

ETESIA

GB

Original user
manual

Please read carefully before using your machine



**MBHE2-MKHP3-MKHP5-MHHE2-
MKHE3-MKM-MKHPF**

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THANK YOU!

You are now the proud owner of an Etesia ride-on mower! This extremely reliable and tough machine has been specially designed to give many years of service.

- In order to prolong the life of your mower and keep it in excellent working order, read this manual carefully and always follow the safety recommendations and maintenance instructions.
- As part of our commitment to excellence, we are constantly seeking new ways of improving our products. For this reason, your model may differ slightly from the description in this manual.
- Up-to-date technical information can be obtained from your dealer.
- He will be happy to resolve any queries you may have.

- In accordance with article L.111-3 of the consumer code, ETESIA undertakes to supply your dealership with spare parts, original or compatible, indispensable for the use of your product over a period of 10 years, as from the date of the invoice issued by our company.

MOWER IDENTIFICATION

- **EVERY MODELS EXCEPT MKM AND MKHPF:** The identification number of your mower is located on the right-hand side of the machine next to the grass box (see page 6).
- **MKM AND MKHPF:** The identification number of your mower is located under the seat (see page 6).
- Always quote this number when seeking advice from your dealer.

1• YOUR SAFETY AND THAT OF OTHERS

- Always follow these instructions when using your ride-on mower.
- No responsibility will be accepted by the manufacturer in the event of failure to comply with this manual or with current regulations.
- Prior to use, check that safety labels are present on the mower as indicated in the manual. Read these labels carefully. If any safety labels are missing, inform your dealer immediately, as the mower is required by law to carry them.
- Never remove warning labels or safety instructions.
- Before using your mower, make sure that you are completely familiar with the controls.
- Study the operating instructions so that you are able to stop the machine quickly.
- Always keep the mower and accessories in good working order.
- Never operate the mower using faulty guards or without the use of safety devices.
- Never attempt to adjust your ride-on mower without the prior approval of the manufacturer.
- Unauthorized adjustments could be dangerous and result in serious injury to the user.
- Do not attempt to adjust the engine speed controls.
- Never race the motor as this will increase the risks of injury to the operator and the likelihood of damaging the components of your lawn mower.
- **WARNING:** Prolonged exposure to noise can be dangerous to health. The symptoms are progressive: tinnitus, temporary hearing loss, then progressive deafness. Use personal protection against noise. Limit the intensity and duration of exposure. Avoid mowing close to other sources of sound. Allow for rest periods.
- **WARNING:** Excessive exposure to vibration can affect the circulation or the nervous system. The symptoms appear mainly in the fingers, the hands or the wrists. These symptoms may include loss of sensation, pain, muscle weakness, change in colour of the skin, disagreeable tingling... Consult a doctor in case of appearance of symptoms that may be triggered by vibrations.
- Never allow your mower to be used by anyone who is not familiar with the operating manual.
- Always drive the machine at very low speed in forward or reverse when the grassbox is in high position.
- Never use your mower on slopes with a gradient of more than 10° (17,6%).
- Always observe the special instructions concerning use of the mower on sloping ground.
- Never drive your mower too close to embankments or ditches, on soft ground, or where there is a risk of overturning.

- The user is responsible for ensuring the safety of others within the area where the mower is being used. Keep third parties out of the way whilst mowing to avoid injury to others caused by flying stones and other objects.
- The user is responsible for ensuring the safety of others within the area where the mower is being used. Do not start the machine if there are any around you.
- Never allow passengers to ride on the mower.
- Never allow children under the age of 16 to drive the mower.
- When parking your lawn mower, squeeze to lock the park brake, stop the engine and remove the key.
- Always remove the ignition key when leaving the mower unattended, even momentarily.
- Disengage the drive mechanisms and accessories for transport or when they're not used.
- Before using the mower, always check the condition and adjustment of the blade.
- Never attempt to carry out work on or underneath the mower if it has been raised on temporary supports or without taking proper safety precautions.
- Before mowing, always clear the lawn of stones, pieces of wood or metal, wire, bones, plastic, branches and other debris liable to be thrown out by the mower.
- Disengage the cutting system, stop the engine and take the switch key away in following cases:
 - before removing grass from the machine
 - after you have hit an object in order to check for damage and to repair if necessary
 - if the machine begins to vibrate abnormally in order to look for causes.
 - if the blade is blocked (blade clutch out of order).
- Low branches liable to cause injury to the user should also be removed.
- Protect the face and the eyes when mowing under trees.
- Avoid obstacles such as mole hills, concrete pedestals, tree stumps and edging, which cannot be cut by the blade and which could damage the cutting mechanism specially the blade.
- Change absolutely the blade after any shock.
- Exercise particular care when reversing.
- Never place hands or feet under the cutter housing.
- Whilst mowing, take care to avoid injury to others caused by flying stones and other objects.
- The lights provided on your ride-on mower are only intended to be used when moving the machine. They do not allow night working, or only with good artificial lighting.

1 • YOUR SAFETY AND THAT OF OTHERS

- Operate the mower only in broad daylight or with good artificial lighting.
- Do not mow during thunderstorms.
- Loose clothing and short trousers should not be worn when using the mower.
- Always wear stout and closed shoes.
- Wear ear defenders.
- When adjusting the engine or moving parts, always switch off the engine and remove the ignition key. Cut the electrical supply using the circuit breaker if your machine is equipped with one. Close the hand brake.
- Never operate the machine when feeling tired or unwell.
- Never operate the machine after consuming alcohol or taking medicine.
- When the mower is driven on surfaces other than grass, disengage the cutter and switch it to the fully raised position.
- Do not fill the tank whilst the engine is running. Allow the engine to cool for few minutes before filling.
- The ride-on mower cannot be used on the public highway unless equipped with the road-approval kit OMX80.
- To tow loads only use ETESIA ref. MR80.

LIABILITY

- The indications given in these instructions must be followed. For further information, contact your ETESIA dealer.
- ETESIA shall have no liability if the instructions or applicable regulations are not followed.
Do not dump your grass clippings in unauthorized areas.
- As ETESIA strives to make continuous improvements of its products, the company reserves the right to change the specifications of the presented models without advance notice. The photos and illustrations are not contractual.



WARNING:

- Fuel is highly flammable.
 - Fuel should be stored in clean containers specially designed for this purpose.
 - Always fill the fuel tank in the open and do not smoke during this operation.
 - Add fuel before starting the engine. Never remove the fuel cap whilst the engine is running or hot.
 - If diesel is spilt, do not attempt to start the engine: remove the mower from the affected area and take care not to ignite any undispersed diesel vapour.
- Ensure that the fuel tank and fuel can caps are replaced correctly.
- Never store, pour or use petrol near a naked flame or near devices such as stoves, water-heaters with pilot lights or any other device liable to produce sparks.

- Ensure that the fuel lines and fittings do not have any breaks or leaks. Have them replaced if necessary.

• **WARNING : NEVER ALLOW THE ENGINE TO RUN IN CONFINED AREAS.** Exhaust gases contain carbon monoxide, which is odourless and can kill.

- Do not start the engine if you can smell petrol, or in the presence of other risks of explosion.
- To avoid any burn, do not touch the exhaust pipe when it is hot.
- Clean regularly the exhaust, the engine, the battery compartment, and the periphery of the fuel tank in order to avoid accumulation of flammable materials (grass, leaves, grease excess, etc).
- The use of counterfeit parts or poor maintenance can alter the performance of your product, or present a danger to you and other people. Use only original parts and follow the maintenance schedule.
- These precautions are vital to your safety. However, the recommendations given are not exhaustive and due care should always be exercised when using your mower.
- You should also comply with any legal requirements relating to ride-on mowers (e.g. insurance, useful life, etc).

INSURANCE

Remember that a ride-on mower is considered as a land motor vehicle, and for this reason, it should be insured in accordance with the legislative and regulatory provisions in force.

2• KEY TO DIAGRAMS - SAFETY

• LABELS

- Various labels have been affixed to your mower.
- Check that they are all present (see list below and pictures page 6).
- Labels with a yellow background warn against risks.
- The other labels contain instructions for operating the mower.



This symbol appears in the instruction manual alongside those sections which deal with user safety.



This symbol appears in the instruction manual alongside important information on how to prolong the life of your mower.

• ENGINE DIAGRAMS



Fuel is highly explosive and inflammable. Stop the engine before fill the fuel tank. **DO NOT SMOKE.** Always fill the fuel tank in the open and never pour or use petrol near a naked flame or near devices such as stoves, water-heaters with pilots lights or any other device capable to produce sparks.



Exhaust fumes are very toxic and contain carbone monoxide who is a deadly and odourless poison. Do not run the engine in confined areas.



To avoid any burn, do not touch the exhaust pipe when it is hot.

• SAFETY LABELS

RECTANGLE A

- a = CAUTION !
- b = Before using, please read and follow the safety and maintenance instructions of the instruction booklet.
- c = Stop the engine, disconnect the spark plug and remove key from ignition before proceeding to any maintenance operation.
- d = Risk of projections.
- e = Avoid the presence of third persons in the danger zone.
- f = Fall down risk. Never transport passengers.
- g = Keep third persons far from the machine.
- h = Risk of toppling over the machine.
- i = Never use your ride on mower on slopes with a gradient of more than 17,6 % (10°).

RECTANGLE B

- Obligatory hear protection.

RECTANGLE C (EXCEPT MKM)

- a = Risk of cuts to feet and hands.
- b = Keep third persons far from the machine.

- c = Risk of thrown objects and cut feet.
- d =

Model MKHPF : Never mow without the retracting parts of the cutting enclosure in place.

MBHE - MKHP - MHHE - MKHE : Never use the mower without the flap. Never open the flap of the cutting box by running engine. Before each use, check that the flap is locked or the rear charge deflector is put in place.

RECTANGLE D (MKM)

• DANGER!

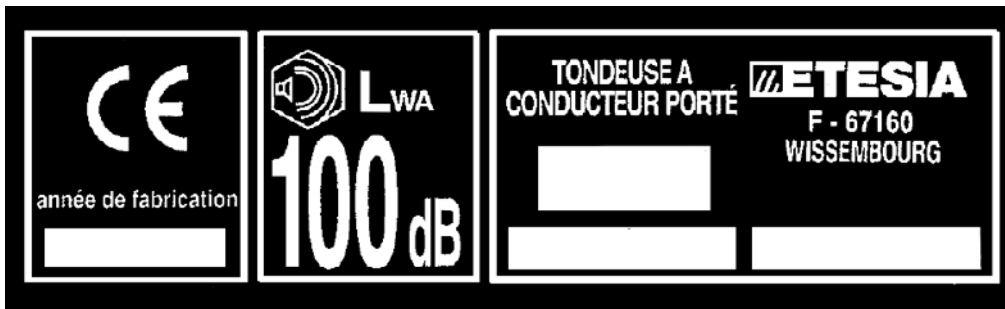
- a = Risk of cuts to feet and hands.
- b = Keep third persons far from the machine.

MARKING OF ACCUMULATORS

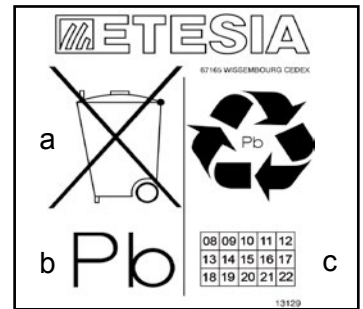
- a = Indicates these are hazardous products which should preferably be returned to the distributor.
- b = (Pb) indicates the presence of lead.
- c = Indicates the year of entry into service on the machine.

2• KEY TO DIAGRAMS - SAFETY

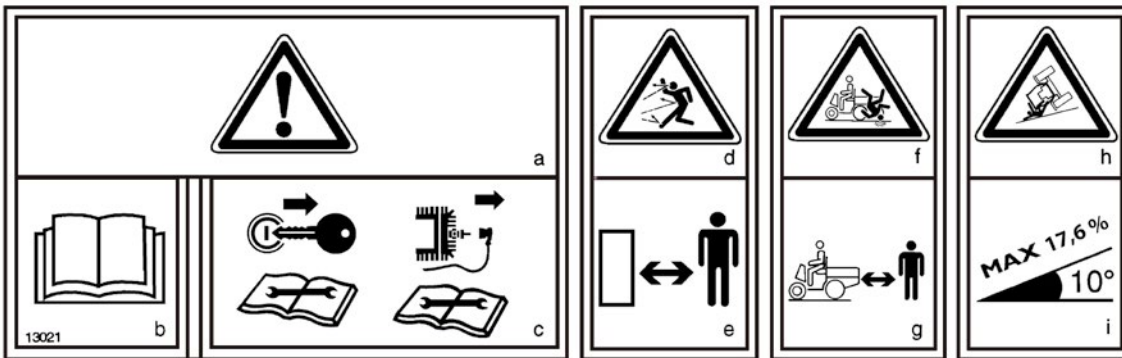
① IDENTIFICATION PLATE



MARKING OF ACCUMULATORS



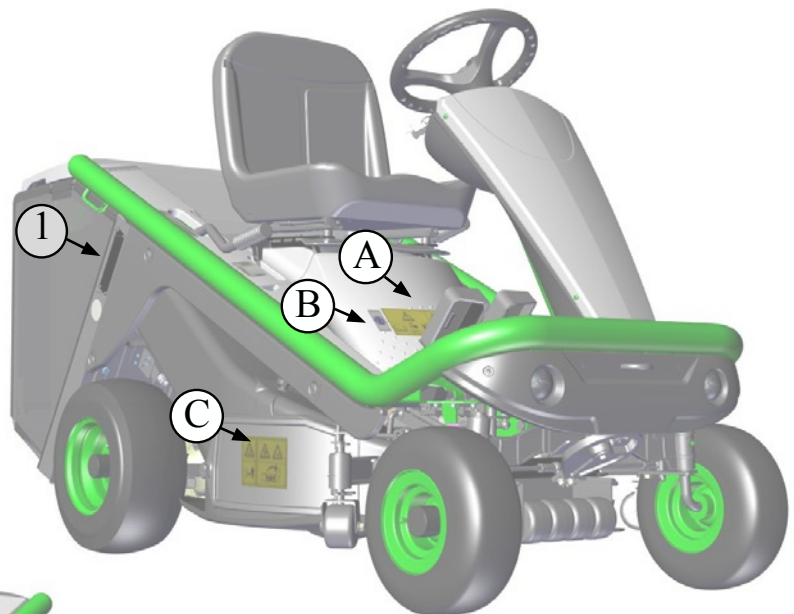
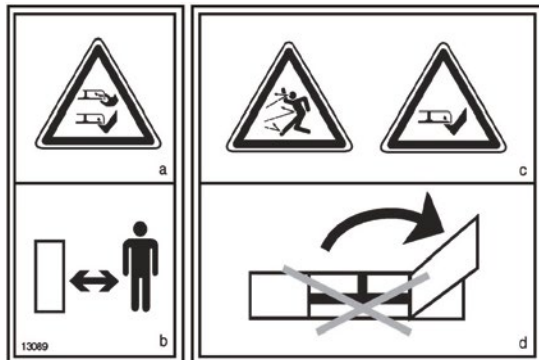
RECTANGLE (A)



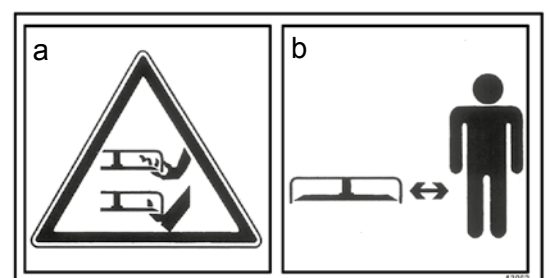
RECTANGLE (B)



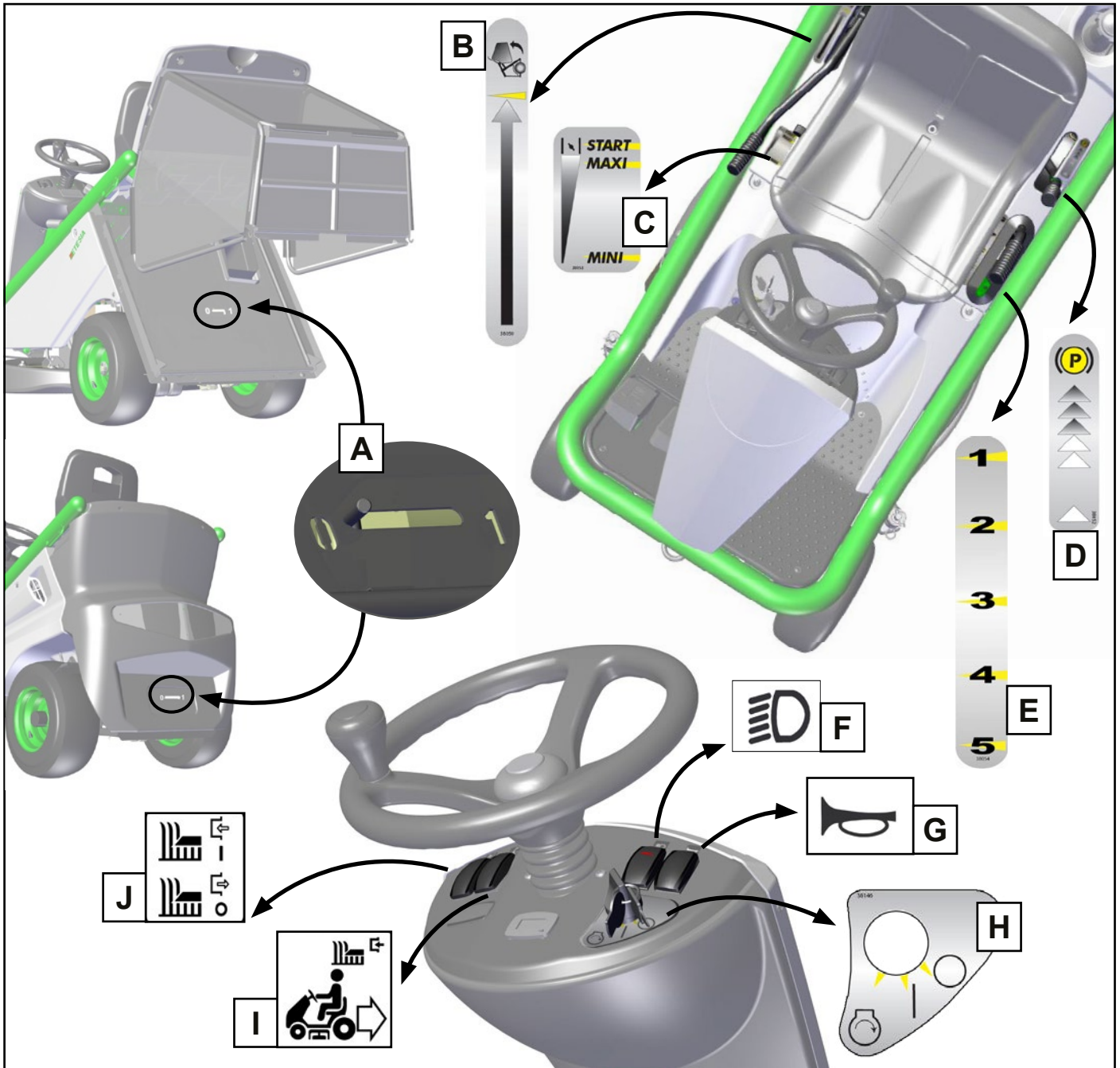
RECTANGLE (C)



RECTANGLE (D)



2• KEY TO DIAGRAMS - USE



A - BY-PASS

1 : closed by pass = advance transmission engaged
0 : open by pass = advance transmission disengaged

B - EMPTYING THE GRASS BOX

- On every models except MKM and MKHPF: The arrow indicates the direction of movement of the release lever in order to empty the grass box.

