

iMOW® 5.0 EVO,
6.0 EVO,
7.0 EVO

STIHL



2 - 52

Instruction Manual



WARNING

Read Instruction Manual thoroughly before use and follow all safety precautions – improper use can cause serious or fatal injury.



ADVERTENCIA

Antes de usar la máquina lea y siga todas las precauciones de seguridad dadas en el manual de instrucciones – el uso incorrecto puede causar lesiones graves o mortales.



Contents

1	Introduction.....	2
2	Guide to Using this Manual.....	2
3	Main Parts.....	3
4	Safety Symbols.....	5
5	IMPORTANT SAFETY INSTRUCTIONS....	6
6	Battery Safety.....	10
7	Docking Station and Power Supply Safety	11
8	Maintenance, Repair and Storage.....	13
9	Operating Principle.....	14
10	Before Starting Work.....	15
11	Installing the Docking Station.....	16
12	Installing the Perimeter Wire.....	23
13	Completing the Perimeter Wire Installation	31
14	Installing the Guide Wire.....	34
15	Electrically Connecting the Docking Station	35
16	Charging the Robotic Mower.....	37
17	Closing the Bluetooth® Interface.....	38
18	Light Patterns on the Robotic Mower and Docking Station.....	39
19	Operating and Adjusting the Robotic Mower	39
20	Stopping the Robotic Mower and Activating the Disabling Device.....	41
21	Transporting.....	41
22	Storing the Robotic Mower and Docking Station.....	42
23	Cleaning.....	43
24	Inspection and Maintenance.....	44
25	Troubleshooting Guide.....	47
26	Specifications.....	47
27	Replacement Parts and Equipment.....	50
28	Disposal.....	51
29	Limited Warranty.....	51
30	Trademarks.....	51
31	Addresses.....	52
32	Open Source Software.....	52

1 Introduction

Thank you for your purchase. The information contained in this manual will help you receive maximum performance and satisfaction from your STIHL robotic mower and, if followed, reduce the risk of injury from its use.

IMPORTANT

READ CAREFULLY BEFORE USE

KEEP FOR FUTURE REFERENCE



Because a robotic mower is a high-speed cutting tool, designed for operation independent from the active control or supervision of an operator, special safety precautions must be observed to reduce the risk of personal injury.

Read this instruction manual thoroughly before setting up your robotic mower and periodically thereafter. Follow all safety precautions. Careless or improper use of the robotic mower can cause serious or fatal injury.

This robotic mower has a GPS receiver and can also connect to the Internet over a cellular network, allowing the operator to track mowing activity and modify certain settings using the STIHL MYiMOW® app.

For convenience, a Quick Reference Guide is included with your iMOW®. It contains basic information about installation. Detailed information is provided in the respective chapters of this manual.

Discuss activation, setup, and operation of your robotic mower with your authorized STIHL iMOW® servicing dealer. Use the MYiMOW® app to activate the robotic mower and configure your mowing settings. STIHL recommends having an authorized STIHL iMOW® servicing dealer install your docking station and mowing area.

Do not lend or rent your robotic mower without this instruction manual. Allow only persons who fully understand the information in this manual to set up, operate or maintain the robotic mower. The operator must be familiar with the robotic mower's controls before starting work. The operator is responsible for accidents or hazards occurring to other people or their property.

For further information, or if you do not understand any of the instructions in this manual, please refer to the MYiMOW® app, go to www.stihlusa.com or info.myimow.stihl.com or contact your authorized STIHL iMOW® servicing dealer.

2 Guide to Using this Manual

2.1 Signal Words

This manual contains safety information that requires your special attention. Such information is introduced with the following symbols and signal words:

**DANGER**

- Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING**

- Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

- Indicates a risk of property damage, including damage to the machine or its individual components.

2.2 Symbols in Text

The following symbol is included to assist you with the use of the manual:



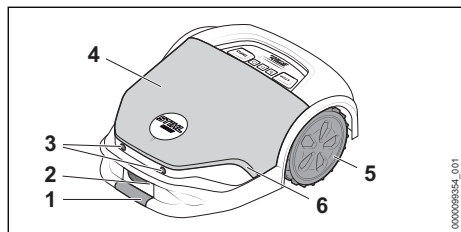
Refers to a designated chapter or sub-chapter in this instruction manual.

2.3 Important Terminology

The terms "operation", "use" and "usage" in this manual include all work on the robotic mower, docking station, power supply, connecting cord, guide wire and perimeter wire as well as all iMOW® accessories.

3 Main Parts

3.1 Robotic Mower



- 1 Front Carrying Handle (Integrated)**
Lift and transport the robotic mower by simultaneously grasping the integrated front and rear handles.
- 2 Charging Contacts**
Electrical contacts in the robotic mower for connecting to the docking station for charging.
- 3 Ultrasound Sensors**
Detect obstacles.

4 Hood

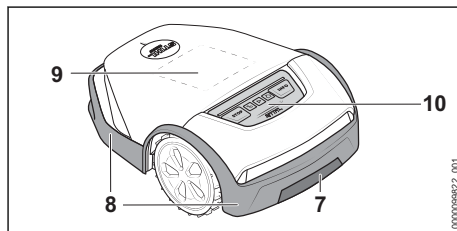
Covers the mower's internal parts and features a bump sensor to detect obstacles in the mowing area.

5 Rear Wheels

The mower's drive wheels.

