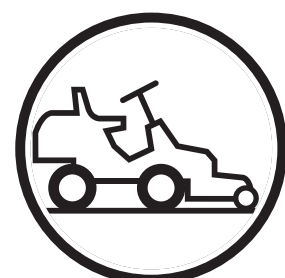


Operator's manual **Rider ProFlex 21 AWD**



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

English

Operator's Manual for Rider ProFlex 21 AWD

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IMPORTANT INFORMATION

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

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

INTRODUCTION

Introduction

Congratulations

Thank you for purchasing a Husqvarna Rider. Husqvarna Riders have been designed according to a unique concept with a front mounted cutting unit and patented rear wheel steering. The Rider is built to give maximum efficiency even in small and confined areas. Collected controls and a hydrostatic transmission controlled by pedals also contribute to the machine's performance.

This Operator's Manual is a valuable document. Following the instructions (use, service, maintenance, etc.) can considerably increase the service life of your machine and even increase its resale value.

When you sell your Rider, make sure to give the operator's manual to the new owner.

The final chapter of this operator's manual comprises a Service Journal. Ensure that service and repair work is documented. A well-kept service journal reduces service costs for the season-based maintenance and affects the machine's resale value. Take the operator's manual along when the Rider is left to the workshop for service.

Driving and Transport on Public Roads

Check applicable road traffic regulations before driving and transport on public roads. You should always use approved fasteners during transport and ensure that the machine is well secured.

Towing

Rider ProFlex 21 AWD is equipped with a hydrostatic transmission and, if necessary, you should only tow the machine over very short distances and at a low speed, otherwise there is a risk of damaging the transmission.

The power transmission must be disengaged when towing, see "Clutch Control" on page 22.

Use

This machine has been designed to mow grass on lawns and other open and level ground surfaces without obstacles such as stones, tree stumps, etc., even when the machine is equipped with special accessories provided by the manufacturer, for which the operating instructions are enclosed with the delivery. All other types of use are incorrect. The manufacturer's instructions with regard to driving, maintenance, and repair must be followed precisely.

The machine may only be operated, maintained, and repaired by persons that are fully conversant with the machine's special characteristics and safety regulations.

Accident prevention regulations, other general safety regulations, occupational safety rules, and traffic regulations must be observed.

Unauthorised modifications to the design of the machine may absolve the manufacturer from liability for any resulting personal injury or property damage.

INTRODUCTION

Proper Service

Husqvarna's products are sold all over the world and only by specialised retail traders offering complete service. This ensures that you as a customer receive only the best support and service. Before the product is delivered, the machine has, for example, been inspected and adjusted by your retailer, see the certificate in the Service Journal in this operator's manual.

When you need spare parts or support concerning service, warranty issues, etc., please consult the following professional:

This operator's manual belongs to the machine bearing serial number:	Engine	Transmission

Serial Number

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

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

Please state the type designation and serial number when ordering spare parts.

The engine's serial number is found on a barcode sticker. This is placed on the left side of the crankcase, in front of the starter. The sticker states:

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

Please state these when ordering spare parts.

The transmission's serial number is found on the barcode sticker located on the front of the housing on the left-hand drive shaft:













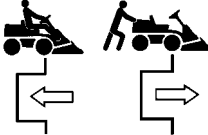









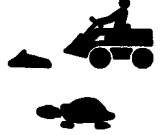
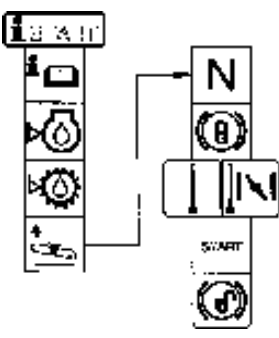




- The type designation is stated above the barcode and starts with the letter K.
- The serial number is stated above the barcode and has the prefix s/n.
- The manufacturer's type number is stated under the barcode and has the prefix p/n.

Please state the type designation and serial number when ordering spare parts.

KEY TO SYMBOLS

Symbols and Decals

These symbols can be found on the Rider and in the operator's manual. Study them carefully so that you know what they mean.

						
Neutral	Fast	Slow	Engine off	Choke	Fuel	Tyre pressure
						
Oil level	Cutting height	Reversing	Forward	Ignition		
						
Use hearing protection	Hydrostatic free wheeling	Parking brake	Read the operator's manual.	Warning		
						
Noise emission to surroundings in accordance with the directive of the European Community. The machine's emission is indicated in the TECHNICAL DATA chapter and on the decal.	Warning! Rotating blades	Warning! Risk of the Rider overturning	Never drive directly across a slope	CE conformity marking		
						
Never use the Rider if persons, especially children or pets, are in the immediate vicinity.	Never carry passengers on the Rider or on its tools	Do not insert your hands or feet under the cover when the engine is running	Drive very slowly without the cutting unit			
	<p>Starting instructions</p> <ul style="list-style-type: none"> Read the operator's manual Check the engine oil level Check the oil level in the hydrostat Lift up the cutting unit Put the hydrostat pedals in the neutral position Apply the parking brake Use the choke if the engine is cold Start the engine Disengage the parking brake before driving 			Accelerator pedal forward		
				Neutral position		
				Accelerator pedal reversing		
				Switch off the engine and remove the ignition cable before carrying out repairs or maintenance		

KEY TO SYMBOLS



WARNING!

XXXXXXXX XXXX XXXXXXXXXXX XXX X.
XXXXX XXXXXXX XX.
XX XXXXXXXXXXX XXXXX XXX XX.

Used in this publication to notify the reader of a risk of **personal injury**, particularly if the reader should neglect to follow instructions given in the manual.

IMPORTANT INFORMATION

Xxxxxxx xxxx xxxxxxxxxxx xxx xxx
xxxx xxxxxx xx.

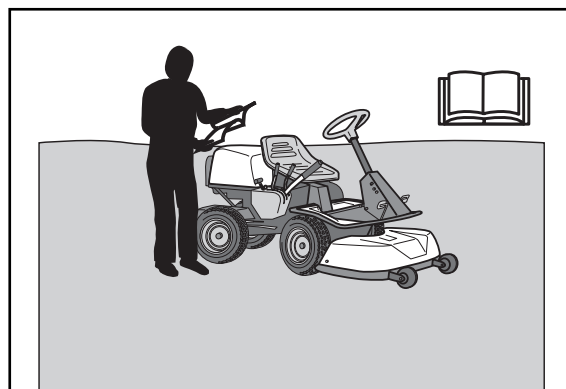
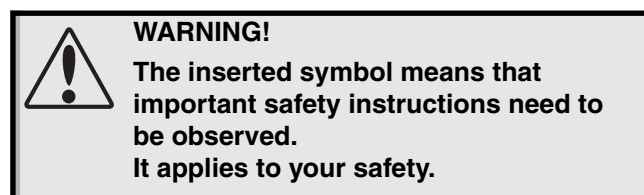
Used in this publication to notify the reader of a risk of **material damage**, particularly if the reader should neglect to follow instructions given in the manual. Used also when there is a potential for misuse or misassembly.

Avoid hosing the decals with high pressure washers. Replace damaged decals before the machine is used.

SAFETY INSTRUCTIONS

Safety Instructions

These instructions are for your safety. Read them carefully.

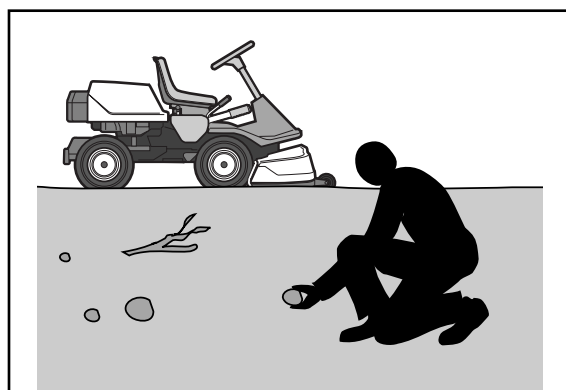


8010-047

Read the operator's manual before starting the machine

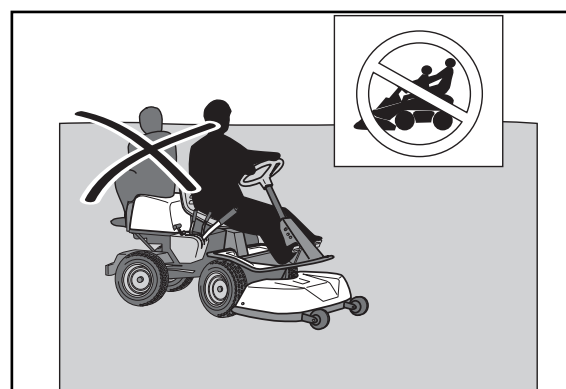
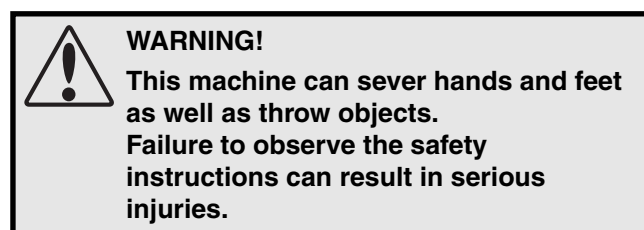
General Use

- Read all instructions in this operator's manual and on the machine before starting it. Ensure you understand them and then observe them.
- Learn how to use the machine and its controls safely and learn how to stop quickly. Also learn to recognise 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 run the machine.
- Clear the area of objects such as stones, toys, steel wire, etc. that may become caught in the blades and thrown out.
- Beware of the discharge deck and do not point it at any one.
- Stop the engine and prevent it from starting before you clean the cutting unit.
- Remember that the driver is responsible for dangers or accidents.
- Never take passengers. The machine is only intended to be used by one person.
- Always look down and behind before and during reversing manoeuvres. Keep watch for both large and small obstacles.
- Slow down before turning.
- Shut down the blades when not mowing.
- Be careful when rounding fixed objects, so that the blades do not hit them. Never run the machine over foreign objects.



8003-002

Clear the area of objects before mowing



8010-052

Never take passengers

SAFETY INSTRUCTIONS



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.

- 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, judgement, or co-ordination.
- Beware of traffic when working near or crossing a road.
- 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.



6003-006

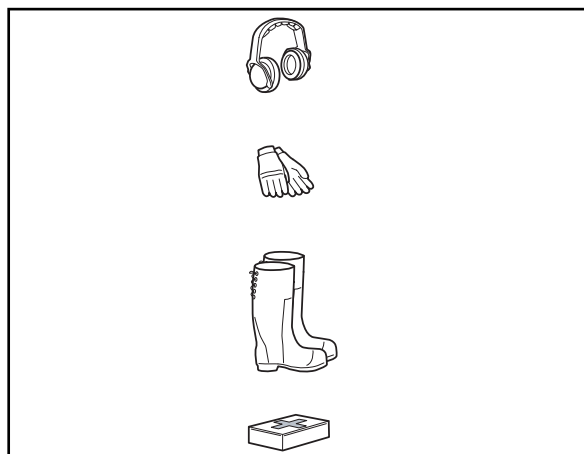
Keep children away from the work area



WARNING!

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

- Use hearing protection to minimise the risk of hearing impairment.
- Always wear approved protective glasses or a full visor when assembling or driving.
- Never wear loose clothing that can fasten in moving parts.
- Never use the machine when barefoot. Always wear protective shoes or protective boots, preferably with steel toes.
- Make sure that you have first aid equipment close at hand when using the machine.



8011-292

Personal protective equipment

SAFETY INSTRUCTIONS

Driving on Slopes

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

IMPORTANT INFORMATION

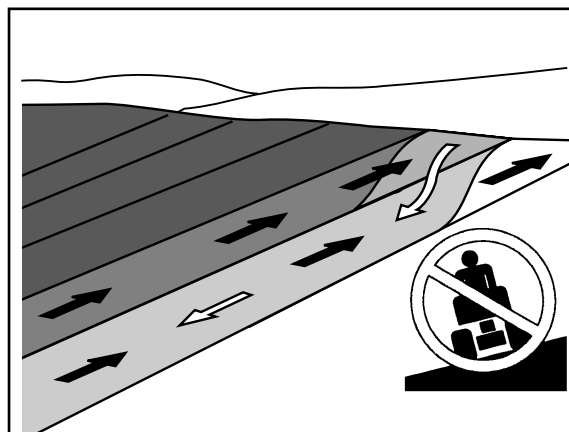
Do not drive down slopes with the unit raised.

Do as follows

- Remove obstacles such as stones, tree branches, etc.
- Mow up and down, not side-to-side.
- Never drive the machine on terrain 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 evenly and slowly on slopes.
- Make no sudden changes in speed or direction.
- Avoid unnecessary turns on slopes, and if it proves necessary, turn slowly and gradually downward, 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.
- Be extra cautious with any additional equipment, which can alter the machine's stability.
- Do not mow near verges, 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.
- Try not to stabilise the machine by putting a foot on the ground.
- When cleaning under the machine, it may never be driven near verges or ditches.

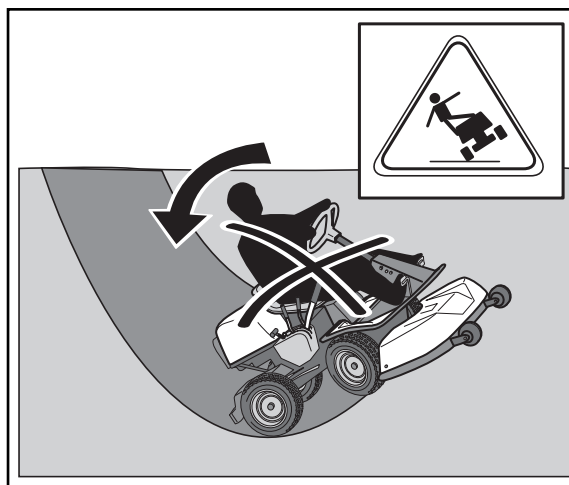
Children

- Serious accidents may occur if you fail to be on guard for children in the vicinity of the machine. Children are often attracted to the machine and mowing. Never assume that children will stay put where you last saw them.
- Keep children away from the mowing area and under close supervision by another adult.



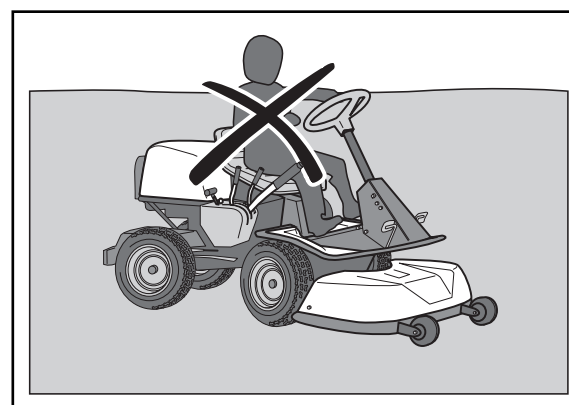
6003-004

Mow upwards and downwards on slopes, not sideways



8010-054

Be extra cautious when driving on slopes



8010-057

Never allow children to operate the machine

SAFETY INSTRUCTIONS

- Keep an eye out and shut off the machine if children enter the work area.
- Before and during a reversing manoeuvre, look backward and downward for small children.
- Never allow a child to ride with you. 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.

Maintenance

- Stop the engine. Prevent the engine from starting by removing the spark plug cables from the spark plugs or by removing the ignition key before making any adjustments or performing 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 or fill the fuel tank while the engine is running.
- Allow the engine to cool before refuelling. Do not smoke. Do not fill petrol in the vicinity of sparks or naked flames.
- Handle oil, oil filters, fuel and the battery carefully, of environmental considerations. Observe applicable recycling regulations.
- Electrical shocks can cause injuries. Do not touch cables when the engine is running. Do not test the ignition system with your fingers.
- Sparking can occur when working with the battery and the thick cables in the starter motor circuit. This can cause the battery to explode, fire or eye injuries. Sparking in the circuit can not occur once the battery's power connection cable (usually the black negative cable) has been disconnected.

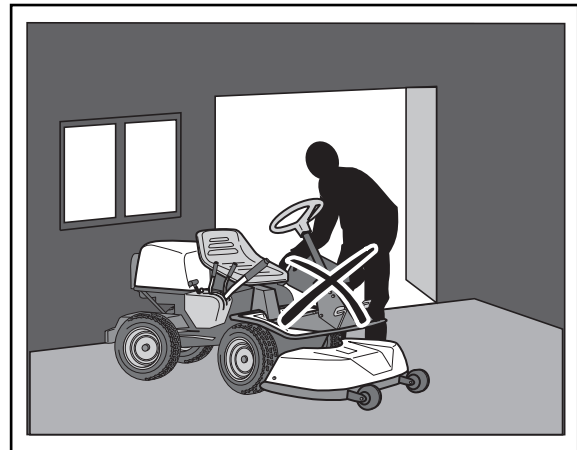
IMPORTANT INFORMATION

Avoid sparking and its consequences by:

Wearing protective glasses.

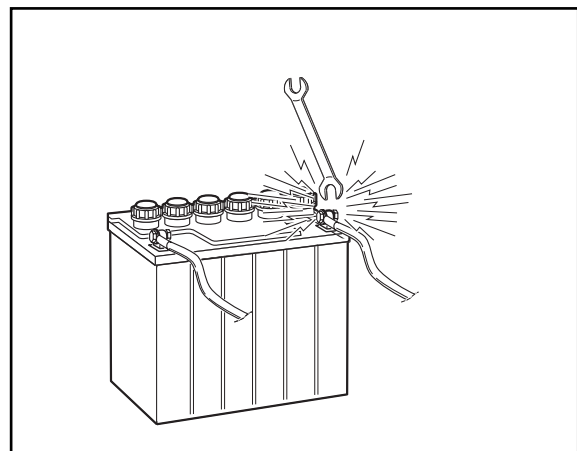
Make sure that the fuel cap is fitted and that no flammable liquids are stored in an open container.

Do not work on the starter motor circuit in the vicinity of spilt fuel.



8010-058

Never fill the fuel tank indoors



8009-728

Risk of sparking

SAFETY INSTRUCTIONS

Disconnect the battery's power connection cable (usually the black negative cable) first and connect it last.

Exercise care with tools so that short circuiting does not occur.

Do not short circuit across the starter relay's connections to run the starter motor.



WARNING!

The engine, and components of the exhaust and hydraulic systems become extremely hot during operation. Risk of burn injuries if touched.

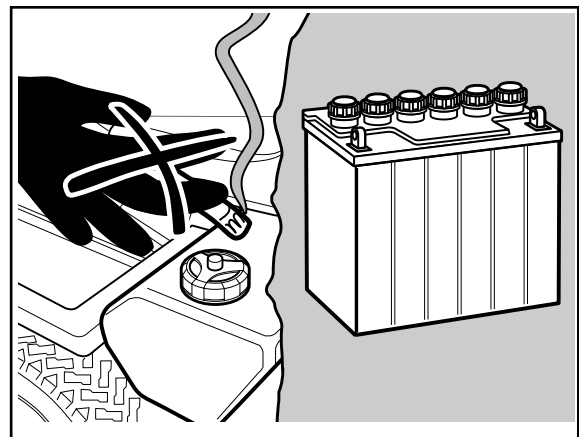
- If leaks arise in the fuel system, the engine must not be started until the problem has been resolved.
- Store the machine and fuel in such a way that there is no risk of leaking fuel or fuel vapour leading to damages.
- Check the fuel level before each use and leave space for the fuel to expand, because 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 taking any actions in the engine room.



WARNING!

The battery contains lead and lead compounds, chemicals that are considered to cause cancer, birth defects, and other reproductive system damage. Wash you hands after touching the battery.

- 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.
- Be careful when servicing the battery. 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.



6003-009

Do not smoke when carrying out maintenance

SAFETY INSTRUCTIONS

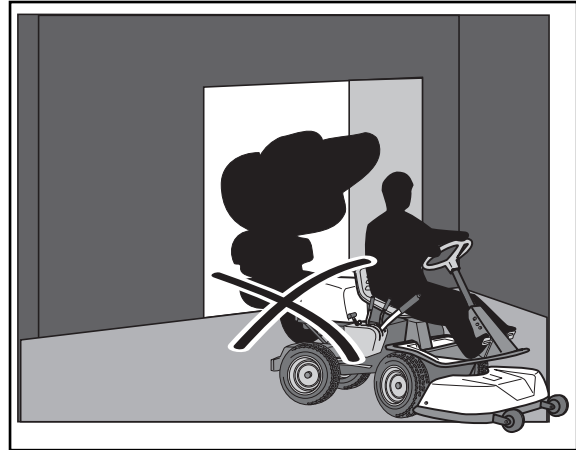
- Do not modify safety equipment. Check regularly to be sure it works properly. The machine must not be driven if protective plates, protective covers, safety switches or other protective devices are not fitted or are defective.
- Do not change the settings of governors and avoid running the engine with overly high engine speeds. If you run too fast, you risk damaging the machine components.
- 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 and gashes. Wrap the blades or wear protective gloves when handling them.
- Check the parking brake's functionality regularly. 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 in the machine. Allow the machine to cool before putting it in storage.

Transport

IMPORTANT INFORMATION

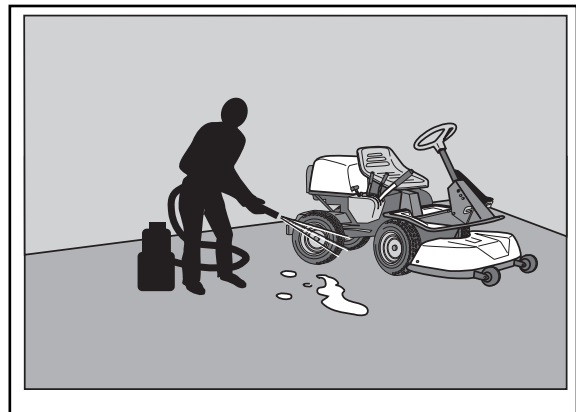
The parking brake is not sufficient to lock the machine during transport. Ensure you secure the machine firmly to the transporting vehicle.

- 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 and secure the machine using approved fasteners, such as straps, chains or ropes when transporting.
- Check and abide by local traffic regulations before transporting or driving the machine on any road.



8009-467

Never drive the machine in an enclosed space



8010-061

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

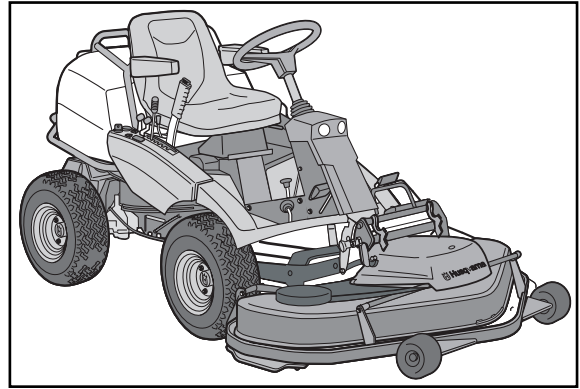
PRESENTATION

Presentation

Congratulations on your choice of an exceptionally high quality product. This operator's manual describes Rider ProFlex 21 AWD.

Rider ProFlex 21 AWD is fitted with a Kawasaki four-stroke V-Twin engine developing 21 horse power.

Rider ProFlex 21 AWD is equipped with power steering and hydraulic lifts. The pressure to these is supplied by a pump, which is assembled with the transmission pump. The pumps have a common tank.



8009-552

ProFlex 21 AWD

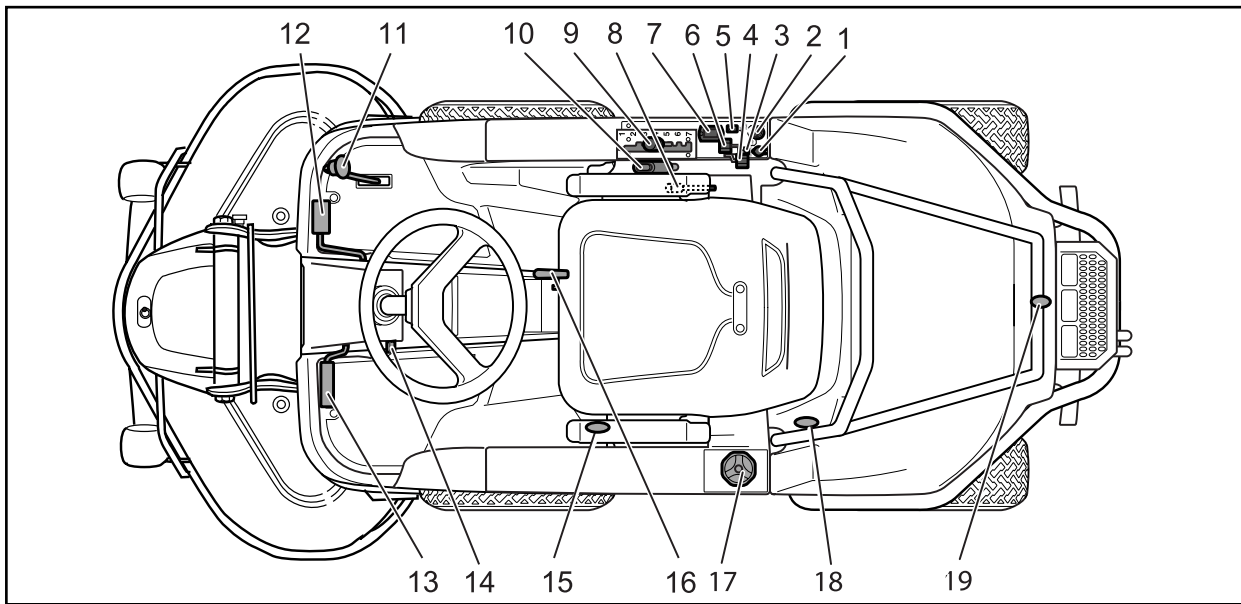
The machine is equipped with four wheel drive.

