

ZIPPER MASCHINEN GmbH

Gewerbepark 8

4707 Schlüsslberg | AUSTRIA

+43 (0) 7248 61116-700 | FAX 7248 61116-720

info@zipper-maschinen.at | www.zipper-maschinen.at

Originalfassung

DE BETRIEBSANLEITUNG

BENZINRASENMÄHER MIT E-START

Übersetzung / Translation

EN USER MANUAL

GASOLINE LAWN MOWER WITH E-START

FR MANUEL D'UTILISATION

**TONDEUSE À GAZON À ESSENCE AVEC
DÉMARREUR ÉLECTRONIQUE**



ZI-BRM52EST

EAN: 9120039233154

ACHTUNG: Öl (15W40) kontrollieren!
ATTENTION : Contrôler l'huile (15W40) !



ATTENTION: Check Oil
(15W40)!





14 PREFACE (EN)

Dear Customer!

This manual contains information and important instructions for the installation and correct use of the ZIPPER gasoline lawn mower mit electro starter ZI-BRM52EST.

Following the usual commercial name of the machine (see cover) is substituted in this manual with the name "machine".



This manual is part of the product and shall not be stored separately from the product. Save it for later reference and if you let other people use the product, add this instruction manual to the product.

Please read and obey the security instructions!

Due to constant advancements in product design, construction pictures and content may diverse slightly. However, if you discover any errors, inform us please.

Technical specifications are subject to changes!

Please check the product contents immediately after receipt for any eventual transport damage or missing parts.

Claims from transport damage or missing parts must be placed immediately after initial product receipt and unpacking before putting the product into operation.

Please understand that later claims cannot be accepted anymore.

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Court of jurisdiction is the regional court Linz or the competent court for 4707 Schlüsslberg, Austria!

Customer service contact

ZIPPER MASCHINEN GmbH

Gewerbepark 8, A-4707 Schlüsslberg
AUSTRIA

Tel.: +43 7248 61116-700

Fax: +43 7248 61116-720

Mail: info@zipper-maschinen.at



15 SAFETY

This section contains information and important notices for safe commissioning and handling of machine.



For your own safety, read these operating instructions carefully before putting the machine into operation. This will enable you to handle the machine safely and prevent misunderstandings as well as possible damage to property and persons. Also observe the symbols and pictograms used as well as the safety instructions and hazard warnings!

15.1 Intended use of the machine

The machine is intended exclusively for the following activities:

For mowing and mulching lawns within the specified application limits.

ZIPPER-MASCHINEN assumes no responsibility or warranty for any other use or use beyond this and for any resulting damage to property or injury.

15.1.1 Technical Restrictions

The machine is intended for use under the following ambient conditions:

Relative humidity:	max. 65 %
Temperature (for operation)	+5° C bis +40° C
Temperature (for storage and/or transport)	-20° C bis +55° C

15.1.2 Prohibited Use / Forseeable Misuse

- Operation of the machine without adequate physical and mental aptitude
- Operating the machine without appropriate knowledge of the operating instructions (machine + motor).
- Changes in the design of the machine
- Operating the machine in wet and rainy conditions
- Operating the machine in a potentially explosive environment
- Operating the machine indoors or in closed areas
- Operation of the machine without functioning or missing guards
- Remove the safety markings attached to the machine.
- Modify, circumvent or disable the safety devices of the machine.
- Use of the machine for the transport of persons

The prohibited/hazardous use or disregard of the information and instructions presented in this manual will result in the voiding of all warranty and damage claims against Zipper Maschinen GmbH.

15.2 User Qualification

Prerequisite for the use / operation of the machine is a corresponding physical and mental aptitude as well as knowledge and understanding of the instruction Manual.

Please note that local laws and regulations may determine the minimum age of the operator and restrict the use of this machine!

Put on your personal protective equipment before working on the machine.

Work on electrical components or equipment may only be carried out by a qualified electrician or carried out under the guidance and supervision of a qualified Electrician.

15.3 Safety instructions

In order to avoid malfunctions, damage and health hazards when working with this machine, in addition to the general rules for safe working, the following measures in particular must be observed UNCONDITIONALLY:

- Check that the machine is in perfect condition before each use. Ensure that all guards are in place and working properly and that all nuts, bolts, etc. are securely tightened. Do not take the machine into operation if you notice that parts are missing or damaged!