6 Light Strip

Shows the robotic mower's status.



7 Rear Carrying Handle (Integrated)

Lift and transport the robotic mower by simultaneously grasping the integrated front and rear handles.

8 Protective Strip

Reduces the risk of thrown objects and inadvertent blade contact.

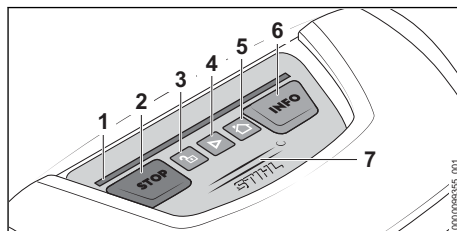
9 Matrix Display

Shows the robotic mower's status.

10 Control Panel

The control panel features push buttons and a rain sensor.

3.2 Control Panel



1 Light Strip

Shows the robotic mower's status and signals which key combination to press for a certain action.

2 STOP Button

Pressing the button stops the robotic mower and mowing blades. Holding the button activates the disabling device.

3 UNLOCK Button

Unlocks the robotic mower when pressed with the keys indicated by the light strip.

4 START Button

Starts mowing operations.

5 HOME Button

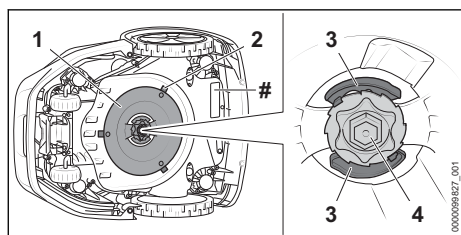
Returns the robotic mower to the docking station or cancels the current mowing job if the robotic mower is in the docking station.

6 INFO Button

Starts voice output about the current status of the robotic mower.

7 Rain Sensor

Detects rain and moisture and adjusts the mowing plan accordingly, based on user preferences.

3.3 Mowing Deck**1 Blade Disk**

Serves to attach the mowing blades.

2 Mowing Blades

Metal blades for cutting grass.

3 Levers

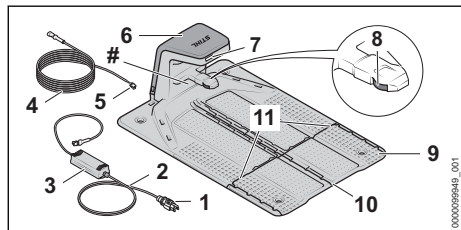
The levers secure the nut.

4 Nut

The nut secures the blade disk.

Rating Plate

Contains electrical information and the product's serial number.

3.4 Docking Station and Power Supply**1 Plug**

Connects the power supply cord to an electrical outlet.

2 Power Supply Cord

Supplies the docking station with electricity when plugged into an electrical outlet.

3 Power Supply

Supplies electricity to the docking station when plugged into an electrical outlet.

4 Connecting Cord

Connects the power supply to the docking station.

5 Connector

Connects the power supply cord to the docking station.

6 Cover

Covers the charging contacts and other electronics of the docking station.

7 LED

Indicates the operating status of the docking station and perimeter wire signal.

8 Charging Contacts

Electrical contacts for connecting the docking station to the robotic mower for charging.

9 Base Plate

Base of the docking station.

10 Middle Wire Channel

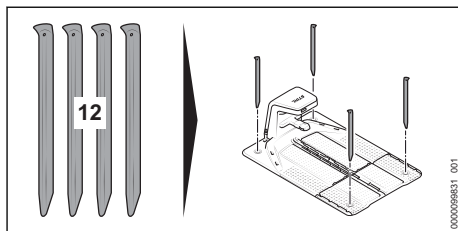
For securing the guide wire in the base plate. The guide wire is routed in the middle wire channel.

11 Outer Wire Channel

For securing the perimeter wire in the base plate. The perimeter wire is routed in the outer wire channel.

Rating Plate

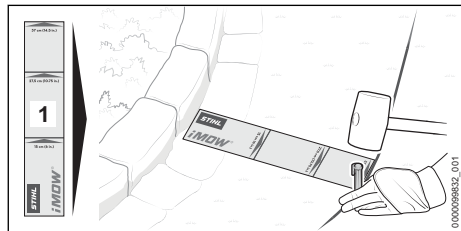
Contains electrical information and the product's serial number.

**12 Ground Stakes**

Four ground stakes secure the docking station to the ground.

3.5 iMOW® Ruler and Installation Kit

iMOW® Ruler

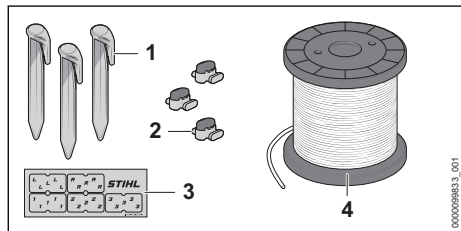


1 iMOW® Ruler

Helps ensure proper spacing when installing the perimeter wire.

Installation Kit (Accessory)

An installation kit is required to set up the mowing area and use the robotic mower. Appropriate installation kits are available as accessories for different garden sizes.



1 Wire Stakes

Used to secure the perimeter wire and guide wire.

2 Wire Connectors

Electrical connectors used to link sections of perimeter wire and guide wire.

3 Cable Markers

Serve to mark wire ends on the inside of the docking station. They facilitate the assignment of the wire ends when connecting to the correct terminal.

