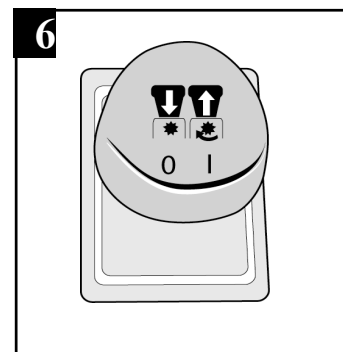
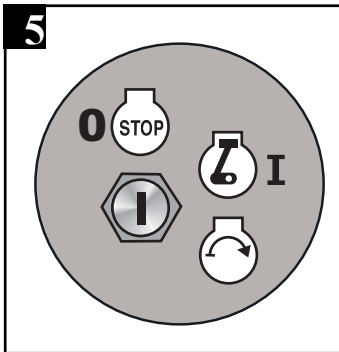
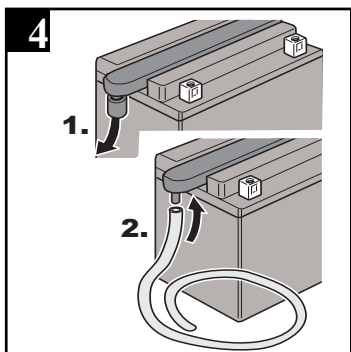
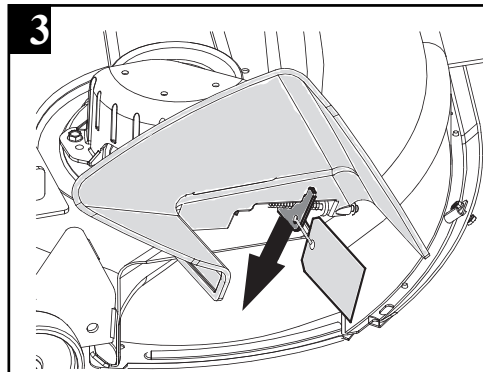
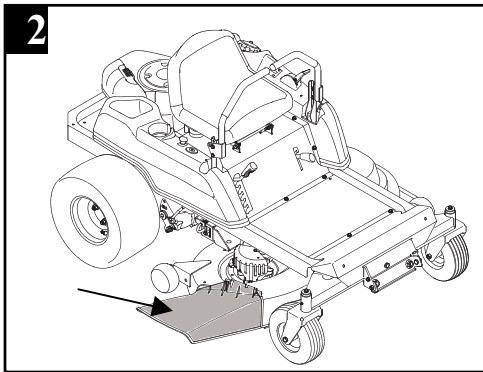
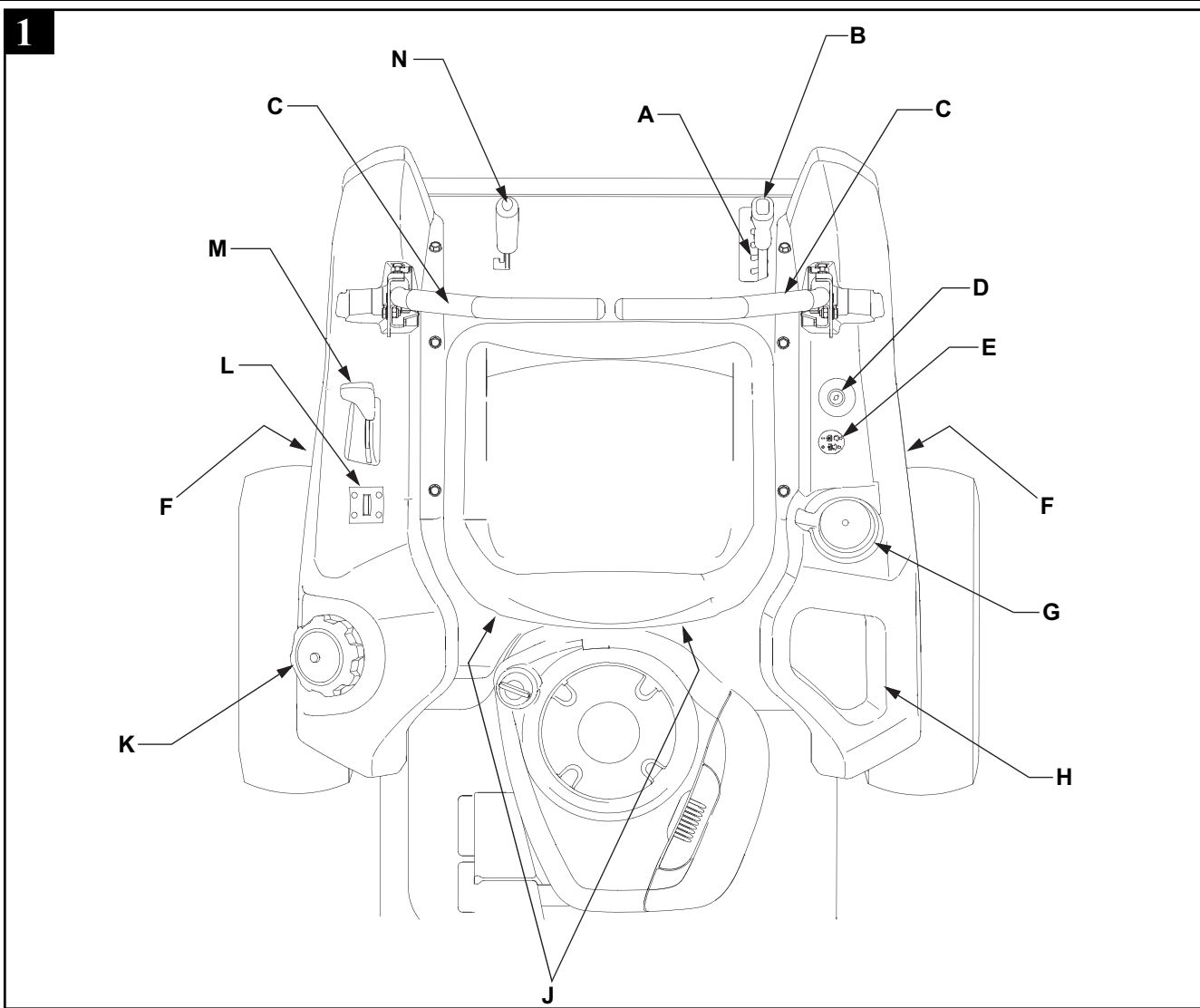
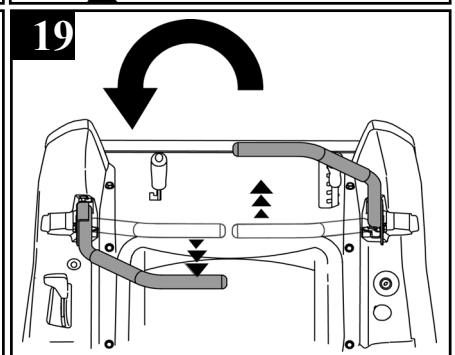
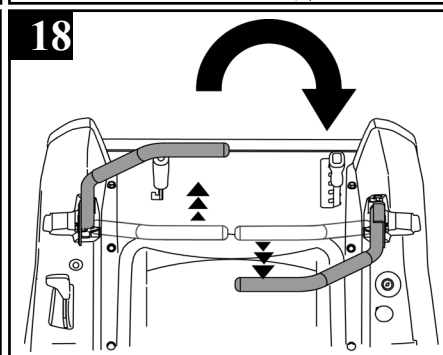
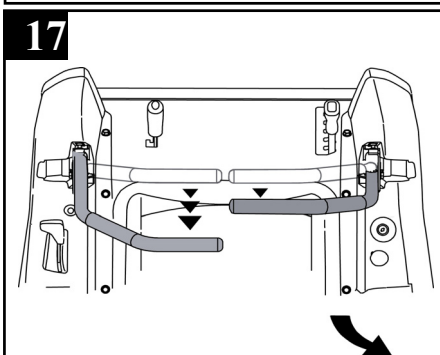
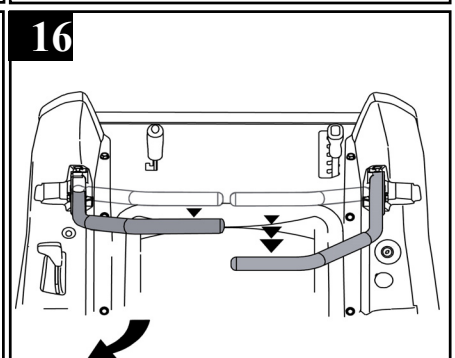
