

INSTRUCTION MANUAL

LAWN TRACTOR

DUELT24-4



Read this operators manual careful before
the first use.

CE

INTRODUCTION

Dear Customer,

We should first of all like to thank you for preferring our garden products and hope that you will find great satisfaction in using this lawnmower and that it will fully live up to your expectations.

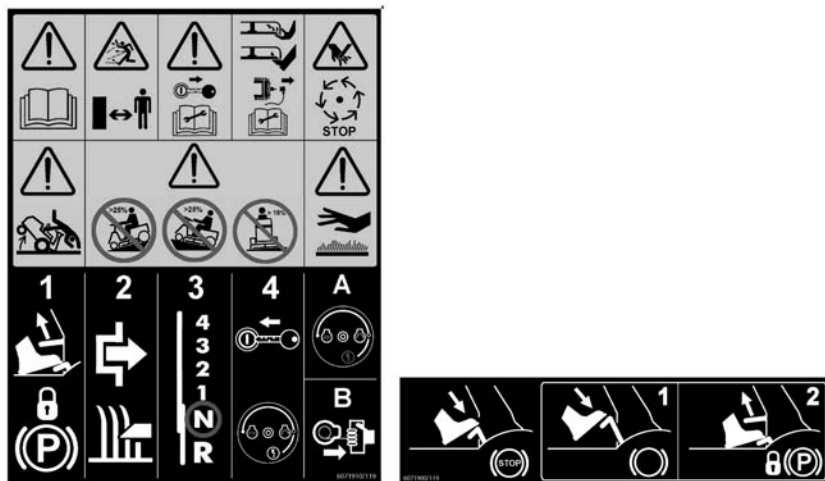
This manual describes and illustrates the safety, assembly, operation and maintenance instructions to be followed to ensure safe and efficient machine operation.

Please remember that this manual is an integral part of the machine; look after it and keep it handy for future reference; the manual must accompany the machine in the event of this being sold.

In case your lawnmower needs assistance or repair, please contact your dealer of an authorised after-sales centre.

For easier reading,

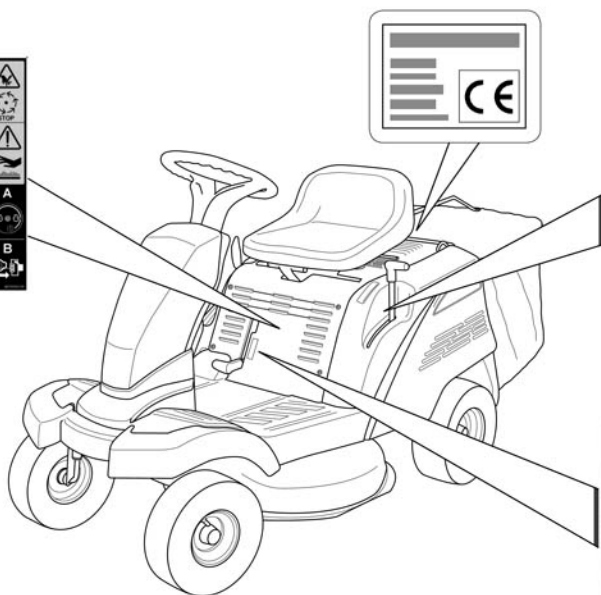
The illustrations corresponding to machine assembly and description are at the front of the manual; refer to the illustrated pages when reading the assembly and operating instructions.



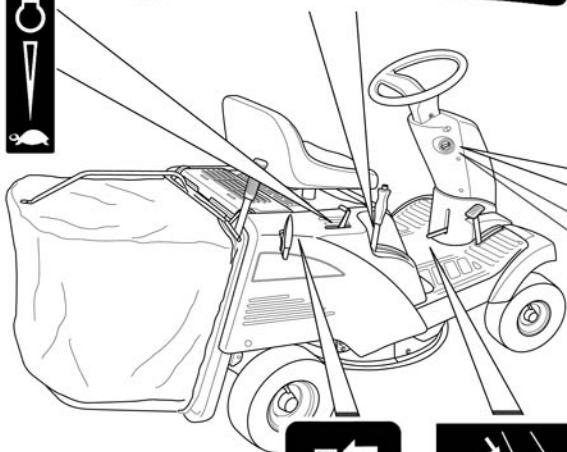
IMPORTANT - The lawnmower must always be used with utmost caution. So that safety pre-cautions and operating instructions are always readily on hand, labels have been affixed to the machine showing pictographs illustrating the main operating precautions. Because these labels, according to applicable safety standards, are considered an integral part of the machine, the user is therefore responsible for replacing them in the event of their becoming detached or illegible.

For any replacement, contact your dealer.

LABEL POSITION



4
3
2
1
N
R



WARNING SYMBOLS

DEFINITIONS OF SYMBOLS



WARNINGS!



Read the operating and service instruction manual carefully. Be thoroughly familiar with the controls and the proper use of the equipment.



HAZARD - Never use the rotary lawnmower while people, especially children, or pets are nearby.



HAZARD - Before carrying out any inspection, cleaning and servicing operations on the machine, and before unblocking the grass unloading pipe, stop the engine, take out the ignition key and follow the instructions in the manual.



HAZARD -The blades are sharp; risk of serious injury. Before carrying out any inspection, cleaning and repair operations on the cutting parts, stop the engine and take out the ignition key. Now disconnect the spark plug wire, and keep the cap away from the plug to prevent accidental starting.



HAZARD - The blades are sharp; risk of serious injury. Wait for the blade and all the moving parts to come to a halt before touching them. The blade will continue turning for some time after switching off the engine or disabling the blade control.

WARNING SYMBOLS



HAZARD - Risk of overturning on steep gradients.



HAZARD - Risk of overturning on steep gradients.

Do not use the machine on lawns with gradients of more than 25% (14°).

Do not use the machine on lawns with side gradients above 15% (8°).



HAZARD - Hot surfaces: danger of burns.

Wait for the engine to completely cool down before making any adjustments or servicing the engine itself.

