

Operator's manual
Rider Pro 15
Rider Pro 18

Please read these instructions carefully and make sure
you understand them before using the machine.



English

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Operator's Manual for Rider Pro 15 and Pro 18

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IMPORTANT INFORMATION

Read carefully through the Operator's manual so that you know how to use and maintain the Rider before you use it.

For service measures other than those described in this manual, please contact an authorised dealer that provides parts and service.

INSTRUCTION

Dear customer

Thank you for choosing a Husqvarna Rider. Husqvarna Riders are built to a unique design with a front-mounted cutting unit and a patented rear-wheel steering system. Riders are designed for maximum efficiency even in small or confined areas. The closely grouped controls and pedal-operated hydrostatic transmission also contribute to the performance of this machine.

We hope you will find this operator's manual very useful. By following its instructions (on operation, service, maintenance, etc.) you will significantly extend the life of the machine and even its second-hand value.

When you sell your Rider, make sure you pass on the operator's manual to the new owner. The last chapter in the operator's manual consists of a Service Journal. Make sure that all service work and repairs are recorded. A well-documented service history reduces the costs of seasonal maintenance and influences the second-hand value of the machine. Collected controls and a hydrostatic transmission controlled by pedals also contribute to the machine's performance.

Driving and transport on public roads

Check the relevant road traffic regulations before driving the machine on a public road. If transporting the machine on another vehicle always use approved securing devices and make sure that the machine is securely held.

Towing

Your machine is equipped with a hydrostatic transmission and, if necessary, you should only tow the machine over short distances and at a low speed, otherwise there is a risk of damaging the transmission.

Intended use

This machine is designed solely for cutting grass on conventional lawns and other cleared and leveled ground without obstacles, as rocks, stumps etc., and, in conjunction with accessories supplied by the manufacturer even for other special tasks for which instructions are delivered with the accessory. Use in any other way is considered as contrary to the intended use. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements of the intended use.

This machine should be operated, serviced and repaired only by persons who are familiar with its particular characteristics and who are acquainted with the relevant safety procedures.

Accident prevention regulations, all other generally recognised regulations on safety and occupational medicine, and all road traffic regulations must be observed at all times.

Any arbitrary modifications carried out to this machine may relieve the manufacturer of liability for any resulting damage or injury.

SAFETY INSTRUCTIONS

Good service

Husqvarna products are sold all over the world and only through servicing dealers. This is to ensure that you, the customer, get the best support and service. For example, before this machine was delivered it was inspected and adjusted by your dealer. See the certificate in the Service Journal in this manual.

When you need spare parts or advice on service issues, warranty terms, etc., contact:

This Operator's Manual belongs to machine with serial number:	Engine	Transmission

Serial number

The serial number can be found on the printed plate attached to the front, left-hand side under the seat. Stated on the plate, from the top are:

- The machine's type designation.
- The manufacturer's type number.
- The machine's serial number.

State the type designation and serial number when ordering spare parts.

The engine serial number is given on a bar code decal. This is located on the left side of the crankcase, in front of the starter motor. The sign states

- The engine serial number (E/NO).
- Code.

Please quote these when ordering parts.

The transmission's serial number is stated on the barcode decal located on the front of the housing on the left-hand drive axle:

- Type designation is stated above the barcode and starts with the letter "K".
- The serial number is stated above the barcode and has the prefix "s/n".
- The manufacturer's type number is stated under the barcode and has the prefix "p/n".

State the type designation and serial number when ordering spare parts.

EXPLANATION OF SYMBOLS

These symbols are on the machine and in the instructions.
Study them carefully so that you know what they mean.



Read the instructions.

R

Reverse

N

Neutral



Fast



Slow



Engine off



Battery



Choke



Fuel



Oil level



Cutting height



Backwards



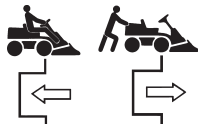
Forwards



Ignition



Use hearing protection



Hydrostatic freewheel



Parking brake



Brake



Warning



Noise emission to surroundings in accordance with the directive of the European Community.
The machine's emission is indicated in the chapter TECHNICAL DATA and on the decal.



Warning! Rotating blades



Warning! Risk that the machine can tip over



Never drive across a slope



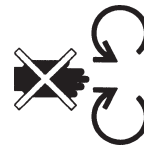
CE conformity marking



Never use the machine if persons, especially children, or animals, are in the vicinity



Never carry passengers on the machine or equipment

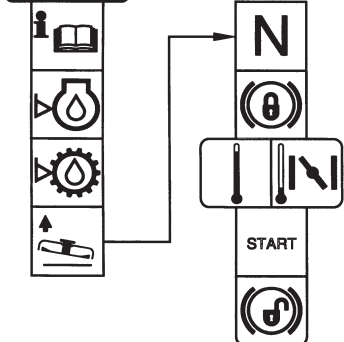


Keep hands and feet away from under the hood when the engine is running

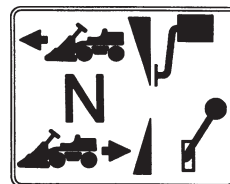


Drive very slowly without the cutting unit

i START



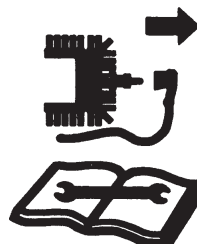
Starting instructions
Read the instructions
Check the engine's oil level
Check the hydrostat's oil level
Lift up the cutting unit
Hydrostatic pedals in neutral position
Brake
If the engine is cold use the choke
Start the engine
Release the parking brake before driving



Speed limiter pedal forwards

Neutral

Speed limiter pedal reverse



Switch off the engine and take off the ignition cable before repairs or maintenance

SAFETY INSTRUCTIONS

Safety instructions

These instructions are for your safety. Read them carefully.

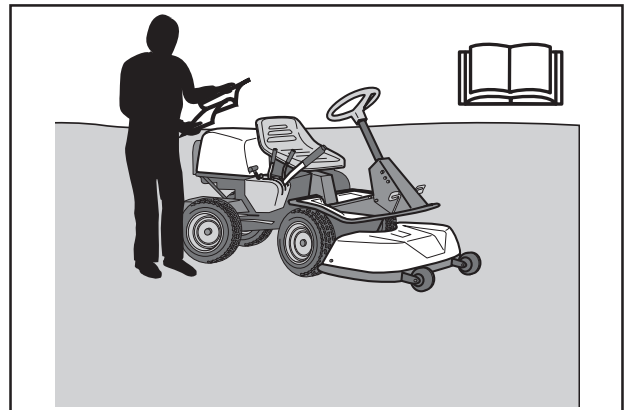


WARNING!

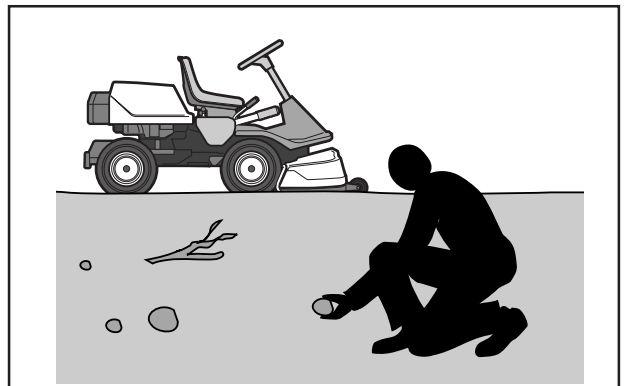
The inserted symbol means that important safety instructions need to be observed. It applies to your safety.

General use

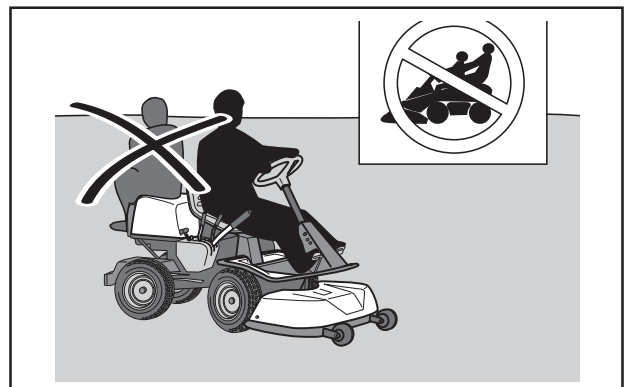
- Read all the instructions in this operator's manual and on the machine before you start it. Ensure you understand them and then observe them.
- Learn how to use the machine and its controls safely and learn to how to stop quickly. Also learn to recognize the safety decals.
- Only allow the machine to be used by adults who are familiar with its use.
- Make sure nobody else is in the vicinity of the machine when you start the engine, engage the drive or drive off.
- Make sure animals and people maintain a safe distance from the machine.
- Stop the machine if any one enters the working area.
- Clear the area of objects such as stones, toys, wires, etc. that may become caught in the blades and be thrown out.
- Look out for the ejector and do not direct it towards anyone.
- Stop the engine and prevent the engine from being started until you have cleaned the outlet channel.
- Remember the operator is responsible for danger or accidents.
- Never carry passengers. The machine is only intended to be used by one person.
- Always look downwards and backwards before and while reversing. Keep watch for both large and small obstacles.
- Slow before cornering.
- Switch off the blades when you are not mowing.



Read the operator's manual before starting the machine.



Clear the area of objects before mowing.



Never carry passengers.



WARNING!

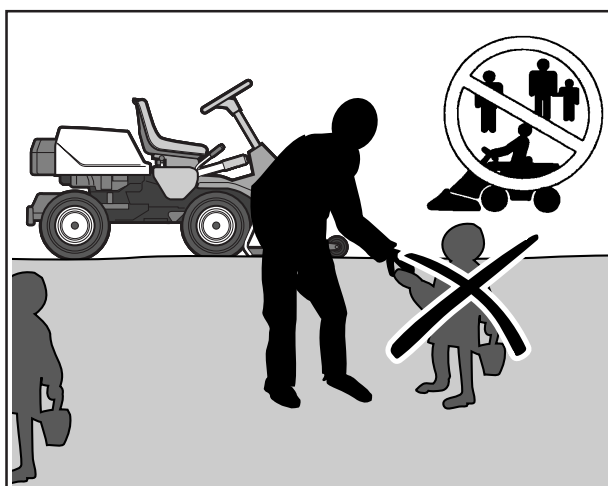
This machine can sever hands and feet as well as throw objects. Failure to observe the safety instructions can result in serious injuries.

SAFETY INSTRUCTIONS

- Take care when rounding a fixed object, so that the blades do not hit it. Never run the machine over foreign objects.
- Only use the machine in daylight or in other well-lit conditions. Keep the machine at a safe distance from holes or other irregularities in the ground. Pay attention to other possible risks.
- Never use the machine if you are tired, if you have consumed alcohol, or if you are taking other drugs or medication that can affect your vision, judgment or co-ordination.
- Keep an eye on the traffic when working close to a road or when crossing it.
- Never leave the machine unsupervised with the engine running. Always stop the blades, apply the parking brake, stop the engine and remove the keys before leaving the machine.
- Never allow children or other persons not trained in the use of the machine to use or service it. Local laws may regulate the age of the user.



WARNING!
Engine exhaust, some of its constituents and certain vehicle components contain or emit chemicals considered to cause cancer, birth defects or other reproductive impairment. The engine emits carbon monoxide, which is a colourless, poisonous gas. Do not use the machine in enclosed spaces.



Keep children away from the area to be mowed.



WARNING!
You must use approved personal protective equipment whenever you use the machine. Personal protective equipment cannot eliminate the risk of injury but it will reduce the degree of injury if an accident does happen. Ask your dealer for help in choosing the right equipment.

- Use hearing protection to minimise the risk of hearing impairment.
- Wear approved protective glasses or full-face visor during assembly and when operating.
- Never wear loose fitting clothes that can catch in moving parts.
- Never use the machine when barefoot. Always wear protective shoes or protective boots, preferably with steel toes.
- Make sure that you have first aid equipment close at hand when using the machine.



Personal protective equipment.

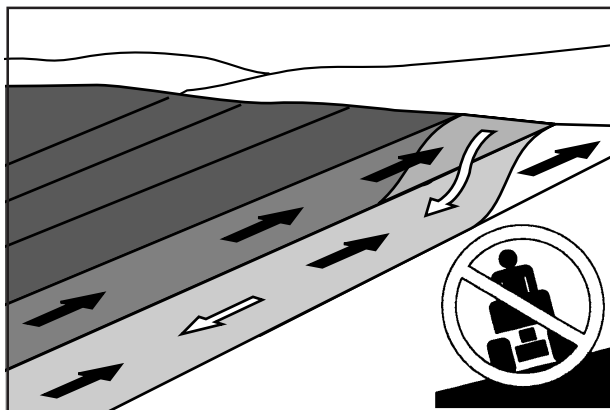
SAFETY INSTRUCTIONS

Driving on slopes

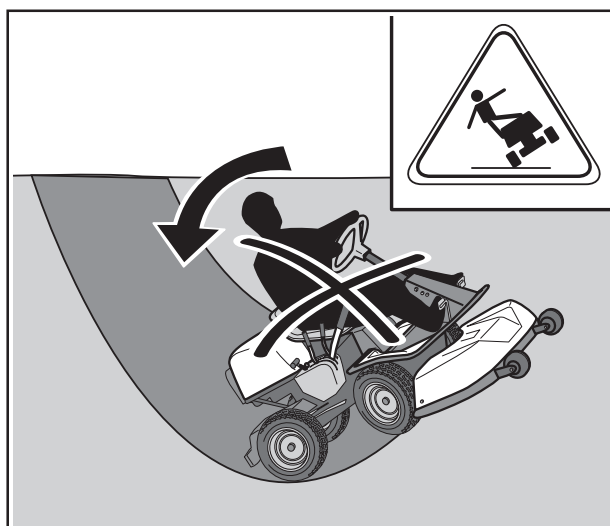
Driving on slopes is one of the operations where the risk of the driver losing control of the machine or of it overturning is the greatest; this can result in serious injury or death. All slopes demand extra care. If you cannot reverse up a slope or if you feel unsure, do not mow it.

Proceed as follows:

- Remove obstacles such as stones, branches, etc.
- Mow upwards and downwards, not sideways.
- Do not use the machine on ground that slopes more than 15°.
- Avoid starting or stopping on a slope. If the tyres start to slip, stop the blades and drive slowly down the slope.
- Always drive smoothly and slowly on slopes.
- Do not make any sudden changes in speed or direction.
- Avoid unnecessary turns on slopes, if necessary, turn slowly and gradually downwards if possible.
- Watch out for and avoid driving over furrows, holes and bumps. It is easier for the machine to overturn on uneven ground. Tall grass can hide obstacles.
- Drive slowly. Do not turn the wheel sharply. The machine engine-brakes even better in low gear.
- Take extra care if any attachments are fitted that can change the stability of the machine.
- Do not mow too close to edges, ditches or banks. The machine can suddenly overturn if one wheel comes over the edge of a steep slope or a ditch, or if an edge gives way.
- Do not mow wet grass. It is slippery, and tyres can lose their grip so that the machine skids.
- Do not try to stabilize the machine by putting your foot on the ground.
- When cleaning the chassis the machine must never be driven close to an edge or ditch.
- Follow the manufacturer's recommendations regarding wheel weights or counterbalance weights to increase stability.



Mow upwards and downwards on slopes, not sideways.

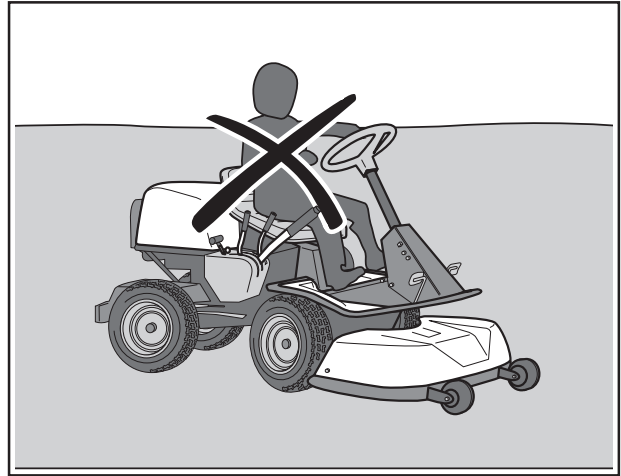


Be especially careful when driving on slopes.

SAFETY INSTRUCTIONS

Children

- Serious accidents may occur if you fail to be on your guard for children in the vicinity of the machine. Children are often attracted to the machine and mowing. Never assume that children will remain where you last saw them.
- Keep children away from the area to be mowed and under close supervision by another adult.
- Keep an eye out and shut off the machine if children enter the work area.
- Before and during reversing procedures, look behind you and down for small children.
- Never allow children to ride along. They can fall off and seriously injure themselves or be in the way for safe manoeuvring of the machine.
- Never allow children to operate the machine.
- Be particularly careful near corners, bushes, trees or other objects that block your view.



Never allow children to operate the machine.

Maintenance

- Stop the engine. Prevent starting by removing the ignition cable from the spark plug or remove the ignition key before making any adjustments or carrying out maintenance.
- Never fill the fuel tank indoors.
- Petrol and petrol fumes are poisonous and extremely flammable. Be especially careful when handling petrol, as carelessness can result in personal injury or fire.
- Only store fuel in containers approved for the purpose.
- Never remove the fuel cap and fill the petrol tank while the engine is running.
- Allow the engine to cool before refuelling. Do not smoke. Do not fill petrol in the vicinity of sparks or naked flames.
- Handle oil, oil filters, fuel and the battery carefully, of environmental considerations. Follow the local recycling requirements.
- Electrical shocks can cause injuries. Do not touch cables when the engine is running. Do not test the ignition system with your fingers.



Never fill the fuel tank indoors.

SAFETY INSTRUCTIONS

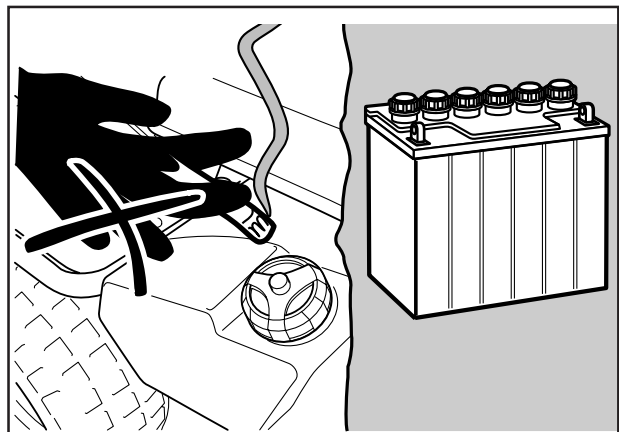
- If leaks arise in the fuel system, the engine must not be started until the problem has been resolved.
- Store the machine and fuel in such a way that there is no risk that leaking fuel or fumes can cause any damage.
- Check the fuel level before each use and leave space for the fuel to expand, because the heat from the engine and the sun may otherwise cause the fuel to expand and overflow.
- Avoid overfilling. If you spill petrol on the machine, wipe up the spill and wait until it has evaporated before starting the engine. If you spill petrol on your clothing, change your clothing.
- Allow the machine to cool before performing any actions in the engine compartment.
- Be especially careful when handling battery acid. Acid on the skin can cause serious corrosive injuries. In the event of spillage on the skin wash immediately with water.
- Acid in the eyes can cause blindness, contact a doctor immediately.
- Take care with battery maintenance. Explosive gases form in the battery. Never perform maintenance on the battery while smoking or in the vicinity of open flames or sparks. This can cause the battery to explode and cause serious injuries.
- Make sure all nuts and bolts are tightened correctly and that the equipment is in good condition.
- Do not modify safety equipment. Check regularly to be sure it works properly. The machine must not be driven if protective plates, protective covers, safety switches or other protective devices are not fitted or are defective.
- Do not change the setting of governors and avoid running the engine at excessively high revs. If you run too fast, you risk damaging the machine components.
- Observe the risk of injury caused by moving or hot parts if the engine is started with the engine cover open or protective cowlings removed.



WARNING!
The engine and the exhaust system become very hot during operation.
Risk of burn injuries if touched.



WARNING!
The battery contains lead and lead pollutants, chemicals that are considered to cause cancer, birth defects or other reproductive impairment. Wash your hands after touching the battery.



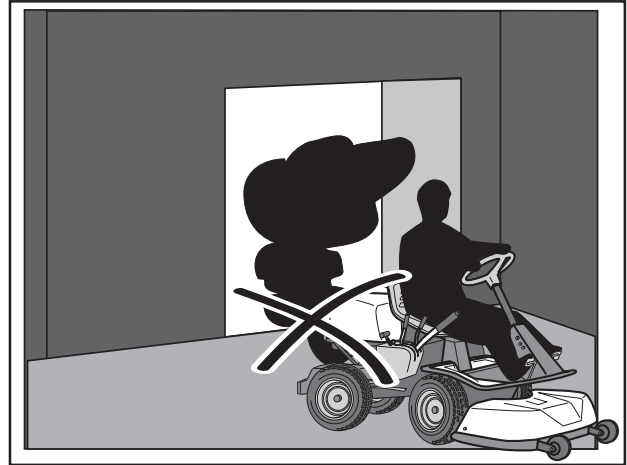
Do not smoke when carrying out maintenance.

SAFETY INSTRUCTIONS

- Never use the machine indoors or in spaces lacking proper ventilation. Exhaust fumes contain carbon monoxide, an odourless, poisonous and highly dangerous gas.
- Stop and inspect the equipment if you run over or into anything. If necessary, make repairs before starting.
- Never make adjustments with the engine running.
- The machine is tested and approved only with the equipment originally provided or recommended by the manufacturer.
- The blades are sharp and can cause cuts. Wrap the blades or wear protective gloves when handling them.
- Check regularly that the parking brake works. Adjust and maintain as required.
- The mulching unit should only be used where better quality mowing is required and in known areas.
- Reduce the risk of fire by removing grass, leaves and other debris that may have fastened on the machine. Allow the machine to cool before putting it in storage.

Transport

- The machine is heavy and can cause serious crush injuries. Be especially careful when it is loaded in or out of a car or on and off of a trailer.
- Use an approved trailer to transport the machine. Activate the parking brake, shutoff the fuel supply and secure the machine using approved fasteners, such as tension belts, chains or ropes when transporting.
- Check and observe local road traffic regulations before transporting or driving the machine on roads.



Never run the machine in an enclosed area.



Regularly clean grass, leaves and other debris from the machine.

IMPORTANT INFORMATION

The parking brake is not sufficient to lock the machine during transport. Ensure you secure the machine firmly to the transporting vehicle. Reverse the machine on to the transporting vehicle to prevent it from overturning.

PRESENTATION

Presentation

Congratulations on your choice of an exceptionally high quality product. This operator's manual describes Rider Pro 15 and Pro 18.

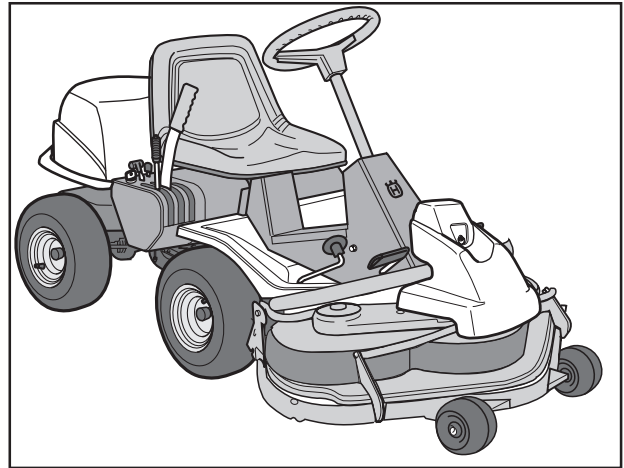
The machines are equipped with a four-stroke V-Twin engine from Kawasaki. The figures denote the amount of horse power.

The power transmission from the engine is handled by a hydrostatic gearbox, which allows variable variation of the speed by using the pedals.

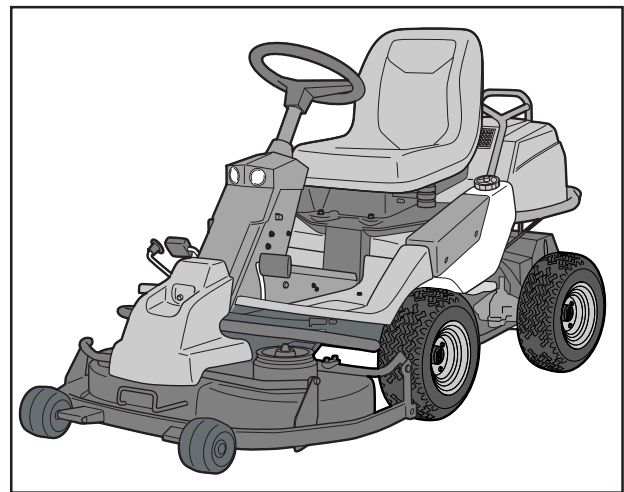
One pedal for driving forward and one for reverse.

Pro 15 is the smallest professional machine in the Rider series.

Pro 18 can be recognised as it is equipped with lights.



Pro 15



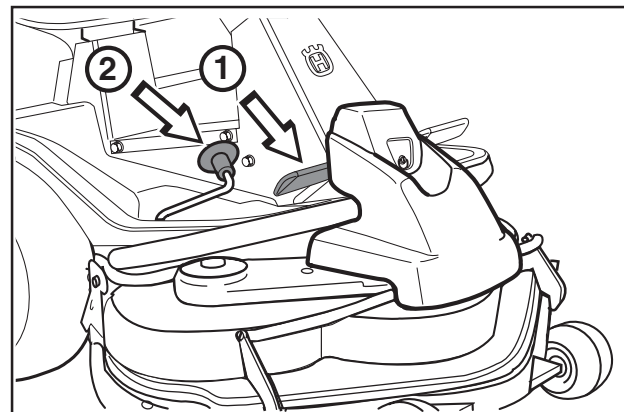
Pro 18

Speed limiter

The speed of the machine is steplessly regulated with two pedals. Pedal (1) is used to drive forwards, and pedal (2) to reverse.



WARNING!
Make sure that branches do not obstruct the pedals when mowing under bushes, otherwise you may lose control.



PRESENTATION

Cutting unit

The machines can be equipped with numerous attachments.

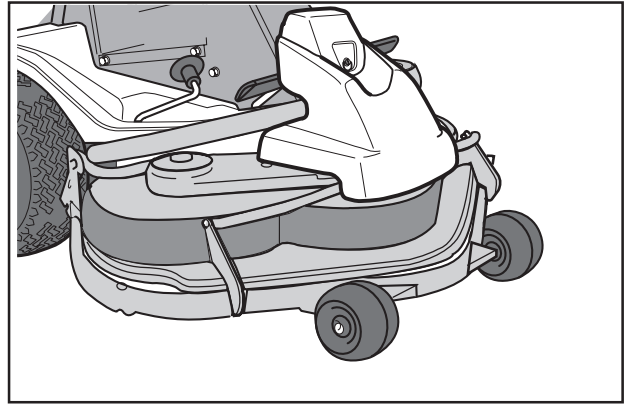
The BioClip unit finely cuts the lawn by cutting the grass several times before returning the clippings to the lawn as fertiliser.

Cutting unit with side ejection or rear ejection, i.e. the cuttings are ejected from the side or rear of the unit.

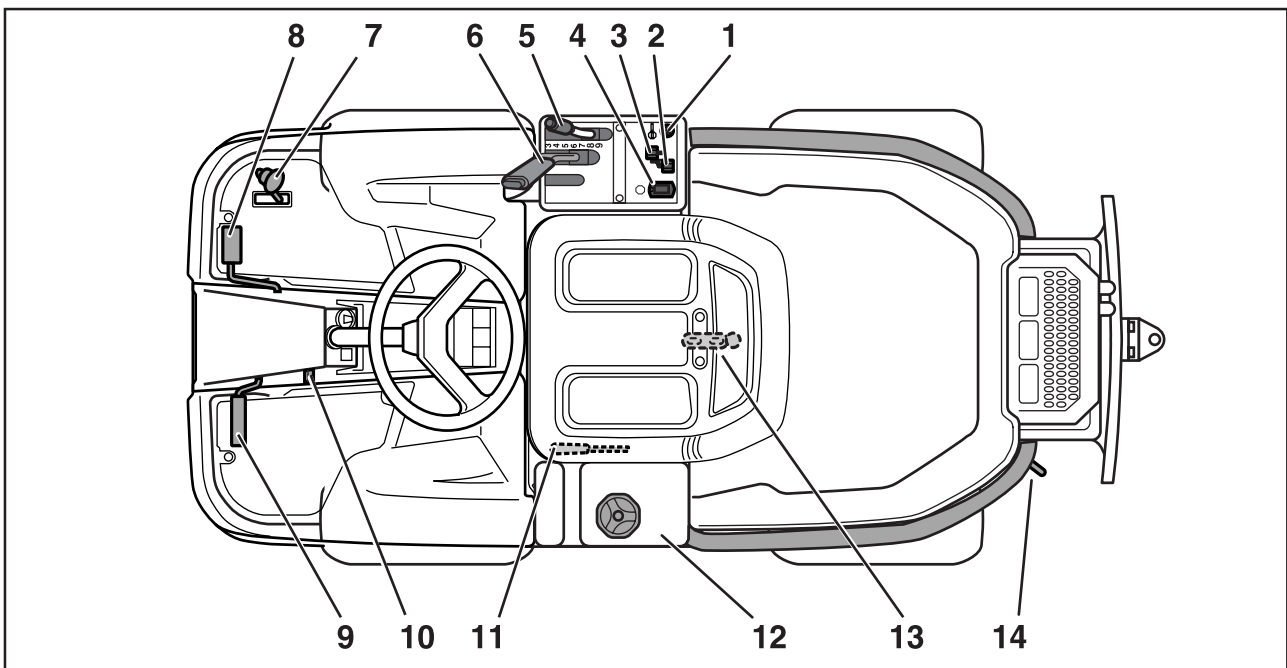
Cutting unit with side or rear ejection, i.e. the grass cuttings are ejected from the side of, or from behind the unit.

The Combi unit functions as a BioClip unit when a BioClip plug is fitted, but can be reset to rear ejection by removing the BioClip plug.

See "Maintenance \ Checking the Blades" for identification of the cutting unit.