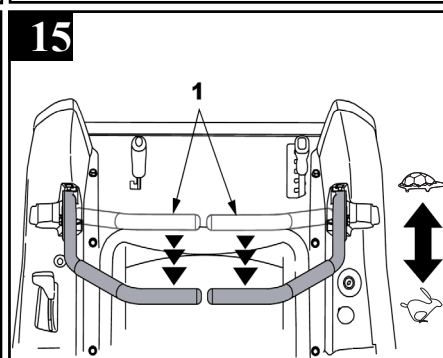
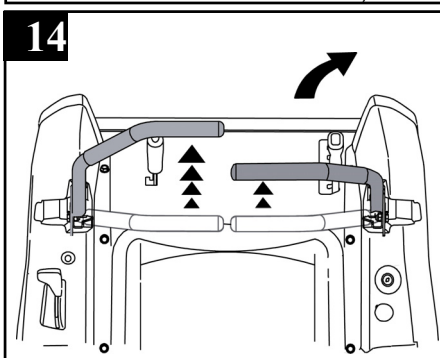
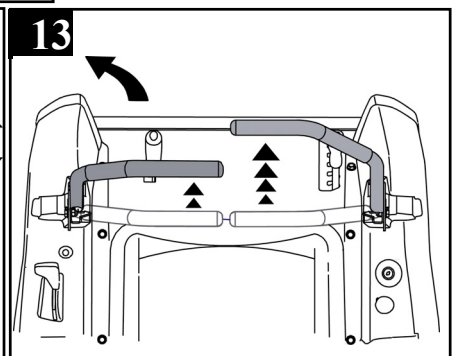
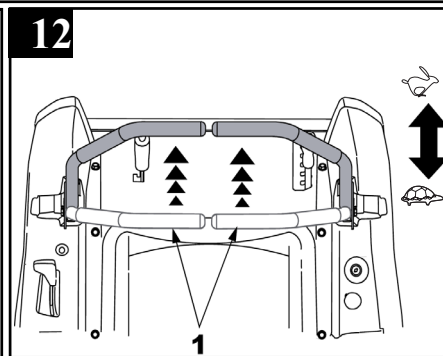
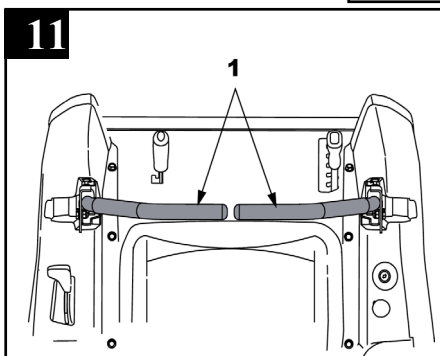
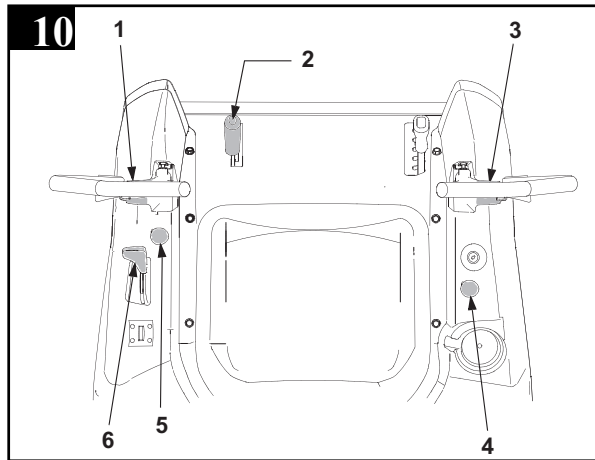
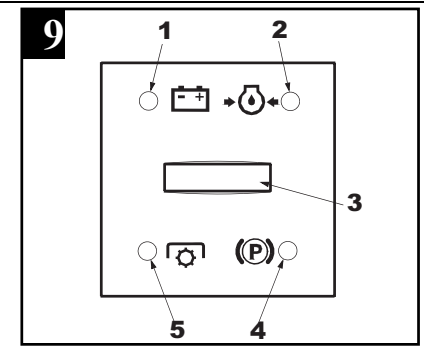
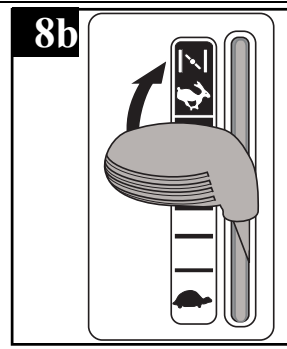
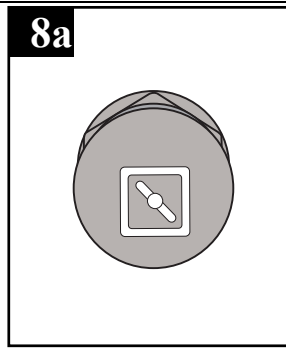
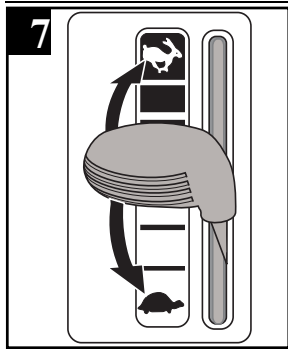