- Ensure sufficient lighting conditions in the working and surrounding areas of the machine.
- Keep hands and feet away from moving machine parts and always ensure a safe stand when working.
- Remove the adjustment tool from the machine before operation.
- Never leave the running machine unattended (always stop the machine before leaving it).
- Ensure that unauthorised persons maintain a safe distance from the machine and keep children away from the machine.
- The machine may only be operated, serviced or repaired by persons who are familiar with it and who have been informed of the dangers arising during this work.
- Always wear suitable personal protective equipment (ear protection, safety shoes etc.)!
- Do not work with the machine if you are tired, not concentrated or under the influence of medication, alcohol or drugs!
- Never operate the unit in the presence of flammable liquids or gases (danger of explosion!).
- Carry out maintenance, adjustment and cleaning work only when the engine is switched off.
- Only use spare parts and accessories recommended by Zipper machines.

15.4 Special safety instructions for the operation

- The machine is designed to be operated by one person. Always operate the machine from behind. Never stand next to or in front of the machine when the engine is running.
- Excessive noise can cause hearing damage and temporary or permanent hearing loss. Wear hearing protection certified to health and safety regulations to limit noise exposure.
- Do not increase the regulated idle speed by your own. This could result in damage to the machine or personal injury.

15.5 Safety instructions for machines with combustion engine

- Do not touch the engine and/or muffler during operation or immediately after switching off! These areas become hot during operation and can cause burns.
- Do not touch the spark plug connector when the engine is running (electric shock!).
- Do not operate the unit in closed areas or in poorly ventilated rooms unless there is adequate ventilation through exhaust fans or hoses. (Risk of suffocation from carbon monoxide!)
- Do not smoke while the machine is in operation.
- Do not smoke when refuelling the machine.
- Refuel the machine only in a well ventilated area.
- Do not refuel the machine when the engine is running or the machine is still hot.
- Do not refuel the machine near naked flames.
- Do not spill fuel when refuelling.
- Do not crank a gas flooded engine as long as the spark plug is removed- fuel in the cylinder sprays out of the spark plug opening.
- Do not carry out an ignition spark test on engines if the engine is flooded or gas can be smelled. A stray spark could ignite the vapours.
- Do not use fuel to clean machine parts, especially indoors. Vapours from fuels may explode.
- Always keep the area around the muffler free of foreign substances such as leaves, paper, cardboard, etc. A hot muffler could ignite these substances and cause a fire.
- Close the filler cap after refuelling.
- Check the fuel line and tank regularly for leaks and cracks. Do not operate the machine if leaks in the fuel system are known.
- Store fuel only in designated and approved containers.

15.6 Safety instructions for using the charger

- The battery charger is only suitable for charging the machine's battery that is supplied. Charging other batteries is not permitted.
- Never use the charger in a damp or wet environment.
- Only disconnect cable connections by pulling the plug. Pulling on the cable could damage the cable and plug and electrical safety would no longer be guaranteed.
- Never use the charger if the cable, plug or the device itself is damaged by external influences. Then take the charger to the nearest specialist workshop.
- Do not operate the appliance near heat sources.
- Never open the charger. In the event of a fault, contact a specialist workshop.
- Only use the original charger to charge the battery. Using other chargers may cause defects or cause a fire.



15.7 Safety Instructions AKKU / Battery

- Vapours may escape if used improperly or if the batteries are damaged. Supply fresh air and consult a doctor if you have any complaints. The vapours may irritate the respiratory tract.
- DANGER OF FIRE! Never charge batteries in the vicinity of acids and highly flammable materials.
- Only charge the battery in an ambient temperature between 0°C and +40°C. Allow the battery to cool down after heavy charging.
- DANGER OF EXPLOSION! Protect battery from heat and fire.
- Only use the battery in an ambient temperature between 0°C and +45°C.
- DANGER OF SHORT CIRCUIT! For disposal, transport or storage the battery must be packed (plastic bag, box) or the contacts must be taped.
- Never open the battery

15.8 Hazard warnings

Despite intended use, certain residual risks remain.

