Operator´s manual

Rider ProFlex 18

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

English

CONTENTS

Operator's Manual for Rider ProFlex 18

IMPORTANT INFORMATION

Read through these instructions carefully so that you know how to use and maintain the machine before using it.

For servicing other than described in this manual contact an authorised dealer for 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. Remember to take along the operator's manual when you take the Rider to the workshop for servicing.

Travel 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

If your machine has a hydrostatic transmission you should only tow it very short distances at low speed if absolutely necessary, otherwise the transmission may be damaged.

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 machines 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

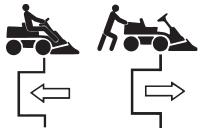
These symbols are on the machine and in the instructions.
Study them carefully so that you know what they mean.

Read the instructions.

Reverse | Neutral | Fast | Slow | Engine off | Battery | Choke | Fuel

Oil pressure | Cutting height | Backwards | Forwards | Ignition

Use hearing protection



Hydrostatic freewheel

Parking brake

Brake

Warning

Noise emissions to surroundings in accordance with the European Union's directive. The machine's emissions are set out in the chapter TECHNICAL DATA and on the decal.

Warning!
Rotating blades

Warning! Risk that the machine can tip over

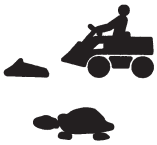
Never drive across a slope

CE conformity marking

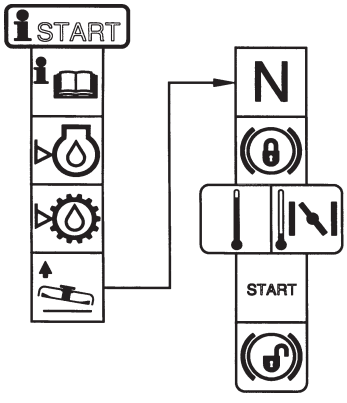
Never use the machine if persons, especially children, or animals, are in the vicinity

Never carry passengers on the machine or equipment

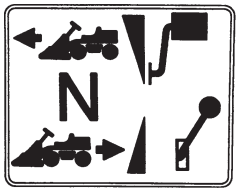
Keep hands and feet away from under the hood when the engine is running



Drive very slowly without the cutting unit



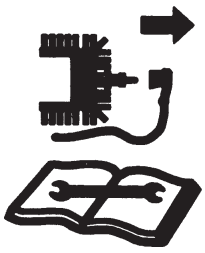
Starting instructions
Read the instructions
Check the engine's oil level
Check the hydrostat's oil level
Lift up the cutting unit
Hydrostatic pedals in neutral position
Brake
If the engine is cold use the choke
Start the engine
Release the parking brake before driving



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

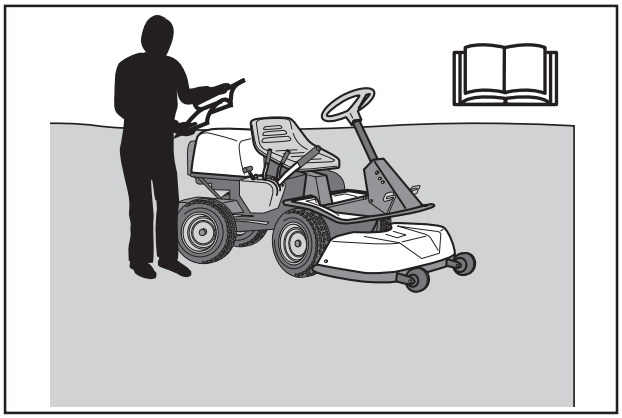
Safety instructions

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.

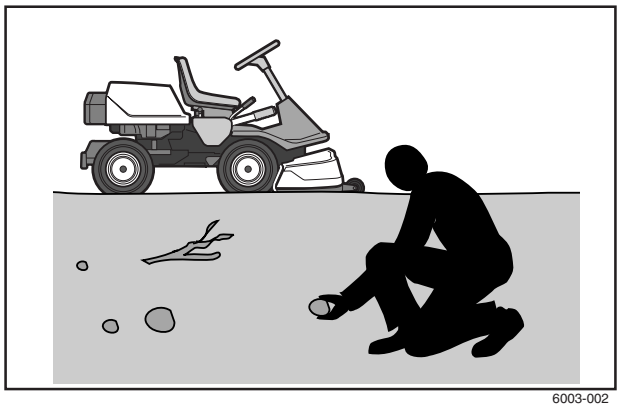
General use

- 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.



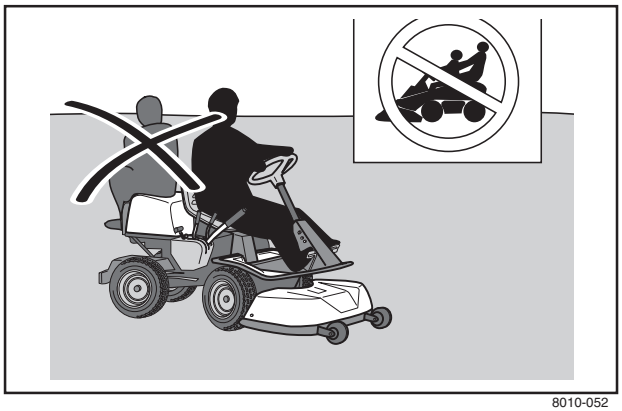
8010-047

Read the operator's manual before starting the machine.



6003-002

Clear the area of objects before mowing.



8010-052

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.

- 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.

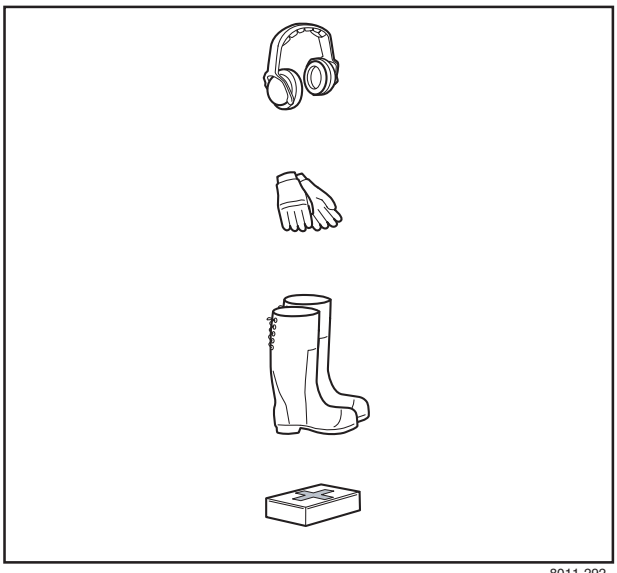
WARNING!
Engine exhaust, some of its constituents and certain vehicle components contain or emit chemicals considered to cause cancer, birth defects or other reproductive impairment. The engine emits carbon monoxide, which is a colourless, poisonous gas. Do not use the machine in enclosed spaces.

6003-006

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.

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



8011-292

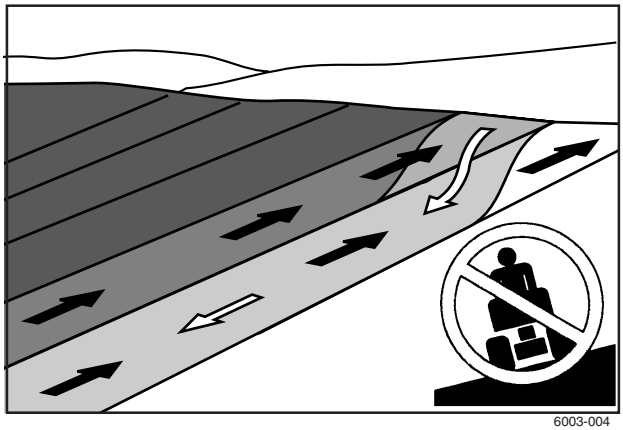
Personal protective equipment.

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 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.



6003-004

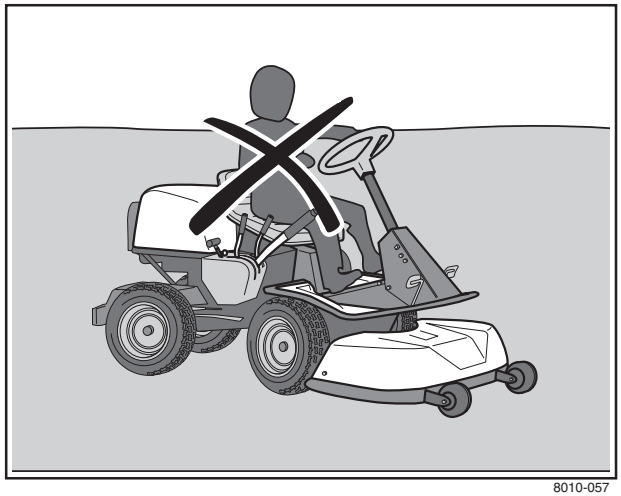
Mow upwards and downwards on slopes, not sideways.

8010-054

Be especially careful when driving on slopes.

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.



8010-057

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.

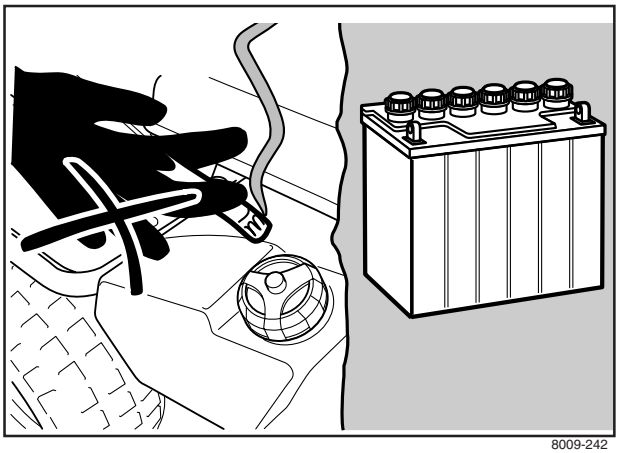
8010-058

Never fill the fuel tank indoors.

- 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.

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.

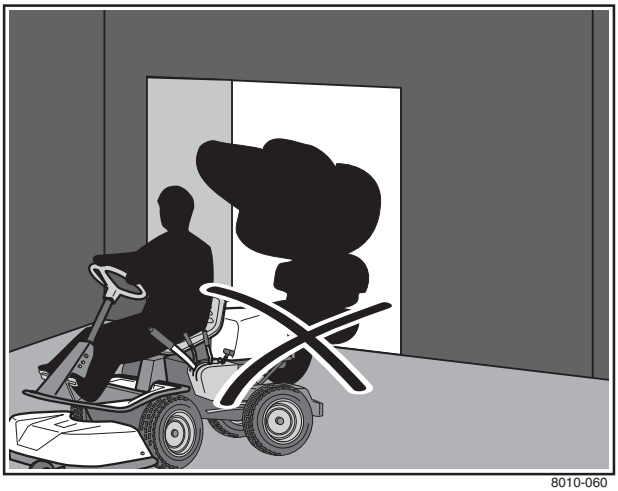

8009-242

Do not smoke when carrying out maintenance.

- 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.



8010-060

Never run the machine in an enclosed area.

8010-061

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.

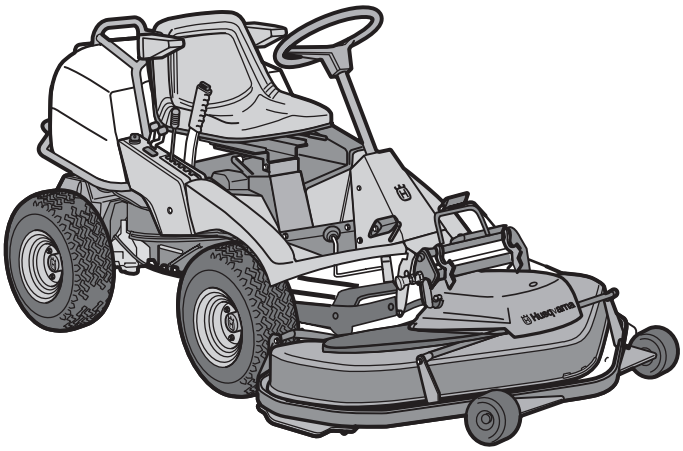
Presentation

These instructions describe the Rider ProFlex 18.

The Rider ProFlex 18 is equipped with a 18-horsepower four-stroke V-twin Kawasaki engine.

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

One pedal for driving forward and one for reverse.



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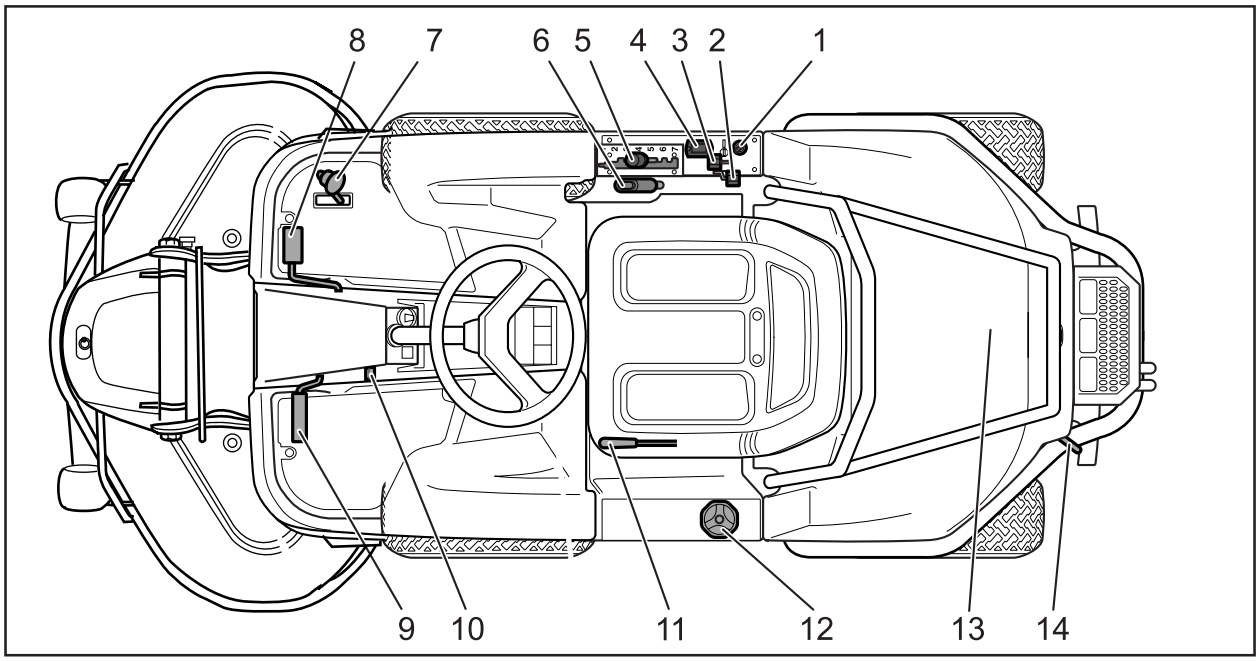


8009-164

Location of the controls

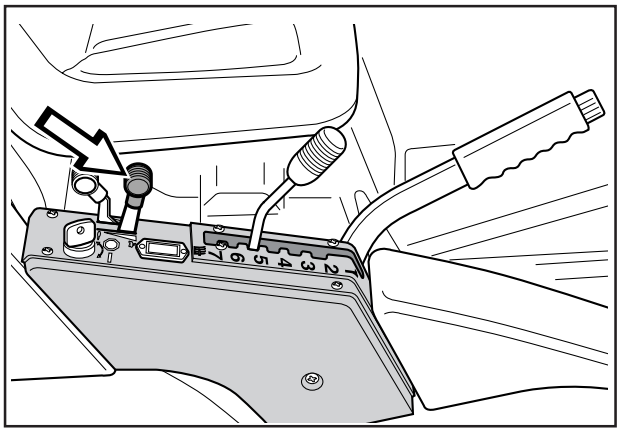
1. Ignition lock
2. Choke lever
3. Throttle control
4. Counter
5. Lever for adjustment of cutting height
6. Lifting lever for cutting unit with lock button
7. Speed limiter for reversing
8. Speed limiter for driving forward
9. Brake pedal
10. Lock button for parking brake
11. Lever for adjustment of seat
12. Fuel tank cap
13. Main lock
14. Lever to disengage the drive

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.

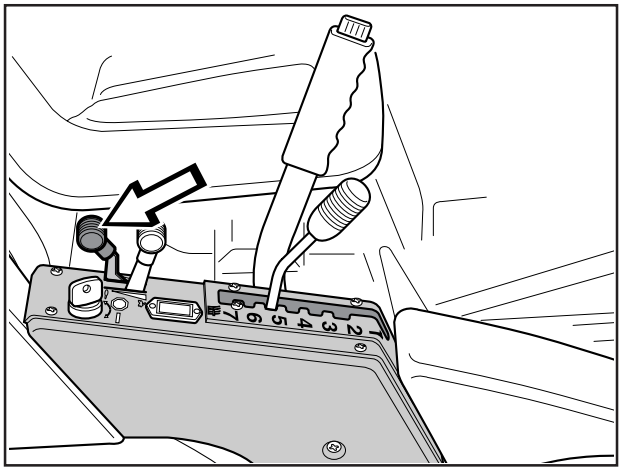


6004-204

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.

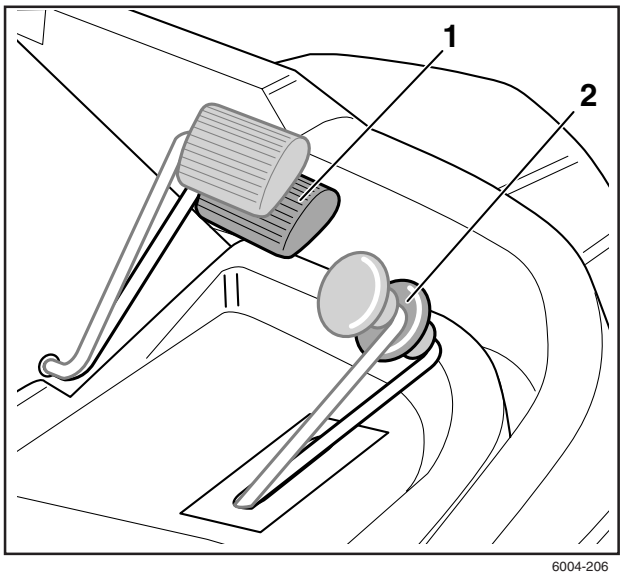


6004-205

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.



6004-206

Cutting unit

Rider ProFlex 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 rear ejection, i.e. the grass cuttings are ejected 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.

For identification of the cutting unit, see ”Maintenance \ Cutting unit models”.

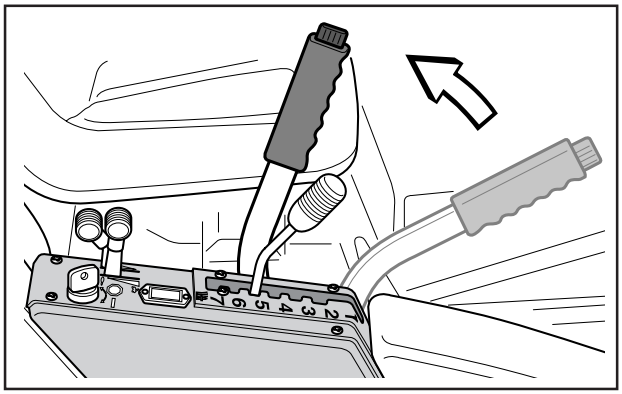
Examples of the accessories for Rider ProFlex:

- Brush
- Snow plough
- Wheel weights
- Snow chains
- Dozer
- Edger
- Electric attachment lift
- BioClip cutting unit
- Gravel rake
- Trailer

Lift lever for cutting unit

The lift lever is used to set the cutting unit in transport or mowing position. In transport position the blade brake is activated automatically to stop the blades within around 5 seconds.