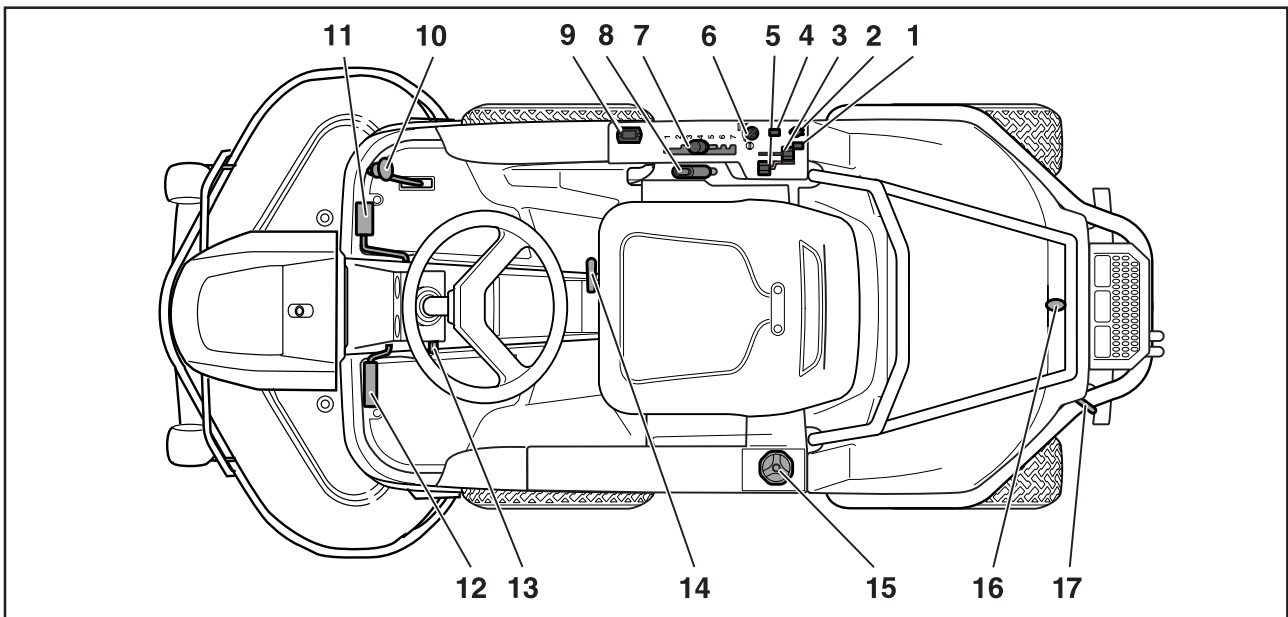
Location of the controls Pro 15



- | | |
|--|--------------------------------------|
| 1. Ignition lock | 8. Speed limiter for driving forward |
| 2. Choke lever | 9. Parking brake |
| 3. Throttle control – regulates the engine speed | 10. Lock button for parking brake |
| 4. Chronometer | 11. Lever for adjustment of seat |
| 5. Lever for adjustment of cutting height | 12. Fuel tank |
| 6. Lifting lever for cutting unit with lock button | 13. Main lock |
| 7. Speed limiter for reversing | 14. Lever to disengage the drive |

PRESENTATION

Location of the controls Pro 18



1. Switch for the power outlet
2. Power outlet
3. Throttle control - regulates the engine speed
4. Switch for the lights
5. Choke lever
6. Ignition lock
7. Lever for adjustment of cutting height
8. Lifting lever for cutting unit with lock button
9. Chronometer
10. Speed limiter for reversing
11. Speed limiter for driving forward
12. Parking brake
13. Lock button for parking brake
14. Lever for adjustment of seat
15. Fuel tank cap
16. Main lock
17. Lever to disengage the drive

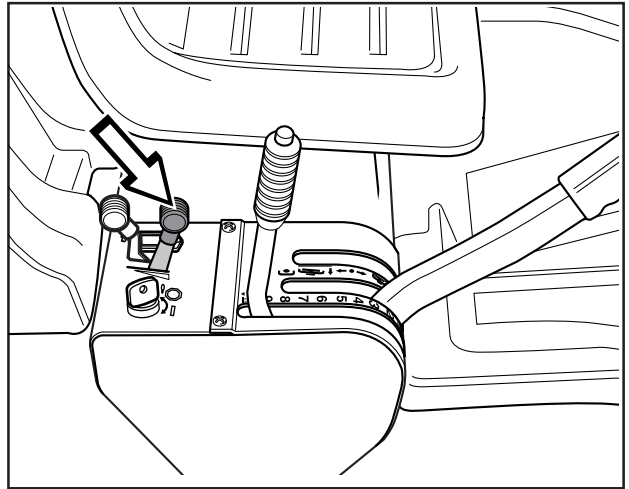
PRESENTATION PRO 15

Throttle control

The throttle control regulates the engine speed, and thereby also the rotation speed of the blades.

To increase or reduce the engine speed the control is moved forwards or backwards.

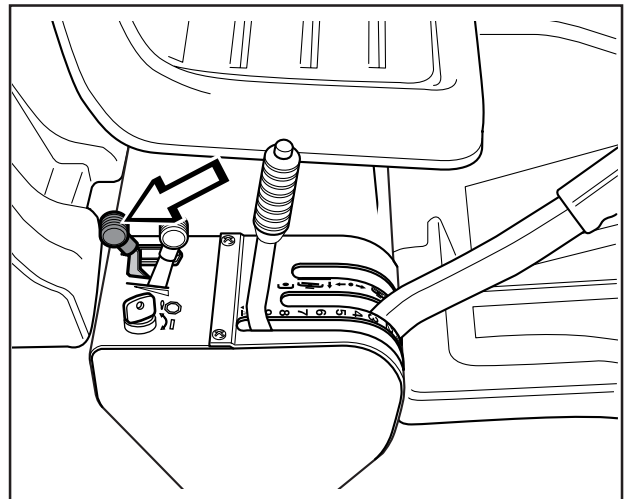
Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.



Choke lever

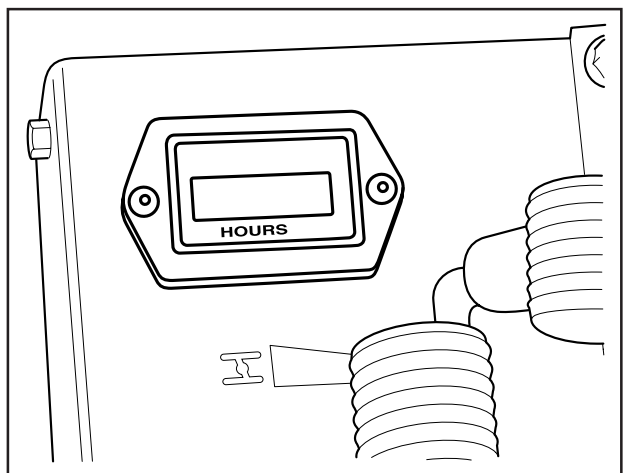
The choke lever is used for cold starting and to give the engine a richer fuel mixture.

For cold starting the lever is moved backwards to its end position.



Chronometer

The chronometer shows how many hours the engine has been running. Any time when the engine is not running but the ignition is switched on is not registered. The last digit shows tenths of an hour (6 minutes).



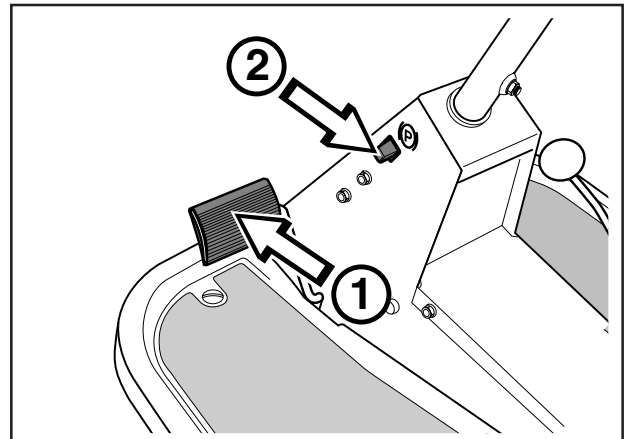
PRESENTATION PRO 15

Parking brake

The parking brake is applied as follows:

1. Push down the brake pedal (1).
2. Fully depress the lock button on the steering column (2).
3. Release the brake pedal while holding the button pressed.

The parking brake lock disengages automatically when the brake pedal is pressed.

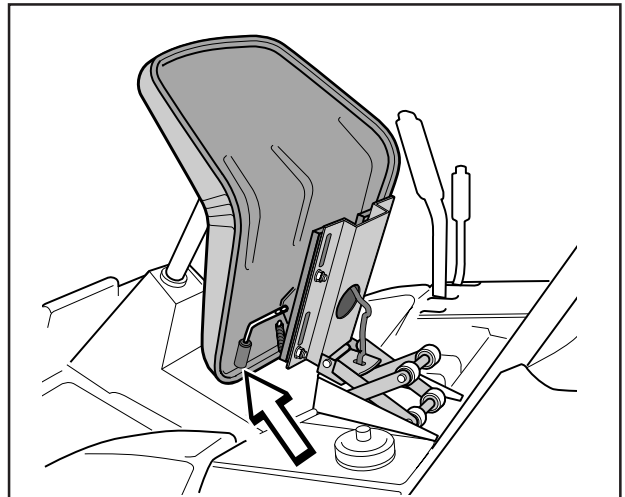


Seat

The seat has a jointed attachment on the front edge and can be tipped forward.

The seat can also be adjusted lengthways.

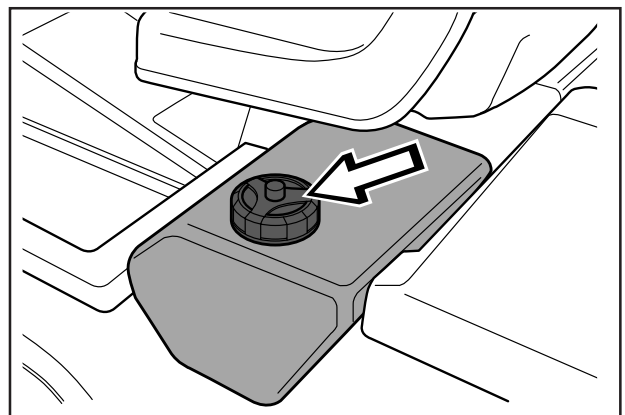
To adjust move the lever under the front edge of the seat to the left, so that the seat can be moved forward or backwards to the required position.



Fuelling

The engine runs on unleaded petrol with a minimum octane rating of 87 (not mixed with oil). We recommend the use of biodegradable alkylate petrol. Refer to the "Technical data" for information on methanol and ethanol fuels.

Do not fill the tank completely, leave an expansion area of at least 2.5 cm (1").



WARNING!
Petrol is highly inflammable.
Exercise care and refuel outdoors
(see safety instructions).

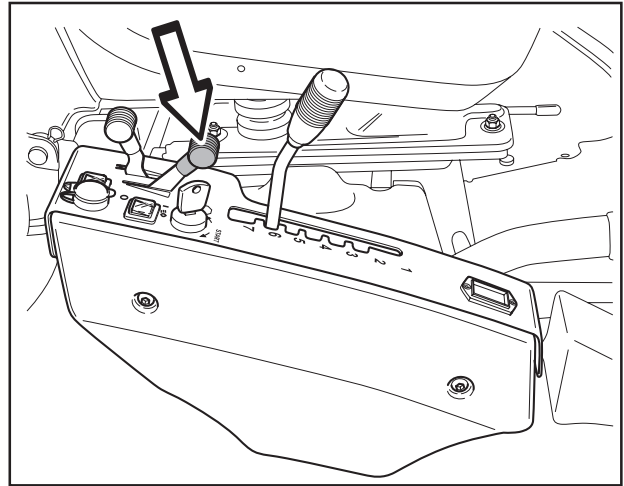
PRESENTATION PRO 18

Throttle control

The throttle control regulates the engine speed, and thereby also the rotation speed of the blades.

To increase or reduce the engine speed the control is moved forwards or backwards.

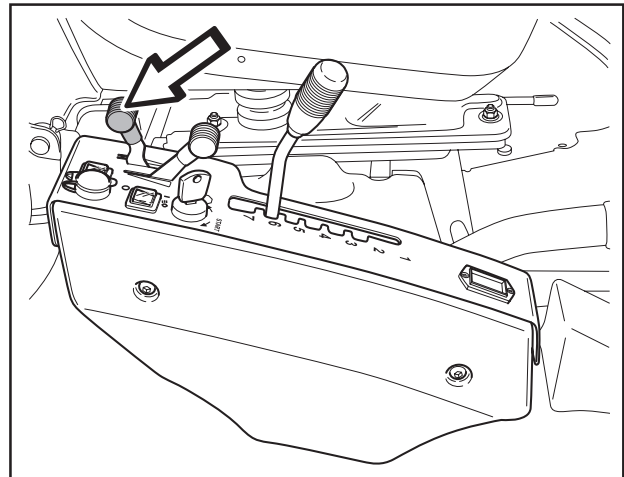
Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.



Choke lever

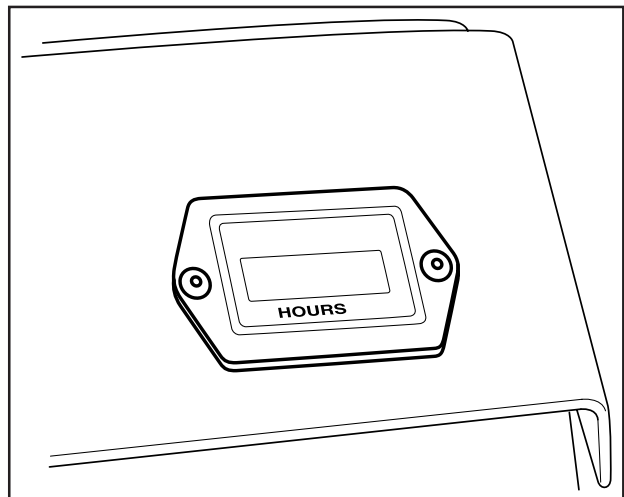
The choke lever is used for cold starting and to give the engine a richer fuel mixture.

For cold starting the lever is moved backwards to its end position.



Chronometer

The chronometer shows how many hours the engine has been running. Any time when the engine is not running but the ignition is switched on is not registered. The last digit shows tenths of an hour (6 minutes).



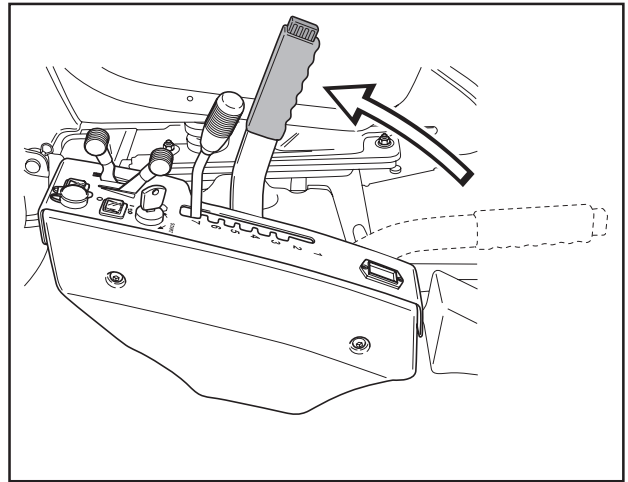
PRESENTATION PRO 18

Lift lever for cutting unit

The lift lever is used to set the cutting unit in transport or mowing position.

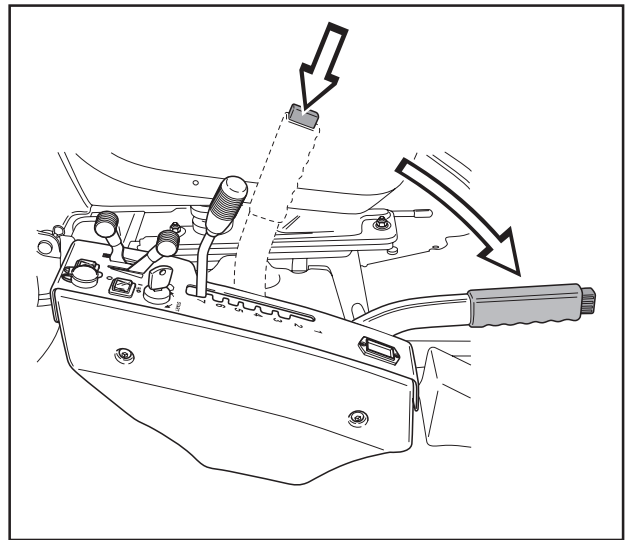
1. Pull back the lever to the locked position for transport.

The cutting unit will lift up and the blades stop rotating.



Lifting of the cutting unit

2. Press in the lock button and move the lever forwards for the mowing position.
The unit will lower down and the blades start to rotate.
3. The lever can also be used to temporarily regulate the cutting height, e.g. for a small mound in the lawn.



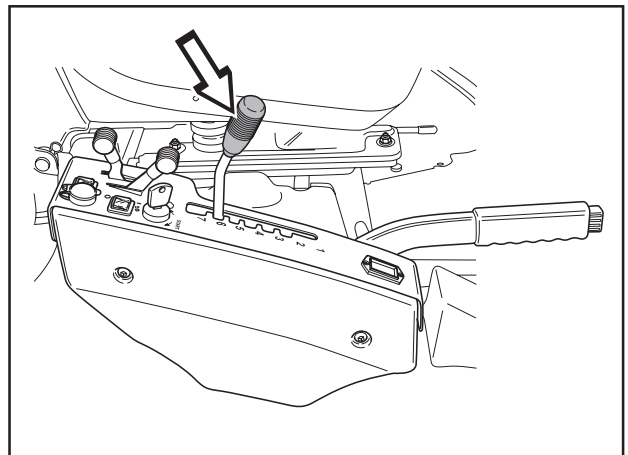
Lowering of the cutting unit

Lever for adjustment of the cutting height

The cutting height can be adjusted to 7 different positions with the cutting height lever.

Rear and side ejector unit 40-90 mm
(1 9/16" - 3 9/16")

BioClip and Combi unit 45-95 mm
(1 3/4" - 3 3/4")



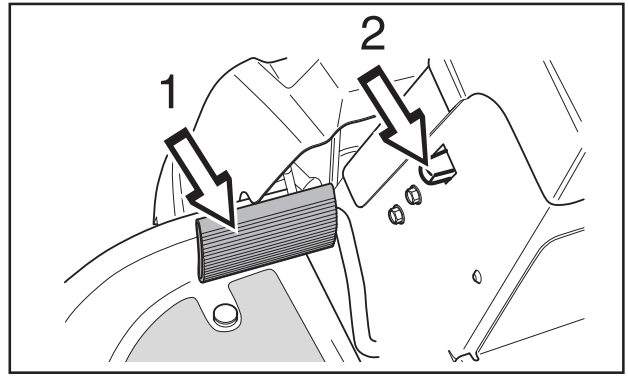
PRESENTATION PRO 18

Parking brake

The parking brake is applied as follows:

1. Push down the brake pedal (1).
2. Fully depress the lock button on the steering column (2).
3. Release the brake pedal while holding the button pressed.

The parking brake lock disengages automatically when the brake pedal is pressed.



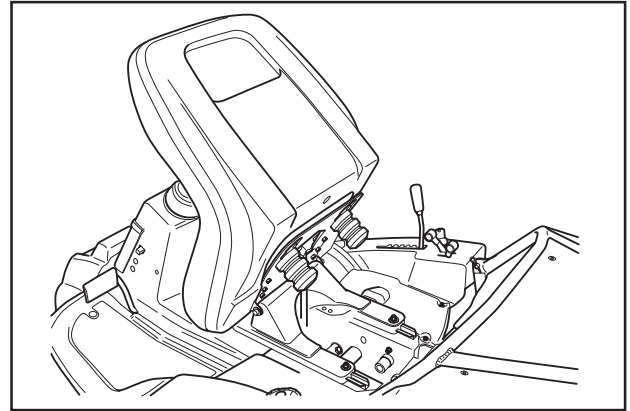
Seat

The seat has a jointed attachment on the front edge and can be tipped forward.

The seat can also be adjusted lengthways.

To adjust move the lever under the front edge of the seat to the left, so that the seat can be moved forward or backwards to the required position.

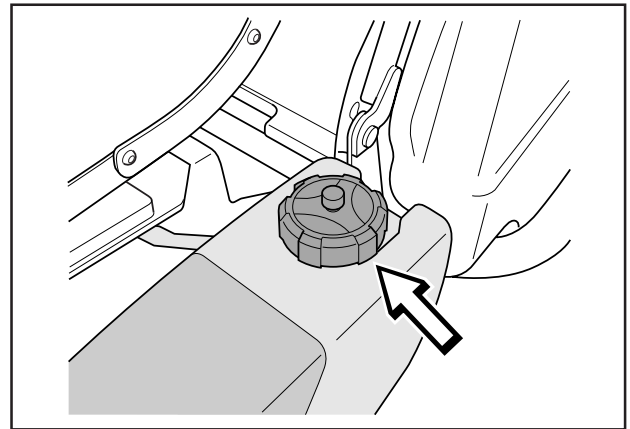
The seat springing can be adjusted by moving the rubber stops in their mountings on the underside of the seat. Place both stops in the front, middle or rear position.



Fuelling

The engine runs on unleaded petrol with a minimum octane rating of 87 (not mixed with oil). We recommend the use of biodegradable alkylate petrol. Refer to the "Technical data" for information on methanol and ethanol fuels.

Do not fill the tank completely, leave an expansion area of at least 2.5 cm (1").

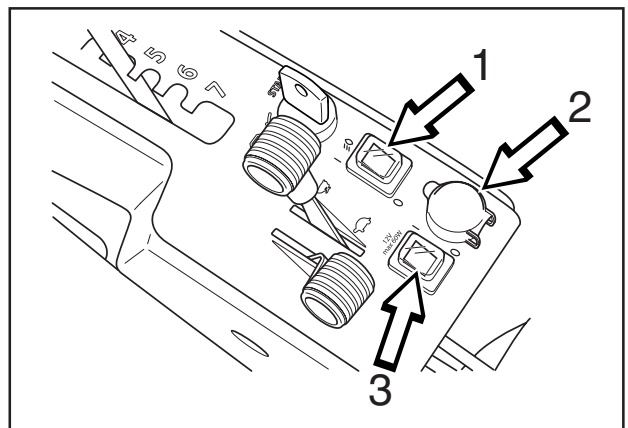


WARNING!
Petrol is highly inflammable.
Exercise care and refuel outdoors
(see safety instructions).

Lights and power outlet

The lights are switched on and off using the power switch (1) on the control panel.

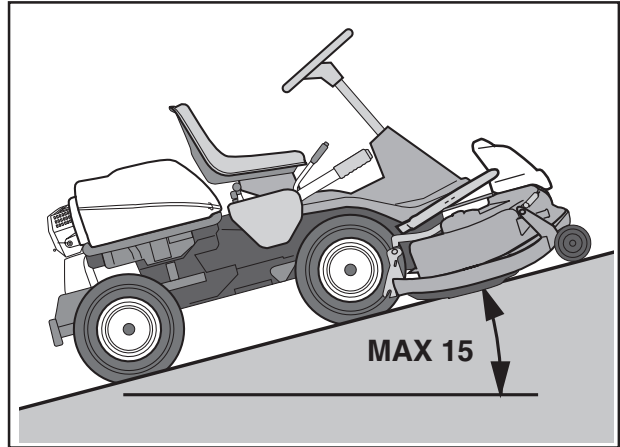
A seat heater or mobile phone charger are examples of articles that can be connected to the power socket (2). The power outlet is switched on and off using power switch (3) on the control panel.



DRIVING



WARNING!
Never drive the machine on ground at an angle of more than 15°. Mow slopes upwards and downwards, never across. Avoid sudden changes in direction.



Cutting tips

- Localise and mark stones and other fixed objects to avoid collision.
- Start with a high cutting height and reduce down until the required mowing results are obtained.
- The mowing results are best with a high engine speed (fast rotating blades) and low driving speed (slow moving machine). If the grass is not too high and thick, the driving speed can be increased without noticeably depreciating the mowing result.

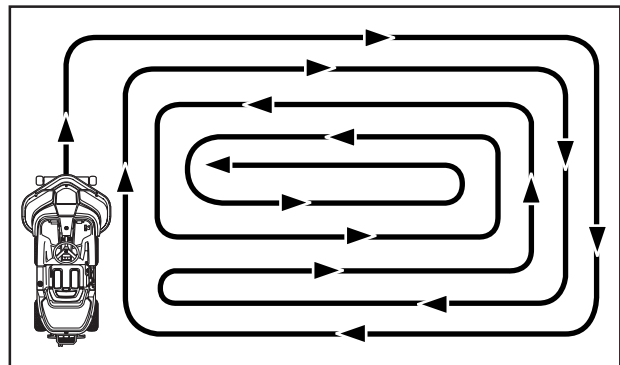
- The best lawns are achieved if the grass is cut often. Mowing becomes more uniform and the grass cuttings become more evenly distributed over the surface.

The total time consumption is not greater since it is possible to select a higher driving speed without inferior mowing results.

- Avoid mowing a wet lawn. The mowing results are inferior since the wheels sink down into the soft lawn.
- Hose down the cutting unit with water underneath each time it is used. Put the cutting unit in the service position first.
- If you use the BioClip unit it is important to mow the grass regularly.
- It is important to mow frequently when mowing with the mulching function.



WARNING!
Clear the lawn from stones and other objects which can be thrown out by the blades.

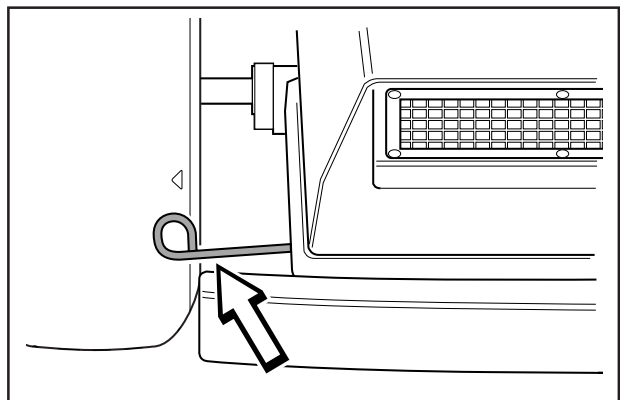


Mowing pattern

Release lever

The release control must be pulled out in order for the Rider to be moved when the engine is shutdown.

The diagram shows the release lever in the out position.

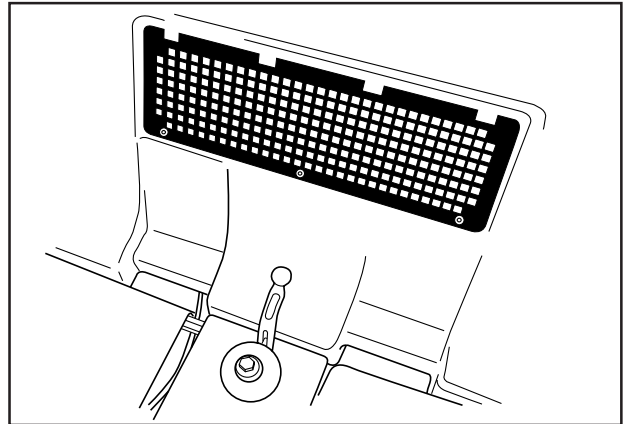


DRIVING PRO 15

IMPORTANT INFORMATION

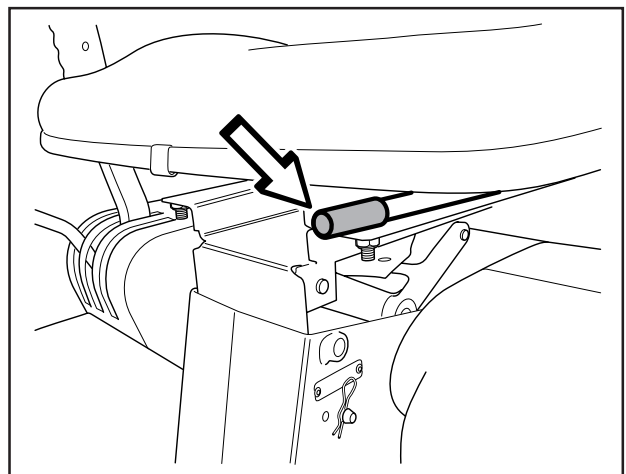
The air intake grille in the engine cover behind the driver's seat must not be blocked by, for example, clothing, leaves, grass or dirt.

Impaired cooling of the engine. Risk of major engine damage.



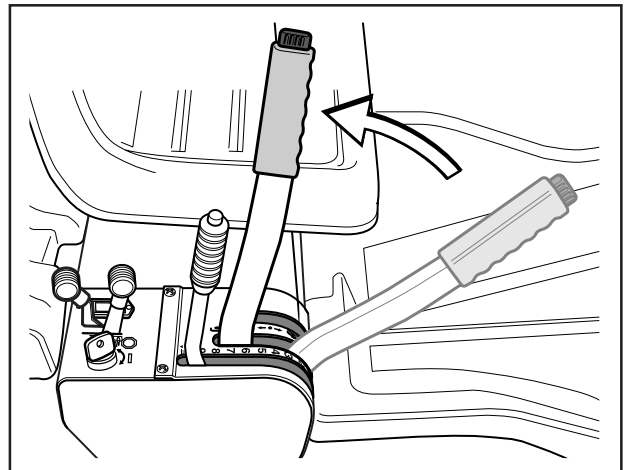
Before starting

- Read the safety instructions and the presentation of the Rider before starting.
- Perform the daily maintenance before starting, see "Maintenance\Maintenance schedule".
- Adjust the seat to the required position.

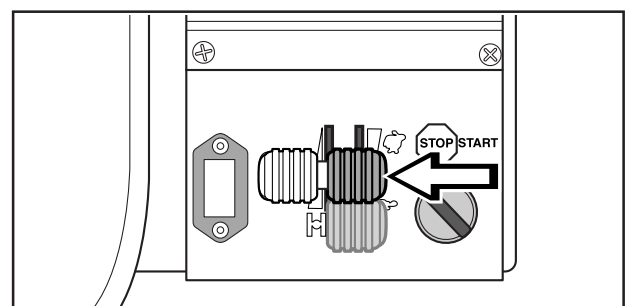


Starting the engine

1. Lift up the cutting unit by pulling the lever backwards to locked position (transport position) and apply the parking brake.

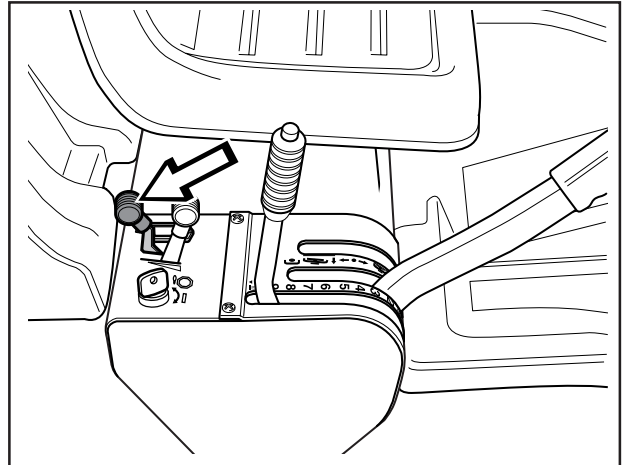


2. Move the throttle control to the middle position.

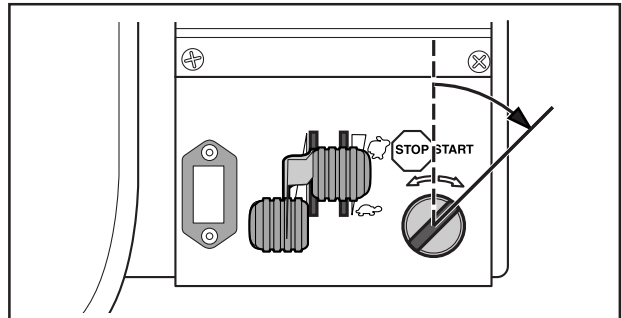


DRIVING PRO 15

3. If the engine is cold move the choke lever backwards to its end position.



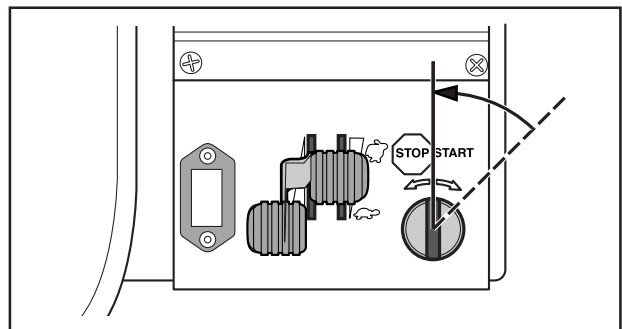
4. Turn the ignition key to the start position.