The transmission from the engine is handled by two hydrostatic gearboxes. The pressure to the transmission is supplied by a pump. The flow and direction of the pump are regulated with the pedals, so that forward and reversing speeds are variably controlled. One pedal to drive forwards and one pedal to reverse.

ProFlex 21 AWD is equipped with lighting.

PRESENTATION

Placement of Controls



8009-697

- | | |
|--|--------------------------------------|
| 1. Power outlet | 11. Accelerator for reversing |
| 2. Ignition key | 12. Accelerator for driving forwards |
| 3. Switch for the power outlet | 13. Pedal for parking brake |
| 4. Choke Lever | 14. Lock button for parking brake |
| 5. Switch for the lights | 15. Clutch control, front axle |
| 6. Throttle - regulates the engine speed | 16. Lever for adjusting the seat |
| 7. Hour meter | 17. Fuel cap |
| 8. Lever for hydraulic lift of attachments | 18. Clutch control, rear axle |
| 9. Cutting height adjustment lever | 19. Hood lock |
| 10. Mechanical lifting lever with locking button for attachments | |

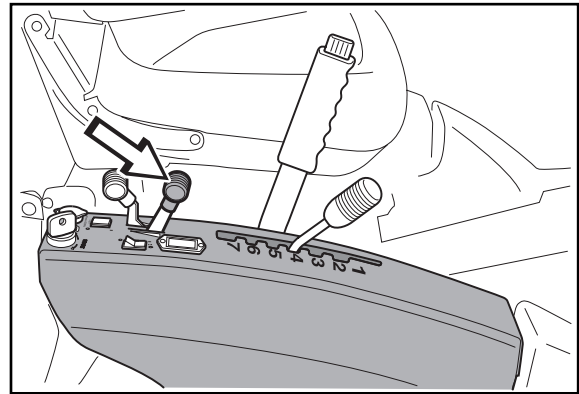
PRESENTATION

Throttle Control

The throttle is used to control the speed of the engine and thereby also the rotation speed of the blades.

In order to increase or decrease the engine speed, the control is moved forwards or backwards respectively.

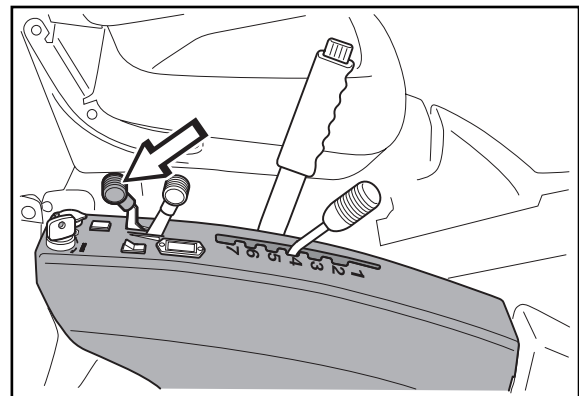
Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.



Choke Lever

The choke lever is used for cold starts in order to provide the engine with a richer fuel mixture.

For cold starts, the lever shall be moved backwards to its endpoint.



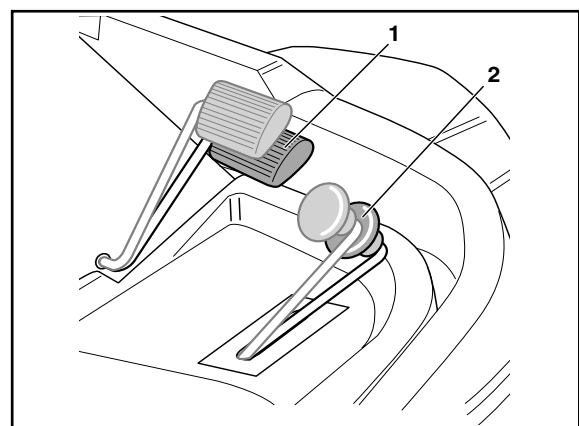
Accelerator

The speed of the machine is variably controlled using two pedals. Pedal (1) is used to travel forwards and pedal (2) to reverse.



WARNING!

Make sure that no branches can interfere with the pedals when mowing under bushes.



PRESENTATION

Cutting Unit

Rider ProFlex 21 AWD can be equipped with cutting units of the types Combi 112 with a 112 cm cutting width and Combi 122 with a 122 cm cutting width.

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

The unit's BioClip function finely chops the grass several times before returning it to the lawn as fertiliser. The rear ejector ejects the clippings behind the unit without finely chopping them.

Accessories

The accessories are described in separate operator's manuals. Contact your dealer if you require an accessory.

A selection of the available Rider ProFlex accessories:

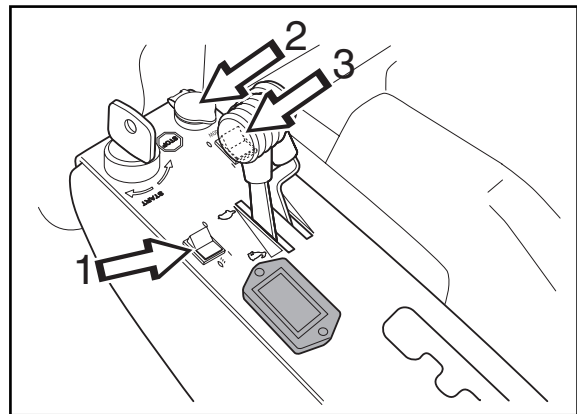
- Power rake
- Brush
- Snow blower
- Snow Blade
- Gravel Harrow
- Trailer
- Spreader

Lights and Power Outlet

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

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

The electrical outlet socket is fuse protected by its own fuse, which is located below the ignition switch.



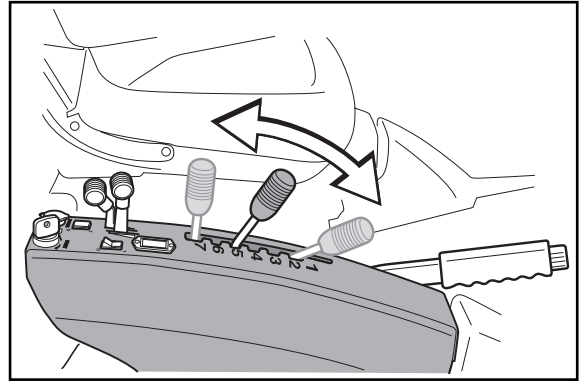
8009-568

PRESENTATION

Cutting Height Adjustment Lever

Using the cutting height lever, the cutting height can be adjusted between seven different positions.

It is important that the air pressure in both front wheels is equal, 60 kPa / 0.6 bar / 9 PSI, to produce an even cutting height.



8009-557

Lever for Hydraulic Lift of Attachments

The lifting lever is used to put the cutting unit in either the transport or mowing position when hydraulic pressure is available.

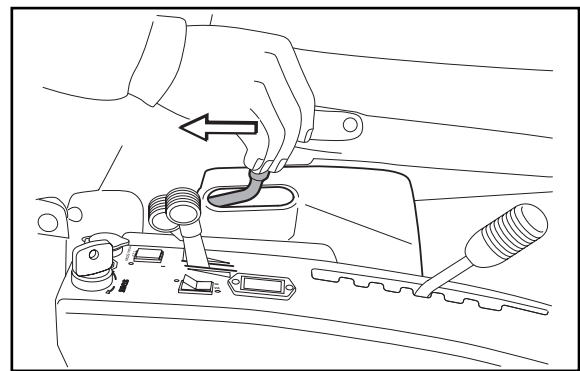
When the lever is moved to the transport position, the blade brake is automatically activated so that the blades stop within about 5 seconds.

Lifting the Cutting Unit (Transport Position)

Pull the lever backwards to engage the transport position.

The unit is raised and the blades stop rotating.

Secure the cutting unit if necessary using the mechanical lifting lever.



8009-536

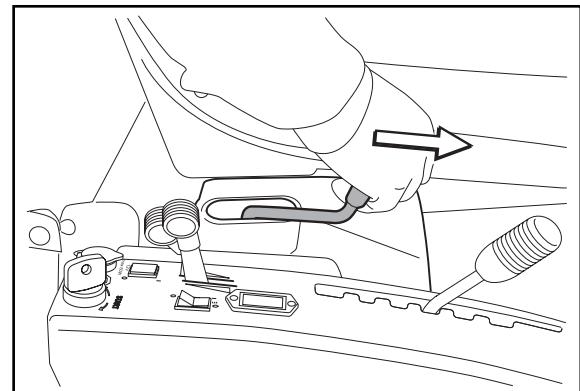
Raising the cutting unit with the hydraulic lifting lever

Lowering the Unit (Mowing Position)

If the cutting unit is secured in the transport position using the mechanical lifting lever, move the mechanical lifting lever to the cutting position.

Move the hydraulic lifting lever forwards to engage the cutting position. The unit is lowered and the blades begin to rotate.

In order to ensure that the hydraulic cylinder is in the outer position, hold the lever in the forward position for a half to one second.



8009-538

Lowering the unit with the hydraulic lifting lever

PRESENTATION

Mechanical Lifting Lever for Cutting Unit

The lever is used as a backup lever to put the cutting unit in either the transport or mowing position when hydraulic pressure is unavailable. It can also be used to mechanically secure the cutting unit in the transport position.

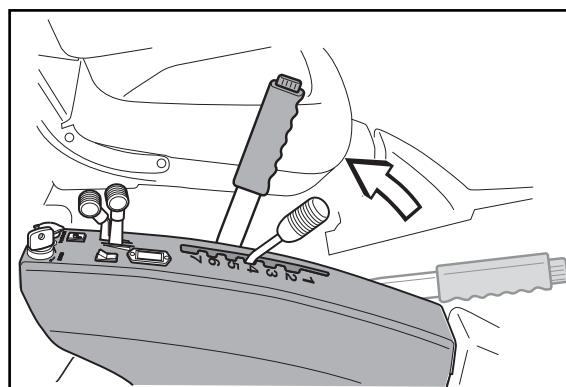
The lever must be used when starting the engine, if the engine stopped with the unit in the mowing position, in order to raise the unit so that the start lock circuit is disengaged.

When the lever is moved to the transport position, the blade brake is automatically activated so that the blades stop within about 5 seconds.

Transport Position

Pull the lever backwards to the locked position to engage the transport position.

The unit is raised and the blades stop rotating.



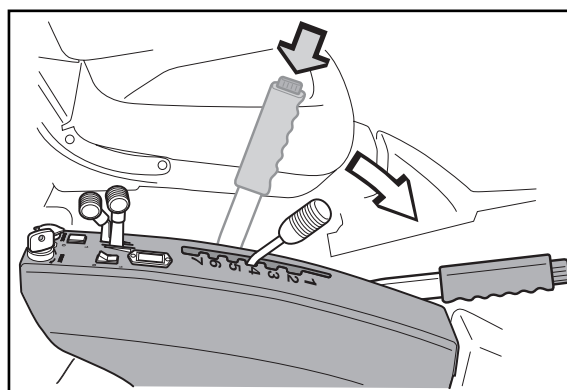
Raising the cutting unit with the mechanical lifting lever

Mowing Position

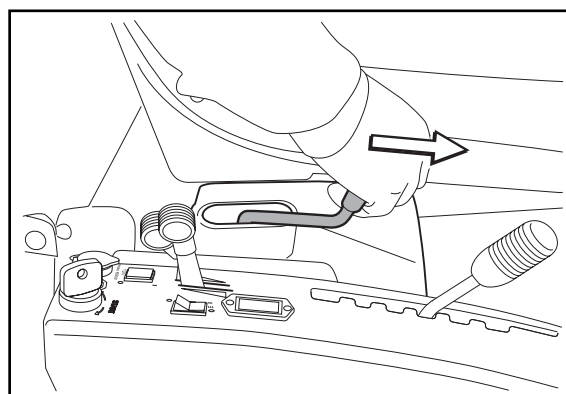
Depress the lock button and move the lever forwards to engage the mowing position.

The unit is lowered and the blades begin to rotate.

If this does not happen it is probably because the unit has been lifted with the hydraulic lifting lever. Lower the unit to the mowing position with the lever for the hydraulic lift.



Lowering the unit with the mechanical lifting lever



Lowering the unit with the hydraulic lifting lever

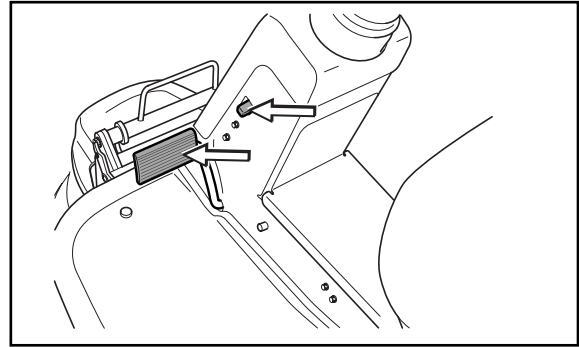
PRESENTATION

Parking Brake

The parking brake is activated as follows:

1. Press down the parking brake pedal.
2. Completely depress the lock button on the steering servo housing.
3. Release the parking brake pedal while keeping the button pressed in.

The parking brake lock is automatically disengaged when the brake pedal is pressed down.



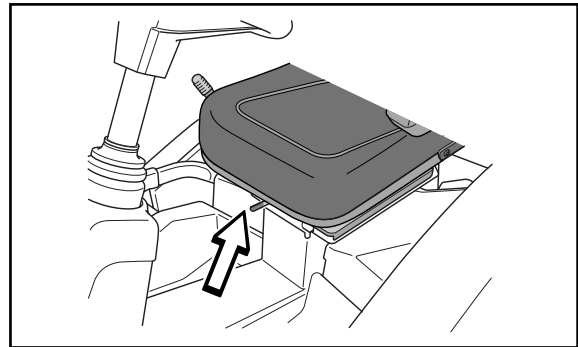
8009-328

Seat

The seat has a hinged mounting on the front edge and can be folded forwards.

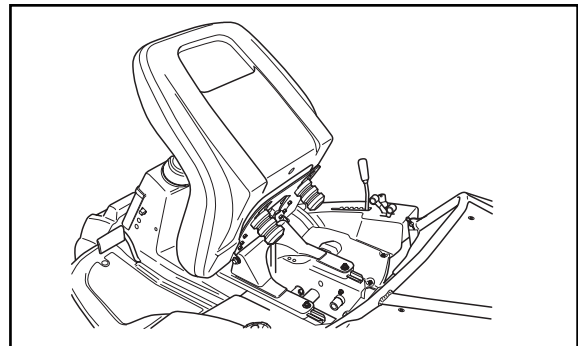
The seat can also be adjusted lengthways.

When making adjustments, the lever under the front edge of the seat is moved to the left, after which the seat can be moved backwards or forwards to the desired position.



8009-602

The seat springs can be adjusted by moving the rubber blocks in their brackets on the underside of the seat. Set both blocks in the front, centre or rear positions.

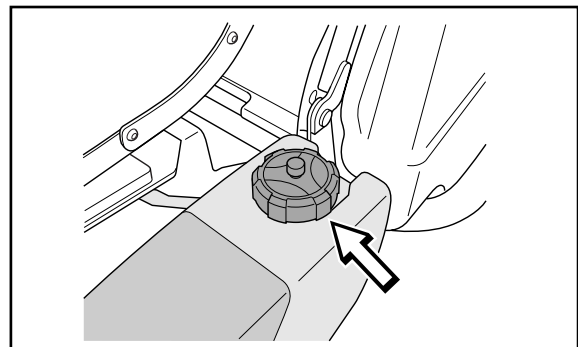


8009-491

Refuelling

The engine shall be run on a minimum of 87-octane unleaded petrol (no oil mix). It can be beneficial to use environmentally adapted alkylate petrol. See also "Technical Data" concerning methanol and ethanol fuels.

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



8009-330



WARNING!

Petrol is highly flammable. Observe caution and fill the tank outdoors, (see the Safety Instructions).

PRESENTATION

Clutch Control

AWD models have separate clutch controls for forward and rear axles.

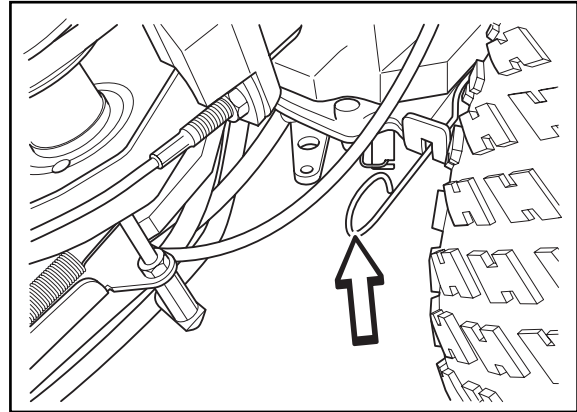
The clutch controls are used to move the Rider when the engine is not running.

Pull the controls to the end positions, do not use an intermediate position.

Rear Axle

The control is positioned on the inside of the left rear wheel.

- Forward control (pulled out), drive system disengaged.
- Rear control (pushed in), drive system engaged.



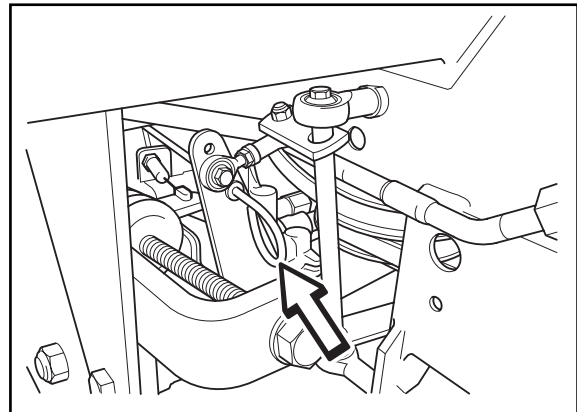
8009-690

Rear axle

Front Axle

The control is positioned on the inside of the left front wheel.

- Rear control (pulled out), drive system disengaged
- Front control (pushed in), drive system engaged.

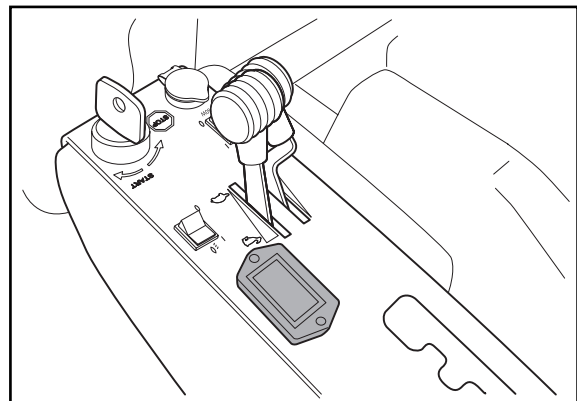


8009-700

Front axle

Chronometer

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



8009-567

DRIVING

Mowing Tips



WARNING!

Clear the lawn of stones and other objects that can be thrown out by the blades.

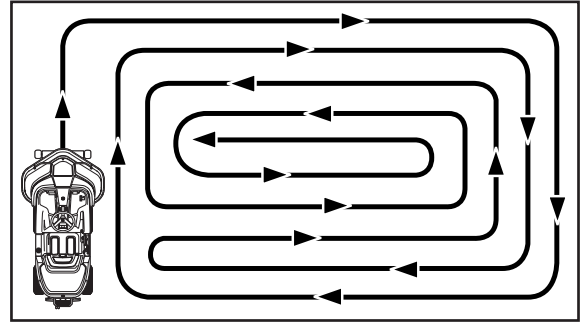
- Localise and mark rocks and other fixed objects in order to avoid collisions.
- Begin with a high cutting height and reduce it until the desired mowing result is attained.
- The mowing result will be best with a high engine speed (the blades rotate rapidly) and low speed (the Rider moves slowly). If the grass is not too high and thick, the driving speed can be increased without noticeably depreciating the mowing result.



WARNING!

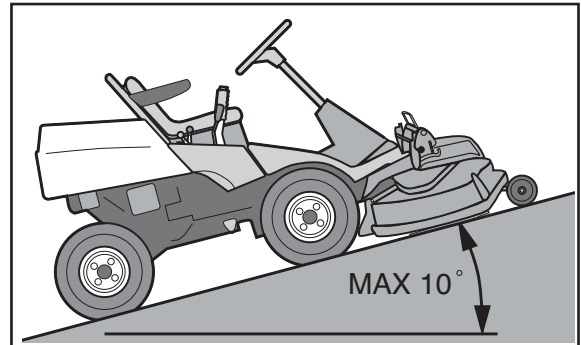
Never drive the Rider on terrain that slopes more than 10°. Mow upwards and downwards on slopes, never sideways. Avoid sudden directional changes.

- The finest lawns are obtained by mowing often. Mowing will be more even and the clippings will be more evenly distributed across the area. The overall mowing time will not be longer as higher driving speeds can be selected without impairing the mowing result.
- Avoid mowing wet lawns. The mowing result will be poorer as the wheels will sink into the soft lawn.
- Hose beneath the cutting unit with water after each use. When cleaning, the cutting unit shall be moved into the service position.
- It is important to mow frequently when mowing with the mulching function.



6007-212

Mowing Patterns



6016-104

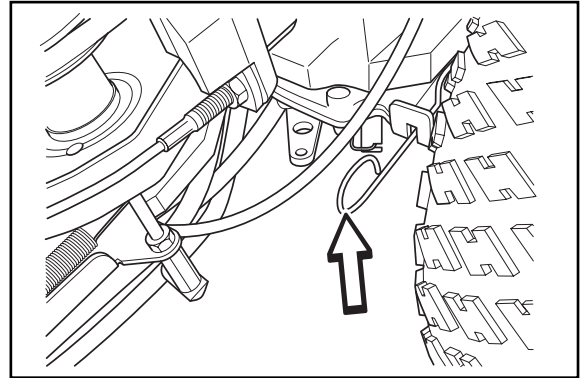
DRIVING

Clutch Control

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

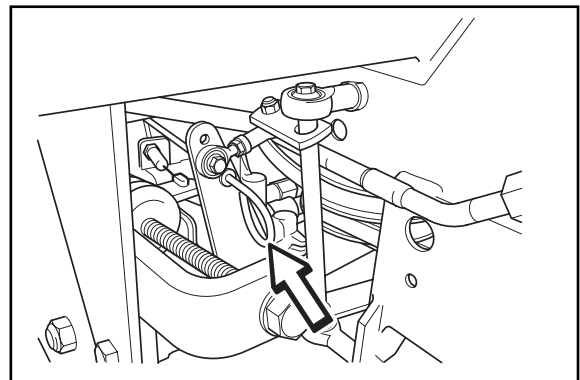
Should you attempt to drive the machine with the clutch controls pulled out it will not move. The drive on the axle is disengaged when one of the controls is pulled out.

Pull out or press in the controls fully. Do not use an intermediate position.



8009-690

Rear axle



8009-700

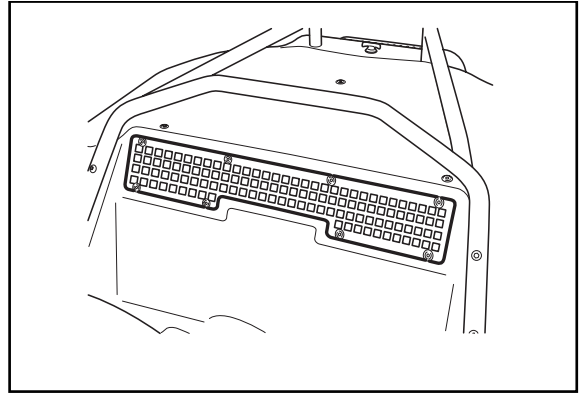
Front axle

DRIVING

Running

IMPORTANT INFORMATION

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



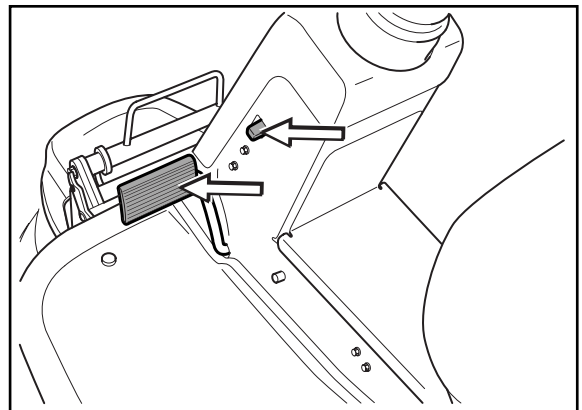
8009-489

Before Starting

- Read section "Safety Instructions" on page 7 and "Presentation" on page 13.
- Carry out daily maintenance according to "Maintenance Schedule" on page 29).
- Adjust the seat to the desired position.

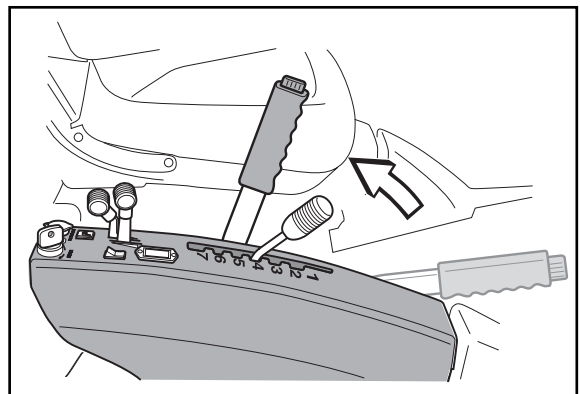
Starting the engine

1. Activate the parking brake by pressing down the pedal. Press in the lock button if necessary. The engine can not be started when the parking brake is pressed down.



