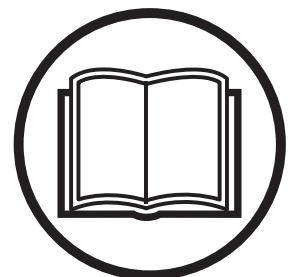


Operator's manual
P 520D With cabin
P 525D With cabin

Please read the operator's manual carefully and make sure you understand the instructions before using the machine.



English

KEY TO SYMBOLS

Symbols

These symbols are on the machine and in the instructions.

WARNING! Careless or incorrect use can result in serious or fatal injury to the operator or others.



Please read the operator's manual carefully and make sure you understand the instructions before using the machine.



Always wear:

- Approved hearing protection



This product is in accordance with applicable EC directives.



Fast



Slow



Stop the engine.



Fuel



Oil pressure



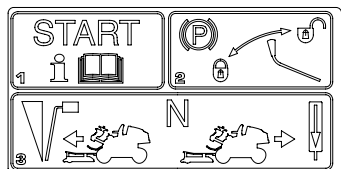
Backwards



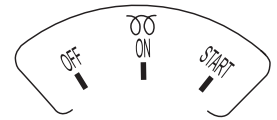
Forwards



Starting instructions



Ignition



Parking brake



Noise emission to the environment according to the European Community's Directive. The machine's emission is specified in the Technical data chapter and on the label.



Connecting the power take-off (PTO).



Disengaging the power take-off (PTO)



Warning: rotating parts. Keep hands and feet clear.



Watch your hands and other body parts so they do not get caught and crushed between the belt and belt pulley.



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



Never drive across a slope



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

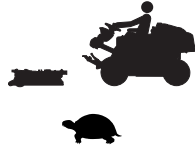


Never carry passengers on the machine or equipment



KEY TO SYMBOLS

Drive very slowly if no cutting unit is fitted



Risk of crush injuries!



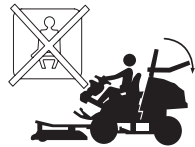
Danger of crushing between the lift arms and base plate.



If the frame is folded up, the safety belt must be used.



If the frame is folded down the safety belt should NOT be used.



Explanation of warning levels

The warnings are graded in three levels.

WARNING!



WARNING! Used if there is a risk of serious injury or death for the operator or damage to the surroundings if the instructions in the manual are not followed.

IMPORTANT!

IMPORTANT! Used if there is a risk of injury to the operator or damage to the surroundings if the instructions in the manual are not followed.

CAUTION!

CAUTION! Used if there is a risk of damage to materials or the machine if the instructions in the manual are not followed.

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Service journal

Pre-delivery service

- 1 Charge the battery for at least 4 hours at max. 5 amp.
- 2 Check coolant level and antifreeze.
- 3 Check and adjust tyre pressure (150 kPa, 1,5 bar, 21,8 PSI).
- 4 Make sure the correct amount of oil is in the cutting unit's bevel gear.
- 5 Check that the right amount of oil is in the engine.
- 6 Check that there is oil in the transmission's oil tank.
- 7 Fit cutting unit.
- 8 Adjust cutting unit:

Adjust cutting unit so that rear edge is about 6-9 mm higher than front edge.

Conduct a function test of the cutting deck height adjustment. - **Combi 132 X, Combi 155 X**
- 9 Lubricate the universal drive shaft with grease.
- 10 Connect battery.
- 11 Fill with fuel and start engine.
- 12 Check that machine does not move in neutral.
- 13 Check:

Forward drive.

Reverse drive.

Operation of blades.

Seat safety switch.

Safety switch for parking brake.

14 Tell customer about:

The requirement and advantages of servicing the machine according to the service plan

Servicing and the influence of this journal on the second-hand value of the machine.

The transmission warranty is only valid if front and rear wheel rotation speed has been checked in accordance with the service schedule. Adjust if necessary according to the table values specified in the workshop manual. Performed by authorized servicing dealer. The system will be damaged if this adjustment is not carried out.

At temperatures below 0 ° C, the machine must be warmed up for at least 10 minutes for the hydraulic oil and transmission to get hot. Otherwise there is a risk of the transmission breaking down thereby reducing the service life of the transmission.

Range of applications for BioClip function.

Complete proof of sale etc.

Pre-delivery service carried out. No outstanding problems. Certified:

Date:
Mileage:
Signature:
Label:

After the first 25 hours

- 1 Change the engine oil and oil filter
- 2 Changing oil in transmission gearboxes (front and rear).
- 3 Replace the engine's hydraulic oil filter
- 4 Check front and rear wheel rotation speed according to the service schedule.

PRESENTATION

Dear Customer,

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

This operator's manual is a valuable document. By following its instructions (on operation, service, maintenance, etc.) you will significantly extend the life of the machine and even its second-hand value.

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

A service journal accompanies the operator's manual. Ensure that service and repair work is documented. A well-documented service history reduces the costs of seasonal maintenance and influences the second-hand value of the machine. Bring the service journal when bringing the machine to a workshop for a service.

Driving and transport on public roads

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

Towing

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

The transmission must be disengaged when towing, see instructions under the heading Bypass valves.

Use

This ride-on mower is designed to mow grass on open and level ground surfaces. In addition, there is a number of accessories recommended by the manufacturer that broadens the application area. Please contact your dealer for more information about which accessories are available. The machine may only be used with the equipment recommended by the manufacturer. All other types of use are incorrect. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements of the intended use.

IMPORTANT! The transmission warranty is only valid if front and rear wheel rotation speed has been checked in accordance with the service schedule. Adjust if necessary according to the table values specified in the workshop manual. Performed by authorized servicing dealer. The system will be damaged if this adjustment is not carried out.

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

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

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

Insure your Rider

Check the insurance coverage for your new Rider.

- Contact your insurance company.
- You should have fully comprehensive insurance including: third party, fire, damage, theft and liability

PRESENTATION

Good service

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

IMPORTANT! All service intervals are described in the service journal. Ensure service is carried out at the right time.

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

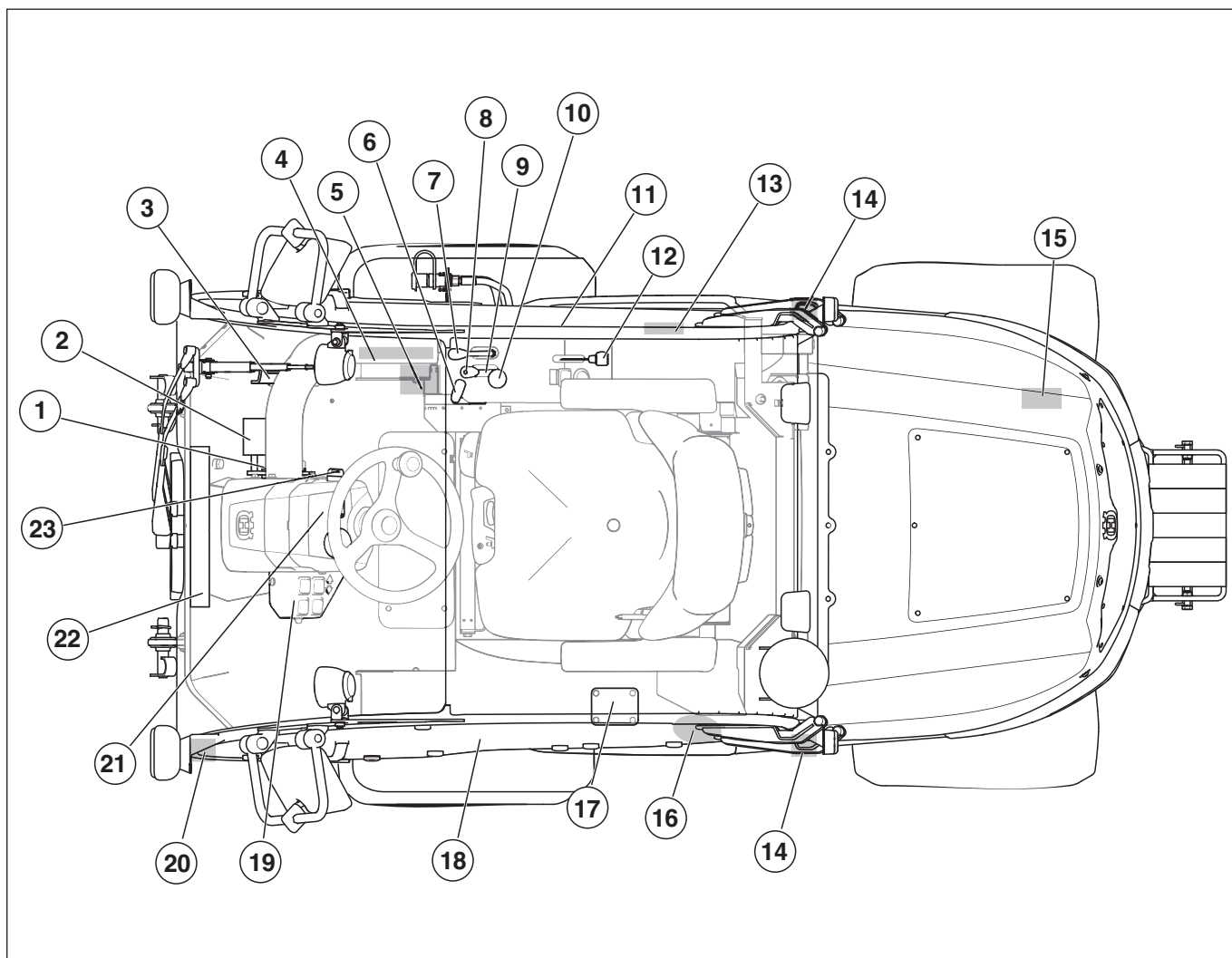
Name:	Dealer:
This operator's manual belongs to the machine with the manufacturing number (serial number):	Transmission
PNC:	Engine

On the machine's rating plate you will find the following information:

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

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

WHAT IS WHAT?



What is what on the machine?

- | | |
|---|------------------------------------|
| 1 High and low speed catches | 13 Product and serial number plate |
| 2 Speed limiter for driving forward | 14 Cover lock |
| 3 Speed limiter for reversing | 15 Bypass valve rear axle |
| 4 Heating controls | 16 Fuel cap |
| 5 Window washer fluid container | 17 Fuel gauge |
| 6 Parking brake | 18 Driver's door |
| 7 Lever for hydraulic lift of attachments | 19 Controls - Control panel |
| 8 Function button for accessories with extra hydraulics | 20 Venting stay |
| 9 Cutting height control | 21 Instrument panel |
| 10 Control for cutting unit drive | 22 Air distributor |
| 11 Emergency exit | 23 Ignition lock |
| 12 Throttle trigger | |

MACHINE'S SAFETY EQUIPMENT

General

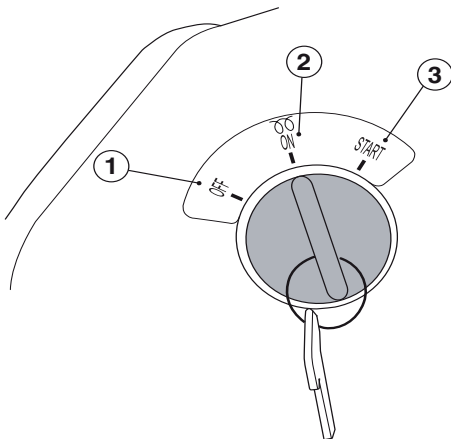


WARNING! Never use a machine that has faulty safety equipment!

If your machine fails any checks contact your service agent to get it repaired.

Ignition key

The ignition key is used to turn the engine on and off together with all electrical functions except the power outlet.



- 1 OFF - the machine is powered down
- 2 ON - Glow plug heating and drive position
- 3 START - spring-back ignition position

The ignition key is on the right side of the dash.

Ignition key check

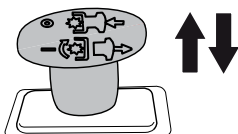
- Check the ignition key by starting and stopping the engine. See instructions under the heading Starting and stopping.
- The engine should start when the ignition key is turned to START (3).
- The engine should stop immediately when the ignition key is turned to OFF (1).

Safety circuit

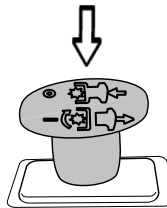
The machine has a safety circuit that triggers whenever the driver gets off the seat while the blades are engaged. The safety circuit is also tripped when the parking brake has not been applied and the driver rises from the seat.

Drive to the blades is stopped when the safety circuit is tripped. There is a short delay to prevent stopping if the driver bounces on the seat.

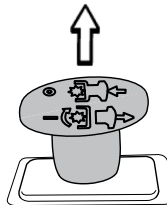
- When the safety circuit has stopped the drive to the cutting unit, the control must be pushed and pulled out again to start the blades. Drive to the blades can be started only when the driver is sitting on the seat.



- Push in the lever to disengage the blades.



- Pull out the lever to engage the drive of the blades.



Safety circuit check

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

Warning lamp

The cab has two types of warning lamps.

Hazard flashers, all the direction indicator on the machine flash at once. Hazard flashers are used to warn other vehicles on public roads that the machine is stationary or moving slower than other traffic.

Rotating warning light, warning lamp with flashing orange light located on the roof of the cab. The rotating warning light is used to warn of work in progress.

Warning lamp check

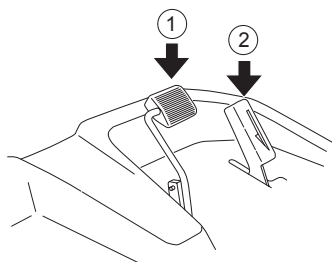
Regularly check that the lamps are in working order and are free from dirt and cracks.

Operating the machine without cab

National and local rules and regulations must be observed also when the machine is used without cab. This may concern, for example, protective equipment, traffic kit and traffic regulations.

Speed limiter

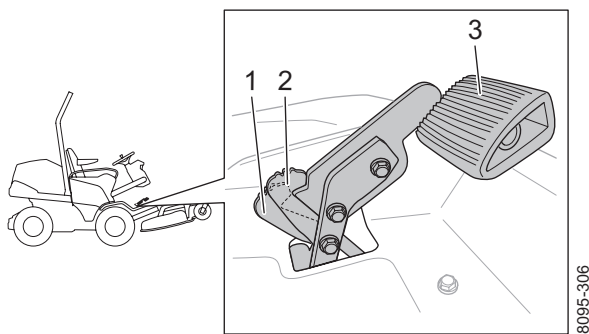
The speed of the machine is steplessly regulated with two pedals. Pedal (1) is used to drive forwards, and pedal (2) to drive backwards.



The machine is braked when the forward pedal is released. The reverse pedal can also be used if additional braking power is required.

MACHINE'S SAFETY EQUIPMENT

High and low speed catches (P 525D)



- 1 Low speed catch
- 2 Full speed catch
- 3 Forward pedal

The forward pedal has a catch that can be foot operated. Maximum speed is obtained with the catch in high-speed position (2). Recommended for transport operation.

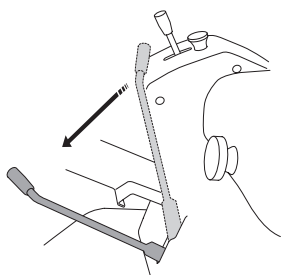
Control will go into low-speed mode when the catch is pulled back, which will engage limited speed on the machine (1). Low-speed mode is preferred for best ergonomics when working at low speed, mowing for example.

Accelerator check

- Ensure the forward and reverse pedals can be operated freely.
- Ensure the machine brakes when the forward pedal is released.
- Ensure the catch returns to high-speed position by lifting up the forward pedal with your foot.

Parking brake

Operate the parking brake by moving the handle forwards.



Checking the parking brake

Make sure the parking brake is properly adjusted by placing the machine on a slope.

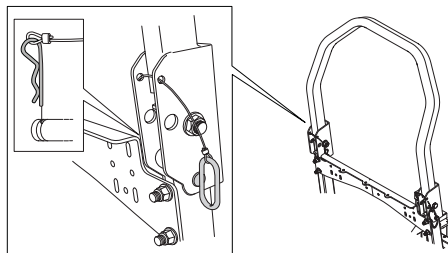
- Apply the parking brake.
- When the machine does not stand still, the parking brake should be adjusted.

ROPS (Roll Over Protective Structure)

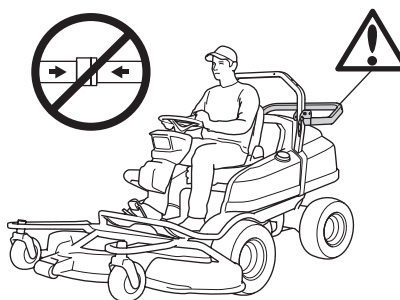
ROPS is a protective frame that reduces the risk of injury in the event of overturning. Use ROPS and a safety belt when driving on slopes.

The frame can be folded down.

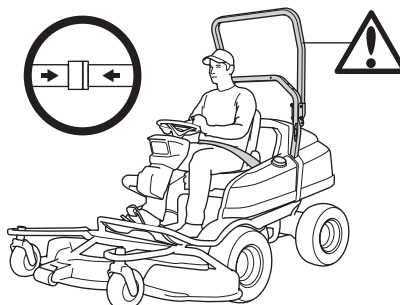
- Remove the two pins that hold the frame and fold it backwards.



WARNING! If the frame is folded down the safety belt should NOT be used.



WARNING! If the frame is folded up, the safety belt must be used.



ROPS check

- Check that the ROPS is securely attached and not damaged.

Safety belt

The seat belt protects the driver from injury in case of crashes or overturning.

The belt may only be used when the bar (ROPS) has been raised or a cab is fitted on the machine.

When the safety belt is not used, it must be wrapped around the chair back and tightened.

Seat belt check

- Check regularly that the seat belt is intact and secured correctly.

MACHINE'S SAFETY EQUIPMENT

Counter weight

The counterweight must always be used if the machine is being operated with cab. The counterweight will improve machine stability.

Checking the counterweight

Check regularly that the counterweight is mounted correctly and securely in place.

Muffler

The muffler is designed to keep noise levels to a minimum and to direct exhaust fumes away from the user.



WARNING! Never use a machine without a muffler, or with a faulty muffler. A damaged muffler may substantially increase the noise level and the fire hazard. Keep fire fighting equipment handy.



WARNING! The inside of the muffler contain chemicals that may be carcinogenic. Avoid contact with these elements in the event of a damaged muffler.

The muffler gets very hot during and after use as well as when idling. Be aware of the fire hazard, especially when working near flammable substances and/or vapours.

Inspecting the muffler

- Check that the muffler is securely attached and not damaged.

Protective covers

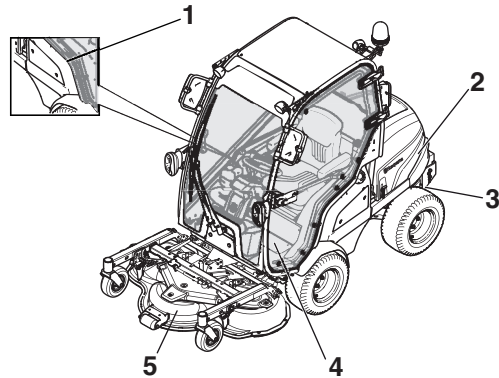


WARNING! Always check that the protection covers are correctly fitted before starting the machine.

Protective covers on the machine protects the user from the cooling fan, belt drives and hot surfaces.

Checking the protective covers

- Check the protective covers for cracks or other damages. Replace damaged covers.



- 1 Side cover
- 2 Engine cover
- 3 Transmission cover
- 4 Service hatch
- 5 Belt covers (3 pcs.)

ASSEMBLING AND ADJUSTMENTS

Safety when assembling and settings



WARNING! The engine emits carbon monoxide, which is a colourless, poisonous gas. Do not use the machine in enclosed spaces.