4 Wire Coil

The wire coil is required to install the perimeter wire and guide wire.

4 Safety Symbols

4.1 Robotic Mower, Docking Station, Power Supply and Battery

The following safety symbols are found on the robotic mower, docking station, power supply and/or battery:



To reduce the risk of injury, follow the specified safety precautions.



Read and follow all safety precautions in the instruction manual. Improper use can lead to serious or fatal personal injury or property damage.



Wear goggles or close-fitting protective glasses with adequate side protection that are impact-rated and marked as complying with ANSI Z87 "+" when setting up or servicing the robotic mower and anytime you are in the mowing area during operation, [§ 5.3](#).



To reduce the risk of personal injury from thrown objects, inspect the mowing area and remove stones, pieces of metal, glass, wire and other objects that could be thrown by the blades, [§ 5.5.3](#).



To reduce the risk of laceration injuries, keep hands, feet and other body parts away from the mowing blades. Never put hands or feet under the mower, particularly during operation. Never attempt to clear clippings or debris from the blade disk, mowing blades or from under the mowing deck without first switching off the robotic mower and activating the disabling device, [§ 5.5.3](#).



To reduce the risk of personal injury, keep bystanders, especially children, and animals away from the robotic mower during operation. Do not operate the robotic mower when children or pets are or may be in the mowing area or vicinity, [§ 5.5.3](#).



To reduce the risk of personal injury, keep children away from the mower during operation. Do not operate the mower when children are or may be in the mowing area or vicinity, [§ 5.5.3](#).



To reduce the risk of injury to animals, keep dogs and other pets away from the mower during operation. Do not operate the mower when animals are or may be in the mowing area or vicinity, 5.5.3.



Never stand on, sit on or attempt to ride the robotic mower or allow others to do so. Serious personal injury and damage to the robotic mower could result, 5.5.3.



Never immerse the robotic mower in water or other liquids, 5.4.



Always disable the robotic mower by activating the disabling device before lifting, transporting, storing, cleaning, inspecting, servicing, repairing, or when there is changed or unusual behavior, 5.5.3.



To reduce the risk of personal injury or property damage from a short circuit, fire or explosion, never remove the battery from the robotic mower. Never attempt to immerse the battery in water or other liquids, 6.1.



To reduce the risk of personal injury or property damage from fire, explosion or burns, including chemical burns, do not disassemble the battery or attempt to crush, drop, damage or heat it above 212 °F (100 °C). Never expose the robotic mower or its battery to fire or incinerate, 6.1.

5 IMPORTANT SAFETY INSTRUCTIONS

5.1 Intended Use

WARNING

- This robotic mower is intended for autonomous, programmable lawn care. Use for other purposes may increase the risk of personal injury and property damage.
- The STIHL docking station and the DM160A-420A and DM210A-420A power supply units are designed for charging the STIHL AAL lithium ion battery inside the robotic mower and supplying low voltage electrical current to the perimeter wire and guide wire. Use of the docking station or power supply for

any purpose not authorized or intended may result in serious injury or death.

- Improper or unauthorized use of the robotic mower, its battery, or docking station and power supply could result in personal injury or property damage. Use the robotic mower, docking station and power supply only as described in this manual.
- The battery is installed in the robotic mower at the factory and should only be removed by an authorized STIHL iMOW® servicing dealer.
- The robotic mower must be activated with the MYiMOW® app. You can also configure the robotic mower in the app.

5.2 Installer / Operator

WARNING

- The installer must be in good physical condition and mental health. To reduce the risk of personal injury:
 - Do not install while under the influence of any substance (drug, alcohol or medication, etc.) that might impair vision, balance, dexterity or judgment.
- The operator must recognize and assess the risks involved in using the robotic mower, docking station and power supply.
- Do not permit minors to set up or control the robotic mower or any of its components.
- During installation, operation, cleaning, maintenance and transportation of the robotic mower, keep your balance, maintain secure footing and do not run.
- According to STIHL's current information, the electric motor of this robotic mower should not interfere with a pacemaker.
 - However, persons with a pacemaker or other implanted medical device should consult their physician and device manufacturer before operating this robotic mower.

5.3 Personal Protective Equipment

WARNING

- To reduce the risk of personal injury, always wear proper clothing and protective apparel when:
 - Installing the docking station and setting up the robotic mower for operation
 - Installing or repairing the perimeter wire
 - Entering the mowing area or approaching the mower while in operation
 - Replacing the mowing blades
 - Inspecting or cleaning the robotic mower

- To reduce the risk of eye injury:



Wear goggles or close-fitting protective glasses with adequate side protection that are impact-rated and marked as complying with ANSI Z87 "+" when setting up the docking station and robotic mower, installing or repairing the perimeter wire, inspecting or cleaning the mower, replacing the mowing blades and any time you are in the mowing area during operation.

- Good footing is very important. To help maintain a secure footing and reduce the risk of injury:

- Always wear substantial footwear with non-slip soles. Do not wear sandals, flip-flops, open-toed or similar footwear.

- To improve your grip and help protect your hands:

- Always wear heavy-duty, non-slip work gloves made of leather or another wear resistant material when setting up the docking station and robotic mower, installing or repairing the perimeter wire, inspecting or cleaning the mower, replacing the mowing blades and any other time you are handling the robotic mower.