Remaining risks:

- **Risk of injury due to noise:**

Working for a long time can damage your hearing if you do not have a very good hearing protection.

- **Risk of injury due to the working area:**

Solid objects, stones, metal parts, or the like can be thrown out!

- **Risk to the hands or fingers:**

Do not grab in the cutting tool while it is rotating.

- **Risk of injury due to pick up and roll up:**

Wires and cords can be detected by the cutting tool and can damage the machine and can cause injuries. Unplug battery and safety switch (if equipped) before removing the deposits!

- **Risk of injury due to vibration:**

The declared vibration emission value has been for a standardized test is measured and can be used to compare one tool with another electric are.

The declared vibration emission value may also be used for a preliminary assessment of exposure.

Warning: Emission level of vibration can be different from the specified value during the actual use of the electric tool, depending on the manner in which the power tool is used. When you feel uncomfortable or notice discoloration of skin on your hands during the use of the machine, stop working immediately. Observe sufficient break times to rest. Failure to have sufficient break times may result in a hand-arm vibration syndrome.

The extent of exposure depending on the type of work or machine use should be estimated and appropriate breaks taken. In this way, the extent of exposure can be considerably reduced over the entire work time. Minimize the risk caused by vibrations. Maintain this machine according to the instructions in the manual.

- **Rotating parts**

Be rotating parts (blades) mounted incorrectly, this can lead to serious accidents.

Check before starting work, the cutting blade for tight fit

- **Risk of burns:**

Touching the mufflers, exhaust and other machine components which can be hot after prolonged continuous operation or when the engine is hot cause severe burns.

- **Risk of fire and explosion:**

Gasoline is highly flammable and explosive under certain conditions.

NEVER refuel fuel or engine oil while the machine is in operation or is hot.

When refueling and at places where fuel is stored not smoke or allow open flames or sparks.

Do not overfill the fuel tank and avoid the spillage of gasoline during refueling. If fuel is spilled make sure the area is completely dry and cleaned before starting the engine.

Make sure that the filler cap is tightly closed again after refueling safely.

- **Chemical risks:**

Never use or refuel a gasoline or diesel engine in a closed area without adequate ventilation.

Carbon monoxide emissions from the internal drive units of the engine can cause in confined spaces through inhalation health effects and death. Therefore use the machine only in well-ventilated rooms or outdoors in operation.

Liquid fuels can cause serious damage on the skin and the environment.



These risk factors can be minimized through obeying all security and operation instructions, proper machine maintenance, proficient and appropriate operation by persons with technical knowledge and experience

Due to the design and construction of the machine, hazardous situations may occur which are identified as follows in these operating instructions:

DANGER



A safety instruction designed in this way indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING



Such a safety instruction indicates a potentially hazardous situation which, if not avoided, may result in serious injury or even death.

CAUTION



A safety instruction designed in this way indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE



A safety note designed in this way indicates a potentially dangerous situation which, if not avoided, may result in property damage.

Irrespective of all safety regulations, their sound common sense and corresponding technical suitability/training are and remain the most important safety factor in the error-free operation of the machine. **Safe working depends first and foremost on you!**

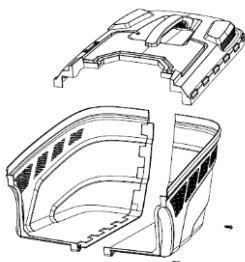
16 ASSEMBLY

16.1 Checking Delivery Content

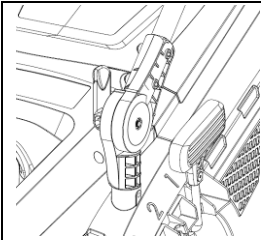
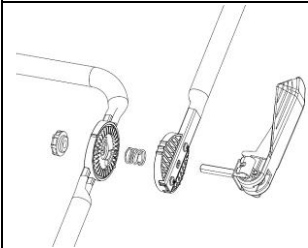
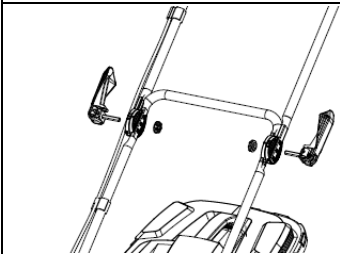
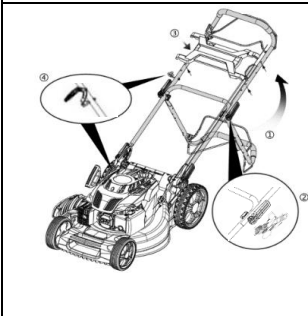
Check the machine immediately after delivery for transport damage and missing parts.