8009-328

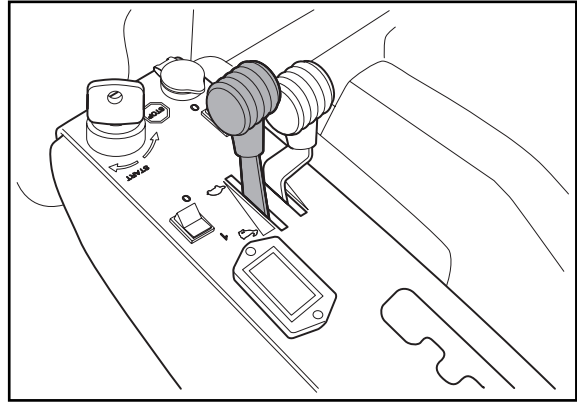
2. Raise the cutting unit by pulling the mechanical lifting lever backwards to the locked position (transport position).



8009-554

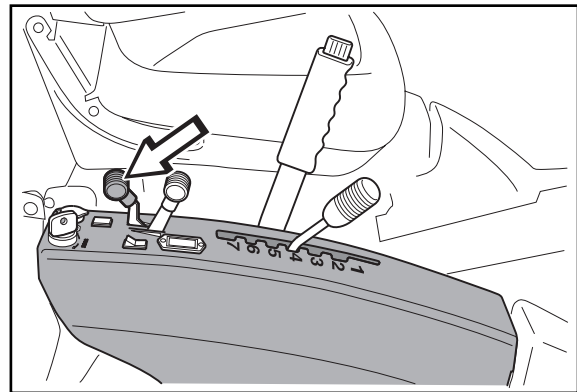
DRIVING

3. Move the throttle to the middle position.



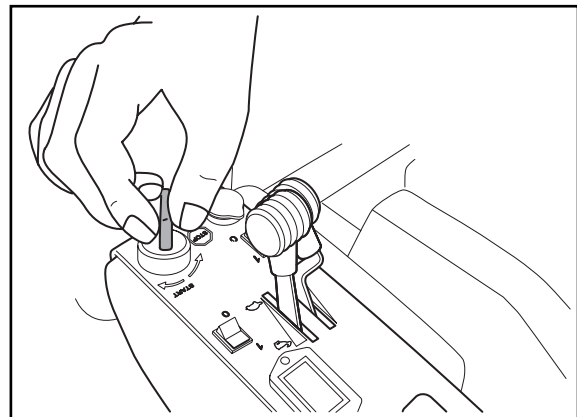
8009-562

4. If the engine is cold, the choke control shall be moved backwards to its end position.



8009-534

5. Turn the ignition key to the start position.

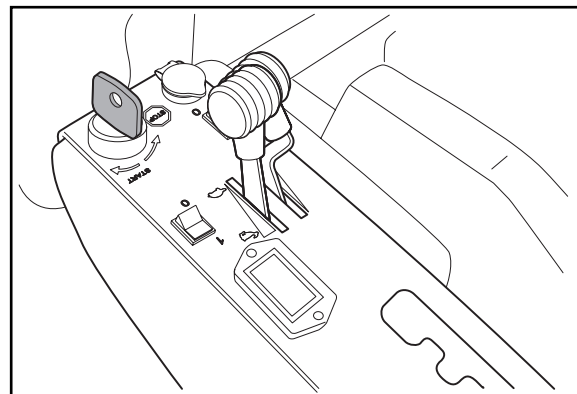


8009-558

6. When the engine starts, immediately release the ignition key so that it returns to the neutral position.

IMPORTANT INFORMATION

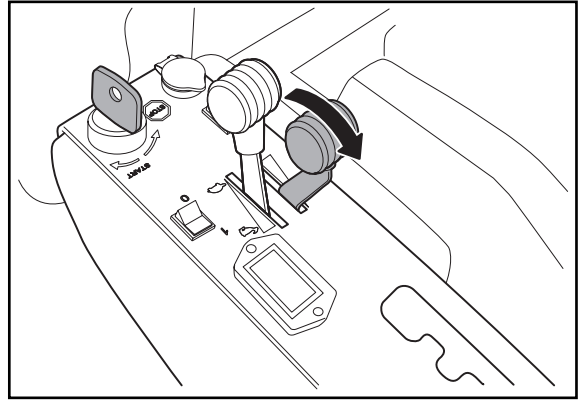
Do not run the starter motor for more than 5 seconds at a time. If the engine does not start wait, about 15 seconds before trying again.



8009-559

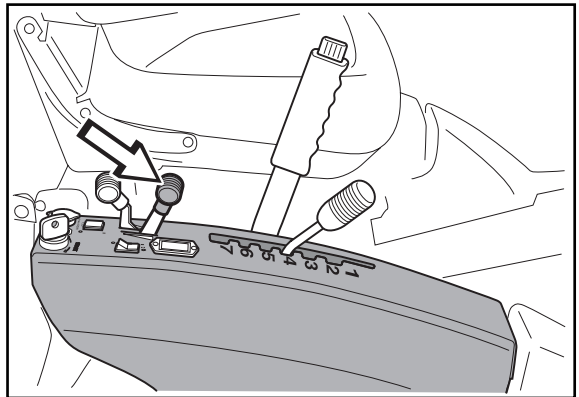
DRIVING

7. Move the choke lever gradually forward once the engine has started.



8009-560

8. Set the desired engine speed with the throttle.
Allow the engine to run at a moderate speed, "half throttle", for 3-5 minutes before loading it too heavily.



8009-533

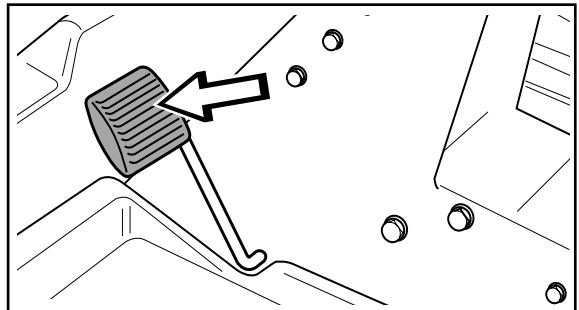


WARNING!

Never run the engine indoors, in enclosed or badly ventilated areas. Engine exhaust fumes contain poisonous carbon monoxide.

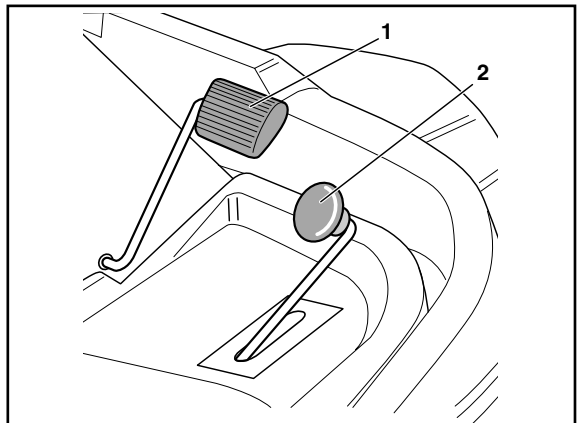
Driving the Rider

1. Release the parking brake by first pressing down the parking brake pedal and then lifting off the parking brake pedal.



6007-208

2. Carefully press down one of the pedals until the required speed is attained.
Pedal (1) is pressed down to travel forwards and pedal (2) to reverse.



6007-209

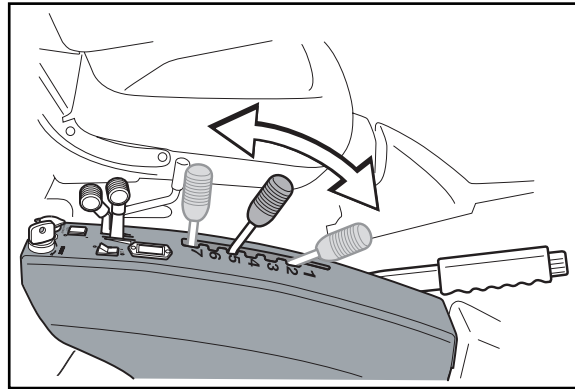


WARNING!

Never run the engine indoors, in enclosed or badly ventilated areas. Engine exhaust fumes contain poisonous carbon monoxide.

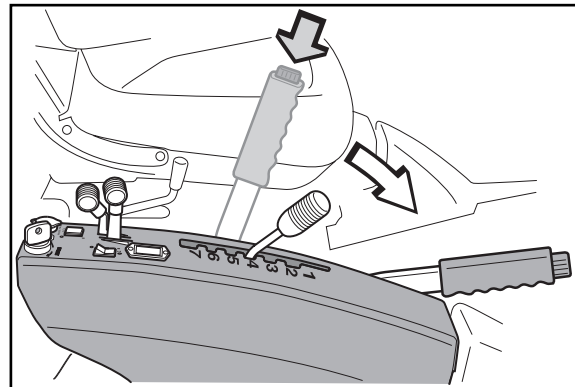
DRIVING

3. Select the required cutting height (1-7) using the cutting height lever.



8009-539

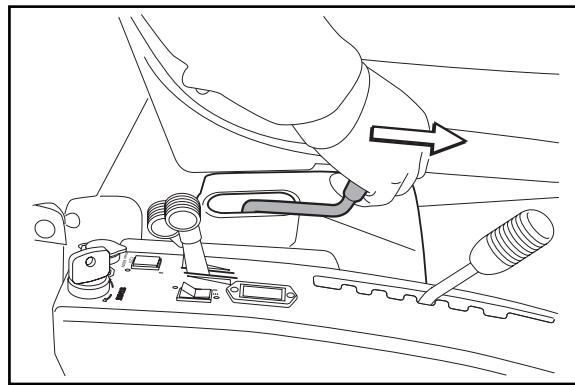
4. Depress the lock button on the mechanical lifting lever and move the lever to its most forward position. The cutting unit lowers and starts.



8009-537

5. If the cutting unit does not lower completely, or if the blades do not rotate, lower the cutting unit completely using the hydraulic lifting lever.

In order to ensure that the hydraulic cylinder is in the outer position, hold the lever in the forward position for a half to one second.



8009-538

Braking

Release the drive pedals. The machine slows and is stopped by the drive system. Do not use the parking brake as the drive brake.

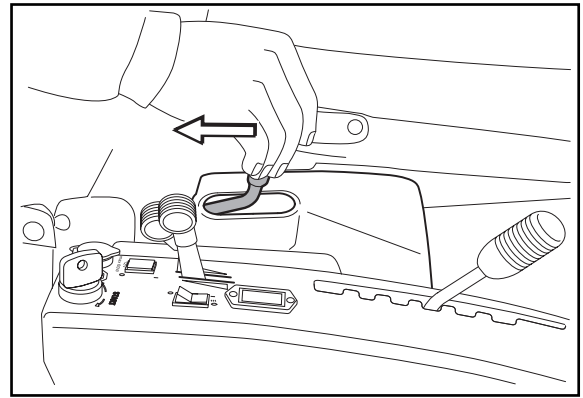
Quicker braking is possible if you press down the drive pedal for the opposite direction.

DRIVING

Cutting the Engine

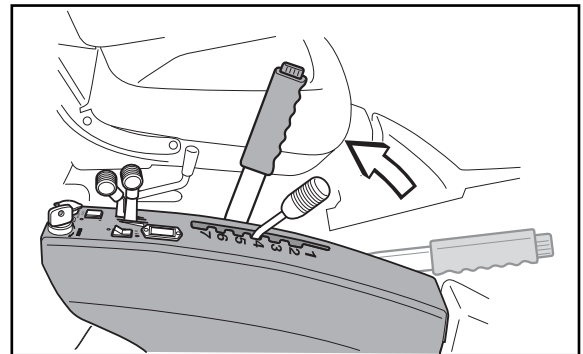
If the engine has been worked hard, it is preferable to let the engine idle for a minute so it is running at its normal working temperature when it is stopped. Avoid idling the engine for long periods, as there is a risk of carbon build-up on the spark plugs.

1. Lift the cutting unit with the hydraulic lifting lever.

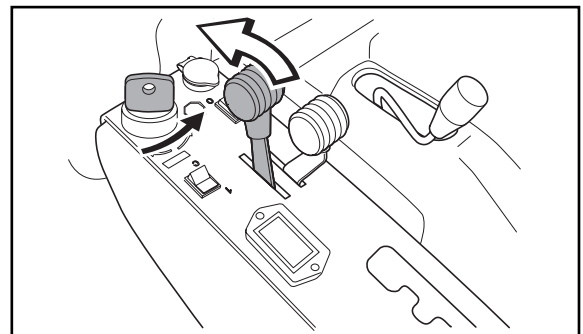


The unit can then be secured in the raised position if necessary by moving the mechanical lifting lever backwards to the lock position.

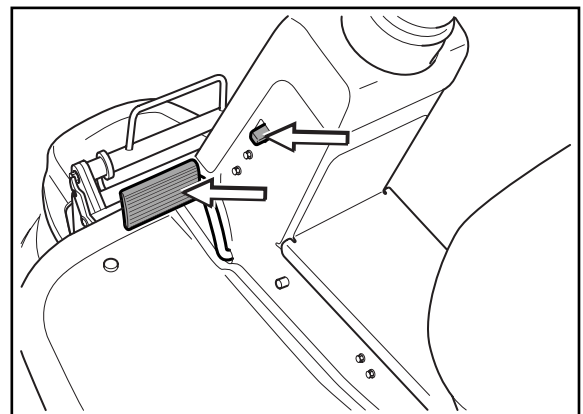
If the cutting unit is left in the lower position, the start lock circuit will prevent engine starts.



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



3. When the Rider is at a standstill apply the parking brake by holding down the pedal and at the same time press in the lock button.



DRIVING

MAINTENANCE

Maintenance

Maintenance Schedule

The following is a list of maintenance procedures that must be performed on the Rider. For points marked with footnote numbers 4 or 5, turn to an authorised service representative.

● = Described in this manual. ○ = Not described in this manual.									
Maintenance	Page	Daily main-tenance		Weekly ³ main-tenance	At least once a year	Maintenance interval in hours			
		before	after			25	50	100	300
Check for fuel and oil leaks	-	○							
Check the parking brake	37	●							
Check the engine's oil level (every refuelling)	65	●				●			
Check the fuel pump's air filter	40	●							
Check the safety switch, seat	43	●							
Check the safety switch, lifting lever	43	●							
Check the safety switch, pedal system	43	●							
Check/clean the engine's cooling air intake	33		●			●			
Check the cutting unit:	48		●						
• attaching the blades	50		●						
• condition of the blades (sharpness, shape, etc.)	50		●						
Check the steering cables (any play, etc.)	34		●						
Check fastenings (screws, nuts, etc.)	-		○						
Start the engine and blades, listen for unusual sounds	23		●						
Clean under the cutting unit	49		●						
Clean the transmission's cooling air intake	34		●			●			
Inspecting the muffler	35					●			
Check the battery's acid level	41			●					
Check the transmission oil level	70			●					
Check the condition of belts, belt pulleys, etc.	-			○					
Check for damage	-			○					

MAINTENANCE


● = Described in this manual. ○ = Not described in this manual.									
Maintenance	Page	Daily main-tenance		Weekly ³ main-tenance	At least once a year	Maintenance interval in hours			
		before	after			25	50	100	300
Check the air pressure in the tyres (60 kPa)	41			●					
Clean thoroughly around the engine	-			○					
Clean thoroughly around the transmission	-			○					
Clean around all belts, belt pulleys, etc.	62			●					
Lubricate the right rear wheel bearings	69			●					
Lubricate the driver seat	67			●					
Lubricate all cables	62			●					
Lubricate the safety catch in the cutting unit	67			●					
Lubricate the interior plug in the cutting unit	67			●					
Lubricate the groove for the cutting unit's equipment frame	67			●					
Lubricate links in the cutting unit	67			●					
Clean the frame tunnel	-			○					
Lubricate the pedal mechanism in the frame tunnel	63			●					
Lubricate the hydrostatic cable	67			●					
Lubricate the parking brake cable	64			●					
Lubricate the throttle	68			●					
Lubricate the choke control	68			●					
Lubricate the guide chain in the frame tunnel	63			●					
Check the steering cables in the frame tunnel	34			●					
Clean the engine's cooling air intake	33				●	●			
Clean the air filter's pre-cleaner (foamed plastic)	38				●	●			
Change the engine oil ¹⁾	65				●			●	
Clean the air cleaner's filter cartridge ²⁾ (paper filter)	38				●		●		
Check/adjust the cutting height	48				●		●		
Check/adjust the parking brake	37				●		●		

MAINTENANCE

● = Described in this manual.
○ = Not described in this manual.

Maintenance	Page	Daily main-tenance		Weekly ³ main-tenance	At least once a year	Maintenance interval in hours			
		before	after			25	50	100	300
Inspect the flame arrester/spark extinguisher (extra equipment)	-				○		○		
Replace the hydraulic oil filter (every 200 hours)	68				●			●	
Replace the engine oil filter (every 200 hours)	69				●			●	
Clean/replace the spark plugs	42				●			●	
Change the inline fuel filter	40				●			●	
Clean the pulse air filter	40				●			●	
Clean the cooling fins	-				○			○	
Check the play in the engine valves ⁴⁾	-				○				○
Check the need of an oil change ⁵⁾ and filter replacement ⁴⁾ in the hydraulic system. (every 200 hours)	-				○			○	
Replace the suction filter in the hydraulic tank ⁴⁾ (every 200 hours)					○			○	
Replace the air filter's pre-cleaner (foamed plastic) ²⁾	38				●				●
Change the air filter (paper filter) ²⁾ (every 200 hours)	38				●			●	
Perform the 300-hour service ⁴⁾	-				○				○

- 1) First change after 8 hours. When operating with a heavy load or at high ambient temperatures, replace every 50 hours.
- 2) Maintenance and replacement are required more often in dusty conditions.
- 3) The Rider should be lubricated twice weekly with daily use.
- 4) Performed by authorized service workshop.
- 5) Performed by authorized service workshop. First change after 50 hours.



WARNING!
No service operations may be performed on the engine or cutting unit unless:

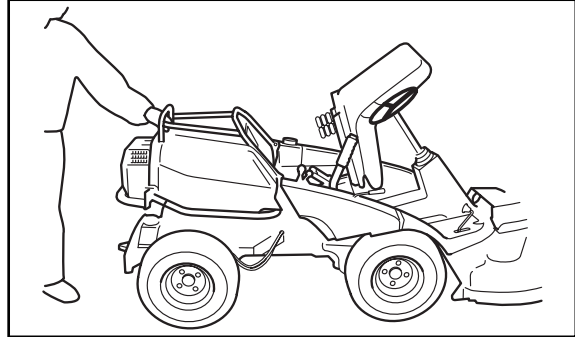
- The engine is stopped.
- The parking brake is actuated.
- The ignition key has been removed.
- The cutting unit is disengaged.
- The ignition cables have been removed from the spark plugs.

MAINTENANCE

Removing the Rider's Covers

Engine cover

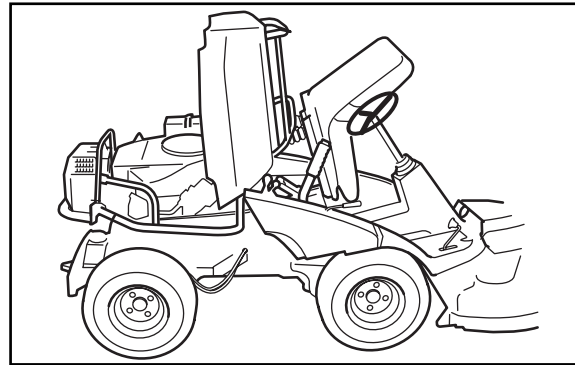
1. Push the seat to its most forward position and then tip it back.
2. Turn the cover lock on the top of the engine cover anti-clockwise a 1/4 turn.



8009-509

3. Open the engine cover.

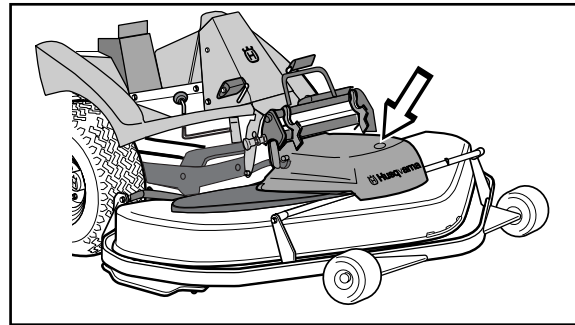
If necessary the engine cover can be lifted off by removing the hinge pins.



8009-510

Front cover

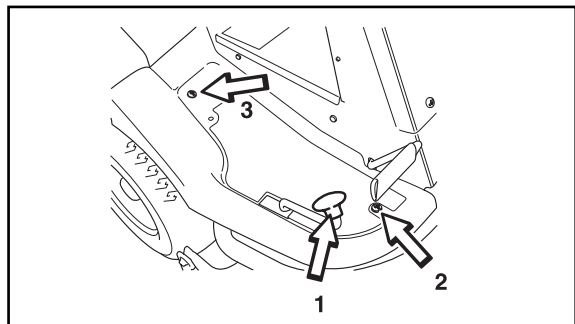
Loosen the quick-action catch and lift off the front cover.



6016-106

The Right-hand Wing Cover

Remove the accelerator knob (1), screws (2 and 3), and remove the wing cover.

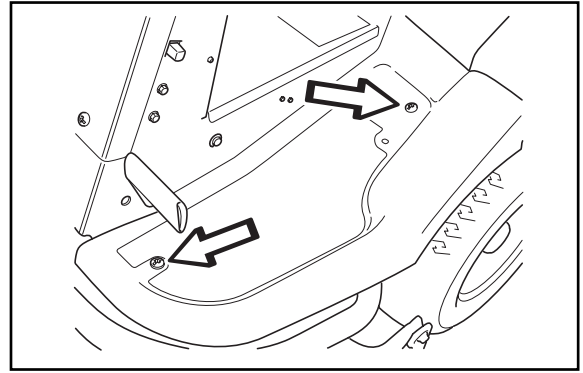


6008-499

MAINTENANCE

Left-hand Wing Cover

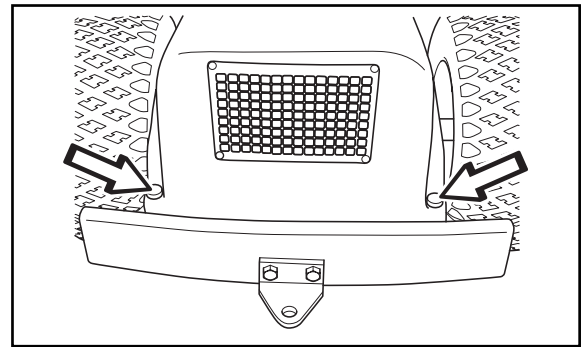
Loosen the screws (2) and remove the wing cover.



8009-501

Transmission cover

Loosen both screws (one on each side) and lift off the transmission cover.



8009-603

Checking the Engine's Cooling Air Intake

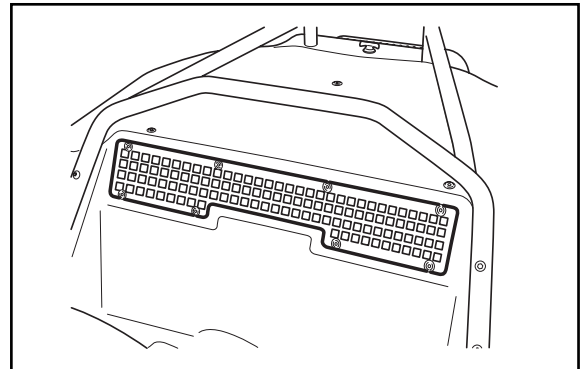
Clean the air intake grille in the engine cover behind the driver's seat.

Open the engine cover.

Check that the engine cooling air intake is free of leaves, grass, and dirt.

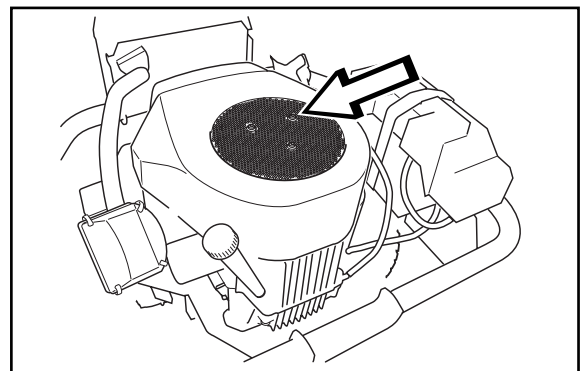
Check the air duct, located on the inside of the engine cover, ensure it is clean and does not rub against the cooling air intake.

A clogged air intake grille, air duct or cooling air intake impairs the cooling of the engine, which may result in engine damage.