- To reduce the risk of personal injury:

- Wear long pants to perform any installation, setup, inspection, service, maintenance or cleaning activities.
- Secure hair above shoulder level before performing any installation, setup, inspection, service, maintenance or cleaning activities, and before approaching the robotic mower while in operation.

5.4 Robotic Mower

▲ WARNING

- Serious laceration injuries will result if the mowing blades contact you while they are moving. To reduce the risk of such injuries:
 - Keep hands, feet and other parts of your body away from the mowing blades.
 - Never touch the moving mowing blades with your hand or any other part of your body.
- To reduce the risk of personal injury to the operator and bystanders:



- Always activate the disabling device before assembling, transporting, adjusting, inspecting, cleaning, servicing, maintaining or storing.
- Never lift the robotic mower or reach under the hood to clear clippings or debris, or for any other reason, without first activating the disabling device and confirming that the mowing blades have come to a complete stop.

- Although certain unauthorized attachments may fit STIHL robotic mowers, their use may be extremely dangerous. Only attachments supplied by STIHL or expressly approved by STIHL for use with this specific iMOW® model are recommended.

- Use only attachments supplied or expressly approved by STIHL.

- Never modify this robotic mower or its software in any way.

- Never attempt to modify or override the robotic mower's controls or safety devices in any way.

- Never use a robotic mower that has been modified or altered from its original design.

- If the robotic mower is dropped or subjected to similar heavy impacts:

- Check that it is undamaged, in good condition and functioning properly before continuing work.

- Check that the controls and safety devices are working properly.

- Check the MYiMOW® app for error messages.

- Never work with a damaged or malfunctioning robotic mower.

- Never use or charge a robotic mower if the hood or housing is cracked, deformed or excessively hot, if battery fluid is leaking from the battery compartment, or if the battery is otherwise damaged. A damaged battery increases the risk of personal injury and property damage from short circuit, fire or explosion.

- In case of doubt, have the robotic mower checked by your authorized STIHL iMOW® servicing dealer before using it.

- If the robotic mower is damaged, not working properly or has been immersed in water or

other liquids, its components, including its battery, may no longer function properly and safety devices may be inoperative. To reduce the risk of personal injury and property damage:



- Never immerse the robotic mower in water or other liquids.

– Take the robotic mower to your authorized STIHL iMOW® servicing dealer to be checked before further use.

- Genuine STIHL replacement parts are specifically designed to match your robotic mower and meet safety and performance requirements. Use of parts that are not authorized or approved by STIHL may cause serious or fatal injury or property damage.
 - STIHL recommends that only identical replacement parts be used.

5.5 Using the Robotic Mower

5.5.1 Before Operation

▲ WARNING

- Misuse or unauthorized use may result in personal injury and property damage.
 - Use the robotic mower only as described in this instruction manual.
 - With the help of the perimeter wire, define the mowing area as described in this instruction manual. Using the perimeter wire, mark off designated areas that the robotic mower must not mow.
 - Do not operate the robotic mower on gravel or crushed stone.
- The perimeter wire, guide wire or the wire stakes may pose a tripping hazard if they are improperly installed.
 - Route the perimeter wire and guide wire flat on the ground.
 - Drive the wire stakes completely into the ground at the recommended intervals, ensuring that the wire is secure and flat.
- If a gardening tool is used in the mowing area, the tool can strike and damage the perimeter wire, guide wire or wire stakes. Objects can be ejected at high speed. This may result in personal injury and property damage.
 - Avoid contacting the perimeter wire when de-thatching or aerating the lawn. Also use caution when operating a line trimmer near the perimeter wire.

- Severe weather can damage the robotic mower or blow debris and foreign objects into the mowing area. To reduce the risk of property damage and personal injury from thrown objects:
 - After a storm or severe weather, check that the robotic mower is functioning properly and is in good condition.
 - Remove any foreign objects from the mowing area.

- Using a robotic mower that is modified, damaged, improperly adjusted or maintained, or not completely and securely assembled can lead to a malfunction and increase the risk of serious personal injury or death.
 - Never operate a robotic mower that is modified, damaged, improperly maintained or not completely and properly assembled.
 - Regularly check your robotic mower for proper condition and operation.
 - Never attempt to modify or override the controls or safety devices in any way.
 - If your robotic mower or any part is damaged or does not function properly, take it to your authorized STIHL iMOW® servicing dealer. Do not use the robotic mower until the problem has been corrected.
- To help reduce the risk of serious personal injury or death from unintentional starting:
 - Always activate the disabling device before assembling, transporting, adjusting, inspecting, cleaning, servicing, maintaining or storing the robotic mower.



5.5.2 Working Conditions

▲ WARNING

- Sparks generated from operation of the robotic mower may be capable of igniting combustible gases, liquids, vapors, dusts or other combustible materials and substances. To reduce the risk of fire and explosion:
 - Never operate the robotic mower in a location where combustible gases, liquids, vapors, dusts or other combustible materials and substances are present.
 - Read and follow recommendations issued by government authorities (e.g., OSHA) for identifying and avoiding the hazards of combustible gases, liquids, vapors, dusts or other combustible materials and substances.

