STIGA

WORKSHOP MANUAL

CUTTING DECKS 110C E QF - 125C E QF
2018 - 2020

ALPINA Mountfield ATCO CASTELGARDEN

WORKSHOP MANUAL

CUTTING DECKS 110C E QF - 125C E QF

EDITION 2018

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INTRODUCTORY NOTES

The purpose of this manual is to provide a complete set of instructions related to the servicing, maintenance, disassembly, repair and installation of the mechanical components for afore-mentioned equipments.

All trained Servicing personnel must use this manual during all adjustment, disassembly and troubleshooting activities.

IMPORTANT NOTE - The information contained herein is destined exclusively to the Service Centres and professional operators, with the required expertise to perform, and use the correct equipment, all the operations described, with the objective of safeguarding machine performance and safety.
The Manufacturer is under no circumstances liable for any damage or injuries due to interventions performed by private individuals or inadequate facilities.

The manual has left out the simplest and quickest operations that can be handled by a good mechanic, while concentrating more on specific aspects with tips and advice on the best servicing procedures.

Please take the time to read through this manual to acquire a basic understanding of the machine, which is necessary for working rationally without making errors or wasting time. All problems related to user procedures are fully covered in the User manual.

All the information provided refers to the original versions of the equipments, excluding therefore interventions on equipments which have been subject to modifications that have altered their characteristics or components.

1 - INTRODUCTION

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1.1 HOW TO USE THE GUIDE

1.1.1 Limitation of Responsibility

Despite the efforts made to ensure accuracy in the realisation of this manual, errors and inaccuracies may be found in the content. The author is not responsible for any missing or incorrect information.
The Manufacturer reserves the right to make any modifications to the product without warning or any obligation to promptly update this manual.
The introduction of new procedures or indications in addition to those contained in this Manual are reported to the Service Centres by means of ad hoc bulletins and press releases.

All information contained herein is based on data available at the time of publication.
The drawings and photos included herein, may not correspond exactly to the machine on which the intervention is required.

1.1.2 Structure of the Manual

The manual is divided into chapters, paragraphs and sub-paragraphs.
- The front inside cover provides the table of contents indicating the various chapters.
- Each chapter is dedicated to a specific topic, and is preceded by an index that marks the various paragraphs contained therein.
- Each paragraph is further divided into sub-paragraphs, relative to a single procedure.

Cross-references to other parts of the manual are indicated by the symbol [☛ ...] followed by the relevant chapter, paragraph or sub-paragraph number.

1.1.3 Symbols and Definitions used

a) Symbols

They are used to draw the attention of the operator, reminding him to perform the interventions with the necessary attention and caution.

Indicates operations that should be carried out with utmost care to avoid impairing the functionality and safety of the machine.

Indicates operations that should be carried out with utmost care to avoid injury to operators.

➤ Highlights all those operations that require different working methods depending on the type of machine, subsequent modifications and the accessories fitted.

☛ Indicates cross-reference to other parts of the manual, followed by the number of the relevant chapter, paragraph or sub-paragraph.

b) Safety terminology and notes

Some paragraphs are preceded by a definition that highlights their importance:

NOTE *General reference for the correct maintenance execution and methods.*

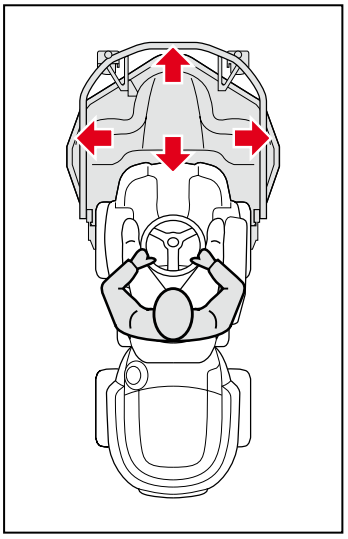
IMPORTANT *Specific procedures or information necessary to avoid damage to the machine or equipment.*

WARNING! ***Non-observance will result in the risk of injury to oneself or others.***

DANGER! ***Non-observance will result in the risk of serious injury or death to oneself or others.***

c) Spatial References

Whenever reference is made to a position on the machine “front”, “back”, “left” or “right” side, this refers to the positions of the seated operator.



d) Abbreviations and glossary

The following abbreviations are used in this manual

Rh / Lh	= Right / Left
Min / Max	= Minimum / Maximum
Chap.	= Chapter
Par.	= Paragraph
PTO	= Power Take Off

The terms “Cutting deck” or “Equipment” refer to the cutting-means assembly, connected to the machine PTO by means of a belt.

1.2 WORK SAFETY INSTRUCTIONS

1.2.1 Qualification of operators

All maintenance, disassembly and repairs must be carried out by expert mechanics who are familiar with all the accident prevention and safety regulations after reading through the procedures in this manual.

1.2.2 Preparing to work

Before starting any work, it is very important to provide adequate preparation to achieve more efficient work. A clean work area at the beginning of each intervention makes for quicker and easier repairs.

To reduce the nuisance of having to search for tools or parts out of place, place the parts removed on a clean work surface, with all the fixing bolts arranged in their order of disassembly.

Organisation is a key element for correct reassembly. The required utensils, tools and components must be gathered before starting work.
Interrupting a job to locate tools or components is a useless waste of time.

1.2.3 Precautions during servicing

The operations described in this manual do not entail particularly hazardous situations besides the normal hazard related to mechanical operations and that can be avoided by taking the necessary care and attention normally required for this type of work.

As well as following the usual accident prevention regulations that apply to most repair shops, we recommended you:

- remove the ignition key before beginning any repair work;
- protect hands with suitable protective gloves, especially when working near the cutting unit;
- check that you do not cause accidental petrol leaks or other losses;
- do not smoke when working on the tank or when handling petrol;
- do not inhale oil or petrol fumes;
- clean up all traces of spilt petrol immediately;
- let the engine and exhaust system to cool before starting any repair or maintenance work. The engine and the exhaust system heat up considerably during operation.
- test the engine in a well-ventilated environment or where there are adequate exhaust fume extraction systems;
- do not pollute the environment with oil, petrol or other waste which has a strong impact on the environment. Dispose of all waste in accordance with the laws in force;
- ensure that other persons cannot accidentally carry out actions that may physically endanger those working on the machine.

1.3 SERVICE CENTRE PROCEDURES

1.3.1 Equipment registration

The Warranty registration card must be completed, signed and returned at the time of purchase. This activates the warranty card.
Claims that meet the requirements will be honoured during the limited warranty period.

1.3.2 Interventions under Warranty

The Manufacturer acknowledges the interventions performed under warranty as per the terms, procedures and limits stated in the contract.

1.3.3 Exceptions to the use of the Warranty

- The warranty does not cover damages caused by:
- Lack of knowledge and familiarisation of the accompanying documentation on the part of the user.
- Carelessness.
- Incorrect or prohibited use or assembly.
- Use of non-genuine spare parts.
- Use of accessories not supplied or approved by the manufacturer.
- The warranty does not cover components normally subject to wear and tear such as blades, belts and so on.

The purchaser is covered by national legislation of the Country he resides in. The legal rights of the laws that refer to the purchaser are not limited by this product warranty.

1.3.4 Service repairs outside warranty

The Service Centre has to make out a report containing the machine serial number, a summary of the problems, the repairs carried out and any spare parts used for each repair done on the equipment.
A copy of these reports must be retained and made available to the Manufacturer together with the replaced parts in case of any subsequent disputes with Customers.

1.3.5 Fault notification

The Manufacturer welcomes any notifications of faults that recur with particular frequency. It gives the opportunity for a careful inspection of the problem and the implementation of corrective action at production level.
Similarly, the Manufacturer will report any faults discovered on the machines produced, with recommendations for the most suitable procedures for their remedy.

1.3.6 Spare parts requests

When requesting spare parts, the code number must be given, referring to the exploded charts for the year of manufacture, shown on the product identification label.

2 - INFORMATION FOR SERVICE CENTRES

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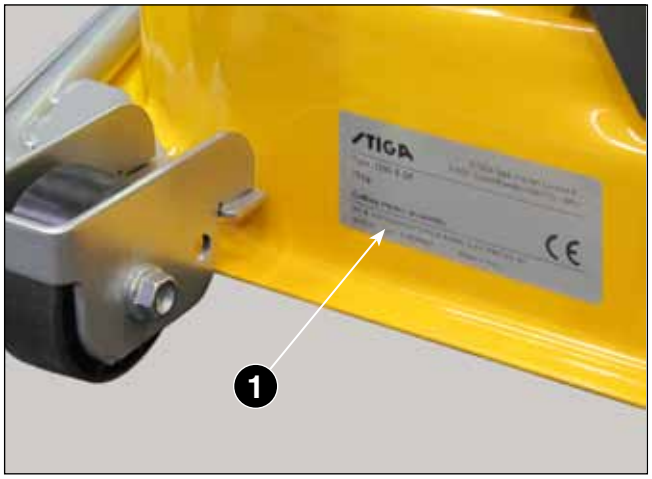
2.1 GENERAL INFORMATION

2.1.1 Equipment identification

Each equipment has a label (1) which shows the technical specifications, the model and the serial number.

The model and serial number must be shown on each repair sheet when requests are made under Warranty, and are indispensable for spare part orders.



2.1.2 Safety measures to be adopted

All the machines are manufactured in accordance with the strict European safety regulations in force. To maintain these levels of safety in the longer term, the Service Centres should work to this end by making appropriate checks every time there is the chance to do so.
In particular, every time there is work done on the machine the Service Centre should:

• check:
- all the safety devices function properly, according to the machine on which the equipment has been assembled;
- that the casings and protection covers have not been removed;
- that the labels with instructions or provisions have not been removed or have become illegible (these form an integral part of the safety system).

• and also:
- restore to proper working order any safety devices which have been manipulated or removed;
- reassemble inefficient, damaged or missing casings and protection covers;
- replace illegible labels;
- clean the inside of the cutting deck with water and a non-metal bristle brush;
- touch up the painted parts where the paint is scratched or missing;
- not endorse any repair or modification on the machine or the motor which results in a change in performance or use that is incorrect or different from the purpose for which it was designed and approved;
- warn the Customer that failure to comply with the above points automatically voids the warranty and the responsibility of the Manufacturer.

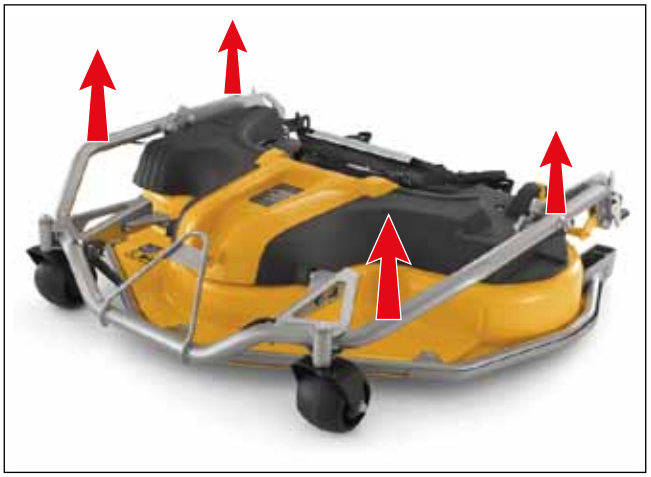
2.1.3 Basic equipment

All the operations can be carried out with the tools normally available at any good motoring Servicing Centre.