- 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.
- Electrical shocks can cause injuries. Do not touch cables when the engine is running. Do not test the ignition system with your fingers.



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

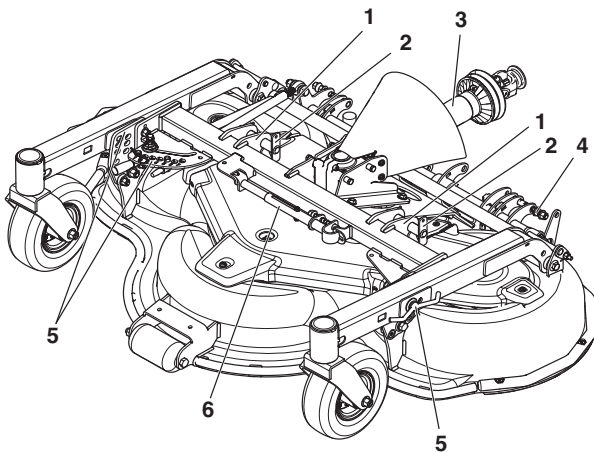
- The machine is tested and approved only with the equipment originally provided or recommended by the manufacturer.

Cutting unit

The machine can be fitted with 4 different cutting decks. Combi 132 and Combi 155 with 7-step, manual cutting height adjustment and Combi 132X and Combi 155X with variable, hydraulic cutting height adjustment.

The Cutting Unit Components - Combi 132, Combi 155

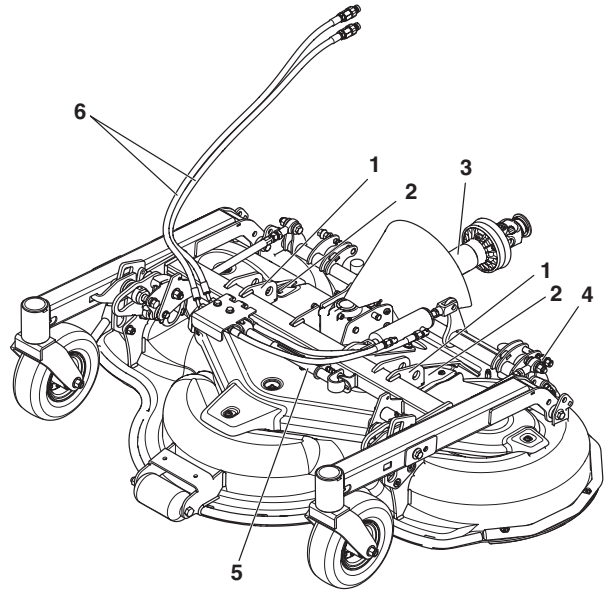
The components mentioned are:



- 1 Attachment point
- 2 Bolt
- 3 Universal drive shaft
- 4 Spring-loaded catch for link
- 5 Cutting height control
- 6 Service strut

The Cutting Unit Components - Combi 132 X, Combi 155 X

The components mentioned are:

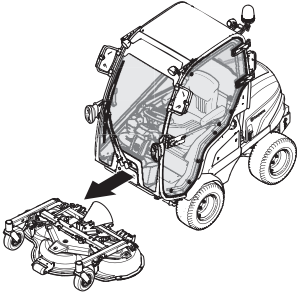


- 1 Attachment point
- 2 Bolt
- 3 Universal drive shaft
- 4 Spring-loaded catch for link
- 5 Service strut
- 6 Hydraulic hoses

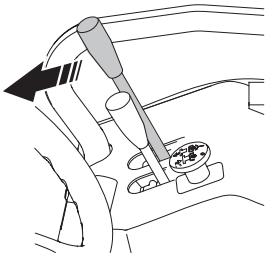
ASSEMBLING AND ADJUSTMENTS

Fitting the cutting head

- 1 Ride the machine to the cutting deck.



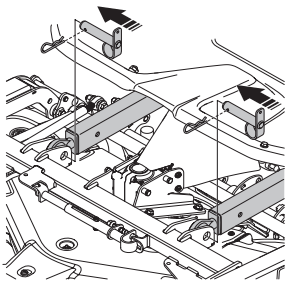
- 2 Lower the lift arms to the cutting deck attachment points.



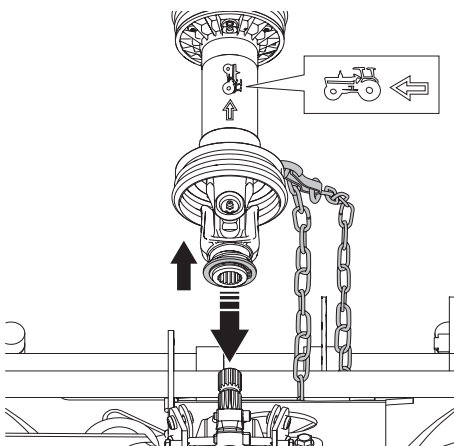
WARNING! If the help function is engaged, the lift arms will move with great force if someone releases the lifting lever. Observe caution to avoid trapping your hand.

Risk of crush injuries.

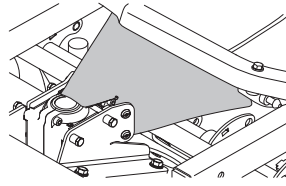
- 3 Activate the parking brake and turn off the engine.
- 4 Insert the bolts for the link joints and the pins on both sides of the cutting deck.



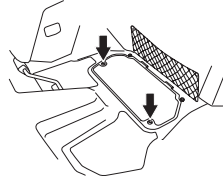
- 5 Fit the universal drive shaft to the cutting unit. The propeller shaft is marked with an arrow indicating the direction in which it is to be connected to the power take-off on the machine. Slide back the ring to release the quick coupling and the universal drive shaft can be pushed onto the shaft journal.



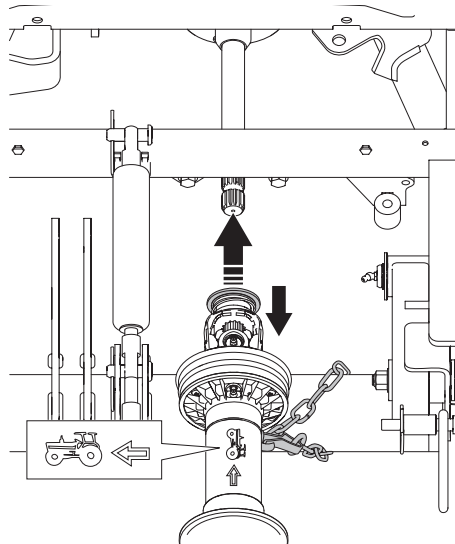
- 6 Secure the front locking chain to the universal joint cover around the cross pipe.
- 7 Make sure the rubber casing is folded over the front universal joint.



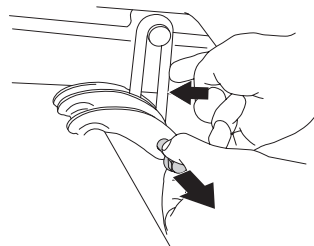
- 8 Remove the service hatch.



- 9 For more information, see 'Removing the ride-on mower covers'.
- 10 Couple the rear of the propeller shaft to the power take-off on the machine.



- 11 Fit the locking chain to the universal joint cover around the lifting beam.
- 12 Refit the service hatch.
- 13 Start the engine and lift the cutting unit halfway up.
- 14 Turn off the motor.
- 15 Fit the lifting eyes which are attached to the lift arms. Pull out the catch and press in the lifting eye. There is one for each lift arm.

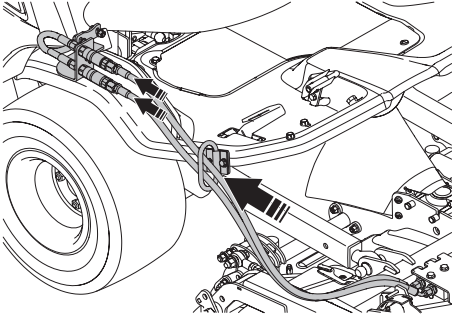


- 16 Check and adjust the tilt angle of the cutting unit. For more information, see 'Cutting Height and Tilt Angle Adjustment'.

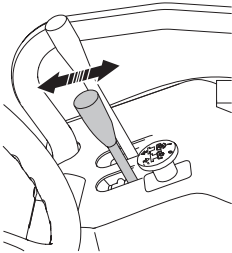
ASSEMBLING AND ADJUSTMENTS

Fitting the cutting head - Combi 132 X, Combi 155 X

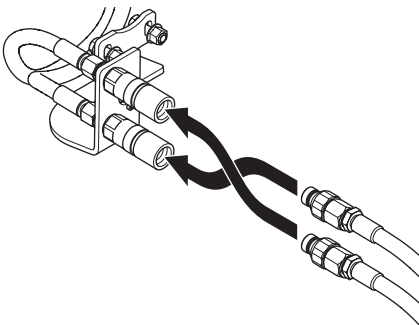
- 17 Follow the instructions for 'Assembling the Cutting Deck' steps 1-16.
- 18 Pull the hydraulic hoses from the cutting deck through the eyelet.
- 19 Connect the hydraulic hoses from the cutting deck to the quick couplings on the machine.



- 20 Make sure hydraulic hoses are coupled correctly by adjusting the cutting height with the cutting height control on the machine. For more information, see 'Cutting Height - Combi 132 X, Combi 155X'.



- 21 Select a function with the cutting height control (raise, lower) with the location of the hydraulic hoses in the quick couplings on the machine. Switch the raise and lowering function by changing the location of the hydraulic hoses.



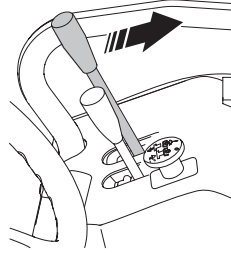
Removing the cutting unit



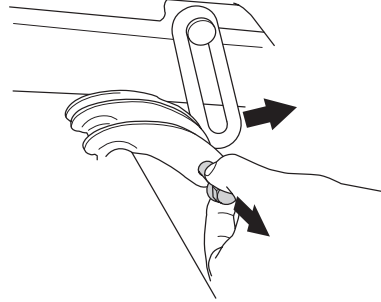
WARNING! Never leave the universal drive shaft of the machine with one end loose. If the engine is started, damage can occur.

- 1 Place the machine on a flat surface and apply the parking brake.
- 2 Disconnect the hydraulic hoses from the quick connections on the machine.
(Combi 132 X, Combi 155 X)

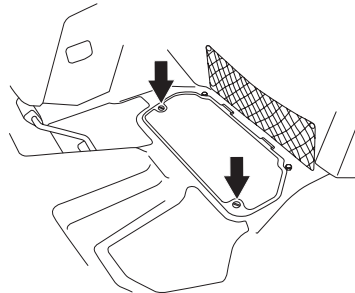
- 3 Raise the cutting unit halfway.



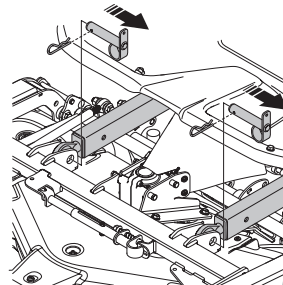
- 4 Turn off the motor.
- 5 Remove the lifting eyes from the cutting unit.



- 6 Start the engine and lower the cutting unit to the lowest position. The cutting unit now hangs free at the back.
- 7 Turn off the motor.
- 8 Remove the service hatch.



- 9 Slide back the ring to release the quick connector and to be able to pull the propeller shaft from the shaft journal. Remove the universal drive shaft completely. Lift off the lock chains.
- 10 Remove the pins from the bolts and remove the bolts from the link joints.



WARNING! If the help function is connected, the lift arms move with great force when the pins are loosened. Observe caution to avoid trapping your hand.

ASSEMBLING AND ADJUSTMENTS

Seat adjustment

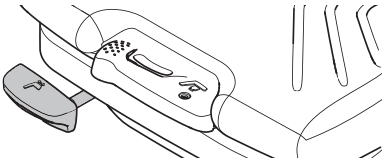


WARNING! Take care so that hands are not trapped or injured by the locking hooks when the seat is folded back.

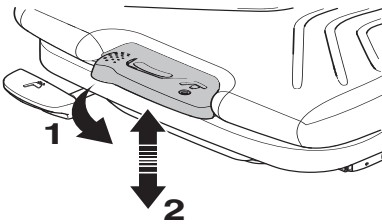


WARNING! Do not adjust seat settings while driving. Risk of unsafe manoeuvring.

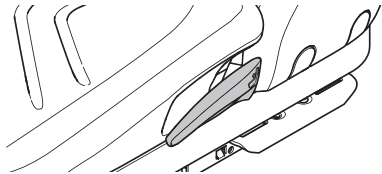
The seat can be adjusted lengthways. When making adjustments, the lever under the front edge of the seat is moved up, after which the seat can be moved backwards or forwards to the desired position.



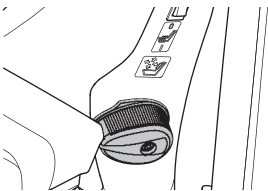
The seat suspension can be adjusted to driver's weight. The weight can be set by extracting the lever in the front of the seat and pumping up or down.



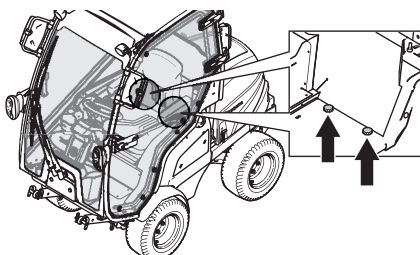
Backrest tilt is adjusted with the lever on the right side of the seat.



Lumbar support is adjusted with the knob on the back of the seat.



The seat has a jointed attachment on the front edge and can be tipped forward. The knobs on the back of the seat must be loosened in order to tilt forward the seat.



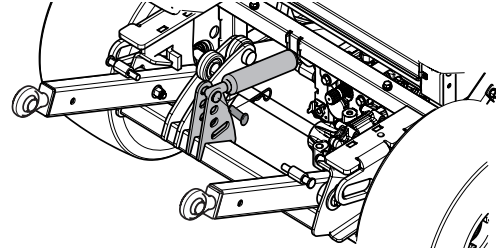
IMPORTANT! When the seat is folded back the knobs and the washers **must** be fitted properly in place

Auxiliary lift system settings

The auxiliary lift system reduces the ground pressure exerted by the cutting deck pivot wheel and transfers it to the front wheel of the machine.

The effect of the auxiliary lift system can be adjusted by moving the gas spring up or down.

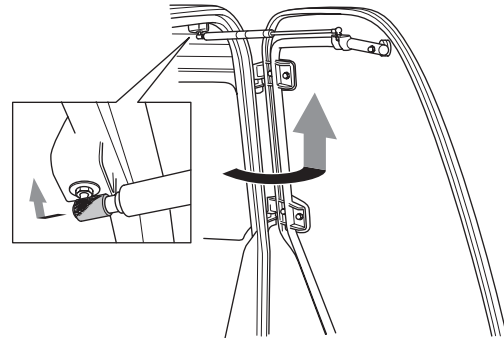
- Maximum effect is obtained when the gas spring is placed in the top hole.



- No effect is obtained in the slot at the bottom.
- When using the cutting unit, the gas spring must be mounted in the top hole.

Dismantling the doors

- 1 Opening the driver's door.
- 2 Loosen the gas spring by pulling back on the bayonet mount and loosening the ball joint.

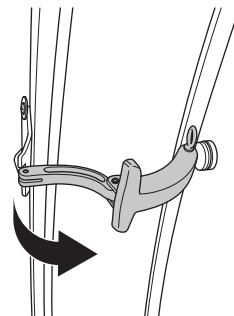


- 3 Open the door 90 degrees.
- 4 Take a firm grip of the door and lift it straight up.



WARNING! Handle the door with great care!

- 5 Open the emergency exit with the handle inside the cab.



- 6 Open the door 90 degrees.
- 7 Take a firm grip of the door and lift it straight up.

Assemble the parts in the reverse order.

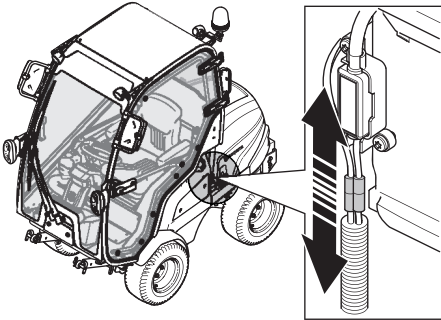
ASSEMBLING AND ADJUSTMENTS

Dismantling the cab

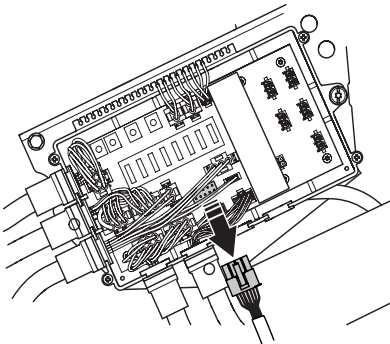


WARNING! ROPS must be fitted if the machine is used without cab.

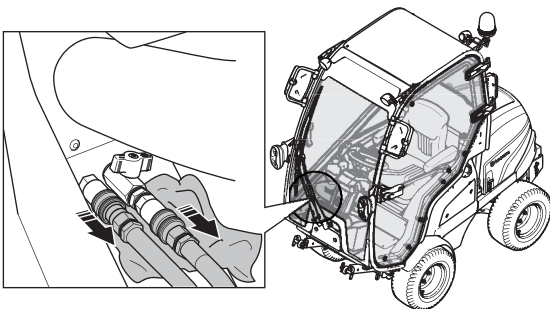
- 1 Dismantle the doors. For more information, see 'Dismantling the doors'.
- 2 Open the engine cover. For more information, see 'Removing the ride-on mower covers'.
- 3 Disconnect the electricity between the cab and the battery by unplugging the contact between the cab and the battery.



- 4 Dismantle the side cover. For more information, see 'Removing the ride-on mower covers'.
- 5 Dismantle the protective cover by unscrewing the 4 screws.
- 6 Loosen the cable harness from its attachment on the fuse box.
- 7 Unplug the connection.

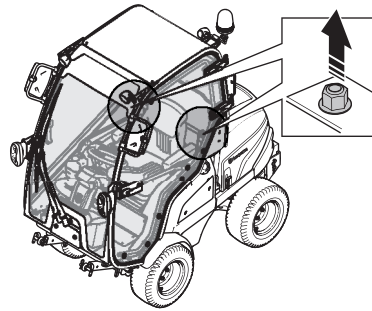


- 8 There is a loose rubber grommet in the fuse box. Fit the rubber grommet into the empty slot.
- 9 Uncouple the heater hoses.

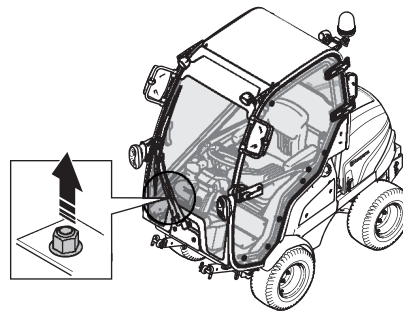


CAUTION! Coolant may leak from the hoses when uncoupled. Place a rag under the hoses to prevent the fluid from running out into the cab.

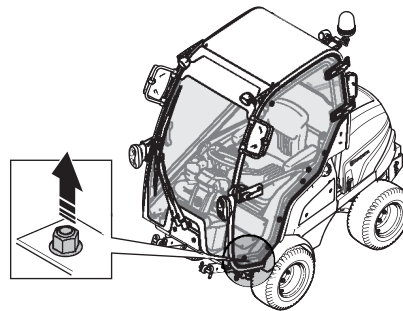
- 10 Remove the screw and washer from both sides behind the seat.