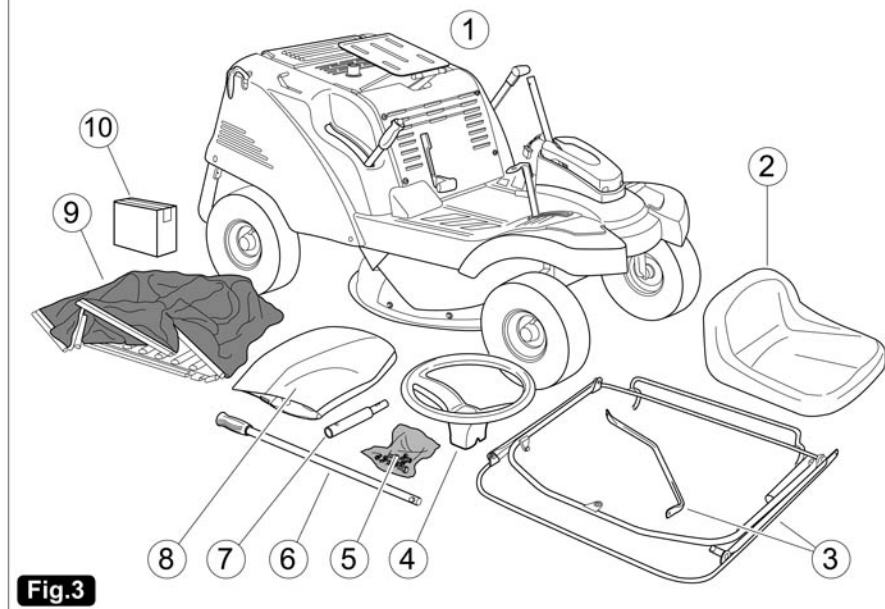
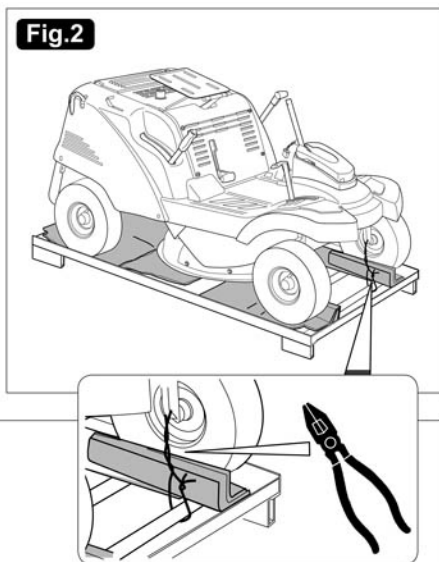
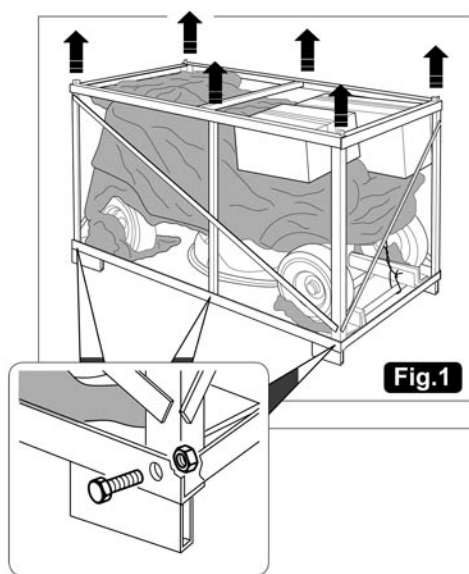
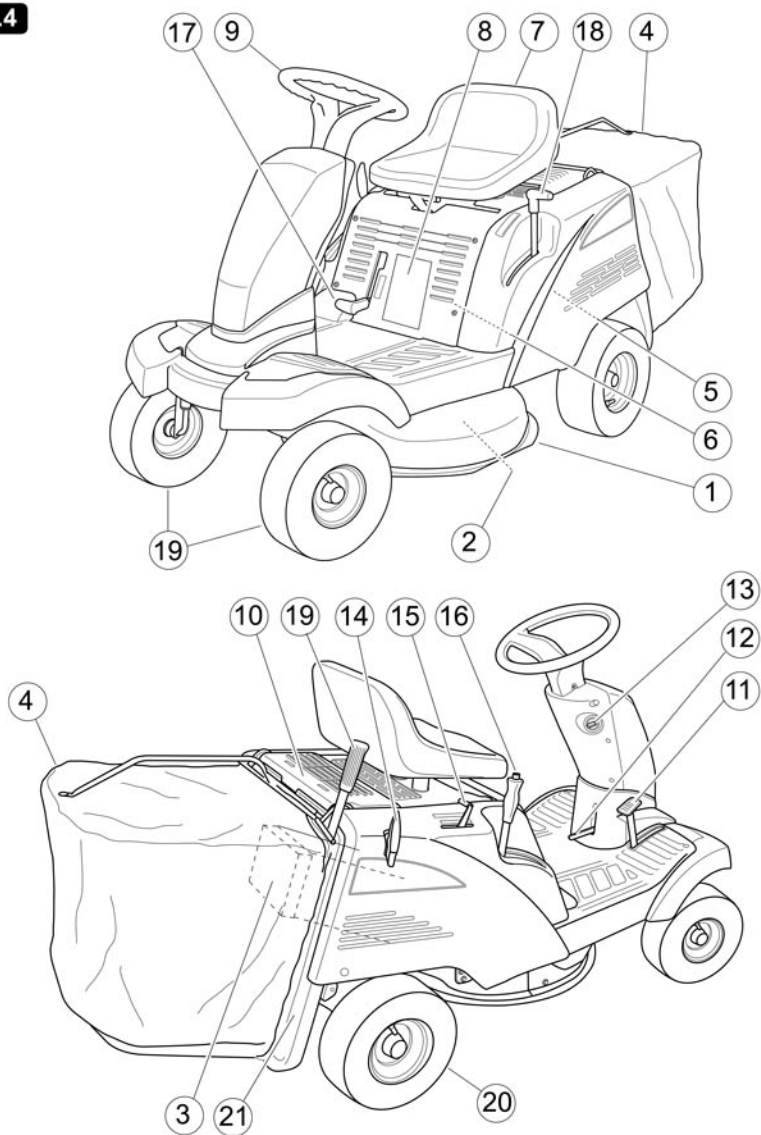
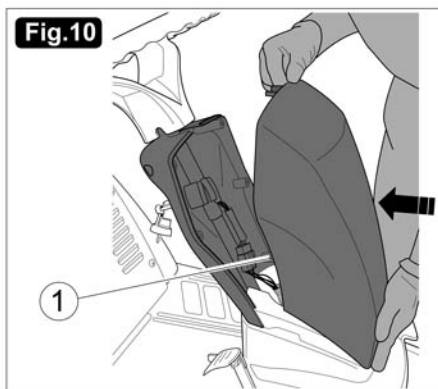
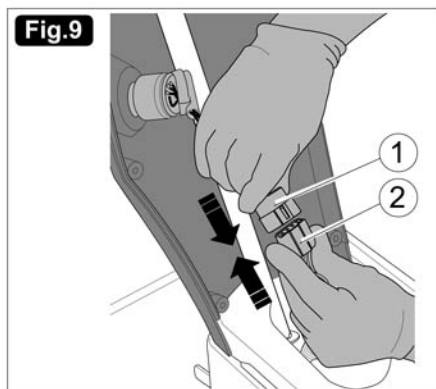
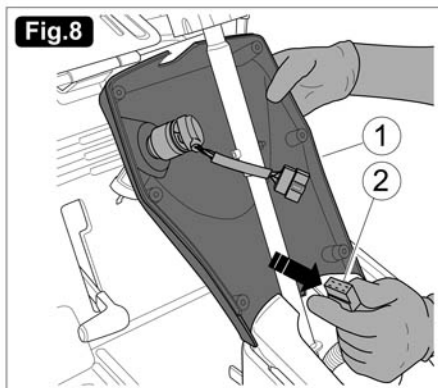
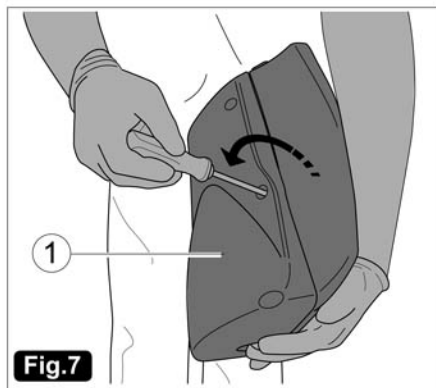
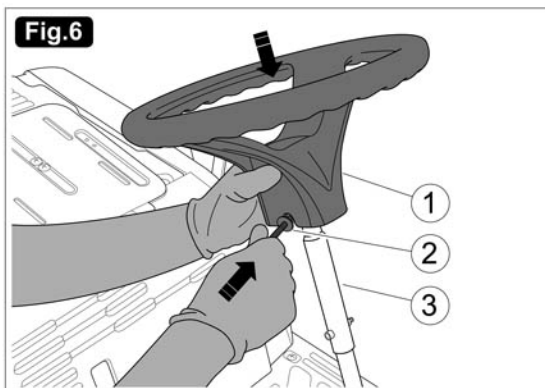
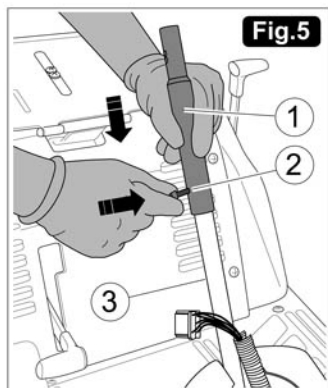
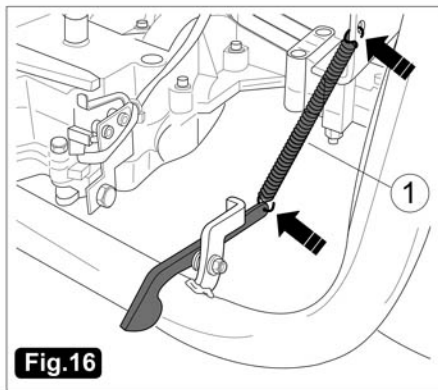
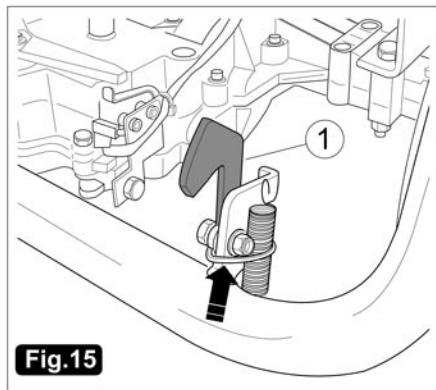
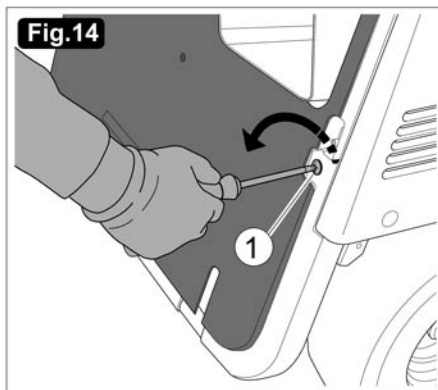
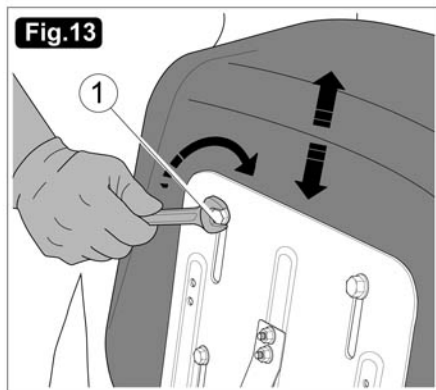
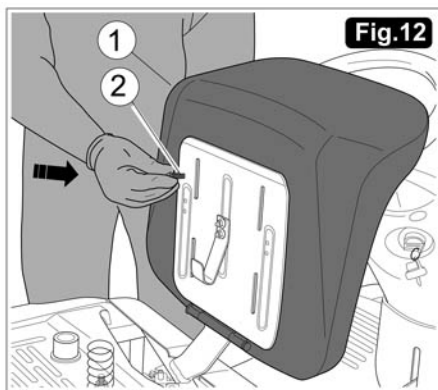
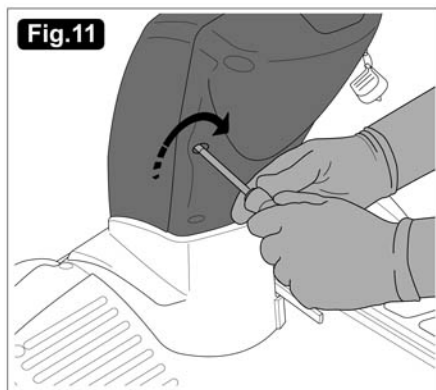
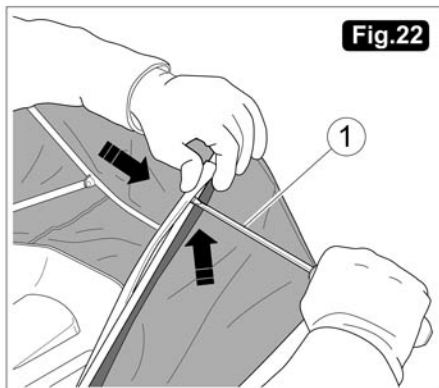
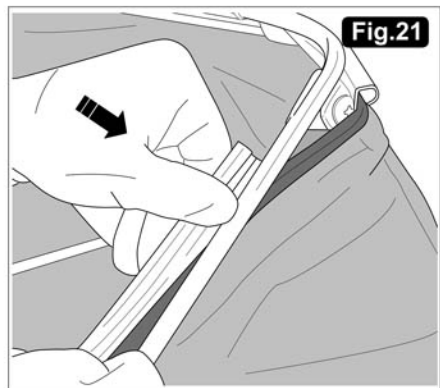
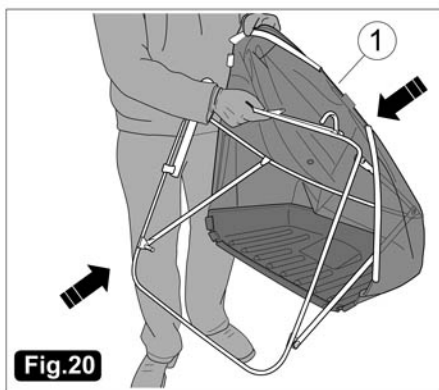
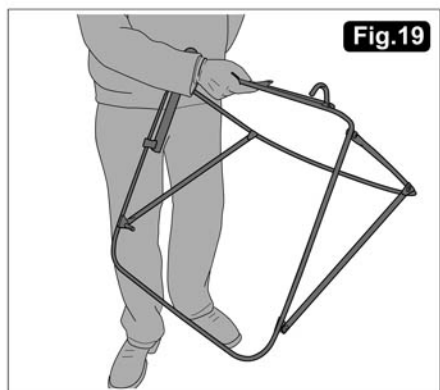
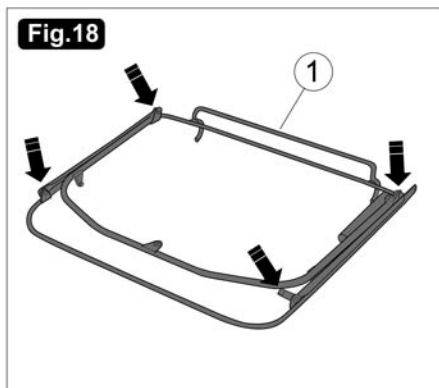
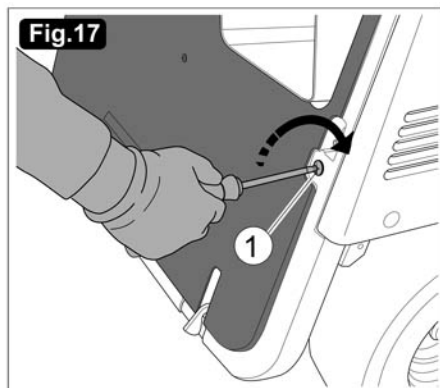