2.1.4 Transportation and handling

Pay utmost attention during the removal and assembly of the equipment on the machine.

WARNING! ***- To lift the equipment using a hoist, use the two longitudinal elements of the frame, taking into account the total weight of about 70-75 kg and relative distribution of the same.***



2.1.5 Tightening torque settings

The table shows the tightening torque settings for screws and nuts to be applied according to their size, except for different situations indicated in the manual regarding a specific procedure.

Threading	Tightening torque
M5	5 Nm
M6	9 Nm
M8	22 Nm
M10	45 Nm

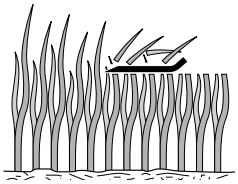
2.2 SPARE PARTS

2.2.1 Non-original spare parts

Use original spare parts only. Replacement of any machine component with anything other than a part authorised by the Manufacturer can adversely affect performance, working life or safety of this machine and will void the Warranty.
The manufacturer disclaims all liability for any claims or damages, albeit under warranty, property damage, personal injury or death resulting from the use of unauthorised spare parts.

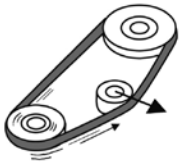
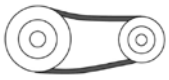
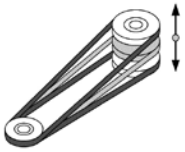
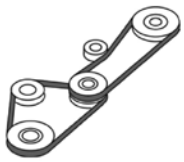
2.2.2 Characteristics of the original blades

The original blades have design, material and processing characteristics optimised for use on the equipment for which they were designed; these characteristics are not present in so-called "compatible" spare parts.
The table emphasises the reasons why it is important to choose an original blade, useful when making such decisions.

Requirement	Remarks
No breakage of the blade ends. 	Using steel balls, the manufacturer simulates what can happen when mowing over any foreign bodies on the lawn. This can ruin the blade edge, but no component can come loose, fall off or be hurled away.
No breakage of the blades. 	The impact test is the most severe durability test that any lawnmower can be subjected to. An iron tube is placed exactly inside the blades when the mower is running. The blade may deform but it will never, under any circumstances, fall off or break. This test verifies that blades and other components meet the high safety requirements.
Excellent balance. Minimum noise. Minimum vibrations. 	The blades and blade ends supplied by the authorised dealer all have exactly the same weight. The blades and blade ends supplied by the authorised dealer are all perfectly balanced. This guarantees minimum noise and vibrations, for maximum machine operating life. This also ensures that the machine complies with the noise and vibration regulations.
Excellent cutting result. 	The blades and blade ends supplied by the authorised dealer are optimised for the application for which they are intended. In short, this means that the blades are suitable for the shape of the casing and to the number of revolutions to provide the best possible cutting result.

2.2.3 Characteristics of the original belts

The standard belts on the market have different characteristics compared to the requirements of the original spare belts, supplied by the authorised dealer. The latter are designed and manufactured in close cooperation with the belt supplier and the machine manufacturer.
The table emphasises the reasons why it is important to choose an original belt, useful when making such decisions.

Example	Belts available on the market	Original spare belts	Notes
Adhesion on the pulley. 	The belt rests with the sides inclined against the walls of the pulley. There must be a gap between the belt and the bottom of the groove.	The belt rests with the sides inclined against the walls of the pulley. There must be a gap between the belt and the bottom of the groove.	Same requirements. The original spare belts ensure perfect adhesion on the pulley.
Acceleration. 	Some belts only engage with the pulleys when the motor is running at operating speed and this generates excessive heat.	The belt follows the speed of the motor in continuous acceleration until the maximum speed is reached.	Standard belts are made of natural rubber and only capable of withstanding temperatures up to 70°C. Original spare belts are made of chloroprene rubber capable of withstanding temperatures up to 90°C.
Length. 	Manufactured in standard interval lengths.	Made in a specific length designed to ensure perfect adhesion to the pulley.	The distance between the pulleys is fixed. The belt tensioner ensures that the original belt maintains optimal tension.
Floating pulley on cutting equipment. 	Designed to transmit power between aligned, parallel and fixed pulleys.	The original Power Take Off (PTO) belt is designed to work even if the pulleys move up and down and tilt at the same time.	The equipment follows the ground beneath it and this means that the pulley is constantly moving. To withstand extreme operating conditions, the original belts are made of fibre reinforced rubber.
Curvature in two directions. 	Designed to curve around the pulley in one direction.	Most of the belts installed on the machines have tensioning rollers that act on the outer side of the belt. This means that while the belt is being used it must tilt both inwards and outwards.	All the original belts, which work with tensioning arms acting on the external side, are equipped with reinforcements. The reinforcement is designed specifically for these specific cases.
Noise. 	Made without special requirements for this specific factor.	The original belts are carefully selected to limit the increase in noise produced by the machine during operation.	Depending on the function, one of the following belt types is suitable: • Coated • Anti-friction • Open sided

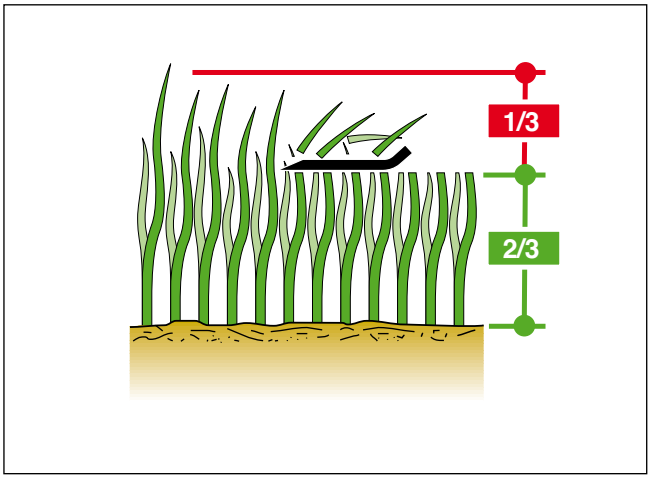
2.3 TIPS FOR USERS

2.3.1 Cutting height

The best cutting results are obtained when cutting the upper third of the grass, meaning that 2/3 of the length of the grass remains on the lawn.

If the grass is very long and requires more height to be removed, it is recommended to mow the lawn twice at different heights.

Do not use the lowest cutting heights if the lawn surface is not even. This would result in a risk of damaging the blades due to impact with the ground and removing the surface layer of the ground.



3 - ASSEMBLY AND REMOVAL

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3.1 UNPACKING AND COMPLETING THE EQUIPMENT

3.1.1 General information

For transport and storage reasons, the cutting deck is delivered with some parts separate, to be assembled before applying the equipment to the machine.

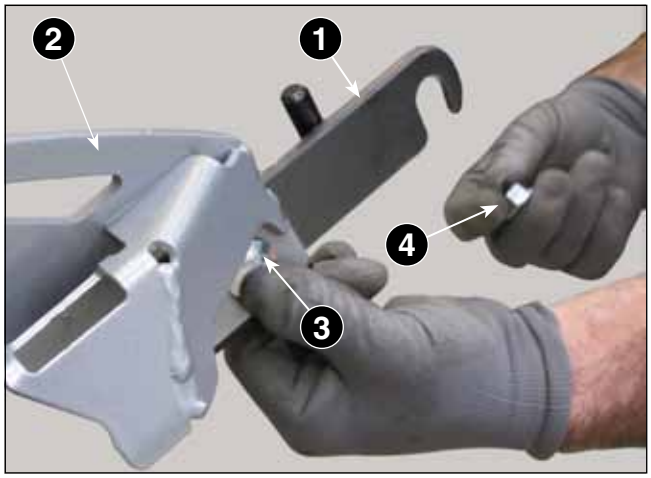
IMPORTANT *All operations must be carried out on a flat and solid surface, with sufficient room for manoeuvres, wearing protective gloves and always using the appropriate tools.*

Remove the contents from the packaging, taking care to collect the various elements and hardware provided, to avoid losing them.

IMPORTANT *The packaging elements must be disposed of according to the local regulations in force, taking into account the different materials.*

3.1.2 Assembling the coupling hooks

Fit the two coupling hooks (1) inside the arms (2), taking care to respect the left and right position, then fasten them in place using the screws (3) and nuts (4).



3.1.3 Basic height adjustment

IMPORTANT *This adjustment is ONLY foreseen to check the ratio of the base height of the cutting deck in relation to the diameter of the front wheels of the machine. No exceptions to this equipment design rule are permitted.*

NOTE *The equipment is delivered with factory default settings for use on machines with 16" wheels.*

The basic adjustment produces a slight forward inclination of the cutting deck, raising the rear edge by about 5 mm compared to the front, the optimal condition to ensure even cutting.

NOTE *All the following operations must be performed from both sides of the equipment.*

To proceed with the adjustment:

1. Rotate the release lever forwards (1).

2. Use a screwdriver to remove the split pin (2).

3. Reposition the split pin in one of the three holes provided on the pin (3), according to the diameter of the wheels and applying this rule:
   - 16" front wheels = Centre hole
   - 17" front wheels = Top hole

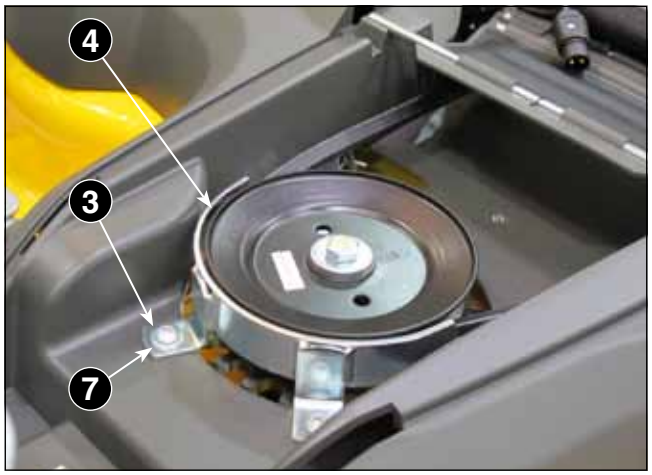
4. Return the release lever (1) to the working position.

3.1.4 Replacing the belt (for the Park 2WD machine only)

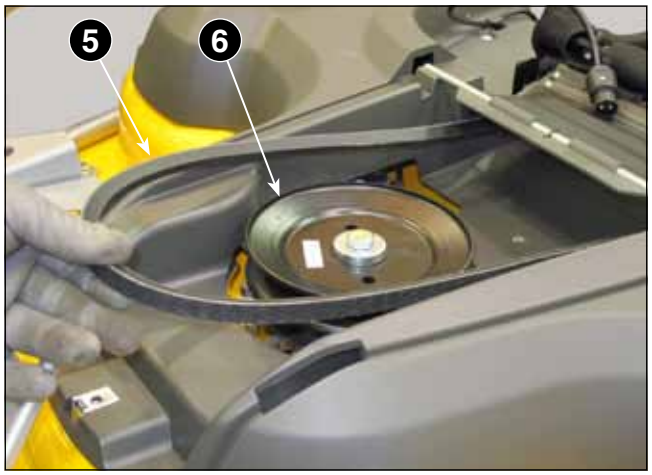
NOTE *The equipment is delivered with a belt already assembled and suitable for use on the Park 4WD machine.*
For use on Park 2WD machines, the belt must be replaced with the one supplied, following the procedure below.