- 11 Remove the screw and washer behind the heater hoses.

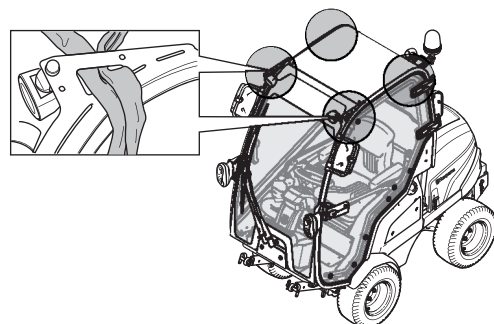


- 12 Remove the screw and washer at the driver's door.



- 13 Fold forward the seat.

- 14 Attachments for the front work lighting also act as the cab lifting points.



ASSEMBLING AND ADJUSTMENTS

- 15 Fasten the lifting straps to the lifting points.
- 16 Attach another lifting strap through the rear part of the cab.
- 17 Use the lifting straps to carefully lift the cab a few centimeters. The cab should now be hanging freely a few centimeters above the machine.

CAUTION! Make sure the studs are not damaged.

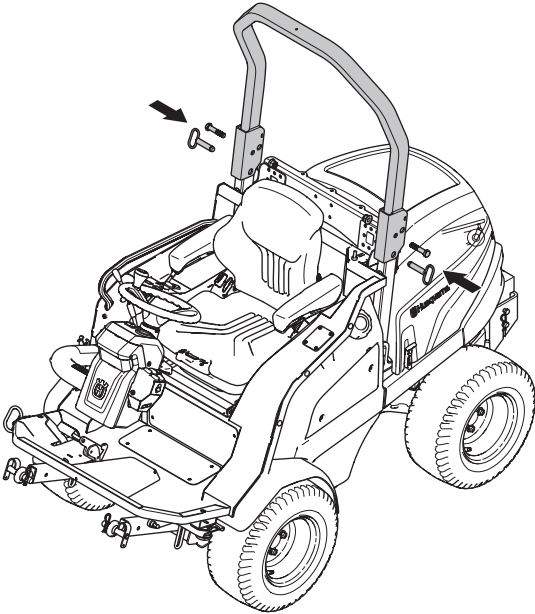
- 18 Slide the cab forwards in the machine's direction of travel to release it from the machine.
- 19 Lift of the cab.
- 20 Place the cab as instructed in "Transport and storage".
- 21 Assemble the ROPS (Roll Over Protective Structure) See "Assembling the ROPS (Roll Over Protective Structure)" for more information.

Assemble the parts in the reverse order.

CAUTION! Take great care not to pinch the cables when assembling the cab.

Assembling the ROPS (Roll Over Protective Structure) - Accessories

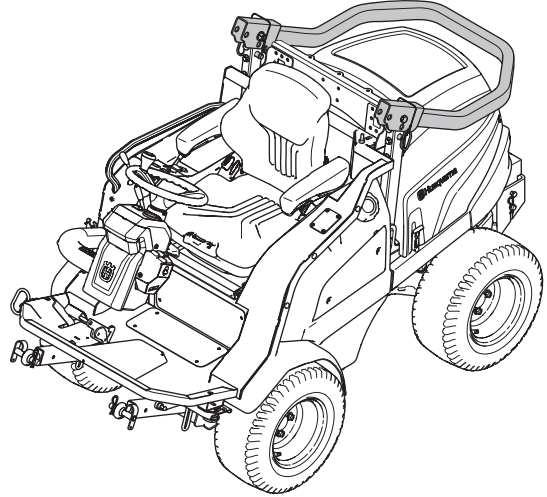
- 1 Lift up the bar and place it over the steel attachments behind the seat.



- 2 Fasten the bolts in the top hole.
- 3 Tighten the bolt correctly. The bolt should be tightened with a torque of 47 Nm.
- 4 Fit the pin into the bottom hole.

Lowering the ROPS (Roll Over Protective Structure) - Accessories

- 1 Remove the pin.
- 2 Lower the bar over the engine cover.



- 3 Fasten the pin in the middle hole.

FUEL HANDLING

General



WARNING! Running an engine in a confined or badly ventilated area can result in death due to asphyxiation or carbon monoxide poisoning. Do not use the machine in enclosed spaces.

Fuel and fuel fumes are flammable and can cause serious injury when inhaled or allowed to come in contact with the skin. For this reason observe caution when handling fuel and make sure there is adequate ventilation.

The exhaust fumes from the engine are hot and may contain sparks which can start a fire. Never start the machine indoors or near combustible material!

Do not smoke and do not place any hot objects in the vicinity of fuel.

Fuel

- Top up with diesel fuel. Gasoline may not be used under any circumstances.
- Use fuel with a cetane rating over 45. Max RME mixing 5% in mineral oil-based fuels.

Winter fuel

When driving in very cold weather operating problems due to paraffin precipitation can occur if you run on standard fuel. To counteract this, winter fuel is sold in the climate areas affected. In some regions, different fuel is sold in summer and winter. Ask your fuel supplier and use only winter fuel below 0°C (+32°F).

Fueling



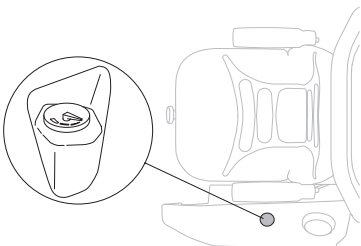
WARNING! Diesel is highly flammable. Exercise care and refuel outdoors.

Clean the area around the fuel cap.

Tighten the fuel cap carefully after refuelling. If the cap is not properly tightened the cap might vibrate loose and fuel may escape from the fuel tank creating a fire hazard.

Move the machine at least 3 m from the refuelling point before starting it.

The fuel level in the tank is shown by the gauge on top of the tank.



- Allow the engine to cool before refuelling.
- 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.

The diesel engine injection system is very sensitive and can be damaged by the slightest contamination. Observe the greatest possible fuel cleanliness. Use only clean containers.

- Clean the area around the fuel cap. Contamination in the tank can cause operating problems.
- When refuelling, open the fuel cap slowly so that any excess pressure is released gently.
- Wipe up any spillage. Materials contaminated by fuel must be moved to a safe location.
- Handle oil, oil filters, fuel and the battery carefully, of environmental considerations. Follow the local recycling requirements.

Never start the machine:

- If you have spilled fuel on yourself or your clothes, change your clothes. Wash any part of your body that has come in contact with fuel. Use soap and water.
- If you have spilled fuel or engine oil on the machine. Wipe off the spill and allow the remaining fuel to evaporate.
- If the machine is leaking fuel. Check regularly for leaks from the fuel cap and fuel lines.
- Unless the fuel cap is securely tightened after refueling.

Transport and storage

- Store and transport the machine and fuel so that there is no risk of any leakage or fumes coming into contact with sparks or open flames, for example, from electrical machinery, electric motors, electrical relays/switches or boilers.
- When storing and transporting fuel always use approved containers intended for this purpose.
- Store the machine and fuel in such a way that there is no risk that leaking fuel or fumes can cause any damage.

Fuel which is left to stand for long periods (30 days or more) can leave sticky deposits and interfere with the engine function. Fuel stabiliser is an acceptable alternative to avoid tacky deposits during storage.

- Add stabiliser to the fuel in the tank or the storage container.
- Always use the mixing ratios indicated by the manufacturer.
- Run the engine for at least 10 minutes after adding the stabiliser.



WARNING! Never store a machine 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.

Exercise caution when handling fuel. It is highly inflammable, and careless use can cause serious injury and damage to property.

OPERATING

General safety precautions

- Read all the instructions in this operator's manual and on the machine before you start it. Ensure you understand them and then observe them.

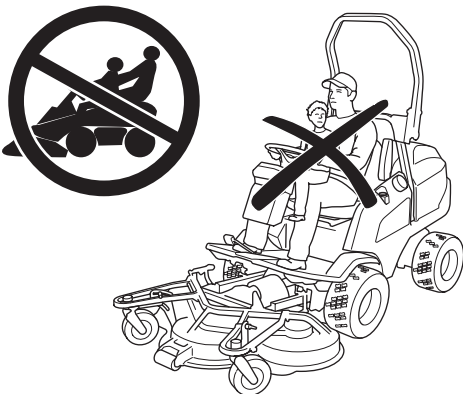


WARNING! This machine produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants to consult their physician and the medical implant manufacturer before operating this machine.



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

- Learn how to use the machine and its controls safely and learn to how to stop quickly. Also learn to recognize the safety decals.
- Only allow the machine to be used by adults who are familiar with its use. Never allow children to operate the machine.
- Never carry passengers. The machine is only intended to be used by one person.



- Serious accidents may occur if you fail to be on your guard for children in the vicinity of the machine. Children are often attracted to the machine and mowing. Never assume that children will remain where you last saw them.



- Keep an eye out and shut off the machine if children enter the work area.
- Remember that the driver is responsible for dangers or accidents.

Personal protective equipment



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.



- Never wear loose-fitting clothing, jewellery or similar that can get caught in moving parts.
- Never use the machine when barefoot. Always wear protective shoes or protective boots, preferably with steel toes.



Other protective equipment

- Make sure that you have first aid equipment close at hand when using the machine.
- Fire Extinguisher

OPERATING

Work safety

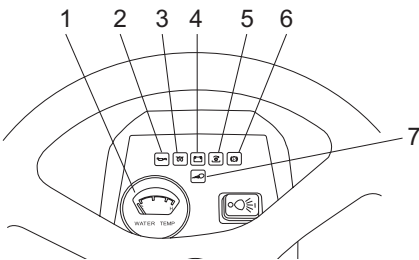
- Make sure nobody else is in the vicinity of the machine when you start the engine, engage the drive or drive off.
- Clear the area of objects such as stones, toys, wires, etc. that may become caught in the blades and be thrown out.



- Look out for the ejector and do not direct it towards anyone.
- Always look downwards and backwards before and while reversing. Keep watch for both large and small obstacles.
- Slow before cornering.
- Switch off the blades when you are not mowing.
- Take care when rounding a fixed object, so that the blades do not hit it. Never run the machine over foreign objects.
- Only use the machine in daylight or in other well-lit conditions. Keep the machine at a safe distance from holes or other irregularities in the ground. Pay attention to other possible risks.
- Never use the machine if you are tired, if you have consumed alcohol, if you are taking other drugs or medication that can affect your vision, judgement or co-ordination.
- Never use the machine in bad weather, for instance in fog, in rain, damp or in wet locations, strong winds, intense cold, risk of lightning, etc.
- Keep an eye on the traffic when working close to a road or when crossing it.

Instrument panel

The indicator lights are on the steering console under the steering wheel.



- 1 Temperature gauge for coolant *
- 2 Oil pressure, check oil level and top up if necessary.
- 3 Indicates glow plug heating
- 4 Charge the battery.
- 5 Controls for driving the cutting unit blades activated
- 6 The parking brake is applied.
- 7 Spotlight activated

* Temperature gauge for coolant. The engine is liquid cooled. If overheating of the engine is indicated the first action to take is to reduce the engine temperature by running the engine at idle with no load. Turn off the power transmission. Check coolant level and top up if necessary. Also check that the radiator grill and radiator are clean and not clogged. The grill is at the rear of the machine and on top of the bonnet.

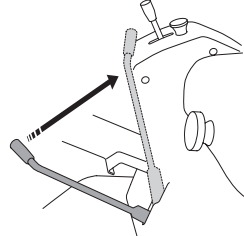
Driving the Rider



WARNING! Make sure that branches do not obstruct the pedals when mowing under bushes.

Localise and mark stones and other fixed objects to avoid collision.

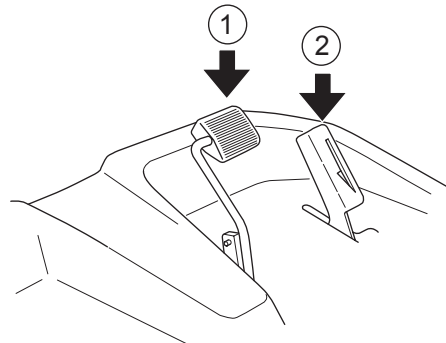
- Release the parking brake before driving



- When driving the throttle control must be in the position for maximum engine speed, work mode.

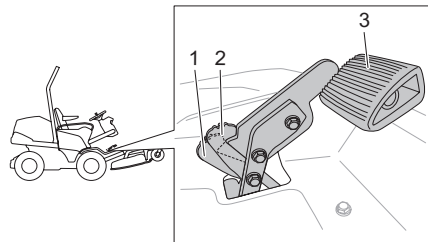


- Carefully press down one of the pedals until the required speed is obtained. Pedal (1) is used to drive forwards, and pedal (2) to drive backwards.



(P 525D)

The forward pedal has a catch that can be foot operated. Maximum speed is obtained with the catch in high-speed position (2). When a steady lower speed is required, the catch for the forward pedal can be pulled back with your foot. For more information, please see 'Speed Control'.



WARNING! Do not use the Rider on ground that slopes more than 10°. Mow slopes upwards and downwards, never across. Avoid sudden changes in direction.

OPERATING

Adjusting the cutting height

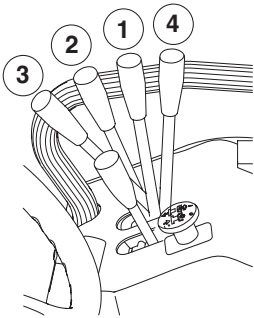
The cutting height can be adjusted to seven different positions.

Select the required cutting height (1-7) using the cutting height adjusters. Set the knobs horizontally so that they do not snag on bushes and the like. For more information, see 'Cutting Height and Tilt Angle Adjustment'.

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.

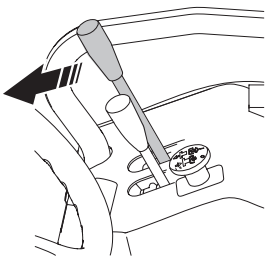
The lever has four different positions.



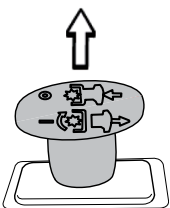
- 1 Neutral position or transport position
- 2 Lowers the cutting unit with spring return to the neutral position
- 3 Floating where the lever stops. The unit is lowered to the automatically floating position, which means that the cutting unit follows the contours of the ground.
- 4 Raises the cutting unit with spring return to neutral position.

Mowing Position

- Lower the cutting unit by directly moving the lever forward to the float position where the lever stays put. (3)

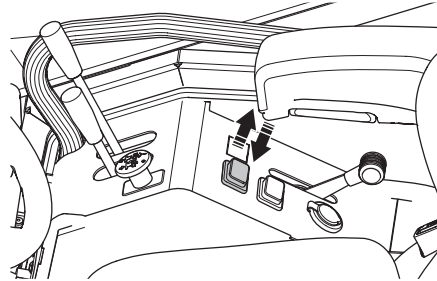


- Start the drive for the blades by pulling up the drive control for the cutting unit.



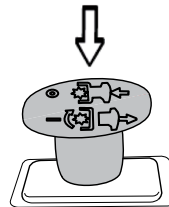
Function button for accessories with extra hydraulics

This button has varying functions depending on the attached accessory. The button works only with accessories with extra hydraulic functions. See the operator's manual for the accessory in question for more information.



Transport position

- Stop the blades by pressing in the control for driving the cutting unit.



- Pull back on the lever for the hydraulic lift to engage transport position. The unit is then raised. (1)

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 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.

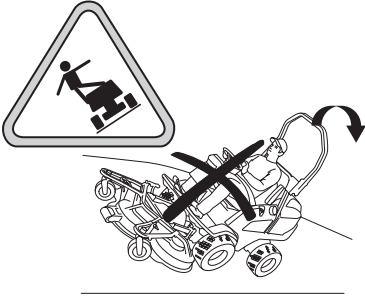
IMPORTANT! Do not drive down slopes with the cutting deck raised.

This is what you do

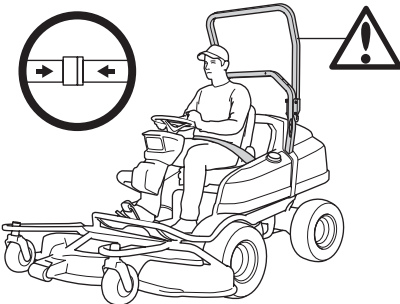
- Remove obstacles such as stones, branches, etc.

OPERATING

- Mow upwards and downwards, not sideways.



- Do not use the machine on ground that slopes more than 10°.
- Take extra care if any attachments are fitted that can change the stability of the machine.
- Avoid starting or stopping on a slope. If the tyres start to slip, stop the blades and drive slowly down the slope.
- Always drive smoothly and slowly on slopes.
- Always use ROPS (Rollover Protective Structure) and seat belts when riding on slopes.

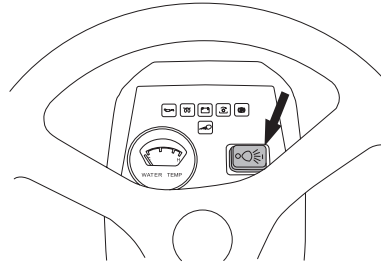


- Do not make any sudden changes in speed or direction.
- Avoid unnecessary turns on slopes, if necessary, turn slowly and gradually downwards if possible. Drive slowly. Do not turn the wheel sharply.
- Watch out for and avoid driving over furrows, holes and bumps. It is easier for the machine to overturn on uneven ground. Tall grass can hide obstacles.
- Do not mow too close to edges, ditches or banks. The machine can suddenly overturn if one wheel comes over the edge of a steep slope or a ditch, or if an edge gives way.
- Do not mow wet grass. It is slippery, and tyres can lose their grip so that the machine skids.
- Do not try to stabilize the machine by putting your foot on the ground.
- When cleaning the chassis, the machine may never be driven near verges or ditches.
- When mowing, keep away from bushes and other objects.
- Follow the manufacturer's recommendations regarding wheel weights or counterbalance weights to increase machine stability.

IMPORTANT! Some combinations of accessories require additional counterweight at the rear. Check with your dealer for the right combination.

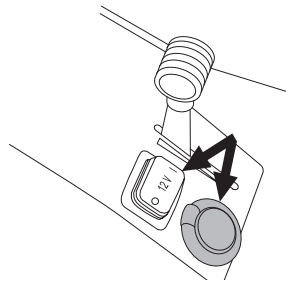
Lights and power outlet

The lights are switched on and off using the switch on the instrument panel.



A seat heater or mobile phone charger are examples of articles that can be connected to the power socket.

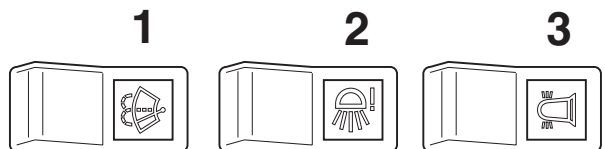
The power outlet is switched on and off using power switch on the control panel.



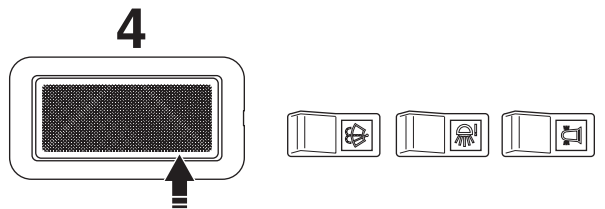
The power outlet works even if the ignition is turned off. Do not forget to disconnect the power outlet or remove the power consumer when the machine is not in use.

The voltage is 12 V.