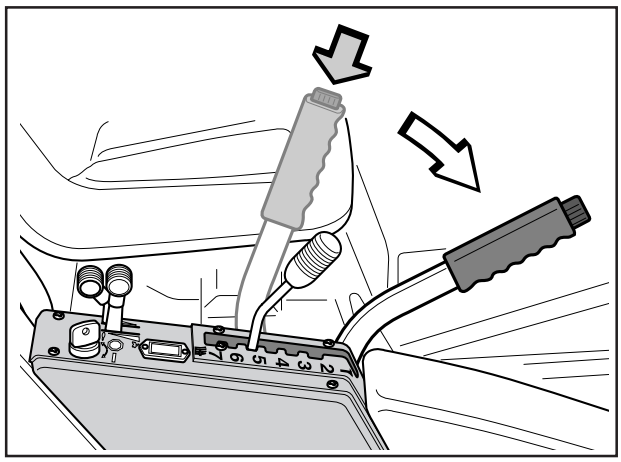
1. Pull back the lever to the locked position for transport.
   The cutting unit will lift up and the blades stop rotating.



6004-209

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.

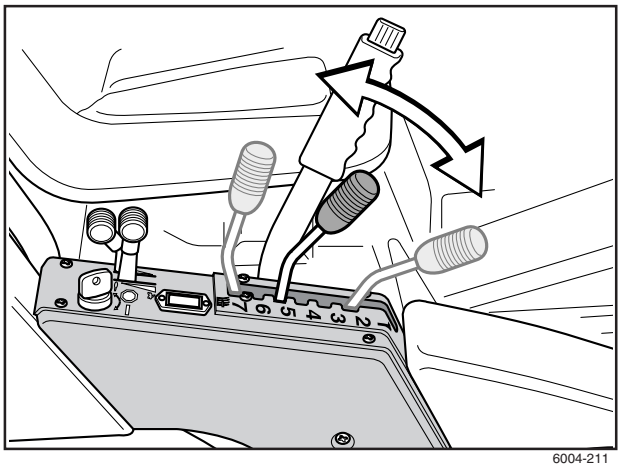


6004-210

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.
To achieve an even cutting height it is important that the tyre pressures are the same on the front wheels (60 kPa).



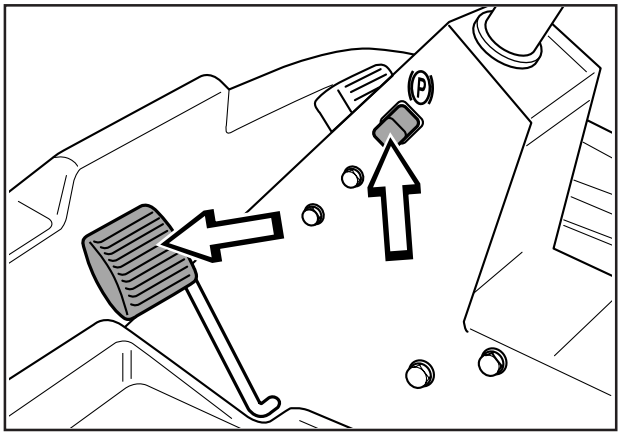
6004-211

Parking brake

The parking brake is applied as follows:

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

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



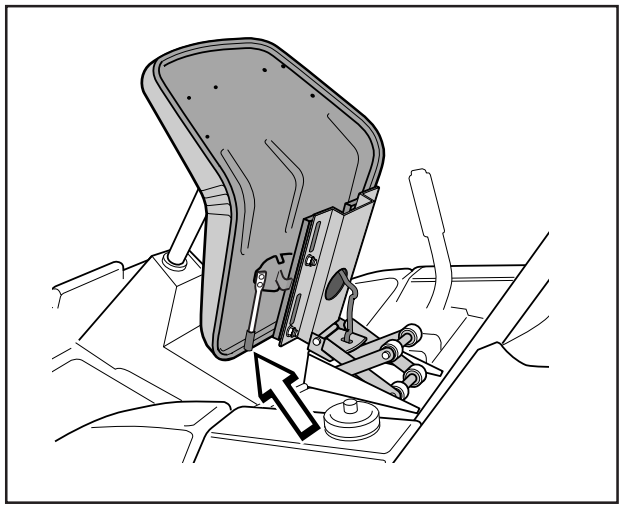
6004-212

Seat

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

The seat can also be adjusted lengthways.

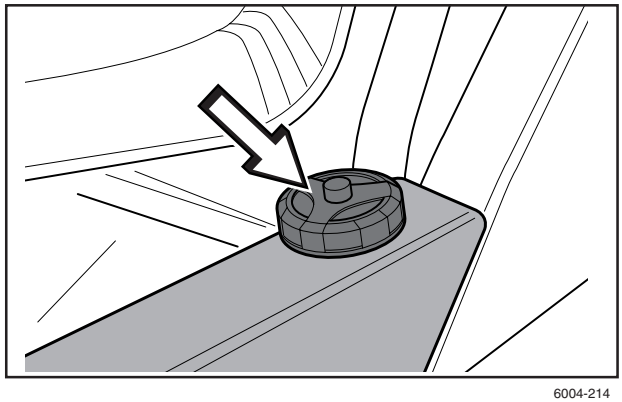
To adjust move the lever under the front edge of the seat to the left, so that the seat can be moved forward or backwards to the required position.


8009-165

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.

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

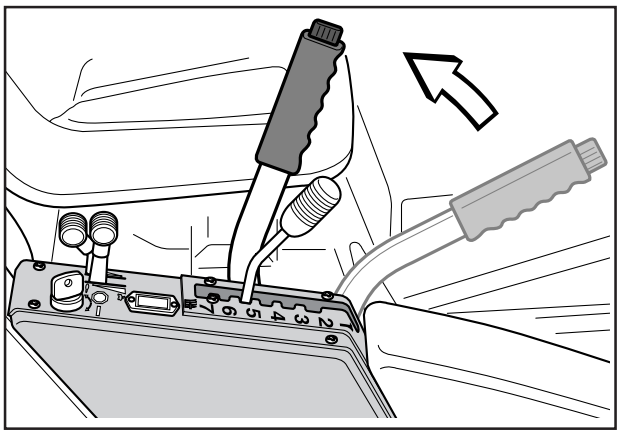

6004-214

Before starting

- Read the sections headed ”Safety instructions” and ”Presentation” before starting the mower.
- Carry out daily maintenance before starting (see ”Maintenance \ Maintenance Schedule”).
- Adjust the seat to the required position.

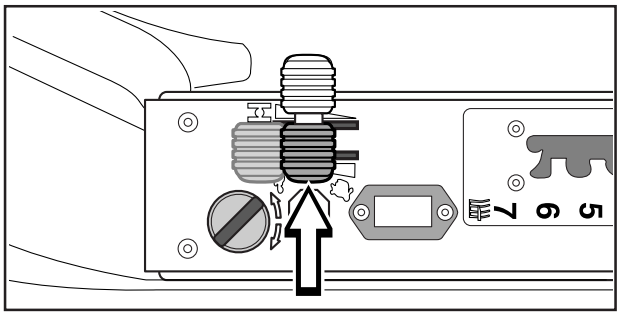
Starting the engine

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



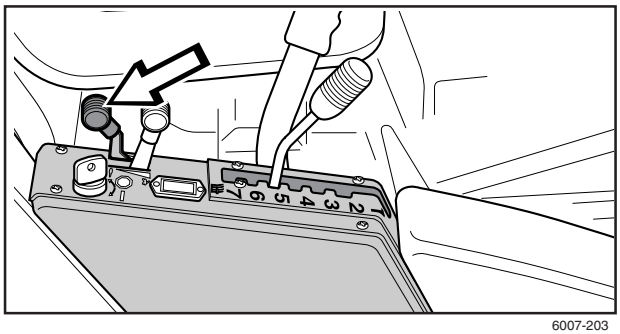
6007-201

2. Move the throttle control to the middle position.



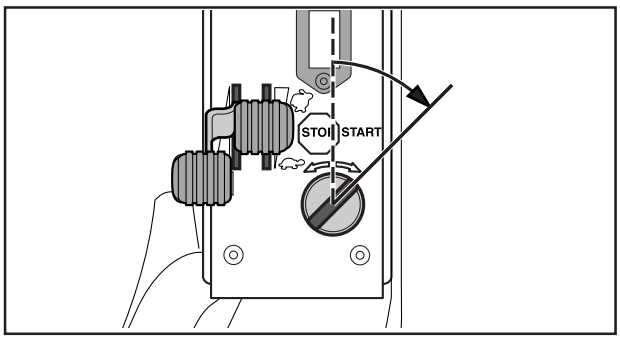
6007-202

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



6007-203

4. Turn the ignition key to the start position.

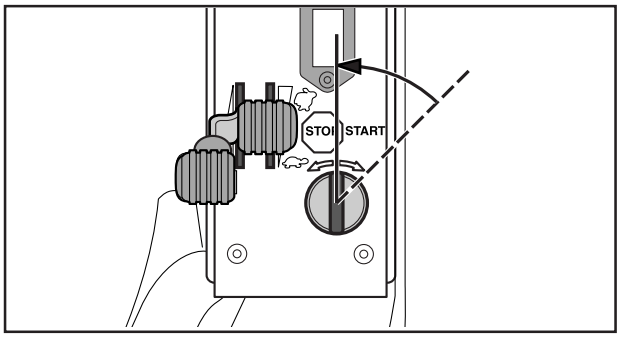


6007-204

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

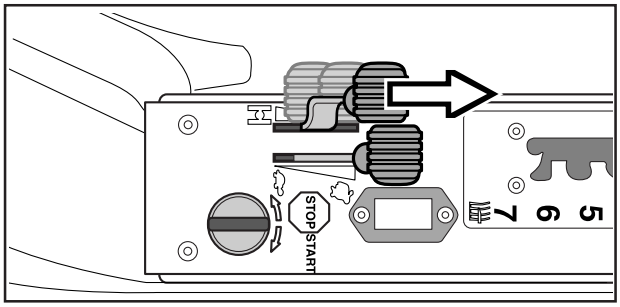
IMPORTANT INFORMATION

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.



6007-205

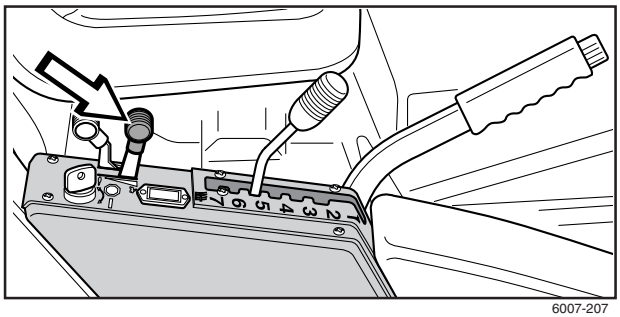
6. Push the choke lever gradually forward when the engine has started.



6007-206

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.

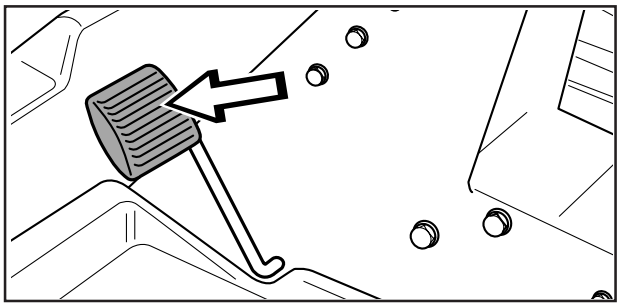


6007-207

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

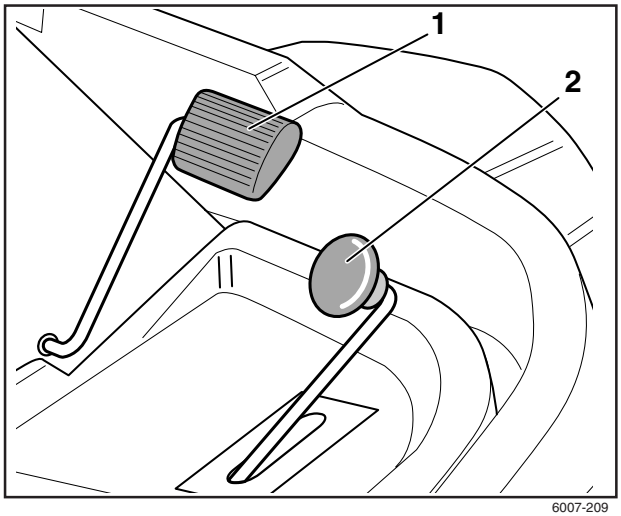
Driving the machine

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


6007-208

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

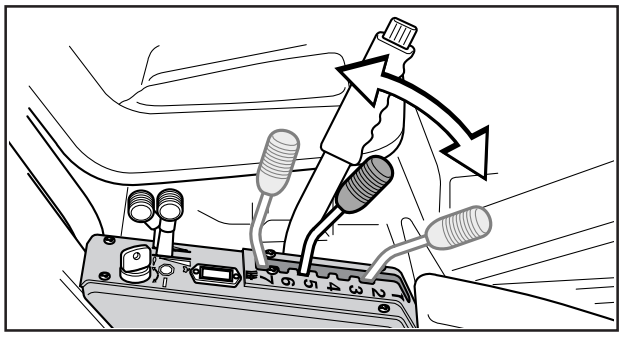
   To drive forward press down pedal (1), or to reverse pedal (2).



6007-209

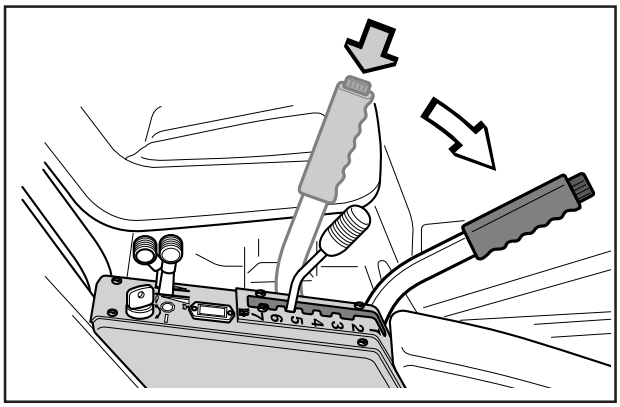
WARNING!
Make sure that branches do not obstruct the pedals when mowing under bushes, otherwise you may lose control.

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



6007-210

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



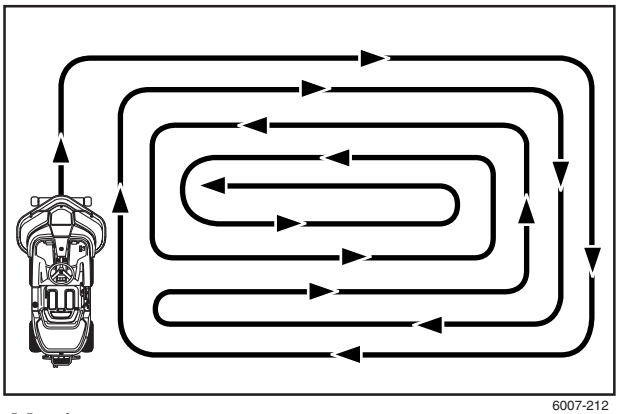
6007-211

Cutting tips

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

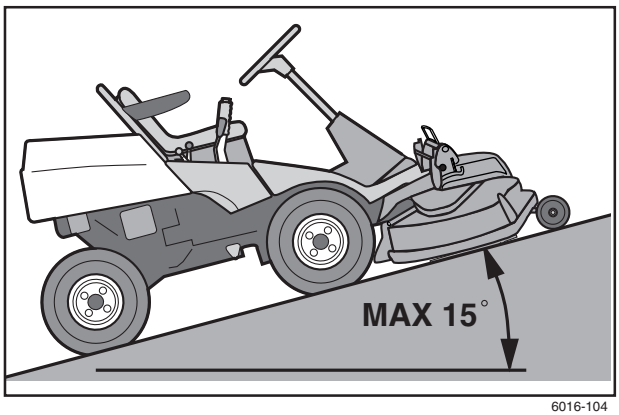
- Localise and mark stones and other fixed objects to avoid collision.
- Start with a high cutting height and reduce down until the required mowing results are obtained.
- The mowing results are best with a high engine speed (fast rotating blades) and low driving speed (slow moving machine). If the grass 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. The cutting unit should be raised into the service position when cleaning.
- If you use the BioClip unit it is important to mow the grass regularly.


6007-212

Mowing pattern

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.

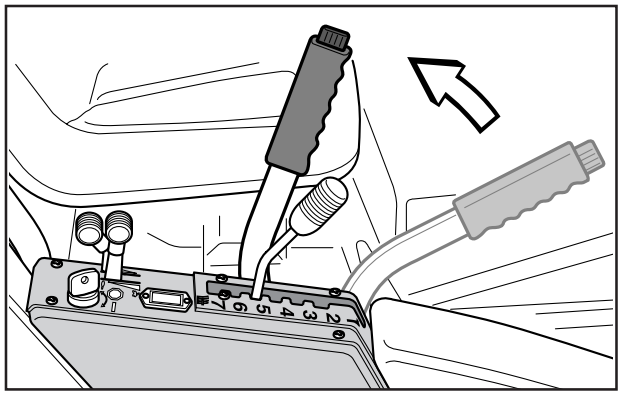


6016-104

Stopping the engine

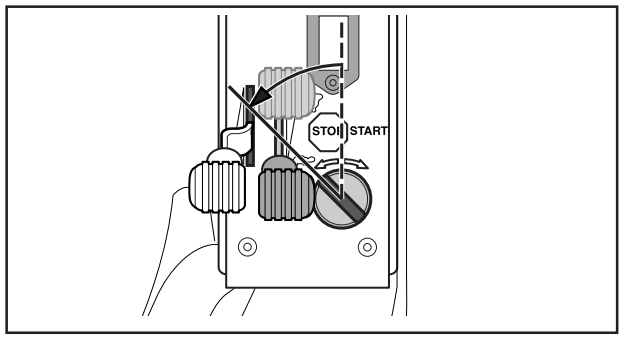
Preferably let the engine idle a minute in order to attain normal operating temperature before stopping it if it has been worked hard. Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.

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



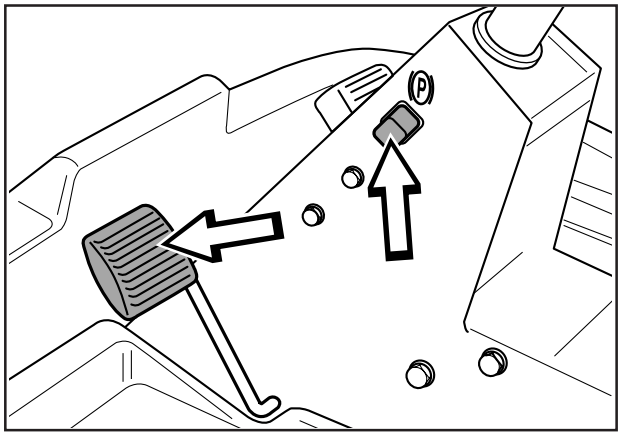
6007-214

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



6007-215

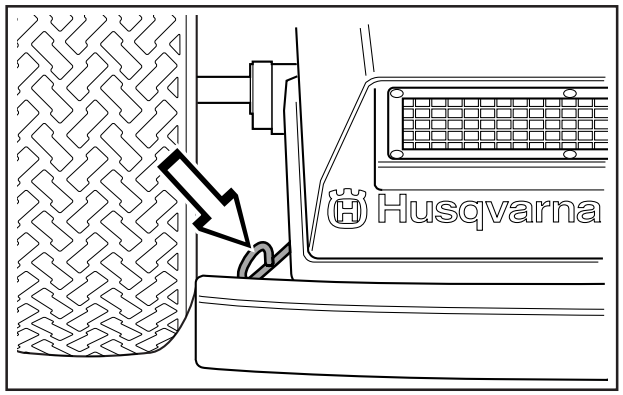
3. When the Rider is at a standstill, press down the parking brake and push in the locking button.



6004-212

Disengage lever

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



6007-216

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.