5. When the engine starts release the ignition key immediately back to neutral position.

IMPORTANT INFORMATION

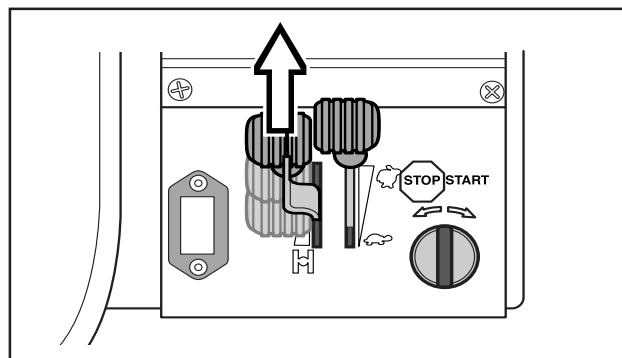
Do not run the starter for more than about 5 seconds at a time. If the engine does not start, wait about 15 seconds before trying again.



6. Push the choke lever gradually forward when the engine has started.
7. Set the required engine speed with the throttle control.

Let the engine run at moderate speed or half throttle for 3-5 minutes before subjecting it to heavy load.

When mowing, use 3/4 to full throttle.



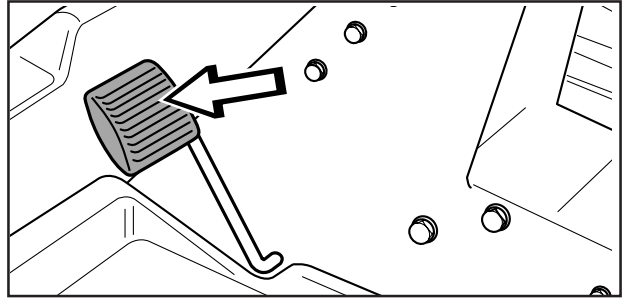
WARNING!

Never run the engine indoors, in enclosed or poorly ventilated areas. The exhaust fumes contain toxic carbon monoxide.

DRIVING PRO 15

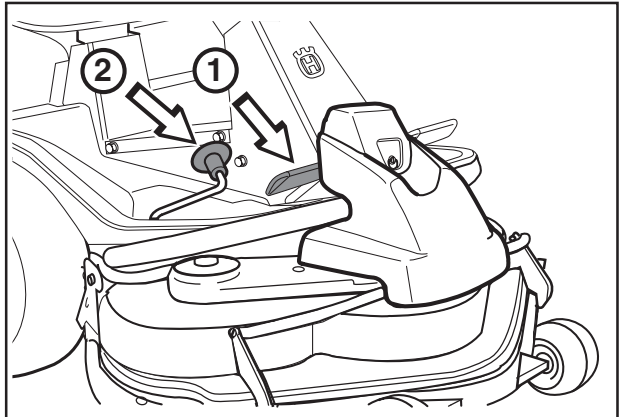
Driving the machine

1. Release the parking brake by pressing the brake pedal.



2. Carefully press down one of the pedals until the required speed is obtained.

To drive forward press down pedal (1), or to reverse pedal (2).

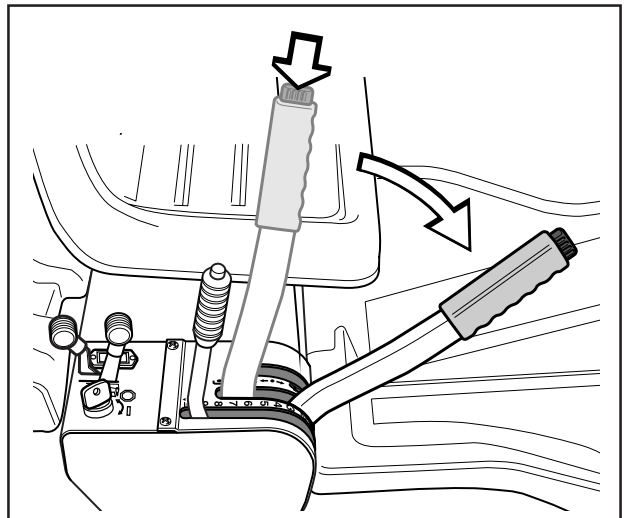


WARNING!
Make sure that branches do not obstruct the pedals when mowing under bushes, otherwise you may lose control.

3. Push in the lock button on the lift lever and lower down the cutting unit.

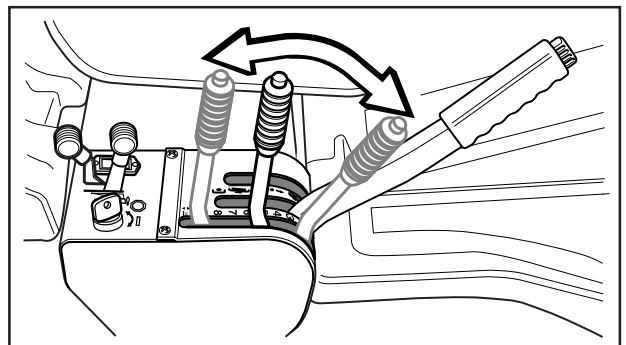
IMPORTANT INFORMATION

The life span of the drive belts is increased significantly if the engine runs at a low speed when the blades are engaged. Therefore apply full throttle first when the cutting unit has been moved to the mowing position.



4. Select the required cutting height (1–9) with the cutting height lever.

It is important that the air pressure in both front wheels is equal, 60 kPa / 8.5 PSI, to produce an even cutting height.

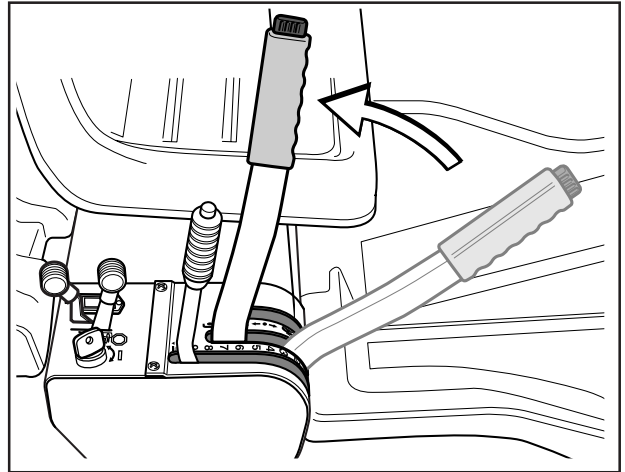


DRIVING PRO 15

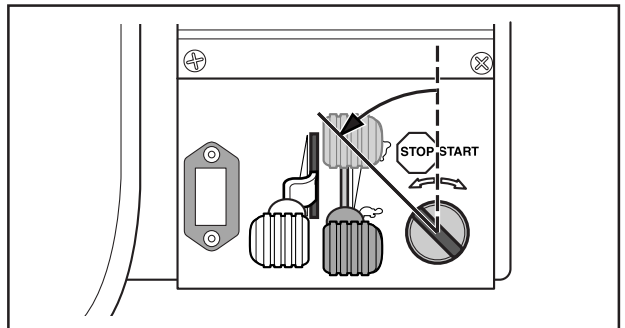
Stopping the engine

Preferably allow the engine to idle for a minute to obtain normal working temperature before stopping it if it has been working hard. Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.

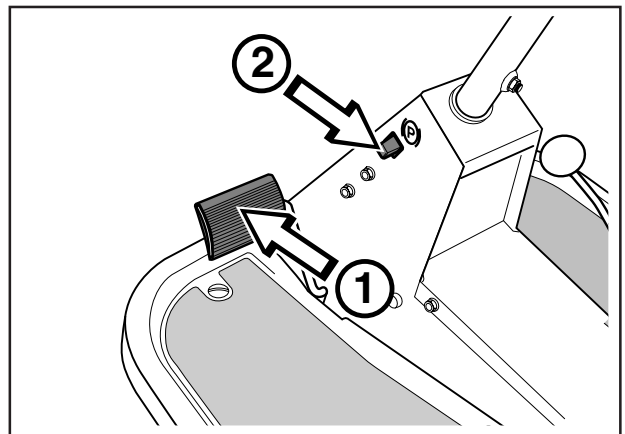
1. Lift up the cutting unit by pulling the lever back to the locked position.



2. Move the throttle control to the MIN. position. Turn the ignition key to the STOP.



3. When the Rider is at a standstill, hold down the parking brake (1) and press in the release button (2).

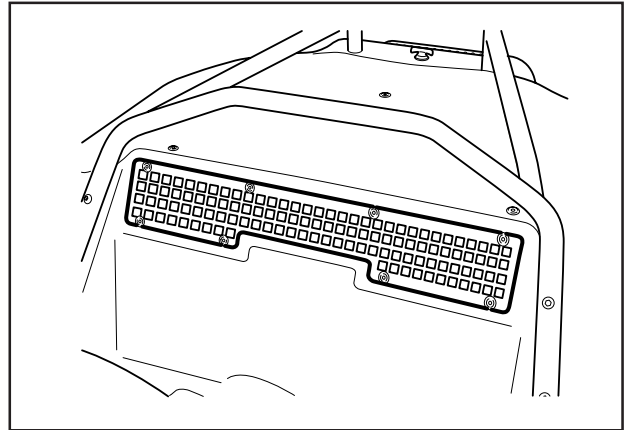


DRIVING PRO 18

IMPORTANT INFORMATION

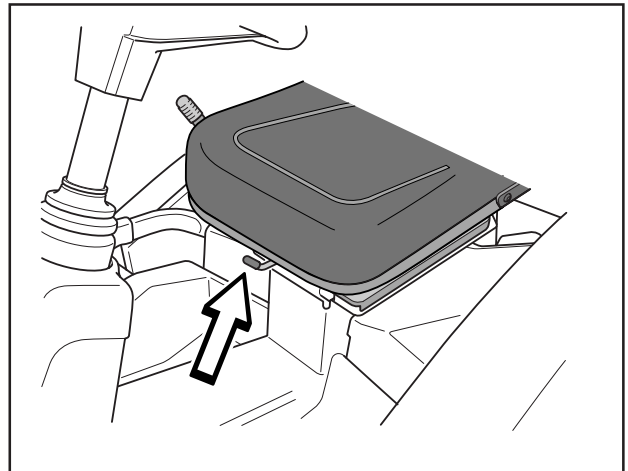
The air intake grille in the engine cover behind the driver's seat must not be blocked by, for example, clothing, leaves, grass or dirt.

Impaired cooling of the engine. Risk of major engine damage.



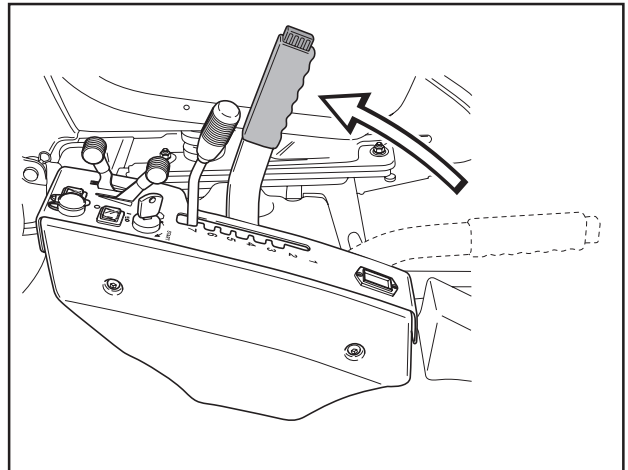
Before starting

- Read the safety instructions and the presentation of the Rider before starting.
- Perform the daily maintenance before starting, see "Maintenance\Maintenance schedule".
- Adjust the seat to the required position.

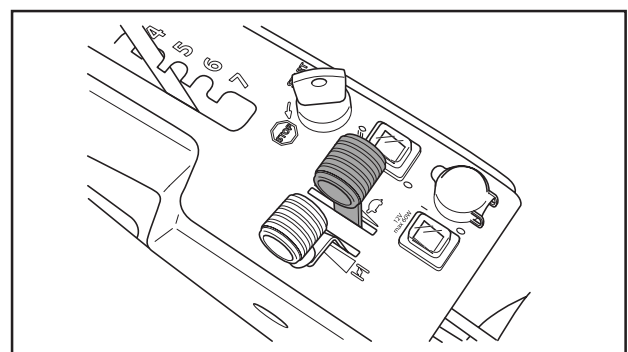


Starting the engine

1. Lift up the cutting unit by pulling the lever backwards to locked position (transport position) and apply the parking brake.

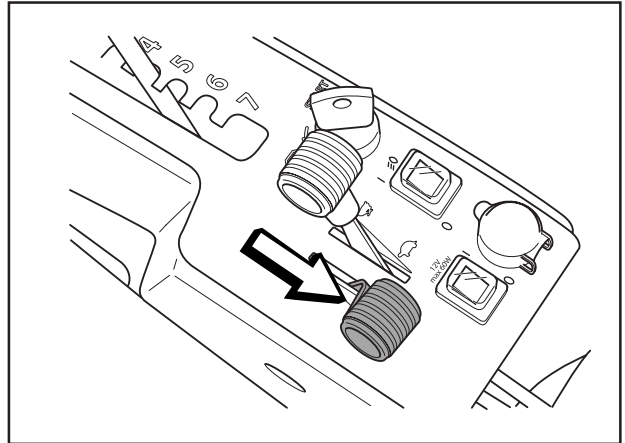


2. Move the throttle control to the middle position.

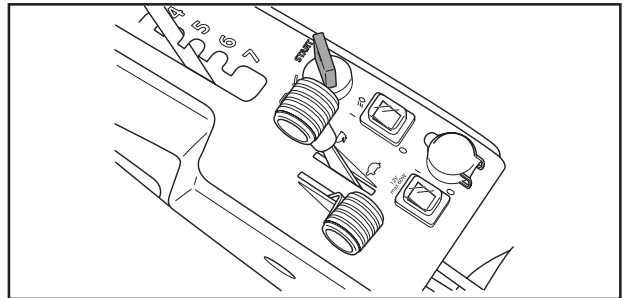


DRIVING PRO 18

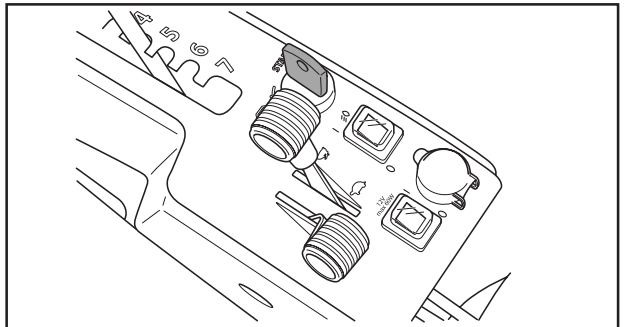
3. If the engine is cold move the choke lever backwards to its end position.



4. Turn the ignition key to the start position.



5. When the engine starts release the ignition key immediately back to neutral position.



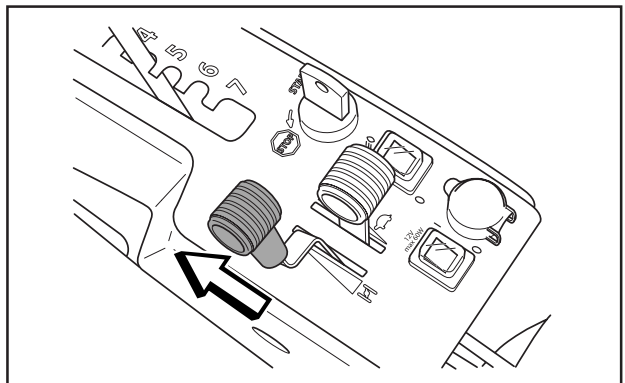
IMPORTANT INFORMATION

Do not run the starter for more than about 5 seconds at a time. If the engine does not start, wait about 15 seconds before trying again.

6. Push the choke lever gradually forward when the engine has started.
7. Set the required engine speed with the throttle control.

Let the engine run at moderate speed or half throttle for 3-5 minutes before subjecting it to heavy load.

When mowing, use 3/4 to full throttle.

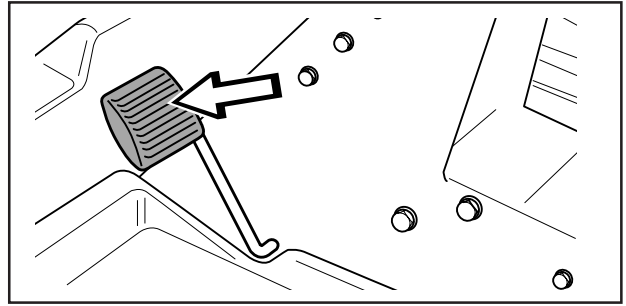


WARNING!
Never run the engine indoors, in enclosed or poorly ventilated areas. The exhaust fumes contain toxic carbon monoxide.

DRIVING PRO 18

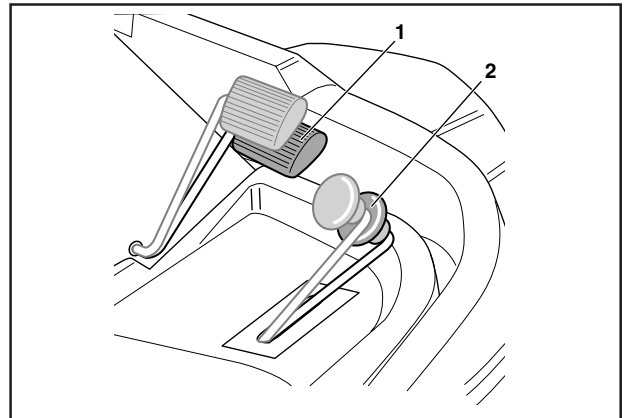
Driving the machine

1. Release the parking brake by pressing the brake pedal.



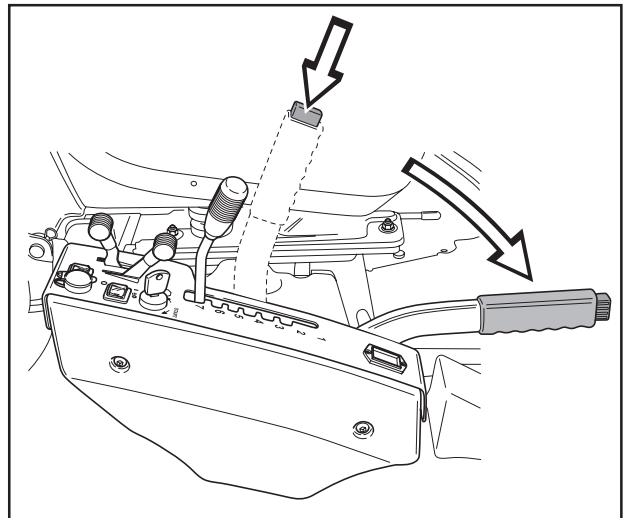
2. Carefully press down one of the pedals until the required speed is obtained.

To drive forward press down pedal (1), or to reverse pedal (2).



WARNING!
Make sure that branches do not obstruct the pedals when mowing under bushes, otherwise you may lose control.

3. Push in the lock button on the lift lever and lower down the cutting unit.

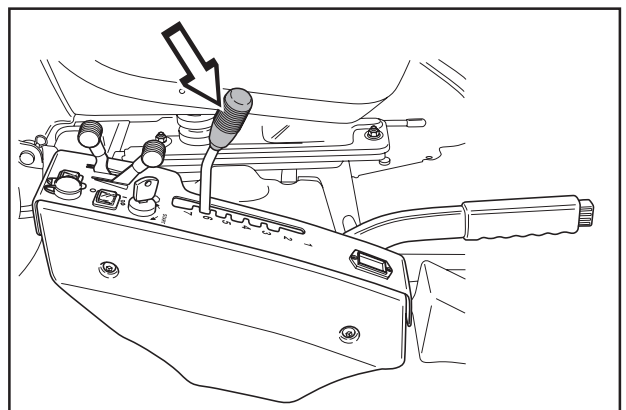


IMPORTANT INFORMATION

The life span of the drive belts is increased significantly if the engine runs at a low speed when the blades are engaged. Therefore apply full throttle first when the cutting unit has been moved to the mowing position.

4. Select the required cutting height (1–7) with the cutting height lever.

It is important that the air pressure in both front wheels is equal, 60 kPa / 8.5 PSI, to produce an even cutting height.

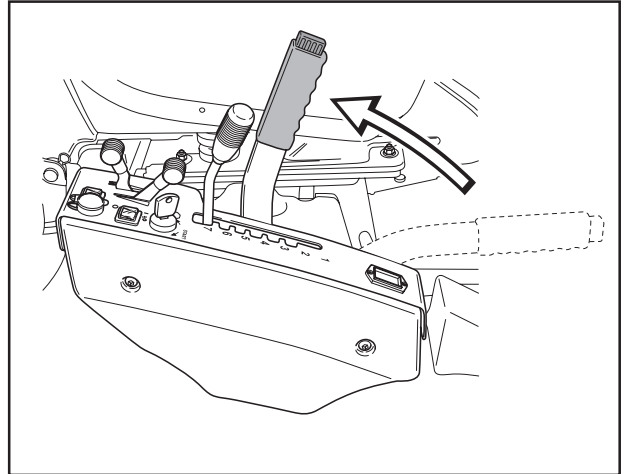


DRIVING PRO 18

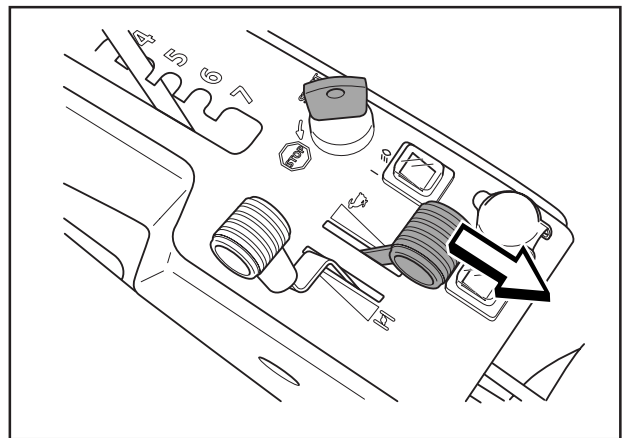
Stopping the engine

Preferably allow the engine to idle for a minute to obtain normal working temperature before stopping it if it has been working hard. Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.

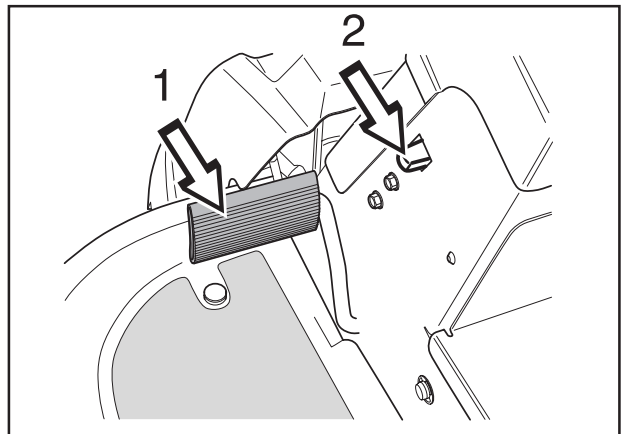
1. Lift up the cutting unit by pulling the lever back to the locked position.



2. Move the throttle control to the MIN. position. Turn the ignition key to the STOP.



3. When the Rider is at a standstill, hold down the parking brake (1) and press in the release button (2).



MAINTENANCE

Maintenance schedule

The following is a list of the maintenance which should be conducted on the machine. For the items which are not described in these instructions go to an authorised service workshop.

● = Described in these instructions.

○ = Not described in these instructions.

Maintenance	Page	Daily main-tenance		Weekly ³⁾ main-tenance	At least once a year	Maintenance interval in hours			
		before	after			25	50	100	300
Check for fuel and oil leakage	-	○							
Check the parking brake	16+19	●							
Check the engine oil level (when you refuel)	61	●				●			
Check the fuel pump air filter	36	●							
Check the seat safety switch	41	●							
Check the lift lever safety switch	41	●							
Check the parking brake safety switch	41	●				●			
Check/clean the engine cooling air intake	39		●						
Check the cutting unit:	53		●						
• blades are secure	53		●						
• condition of blades (sharpness, shape, etc.)	53		●						
• blade synchronisation (90° between BioClip)	53		●						
Check steering wires (for play, etc.)	33		●						
Check fasteners (screws, nuts, etc.)	-		○						
Start engine and blades, listen for noise	-		○						
Clean underside of cutting unit	50		●						
Clean transmission air intake	36		●			●			
Check battery acid level	40			●					
Check transmission oil level	63			●					
Check the condition of belts, pulleys, etc.	-			○					
Check for damage	-			○					
Check tyre pressures (60 kPa)	43			●					
Check for damage to wire guide at articulated joint	-			○					
Clean the area around the engine thoroughly	39			●					
Clean carefully around the muffler	39			●					
Clean thoroughly around transmission	36			●					
Clean all belts, pulleys, etc.	57			●					
Lubricate belt tensioner (nipple)	60			●					
Lubricate triangle link	59			●					
Lubricate the driver's seat	59			●					
Lubricate all wires	57			●					
Lubricate bearing surfaces on cutting unit	57			●					
Clean inside frame tunnel	-			○					
Lubricate pedal mechanism inside frame tunnel	58			●					
Lubricate the gear lever	62			●					
Lubricate the parking brake wire	63			●					
Lubricate throttle control	60			●					

MAINTENANCE

Maintenance	Page	Daily main- tenance before after	Weekly ³⁾ main- tenance	At least once a year	Maintenance interval in hours			
					25	50	100	300
Lubricate choke control	60		●					
Lubricate the chain in the frame tunnel	59		●					
Lubricate steering chain inside frame tunnel	33		●					
Clean engine cooling air intake	39			●	●			
Clean the air filter's pre-cleaner (foamed plastic)	37+38			●	●			
Change engine oil ¹⁾	62			●		● ¹⁾	● ¹⁾	
Clean the air filter cartridge ²⁾ (paper filter)	37+38			●		●		
Check/adjust cutting height setting	46			●		●		
Check/adjust parking brake	34			●		●		
Inspect flame guard/spark arrestor (optional equipment)	-			○		○		
Replace the engine oil filter (every 200 hours)	64			●			●	
Replace the engine's hydraulic oil filter (every 200 hours)	64			●			●	
Clean/replace spark plugs	40			●			●	
Replace fuel filter in pipe	35			●			●	
Clean pulse-air filter	36			●			●	
Clean the cooling flanges	36			●			●	
Check engine valve clearance ⁴⁾	-			○				○
Check to see whether the oil needs changing ⁴⁾ or the filter ⁴⁾ (every 500 hours) in the gear box.	-			○			○	
Replace the air filter pre-filter (foamed plastic) ²⁾	37+38			●				●
Replace the air filter (paper filter) ²⁾ (every 200 hours)	37+38			●			●	
Carry out 300 hour service ⁴⁾	-			○				○

¹⁾ First change after 5 hours. ²⁾When driving with a heavy load or when the ambient temperature is high, replace every 25 hours. Clean every 25 hours if pre-filter is not fitted. Clean and replace the filter more often in dusty conditions. ³⁾ For daily use of the machine lubrication should be conducted twice a week. ⁴⁾ Conducted by authorised service workshop.

- = Described in these instructions.
- = Not described in these instructions.



WARNING!

No service procedures must be conducted on the engine or cutting unit unless:

- The engine is switched off.
- The parking brake is applied.
- The ignition key is removed.
- The cutting unit is disengaged.
- The ignition cables are removed from the plugs.

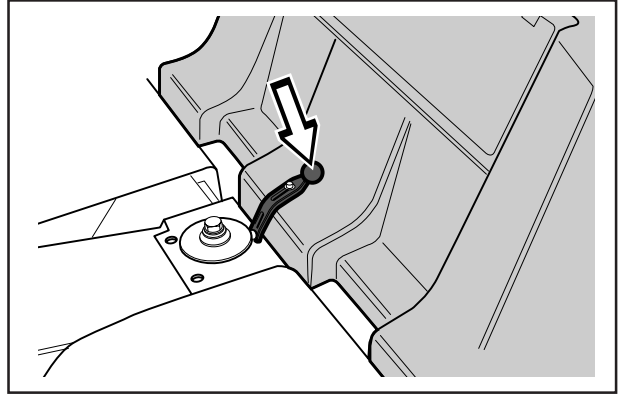
MAINTENANCE

Removing of the machine hoods

The engine becomes accessible for service when the engine cover is opened.

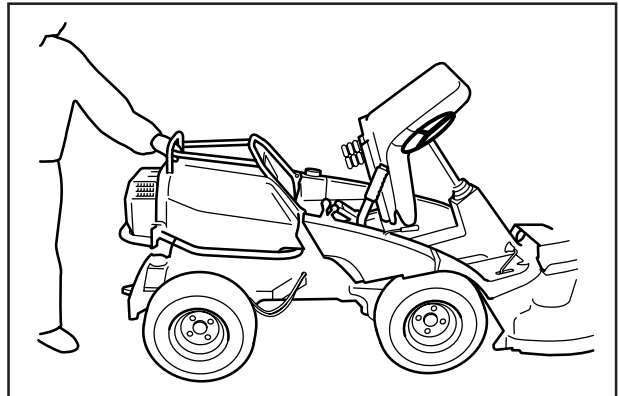
Engine cover Pro 15

1. Pull the seat forward to its foremost position.
2. Tip the seat forward.
3. Loosen the rubber strap.
4. Open the engine cover backwards.



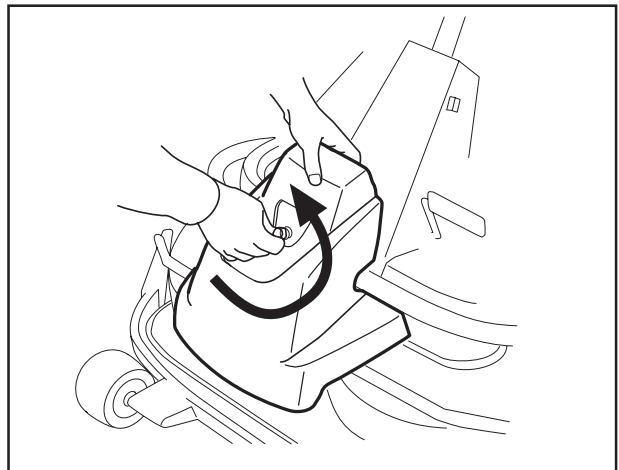
Engine cover Pro 18

1. Pull the seat forward to its foremost position.
2. Fold up the seat.
3. Turn the cover lock on the top of the engine cover anti-clockwise a 1/4 turn.
4. Open the engine cover forwards. If necessary the engine cover can be lifted off by removing the hinge pins.