C - ENGINE SPEED

START: position for starting the engine
MAXI: engine at full speed
MINI: engine idling

D - PARKING BRAKE

The arrow indicates the direction of movement of the brake lever in order to engage the parking brake.

E - CUTTING HEIGHT

Indicates the cutting height.

F - LIGHTING (MKHP)

G - HORN (MKHP)

H - STARTING THE ENGINE

0 : engine off, power switched off
1 : power switched on
⌚ : engine started

I - CONTROL SWITCH « MOW IN REVERSE »

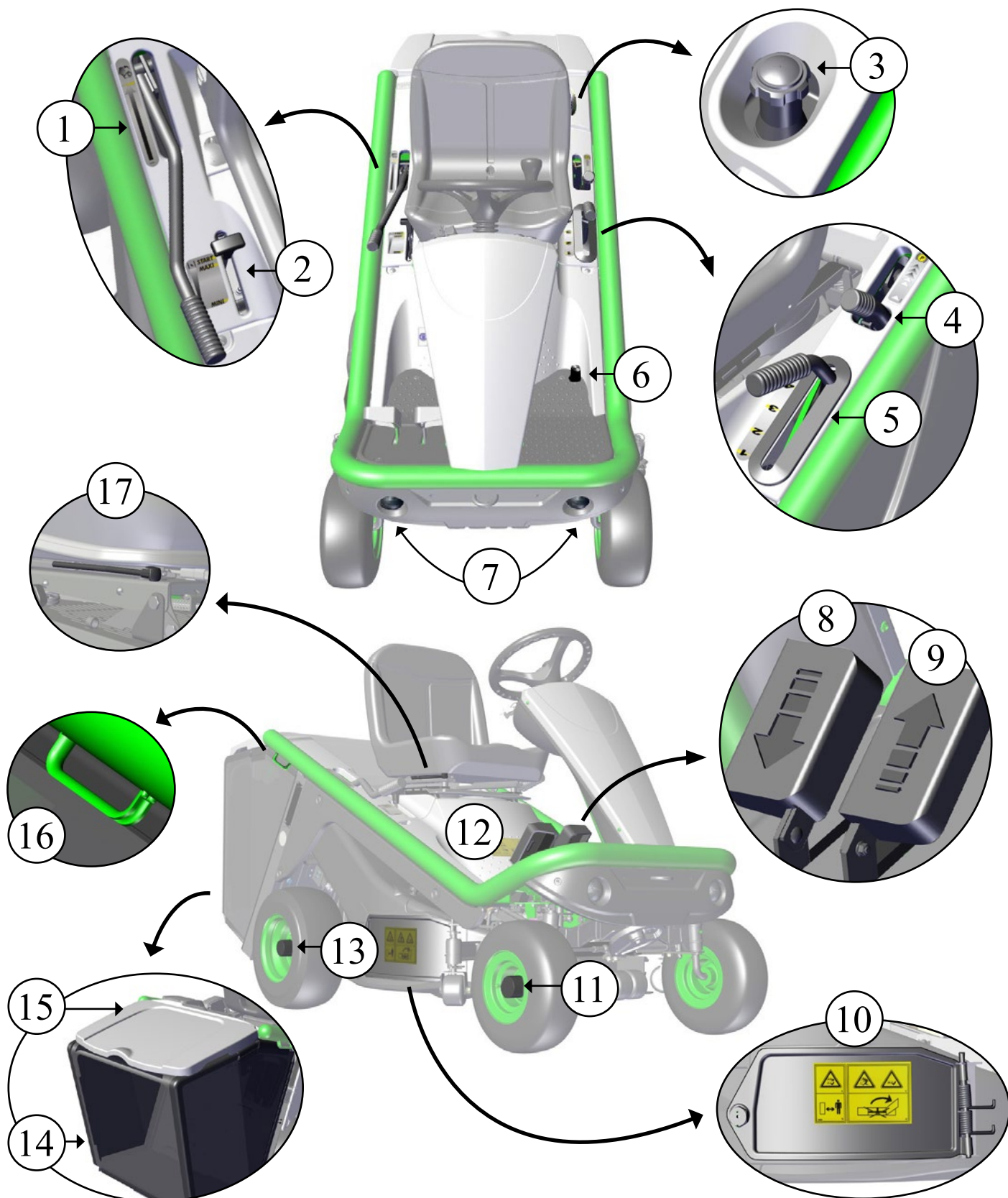
Once the cutter is in operation, press this switch once to mow with the machine in reverse.

Otherwise the cutter disengages as soon as you select reverse. It will re-engage with the advance lever when it reaches Neutral or Forward. If you disengage the cutter with the engage cutting system switch or if a safety feature trips it, you will have to re-engage the cutter.

J - OPERATING THE CUTTER

1 : cutter switched on
0 : cutter switched off

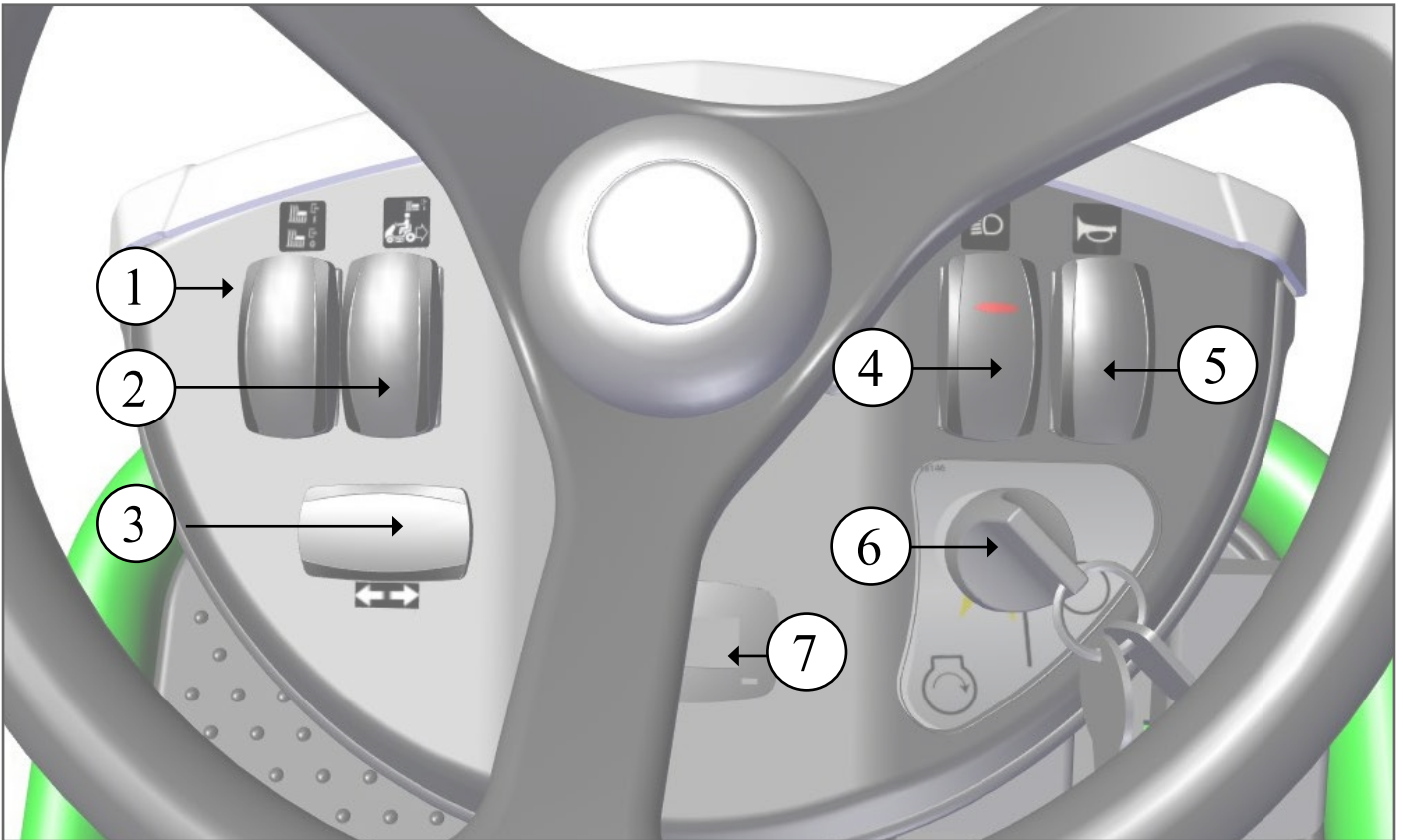
3• DESCRIPTION



1. Emptying grass box lever (except on MKM and MKHPF)
2. Engine speed adjusting lever
3. Fuel cap
4. Parking brake lever
5. Cutting height lever
6. Differential lock control (MKHP5 and MKHPF)
7. Front light (MKHP)
8. Reverse pedal
9. Forward pedal

10. Inspection flap (except on MKM and MKHPF)
11. Ornamental hub cap front wheels
12. Central bonnet
13. Ornamental hub cap rear wheels
14. Grass box (except on MKM and MKHPF)
15. Grass box bonnet (except on MKM and MKHPF)
16. Strap hook
17. Seat lever

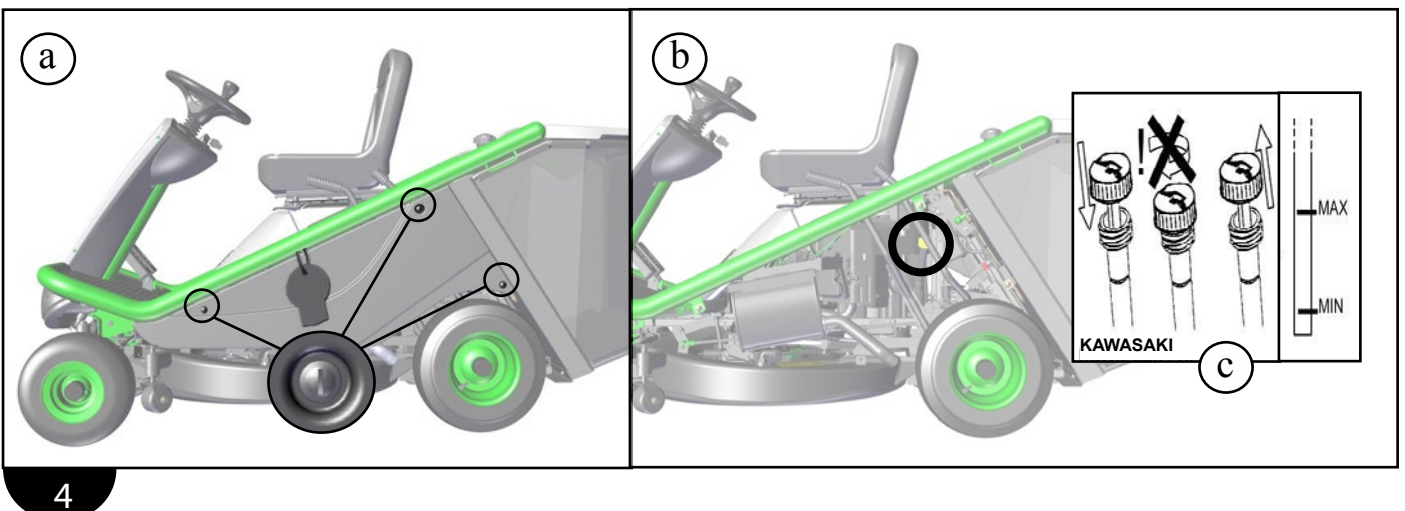
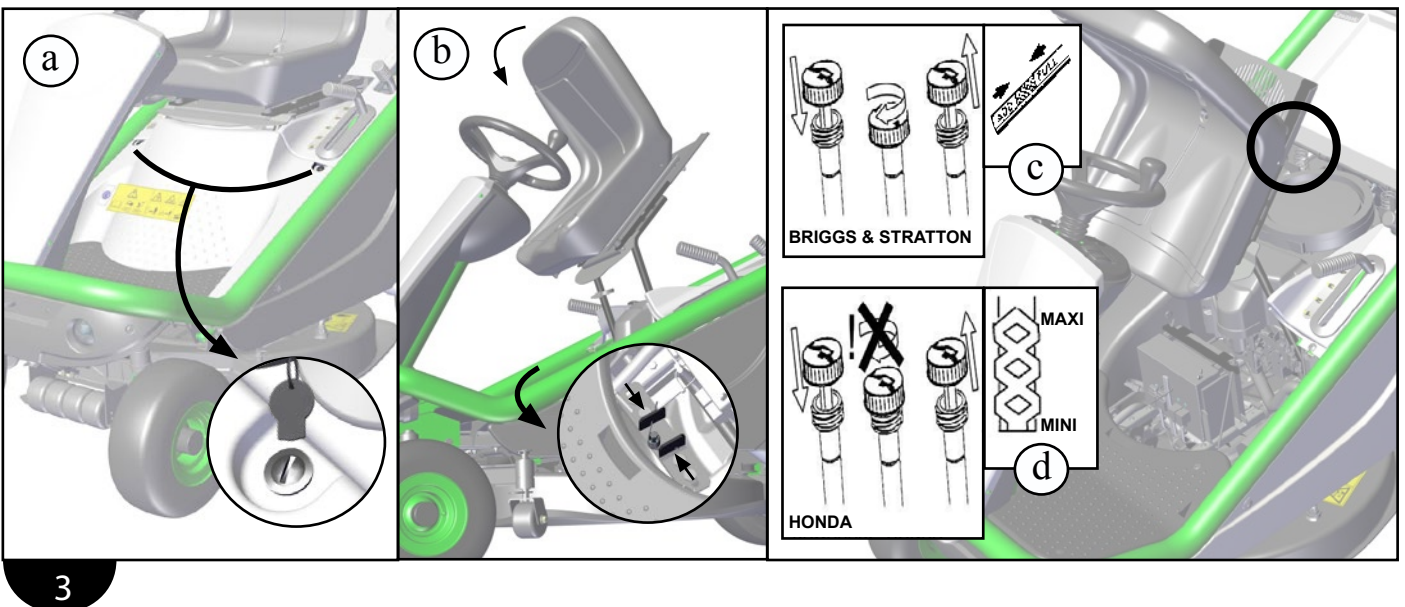
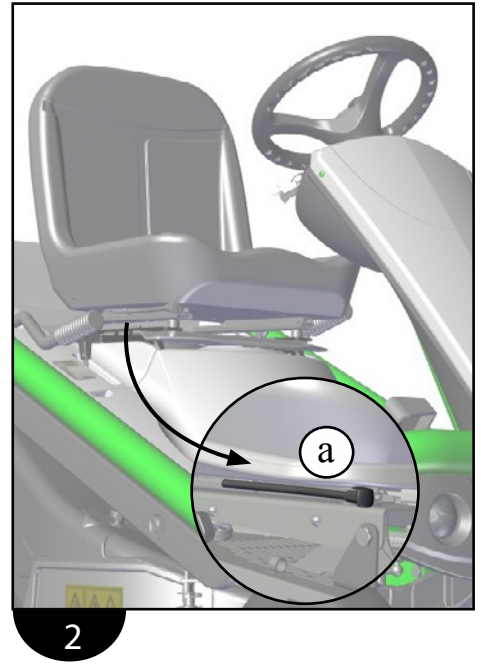
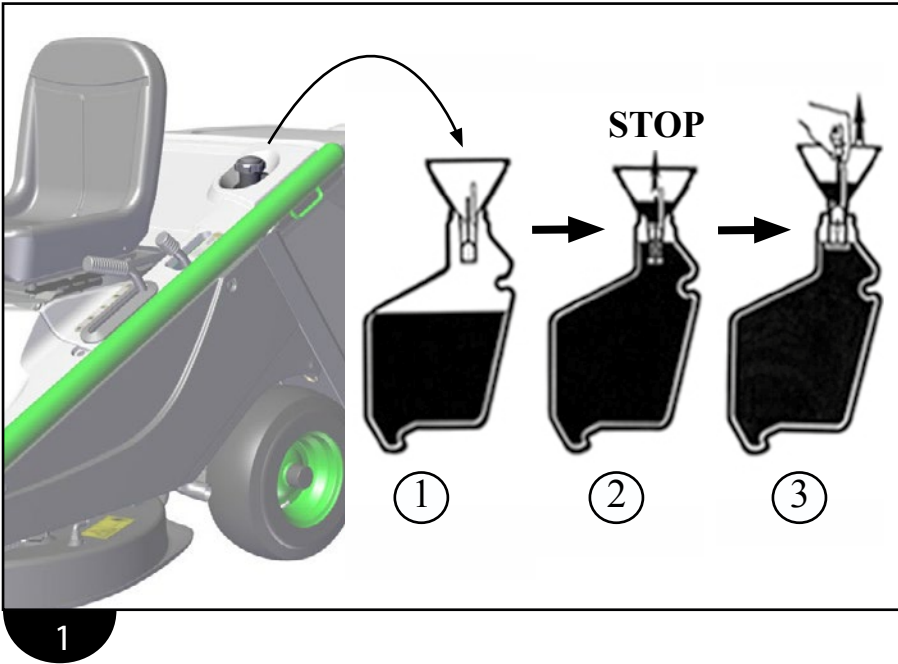
3• DESCRIPTION DASHBOARD



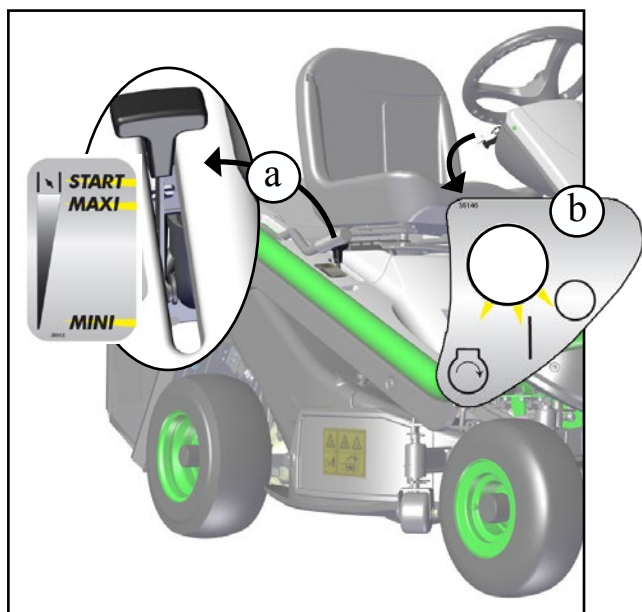
- 1. Cutting deck switch
- 2. Mow in reverse switch
- 3. Indicator lights control switch (if road-approval kit OMX80) or basket opening and closing switch (if option kit MVE80)