Maintenance	Page	Daily maintenance before	Daily maintenance after	Weekly[3] maintenance	At least once a year	Maintenance interval in hours 25	50	100	300
Check for fuel and oil leakage	-	❍							
Check the parking brake	27	●							
Check the engine oil level (when you refuel)	48	●							
Check the fuel pump air filter	29	●				●			
Check the seat safety switch	31	●							
Check the lift lever safety switch	31	●							
Check the parking brake safety switch	31	●							
Check/clean the engine cooling air intake	23		●			●			
Check the cutting unit:	34		●						
• blades are secure	36		●						
• condition of blades (sharpness, shape, etc.)	36		●						
• blade synchronisation (90° between BioClip)	36		●						
Check steering wires (for play, etc.)	24		●						
Check fasteners (screws, nuts, etc.)	-		❍						
Start engine and blades, listen for noise	-		❍						
Clean underside of cutting unit	36		●						
Clean transmission air intake	23		●			●			
Check battery acid level	30			●					
Check transmission oil level	49			●					
Check the condition of belts, pulleys, etc.	-			❍					
Check for damage	-			❍					
Check tyre pressures (60 kPa)	27			●					
Check for damage to wire guide at articulated joint	-			❍					
Clean thoroughly around engine	-			❍					
Clean thoroughly around transmission	-			❍					
Clean all belts, pulleys, etc.	45			●					
Lubricate belt tensioner (nipple)	49			●					
Lubricate triangle link (nipple)	48			●					
Lubricate the driver's seat	48			●					
Lubricate all wires	45			●					
Lubricate safety lock on cutting unit	48			●					
Lubricate inner stud on cutting unit	48			●					
Lubricate slot for cutting unit tool frame	48			●					
Lubricate bearing surfaces on cutting unit	48			●					
Clean inside frame tunnel	-			❍					
Lubricate pedal mechanism inside frame tunnel	45			●					
Lubricate the gear lever	47			●					
Lubricate the parking brake wire	49			●					

MAINTENANCE

Maintenance	Page	Daily maintenance before	Daily maintenance after	Weekly[3] maintenance	At least once a year	Maintenance interval in hours			
						25	50	100	300
Lubricate throttle control	48			●					
Lubricate choke control	48			●					
Smörj styrkedja i ramtunnel.	46			●					
Lubricate steering chain inside frame tunnel	24			●					
Clean engine cooling air intake	23				●	●			
Clean the air filter pre-filter (oil-foam)	28				●	●			
Change engine oil[1]	46				●			●	
Clean the air filter cartridge[2] (paper filter)	28				●		●	●	
Check/adjust cutting height setting	34				●		●		
Check/adjust parking brake	27				●		●		
Inspect flame guard/spark arrestor (optional equipment)	-				❍		❍		
Replace engine oil filter (every 200 hours)	49				●			●	
Clean/replace spark plugs	30				●			●	
Replace fuel filter in pipe	29				●			●	
Clean pulse-air filter	29				●			●	
Clean the cooling flanges	-				❍			❍	
Check engine valve clearance[4]	-				❍				❍
Check whether oil change[4] are necessary for gearbox (every 500 hrs)	-				❍			❍	
Replace the air filter pre-filter (oil-foam)[2]	28				●				●
Replace air filter (paper filter)[2] (every 200 hours)	28				●			●	
Carry out 300 hour service [4]	60				❍				❍

[1] First change after 8 hours. [2]When driving with a heavy load or when the ambient temperature is high, replace every 50 hours. 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:

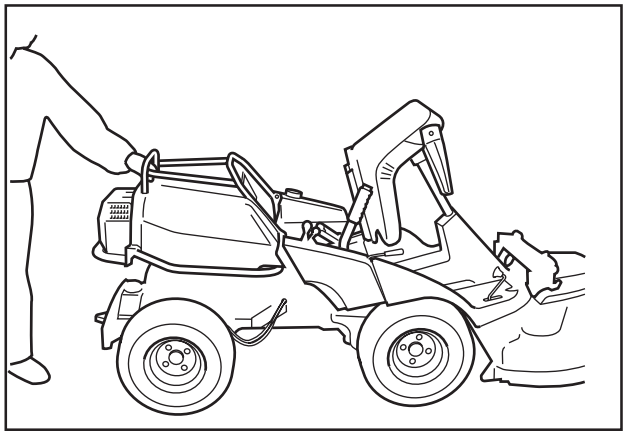
- **The engine is switched off.**
- **The ignition key is removed.**
- **The ignition cables are removed from the plugs.**
- **The parking brake is applied.**
- **The cutting unit is disengaged.**

Dismantling of the machine hoods

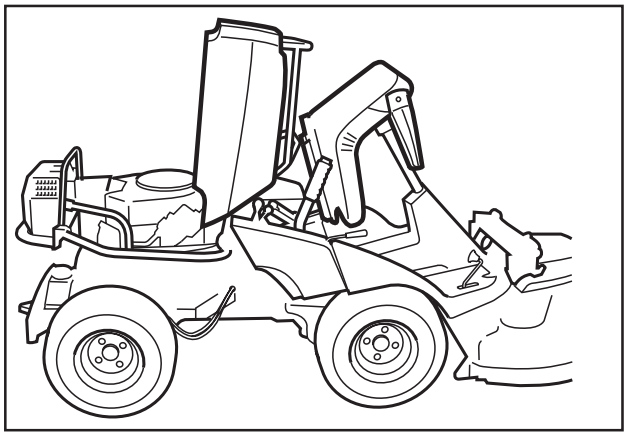
Engine hood

1. Tip up the seat.
2. Turn the main catch on top of the engine hood 1/4 turn anti-clockwise.
3. Lift up the engine hood.

If necessary the engine hood can be removed by taking out the hinge pins.



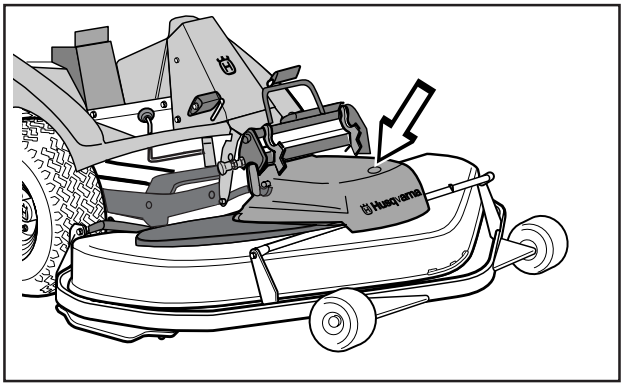
6020-014



8009-298

Nose

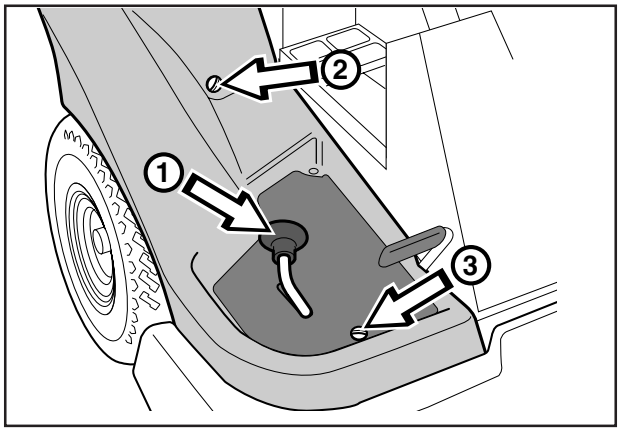
Loosen the quick-action lock and lift off the nose.



6016-106

Right-hand fender

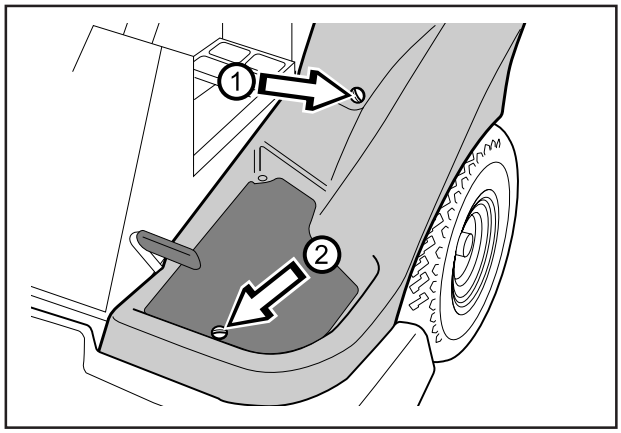
Dismantle the foot-plate (1), screws (2 and 3), and lift off the fender.



6008-203

Left-hand fender

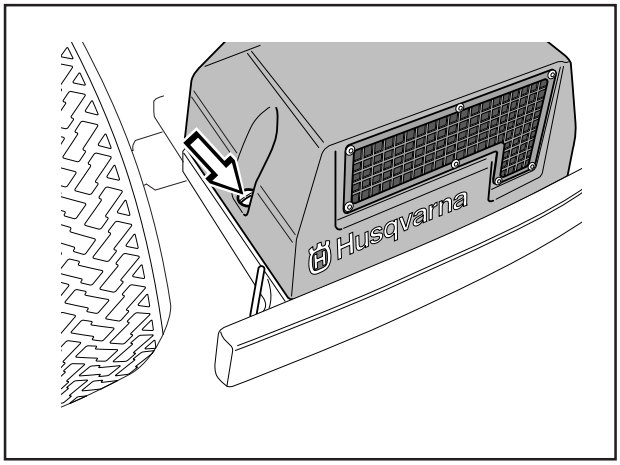
Dismantle the screws (1 and 2), and lift off the fender.



8009-166

Transmission cover

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



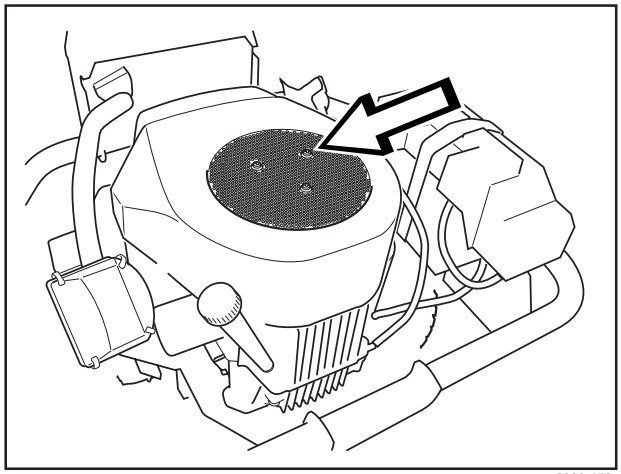
6008-209

Check the engine's cooling air intake

Open the engine hood.

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

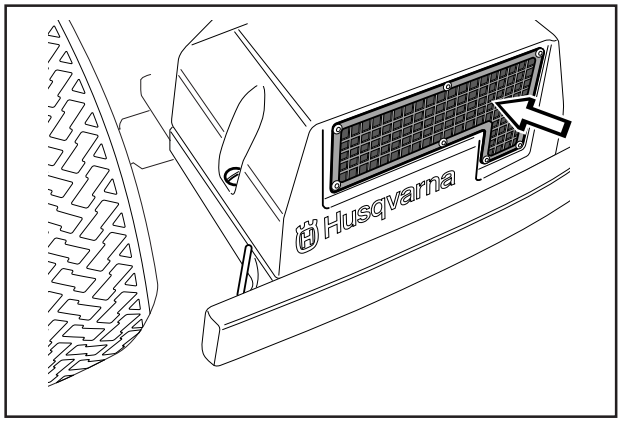
If the cooling intake is blocked this will interfere with the cooling of the engine, which can damage the engine.



8009-152

Check the transmission's air intake

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



6008-208

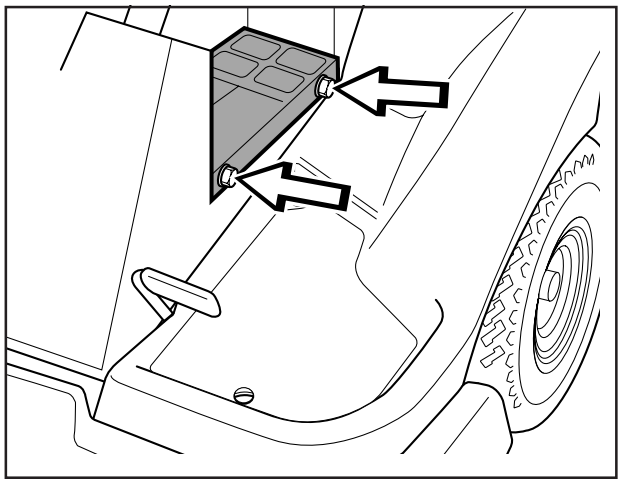
Checking and adjustment of the steering wires

The steering is controlled by means of wires.

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

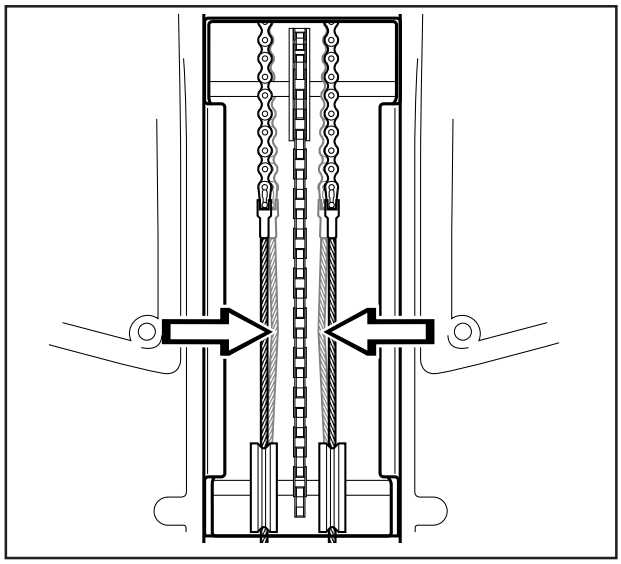
Check and adjust the steering as follows:

1. Dismantle the frame-plate by releasing the screws (two on each side).



6008-211

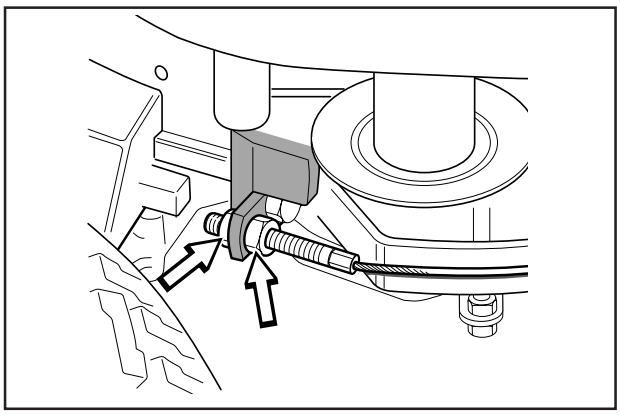
2. Check the tension of the steering wires by pushing them together (at the arrows).
   It should be possible to push them together so that the distance between them is half as much, without using unnecessary force.



6008-212

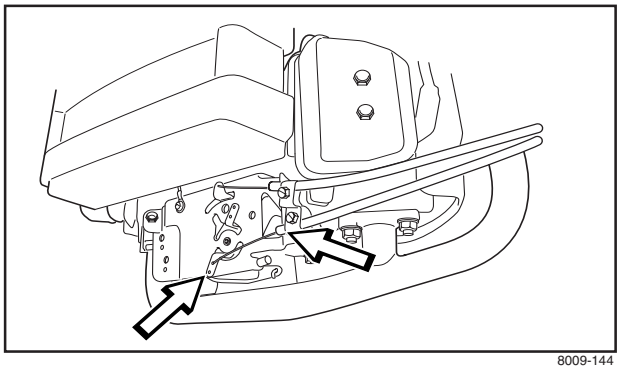
3. When necessary the wires can be tensioned by tightening the adjusting nuts (one on each side of the machine).
   Do not tension the wires too tightly, they should only be *tightened up* to the steering rim.

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



6008-213

Checking and adjustment of the throttle wire


8009-144

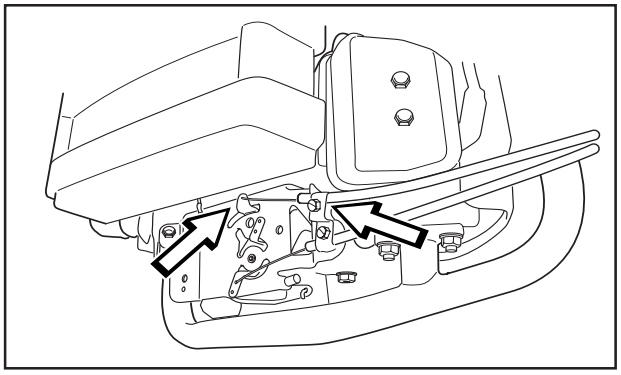
Check that the engine responds to the throttle control and that the correct engine speed is achieved at full throttle.

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


8009-145

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.

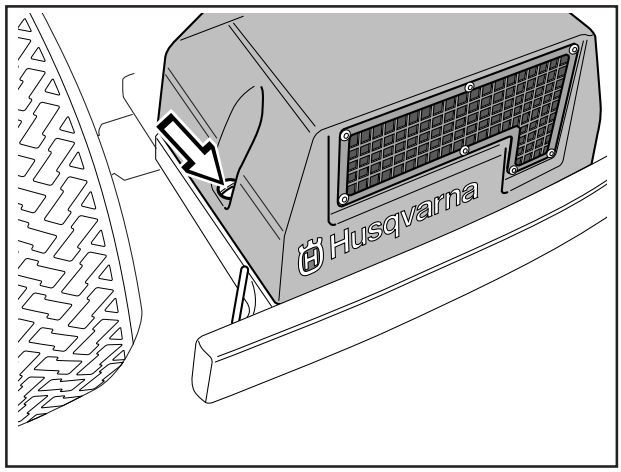
If it is necessary to adjust the choke, proceed as follows:

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.

Adjusting the hydrostatic wire

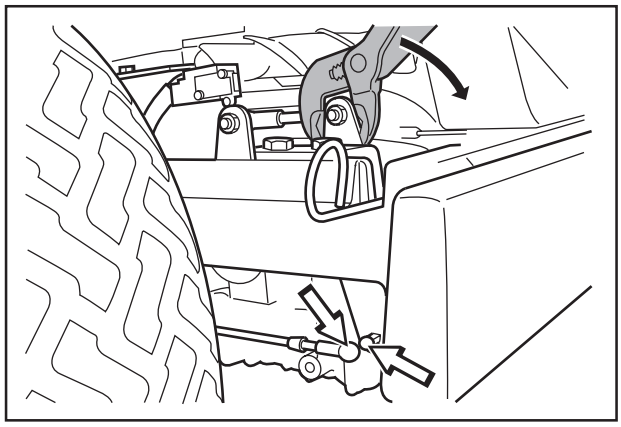
The hydrostatic wire (on the left) is adjusted as follows:

1. Remove the transmission cover. Unscrew the two screws (one on each side) and lift off the transmission cover.
2. Separate the lower ball joint, which is secured with a spring clip.
3. Make sure the forward drive pedal is fully depressed.



6008-209

4. Raise the arm as far as possible and check that the ball and socket of the lower ball joint match up.
5. Adjust the socket on the wire if required.
6. Reassemble the low ball joint.
7. Refit the ball joint spring clip.