1. Undo the screw (1) and remove the protection (2) by lifting it from the rear section.

2. Undo the two screws (3) and remove the belt guide (4).



3. Remove the belt (5) from the pulley (6) and replace it with the longer belt supplied.
   - 4WD = Short belt
   - 2WD = Long belt



4. Reassemble the belt guide (4) and the guard (2) following the previously described operations in reverse order.

NOTE *When reassembling the belt guide (4), take care to restore the washer (7) under the right screw (3), to prevent the screw tip from interfering with the underlying mechanisms.*

3.2 PREPARE THE MACHINE

3.2.1 Checking the compatibility of the cutting deck with the machine

The table provides the elements used to check compatibility between the different types of decks and the machines on which they can be applied, as well as the obligation to assemble the counterweights on the rear wheels using certain combinations.

Type of machine	110C E QF	125C E QF	Notes
P 901 C	✘	✘	✘ = NOT Applicable ✔ = Applicable ✔ **+ W** = Obligation to mount counterweights for 2WD machines [1] Type P 901 CH Model Park 420 P is not approved for cutting decks 110-125 E QF
P 901 C W	✔ **+ W**	✘	
P 901 C 4W	✔	✔	
P 901 CH [1]	✔ **+ W**	✔ **+ W**	
P 901 CH D	✘	✔	
P 901 PH	✔	✔	

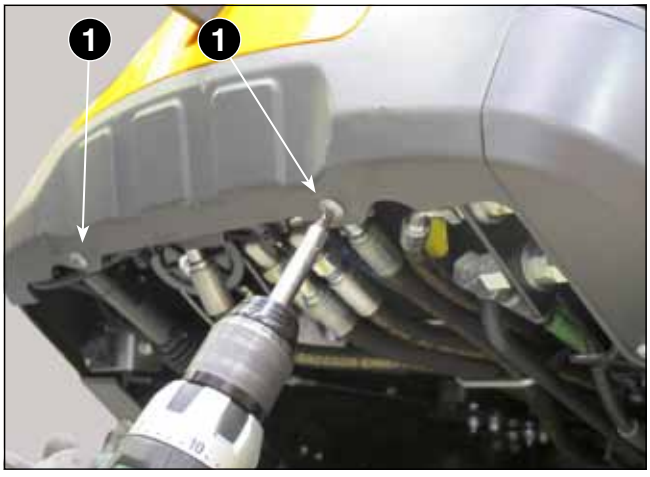
DANGER! ***- Applications other than those specifically foreseen will compromise the safety conditions for which the machine / cutting deck assembly has been approved and relieves the Manufacturer from all obligation or liability for damages and / or even serious injuries that may result therein.***

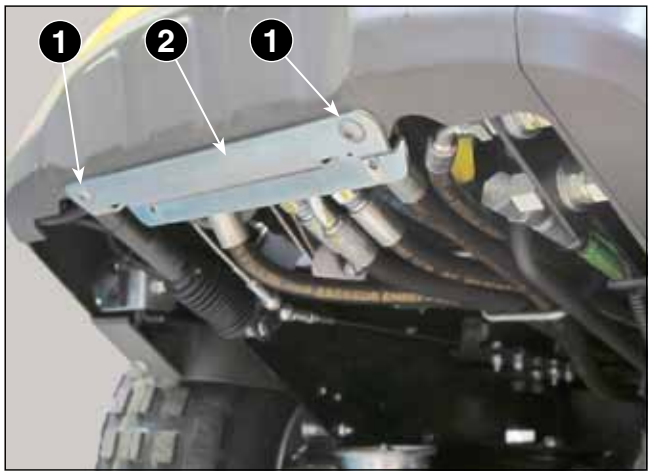
Counterweights (1 - where mandatory) must be assembled according to the instructions supplied with the kit.

3.2.2 Mounting the interface bracket

1. Undo the two screws (1) already pre-assembled in the lower part of the front of the machine.

2. Mount the supplied interface bracket (2), using the same screws (1).



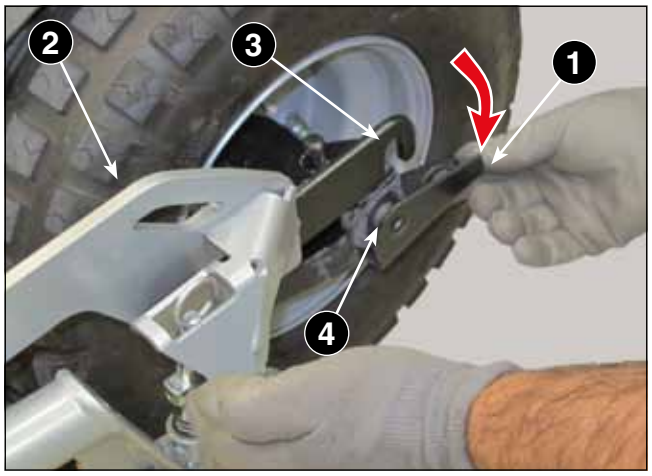


3.3 INSTALLING THE EQUIPMENT ON THE MACHINE

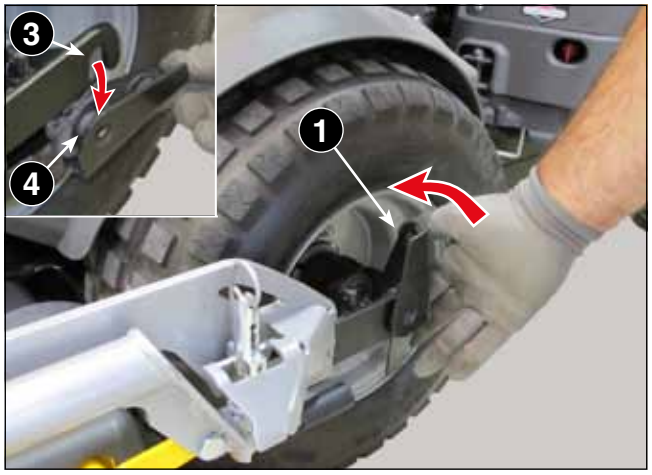
3.3.1 Coupling and connection of the equipment to the machine

Approach and align the equipment in relation to the front of the machine.

NOTE *All the following operations must be performed from both sides of the equipment.*

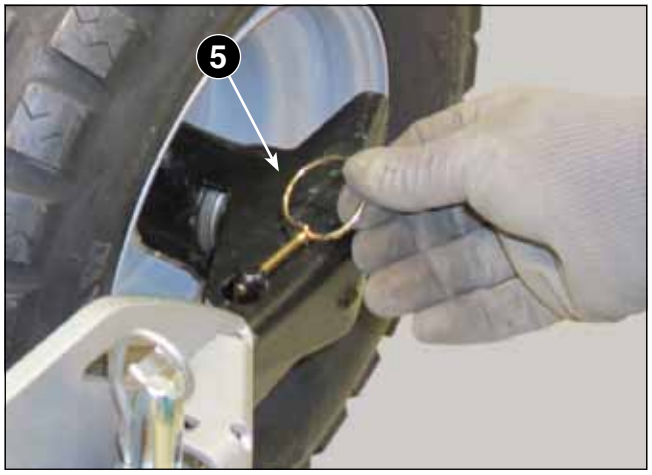


1. Rotate the two quick release levers (1) backwards.

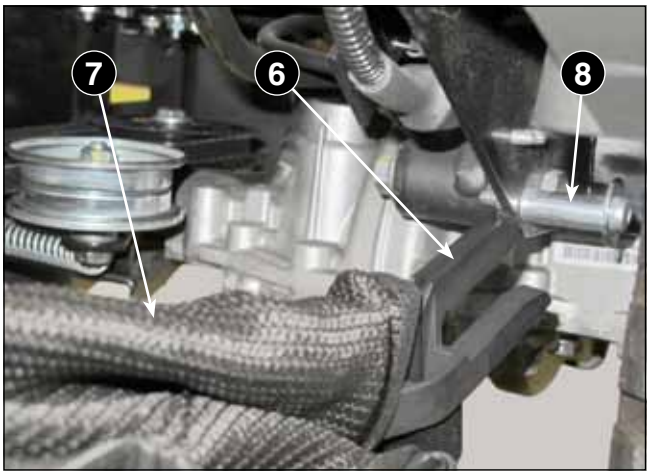


2. Keeping the arm (2) raised, approach the equipment to the machine until the coupling slot (3) is in line with the pin (4).

3. Lower the arm so that the slot (3) couples with the pin (4), then bring the lever (1) as far forward as possible.

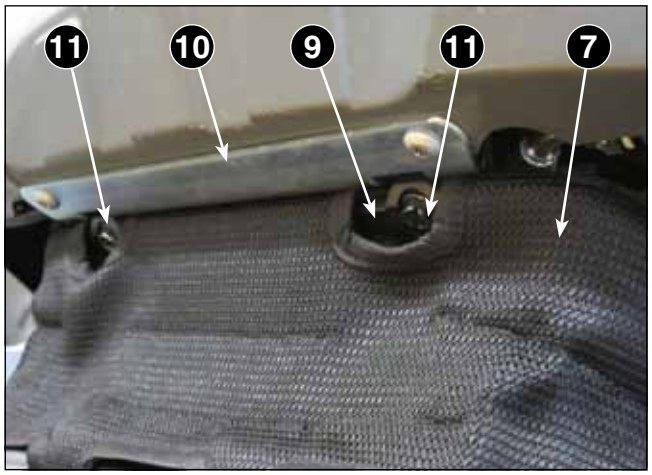


4. Release the two quick release levers (1) using the safety split pins (5).



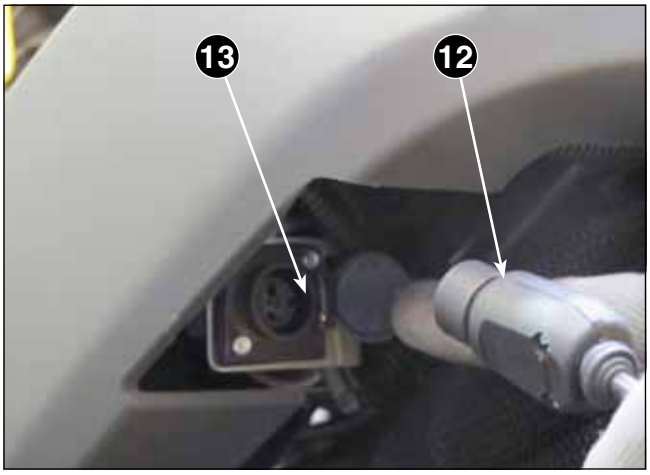
5. Couple the two fork terminals (6) of the belt guard (7) to the two pins (8) located inside the front wheels of the machine.

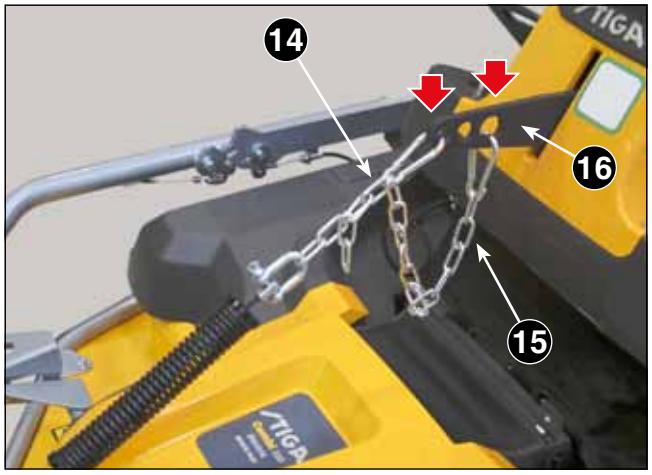
6. Position the guard (7) frame (9) in line with the interface bracket (10) and fasten in place with the two screws (11).