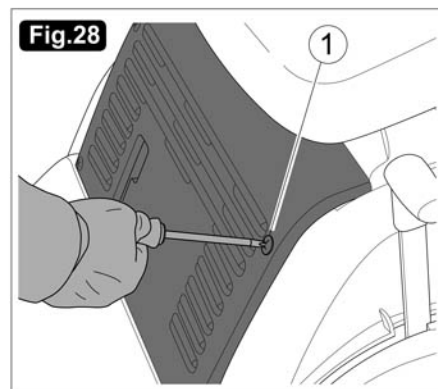
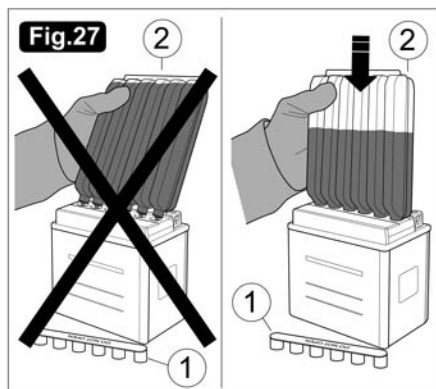
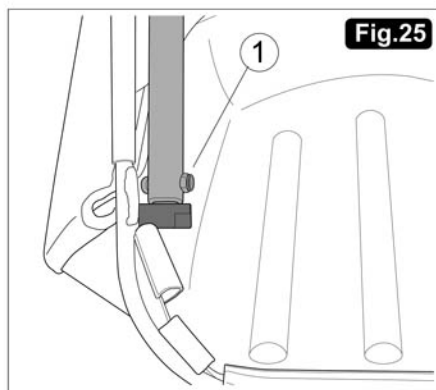
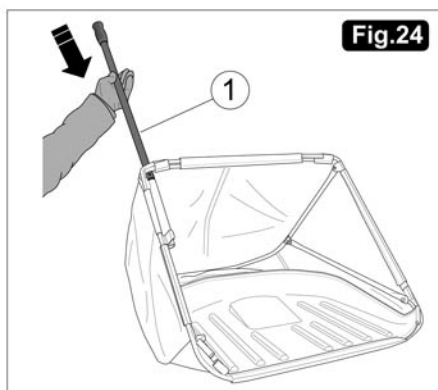
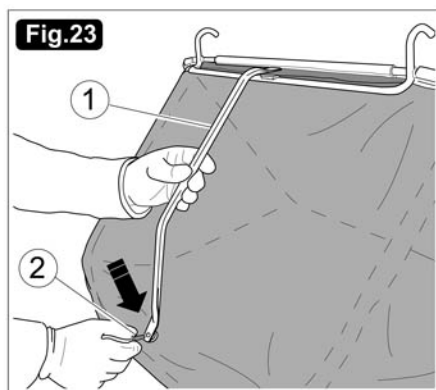
Fig.4

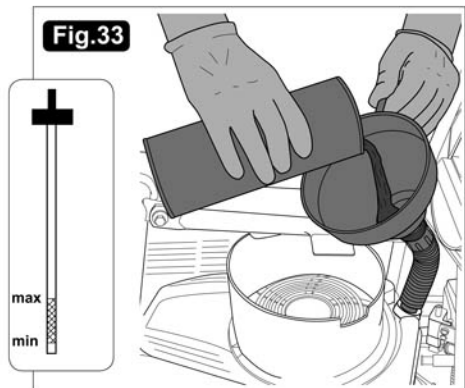
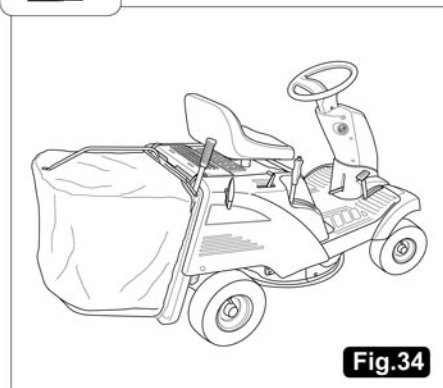
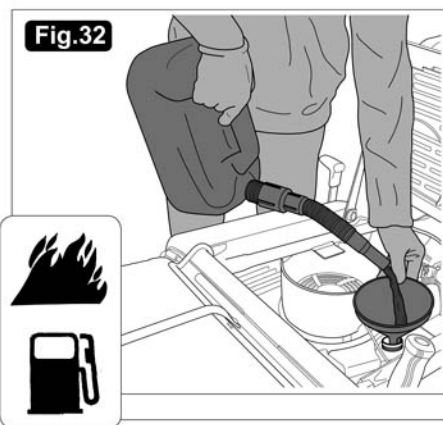
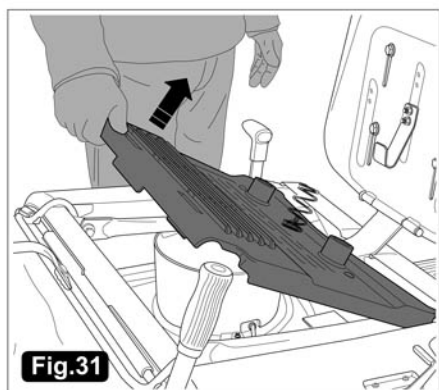
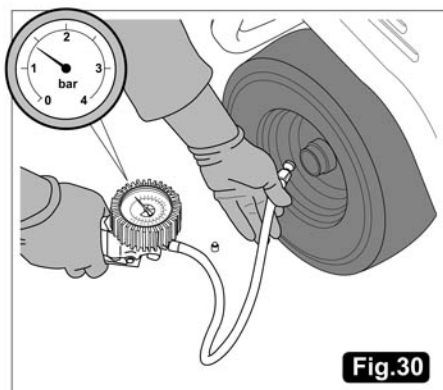
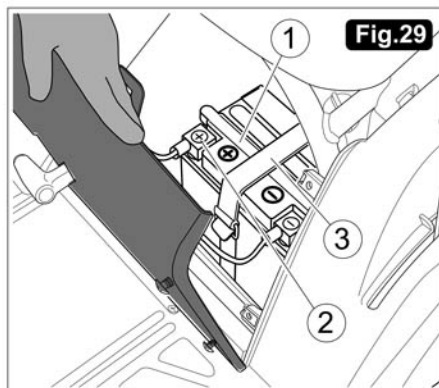