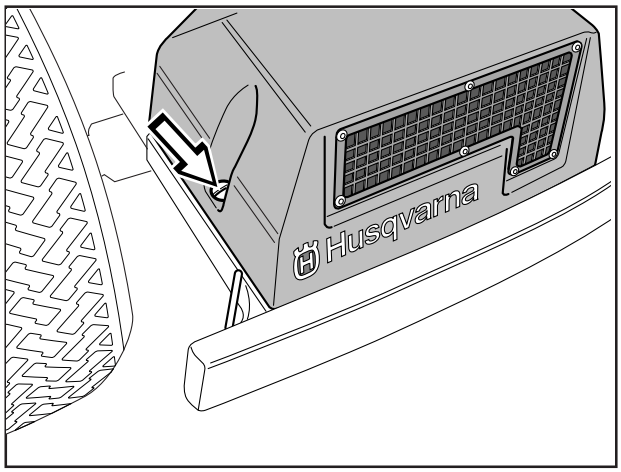


6020-002

Adjusting the brakes

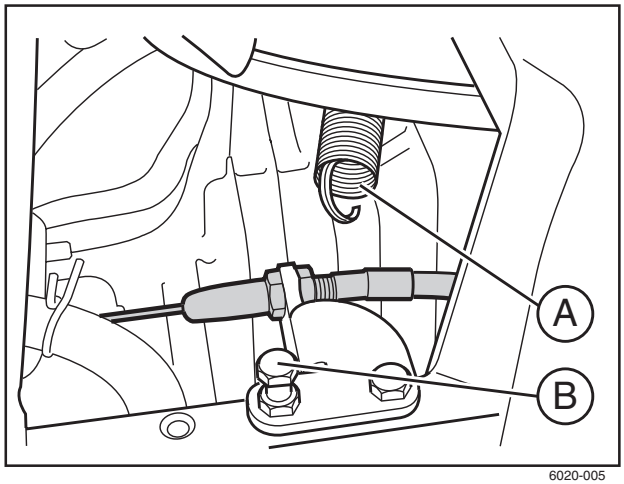
The parking brake (on the right) is adjusted as follows:

1. Remove the transmission cover. Unscrew the two screws (one on each side) and lift off the transmission cover.
2. Unhook the spring (A) from the screw (B).



6008-209

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.



6020-005

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

Checking the tyre pressure

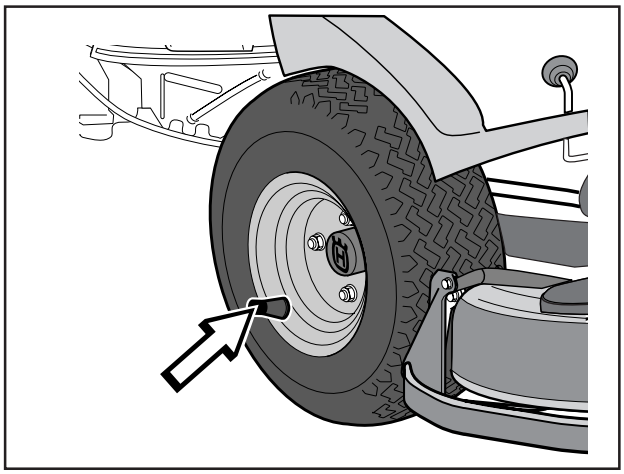
Check tyre pressure (60 kPa, 0.6 bar).

To improve driving the pressure on the rear tyres can be reduced to 40 kPa (0.4 kp/cm^2).

The maximum tyre pressure is 100 kPa (1.0 kp/cm^2).

IMPORTANT INFORMATION

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



6016-109

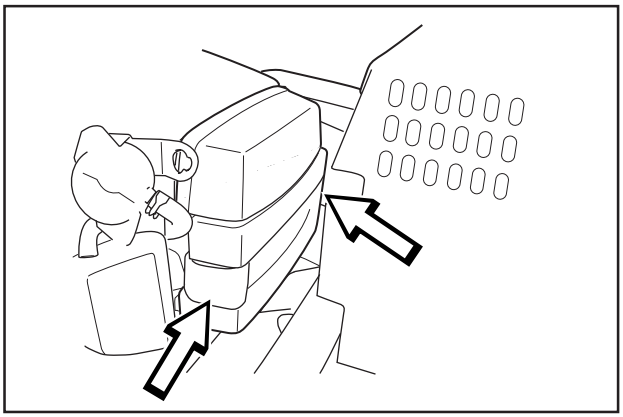
Replacing the air filter

If the engine seems to lack power or does not run smoothly this may be because 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 \ Maintenance Schedule” for correct service interval).

Clean/ replace the air filter as follows:

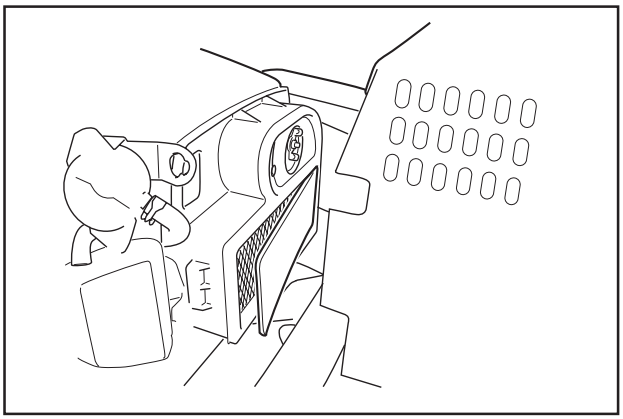
1. Raise the engine hood.



8009-148

2. Prise out the two clips and lift the cover off the air filter housing.

WARNING!
Let the exhaust system cool down before servicing it, otherwise you could burn yourself.

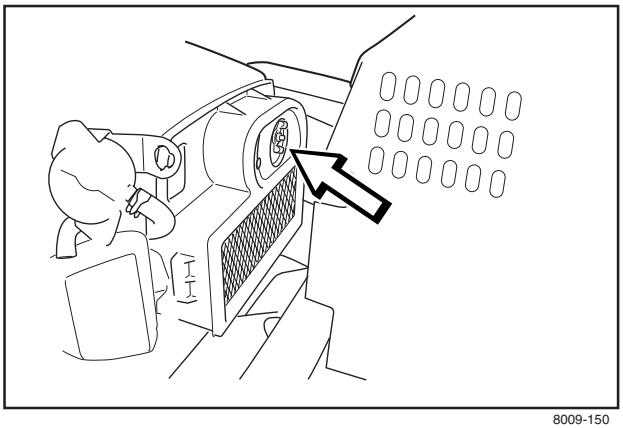


8009-149

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.

4. Remove the wing nut from the air filter and lift off the paper filter. Tap the paper filter against a hard surface to shake off the dust.



8009-150

IMPORTANT INFORMATION

Do not use compressed air to clean the paper filter.

Do not wash the paper filter.

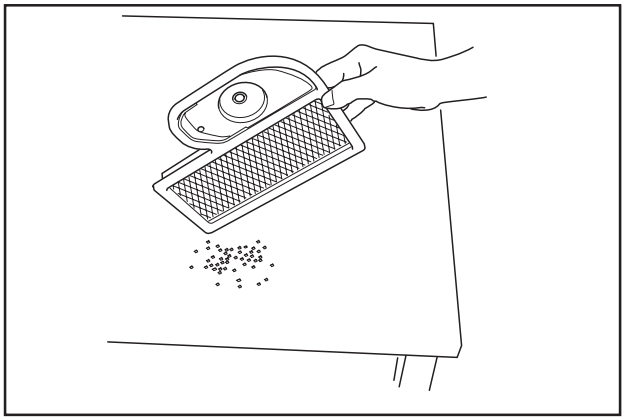
Do not oil the paper filter.

5. Refit the air filter as follows:

   Fit the air filter in the air filter housing and tighten the wing nut.

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

7. Refit the cover over the air filter housing. Bring the cover up from underneath, making sure that the pre-filter does not slip out of place. Secure with the two clips.



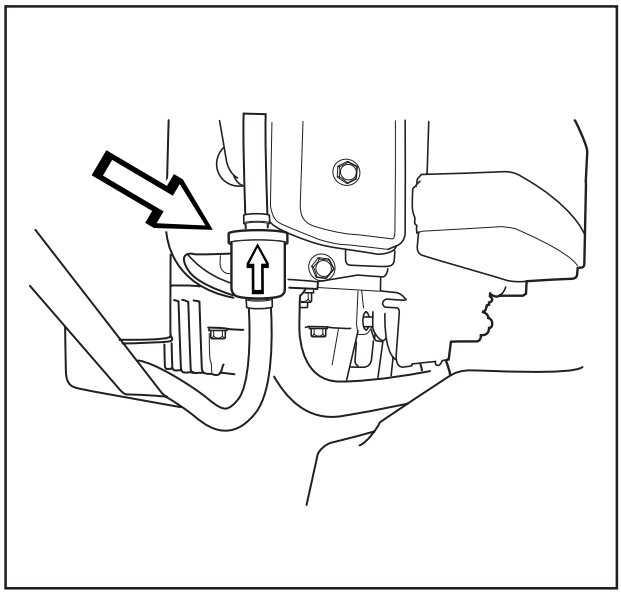
8009-151

Replacement of the fuel filter

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

Replace the filter as follows:

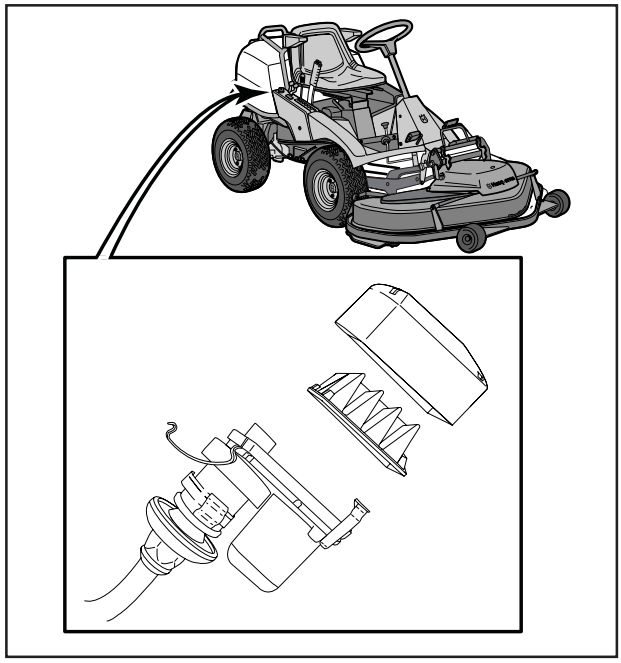
1. Open the engine hood.
2. Move the hose clips away from the filter. Use a pair of flat pliers.
3. Pull off the filter from the hose ends.
4. Press the new filter into the ends of the hoses. Turn the filter so that the ”FLOW” arrow is pointing upwards towards the fuel pump. If necessary apply liquid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



8009-146

Cleaning the pulse air filter

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



6020-012

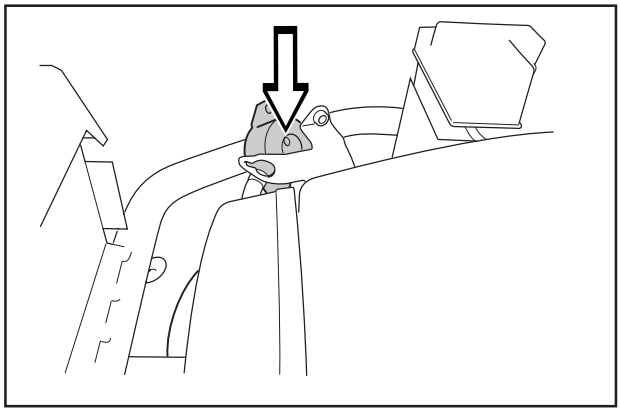
Checking of the fuel pump’s air filter

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

Remove the screws and fold out the pump, no hoses need to be loosened.

The filter can when necessary be cleaned with a brush.

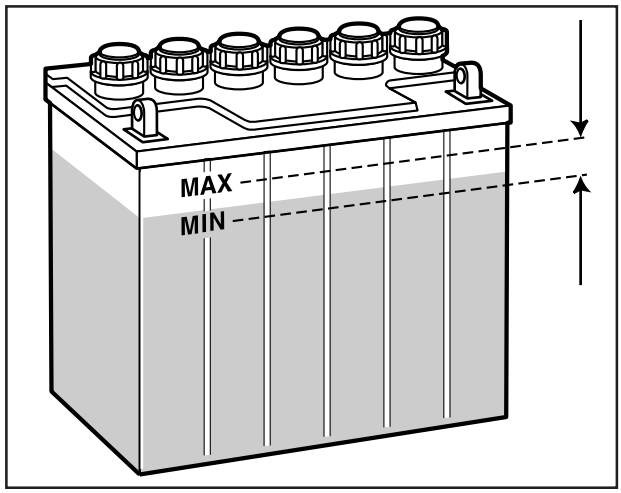
Replace the pump on the bracket.



8009-147

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.



6008-216

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 the recommended spark plug, see Technical data.

IMPORTANT INFORMATION

Fitting the wrong spark plug type can damage the engine.

1. Remove the ignition cable shoe and clean around the spark plug.
2. Remove the spark plug with a 13/16" (21 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 wire brush if it is to be reused.
4. Measure the electrode gap with a gapping tool. The gap should be 0.75 mm/0.031". 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 1/8-1/4 of a turn from the seated position. A new spark plug should be turned 1/2 a turn from the seated position.
7. Replace the ignition cable shoe.

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.

Inspecting the safety system

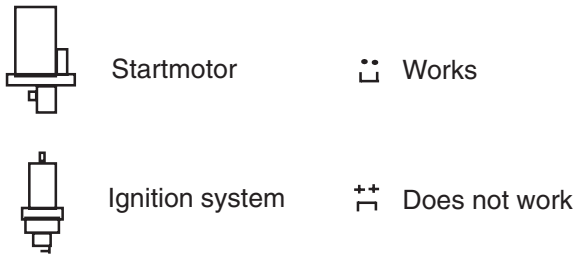
The Rider is equipped with a safety system that prevents starting or driving under the following conditions:

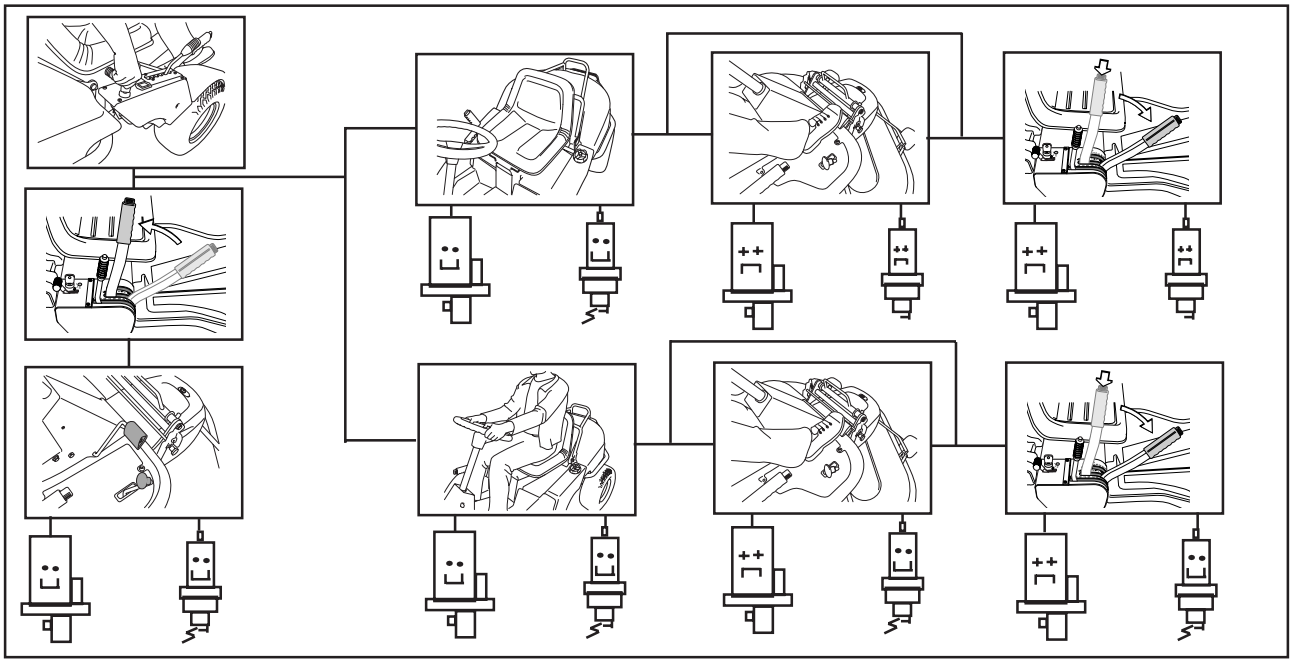
The engine should only be possible to start when the cutting unit is in its raised position and the hydrostat pedals are in the neutral position.

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.



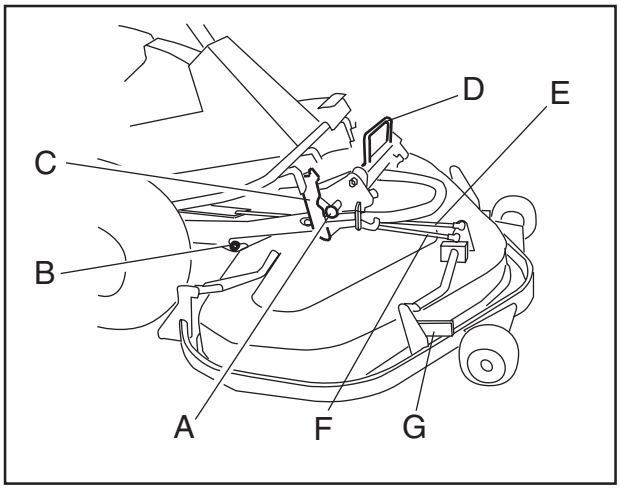


The parts of the cutting unit

A cutting unit with a rear ejector has been used in the instructions below, however, the same procedure applies to other units if not otherwise stated.

The parts mentioned are:

A. Catch
B. Inner pin
C. Hook guard
D. Handle
E. Height setting arm
F. Parallel strut
G. Lowest height setting stop



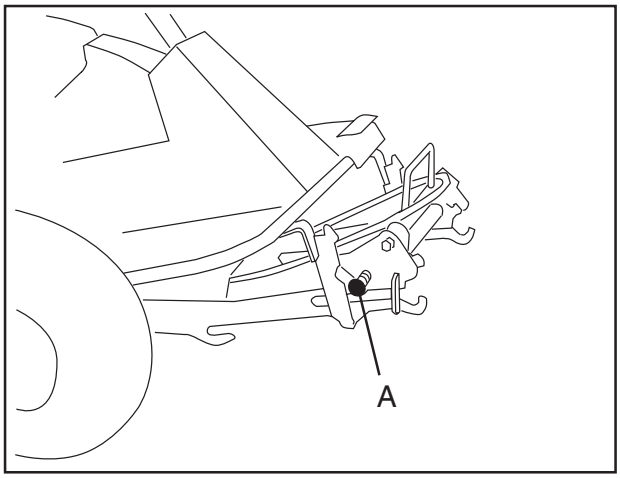
8009-188

Fitting the cutting unit

WARNING!
Take care. Risk of crushing injury.

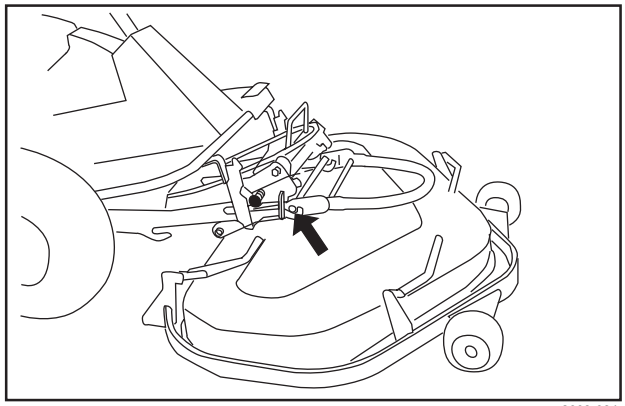
Starting point for fitting the unit:

- Place the Rider on a level surface.
- Apply the brakes by pressing down the pedal and lock using the pushbutton.
- The attachment frame in the lowered position.
- The attachment frame locked with the hook guard and the catch (A) in the loaded position.
- Attachment frame mounted on cutting unit, see ”Removing the attachment frame”

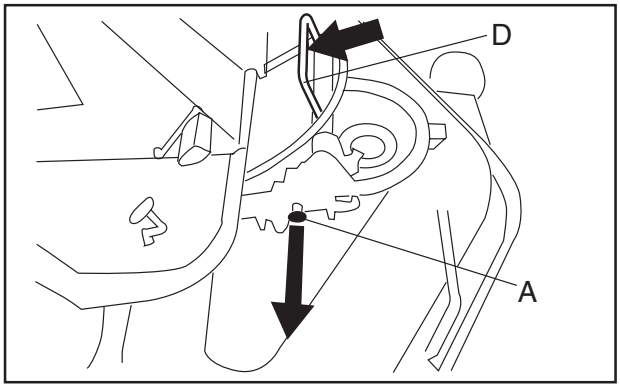


8009-022

1. Fit the unit in the attachment frame’s outer hooks.

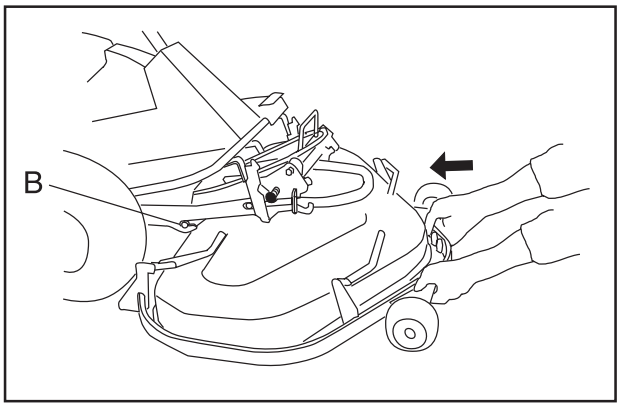

8009-024

2. Pull out the catch (A) and release the hook guard by sliding its handle (D) backwards.
3. Lift the attachment by pulling up the lever located on the driver’s right-hand side.