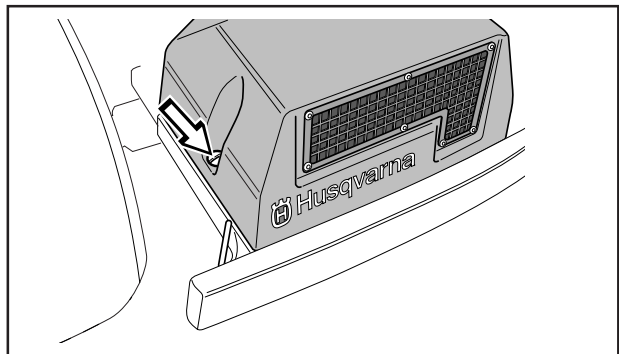
Front cover

Release the clip on the front hood and lift off the fender.



Transmission cover

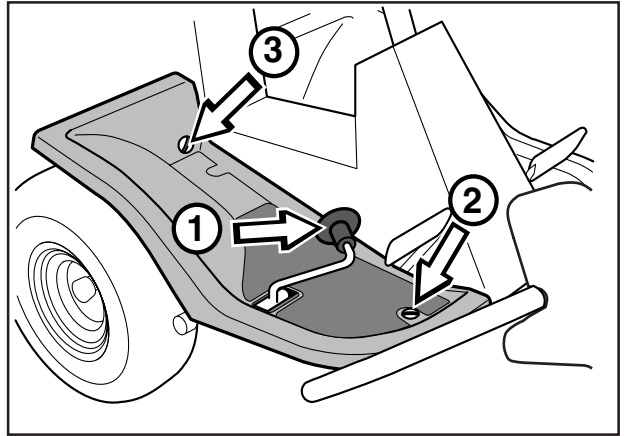
Undo the two screws (one on each side) and lift off the transmission cover.



MAINTENANCE

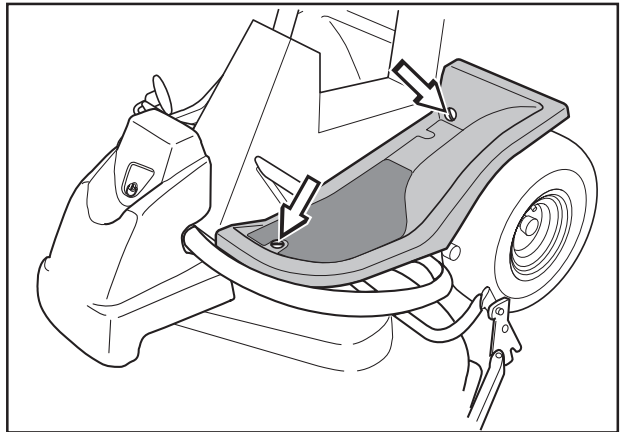
Right-hand fender Pro 15

Dismantle the foot-plate (1), screws (2 and 3), and lift off the fender.



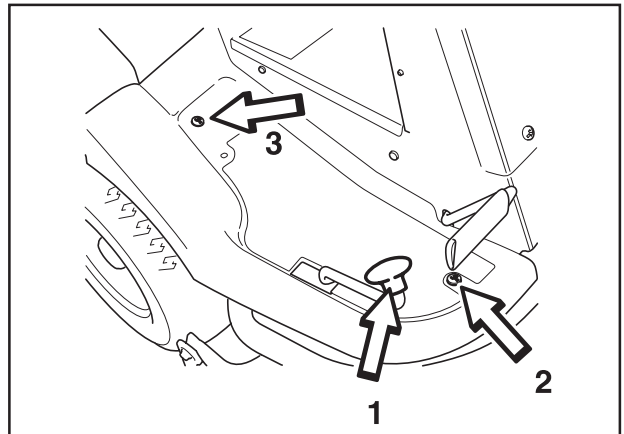
Left-hand fender Pro 15

Dismantle the screws (1 and 2), and lift off the fender.



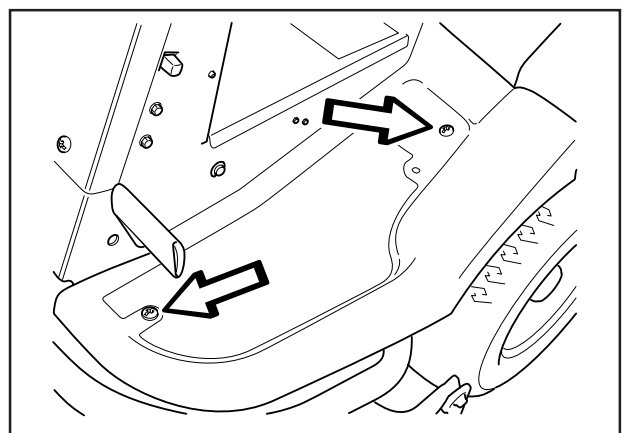
Right-hand fender Pro 18

Dismantle the foot-plate (1), screws (2 and 3), and lift off the fender.



Left-hand fender Pro 18

Dismantle the screws (1 and 2), and lift off the fender.



MAINTENANCE

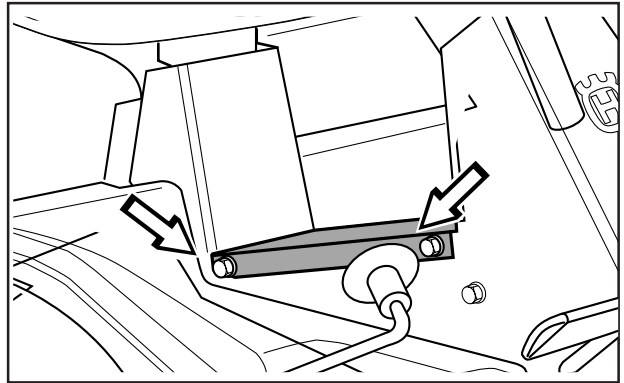
Checking and adjustment of the steering wires

The steering is controlled by means of wires.

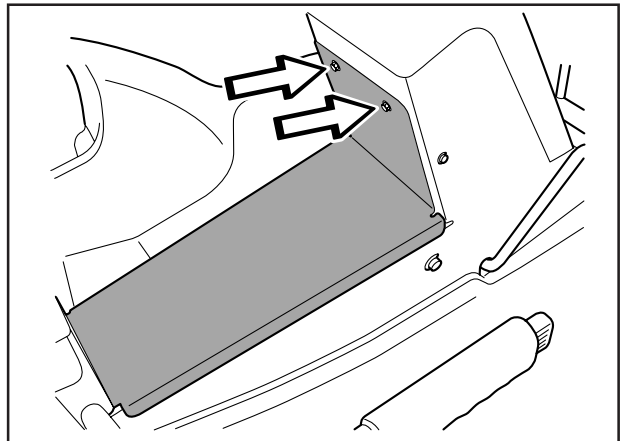
These can in time become slack, which implies that the adjustment of the steering becomes altered.

Check and adjust the steering as follows:

1. Remove the frame plate by loosening the screws.

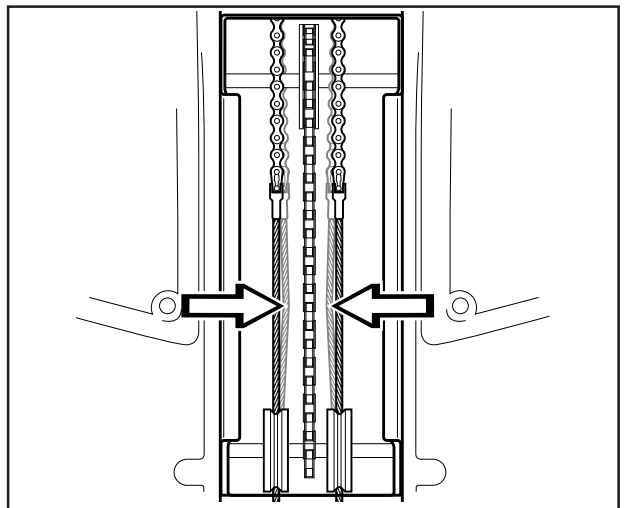


Pro 15



Pro 18

2. Check the tension of the steering wires by pushing them together (at the arrows). It should be possible to push them together so that the distance between them is half as much, without using unnecessary force.

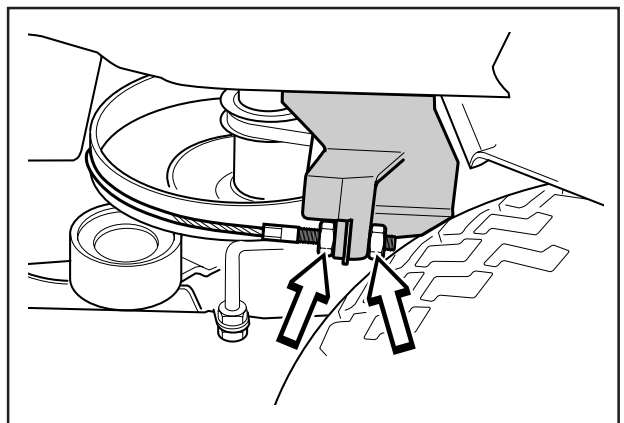


3. When necessary the wires can be tensioned by tightening the adjusting nuts one on each side of the machine.

Do not tension the wires too tightly, they should only be *tightened up* to the steering rim.

Hold the wire so it does not twist. If you only tension one side the steering wheel's centre position may change.

Check the wire tension on completion of the adjustment as per item 2.

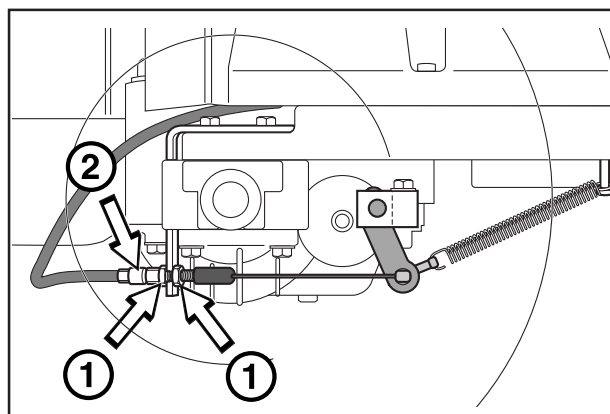


MAINTENANCE

Adjusting the parking brake

The parking brake (on the right) is adjusted as follows:

1. Remove the transmission cover.
2. Unhook the spring (A) from the screw (B).
3. Make sure the parking brake is released.
4. Adjust so there is 1 mm play between the outer cable and the adjuster screw when you pull the outer cable.
Adjust the adjuster screw using the nuts.
5. Tighten the nuts carefully to prevent damaging the adjuster screw.
6. Refit the spring (A).
7. Check that the brake works.



WARNING!
Poorly adjusted brakes can result in reduced braking power.

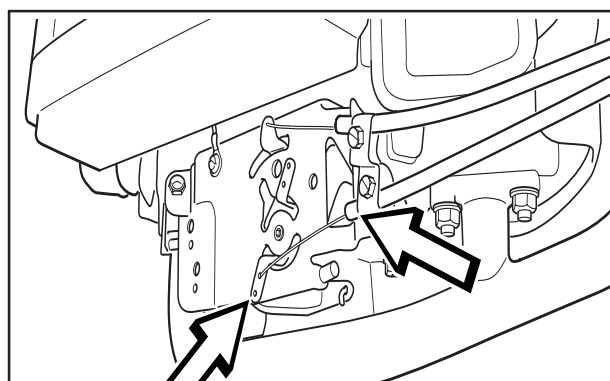
Checking and adjustment of the throttle wire

Check that the engine responds to the throttle control and that the correct engine speed is achieved at full throttle.

If in doubt, contact the service workshop.

If adjustment is necessary, adjust the lower wire as follows:

1. Release the clamping screw that secures the wire casing and set the throttle control to full throttle.
2. Check that the throttle wire is attached to the correct hole in the lower lever, see diagram.
3. Pull the throttle wire casing to the far left and tighten the clamping screw.



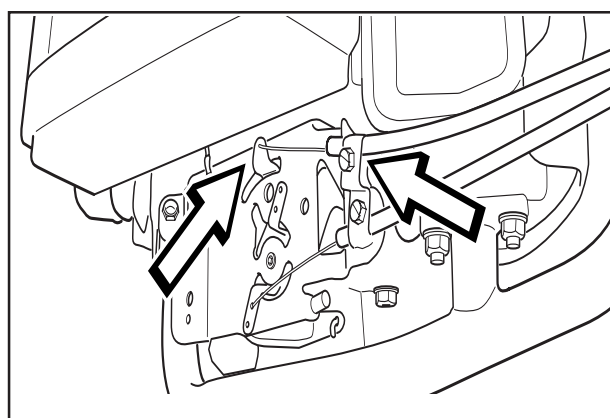
Checking and adjusting the choke wire

If the engine is producing black smoke or is difficult to start then the choke wire (upper wire) may be incorrectly adjusted.

If in doubt contact your service workshop.

If it is necessary to adjust the choke, proceed as follows:

1. Release the clamping screw that secures the wire casing and set the choke control to maximum choke.
2. Check that the throttle wire is attached to the upper lever, see diagram.
3. Pull the choke wire casing to the far right and tighten the clamping screw.



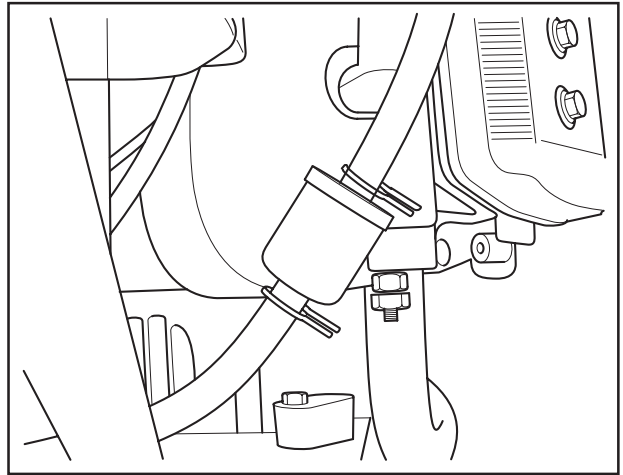
MAINTENANCE

Replacement of the fuel filter Pro 15

Replace the fuel filter every 100 running hours (once per season) or more frequently if it is clogged.

Replace the filter as follows:

1. Open the engine cover.
2. Move the hose clips away from the filter. Use a pair of flat pliers.
3. Pull off the filter from the hose ends.
4. Press the new filter into the ends of the hoses. Turn the filter so that the "FLOW" arrow is pointing upwards towards the fuel pump. If necessary apply liquid detergent to the ends of the filter to facilitate connection.
5. Push the hose clips back on the filter and tighten.

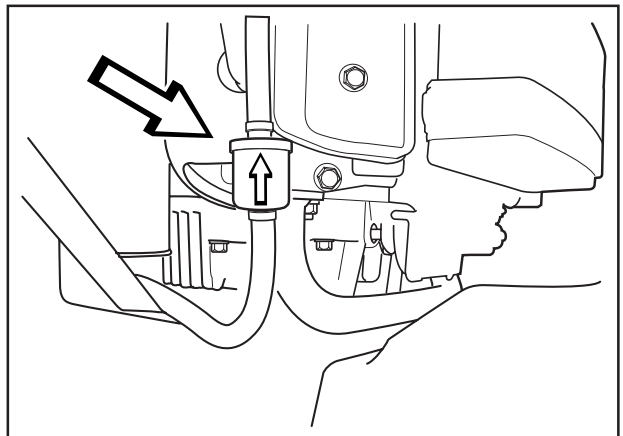


Replacement of the fuel filter Pro 18

Replace the fuel filter every 100 running hours (once per season) or more frequently if it is clogged.

Replace the filter as follows:

1. Open the engine cover.
2. Move the hose clips away from the filter. Use a pair of flat pliers.
3. Pull off the filter from the hose ends.
4. Press the new filter into the ends of the hoses. Turn the filter so that the "FLOW" arrow is pointing upwards towards the fuel pump. If necessary apply liquid detergent to the ends of the filter to facilitate connection.
5. Push the hose clips back on the filter and tighten.



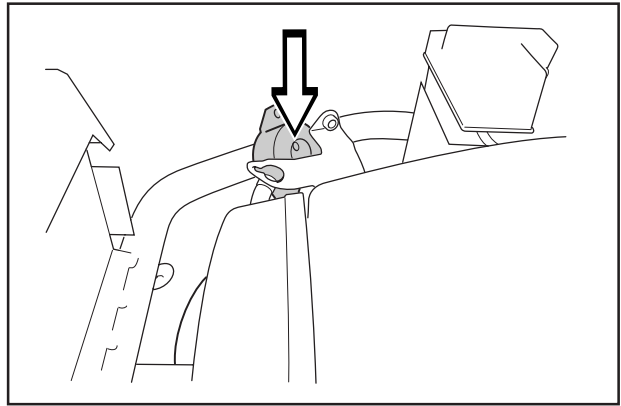
MAINTENANCE

Checking of the fuel pump's air filter

Check regularly that the fuel pump's air filter is free from dirt.

The filter can when necessary be cleaned with a brush.

1. Remove the two screws that hold the fuel pump.
2. Prise out the pump without disconnecting the hoses and clean the filter with a brush.
3. Put the fuel pump back in place.



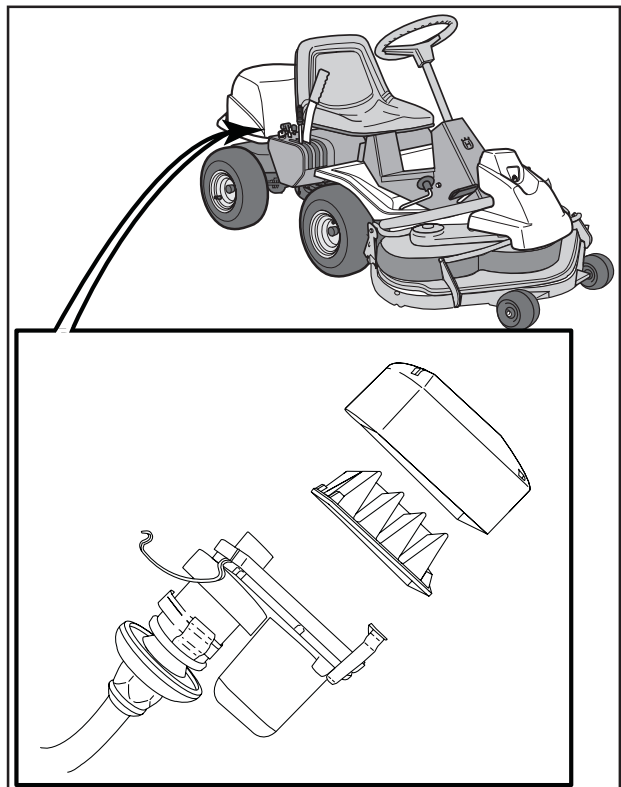
Muffler air intake

Cleaning the pulse air filter

1. Open the engine cover.
2. Loosen the four quick-action clips and lift off the cover and remove the filter.
3. Blow out the filter using compressed air.

Replace the filter if it is damaged or cannot be blown clean.

4. Replace the filter in the cover and secure the cover using the quick-action clips. Replace the engine hood.

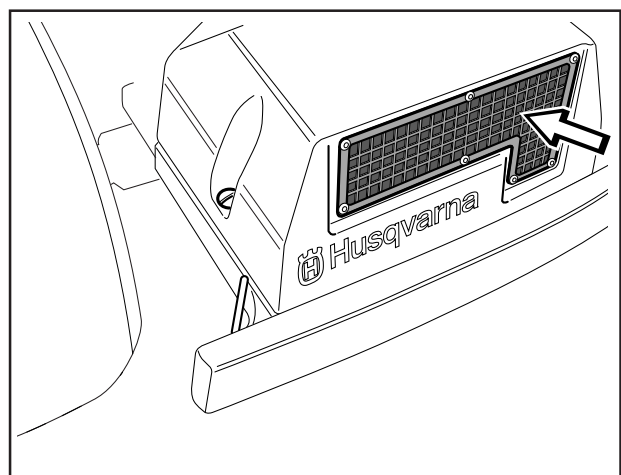


Check the transmission's air intake

Check that the transmission's air intake is not blocked.

Remove the transmission cover and clean any grass cuttings from the transmission's cooling fins if necessary.

Cooling is impaired if the air intakes are blocked or the transmission housing is dirty, this can result in damage to the transmission.



MAINTENANCE

Replacing the air filter Pro 15

If the engine seems to lack power or runs irregularly, the reason may be a clogged air filter.

It is therefore important to replace the air filter at regular intervals (see "Maintenance schedule" for correct service interval).



WARNING!
Let the muffler system cool down before carrying out service work. Otherwise there is a risk of burns.

Clean/ replace the air filter as follows:

1. Remove the air cleaner case from the air cleaner body by pushing down the latches with fingers.

IMPORTANT INFORMATION

Never run the engine without the muffler fitted.

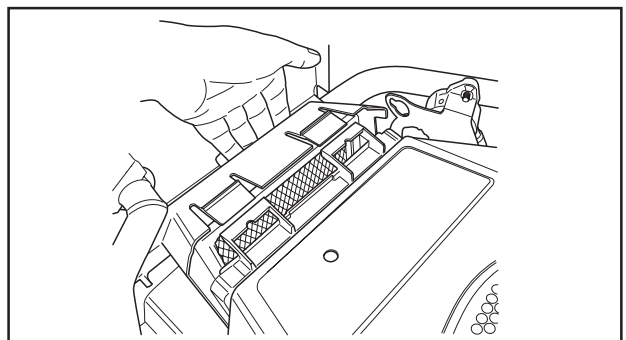
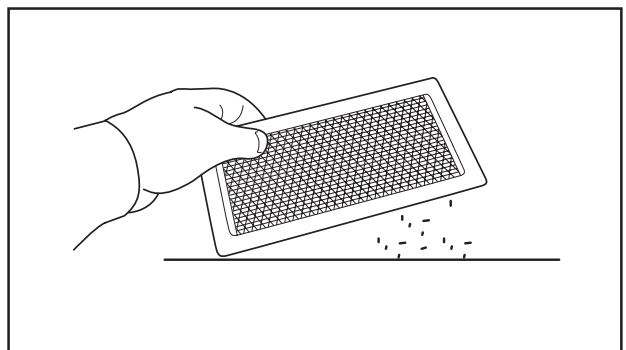
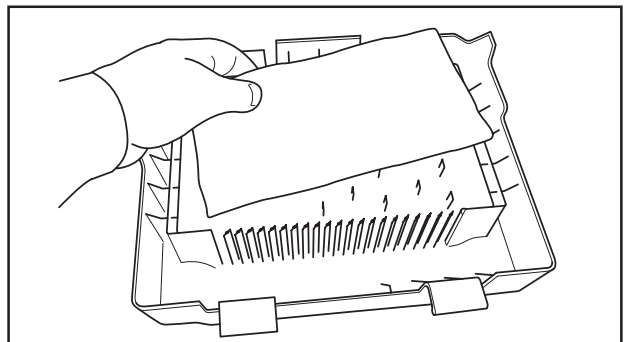
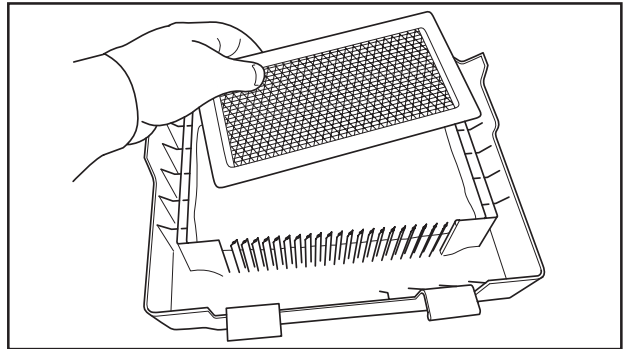
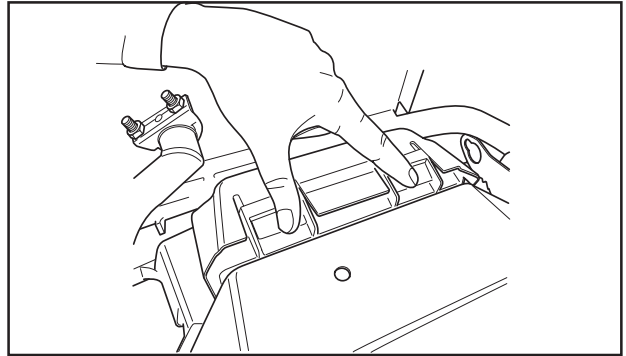
Do not use compressed air to clean the paper filter. Do not wash the paper filter.

The filters must not be oiled. They must be fitted dry.

2. Lift out the paper element and the foam element from the air cleaner case.
3. Clean the foam element by washing it in detergent and water.
4. Dry the foam element thoroughly.
5. Clean the paper element by tapping gently to remove dust. If the element is very dirty, replace it with a new one.

Always replace the paper element every 200 hours.

6. Reinstall the foam element and the paper element into the air cleaner case.
7. Reinstall the air cleaner case into the air cleaner body by putting the hooks on the bottom of the air cleaner case into the air cleaner body bottom.



MAINTENANCE

Replacing the air filter Pro 18

If the engine seems to lack power or does not run smoothly this may be because the air filter is clogged. If run with a soiled air filter, carbon can build-up on the spark plugs and lead to malfunctioning.

It is therefore important to replace the air filter at regular intervals (see "Maintenance schedule" for correct service interval).



WARNING!

Let the muffler system cool down before carrying out service work. Otherwise there is a risk of burns.

Clean/ replace the air filter as follows:

1. Release the rubber strap under the seat and raise the engine hood.

IMPORTANT INFORMATION

Never run the engine without the muffler fitted.

Do not use compressed air to clean the paper filter. Do not wash the paper filter.

The filters must not be oiled. They must be fitted dry.

2. Fold out the two snap-locks and lift off the cover on the air filter housing.

3. Pull off the foam plastic pre-filter from the paper filter and wash clean in mild detergent.

Squeeze it dry in a clean cloth.

Drench it with new engine oil. Wrap the filter in an absorbent cloth and squeeze out excess oil.

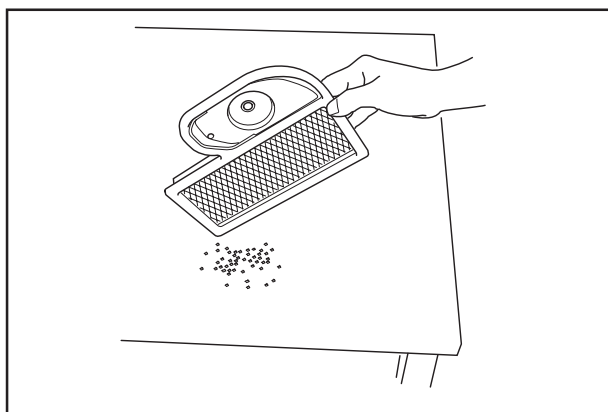
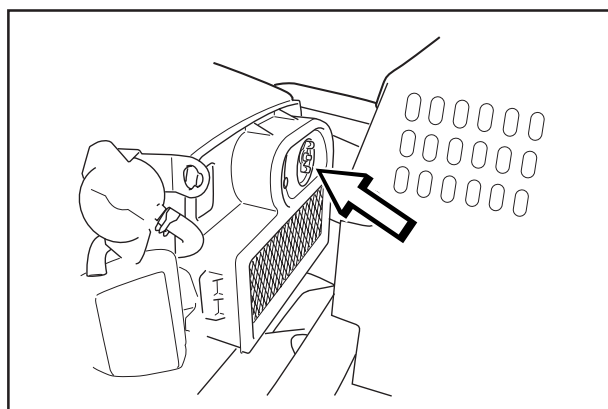
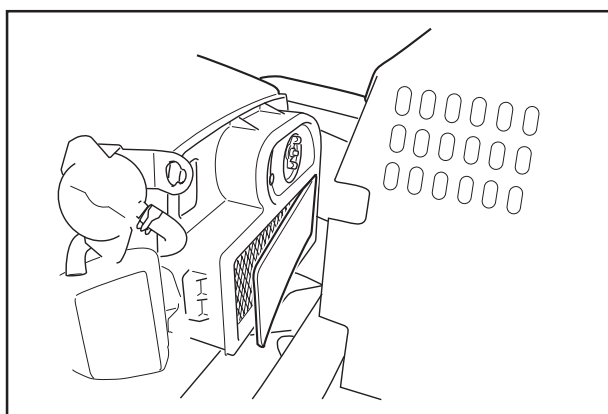
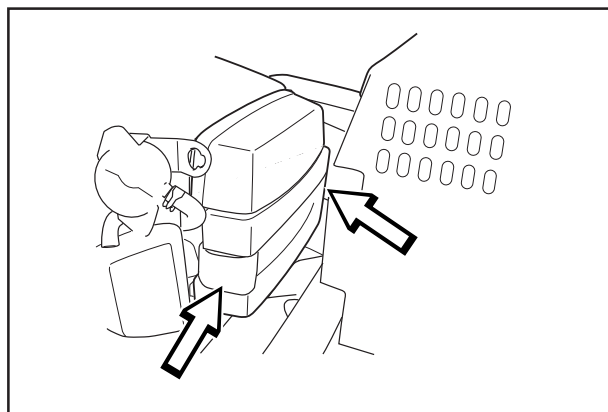
4. Unscrew the wing nut from the air filter and lift out the paper filter. Tap the filter against a hard surface to shake off the dust. If the paper filter is still dirty it should be replaced.

5. Refit the air filter as follows:

Insert the paper filter in the air filter housing and tighten the wing nut.

6. Fit the pre-filter over the rectangular section of the paper filter.

7. Refit the cover on the air filter housing. Bring up the cover from below and make sure the pre-filter does not drop out of place. Secure with the two clips.



MAINTENANCE

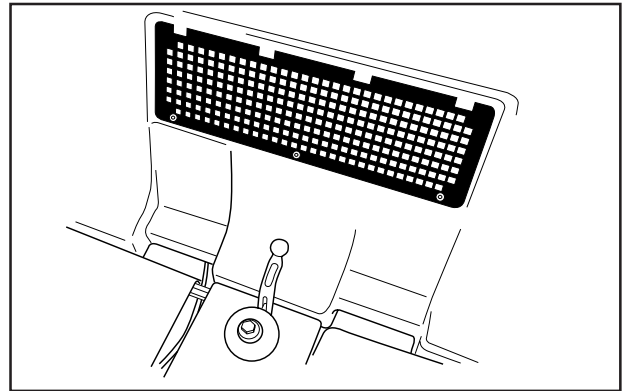
Checking the engine's cooling air intake

Clean the air intake grille in the engine cover behind the driver's seat.

Open the engine cover.



WARNING!
The cooling air intake rotates when the engine is running. Mind your fingers.

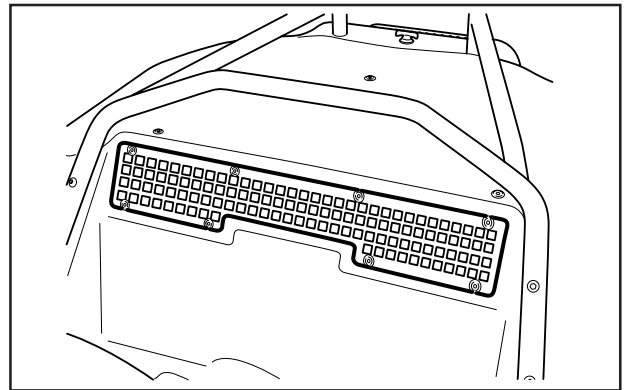


Air intake grille Pro 15

Check that the cooling intake is free from leaves, grass and dirt.