7. Connect the cutting height adjustment control coupling (12) to the plug (13) on the lower right side of the machine.

8. Keeping the front part of the deck slightly raised, connect the spring clasp (14) to the front hole and the safety chain (15) to the rear hole of the machine lifting lever (16).



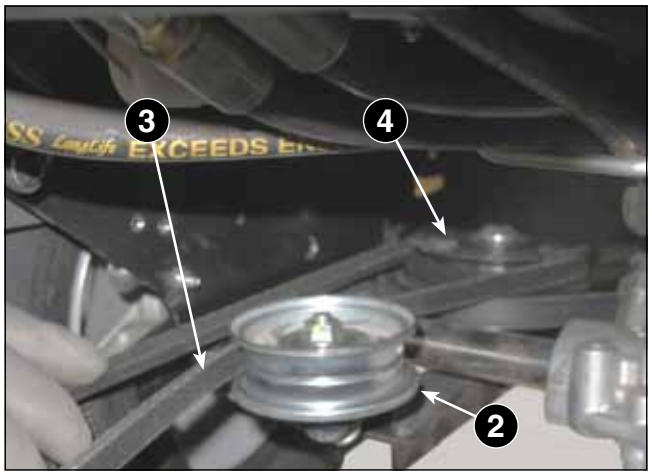


3.3.2 Connecting the belt to the machine PTO

1. Pull the lever (1), located in the lower right part of the machine, outwards so as to distance it from the tensioner (2).

2. Wrap the PTO belt (3) onto the pulley (4) making sure that the left branch remains inside the tensioner (2).

3. Disengage the lever (1).



3.4 REMOVING THE EQUIPMENT FROM THE MACHINE

3.4.1 Disconnecting and removing equipment from the machine

Perform the following procedures in reverse order, as described above:

- Disconnect the PTO belt. [☛ 3.3.2] from 3 to 1.
- Remove all mechanical and electrical connections. [☛ 3.3.1] from 8 to 1.

4 - MAINTENANCE

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4.1 TROUBLESHOOTING

NOTA *The table below provides a guide on how to identify the origin of an anomaly and which section of the Manual deals with such aspects.*

Problem	Probable cause	Solution
1. Worn belt protection canvas	Wear and/or contacts with other elements	Replacement of the belt protection canvas [☛ 4.2.1]
2. Damaged belt protection	Contact with other elements	Replacement of intermediate protection [☛ 4.2.2]
3. The cutting means do not engage or do not stop promptly when they are disengaged	Wear/breakage of the control belt	Replacement of the control belt [☛ 4.3.1]
	Wear/breakage of the blade connection belt	Replacement of the blade connection belt [☛ 4.3.2]

Problem	Probable cause	Solution
4. The blade locking device has been triggered with the blades still rotating	• Malfunction of the locking devices	Replacement of the locking device and adjustment of the cable [☛ 4.4.2]
	Cable breakage	
5. The blades rotate in the maintenance/wash position	Cable not adjusted	Replacement of the locking device and adjustment of the cable [☛ 4.4.2]
	Cable breakage	
6. Abnormal vibration and / or irregular cutting	Loose parts.	Tighten all fastening devices Tightening torque [☛ 2.1.5]
	Damaged cutting means.	Sharpening and balancing the blades [☛ 4.5.2] Check the alignment of the blade shafts [☛ 4.5.3]
7. No cutting height adjustment	Electric motor malfunction	Check electric connection Replace the electric motor
	Damaged tie rods	Replacement and adjustment of the tie rods [☛ 4.6.2]
	Tie rods not adjusted	
8. Swivel wheels locked	Worn parts	Replace worn parts
	Impacts with foreign parts	Replacement of bushings [☛ 4.8.2] Replace damaged parts

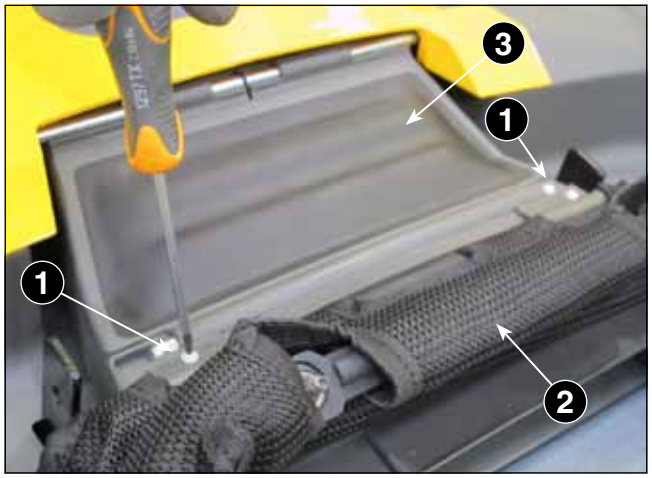
4.2 REPLACING OF GUARDS

4.2.1 Replacing the belt guard canvas

WARNING! ***- The integrity of the belt guard canvas is an essential condition for the safety of the machine and equipment. Always replace the canvas at the first signs of wear or tear.***

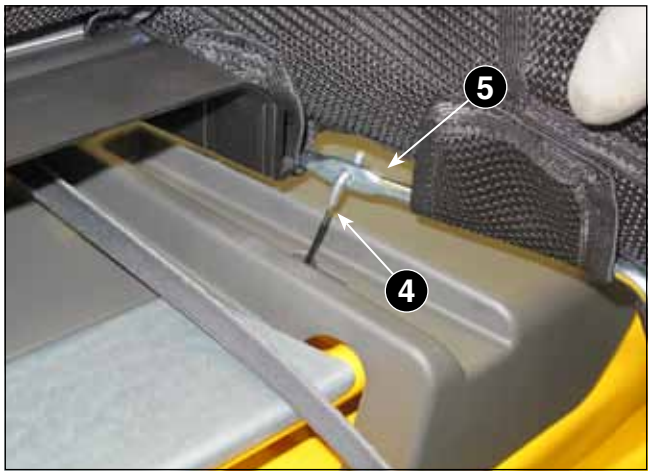
Remove the cutting deck from the machine, following the following procedures in reverse order:

- Disconnect the PTO belt. [☛ 3.3.2] from 3 to 1.
- Remove all mechanical and electrical connections. [☛ 3.3.1] from 8 to 1.



1. Undo the two screws (1) that fasten the canvas belt guard (2) to the intermediate guard (3).

2. Release the two positioning cables (4) from the lower frame (5) of the belt guard, taking care not to drop them inside the casing underneath.



3. Release the pin (6) freeing it from the retaining notches (7).

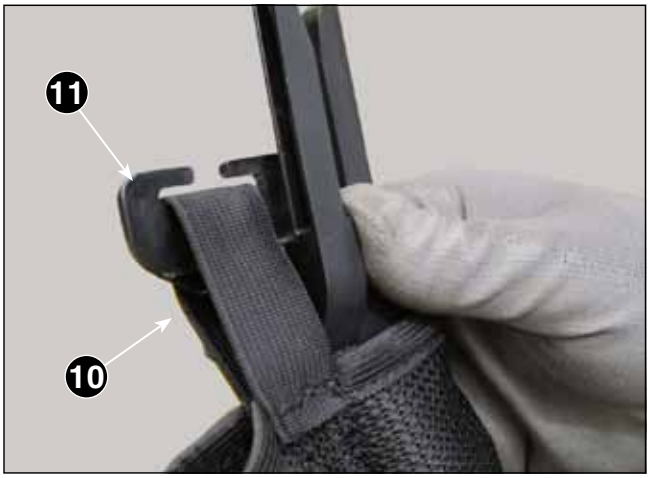
4. Release all plastic profiles (8) that fasten the canvas (9) to the lower frame (5).

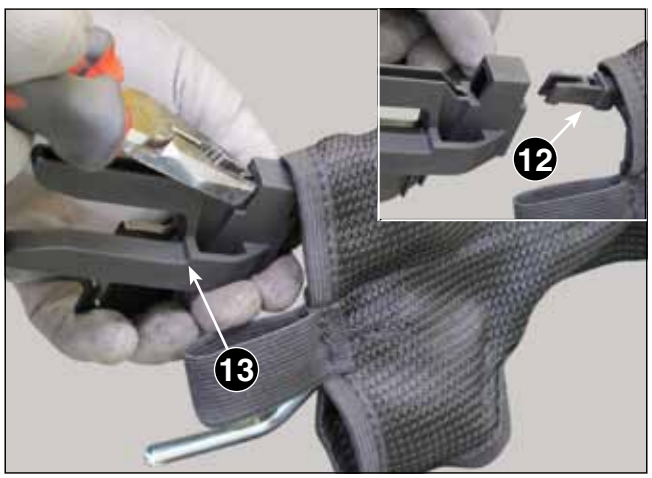
5. From the upper part of the guard, extract the two elastic eyelets (10) from their respective seats (11).

6. Using a suitable pair of pliers, release the retaining tabs (12) on the inside and remove one of the two forks (13).

7. Remove the canvas from the frame.

Reassemble the new canvas and fasten the guard following the above procedures in reverse order.

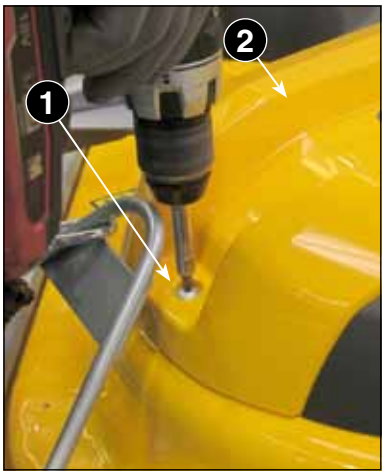


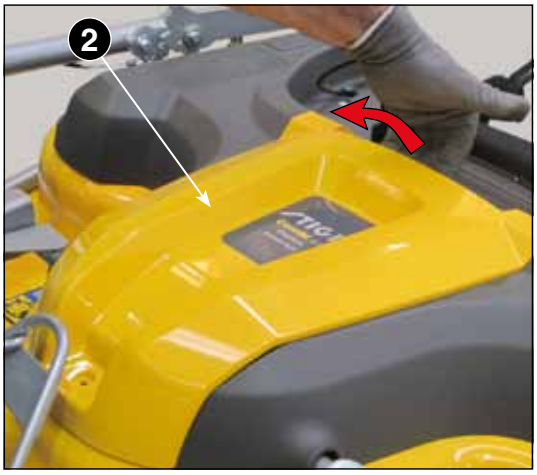


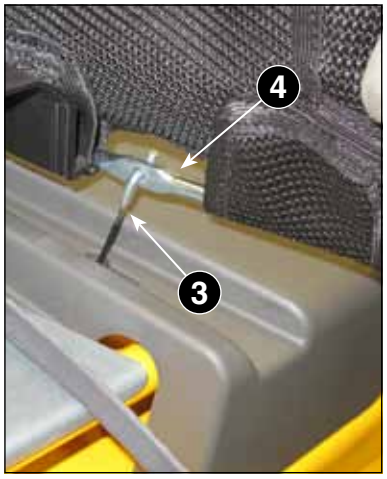
4.2.2 Replacement of the intermediate guard