Controls - Cabin



- 1 Window wiper with washer
- 2 Work light - rear
- 3 Rotating warning light
- 4 Inner light

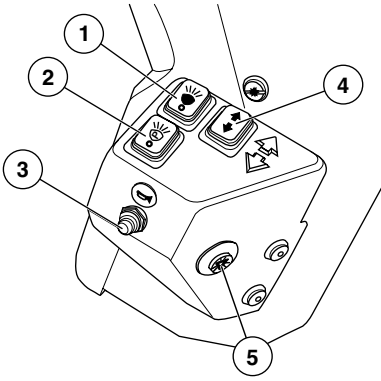


CAUTION! The inner light can be lit without the ignition of the machine is switched on this makes the battery discharges faster. Remember to switch off the lights in the cabin when leaving the machine.

The interior lighting is turned on and off by pressing the respective end of the lamp.

OPERATING

Controls - Control panel



- 1 Low beam
- 2 Parking lights
- 3 Horn
- 4 Turning lights
- 5 Hazard flashers

Low beam

The front work lighting and the low beam is connected so that only one type of lighting is lit at a time.

If the working lights are lit and the low beam is activated the working lights will automatically switch off. If the low beam is deactivated the work lights will lit up again.

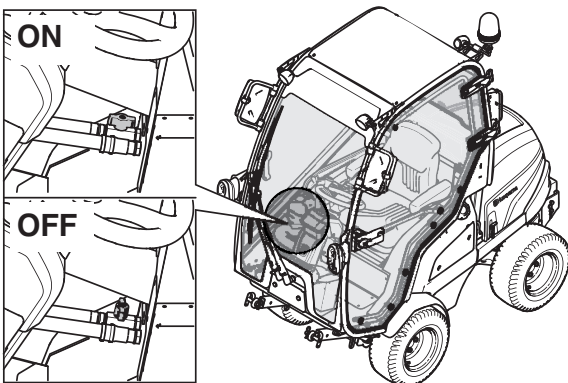
Turning lights

The turning lights only flashes during a short period of time. To extend the flashing the turning lights must be reactivated. Deactivate the turning lights manually by pressing the button again.

Heating and fan system

The machine is equipped with a heating system that enables the temperature in the cab to be adjusted.

Heat is adjusted with the knob on the heater hoses in the cab.



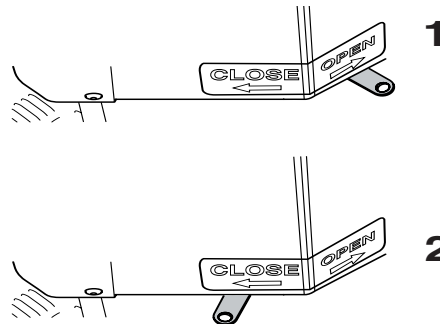
The fan system is for heating in the cab and to defrost the window.

Airflow can be adjusted using the knob on the top part of the fan system.



- 0 - Off
- 1 - Minimum flow
- 2 - Medium flow
- 3 - Maximum flow

Air circulation in the cab is adjusted with the damper on the bottom part of the fan system.



- 1 Recirculation damper - open
- 2 Recirculation damper - closed

In order to achieve optimal heat output at low temperature (under 0°C), the fresh air intake should be blocked and the damper kept fully open. See "Changing the fan system inlet filter" for more information.

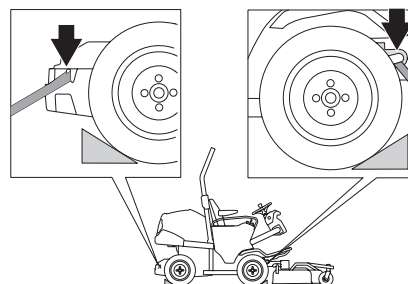
Transport and storage

IMPORTANT! 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. Take extra care when loading it onto or off a vehicle or trailer.
- Use an approved trailer to transport the machine.
- Check and observe local road traffic regulations before transporting or driving the machine on roads.

To secure the machine on the trailer, two approved tension belts and four wedge shaped wheel blocks should be used.

- Engage the parking brake and tie the tension belts around the front and rear brackets.



- Secure the machine by tensioning the belts towards the back and the front of the trailer respectively.
- Place the wheel blocks in front of and behind the rear wheels.

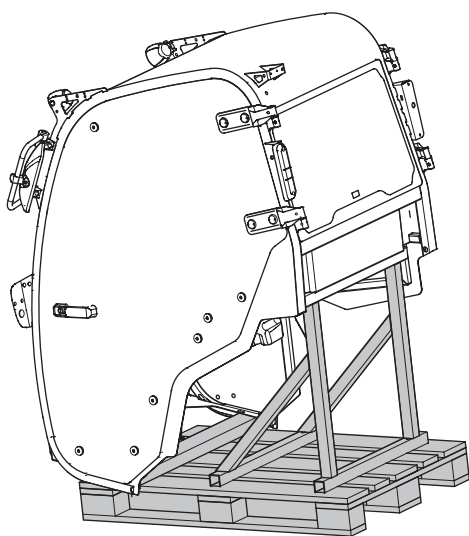
OPERATING

Transportation and storage of the cabin



WARNING! Handle the cab with great care!

- The cab is heavy and can cause serious crush injuries. Take extra care while dismantling and assembling the cab.
- Keep the cab safe and protected from unauthorized access. Make sure it is standing securely a cannot tip over.
- Store the equipment in a lockable area so that it is out of reach of children and unauthorized persons.
- Stabilize the cab with supports to protect against damage.



Transport with engine off

Hydraulic pressure must be released in order for the ride-on mower to be moved when the engine is shutoff.

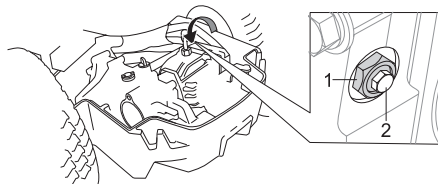
The hydraulic pressure is opened and closed with a bypass valve.

Bypass valves

If you try to drive the machine without hydraulic pressure, it will not move. The drive on the axle is disengaged if one valve is open.

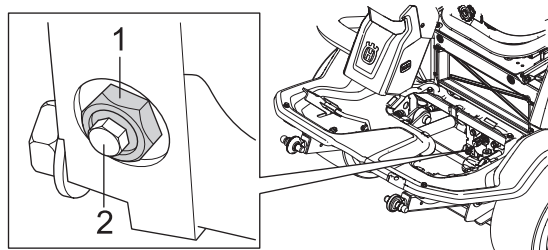
The P 520D and the P 525D has two valves, one valve for the front axle and one for the rear axle.

Bypass valve rear axle



- The hydraulic pressure is released by opening the locking nut (1) 1/4-1/2 turn anti-clockwise, then the bypass valve (2) 2 turns.
- The hydraulic pressure is switched on by closing the valve. Close the valve nut (2) fully before tightening the locking nut (1).

Bypass valve front axle



- The hydraulic pressure is released by opening the locking nut (1) 1/4-1/2 turn anti-clockwise, then the bypass valve (2) 2 turns.
- The hydraulic pressure is switched on by closing the valve. Close the valve nut (2) fully before tightening the locking nut (1).

Winter storage

At the end of the season, or if the machine is going to stand idle for more than 30 days, it should immediately be made ready for storage.

For transport and storage of fuel, see the section "Fuel handling".

To prepare the machine for storage follow these instructions:

- Carefully clean the machine, especially under the cutting unit.
- Touch-up paint damage to avoid rust.
- Inspect the machine for worn or damaged parts and tighten loose screws and nuts.
- Change the engine oil, and take care of the waste oil.
- Fill fuel tank.
- Grease all grease nipples, joints and axles.
- Remove the battery. Clean it, charge it, and store it in a cool place.
- Store the machine in a clean and dry place and cover it over for extra protection.

Guard

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

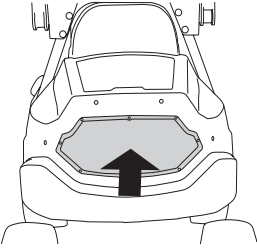
STARTING AND STOPPING

Before starting

- Read the safety instructions and information concerning the placement of controls and functions before starting.
- Perform daily maintenance before starting as set out in the Maintenance schedule.

IMPORTANT!

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

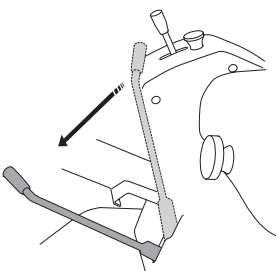


WARNING! Do not modify the machine's safety devices and check regularly that they are working properly.

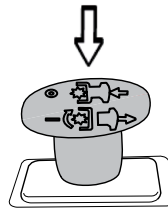
- Localise and mark stones and other fixed objects to avoid collision.
- Avoid mowing a wet lawn. The mowing results will then be poorer.
- Start with a high cutting height and reduce down until the required mowing results are obtained.
- The mowing result will be best with the highest permitted engine speed, see technical data, (the blades rotate rapidly) and low speed (the Mower moves slowly). If the grass is not too high and thick, the driving speed can be increased without noticeably depreciating the mowing result.
- The best lawns are achieved if the grass is cut often. Mowing becomes more uniform and the grass cuttings become more evenly distributed over the surface. The total time consumption is not greater since it is possible to select a higher driving speed without inferior mowing results.
- When the BioClip function is used, it is very important that the mowing interval is not too long.
- Hose down the cutting unit with water underneath each time it is used, avoid using a high pressure washer. The cutting unit should then be put in the service position.

Start the engine

- 1 Ensure that the bypass valves are closed.
- 2 Apply the parking brake.

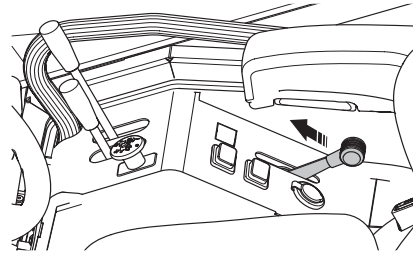


- 3 Stop the blades by pressing in the control for driving the cutting unit.

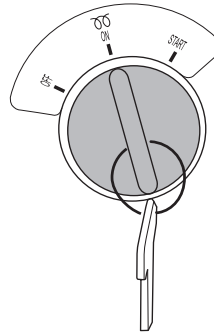


The engine will not start unless the parking brake is on and the cutting unit drive activated.

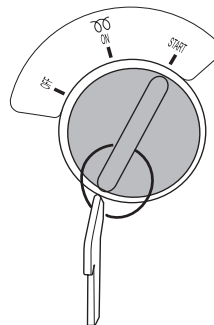
- 4 Move the throttle control to half throttle.



- 5 Turn the ignition key to the ignition position and hold it there until the indicator light on the instrument panel goes out.



- 6 Turn the ignition key to the start position.



- 7 When the engine starts release the ignition key immediately back to neutral position.
- 8 Set the required engine speed with the throttle control. Let the engine run at moderate speed or half throttle for 3-5 minutes before subjecting it to heavy load.

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



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

STARTING AND STOPPING

Starting when cold

If the engine fails to start due to the cold, repeat ignition and attempt to re-start. Start gas or ether must not be used.

For more information about winter fuel, please see 'Fuel handling'.

Half the radiator can be blocked to increase the working temperature of the engine at low ambient temperatures (under 0°C).

IMPORTANT! At temperatures below 0 ° C, the machine must be warmed up for at least 10 minutes for the hydraulic oil and transmission to get hot. Otherwise there is a risk of the transmission breaking down thereby reducing the service life of the transmission.

At temperatures below 0 ° C, the machine must be warmed up for at least 10 minutes for the hydraulic oil and transmission to get hot. Otherwise there is a risk of reducing the service life of the transmission or that the hydraulic system fails.

Starting the engine with a weak battery



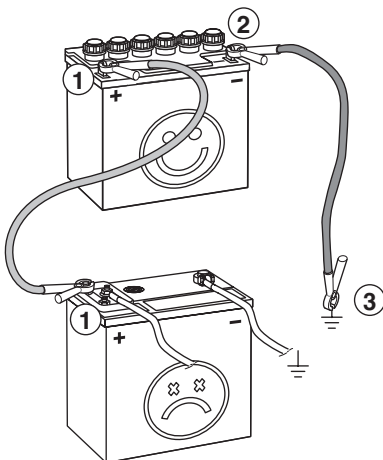
WARNING! Lead-acid batteries produce explosive gases. Avoid sparks, open flames and smoking close to batteries. Always wear protective glasses in the vicinity of batteries.

If the battery is too weak to start the engine, it should be recharged.

When jump leads are used for emergency starting, follow the procedure below:

IMPORTANT! Your Rider is equipped with a 12-volt system with negative earth. The other vehicle must also have a 12-volt system with negative earth. Do not use your Rider battery to start other vehicles.

Connecting the jump leads



WARNING! Never connect the negative terminal of the fully-charged battery to, or in the vicinity of, the negative terminal of the discharged battery. Hydrogen gas may be present with risk of explosion.

- 1 Connect each end of the red cable to the POSITIVE pole (+) on each battery, exercise care not to short circuit any of the ends against the chassis.
- 2 Connect one end of the black cable to the NEGATIVE pole (-) on the fully charged battery.
- 3 Connect the other end of the black cable to a good CHASSIS EARTH, away from the fuel tank and the battery.

Remove the cables in the reverse order

- The BLACK cable is removed from the chassis and then the fully charged battery.
- Finally the RED cable from both batteries.

IMPORTANT!

Never use a boost charger/start booster.

Use only conventional battery chargers. Always disconnect the charger before starting the engine. So called boost chargers/start boosters must never be used. These will often increase the voltage (instead of the current) to generate the power needed to start the engine. This increase in voltage will damage the electrical system.

STARTING AND STOPPING

Braking



WARNING! Never use the reverse pedal to brake the machine without the cutting unit mounted. Risk of the machine overturning.

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

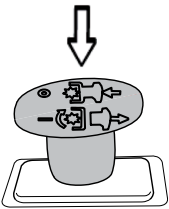
Quicker braking is possible if you press down the drive pedal for the opposite direction.

Stop the engine

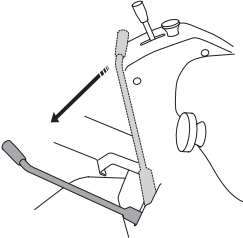
Always park the machine on a level surface with the engine OFF.

Preferably allow the engine to idle for a minute to obtain normal working temperature before stopping it if it has been working hard.

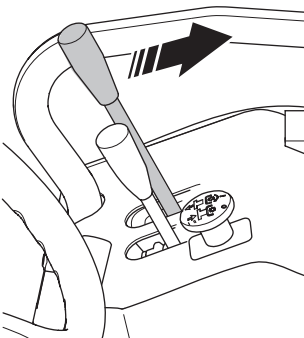
- 1 Stop the blades by pressing in the control for driving the cutting unit.



- 2 Apply the parking brake by moving the handle downward.



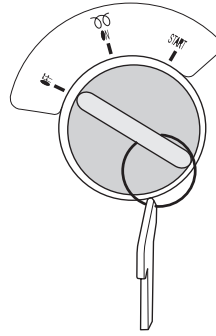
- 3 Lift the cutting unit with the hydraulic lifting lever.



- 4 Move the throttle control to the MIN. position.



- 5 Turn the ignition key to "OFF"-position.



MAINTENANCE AND SERVICE

Maintenance schedule



WARNING! No service procedures must be conducted on the engine or cutting unit unless:
 The engine is switched off.
 The parking brake is applied.
 The ignition key is removed.

The following is a list of the maintenance which should be conducted on the machine. For those points not described in this manual, visit an authorised service workshop.

Maintenance	Daily maintenance		Maintenance interval in hours					
	Before starting	After work is completed	10	40	100	200	400	800
Check the safety system	X							
Check for fuel and oil leakage.	O							
Check the engine's oil level	X		X					
Check coolant level and antifreeze.	X		X					
Checking the transmission oil level	X		X					
Check and clean the engine's cooling air intake, clean the radiator.		X	X					
Cleaning		X						
Clean and lubricate the splines in the wheel hub.							O	
Start engine and blades, listen for noise		O						
Check nuts and screws		O						
Clean underside of cutting unit		X						
Lubricate throttle cable				X				
Grease the blade shafts				X				
Check air filter			X					
Check the tyre pressures.			X					
Lubricate according to lubrication schedule, see under heading "LUBRICATION"				X	X			
Clean thoroughly around engine				X				
Clean thoroughly around transmission				X				
Clean the air filter and empty the particle collector				X				
Checking the blades				X				
Replace the fuel filter.					X			
Change engine oil and filter ¹⁾					X			
Check the synchronisation between the front and rear wheels.					O			
Change hydraulic oil ⁴⁾ and hydraulic filter ^{3,4)} .							O	
Check oil level in the bevel gear, top up if necessary.						X		
Check belt tension and condition (alternator belt, PTO belt, cutting unit belt)					X			
Check the battery condition, clean as necessary.				X				
Check the wheel nuts.						O		
Check the parking brake						X		
Replace the air filter ²⁾ .						X		
Change belts (PTO belt and cutting unit belt).							X	
Change the oil in the bevel gear.							X	
Change pump and alternator belt								X
Change coolant (50% glycol).							X	
Service at an authorised service representative.					O			

¹⁾First change after 25 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⁾First change after 25 hours. ⁴⁾Conducted by authorised service workshop.

X = Described in this operator's manual

O = Not described in this operator's manual

IMPORTANT! When the machine is in operation the hoses are under high pressure. Do not try to connect or disconnect the hoses when the hydraulic system is operational. This can result in serious personal injuries.

MAINTENANCE AND SERVICE

General

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 state your machine's purchase year, model, type, and serial number.

Always use genuine parts.

An annual check-up by an authorised servicing dealer is a good way to ensure that your ride-on mower performs at its best the following season.

Cleaning

Clean the machine directly after use. It is much easier to wash off grass cuttings before they dry.



Oily dirt can be removed using a cold degreasing agent. Spray on a thin layer.

Rinse at normal water pressure.

Do not direct the jet towards electrical components or bearings.

Do not rinse hot surfaces such as the engine and exhaust system.

It is recommended that you start the engine and run the mower for a short period after cleaning, so that any remaining water is blown off.

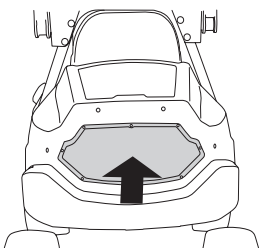
Lubricate the machine if necessary after cleaning. Carry out extra lubrication when the bearings have been exposed to a degreaser or a water jet.

IMPORTANT! Avoid using a high pressure washer or a steam cleaner.

There is a major risk of water penetrating into bearings and electrical connections. Corrosion attack can result, which will lead to running problems. Cleaning additives generally aggravate the damage.

Checking the engine's cooling air intake

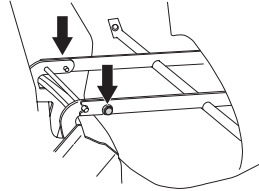
- Make sure the radiator grille is free of leaves, grass and dirt.



Cleaning the radiator cell package

Clean the radiator with compressed air. Use compressed air blown from the engine compartment through the cell package and back.

- Open the engine cover.
- If necessary, remove the engine cover. For more information, see 'Removing the ride-on mower covers'.

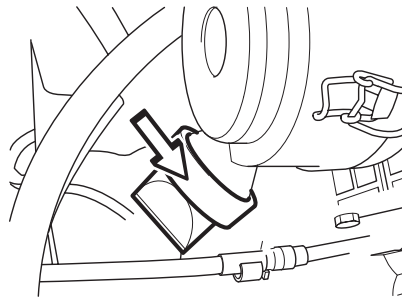


Cleaning the air filter

If the engine seems to lack power or does not run smoothly this may be because the air filter is clogged. When driving with a dirty air filter the engine can suffer from lack of air, so that it does not meet environmental requirements and the engine does not provide full power.