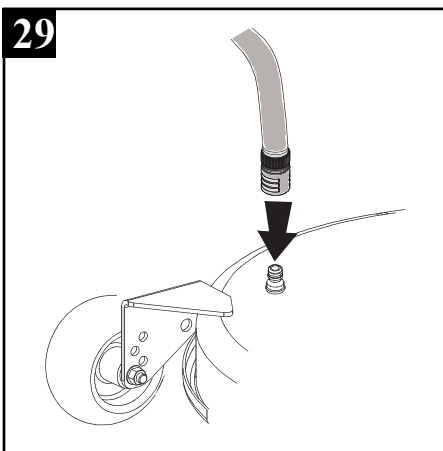
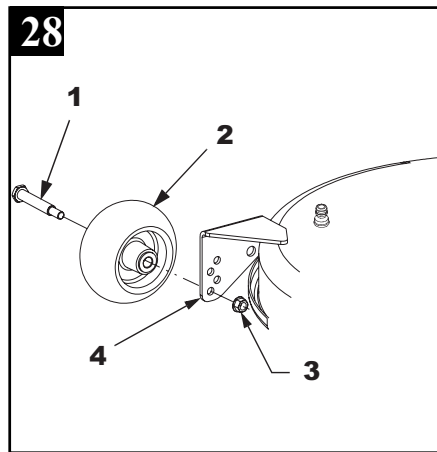
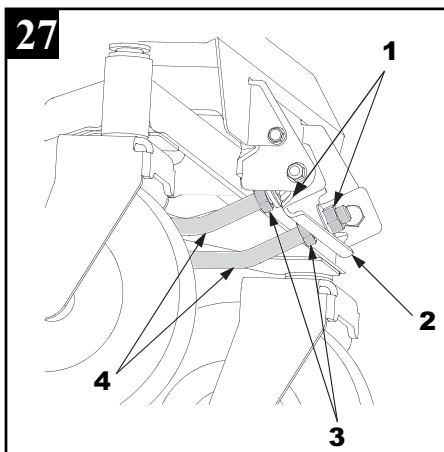
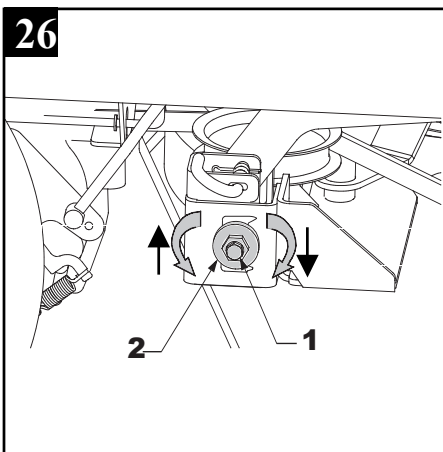
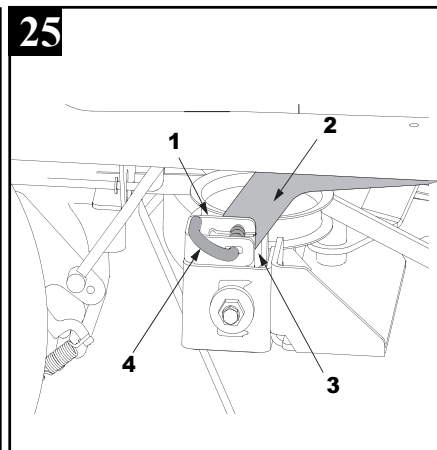
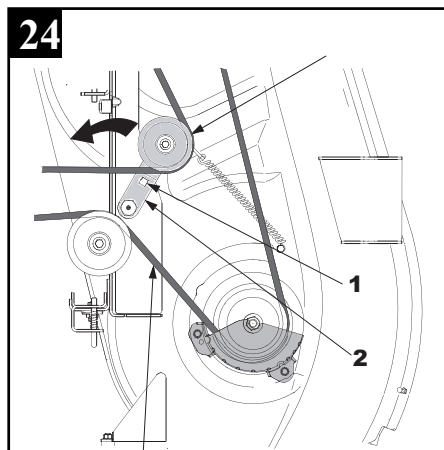
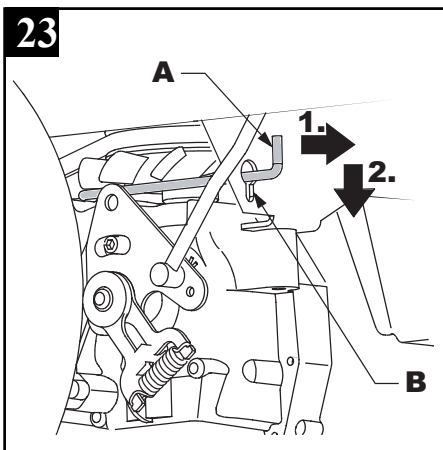
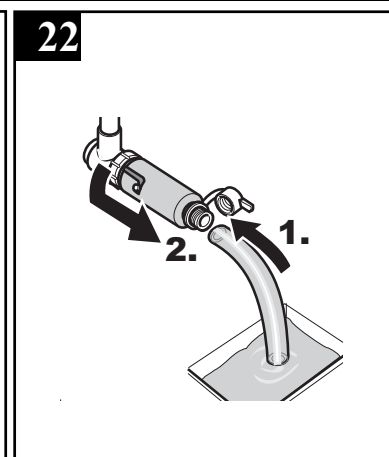
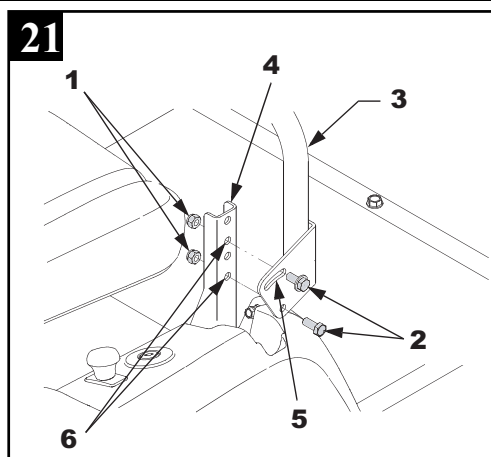
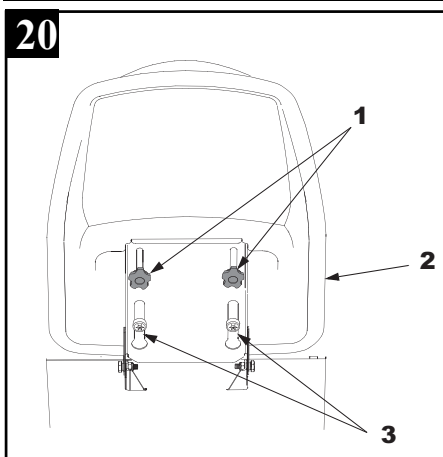