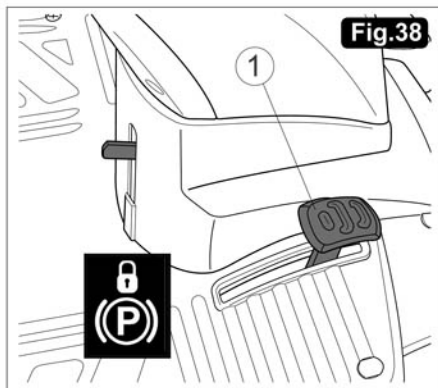
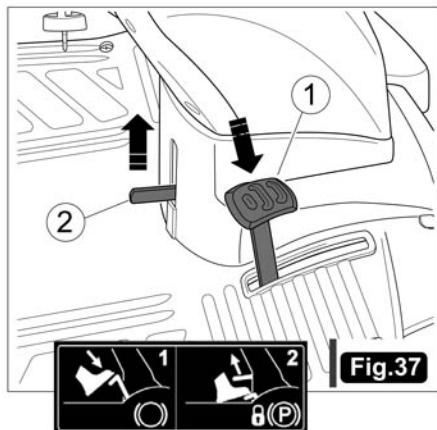
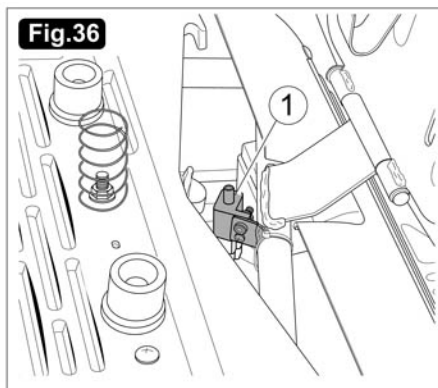
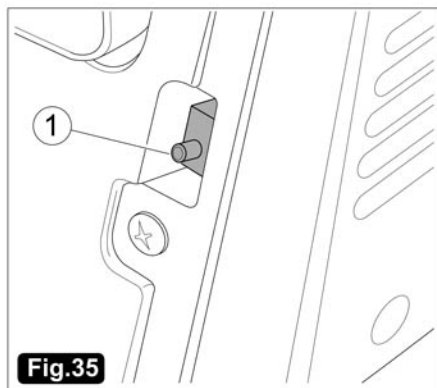


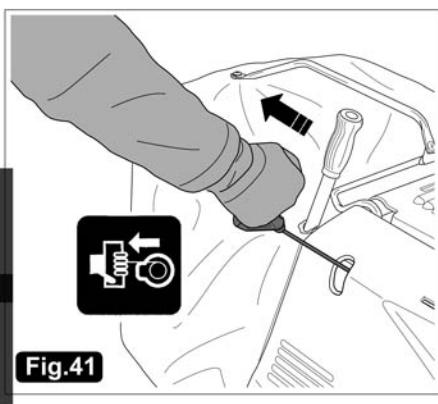
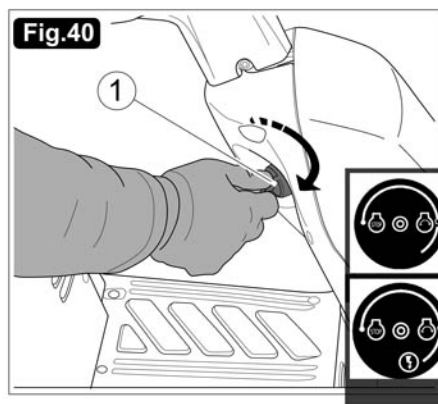
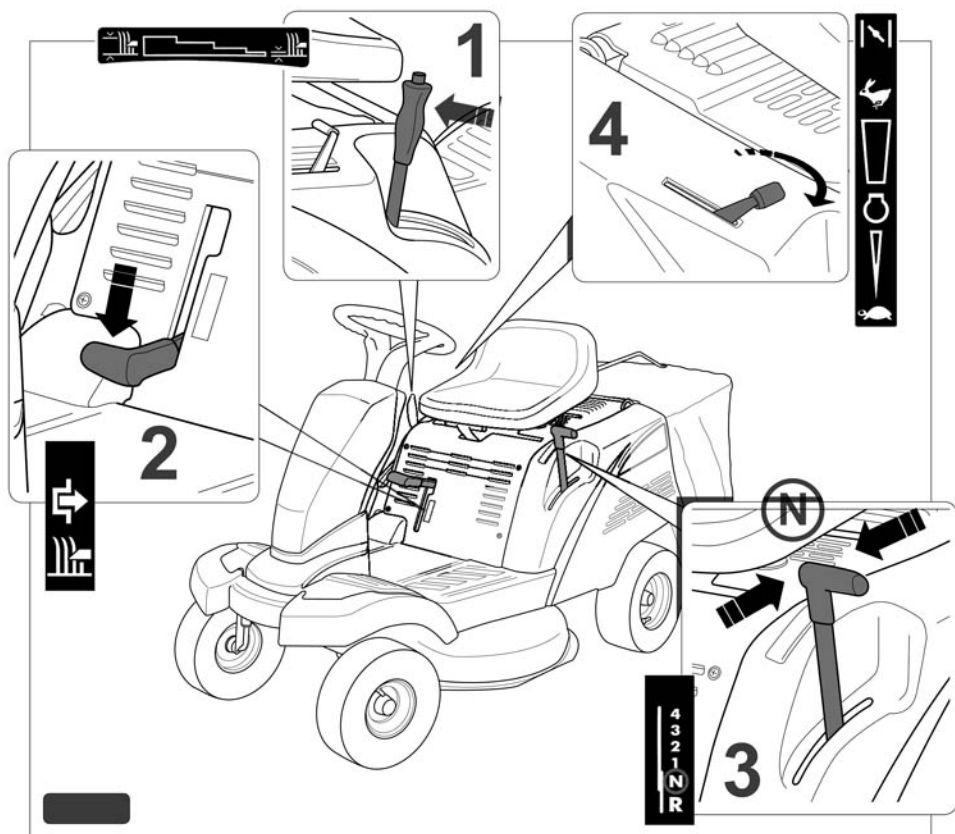


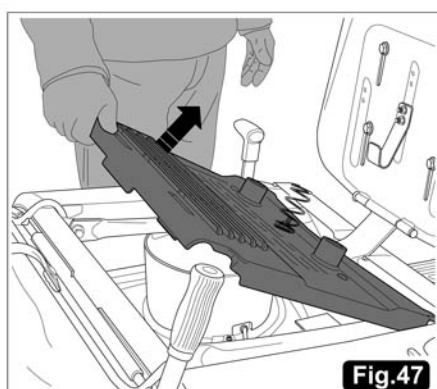
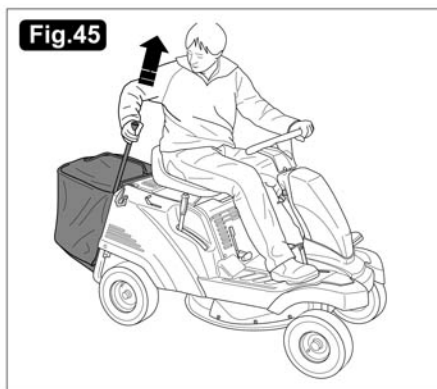
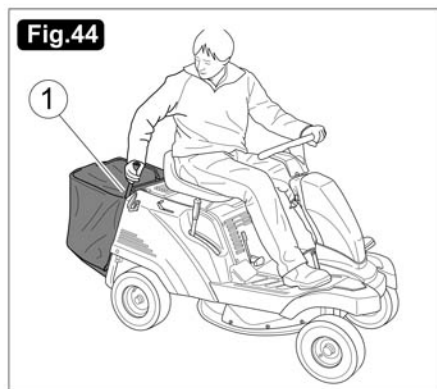
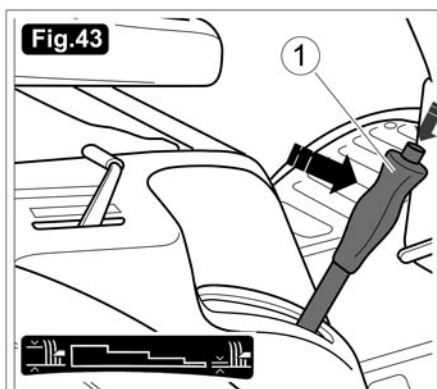
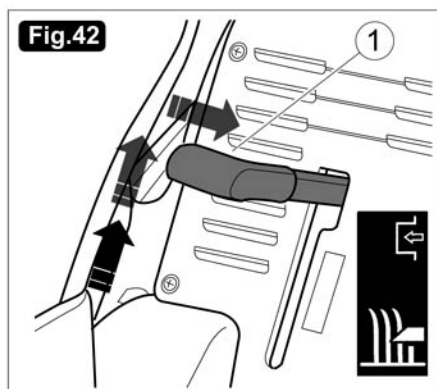