16.2 Assembling the Machine

The machine comes pre-assembled, only the parts dismantled for transport have to be reassembled.



Assemble the parts together and fix them with the 2 screws at the base of the grass box

	<p>Pull up the lower handle and fix the handle with the lower handle clamp.</p>
	<p>Install the upper handle clamp. Turn the clamping loose by hand and then close lever for fixing.</p>
	<p>Fix the upper handle with the upper handle clamp.</p>
	<p>When unfold the mower avoid pinching or trapping any cables!</p>

16.3 Checklist before Start-up

NOTICE



The use of paint thinners, petrol, aggressive chemicals or abrasives leads to material damage to the surfaces! Therefore use only mild detergents for cleaning!

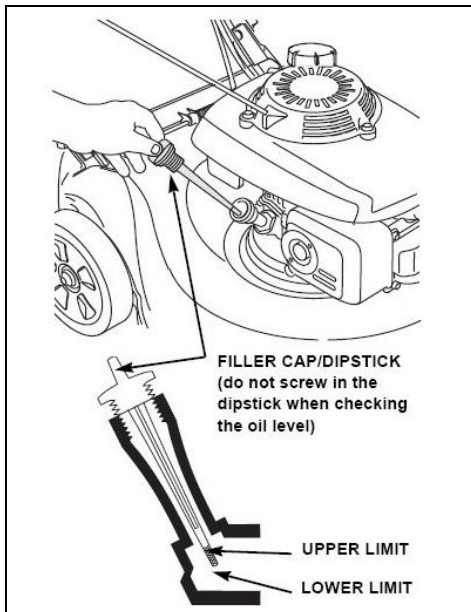
- Clean the machine and remove dirt and grass if necessary.
- If the air filter is dirty, blow the filter cartridge from the inside by moving a jet of dry compressed air up and down. Continue until all dust has been removed. Replace the air filter with a new one if necessary.
- Check the carburettor for external dirt and dust and clean it with dry compressed air if necessary.
- Check the nuts and bolts for tightness, paying particular attention to the knife. (Screws or bolts loosened by vibrations can lead to accidents)

16.3.1 Checking/refilling engine oil

NOTICE



Too low an oil level will damage the engine and shorten the life of the machine. Therefore, check the engine oil level before each start and top up if necessary.



1. To check the engine oil level, place the machine on a safe, level surface. Switch off the engine and allow the machine to stand for ten minutes so that the circulating oil can collect in the oil pan.
2. Unscrew the oil dipstick and wipe it with a clean, lint-free cloth or a non-fibrous paper towel.
3. Push the measuring rod back into the opening as far as it will go, but do not screw it in. (Make sure that the rod has really been pushed in completely - sometimes it cants itself).
4. Pull out the oil dipstick again and read off the oil level. There are two markings for this - see illustration on the left.
5. If the oil level is low, top up recommended oil to the upper limit (maximum filling volume according to technical data).
6. Insert the oil dipstick again and tighten it.

16.3.2 Checking fuel tank level / Refuelling Fuel Tank

NOTICE



Observe the safety regulations for fuel control. Filter the fuel during refuelling to prevent foreign particles from entering the combustion chamber. Wipe up leaked fuel.

Process:

1. Screw on the tank cap (sits on the fuel tank).
2. Level check in the form of a visual inspection. If necessary, top up petrol with the appropriate octane number (RON 95) (maximum tank volume according to technical data).
3. Close the filler cap tightly after refuelling.

17 OPERATION

Only put the machine into operation after you have read and understood the safety instructions and carried out the necessary measures before initial commissioning.

17.1 Informationen on Initial Start-up

NOTICE



The machine is delivered without engine oil and fuel. Make sure that this equipment is filled up before the machine is put into operation for the first time.

17.1.1 Test Run Initial Start-up

- Let the machine run idle for about 3 minutes.
- Watch out for abnormal noises.
- Pay attention to the exhaust fumes (too black, too white)?