L04
FORM NO. 769-01545

MTD Products Aktiengesellschaft • Saarbrücken • Germany







Details on the rating plate

These details are very important for identifying your appliance when you order spare parts or contact our aftersales service. The rating plate is found under the driver's seat. Enter all the details on your appliance's rating plate in the following fields.

For your safety

Use the appliance properly

This appliance has been designed

- as a riding mower to mow the lawns of domestic and leisure gardens,
- in accordance with the details and safety information given in these operating instructions.

The appliance must not be put to any other use. The user is liable for all damage caused to third parties and their property.

The manufacturer is not liable for any damage incurred as a result of unauthorised changes to the appliance.

You are not permitted to use this appliance on public roadways nor for transporting persons.

General safety information

Before using the appliance for the first time, read and follow these operating instructions carefully.

Inform other users how the vehicle is used properly.

Operate the appliance only when it is in good technical condition as stipulated and delivered by the manufacturer.

Keep these operating instructions in a safe place and within reach every time the appliance is used.

Hand over the operating instructions together with the appliance when there is a change of ownership.

Replacement parts must comply with the requirements specified by the manufacturer. For this reason, use only original replacement parts or replacement parts approved by the manufacturer. All repair work must be conducted exclusively at a specialised garage.

Before working with the appliance

Persons using the vehicle must not be under the influence of intoxicants, e.g. alcohol, narcotics, medication, etc.

Persons under sixteen years of age must not operate the vehicle (bylaws may stipulate a different minimum age).

Before starting work, familiarise yourself with all the installations and controls as well as their functions.

Store fuel in approved receptacles only, and never near sources of heat, e.g. ovens, hot water tanks, etc.

Replace damaged exhausts, fuel tanks, and filler caps.

Observe the regulations before attaching trailers and add-on equipment.

Add-on equipment, trailers, ballast, and filled grass catchers affect the handling properties, in particular manoeuvrability, braking behaviour, and roll-over stability.

When working with the appliance

When working with or on the appliance, wear suitable working clothes (e.g. safety shoes, long trousers, tight-fitting garments, goggles).

Operate the appliance only when it is in perfect technical condition.

Do not fuel the appliance when the engine is running or hot. Fuel the appliance outdoors only.

Avoid naked flames and sparking, and do not smoke.

Make sure that there are no persons, in particular children and animals, near the running appliance.

Check the terrain the appliance is to mow, and remove all objects that could be caught and ejected.

This helps you to prevent risks to persons and damage to the appliance. Do not mow on inclines steeper than 15 %. Working on inclines is dangerous: the appliance can roll over or lose traction. Whenever possible, always start and brake the appliance gently on inclines. Keep the clutch engaged and drive slowly on downhill stretches. Never drive directly up or down inclines, but always across them.

Always work with the appliance only during daylight or with adequate artificial lighting.

You are not permitted to use this appliance for transporting persons. Do not take passengers.

Before all work on this appliance

Before all work on this appliance, you can prevent injury by observing the following:

- switch OFF the engine,
- take out the ignition key,
- wait until all moving parts have come to a complete stop and the engine has cooled down,
- disconnect the spark plug terminal on the engine so that it cannot start by accident,
- engage the locking brake.

After working with the appliance

Never leave the appliance until you have switched OFF the engine, engaged the locking brake, and removed the ignition key.

Safety devices

Safety devices serve for your protection and must be fully functional at all times. You must not make any changes to the safety devices or circumvent their functions.

Never use the appliance when the safety devices are defect.

The safety devices are the following.

Deflector

Fig 2

The deflector protects you from injuries that can be caused by the cutters or ejected solid objects. The appliance must be operated only when the deflector is installed.

Safety lock system

The safety lock system allows you to start the engine only when

- the driver is sitting on the seat,
- the locking brake is engaged, i.e. at Park,
- the PTO switch is at OFF,
- both drive control levers are in the outer Neutral recesses.

The safety lock system switches OFF the engine as soon as the operator leaves the seat without engaging the locking brake and/or turning the PTO switch to OFF.

Note! To restart the engine you must turn the PTO switch back to OFF. The safety lock system switches OFF the engine when one or both drive control levers are not in the outer Neutral recesses when the locking brake is engaged.

The safety lock system prevents the appliance from reversing when the cutters are activated (PTO). The cutters are switched OFF automatically.

Note! As soon as both drive control levers are moved back to Neutral or Drive, the cutters (PTO) are switched back ON automatically.

Symbols on the appliance

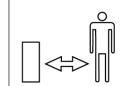
On the appliance you will find various symbols on adhesive labels. These symbols are explained in the following.



Caution!
Read the operating instructions before starting the appliance!



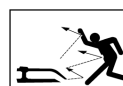
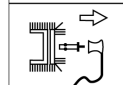
Keep bystanders out of the danger zone!



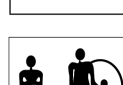
Risk of injury from rotating cutters or parts!



Disconnect the spark plug terminal before all work on the cutters! Keep fingers and feet away from the cutters! Switch OFF the appliance and disconnect the spark plug terminal before adjusting, cleaning, or inspecting the appliance!



Risk of injury from ejected grass or solid objects!



There must be no persons, and especially no children or animals, near the running appliance!



Working on inclines can be dangerous!



Caution!
Risk of explosion!



Danger of injury from battery acid!



Remove the ignition key and observe the information in these instructions before all work on the appliance!

Always keep these symbols on the appliance in a legible state.

Symbols in these instructions

These instructions make use of the following symbol:

 **Caution! Danger!**

This points out dangers that are connected with the described activity and that can cause injury to persons and damage to property.

Directions

When directions are described for the appliance (e.g. left, right) the view is always from the driver's seat.

Figures

The details in the figures may differ slightly from the purchased appliance.

Preparing the appliance

Battery

 **Danger!**

Risk of poisoning and injury from battery acid.

Wear goggles and protective gloves. Avoid skin contact with battery acid. If battery acid should spray in your face or eyes, immediately rinse with cold water and consult a doctor. If you accidentally swallow battery acid, drink copious amounts of water and immediately consult a doctor. Keep batteries out of the reach of children. Never tip the battery: battery acid may spill out. Give unwanted battery acid to your dealer or a disposal company.

 **Caution!**

Battery acid and vapours from battery acid can cause fire, explosions, and corrosion.

Immediately clean appliance parts that have come into contact with battery acid. Battery acid is corrosive. Do not smoke, and keep burning and hot objects at a distance. Charge batteries only in well-ventilated and dry rooms.

Work on the battery can cause short circuits.

Do not place any tools or metal objects on the battery. Note the order of terminals when connecting and disconnecting the battery. Make sure that the ignition key has been removed.

Disconnecting

- First disconnect the black cable (–), and then the red cable (+).
- Remove the battery from the appliance.

Connecting

- First connect the red cable (+), and then the black cable (–).

Note!

The battery's positive terminal is marked with a plus sign (+).

The battery's negative terminal is marked with a minus sign (–).

Always make sure that the battery's vent line is correctly installed (unobstructed downwards flow).

When a "maintenance-free/sealed" battery (type 1) has been delivered (battery without vent plug)

The battery is filled with battery acid and sealed at the manufacturer's.

The battery may have to be recharged. To do so, see the section on servicing the battery.

When an unfilled battery (type 2) is delivered (battery with vent plug)

- Remove the vent plug for the battery cells.
- Slowly fill each cell with battery acid until the level is 1 cm below the filling aperture.
- Leave the battery for thirty minutes so that the lead can absorb the battery acid.
- Check the acid level, if necessary top up the acid level.
- Before using the battery for the first time, charge it with a battery charger (max charging current 6 A at 12 V) for 2–6 hours. After charging, first disconnect the mains plug to the charger and then take out the battery (see also the operating instructions for the charger).
- Replace the vent plugs for the battery cells.
- Remove the blank plug for the battery's vent. Attach the vent line so that it runs downwards through the appliance. Make sure that the line is unobstructed! (Fig 4)
- Install the battery in the appliance.