1. Undo the screw (1) and remove the protection (2) by lifting it from the rear section.

2. Release the two positioning cables (3) from the lower frame (4) of the belt guard.

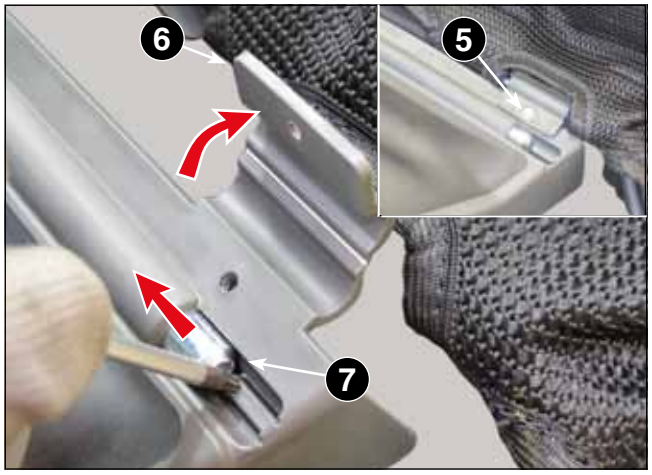




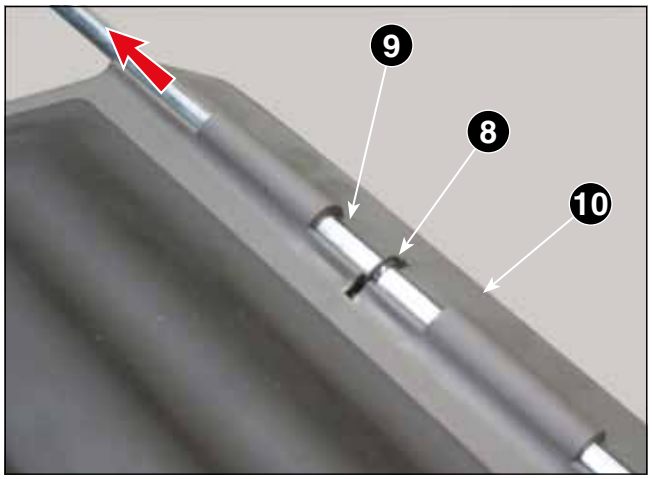


3. Undo the two screws (5) and turn the two supports (6) backwards.

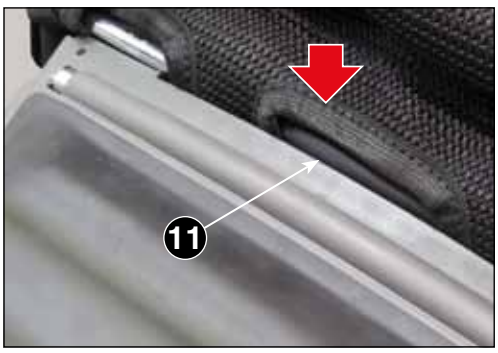
4. With the help of a screwdriver, push the rear pin (7) sideways until it an be extracted from its seat.



5. Remove the elastic ring (8), remove the front pin (9) and remove the intermediate guard (10).



Reassemble the new guard following the above procedures in reverse order, taking care to:



- Refit the elastic ring (8) and make sure that it is firmly inserted in its seat.
- Before screwing on the two supports (6), make sure that the plastic tab (11) of the canvas guard remains inside the perimeter of the canvas.

4.3 REPLACING THE BELTS

4.3.1 Replacement of the control belt

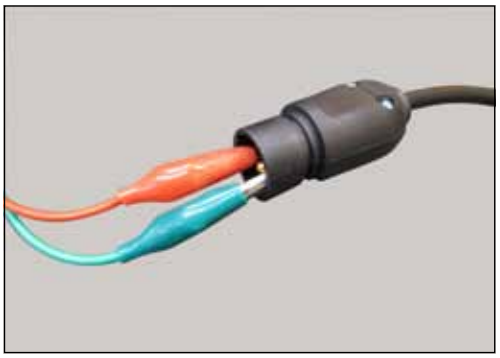
NOTE *The replacement of the control belt can be performed without having to remove the cutting deck from the machine.*

- Disconnect the belt from the PTO by following the relative procedure in reverse order. [☛ 3.3.2] from 3 to 1.
- Replace the belt following the relative procedure. [☛ 3.1.4] from 1 to 4.

4.3.2 Replacing the blade connecting belt

NOTE *The replacement of the blade connecting belt can be performed both with the cutting deck connected to the machine and also to the bench; this latter solution is however preferable as it allows better accessibility and ease of operation.*

The following operations are easier to perform if the cutting deck is in the minimum height position «1».



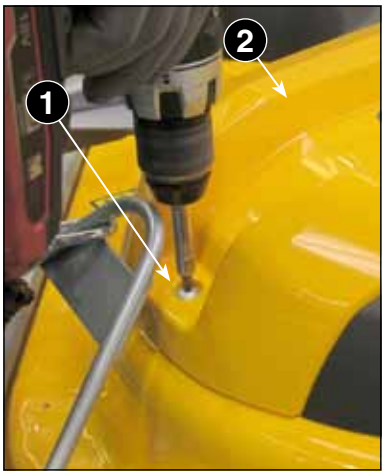
If the plate was removed from the machine set at a different height, it is possible to intervene by connecting the electric control connector to an external 12 Volt battery, until the desired working condition is obtained.

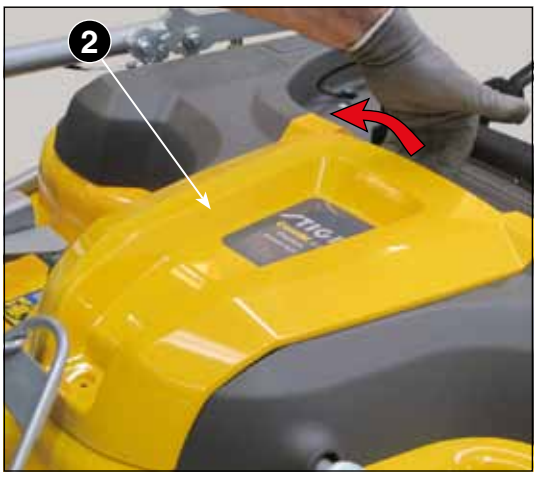
- Remove the cutting deck from the machine [☛ 3.4.1].

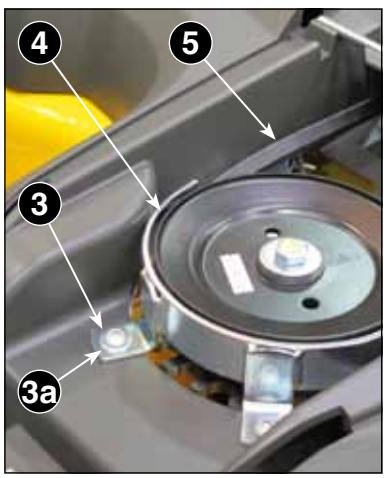
- Remove the canvas guard [☛ 4.2.1] from 1 to 3 .
- Remove the intermediate guard [☛ 4.2.2] from 1 to 5.

1. Undo the screw (1) and remove the protection (2) by lifting it from the rear section.

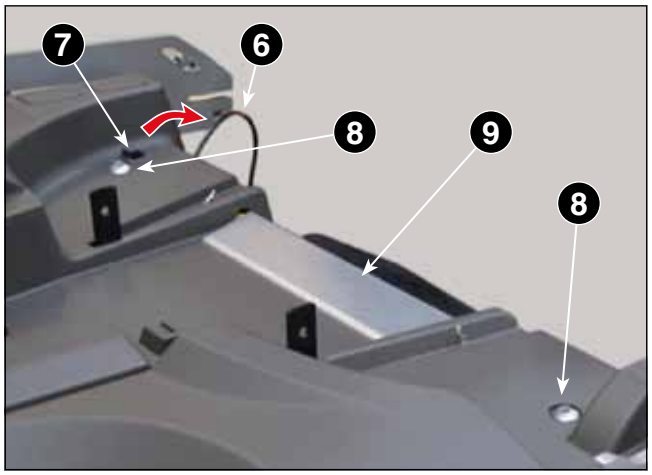
2. Undo the two screws (3), remove the belt guide (4) and remove the belt (5).



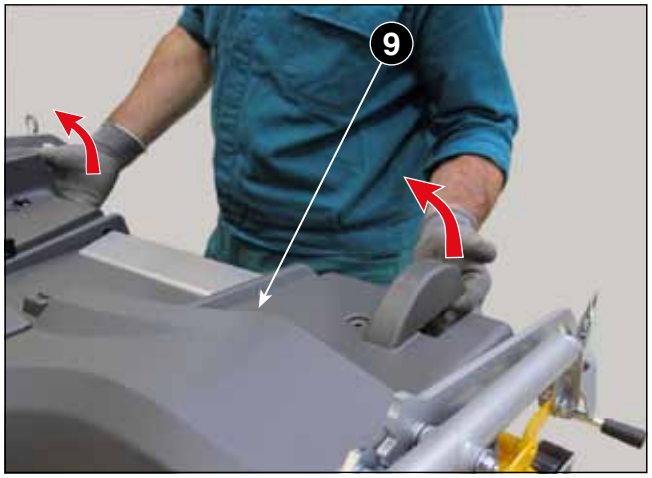




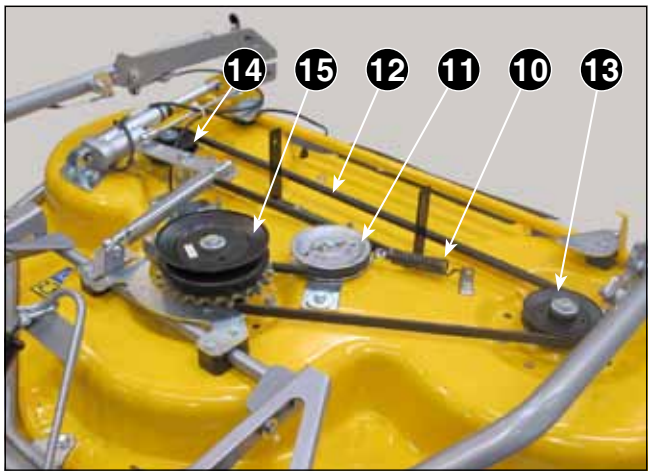
3. Disconnect the cable (6) from the cable clamp (7) and undo the two screws (8).



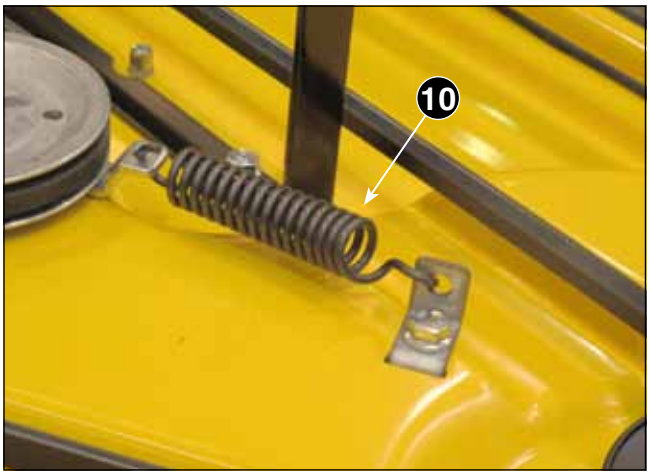
4. Remove the upper casing (9), lifting it from the top.