- WARNING:** The OMX80 and MVE80 options are not compatible.
- 5. Lights control switch (MKHP)
 - 4. Audible warning device control switch (MKHP)
 - 6. Key switch
 - 7. Hour meter - Tachometer (MKHP and MKHPF)

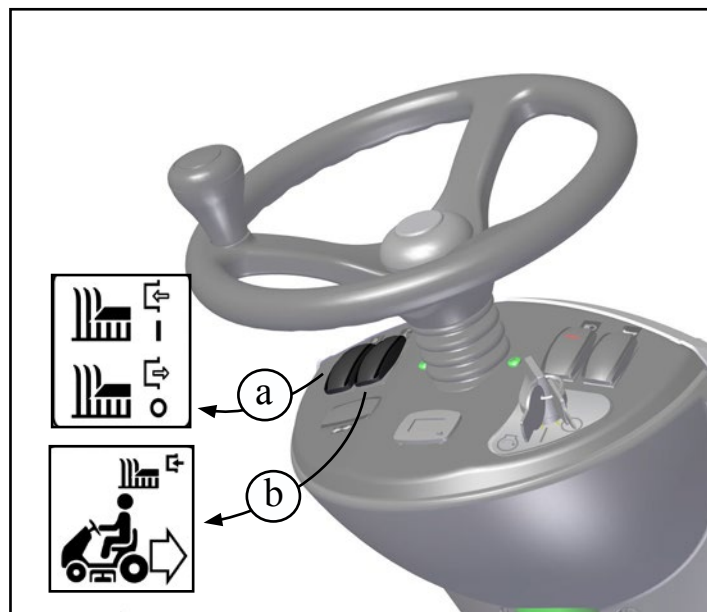
4• PICTURES



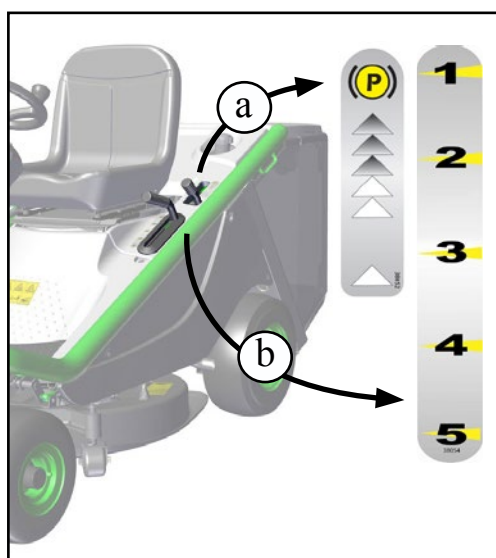
4• PICTURES



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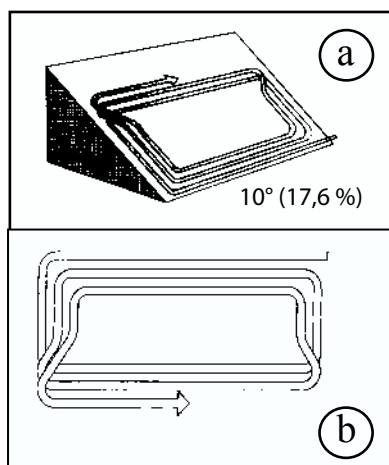
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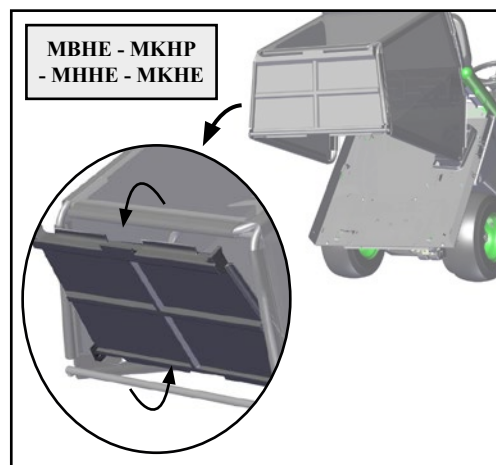
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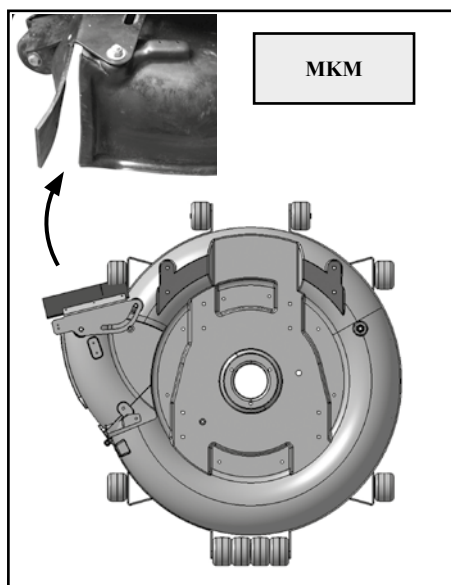


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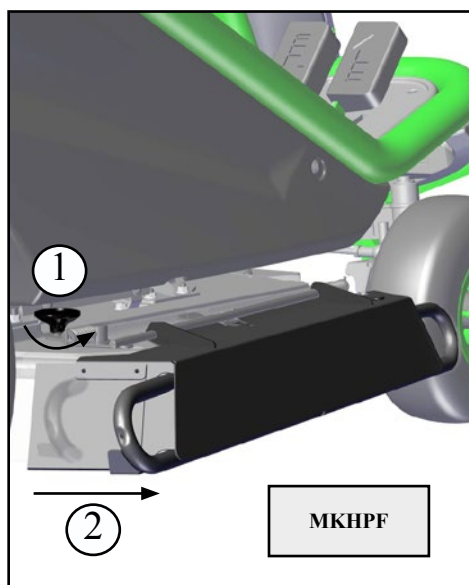


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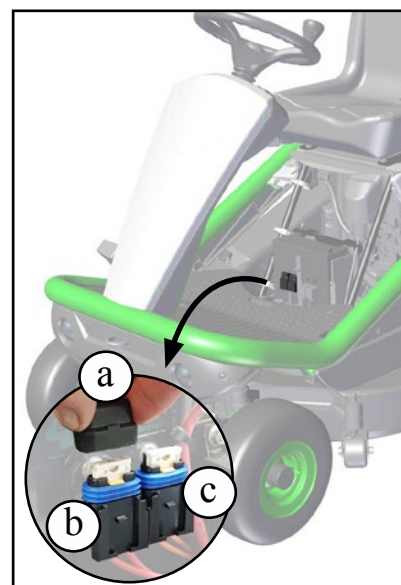
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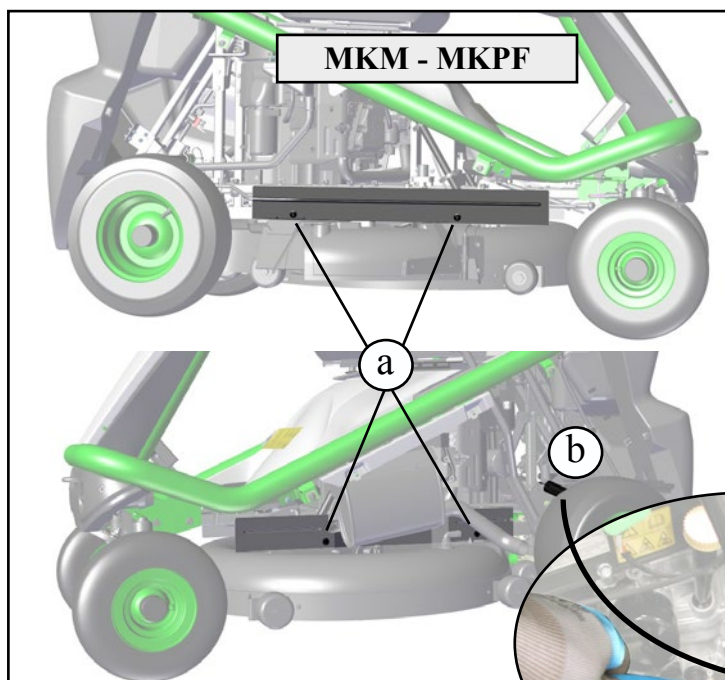
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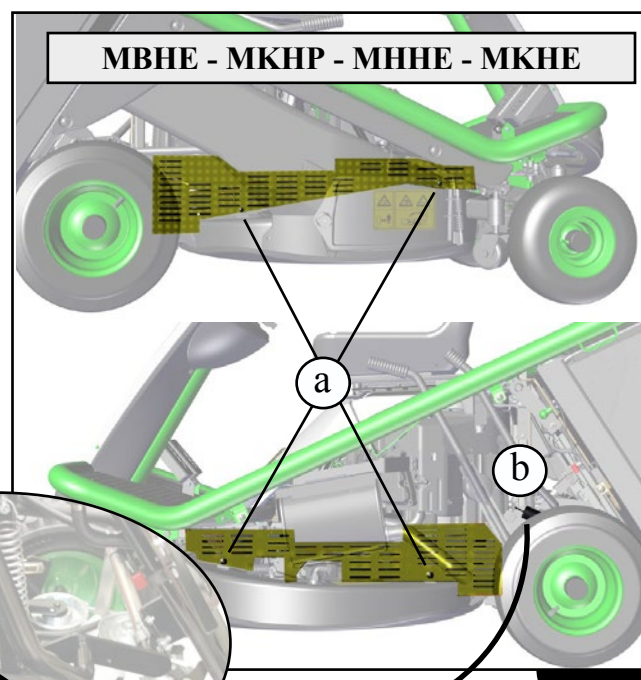
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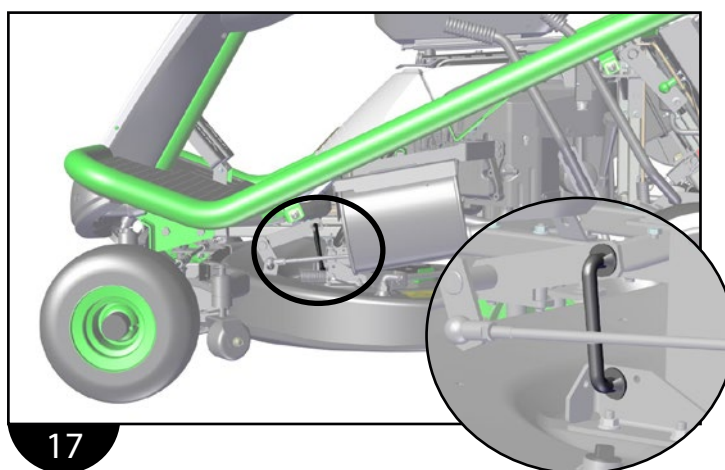
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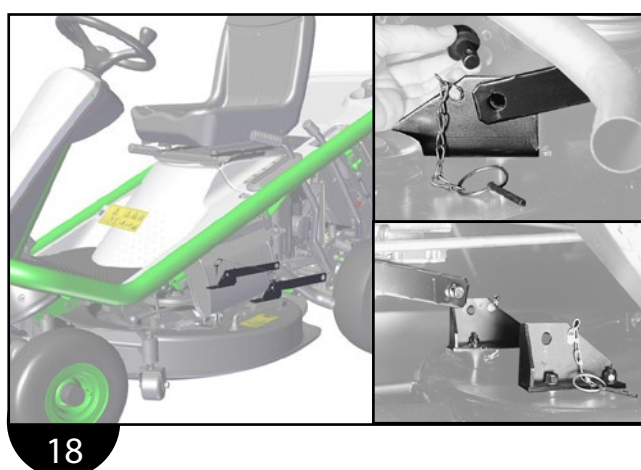
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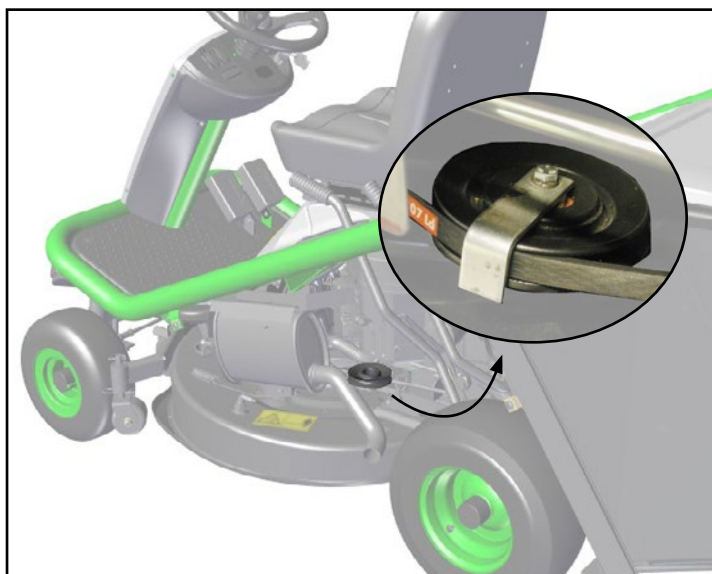


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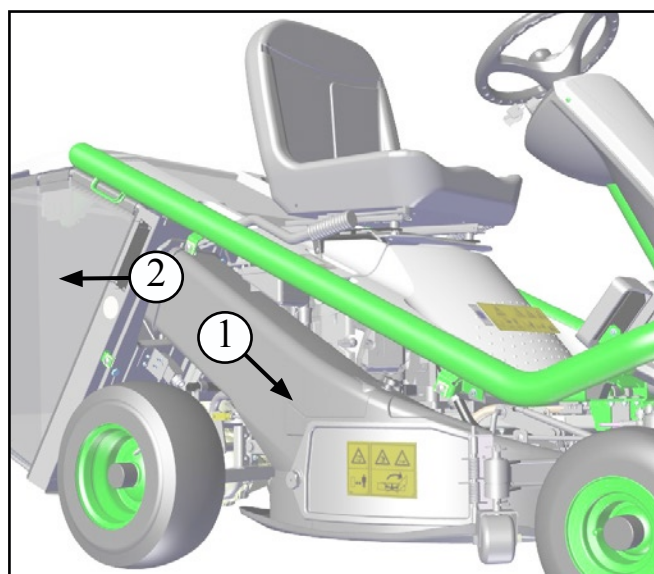


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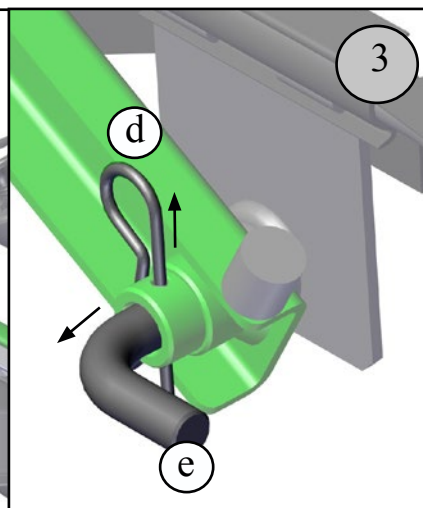
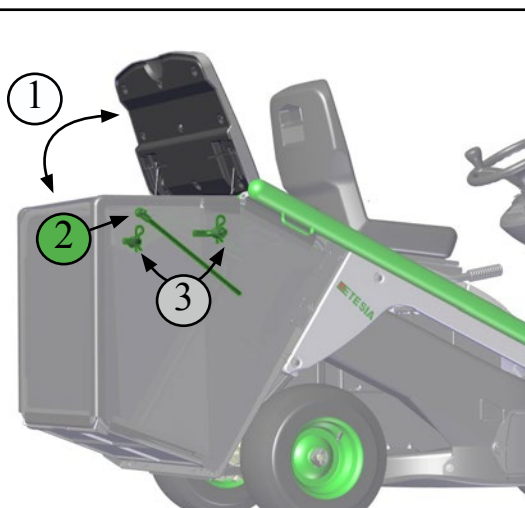
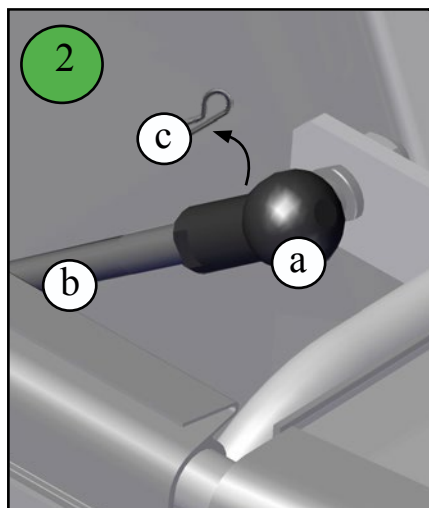
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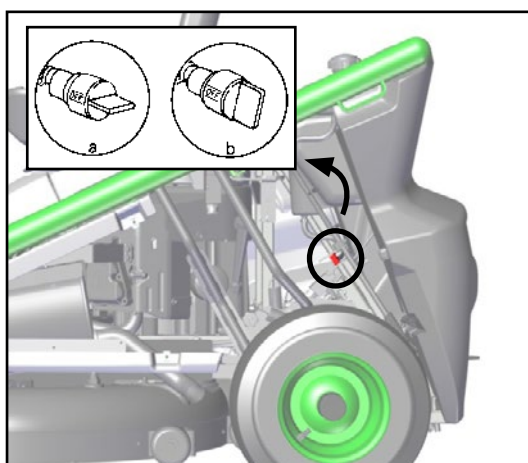


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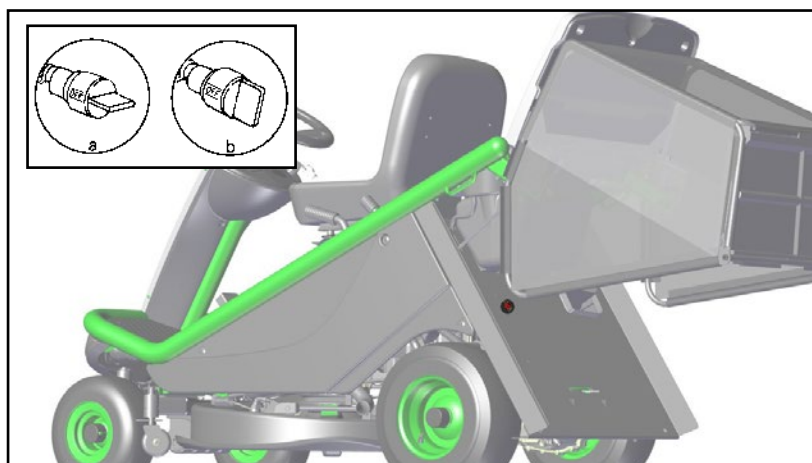
MBHE - MKHP - MHHE - MKHE

21



MKM ET MKHPF

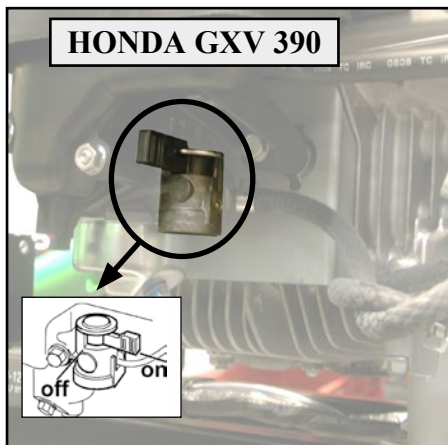
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MBHE - MKHP - MHHE - MKHE