- First connect the red cable (+), and then the black cable (–).
- Refill the battery afterwards with distilled water only. (Check every two months.)
- Keep the battery clean.

Fuelling and checking/topping up the oil level

Fill the machine with petrol and oil as described in the provided engine handbook.

Note! The engine may have been filled with oil at the manufacturer's – please check and if necessary refill. (The oil level must lie between the Full/Max and Add/Min marks.) Never fill the petrol tank to overflowing, but until the level reaches 1 cm below the filler's lower edge.

Seal the petrol tank securely.

Risk of asphyxiation from carbon monoxide

Run the IC engine outdoors only.

Risk of explosion and fire

Fuel/petrol vapours are explosive, and fuel is highly flammable. Fill the engine with fuel before turning the ignition. Keep the petrol tank closed when the engine is running or is still hot. Refill with fuel only when the engine has been switched OFF and has cooled down. Avoid naked flames and sparking, and do not smoke. Fuel the appliance outdoors only. Do not start the engine when fuel has overflowed. Remove the appliance from the fuel-contaminated site and wait until the fuel has completely evaporated. To prevent the risk of fire, please keep the following parts free of grass and leaking oil: engine, exhaust, battery, fuel tank.

Removing the transport safety plate on the cutters

Fig 3

Push the deflector back slightly, and remove the transport safety plate. The deflector closes automatically.

Checking the tyre pressure

Pressurise the front tyres to approx. 2.3 bar and the rear tyres to approx. 0.8 bar. See also the manufacturer's recommendation on the tyre walls.

Controls and indicators

Fig 1

- A. cutting height segment
- B. cutting height lever
- C. right and left drive control lever
- D. ignition lock
- E. PTO switch
- F. gear release for hydrostatic drive (not shown)
- G. cup holder
- H. storage tray
- J. seat adjuster (not shown)
- K. tank cap
- L. composite indicator (optional)
- M. accelerator lever
- N. control lever for the locking brake

Cutting height segment (A)

Fig 1

Each notch corresponds to approx. 1.25 cm:
lowest position: approx. 4 cm
highest position: approx. 10 cm

Cutting height lever (B)

Fig 1

This lever adjusts the cutting height and is locked in place by the respective recesses.

Right and left drive control lever (C)

Fig 1




These levers change the drive direction, control the speed, and stop the appliance (see detailed description in the section "Operation").

Note! Before the engine can be started, both control levers must be in the outer Neutral recesses.

Ignition lock (D)

Fig 5

The ignition lock has three settings.

1. **OFF** /  = OFF/engine stop.
2. **ON** /  / **I** = electrical system switched ON or engine run mode.
3. **Start** /  = starter confirmation: when the engine is running, release the key.

PTO switch (E)

Fig 6

The PTO switch actuates an electro-magnetic/mechanical clutch to switch ON and OFF the cutters.

ON = pull the switch

OFF = press the switch

Note! Before the engine can be started the PTO switch must be switched OFF.

Gear release for hydrostatic drive (F)

Fig 23

To push the appliance with the engine switched OFF, first pull up the two levers (near each rear wheel), and then press them down.

To drive the appliance, pull up and press in the levers.

Cup holder (G)

Fig 1

This holds a cup.

Storage tray (H)

Fig 1

This holds diverse small items.

Seat adjuster (J)

Fig 20

After loosening the two wing nuts (1) you can adjust the seat (2) backwards and forwards along the slide rail (3).

Tank cap (K)

Fig 1

This is removed when the appliance is fuelled with regular unleaded petrol.

Combined indicator (L) – optional

Fig 9

Depending on the design the combined indicator can comprise the following elements:

1. battery indicator
2. oil pressure
3. operating hour meter
4. PTO switch
5. locking brake

Battery indicator

When ON the indicator (1) lights up briefly and the battery voltage appears briefly on the display (3).

When indicator (1) lights up and the engine is running, the battery is not adequately charged (battery voltage less than 10.5–12 V).

This then also appears on the display (3). The battery or charger must be checked by qualified personnel.

If necessary, consult a garage.

Oil indicator

When ON the indicator lamp (2) lights up.

When the indicator lamp (2) lights up and the engine is running, immediately switch OFF the engine and check the oil level. If necessary, consult a garage.

Operating hour meter

This shows the operating hours in hours and tenths of hours on the display (3).

Note! When ON the battery voltage appears briefly before the operating hours are displayed (these are also counted at the ON position).

PTO switch

The indicator (5) lights up when the cutters (PTO) are not switched OFF when the engine is started (ON or Start).


Brake indicator


The indicator (4) lights up when the locking brake is engaged when the engine is started (ON or Start).

Accelerator lever (M)

Figs 7 and 8b

This lever controls the engine speed:


fast = “  ”

slow = “  ”

Note! When powered fittings such as cutters or other add-on equipment is used, always operate the appliance with the accelerator lever at Fast (hare symbol).

Choke control

Figs 8a and 8b

To start a cold engine, pull out the gas accelerator (Fig 8b) to Choke  or the Choke button (Fig 8a) if your model features this.

Control lever (N) for the locking brake

Fig 1

Engaging the locking brake

Pull the lever into the top left recess until it engages.

Disengaging the locking brake

Pull the lever upwards and to the right, then slowly pull it down.

Note! Before engaging the locking brake, make sure that the two drive control levers are in the outer Neutral recesses, otherwise the engine is switched OFF. The locking brake must be engaged when the engine is started.

Operation

Observe also the instructions in the engine handbook!

 Danger!**Risk of injury!**

All persons, and especially children and animals, must never be near the appliance when it is mowing.

They can suffer injury from ejected stones, etc. Children must never operate the appliance. Emptying a grass catcher can cause injury to yourself and others from ejected cuttings. Never empty a grass catcher when the cutters are running.

When mowing on steep inclines the appliance can roll over causing injury. Never drive directly up or down an incline, but always along it.

Never drive on inclines steeper than 15 %. Do not turn on an incline.

If absolutely necessary, then turn the appliance down the incline slowly and carefully. When mowing wet grass the appliance can lose traction on the ground and you can fall. Mow only when the grass is dry. Excessive speed can raise the risk of accident.

When mowing in border areas, keep at an adequate distance e.g. from steep inclines, trees, bushes, and hedges.

Be particularly careful when reversing. Check the terrain the appliance is to mow and remove all objects that can be caught and ejected. When the cutters hit a foreign body (e.g. a stone), immediately switch OFF the engine, inspect the device for damage, and consult a specialised garage when damage is apparent.

Do not operate the appliance when the cutters are not installed. The altered axle load distribution can cause the appliance to roll over. Never attempt to stabilise the appliance by dangling one foot. When the tyres lose traction on an incline, switch OFF the PTO switch and slowly drive straight ahead down the incline.

Risk of asphyxiation from carbon monoxide

Run the IC engine outdoors only.