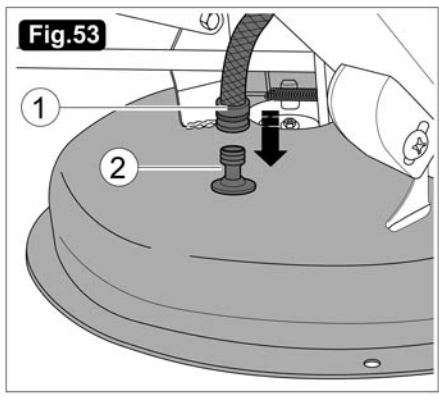
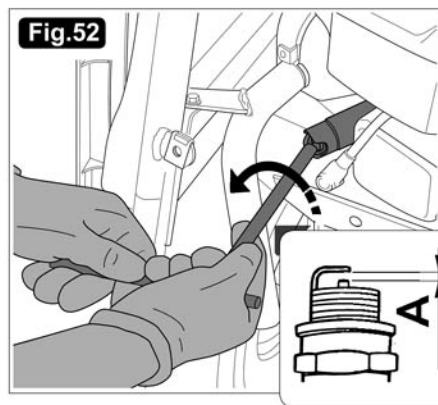
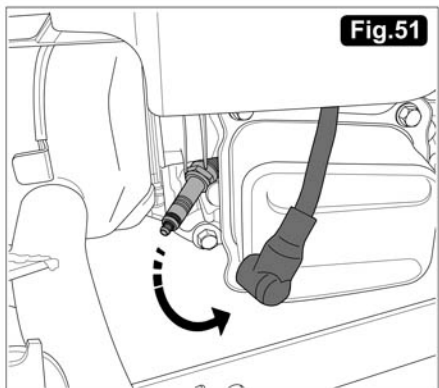
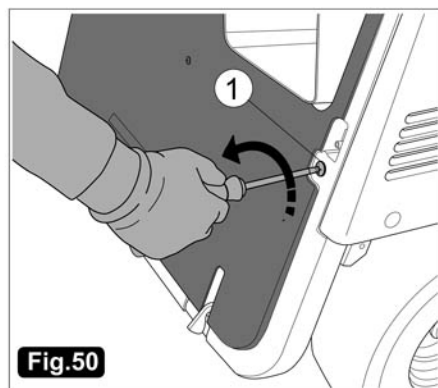
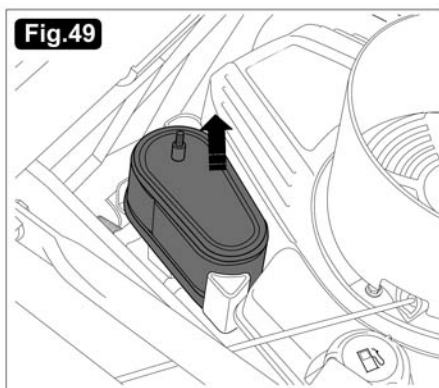
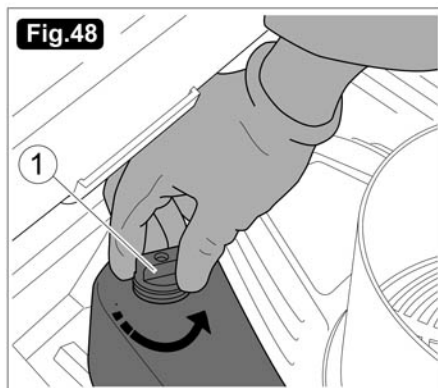












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1. FUNDAMENTAL SAFETY PRECAUTIONS.


1.1 LEARN TO KNOW THE MACHINE




HAZARD! Carefully read this instruction manual completely. Abide by all the "SAFETY PRECAUTIONS", before, during and after using the machine. Keep this manual and all the attachments for any future consultation.

In case of any change in ownership, the manual must be handed over together with the machine.


1.2 GENERAL RULES

A 1  **IMPORTANT** Anyone using the lawn mower should first of all be acquainted with the instructions in this manual and completely familiarise with the controls to ensure correct and safe machine use.

A 2 Never allow children under 16 and people not fully acquainted with these instructions to use the lawnmower.
Specific national regulations may indicate the minimum operator's age.


A 3  Never start and use the lawnmower near other people, especially children or pets.

A 4 Keep in mind that the operator or user is liable in the event of accidents or damages occurring to other people or to their property.

A 5 **HAZARD for people.**
 - Do not carry passengers.
- Do not carry loads or hook on any type of trailer.

- Such overloads could negatively affect the stability of the machine and overstress the mechanical parts.

- Do not make any changes to the machine.
- Incorrect use of the machine, as indicated in this paragraph, will invalidate the warranty and relieve the manufacturer of any liability in case of any ensuing injuries or damage.

A 6  **IMPORTANT** Users of the lawnmower must be in good psycho-physical shape; do not use the machine when tired, feeling bad or under the influence of drink, drugs or medicinal products that reduce promptness of reactions.

TRAINING

A 7 The driver must be suitably trained and should focus in particular on:

- being careful and concentrated during work;
- the fact that a machine sliding down a gradient cannot be controlled using the brakes.

The main causes of losing control of the machine are:

- lack of wheel grip;
- too much speed;
- inadequate braking;
- machine not suitable for job to be done
- lack of acquaintance with effects deriving from terrain conditions, especially on slopes.

1.3 PREARATION



B 1 During work, wear solid shoes with non-slip soles, and protective clothes.

B 2 Always use a hearing protection headset, protective eyewear or a visor.

B 3 Do not use the equipment if you are barefoot or wearing sandals.



B 4 Do not use the equipment if you are wearing loose-fitting clothes that may get caught up.

B 5 Carefully inspect the area where you intend to use the lawnmower and remove any objects that could be launched by the machine.

B 6   **Fire HAZARD.**
- Petrol is highly inflammable.

B 6.1 Keep the petrol in containers that are specifically designed for the purpose.

B 6.2 Only supply with petrol outdoors; do not smoke during refuelling.

  **Explosion HAZARD.**

B 6.3 Supply with petrol before starting the engine. Do not remove the tank cap and do not supply with petrol while the engine is running or hot.

B 6.4 Should the petrol run over, do not attempt to start the engine, but move the machine well away from the spot where you spilled the petrol; avoid any cause of sparks or fire until the petrol fumes have completely disappeared.

B 6.5 Close back the petrol tank and the containers by safely tightening their caps.


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B 7 Replace the silencer if it is faulty or damaged.

B 8 Before use, always visually check that the blade, the blade fastening screws and the cutters are not worn or damaged. Replace any damaged or worn blades, as well as their fastening screws in complete series to maintain proper balancing. Repairs and maintenance of mechanical parts must be done by a specialised after-sales centre.

1.4 RULES FOR CORRECT OPERATION




C 1  **HAZARD!** Do not operate the engine in a secluded or restricted area where the dangerous carbon monoxide contained in the exhaust fumes may build up.

C 2 Only operate on grounds that are lit by daylight or by adequate artificial lighting.

C 3 Before starting the engine, disconnect the blade, place the gearshift in "neutral" (N) and engaged the parking brake.

C 4 As far as possible, avoid using the lawnmower on wet grass.

C 5 Do not operate on excessively steep slopes. Check the limits indicated in the manual.

 **CAUTION** - Risk of overturning on steep gradients.

Do not use the machine on lawns with gradients of more than 25% (14°).

Do not use the machine on lawns with side gradients above 15% (8°).



> 25%



> 25%



> 15%

C 6 Remember, there is no such thing as a "safe" gradient. Moving on sloped lawns requires special care and experience.

To prevent overturning:

- never stop or start suddenly on slopes;
- engage the drive gently and always keep a drive gear engaged, especially on downward slopes;
- speed must be reduced on slopes and sharp bends;
- never move down slopes with the gear shift in neutral (**N**); engage a lower gear;
- be careful of mounds, bumps and hidden hazards;

- never mow across slopes, but always either up or down.

C 7 Be very careful when changing direction on slopes.

C 8 Stop the blade when crossing terrain other than lawns and when the lawnmower is transported to and from the work area.

C 9 Do not use the lawnmower with faulty guards or without safety devices fitted, such as, for example, the grass bag.


C 10 Do not modify the engine adjustments and to not tamper to increase the engine speed. If the speed of the engine is too high, this could cause personal injuries.

C 11 Disengage the blade and drive control before starting the engine.

C 12 Hands and feet must be kept away from the blade. Always keep away from the grass unloading opening.

C 13 Before leaving the driving seat:

- place the gearshift in neutral (N) and engage the parking brake (fig.37-38)
- disengage the blade and lower the blade deck;
- stop the engine and remove the key.

C 14  **HAZARD** - Before carrying out any inspection, cleaning and servicing operations on the machine, before unblocking the grass unloading pipe, stop the engine, take out the ignition key and follow the instructions in the manual.





HAZARD - **The blades are sharp;** risk of serious injury. Before carrying out any inspection, cleaning and repair operations on the cutting parts, stop the engine and take out the ignition key. Now disconnect the spark plug wire, and keep the cap away from the plug (fig. 51), to prevent accidental starting.



HAZARD - **The blades are sharp;** risk of serious injury. Wait for the blade and all the moving parts to come to a halt before touching them. The blade will continue turning for some time after switching off the engine or disabling the blade control.