Check the air duct, located on the inside of the engine cover, ensure it is clean and does not rub against the cooling air intake.

A blocked cooling intake will interfere with the cooling of the engine, which can damage the engine.



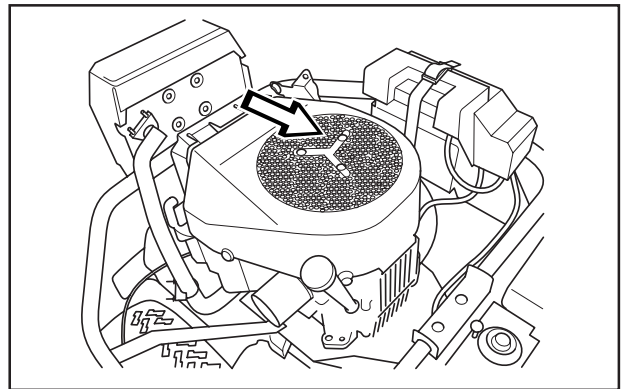
Air intake grille Pro 18

Cleaning the engine and muffler

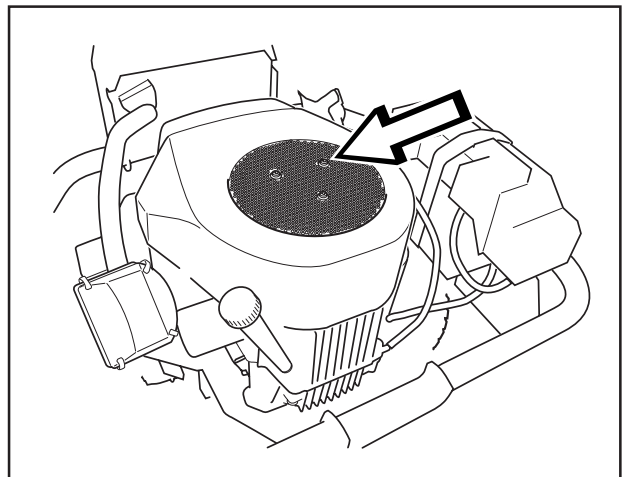
Keep the engine and muffler free from grass cuttings and dirt. Grass cuttings steeped in petrol or oil on the engine can increase the fire risk and impair cooling.

Allow the engine to cool before cleaning. If the dirt is mixed with oil, remove it using a degreasing agent otherwise just water and a brush.

Grass cuttings around the muffler dry quickly and constitute a fire risk. Brush or wash them off when the muffler is cold.



Cooling air intake Pro 15



Cooling air intake Pro 18

MAINTENANCE

Check the level of the battery acid

Check that the level of the battery acid lies between the markings. Top up the cells with distilled water *only*.



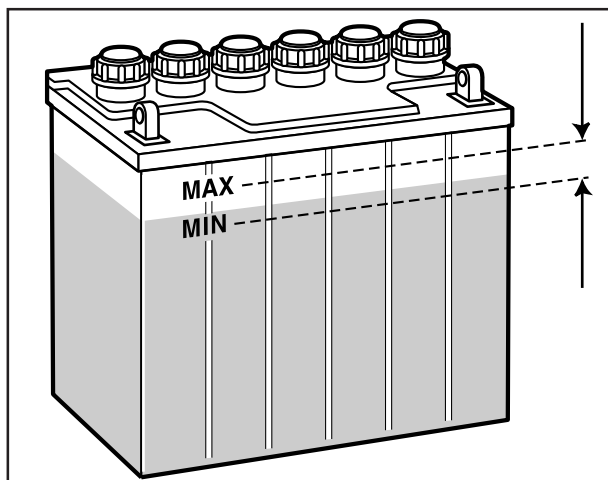
WARNING! **Procedures on contact with acid**

External: Rinse well with plenty of water.

Internal: Drink large quantities of water or milk. Contact a doctor as soon as possible.

Eyes: Rinse well with plenty of water.
Contact a doctor as soon as possible.

Batteries emit explosive gas. Sparks, flames and cigarettes must absolutely not be brought into the vicinity of the battery.



Ignition system

The engine is equipped with an electronic ignition system. Only the spark plug requires maintenance.

For recommended spark plug, see chapter "Technical data".

IMPORTANT INFORMATION

Fitting the wrong spark plug type can damage the engine.

IMPORTANT INFORMATION

Inadequately tightened spark plugs can cause overheating and damage the engine. Tightening the spark plug too much can damage the threads in the cylinder head.

1. Remove the ignition cable shoe and clean around the spark plug.
2. Remove the spark plug with a 3/4" (19 mm) spark plug socket wrench.
3. Check the spark plug. Replace the spark plug if the electrodes are burned or if the insulation is cracked or damaged. Clean the spark plug with a steel brush if it is to be reused.
4. Measure the electrode gap with a gapping tool. The gap should be 0.75 mm/0.030". Adjust as necessary by bending the side electrode.
5. Reinsert the spark plug, turning by hand to avoid damaging the threads.
6. After the spark plug is seated, tighten it using a spark plug wrench so that the washer is compressed. A used spark plug should be turned 1/8 of a turn from the seated position. A new spark plug should be turned 1/4 a turn from the seated position.
7. Replace the ignition cable shoe.

MAINTENANCE

Inspecting the safety system

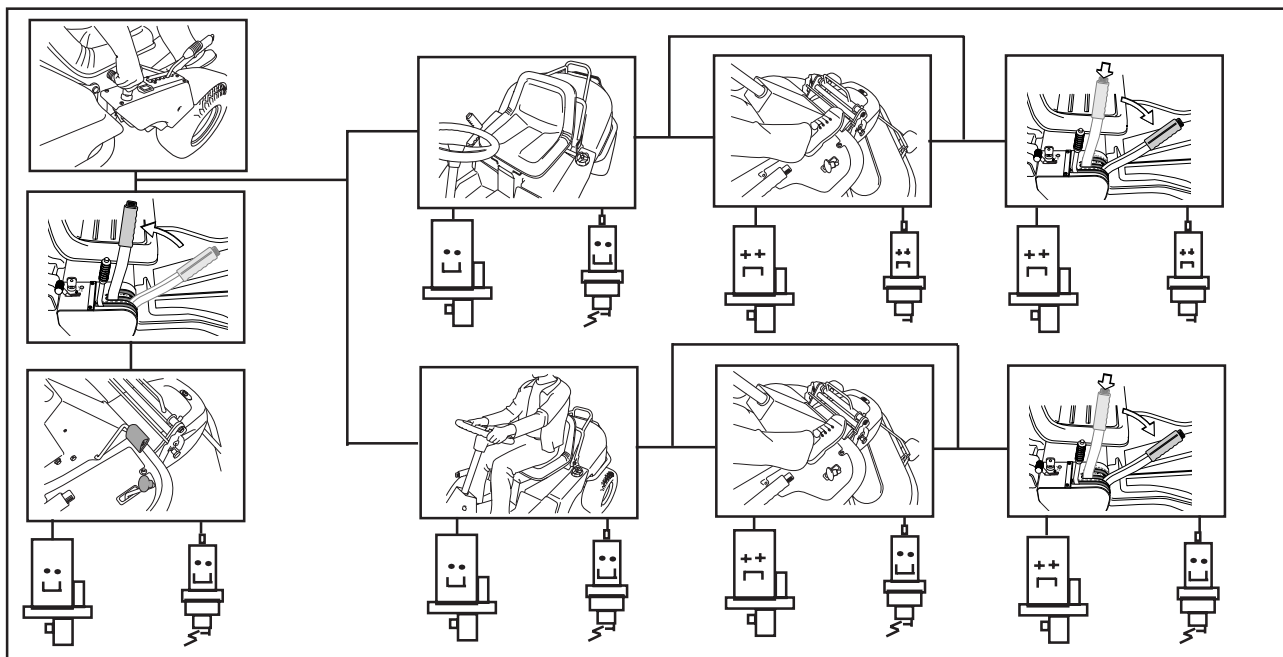
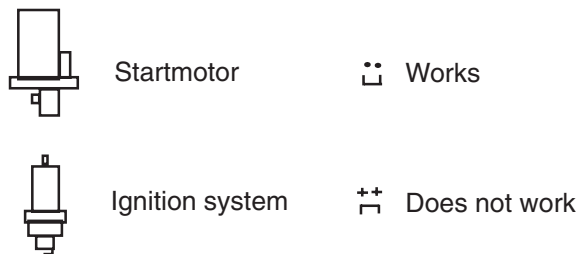
The Rider is equipped with a safety system that prevents starting or driving under the following conditions:

The engine should only be possible to start when the cutting unit is in its raised position and the hydrostat pedals are in the neutral position.

The driver does not need to be seated in the driver's seat.

Make daily inspections to ensure that the safety system works by attempting to start the engine when one of the conditions is not met. Change the conditions and try again.

Check that the engine stops if you temporarily move out off the driver's seat while the cutting unit is lowered or the hydrostat pedals are not in the neutral position.

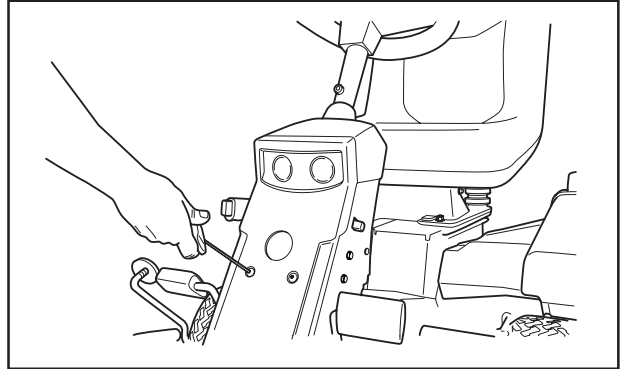


MAINTENANCE

Replacing the light bulbs, Pro 18

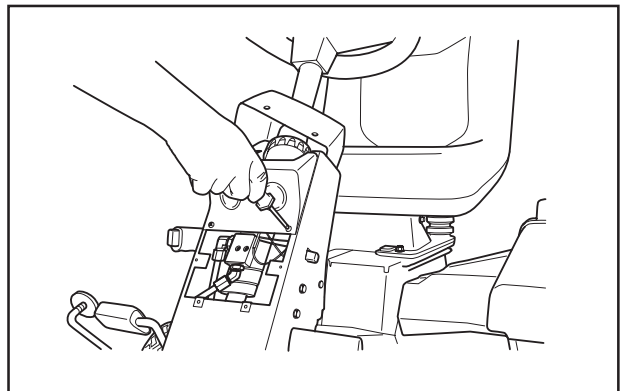
For information about the bulb type, see "Technical Data".

1. Unscrew the two screws holding the cover on the power servo housing. Lift up the cover and turn it around the steering shaft.



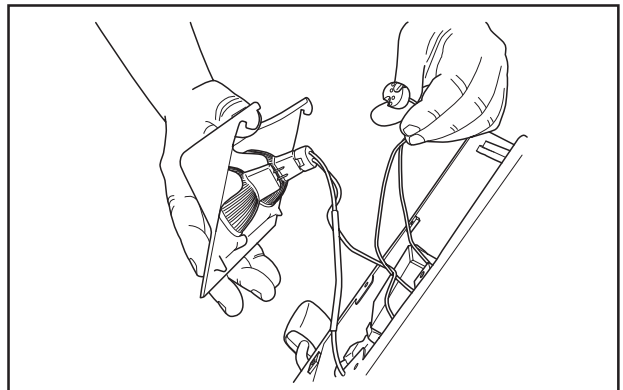
2. Unscrew the two screws holding the lamp insert.

Lift out the lamp insert.



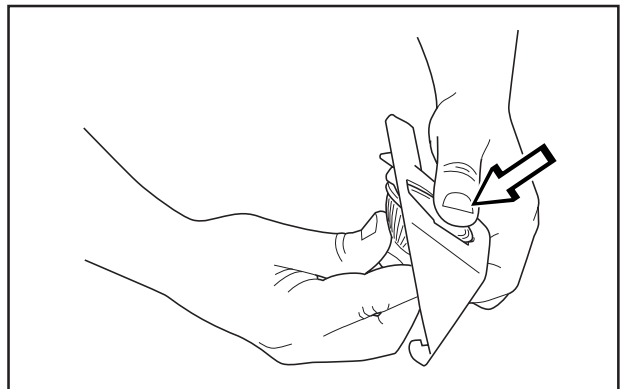
3. Disconnect the cables from the bulbs.

4. Lift out the bulbs from the insert.



5. Insert the new bulbs. Make sure you use your thumb to support the front.

6. Refit the cables, lamp insert and the cover on the power servo housing.



MAINTENANCE

Fuses

The main fuse is placed in a detachable holder under the battery case's cover, in front of the battery.

Type: Flat pin, 15 A.

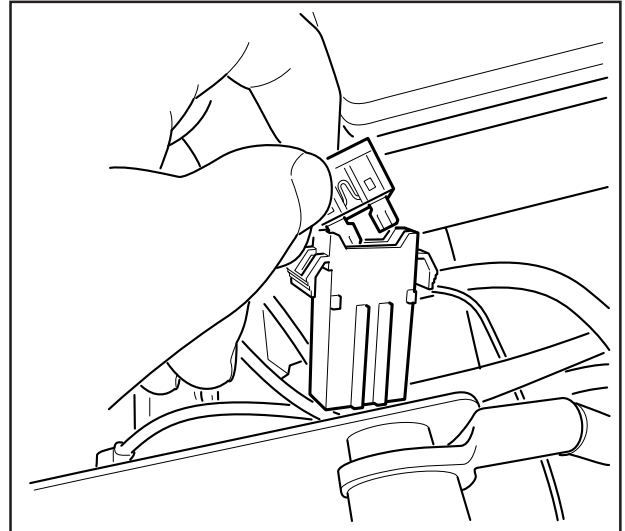
On Pro 18 there is also a power outlet fuse, this is located under the ignition switch behind the side plate on the control panel.

Type: Flat pin 7.5 A.

Do not use any other type of fuse when replacing.

A blown fuse is indicated by a burnt connector. Pull the fuse from the holder when replacing.

The fuse is there to protect the electrical system. If it blows again shortly after replacement, it is due to a short circuit, which must be fixed before the machine can be put into operation again.



Checking the tyre pressure

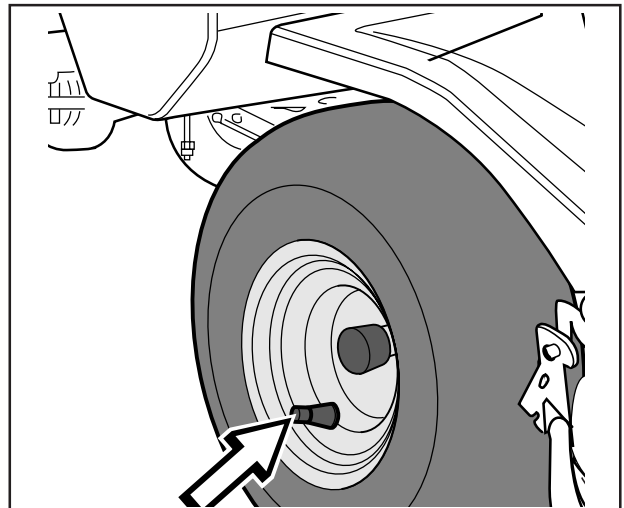
The tyre pressure should be 60 kPa (0.6 kp/cm²/8,5 PSI) all round.

To improve driving the pressure on the rear tyres can be reduced to 40 kPa (0.4 kp/cm²/5,6 PSI).

The maximum tyre pressure is 100 kPa (1,0 kp/cm²/ 14 PSI).

IMPORTANT INFORMATION

Different tyre pressures on the front tyres will result in the blades cutting the grass at different heights.



MAINTENANCE

Fitting the cutting unit

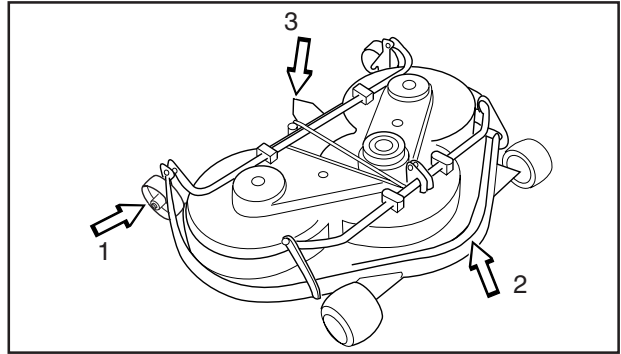


WARNING!
Wear protective glasses when fitting the cutting unit. The collet spring which tensions up the belt can go off and cause personal injury.

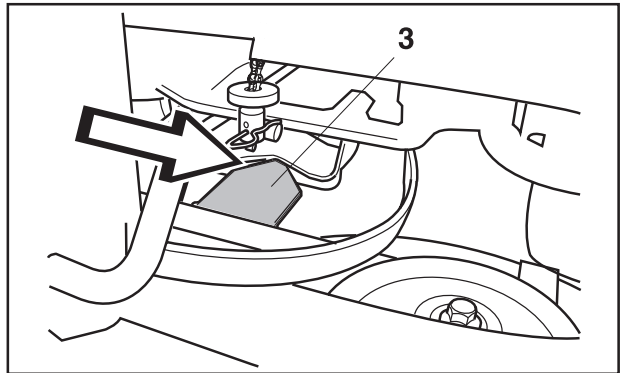
1. Place the Rider on a flat surface and apply the parking brake. Check that the lever for setting the cutting height is in the lowest position.

Make sure the support wheels are fitted to the cutting unit (1).

2. Grasp the handle at the front or hold the frame of the cutting unit (2) and slide the unit underneath the rider mower.



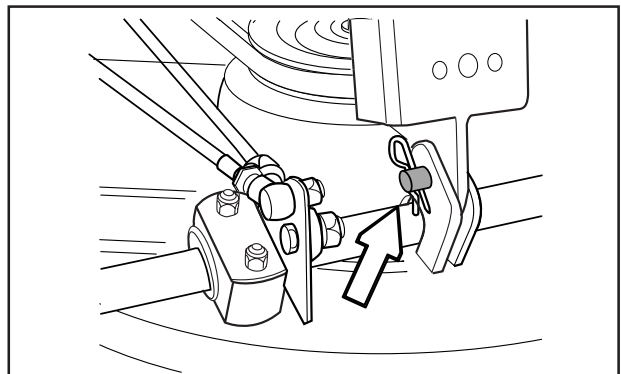
Make sure that the tongue (3) on the cutting unit engages correctly.



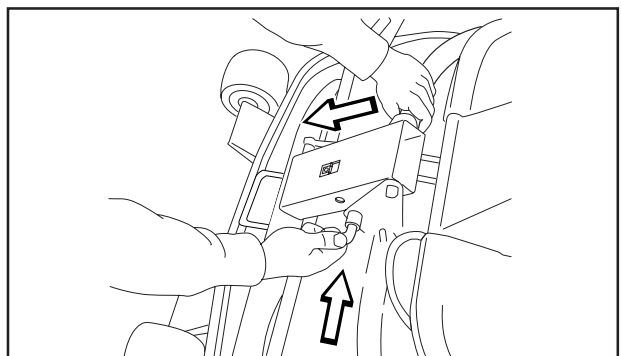
3. Insert the bolt and secure it with a locking pin.



WARNING!
Observe caution to avoid trapping your hand.

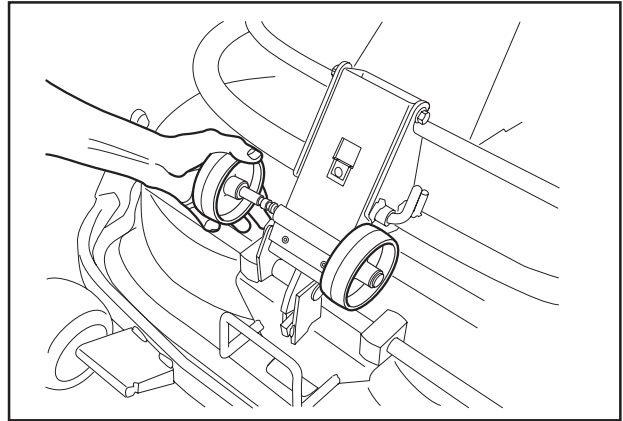


4. Press down the frame and insert the pin. Fit the drive belt around the drive wheels of the cutting unit.
5. Hook up the height adjustment strut.

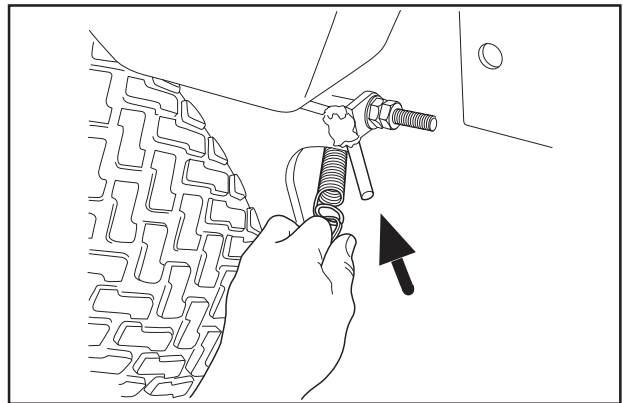


MAINTENANCE

6. Move the support wheels to their parking position.
7. Fit the front cover.



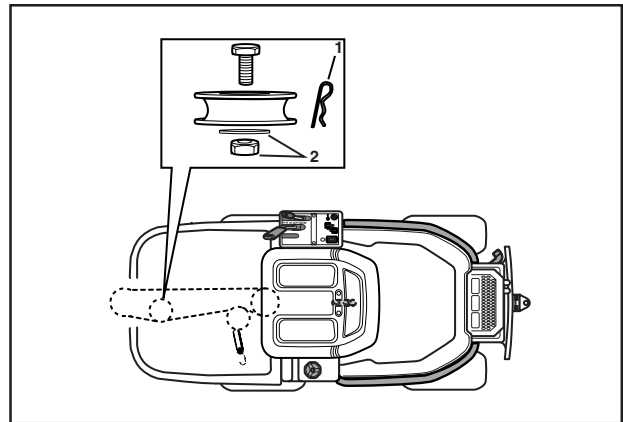
8. Secure the collet spring.



Installing BioClip 90

In order to install BioClip 90 the drive belt support wheel must first be removed.

1. Release the collet spring, see fig above.
2. Remove the locking pin (1) that is located next to the support wheel.
3. Screw off the nut and washer (2) under the centre of the support wheel. Remove the screw and support wheel.
4. Fit the cutting unit according to the instructions above.

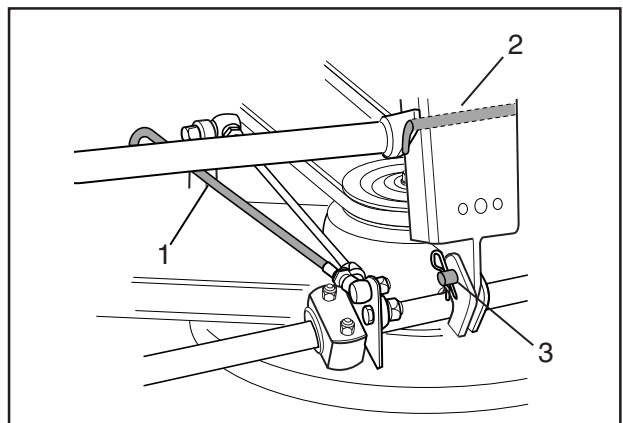


Removing the cutting unit



WARNING!
Wear protective glasses when removing the cutting unit. The collet spring which tensions up the belt can go off and cause personal injury.

1. Carry out points 1-9 to put the cutting unit in the service position, see "Service position for the cutting unit".
2. Remove the bolt (3) and lift off the cutting unit.



MAINTENANCE

Checking and adjusting the cutting unit's ground pressure

To achieve the best cutting results the cutting unit should follow the underlying surface without pressing too hard against it.

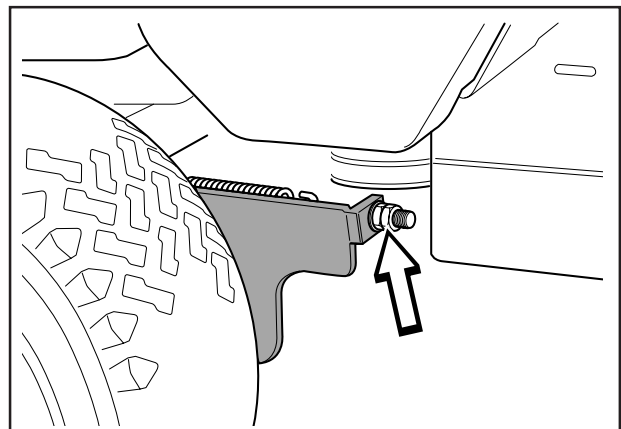
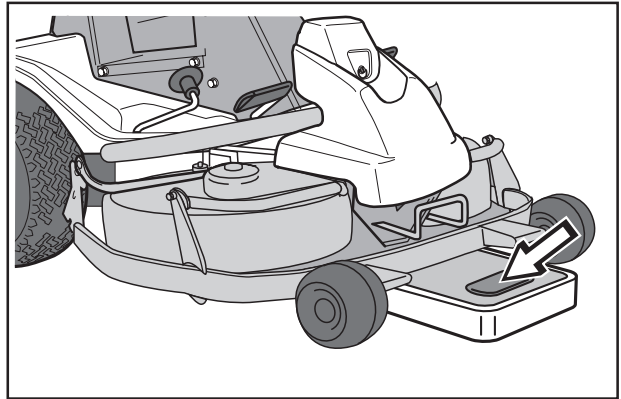
The pressure is adjusted with a screw on each side of the machine.

1. Check the air pressure in the tyres 60 kPa (0.6 kp/cm²/8.5 PSI).
2. Place the Rider on a flat surface.
3. Put the lifting lever in the mowing position.
4. Place a set of bathroom scales under the cutting unit's frame (front edge) so that it rests on the scales. If necessary a block can be placed between the frame and scales so that the support wheels do not bear any weight.
5. Adjust the unit's ground pressure by screwing in or out the adjusting screws located behind the front wheels on both sides.

The ground pressure should be between 12 and 15 kg (26.5-33 lb).

IMPORTANT INFORMATION

When changing the cutting unit, you must readjust the parallelism and cutting height.



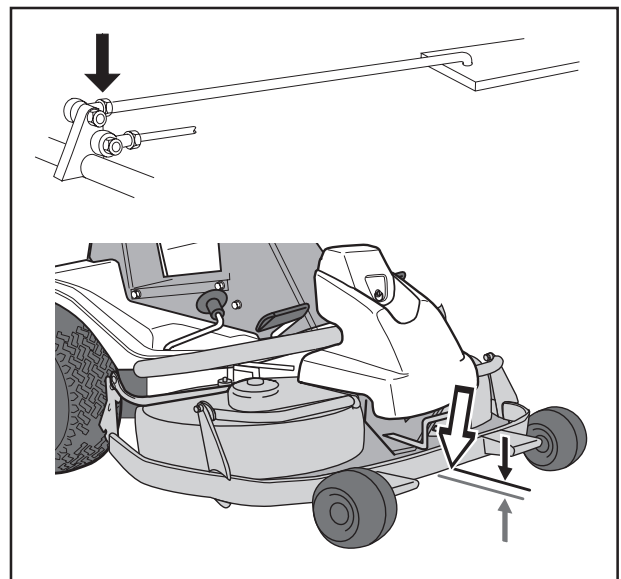
Cutting Height

1. Place the Rider on a flat surface.
2. Loosen the nut on the height adjustment strut.
3. Measure the distance between the ground and cutting unit's edge at the front of the cover. The cutting unit should have a slight slant, with the rear edge 2-4 mm (1/8") higher than the front edge.

The distance between the front edge and the ground should be:

- 40 mm for BioClip 90 and Combi 103
- 35 mm for Side ejector 97, rear ejector 97 and Combi 112.

4. Tighten the nut.
5. Check that the parallelism has not changed. If so, the parallelism must be readjusted.
6. Check and if necessary adjust the cutting unit's ground pressure.
7. Fit the front cover.

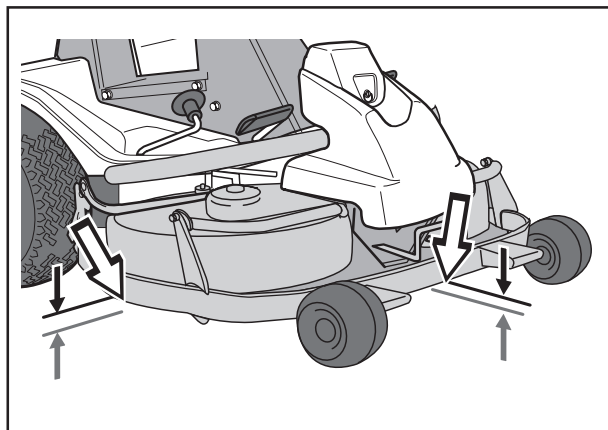


MAINTENANCE

Checking the cutting unit's parallelism

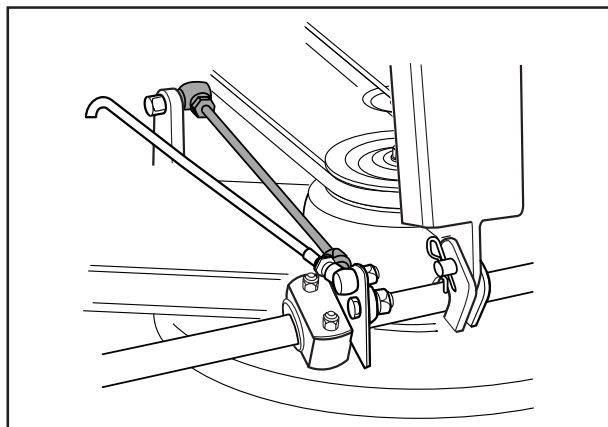
Check the parallelism of the cutting unit as follows:

1. Check the air pressure in the tyres 60 kPa (0.6 kp/cm²/8.5 PSI).
2. Place the machine on a level surface.
3. Put the lifting lever in the mowing position.
4. Measure the distance between the ground and the front and rear edges of the cutting unit hood. The cutting unit should slope forwards slightly so that the rear edge is 2-4 mm (1/8") higher than the front edge.



Adjusting the parallelism of the cutting unit

1. Remove the front hood and right-hand fender.
2. Undo the nuts on the lift strut.
3. Screw out (extend) the stay to raise the rear edge of the cover. Screw in (shorten) the stay to lower the rear edge of the cover.
4. Tighten the nuts after adjustment.
5. On completion of the adjustment the unit's parallelism should be re-checked.
6. Fit the right-hand fender and the front hood.