Risk of explosion and fire

Fuel/petrol vapours are explosive, and fuel is highly flammable. Fill the engine with fuel before turning the ignition. Keep the petrol tank closed when the engine is running or is still hot. Refill with fuel only when the engine has been switched OFF and has cooled down. Avoid naked flames and sparking, and do not smoke. Fuel the appliance outdoors only. Do not start the engine when fuel has overflowed. Remove the appliance from the fuel-contaminated site and wait until the fuel has completely evaporated.

To prevent the risk of fire, please keep the following parts free of grass and leaking oil: engine, exhaust, battery, fuel tank.

⚠ Risk of injury from defect appliance

Operate the appliance only when it is in perfect technical condition. Subject the appliance every time to a visual check before you operate it. Check for any damage in particular on the safety devices, the cutters and their mounts, the controls, and the screw unions, and make sure they all sit tightly. Replace any damaged parts before operating the appliance.

Operating hours

Observe the national and the municipal regulations governing the times the appliance may be used (if necessary ask your local authority).

Before operating the appliance

Check the following:

- all guards
 - the engine's oil level (see engine handbook)
 - the fuel tank level
 - the tyre pressure (see section "Servicing")
 - side panels.
- Also check add-on equipment and the areas near air filters for soiling and cuttings.

Adjustments before driving the appliance**⚠ Caution!**

Do not make any adjustments when the engine is running or the appliance is moving

- Park the appliance on a firm, horizontal surface and engage the locking brake.
- Perform all work when the engine is switched OFF.

When working on moving parts:

- remove in addition the spark plug terminal from the spark plug.

Adjusting the driver's seat

Fig 20

- Loosen the two wing nuts (1).
- Push the seat (2) along the slide rail (3) to the desired position.
- Retighten the wing nuts (1).

Adjusting the drive control levers

Fig 21

If necessary the drive control levers can be adjusted higher or lower and to the side.

Adjusting the height

- Remove the nuts (1).
- Remove the drive control lever (3), but without removing the screws (2).
- Use the screws (2) to secure the drive control lever in the other pair of holes (6) in the mount (4).
- Again fasten (tighten) the nuts (1).

Adjusting the sides

- Loosen (do not remove) the nuts (1).
- Move the drive control lever in the adjusting segment (5) backwards or forwards to the desired position.
- Retighten the nuts (1).

Adjusting the cutter wheels

Fig 28


The cutter wheels should always be 6–12 mm above the ground at their lowest cutter position. The cutter wheels are not designed to bear the weight of the cutters.


If necessary, arrange the wheels at equal distances.



Starting the engine


Fig 10

- Sit on the driver's seat.
- Place both drive control levers into the outer Neutral recesses (1 and 3).
- Turn the PTO switch (4) to OFF.
- Move up the cutters.
- Engage the locking brake.
- Do not operate the drive control levers.

- Move the accelerator lever (6) to "Fast/ ".


When the engine is cold, move the accelerator lever to  or pull the choke (5) if your model features this (a hot engine may not need the choke).

- Turn the ignition key clockwise to "Start/ ". Once the engine is running, release the key. It will then return to ON/ .

Note! Do not keep the ignition key at Start/  for longer than five seconds per start attempt. Wait about one minute before the next start attempt.

- Slowly press in the choke button (if your appliance features this).
- Pull back on the accelerator lever until the engine runs quietly.

Stopping the engine

- Turn the ignition key anticlockwise to "O/ ".
- Before leaving the appliance, engage the locking brake and withdraw the ignition key.

Driving the appliance**⚠ Caution!**

Avoid abrupt engine starts, excessive speed, and flat-out braking. Be particularly careful when reversing. Never change direction (forwards to reverse and vice versa or zero or pivot turns) without first stopping the appliance. This appliance has no turning circle; instead the rear tyres serve as a pivot. A conventional appliance can turn in a circle, but this circle has a minimum diameter. Owing to its short length and the ability to turn about its own axis the appliance exhibits superior manoeuvrability.

Instead of a steering wheel this appliance features two control levers that serve to steer and drive the appliance. When the control levers are moved to the max positions, the wheels rotate at the speed set at the accelerator lever. The control lever positions between Neutral and Maximum are proportional to the speed set at the accelerator lever. In order to familiarise yourself with how to operate the appliance (approx. thirty minutes) you should start the appliance on flat terrain without spectators.

Note! Before mowing with the appliance you should familiarise yourself with the appliance's new controls. Start the appliance, move the accelerator lever to the middle position (mid engine speed), and leave the PTO switch switched OFF.

Moving the control lever then causes the appliance to move at a slow speed only, and you can therefore familiarise yourself with the controls.

- Start the engine as specified.
- Let the engine heat up.
- Move the accelerator lever to the corresponding position.
- Disengage the locking brake.
- Pull both drive control levers (1) inwards into Neutral (Fig 11)



Caution!

Always keep both hands on the drive control levers. Never let go of the drive control levers when operating the appliance. Always move the drive control levers by hand to Neutral before slowing or stopping the appliance. Move the drive control levers slowly at all times. Abrupt or hasty movements or taking too sharp corners can lead to uncontrolled movements and the appliance can roll over causing serious injury. Be particularly careful when reversing.

Just one more tip before you drive off

To slow or stop the appliance move the two control levers slowly and steadily to Neutral (Fig 11).

Drive mode: straight ahead

Fig 12

Press both control levers steadily forwards. The more they are pressed forwards, the faster the appliance moves.

Drive mode: left corner

Fig 13

Push both control levers forwards: the right control lever must be slightly ahead of the left control lever.

Drive mode: right corner

Fig 14

Push both control levers forwards: the left control lever must be slightly ahead of the right control lever.

Note on cornering The greater the distance between the two control levers the tighter the corner taken.

Reverse mode: straight ahead

Fig 15

Pull back on both control levers steadily. The more they are pushed back, the faster the appliance moves.

Reverse mode: left corner

Fig 16

Pull back on both control levers: the right control lever must be slightly further back than the left control lever.

Reverse mode: right corner

Fig 17

Pull back on both control levers: the left control lever must be slightly further back than the right control lever.

Turning clockwise around the axis: zero turn

Fig 18

1. Always move both control levers to Neutral to stop the appliance.
2. Press the left control lever forwards, and at the same time pull back on the right control lever.

Turning anticlockwise around the axis: zero turn

Fig 19

1. Always move both control levers to Neutral to stop the appliance.

2. Press the right control lever forwards, and at the same time pull back on the left control lever.

Information on executing zero turns

During a zero turn one wheel turns forwards and another backwards. Incorrectly executing a zero turn can cause damage to your lawn.

Turning right or left: pivot turn

Fig 11

1. Always move both control levers to Neutral to stop the appliance.
2. Depending on the direction, push one control lever forwards or back; the other control lever remains at Neutral.

Note! During a pivot turn only one wheel turns. The stationary wheel then rubs against the ground and can cause damage to your lawn.

Slowing or stopping the appliance

- Slowly and steadily move both control levers to Neutral.

Mowing

Do not change direction when the appliance is driving or coasting (see the section "Driving the appliance").