- If a rotating metal blade strikes a rock or other hard object, sparks may be created, which can ignite flammable materials under certain circumstances. Flammable materials can include dry vegetation and brush, particularly when weather conditions are hot and dry.
 - When there is a risk of fire or wildfire, do not use the robotic mower around flammable materials or around dry vegetation or brush.
 - Contact your local fire authorities or the U.S. Forest Service if you have any question about whether vegetation and weather conditions are suitable for the use of a metal blade.
 - Use of this robotic mower can generate dust and other substances containing chemicals known to cause respiratory problems, cancer, birth defects and other reproductive harm.
 - Consult governmental agencies such as EPA, OSHA, CARB and NIOSH and other authoritative sources on hazardous materials if you are unfamiliar with the risks associated with the particular substances you are cutting or with which you are working.
 - Inhalation of certain dusts, especially organic dusts such as mold or pollen, can cause susceptible persons to have an allergic or asthmatic reaction. Substantial or repeated inhalation of dust or other airborne contaminants, especially those with a smaller particle size, may cause respiratory or other illnesses.
 - Control dust at the source where possible.
 - When respirable dust or other particulate matter cannot be kept at or near background levels, always wear a respirator that is approved by NIOSH and rated for worksite-specific conditions when entering the mowing area. Follow the recommendations of governmental authorities (e.g., OSHA/NIOSH) and occupational and trade associations.
 - If the vegetation being cut or the surrounding ground is coated with a chemical substance, such as a pesticide, fertilizer or herbicide:
 - Read and follow the instructions and warnings that accompanied the substance coating the vegetation or surrounding ground.
- MOW® app. To reduce the risk of personal injury:
- Keep bystanders, especially children, and pets out of the mowing area during operation.
 - Do not operate the mower when children or pets are or may be in the mowing area or vicinity.
- In the event of an emergency:
 - Push the STOP button to stop the mower and its cutting attachment. Unlock by pushing the UNLOCK button and the key combination indicated by the light strip.
 - The mowing blades continue to rotate for a short period after the motor is switched off. This is known as the "flywheel effect." To reduce the risk of serious personal injury from contact with the cutting attachment:
 - Activate the disabling device and wait for the mowing blades to stop before lifting or carrying the mower. Never attempt to lift or tilt the robotic mower while it is running.
 - The rotating mowing blades may throw or fling foreign objects directly or by ricochet. Objects that are thrown or flung, including broken blades, may result in serious or fatal injury to the operator or bystanders. To reduce the risk of severe personal injury:



- Inspect the mowing area. Remove stones, pieces of metal, glass, wire or other objects that could be thrown or flung by the cutting attachment, damage the cutting attachment or cause damage to property (e.g., parked vehicles, windows).
- Remove objects from the mowing area such as toys, balls, lawn furniture, landscape ornaments, flower pots, garden hoses, lawn equipment and anything else that could impede the proper operation of the robotic mower or become entangled in its blades.

5.5.3 Operating Instructions

▲ WARNING

- You will be able to start the robotic mower or change its mowing plan through the MYI-



- Keep bystanders, especially children, and pets away from the mower during operation. Any person who enters the mowing area during operation of the mower must wear proper eye protection and proper protective equipment as specified in this instruction manual.
- Never allow the robotic mower to operate if you know that animals or persons are or may be in the mowing area.
- Never allow children or anyone else to ride on, approach or play with the robotic mower. Keep children and other bystanders out of the mowing area while the mower is in operation.

■ Activate the disabling device:



- Before lifting, carrying or transporting the robotic mower.
- Before removing blockages or objects near the mower deck or mowing blades.
- Before mounting, removing, inspecting or cleaning the mowing blades.
- Before reaching under the mower for any reason.
- Before checking or cleaning the robotic mower.

- Stop and inspect the robotic mower for damage if it hits a foreign object or exhibits unusual operating behavior, such as abnormal vibration. After disabling the robotic mower, inspect the cutting assembly (mowing blades, nut and blade disk). If the unit continues to function abnormally, take it to an authorized STIHL iMOW® servicing dealer for service before restarting and allowing the robotic mower to operate.

- To reduce the risk of severe personal injuries from unintentional starting:



- Never touch the mowing blades with your hands, feet or any other part of your body without first deactivating the machine. Activate the disabling device and confirm that the mowing blades have stopped.

- Damaged or loose mowing blades may vibrate, crack, break or come off the robotic

mower, which may result in serious or fatal injury.

- Make sure the mowing blades are undamaged and properly mounted before starting work.
- If the mowing blades loosen after being properly mounted, stop work immediately and have the robotic mower repaired by your authorized STIHL iMOW® servicing dealer.
- Never use a robotic mower with loose or damaged blades.

⚠ DANGER

- To reduce risk of electrocution:



- Never operate this robotic mower in the vicinity of any wires or cables that may be carrying electric current. Look carefully for concealed wires before starting work.

6 Battery Safety

6.1 Warnings and Instructions

The battery is installed in the robotic mower at the factory and may be removed only by an authorized STIHL iMOW® servicing dealer.

⚠ WARNING

- Read and follow the safety precautions on the battery and all warnings and instructions in this manual.
- Use of unauthorized batteries can damage the power tool and result in fire, explosion and personal injury and property damage.
 - Use only genuine STIHL AAI series batteries with this robotic mower.
 - Have the battery removed by an authorized STIHL iMOW® servicing dealer when the battery is depleted or the mower reaches the end of its useful life. Never attempt to remove the battery or open the robotic mower's hood for any reason.
- Use of STIHL AAI series batteries for any purpose other than powering this STIHL robotic mower could be extremely dangerous.
- Use of an unauthorized charging device can damage the battery and result in fire, explosion and personal injury and property damage.
 - Charge the battery inside the robotic mower only with a genuine STIHL docking station and either the DM160A-420A or DM210A-420A power supply.