17.1.2 Notes for the first 20 operating hours

In order to optimize the life expectancy of your machine, the following points should be observed:





- Spare the engine for the first 20 operating hours (this also applies to used engines after extensive maintenance). This means lower speed and lower maximum working load than during normal operation.
- Change the engine oil after the first 20 hours of operation.

17.2 Operating instructions

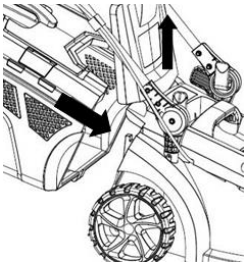
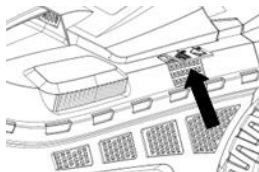
- Never tighten the cable while the engine is running. This will damage the motor.
- The pull mechanism for changing the motor speed is limited by an adjusting screw. This is factory set. Never change this setting on your own, you could overload the motor.
- Under no circumstances should you operate the machine on slopes of more than 20°, as even with an optimum oil level the engine may not be supplied with sufficient lubrication.
- In the direction of the forward movement of the machine and within a range of one meter around the machine, nobody but the operator must stand.
- Pay particular attention to the following particularly dangerous areas:
- Special precautions must be taken when mowing on slopes. Only mow crosswise to the slope, never downwards or upwards, observing the maximum permissible slope angle.
- The cutting height can be adjusted by means of a lever on the machine, adjust it to the respective condition of the lawn to be worked.

17.2.1 Charging the battery for E-Start

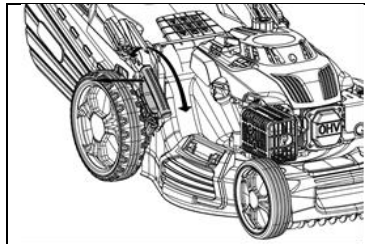
	<ul style="list-style-type: none"> • Connect the charger to the power supply (AC outlet) 230 V / 50 Hz • Connect the charger with the battery • Charge the battery • Once the battery is fully charged disconnect the battery and the charger 	
	<p>LED- indicator light: LED blinkt Grün: Akku wird geladen LED leuchtet Grün: Akku vollständig geladen LED blinkt Rot: Akku oder überhitzt oder Sicherung ist defekt LED leuchtet Rot: Kundenservice kontaktieren</p>	<p>Battery status light: Durch Drücken der Akkuprüftaste (1) neben der Akkuanzeige (2) kann der Ladezustand des Akkus geprüft werden. 4 x LED = vollständig geladen Wenn keine LED mehr leuchtet, Akku aufladen</p>

17.3 Operating

17.3.1 Installing grass box

	<ul style="list-style-type: none"> • Open the rear discharge door. • Lift the grass box by its handle and place under the rear door, so that the hooks on the grass box frame are seated into the slots provided in the handle bracket. . Release the rear door. When installed correctly, the grass box will fit snugly against the rear of the mower and the rear discharge door will fit into the recess in the top of the grass box. 	
	<p>Indicator grass box: The grass box has an indicator on the side of the box. If the indicator is lifted when mowing the grass box is empty. If the indicator is closed the grass box must be emptied.</p>	

17.3.2 Adjusting cutting height



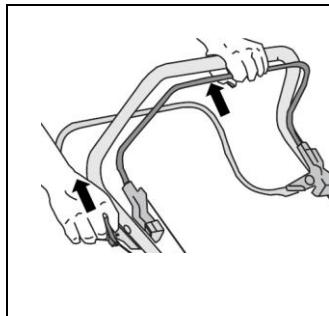
The cutting height is set centrally with one lever

1. Pull the cutting height lever sideways
2. Push the lever in desired position and allow the lever to engage into one of the slots

Lower position: 25mm

Upper position: 70mm

17.3.3 Starting the engine



With Recoil starter

- Pull the engine lever against the push handle.
- Pull out the starter handle briskly
- Guide the starter-handle slowly to the rope guide back as soon as the engine starts.