- Start the engine as specified.
- Move the accelerator lever to position .
- Switch ON the cutters (PTO).
- Lower the cutters.
- Disengage the locking brake.
- Pull both drive control levers (1) inwards into Neutral.
- Steadily press both control levers forwards. The more they are pressed forwards the faster the appliance moves.


Note! The safety lock system prevents the appliance from reversing when the cutters (PTO) are switched ON.

The cutters are switched OFF automatically when both drive control levers are moved to Reverse. As soon as one or both drive control levers are moved back to Neutral or Drive the cutters (PTO) are automatically switched back ON.

General

When adjusting the cutting height and drive speed make sure that the appliance is not overloaded.

The length, type, and wetness of cuttings may necessitate adjustments to the cutting height and drive speed.

 **Additional safety information on the drive**

- When the appliance is driven straight ahead but veers to one side or when the appliance does not remain stationary but creeps at Neutral, switch OFF the appliance (do not use the appliance any more) and contact a specialised garage.

For the optimal mowing results

Mow the first two lanes so that the cuttings fall at the centre of the sides.

- Never let grass grow too long.
- Never mow grass too short.
- Mow over straight stretches.
- Do not mow at high speed, particularly when a mulching kit or grass catcher is installed.

Note! This appliance is designed to mow lawns. It must not be used to cut scrub, weeds, or too tall grass.

Parking the appliance


- Stop the appliance.
- Move both drive control levers to the outer Neutral recesses.
- Switch OFF the cutters (PTO).
- Raise the cutters.
- Turn the ignition key anticlockwise to “O/**Pushing the appliance**

Fig 23

Push the appliance only when the engine is switched OFF.

- Disengage the locking brake.
- Release both gears (left and right): pull out and up both levers (A) and then press them down (B).

Before starting the engine, return both gear release levers.

Note! Never tow away the appliance. This can cause serious damage to the gears.

Tips on caring for your lawn

A number of tips for a healthy and uniform lawn

Mowing

Lawns consist of various grass types. Frequent mowing promotes the growth of grass, resulting in strong roots and a firm sward. Infrequent mowing promotes the growth of tall grasses and other wild-growing plants (e.g. clover, daisies). The normal height of a lawn is approx. 4–5 cm. Only one third of this height should be mown, i.e. 7–8 cm should be mown to the normal height. Wherever possible, do not mow the lawn to shorter than 4 cm, otherwise dry spells can damage the sward. Tall grass (e.g. after a holiday) should be mown to the normal height over several stages.

Mulching (with accessories)

Various appliances can be used for mulching when fitted with the corresponding accessories. Ask your specialised dealer for accessories. When mown, the grass is cut into small pieces (approx. 1 cm), which remain lying. The lawn therefore retains many nutrients. For the optimal results the lawn must always be kept short (see also the section “Mowing”). When mulching, observe the following instructions:

- Do not mow wet grass.
- Never mow more than 2 cm.
- Mow slowly.
- Use the max engine speed.
- Clean the cutters at regular intervals.

Transporting


Drive the appliance only short distances when moving between sites. For larger distances use a transport vehicle.

Note! Under the German Road Traffic Act the appliance is not permitted on public roadways.

Short stretches **Danger!**

Objects can be caught and ejected by the rotating cutters and cause damage.

Switch OFF the cutters before you drive the appliance.


Long stretches **Caution!**
Transport damage

The use and type of transport media (e.g. transport vehicle, loading ramp, etc.) must comply with their respective design objectives (see the corresponding operating instructions). When transported the appliance must be secured against slipping.

Environmental hazard from leaking fuel

Do not transport the appliance on its side.


- Prepare the transport vehicle.
- Attach the loading ramp to the transport vehicle.
- Push the appliance by hand on the loading ramp (see “Pushing the appliance”).
- Engage the locking brake.
- Secure the appliance against slipping.

Cleaning / servicing **Danger!****Accidentally starting the engine can cause injury.**

Protect yourself from injury.


Before all work on the appliance:

- switch off the engine,
- engage the locking brake,
- take out the ignition key,
- wait until all moving parts have come to a complete stop and the engine has cooled down,
- disconnect the spark plug terminals on the engine so that it cannot start by accident.

Additional precautions before all work on the cutters **Danger!****Danger of injury from sharp cutters**
Wear working gloves.

On appliances with more than one cutter set, the movement of one cutter set can lead to the movement of all others.

Cleaning the appliance

 **Caution!**

Risk of damage to the appliance

Do not use high-pressure media to clean the appliance.

- Whenever possible, clean the appliance directly after mowing.
- Park the appliance on a firm and horizontal surface.
- Engage the locking brake.

Cleaning the cutters

 **Risk of injury**

Clean the cutters with care.

 **Caution!**

Possible engine damage

Do not tip the appliance through more than 30°: fuel can enter the combustion chamber and cause damage to the engine.

- Raise the cutters to the topmost position.
- Clean the cutter chamber with a (hand) brush or cloth.
- Remove grass residue from the deck and around the cutter spindles.

Cutters with cleaning nozzle (option)

Fig 29

Park the appliance on a horizontal surface free of loose stones, etc., and engage the locking brake.

1. Use a commercially available quick-release coupling to attach a water hose to the cleaning nozzle.
2. Start the engine.
3. Lower the mower unit and switch it ON for a few minutes.
4. Switch OFF the mower unit and the engine.
5. Remove the water hose. Repeat steps 1–5 on the second cleaning nozzle (when installed).

After ending the cleaning procedure (steps 1–5):

- raise the mower unit,
- start the engine, and switch ON the mower unit for a few minutes to dry it.

Removing the cutters

Figs 24 and 25

 **Danger!**

Risk of injury from sharp cutters

Wear working gloves.

The cutters can be correctly removed only when you proceed as follows:

- install the cutter wheels at the highest possible position,
 - lower the cutters by moving the lever for raising the cutters to the lowest recess,
 - insert a ½" square spanner into the recess (1) in the tensioning arm (2) (Fig 24),
 - use the square spanner to press the tensioning arm in the direction of the arrow: this releases the tension on the V belt,
 - remove the V belt from the PTO clutch (engine pulley),
 - look into the cutters from the appliance's right side, and locate the locking pins (4) on the right rear side of the cutters (Fig 25),
 - pull out the pin to disconnect the cutters from the suspension (2) (Fig 25),
 - repeat these steps for the appliance's left side;
- Note!** Keep a firm hold on the cutters so that they cannot fall on the ground.
- move the lever for raising the cutters to the topmost recess,
 - let the cutters slide forwards to the front of the appliance, making sure that the cutters' pick-up hooks are detached from the appliance's front rail,
 - carefully draw out the cutters (from the right side) from underneath the appliance.

Installing the cutters

Fig 25

Follow the above instructions in reverse order to install the cutters.

An assistant can accelerate the procedure. Make sure that each suspension (2) is engaged in the recesses (3) on the cutter mount (1).

Basic adjustments to (aligning) the cutters

Note! Before aligning the cutters, check the appliance's tyre pressure.

Aligning the sides

Fig 26

When the cutters seem to mow irregularly, the sides can be aligned. Proceed as follows.