8009-167

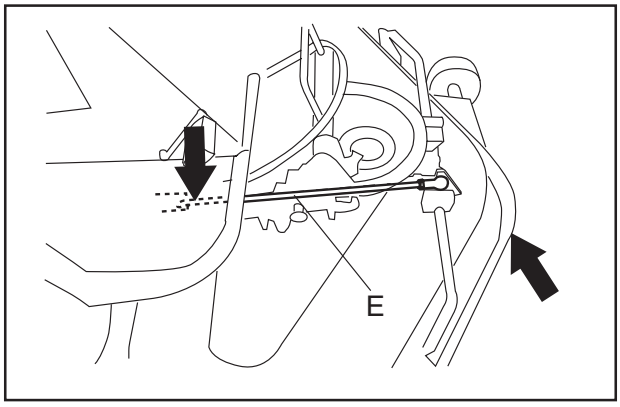
4. Slide in the unit so that the inner pins (B) bottom in the attachment frame's groove.



8009-018

5. Hook the rear end of the height adjustment arm (E) in place:

   Set the cutting height lever to the forward position. Release the pressure from the arm if necessary by lifting or pushin down on the front of the frame.

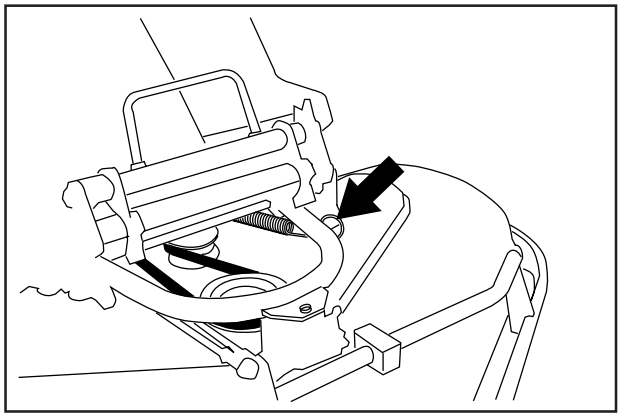


8009-168

WARNING!
Watch your fingers. Do not turn the blades or belt.

6. Disconnect the belt adjuster spring and fit the belt over the front pulley. The new belt will be shorter. If necessary, fit a spanner over the centre bolt and turn the front pulley.

7. Hook on the belt adjuster's spring again.



8009-008

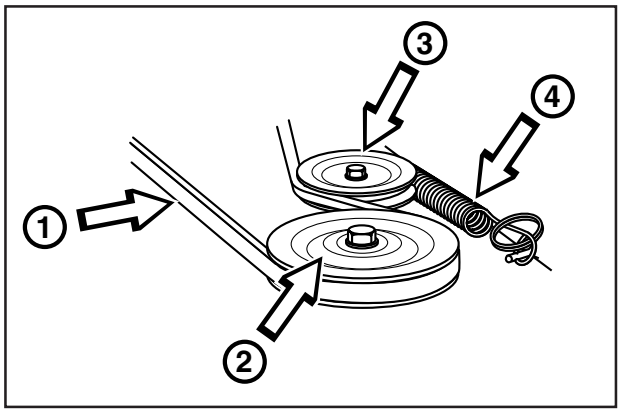
IMPORTANT INFORMATION

Check that the belt is fitted around the tension roller.

Belt diagram

1. Drive belt
2. Front pulley
3. Tension roller
4. Belt adjuster spring

8. Refit the nose.



6016-105

Setting the parallelism and height for the cutting unit with rear ejector and BioClip unit

The base unit is adjusted at the factory. When one of the attachments is fitted, the parallelism and height need to be adjusted.

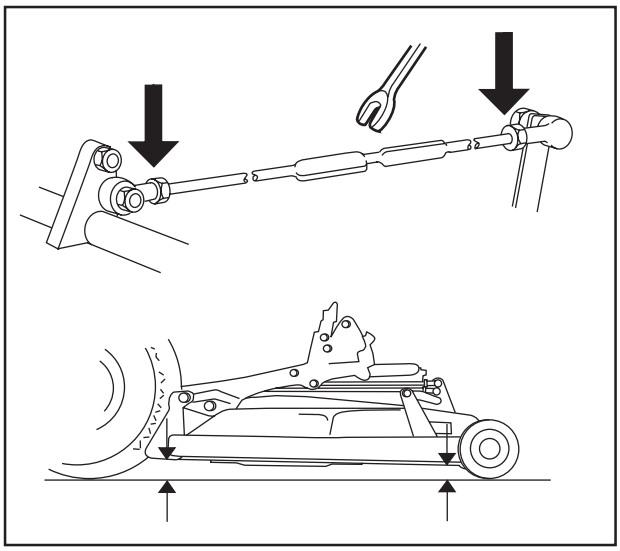
Starting point:

1. Check the tyre air pressure, which should be 60 kPa (0.6 bar).
2. The cutting unit should be lowered on a level surface.
3. The height setting lever should be set for the lowest cutting height.

Parallelism

Always start by adjusting the parallelism.

1. Loosen the two nuts on the arm.
2. Measure the distance between the ground and the front edge of the unit, at the front and rear of the hood.
3. Place a wrench on the bevelled section in the centre of the arm and turn so that the rear edge of the cutting unit sits 2-4 mm higher than the front edge of the unit.
4. Check the measurements.
5. Now tighten the two nuts on the arm.



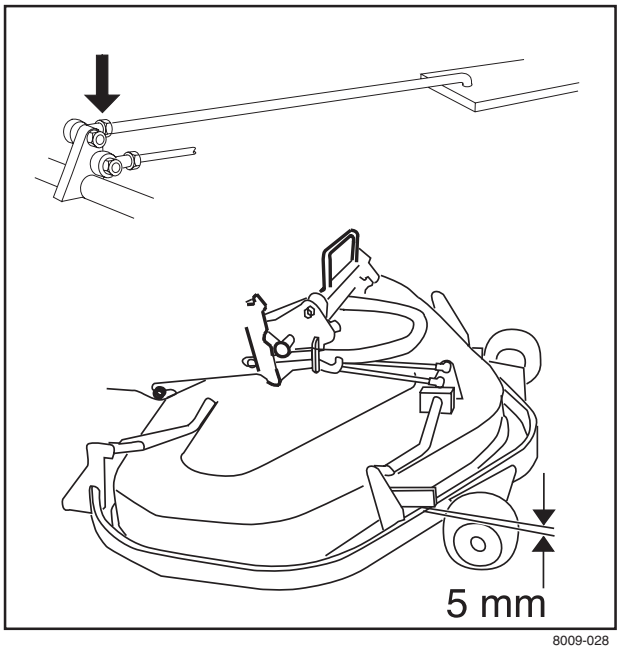
8009-027
8009-026

Cutting height

1. Loosen the nuts on the height setting arm.
2. Adjust so that the distance between the stop for the lowest height setting and the protective frame is 5 mm.
3. Tighten the nuts.
4. Check that the parallelism has not changed. If it has changed, the parallelism must be readjusted again.
5. Check and, if necessary, adjust the cutting unit's ground pressure as described in the next section.
6. Fit the nose.

IMPORTANT INFORMATION

The parallelism and height must be adjusted again when changing the cutting unit.



8009-028
8009-029

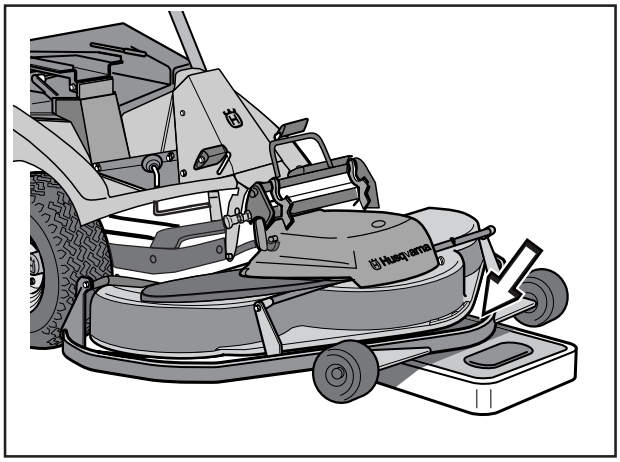
Checking and adjustment of the cutting unit's ground pressure

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.

Adjusting of the cutting unit's ground pressure is conducted as follows:

1. 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.
2. 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 and the springs evenly tensioned.



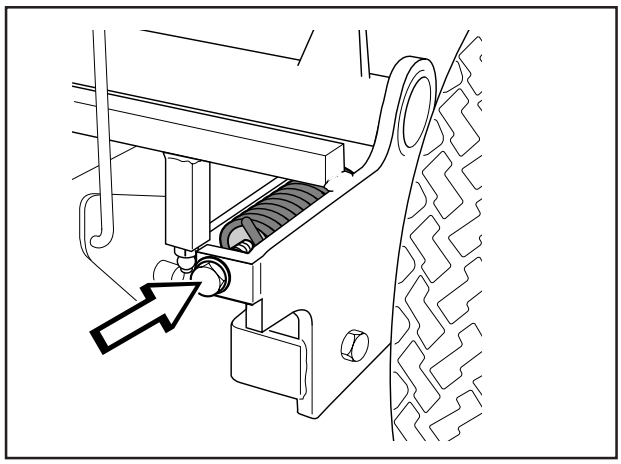
6016-107

Replacing the break-pin (BioClip 103)

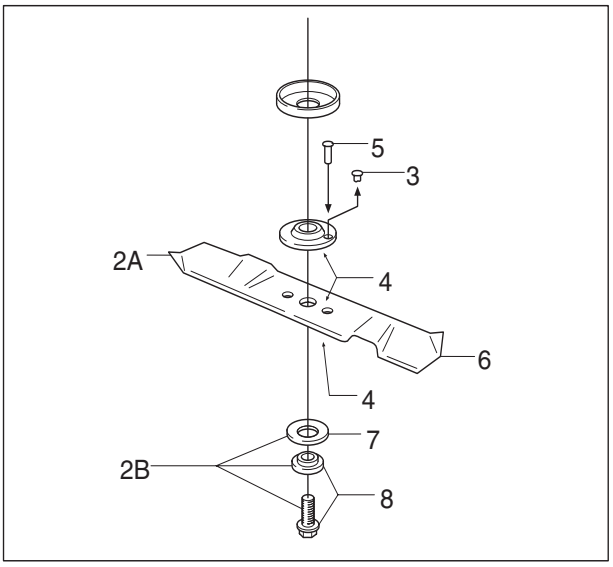
The blades are fitted with a break-pin to protect the BioClip unit and its drive when colliding with obstacles. A domed, spring friction washer is fitted to each blade bolt. The washer must always be replaced with a new washer when replacing the break-pin. Otherwise the break-pin can break causing the 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 unit in the service position, see "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 free from metal. Clean if necessary.
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)



6008-222



8009-137

Service position for the cutting unit

The cutting unit can be set in a service position to provide good access for cleaning, servicing and repair. The service position means that the unit is raised and locked in the vertical position.

Placing in the service position

1. Position the unit so it hangs over the outer hooks by carrying out sections 1–11 under ”Removing the cutting unit”.
2. Take hold of the front edge of the unit and lift it vertically. The unit is automatically locked in the vertical position.

Releasing from the service position

1. Loosen the top edge of the unit (move it backwards), move the handle forwards and slowly lower the unit to its horizontal position.
2. Slide the unit into its working position by carrying out sections 4–8 under ”Fitting the cutting unit”.

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, (45–50 Nm, 33–44 lb.ft)

The friction washer and break-pin should also be replaced when replacing the blades.

IMPORTANT INFORMATION

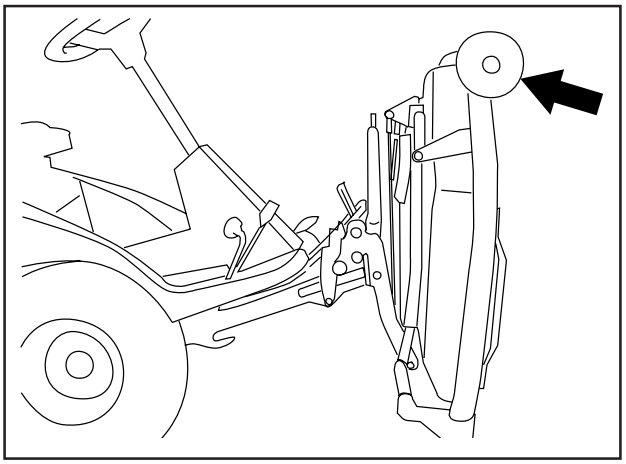
Replacing or sharpening the blades should be conducted by an authorised service workshop.

The blades should be balanced after sharpening.

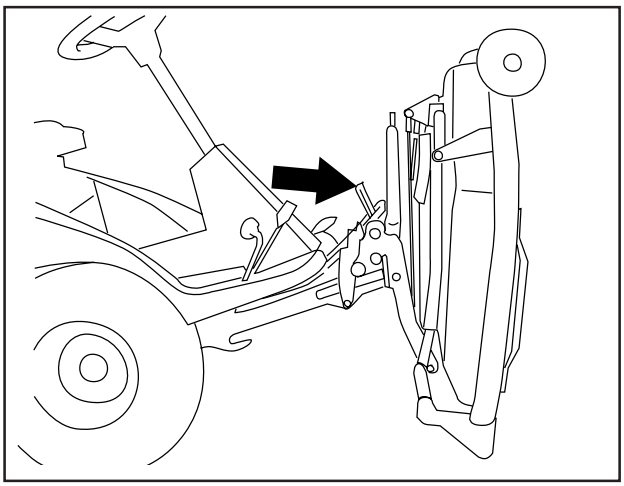
Damaged blades should be replaced when hitting obstacles that result in a breakdown. Let the servicing dealer judge whether the blade can be repaired/ground or must be discarded.

IMPORTANT INFORMATION

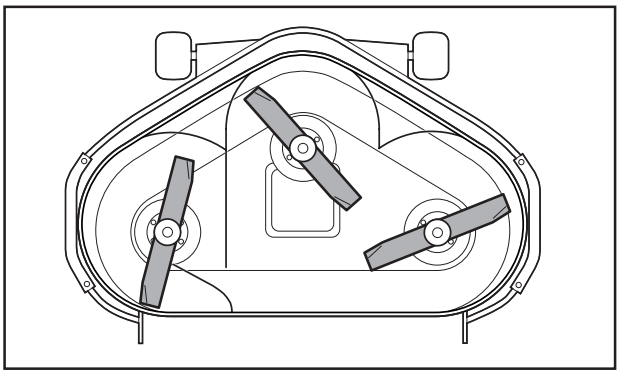
The Bioclip 103 unit should always have the blades in the relative positions shown in the diagram, with a 90° angle between the blades. Otherwise the blades can go against each other and cause serious damage to the unit.



8009-016

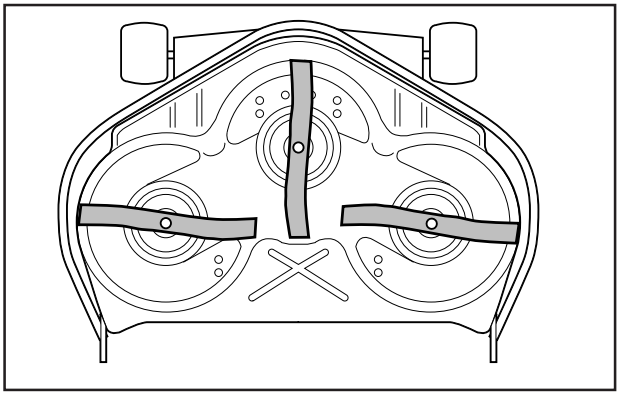


8009-015



6008-226

Cutting unit with rear ejector



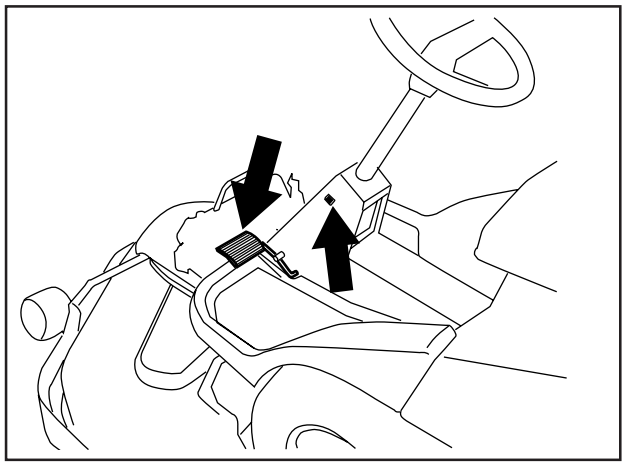
6016-108

BioClip unit

Dismantling the cutting unit

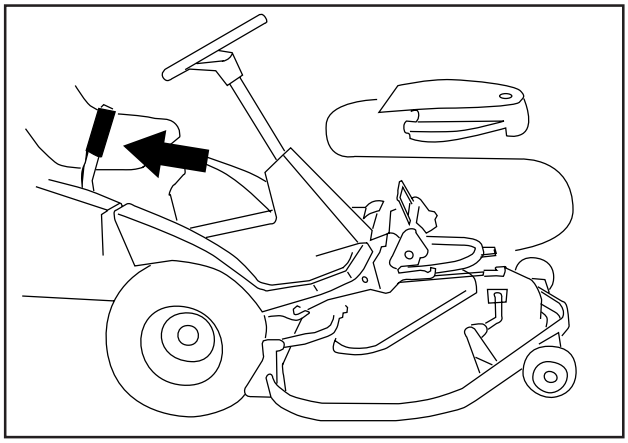
WARNING!
Take care. Risk of crushing injury

1. Place the Rider on a level surface.
2. Apply the brakes by pressing down the pedal and lock using the pushbutton.



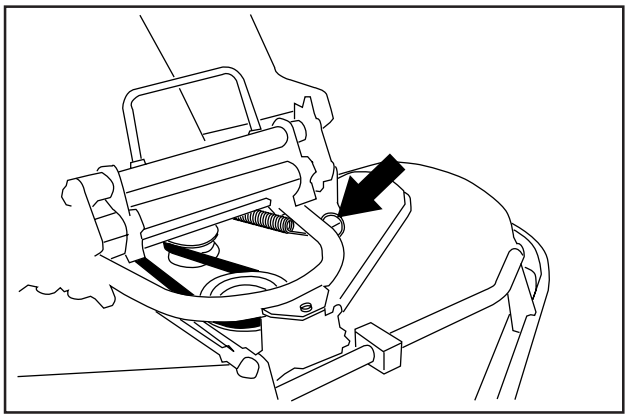
8009-001

3. Lift up the unit using the lifting lever.
4. Remove the nose.



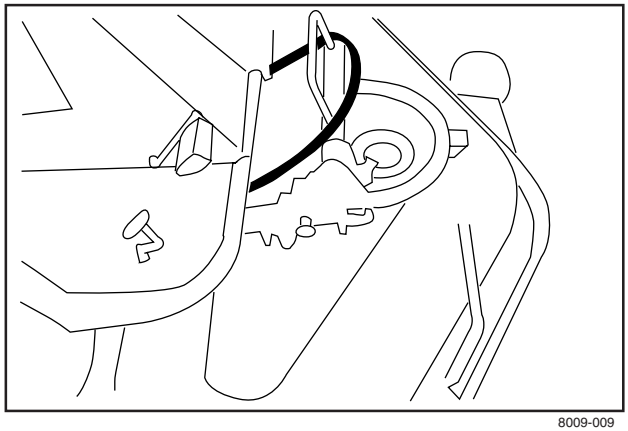
8009-007

5. Remove the belt adjuster's spring.
6. Take the belt off the front pulley.
7. Hook on the belt adjuster's spring again.