With E-Start

- Opening the battery drawer
- Place the charged battery on the insertion grooves and push it in until the battery clicks into place
- Closing the battery drawer
- Pull the engine start bracket to the handle
- Press E-start button until engine starts
- Release the E-start button when the engine is running

17.3.4 Stopping the engine



- Release the engine lever to stop the engine and the blades

17.3.5 Activating and de-activating the wheel drive



Wheel drive activating

- Press the drive lever to the push handle and the mower will move forward when the engine is running.

Wheel drive de-activating

- Antriebsbügel (2) loslassen und der Radantrieb wird deaktiviert.



17.4 Changeover to different operating modes

This lawnmower can be modified to 4 operating modes:

1. lawn mower
2. lawn mower with grass catcher
3. a mulch mower or to
4. a lawn mower with side discharge

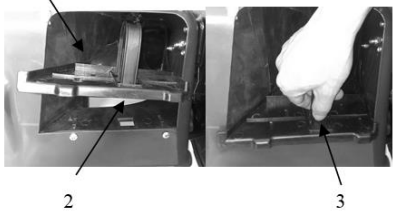
17.4.1 Lawn mower

Use the mower without a collection basket and the lawn is not collected but left on the mowing area.

17.4.2 Mower with grass box

Use the lawn mower with grass box and the lawn is collected in the grass box. The mulching block and side discharge lateral ejection must be removed.

17.4.3 Mower for mulching

	<p>Lift the rear discharge door and remove the grass box. Insert the mulching plug into the opening. Close the rear discharge door.</p>
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What is mulching?

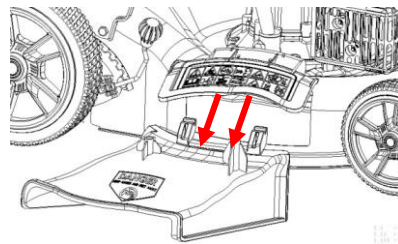
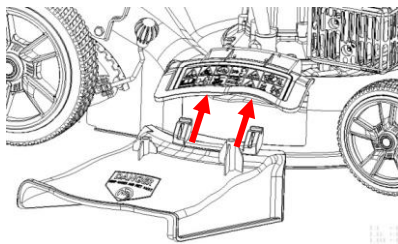
When mulching the grass or foliage is cut in one step, then fine chopped and then ejected as a natural fertilizer again.

Tips to mulch mowing:

- Regular pruning to max. 2 cm (from 6 cm to 4 cm tall grass)
- The blades should be as sharp
- Mow wet grass
- Move the mower at a walking pace
- Regularly clean the mulching plug, the housing interior and the mower blade

17.4.4 Mower with side discharge

- Lift the rear discharge door and remove the grass box.
- Mount the mulching plug
- Lift the cover for side discharge.
- Install the side ejection guide to the holder of the flap.
- Lower the cover - the side discharge will be fixed by the cover
- Seitenklappe senken – die Klappe fixiert nun auf den Seitenauswurf



18 MAINTENANCE

WARNING



Hot surfaces and rotating machine parts while the engine is running can cause serious injury or even death. Always stop the machine before carrying out any conversion, adjustment, cleaning or maintenance work, let it cool down and secure it against unintentional restarting.

18.1 Maintenance and Servicing Plan

What to do?

frequency



Check fuel level	before each start-up
Check engine oil level	before each start-up
Control of the operating elements	before each start-up
Check for damaged parts	before each start-up
Checking for loose or lost screws	before each start-up
Change engine oil	First after 5h or 1 month , then every 3 months or 25h
Air filter cleaning/replacement	every 25h or 3 months
Spark plug test/replacement	every 200 h or 2 years
Fuelfilter cleaning	every 25h or 3 months

The specified intervals refer to working under "normal" operating conditions. Depending on the load, a change/exchange may also be necessary at an earlier point in time.

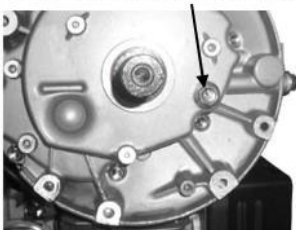
18.2 Changing the engine oil

NOTICE



Engine oil is toxic and must not be released into the environment. When changing, use suitable collecting containers with sufficient volume! Observe the manufacturer's instructions and, if necessary, contact your local authorities for further information regarding proper disposal.