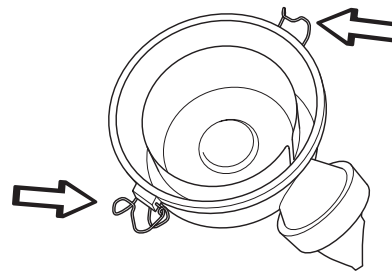
Emptying the particle collector

- Squeeze so that the rubber tabs open and the particles can escape.

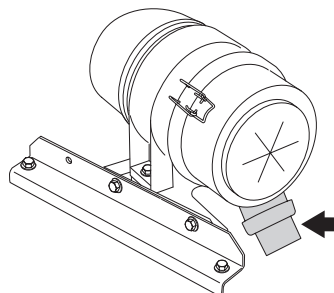


Cleaning the filter cover

- Loosen the two fasteners holding the filter cover and remove it.



- Clean the inside of the lid. It can be washed with soapy water and blown with compressed air when the lid is removed.
- Replace the air filter cover, ensure that the particle collector is facing downwards.



MAINTENANCE AND SERVICE

Cleaning the engine and muffler

Keep the engine and muffler free from grass cuttings and dirt. Clipping debris soaked in fuel or oil on the engine means increased risk of fire and impaired cooling.

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

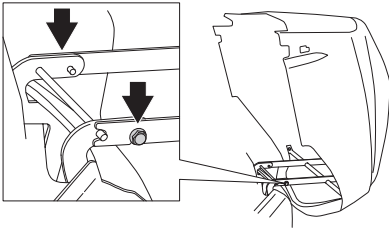
Grass cuttings around the muffler dry quickly and constitute a fire risk. Brush or wash them off when the muffler is cold.

Removing of the machine hoods



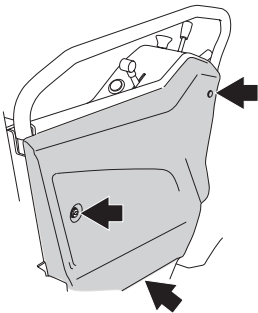
WARNING! Always check that the guards are correctly fitted before starting the machine.

Engine cover



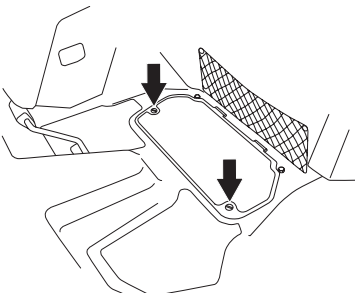
- Loosen the rubber straps on the side of the cover and lift up the engine cover.
- If necessary the engine cover can be lifted off by removing the bolts.

Side cover



- Loosen the screws holding the side cover and remove it.

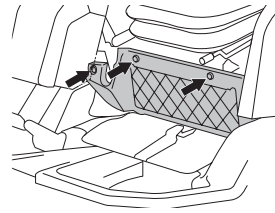
Service hatch



A service panel is fitted in the base plate.

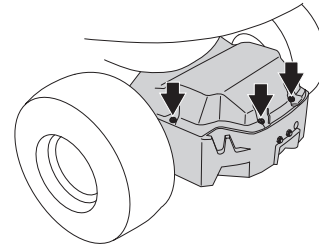
- Loosen the screws and lift off the panel.

Cover Plate



- Loosen screws and remove the cover plates.

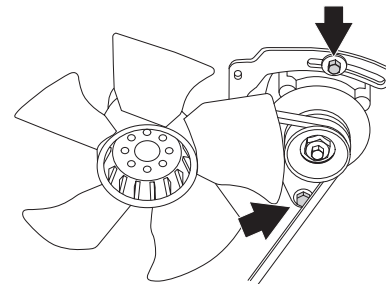
Transmission cover



- Loosen the screws and remove the transmission cover.

Adjustment of pump and alternator belt

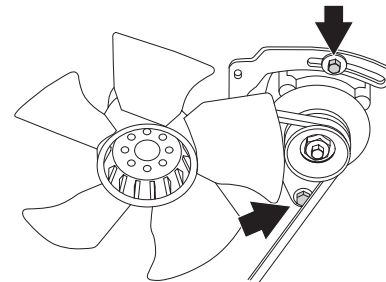
- Loosen the lower mounting screw and upper adjustment screw a few turns.



- Tension the belt by pulling the alternator along the track. It must be possible to press the belt in about 1 cm with your thumb without too much pressure.
- Tighten the adjustment screw securely.

Change pump and alternator belt

- Loosen the lower mounting screw and upper adjustment screw a few turns.



- Take off the old belt and fit the new one.
- Tension the belt by pulling the alternator along the track. It must be possible to press the belt in about 1 cm with your thumb without too much pressure.

MAINTENANCE AND SERVICE

Adjusting the parking brake

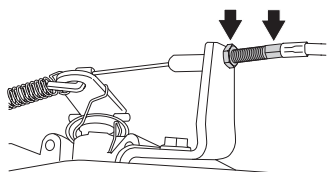
Make sure the parking brake is properly adjusted by placing the machine on a slope.

Apply and lock the parking brake.

When the machine does not stand still, the parking brake should be adjusted according to the following.

- 1 Position the machine on flat ground.
- 2 Make sure the parking brake is released.
- 3 Adjust so there is 1 mm play between the outer cable and the adjuster screw when you pull the outer cable.

Adjust the adjuster screw using the nuts.



- 4 Tighten the nuts carefully to prevent damaging the adjuster screw.
- 5 The parking brake should be checked again after the adjustment has been made.



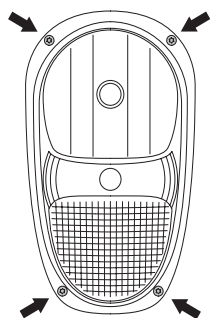
WARNING! A poorly adjusted parking brake can result in reduced braking ability.

Replacing the light bulbs

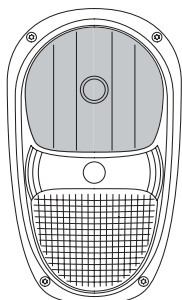
For information about the bulb type, see Technical Data.

Low beam, parking lights, turning lights

Unscrew the 4 screws holding the lamp insert.

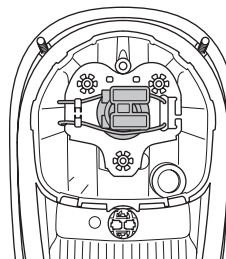


Low beam



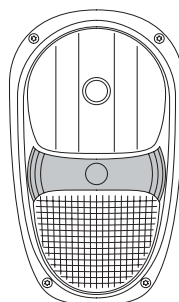
- Loosen the cables from the lamp.

- Loosen the lamp by holding down the spring lock.



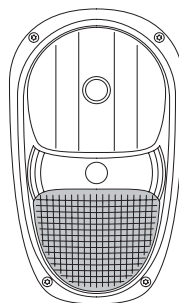
- Insert the new lamp.
- Refit the cables and lamp insert.

Parking lights

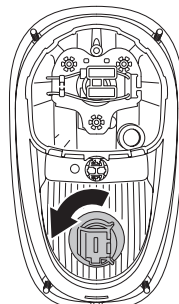


- Loosen the cables from the lamp.
- Lift out the bulbs from the insert.
- Insert the new lamp.
- Refit the cables and lamp insert.

Turning lights



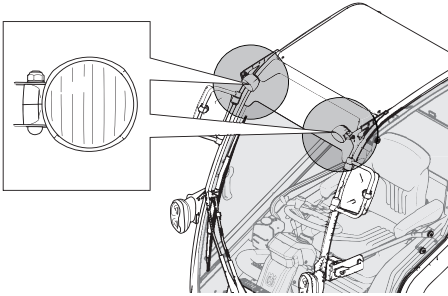
- Loosen the cables from the lamp.
- Loosen the lamp from the lamp insert by turning the lamp counterclockwise.



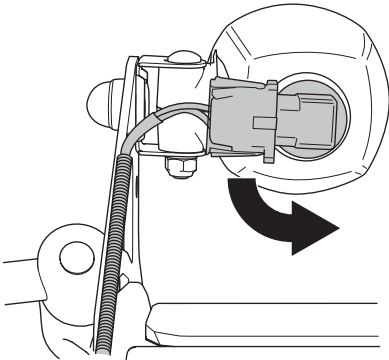
- Insert the new lamp.
- Refit the cables and lamp insert.

MAINTENANCE AND SERVICE

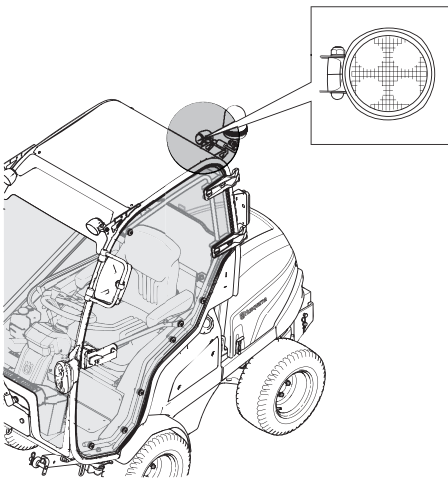
Work light - front



- Loosen the cables from the lamp.
- Loosen the lamp from the lamp insert by turning the lamp counterclockwise.

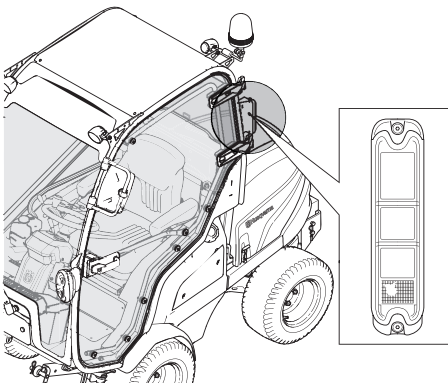


Work light - rear



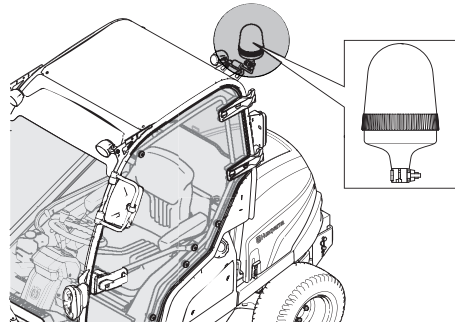
- Remove the entire connector and change the lamp-

Taillights



- Remove the entire connector and change the lamp-

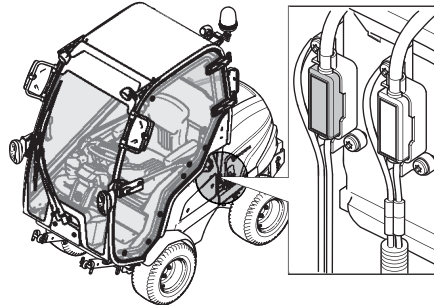
Rotating warning light



- Remove the entire connector and change the lamp-

Main fuse

The machine has a high-power safety fuse located in a box on the top of the battery plus terminal.



A feeder fuse for the electrical connection box is located on the front of the battery box in the engine compartment.

Other fuses are in the electrical connection box behind right side cover.

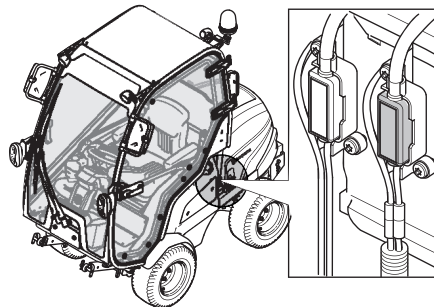
A blown fuse is indicated by a burnt connector. Pull the fuse from the holder when replacing.

The fuse is there to protect the electrical system.

Do not use any other type of fuse when replacing. 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.

Fuses - cab

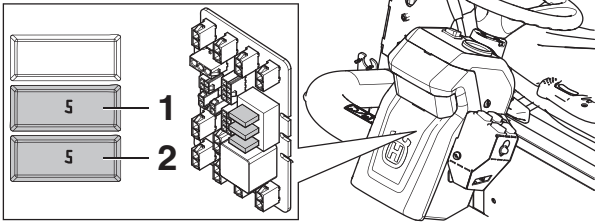
Cab fuses are located on the front of the battery box in the engine compartment.



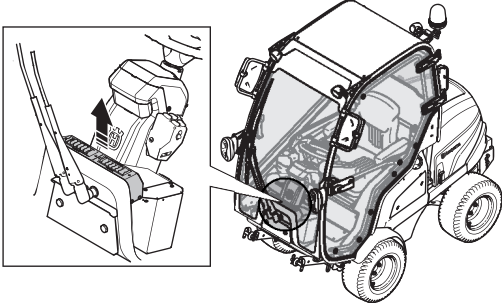
- Open the engine cover. For more information, see 'Removing the ride-on mower covers'.
- A blown fuse is indicated by a burnt connector. Pull the fuse from the holder when replacing. Do not use any other type of fuse when replacing.

MAINTENANCE AND SERVICE

The traffic kit fuses are located under the cover for the servo housing.

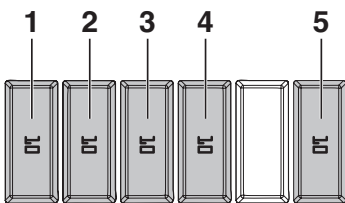


- 1 Horn - 5 amp.
- 2 Parking lights - 5 amp.
- The air distributor must be unscrewed in order to obtain better access to the servo housing. The air distributor is at the bottom of the window inside the cab. Dismantle by loosening the 4 screws and lifting off the air distributor.



- Unscrew the two screws holding the cover on the power servo housing.
- A blown fuse is indicated by a burnt connector. Pull the fuse from the holder when replacing. Do not use any other type of fuse when replacing.

Fuses in cab roof.



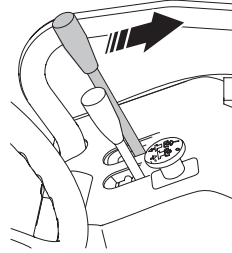
- 1 Window wiper - 10 Amp.
- 2 Fan - 10 Amp.
- 3 Work light - rear - 10 Amp.
- 4 Low beam - 10 Amp.
- 5 Work light - front - 10 Amp.

Service position for the cutting unit

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

Placing in the service position

- 1 Position the machine on flat ground. Apply the parking brake.
- 2 Raise the cutting unit halfway.

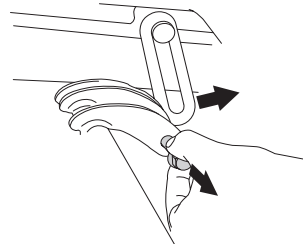


- 3 Turn off the motor.

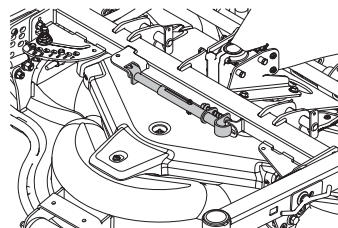


WARNING! Never leave the universal drive shaft of the machine with one end loose. If the engine is started, damage can occur.

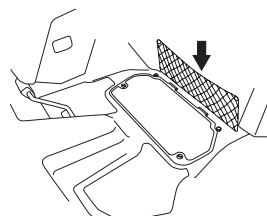
- 4 Remove the lifting eyes from the cutting unit.



- 5 Lower the cutting unit to the lowest position. The cutting unit now hangs free at the back.
- 6 Remove the universal drive shaft completely. Lift off the lock chains.
- 7 Disconnect the hydraulic hoses from the quick connections on the machine. (**Combi 132 X, Combi 155 X**)
- 8 Remove the service strut from the cutting unit.

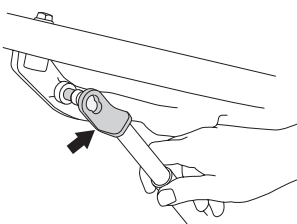


If it is the first time the service strut is removed, remove the safety strap from the strut and place it in the storage compartment under the seat.

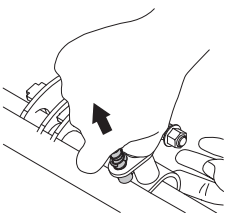


MAINTENANCE AND SERVICE

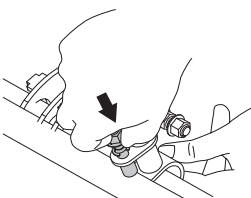
- 9 Fit the service strut to the attachment under the base plate. The attachment is highlighted in red.



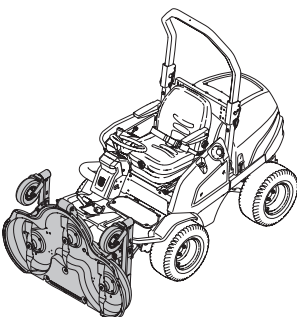
- 10 Fit the other end of the strut to the cross tube on the cutting unit. Pull out the pin and move the strut over the cross tube to the position marked in red.



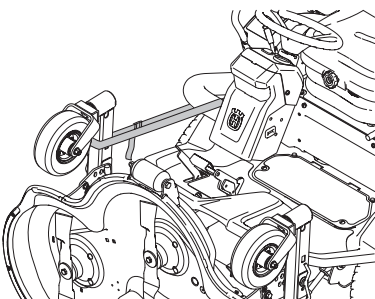
- 11 Release the pin so that it locks over the cross tube.



- 12 Start the engine and raise the cutting unit to the service position.

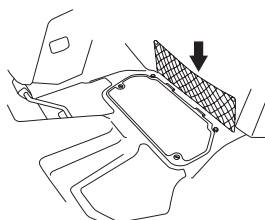


- 13 Secure the cutting unit with the safety belt, which is stored in the storage compartment under the seat.

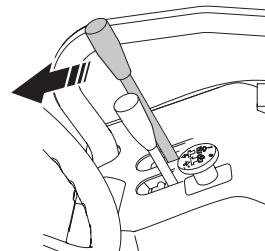


Restoring from service position

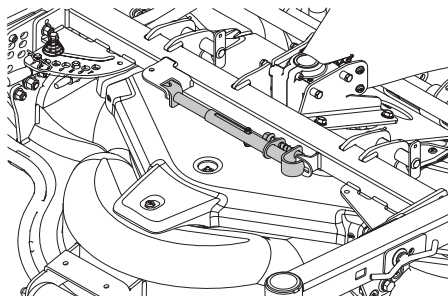
- 1 Remove the safety belt and place it in the storage compartment.



- 2 Lower the cutting unit to the lowest position.



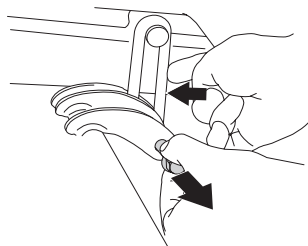
- 3 Remove the service strut and place it on the cutting unit.



- 4 Fit the universal drive shaft to the cutting unit. Secure the front locking chain to the universal joint cover around the cross pipe.

- 5 Start the engine. Raise the cutting unit halfway.

- 6 Fit the lifting eyes which are attached to the lift arms. Pull out the catch and press in the lifting eye. There is one for each lift arm.



- 7 Lower the cutting unit.

MAINTENANCE AND SERVICE

Cutting height and tilt angle adjustment.

When a cutting unit is installed the cutting height and tilt angle need to be adjusted

The adjustment must be made in the stated order.

Starting position:

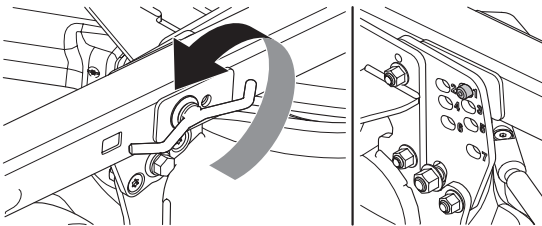
- 1 Check the tyre pressures. The tyre pressure should be 1.5 bar/150 kPa/22 PSI for all wheels
- 2 Place the machine on a flat surface.
- 3 The cutting deck must be fully lowered on a level surface.