8009-489

Air intake grille



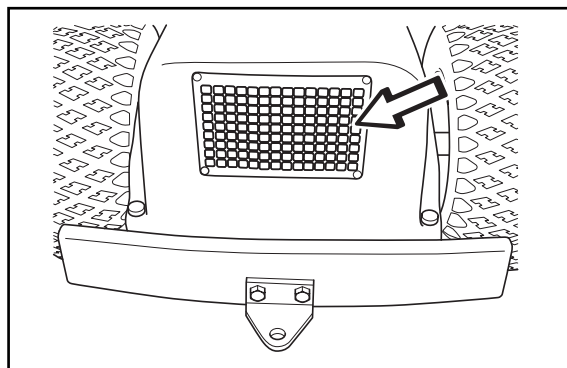
8009-152

Cooling air intake

MAINTENANCE

Checking the Transmission Air Intake

Check to ensure that the air intake valve to the transmission is not clogged.



6008-604

Checking and Adjusting the Steering Cables

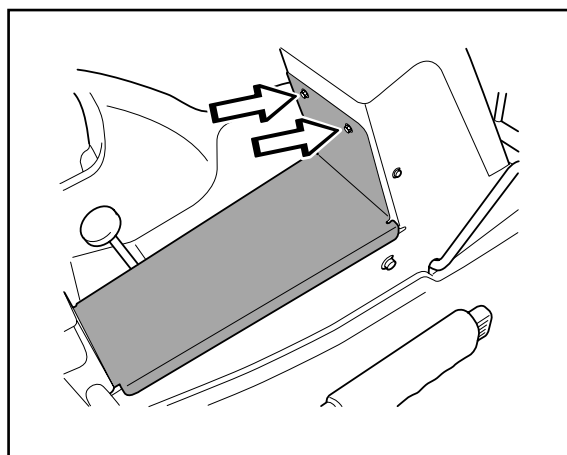
The steering is governed by means of cables.

After a period of use these can become stretched, which means the steering setting may have changed.

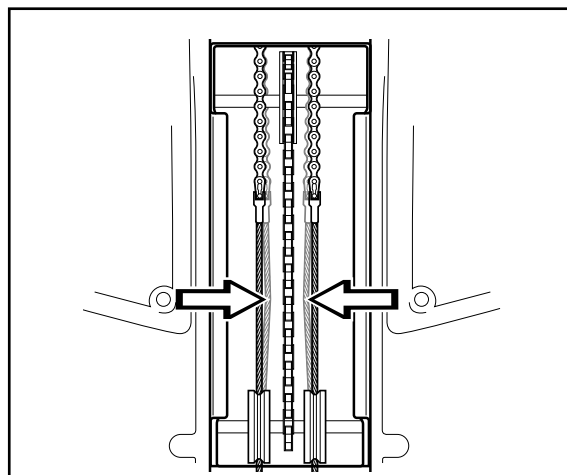
Steering is checked and adjusted as follows:

1. Remove the frame plate by loosening the two screws.
2. Ensure that the cables are properly situated under the steering cable pulleys in the frame tunnel. Check the tension of the steering cables by squeezing the cables together (at the arrows). It should be possible to squeeze the cables so that the distance between them is half the size, without using too much force.

Change the cable if it has a damaged strand causing loose threads to protrude.



8009-340



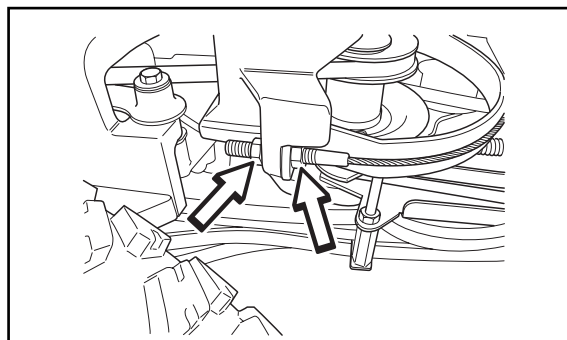
6008-212

3. If necessary, the cables can be adjusted by first loosening the lock nut and then tightening the adjustment nut (one cable on each side of the machine).

Hold the cable with, for example, an adjustable wrench so that it does not twist. If the adjustment is only made on one side, the middle position of the steering will be affected.

Do not over tighten the cables; they should only be drawn in towards the steering collar.

Check the cable tension after you have made the adjustment as described in point 2.



8009-605

MAINTENANCE

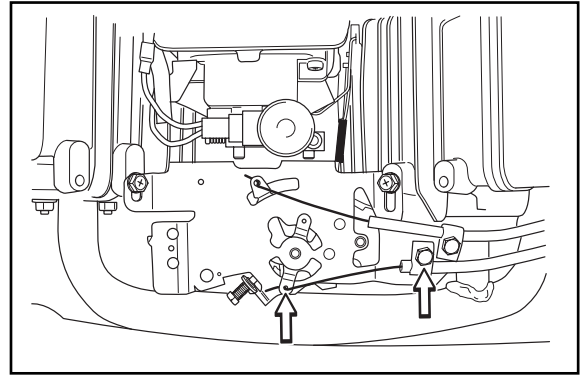
Checking and Adjusting the Throttle Cable

Check that the engine responds to throttle increases and that a good engine speed is attained at full throttle.

If doubts arise, contact your service representative.

If adjustments are necessary, they can be made as follows for the lower cable:

1. Loosen the clamping screw for the cable's outer casing and move the throttle to the full throttle position.
2. Check that the throttle cable is mounted in the correct hole in the lower lever, see illustration.
3. Push the throttle cable's outer casing as far to the left as possible and tighten the clamping screw.



8009-606

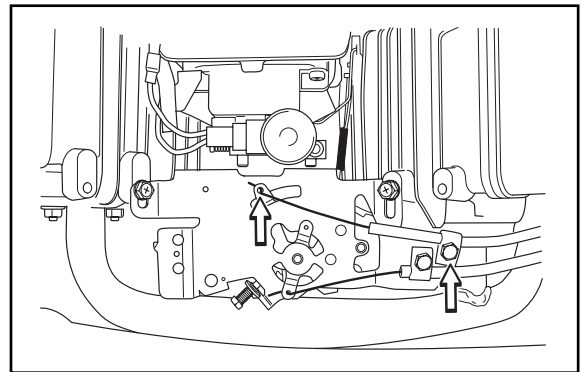
Checking and Adjusting the Choke Cable

If the engine produces black smoke or is difficult to start, this can be because the choke cable is incorrectly adjusted (upper cable).

If doubts arise, contact your service representative.

If adjustments are necessary, they can be made as follows:

1. Loosen the clamping screw for the cable's outer casing and move the choke lever to the full choke position.
2. Check that the choke cable is mounted in the upper lever, see illustration.
3. Pull the choke cable's outer casing as far to the right as possible and tighten the clamping screw.



8009-607

Inspecting the Muffler

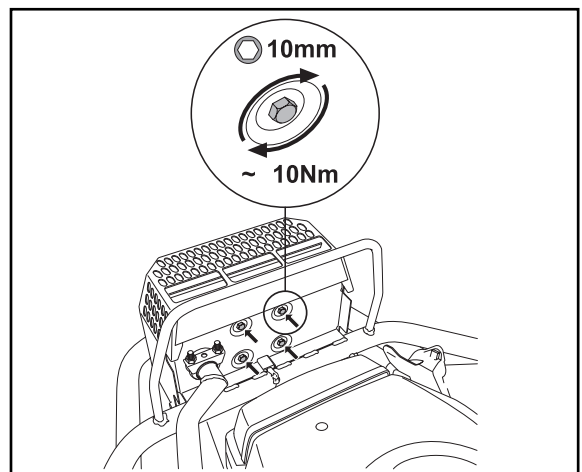
Check regularly that the muffler is complete and secured correctly.

Temperature variations and vibrations can mean that the tightening torque for the screws drops. The screws should be checked when servicing to guarantee the correct torque. The tightening torque should be about 10 Nm. Never use a defective muffler.



WARNING!

The muffler gets very hot in use and remains so for a short time afterwards. Contact can result in burns. Remember the risk of fire.



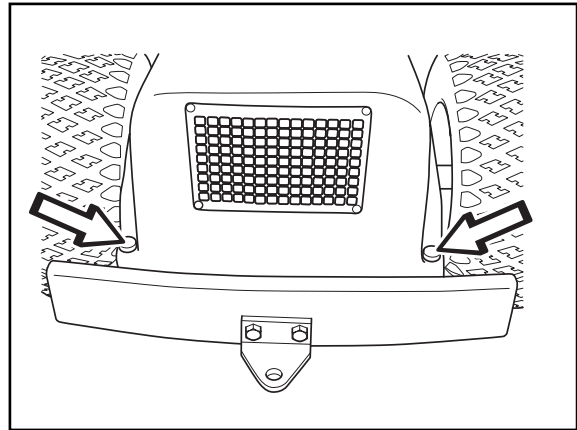
8009-683

MAINTENANCE

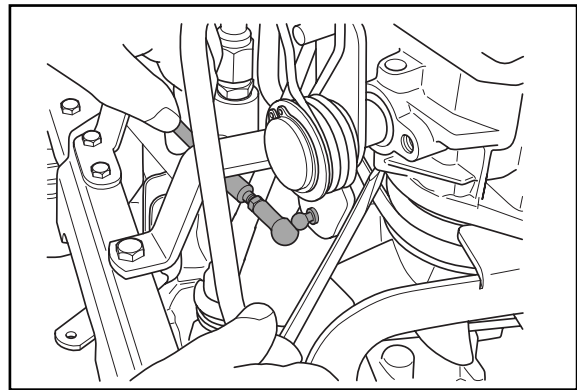
Adjusting the Hydrostatic Transmission Cable

The hydrostatic transmission cable (on the left side) is adjusted in the following manner:

1. Remove the transmission cover. Loosen both screws (one on each side) and lift off the transmission cover.
2. Take apart the ball joint, which is locked with a locking spring.
3. Ensure that the forward drive pedal is pressed down completely.
4. Switch the vertical arm to the maximum position and check that the ball and socket in the ball joint are aligned.
5. Adjust the socket on the cable if needed.
6. Assemble the ball joint.
7. Put the ball joint's locking spring in place. Make sure that the locking spring goes through both holes on the socket.



6008-603



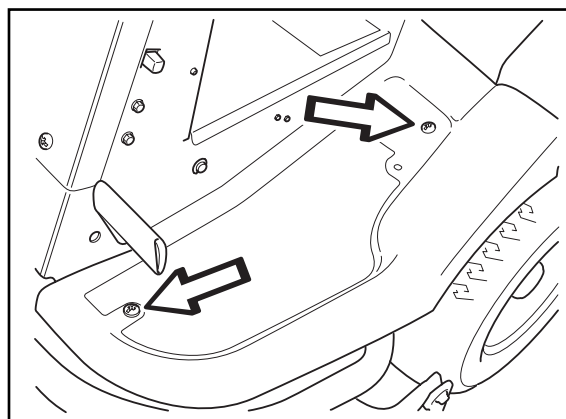
8009-685

MAINTENANCE

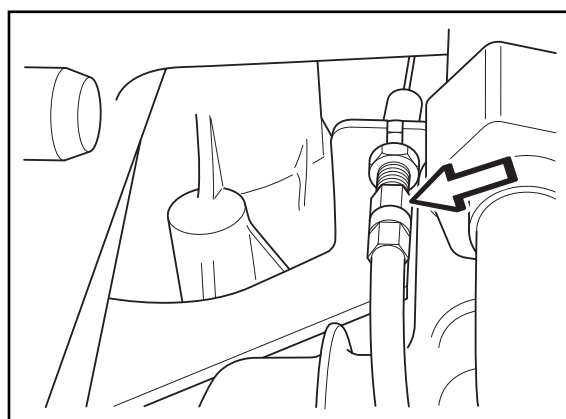
Adjusting the Parking Brake

Check that the parking brake is adjusted correctly by placing the machine on a slope with the front and rear axles disengaged. Apply and lock the parking brake. When the machine does not standstill, the parking brake should be adjusted according to the following.

1. Remove the left-hand wing cover.
2. Check that the parking brake is not on.
3. Adjust the play between the casing and the adjustment screw to 1 mm (0.040") when one pulls the casing. This gives play on the pedal of approximately 40 mm (1.5"). Adjust using the nuts on the adjustment screw.
4. Tighten the nuts moderately to avoid damaging the threads.
5. Check that the parking brake works.
6. Assemble the left-hand wing cover.



8009-501



8009-688



WARNING!

A poorly adjusted parking brake can result in reduced braking ability.

MAINTENANCE

Replacing the Air Filter

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

For this reason, it is important to replace the air filter regularly (see "Maintenance Schedule" on page 29 for the proper service interval).

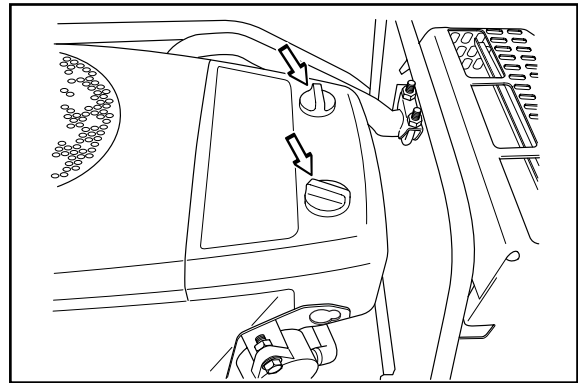


WARNING!

Allow the exhaust system to cool before servicing. Risk of burns.

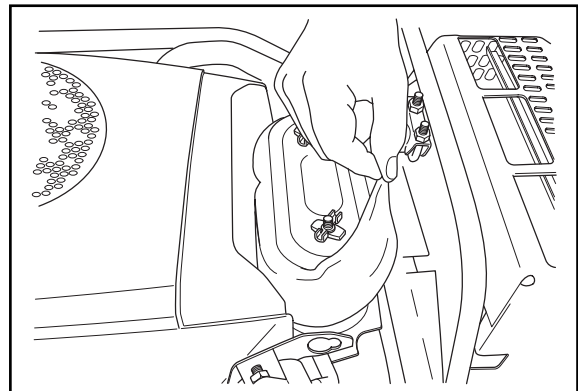
Replacing the Air Filter

1. Open the engine cover.
2. Remove the two plastic fasteners on the top of the air filter cover and remove the air filter cover.



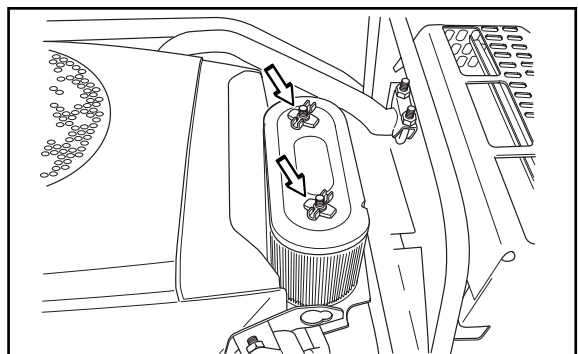
8009-179

3. Remove the foam rubber pre-filter and clean using a mild detergent.
Squeeze it dry with a clean cloth.



8009-180

4. Remove the wing nuts for the air filter and remove the paper filter.



8009-182

MAINTENANCE

5. Tap the paper filter against a solid surface to remove dust.

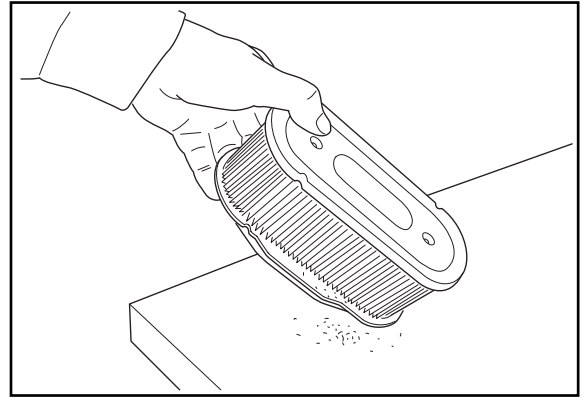
If the paper filter is still dirty, it must be replaced.

IMPORTANT INFORMATION

Do not use compressed air to clean the paper filter.

Do not wash the paper filter.

Do not oil the paper filter.



8009-181

6. Refit the air filter as follows:

Check that the seal on the bottom of the paper filter is whole. Fit the paper filter in the air filter housing and tighten the wing nuts loosely.

7. Refit the pre-filter on the paper filter.
8. Replace the cover over the air filter housing.
Do not over tighten the plastic fasteners.

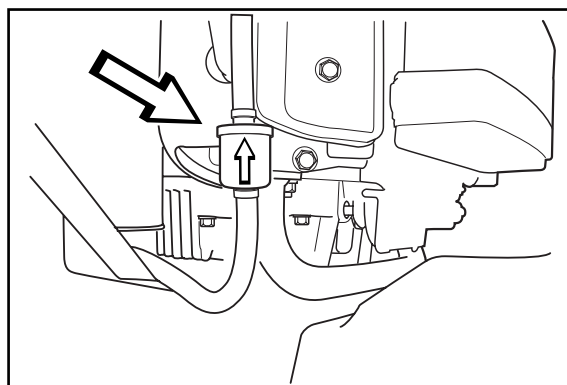
MAINTENANCE

Replacing the Fuel Filter

Replace the fuel filter mounted on the supply line after every 100 hours (once per season) or more frequently if it is clogged.

Replace the filter as follows:

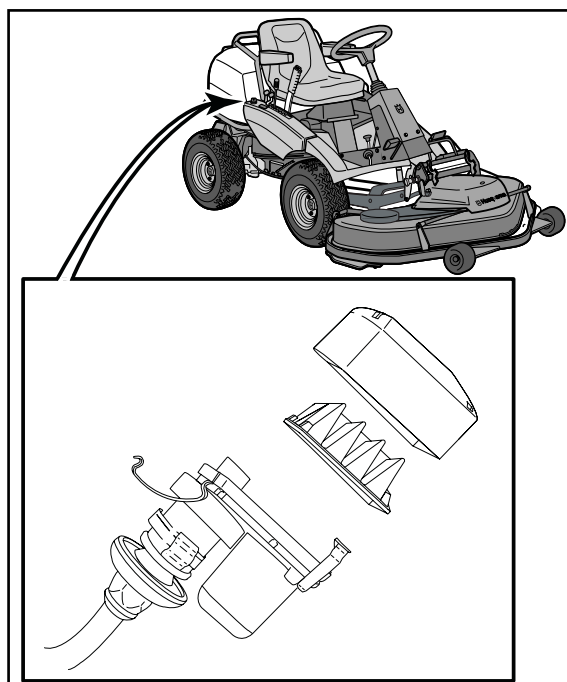
1. Open the engine cover.
2. Move the hose clamps away from the filter. Use a pair of flat pliers.
3. Pull the filter loose from the hose ends.
4. Push the new filter into the hose ends. Position the filter with the FLOW arrow pointing up toward the fuel pump. If necessary, a soap solution can be applied to the ends of the filter to simplify assembly.
5. Move the hose clamps back toward the filter.



8009-146

Cleaning the Pulse Air Filter

1. Open the engine cover.
2. Loosen the four snap catches, remove the cover, and remove the filter.
3. Blow the filter clean with compressed air.
Replace the filter if it is damaged or cannot be blown clean.
4. Place the filter back in the cover and fasten the cover with the snap catches. Close the engine cover.



8009-342

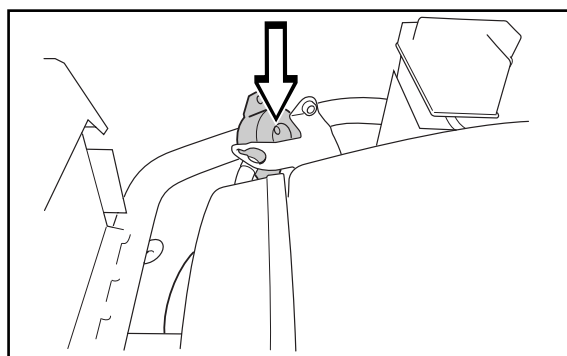
Checking the Fuel Pump's Air Filter

Check regularly that the fuel pump's air filter is not clogged by dirt.

Remove the screws and open the pump, no hoses need be removed.

The filter can be cleaned using a brush, if necessary.

Replace the pump on the console.



8009-147

MAINTENANCE

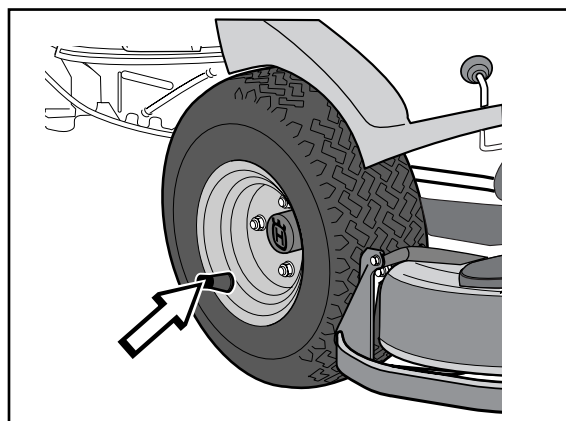
Checking the Tyre Pressures

The tyre pressure should be 60 kPa / 0.6 bar / 9 PSI on all wheels.

Highest permitted pressure = 80 kPa / 0.8 bar / 12 PSI.

IMPORTANT INFORMATION

Different air pressure in the front tyres will result in the blades mowing the grass at different heights.



6016-109

Checking the Battery Acid Level

Check that the acid level in the battery lies between the markings. When refilling, only distilled water may be used to fill the cells.

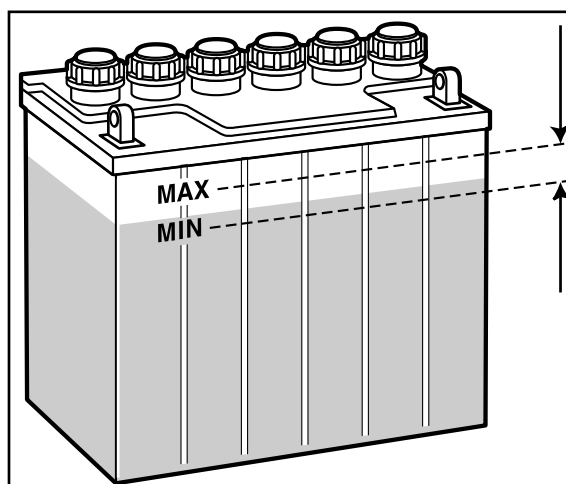


WARNING!

What to do in case of contact with battery acid

- **Externally: Rinse thoroughly with water.**
- **Internally: Drink large quantities of water or milk. Contact a doctor as soon as possible.**
- **Eyes: Rinse thoroughly with water. Contact a doctor as soon as possible.**

The battery emits explosive gases. Sparks, flames, and cigarettes must not be present in the vicinity of the battery.



6008-216

Ignition System

The engine is equipped with an electronic ignition system. Only the spark plugs require maintenance.

Recommended spark plug, see "Technical Data" on page 79.

IMPORTANT INFORMATION

The wrong spark plug type can damage the engine.

MAINTENANCE

Replacing the Spark Plug

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 / 0.030". Adjust as necessary by bending the side electrode.
5. Reinsert the spark plug, turning by hand to avoid damaging the threads.

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.

6. Tighten the spark plug, once it touches the seating, with the spark plug spanner.

Tighten the spark plug so that the washer is compressed.

A used spark plug should be turned 1/8 of a turn from the seated position. A new spark plug should be turned 1/4 a turn from the seated position.

7. Replace the ignition cable shoe.

Fuses

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

Type: Flat pin, 15 A.

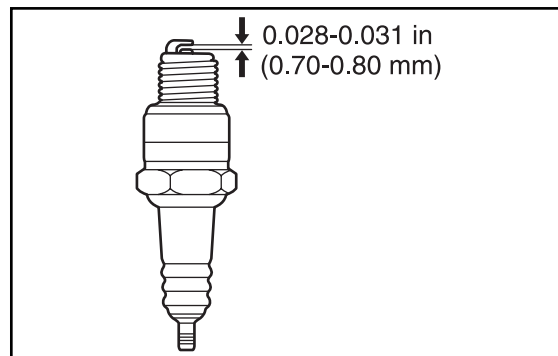
The fuse for the power outlet is placed under the ignition switch, behind the side plate on the control panel.

Type: Flat pin, 7.5 A.

Do not use any other type of fuse when replacing.

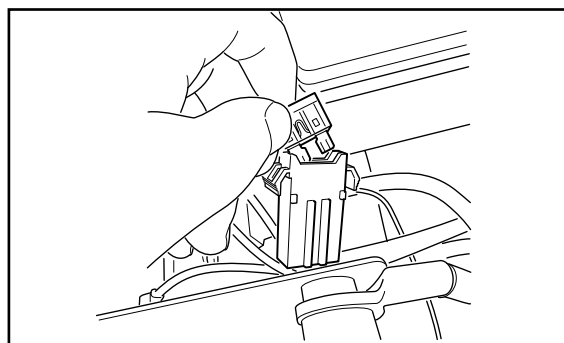
A blown fuse is indicated by a burnt connector. Pull the fuse from the holder when replacing.