- C 15** Disengage the blade during transport and every time it is not used.
- C 16** Stop the engine and remove the key and disengage the blade:
- before leaving the machine;
 - before filling up with petrol;
 - before removing the grass bag;
 - before adjusting cutting height if the operation is not performed from the driving seat.
- C 17** Make sure the accelerator is at minimum before switching off the engine.
- C 18** Stop the engine, remove the key and disconnect the spark plug wire;
- if you knock against a foreign body, stop the engine, disconnect the spark plug wire and carefully inspect the lawnmower for any damage.
- Have any damages repaired before you start the engine again; use the services of an authorised after-sales centre.
- should the machine display unusual vibrations, stop the engine and immediately seek the cause of the vibrations. As a rule, unusual vibrations are an indication of a problem.

1.5 MAINTENANCE AND DEPOSITS

- D 1** Make sure all the nuts and screws are tight, so the lawnmower is in good operating condition and safe to use.
- D 2** Wait for the engine to completely cool down before cleaning, adjusting or repairing.
-   **DANGER of burns.**
- D 3** Never store the lawnmower in a secluded area with petrol in the tank, as the fumes may reach a naked flame or a source of sparks.
- D 4** Wait for the engine to cool down, before storing the lawnmower in a secluded area.
- D 5** In order to reduce the risk of fire, keep the engine, the silencer (battery housing) and petrol deposit area free of grass, leaves or excessive grease.
- D 6** Frequently make sure the grass bag is not worn or torn.
- D 7** For safety reasons, repair any worn or damaged parts. Only use original spare parts. Non-original spare parts may not suite properly and cause damages and dangers.
- D 8** Should you need to empty the tank, do so in the open.
- D 9** When the machine has to be put away or left unguarded, lower the blade deck and remove

- the ignition key to prevent unauthorised persons starting the machine.
- D 10** Regularly check, or have an after-sale centre check, the tightening of the blade and of the engine supporting bolts.
- D 11** Blade sharpening and balancing adjustment, including removal and refitting, are demanding operations which require specific competence, as well as special equipment; especially for safety reasons, these operations must be carried out by a specialised after-sale centre. The same applies to blade replacement with a new one.
- D 12** The lawnmower blade is sharp and can cut the skin. You need to take the necessary precautions whenever you work near or on the blade.




Wear heavy gloves.

1.6 MACHINE SAFETY

Your lawnmower has been designed in accordance with specific safety standards. That is why safety systems have been fitted (switches type fig.35-36 part 1), which operate as follows:

A) prevent engine start unless all machine safety conditions are in place.

Conditions to be complied with: 

- 1) start switch in position
- 2) parking brake engaged
- 4) cutting blade disengaged

B) in case of lack of even one safety condition, stop engine;

The engine stops if:

- 1) the operator leaves the driving seat with blade rotation enabled.
- 2) the grass bag is lifted without having disengaged blade rotation
- 3) blade rotation is engaged without the bag having been fitted
- 4) reverse gear is engaged without having disengaged blade rotation.



HAZARD Never tamper with the safety switches and their power leads. In case of a fault, do not use the machine, but contact a qualified after-sales centre.

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1.7 INTENDED USE

This machine is designed to be *used in the open air only as a lawnmower for lawns and grassed area in gardens* and in compliance with the safety and operating instructions indicated in this manual.

Any other use should be deemed "hazardous" and shall invalidate the warranty and relieve the Manufacturer of all liability.



HAZARD This machine is not allowed to circulate on public roads and is not homologated to transport persons.

2. MACHINE ASSEMBLY

2.1 OPENING PACKAGING

The machine is shipped partially dismantled and packaged in a metal crate to protect it during transport. The packaged machine will appear as in fig. 1. **Operations:**



remove the 6 screws and nuts connecting the upper crate to the base (see fig.1);

(operation to be performed by two people) lift the upper iron crate so as to free the machine (see fig.2);

free the machine from the metal fasteners securing the 4 wheels to the base (with the aid of pliers or shears) see fig.2;



CAUTION!! To prevent damaging the blade deck and blade, move these to maximum height during the downward movement of the base platform. Be very careful when performing this delicate unpacking operation.

2.2 MACHINE PARTS

The component parts of the machine to be assembled appear as in fig.3.

- 1) Machine body
- 2) Seat
- 3) Bag frame
- 4) Steering wheel
- 5) Bag of screws
- 6) Bag overturning lever
- 7) Steering wheel shaft extension
- 8) Casing
- 9) Fabric grass bag
- 10) Battery box
(for model DUELT24-4 only)

2.3 IDENTIFICATION OF MAIN MACHINE PARTS AND CONTROLS (fig.4)

- 1) **Blade deck** – the casing protecting and enclosing the rotating cutter blade;
- 2) **Rotating blade** – the blade that mows the grass and expels the cut grass into the grass bag.
- 3) **Grass unloading pipe** – the pipe connecting the blade deck to the grass bag.
- 4) **Grass bag** – besides collecting the cut grass, this is a safety element that prevents the launching of grass and collected materials.
- 5) **Engine** – drives the blade and wheels (see attached engine manufacturer's manual).
- 6) **Battery** - (for model DUELT24-4 only) provides the power to start the internal combustion engine.
- 7) **Driving seat** – operator drive and control position. A safety switch trips when the driver is sat down.
- 8) **Notice and safety labels** – indicating the main rules for working safely (see specific chapters in this manual).
- 9) **Steering wheel** – steers the front wheels.
- 10) **Engine compartment door** – must be raised to fill up with petrol and oil.
- 11) **Brake/clutch pedal** - (of the front-wheel drive)
- 12) **Parking brake lever.**
- 13) **Ignition key.**
- 14) **Engine start cable.**
- 15) **Engine throttle lever.**
- 16) **Blade deck and cutting height adjustment up/down lever.**
- 17) **Blade rotation engagement lever.**
- 18) **Drive and speed change engagement lever.**
The lever selects:
 - the four forward gears;
 - the neutral position (**N**);
 - the reverse gear (**R**);
- 19) **Front steering wheels.**
- 20) **Rear driving wheels.**
- 21) **Rear cover (see fig.14).**

2.4. MACHINE ASSEMBLY

2.4.1 FITTING THE STEERING WHEEL

Position the machine on the flat and align the front wheels.

- 1) Fit the steering wheel column extension (fig.5 part 1) on the shaft (part 3) and secure it with the screw (part 2) and the nut provided. Tighten well.
- 2) Position the steering wheel (fig.6 part 1) on the extension (part 3) and secure with the screw (fig.6 part 2) and the nut provided. Tighten well.

2.4.2 FITTING THE CASING

- 1) Remove the 6 screws (fig.7) to separate the two half-shells of the casing (fig.7 part 1).
- 2) Position the rear half-shell (part with key switch, fig.7 part 1), blocking the fastening tangs in the support base (see fig.8). Keep the switch power plugs handy (fig.7 part 2).
- 3) Connect the two plugs (fig.9 part 1-2)
- 4) Position the front half-shell and make the screw fastening holes (fig.10 part 1) coincide.
- 5) Reposition and tighten the 6 screws (fig.11).

2.4.3 FITTING THE SEAT

- 1) Fit the seat (fig.12 part 1) on the deck, with the screws (fig.12 part 2).
- 2) Before tightening the 4 screws (fig.13 part 1) adjust the forward/backward position of the seat, to best suit the driver.

2.4.4 FITTING THE BAG-HOOK SPRING

- 1) Loosen the screws (fig.14 part 1) and remove the rear cover by pressing from inside.
- 2) Cut the plastic straps (fig.15 part 1) to free the hook and spring.
- 3) Secure the two spring hooks (fig.16 part 1) in the two holes indicated by the arrows (fig.16).
- 4) Reposition the cover by pressing with your hands and securing with the screws (fig.17 part.1).

2.4.5 FITTING THE GRASS COLLECTION BAG

The bag frame (fig.18 part 1) is pre-assembled and the screws and nuts for complete fitting are secured at the points indicated by the arrows in fig.18.

- 1) Loosen the screws and nuts so as to be able to open and fasten the frame (fig.19).

- 2) Tighten all the screws and the nuts of the frame.
- 3) Fit the frame inside the bag (fig.20 part 1).
- 4) Secure all the plastic profiles (fig.21) to the frame tubes, with the aid of a screwdriver (fig.22).
- 5) Fasten the handle (fig.23 part 1) to the bag frame, using the screws provided (fig.23 part 2).
- 6) Fit the bag overturning lever in the housing provided as shown in fig. 24, after removing the screw and locknut (fig.25 part 1)
- 7) Fasten the rod with the screw and nut (fig.25 part 1) once positioned.
- 8) Secure the bag to the machine (fig.26)

2.4.6 PREPARING AND FITTING THE BATTERY

(for model DUELT24-4 only)



IMPORTANT The battery is housed in a box (fig.3 part 10) together with the bottle of electrolytic fluid, pre-dosed separately for the 6 elements.



HAZARD: FILLING SYSTEM

Before filling the battery, carefully read the following instructions relating to "how to add electrolytic fluid"



The electrolytic fluid is a solution of sulphuric acid.

HAZARD: Sulphuric acid is poisonous

HAZARD: Sulphuric acid is corrosive
Sulphuric acid can cause blindness or severe burns.



Wear protective eyewear.