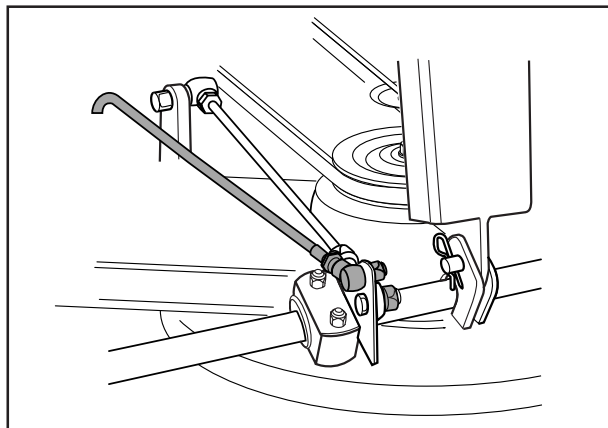


Replacing the cutting unit belt

Belt replacement on BioClip 90

The BioClip 90 is driven by a toothed belt that synchronises rotation of the blades. The belt is located under the cover of the cutting unit.

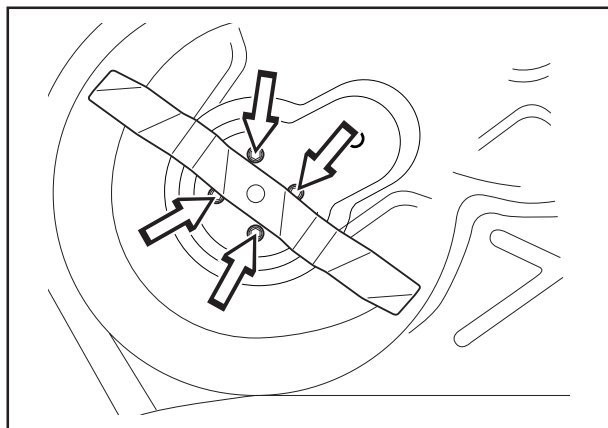
1. Remove the cutting unit.
2. Remove the front bolt from the parallel strut and tip the strut backwards. Push the height adjustment strut forwards.
3. Loosen the bolts holding the protective hood and then lift off the hood.
4. Useful hint: Mark the positions of the blades on the respective pulley using a felt-tip pen.



WARNING!
Wear gloves to protect your hands
when working with the blades.

Loosen the nuts on the eccentric plate and turn this away. Loosen the four nuts (see diagram) holding the blade bearing enough so that the bearing can be moved.

Slide the blade bearing in towards the centre and pry off the belt.



MAINTENANCE

IMPORTANT INFORMATION

The blades on a BioClip unit should be set at 90 degrees to each other. In all other cases the blades can collide and cause serious damage to the cutting unit.

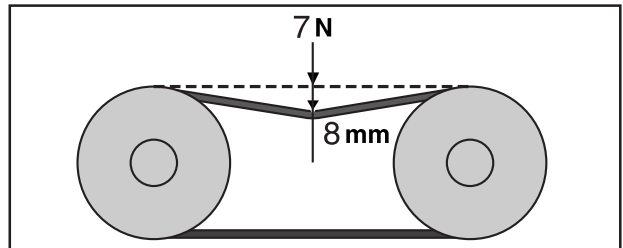
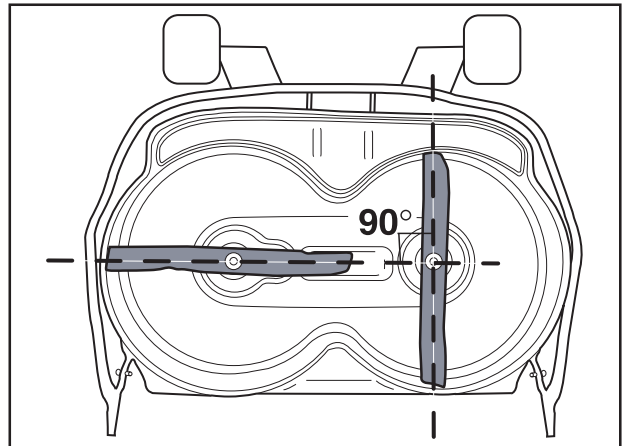
5. Ensure the blades are positioned as set out in the diagram, at 90 degrees to each other, otherwise the belt must be adjusted. When the blade bearings are loose the belt can be moved around to the next tooth.

Tighten the nuts enough so that the bearings rest against the cutting hood but still can be moved.

Tension the belt by turning the eccentric adjuster on top of the cutting hood. Tighten the nut.

Tighten all nuts on the blade bearings.

6. When the belt can be moved 8 mm (5/16") inwards using a force of 7 N (1.5 lb) the belt is adjusted correctly.
7. Fit the protective cover over the belts and replace the parallel strut.

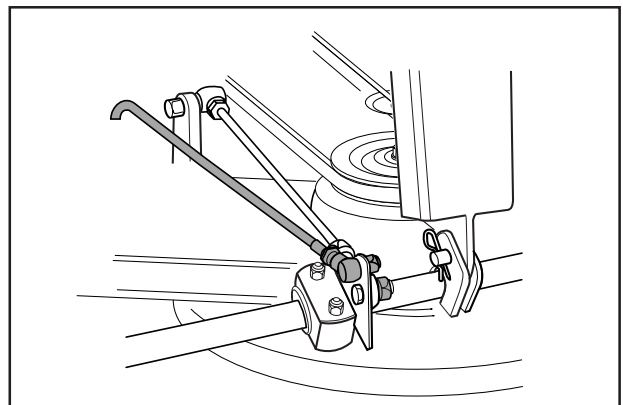


Belt change on Combi 103

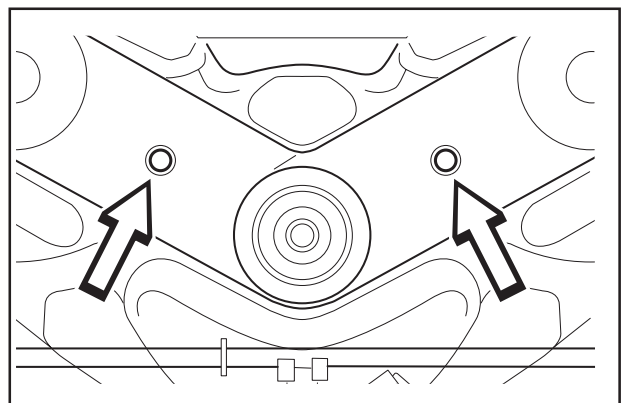
1. Remove the cutting unit.
2. Remove the front bolt from the parallel strut and tip the strut backwards. Push the height adjustment strut forwards.



WARNING!
Wear gloves to protect your hands when working with the blades.



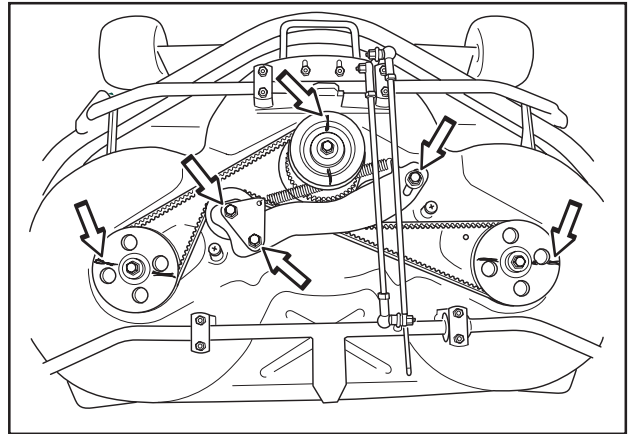
3. Loosen the two bolts holding the protective hood and then lift off the hood.



MAINTENANCE

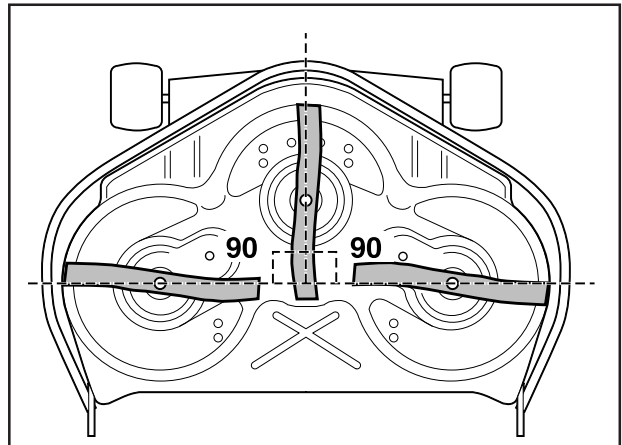
4. Useful hint: Mark the positions of the blades on the respective pulley using a felt-tip pen.

Loosen the three bolts 1/2 - 1 turn. Press the sides of the belt together to give maximum slack and tighten one of the bolts. Replace the belt and tighten as shown (see decal on cover). Set the blades at 90° to each other and loosen the bolt again. The spring ensures the correct belt tension. Check the positions of the blades again and adjust if necessary by repositioning the belt on the teeth. Tighten the three bolts to 45 Nm/32 lbf.

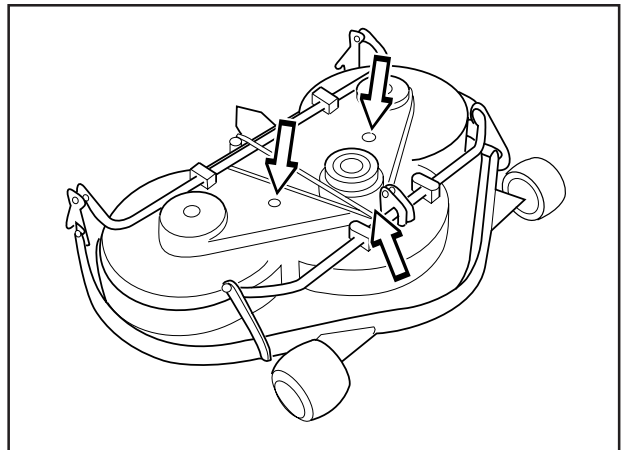


IMPORTANT INFORMATION

The blades on a Combi 103 unit should be set at 90 degrees to each other. In all other cases the blades can collide and cause serious damage to the cutting unit.



5. Fit the protective cover over the belts and replace the parallelism arm.

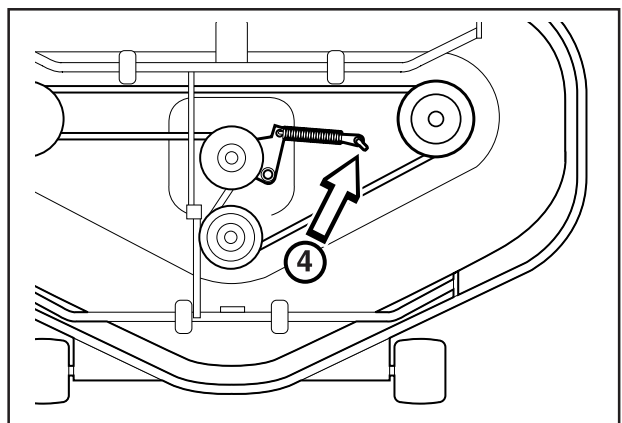


Belt change on cutting unit with rear ejection, side ejection and Combi 112

On these cutting units with “collision-proof” blades, the blades are driven by one V-belt. Do as follows to change the V-belt:

1. Remove the cutting unit.
2. Undo the bolt on the lift strut and the two screws on the cover. Lift the cover off the cutting unit.
3. Loosen the spring (4) that tensions the V-belt and pry off the belt.

Simply reverse the procedure to fit the new belt.



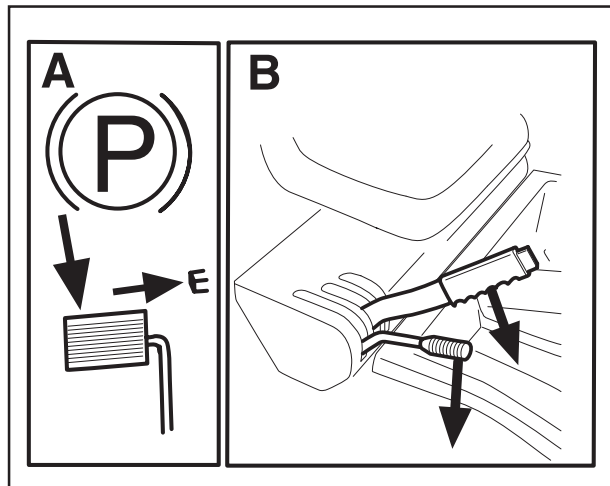
MAINTENANCE

Service position for the cutting unit

The cutting head can be placed in the service position to provide easy access for cleaning, repairs and servicing. In the service position the cutting unit is raised and locked in the vertical position.

Placing in service position

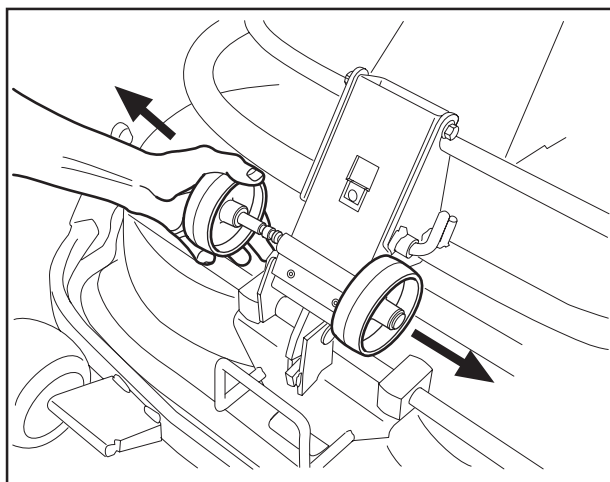
1. Position the machine on flat ground. Apply the parking brake (A). Adjust the cutting unit to the lowest cutting height and lower the cutting unit (B).



2. Remove the front hood by removing the pin. (There are complete instructions on using the service position inside the front hood).



3. Remove the two support wheels from under the front hood.

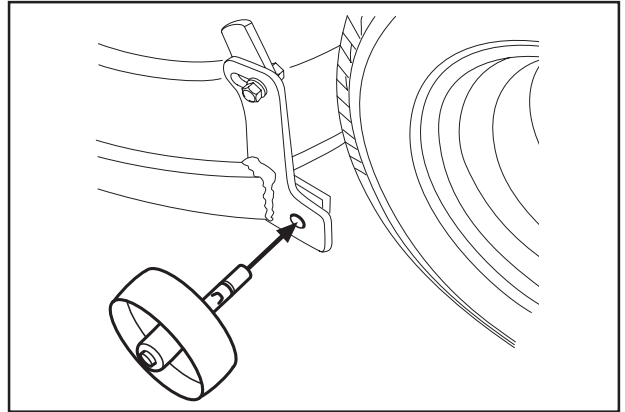


MAINTENANCE

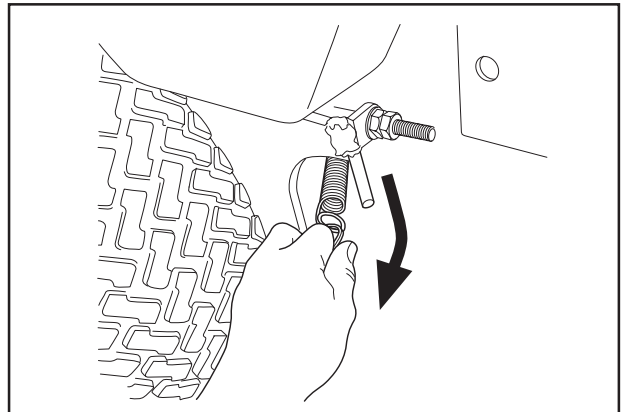
4. Fit the support wheels on either side of the rear of the cutting unit.



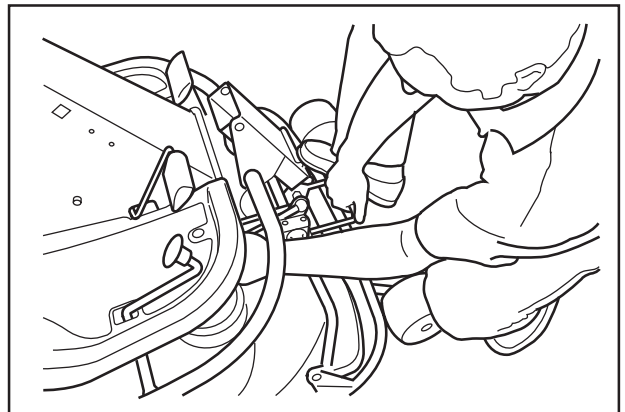
WARNING!
Wear protective glasses when dismantling the cutting unit. The spring which tensions up the belt can go off and cause personal injury.



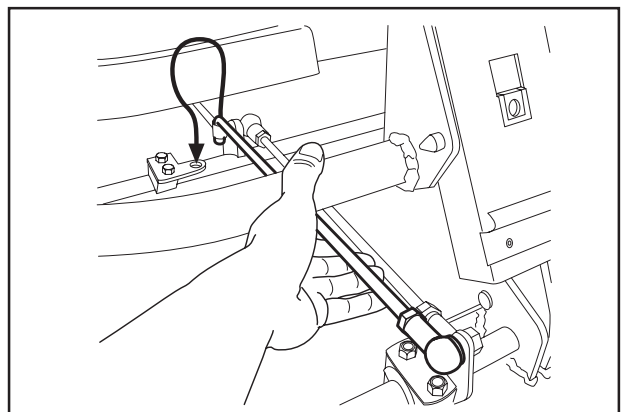
5. Disengage the spring for the drive belt tensioning wheel.



6. Place a foot on the front edge of the cutting unit near the wheel and raise the front edge of the unit to make it easier to remove the lift strut.



7. Engage the strut in the holder.

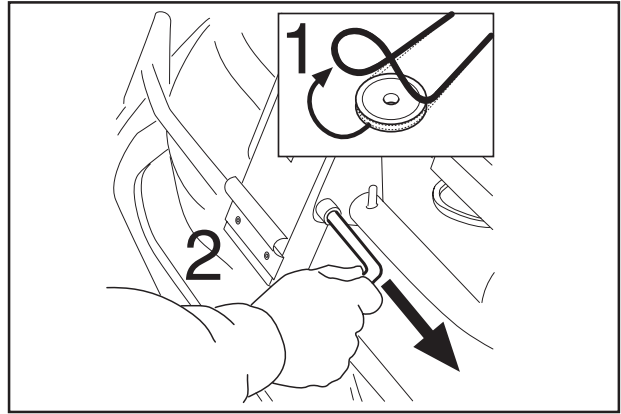


MAINTENANCE

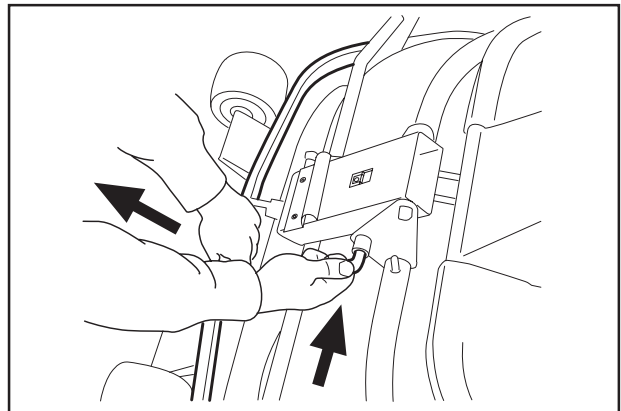


WARNING!
Observe caution to avoid trapping
your hand.

8. Lift off the drive belt (1). Then pull out the pin (2).

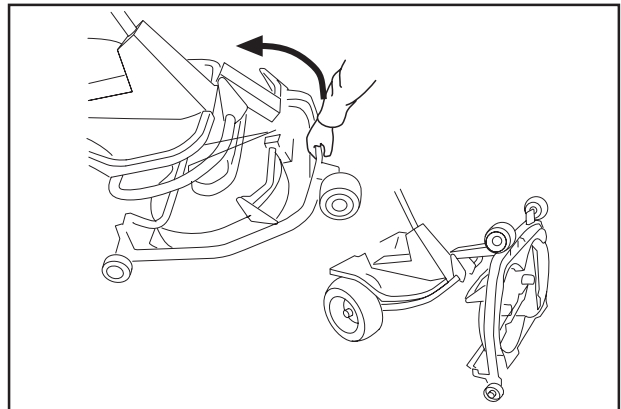


9. Pull the frame forwards and refit the pin.



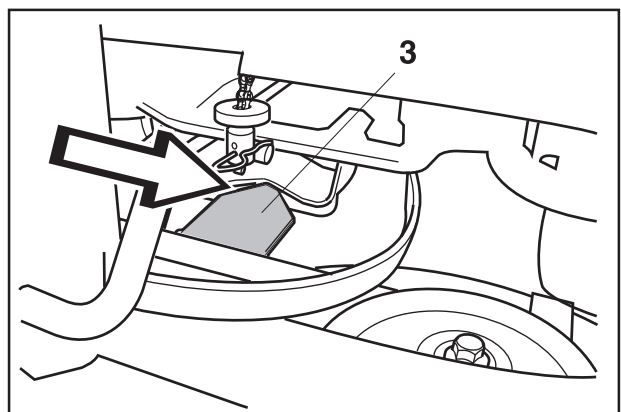
10. Grasp the front edge of the cutting unit, pull out and raise into the service position.

If the cylindrical bolt, which is now holding the cutting unit is removed, the cutting unit can be lifted off.



Restoring from service position

To leave the service position, reverse the procedures set out in "Placing in the service position". Make sure that the cutting unit's "lug" (3) enters the loop correctly on the underside of the machine, see diagram.



MAINTENANCE

Checking the blades

To achieve the best mowing results it is important that the blades are undamaged and well-sharpened.

Check that the blades' attachment screws are tight.

IMPORTANT INFORMATION

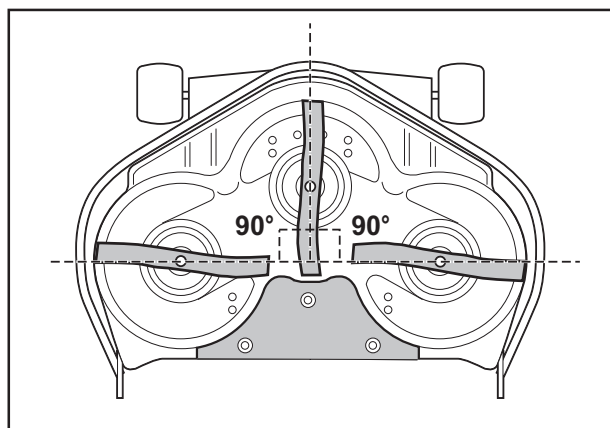
Replacing or sharpening the blades should be conducted by an authorised service workshop.

The blades should be balanced after sharpening.

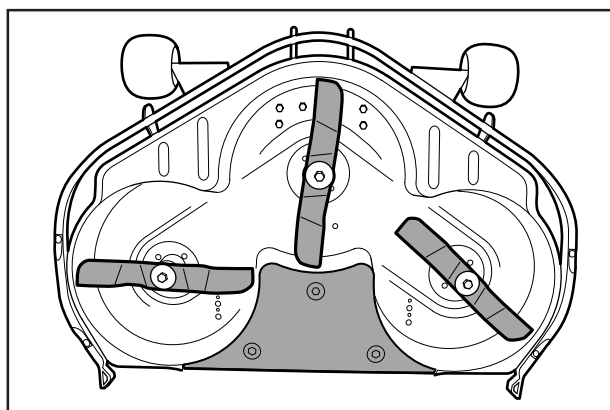
Damaged blades should be replaced when hitting obstacles that result in a breakdown. Let the servicing dealer judge whether the blade can be repaired/ground or must be discarded.

IMPORTANT INFORMATION

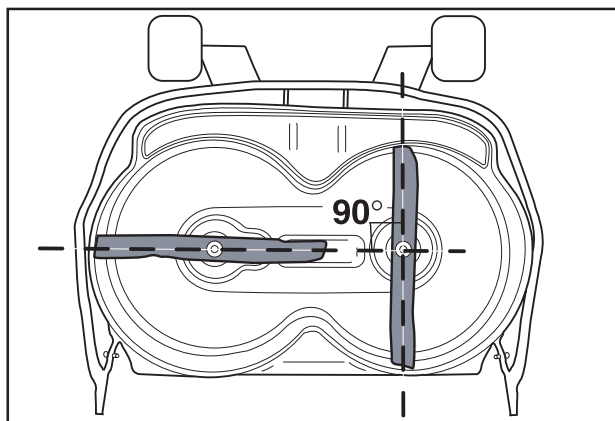
BioClip 90 and Combi unit 103 should always have the blades in the relative position shown in the diagrams with an angle of 90° between the blades. Otherwise the blades can go against each other and damage the unit.



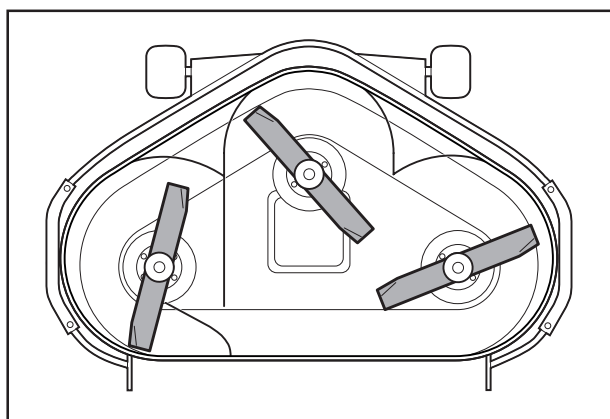
Combi 103



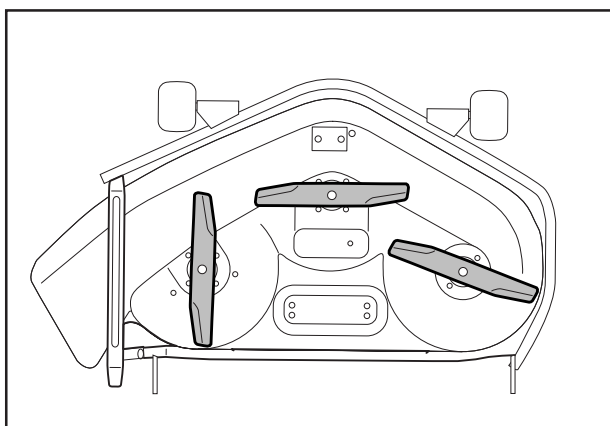
Combi 112



BioClip 90



Cutting unit with rear ejection 97



Cutting unit with side ejection 97

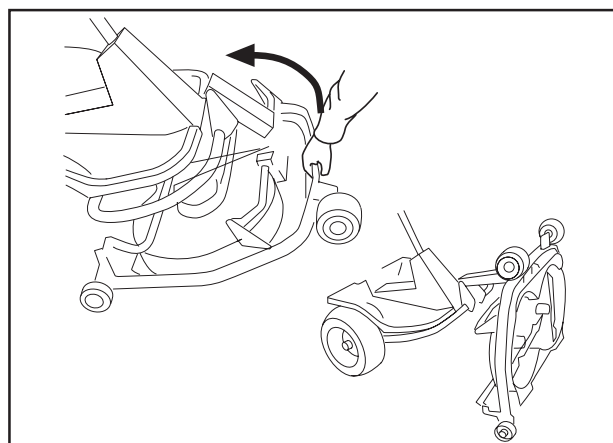
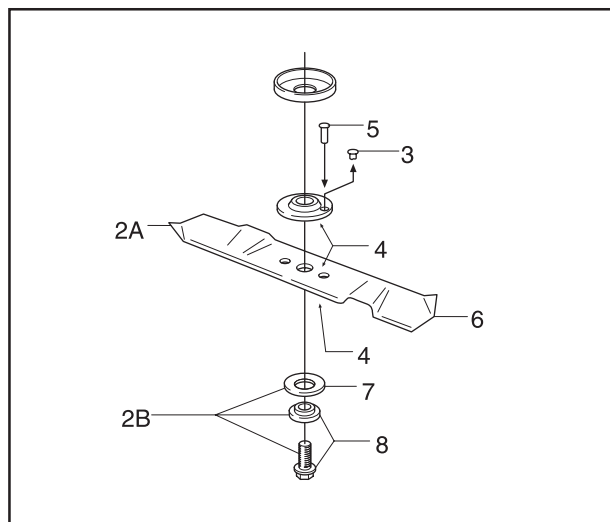
MAINTENANCE

Replacing the break-pin (BioClip 90, Combi 103)

The blades are fitted with a break-pin to protect the cutting unit and its drive when colliding with obstacles. A domed, spring friction washer is fitted to each blade bolt. The washer must always be replaced with a new washer if the blade bolt is loosened. Otherwise the break-pin can break causing the blades to collide.

Only use original spare parts. A set containing a blade, break-pin and friction washer can be purchased from your dealer.

1. Put the cutting unit in the service position, see "Service position for the cutting unit\Placing in the service position".
2. Remove the blade (2A) by removing the blade bolt with washer and friction washer (2B).
3. Remove the remains of the broken break-pin (3).
4. Make sure the contact surfaces (4) on the blade and the blade mounting are metallic clean.
5. Fit **one** new break-pin (5) in the blade mounting.
6. Fit the blade (6), make sure it is fitted as illustrated.
7. Fit a **new** friction washer (7) with the concave face turned towards the blade.
8. Fit the blade bolt with washer (8). Tightening torque 45-50 Nm (4.5-5 kpm/32-36 lbft).



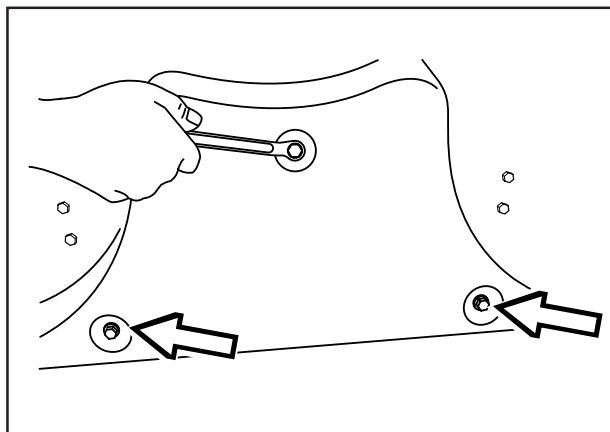
Service position

Removal of BioClip plug (Combi)

To change a Combi unit from BioClip function to cutting unit with rear ejection, remove the BioClip plug located under the unit with three screws.

1. Put the unit in the service position, see "Placing in the service position".
2. Remove the three screws holding the BioClip plug, and remove the plug.
3. Tip: Fit three full-thread screws M8x15 mm in the screw holes to protect the threads.
4. Replace the unit in normal position.


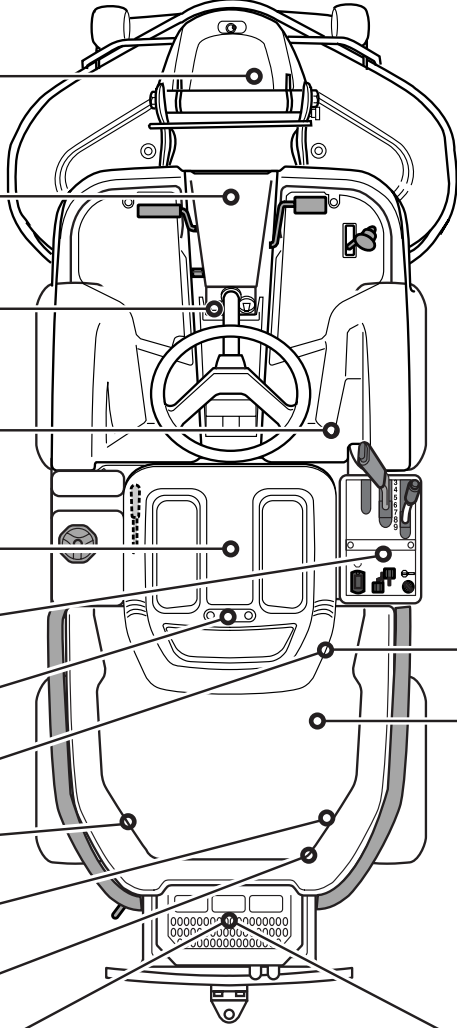















Fit the BioClip plug in the reverse order.