Oil drain screw



Change engine oil:

1. drain the used oil while the engine is warm. Warm oil drains quickly and completely.
2. wipe the oil filling area clean and then remove the oil drain screw.
3. Fill with the recommended oil. Do not overfill! Wait a few minutes for the oil to settle in the engine and only then measure the oil level.

18.3 Blade checking / changing

NOTICE



After assembly, check that the blade screws are firmly tightened. Always wear protective gloves when working on the blade.

18.3.1 Checking the blade

1. Tilt the mower to the right with the air filter side facing up. This helps to avoid fuel leaks and hard starting.
2. Check the blade for damage, cracks and excessive rust or corrosion: a blunt blade can be sharpened, but a blade that is excessively worn, bent, cracked or otherwise damaged must be replaced.

18.3.2 Replacing the blade

1. Remove the screw with a socket wrench. Use a wooden block to prevent the blade from turning when the bolt is removed. Then remove the blade.
2. Mount the blade with the screw and special washers. Be sure to mount the special washers with the concave side facing the blade and the convex side facing the bolt.
3. Tighten the screw with a torque wrench. Use a wooden block to prevent the blade from turning when the screw is tightened.

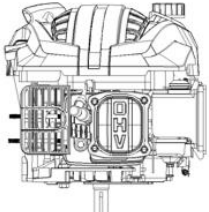


18.4 Cleaning the air filter

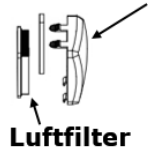
NOTICE



If the engine is operated with or without a damaged air filter, dirt will get into the engine, resulting in rapid engine wear.



Luftfilterabdeckung



Luftfilter

Um den Luftfilter zu reinigen, gehen Sie folgendermaßen vor:

6. Drücken Sie auf die Klemmstücke und entfernen Sie die Luftfilter-Abdeckung.

7. Entnehmen Sie den Filter.

8. Überprüfen Sie den Filter bzw. das Schaumstoffelement und ersetzen Sie es bei Beschädigung.

9. Reinigen Sie den Filter, indem Sie ihn mehrmals auf eine harte Oberfläche klopfen, um Schmutz zu entfernen, oder blasen Sie Druckluft von innen durch den Luftfilter.

Versuchen Sie niemals, Schmutz abzubürsten; durch das Bürsten wird Schmutz in die Fasern gedrückt.

10. Entfernen Sie den Schmutz an der Innenseite der Luftfilterbasis und der Abdeckung mit einem feuchten Lappen ab. Achten Sie darauf, dass kein Schmutz in den Luftkanal gelangt, der zum Vergaser führt.

Montieren Sie den Filter und die Abdeckung wieder

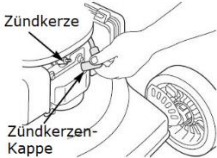
18.5 Cleaning / replacing the spark plug

NOTICE

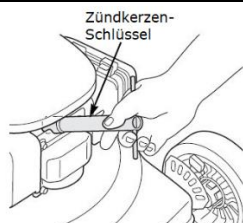


A loose spark plug can overheat and damage the engine. Tightening the spark plug too much can damage the thread in the cylinder head.

For error-free operation, the contact surface of the candle in the cylinder head and the sealing ring of the candle must be clean and free of residues.



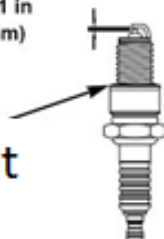
1. Take off the spark plug cap and remove any dirt underneath.



2. Remove the spark plug with a spark plug wrench.
3. Check the spark plug. Replace it if the electrodes are worn out or if the insulator is torn or broken.

0.028 ~ 0.031 in
(0.7 ~ 0.8 mm)

gasket



4. Measure the electrode gap of the spark plug with a suitable measuring device. The distance should be 0.7 - 0.8 mm. If necessary, correct the gap by carefully bending the side electrode with a suitable tool.

5. Fit the spark plug cap.



19 TRANSPORT

WARNING



Never lift or transport the machine with the engine running!