Cutting height - Combi 132, Combi 155

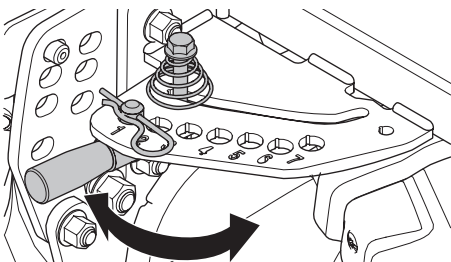


WARNING! Keep unauthorised persons at a distance. You are responsible to ensure that animals and onlookers are not within the working area.

- 1 Position the machine on flat ground. Apply the parking brake.
- 2 Raise the cutting unit halfway.
- 3 Turn off the motor. Adjust the cutting height by loosening the handle and selecting the desired cutting height. Cutting height (1-7) is indicated inside the adjusting plate. The handle can be placed in different holes depending on the cutting height. Set the same height on all three control points.



- 4 Hand tighten the cutting height adjustment knob.
- 5 Adjust the control on the cutting unit. Remove the locking pin and pull the control the required position. Set the same height on all three control points.

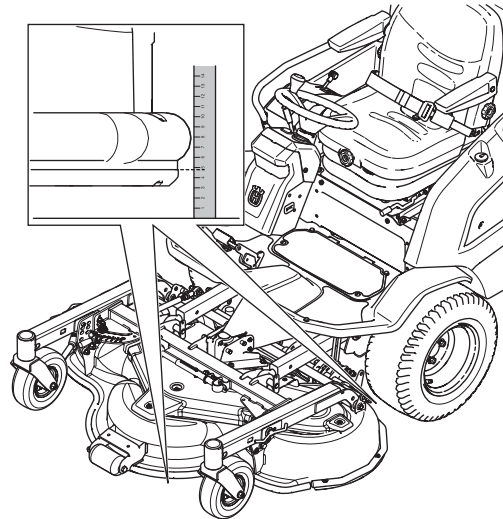


Height intervals are in seven different positions.

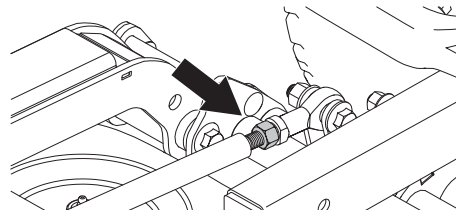
Frequency	Approximate cutting height mm/in
1	30 / 1,18
2	40 / 1,57
3	52 / 2,04
4	64 / 2,51
5	76 / 2,99
6	93 / 3,66
7	112 / 4,41

Tilt angle - Combi 132, Combi 155

- Place the machine on a flat surface.
- Check the tyre pressures. The tyre pressure should be 1.5 bar/150 kPa/22 PSI for all wheels
- Measure the distance between the ground and the front and rear edges of the cutting unit hood.



- The rear edge of the cutting unit should be 6-9 mm (1/4"-3/8") higher than the front of the unit.
- If necessary, loosen the lock nut and turn the adjusting brace. Extend the brace to raise the rear edge of the cutting unit.



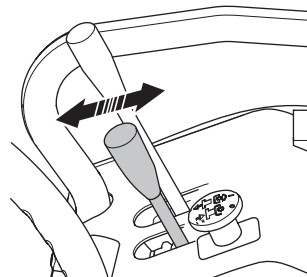
- Tighten the lock nut against the ball joint.

Cutting height - Combi 132 X, Combi 155 X



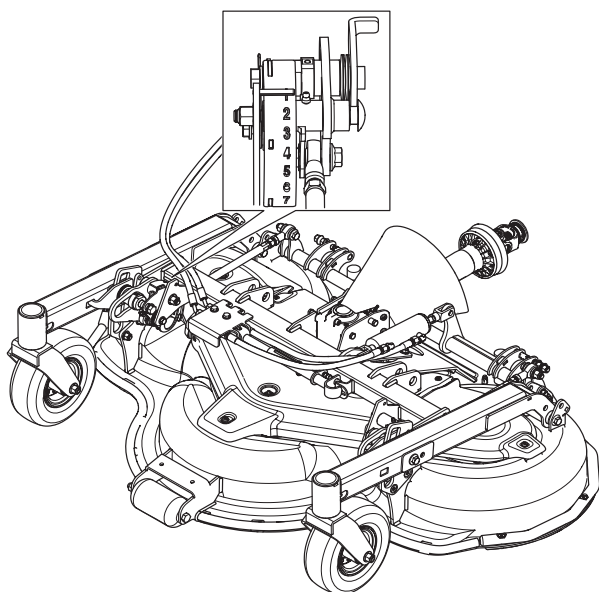
WARNING! Keep unauthorised persons at a distance. You are responsible to ensure that animals and onlookers are not within the working area.

- 1 Position the machine on flat ground. Apply the parking brake.
- 2 Adjust the cutting unit to the lowest cutting height and lower the cutting unit.
- 3 Adjust the cutting height by moving the lever forwards or backwards. The height adjustment is variable.



MAINTENANCE AND SERVICE

- 4 The selected cutting height is indicated on the cutting deck.

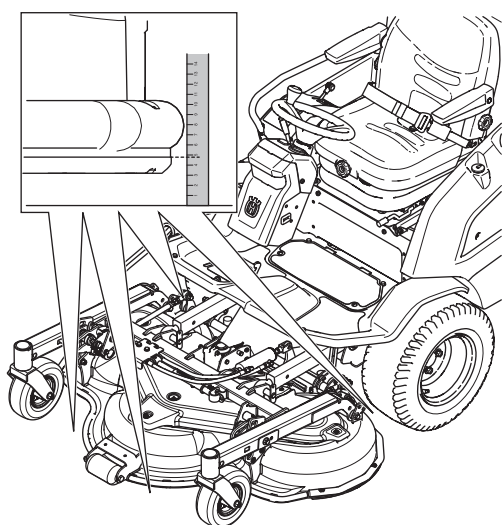


The adjustment bar raise and lower function depends on the location of the hydraulic hoses in the quick couplings on the machine.

- Test adjustment bar function by depressing the button on the bar and moving it backwards and forwards.
- Switch the raise and lowering function by changing the location of the hydraulic hoses.

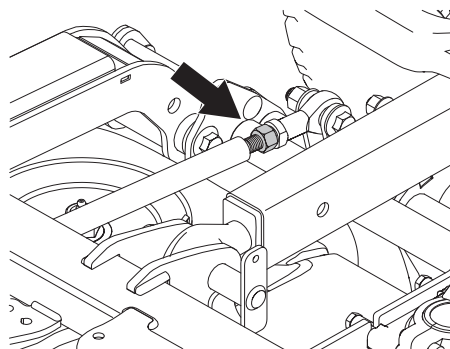
Tilt angle - Combi 132 X, Combi 155 X

- Place the machine on a flat surface.
- Check the air pressure in the tyres. The tyre pressure should be 1.5 bar/150 kPa/22 PSI for all wheels.
- Measure the distance from the front and back edge on both sides of the deck to the ground.



- The rear edge of the cutting unit should be 6-9 mm (1/4"-3/8") higher than the front of the unit.

- If necessary, loosen the lock nut and turn the adjustment screw on both sides of the cutting deck. Extend the stay in order to raise the front edge of the cutting deck.



- Tighten the lock nut against the ball joint.

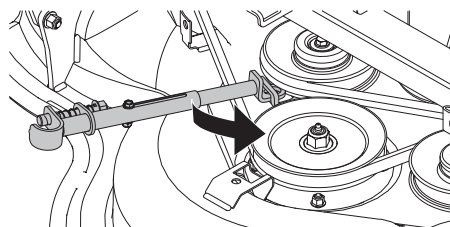
Replacing the cutting unit belts



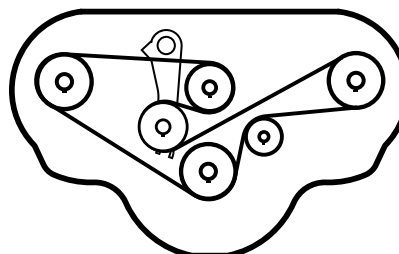
WARNING! Protect your hands with gloves. There is a risk of crush injuries when working with the belt.

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

- 1 Remove the screws holding the belt covers and lift them off.
- 2 Use the service strut to relieve the spring and release the belt tension.



- 3 Prise the belt off the pulleys.
- 4 Fit the belt around the pulleys. The belt tightening schedule is on a decal located on the cutting unit under the belt cover.



- 5 Fit covers.

MAINTENANCE AND SERVICE

Checking the blades

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

Check that the blades' attachment screws are tight. Screws should be torque tightened to 84 Nm.

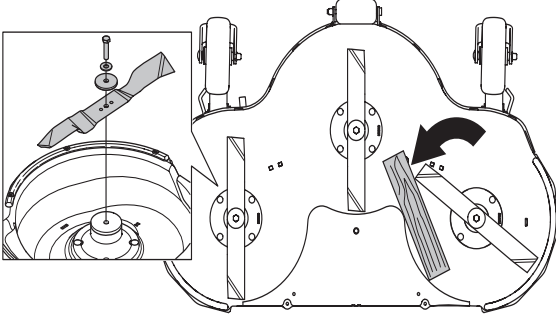
IMPORTANT! One or more unbalanced blades, caused by damage or poor balancing after sharpening, can cause vibrations in the machine.

The blades should be balanced after sharpening.

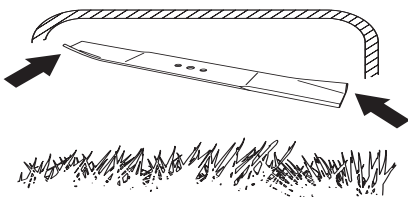
Damaged blades should be replaced when hitting obstacles that result in a breakdown.

Replacing the blades

- Put the unit in the service position, see Placing in the service position.
- Remove the equipment frame.
- Lock the blade with a wooden block. Loosen the blade bolt and remove the blade bolt, the washers and the blade.



- Assemble the parts in the reverse order.
- The blade must be mounted with the angled ends pointing up towards the cover.



- Tightening torque **80-84 Nm (8,15-8,56 kpm/59-62 lbft)**.



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

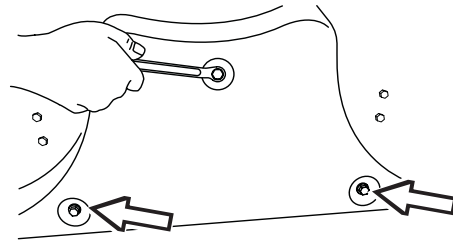
IMPORTANT! Always exercise care and use your common sense. Avoid all situations which you consider to be beyond your capability. If you still feel uncertain about operating procedures after reading these instructions, you should consult an expert before continuing. Contact an authorised service workshop.

Always use genuine parts. For more information, see the "Technical data" section.

Removing the BioClip plug

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

- 1 Put the unit in the service position, see Placing in the service position.
- 2 Remove the three screws holding the BioClip plug, and remove the plug.

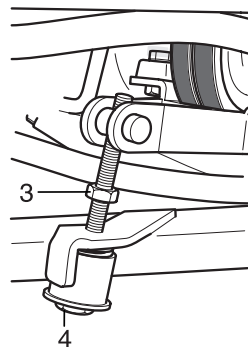


- 3 Tip: Fit three full-thread screws M8x15 mm in the screw holes to protect the threads.
- 4 Replace the unit in normal position.

Fit the BioClip plug in the reverse order.

Adjustment of PTO belts

- 1 Tighten screw (4) until the sleeve bottoms against the frame bracket. Tighten lock nut (3) whilst holding screw (4) firmly.



MAINTENANCE AND SERVICE

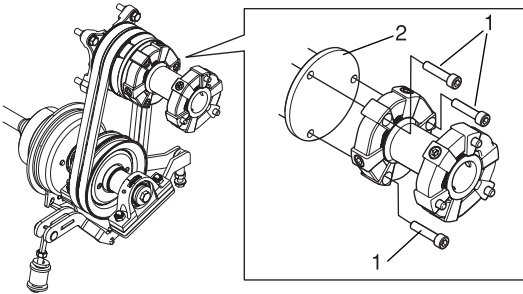
Change PTO belts



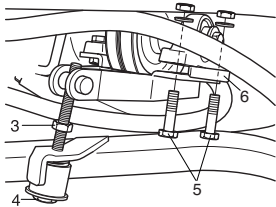
WARNING! Protect your hands with gloves. There is a risk of crush injuries when working with the belt.

Always replace the belts in pairs.

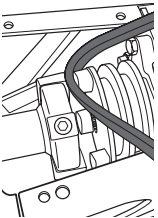
- 1 Prevent the engine from starting by removing the ignition key before making any adjustments or performing maintenance.
- 2 Fold down driver's seat.
- 3 Remove the cover plate of the hydraulic pump drive shaft.
- 4 Unscrew the bolts (1) of the coupling that connects the drive shaft and the hydraulic pump and remove the spacer ring (2) from the coupling. The drive shaft must be locked with some kind of tool, for example, a big U-spanner or screwdriver.



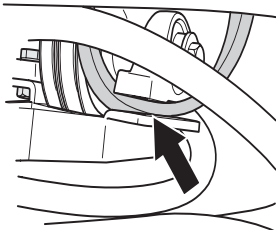
- 5 Loosen the lock nut (3) and the lower screw (4) until it is completely free from the belt tensioner.



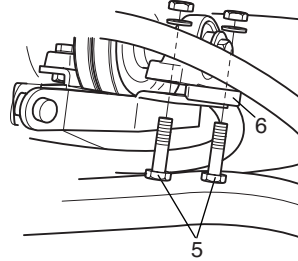
- 6 Remove rear bearing spacer screws (5) and remove the spacer (6).
- 7 Cut/pull off the old belts.
- 8 Pull the new belts through the gap between the spacer ring and the hydraulic pump.



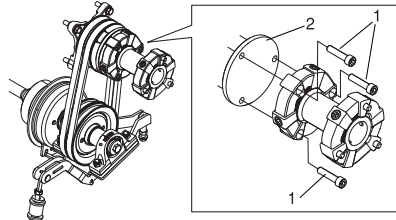
- 9 Feed the lower part of the strap between the bearing bridge and the bracket.



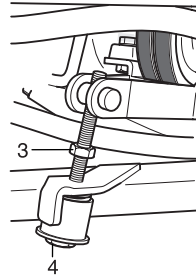
- 10 Pull the belt onto the pump belt pulley first and then onto the lower belt pulley. Repeat the procedure with the second belt.
- 11 Fit the spacer (6) to the bearing bridge and screw the bearing bridge tight with the associated screws (5). Torque 47 Nm.



- 12 Replace the spacer ring (2) and screw the hydraulic pump securely to the drive shaft. Torque for the screws (1) is 47 Nm.



- 13 Fit the belt tensioner screw with spring and sleeve. Tighten screw (4) until the sleeve bottoms against the frame bracket. Tighten lock nut (3) whilst holding screw (4) firmly.



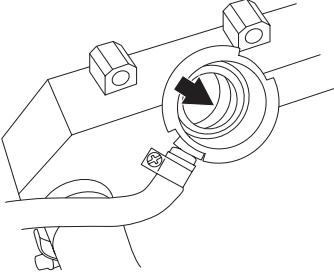
- 14 Check belt tension after the first 25 hours after belt change.

MAINTENANCE AND SERVICE

Change coolant

Correct coolant level is important for the cooling system to function properly. Therefore the coolant level must be checked regularly.

The coolant should be visible when the filler cap is removed.



Repeated coolant loss normally indicates leakage. The cooling system should be checked by a professional. It is not sufficient just to top up with coolant.

If the engine boils, coolant will be lost. Open the radiator cap and allow the coolant to cool down. Allow the engine cool before filling.

The cooling system must not be filled with salt water, as this will cause corrosion damage to the engine.

Replace coolant if it is discoloured or cloudy

The cooling system must then be thoroughly flushed.

Use only glycol-based antifreeze approved to BS 6580:1992 or ASTM D 3306-89 or AS 2108-1977 (indicated on the packaging).

The antifreeze must be intended for alloy engines.

Your Husqvarna supplier can provide the right type of antifreeze.

Use antifreeze all year round and even in climates where there is no risk of frost.

Antifreeze contains additives that protect the engine cooling system against corrosion

The coolant and antifreeze should be changed at least every two years.

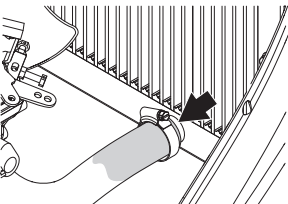


WARNING! Do not open the cap quickly when the engine is hot without first releasing the pressure by partially opening the cap. Risk of burns. Wear protective gloves and goggles.

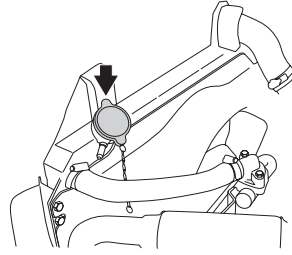


WARNING! Antifreeze and coolant are dangerous to health. Keep them in storage in labelled containers and away from children and animals.

- When emptying loosen the lower hose to the radiator.



- Remove the filler cap.



Fill only with antifreeze and water mixed according to the following table.

Propylene glycol (MPG)	Water	Freezing point
60 %	40 %	-47 °C / -53 °F
50 %	50 %	-37 °C / -35 °F
40 %	60 %	-25 °C / -13 °F

IMPORTANT! Never add cold coolant to a hot engine. Risk of comprehensive engine damage.

- Check the coolant when the engine has run for a few minutes after filling. There may have been air in the system that has been released.

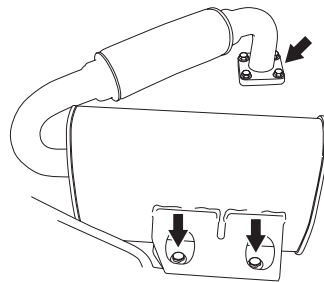
Inspecting the muffler



WARNING! The muffler gets very hot in use and remains so for a short time afterwards. Do not touch the muffler if it is hot!

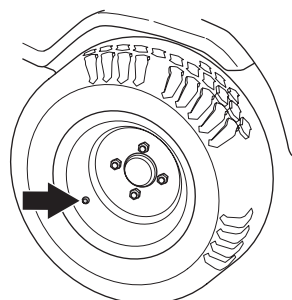
The muffler is designed to keep noise levels to a minimum and to direct exhaust fumes away from the user.

- Check regularly that the muffler is complete and secured correctly.



Checking the tyre pressure

The tyre pressure should be 1.5 bar/150 kPa/22 PSI for all wheels for best bearing capacity.



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

MAINTENANCE AND SERVICE

Check the battery



WARNING! Lead-acid batteries produce explosive gases. Avoid sparks, open flames and smoking close to batteries.

Always wear protective glasses in the vicinity of batteries.

The machine is equipped with a maintenance-free battery. The battery has a service window showing different colours.

- White = Charge battery
- Green = OK.
- Red = Change battery.

Clean the battery and holder with soap/water solution.

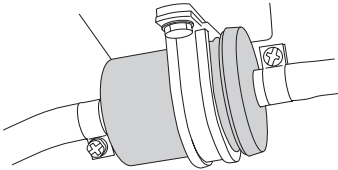
A discarded or replacement battery should be handled as hazardous waste.

Replacement of fuel filter

P520 D, P525 D has two fuel filters. A pre-filter and main filter.