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



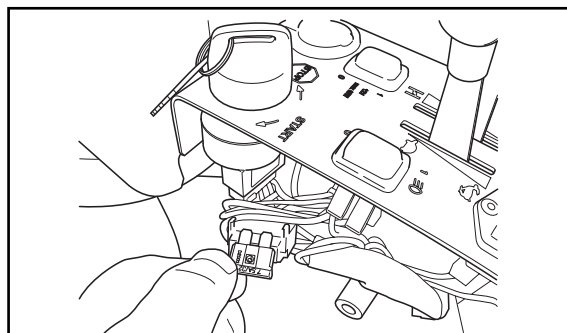
8011-054

Electrode gap



8009-370

Main fuse



8009-610

Fuse power outlet

MAINTENANCE

Checking the Safety System

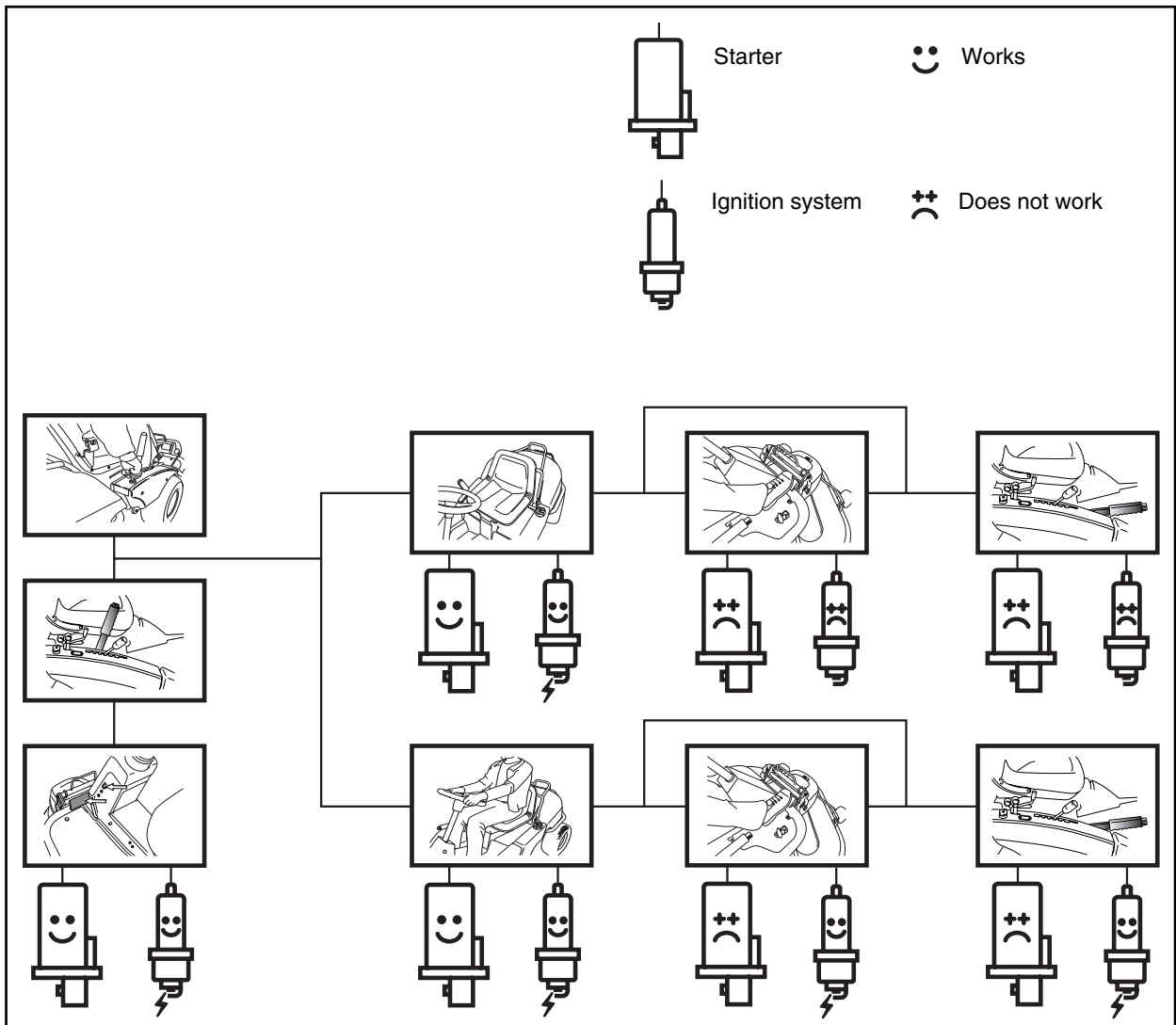
The Rider is equipped with a safety system that prevents starting or driving under the following conditions.

The engine should only be possible to start when the cutting unit is in its raised position and the parking brake is applied.

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

Check daily 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 of the driver's seat while the cutting unit is lowered or the hydrostat pedals are not in the neutral position.



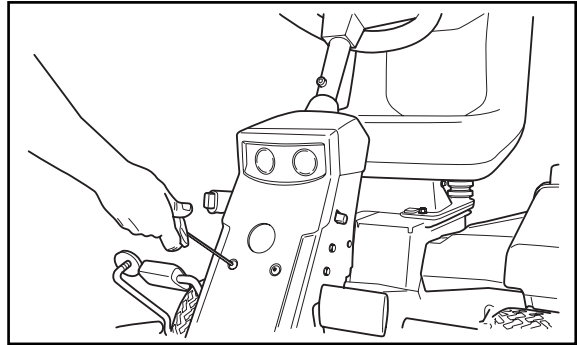
MAINTENANCE

Replacing the Light Bulbs

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

1. Unscrew the two screws holding the cover on the power servo housing.

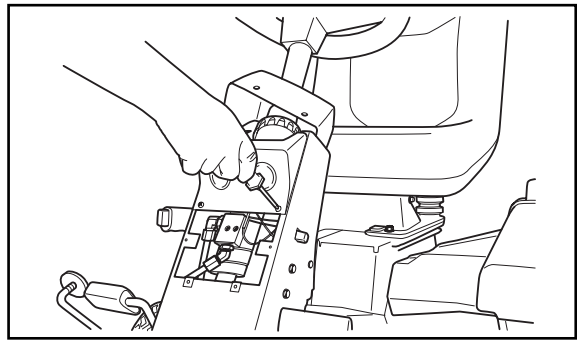
Lift up the cover and turn it around the steering shaft.



8009-511

2. Unscrew the two screws holding the lamp insert.

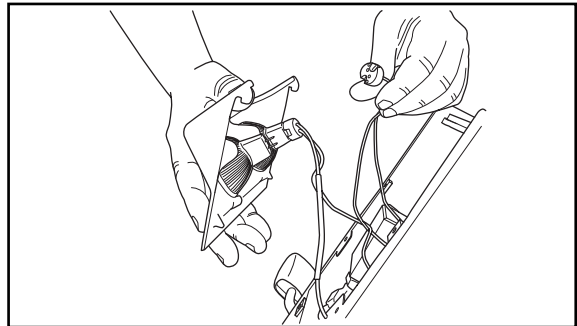
Lift out the lamp insert.



8009-512

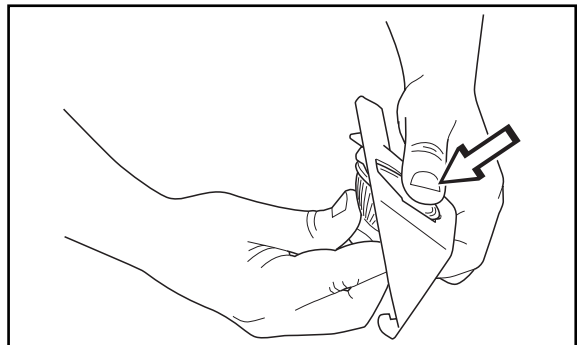
3. Disconnect the cables from the bulbs.

4. Lift out the bulbs from the insert.



8009-513

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



8009-522

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

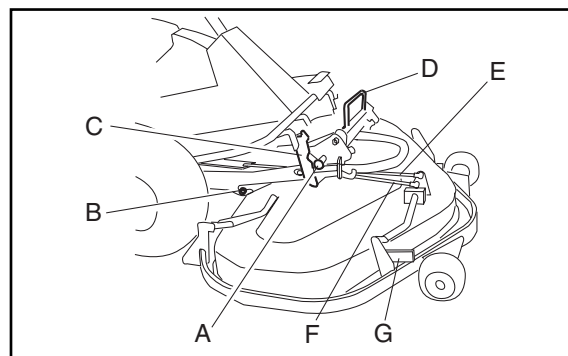
MAINTENANCE

The Cutting Unit Components

In the instructions below, a cutting unit with a rear ejector is shown, but the same principles apply to all cutting units unless otherwise stated.

The components mentioned are:

- A Catch
- B Inner pin
- C Catch guard
- D Handle
- E Height adjustment strut
- F Parallelism strut
- G Lowest height adjustment stop



8009-188

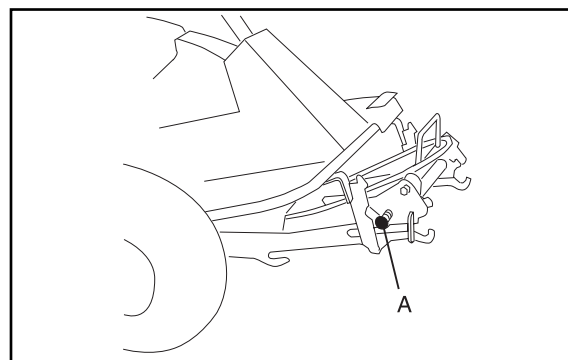
Attaching the Cutting Unit



WARNING!
Exercise caution.
Risk of crush injuries

Starting point for attaching the cutting unit:

- Place the machine on a flat surface.
- Lock the brake by pressing down the pedal and locking with the push-button.
- Equipment hydraulics in the lower position.
- Equipment frame in lowered position.
- Equipment frame locked with safety catch and locks (A) in the inset position.

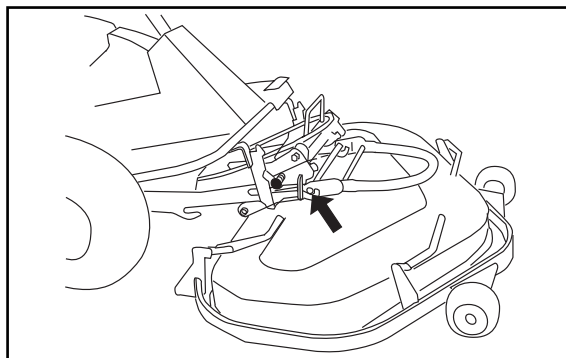


8009-022

- Unit frame mounted on the cutting unit, see "Removing the Unit Frame" on page 53.

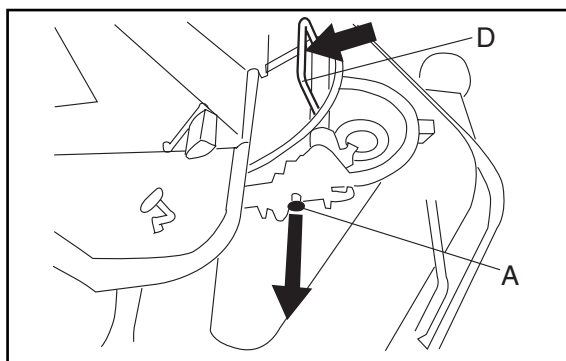
MAINTENANCE

1. Attach the unit to the equipment frame's outer hooks.



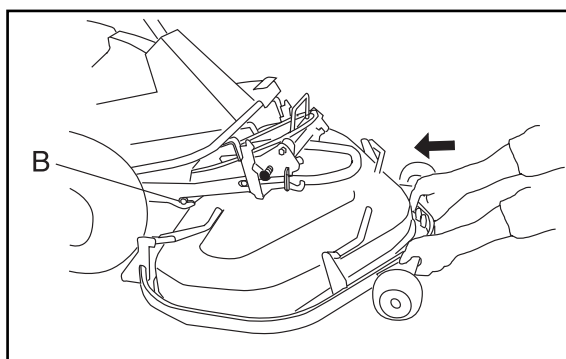
8009-024

2. Pull out the catch (A) and loosen the safety catch by pushing its handle (D) back.



8009-167

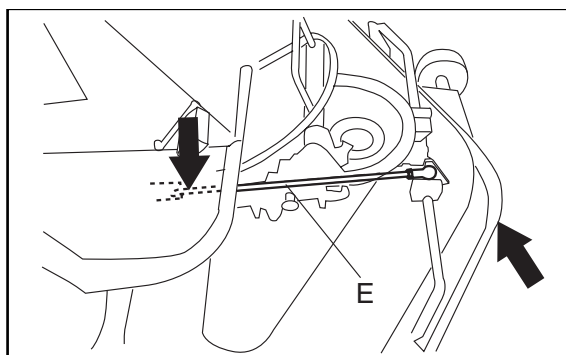
3. Raise the unit by pulling up the mechanical lifting lever, located on the driver's right side.
4. Push the unit in so that the interior plugs (B) touch the bottom of the equipment frame's grooves.



8009-018

5. Hook in the height adjustment handle's (E) rear fastener:

Move the cutting height lever to the forward position. Loosen the strut by pulling the frame's forward section up or down.



8009-168

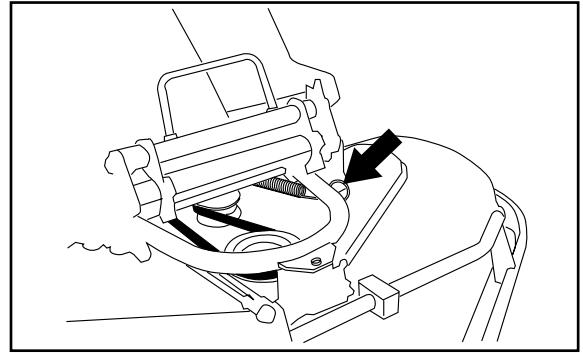


WARNING!

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

MAINTENANCE

6. Loosen the belt tensioner spring and attach the belt to the front belt pulley. A new belt is short. Turn the forward pulley as needed with a spanner on the central bolt.



8009-008

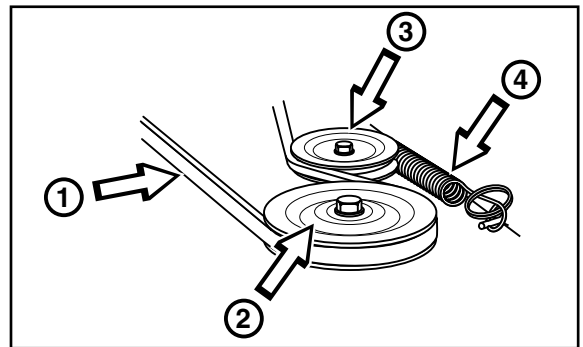
7. Refit the belt tensioner spring.

IMPORTANT INFORMATION

Check that the belt is around the idler.

Belt Sketch

- 1. Drive belt
- 2. Forward pulley
- 3. Belt idler
- 4. Belt tensioner spring



6016-105

8. Fit the front cover.

MAINTENANCE

Adjusting the Cutting Height, Parallelism and Ground Pressure

When a new cutting unit is attached, you need to adjust the cutting height, parallelism and ground pressure.

Adjustment must be made in the stated order.

Starting position:

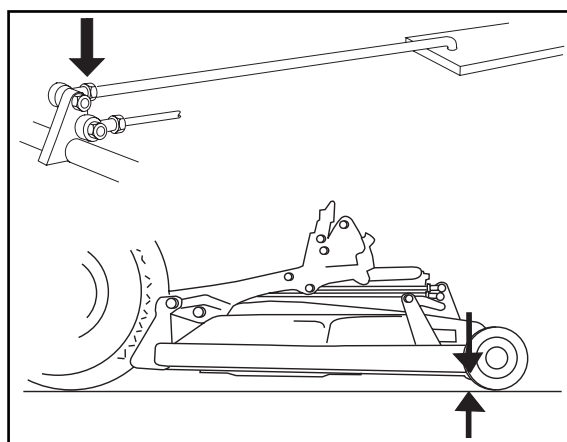
- Check the air pressure in the tyres 60 kPa / 0.6 bar / 9 PSI.
- The cutting unit shall be lowered onto a flat surface.
- The height adjustment lever shall be set to the lowest cutting height.

Cutting Height

1. Loosen the nut on the height adjustment strut.
2. Measure the distance between the ground and the front edges of the cover.

The distance between front edge and the ground must be 35 mm.

3. Tighten the nut.



8009-028
8009-556

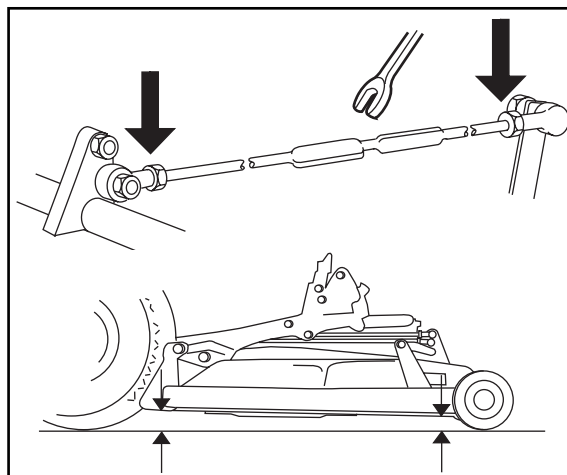
4. Check and align the parallelism if necessary.
5. Check and adjust the cutting unit's ground pressure if necessary according to "Ground pressure" on page 49.
6. Fit the front cover.

IMPORTANT INFORMATION

When replacing the cutting unit, readjustment of the parallelism and height is necessary.

Parallelism

1. Loosen the two nuts on the strut.
2. Measure the distance between the ground and the front and back edges of the unit's cover.
3. Place a spanner over the bevel in the middle of the stay and tighten so that the cutting unit's rear edge is 2-4 mm higher than its front.
4. Check the measurement.
5. Then tighten the two nuts on the strut.



8009-027
8009-026

MAINTENANCE

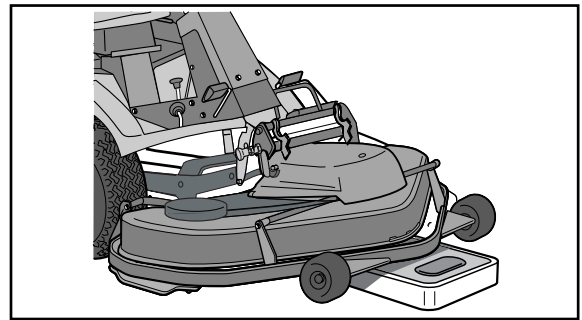
Ground pressure

In order to achieve the best mowing result the cutting unit should follow the ground without touching it too heavily. Pressure is adjusted using a screw and spring on each side of the rider.

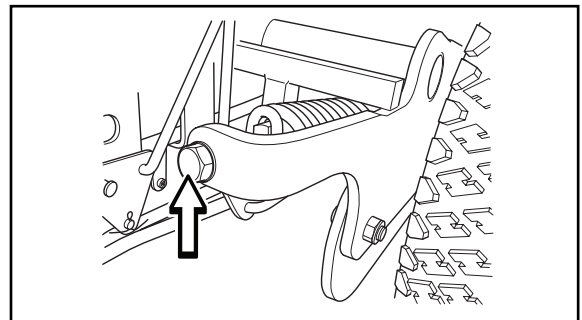
Adjust the cutting unit's ground pressure in the following manner:

1. Place a set of bathroom scales under the cutting unit's frame (on the front edge) so that the unit rests on the scales. If necessary a block can be placed between the frame and the scales so that the anti-scalp rollers do not support any weight.
2. Adjust the cutting unit's ground pressure by screwing the adjuster screws, which are located behind the front wheels on both sides, in or out.

The ground pressure should be between 12 and 15 kg and the springs evenly tensioned.



8009-369



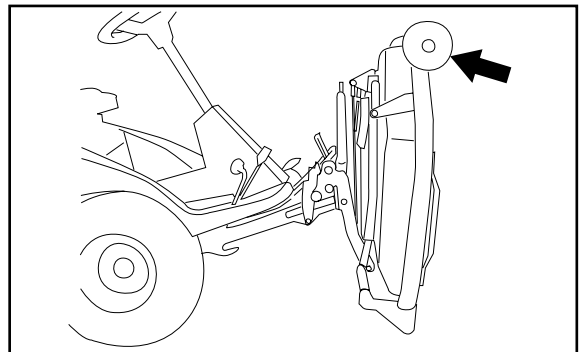
6008-611

The Cutting Unit's Service Position

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

Placing in the Service Position

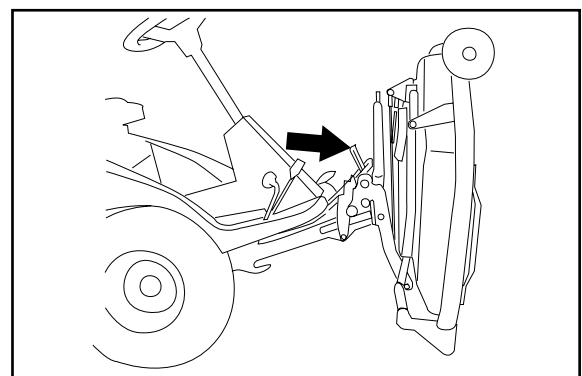
1. Place the unit so that it hangs on the outer hooks by carrying out steps 1-11 under "Removing the Cutting Unit" on page 51.
2. Take hold of the unit's front edge and lift it to a vertical position. The unit locks automatically in the vertical position.



8009-016

Releasing the Service Position

1. Ease up the unit's edge (tilt it back), move the handle forward and slowly lower the unit to the horizontal position.
2. Slide the unit into its working position by carrying out steps 4-8 under "Attaching the Cutting Unit" on page 45.



8009-015

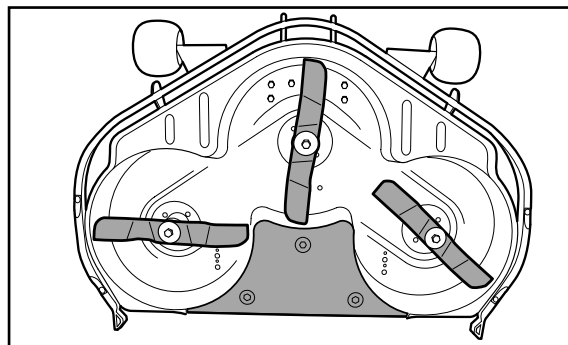
MAINTENANCE

Cutting Unit Model

ProFlex can be equipped with two different types of cutting unit:

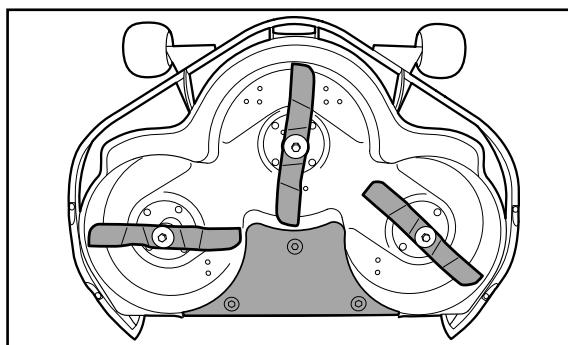
- Combi 112
- Combi 122.

Other cutting units cannot be mounted without changing the drive belt.



8009-288

Combi 112



8009-290

Combi 122

Checking the Blades

It is important that the blades are undamaged and well-ground to give the best mowing result.

Check that the blades' securing screws are tightened with the torque:

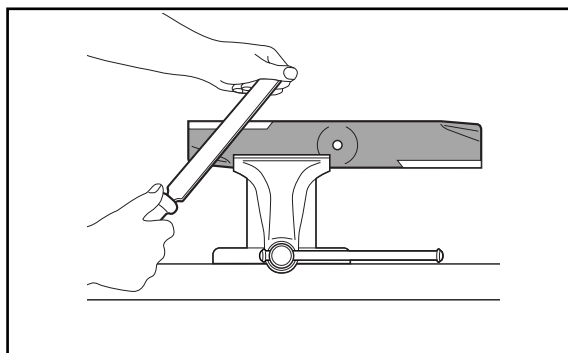
- Combi 112: 45-50 Nm/32-36 lbf. ft.
- Combi 122: 75-80 Nm/53-56 lbf. ft.

IMPORTANT INFORMATION

Replacement or sharpening of the blades should be carried out by an authorised service representative.

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.



6012-088



WARNING!

If the blade is cracked, caused by inappropriate repair or other damage, blade fracture can occur during operation. The risk increases when the blade is not correctly balanced.

MAINTENANCE

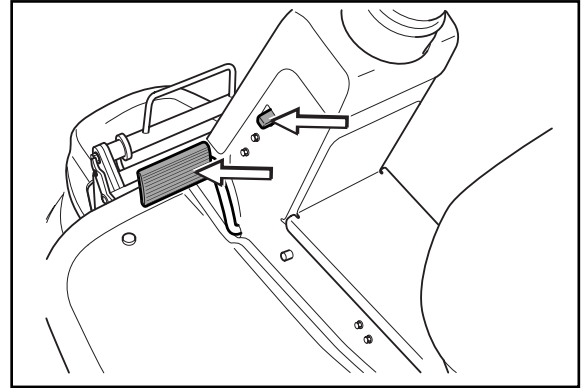
Removing the Cutting Unit



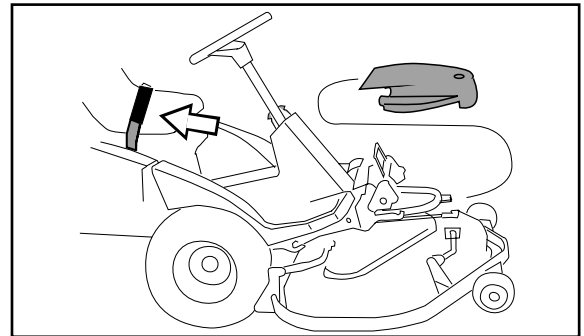
WARNING!

Exercise caution. Risk of crush injuries.