Secure the machine in its position (tying up, jamming the wheels)
Empty fuel tank completely to avoid fuel leakage

20 STORAGE

- To reduce the risk of fire, keep the engine, silencer, battery compartment and fuel tank free of grass, leaves or excessive grease.
- Allow the product to cool for at least 30 minutes before storage.
- Before storage, clean the mower thoroughly and store it in a dry, frost-free place.
- Never store the mower with fuel in the tank inside a building where it can reach an open flame or spark.
- If the fuel tank needs to be emptied, this should be done outdoors.

If the machine is not used for a longer period of time (>30 days):

- Empty the oil or fuel tank.
- Remove the spark plug and pour a few drops of engine oil into the cylinder. Using a rope starter, turn the engine a few times so that the oil is well distributed inside the cylinder. (Clean spark plug before reuse!)

21 CLEANING

NOTICE



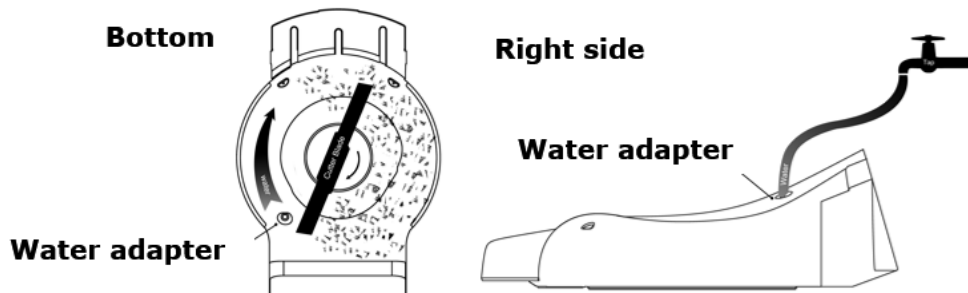
Incorrect cleaning agents can attack the paint on the machine. Do not use solvents, nitro thinner or other cleaning agents that could damage the machine's paint.

Regular cleaning is also a basic rule for the safe operation of the machine and a long lifetime of the machine. Once every season, the drive wheels should be cleaned internally. Remove both wheels. Clean the gear wheel and the wheel gear rim of grass and dirt using a brush or compressed air.

If the machine is stored for longer than 30 days:

Connect a water hose to the water adapter and let the machine run for a short time.

Do not tilt the mower!



22 DISPOSAL



Do not dispose of your machine in residual waste. Contact your local authorities for information on available disposal options. If you buy a new vibratory plate or equivalent from your dealer, he is obliged in certain countries to dispose of your old machine properly.



23 TROUBLESHOOTING

WARNING



Hot surfaces and rotating machine parts while the engine is running can cause serious injury or even death. Switch off the machine before carrying out any troubleshooting work and secure it against unintentional restarting.

failure	Possible cause	Repair
Engine does not start	• Incorrect starting sequence	• Observe the correct starting sequence
	• Dirty air filter	• Clean/replace air filter
	• No fuel supply	• Refuel
	• Fault in the fuel line	• Check the fuel line for kinks or damages
	• Engine flooded.	• Screw off, clean and dry the spark plug. Then pull the cranking rope several times and reinstall the spark plug
	• Spark plug connector not placed on.	• Place on the spark plug connector
	• No ignition spark	• Clean/replace spark plug • Check ignition cable
Engine does not start at E-start	• No/low battery	• Insert/charge battery
Engine starts and is stalled immediately	• Incorrect idle adjustment	• Contact customer service
Machine works with interruptions	• Carburetor incorrectly adjusted	• Contact customer service
	• Spark plug fouled	• Clean/replace spark plug • Check spark plug connector
Smoke	• Incorrect fuel	• Use correct fuel
	• Carburetor incorrectly adjusted	• Contact customer service
Machine does not work with full performance	• Machine overloaded	• Grass too tough
	• Dirty air filter	• Clean/replace air filter
	• Carburetor incorrectly adjusted	• Contact customer service
Rough running, vibrations	• Loose blade screw	• Tighten blade screw
	• Damaged or unbalanced blade	• Balance or replace blade
Low quality cut	• Foreign material/grass wrapped, around the blade	• Remove Foreign material/grass
	• To high grass	• Set to correct cutting height
Poor pickup of the grass	• Wrong cutting height	• Set to correct cutting height
	• Blade worn	• Replace blade
	• Full grass box	• Empty grass box