8009-008

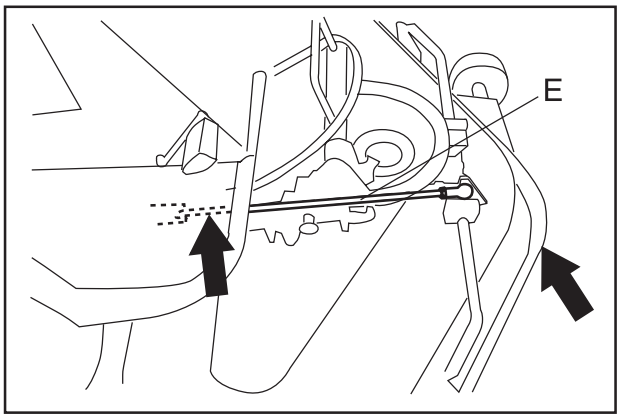
8. Hang the belt around the handle.



8009-009

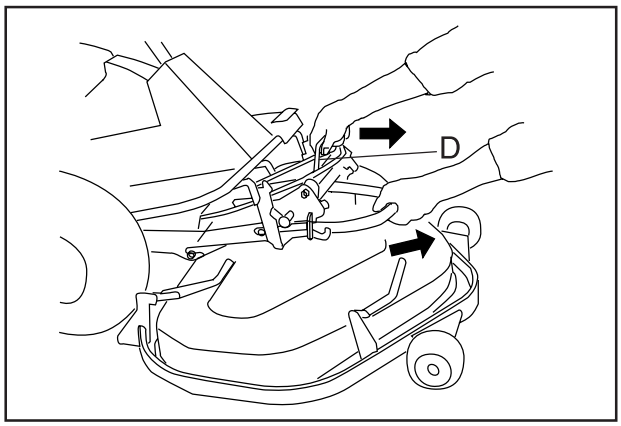
9. Unhook the height adjustment arm (E) by raising the rear of the arm:

   Release the pressure from the arm if necessary by lifting or pushing down on the front of the frame.



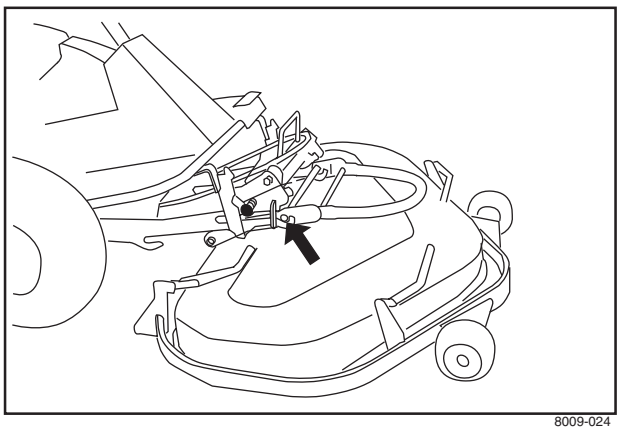
8009-169

10. Pull the handle (D) and the unit simultaneously. Release the handle when the unit has come out a bit.

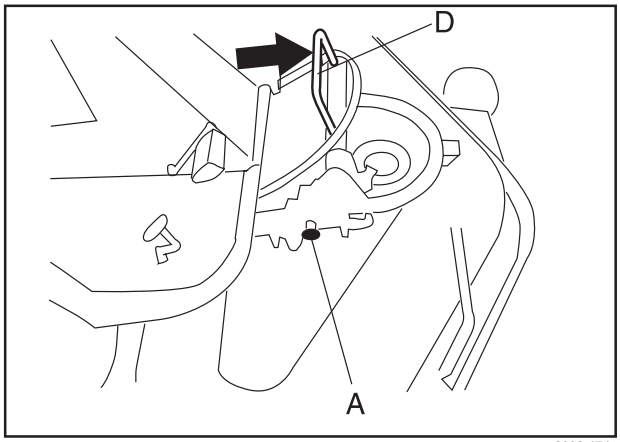


8009-170

11. Pull out the unit so that it engages in the outer hooks.
12. Lower the unit using the lever on the right-hand side of the driver.


8009-024

13. Pull the handle (D) so that the hook guard locks. Check that the catch (A) is fully engaged.
14. Lift the unit off of the Rider.



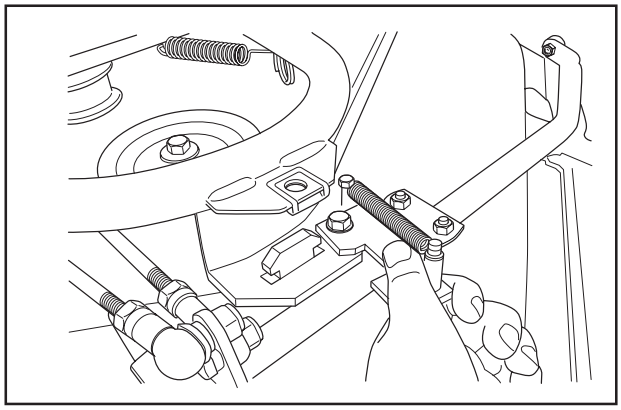
8009-171

Removing the attachment frame

Starting point for removing attachment frame:

- Cutting unit must be removed.

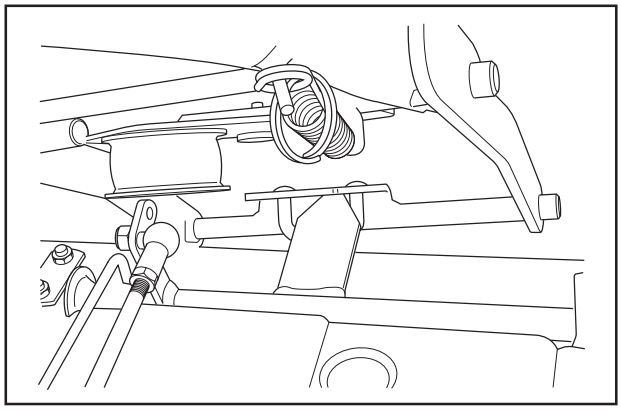
1. Release the catch so that the front mounting can be lifted clear of the cutting unit.



8009-184

2. Slide the attachment frame backwards so that the tongue on the cutting unit is clear of the slot in the attachment frame, then lift off the frame.

   Refit in reverse order.



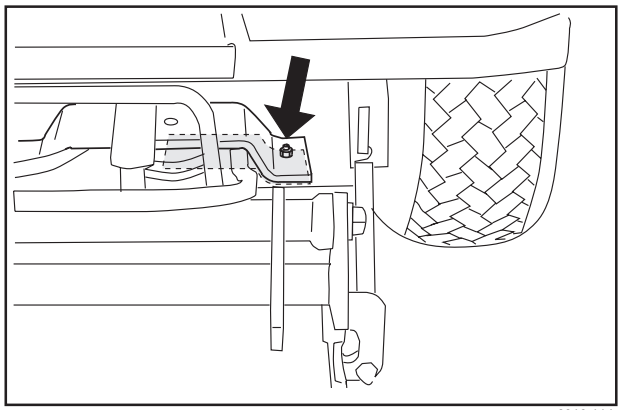
8009-185

Dismantling the belt

Starting point when dismantling the belt:

- No unit attached to the Rider.
- The front of the belt is hung around the hook guard's handle.

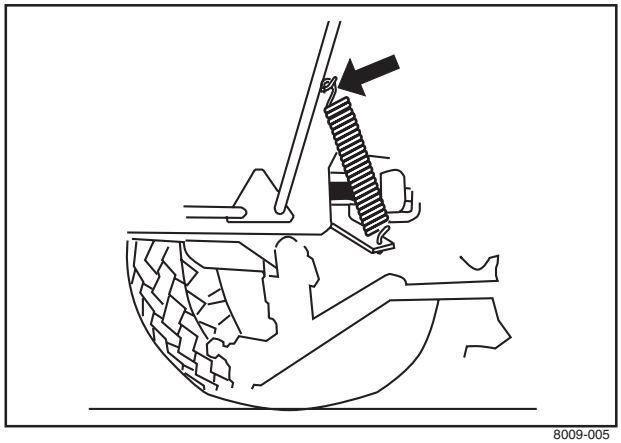
The method of disengaging the front section of the belt from the front pulley is described in steps 5–8 under "Removing the cutting unit".



6016-114

The entire belt is only dismantled as set out below, when the snow plough is fitted on the Rider.

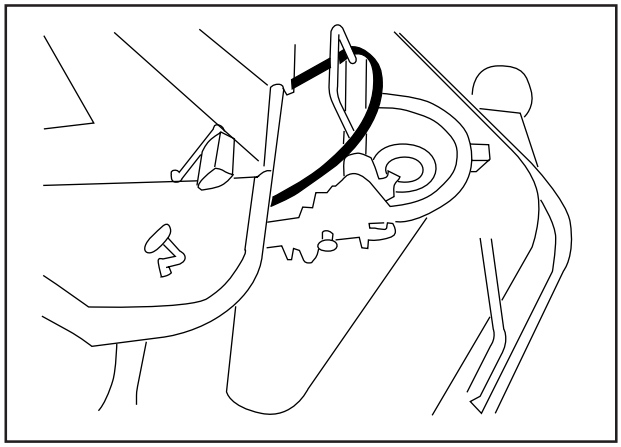
1. Dismantle the steering plate under the support wheel. Use two 13 mm spanners.
2. Unhook the spring on the blade brake.
3. Pry off the belt from the intermediate pulley and remove the belt.



8009-005

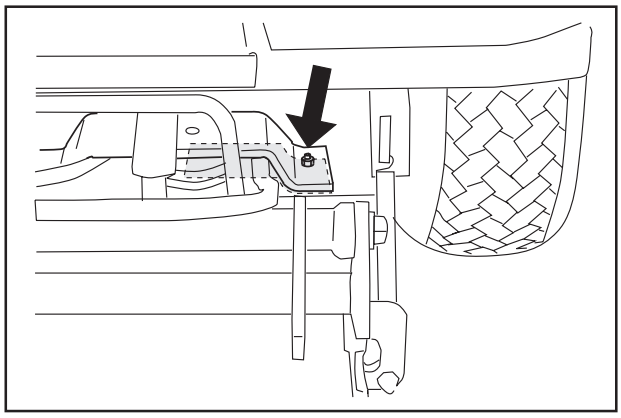
Assembling the belt

1. Position the belt from the front and let the front end of the belt hang around the hook guard's handle.
2. Fit the belt on the intermediate pulley and against the support wheel.



8009-009

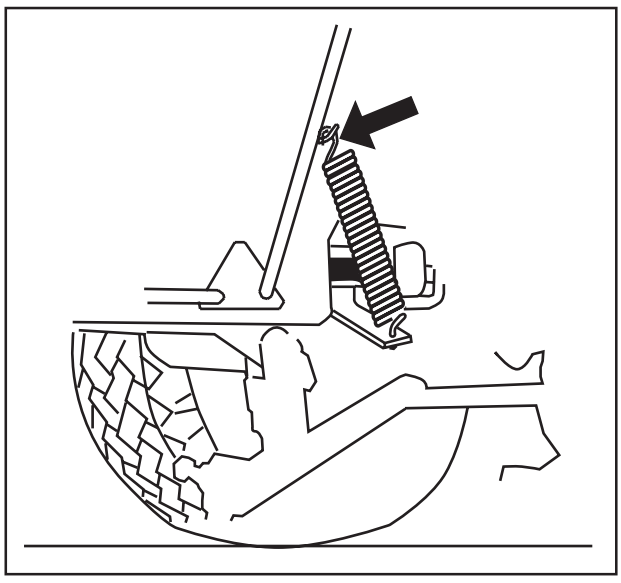
3. Fit the steering plate under the support wheel and tighten the bolts using two 13 mm spanners.



6016-114

4. Hook on the spring for the blade brake.

The method of fitting the belt over the front pulley is described in steps 6–7 under "Fitting the cutting unit".



8009-005

Replacing the cutting unit's belts

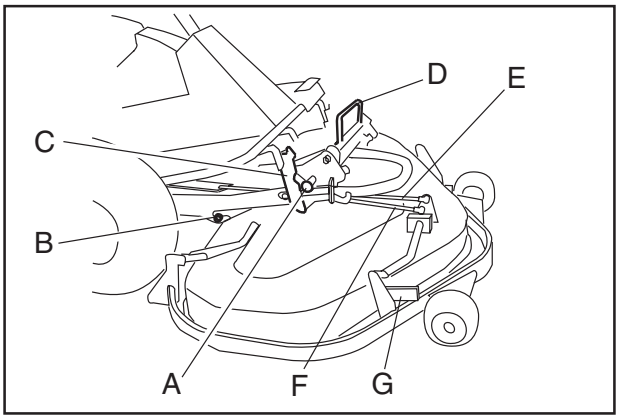
Belt replacement on BioClip 103

There are two versions of BioClip 103. Version 1 has a single toothed belt and version 2 has two belts. The toothed belts drive the blades and synchronise their rotation. The belts are located under a cover on top of the cutting unit.

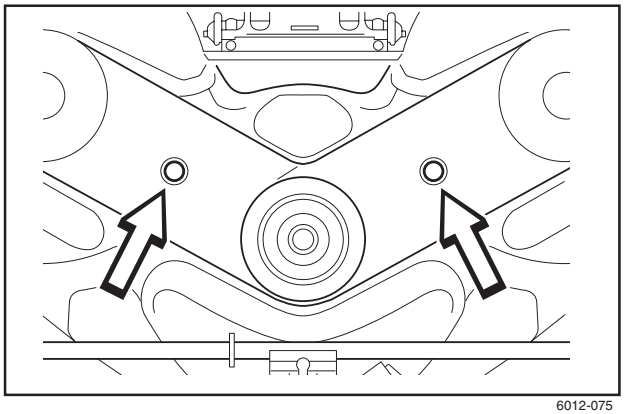
1. Remove the cutting unit, see page 37.
2. Remove the attachment frame, see "Removing the attachment frame".
3. Tilt the height adjustment arm (E) forwards. Unscrew the front bolt from the parallel strut (F) and tilt the strut backwards.
4. Undo the two screws that hold the protective cover and lift off the cover.

   Useful hint: Mark the positions of the blades on each belt using a felt-tip pen.
5. Version 1:

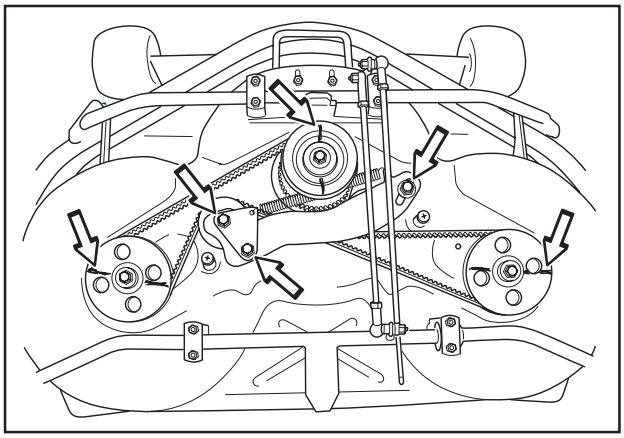
   Unscrew the three screws 1/2 - 1 turn. Press the sides of the belt together to give maximum slack and tighten one of the screws. Replace the belt and tension it as shown (see decal on cover). Set the blades at 90° to each other and undo the screw again. The spring will set the correct belt tension. Check the positions of the blades again, and adjust if necessary by repositioning the belt on the teeth. Tighten the three screws to a torque of 45 Nm.



8009-188



6012-075



8009-173

BioClip 103 Version 1

5. Version 2:

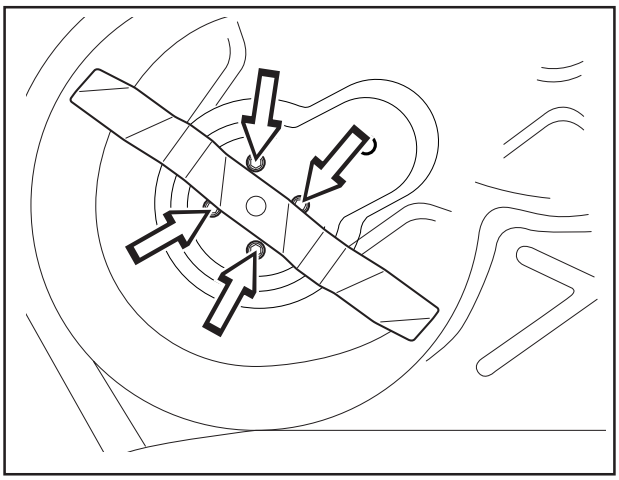
   Loosen the nuts on the eccentric plate and turn this away.

   Loosen the four nuts (see diagram) holding the outer blade bearing enough so that the bearing can be moved.

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

   Repeat the procedure for the lower belt.

WARNING!
Protect your hands by wearing gloves when working with the blades.



6016-110

BioClip 103 Version 2

6. Version 2:

   Assembly: First fit the lower belt and then the upper belt.

   Ensure the blades are positioned as set out in the diagram, at 90 degrees to each other, otherwise the belts must be adjusted. When the blade bearings are loose the belts 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.

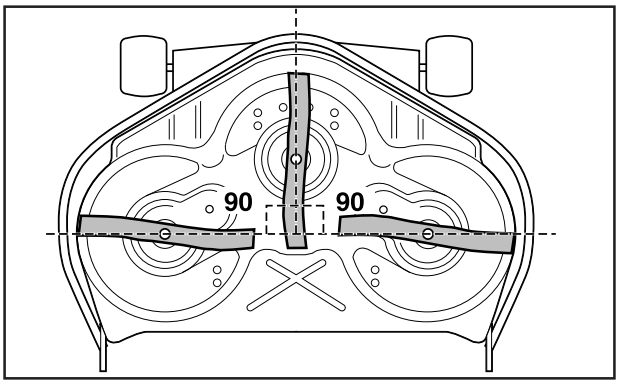
   Tighten all nuts on the blade bearings.

7. Version 2:

   When the belt can be moved 7 mm inwards using a force of 10 N the belt is adjusted correctly.

8. Version 1 and 2:

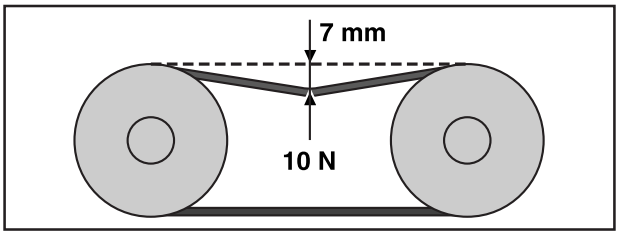
   Fit the cover over the belts and refit the parallel strut and attachment frame.



6016-111

IMPORTANT INFORMATION

On BioClip 103 units the belts must be set at 90° to each other. In all other cases the blades can collide and cause serious damage to the cutting unit.



6012-079

Belt replacement on BioClip112
The BioClip 112 has ”collision-proof” BioClip blades that are driven by a V-belt. To change the belt, see the instructions for the Cutting unit below.