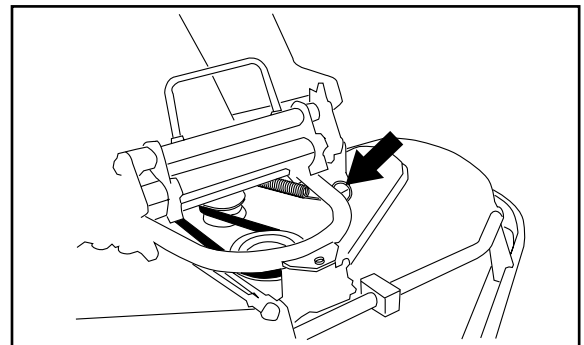
1. Place the machine on a flat surface.
2. Lock the brake by pressing down the pedal and locking with the push-button.



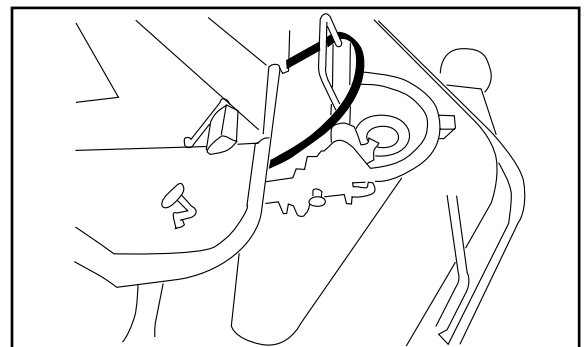
3. Lift the cutting unit with the mechanical lifting lever.
4. Remove the front cover.



5. Loosen the belt tensioner spring.
6. Remove the belt from the front pulley.
7. Re-attach the belt tensioner spring.



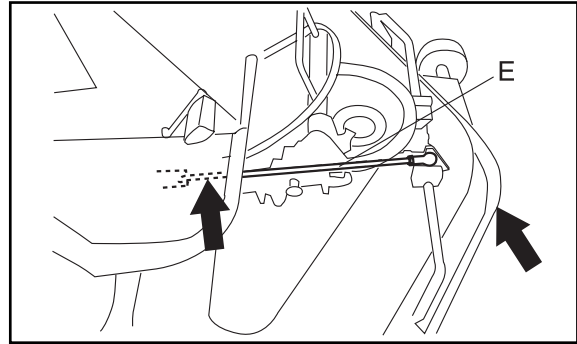
8. Hang the belt around the handle.



MAINTENANCE

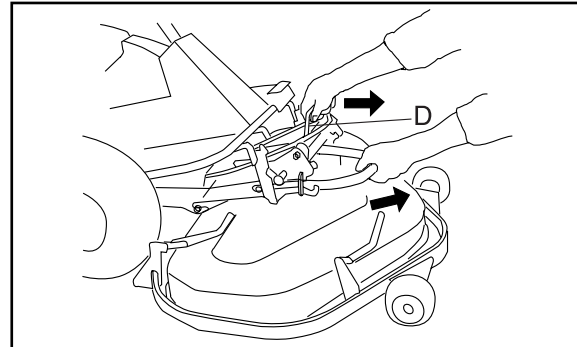
9. Unhook the height adjustment strut (E) by moving the rear part upwards:

Unload the strut if necessary by pulling the frame's forward section up or down.



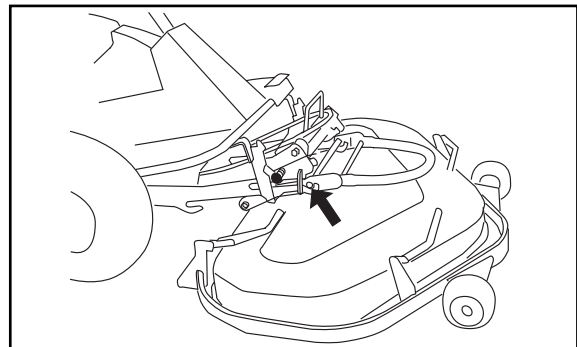
8009-169

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



8009-170

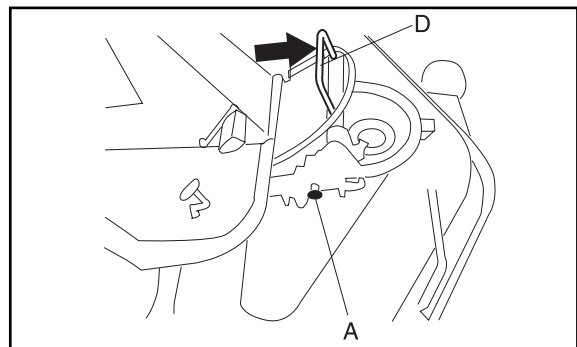
11. Pull out the unit so that it catches on the outer hooks. In this position, the unit can be set in the service position, when required.



8009-024

12. Lower the unit with the lifting lever on the driver's right side.

13. Pull the handle (D) so that the safety catch locks. Check that the catch (A) is in the inset position.



8009-171

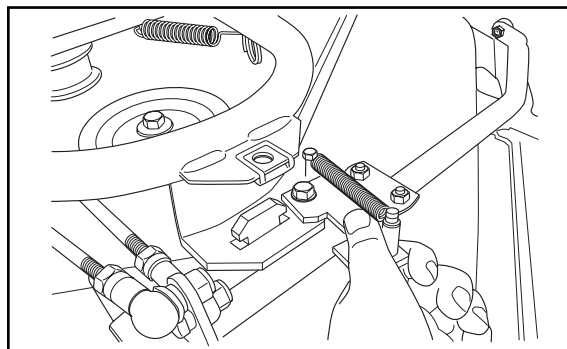
14. Remove the unit from the machine.

MAINTENANCE

Removing the Unit Frame

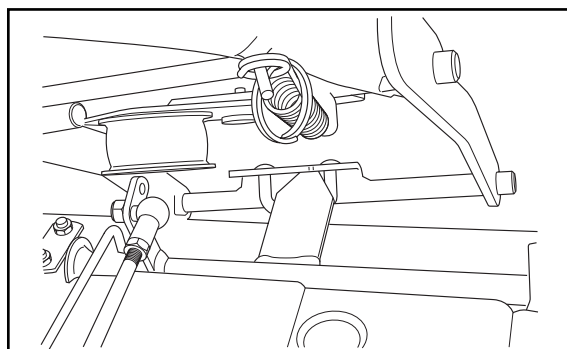
Starting position for removing the cutting unit frame:

- Cutting unit removed.
1. Twist the catch out so that the forward fastener can be lifted from the cutting unit.



2. Move the unit frame backwards so that the tongue of the cutting unit releases its grip on the bar of the unit frame and lift the frame off.

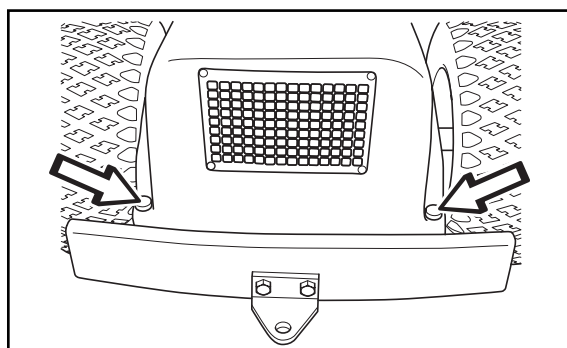
Assemble the parts in the reverse order.



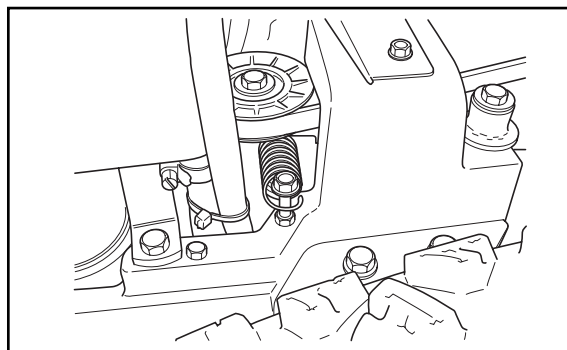
Replacing the Hydraulic Pump's Drive Belt

Removal

1. Remove the transmission cover.

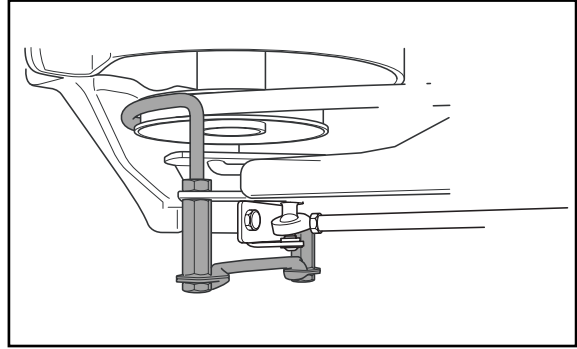


2. Unhook the spring on the belt tensioner.



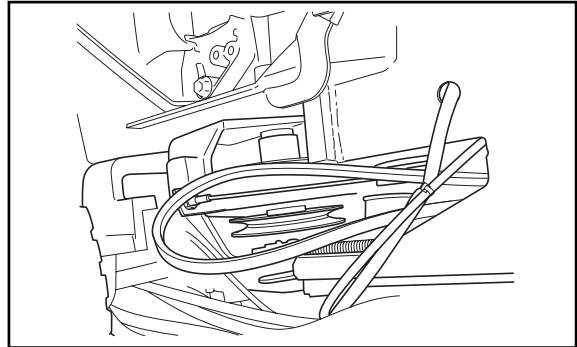
MAINTENANCE

3. Remove the belt guide for the centre belt.



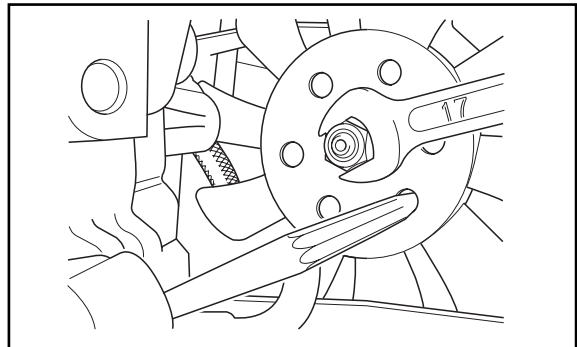
8009-727

4. Pull off the centre belt from the engine's pulley and pull out the rear section. Used belts can be pulled downwards. When the belt is new, the centre belt must be pulled off of its front pulley whereupon it can be moved downwards from the engine pulley so that the rear part can be pulled out.



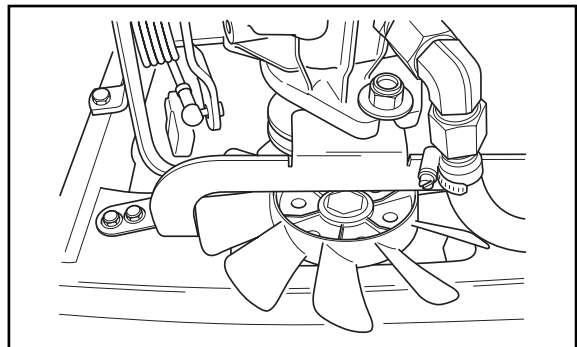
8009-638

5. Remove the nut on the cooling fan. Counter hold using a punch in one of the holes on the underside of the fan when the nut is loosened.



8009-726

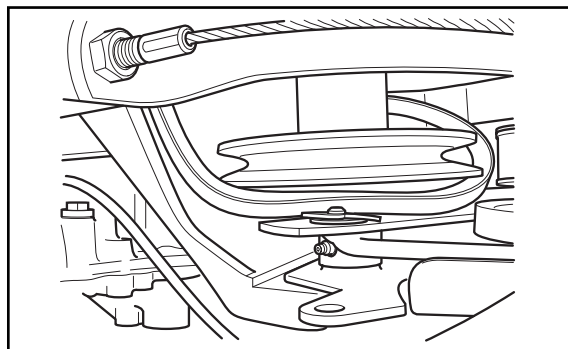
6. Pull the cooling fan out backwards.
7. Pull the belt off of the pump's pulley.



8009-641

MAINTENANCE

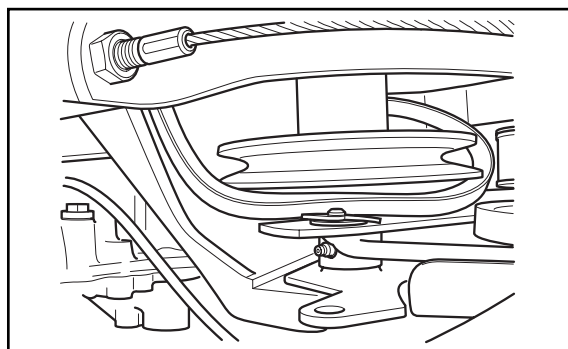
8. Pull the pump belt off of the engine's pulley and move it under the engine belt pulleys.
9. Pull out the pump belt through the opening under the pivot bearing and past the belt tensioner's disc.



8009-640

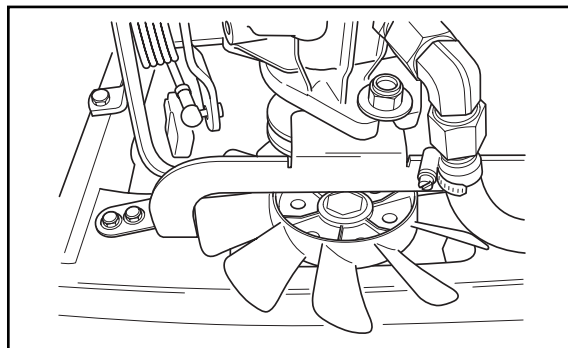
Assembly

10. Pull the pump belt through the opening under the pivot bearing and on the outside past the belt tensioner's disc.
11. Fit the pump belt on the engine's pulley, move it under the engine belt pulleys.
12. Fit the belt on the pump's pulley.



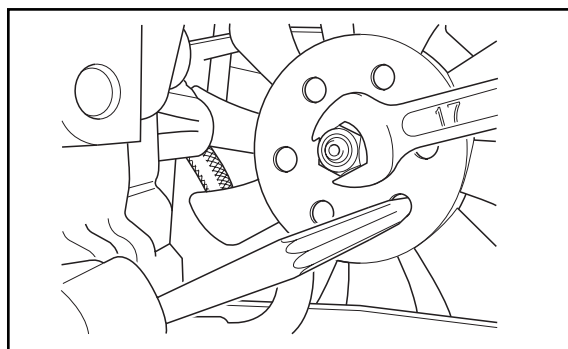
8009-640

13. Fit the cooling fan.



8009-641

14. Tighten the cooling fan nut. Counter hold using a punch in one of the holes on the underside of the fan when the nut is tightened.

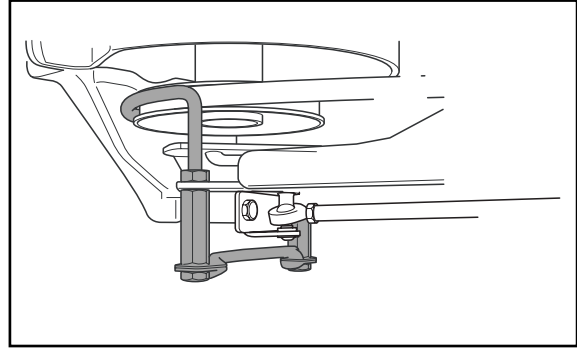


8009-726

15. Check that the centre belt is fitted correctly on its front pulley and fit the centre belt on the engine's pulley

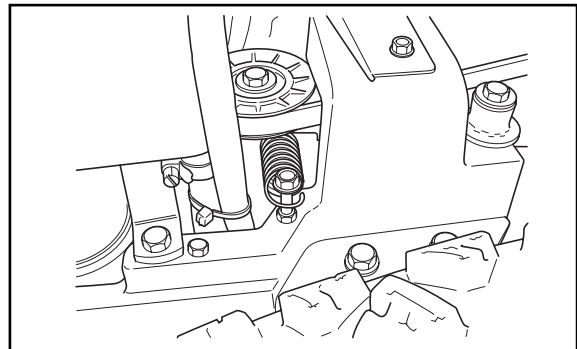
MAINTENANCE

16. Fit the belt guide for the centre belt.



8009-727

17. Hook the spring on the belt tensioner.

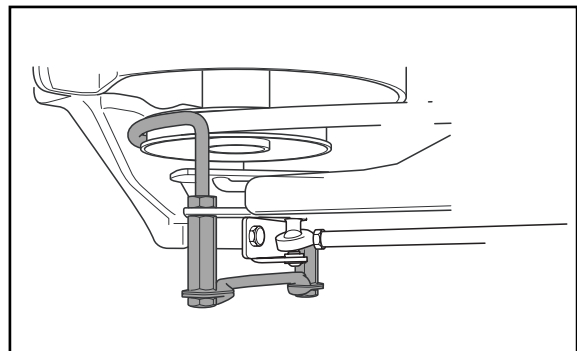


8009-637

Replacing the Centre Belt

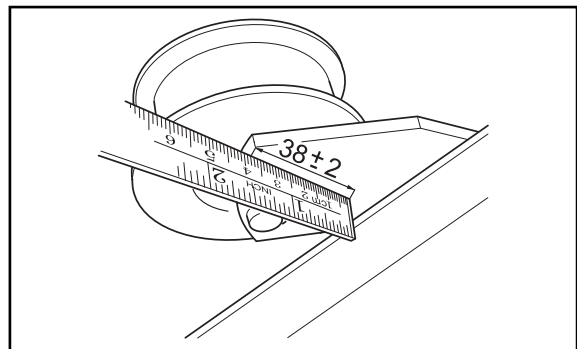
On Rider 21 AWD the spring-loaded belt guide under the blade brake on the centre pulley must be pressed in to be moved past the centre belt.

1. Remove the rear belt guide for the centre belt.
2. Remove the centre belt and mount a new belt.
3. Fit and adjust the belt guide with the lower belt on the engine belt pulley.



8009-727

4. Check and adjust the belt tensioner. This is especially important when fitting a new belt, since stretching of the old belt may have been compensated for by changing the setting of the belt adjuster.



8009-401

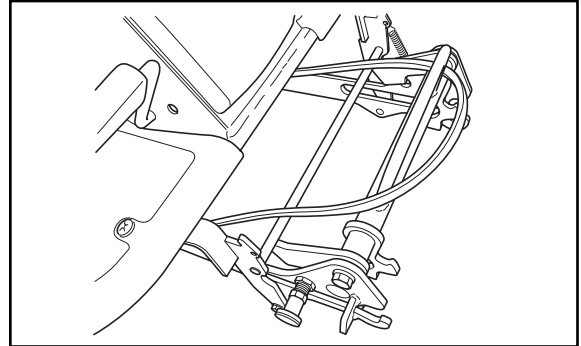
MAINTENANCE

Replacing the Front Belt

Dismantling

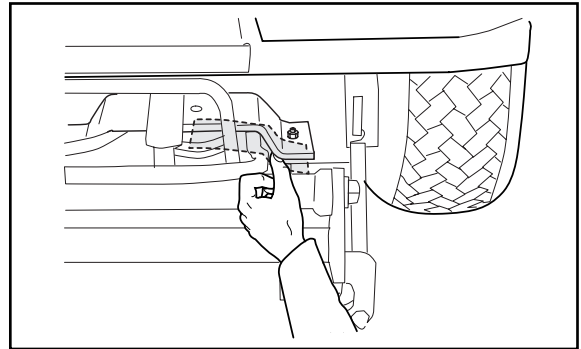
The entire belt is removed according to the following when a snow blade is to be attached to the machine.

1. Remove the cutting unit and hang the front part of the belt around the safety catch handle.



8009-613

2. Press the guide plate down under the anti-scalp roller and push out the belt.



8009-343

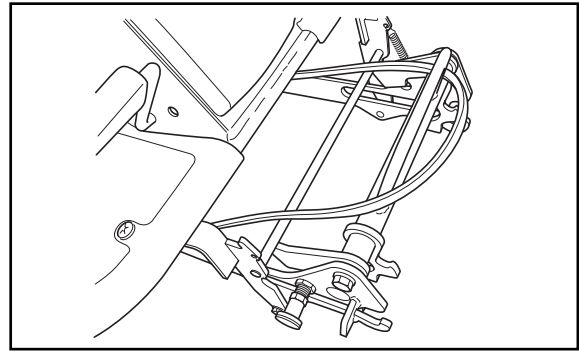
3. Pull the centre belt off of the centre pulley. The belt becomes slack when the cutting unit is lifted.
4. Press in the spring-loaded belt guide under the blade brake on the centre pulley and remove the belt.
5. Remove the front belt from the centre pulley in the same way as the centre belt and pull out the front belt forwards.

MAINTENANCE

Assembly

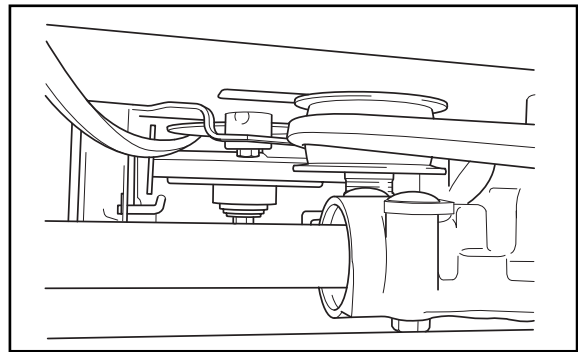
Check, before assembling, that the new belt is the correct length (compare with the old).

1. Place the forward part of the front belt in place and hang the forward part around the handle of the safety catch.
2. Position the front belt on the centre pulley's upper groove.



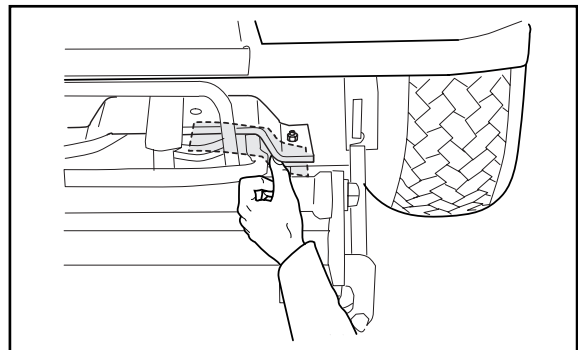
8009-613

3. Pull the belt on the inside of the runner wheel on top of the front axle.



8009-689

4. Press the guide plate in by the anti-scalp roller and move the belt into place.



8009-343

5. Press in the spring-loaded belt guide under the blade brake, position the centre belt and pull it onto the centre pulley.
6. Fit the cutting equipment.

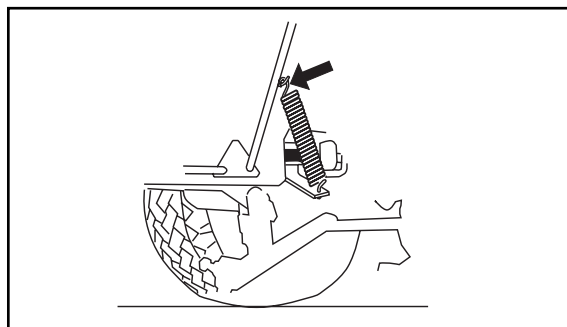
MAINTENANCE

Changing the Cutting Unit's Belt



WARNING!

Protect your hands with gloves when working with the blades. There is a risk of crush injuries when working with the belt.

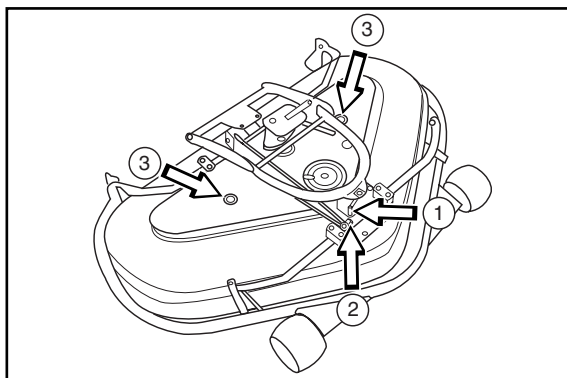


8009-005

Changing the belt on the Combi unit

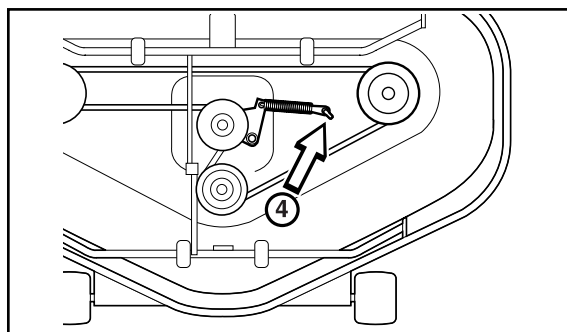
On these cutting units with "collision-proof" blades, the blades are driven by one V-belt. Do as follows to replace the V-belt:

1. Dismantle the cutting unit, see page 51.
2. Loosen the unit frame (1) see page 53, the screw on the parallelism strut (2) and the two screws on the cover (3). Lift the protective cover from the belts.



6016-113

3. Loosen the spring (4) that tensions the V-belt and pull the belt off.



8009-376

4. Attach the new belt.
The belt tightening schedule is located on a decal on the inside of the protective cover.
5. Check that the belt tensioning equipment is not jammed or binding and replace the spring.
6. Replace the protective cover and attach the parallelism handle and unit frame.
7. Attach the cutting unit to the machine, see "Attaching the Cutting Unit" on page 45.