- The battery contains safety features and devices which, if damaged, may allow the battery to generate heat, rupture, leak, ignite or explode.



- Never heat the battery above 212 °F (100 °C).
 - Never incinerate or place the battery on or near fires, stoves or other high-temperature locations.
- Never use or charge a malfunctioning, damaged, cracked, leaking or deformed battery.
- Never open, disassemble, crush, drop, subject to heavy impact or otherwise damage the battery.
- Never expose the battery to microwaves or high pressures.
- Never insert objects into the battery's cooling slots.
- Extreme temperatures may cause the battery to generate heat, rupture, leak, ignite or explode, resulting in severe or fatal personal injury and property damage.
 - Never charge, use or store the battery outside the specified ambient temperature limits, 26.6.
- To reduce the risk of personal injury and property damage in the event the battery emits smoke, has an unusual smell or feels unusually hot while using, charging or storing:
 - Immediately discontinue using or charging the battery. Contact the authorities in the event of fire or explosion.
- To reduce the risk of a short circuit, which could lead to electric shock, fire and explosion:



- Keep the battery dry.
 - Never immerse any STIHL battery in water or other liquids.
- Never bridge the battery terminals with wires or other metallic objects.
- Protect the battery from exposure to corrosive agents such as garden chemicals and de-icing salts.
- Protect the battery from exposure to conductive liquids such as salt water.
- Do not attempt to repair, open or disassemble the battery. There are no user-serviceable parts inside.
- Leaking battery fluid is potentially harmful and can cause skin and eye irritation, chemical burns and other serious personal injury.
 - Avoid contact with skin and eyes.
 - Use an inert absorbent such as sand on spilled battery fluid.
 - In the event of accidental contact, immediately rinse the contact area thoroughly with mild soap and water.
 - If fluid gets into your eye(s): do not rub. Rinse water over the open eye(s) for at least 15 minutes and seek medical attention.
- A battery fire can be dangerous. To reduce the risk of severe personal injury and property damage in the event of fire:
 - Evacuate the area. Fire can spread rapidly. Stay clear of any vapors generated and maintain a safe distance.
 - Contact the fire department.
 - Although water can be used to put out a battery fire, use of a multi-purpose dry chemical fire extinguisher is preferable.
 - Consult the fire department regarding proper disposal of a burned battery.


7 Docking Station and Power Supply Safety

7.1 Warnings and Instructions

WARNING

- To reduce the risk of fire, electric shock and other personal injury or property damage:
 - Read and follow all cautionary markings on the docking station, power supply, robotic mower and battery and all instructions in this manual before using the docking station.
 - Use the STIHL Docking Station and DM160A-420A or DM210A-420A power supply units only for charging the STIHL iMOW® 5.0 EVO, 6.0 EVO, 7.0 EVO robotic mower. Using the docking station or power supply for other purposes is prohibited and may lead to fire, explosion or electric shock, resulting in serious or fatal personal injury and property damage.
 - Do not handle the docking station or power supply with wet hands.
 - Never use a damaged or improperly functioning docking station or power supply.
 - Never use or charge a robotic mower if the hood or housing is cracked, deformed or excessively hot, if battery fluid is leaking from the battery compartment, or if the battery is otherwise damaged. A damaged battery increases the risk of personal

injury and property damage from short circuit, fire or explosion.

- Operate the docking station and power supply only within the specified ambient temperature limits,  26.6.
- Children should be supervised by a responsible person to ensure that they do not play with the docking station or power supply.
- Connect the power supply cord only to a properly covered Class A Ground Fault Circuit Interrupter (GFCI) receptacle that has an enclosure that is weatherproof with an attachment plug cap inserted or removed. Do not use with receptacles that are weatherproof only when the receptacle is covered (attachment plug cap not inserted and receptacle cover closed).
- If too many devices are connected to a power strip, electrical components can be overloaded during charging, leading to overheating and fire. If using a power strip, never exceed its total capacity.
- Do not operate a docking station or power supply that has received a sharp or heavy blow, has been dropped or is otherwise damaged or not functioning properly in any way.
- Do not attempt to repair, open or disassemble the docking station or power supply. There are no user-serviceable parts inside.
- To reduce the risk of electric shock or fire from a short circuit:
 - Never bridge the charging contacts of the docking station with wires or other metallic objects.
- The docking station and power supply heat up during the charging process. To reduce the risk of fire:
 - Allow the docking station and power supply to cool down normally. Do not cover them.
- The docking station can produce sparks which may ignite combustible gases, liquids, vapors, dusts or other combustible materials. To reduce the risk of fire and explosion:
 - Do not operate in a location where combustible gases, liquids, vapors, dusts or other combustible materials are present.
- Using a damaged power supply cord or plug may result in fire, electric shock and other serious personal injury or property damage. To reduce these risks:



- Check the power supply cord and plug before use and regularly thereafter for damage. If damaged, immediately disconnect from the electrical outlet.