Removal of BioClip plug


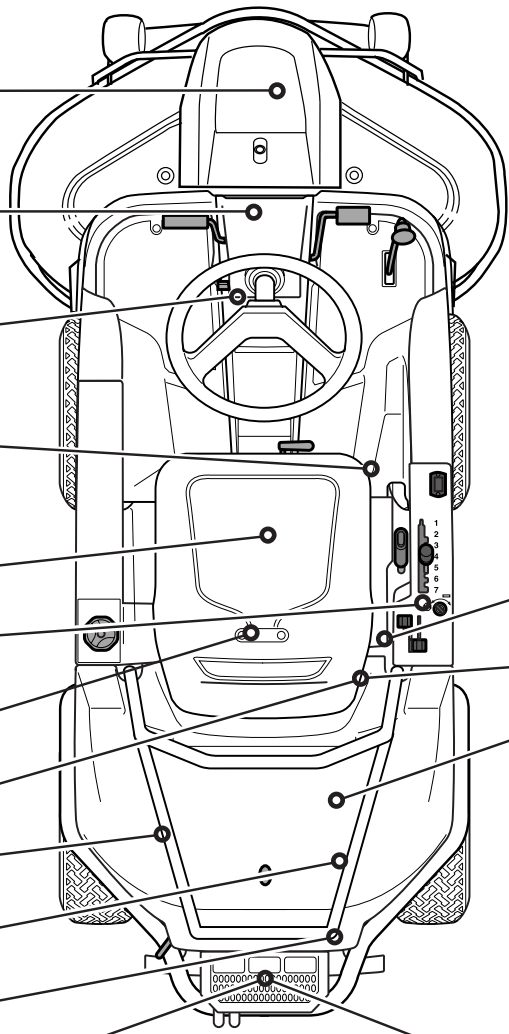
















LUBRICATION

Lubrication chart 15

12/12	1/12	1/52	1/365	Rider Pro 15		25h	100h	200h	500h
						(1/52)			
				1					
				2					
				3					
				4					
				5					
				6					
				7					
				8					
				9					
				10					
				11					
				12					
									
									

LUBRICATION

Lubrication chart 18

12/12	1/12	1/52	1/365	Rider Pro 18		25h	100h	200h	500h
						(1/52)			
				1					
				2					
				3					
				4					
				5					
				6		14			
				7		8			
				8		13			
				9					
				10					
				11					
				12		12			

LUBRICATION

General

Remove the ignition key to prevent accidental movement during lubrication.

If lubricating with an oil can, fill the can with engine oil.

If lubricating with grease, use grease 503 98 96-01 or a similar chassis grease or bearing grease with good corrosion resistance, unless otherwise specified.

If the Rider is used daily it should be lubricated twice a week.

Wipe off excess lubricant after lubrication.

It is important that lubricant does not get onto the drive surfaces of the belts or pulleys. If this happens, try to clean it off with white spirit. If the belt continues to slip it must be replaced. Do not use petrol or other petroleum products to clean V-belts.

Lubricating wires

Lubricate both ends of the wires, moving the controls through their full travel range while doing so. Refit the rubber protectors over the wires after lubrication. Wires with a casing will seize up unless lubricated regularly. If this happens it can lead to operating problems such as uncontrolled braking.

If a wire does seize up, remove it and hang it up vertically. Lubricate with light engine oil until the oil starts to drip from the lower end. Useful hint: Fill a small plastic bag with oil, tape it tightly around the wire casing and hang the wire vertically from the bag overnight. If this does not free up the wire then it must be replaced.

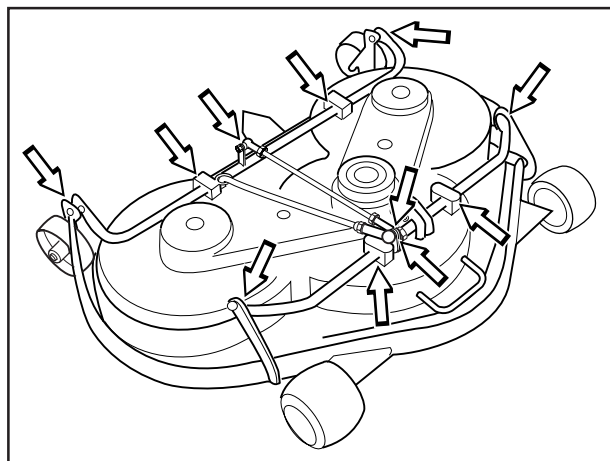
Lubrication instructions according to the schedule

1. Cutting unit

Remove the nose cowling.

Lubricate using an oil can:

- Joints and bearings



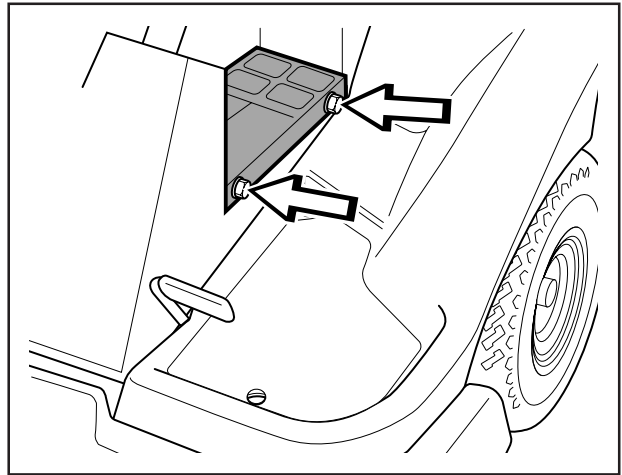
LUBRICATION

2. Pedal mechanism in frame tunnel

Pro 15

Lubricate the pedal mechanism in the frame tunnel.

Remove the cover from the frame tunnel by undoing the screws, two on each side.

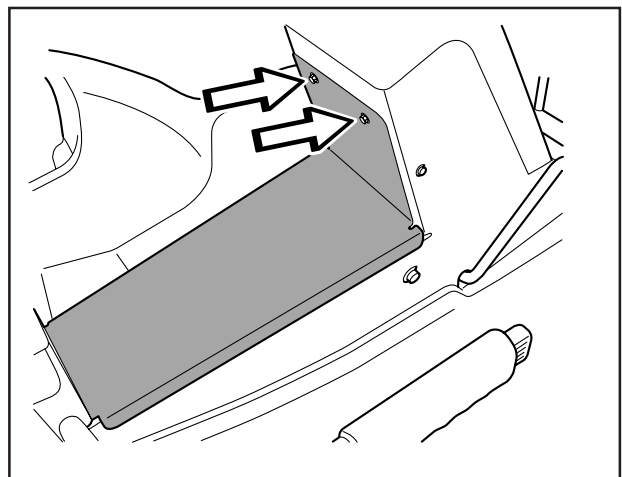


2. Pedal mechanism in frame tunnel

Pro 18

Lubricate the pedal mechanism in the frame tunnel.

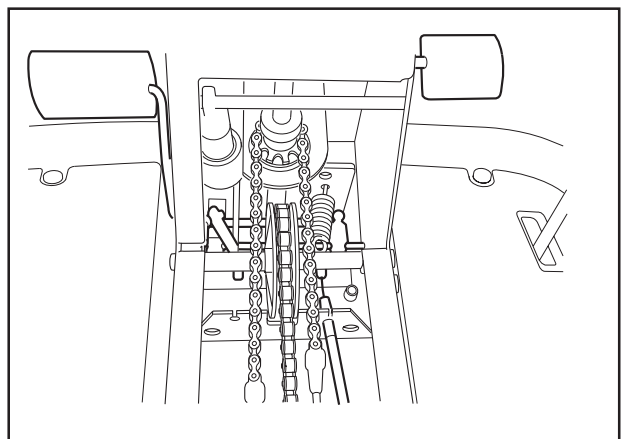
Remove the cover from the frame tunnel by undoing the screws, two on each side.



Pump the pedals and lubricate the moving parts using an oil can.

Lubricate the wires connected to the brake and drive pedals using an oil can.

Lubricate as described under "Chains in frame tunnel" before refitting the cover over the frame tunnel.



LUBRICATION

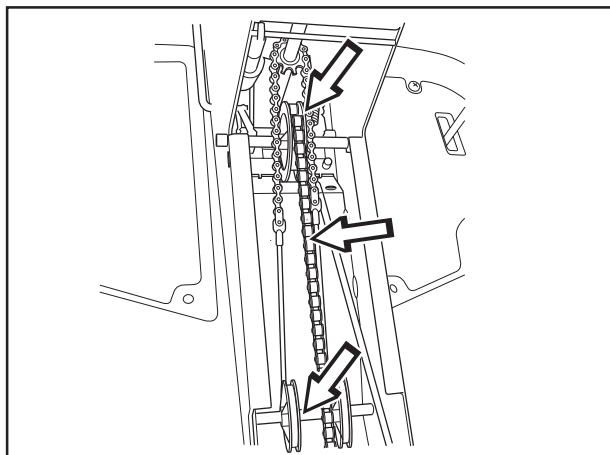
3. Chains in frame tunnel

Remove the cover from the frame tunnel, see step 2.

Lubricate the chains in the frame tunnel using an oil can or motorcycle chain spray.

Lubricate the shaft of the control wire pulleys with grease. Press the rollers to the side and brush the shaft with grease.

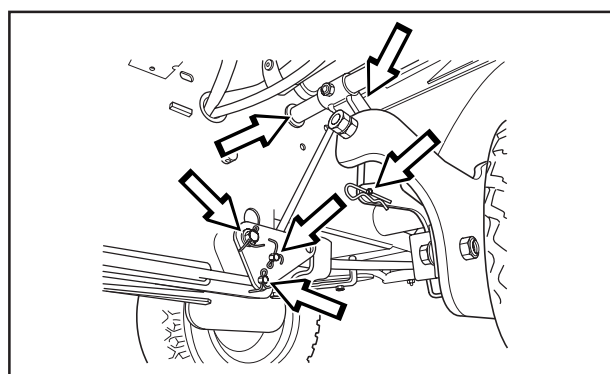
Refit the cover over the frame tunnel.



4. Triangular link and joints

Lubricate the triangular link and the joints on the cutting height adjustment strut behind the right front wheel.

Lubricate using oil can.



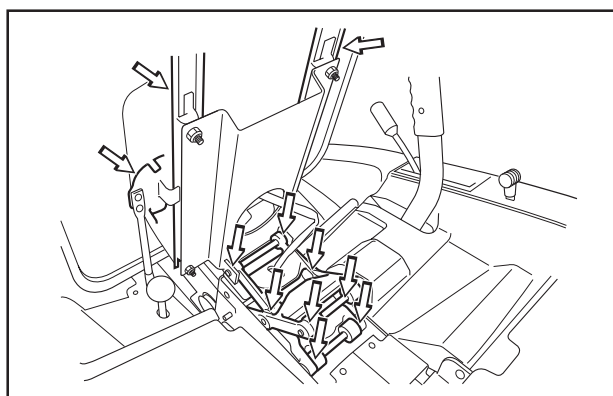
5. Driver's seat

Tip up the seat.

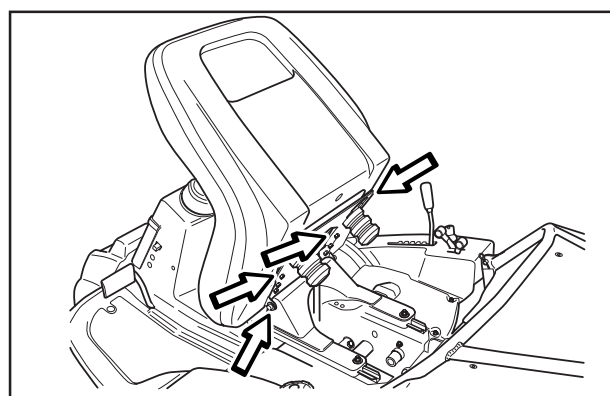
Lubricate the links to the seat's scissor suspension with an oil can, 8 lubrication points on Pro 15.

Lubricate the lengthways adjustment mechanism with an oil can on Pro 15 and Pro 18.

Lubricate the lengthways adjustment runners with an oil can on Pro 15 and Pro 18.



Pro 15



Pro 18

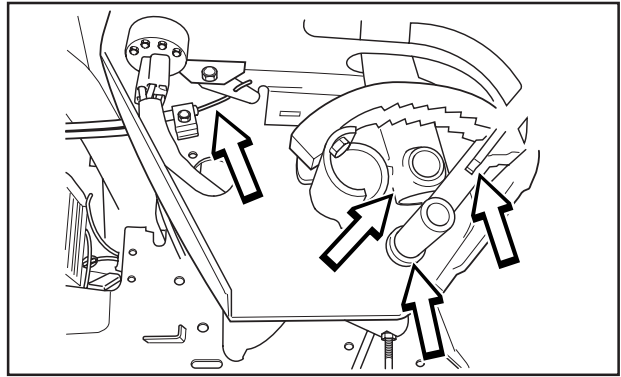
LUBRICATION

6. Throttle and choke wires, lever bearings

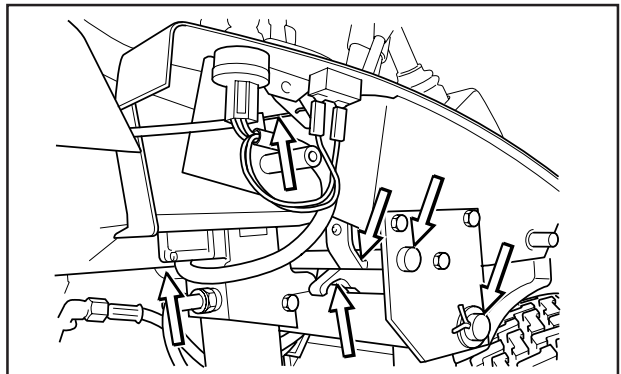
Remove the right side panel from the lever housing (1 screw) and open the engine hood. Lubricate the exposed ends of the wires using an oil can, including the ends at the engine. Move the levers through their full range of travel and lubricate again.

Lubricate joints, locks and bearings for the cutting deck control levers using an oil can.

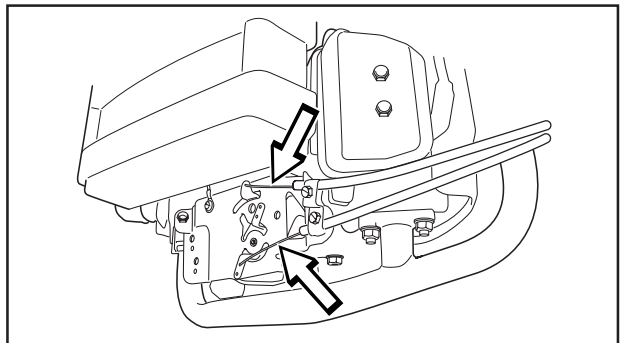
Refit the side panel on the lever housing. Ensure that the stubs fit in the cover on Pro 15.



Pro 15



Pro 18

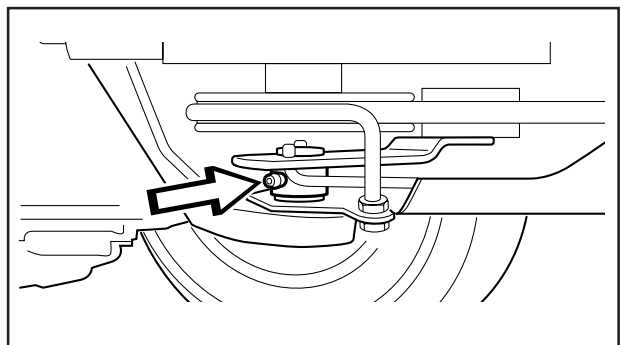


7. Belt tensioner

Use a grease gun to lubricate the single nipple on the right side below the lower engine pulley, until grease is forced out.

Use good quality molybdenum sulphide grease.

Grease with a familiar brand name (petrol company, etc.) is generally of good quality.



LUBRICATION

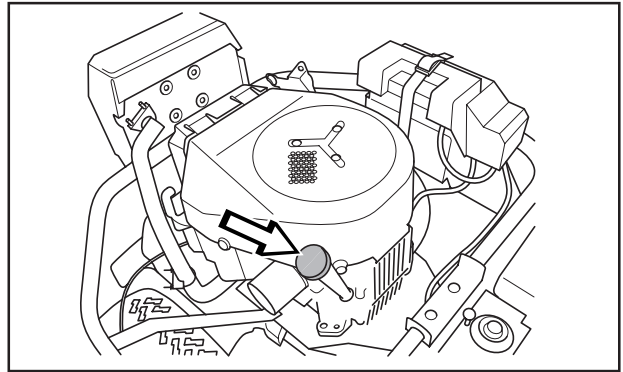
8. Engine oil

Check the oil level in the engine when the Rider stands horizontal with the engine switched off.

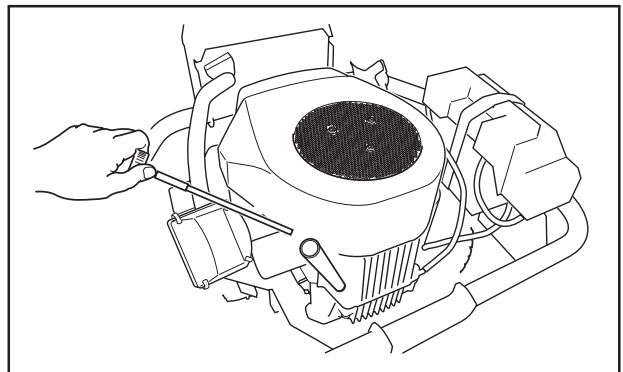
Open the engine cover.

Remove the dipstick and wipe it clean. Now insert the dipstick again, without tightening it.

Take out the dipstick again and read the oil level.

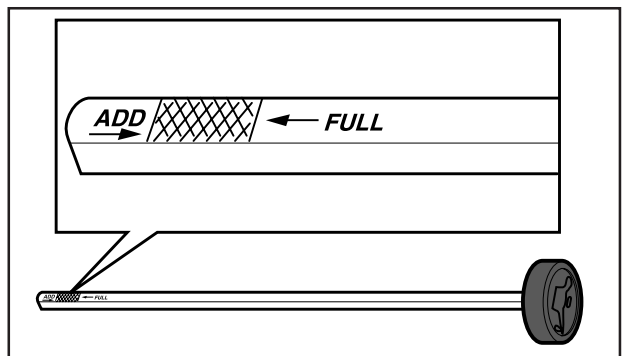


Pro 15



Pro 18

The oil level should be between the marks on the dipstick. If the level is close to the "ADD" mark, top up with oil to the "FULL" mark on the dipstick. Never fill above the "FULL" mark.

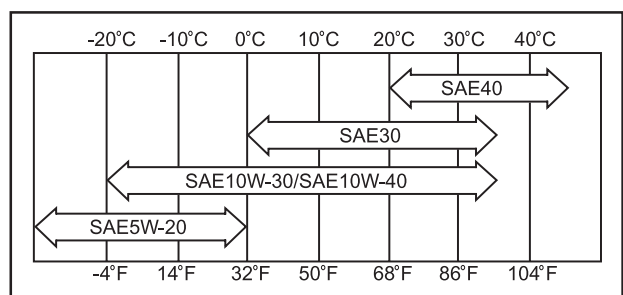


Oil is added through the hole that the dipstick sits in.

Use SAE 30 or SAE 10W-30 grade engine oil, or 10W/40, class SF-SJ (above 0° C/+32°F). SAE 40 oil can be used above +20°C/+68°F. Use SAE 5W-20 engine oil, class SF-SJ (below 0° C/+32°F).

Fill the oil slowly. Tighten the dipstick correctly before starting the engine. Start and run the engine at idling speed for approx. 30 seconds. Turn off the engine. Wait 30 seconds and check oil level. If necessary fill so that the oil comes up to the FULL mark on the dipstick.

The engine holds 1.5 litres of oil, excluding the filter (1.7 litres including filter).



LUBRICATION

Changing the engine oil

The engine oil must be changed after the first 8 hours of operation and every 100 hours thereafter. When operating with a heavy load or at high ambient temperatures, replace every 50 hours.



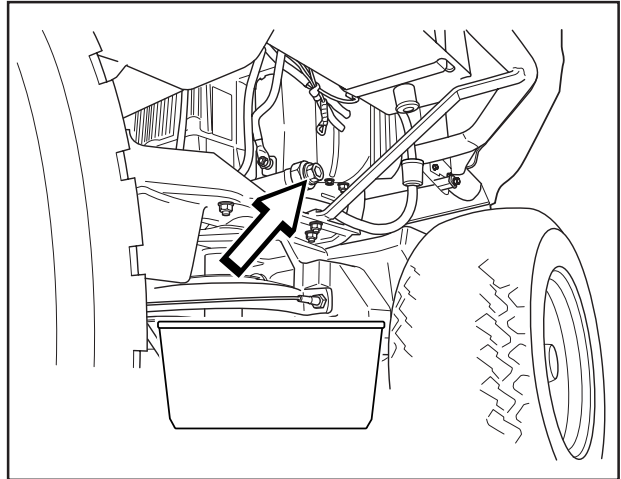
WARNING!

Engine oil can be very hot if it is drained off directly after the engine is stopped. Therefore allow the engine to cool down first.

IMPORTANT INFORMATION

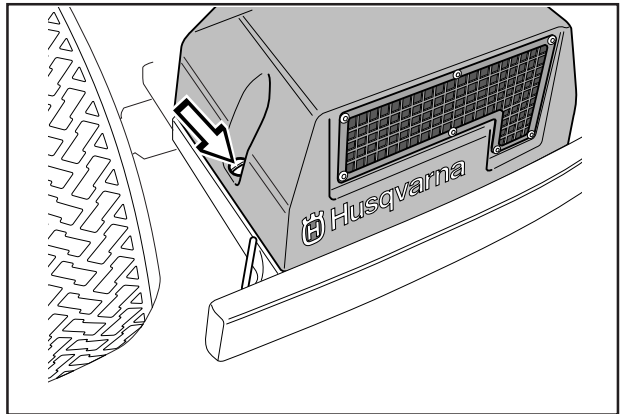
Used engine oil is hazardous to health and must by law not be poured out on the ground or in the nature, but shall be handed in to a workshop or special environmental station. Avoid skin contact, wash with soap and water in the event of spillage.

1. Open the engine cover.
2. Place a container under the drain plug on the left side of the engine.
3. Take out the dipstick. Remove the drain plug from the left side of the engine.
4. Let the oil drain out into the container.
5. Refit the drain plug and tighten it.
6. Replace the oil filter if necessary.
7. Fill with oil to the "FULL" mark on the dipstick. Use the grade of oil specified above.
8. Run the engine until hot and check that there is no leakage from the drain plug.



9. Gear lever

Remove the transmission cover by undoing the two screws.

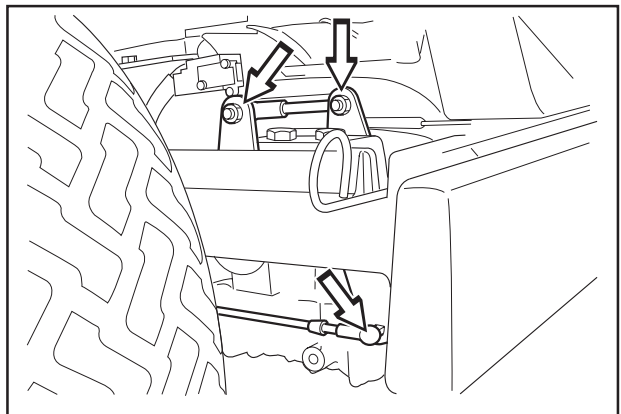


Lubricate the joints and bearings on the left side using an oil can.

Push the rubber protector out of the way and lubricate the hydrostatic wire using an oil can. Press the pedal a few times and lubricate again.

Refit the rubber protector.

Refit the transmission cover.



LUBRICATION

10. Parking brake wire

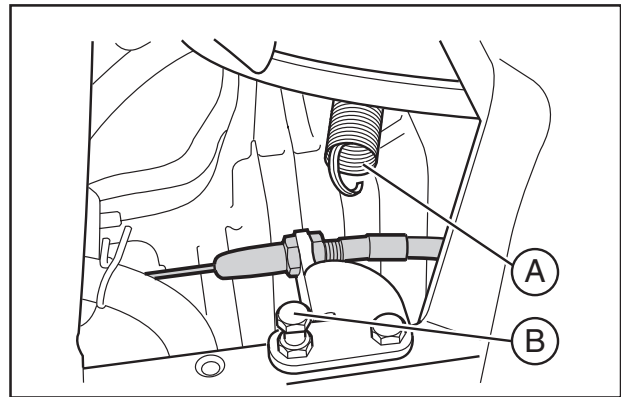
Remove the transmission cover; see "Gear lever".

Unhook spring (A) from screw (B) if necessary.

Push the rubber protector aside to lubricate the wire.

Lubricate the wire using an oil can, press the brake pedal a few times and lubricate again.

Refit spring (A) and the transmission cover.

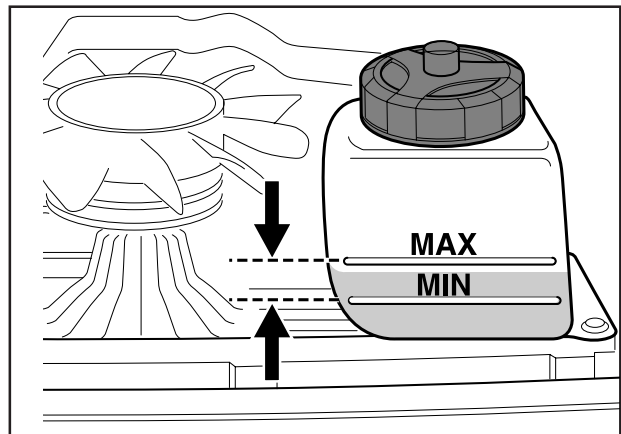


11. Transmission oil level

1. Check the level of the transmission oil by looking through the air intake mesh. The oil level should be between the "MIN" and "MAX" marks on the oil reservoir at 20°C.

If it is necessary to top up the oil you must remove the transmission cover first.

2. Unscrew the cap from the oil reservoir and top up with SAE 10W/30 grade engine oil, class SF-CC, until the oil level reaches the "MAX" mark. Screw the cap back onto the oil reservoir and refit the transmission cover.



12. Transmission

The oil should be changed by an authorised service workshop, and is described in the Workshop Manual.

Filter replacement on Pro 18 is done at the same time as changing the oil.

LUBRICATION

13. Replacing the oil filter



WARNING!

The engine oil may be very hot if it is drained immediately after stopping the engine. Let the engine cool down for a while first.

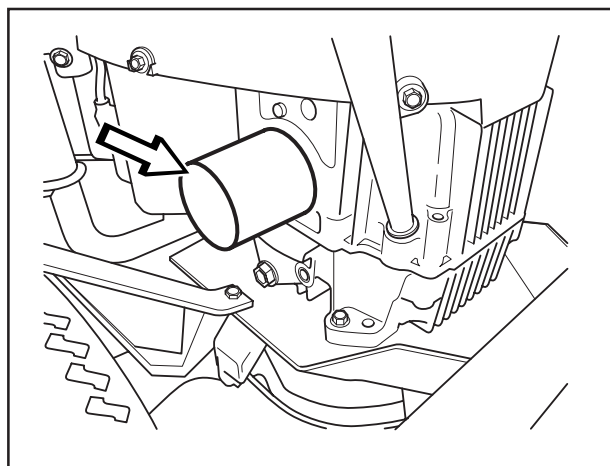
1. Open the engine cover.
2. Drain the engine oil as described under "Changing the engine oil".
3. Remove the oil filter. If necessary use a filter spanner.
4. Coat the seal on the new filter with clean, fresh engine oil.
5. Tighten the filter by hand until you feel it make contact, then tighten a further 3/4 turn.
6. Run the engine until it is hot, then check that there is no leakage from the oil filter seal.
7. Check the engine oil level and top up if necessary. The oil filter holds 0.2 litres of oil.

IMPORTANT INFORMATION

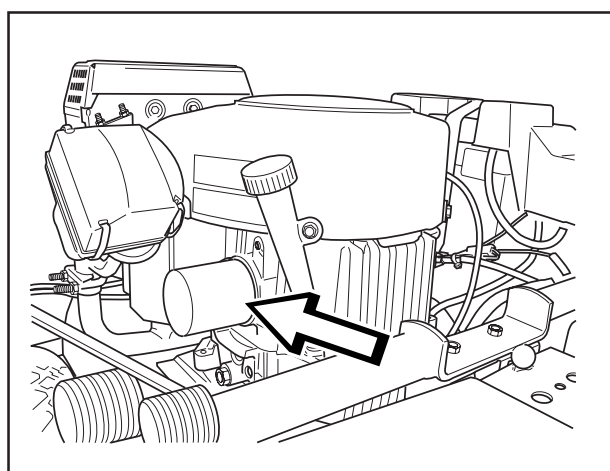
Used engine or transmission oil is health-impairing and must not be disposed of in the ground or in nature.

Replaced filters must be handed in to the workshop or other allotted place for disposal.

Avoid skin contact; wash with soap and water in case of spills.



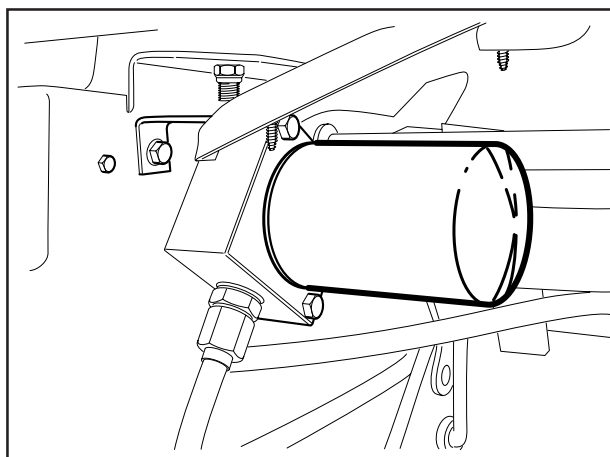
Pro 15



Pro 18

14. Hydraulic oil filter, change

1. Remove the oil filter. If necessary, use a filter remover.
2. Wipe new, clean engine oil onto the seal for the new filter.
3. Fit the filter by hand so it just touches + 3/4 turn.
4. Remove the transmission cover and fill the transmission's oil tank, about 0.3 l oil. See "11. Transmission oil level. Be observant when running the engine as described below and fill so that the tank is not emptied.
5. Run the engine warm, manipulate the servo steering, and then check that there are no leaks around the oil filter seal.
6. Check the oil level in the transmission, top up if necessary. The oil filter holds 0.3 litres of oil.
7. Replace the transmission cover.