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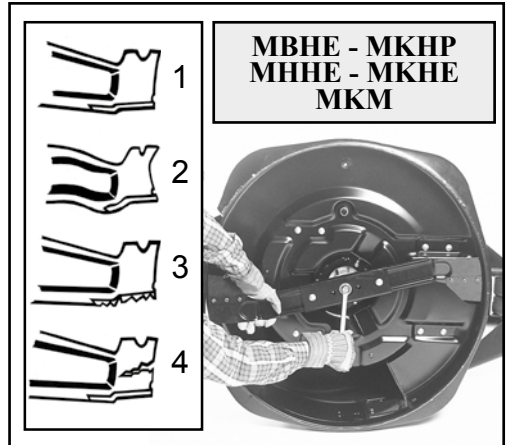
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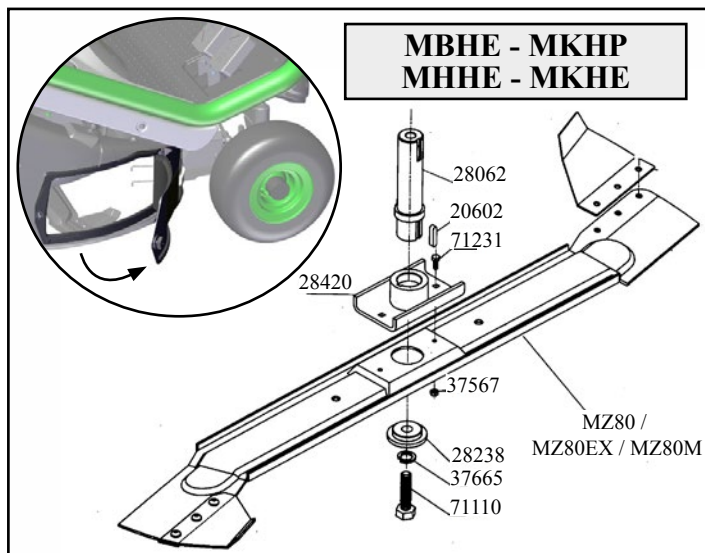
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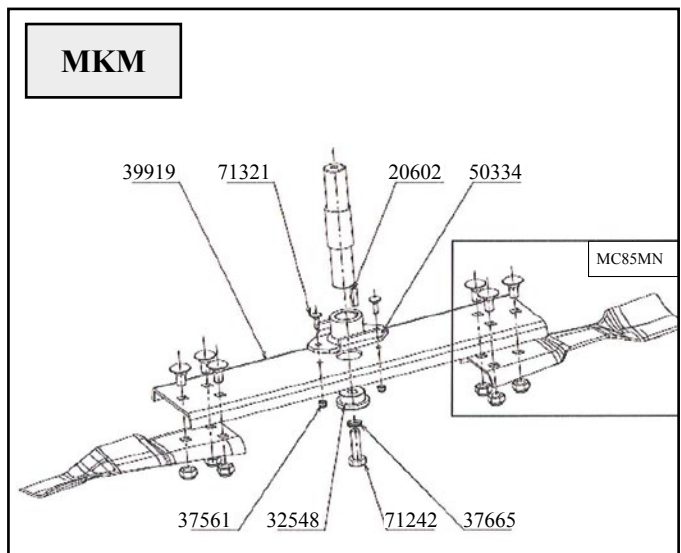
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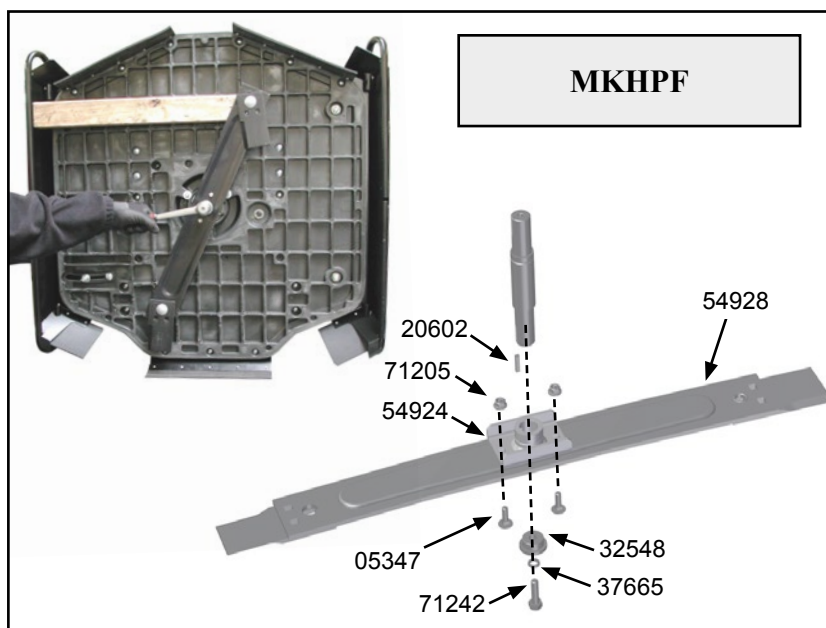
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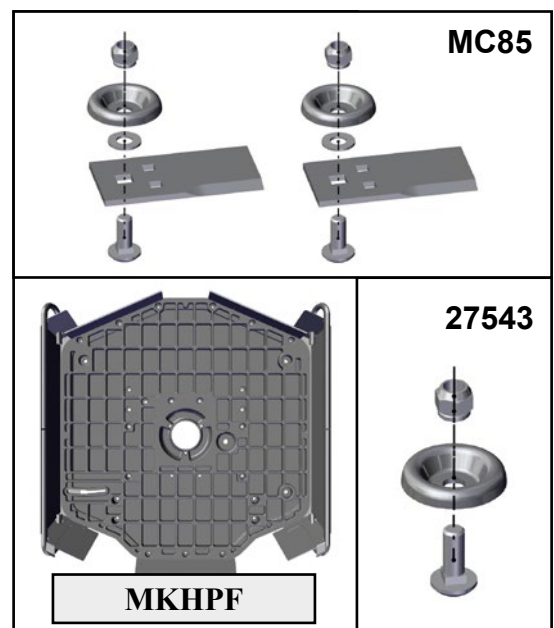
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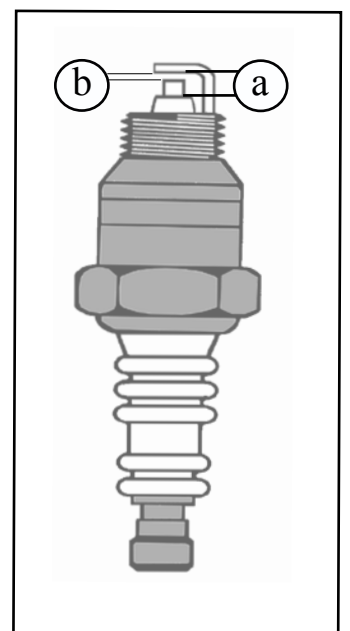
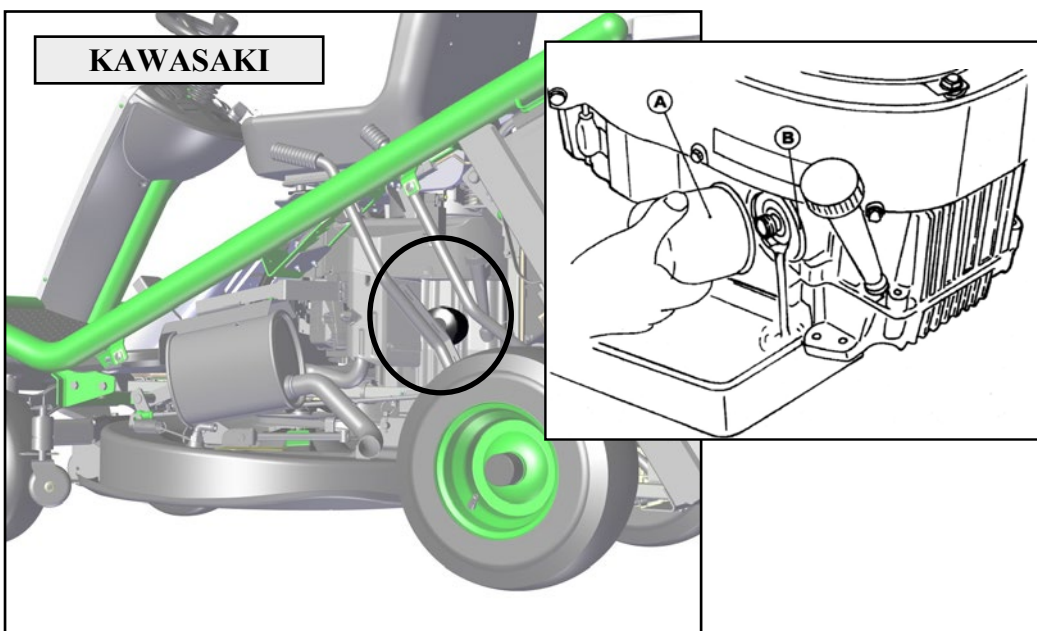
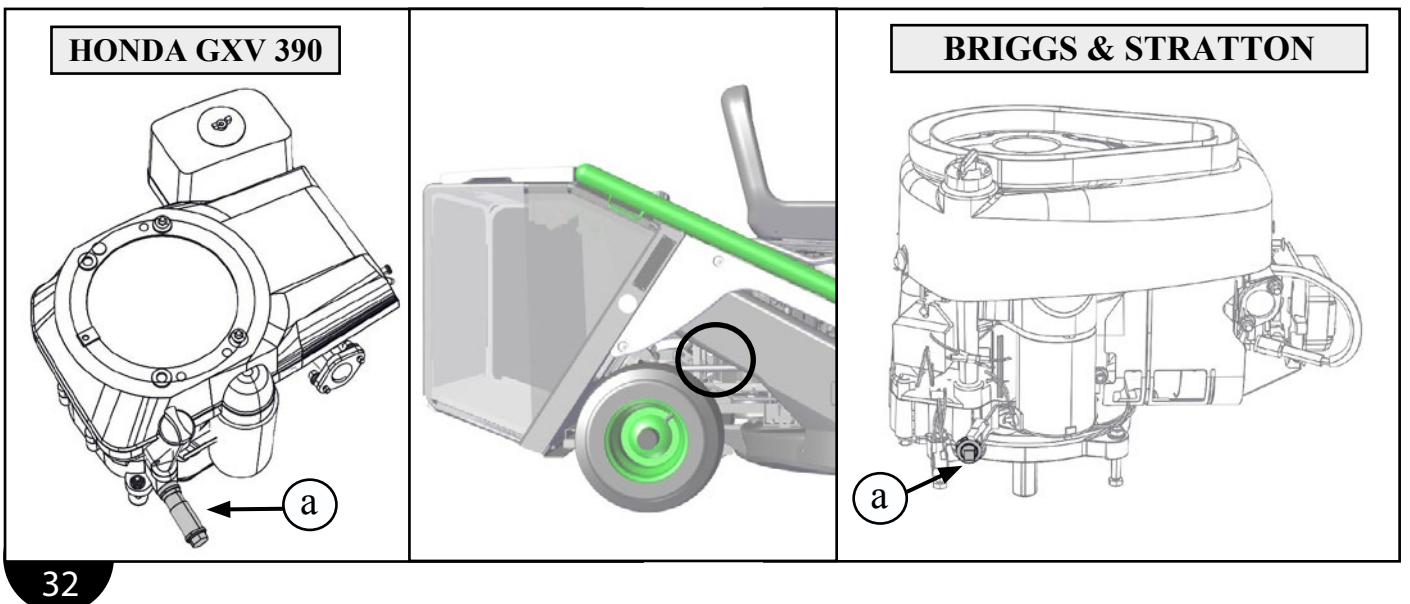
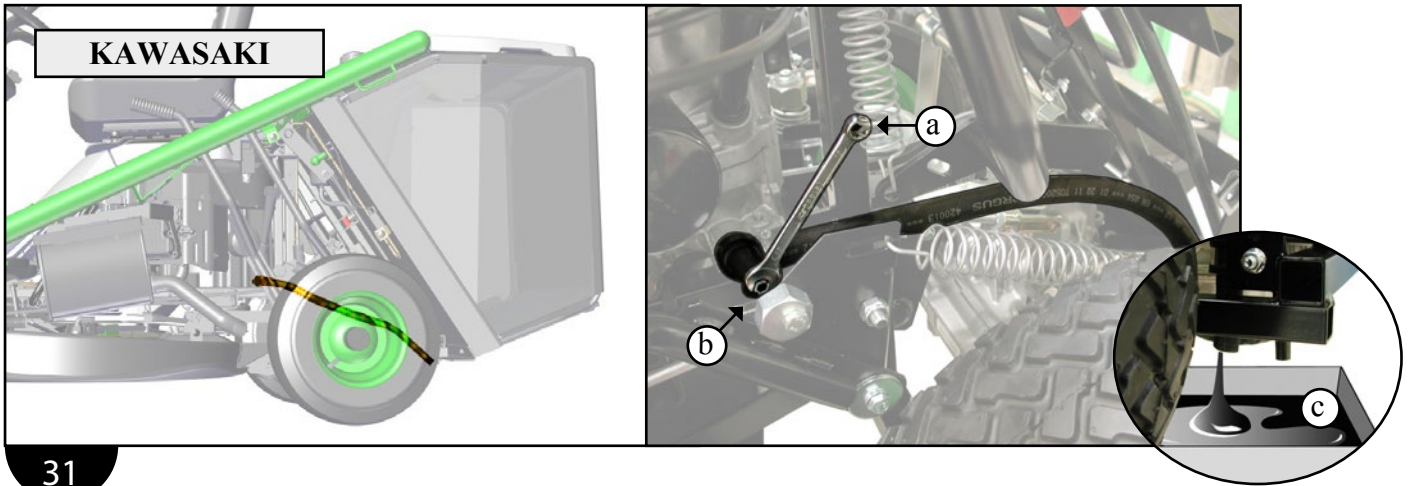


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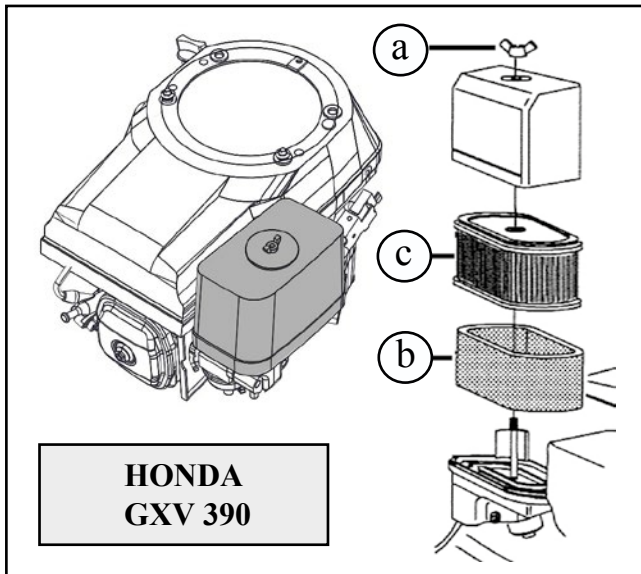


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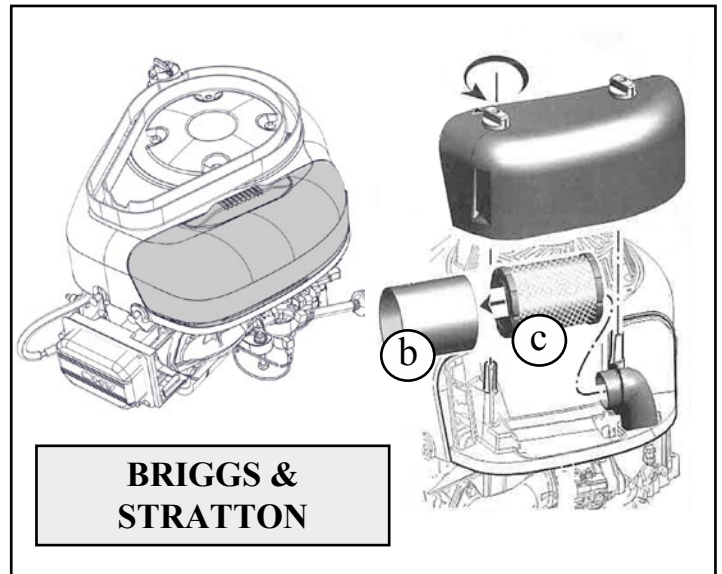
4• PICTURES