In case of eyes or skin coming into contact with the electrolytic fluid, immediately rinse the eyes and/or skin with running water for at least 15 minutes and then see a doctor as soon as possible.




HAZARD: Keep out of reach of children.



HAZARD: Do not detach or cut the aluminium blades that seal the 6 bottle elements.

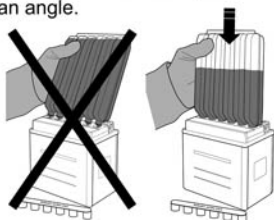


HAZARD To start the battery, the operator must:

- 1) Take the battery out of the box and rest it on a sturdy surface. Take off the multiple cap closing the 6 elements (fig.27 part 1).
- 2)  Position the bottle of electrolytic liquid above the battery holes (fig.27 part 2),

INSTRUCTION MANUAL

being careful to keep it in "vertical" position. **DO NOT** hold it at an angle.



Press the bottle so the special electrolytic fluid introduction tubes, (present on the battery), perforate the sealed tangs of the bottle and thus allow the fluid to flow from the bottle into the battery. If necessary, lightly tap the bottle to allow the fluid to flow into the six elements. Wait for all the liquid to flow into the battery before detaching the bottle.

3) Replace the multiple cap and press it well down (fig.27 part 1).



HAZARD: Never open the caps.



HAZARD: Never add any more electrolytic fluid.



HAZARD: Never overturn the battery.



HAZARD: Never throw the battery away into the environment. If the battery has to be changed, follow the disposal procedures laid down by local authorities.

4) Loosen the screws (fig.28 part 1) which secure the front casing of the engine compartment and move this away as shown in fig.29.

5) Fit the battery (fig.29 part 1) in its housing.



IMPORTANT Position the battery with the polarities \oplus and \ominus as indicated in fig.29.

6) Connect the battery connectors to the machine connection leads and tighten the 2 screws (fig.29 part 2).



HAZARD When attaching the leads, mind the polarities \oplus and \ominus of the battery.

7) Secure the battery with the small rubber strap (fig.29 part 3).

8) Fit the casing back on with the screws (fig.28)



IMPORTANT Use the battery after 30 minutes from filling with electrolytic fluid.

2.4.7 TYRE PRESSURE

Correct tyre pressure ensures machine stability and the correct alignment of the blade with the ground. Periodically check the pressure of the tyres and regulate according to the pressures shown on the technical data table.

To inflate the tyres use an inflation gun featuring pressure gauge (fig. 30).

3. PREPARING TO WORK



HAZARD – Hot surfaces: danger of burns.



Wait for the engine to completely cool down before making any adjustments or servicing the engine itself.

3.1 FILLING WITH PETROL



HAZARD Filling up must be done with the engine switched off in an open and well-ventilated environment.

Always remember that petrol fumes are highly inflammable.



DO NOT USE OPEN FLAMES NEAR THE MOUTH OF THE TANK TO CHECK THE LEVEL AND DO NOT SMOKE WHEN FILLING UP.



1) Lift the seat and the door of the engine compartment (fig.31)

2) Loosen the petrol tank cap (fig.28).

3) Use a funnel to fill up. Do not fill the tank up completely to prevent fuel overflowing. Tighten the petrol tank cap well after filling up.

Follow the instructions in the attached engine manufacturer's manual.

Keep the petrol in a container designed for the purpose and with cap properly tightened.

3.2 FILLING WITH AND CHECKING ENGINE OIL



IMPORTANT The machine is shipped without lubricating oil in the engine.

CAUTION Irreparable damage to engine; fill up with oil before starting the engine.



HAZARD Filling up must be done with the engine switched off.

- 1) Lift the seat and the door of the engine compartment (fig.31)
- 2) Unscrew the oil cap.
- 3) Use a funnel to fill up (fig. 33).
The oil level must be between the MIN and MAX notches of the dipstick (see fig.33).
Do not exceed the maximum level.
Screw the oil cap back on.

Follow the instructions in the attached engine manufacturer's manual.

4. CONTROLS AND START-UP



IMPORTANT Only the preliminary machine control functions are explained in this chapter. To enable the controls (subsequently) refer to the following chapters 4.3 and 4.4.

4.1 CONTROLS AND CONTROL INSTRUMENTS

STEERING WHEEL (fig.4 part.9) - Directly steers the front wheels.

BRAKE / CLUTCH PEDAL (fig.4 part. 11)
This pedal has a dual function :
BRAKE e CLUTCH

BRAKE: with the machine moving, press the pedal to quickly slow down or stop the machine. The brake operates on the rear wheels.

PARKING BRAKE: with machine stopped :



- 1) keep the pedal pressed
- 2) lift the parking brake lever and keep lifted
- 3) release the pedal

This way, the rear wheels remain braked

To release the parking brake, fully press the pedal (the parking brake lever is automatically released and returns to down position).

CLUTCH: the same brake pedal, in the top part of its stroke, works as a clutch pedal for machine movement.

With the pedal released, the clutch is completely engaged and transmits movement to the rear wheels. Speed depends on which gear has been engaged.

MOVEMENT ENGAGEMENT AND SPEED CHANGE LEVER (fig.4 part.18)



- selects machine forward/reverse movement. This lever has 6 positions, corresponding to 4 forward gears "1-2-3-4", neutral position "N" and reverse gear "R".

- To switch from one gear to another, at mid stroke press the "brake/clutch" pedal (fig.4 part 11) and move the lever to the required position.




CAUTION: only engage the reverse gear when the machine is stopped.


CAUTION : before engaging the reverse gear, disengage blade rotation.

IGNITION KEY (for model DUELT24-4) (fig.4 part 13) – if inserted and turned (pos. "I" ) , enables manual engine start. If turned to "0"  position, switches off engine.

IGNITION KEY (for model DUELT24-4) (fig.4 part 13)

Rotation to "START"  position – automatic engine start.

If the key is released from "START" position, this automatically returns to "I" position .

If returned to "0"  position – switches off engine.

ENGINE START CABLE (fig.4 part. 14) – By giving the handle a good pull, the engine starts. After pulling, re-accompany the handle into its hoisting position to facilitate automatic cable rewinding.

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NOTE: engines with power start also feature cable start.

THROTTLE LEVER (fig.4 part 15) – reduced or increases engine revs.

CHOKE pos.  cold starting

SLOW pos.  engine minimum speed

FAST pos.  engine top speed

BLADE DECK UP/DOWN LEVER (fig.4 part 16)



- lifts or lowers the blade deck and thereby adjusts the grass cutting height.

There are 4 possible height adjustments.

Press the handle on the lever and accompany the lever to the required position.

When the button is released, the lever remains in the selected position.

Cutting heights: see technical data table.

BLADE ROTATION ENGAGEMENT LEVER (fig.4 part 17) – starts or stops blade rotation.



- Blade engaged



- Blade disengaged

If the lever is engaged without observing safety conditions, the engine switches off if it is running, or else cannot be started.

See chapter **1.6 Machine safety**

4.2 PREPARING FOR START-UP

If the machine has not been used for a long time, the operator must perform preliminary checks in order to be able to start and use the machine safely.

SAFETY SYSTEM OPERATION CHECK

Make sure the safety systems are in good working order by simulating the operating conditions indicated in paragraph 1.6. Make sure that to each operation corresponds the indicated effect.

4.3 START-UP



To start the engine:(for model DUEL24-4)

- Operate the parking brake.
 - # Press down the brake/clutch pedal (fig.37 part 1).
 - # Move the parking brake lever up (fig.37 part 2).
 - # Release the brake/clutch pedal. This will remain in low position (see fig.38).
- Lift the blade deck as far as it will go.



3) Disengage the blade.

4) Shift the gear lever to neutral "N" (fig. 39 part 3).

5) Shift the accelerator lever to accelerated position  (cold starting) or  (hot starting) (fig.39 part 4).

6) Turn the key (fig.40 part. 1) to "I" position .



7) Grip the cable start handle (fig.41). Give a long section of cable a strong and quick pull.


Repeat the operation until the engine starts.

When the engine has started, move the throttle to "SLOW".

Follow the instructions in the attached engine manufacturer's manual. (for model DUEL24-4)

POWER START: perform the above start-up operations up to point 5.

1) Turn the key (fig.40 part.1) first to "I"  position and then to "START"  position.

2) As soon as the engine starts, release the key which will return to "I"  position.

When the engine has started, move the throttle to "SLOW".


ENGINE SWITCH-OFF

After using the machine:

1) Shift the accelerator lever (fig.39 part 4) to intermediate position. Let the engine run for at least 20 seconds.



In case of an EMERGENCY, switch off immediately.

2) Move the key to "0"  position.

3) Before leaving the machine, engage the parking brake and take out the ignition key.

4.4 DRIVING AND CUTTING

MOVING



CAUTION Be very careful when reversing. Never change direction of movement without first stopping the machine.

- 1) Start the engine (see paragraph 4.3).
- 2) Sit in the driver's seat.
- 3) Move the speed change lever as required (fig.39 part 3).
- 4) Increase the number of engine revs (if too low).
- 5) Release the parking brake by pressing the brake/clutch pedal (fig.38 part 1)
- 6) Slowly release the brake/clutch pedal to start forward movement of the machine.
- 6) Use the fastest gear "4" only for moving from one place to another and with the blade disengaged.



CAUTION This machine is not homologated for travelling on public roads. It must only be used in private areas, closed to traffic.