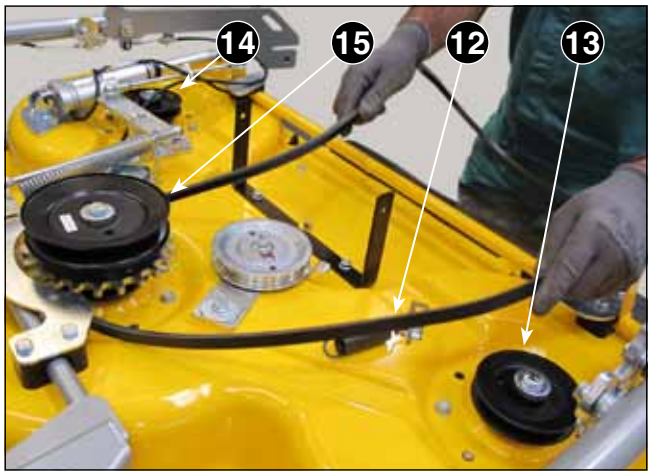


5. Release the tension regulator (11) spring (10).



6. First remove the belt (12) from the left pulley (13) and then from the right pulley (14).





7. Remove the belt from the central pulley (15), pulling it out between the teeth of the toothed wheel (16) on the locking device.

Reassemble the new belt respecting the path indicated on the upper casing, following the above procedure in reverse order.

NOTE *When reassembling the belt guide (4), take care to restore the washer (3a) under the right screw (3), to prevent the screw tip from interfering with the underlying mechanisms.*

4.4 REPLACING AND REGULATING THE LOCKING DEVICE

4.4.1 General information

The locking device has the purpose of blocking the rotation of the blades if the cutting deck is accidentally moved to the washing position with the blades engaged.

WARNING! ***- This device is an integral part of the safety devices of the machine and therefore must always be kept in perfect working order.***
Repeated interventions on the device, due to incorrect use, can deteriorate the teeth of the toothed wheel and damage the engagement cable.

For this reason, in case of intervention, it is not possible to replace the components individually, but the special kit must be used to restore the original factory default settings with the replacement of all the parts involved.

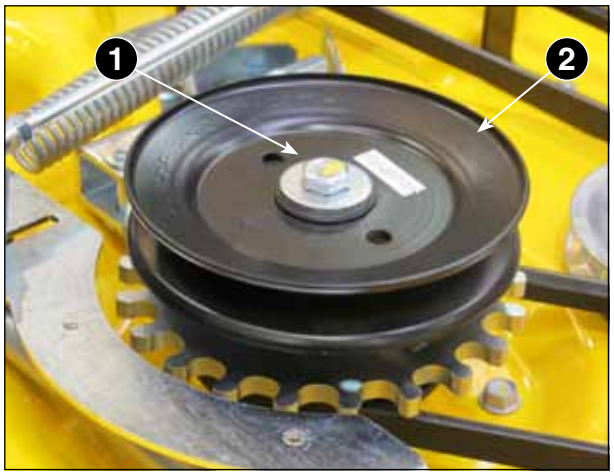
4.4.2 Replacing the locking device and adjusting the cable

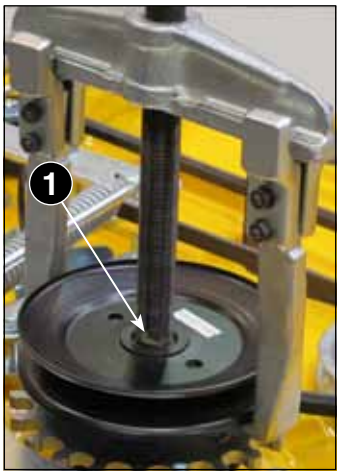
1. Prepare the cutting deck according to the following procedures
   - Remove the cutting deck from the machine [☛ 3.4.1].
   - Remove the canvas guard [☛ 4.2.1] from 1 to 3 .
   - Remove the intermediate guard [☛ 4.2.2] from 1 to 5.
   - Remove the casings. [☛ 4.3.2] from 1 to 4

   - Fully raise the right arm to reduce the cable tension.

2. Unscrew the screw (1) and disassemble the central pulley (2).

   NOTE *In case of difficulty during removal, tighten the screw at the end of the shaft to protect the thread and use an extractor as shown in the diagram.*

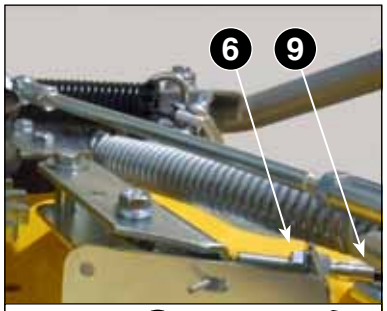


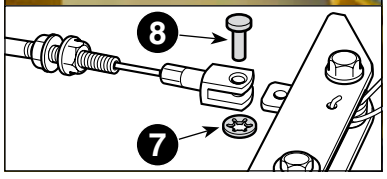


3. Similarly, remove the toothed wheel (4), using an extractor in case if difficulties are encountered.

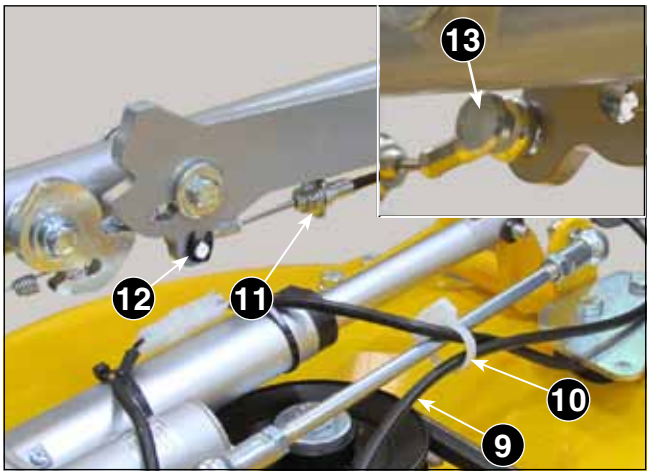
4. Release the spring (5).

5. Loosen the adjuster (6), remove the elastic ring (7), remove the pin (8) and disconnect the cable (9).

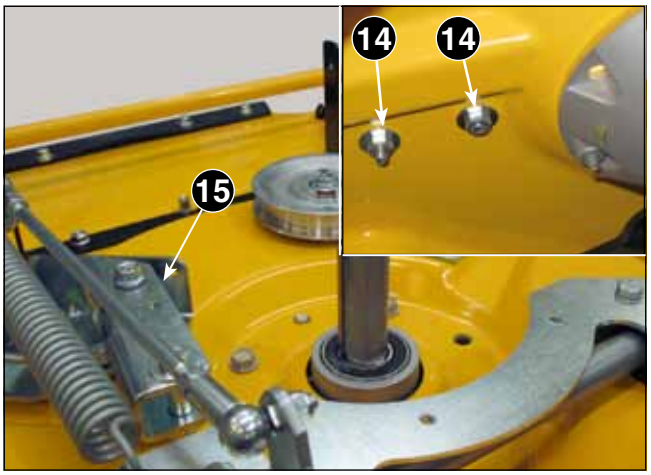




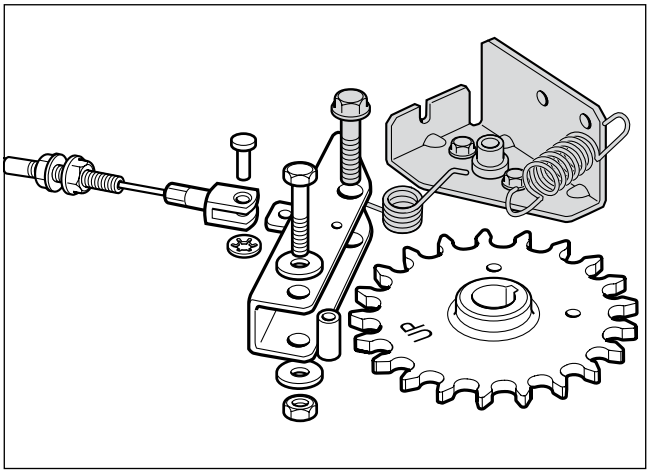
6. Remove the cable clamp (10) to allow the cable to be extracted (9).



7. Loosen the adjuster (11), remove the retaining ring (12), extract the pin (13) and remove the cable (9).



8. Unscrew the nuts (14) on the inside of the cutting deck and remove the entire support assembly (15).



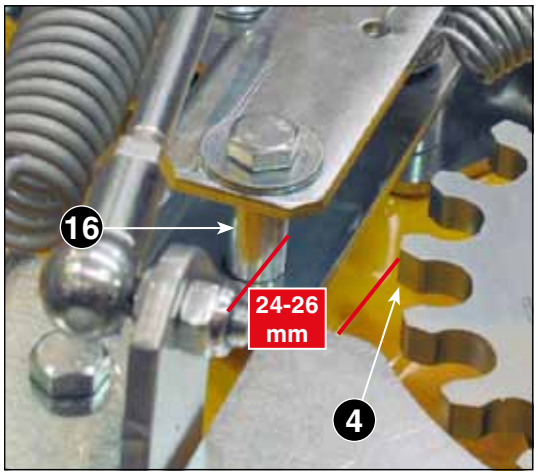
9. Remove all the parts of the assembly, keeping the pieces highlighted in grey in the drawing, so they can be used again.

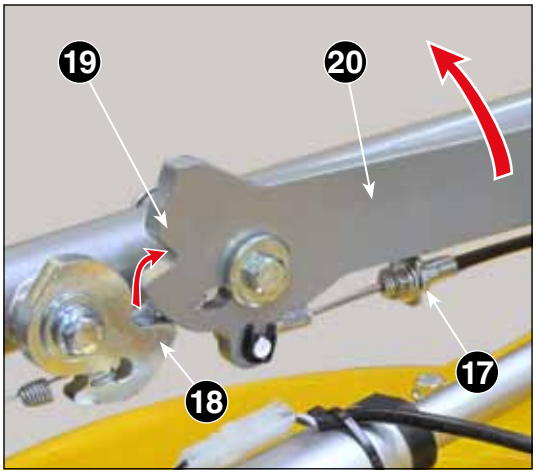
10. Recompose the assembly with the contents of the kit and the retained parts.

To reassemble, follow the operations from 8 to 3 in the reverse order, taking care to:

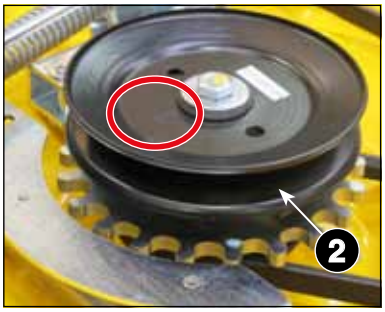
- Fit the new crown with the «UP» marking facing upwards.
- Reinstate the spring (5) and the cable clamp (10).

11. Lower the right arm and adjust the lower adjusting nut (6) to obtain a distance of 24-26 mm between the teeth of the crown (4) and the lock roller (16).





12. Lift the right arm (20) and adjust the upper adjusting nut (17) so that the tooth (18) remains engaged without forcing the cam (19).



To reassemble, follow the operations from 2 to 1 in the reverse order, taking care to:

• Fit the pulley (2) with the «UP» marking facing upwards.