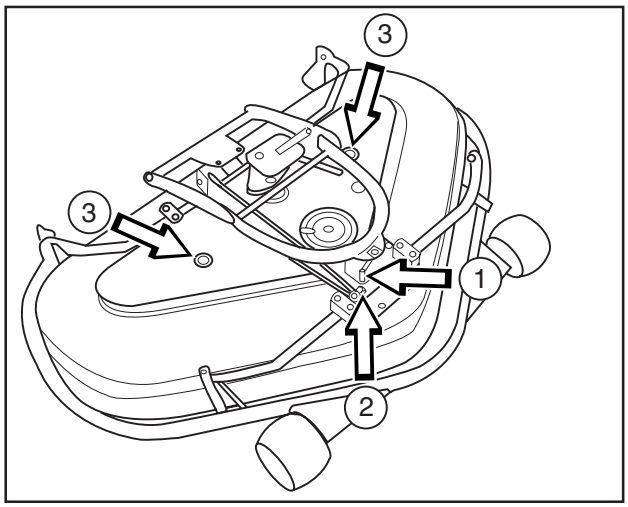
Belt change on cutting unit with side or rear ejection and Combi unit

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

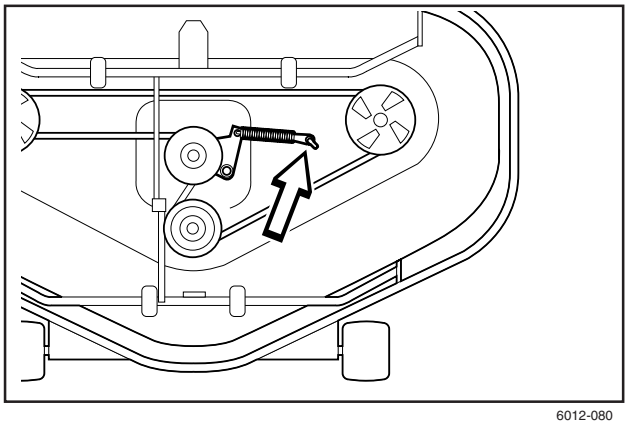
1. Loosen the unit frame (1), the bolt on the parallelism arm (2) and the two bolts on the hood (3). Lift off the cutting unit’s hood.

2. Loosen the spring that tensions the V-belt and pry off the belt.

   Reverse the procedure to fit the new belt.



6016-113

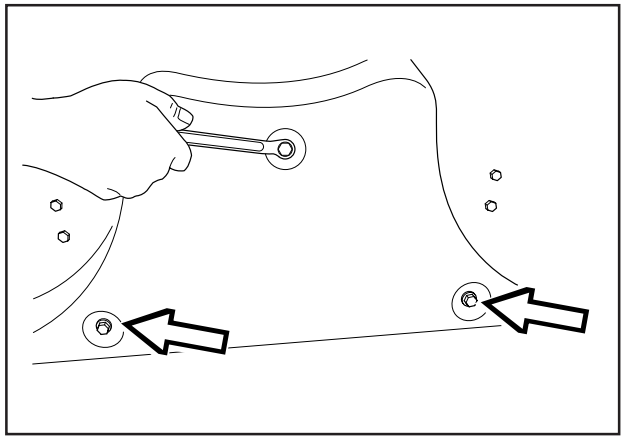

6012-080

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.

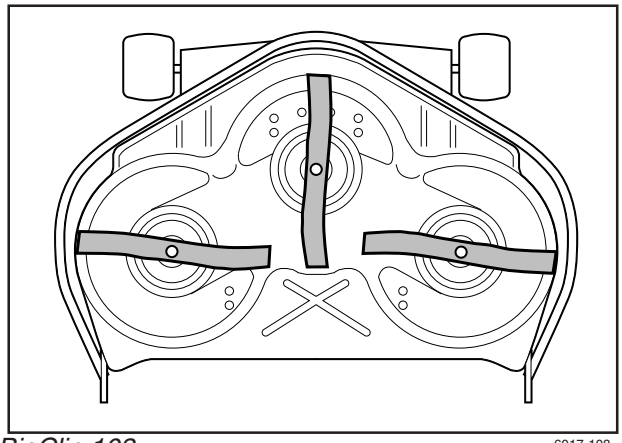
Fit the BioClip plug in the reverse order.



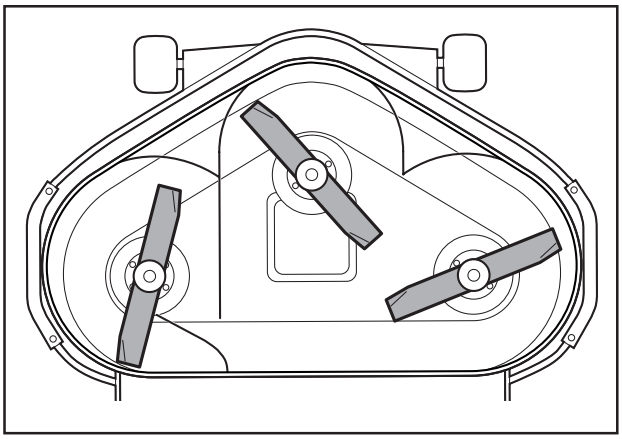
Removal of BioClip plug 8009-289

Cutting unit models

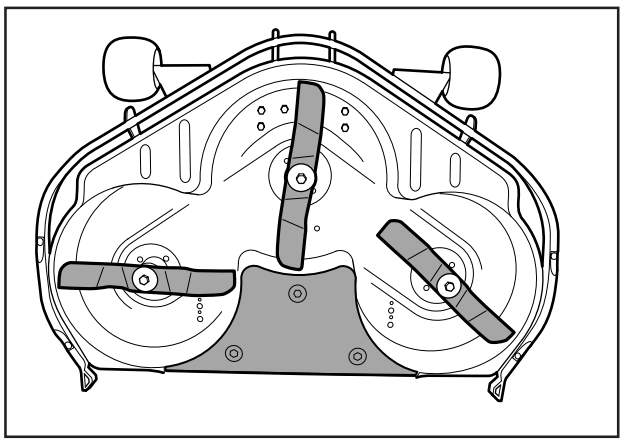
The following versions of cutting units can be used on this type of machine:



BioClip 103 6017-108

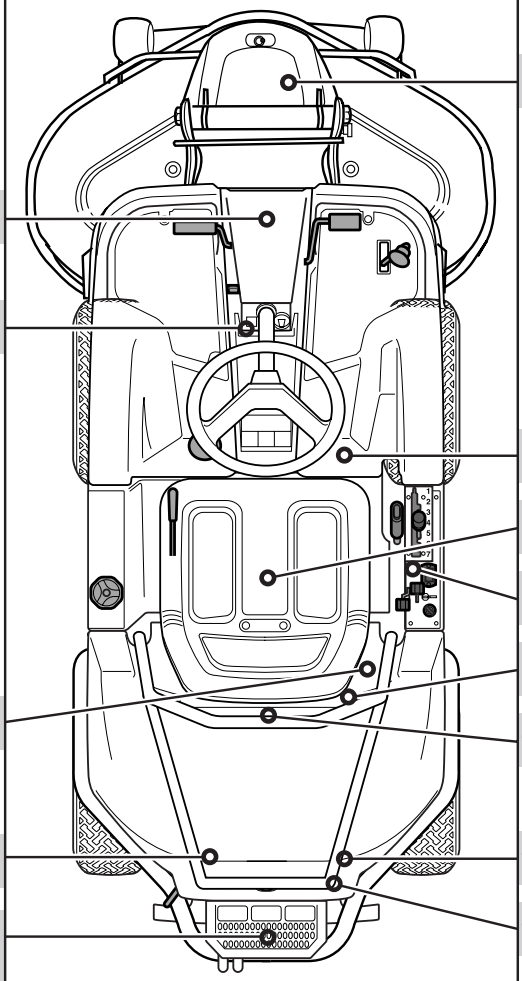


Cutting unit with rear ejection 97 and 120 6017-162



Combi 112 8009-288

Lubrication chart

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

8009-291

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

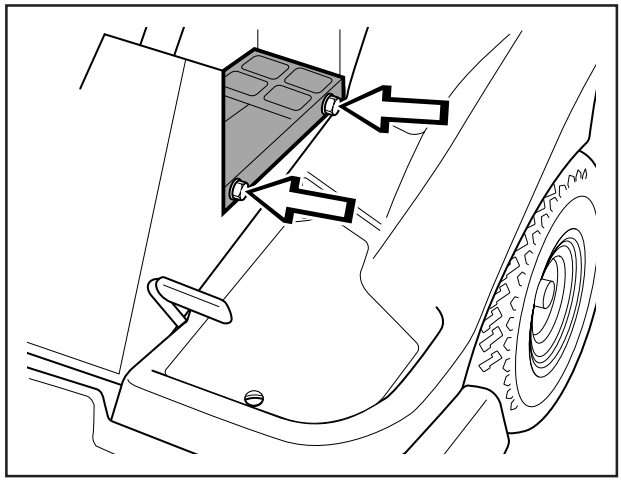
Lubricate both ends of the wires, moving the controls through their full travel range while doing so. Refit the rubber protectors over the wires after lubrication. Wires with a casing will seize up unless lubricated regularly. If a wire seizes it can cause operating problems, such as difficulty disengaging the differential lock.

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.

1. Pedal mechanism in frame tunnel

Lubricate the pedal mechanism in the frame tunnel.

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

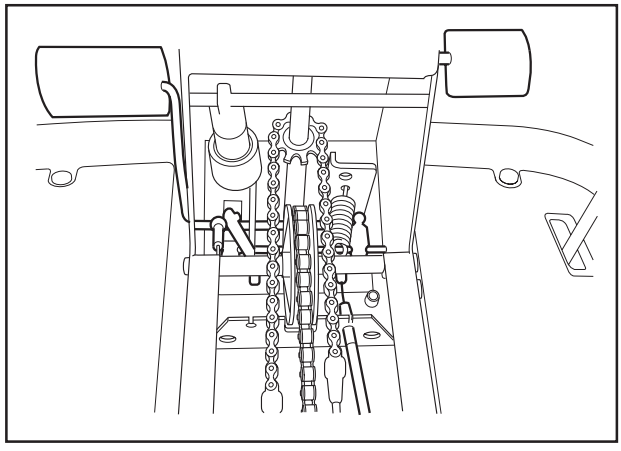


6008-211

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.



6020-021

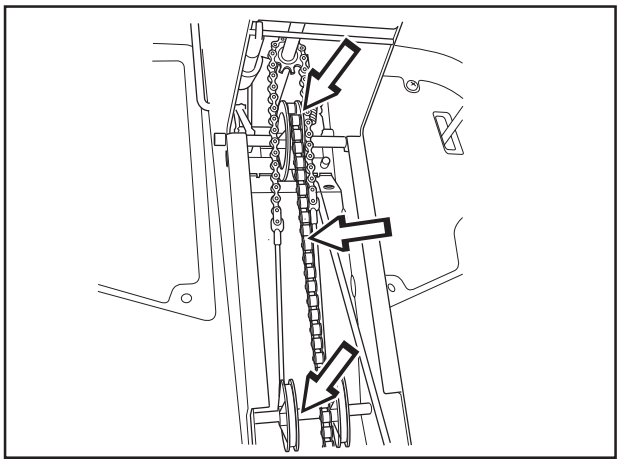
2. Chains in frame tunnel

Remove the cover from the frame tunnel, see step 1.

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.



6020-022

3. Engine oil

The oil should be changed for the first time after 8 hours of running time. Thereafter it should be changed every 100 hours of running time.

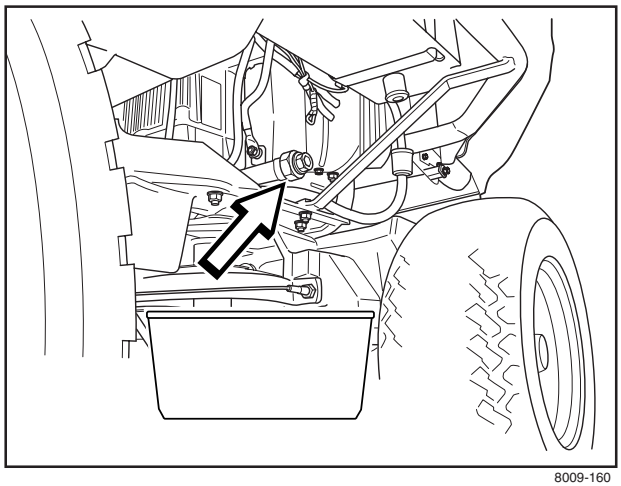
WARNING!
Engine oil can be very hot if it is drained off directly after the engine is stopped. Therefore allow the engine to cool down first.

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 hood.
2. Place a container under the drain plug on the left side of the engine.
3. Remove the dip stick. Remove the drain plug on the left-hand side of the engine.
4. Let the oil run out into the receptacle.
5. Refit the drain plug and tighten it.
6. Replace the oil filter if necessary.
7. Top up with engine oil as described on the next page.



8009-160

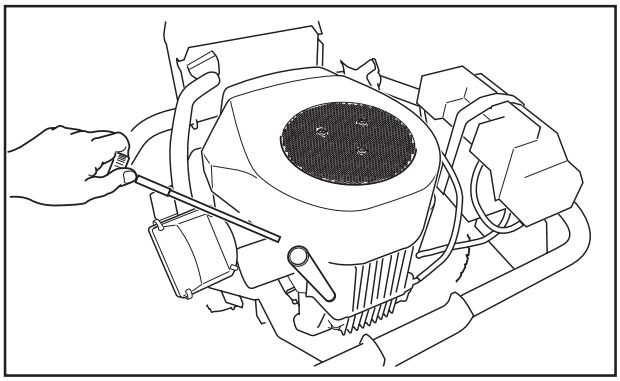
Check the engine oil level when the Rider is on level ground.

Raise the engine hood.

Take out the dipstick, wipe it clean and push it in again.

Do **not** screw in the dipstick.

Take out the dipstick again and read the oil level.



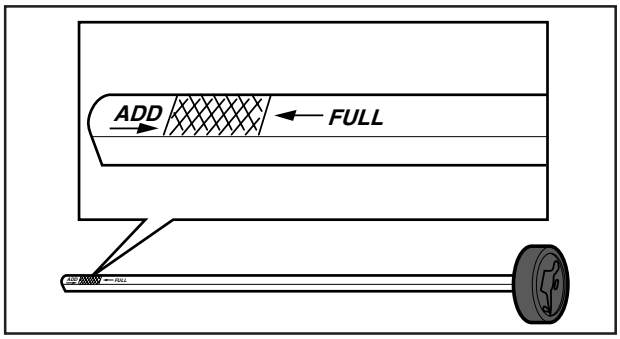
8009-158

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.

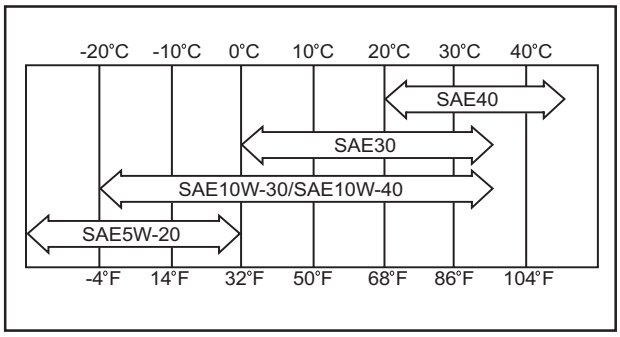
Oil is added through the hole that the dipstick sits in.

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

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



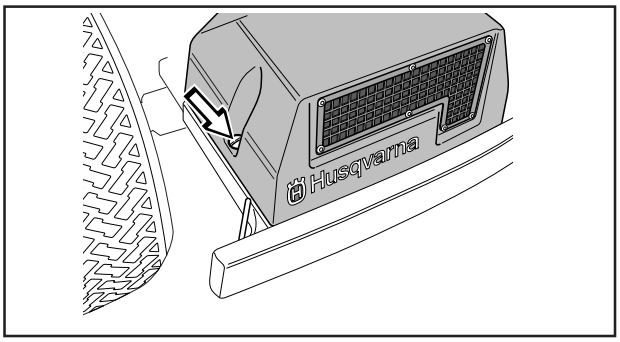
8009-159



8009-140

4. Gear lever

Remove the transmission cover by undoing the two screws.



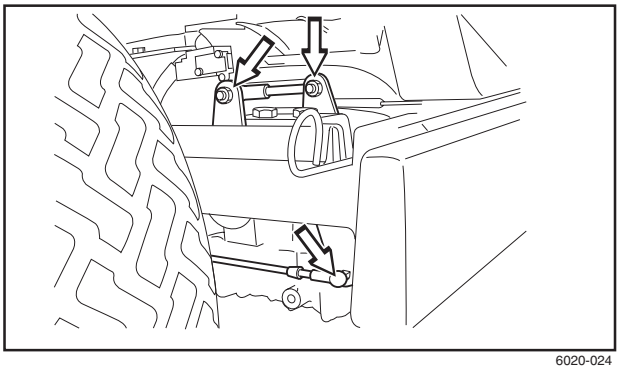
6008-209

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.



6020-024

5. Transmission

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

6. Cutting unit

Remove the nose cowling.

Lubricate using an oil can:

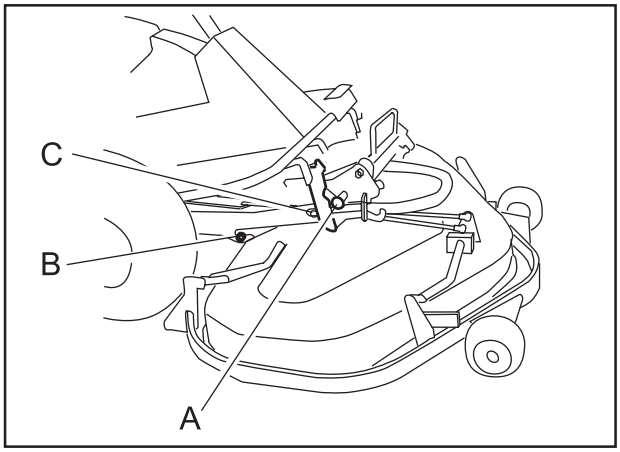
A. Safety catch

- Joints and bearings

Lubricate with grease:

B. Inner stud

C. Slot for attachment frame



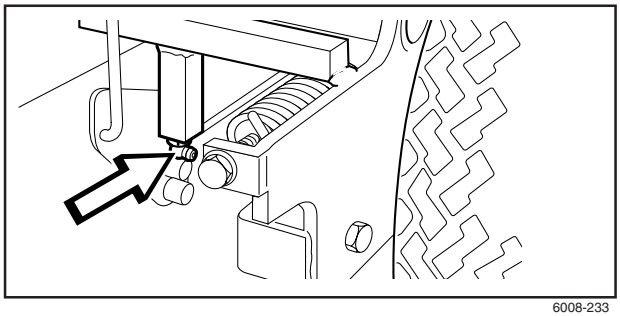
6020-004

7. Triangular link

Grease nipple located behind the right side front wheel.

Lubricate with a grease gun until grease is squeezed out.

Use molybdenum sulphide grease.



6008-233

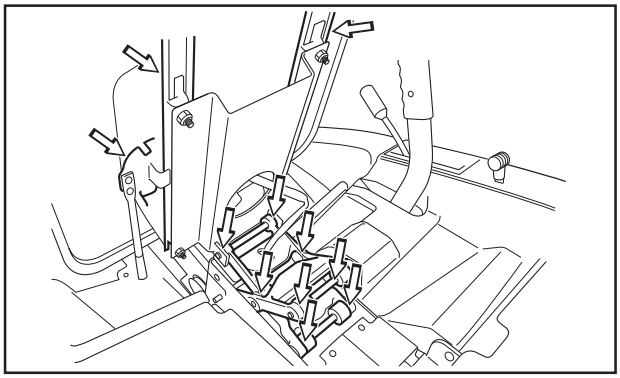
8. Driver's seat

Tip up the seat.

Lubricate the linkage of the scissor springs using an oil can; there are 8 lubrication points.

Lubricate the seat leg length adjustment mechanism using an oil can.

Lubricate the leg length adjustment rails using an oil can.