MAINTENANCE

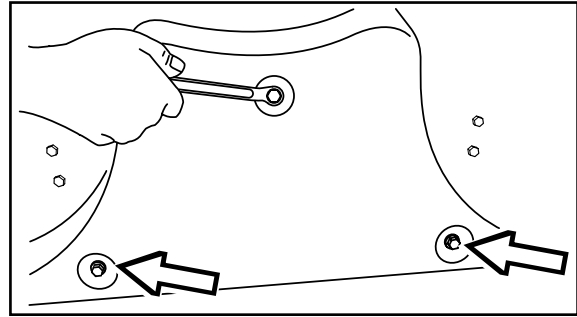
Removal of BioClip Plug

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

1. Put the unit in service position, see "The Cutting Unit's Service Position" on page 49.
2. Remove the three screws holding the BioClip plug, and remove the plug.

Tip: Fit three full-thread screws M8x15 mm in the screw holes to protect the threads.

3. Return the unit to the normal position.



8009-289

Removal of BioClip plug

Fit the BioClip plug in the reverse order.

LUBRICATION

Lubrication

Lubrication Schedule

When in daily use, the weekly lubrication (1/52) schedule should be carried out twice a week.

500h (365/365)	100h (365/365)	1/52	1/365	Rider ProFlex 21 AWD	1/365	1/52	200h (365/365)	500h (365/365)
			(25h)					
					7			
			1		8			
			2		9			
			3		10			
			4		11			
			5		12			
			6		13			

8009-680

The position numbers for the lubrication points refer to the lubrication instructions on the following pages.

LUBRICATION

General

Remove the ignition key to prevent unintentional movements during lubrication.

When lubricating with an oilcan, it ought to be filled with engine oil.

When lubricating with grease, unless otherwise stated, grease 503 98 96-01 or another chassis or ball bearing grease offering good corrosion protection shall be used.

With daily use, the Rider should be lubricated twice weekly.

Wipe away excess grease after lubrication.

It is important to avoid getting lubricant on the belts or the drive surfaces on the belt pulleys. Should this happen, attempt to clean them with spirits. If the belt continues to slip after cleaning with spirits, it must be replaced. Petrol or other petroleum products must not be used to clean belts.

Lubricating the Cables

Grease both ends of the cables and move the controls to end stop positions when lubricating. Re-attach the rubber covers on the cables after lubrication. Cables with sheaths will jam if they are not lubricated regularly. A jammed cable may cause malfunction, such as the parking braking being applied.

If a cable binds, remove the cable and hang it vertically. Lubricate it with thin engine oil until the oil begins to escape from the bottom. Tip: Fill a small plastic bag with oil and tape it so that it seals against the casing and allow the cable to hang vertically from the bag overnight. If you do not succeed in lubricating the cable, it must be replaced.

Accessories

Lubrication or other maintenance of optional equipment or accessories, see "Accessories" on page 16, is not described in this manual. This equipment too, naturally, requires maintenance. See the manuals for the respective accessories for instructions.

It's good practice to make a note of maintenance or necessary actions preformed on this page.

LUBRICATION

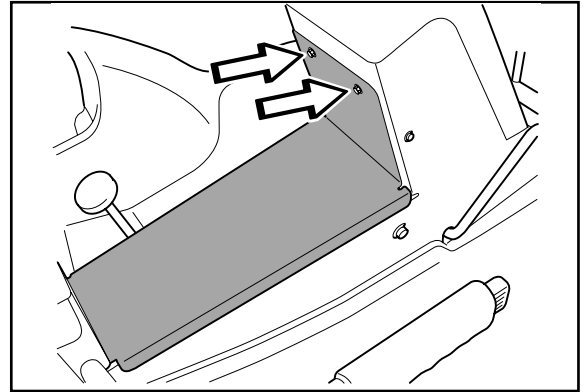
Lubricating in Accordance with the Lubrication Schedule

The numbers in the following headings refer to the lubrication points as described in "Lubrication Schedule" on page 61 and "General" on page 62.

1. Pedal Mechanism in Frame Tunnel

Lubricate the pedal mechanism in the frame tunnel.

Remove the cover of the frame tunnel by loosening the screws (two on the steering servo housing).

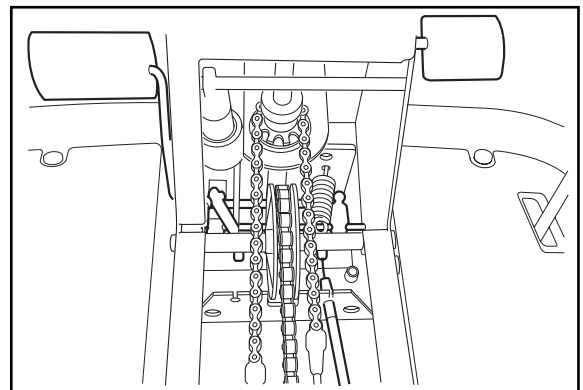


8009-340

Work the pedals and lubricate the moving parts with an oilcan.

Lubricate the cable for the drive pedals using an oil can.

Lubricate the point "2. Chains in the Frame Tunnel" on page 63 and "3. Parking Brake Cable" on page 64 before replacing the cover on the frame tunnel.



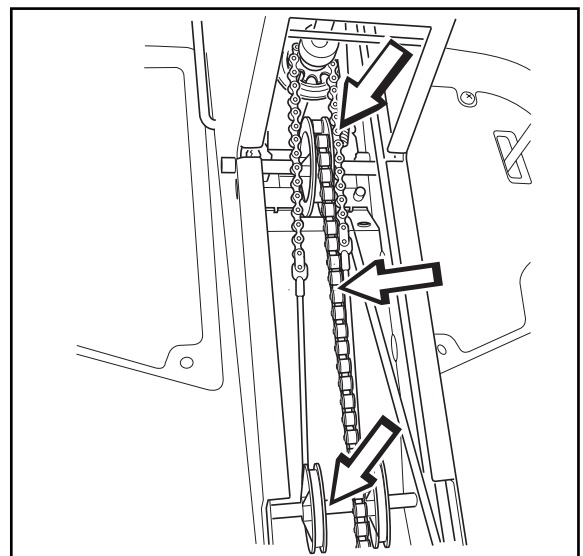
8009-345

2. Chains in the Frame Tunnel

Remove the cover from the frame tunnel, see "1. Pedal Mechanism in Frame Tunnel" on page 63.

Lubricate the chains in the frame tunnel with an oilcan or chain lubricant spray for motorcycles.

Lubricate the steering cable pulley axle with grease. Move the pulleys to one side and brush grease on the axle.



8009-346

LUBRICATION

3. Parking Brake Cable

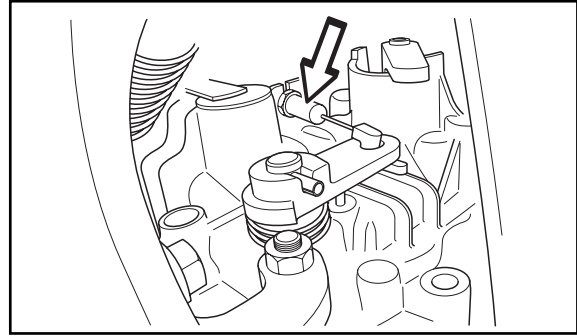
Remove the cover from the frame tunnel, see "1. Pedal Mechanism in Frame Tunnel" on page 63.

Lubricate both ends of the cable.

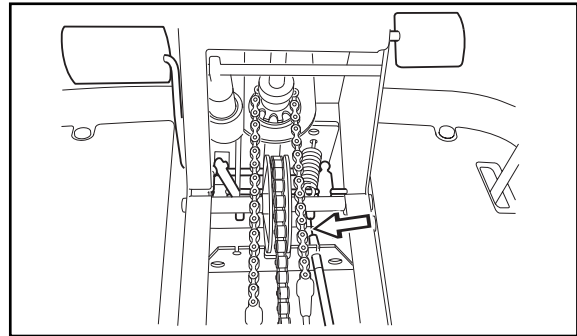
Remove the cable's rubber casing when lubricating.

Lubricate the cable with an oil can, press the parking brake pedal a few times and lubricate again.

Replace the cover on the frame tunnel.



8009-691



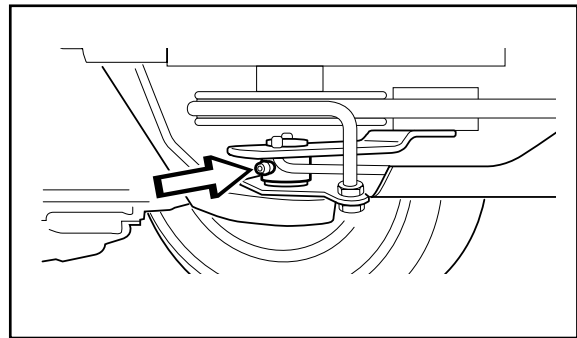
8009-686

4. Belt Tensioner

Lubricate using a grease gun, 1 nipple from the right-hand side under the engine's lower belt pulley, until grease is forced out.

Use only good quality molybdenum disulphide grease.

Grease from well-known brand names (petrochemical companies, etc.) usually maintains a good quality.



6008-232

LUBRICATION

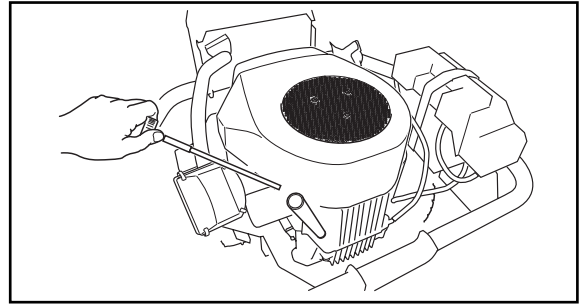
5. Engine Oil

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

Open the engine cover.

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

Take the dipstick out again and read the oil level.

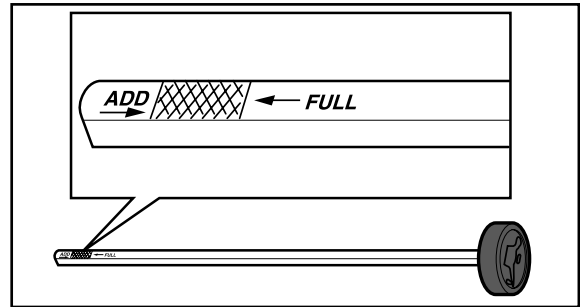


The oil level should be between the markings on the dipstick. If the level is approaching the "ADD" mark, top up the oil to the "FULL" mark on the dipstick.

Never fill above the FULL mark.

The oil is topped up through the hole the dipstick sits in.

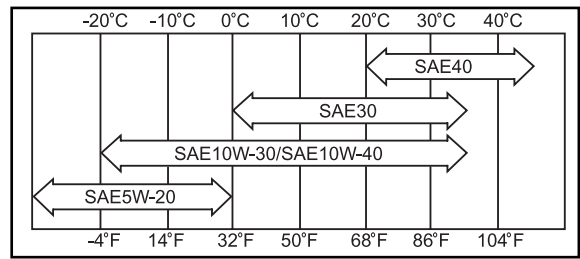
Fill the oil slowly. Tighten the dipstick correctly before starting the engine. Start and run the engine at idling speed for approx. 30 seconds. Turn off the engine. Wait 30 seconds and check the oil level. If necessary fill so that the oil comes up to the "FULL" mark on the dipstick.



Use engine oil SAE 30, SAE 10W/30 or 10W/40, class SF-SJ (over 0° C/+32°F).

Over +20°C/+68 °F SAE 40 can be used.

Use engine oil SAE 5W/20, class SF-SJ (under 0° C/+32°F).



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

LUBRICATION

Replacing the engine oil

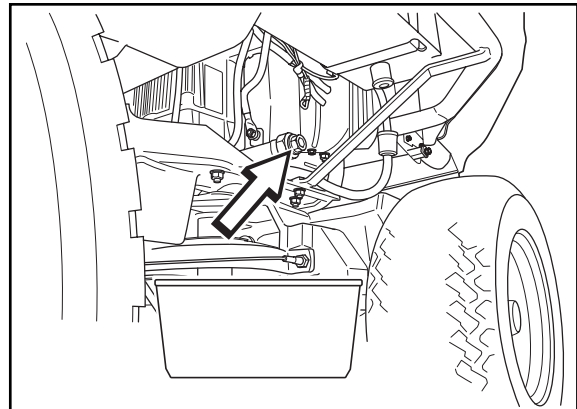
The engine oil should be changed the first time after 8 hours running time. It should then be changed after every 100 hours of running time.



WARNING!

Engine oil can be very hot if it is drained directly after stopping the engine. Allow the engine to cool somewhat first.

1. Open the engine cover.
2. Place a container underneath the engine's left oil drain plug.
3. Remove the dipstick. Remove the drain plug from the engine's left side.
4. Let the oil run out into the container.



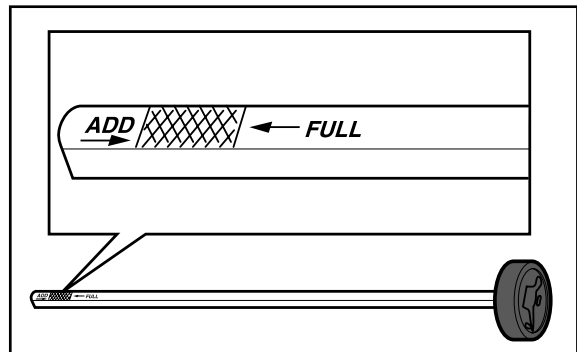
8009-529

IMPORTANT INFORMATION

Used engine oil is a health hazard and must not be disposed of on the ground or in nature; it should always be disposed of at a workshop or appropriate disposal location.

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

5. Then replace the oil drain plug and tighten it.
6. Replace the oil filter if necessary. See "11. Oil Filter, Change" on page 69.
7. Fill up to the "FULL" mark on the dipstick. Use engine oil as set out above.
8. Run the engine warm, then check that there is no leakage from the oil plug or oil filter.
9. Check the oil level, top up if necessary.

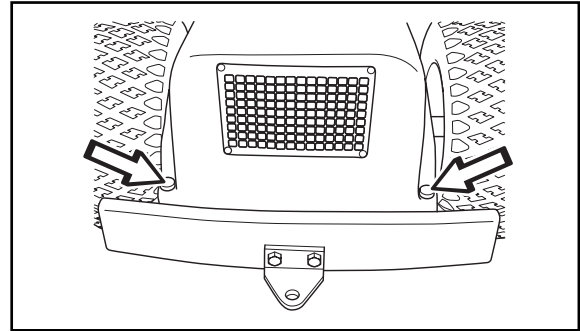


8009-159

LUBRICATION

6. Hydrostatic Cable

Remove the transmission cover, two screws.

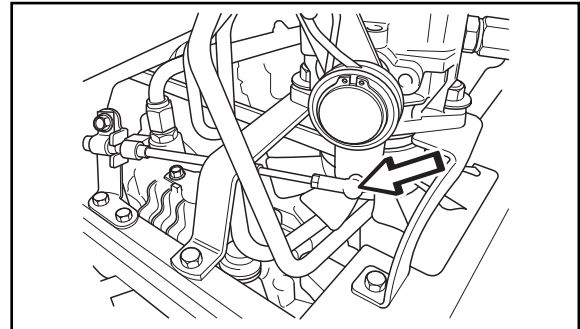


8009-603

Remove the rubber casing and lubricate the hydrostatic transmission cable with an oilcan. Press the pedal a few times and lubricate again.

Replace the rubber cover.

Replace the transmission cover.



8009-692

7. Cutting Unit

Remove the front cover.

Lubricate using an oilcan:

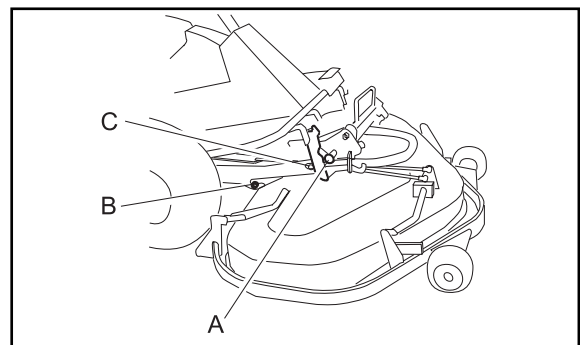
A. The safety catch

- Joints and bearings

Lubricate using grease:

B. Interior plug

C. Groove for equipment frame



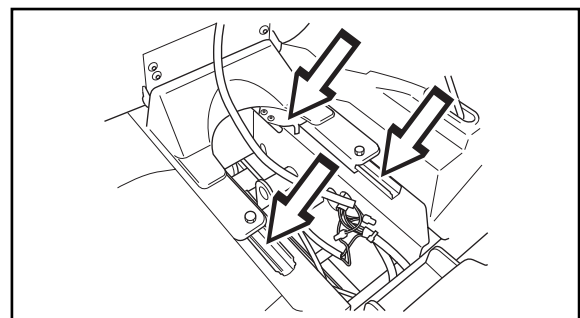
6020-004

8. Driver's Seat

Tilt the seat back.

Lubricate the lengthways adjustment mechanism with the oilcan.

Lubricate the lengthways adjustment runners with grease. Pull the seat back and forth and lubricate on both sides.



8009-347

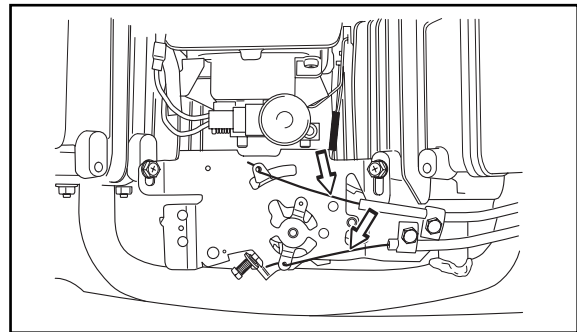
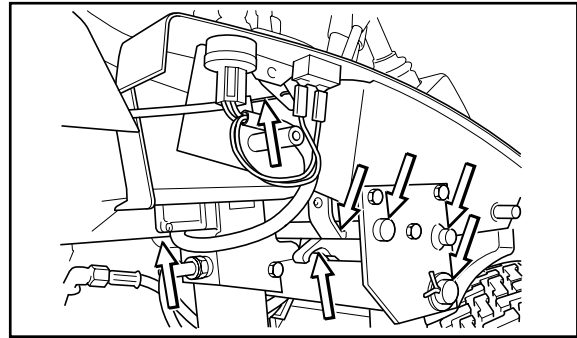
LUBRICATION

9. Throttle and Choke Cables, Lever Bearings

Remove the right side cover on the lever housing (2 screws) and open the engine cover. Lubricate the cables' free ends with the oilcan, even those by the carburettor. Move the controls to the end points and lubricate again.

Lubricate the joints, catches, and bearings for the cutting unit's control levers with an oilcan.

Replace the lever housing's side cover.



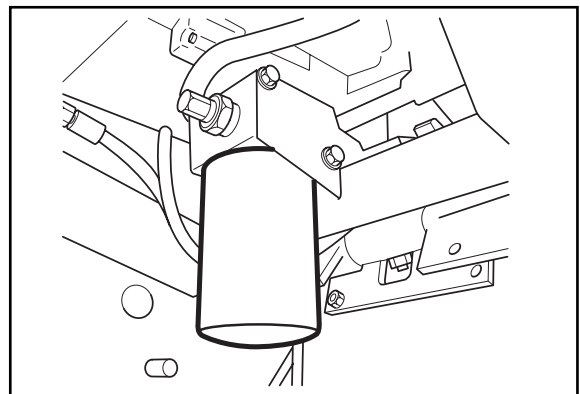
10. Hydraulic Oil Filter, Change

IMPORTANT INFORMATION

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

Replaced filters must be handed in to the workshop or other allotted place for disposal. Avoid skin contact; wash with soap and water in case of spills.

1. Remove the oil filter. If necessary, use a filter remover.
2. Wipe new, clean engine oil onto the seal for the new filter.
3. Mount the filter by hand with + 3/4 turn.
4. Remove the transmission cover and fill the transmission's oil tank, about 0.3 l oil. See "13. Hydraulic System's Oil Level" on page 70.
Be observant when running the engine as described below and fill so that the tank is not emptied.
5. Run the engine warm, manipulate the equipment lift and power steering, and then check that there are no leaks around the oil filter seal.
6. Check the oil level in the transmission, top up if necessary. The oil filter holds 0.3 litres of oil.
7. Replace the transmission cover.



LUBRICATION

11. Oil Filter, Change



WARNING!

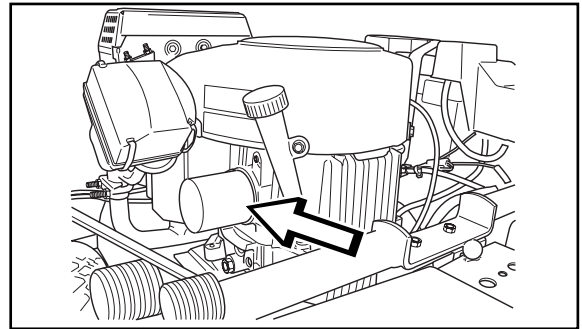
Engine oil can be very hot if it is drained directly after stopping the engine. Allow the engine to cool somewhat first.

IMPORTANT INFORMATION

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

Replaced filters must be handed in to the workshop or other allotted place for disposal. Avoid skin contact; wash with soap and water in case of spills.

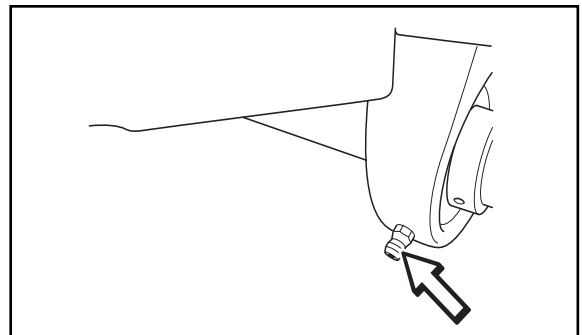
1. Open the engine cover.
2. Remove the oil filter. If necessary, use a filter remover.
3. Wipe new, clean engine oil onto the seal for the new filter.
4. Mount the filter by hand with + 3/4 turn.
5. Run the engine warm, then check that there are no leaks around the oil filter seal.
6. Check the oil level in the engine, top up if necessary. The oil filter holds 0.2 litres of oil.



8009-161

12. Right Rear Axle Bearing

Lubricate with grease gun until grease appears.

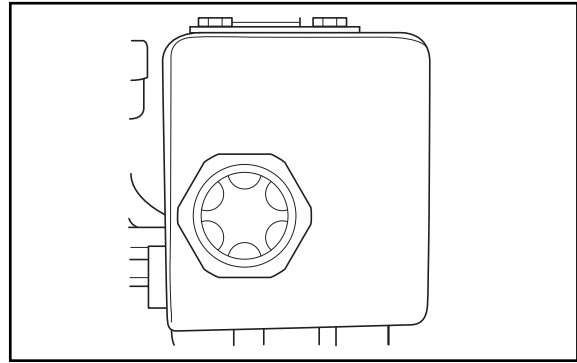


8009-654

LUBRICATION

13. Hydraulic System's Oil Level

1. Remove the transmission cover.
2. Make sure the machine is parked on even ground.
3. Check the oil level, it should be visible in the sight glass at 20°C.
4. Unscrew the oil container's cover and fill with SAE 10W/40 engine oil, class SF-CC, until the oil level reaches the top of the sight glass. Then screw the oil container's cap into place and attach the transmission cover.



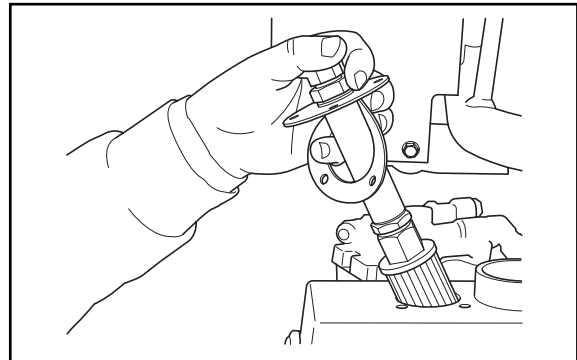
8009-702

The oil and filter should be changed by an authorised service representative, as described in the Workshop Manual.

The oil change should be carried out after the first 50 hours and then according to the lubrication schedule.

The suction filter on the hydraulic tank, see the figure, should be replaced at the same time as changing the oil.

Work on the system entails particular demands on cleanliness and the system must be vented before the machine is used.