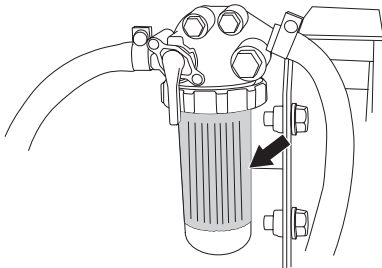
Replace the fuel filter every 100 hours (at least once per season) or more often if it is clogged.

The pre-filter is located under the battery box and is replaced as follows.



- 1 Open the engine cover.
- 2 Loosen the hose clips
- 3 Move the hose clips away from the filter. Use a pair of flat pliers.
- 4 Pull off the filter from the hose ends.
- 5 Press the new filter into the ends of the hoses.
- 6 Push the hose clips back on the filter and tighten.

The main filter has a paper insert that is changed as follows.



- 1 Open the engine cover.
- 2 Unscrew the filter cover and remove the paper filter.

Replacing the air filter



WARNING! The exhaust system is hot. Let it cool before starting to replace the air filter.

If the engine seems to lack power or does not run smoothly this may be because the air filter is clogged. It is therefore important to replace the air filter at regular intervals (see Maintenance/Maintenance Schedule for the correct service interval).

Replace the air filter as follows:

- 1 Open the engine cover.
- 2 Loosen the two fasteners holding the filter cover and remove it.

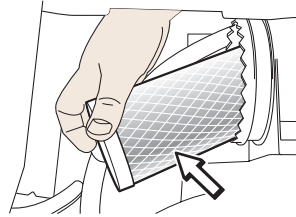
IMPORTANT!

Never run the engine without the air filter fitted.

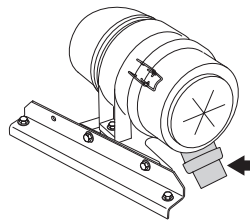
Poorly filtered inlet air is a main factor contributing to engine wear. Replace the air filter according to the service schedule or more often in dusty conditions

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

- 3 Remove the filter cartridge from the filter housing.



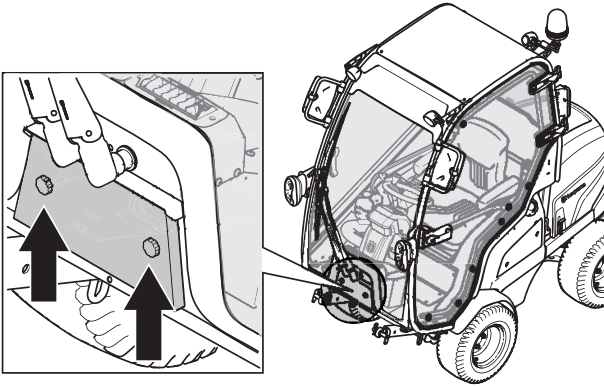
- 4 Wipe clean the interior of the air filter housing. If necessary, the cleaning cloth should be moistened with white spirit or fuel. Water or compressed air should not be used.
- 5 Clean the filter by knocking it with care against a hard surface. Do not use compressed air to clean the filter. Replace the air filter if it is still dirty.
- 6 Fit a new air filter cartridge with the hole inward and press it into place.
- 7 Replace the air filter cover, ensure that the particle collector is facing downwards.



MAINTENANCE AND SERVICE

Changing the fan system inlet filter

- 1 Loosen the knobs.



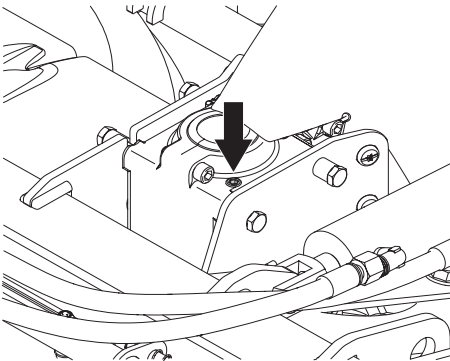
- 2 Pull out the filter holder.
- 3 Take the filter out of the filter holder and carefully brush it free from dirt. Change filter if necessary.

The cutting unit bevel gear

Check the oil level

Check the oil level when the cutting deck is in its lowest position.

- Insert a clean metal rod (approx. $\varnothing 3$ mm) through the filler plug. Lower the rod until it reaches the bottom of the gear housing (approx. 90 mm).



- Pull up the metal rod and read off the oil level. The oil level must be between 18-22 mm from the end of the rod.
- Fill with transmission fluid SAE 80W/90 as necessary.

CAUTION! Too high an oil level increases the risk of oil leakage.

Changing the oil

- Empty the bevel gear through the filler plug using a pump fitted with a plastic tube that extends to the bottom of the housing.

Alternative: Remove the cutting unit and plastic covers. Place the cutting unit on its edge and empty the bevel gear through the plug.

- Fill the bevel gear with 80 ml of transmission fluid SAE 80W/90

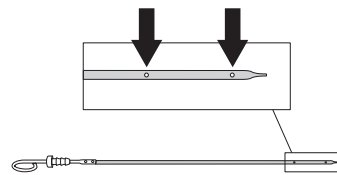
Checking the engine's oil level.

Check the oil level in the engine when the Rider stands horizontal with the engine switched off. Do not check the oil with the engine running.

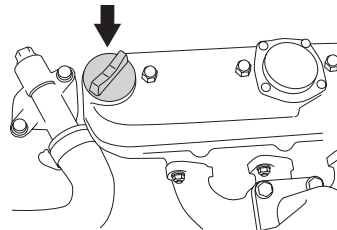
- Open the engine cover.
- Loosen the dipstick, pull it up and wipe it off.
- Now insert the dipstick again, **without tightening it**.
- Pull the dipstick out again and read the oil level.

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.



The oil filler is on the valve cap.

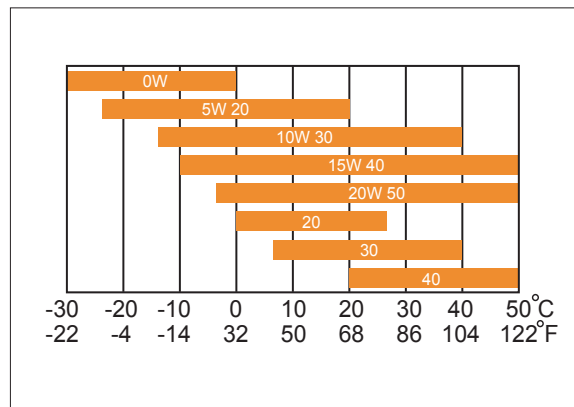


- Tighten the dipstick correctly before starting the engine.
- Start and run the engine at idling speed for approx. 30 seconds.
- Turn off the motor. Wait 30 seconds and check the oil level.
- If necessary fill so that the oil comes up to the FULL mark on the dipstick.

The following oil classes are recommended:

- API Service Class: CH4 or ACEA E5 or higher.

Choose an oil with viscosity according to the temperature ranges in the figure:



Do not mix different types of oil.

MAINTENANCE AND SERVICE

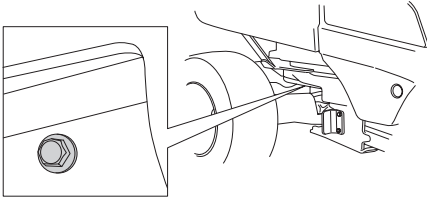
Replacing the engine oil



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

The engine oil should be changed the first time after 25 hours running time. It should then be changed after every 100 hours of running time.

- 1 Open the engine cover.
- 2 Place a container underneath the engine oil drain plug.



- 3 Remove the dipstick. Remove the drain plug from the engine.
- 4 Let the oil run out into the container.
- 5 Fit the drain plug and tighten it.
- 6 Change oil filter if necessary.
- 7 If necessary fill so that the oil comes up to the FULL mark on the dipstick.
- 8 Run the engine warm, then check that there is no leakage from the oil plug.
- 9 Check the engine oil level and top up if necessary.

IMPORTANT! Used engine oil, antifreeze etc. 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.

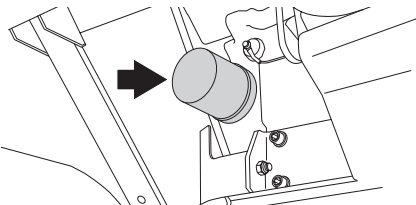
Changing the oil filter



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

The oil filter is located on the right side of the engine.

- Open the engine cover.
- Place a suitable vessel to collect the oil in.
- Turn the old oil filter anti-clockwise to remove. If necessary, use a filter remover.



- Clean the oil filter bracket.
- Lightly lubricate the rubber seal on the new oil filter using new oil.
- Fit the oil filter by turning clockwise. Turn by hand until the rubber seal is seated. Now tighten a further half turn.

- Start the engine and let it idle for about 3 minutes. Now stop it and check for signs of leakage.
- Check the engine oil level and top up if necessary.

IMPORTANT! Used engine oil and transmission oil is hazardous to health and must not be disposed of in the ground or out of doors.

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

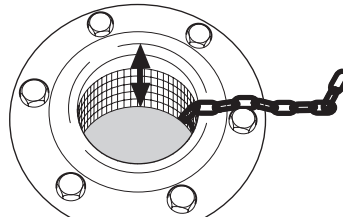
Avoid skin contact; wash with soap and water in case of spills.

Check the hydraulic system oil level

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

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

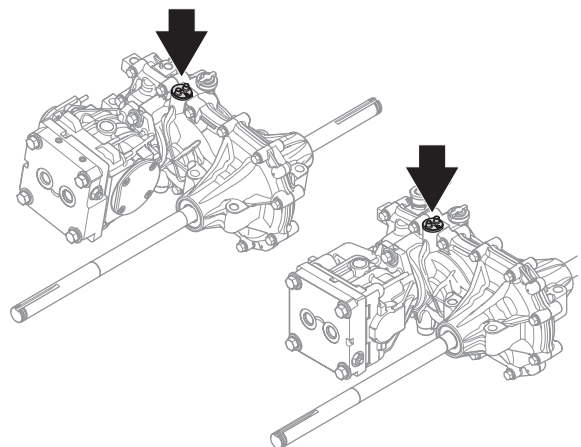
- Fold up the seat.
- Remove the filler cap. The level should be 40-60 mm from the strainer top.



- Refill as required with fully synthetic 10W/50 API SM oil or better

Check the oil level in the transmission gearboxes

- Use the oil dipstick to check that there is oil in the transmission.



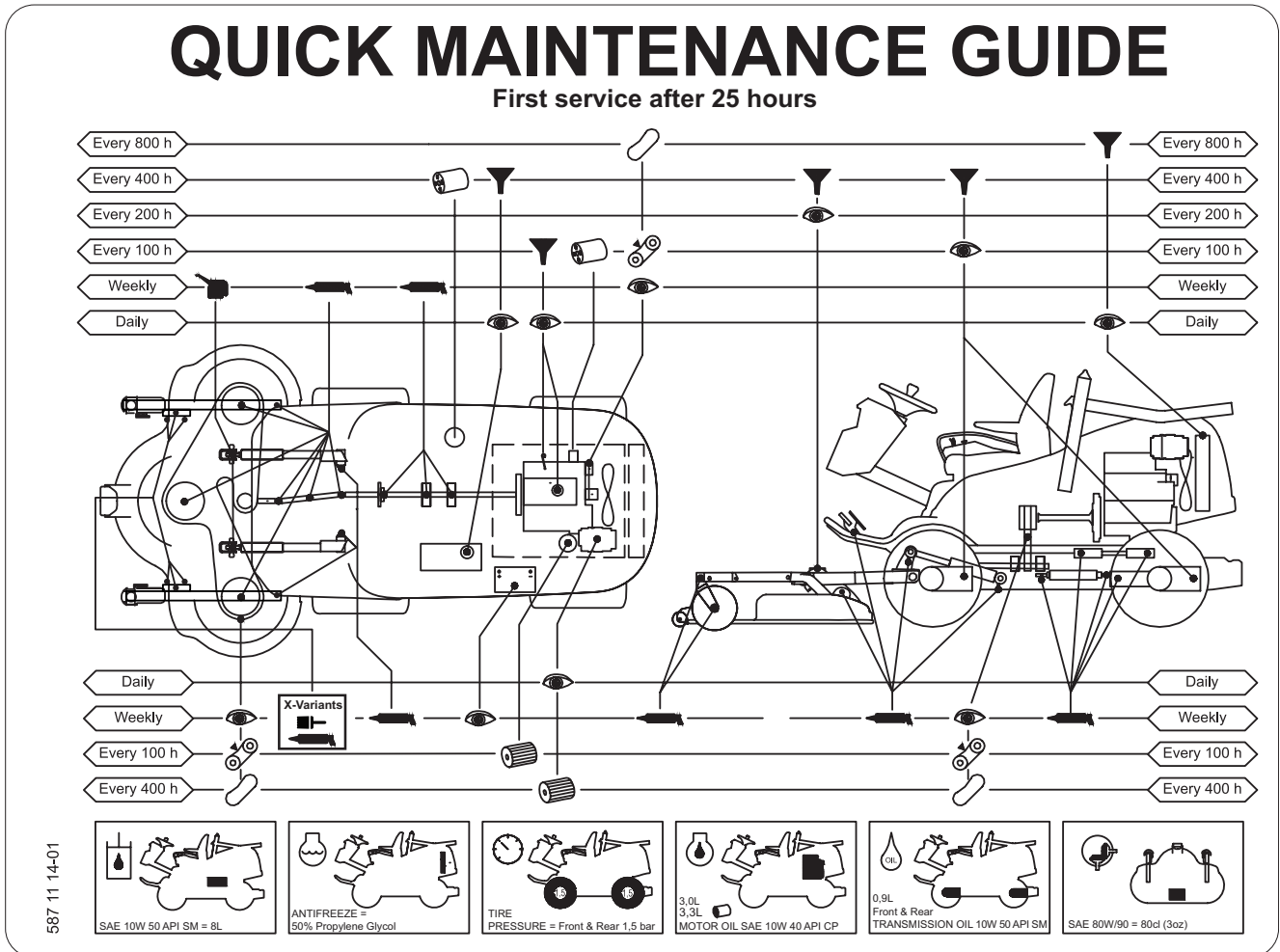
- The oil level should be between the markings on the dipstick.



- Refill as required with fully synthetic 10W/50 API SM oil or better

Lubrication

Lubrication schedule



Legend for the lubrication schedule

Filter replacement



Oil change



Level check



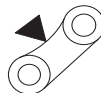
Grease nipple



Oil can



Check belts, condition and belt tension



Belt replacement



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.

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

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.

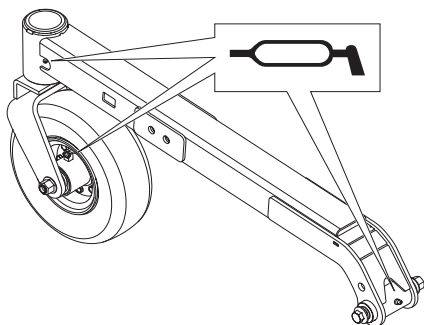
Lubrication

Accessories

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

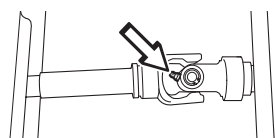
Pivot wheel bearings

4 nipples (sprocket and pivot shaft bearing), lubricate with grease gun until grease appears.



Universal drive shaft joints

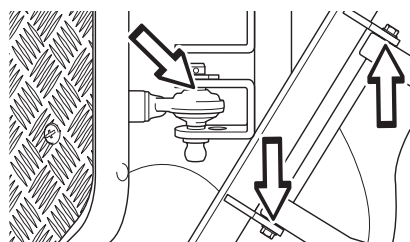
- Remove the service hatch.
- Loosen the two quick connectors on the universal drive shaft and remove the universal drive shaft.
- The universal drive shaft has two grease nipples, one on the front hub and one on the rear hub. Lubricate with a grease gun until the grease is forced out.



- Lubricate the telescopic joint of the universal drive shaft with grease.

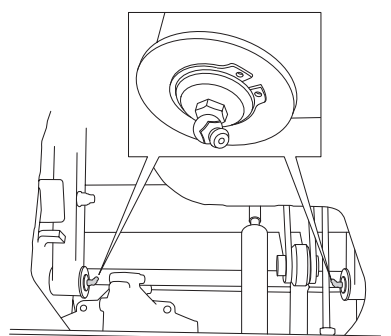
Cutting unit bracket

- Lubricate swivel joints and shafts with oil.



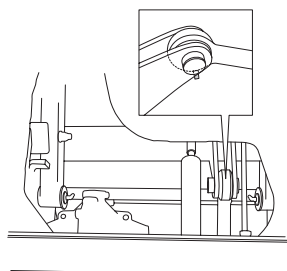
Lift arm rear bearings

- Remove the service hatch. For more information, see 'Removing the ride-on mower covers'.
- 2 grease nipples, one on each side. Lubricate with a grease gun until the grease is forced out.



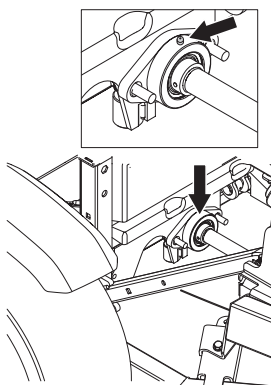
Lift cylinder

- Remove the service hatch.
- 2 grease nipples, one on each side. Lubricate with a grease gun until the grease is forced out.



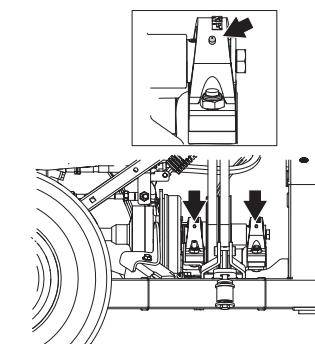
The drive shaft front support bearing

- Lubricate with a grease gun until the grease is forced out.



The drive shaft rear support bearing

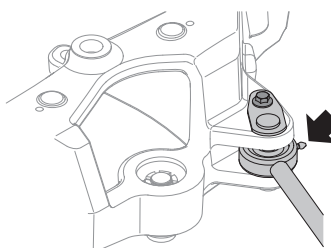
- 2 grease nipples. Lubricate with a grease gun until the grease is forced out.



Steering cylinder

The steering cylinder has two grease nipples, one on each end.

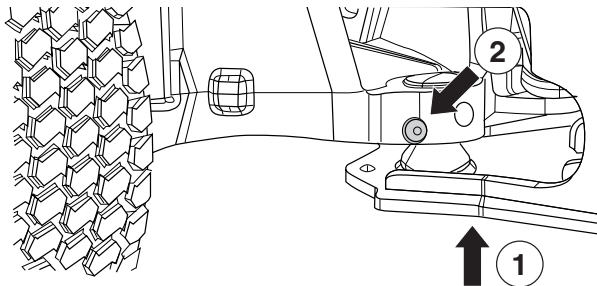
- Lubricate with a grease gun until the grease is forced out.



Lubrication

Joint bearing

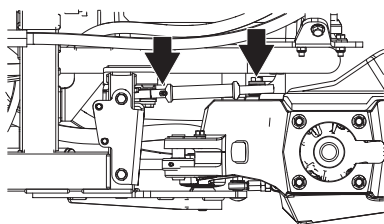
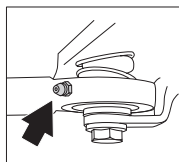
- Lift the machine under the joint bearing. This will allow the grease to enter into the correct lubricating point in the bearing. (1)
- Grease the waist section of joint bearing. Lubricate with a grease gun until the grease is forced out. (2)



Link brace

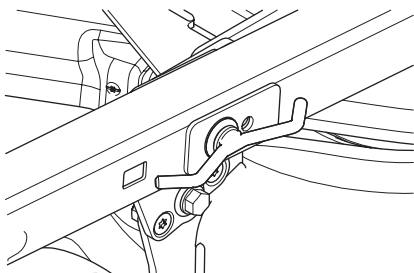
2 grease nipples, one on each side.

