaning.

12.4 Types of cleaning detergents

Do not use aggressive detergents (chlorinated).
Use rags, sponges and soft brushes.

12.5 Checking a good condition of the machine after cleaning

Let the machine run after cleaning for a few minutes. If you used water, let the machine completely dry off.

Check the condition of electrical and hydraulic hoses (cracks, cuts, damages by friction). If necessary, replace them.

Lubricate parts as instructed in the manual.

Check the tightness of all hydraulic connections and all bolts.

13 DISCONNECTING AND STORING THE MACHINE

13.1 Preventive maintenance

During storage of the machine it is recommended to:

- perform general cleaning
- perform a preservation of metal parts of the machine after cleaning which eliminates the corrosive effects
- check a condition of electrical cables (cracks, cuts, damages by friction), replace if necessary
- check a condition of hydraulic hoses (cracks, cuts, damages by friction), replace if necessary

13.2 Storing the machine

- store the machine in the airy room, away from a bad weather, out of reach of children
- do not put a protective sheet on the machine that causes condensation

13.3 Putting the machine into operation after storage

Proceed like by first commissioning.

14 DISASSEMBLY AND DECOMMISSIONING

The general rule consists in disassembling the machine and sorting the parts. These parts will be processed by organizations or centers specialized in the treatment of industrial waste. This waste can be valorized on the new products.

Group of hydraulic parts:

- hydraulic components (sleeve, hydraulic block, insertion, limiter, reducer, etc.)
- hydraulic hoses

Group of hydraulic fluids and lubricants:

- hydraulic fluid
- lubricant

Group of ferrous parts:

- all ferrous parts of the machine

Group of nonferrous parts:

- all aluminum, bronze, brass parts
- all plastic parts

Group of electric parts:

- all electric parts and electrical components

15 DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY

Declaration of conformity with the regulation for machinery
(direction 89/392/EEC, in wording of statute No 22/1997 and NV No 170/1997 the CZ
government) and with the regulations enacted to its transformation.

The producer: OSTRATICKÝ, Ltd.
Hrušecká 388
691 54, Týnec
Czech republic

hereby declares that the machine described below:

Designation: Vine stem cleaner
Type: Duplex
Serial number:
Brand: OSTRATICKÝ

conforms to the provisions of the regulation for machinery direction 89/392/EEC and with the national legislation derived from it.

- the provision of regulation for machinery (direction 89/392/EEC) and national prescripts:
statute No 34/1996, statute No 125/1997, notice of ČÚBP No 48/1982, notice of MD ČR
102/1995; direction of MC ČSR No 65/1985 HP MZ

- the provisions of the following European directives:

- the provisions of the following harmonised European standards:
ČSN EN 292-2, ČSN EN 982, ČSN ISO 4254-1

- the provision of national norms and technical notices
ČSN 119009, ČSN 470060

Signed in Týnec u Breclavi, at 14.11.2013



Dipl. Eng. Radek OSTRATICKÝ,
director

16 NOTES

PROTECT YOUR ENVIRONMENT!

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