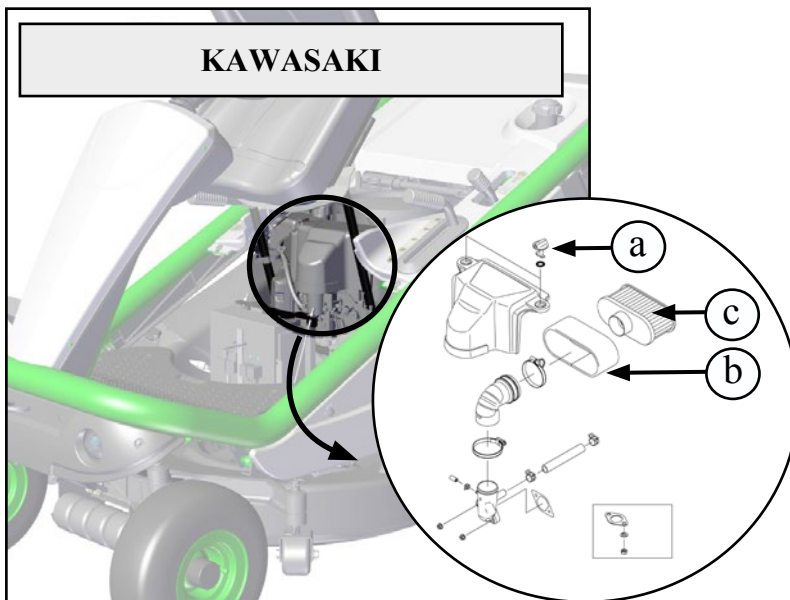
4• PICTURES



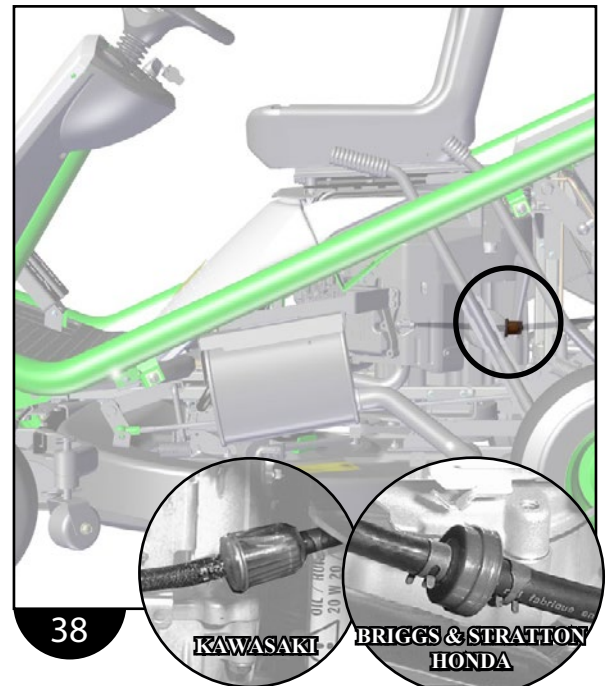
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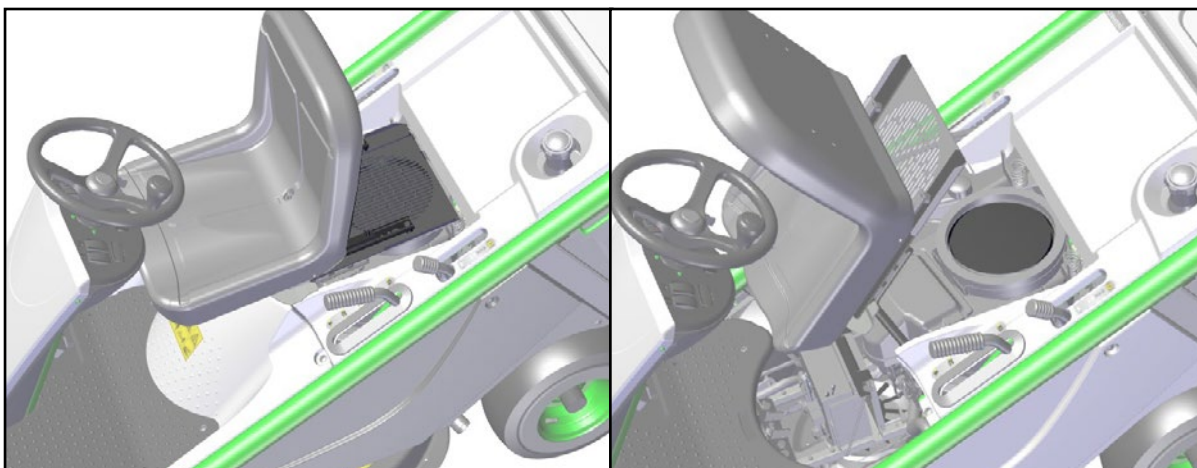
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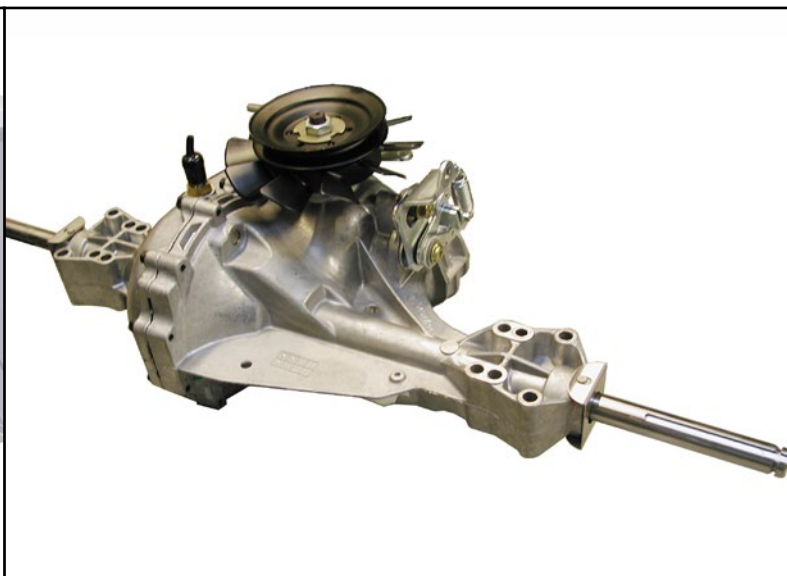


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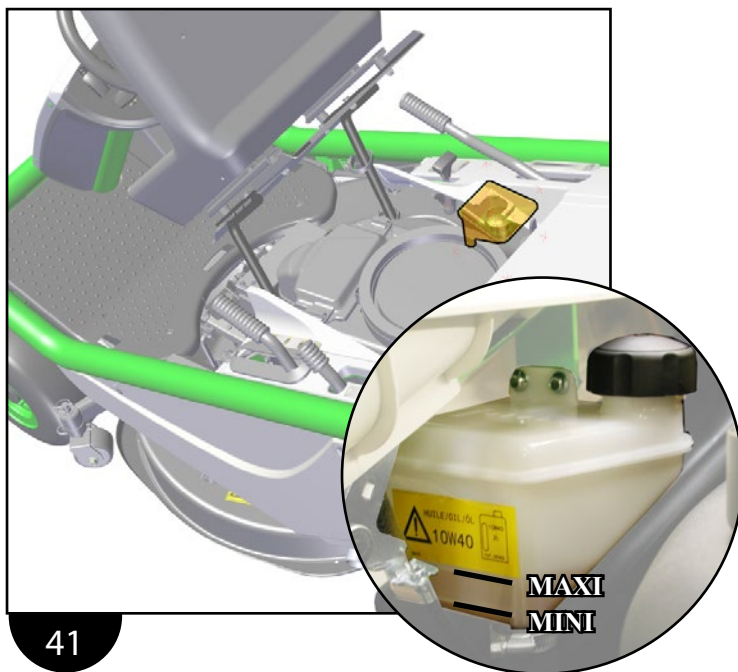


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4• PICTURES



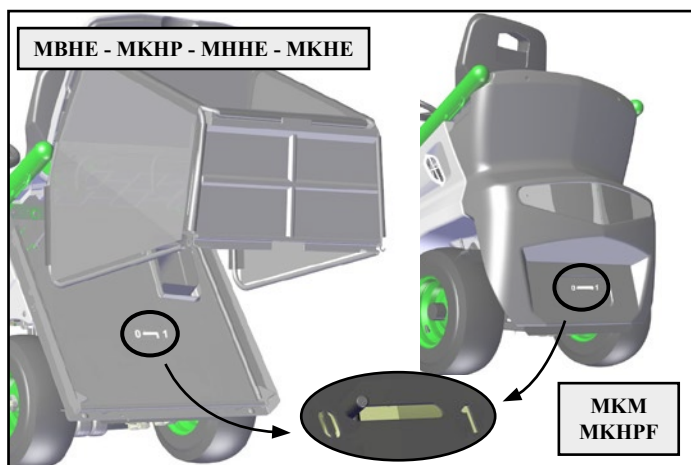
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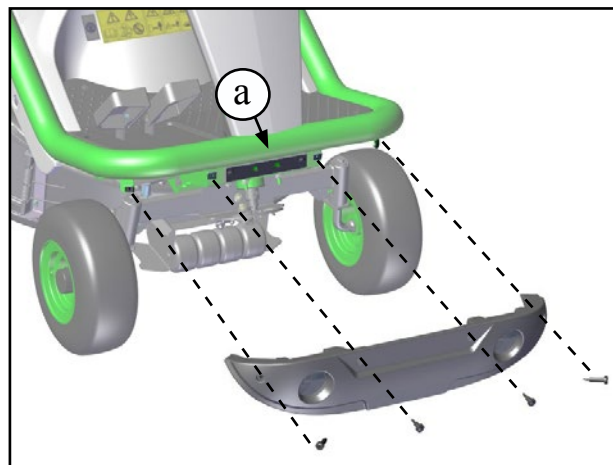
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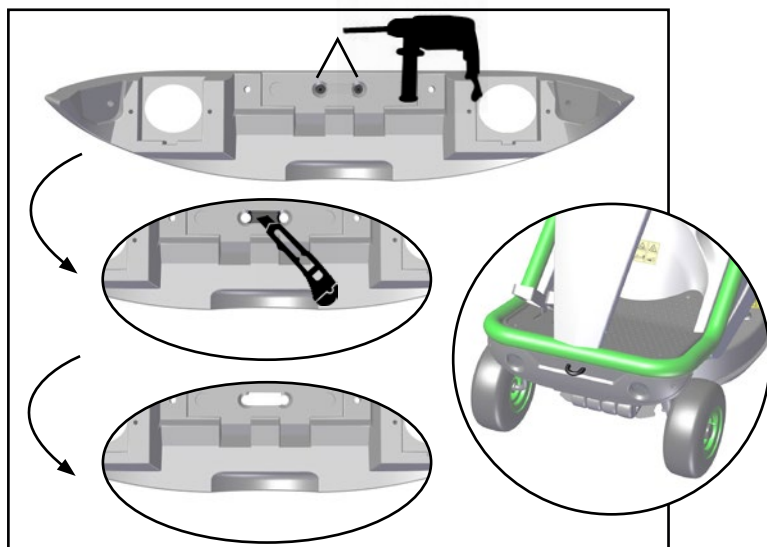


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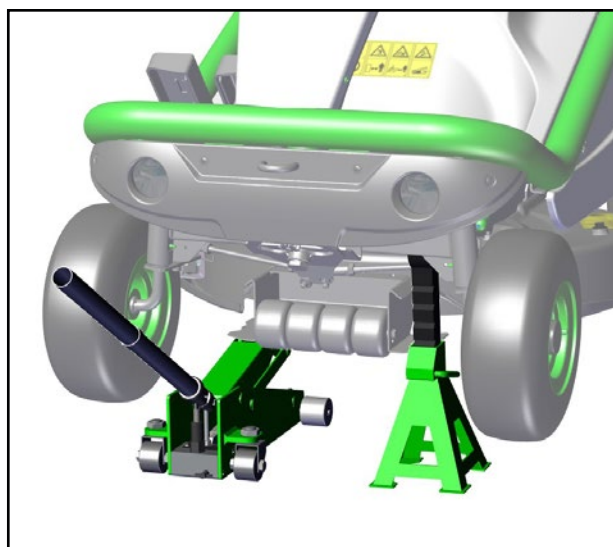


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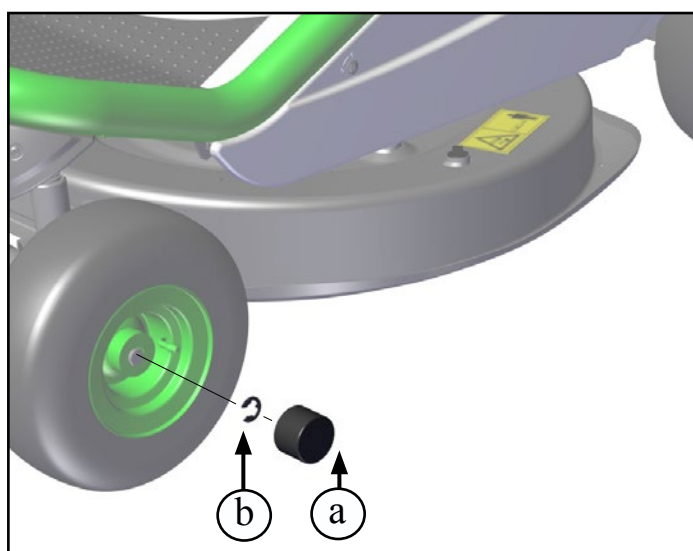
4• PICTURES



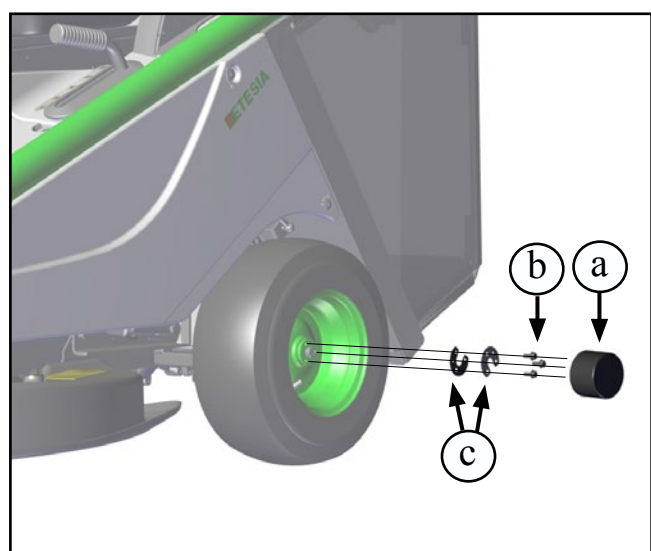
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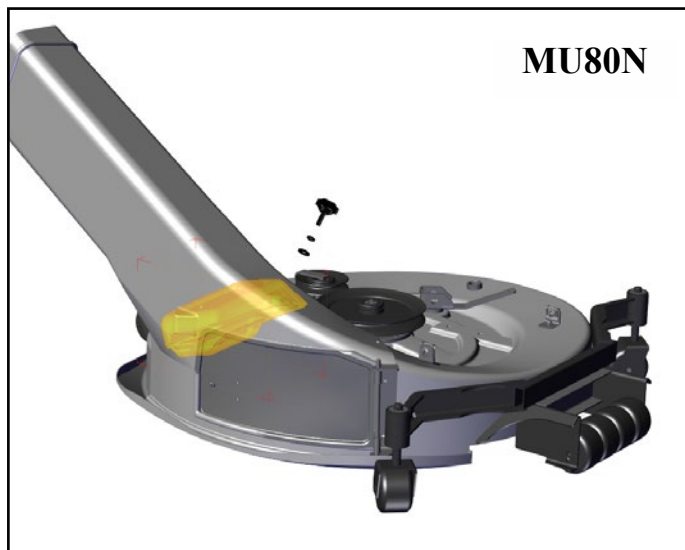


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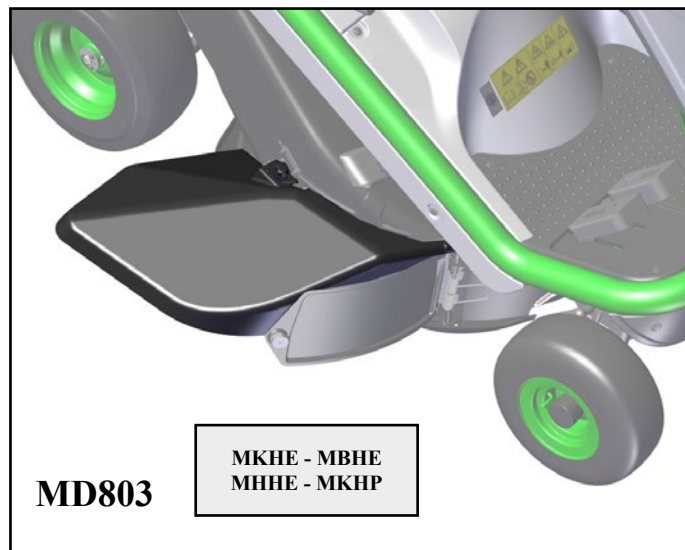


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5• PICTURES - ACCESSORIES IN OPTION



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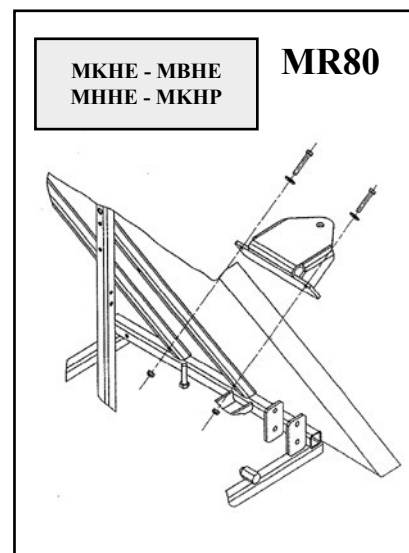
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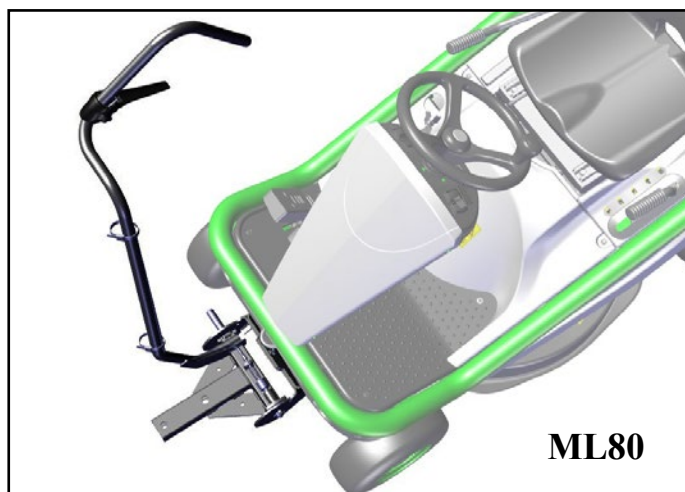
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5• PICTURES - ACCESSORIES IN OPTION

**MM103
+
ML80**



57

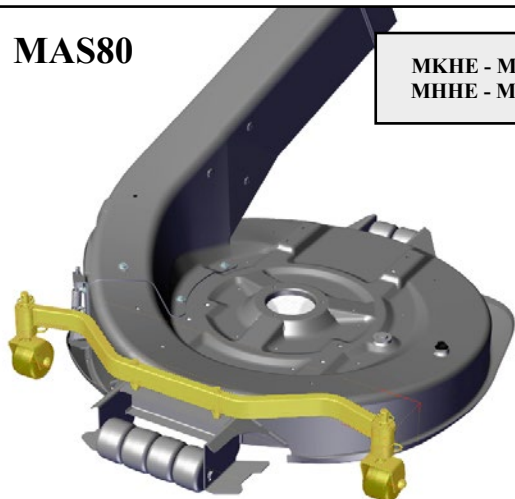
OMX80



58

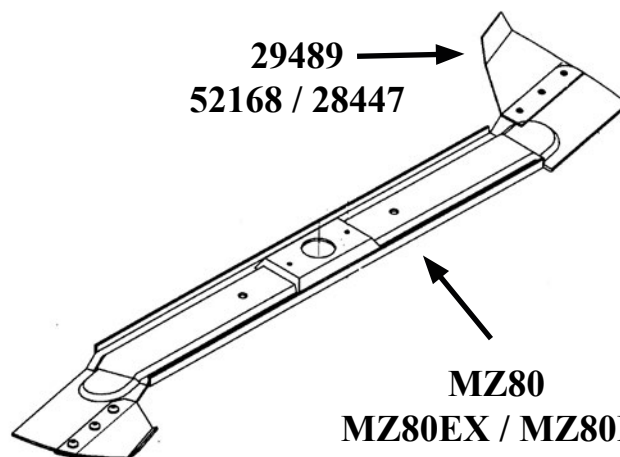
MAS80

MKHE - MBHE
MHHE - MKHP



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29489 →
52168 / 28447



MZ80
MZ80EX / MZ80M

60

6• TECHNICAL SPECIFICATIONS

MODEL	MBHE	MHHE	MKHE	MKHP	MKHPF	MKM
Engine	BRIGGS & STRATON INTEK 4155	HONDA GXV390	KAWASAKI FS481V			
Type	4 stroke OHV					
Bore / Stroke	91 x 78 mm	88 x 64 mm	73 x 72 mm			
Cylinder / Cooling	Single cylinder air-cooled		Twin cylinder air-cooled			
Cubic capacity	502 cm³	389 cm³	603 cm³			
Power at rated speed	8,5 kW	7,1 kW	9,3 kW		9,4 kW	
Rated speed	2850 min ⁻¹				3000 min ⁻¹	
Lubrication	By oil turbine	By oil pump	Under pressure by pump			
Alternator	12V - 9A with rectifier	12V - 10A with rectifier	12 - 15A with rectifier			
Battery	12V - 20 Ah					
Starter	Electric 12V					
Spark plug	Std Ø 14 mm x 19 mm ref : 16600	Std Ø 14 mm x 19 mm ref : ZY751 ou 03861	Std Ø 14 mm x 19 mm ref : 03861			
Spark gap	0,75 mm					
Fuel type	Super grade unleaded fuel					
Motor oil filter	Without		Ref : 18363			
Fuel filter	Paper filter					
Motor air filter	Paper element + polyurethane foam filter					
Oil sump capacity	1, 4 l	1,1 l	1,5 l - 1,7 l with filter			
Fuel tank capacity	12 liters					
Autonomy	6 - 8 h					
MOWER						
Transmission	Hydrostatic			Hydrostatic (with differential lock for MKHP5 and MKHPF)		Hydrostatic
Foward speed	Front: 0 - 9 km/h Rear : 0 - 8 km/h					
Grass box capacity	240 liters				Ø	
Tyre sizes	Front: 10x6.5-6 Rear: 16x6.5-8			Front: 13x5.0-6 Rear: 16x6.5-8		Front: 10x6.5-6 Rear: 16x6.5-8
Not cutted radius	0,70 m			0,75 m	0,70 m	
Dynamic brake	Hydraulic with advance transmission					