STOP

- 1) Press the brake/clutch pedal to stop the machine.


GRASS CUTTING



Before starting reverse travel "R", lift and disengage the blade.



CAUTION The reverse gear cannot be engaged with the cutting blade engaged. The engine would switch off immediately.

- 1) Start the engine (see paragraph 4.3).
- 2) Sit in the driver's seat.
- 3) Place the throttle control level to the maximum position .

- 4) Select the speed change lever on one of the first 3 gears (fig.39 part 3).



5) Operate the cutting blade by lifting the engaging lever (fig.39 part 2).

- 6) Lower the blade deck to the required height (fig.39 part 1)
- 7) Release the parking brake (fig.38 part 1)
- 8) Slowly release the brake/clutch pedal.



CAUTION Pedal release must always be gradual to prevent sudden engagement of the drive causing the vehicle to jump forward, with loss of control by the driver, especially on slopes.

EMPTYING THE GRASS BAG

If the cut grass remains on the ground, this means the grass bag is full:

- 1) Move to the cut grass emptying and storage area.
- 2) Stop the machine and operate the parking brake.
- 3) Cutting blade disengaged.
- 4) Remove the bag overturning lever as shown in fig.44-45.
- 5) Overturn to empty the contents (see fig.46).
- 6) Lower the bag so it completely adheres to the rear cover; if it does not, the safety switch will prevent blade engagement.

CLEANING THE GRASS UNLOADING PIPE



CAUTION This operation must always be performed with the engine switched off and the ignition key removed.

Grass could block the pipe due to:

- bag full
- speed too high
- grass too high

Proceed as follows:

- 1) Operate the parking brake.
- 2) Disengage blade rotation.
- 3) Lift the blade deck as far as it will go.
- 4) Switch off the engine and remove the key.
- 5) Release the bag.
- 7) Remove the accumulated grass from the rear part of the pipe.

CUTTING SUGGESTIONS

CAUTION The machine is not suitable for heavy-duty work and for mowing large quantities of grass.

When adjusting the cutting height and machine speed, be careful not to overstress the machine.

For problem-free use, the cutting height and the movement speed must be adapted to the height of the grass to be cut.

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In case of blockages and drops in engine speed, engage a lower gear and further raise the blade deck.

On particularly rough surfaces, work with greater cutting height to prevent the blade knocking against any surface irregularities, with resulting damage to the blade and mechanical parts.



CAUTION When cutting on slopes, reduce speed of movement to ensure safety conditions.

Disengage the blade and move the deck to max height position every time an obstacle or hump has to be overcome.

The blade must be in perfect condition and sharp, so the cut is clean and without frays which could cause the grass to turn yellow.

The engine must be used at top speed, both to ensure a clean cut of the grass and to achieve good ejection of the cut grass through the unloading pipe.

In case of drought, do not use very low cutting levels so as not to damage the lawn.

It is best to cut the grass when the lawn is dry.

If the grass is very tall, two separate cutting operations are best performed, on different days; start with max height cutting with a low gear.

OPERATING TIMES AND DAYS

The time of operation of the lawnmower could be regulated by specific national or local laws. Contact the local authorities to find out.

4.5 TRANSPORT

To change work areas, the machine can only cover short distances.

- For longer distances, use a transport vehicle featuring loading ramps.

Push the machine by hand and with the gear lever in neutral.

- Do not lift using cables.

- Secure the machine adequately during transport.

5. MAINTENANCE

5.1 SAFETY PRECAUTIONS



CAUTION - HAZARD – Always carefully follow the instructions in the chapter: “Basic safety precautions” and in the paragraph “1.4” maintenance and deposit.



HAZARD Always replace the grass bag if this is torn, unstitched and shows damage to the plastic profiles.



HAZARD Due to the possible launching of grass and material collected up by the blade.



HAZARD - Before carrying out any inspection, cleaning and servicing operations on the machine, and before unblocking the grass unloading pipe, stop the engine, take out the ignition key and follow the instructions in the manual.



HAZARD – The blades are sharp: risk of serious injury to persons. Before cleaning, inspecting and repairing cutting parts, stop the engine and take out the ignition key. Now disconnect the spark plug wire, and keep the cap away from the plug to prevent accidental starting (fig.51).



HAZARD – Hot surfaces: danger of burns.

Wait for the engine to completely cool down before making any adjustments or servicing the engine itself.



HAZARD – Wear adequate clothes and work gloves to clean the blade and the blade deck and in all situations in which risks exist for your hands.



HAZARD – Never throw old oils, petrol or other polluting products away into the environment.



HAZARD - Blade sharpening and balancing adjustment, including removal and refitting, are demanding operations which require specific competence, as well as special equipment; especially for safety reasons, these operations must be carried out by a specialised after-sale centre. The same applies to blade replacement with a new one.



HAZARD – Any damaged or bent blades must always be changed for safety reasons. Always use original blades.

5.2 MACHINE CLEANING

MACHINE

Do not use high-pressure nozzles or aggressive liquids to wash the casing and the engine.

ENGINE

Periodically clean the air filter (fig.48-49) and check the ignition plug electrodes (fig. 50-52).

To service the engine, follow the instructions in the attached engine manufacturer's manual.

At the start of each season, **check the machine and have it serviced by a specialised after-sales centre.**

GRASS BAG

The grass bag can be cleaned by means of a strong jet of water.

BLADE DECK

Washing the inside of the blade deck and of the grass unloading pipe can be done as follows:

- 1) position the machine on an outside floor;
- 2) fit the grass bag;
- 3) connect the flexible water hose (fig.53 part 1) at junction (fig.53 part.2) to the blade deck;
- 4) sit in the seat and engage the parking brake; move the gear lever to neutral (N);
- 5) move the blade deck to minimum level (full down);
- 6) start the engine;
- 7) allow the blade to turn for a few minutes.

Release the bag and rinse it with a strong jet of water.

INSTRUCTION MANUAL

5.3 DISMANTLING , SHARPENING AND BALANCING THE BLADE

Check that the blade is sharpened properly and firmly fixed to the bracket.

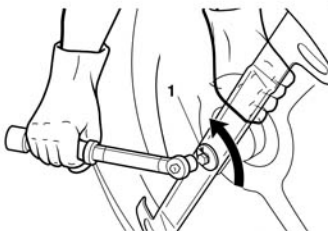
- A badly sharpened blade pulls at the grass and causes the lawn to turn yellow.
- A loose blade causes unusual vibrations and can be dangerous.

▲ WARNING! *All operations on the blade (dismantling, sharpening, balancing, remounting and/or replacing) require a certain familiarity and special tools. For safety reasons, go to a specialized centre if you do not have the right tools or experience.*

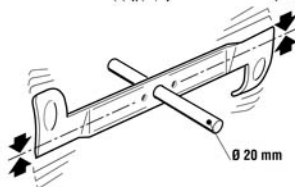
To remove the blade, hold it firmly wearing strong gloves and undo the central screw (1).

Sharpen the two cutting edges using a medium grade grinding wheel and check the balance by holding the blade up with a round Ø20 mm bar inserted in the central hole.

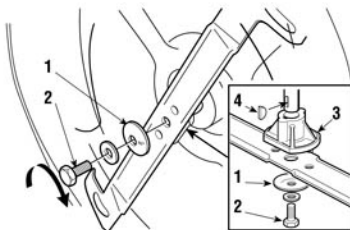
To ensure that it works properly without unusual vibrations any imbalance between the two parts of the blade must be below one gram.



▲ WARNING! *Always replace the damaged or bent blade; never try to repair it! ALWAYS USE MANUFACTURER'S GENUINE REPLACEMENT BLADES BEARING THE SYMBOL "SG 2072850" !*



▲ WARNING! *When re-fitting the blade, always follow the indicated sequence, making sure that the blade's wings are facing towards the interior of the cutting deck and that the concave part of the cup spring (1) is pressing against the blade. Tighten the fixing screw (2) using a torque wrench set to 40-45 Nm. If the shaft hub (3) came off when dismantling the blade, make sure that the key (4) is firmly in its right position.*



5.4 REPLACING THE BELT

The belt replacement must be carried out at a Licensed Service Centre.

NOTE

Replace the belts as soon as they show obvious signs of wear! ALWAYS USE GENUINE REPLACEMENT BELTS!

6. TECHNICAL SPECIFICATIONS

6.1 TECHNICAL DATA TABLE

Blade diameter	61.6 cm	
Blade screw tightening torque	40-45 Nm	
Cutting height (on 4 levels)	3-9 cm	
Front wheels	11 X 4.00-5	
Rear wheels	13 X 5.00-6	
Wheel inflation pressure	1.4 bar	
Engine type	1P75F	
Engine power	4.2 kw/ 3000 /min	
Engine displacement	224 cc	
Fuel tank capacity	1.4 L	
Sound pressure level(LpA)	92.6 dB(A), K _{pA} : 3.0	
Power sound level(LwA)	98 dB(A),	
Vibrations at handlebar (max)	3.4 m/s ² , k=1.5 m/s ²	
Forward movement speed (theoretic with engine revs 3000 /min)		
-In first gear	1.5 km/h	-In second gear 2.5 km/h
-In third gear	3.5 km/h	-In fourth gear 4.5 km/h
-In reverse	1.5 km/h	
Grass bag capacity	130 L	
Weight (model DUELT24-4)	120 kg	

6.2 MACHINE DIMENSIONS