TROUBLE SHOOTING SCHEDULE

Problem	Procedure
Engine will not start.	<ul style="list-style-type: none">• Fuel tank empty.• Faulty spark plugs (choke with a warm engine)• Faulty or interchanged spark plug connections• Dirt in the carburettor or fuel line, aged fuel
Starter does not pull round engine.	<ul style="list-style-type: none">• Battery flat.• Bad contact between cable and battery terminal.• Lift lever for cutting unit in wrong position.• Main fuse blown. The fuse is placed in front of the battery, under the battery cover.• Ignition lock faulty.• Hydrostat pedals not in the neutral position• Faulty starter motor
Engine does not run smoothly.	<ul style="list-style-type: none">• Wrong gear, too high.• Carburettor incorrectly set.• Air filter clogged.• Fuel tank vent blocked.• Ignition setting defective.• Dirt in the carburettor or fuel line, aged fuel• Choking or incorrectly adjusted throttle cable
Engine seems to have no power.	<ul style="list-style-type: none">• Air filter clogged.• Plug defective.• Dirt in the carburettor or fuel line, aged fuel• Carburettor incorrectly set.• Choking or incorrectly adjusted throttle cable
Engine overheats.	<ul style="list-style-type: none">• Engine overloaded.• Partial braking (forgotten parking brake?)• Air intake or cooling flanges blocked.• Fan damaged.• Too little or no oil in engine.• Ignition defective.• Plug defective.
Battery does not charge.	<ul style="list-style-type: none">• One or more cells faulty• Bad contact between battery terminals and cables.
Machine vibrates.	<ul style="list-style-type: none">• Blades are loose.• Engine is loose.• Imbalance on one or more blades, resulting from damage or inferior balancing after sharpening.
Uneven mowing.	<ul style="list-style-type: none">• Blades blunt.• Cutting unit skew.• Long or wet grass.• Grass blockage under hood.• Different tyre pressures on right and left sides.• Over-speeding• Engine speed too low• Drive belts slipping.• Broken shear pin (BioClip 90, Combi 103)

STORAGE

Winter storage

At the end of the season the machine should immediately be put in order for storage, also if it is going to stand idle for more than 30 days. Fuel which is left to stand for long periods (30 days or more) can leave tacky deposits which can block the carburettor and interfere with the engine.

Fuel stabiliser is an acceptable alternative to avoid tacky deposits during storage. If alkylate petrol (Aspen) is used stabiliser is not necessary since this fuel is stable. However, one should avoid changing from standard to alkylate petrol since sensitive rubber parts can harden. Add stabiliser to the fuel in the tank or the storage container. Always use the mixing ratios indicated by the manufacturer. Run the engine for at least 10 minutes after adding the stabiliser so that it will reach the carburettor. Do not empty the fuel tank and carburettor if stabiliser has been added.



WARNING!

Never place an engine with fuel in the tank indoors or in poorly ventilated areas where petrol fumes can come into contact with naked flames, sparks or pilot flames in boilers, hot water heaters, or drying cabinets, etc. It is highly inflammable and negligent usage can cause severe person injury and material damage. Drain off the fuel in an approved container outdoors and well clear of naked flames. Never use petrol for cleaning purposes. Use degreasing agents and hot water instead.

To put the machine in order for storage follow these instructions:

1. Carefully clean the machine, especially under the cutting unit. Touch-up paint damage to avoid rust.
2. Inspect the machine for worn or damaged parts and tighten loose screws and nuts.
3. Change the oil, and take care of the waste oil.
4. Empty the fuel tank. Start the engine and run it until the carburettor is emptied of fuel.
5. Remove the plugs and pour in a tablespoon of engine oil in each cylinder. Pull round the engine to distribute the oil and screw the plugs back on.
6. Grease all grease nipples, joints and axles.
7. Remove the battery. Clean it, charge it, and store it in a cool place.
8. Store the machine in a clean and dry place and cover it over for extra protection.

Cover

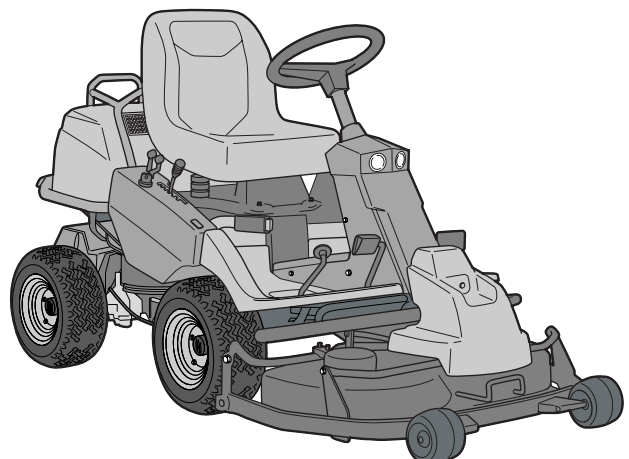
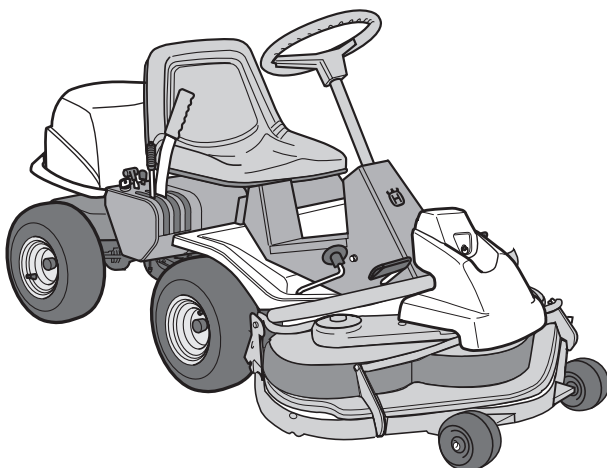
There is a cover to protect your machine during storage or transport. Contact your dealer for a demonstration.

Service

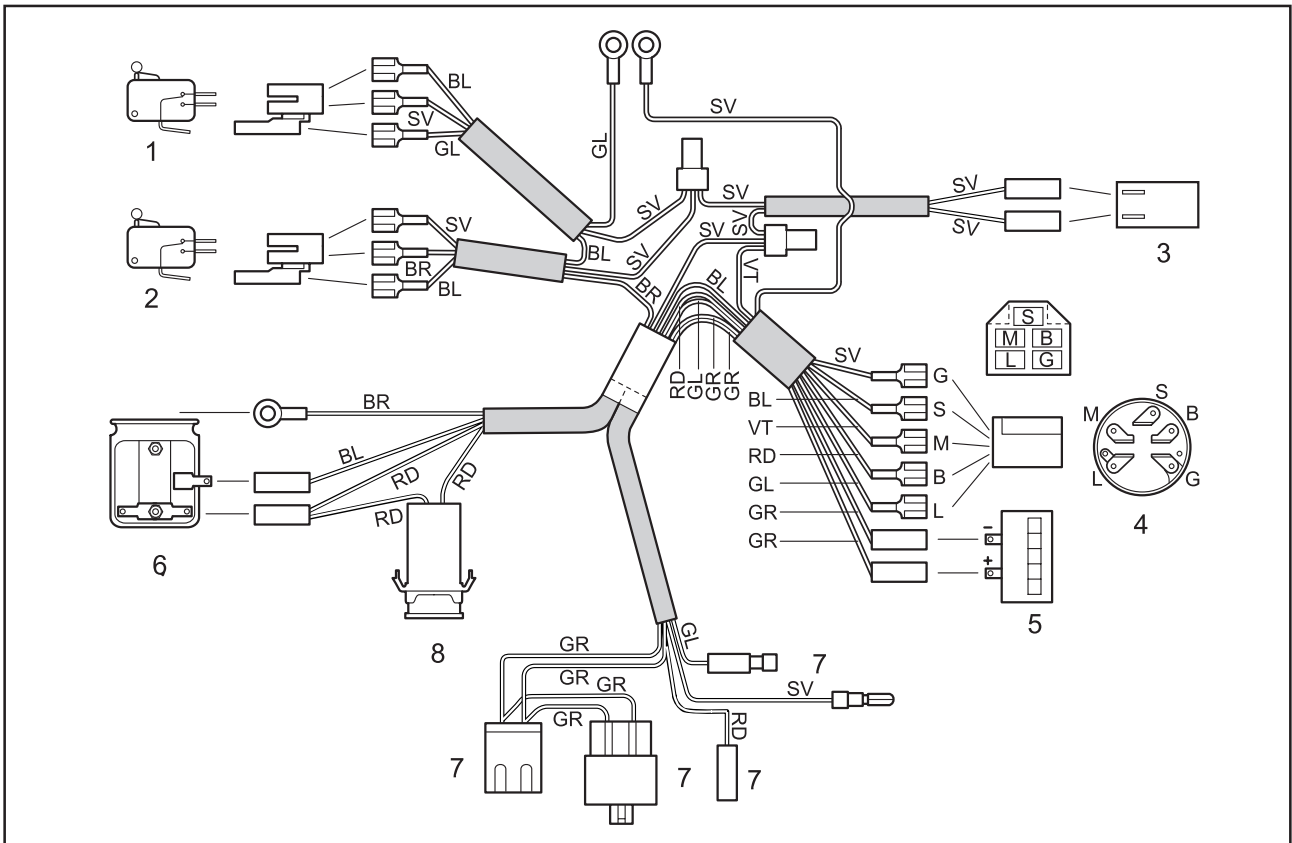
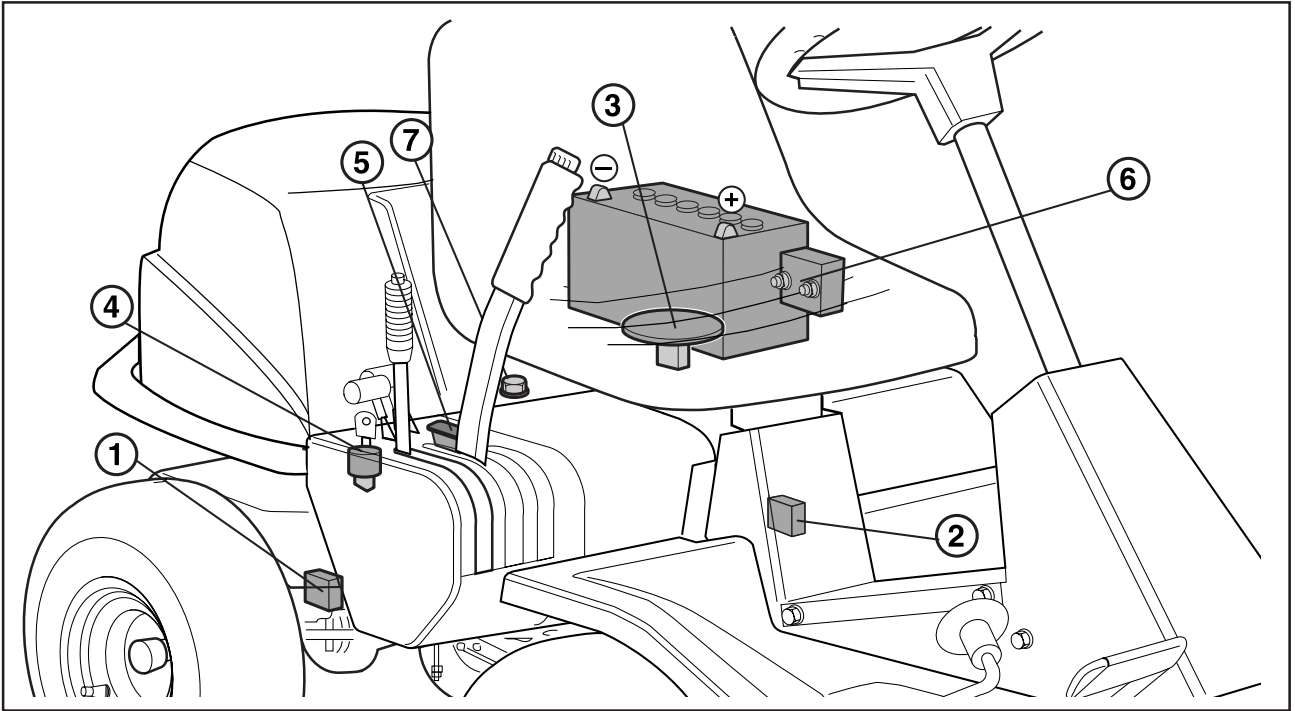
When ordering spare parts state the purchase year, model, type, and serial number.

Always use genuine parts.

Annual inspection or trimming by an authorised service workshop is a good way of getting the best out of your machine the next season.



WIRING DIAGRAM PRO 15

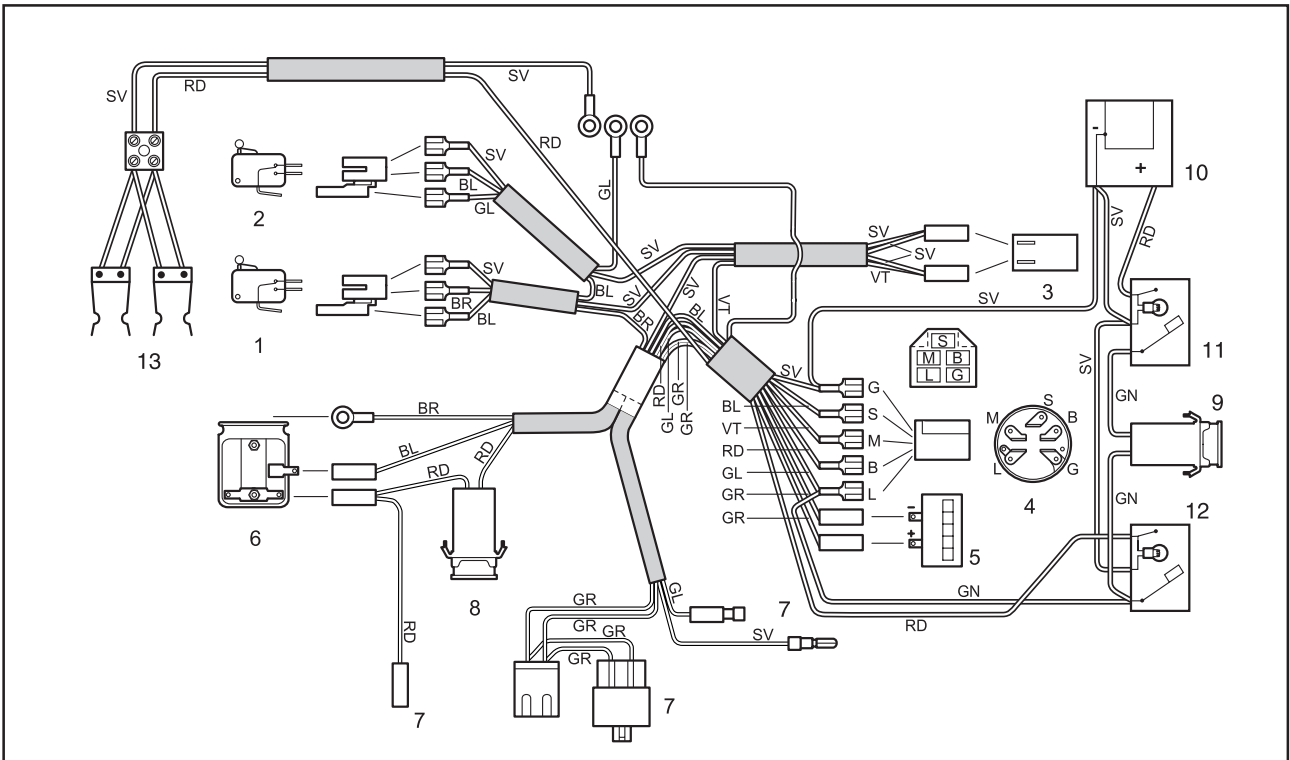
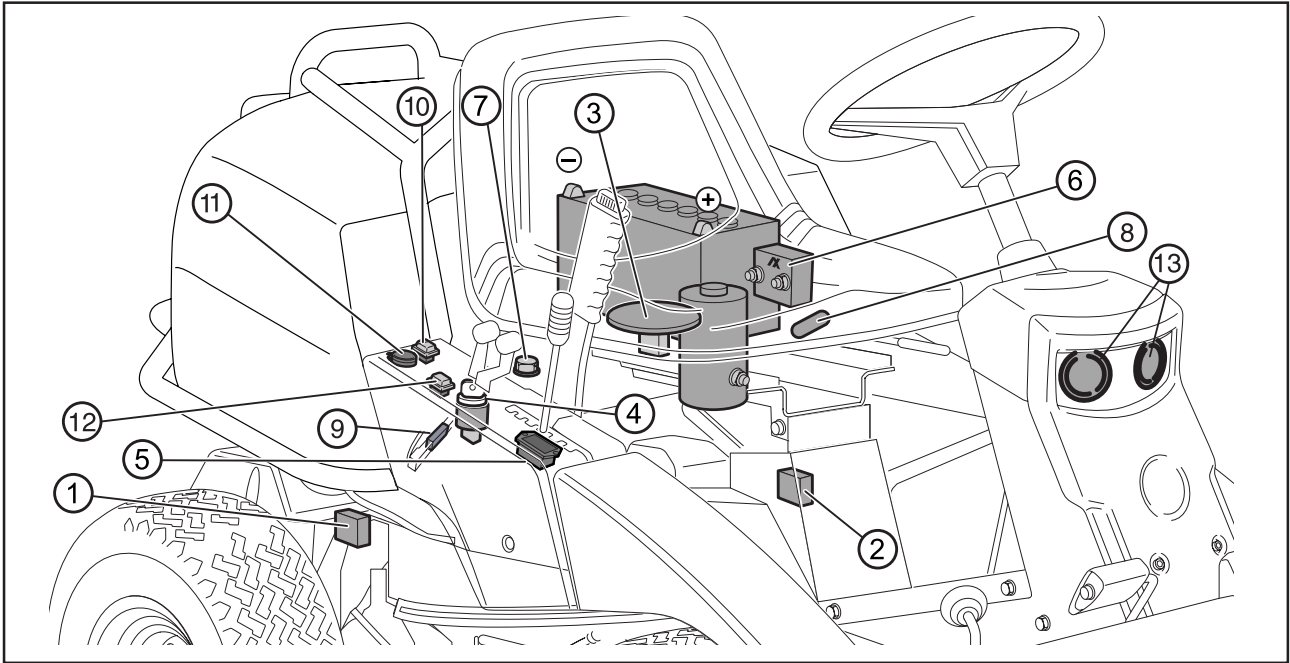


1. Microswitch, hydrostatic transmission
2. Microswitch, cutting unit
3. Microswitch, seat
4. Ignition lock
5. Counter
6. Start relay
7. Engine
8. Fuse 15 A

Explanation of colour abbreviations in wiring diagram.

- R** = Red
- B** = Blue
- W** = White
- BL** = Black
- Y** = Yellow
- BR** = Brown
- GR** = Grey

WIRING DIAGRAM PRO 18



1. Microswitch, hydrostatic transmission
2. Microswitch, cutting unit
3. Microswitch, seat
4. Ignition lock
5. Counter
6. Start relay
7. Engine
8. Main fuse 15 A
9. Fuse 7.5 A
10. Switch for the power outlet
11. Power outlet
12. Switch for the lights
13. Lights

Explanation of colour abbreviations in wiring diagram.

- R** = Red
- B** = Blue
- W** = White
- BL** = Black
- Y** = Yellow
- BR** = Brown
- GR** = Grey

TECHNICAL DATA

Dimensions

Length without unit	2 030 mm/6,65 ft	2 030 mm/6,65 ft
Width without unit	900 mm/2,95 ft	900 mm/2,95 ft
Height	1 080 mm/3,54 ft	1 130 mm/3,70 ft
Unladen weight excluding cutting unit	240 kg/530 lb	261 kg/576 lb
Wheel base	873 mm/2,86 ft	873 mm/2,86 ft
Track width, rear - front	625 - 720 mm/20,5 ft - 2,36 ft	625 - 720 mm/20,5 ft - 2,36 ft
Tyre size	16 x 6,50 x 8	165/60-8
Air pressure rear - front	60 kPa (0,6 kp/cm ²)	60 kPa (0,6 kp/cm ²)
Max. gradient	15°	15°

Engine

Manufacture	Kawasaki	Kawasaki
Model	FH430V-BS50	FH531V-BS50
Power	11/15 kW/hk	13,2/18 kW/hk
Displacement	431 cm ³ / 26,3 cu.in.	494 cm ³ / 30.1 cu.in.
Fuel	min. 87 octane unleaded (max. methanol 5%, max. ethanol 10%, max, MTBE 15%)	min. 87 octane unleaded (max. methanol 5%, max. ethanol 10%, max, MTBE 15%)
Tank volume	7 litres	14 litres
Oil	SAE 30 or SAE 10W/30, SAE 10W/40 class SF-SJ	SAE 30 or SAE 10W/30, SAE 10W/40 class SF-SJ
Oljevolym	1.5 litres /1.6 US qt	1.5 litres /1.6 US qt
Oil volume incl. filter	1.7 litres /1.6 US qt	1.7 litres /1.6 US qt
Start	Electric starter	Electric starter

Noise emissions and cutting width Bio 90, Combi 112, Rear 97, Side 97

Measured noise level	99 dB(A)	99 dB(A)
Guaranteed noise level	100 dB(A)	100 dB(A)
Cutting width	900 - 1120 mm	900 - 1120 mm

Noise emissions and cutting width Bio 103

Measured noise level	100 dB(A)	100 dB(A)
Guaranteed noise level	100 dB(A)	100 dB(A)
Cutting width	1030 mm	1030 mm

Electrical system

Type	12 V, negative earthed	12 V, negative earthed
Battery	12 V, 24 Ah	12 V, 24 Ah
Main fuse	Spade connector 15 A	Spade connector 15 A
Power outlet fuse		Spade connector 7,5 A
Spark plug	Champion RCJ8Y	Champion RCJ8Y
Electrode gap	0.75 mm / 0.030"	0.75 mm / 0.030"
Bulbs, halogen		

Transmission

Manufacture	Tuff Torq K 62F	Tuff Torq K 66M
Oil	SAE 10W/30, class SF-CC	SAE 10W/30, class SF-CC

Cutting unit

Number of cutting heights	9 positions	7 positions
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TECHNICAL DATA

Cutting unit

Cutting width
Cutting heights
Cutting height setting
Blade length
Weight

BioClip 90

900 mm/2,95 ft
45-95 mm/0,15-0,31 ft
40 mm/0,13 ft
440 mm/1,44 ft
39 kg/86 lb

BioClip 103

1030 mm/3,38 ft
45-95 mm/0,15-0,31 ft
40 mm/0,13 ft
410 mm/1,34 ft
48 kg/106 lb

Side ejector 97

Cutting width
Cutting heights
Cutting height setting
Blade length
Weight

970 mm/3,18 ft
40-80 mm/0,13-0,26 ft
35 mm/0,11 ft
350 mm/1,15 ft
45 kg/99 lb

Rear ejector 97

970 mm/3,18 ft
40-80 mm/0,13-0,26 ft
35 mm/0,11 ft
350 mm/1,15 ft
48 kg/105 lb

Combi 112

Cutting width
Cutting heights
Cutting height setting
Blade diameter
Weight

1120 mm/3,67 ft
40-80 mm/0,13-0,26 ft
35 mm/0,11 ft
420 mm/1,37 ft
52 kg/115 lb
including nose link 2 kg/4,41 lb

When the service life of this product has been served and it is no longer used it should be returned to the dealer or to an applicable station for recycling.

We reserve the right to change technical specifications without prior notice.

Note that no legal claims are valid on the basis of information in this manual.

Use only genuine parts for repairs. The warranty is not valid if non genuine parts are used.

EU-DECLARATION OF CONFORMITY

EU declaration of conformity (Only applies to Europe)

Husqvarna AB, SE-561 82 Huskvarna, Sweden, tel: +46-36-146500, declares under sole responsibility that **the Husqvarna Rider Pro 15 and Pro 18**, from 2002's serial numbers and onwards (the year is clearly stated in plain text on the rating plate with subsequent serial number), complies with the requirements of the COUNCIL'S DIRECTIVES:

- of June 22, 1998 "relating to machinery" **98/37/EC, annex IIA.**
- of May 3, 1989 "relating to electromagnetic compatibility" **89/336/EEC**, and applicable supplements.
- of May 8, 2000 "relating to the emission of noise to surroundings" **2000/14/EC.**

Information regarding noise emissions and the mowing width, see the Technical Data.

The following harmonised standards have been applied: **EN292-2, EN836.**

The registered body **0404, SMP Svensk Maskinprovning AB**, Fyrisborgsgatan 3, SE-754 50 Uppsala, Sweden has issued the report with number

Pro 15: 01/901/005 och 01/901/006

Pro 18: 01/901/023 och 01/901/024

regarding the assessment of conformity according to annex VI to the COUNCIL'S DIRECTIVE of May 8, 2000 "relating to the emission of noise to surroundings" **2000/14/EC.**

Huskvarna January 3, 2002



Roger Andersson, Development Manager/Garden Products

SERVICE JOURNAL

Work done	Date, mileage, stamp, sign
<p>Pre-delivery service</p> <p>1. Top up battery with acid and recharge for four hours. <input type="checkbox"/></p> <p>2. Fit steering wheel, seat and any optional equipment. <input type="checkbox"/></p> <p>3. Fit cutting unit. <input type="checkbox"/></p> <p>4. Adjust cutting unit:</p> <p style="padding-left: 20px;">Adjust lift springs (effective weight of cutting unit should be 12–15 kg, or set to maximum lift if brush is to be fitted). <input type="checkbox"/></p> <p style="padding-left: 20px;">Adjust cutting unit so that rear edge is about 2–4 mm higher than front edge. <input type="checkbox"/></p> <p style="padding-left: 20px;">Adjust cutting unit height setting so that cutting height limit is 5 mm above the frame of the unit at the lowest cutting height. <input type="checkbox"/></p> <p>5. Check that the oil levels in the engine and transmission are correct. <input type="checkbox"/></p> <p>6. Check and adjust tyre pressure (60 kPa, 0.6 bar). <input type="checkbox"/></p> <p>7. Connect battery. <input type="checkbox"/></p> <p>8. Fill with fuel and start engine. <input type="checkbox"/></p> <p>9. Check that machine does not move in neutral. <input type="checkbox"/></p> <p>10. Check:</p> <p style="padding-left: 20px;">Forward drive. <input type="checkbox"/></p> <p style="padding-left: 20px;">Reverse drive. <input type="checkbox"/></p> <p style="padding-left: 20px;">Operation of blades. <input type="checkbox"/></p> <p style="padding-left: 20px;">Seat safety switch. <input type="checkbox"/></p> <p style="padding-left: 20px;">Lift lever safety switch. <input type="checkbox"/></p> <p style="padding-left: 20px;">Safety switch for the hydrostat pedals. <input type="checkbox"/></p> <p>11. Check engine revs 3,000 ±75 rpm. <input type="checkbox"/></p> <p>12. Tell customer about:</p> <p style="padding-left: 20px;">Need and benefits of following the service schedule.</p> <p style="padding-left: 20px;">Need and benefits of having machine serviced every 300 hours.</p> <p style="padding-left: 20px;">Servicing and the influence of this journal on the second-hand value of the machine.</p> <p style="padding-left: 20px;">Range of applications for BioClip.</p> <p>13. Complete proof of sale, etc.</p>	<p style="text-align: center;">Pre-delivery service carried out. No outstanding problems. Certified:</p>
<p>After first 8 hours</p> <p>1. Change engine oil. <input type="checkbox"/></p>	

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign
<p>25 hour service</p> <ol style="list-style-type: none">1. Clean the air filter pre-filter (foamed plastic filter). (more regularly in dusty conditions)2. Clean the engine cooling air intake and transmission air intake.3. Clean the fuel pump air filter. (in dusty conditions).	

SERVICE JOURNAL

Work done	Date, mileage, stamp, sign
<p>50 hour service</p> <ol style="list-style-type: none">1. Clean / replace the air filter pre-filter (foamed plastic filter). (more regularly in dusty conditions)2. Clean the engine cooling air intake and transmission air intake.3. Clean the paper air filter (in dusty conditions)4. Clean the fuel pump air filter.5. Check/adjust cutting height setting.6. Check/adjust parking brake.7. Inspect flame guard/spark arrestor (optional equipment)	

SERVICE JOURNAL

Work done	Date, mileage, stamp, sign
<p>100/200 hour service</p> <ol style="list-style-type: none">1. Change the engine oil. Change the oil filter every 200 hours.2. Clean / replace the air filter pre-filter (foamed plastic filter).3. Clean the paper air filter. Replace every 200 hours. (more regularly in dusty conditions)4. Clean the engine cooling air intake and transmission air intake.5. Clean the cooling fins.6. Check/adjust cutting height setting.7. Check/adjust parking brake.8. Inspect flame guard/spark arrestor (optional equipment)9. Clean/replace spark plug.10. Replace fuel filter in fuel line.11. Replace the hydraulic oil filter every 200 hours.12. Clean the fuel pump air filter.13. Clean pulse-air filter.14. Check screw and nuts.15. Check whether the oil in the gearbox needs changing (every 500 hours). On Pro 18 also filter replacement.	

SERVICE JOURNAL

Work done	Date, mileage, stamp, sign
<p>300 hour service</p> <ol style="list-style-type: none">1. Inspect the machine. Additional work?2. Change engine oil. Replace the oil filter every 200 hours.3. Replace the air filter (foamed plastic filter).4. Replace air filter (paper air filter).5. Clean the engine's cooling air intake and the transmission's air intake.6. Clean the cooling fins.7. Check/adjust cutting height setting.8. Check/adjust parking brake.9. Inspect flame guard/spark arrestor (optional equipment)10. Clean/replace spark plug.11. Replace fuel filter in fuel line.12. Replace the hydraulic oil filter every 200 hours.13. Clean the fuel pump air filter.14. Clean pulse-air filter.15. Check engine valve clearance.16. Check nuts and screws for tightness.17. Check whether the oil in the gearbox needs changing (every 500 hours). On Pro 18 also filter replacement.	

SERVICE JOURNAL

Work done	Date, mileage, stamp, sign
<p>At least once a season</p> <ol style="list-style-type: none">1. Change engine oil (100 hours).2. Clean / replace the air filter pre-filter (foamed plastic filter). (25 hours). (more regularly in dusty conditions)3. Clean / replace the paper air filter (200 hours). (more regularly in dusty conditions).4. Clean the fuel pump air filter (50 hours).5. Check/adjust cutting height setting (50 hours).6. Check/adjust parking brake (50 hours).7. Inspect flame guard/spark arrestor, optional equipment (50 hours).8. Replace engine oil filter (200 hours).9. Clean/replace spark plug (100 hours).10. Replace fuel filter in fuel line (100 hours).11. Clean/replace the pulse air filter (100 hours).12. Clean the cooling fins. (100 hours). (more regularly in dusty conditions).13. Check engine valve clearance (300 hours).14. Replace the hydraulic oil filter (every 200 hours).15. Change the oil in the gearbox (500 hours). On Pro 18 also filter replacement.16. Carry out 300 hour service at authorised dealer.	

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