- Replace the power supply if the power supply cord or plug or housing is damaged. The connecting cord can be replaced separately.
- Unplug the power supply from the electrical outlet when the docking station is not in use for charging or mowing operations.
- Never jerk the power supply cord to disconnect it from the electrical outlet. To unplug, grasp the plug, not the power supply cord.
- Do not use the power supply cord for carrying or hanging up the power supply.
- Make sure the power supply cord is located or marked so that it will not be stepped on, tripped over, come in contact with sharp objects or moving parts, or otherwise be subjected to damage or stress.
- An extension cord should not be used unless absolutely necessary. Overloading an extension cord can result in overheating and fire. If an extension cord must be used:
 - Use only a properly wired 16 gauge (AWG 16) or heavier gauge extension cord and the cord length should not exceed 75 ft.
 - Never use an extension cord with a wattage rating lower than the wattage on your power supply's rating plate.
 - Never use an extension cord if the blades on its plug are different from the blades on the charger plug in number, size or shape.
 - Do not link (chain) extension cords.
- In case of fire, or if the docking station or power supply emits smoke, has an unusual smell, feels hot or appears abnormal in any other way:
 - Immediately disconnect the power supply from the outlet and prepare to contact the authorities in the event of fire or explosion.
 - Have the docking station and power supply inspected and repaired by an authorized STIHL iMOW® servicing dealer before use.
- To reduce the risk of electric shock and other personal injury or property damage when mounting the power supply:
 - Ensure that no electrical cables, pipes or other service lines run behind the wall where the power supply is to be mounted.

- Mount the charger only as described in this manual.

- Fluctuations in the electrical supply may damage the power supply or result in improper functioning of the robotic mower.
 - Always connect the power supply to a properly installed electrical outlet.

⚠ WARNING

- To reduce the risk of fire, electric shock and other personal injury or property damage:
 - Insert the power supply only into a covered Class A GFCI receptacle that has an enclosure that is weatherproof with an attachment plug cap inserted or removed. Do not use with receptacles that are weatherproof only when the receptacle is covered (attachment plug cap not inserted and receptacle cover closed).
 - Mount the power supply unit at a height greater than 1 foot (0.3 m) from the ground surface.
 - Route the connecting cord and power supply cord so that they are not on a permanently wet surface.
 - Set up the docking station and power supply in a location where they will not be damaged by other landscaping activities, such as trimming or edging.
 - Route the connecting cord and power supply cord so that they are outside of the mowing area on a flat surface.
 - Do not cover the power supply.
 - Do not bury the power supply in the ground.
 - Do not sit on the docking station.
 - Do not stand on the base plate of the docking station.
- To reduce the risk of personal injury or property damage:
 - Return the robotic mower to the docking station and disconnect the power supply from the power receptacle if there is a threat of lightning strikes in the vicinity.
- The housing of the power supply can get very hot in direct sunlight. To reduce the risk of burn injuries:



⚠ DANGER

- Using a damaged power supply cord or plug may result in fire, electric shock and other per-

sonal injury or property damage. To reduce the risk of electrocution:



- Check the power supply cord and plug regularly for damage. If they become damaged, immediately disconnect from the electrical outlet. Never use a damaged power supply cord or plug.
- Do not abrade, crush, jerk, or otherwise abuse or misuse the power supply cord or plug. Protect it from heat, oil and sharp edges.
- If the power supply cord or plug becomes damaged, replace the power supply.
- Unplug the power supply cord when the docking station is not in use.
- Never yank or jerk the power supply cord to disconnect. To unplug, grasp the plug, not the power supply cord.
- Make sure the power supply cord is positioned and secured or marked so that it will not be stepped on, tripped over, come in contact with sharp objects, moving parts, or otherwise be subjected to damage or stress.

⚠ CAUTION

- To reduce the risk of fire:
 - Use only on circuits provided with 20 ampere branch-circuit protection in accordance with the National Electrical Code, ANSI/NFPA 70.

8 Maintenance, Repair and Storage

8.1 Warnings and Instructions

⚠ WARNING

- There are no user-authorized repairs for the robotic mower, docking station or power supply. To reduce the risk of fire, electric shock or other personal injury and property damage:
 - Users may carry out only the cleaning and maintenance operations described in this manual.
 - Strictly follow the cleaning and maintenance instructions in the appropriate sections of this instruction manual.

- STIHL recommends that all repair work be performed by authorized STIHL iMOW® servicing dealers.
- Maintain and replace warning and instruction labels as necessary.
- Unintentional starting may result in personal injury or property damage. To reduce the risk of personal injury and property damage from unintentional starting:



- Activate the disabling device before assembling, transporting, adjusting, inspecting, cleaning, servicing, maintaining or storing the robotic mower.

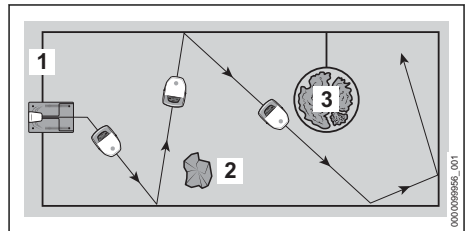
- The mowing blades are the only user-serviceable parts on the robotic mower.
 - Wear heavy-duty, non-slip work gloves made of leather or another wear resistant material when handling the mowing blades.
 - Replace the mowing blades when they become worn or damaged.
 - Tighten the nut at the blade disk after replacing the mowing blades.
- Use of parts that are not authorized or approved by STIHL may cause serious or fatal injury or property damage.
 - STIHL recommends that only identical replacement parts be used for repair or maintenance.
- To reduce the risk of electric shock:
 - Unplug the power supply from the electrical outlet before inspecting the docking station, perimeter wire or guide wire.
 - Regularly check the docking station and power supply and ensure that the insulation of the power supply cord and plug are in good condition and show no signs of aging (brittleness), wear or damage. Check the charging contacts for signs of corrosion or damage that may lead to short circuit during charging.
 - Replace the power supply if its power supply cord or plug is damaged.
- Improper storage can result in unauthorized use, damage to the robotic mower, its battery and docking station, and an increased risk of fire, electric shock and other personal injury or property damage.
 - Activate the disabling device.
 - Allow the robotic mower to cool down for at least 5 minutes before storing.
 - Before storing, always unplug the docking station from the electrical outlet.