- Lubricate with a grease gun until the grease is forced out.



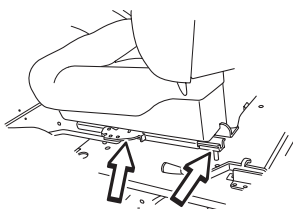
Knobs for setting the cutting height

- Lubricate front and rear knobs with oil.



Driver seat

- Fold up the seat.
- Lubricate the lever for longitudinal adjustment with oil.
- Lubricate the longitudinal adjustment runners with grease. Pull the seat back and forth and lubricate on both sides.



Lubricating the cables

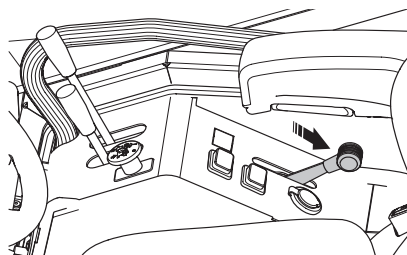
- Remove the cable's rubber casing when lubricating.
- Grease both ends of the cables and move the controls to end stop positions when lubricating.
- Re-attach the rubber covers on the cables after lubrication.

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.

A 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.

Throttle and choke cables, lever bearings

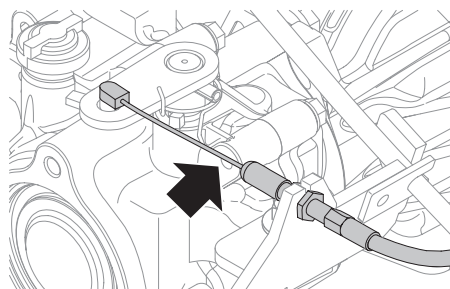
- Remove the right side cover on the lever housing (3 screws) and open the engine cover.
- Lubricate the cables' free ends with the oilcan, even those by the engine.
- Move the controls to the end points and lubricate again.



- Replace the lever housing's side cover.

Lubricate the parking brake wire

- Remove the rubber cover and lubricate the cable with oil.



Troubleshooting schedule

Problem	Cause
Engine does not start	There is no fuel in the fuel tank
	Air in fuel system
	Incorrect fuel type
	Ignition system inoperative
	Serious engine damage
Starter motor does not turn over the engine	Battery flat
	Poor contact affecting the battery terminal cable connections, ignition lock, or starter
	Power take off (PTO) activated
	Air in fuel system
	Fuse on or near the battery blown (check 2 off)
	Start lock broken
	Faulty starter motor
	The parking brake is not on
Faulty or improperly adjusted parking brake switch	
Engine does not run smoothly	Faulty relief valve
	Clogged fuel filter
	Air filter clogged
	Fuel tank vent blocked
	Low feed pressure
	Loose fuel pressure line (injector pipe)
	Faulty fuel injector
	Faulty injection pump
	Faulty feed pump
	Incorrect fuel type
Serious engine damage	
Abnormal exhaust smoke	
Black smoke	Incorrect amount of fuel from injection pump
	Faulty fuel injector
	Incorrect timing of fuel injection pump
	Air filter clogged
Blue smoke	Engine oil level too high
	Serious engine damage
White smoke	Cylinder head gasket damaged
	Cylinder head cracked
	Engine oil level too high
Engine seems to have no power	Air filter clogged
	Air in fuel system
	Clogged fuel filter
	Faulty relief valve
	Low feed pressure
	Faulty feed pump
	Incorrect timing of fuel injection pump
	Serious engine damage
Engine overheats	Engine overloaded
	Coolant level too low
	Air intake or cooling flanges blocked
	Fan damaged
	Too little or no oil in engine
	Incorrect radiator cap
	Coolant pump drive belt broken

Troubleshooting schedule

Battery does not charge	One or more battery cells faulty
	Poor contact on the battery terminal cable connectors
	Defective alternator
	Alternator belt broken or slipping
	Wires to the alternator broken
	Defective battery maintenance
	Sulphated battery
Machine vibrates	Blades are loose
	Damaged universal joint
	Engine is loose
	The hydraulic pump is loose
	Damaged support bearing for PTO shaft
	Bevel gear is loose
	The engine is not firing on all cylinders
	Pulley loose or worn bearing on cutting unit
	One or more blades unbalanced, caused by damage or poor balancing after sharpening
Uneven mowing	Blades blunt
	Cutting unit skew
	Long or wet grass
	Grass blockage under hood
	Different tyre pressures on right and left sides
	Different tyre pressures on pivot wheel
	Over-speeding
	Engine speed too low
	Cutting unit belt slipping
	PTO belt slipping
	Cutting height too low

TECHNICAL DATA

	P 520D	P 525D
Dimensions		
Unladen weight excluding cutting unit, kg/lb	857/1889,3	907/1999,6
Tyre dimensions	18 x 8,5 x 8	20x10x10
Air pressure, rear - front, kPa / bar / PSI	150/1,5/22	150/1,5/22
Engine		
Brand / Model	Kubota D902	Kubota D1105
Nominal engine output, kW (see note 1)	14,5 @3000 rpm	18,7 @3000 rpm
Displacement, cm ³ /cu.in	898 / 54.8	1123 / 68.5
Idle speed, rpm	1800 ± 50	1750 ± 50
Max. engine speed, rpm	3300	3200
Fuel, diesel fuel	min 45 cetane 2.0-4.5 cSt @ 40°C 0.835-0.855 kg/l sulphur<0.2w%	min 45 cetane 2.0-4.5 cSt @ 40°C 0.835-0.855 kg/l sulphur<0.2w%
Tank volume, litres/USqt	25 / 6.6	25 / 6.6
Oil, API class CD or better	SAE 10W/40	SAE 10W/40
Oil volume incl. filter	3,3/3,5	3,3/3,5
Oil volume excl. filter, litres/USqt	3,0/3,2	3,0/3,2
Starting	Electric starter	Electric starter
Electrical system		
Type	12 V, negative earthed	12 V, negative earthed
Battery	12 V, 62 Ah	12 V, 62 Ah
Main fuse, A	125	125
Supply fuse circuit board, A	50	50
Lights		
Low beam	H7	H7
Parking lights	W5W	W5W
Turning lights	PY21W	PY21W
Headlights	H9	H9
Taillights	LED lights	LED lights
Rotating warning light	LED lights	LED lights
Cooling system		
Cooling system capacity, l/USqt	3,7/3,9	3,7/3,9
Antifreeze	≥ 50% propylenglykol (MPG)	≥ 50% propylenglykol (MPG)
Hydraulic System		
Max. working pressure, bar / psi	120 / 1740	120 / 1740
Max. workflow l/min / USgal/min	12 / 3,17	12 / 3,17
Hydraulic tank capacity, l/USqt	8/8,5	8/8,5
Hydraulic system capacity, l/USqt	13/13,7	13/13,7
Transmission		
Brand	Kanzaki KTM 23	Kanzaki KTM 23
Oil, class API SM, ACEA A3/B4	SAE 10W/50 Synthetic	SAE 10W/50 Synthetic
Oil capacity gearbox front, l/USgal	0,9 / 0.24	0,9 / 0.24
Oil capacity gearbox rear, l/USgal	0,9 / 0.24	0,9 / 0.24
Max. hydraulic pressure, bar/psi	275/3989	275/3989
Drive		
Forward speed, km/h.	0-15	0-18,5
Reverse speed, km/h	0-12	0-14

Note 1: The power rating of the engine indicated is the average net output (at specified rpm) of a typical production engine for the engine model measured to SAE standard J1349/ISO1585. Mass production engines may differ from this value. Actual power output for the engine installed on the final machine will depend on the operating speed, environmental conditions and other values.

TECHNICAL DATA

Technical data concerning the cutting unit		
Cutting unit	Combi 132	Combi 155
Cutting width, cm/inch	132 / 52	155 / 61
Cutting heights, mm/inch	30-112 / 1.18-4.4	30-112 / 1.18-4.4
Weight, kg/lb	138 / 304	155 / 341,7
Bevel gear oil	SAE 80W/90, capacity 0.4 l	SAE 80W/90, capacity 0.4 l
Cutter		
Article number	5861988-10	5441758-10
Blade length, mm/inch	490 / 19,3	563 / 22.2

Technical specifications for sound and vibration levels				
	P 520D		P 525D	
	Combi 132	Combi 155	Combi 132	Combi 155
Noise emissions (see note 2)				
Sound power level, measured dB(A)	104	104	104	104
Sound power level, guaranteed dB(A)	105	104	105	105
Sound levels (see note 3)				
Sound pressure level at the operators ear, dB(A)	88	90	88	89
Vibration levels (see note 4)				
Vibration level on the steering wheel, m/s ²	1,7	1,7	1,7	1,7
Vibration level in the seat, m/s ²	0,7	0,7	0,7	0,7

Technical data concerning the cutting unit		
Cutting unit	Combi 132 X	Combi 155X
Cutting width, cm/inch	132 / 52	155 / 61
Cutting heights, mm/inch	30-112 / 1.18-4.4	30-112 / 1.18-4.4
Weight, kg/lb	148 / 326	163 / 359
Bevel gear oil	SAE 80W/90, capacity 0.4 l	SAE 80W/90, capacity 0.4 l
Cutter		
Article number	5861988-10	5441758-10
Blade length, mm/inch	490 / 19,3	563 / 22.2

Technical specifications for sound and vibration levels				
	P 520D		P 525D	
	Combi 132 X	Combi 155 X	Combi 132 X	Combi 155 X
Noise emissions (see note 2)				
Sound power level, measured dB(A)	104	104	104	104
Sound power level, guaranteed dB(A)	105	104	105	105
Sound levels (see note 3)				
Sound pressure level at the operators ear, dB(A)	88	90	88	89
Vibration levels (see note 4)				
Vibration level on the steering wheel, m/s ²	1,7	1,7	1,7	1,7
Vibration level in the seat, m/s ²	0,7	0,7	0,7	0,7

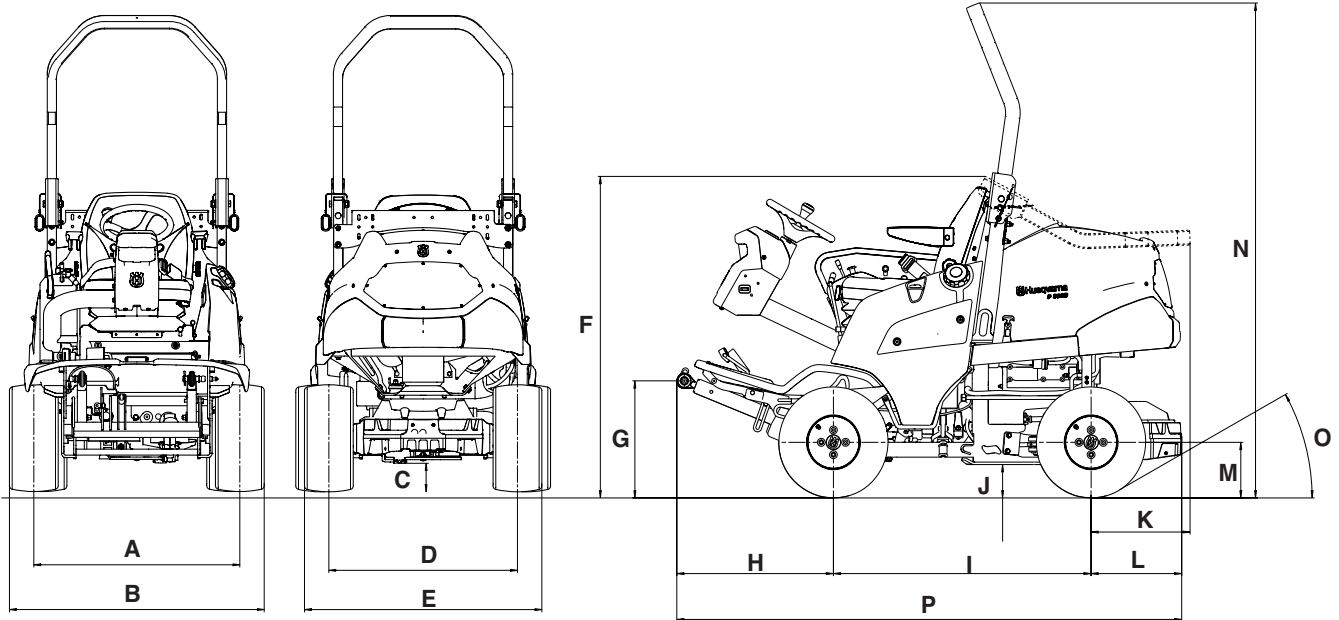
Note 2: Noise emissions in the environment measured as sound power (L_{WA}) in conformity with EC directive 2000/14/EC.

Note 3: Noise pressure level according to ISO 5395. Reported data for noise pressure level has a typical statistical dispersion (standard deviation) of 1.2 dB(A).

Note 4: Vibration level according to ISO 5395. Reported data for vibration level has a typical statistical dispersion (standard deviation) of 0.2 m/s² (steering wheel) and 0.8 m/s² (seat).

TECHNICAL DATA

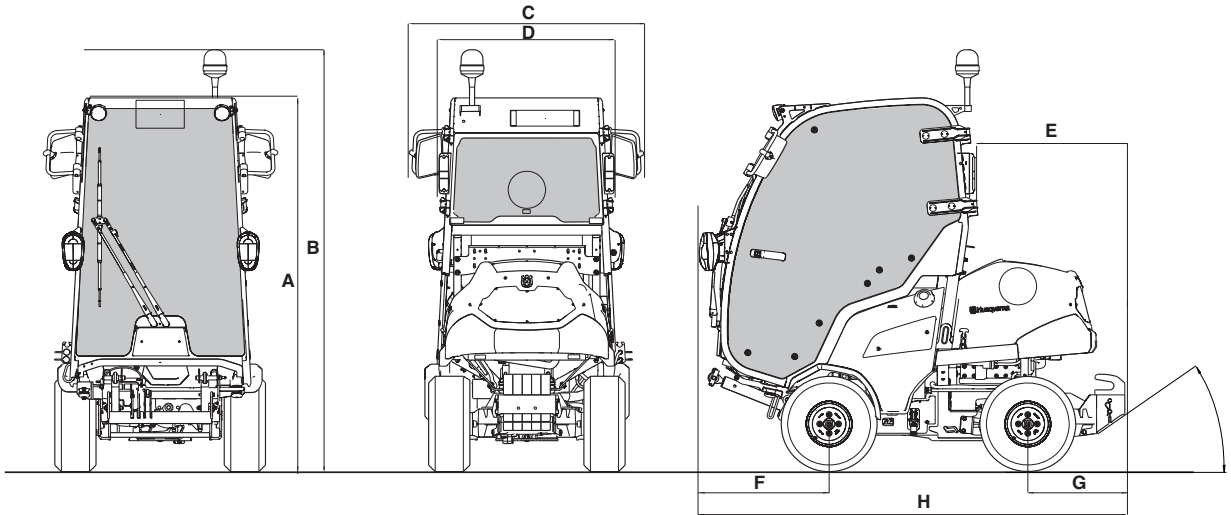
Ride-on mower dimensions



	P 520D	P 525D
A	897 mm	904 mm
B	1110 mm	1139 mm
C	120 mm	145 mm
D	821 mm	828 mm
E	1034 mm	1063 mm
F	1301 mm	1326 mm
G	474 mm	499 mm
H	644 mm	644 mm
I	1060 mm	1060 mm
J	135 mm	160 mm
K	407 mm	407 mm
L	373 mm	373 mm
M	225 mm	250 mm
N	2003 mm	2028 mm
O	29°	36°
P	2077 mm	2077 mm

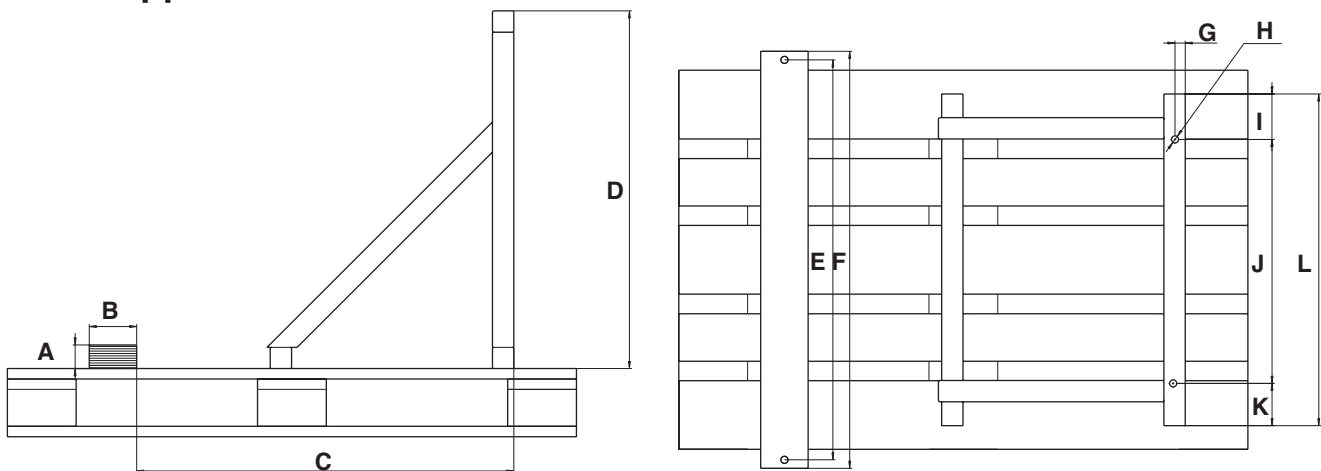
TECHNICAL DATA

Cabin dimensions



	P 520D	P 525D
A	1983 mm	2008 mm
B	2242 mm	2267 mm
C	1251 mm	1251 mm
D	883 mm	883 mm
E	800 mm	800 mm
F	692 mm	692 mm
G	518 mm	518 mm
H	2269 mm	2269 mm
I	29°	36°

Cabin support dimensions



A	50 mm
B	100 mm
C	800 mm
D	755 mm
E	844 mm
F	880 mm
G	22,5 mm
H	(4x) Ø15
I	96 mm
J	515 mm
K	89 mm
L	700 mm

TECHNICAL DATA

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

IMPORTANT! We reserve the right to change specifications and designs without prior notice so as to implement improvements.

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

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

EC Declaration of Conformity (Applies to Europe only)

Husqvarna AB, SE-561 82 Huskvarna, Sweden, tel.: +46-36-146500, hereby declares that Husqvarna P 520D and P 525D from 2015's serial numbers and onwards (the year is clearly stated in plain text on the rating plate with subsequent serial number), complies with the requirements of the COUNCIL'S DIRECTIVE:

of May 17, 2006 "relating to machinery" **2006/42/EC**.

of February 26, 2014 "relating to electromagnetic compatibility" **2014/30/EU**.

of May 8, 2000 "relating to the noise emissions in the environment" **2000/14/EC**.

The following harmonised standards have been applied: **EN ISO 12100-2, ISO 5395**

Notified body: **0404, SMP Svensk Maskinprovning AB**, Box 7035, SE-750 07 Uppsala, has issued reports regarding the assessment of conformity according to annex VI of the COUNCIL'S DIRECTIVE of May 8, 2000 "relating to the noise emissions in the environment" 2000/14/EC.

The certificates have the numbers: **01/901/165 , 01/901/166 ,01/901/243 ,101/901/244**

Huskvarna 16 September 2015



Claes Losdal, Development Manager/Garden Products (Authorized representative for Husqvarna AB and responsible for technical documentation.)

Original instructions



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2017-10-10