8009-703

TROUBLE SHOOTING

Trouble Shooting Guide

Problem	Cause
The engine will not start.	<ul style="list-style-type: none"> • Fuel tank empty • Incorrect fuel type • Faulty spark plugs • Faulty spark plug connections • Dirt in the carburettor or fuel line
Starter does not turn the engine	<ul style="list-style-type: none"> • Cutting unit in incorrect position • Brake not applied • Hydrostat pedals not in the neutral position • Discharged battery • Poor contact affecting the battery terminal cable connections, ignition lock, or starter • Main fuse blown The fuse is found in front of the battery, under the battery cover • Faulty ignition lock • Faulty starter
The engine runs erratically	<ul style="list-style-type: none"> • Faulty spark plug • Incorrect carburettor setting • Clogged air filter • Blocked fuel tank ventilation • Incorrect ignition setting • Dirt in the fuel line • Choking or incorrectly adjusted choke cable • Incorrect fuel type
Abnormal exhaust smoke	<ul style="list-style-type: none"> • Black smoke: • Choking or incorrectly adjusted choke cable • Incorrect carburettor setting • Clogged air filter • Blue smoke: • Oil mixed with fuel in tank • Serious engine damage • Thick pale smoke: • Tank filled with diesel
The engine lacks power	<ul style="list-style-type: none"> • Clogged air filter • Faulty spark plugs • Dirt in the carburettor or fuel line • Incorrect carburettor setting • Choking or incorrectly adjusted choke cable • Incorrect fuel type

TROUBLE SHOOTING

Problem	Cause
Engine overheating	<ul style="list-style-type: none">• Engine overloaded• Air intake or cooling fins clogged• Damaged fan• Too little or no oil in the engine• Faulty pre-ignition• Faulty spark plugs
Battery does not charge	<ul style="list-style-type: none">• One or more battery cells faulty• Poor contact on the battery terminal cable connectors• Faulty generator or regulator• Insufficient battery maintenance
The Rider vibrates	<ul style="list-style-type: none">• The blades are loose• The engine is loose• Pulley loose or bearings worn• One or more blades imbalanced, caused by damage or poor balancing after sharpening
Uneven mowing results	<ul style="list-style-type: none">• Blades blunt• Cutting unit set incorrectly• Long or wet grass• Grass build-up under the cover• Different air pressure in the right and left tyres• Driving speed too high• Engine speed too low• Drive belt slips

STORAGE

Storage

Winter Storage

At the end of the mowing season, the Rider should be readied for storage, likewise if it will not be in use for more than 30 days. Fuel allowed to stand for long periods of time (30 days or more) can leave sticky residues that can clog the carburettor and disrupt engine function.

Fuel stabilizers are an acceptable option as regards sticky residues during storage. If alkylate petrol is used, stabilisers are unnecessary because this fuel is stable. However, you should avoid switching between standard and alkylate petrol as sensitive rubber components can harden. Add stabiliser to the fuel in the tank or in the storage container. Always use the mixing ratios specified by the manufacturer of the stabiliser. Run the engine for at least 10 minutes after adding the stabiliser so that it reaches the carburettor. Do not empty the fuel tank and the carburettor if you have added stabiliser.



WARNING!

Never store an engine with fuel in the tank indoors or in poorly ventilated spaces where fuel vapour can come in contact with open flames, sparks, or a pilot light such as in a boiler, hot water tank, clothes drier, etc. Handle the fuel with care. It is very flammable and careless use can cause serious personal injury and property damage. Drain the fuel into an approved container outdoors and far away from open flames. Never use petrol for cleaning. Use a degreasing agent and warm water instead.

To ready the Rider for storage, follow these steps:

1. Clean the Rider thoroughly, especially under the cutting unit. Touch up damage to the paint to prevent rust.
2. Inspect the Rider for worn or damaged parts and tighten any nuts or bolts that may have become loose.
3. Change the engine oil; dispose of properly.
4. Empty the fuel tank. Start the engine and let it run so that even the petrol in the carburettor is emptied.

STORAGE

5. Remove the spark plugs and pour about a tablespoon of engine oil into each cylinder. Turn over the engine so that the oil is evenly distributed and then refit the spark plugs.
6. Lubricate all grease nipples, joints, and shafts.
7. Remove the battery. Clean, charge, and store in a cool place.
8. Store the Rider in a clean, dry place and cover it for extra protection.

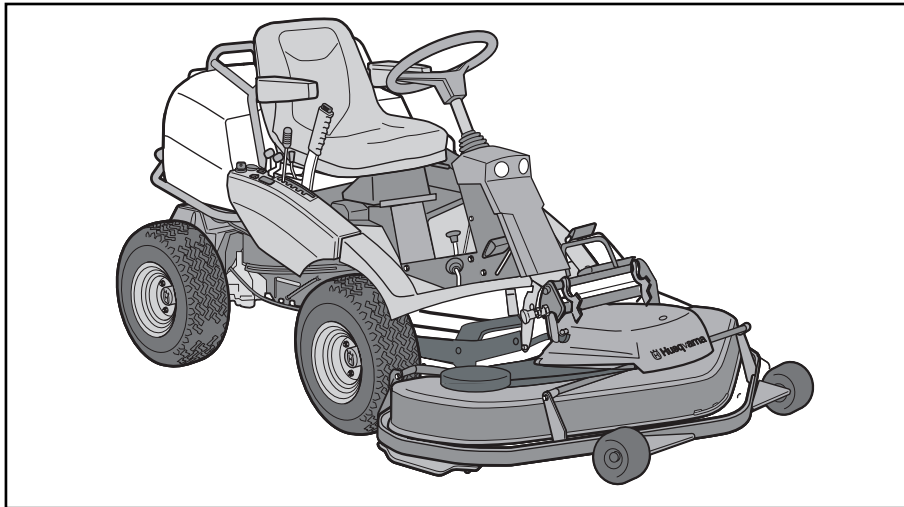
Service

Low season is the most suitable time to perform a service or overhaul of the machine in order to ensure high function safety during high season.

When ordering spare parts, please specify the purchase year, model, type, and serial number of the Rider.

Always use genuine Husqvarna spare parts.

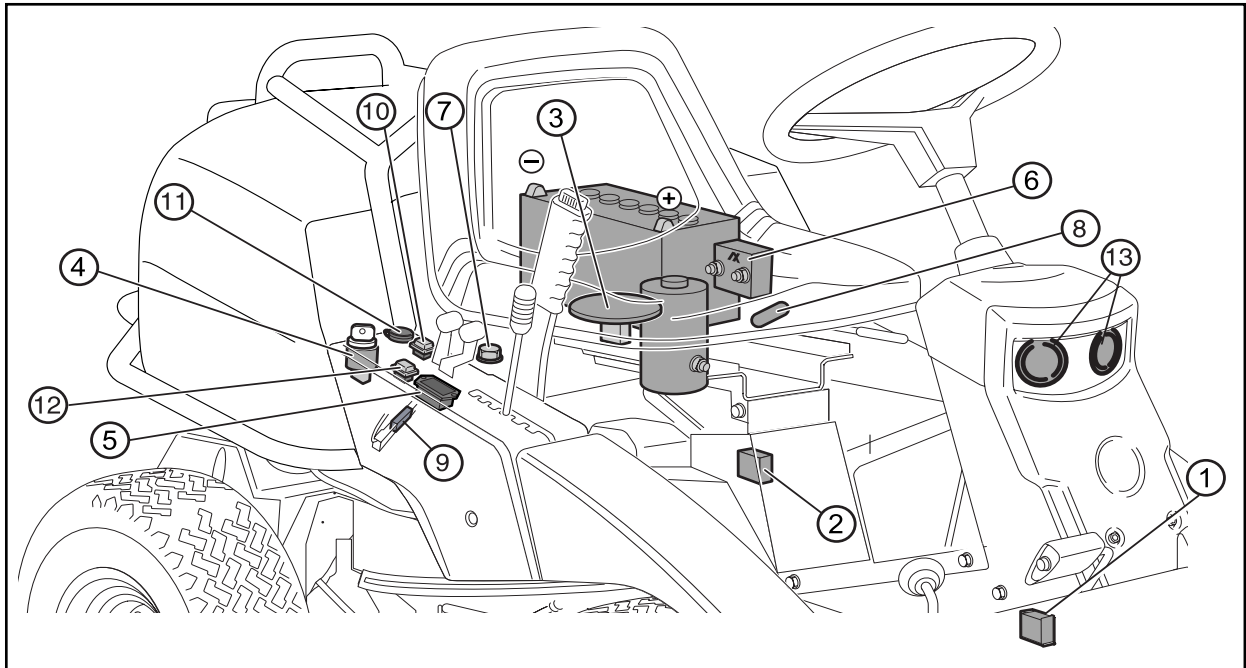
An annual check-up or trimming at an authorised service representative is a good way to ensure that your Rider performs at its best the following season.



8009-552

ELECTRICAL AND HYDRAULIC SYSTEMS

Electrical System

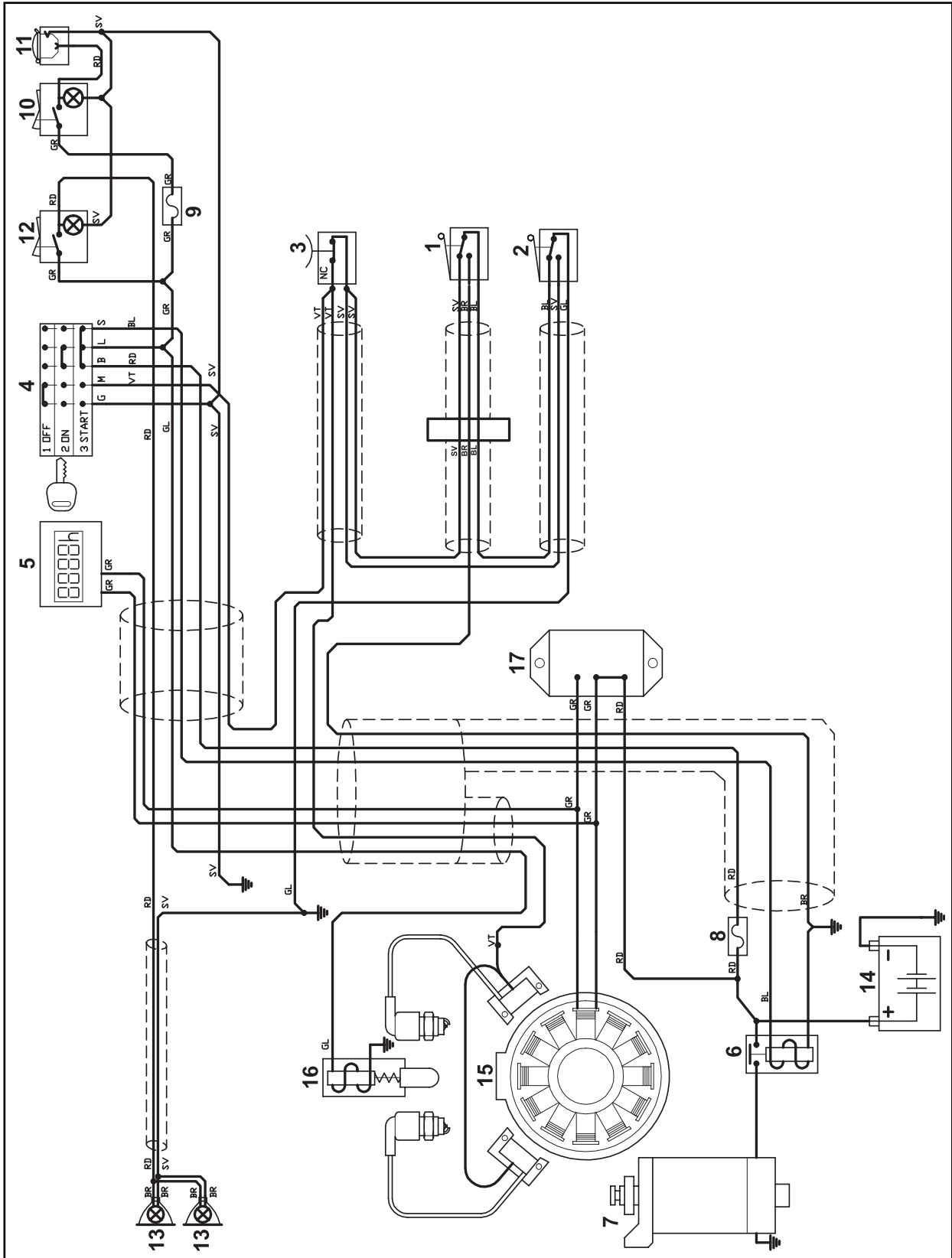


8009-678

Electrical system: component locations

Numbers correspond to:	Colour abbreviations:
1. Microswitch, hydrostatic transmission	RD = Red
2. Microswitch, cutting unit	BL = Blue
3. Microswitch, seat	VT = White
4. Ignition key	SV = Black
5. Chronometer	GL = Yellow
6. Start relay	GR = Grey
7. Engine connectors	BR = Brown
8. Main fuse 15 A	
9. Fuse 7.5A.	
10. Switch for the power outlet	
11. Power outlet	
12. Switch for the lights	
13. Lights	

ELECTRICAL AND HYDRAULIC SYSTEMS

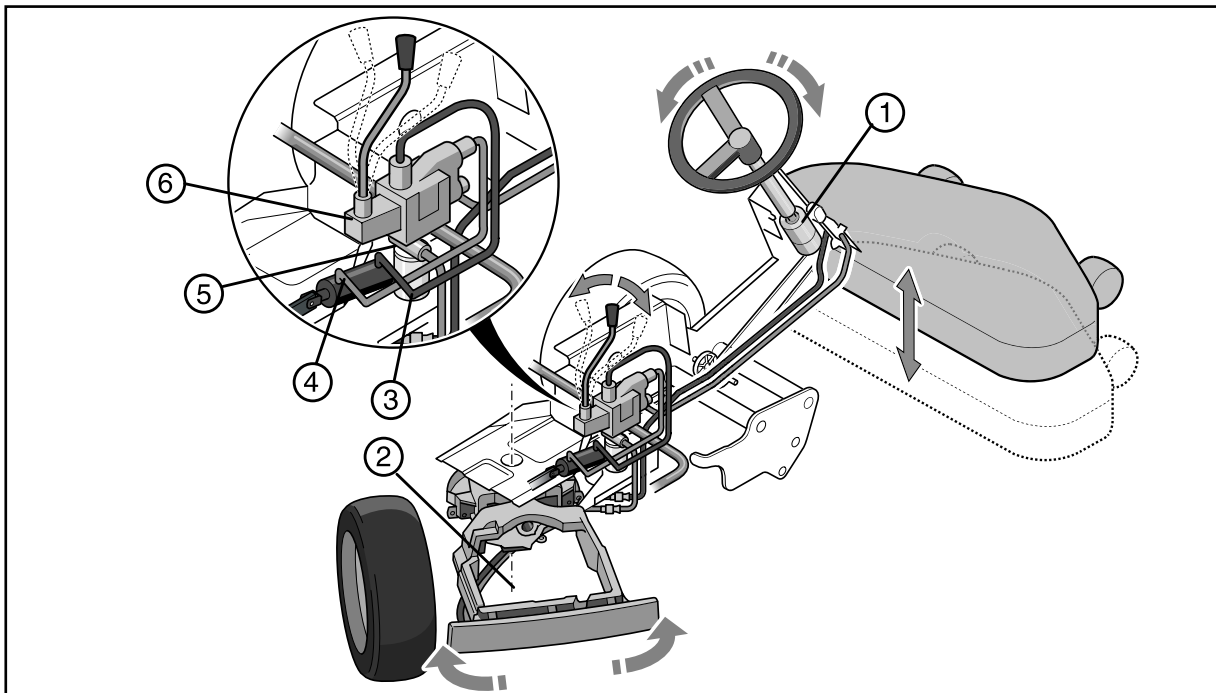


8009-679

Electric system

ELECTRICAL AND HYDRAULIC SYSTEMS

Hydraulic System



8009-357

Hydraulic system for the power steering and unit lift: component locations

Hydraulic system: component locations:	
1. Power steering	4. Pneumatic cylinder
2. Pump	5. Pressure limiting valve
3. Hydraulic oil filter	6. Control valve for pneumatic cylinder

Keep the hydraulic system clean. Remember to:

- Thoroughly clean before the top-up cap is opened or any connector loosened.
- Use clean containers when topping up the oil.
- Only use pure oil that has been stored in a sealed container.
- Do not reuse drained oil.
- Change the oil and filter according to the intervals specified in "Maintenance Schedule" on page 29.

In order for a hydraulic system to function without problem, it must be free from foreign objects. When used, the system produces particles, which can cause both wear and abnormal function. In order to remove these particles, the system contains filters. The filters are sized so as to capture the produced particles, but if contaminants are introduced from outside the system, the filters can quickly become clogged and fail to function as intended. If there are contaminants in the system, further contamination will be produced in a self-propagating cycle. The result will be operating disruptions and much work to clean the system.

ELECTRICAL AND HYDRAULIC SYSTEMS

TECHNICAL DATA

Technical Data

Data	Rider ProFlex 21 AWD
Dimensions	
Length, base machine	2080 mm / 6.82 ft
Width, base machine	900 mm / 2.95 ft
Height	1160 mm / 3.80 ft
Operating weight, base machine	329 kg / 725 lb
Wheelbase	1000 mm / 3.28 ft
Tyre dimensions	195/65-8
Engine	
Manufacturer	Kawasaki
Model	FH 641V-DS50
Power	15.5 kW/21 hp
Displacement	675 cm ³
Fuel	minimum 87 octane unleaded, maximum methanol 5%, maximum ethanol 10%, maximum MTBE 15%
Tank volume	17 litres
Oil	SAE 30 or SAE 10W/30, SAE 10W/40 class SF-SJ
Oil volume	1.5 litres/1.6 US qt
Oil volume including filter	1.7 litres/1.8 US qt
Starting	Electric start
Noise emissions	
Measured noise level	101 dB(A)
Guaranteed noise level	102 dB(A)
Electrical system	
Type	12 V, negative grounded
Battery	12 V, 24 Ah
Main fuse	Flat pin, 15 A
Fuse	Flat pin 7.5A
Spark plug	NGK BPR4ES
Electrode gap	0.75 mm/0.030"
Lights	2x12V 20W

TECHNICAL DATA

Data	Rider ProFlex 21 AWD
Hydraulic System	
Max. working pressure	300 bar/4200 PSI
Power steering circuit max. working pressure	45 bar/630 PSI
Transmission	
Manufacturer and type	Front Kanzaki VFMU KTM 10 Rear Kanzaki RMU KTM 10
Oil	SAE 10W/40, class SF-CC
Oil volume, total including hydraulic system	5 litres
Cutting Unit	
Combi 112	
Cutting width	1,120 mm/44"
Cutting heights	40 - 100 mm / 1.57" - 3.93"
Blade length	420 mm / 16.5"
Width	1,230 mm / 48.4"
Weight	50 kg / 110 lb
Additional weight, ProFlex	8 kg / 17.6 lb
Length machine with unit	2450 mm / 8.04 ft
Cutting Unit	
Combi 122	
Cutting width	1,220 mm/48"
Cutting heights	40 - 100 mm / 1.57" - 3.93"
Blade length	450 mm / 17.7"
Width	1,330 mm / 52.4"
Weight	60 kg / 132 lb
Additional weight, ProFlex	8 kg / 17.6 lb
Length machine with unit	2550 mm / 8.37 ft

IMPORTANT INFORMATION

When this product is spent and is no longer used it should be returned to the dealer or other authority for recycling.

IMPORTANT INFORMATION

In order to introduce improvements the specification and design are subject to alteration without prior notice.

Note that no legal demands whatsoever can be made with the support of the information in this operator's manual.

Only use original spare parts with repairs. The use of other parts invalidates the warranty.

EU DECLARATION OF CONFORMITY

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 Rider **Husqvarna Rider ProFlex 21 AWD** dating from 2005 serial numbers and onwards (the year is clearly stated on the rating plate, followed by the serial number), complies with the requirements of the COUNCIL'S DIRECTIVE:

-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 cutting width, see Technical Data.

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

Registered body **0404, SMP Swedish Maskinprovning AB**, Fyristorgsgatan 3, SE-754 50 Uppsala, Sweden has issued the report with number:

ProFlex 21 AWD: 01/901/038

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, 2005



Roger Andersson, Development Manager/Garden Products

EU DECLARATION OF CONFORMITY

SERVICE JOURNAL

Service Journal

Action	
1. Delivery Service	
2. Fill the battery with battery acid and charge for four hours.	<input type="checkbox"/>
3. Fit the steering wheel, seat and, where applicable, other components.	<input type="checkbox"/>
4. Attach the cutting unit.	<input type="checkbox"/>
5. Adjust the cutting unit: Adjust the lifting springs (the "weight" of the cutting unit should be 12-15 kg, if a brush is to be used, set to maximum spring force). Adjust the cutting unit so that its rear edge is about 2-4 mm higher than its front edge. Adjust the cutting unit's cutting height setting so that the cutting height limit is 5 mm above the unit frame at the lowest cutting height. Check that the right amount of oil is in the engine and transmission.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
6. Check and adjust the air pressure in the tyres (60 kPa / 0.6 bar / 9 PSI).	<input type="checkbox"/>
7. Connect the battery.	<input type="checkbox"/>
8. Fill the fuel tank and start the engine.	<input type="checkbox"/>
9. Check that the machine does not move in neutral.	<input type="checkbox"/>
10. Check: Driving forwards.	<input type="checkbox"/>
Reversing.	<input type="checkbox"/>
Engaging the blades.	<input type="checkbox"/>
Safety switch in the seat.	<input type="checkbox"/>
Safety switch for the lifting lever.	<input type="checkbox"/>
The safety switch for the hydrostat pedals.	<input type="checkbox"/>
11. Check the engine speed: 2900 ±75 rpm.	<input type="checkbox"/>
12. Bleed the hydraulic system of excess air.	<input type="checkbox"/>
13. Check the mounting bolts on the muffler.	<input type="checkbox"/>
14. Inform the customer about:	Delivery service has been carried out.
15. The need and advantages of following the service schedule.	No remaining remarks.
16. The need and advantages of leaving the machine for service every 300 hours.	Certified:
17. The effects of service and maintaining a service journal on the machine's resale value.	
18. Application areas for Mulching.	
19. Fill in the sales papers, etc.	
After the First 8 Hours	Date, mileage reading, stamp, signature
1. Change engine oil.	<input type="checkbox"/>

SERVICE JOURNAL

Action	Date, mileage reading, stamp, signature
25-Hour Service	
<ol style="list-style-type: none">1. Clean the air cleaner's pre-filter (foam element). (shorter intervals for dusty operating conditions)2. Clean the engine's cooling air intake and the transmission's air intake.3. Clean the fuel pump's air filter. (for dusty operating conditions)4. Check the mounting bolts on the muffler.	Notes

This field is intended for keeping a journal

SERVICE JOURNAL

Action	Date, mileage reading, stamp, signature
50-Hour Service	
<ol style="list-style-type: none">1. Clean/change the air cleaner's pre-filter (foam element). (shorter intervals for dusty operating conditions)2. Clean the engine's cooling air intake and the transmission's air intake.3. Clean the fuel pump's air filter.4. Check the mounting bolts on the muffler.5. Check/adjust the cutting height.6. Check/adjust the parking brake.7. Inspect the flame proofing/spark arrestor (extra equipment).	Notes
After the First 50 Hours <ol style="list-style-type: none">1. Change the oil in the hydraulic system.	

This field is intended for keeping a journal

SERVICE JOURNAL

Action	Date, mileage reading, stamp, signature
100/200-Hour Service	
<ol style="list-style-type: none">1. Change engine oil. Replace the oil filter every 200 hours.2. Clean/change the air cleaner's pre-filter (foam element).3. Clean the air cleaner's paper filter. Replace every 200 hours. (shorter intervals for dusty operating conditions)4. Clean the engine's cooling air intake and the transmission's air intake.5. Clean the cooling fins on the cylinder and cylinder head.6. Check/adjust the cutting height.7. Check the mounting bolts on the muffler.8. Check/adjust the parking brake.9. Inspect the flame proofing/spark arrestor (extra equipment).10. Clean/replace the spark plugs.11. Change the inline fuel filter.12. Replace the hydraulic oil filter every 200 hours.13. Clean the fuel pump's air filter.14. Clean the pulse air filter.15. Check nuts and bolts for tightness.16. Check whether an oil change and suction filter replacement in the transmission/hydraulic system are necessary (every 200 hours).	Notes

This field is intended for keeping a journal

SERVICE JOURNAL

Action	Date, mileage reading, stamp, signature
300-Hour Service	
<ol style="list-style-type: none">1. Inspect the machine. Additional work?2. Change engine oil.3. Change the air filter (foam element).4. Change the air filter (paper filter).5. Clean the fuel pump's air filter.6. Check the mounting bolts on the muffler.7. Check/adjust the cutting height.8. Check/adjust the parking brake.9. Inspect the flame proofing/spark arrestor (extra equipment).10. Replace the engine oil filter (200 hours).11. Replace the hydraulic oil filter (200 hours)12. Clean/replace the spark plugs.13. Change the inline fuel filter.14. Clean the pulse air filter.15. Check the play in the engine valves.16. Check whether an oil change and suction filter replacement in the transmission/hydraulic system are necessary (every 200 hours).	Notes

This field is intended for keeping a journal

SERVICE JOURNAL

Action	Date, mileage reading, stamp, signature
At Least Once Each Season	
<ol style="list-style-type: none">1. Change the engine oil (100 hours).2. Clean/change the air cleaner's pre-filter (foam element) (25 hours). (shorter intervals for dusty operating conditions)3. Clean/change the air filter's paper filter (100 hours). (shorter intervals for dusty operating conditions)4. Clean the fuel pump's air filter (50 hours).5. Adjust the cutting height (50 hours).6. Adjust the parking brake (50 hours).7. Inspect the flame proofing/spark arrestor, extra equipment (50 hours).8. Replace the engine oil filter (200 hours).9. Replace the hydraulic oil filter (200 hours).10. Clean/replace the spark plugs (100 hours).11. Change the inline fuel filter (100 hours).12. Clean the pulse air filter (100 hours).13. Clean the cooling fins on the cylinders and cylinder head (100 hours). (shorter intervals for dusty operating conditions)14. Check the play in the engine valves (300 hours).15. Change the oil and suction filter in the transmission/hydraulic system. (200 hours).16. Perform the 300-hour service at an authorised service representative.	Notes

This field is intended for keeping a journal



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