6• TECHNICAL SPECIFICATIONS

MODEL	MBHE	MHHE	MKHE	MKHP	MKHPF	MKM
Parking brake	Mechanical, mounted on hydrostatic box					
Weight	230 kg			240 kg		220 kg
Dimensions L x l x H	1975 x 850 x 1210 mm			1995 x 850 x 1300 mm	1730 x 900 x 1220 mm	
CUTTING SYSTEM						
Cutting deck	Steel				Mastershock + Steel	Mastershock
Type of mounting	Hanging cutting deck					
Blade	80 cm				85 cm	
Blade clutch	Electromagnetic with built-in blade brake					
Cutting width	80 cm				85 cm	
Cutting height	Central steering 5 positions Theoretical values : (44) - 60 - 75 - 88 - 102 mm				Central steering 4 positions Theoretical values : 50 - 62 - 74 - 92 mm	Central steering 5 positions Theoretical values : (44) - 60 - 75 - 88 - 102 mm
Anti scalp protection	No			Yes		
SAFETY SYSTEM	Switches on grassbox (except MKM and MKHPF) / seat / neutral position / parking brake					
Sound pressure at driver's seat (reference standards NF EN ISO 5395)	LpA = 86 dB (A) KpA = 2,5 dB (A)					

VIBRATIONS				
	Seat vibration level (full body)		Handlebar vibration level (other appendages)	
Directive 2006/42/EC Reference standards: NF EN ISO 5395, EN1032, EN1033	ahw	1,47 m/s ² maxi	ahw	2,1 m/s ² maxi
	K	0,59 m/s ² maxi	K	1,05 m/s ² maxi
Directive 2002/44/EC Reference standards: ISO 2631-1, ISO 5349-1+2	1.4 awx	0,66 m/s ² maxi		
	1.4 awy	1,17 m/s ² maxi		
Values to specify the daily exposure time	awz	1,12 m/s ² maxi		
	A (8)	1,17 m/s ² maxi	A (8)	2,1 m/s ² maxi

7• OPERATING INSTRUCTIONS

7•1 PRE-DELIVERY INSPECTION

- The pre-delivery inspection of your mower is a highly technical operation and will therefore be carried out by your approved dealer/repairer.

7•2 SAFETY SYSTEMS

- The mower is fitted with 4 safety switches which are activated by:
 - 1. the control pedals
 - 2. the seat
 - 3. the grass box (except on MKM and MKHPF)
 - 4. the parking brake
- The motor can only be started if the following conditions are satisfied:
 - the driver is seated or the parking brake is engaged
 - the control pedals are in the neutral position
 - the cutter is not switched on.
- The motor is stopped automatically if the driver leaves the seat and:
 - either the cutting system remains engaged
 - or the parking brake is not applied.
- The engine will also stop if the control pedals are operated whilst the parking brake is on.
- The cutter can only be activated if:
 - the grass box is correctly closed
 - and the driver is seated.



WARNING! The grass box opening provoke the stop of the cutting unit. The cutter unit will automatically start when the grass box comes back in working position.

- In the event of a fault, do not attempt to use your mower. Contact your approved dealer/repairer.

7•3 FUEL



CAUTION DANGER !

Petrol is highly inflammable.

- For your engine we recommend that you use 95 unleaded fuel that you have acquired recently. Only buy the amount of petrol that you can use in 1 month and store it in a jerrican specially reserved for this purpose.
- Do not add oil to the petrol !



WARNING !

Do not use additives or petrol/alcohol mixtures.

- Always fill up outdoors and do not smoke when filling the tank. Avoid any flames or the projection of sparks. Avoid spilling petrol and be sure not to overfill the tank to prevent it overflowing: leave a space of approximately 5 cm under the filler spout to allow the fuel to expand.
- When filling the tank, we advise the use of a funnel with a float. By means of its floating stem, this funnel indicates when the tank is full (picture 1).



When the tank's full, take the funnel away by holding the top of the float rod (3 picture 1).

- Put the tank and petrol feed caps back in place correctly.
- If petrol has been spilled, when you smell it, or if there are any other explosive conditions, do not try to start the engine but clean all the parties concerned carefully and avoid causing ignition until the petrol vapours have dissipated.



When draining the petrol tank, work outdoors (in the open air).

7•4 SEAT ADJUSTMENT

- For safe driving, the position of the seat should be adjusted so that the pedals are within reach.
- To unlock the seat, push the seat lever (picture 2)
 - towards exterior on MKHP and MKHPF
 - towards interior on MBHE, MKHE, MHHE and MKM.
- Move the seat to the required position.
- Release the lever and check that the seat is locked in place.

7•5 TURNING THE ENGINE ON AND OFF



CAUTION ! Never leave the engine running in closed areas where carbon monoxide, a dangerous substance, could build up.



CAUTION ! Never remove the petrol cap or add petrol while the engine is running or when it is hot. Leave the engine to cool for 2 minutes before topping up with petrol.



Do not change the original settings of the engine and do not let the engine race. In the event of mal-adjustment, contact your ETESIA dealership.



Before use, always carry out a visual check to make sure that the cutting blade and its attaching screw are not worn or damaged.

- Before starting the engine, always check the engine oil level. Top up the oil if the level does not reach the mark [FULL] or [MAXI] (see paragraph 9•3•1 and pictures 3 or 4).



The oil gauge must be screwed down home when the engine is running.

- Also check the level of the hydraulic fluid in the expansion cylinder. The oil level must always be visible in the expansion cylinder (see paragraph 9•4•2).
- Check the cleanliness of the air cooling inlet grille under the seat, the engine compartment and the hydrostatic axle cooling fins. Also regularly check the condition of the fan (picture 39).
- Top up with fuel in order not to have to add petrol during work when the engine is hot.
- The engine can only be started if the parking brake is applied and the cutting system selector is not engaged.

7•5•1 TURNING ON (PICTURE 5)

- Open the petrol tap.
- Take place on your mower seat.
- Make sure that the cutting system selector is not engaged and that the advance pedals are not operated.
- Turn the petrol control (a) to the [START] position for cold starts.
- Insert the ignition key and turn it to the right to the starting position [⊙] (b).
- When the engine has started, release the key and put the accelerator control (a) between the [MINI] and [MAXI] positions.
- Let the engine run for between 3 and 5 minutes before setting the accelerator control (a) to the [MAXI] position and starting the cutting system.

To restart a hot engine, set the accelerated control directly to the [MAXI] position and start the engine.

7• OPERATING INSTRUCTIONS

7•5•2 TURNING OFF THE ENGINE (PICTURE 5)



CAUTION ! Never use the accelerator control [START] position to stop the engine.

- Set the accelerator control (a) to the [MINI] position then turn the ignition key to the left, bringing it to the off position [0] (b).
- Close the petrol tap for extended periods of stoppage.



CAUTION ! Never leave the ignition key in the on position [I] (b) when the engine is at a stop; the battery would discharge slowly and the hour meter would continue to run.



CAUTION ! When you leave the mower unattended, remove the ignition key.

7•6 STARTING AND STOPPING THE CUTTER (PICTURE 6)

7•6•1 STARTING THE CUTTER

- Move the throttle hand-lever to the [MAXI] position.
- Swing in [1] position the commutator (a) located on the dashboard.
- The cutter can only be activated with the driver seated, the grass box in normal working position and if the hand brake is off.

7•6•2 STOPPING THE CUTTER

- To stop the cutter, move the switch (a) to position [0].
- Official stoppage time of the blade should be lower than 5 sec.



The cutter will stop when the box opens and will only re-start when the box returns to the normal closed position (except MKM and MKHPF).

- Stoppage of the engine caused by the driver leaving his seat will in turn stop the cutter.



Always turn the cutting system off before leaving your seat.

7•6•3 CONTROL SWITCH «MOW IN REVERSE» (PICTURE 6)



Once the cutter is in operation, press this switch (b) once to mow with the machine in reverse. Otherwise the cutter disengages as soon as you select reverse. It will re-engage with the advance lever when it reaches Neutral or Forward. If you disengage the cutter with the engage cutting system switch or if a safety feature trips it, you will have to re-engage the cutter.

7•7 DRIVING THE MOWER

7•7•1 PARKING BRAKE (PICTURE 7)

The parking brake locking lever (a) is to the left of the seat.

- To apply the parking brake, push the brake lever forwards then towards the inside of the machine; because of the spring loading, the lever will assume the parking brake applied position.
- To release the parking brake, push the brake lever forwards then engage it in its notches.



Always apply the parking brake before getting out of your seat.



To slow down your speed: control the forward speed with dynamic braking provided by the hydrostatic transmission by reducing the action on the forward travel pedal.

7•7•2 FORWARD CONTROL PEDALS (PICTURE 8)

The forward movement of your mower is controlled by the two pedals placed at the front of the right running board.

- Before making any movements, release the parking brake.
- Operate the right hand pedal gradually to adjust the forward speed.
- Gradually operate the left hand pedal to adjust the reverse speed.



Never leave your foot astride the two pedals.

The position of the pedals governs the speed of movement of the mower from stationary (pedal not operated) to top speed (pedal pressed down all the way), as well as dynamic braking.

- Release the pedal to reduce the speed of movement.
- Lift your foot entirely off the forward pedals to come to a stop: the mower will brake gradually until it reaches a full stop.
- To stop quickly, lift your feet off the pedals and apply the parking brake.

7•7•3 DIFFERENTIAL LOCK (MKHP5 AND MKHPF) (PICTURE 9)

- The differential lock is a device allowing the drive to be restored to the two rear wheels if one of them starts slipping.

7•8 CUTTING HEIGHT ADJUSTMENT (PICTURE 7)

- To adjust the cutting height, use the lever (b) situated on the left of the seat.
- Push the lever down to lower the cutter and up to raise it.
- Select a higher setting for long or wet grass (position 4 and 5).
- Select lower settings for flat, regularly maintained lawns.

7•9 MOWING (PICTURE 10)



Before mowing, check the condition of the blade and its tightness. To obtain regular cutting, it is important to check whether the tire pressure is the recommended pressure (see paragraph 9•6).

- The picture 10 illustrates the optimum method of using the mower on most lawns.
- These instructions will enable you to avoid making sharp turns and unnecessary journeys.
- When mowing with the cutter set low, it is important to select a low speed, to keep the engine at a high speed.

7•9•1 MOWING WITH GRASS COLLECTION (EXCEPT MKM AND MKHPF) (PICTURE 11)

- When the grass box is full, an alarm will sound, switch off immediately the cutter.
- By switching off the cutter the alarm is deactivated.

7• OPERATING INSTRUCTIONS

- Empty the box.
- The box is emptied from the driver's seat.
 - With lever: to empty, lift this lever and drive slowly the machine before closing the grass box.
- To make collection of the grass easier after mowing, create two or three larger piles of grass rather than several smaller ones.
- Because emptying the box is so quick and easy, there is no need to fill it completely. Empty the box, even if it is not completely full, whenever you come to an existing pile of grass.
- This will save unnecessary journeys.

7•9•2 MOWING WITHOUT COLLECTING: MODEL MKM

- Look at the mown area: there should be no cut grass left on the surface. If cut grass can be seen, the cutting height should be raised until the desired result is obtained.

Advice for mulching

- It is better to mulch the grass when it is dry. Mowing wet or damp grass increases the amount of debris accumulated in the housing, results in clumping and requires more power.
- Keep the blade housing clean. Accumulated debris under the housing reduces the shredding efficiency.
- Only mow one third of the height of the grass at a time. Mow more than once if the grass is tall or wet.
- Do not mow the same area more than once:
 - allow a greater overlap of cutting.
 - adjust the speed according to the condition of the grass.
 - the blades must be in perfect condition. Check them and sharpen them frequently.

7•9•3 HIGH GRASS MOWING



Always stop the engine and take the key out of the ignition before modifying the open or closed deflector mowing mode. Choose the mowing mode before beginning to mow.

STANDARD FEATURE ON MKM AND MKHPF - OPTION MD80 ON OTHER MODELS

- For mowing exceptionally high grass, a cutting deck lateral ejection device improves the efficiency of your mower.

MODELS MBHE - MKHP - MHHE - MKHE

- **Use of grass box as deflector:**
 - For mowing without picking up the grass, the bottom of the grass box can be removed. To unclip the bottom of the grass box, bring it to the dumping position (picture 12).

MODEL MKM

Opening/closing the deflector:

- Undo the lateral deflector clasp on the right of the cutting deck. The deflector is deployed automatically outwards by a spring, and the protective flap is positioned in front of the lateral ejection outlet (picture 13a).

- Check that the protective flap is in position and in good condition. Do not use your mower in the lateral ejection configuration if the protective flap is faulty.
- To return to the mulching configuration, push the lateral deflector towards the cutting deck, hook the clasp in its bracket and close it again.

MODEL MKHPF (picture 13b)

Opening/closing the deflector:

- Loosen the knob at the rear right of the cutting deck and pull the side deflector as far as possible towards the outside.
- Tighten the knob to hold the deflector in this position.
- To return to the scything configuration, operate in reverse.

7•10 DRIVING ON SLOPING GROUND (PICTURE 10)

- The machine is suitable for use only on ground with a gradient of less than 17,6 % (10°).
- To ensure maximum safety when driving on slopes, follow the instructions below:
 - Avoid sudden starts.
 - Always drive at low speed so as not to lose control of the mower.
 - When moving off on a slope [uphill or downhill start], release the parking brake and move forward immediately using the control pedals.
 - Particular care should be taken when performing U-turns on sloping ground. Prepare for the change of direction and reduce speed so as not to lose control of the mower.
 - Apply the parking brake as soon as the mower stops.

7•11 SPECIAL EQUIPMENTS FOR DIFFERENT MODELS

7•11•1 LIGHTING (MKHP)

In order to see and to be seen, your mower is fitted with front lights. Please switch the lighting control switch on.

7•11•2 BUZZER (MKHP)

In order to signal a danger you can use a buzzer. Please switch the buzzer control on.

CAUTION ! In spite of this equipment, you are not allowed to drive on public roads with your machine.

7•11•3 HOUR METRE (MKHP AND MKHPF)

To make the maintenance of your machine easier, the hour metre will remind you through messages when your oil needs to be emptied (after 10 first hours and then every 100 hours).

- The message will appear one hour before due time and will stay during on the screen two working hours. After two hours it will automatically disappear.
- In normal time when the engine is on the screen will show you the engine running and when the engine is off the total number of hours done.

8• ASSEMBLY - DISASSEMBLY - ACCESS TO COMPONENTS

8•1 ACCESS TO THE ENGINE



Switch off the engine and remove the ignition key. Protect your hands by wearing gloves.

- Loosen the two screws by 1/4 turn (a picture 3) using your key ring.
- Remove the bonnet.
- Compress the spring by squeezing together the 2 locking plates (b picture 3) located in front of the battery.
- Pivot the seat frame forward, and release the locking plates to secure the support in the upright position. To release the support, squeeze the locking plates together again.
- To put the bonnet back into place, do reverse procedure.

8•2 ACCESS TO THE FUSE BOX

- The fuse box (picture 14) is located in front of the battery, under the front cover.
- It is equipped with 2 fuses. Each fuse is protected by a black cap (a).
 - Fuse b: general protection fuse.
 - Fuse c: battery charge fuse.

8•3 ACCESS TO THE HYDROSTATIC GEARBOX

- To gain access to the hydrostatic gearbox, remove the right and the left cover (a picture 4 and paragraph 9•4).

8•4 REMOVAL OF THE CUTTER



Switch off the engine and remove the ignition key. Before removing the cutter, put on protective gloves.

- Apply the parking brake.
- Unscrew and rotate the screw 1/4 from the left and right lateral bonnets with your key ring, and take them out (a picture 4).

MODELS MKM AND MKHPF

- Take out the left and right protections (mobile elements) by unscrewing and rotating screw 1/4 with your key ring (a pictures 15).
- Adjust the cutter setting to the highest position.
- Detach the equalizer spring of the cutting height adjustment mechanism at the rear of the machine using a small twine (b picture 15).
- Unhook the spring from the belt tightener and release the belt from the pulley.
- Adjust the cutter setting to the lowest position.
- Remove the six pins from the bolts and handles of the cutter plate on the cutting height adjustment arms. First remove the 2 front handles, followed by the 2 rear bolts (pictures 17 and 18).
- Adjust the cutting height lever to the highest position.
- Apply full left or right lock to the steering wheel.
- Remove the cutting mechanism.
- To replace the cutting mechanism, repeat these steps in reverse order.

FOR ALL OTHER MODELS

- Detach the equalizer spring of the cutting height adjustment mechanism at the rear of the machine using a small twine (b picture 16).
- Take out the left and right protections (mobile elements) by unscrewing and rotating screw 1/4 with your key ring (a picture 16).
- Adjust the cutter setting to the lowest position.

- Take out the belt guide (picture 19) and the blade transmission belt by acting on the tensioner (left side of the machine).
- Remove the six pins from the bolts and handles of the cutter plate on the cutting height adjustment arms. First remove the 2 front handles, followed by the 2 rear bolts (pictures 17 and 18). The right-hand rear bolt is integral with the cutting height adjustment arm (see picture 18).
- Move the cutting mechanism forward to release the ejection channel from the gasket sheet (picture 20).
- Apply full left lock to the steering wheel.
- Remove the cutting mechanism.
- To replace the cutting mechanism, repeat these steps in reverse order.



For your safety reasons, please always make sure that the bonnet and protections assembly are fitted on the machine before starting it.

8•5 REMOVAL OF THE GRASS BOX (EXCEPT MKM AND MKHPF) (PICTURE 21)

- 1- Tilt grass box bonnet towards the seat and hold it open.
- 2- Remove the swivel fitting (a) from the clearing rod (b) in the grass box : to do this, remove the clip (c).
- 3- Remove the Beta pins (d), followed by the bolts (e).