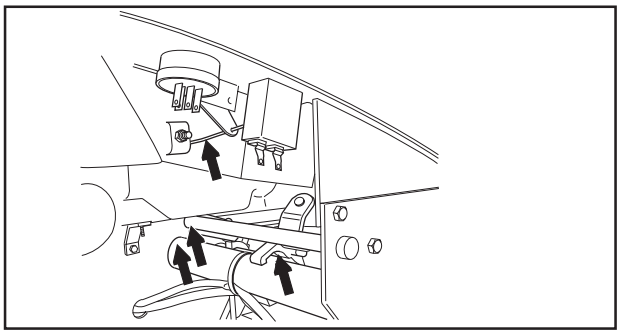


8009-172

9. Throttle and choke wires, lever bearings

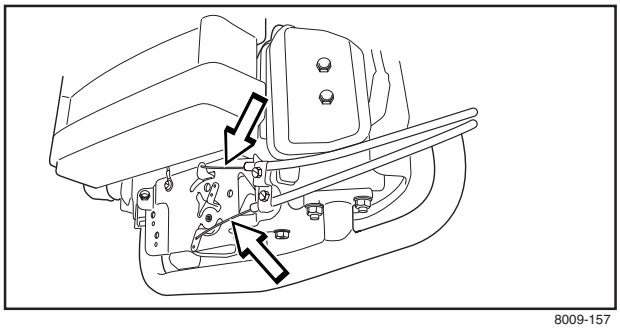
Remove the right side cover from the lever housing (3 screws) and open the engine hood. Lubricate the exposed ends of the wires using an oil can, including the ends at the engine. Move the levers through their full range of travel and lubricate again.

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



6020-050

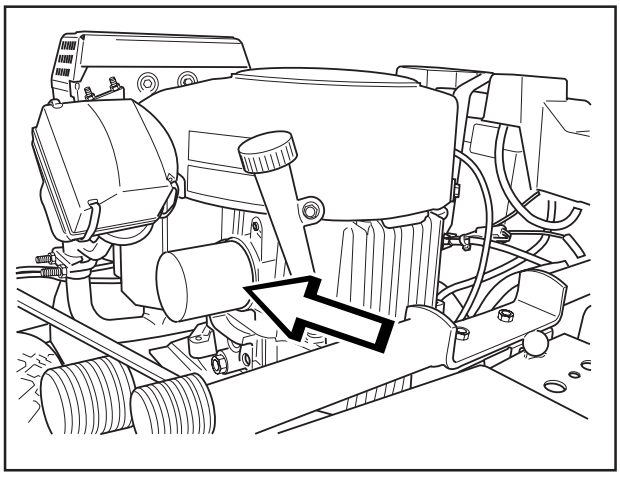
NOTE
Take care when fitting: The fine-threaded screw for the side cover must be fitted from the outside. Refit the side panel on the lever housing.



8009-157

10. Oil filter, replacement

1. Open the engine hood.
2. Drain off the engine oil according to the work description ”Changing of engine oil”.
3. Dismantle the oil filter. If necessary use a filter extractor.
4. Apply new, clean engine oil on the seal for the new filter.
5. Tighten the filter by hand until it makes contact, then tighten a further 3/4 turn.
6. Run the engine warm and check that there is no leakage round the oil filter seal.
7. Check the engine oil level and top up if necessary. The oil filter holds 0.2 litres of oil.



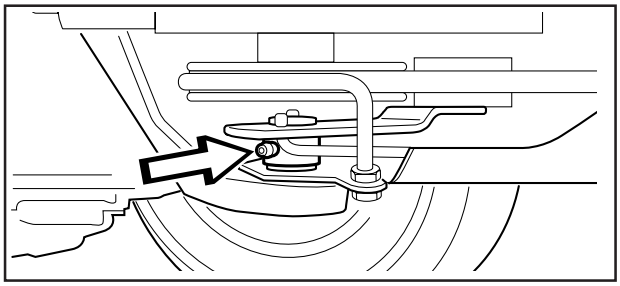
8009-161

11. 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.



6008-232

12. Parking brake wire

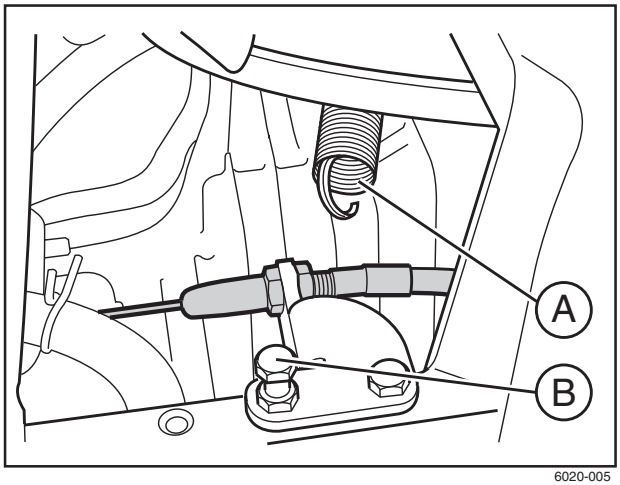
Remove the transmission cover; see ”Gear lever”.

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.



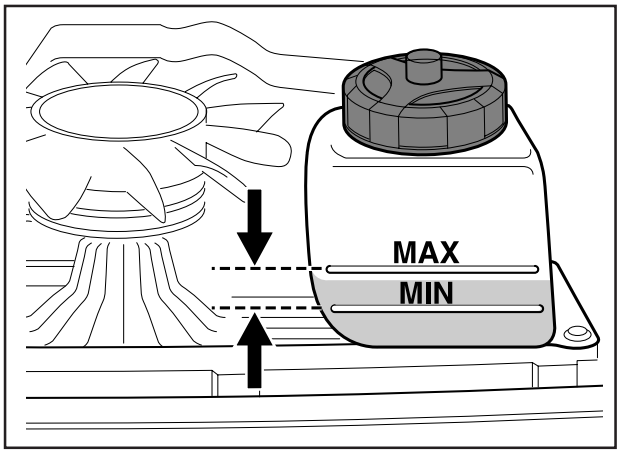
6020-005

13. 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.



6008-210

TROUBLE SHOOTING SCHEDULE

Problem	Procedure
Engine will not start.	• Fuel tank empty. • Plugs defective. • Plug connections defective. • Dirt in carburettor or fuel pipe.
Starter does not pull round engine.	• Battery flat. • Bad contact between cables and battery terminals. • Lift lever for cutting unit in wrong position. • Main fuse blown. The fuse is located in front of the battery under the battery cover. • Ignition lock faulty. • Brake not engaged • Hydrostat pedals not in the neutral position
Engine does not run smoothly.	• Plugs defective. • Carburettor incorrectly set. • Air filter clogged. • Fuel tank vent blocked. • Ignition setting defective. • Dirt in fuel pipe. • Choking or incorrectly adjusted throttle cable
Engine seems to have no power.	• Air filter clogged. • Plug defective. • Dirt in carburettor or fuel pipe. • Carburettor incorrectly set. • Choking or incorrectly adjusted throttle cable
Engine overheats.	• Engine overloaded. • Air intake or cooling flanges blocked. • Fan damaged. • Too little or no oil in engine. • Ignition defective. • Plugs defective.
Battery does not charge.	• One or more cells in the battery faulty. • Bad contact between battery terminals and cables.
Machine vibrates.	• Blades are loose. • Engine is loose. • Imbalance on one or more blades, resulting from damage or inferior balancing after sharpening.
Uneven mowing.	• Blades blunt. • Cutting unit set skew. • Long or wet grass. • Grass blockage under hood. • Different tyre pressures on right and left sides. • Over-speeding • Drive belts slipping. • The blade has a broken break-pin (BioClip)

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:

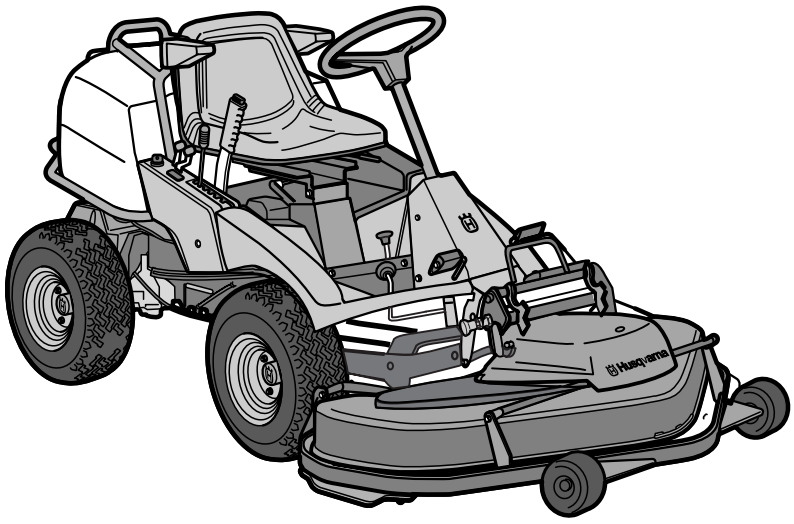
1. Carefully clean the machine, especially under the cutting unit. Touch-up paint damage to avoid rust.
2. Inspect the machine for worn or damaged parts and tighten loose screws and nuts.
3. Change the oil, and take care of the waste oil.
4. Empty the fuel tank. Start the engine and run it until the 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.

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.



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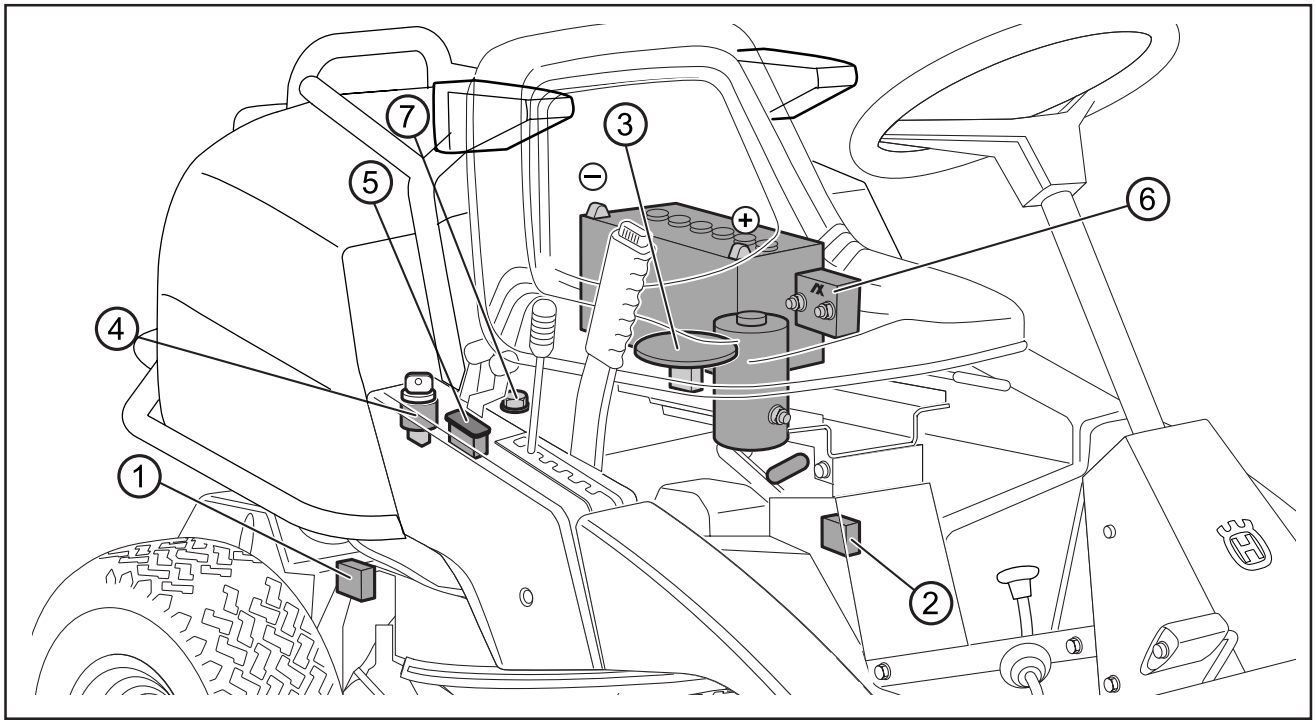
WIRING DIAGRAM



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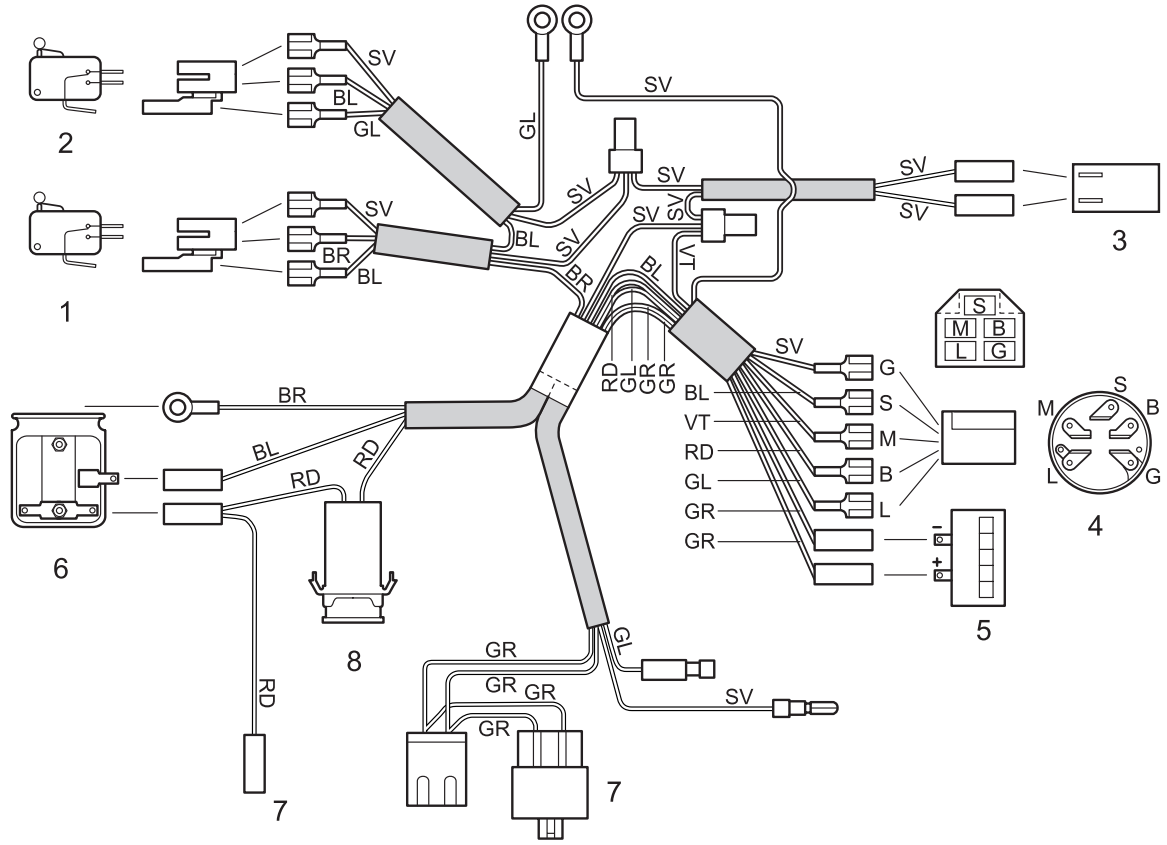

8009-186

1. Microswitch, hydrostat
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.

RD = Red
BL = Blue
VT = White
SV = Black
GL = Yellow
GR = Grey
BR = Brown

TECHNICAL DATA

Rider ProFlex 18

Dimensions

Length, base machine	2 030 mm
Width, base machine	900 mm
Height	1 100 mm
Kerb weight, base machine	275 kg without cutting unit
Wheelbase	940 mm
Track	720 mm
Tyre size	18 x 7.50 x 8
Tyre pressure, front & rear	60 kPa (0,6 kp/cm^2)
Max. gradient	15°

Engine

Manufacture	Kawasaki
Model	FH531V-AS50
Power	13,2/18 kW/hk
Displacement	494 cm^3 / 30.1 cu.in.
Fuel	min. 87 octane unleaded (max. methanol 5%, max. ethanol 10%, max, MTBE 15%)
Tank volume	10 litres
Oil	SAE 30 or SAE 10W/30, SAE 10W/40 class SC-SH
Oljevolym	1.5 litres /1.6 US qt
Oil volume incl. filter	1.7 litres /1.8 US qt
Start	Electric starter

Noise emissions and cutting width Bio 103, Combi 112

Measured noise level	100 dB(A)
Guaranteed noise level	100 dB(A)
Cutting width	1030 - 1120 mm

Noise emissions and cutting width Rear 120

Measured noise level	101 dB(A)
Guaranteed noise level	102 dB(A)
Cutting width	970 - 1200 mm

Electrical system

Type	12 V, negative earthed
Battery	12 V, 24 Ah
Main fuse	Spade connector 15 A
Spark plug	Champion RCJ8Y, electrode gap = 0.75 mm / 0.030"

Transmission

Manufacture	Tuff Torq K 62
Oil	SAE 10W/30, class SF-CC
Oil capacity, total	2,5 litres

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.

TECHNICAL DATA

Cutting unit

	Rear ejector 97	Rear ejector 120	Combi 112
Cutting width	970 mm	1 200 mm	1 120 mm
Cutting heights	7 settings, 40-100 mm	7 settings, 40-100 mm	7 settings, 40-100 mm
Blade length	350 mm	440 mm	420 mm
Width	1 075 mm	1 305 mm	1 230 mm
Weight with cutting unit frame	56 kg	60 kg	58 kg
Length with cutting unit	2 370 mm	2 390 mm	2 370 mm

Rear ejector 120	BioClip 103
Cutting width	1 030 mm
Cutting heights	77 settings, 45-105 mm
Blade length	410 mm
Width	1 115 mm
Weight with cutting unit frame	55 kg
Length with cutting unit	2 310 mm

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 Rider Husqvarna Rider ProFlex 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 **01/901/009** 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

SERVICEJOURNAL

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

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign
25 hour service 1. Clean the air filter pre-filter (oil-foam element). (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).	

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign
50 hour service 1. Clean / replace the air filter pre-filter (oil-foam element). (more regularly in dusty conditions) 2. Clean the engine cooling air intake and transmission air intake. 3. Clean the pre-filter air filter. 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)	

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign
100/200 hour service 1. Change the engine oil. Change the oil filter every 200 hours. 2. Clean / replace the air filter pre-filter (oil-foam element). 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 flanges on the cylinders and cylinder head. 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. Clean the fuel pump air filter. 12. Clean pulse-air filter. 13. Check screw and nuts. 14. Check if it is necessary to change the oil in the K62 gearbox (every 500 hours).	

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign
300 hour service 1. Inspect the machine. Additional work? 2. Change engine oil. 3. Replace the air filter (oil-foam element). 4. Replace air filter (paper air filter). 5. Clean the fuel pump air filter. 6. Check/adjust cutting height setting. 7. Check/adjust parking brake. 8. Inspect flame guard/spark arrestor (optional equipment) 9. Replace engine oil filter. 10. Clean/replace spark plug. 11. Replace fuel filter in fuel line. 12. Clean pulse-air filter. 13. Clean the cooling flanges on the cylinders and cylinder head. 14. Check engine valve clearance. 15. Check if it is necessary to change the oil in the K62 gearbox (every 500 hours).	

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign
At least once a season 1. Change engine oil (100 hours). 2. Clean / replace the air filter pre-filter (oil-foam element) (25 hours). (more regularly in dusty conditions) 3. Clean / replace the paper air filter (100 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 pulse-air filter (100 hours). 12.Clean the cooling flanges on the cylinders and cylinder head (100 hours). (more regularly in dusty conditions). 13. Check engine valve clearance (300 hours). 14. Replace oil in K62 gearbox (500 hours). 15. Carry out 300 hour service at authorised dealer.	

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign

SERVICEJOURNAL

Work done	Date, mileage, stamp, sign

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