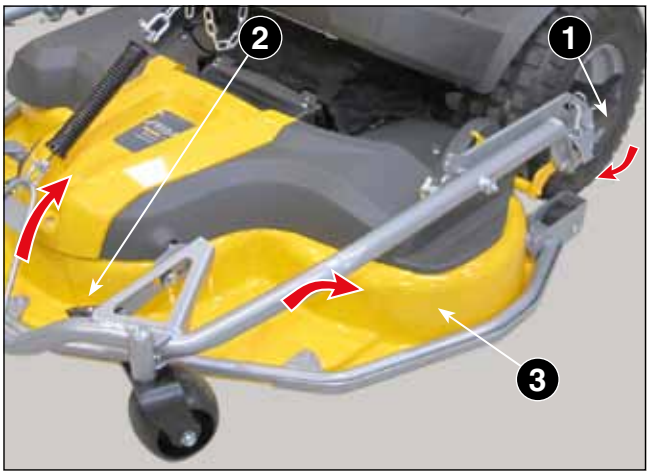
4.5 BLADES AND SHAFT SUPPORTS

4.5.1 Removing and reassembling the blades

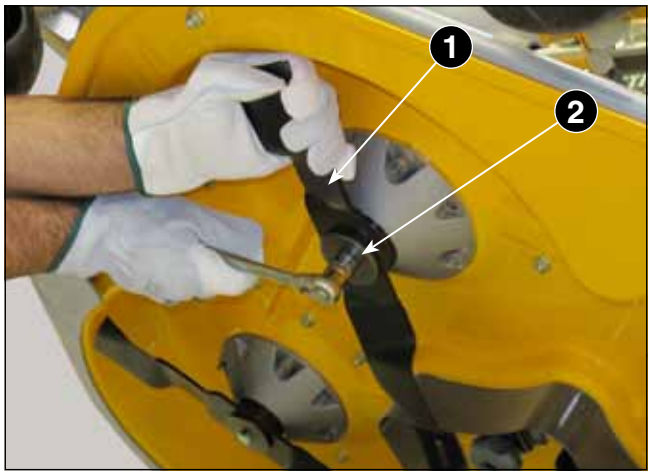
NOTE *Interventions on the blades can be performed with the cutting deck applied to the machine, adjusted to the minimum cutting height «1» and set to the "Maintenance / Washing" position.*

To do so, rotate the two side release levers (1) forwards, use the two front handles (2) and lift the cutting deck (3) as far as the locking point.

WARNING! ***- Apply the machine parking brake and check the stability of the cutting deck before starting any intervention.***



WARNING! ***- Always wear protective gloves when handling the blades.***



1. To remove a blade (1), grasp it firmly and undo the central screw (2).

To assemble a blade, tighten the screws (2) with a torque wrench set to 47-52 Nm.

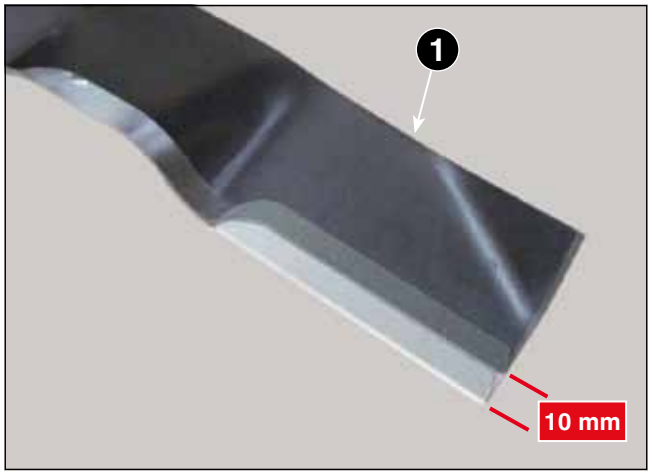
4.5.2 Sharpening and balancing the blades

WARNING! ***- Always wear protective gloves when handling the blades and protect eyes when sharpening.***

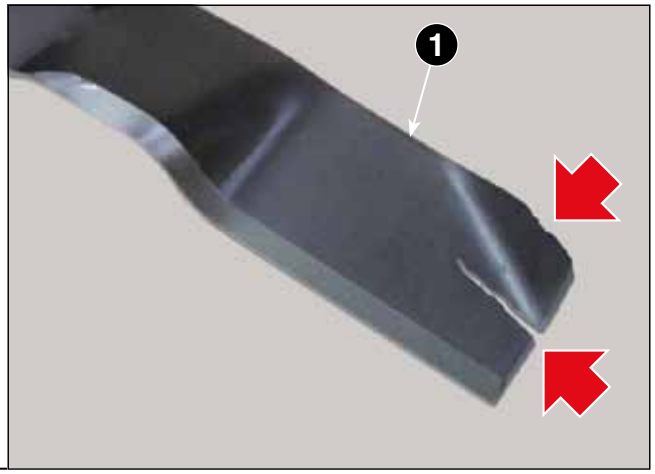
NOTE *A badly sharpened blade causes grass to become yellow; if not balanced, excessive vibration can be caused during cutting.*

1. Always sharpen both cutting edges of the blade (1) using a medium grade grinder. Sharpening must only be done from the rounded side, as shown in the illustration, removing as little material as possible.

IMPORTANT *The blade is to be replaced when the cutting edge has worn down to 10 mm*.



Carefully check the blades (1) for breakages, deformations or cracks on both the blade and the fins.



WARNING! ***- Impaired blades must always be replaced and never repaired or straightened; to do so would cause damage or injury in the event of breakage during use.***

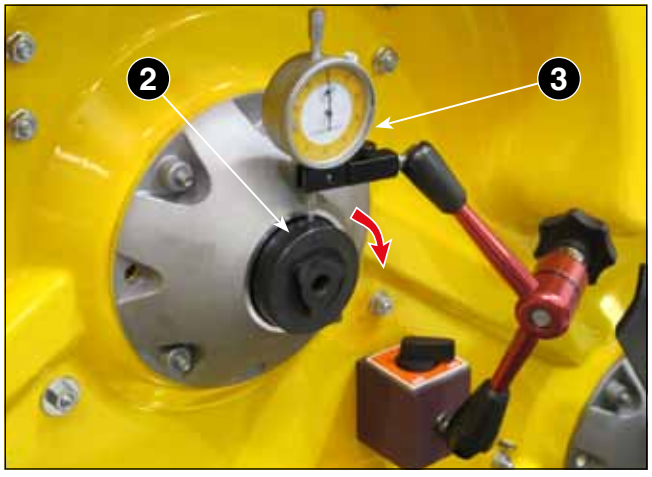
2. Using the appropriate equipment, check the balance of the blade (1) to make sure that there is a maximum difference of 2 grams between one side and the other.

4.5.3 Check the alignment of the blade shafts

NOTE *Abnormal vibrations that are not caused by the condition or the balancing of the blades, can cause shaft deformation or excessive play of the support bearings.*

• Move the cutting deck to the “Maintenance/Washing” position and remove the blades. [☛ 4.5.1].

1. Apply a comparator with magnetic support (1) on a flat part of the inside of the cutting deck.
2. Place the probe (2) on the protruding cylindrical part of the shaft (3) and reset the instrument.
3. Rotate the shaft manually. The displacement (and therefore the radial clearance) on the complete turn must not exceed 0.1 mm.



With a higher radial clearance, the entire support / shaft assembly must be replaced [☛ 4.5.4].

4.5.4 Replacement of the blade supports and shafts

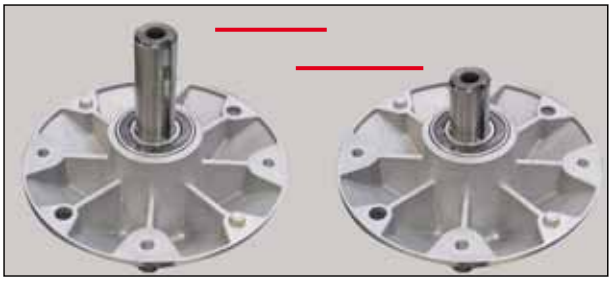
• Remove the relevant blade [☛ 4.5.1].

In case of intervention on the right or left blade support:
• Remove the relevant pulley [☛ 4.4.2] from 1 to 2.

In the case of intervention on central blade support:
• Remove the central pulley and the toothed wheel of the locking device [☛ 4.4.2] from 1 to 3.

IMPORTANT *The supports, each complete with shaft and bearings, are available as spare parts for two different assemblies:*

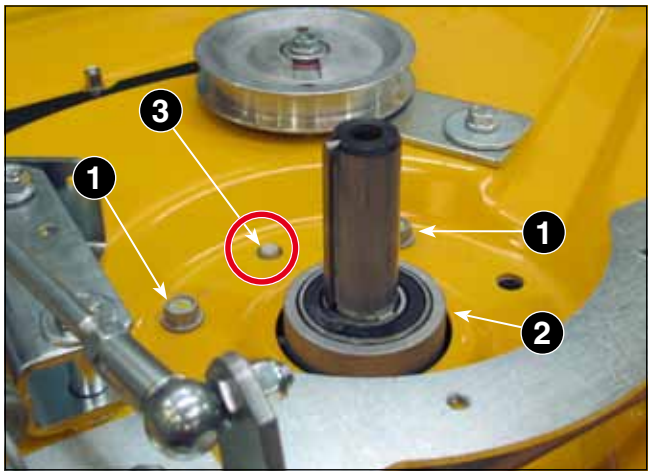
- *Short shaft on pulley side = Right or left support.*
- *Long shaft from the pulley side = Central support.*



NOTE *The bearings are of the airtight shielded type and do not require lubrication.*

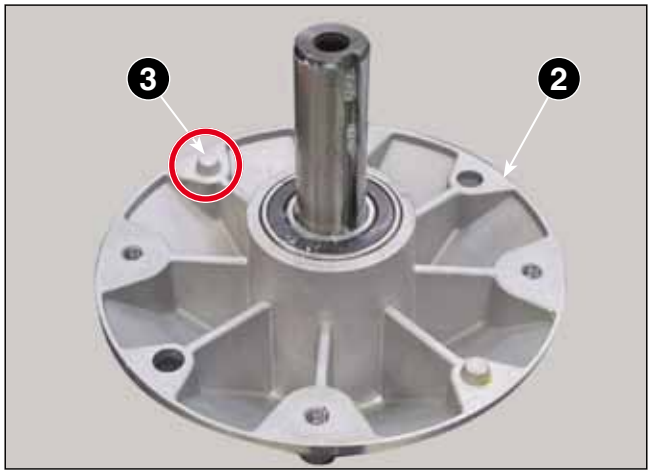
IMPORTANT *The replacement of the shaft or of the bearings is an operation NOT foreseen by the Manufacturer and therefore it must NEVER be proposed or performed autonomously by the Support Centres.*

1. Undo the four screws (1) fastening each support (2) and remove it from inside the cutting deck.



When assembling, take care to position the two centring pegs (3) in the respective holes provided on the support surface.

Tighten the screws (1) using a torque wrench set to 25-30 Nm.