Remove the box and replace the bolts and pins so as not to lose them.



WARNING !

Never operate the mower without the grass box.
The grass box should be removed only for cleaning.

8•6 ACCESS TO THE FUEL TAP

MODELS MKM AND MKHPF (PICTURE 22)

- The petrol cap can be reached by the left side.
- Undo the quarter-turn screws on the left-hand side cover and remove it.
- Fuel tap open: b
- Fuel tap closed: a

FOR ALL OTHER MODELS (PICTURE 23)

- Open the grass box.
- The petrol cap can be reached alongside the grass box.
- Fuel tap open: b
- Fuel tap closed: a
- The HONDA engine has an extra tap situated close to the carburettor. Make sure that you keep it open (picture 24).



Before carrying out any maintenance, turn off the engine and remove the ignition key.

9•1 CLEANING

The best maintenance is above all the regular cleaning of your mower each time you use it.

- It is highly inadvisable to use a high pressure cleaner.
In any case, be sure not to spray water on to the parts of the engine such as: carburettor, air filter, ignition, silencer and the electrical parts. Do not direct water onto the bearings (blade or wheel bearings) or the hydraulic components.
- It is recommended that the engine and all the transmission components be operated after cleaning to ensure the evacuation of any water that might have leaked into the moving parts.

9•2 CUTTER HOUSING

9•2•1 CLEANING THE CUTTER HOUSING

- After using the mower, always clean the cutter housing, particularly the inside face.

Cleaning the cutter housing using the pipe coupling (except MKHPF)

- On the left-hand side of the cutter housing is a coupling allowing connection of a garden hose (picture 25).
 - Connect the hose to the cutter housing.
 - Remove the bottom of the grass box (picture 12) (except MKM).
 - Switch on the water tap.
 - Sit on the mower, and start up the engine and cutter.
 - After approximately 3 minutes the blade is clean.
 - Switch off the cutter and then the engine.
 - Switch off the water and disconnect the hose.
 - Switch the cutter on again for a few minutes in order to expel the water.

9•2•2 CLEANING THE CUTTER FOLLOWING REMOVAL (SEE § 8•4)

If the mower has been used under particularly tough conditions (very wet grass, mowing in a very low position), it may be necessary to remove the cutting plate and clean it with a scraper. Take advantage of the opportunity to check the condition of the blade and the coupling, and of replacing them if necessary. A properly maintained cutting system will improve cutting quality.

9•2•3 CLEANING THE GRASS BOX (EXCEPT MKM AND MKHPF)

- Like the cutter housing, the grass box should always be cleaned after use to ensure optimum air flow. Cleaning should be carried out using a garden hose.

WARNING !



Proper maintenance of the cutter housing and grass box will improve grass cutting and collection and prolong the life of the mower.

9•2•4 MAINTENANCE OF THE CUTTER

WARNING !



Before carrying out any work on the cutting mechanism, always switch off the engine and remove the ignition key. Protective gloves should also always be worn.

• CONDITION OF THE CUTTER (BLADE)

MODELS MBHE - MKHP - MHHE - MKHE - MKM

- Before using the mower, always check the blade for signs of damage or wear:

1: Normal 2: Twisted 3: Worn 4: Split (picture 26)

- If the blade is blunt or twisted, the mower will not cut or collect correctly.
 - Damaged blades can be highly dangerous if a section of the blade becomes detached and is ejected from the cutter housing.
- Change absolutely the blade after any shock.
- Some microcracks provoked by a shock can lead to the rupture of the blade if it's not replaced.
- Change worn or damaged blades immediately (see section below).
 - Blades which are blunt but do not present other signs of damage may be re-sharpened.
 - Do not sharpen the blade beyond the limit marked on the blade edge.
 - After sharpening, the blade should be re-balanced to prevent vibration.
 - The blade coupling should also be checked to ensure that it is in good working order.
- In the case of serious damage to the cutter housing, the entire cutting mechanism should be examined by your approved dealer/repairer.

MODEL MKHPF

Every time before you use the mower, check the condition of the blade (for any damage and wear).

If a blade has become blunt or is twisted, this will affect the standard of cutting. A damaged blade could be particularly dangerous if a piece comes away and is ejected by the cutting system.

Replace immediately any worn or damaged blades.

The flails are reversible: after the cutting edge becomes worn, they can be turned around.

Also check that the blade coupling is in perfect condition and that the blade ends turn in the same plane.

If any damage is observed on a blade, more thorough examination of the other components will be necessary, for instance the cutting housing, blade coupling, shear bolts, blade bearing and belt.

If you do not know how to do it or you do not have the right tools, contact your ETESIA dealer.

9•2•5 REPLACEMENT OF THE CUTTER (BLADE)



Before carrying out any work on the cutting mechanism, always switch off the engine and remove the ignition key. Also protect your hands by wearing gloves.

MODELS MBHE - MKHP - MHHE - MKHE

- The blade may be inspected and removed via the inspection flap in the ejection channel (picture 27).
- The best way to replace the blade is by removing the entire cutting mechanism (see section on removal of the cutting mechanism 8•4).
- Block the blade by holding it with one hand (protected by a cloth or glove) and remove the central bolt with a 17 mm spanner (picture 26).

9• MAINTENANCE

- Grease the end of the shaft before replacing the blade flange. Check the condition of lock washer (ref. 37665), flange (ref. 28420), key (ref. 20602), shearbolt (ref. 71231), nuts (ref. 37567) and the support washer (ref. 28238) (picture 27).
- Tighten the blade bolts, to 50 Nm.
- Replace the blades so that the cutting edge is facing the discharge duct.

MODEL MKM

- The blade may be inspected and removed via the lateral ejection device.
- The best way to replace the blade is by removing the entire cutting mechanism (see section on removal of the cutting mechanism 8•4).
- Block the blade by holding it with one hand (protected by a cloth or glove) and remove the central bolt with a 17 mm spanner (picture 26).
- Grease the end of the shaft before replacing the blade flange. Check the condition of lock washer (ref. 37665), flange (ref. 50334) and the key (ref. 20602) (picture 28).
- Tighten the blade bolts, to 50 Nm.
- The cutting blades and their fastening screws are available under reference MC85MN.

MODEL MKHPF

The blade can be tested through the opening of the side deflector of the mower. If necessary, remove the cutting system.

REPLACEMENT OF BLADE BODY (picture 29)

- Lock the blade by placing a wooden wedge between it and the cutting housing then detach the central screw with a 17 mm wrench.
- Before reassembling the blade coupling, grease the shaft and check the condition of the lock washer (ref. 37665), the coupling (ref. 54924), and the key (ref. 20602).
- Tighten the blade screw (ref. 71242) to 50 Nm.

REPLACING THE FLAILS

- Use spare part MC85 and assemble according to the exploded view of picture 30.

9•2•6 REPLACING SHEARBOLTS

- The shearbolts connect the blade and the blade flange. If a sudden shock occurs, these bolts shear instantaneously and protect the entire transmission system.

MODELS MBHE - MKHP - MHHE - MKHE - MKM

- You can purchase a set of 8 screws and shearbolts (ref. 26157).
- Tighten the safety bolts to a torque of 8 Nm.

MODEL MKHPF

- You can purchase shear screws and nuts (ref. 05347 + 71205).
- Tighten the shear screws to a torque load of 25 Nm.
- Contact your dealer if you do not have the necessary tools or knowledge

9•3 ENGINE MAINTENANCE

WARNING !



For work on any parts related to the engine, switch off the engine, remove the ignition key and allow the engine to cool. Also protect your hands with working gloves.



Never touch the exhaust pipe, the cooling cylinder or fins, to avoid the risk of burns.

9•3•1 CHECKING THE OIL LEVEL (see picture 3 for B&S and HONDA GXV 390 / picture 4 for KAWASAKI FS481V).

To be checked before each machine use.

- Position the mower on a flat surface.
- **MKHP - MKHE - MKM - MKHPF**: Undo the quarter-turn screws on the left-hand side cover then remove it (a picture 4).
- **MBHE - MHHE**: Swing the seat towards the front (see paragraph 8•1 / a and b picture 3).
- Clean the area around the filler neck to prevent dirt from entering the sump.
- Remove the dipstick.
- Wipe the gauge with a clean cloth and place it back in the filler tube.
- **MBHE**: Screw the plug back on and then unscrew it again (c picture 3).
- **MKHP - MHHE - MKHE - MKM - MKHPF** (d picture 3 and c picture 4): Rest the plug on the tube without screwing it down.
- Take out the gauge to check the level: the oil left on the gauge should reach between the marks [ADD] and [FULL] or [MINI] and [MAXI] (pictures 3 and 4). For the capacity of oil sump : see technical characteristics.

9•3•2 DRAINING THE ENGINE OIL

- After initial 10 h service to be done by your dealer, the engine oil has to be replaced according to the following requirements :
 - every 50 h or once each year for MBHE and MHHE models
 - every 100 h or once each year for MKHE, MKHP, MKM and MKHPF models.
- Do the emptying while the engine is still warm, oil will be easier to take out.
- Position the machine on a flat surface.
- Stop the engine and remove the ignition key.
- **MKM, MKHE, MKHP AND MKHPF MODELS (PICTURE 31)**
 - The cutting system does not require dismantling.
 - Undo the quarter-turn screws on the left-hand side cover then remove it.
 - Place an appropriate container (c) at the oil drainage pipe outlet, at the back of the mower.
 - Using an open-ended spanner (a), open the drainage valve (b), and allow the used oil to drain into the collecting container (c) placed at the back of the machine.
 - Close the valve.
- **MHHE AND MBHE MODELS (PICTURE 32)**
 - Remove the cutter (see paragraph 8•4).
 - Unscrew the drain plug (a) and drain the used oil into a appropriate container.
 - Clean and replace the drain plug.
 - Clean the area around the filler neck to prevent dirt from entering the engine.
- **MKM, MKHE, MKHP, MHHE, MBHE AND MKHPF MODELS**
 - Remove the dipstick and slowly add a 10W40 multigrade engine oil to specification API-SL or ACEA-A3 ref. ETESIA 38383 (2 liters) or an SAE 30 monograde oil, through the filler pipe.

9• MAINTENANCE

- Check the oil level using the dipstick (see paragraph 9•3•1).
- The level should reach but not exceed the [FULL] or [MAXI] marker.



WARNING !

Special care should be taken when draining hot oil. Dispose of used oil at an approved collection point.

9•3•3 REPLACEMENT OF THE OIL FILTER (MKHE - MKHP - MKM - MKHPF) (PICTURE 33)

Change the oil filter every 100 working hours.

WARNING !

A hot engine can cause very severe burns. Before changing oil filter, wait engine cooling.

- Put a receptacle under filter connection.
- Turn filter (A) (clock sense opposed) and take it off.
- Put a clean oil film on the new oil filter joint.
- Set up the new oil filter (clock sense) until the joint reaches the fitting surface (B) then screw the oil filter (3/4 hand turn).
- Check oil level and start the engine about 3 minutes: then stop the engine and make sure there is no oil leak at oil filter connection.
- Adjust engine oil to compensate the oil level decrease due to oil filter content.

9•3•4 SPARK PLUG (PICTURE 34)

- Spark plug reference : Ref. 03861 for HONDA and Kawasaki engines
Ref. 16600 for B&S engines



WARNING !

Do not attempt to change the spark plug until the engine is completely cold.

- Clean or replace the spark plug after every 100 hours of service.
 - Disconnect the spark plug lead and remove the spark plug.
 - Clean the electrodes (a) using a metal brush to remove carbon deposits.
 - Check that the porcelain is not cracked and that the electrode is not excessively worn. Replace the spark plug if necessary.
 - Check the spark gap (b) using a feeler gauge. The gap should be set on 0.75 mm. Adjust the gap as necessary using only the outer tab.
 - Replace the spark plug and tighten with a torque of 22 Nm.
 - Reconnect the spark plug lead.

9•3•5 AIR FILTER

A dirty air filter restricts airflow to the carburettor, reducing engine performance. If engine is used on dirty or dusty surfaces, clean more often than mentioned in the maintenance manual.



If engine is used without air filter or with a damaged air filter, dirt will penetrate into the engine which will wear out more quickly. This type of damage isn't covered by the limited warranty.

CONTROL

Remove the filter cover and check the air filter elements. Clean or replace the dirty filter elements. Always replace the damaged filter elements.

- **MHHE (PICTURE 35):** Unscrew the finger nut(s) (a) and remove the cover.
- **MBHE (PICTURE 36):** Remove the cover and carefully remove the filter elements.
- Clean the filter base thoroughly, taking care not to allow dirt and dust to enter the carburettor (use a clean, lightly oiled cloth).
- Clean the filter elements:
 - Foam element (pre-filter).
 - Remove the foam pre-filter (b) from the element (c).
 - Wash in warm soapy water.
 - Wrap in a clean, dry cloth to remove excess moisture and dry.
 - Soak in engine oil and squeeze to remove excess oil.
 - Paper element (c): tap the element on a flat surface to remove dust. If the element is very dirty, replace it. Replace the element every 100 hours or at least once a year. Replace the cover.

• MKHE - MKHP - MKM - MKHPF (PICTURE 37):

- Remove the cover by turning the two quarter-turn screws (a).
- Remove carefully the filtering elements. Clean carefully the filter seating by avoid any penetration of dust and scraps in the carburettor (use a clean cleaning rag lightly oiled).
- Clean the filtering elements.
- Foam element (prefilter b): clean with tepid and detergent. Wrap it inside a clean dry cleaning rag to dry it.
- Paper cartridge (c): tap it gently on a flat area to make the dust fall. Replace it every 100 hours or once the year.
- Refit carefully all the filtering elements.
- Replace the cover and check that the quarter-turn screws (a) are sitting correctly in position.

WARNING !

Do not use solvents or petrol to clean the paper element. Do not soak in oil. Do not use compressed air to clean or dry the element, as this could damage it.



WARNING !

In dusty environments, the intervals between cleaning or replacement should be reduced.



9•3•6 PETROL FILTER (PICTURE 38)

- If your engine lacks power or misfires this may be due to blockage of the petrol filter, in which case the filter must be changed.
- However, we recommend that the filter be changed every 100 hours or at least once a year, even if it appears to be in good working order.

MODELS MKHE - MKHP - MKM - MKHPF : To access, remove the right-hand side cover.

9•3•7 COOLING SYSTEM (PICTURE 39)

- Before using the mower, always check that the rotating engine grille is not blocked by grass or other debris.
- Clean, if necessary.
- Clean the foam suction collar around the grille regularly.
- Once a year or after every 100 hours of service, as appropriate, remove the fan cowl and clean the areas indicated in order to prevent the engine from overheating, racing or being otherwise damaged.

9• MAINTENANCE

- Clean more frequently, if necessary.



WARNING!

Clean the area around the silencer regularly to remove grass, dust and inflammable debris.



Do not attempt to carry out major repairs unless you are equipped with the appropriate tools and are suitably skilled in the repair of internal combustion engines.

9•4 MAINTENANCE OF THE TRANSMISSION

9•4•1 HYDROSTATIC GEARBOX (PICTURE 40)

- Clean the hydrostatic gearbox cooling fins regularly and also check that the fan is in good condition.



The oil should be changed by your ETESIA dealership after 50 hours of operation, then every 200 hours.

9•4•2 HYDRAULIC OIL LEVEL

Before unscrewing the hydraulic oil cylinder, clean it carefully and make sure that no impurities get into it.



Check the hydraulic oil level before using the mower every time. Do not fill the expansion cylinder but make sure that the oil level in it is always visible (picture 41), in particular when cold (normal level approximately 1 cm above the bottom of the cylinder, between minimum and maximum). We recommend 10W40 oil cans ref. 38383 (2 liters).

9•5 BATTERY MAINTENANCE

9•5•1 MAINTENANCE

Your mower has a lead storage battery in the engine compartment (picture 42) which requires little maintenance.



The battery contains sulphuric acid which is highly dangerous and can cause serious injury if it comes into contact with the skin or the eyes. Take great care.



In the event of coming into contact with the skin or eyes, rinse copiously in water and if necessary see a doctor immediately. The battery must be kept away from children.

Regularly check that the battery terminals are free of oxidation. Otherwise, clean them and apply grease to them. If the battery has to be removed, always disconnect the negative terminal first, followed by the positive terminal.

9•5•2 BATTERY CHARGING

The battery can also be recharged with a traditional charger. To do this, remove the battery from the mower, first disconnecting the negative terminal then the positive terminal.

- Connect the battery to the charger.
 - Charge voltage: 12 V
 - Charging current: max. 2 amps
 - Charge time: up to 12 hours, according to need (under 2 Ah).



Lead-acid batteries emit explosive gas mixtures during charging. Avoid naked flames and sparks and do not smoke. The battery should always be charged in a well-ventilated area.



WARNING !

Batteries kept in a discharged state cannot subsequently be recharged.

9•5•3 ELIMINATION OF BATTERIES

Batteries contain hazardous materials and must under no circumstances be disposed of into the environment. They are the subject of specific rules governing (directive 2006/66/EC). You can hand in your spent ETESIA batteries to your ETESIA dealer who will eliminate them or take them to selective sorting or refuse centres capable of dealing with the task.

9•6 MAINTENANCE OF THE TYRES

- Always ensure that the tyres are inflated to the recommended pressure. The use of pressures other than those recommended may adversely affect driving performance and may even result in loss of control of the mower.

Front pressure: 1.5 bar for MKHP and MKHPF models

1.2 bar for other models

Rear pressure: 0.8 bar

10• MAINTENANCE SCHEDULE

Page	Component	Always before mowing	After the first 10 hours	Every 50 hours or yearly	Every 100 hours or yearly
28	Engile oil	Check level and top up if necessary	RECOMMENDED SERVICE BY YOUR DEALER	Drain for MBHE and MHHE models	Drain for MKHE, MKHP MKM and MKHPF models
29	Oil filter Kawasaki				Replace filter
29	Air filter			Clean	Replace
29	Cooling system	Remove grass from engine grille			Check and clean
29	Spark plug				Clean and adjust or replace
	Controls	Check for good working order			Lubricate pivot pins on cutting height adjustment and box discharge levers
29	Petrol filter and hose				Replace filter Check hoses
27	Blade	Check condition and tightness Sharpen or replace if necessary			
27	Blade coupling			Check and lubricate the blade shaft	
	Electromagnetic clutch				Check brake pads for wear
	Belts				Check tension and for wear
30	Transmission	Ensure pedals in good working order Check oil level in hydrostatic transmission box and ensure cooling not impeded by grass or dust deposits		Drain the oil after the 50 first hours Check the shaft screw clamping of the transmission box input pulley Replace the pulley every 300 hours in professional use	Check and adjust system Drain the gear box every 200 hours Lubricate pedal pins
	Brake	Check efficiency of parking brake			
	Steering			Check steering joints Lubricate pinion, ring gear and pivot pin axle ; play adjusting Control play between column and steering ring and adjust it when necessary	
23	Electric circuit	Check safety switches			
26	Grass box	Clean		Check seams	
32	Wheels	Check tyre pressure			Lubricate front and rear wheel axles

11• PROLONGED STORAGE - WINTER STORAGE

11.1 PREPARATION FOR THE WINTER STORAGE

- Clean the machine thoroughly, and the cutter plate in particular.
- Lubricate moving parts and change the engine oil.
- Drain the fuel tank completely and run the engine until all the fuel is used up.