- Park the appliance on a firm, horizontal surface.
- Move the lever for raising the cutters to the topmost recess.
- Turn the cutters so that they form a right angle with the appliance.
- Measure the distance between the outer left cutter edge (cutter left) and the ground and the distance between the outer right cutter edge (cutter right) and the ground. These two measurements should be equal. If they are not, continue with the next step.
- Loosen (do not remove) the hexagon head bolt (1) from the right mounting plate on the cutters.
- Turn the adjusting segment (2) to align the cutters until the two measurements described above are equal.
- Retighten the hexagon head bolt (1) when the alignment is satisfactory.

Aligning front and rear

Fig 27

The front section of the cutters is fitted with a holding device (2) that can be adjusted to align the cutters' front and rear sections. The cutters' front section should be 3–6 mm lower than their rear section. If necessary, align the cutters as follows.

- Park the appliance on a firm, horizontal surface, move the lever for raising the cutters into the topmost recess (max position), and turn the cutters nearest to the ejector so that they are parallel to the appliance.

- Measure the distance between the cutters' front edge and the ground and between the cutter's rear edge and the ground. The measured distance from the front edge should be 3–6 mm lower than the distance from the rear edge. If this is not the case, continue with the next step.
- Loosen the two locknuts (3), if installed. Steadily tighten the nuts (1) to raise the front side of the cutters; steadily loosen the nuts (1) to lower the front side of the cutters.
- When the sides are correctly aligned, retighten the locknuts (3), if installed.

Note! You must make sure that the hanger (4) is fully engaged to the stop in the cutters' pick-up hook.

Serviceing

Observe the maintenance regulations in the engine handbook. At the end of the season a specialised garage must inspect and service the appliance.

Caution!

Environmental hazard from engine oil

After changing the oil, give unwanted oil to an authorised disposal site or company.

Environmental hazard from batteries

Used batteries do not belong in household waste. Give unwanted batteries to your dealer or a disposal company. Remove the batteries before the appliance is scrapped.

After 5 operating hours

- First engine oil change: see the engine handbook for further intervals.
- Quick oil drain (Fig 22) (option): this is used for draining off oil.

Every 10 operating hours

- Clean or replace the air filter (see engine handbook).
- Apply grease type 251H EP through the nipples to lubricate all cutter shafts, tension pulleys, and tension pulley receivers. This work must be performed at a specialised garage.

- Apply grease type 251H EP through the nipples to lubricate the front wheels' bearings and axles.

Every 25 operating hours

- Apply grease type 251H EP through the nipples to lubricate the cutters' front wheels.

Every 50 operating hours

- A specialised garage must remove soiling and grass residue from the drive gears.

Every 2 months

- Pressurise the front tyres to approx. 2.3 bar and the rear tyres to approx. 0.8 bar. See also the manufacturer's recommendation on the tyre walls.
- For battery type 2 only: Fill the battery cells with distilled water until the level reaches 1 cm below the filling aperture.

When needed

Cleaning the battery

Clean the battery at regular intervals. Keep the battery terminals and cables clean. Grease the battery terminals with a little vaseline.

Charging the battery

Use a voltmeter to check the battery voltage. When the voltage is lower than 12.6 V (dc), the battery must be charged in accordance with the table (max charging current 6 A at 12 V).

Voltmeter reading	Battery's charged state	Requisite charging time
12.7 V	100 %	-
12.4 V	75 %	approx. 90 min
12.2 V	50 %	approx. 180 min
12.0 V	25 %	approx. 280 min

Note! Observe the information in the operating instructions for your battery charger

Replacing fuses

- Replace defect fuses with fuses of equal ratings only.

Once a season

- Lubricate the steering gear teeth with a multipurpose grease.
- Lubricate the steering assembly's joints with a few drops of light oil.
- Lubricate all rotating and bearing sites (control levers, cutter height adjuster, etc.) with a few drops of light oil.
- Clean the spark plug and adjust the electrode gap or replace the spark plug (see engine handbook).
- The cutters must be sharpened or replaced at a specialised garage.

Take the appliance to a specialised garage for inspection and maintenance once a season. Observe also the instructions in the engine handbook for engine maintenance.

Storing

Caution!

Material damage to the appliance

Keep the appliance only in clean and dry rooms when the engine is cold. For longer periods of inactivity, protect the vehicle in all events against rust, e.g. in winter. At the end of the season or when the vehicle will not be used for longer than a month:

- clean the appliance and accessories,
- to protect metal parts from rust, wipe them all down with an oiled cloth or apply an oil spray,
- charge the battery,
- before winterising the appliance, remove and charge the battery and store this in a cool, dry place (protected against frost); recharge the battery every four to six weeks and before installing it in the appliance,
- drain off fuel (outdoors only) and put the engine out of operation as described in the engine handbook,
- lubricate the appliance adequately at all points,
- pressurise the tyres to the respective values,
- keep the appliance in a clean, dry room.

Warranty


The warranty rules issued by our company or the importer apply to every country.

As part of the warranty, we remedy malfunctions on your vehicle free of charge provided that this malfunction is caused by a material or manufacturing defect. In the event of a warranty claim, please turn to your dealer or the nearest branch office.

Information on the engine

The manufacturer of the engine is liable for all engine-related problems with respect to output power, power measurement, specifications, warranties, and service. More detailed information can be found in the owner / operator handbook provided separately by the engine manufacturer.

Assistance with malfunctions

 **Danger!**
Accidentally starting the engine can cause injury.

Protect yourself from injury, above all when working on the vehicle.

- Switch off the engine.
- Engage the parking / locking brake.
- Take out the ignition key.
- Wait until all moving parts have come to a complete stop and the engine has cooled down.
- Disconnect the spark plug terminals on the engine so that it cannot start by accident.

Malfunctions when your appliance is operating often have simple causes that you should know and be able to (partially) eliminate yourself. In cases of doubt your specialised garage will be pleased to assist you further.

Troubleshooting

Problem	Possible cause(s)	Remedy
Engine does not start	Safety lock system activated Battery not connected correctly Depleted or low battery Fuse has tripped	To start the engine sit on the driver's seat, move both drive control levers into the outer Neutral recesses, engage the locking brake, and switch OFF the PTO switch. Connect the black cable to the (-) terminal and the red cable to the (+) terminal on the battery. Charge the battery. Replace the fuse. If the fuse trips repeatedly look for the cause (in most cases a short circuit).
Starter turns, engine does not start	Choke and accelerator lever at wrong positions No fuel supplied to the carburettor Defect or soiled spark plug No spark	See the section "Starting the engine". Petrol tank empty. Refill. Check the spark plug (see engine handbook). Ignition must be checked at a specialised garage.
Smoke from engine	Too much engine oil in the engine or engine defect	Immediately switch OFF the appliance. Check the engine oil level. The engine must be checked at a specialised garage.
Strong vibrations	Damaged cutter shaft or defect cutters	Immediately switch OFF the appliance. Defect parts must be replaced at a specialised garage.
Cutters do not eject grass, or cut ragged	Low engine speed or too high drive speed	Raise the engine speed or lower the drive speed.

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