4.6 REPLACEMENT OF THE UPSTROKE SYNCHRONISATION TIE RODS

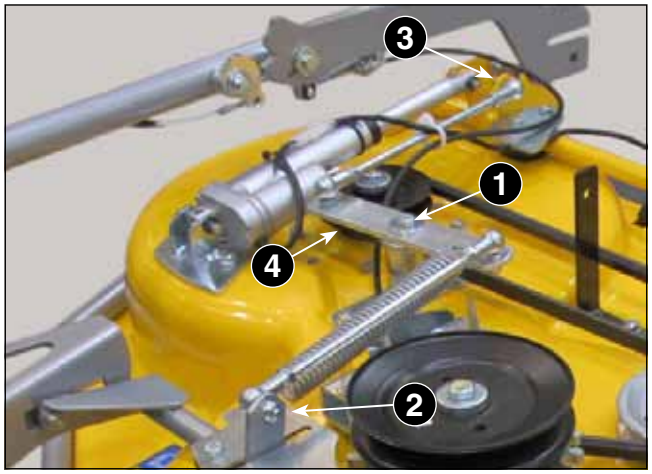
4.6.1 General information

These tie rods connect the two front and rear axles of the cutting deck upstroke lifting mechanism. If the rods need replacing, it is necessary to respect the distance between the joints.

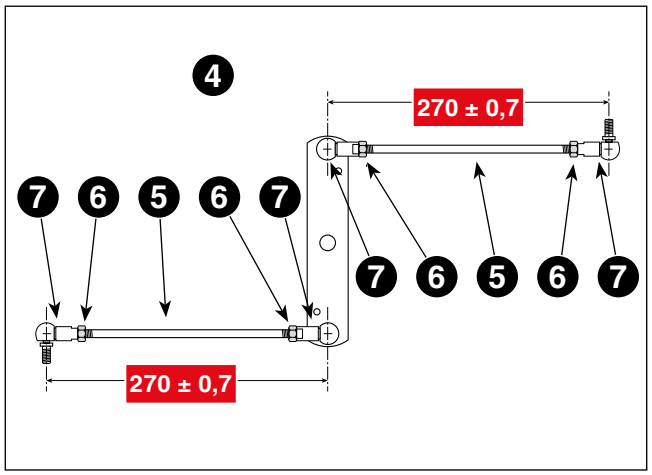
NOTE *The optimal condition requires that the deck touches the ground with the front wheels, keeping the rear wheels raised at all times.*

4.6.2 Replacement and adjustment of the tie rods

- Remove the machine cutting deck [☛ 3.4.1].
- Remove the canvas guard [☛ 4.2.1] from 1 to 3.
- Remove the intermediate guard [☛ 4.2.2] from 1 to 5.
- Make movements and lever mechanisms of the cutting deck accessible [☛ 4.3.2] from 1 to 4.



1. Undo the screw (1) and nuts (2) and (3) to remove the whole tie rod assembly (4).



2. If only the tie rods (5) are replaced, loosen the lock nuts (6) and remove the joints (7).

3. Reassemble the tire rod assembly (4) respecting the distance between the joints and tighten the lock nuts (2).

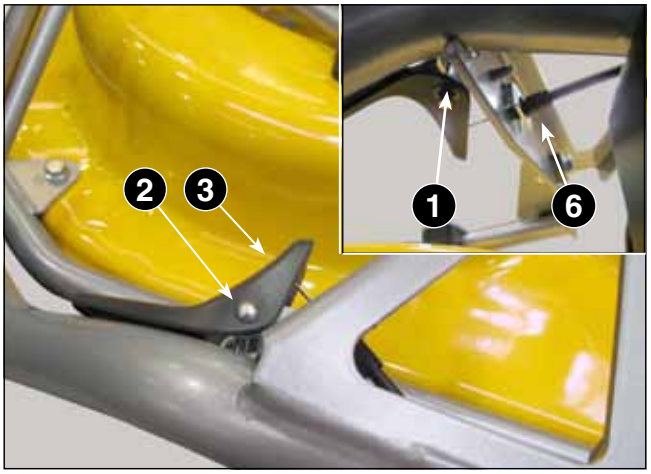
4.7 REPLACING THE HANDLE CABLES

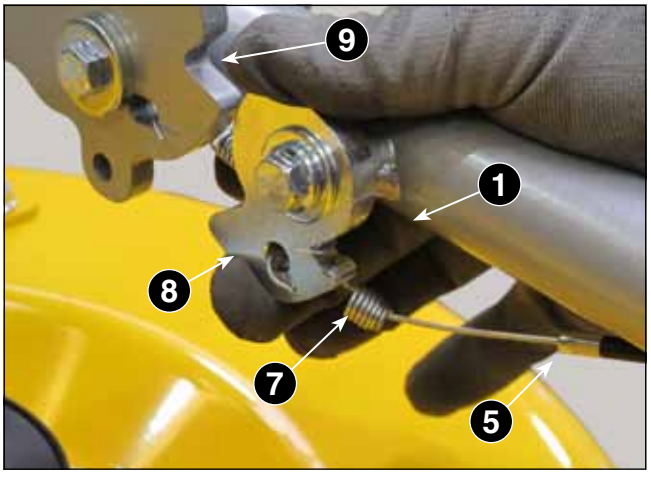
4.7.1 General information

Using the two front handles allows the plate to be tilted to the "Maintenance / Washing" position, keeping it balanced and raised.

4.7.2 Replacing the cable

1. Remove the crown fastener (1) at the lower end of the handle (3) pin (2) and extract the pin.
2. Release the barrel end (4) of the cable (5) from the handle (3).
3. Disconnect the adjuster (6) from the support.
4. Disconnect the spring (7) from the cam (8).
5. Pull the cable (5) to remove it from its housing inside the frame tubes.
6. Insert the new cable inserting it into the frame tube from the front and connect the spring (7).
8. Restore the connection with the handle (3) and adjust the adjuster (6) to ensure correct functioning and engagement in the lever seat (9).





WARNING! ***- The correct functionality of the system is of fundamental importance to guarantee the operator's safety when accessing the lower part of the cutting deck.***

4.8 FRONT WHEELS

4.8.1 General information

The supports of the front cutting deck wheel swivel in relation to the frame; the fork support of each wheel is equipped with a pin whose movement inside the hub is facilitated by the presence of two bushings.

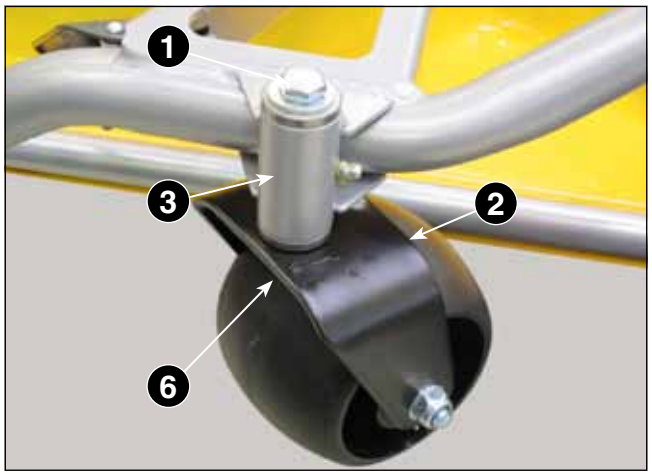
Excessive radial clearance between the wheel support fork and the frame requires the replacement of the bushings, which is carried out according to the following procedure.

4.8.2 Replacement of the bushings

- Move the cutting deck to the "Maintenance / Washing" position to allow removal of the support fork.

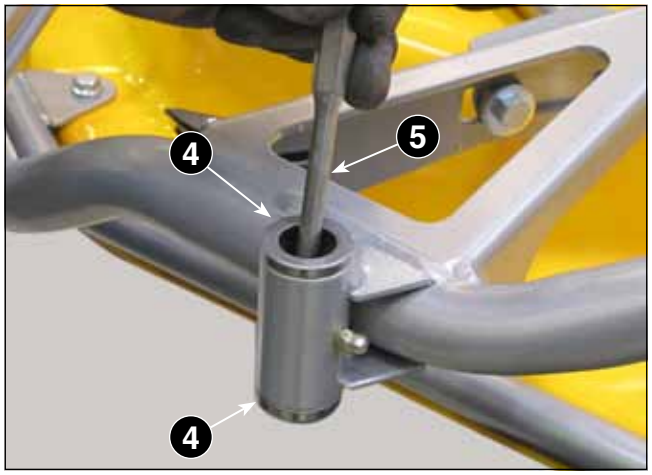
WARNING! ***- Ensure the stability of the cutting deck (and the machine if the equipment has not been removed) before proceeding with these operations.***

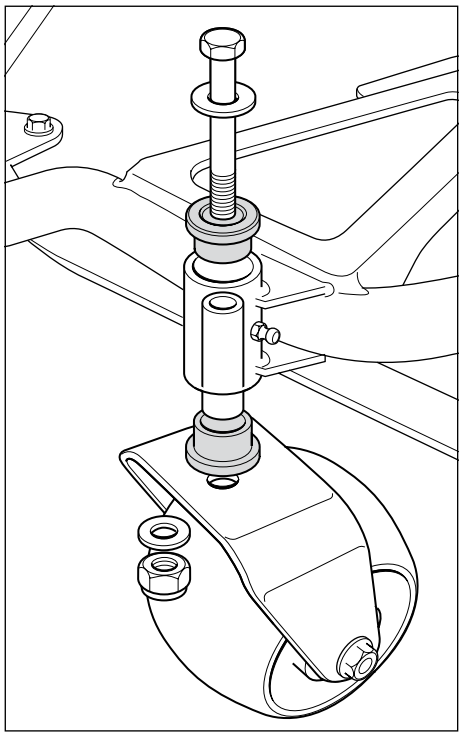
1. Undo the screw (1) to slide the fork (2) out of the hub (3).



2. Remove the bushings (4) by hitting it from the inside of the hub with a round bar (5) 12 ÷ 15 mm in diameter.

IMPORTANT *Always replace both hub bushings.*





3. Reassemble all the parts following the indicated sequence.

4. Tighten the nut (6) using a torque wrench set to 45-50 Nm.

4.9 GENERAL MAINTENANCE

4.9.1 Routine maintenance chart

Object	Frequency Operating hours/months		Related topic
	First time	Next time	
1. Safety checks	5/–	100/12	• Safety measures to be adopted [☛ 2.1.2]
2. Check all fasteners	5/–	100/12	• Tightening torques [☛ 2.1.5]
3. Control checks	5/–	100/12	• Locking device function check [☛ 4.4.2] • Cutting height adjustment function check
4. Transmission belt check	5/–	100/12	• Check for initial signs of breakage • Replacement of the control belt [☛ 4.3.1] • Replacement of the blade connection belt [☛ 4.3.2]
5. Check the condition of the cutting-means	5/–	100/12	• Sharpening and balancing the blades [☛ 4.5.2] • Check the alignment of the blade shafts [☛ 4.5.3]
6. Lubrication of moving parts	–/–	100/12	• Lubrication [☛ 4.9.2]
7. General cleaning and inspection	5/–	100/12	• Wash cycle [☛ 4.9.3]

4.9.2 Lubrication

Standard practice requires that all moving parts are always well lubricated, making sure that there are no interruptions in the actuation of the various mechanisms.
In addition, the following interventions should be carried out:

Frequency	Intervention		Lubricant
100 hours or seasonal	Lubrication of the front wheel rods		Grease
100 hours or seasonal	Lubrication inside the cable terminals and smooth sliding test		Oil

4.9.3 Washing and cleaning

Washing the inside of the cutting decks must be carried out with the plate in the "Maintenance / Washing" position, using a water jet cleaner only.

IMPORTANT *Never use high pressure jets of water. This could damage the electrical components. Only use water and a brush with non-metallic bristles.*

When the washing is finished, lower the cutting deck, engage the blades and allow them to run for at least 2 minutes, to allow the water to drain from the bearings and rotating parts.

If wear and tear has caused scratching or removal of paint, touch-up the area when it is perfectly clean and dry.

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