Always empty the fuel tank in open air.

- Disconnect the spark plug.
- Remove the spark plug and inject a small quantity of oil (1 cl) into the cylinder(s) via the plug opening.
- Activate the engine by turning the ignition key.
- Replace the spark plug by hand without replacing the suppressor.
- Remove the battery by first disconnecting the negative terminal.
- Charge the battery: see section 9•5•2.
- Store the battery in a dry, well-ventilated and frost-free place.
- Recharge the battery every two months.
- Always keep the battery out of the reach of children.

- Contact your dealer for the following adjustments or maintenance operations:

- Adjustment of the parking brake
- Adjustment of the cutter plate alignment
- Adjustment of the steering
- Adjustment of the engine
- Replacement of belts, where necessary
- Replacement of any parts, or repairs involving the removal of parts which are not covered by this manual.

11.2 RETURN TO SERVICE

- Unscrew the spark plugs and clean them with petrol. Allow to dry but do not put them back for the time being.
- Reinstall and reconnect the battery.
- Operate the starter very briefly using the ignition key to eliminate any excess oil from the cylinders.
- Then fit the dry spark plugs and connect the caps.
- Check the oil level and top up with fuel.

You are now ready to restart the engine.

12• TROUBLESHOOTING

12.1 MOVING THE MOWER WITH THE ENGINE SWITCHED OFF (PICTURE 43)

- The by-pass enables the mower to be moved without switching on the engine.
- Make sure that the handbrake is released.
- Put the lever on [0] position: unclutched position to move the mower with engine on stop.
- To gain access to the by-pass lever, open the grassbox in emptying position. On MKM and MKHPF, the by-pass lever is located on the rear cover.



Do never use the mower with a disengaged by-pass (position 0).

12.2 TOWING THE MACHINE IN THE EVENT OF BREAKDOWN

- Disengage the box (see paragraph 12•1).
- Close the fuel tap (see paragraph 7•5•2 and 8•6).
- **Set up the towing hock:**
 - Unscrew the front bumper fixation screws and take it out. The towing ring is located behind the bumper. It is fixed on the back side on the frame tube (a picture 44).
 - Unscrew the towing ring screws, return it so that the ring looks towards the front and fix it with the same fixation screws.
 - Drill 2 holes diameter 12 mm at the back of the bumper and cut in order to obtain a circle hole (picture 45).
 - Put the bumper back into place. The towing ring is going through the circle hole.



Use only a towing bar.
Do not use other towing points.



WARNING! The disengaged position should be used only for travel over short distances at low speed (up to 5 km/h). After moving the mower, remember to place the lever in the engaged position.

- Where a broken-down mower is to be moved over long distances, an appropriate form of transport (trailer, goods vehicle) should be used.

12.3 TRANSPORT

For any delivery on a trailer or in a van:

- Transporting your mower, use straps and pass around strap hooks and towing hook.
- Engage parking brake.
- Stop the engine.
- Remove the ignition key.
- Close the petrol tap.
- Block wheels.

12.4 CHANGING TYRES

- Where it is necessary to remove a wheel, this should be done on firm, even ground.
- Do not attempt to carry out work on or under the mower if it has been raised on temporary supports or without taking proper safety precautions.
- If you do not possess appropriate tools or the knowledge needed to carry out the work, contact your dealer.

• Remove the wheels in the following manner:

• FRONT WHEELS

- Switch off the engine and remove the ignition key.
- Apply the parking brake.
- Secure the vehicle using chocks.
- Place a jack under the front axle on the side where the wheel needs to be replaced and lift until this wheel does not touch the ground anymore (picture 46).
- Secure the machine by lying it on stable props.
- Remove the wheel hub (a picture 47).
- Remove the circlips with the help of a screwdriver (b picture 47). You can now remove the wheel from the shaft.

- For remounting, follow the same instructions in the opposite way. Do grease the wheel shaft.

12• TROUBLESHOOTING

• REAR WHEELS

- Stop the engine and remove the contactor key.
- Apply the parking brake.
- Secure the vehicle using chocks.
- Remove the wheel hub (a picture 48).
- Unscrew the 3 screws with a key 6 (thread 5) (b picture 48). Remove sideways the two securing rings (c picture 48).
- Place a jack under the rear part of the chassis on the side where the wheel needs to be replaced and lift until this wheel does not touch the ground anymore (picture 49).
- Secure the machine by lying it on stable props. You can now remove the wheel from the shaft.
- For remounting, follow the same instructions in the opposite way. Do grease the wheel shaft.



WARNING !

Do not lose the O shape key which fits in the wheel shaft.

- Check the screw tightness.

- Check the tyre pressure.

Front pressure: 1.5 bar for MKHP and MKHPF models
1.2 bar for other models

Rear pressure: 0.8 bar

DISPOSAL OF USED PNEUMATICS

It is forbidden to leave standing, to lay down or to burn pneumatics in nature. Our dealer network has been informed about its obligation to take back, free of charge, all used pneumatics from ETESIA ride on mowers.

13• ACCESSORIES

Stop the engine, disconnect the spark plug before proceeding and remove key from ignition.

- **MU80N: MULCHING KIT** (picture 50)
 - A special blade and a ejection-closing insert allow a fine cut of frequently cut grass, helping its decomposition without needing any collection.
- **MD803: SIDE DEFLECTOR** (picture 51)
 - Allows ejection of the grass to the side. It is recommended in very high grass or when collection is not necessary. A first cut at maximum cutting height and low drive speed followed by a second cut at final height insure a good finish.
- **ANTI-PUNCTURE TYRE LIQUID** (part number 28461)
 - Introduced as prevention in the tyres inner tubes, this liquid repairs instantaneously potential perforation.
- **SEAT ARMRESTS MAC FOR MKHP AND MKHPF** (picture 52)
 - Armrest greatly improve driving comfort, in particular when your mower is being used on a slope. They are easy to attach to the seat back rests by 4 screws.
- **SPREADER MET** (picture 53)
 - Having a hopper capacity of 60 L, this wheel-driven distributing disc spreader is ideal for spreading snow clearing salt or sand.
- **MR80: TOWING HOOK FOR MKHE, MBHE, MHHE AND MKHP** (standard on MKM and MKHPF) (picture 54)
 - Allows to tow light loads according to following limits:
 - 140 kg on the trailer axle (trailer + load)
 - 20 kg upward or downward on the drawbar
 - drive on slopes of 5° (8.7%) maximum
- **CONTROL LEVER ML80** (pictures 55, 56 and 57)
 - It allows the control of the accessory mounted on your mower.

- **SNOW BLADE MV80N3** (picture 56)
 - Designed for cleaning snow from aisles and outside areas. Adjustable to the right or to the left.
- **MOSS REMOVER MM103** (picture 57)
 - Makes it possible to extract the moss from your lawn and collect it directly with your mower.
- **HOMOLOGATION KIT OMX80** (picture 58)
 - It allows you to equip your mower with front and rear lighting allowing it to travel on public roads.
- **ANTI SCALP KIT MAS80** (not available on MKM and MKHPF) (picture 59)
 - The MAS80 reduces blade contact with the ground and allows the deck to follow the contours of the ground during the cutting.

- **BLADE** (picture 60)

All models except MKHPF and MKM

- MZ80 : standard blade
28489 : cutting blade kit MZ80
- MZ80EX : lame export
52168 : cutting blade kit MZ80EX
- MZ80M : lame mulching
28447 : cutting blade kit MZ80M

MKM

- MC85MN : kit of 2 half blades

MKHPF

- MC85 : kit of 2 flails

ELECTRIC GRASSBOX EMPTYING KIT MVE80

- For a greater comfort of use, you can replace the lever for manual emptying of the grassbox, using a device with an electric ram operated by a switch mounted on the instrument panel.

All these accessories are accompanied with an instruction manual of installation and use.

14• WARRANTY

DEFINITIONS

- Dealer, importer = distributor linked to ETESIA by an agreement (dealership or importer contract). The dealer and the importer are in charge of selling and servicing ETESIA machines.
- User, buyer = physical or moral person, company, collectivity or association having bought legally a machine new or second hand from a dealer.
- Domestic use = use of a machine on a private ground. Machine is owned by the user and just use to clear its private piece of ground (main or secondary residence).
- Professional use = use of an ETESIA machine, in exchange of money or not, on public areas to maintain companies or institutions like : hospitals, associations,...or on private fields being owned by a third person.
- Wear parts/consumable parts : parts needing to be changed inevitably to enable an optimal normal use of the machine.
- Normal use = use of the machine according to all instructions mentioned in the instruction book (including safety and maintenance).

GENERAL WARRANTY CONDITIONS

- In addition to the legal warranty, ETESIA offers a contractual warranty. The ETESIA warranty concerns the exchange of parts free of charge in case of material, production or conception fault. This warranty applies to the product as he leave ETESIA production line.
- The delivery company is only responsible in case of transport damage. It is however the addresse responsibility when damages occurs during transport to mention reserves on the delivery note when receiving the goods and to inform ETESIA within 48H by registered letter.
- The instruction book delivered with every machine contents all information regarding machines use. Any different use from the one described in the instruction book can be dangerous for the user and reduce machine life. In such cases, ETESIA can not be held responsible.

CONTRACTUAL WARRANTY

- ETESIA offers, in addition to the statutory warranty, in particular that covering hidden and latent defects and the guarantee of conformity of the product with the contract due by the vendor to the consumer, a contractual warranty:

The ETESIA contractual warranty is allowed for 2 years (or 600 hours for MKHP and MKHPF) in professional use and for 3 years on domestic use (warranty period starting the first day when the machine is purchased by the user). Etesia grant a 3 year warranty on battery for this product.

This warranty is valid if :

- 1) Instructions from the instructions book have been respected.
- 2) The warranty card has been returned to ETESIA immediately after the machine purchase or completed on the extranet site.
- 3) Strict respect of or revisions as defined in the maintenance table of the user instructions is required.
- 4) To request a repair under warranty, the buyer must contact the ETESIA dealer. Should it not be possible, he could contact ETESIA who will propose an alternative solution.
- 5) Any suspected failure by way of a defect within the framework of the contractual warranty must be presented by an approved dealer. Only repairs done by ETESIA dealers workshops can be taken under warranty.
- 6) Any material, production or conception fault recognized by ETESIA as such will be eligible for warranty (parts and labour). It will therefore be paid back to the dealer according to charge scale mentioned in the agreement.

It is the dealers responsibility to make sure that the end user does receive the complete warranty allowed by ETESIA. Should ETESIA not recognize any fault, the dealer will be held responsible. ETESIA reserves the right to cancel the decision with no compensation or warning.

- 7) Any intervention done within warranty time, in particular in case of parts exchanged, will not give right to any new warranty period.
- 8) In case of parts exchanged under warranty, ETESIA reserves the right to use either new or second hand parts. Parts replaced can be requested to be returned at any time by ETESIA. Should ETESIA not receive these part(s), a warranty claim would automatically be rejected.
- 9) This warranty however does not cover : parts damaged during a repair action ; machines not having been serviced according to the repair schedule mentioned in the instruction book ; parts with normal wear.

Please find a list (not complete) of wearing parts: spark plugs, filters, exhaust, seals, membranes, blades, blade coupling parts, belts, clutches, control cables, sheath, fuel pipes, durits, cooling liquid, hydraulic and lubrication liquids, fuel, seat, bonnets, grass-box, material grassbox frame, mudguards, pedal covers, running board cover, anti scalp kit, roll axle...

- 10) Warranty right is cancelled in the following cases:
 - a) Damages due to non respect of safety, maintenance use and storage instructions. ETESIA will not be held responsible, legally in particular, for damages resulting from other uses than the ones described in the instruction book.
 - b) Damages due to accident or collision.
 - c) Damages due to a modification of the original machine or use of non original spare parts.
 - d) Damages to machines not having been maintained by the ETESIA dealer network.
- 11) In case of owner change, the outstanding warranty period can be transferred to the new owner. However to enable this transfer a written request need to be sent to the ETESIA after sales department. This request needs to attest as well that the new end user has received the instruction book for the machine as well as the warranty terms.
- 12) ETESIA reserves the right to check that preliminary conditions for warranty have been respected by the buyer.
- 13) When a warranty application is requested, ETESIA will deliver the parts as soon as possible. However an immediate delivery can not be requested.
A delay in delivery would in no case give right to compensation or to warranty extension.
- 14) Any additional claims to ETESIA is excluded.
- 15) In the event of a dispute over a warranty claim, the only competent court will be the one indicated on the distribution contract between ETESIA and the approved dealer in question.

IMPORTANT NOTE :

As soon as a machine purchase takes place, the warranty cards needs to be :

- completed, signed and sent back to

ETESIA – WARRANTY SERVICE
67165 WISSEMBOURG CEDEX FRANCE

- or completed by your dealer on line on the extranet.

These contractual guarantees are in addition to the legal warranty against hidden and latent defects and the guarantee of conformity of the contract by the seller to the consumer.

EC DECLARATION OF CONFORMITY

In accordance with Directive 2006/42/EC
We,



13, rue de l'Industrie, 67165 WISSEMBOURG CEDEX

declare under our responsibility, that the ride-on lawnmowers, type Bahia and Hydro 80, reference MBHE2, MHHE2, MKHE3, MKHP3, MKHP5, MKM and MKHPF to which this declaration refers, fulfil all the relevant terms of directive 2006/42/EC applicable to them as well as to the provisions of all other directives European applicable to them:

- **2000/14/EC (from 08/05/00)** Noise emissions in the environment by equipment for use outdoors
- **2006/66/EC (from 06/09/06)** Concerning batteries and accumulators containing certain dangerous substances
- **2014/30/UE (from 26/02/14)** Electromagnetic compatibility
- **2011/65/UE (from 08/06/11)** Restrictions of the use of certain hazardous substances in electrical and electronic equipment

and guarantee that the ride-on lawnmowers, type Bahia and Hydro 80, reference MBHE2, MHHE2, MKHE3, MKHP3, MKHP5, MKM and MKHPF meet the requirements of Directive 2000/14/EC regarding noise emissions in the environment, and are subject to the internal production control procedure, with evaluation of the technical documents and periodic inspection by a notified body, the CETIM, F-60304 SENLIS CEDEX.

- **Average acoustic power level measured :** 100 dB (A)
- **Guaranteed acoustic power level :** 100 dB (A)

and guarantee that the ride-on lawnmowers, type Bahia and Hydro 80, reference MBHE2, MHHE2, MKHE3, MKHP3, MKHP5, MKM and MKHPF meet the requirements of Directive 2006/42/EC when they are equipped with accessories of Chapter 13.

Mr Freddy Schmitt, 13, rue de l'industrie 67165 Wissembourg CEDEX is the person authorized to constitute the technical file.
Assessment of conformity in-house inspection of machine manufacture according to Annex VIII of directive 2006/42/EC.

UKCA DECLARATION OF CONFORMITY

In accordance with 2008 No. 1597 regulations
We,



13, rue de l'Industrie, 67165 WISSEMBOURG CEDEX

declare under our responsibility, that the ride-on lawnmowers, type Bahia and Hydro 80, reference MBHE2, MHHE2, MKHE3, MKHP3, MKHP5, MKM and MKHPF to which this declaration refers, fulfil all the relevant terms of 2008 No. 1597 regulations applicable to them as well as to the provisions of all other applicable UK regulations :

- **2001 No. 1701** Noise emission in the environment by equipment for use outdoors regulations
- **1994 No. 232** The batteries and accumulators (containing dangerous substances)
- **2016 No. 1091** Electromagnetic compatibility regulations
- **2012 No. 3032** Restriction of the use of certain hazardous substances in electrical and electronic equipment regulations

and guarantee that the ride-on lawnmowers, type Bahia and Hydro 80, reference MBHE2, MHHE2, MKHE3, MKHP3, MKHP5, MKM and MKHPF meet the requirements of 2001 No. 1701 regulations regarding noise emissions in the environment, and are subject to the internal production control procedure

- **Average acoustic power level measured :** 100 dB (A)
- **Guaranteed acoustic power level :** 100 dB (A)

and guarantee that the ride-on lawnmowers, type Bahia and Hydro 80, reference MBHE2, MHHE2, MKHE3, MKHP3, MKHP5, MKM and MKHPF meet the requirements of 2008 No. 1597 regulations when they are equipped with accessories of Chapter 13.

Mr Freddy Schmitt, 13, rue de l'industrie 67165 Wissembourg CEDEX is the person authorized to constitute the technical file.
Assessment of conformity in-house inspection of machine manufacture according to 2008 No. 1597 regulations.

Model :



Production year

Serial number:

Done in Wissembourg, the 04/03/2021
Mr. Francis NEFF

The President

Due to their permanent improvement policy, ETESIA reserves the right to modify specifications, text and pictures without prior notice.

ETESIA SAS - F -
67165 WISSEMBOURG CEDEX
Strasbourg Trade & Commerce Register B343 510 996

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Stamp
here
please

ETESIA

SERVICE GARANTIE

13 rue de l'Industrie
67165 WISSEMBOURG CEDEX
France



This card has to be returned completed to ETESIA upon the first setting up.

MODEL:	SERIAL NUMBER:
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WARRANTY CERTIFICATE

USER NAME _____ Forename _____

Street _____ Zip code _____

Town _____ Country _____

Tel _____ Date of purchase _____ 20 ____

Day Month Year

@ Email : _____

I already own a ETESIA product ☐ yes ☐ no If so, what product : _____

Area to be mown:

Mowing / usage frequency:

I am, I represent:

☐ Less than 1000 m²

☐ 1000 to 2000 m²

☐ 2000 to 5000 m²

☐ 5000 to 10 000 m²

☐ 10 000 to 20 000 m²

☐ More than 20 000 m²

☐ More than once the week

☐ Once the week

☐ Twice the month

☐ Once the month

☐ Less than once the month

☐ A private

☐ An association, a company

☐ A council, a collectivity

☐ A landscaper (green areas professional)

☐ Other, specify _____

Dealer's stamp and signature

Signature and confirmation of the user :

- that he has taken possession of a machine in perfect working order ;
- that the user has been handed over and that he thoroughly read the use instructions, safety and maintenance suggestions figuring in it ;
- that he has been informed of the warranty terms and that he accepts said terms without reserve or restriction ;

☐ I agree to receive product information/ relevant commercial marketing from Etesia (Etesia UK is a solely owned subsidiary of Etesia SAS and bound by their rules) *

Date _____

Signature _____

* In accordance with the data protection act of 06/01/1978 amended by the law of 20/06/2018, the user has a right to have access, rectification and rejection to the personal information concerning them held by Etesia SAS, this should be made in writing to the following address: ETESIA SAS - Warranty service - 13 rue de l'Industrie - 67160 WISSEMBOURG. The data required is for the purpose of allowing product warranty registration and guarantee for the machinery purchased. This data may also be used for general marketing and applicable sales promotions that may be available from time to time.