- Store the robotic mower and docking station indoors in a dry, secure place that cannot be accessed by children or other unauthorized users.
- Never hang the robotic mower from the hood or handles. This may damage the unit, including important safety devices.
 - Store the robotic mower as described in this instruction manual.
- The diagnostic port on the bottom of the mower is fitted with a protective plug. To reduce the risk of damage from moisture and dirt intrusion:
 - Confirm that the plug is secure in the port after cleaning the unit and each time you change the mowing blades.
 - Never operate the robotic mower with a missing or damaged plug.

SAVE THESE INSTRUCTIONS

9 Operating Principle

9.1 Functional Description



This iMOW® is a mulching mower, designed for autonomous, programmable lawn care. It mows the lawn in randomly chosen paths. During mulching, the grass clippings are further shredded in the mowing deck after cutting. They then fall back into the turf, where they decompose. It is necessary to route a perimeter wire (1) so the robotic mower can identify the boundaries of the mowing area.

The perimeter wire transmits a signal to the robotic mower. The signal is generated by the docking station.

The robotic mower identifies fixed obstacles (2) in the mowing area using ultrasound sensors and an impact sensor.

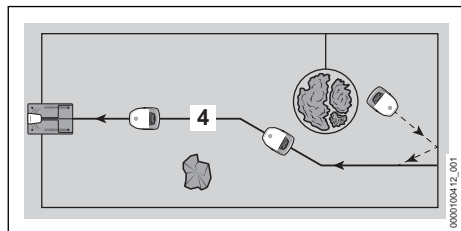
If the robotic mower identifies a fixed obstacle, it will slow down, bump into the fixed obstacle and then continue to move in a different direction.

Use the perimeter wire to define the mowing area and exclude obstacles and other areas that the mower should avoid (3).

If the robotic mower identifies a restricted area, it will slow down and then move in a different direction.

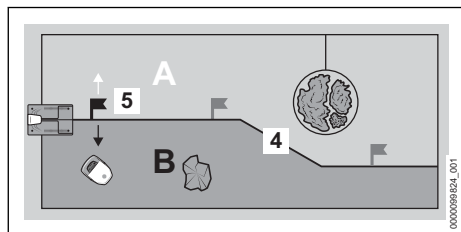
During operation, the robotic mower leaves the docking station by itself and mows the lawn.

The robotic mower's main user interface is the MYiMOW® app. The mower can also be controlled with buttons found on its control panel. Light strips, the matrix display, and active voice output provide information about the current status of the robotic mower.



At least one guide wire (4) must be installed in the mowing area. A maximum of three guide wires can be installed.

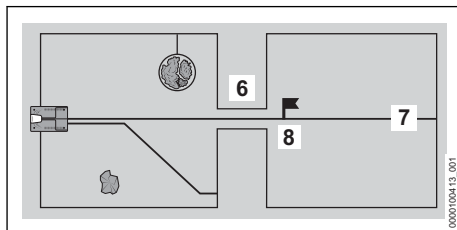
If the battery's state of charge is low, the robotic mower will search for the nearest guide wire during the mowing operation. If a guide wire is recognized, the robotic mower will return to the docking station by itself. The docking station recharges the battery. If the mowing operation is canceled or the battery must be charged, the robotic mower can be sent directly back to the docking station using the MYiMOW® app or the HOME button.



Up to three starting points (5) can be specified on a guide wire (4). The robotic mower can move specifically to the respective starting point and start mowing from there.

The mowing area can be divided into several zones (example: A and B) by the guide wire. The zones are defined by a starting point. The robotic mower can be directed from the selected starting point to the left or right into the desired zone. The

robotic mower can then mow specifically in the selected zone. The starting points and zones are managed in the MYiMOW® app and can be used in the mowing plan.



If there is a confined area (6) in the mowing area, the robotic mower can navigate through the confined area, provided that a particular minimum width is maintained between the perimeter wires. If the minimum distance cannot be maintained, a guide wire (7) must be routed through the confined section. This guide wire guides the robotic mower directly through the confined area to a starting point (8). From the starting point, the robotic mower can mow the mowing area on the other side of the confined area. The frequency at which the robotic mower returns to that starting point can be managed in the MYiMOW® app.

10 Before Starting Work

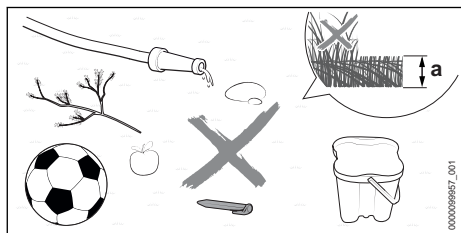
10.1 Planning and Preparing the Mowing Areas

Plan and prepare the mowing area before setting up the robotic mower. This helps ensure a robust installation and continuous, trouble-free operation.

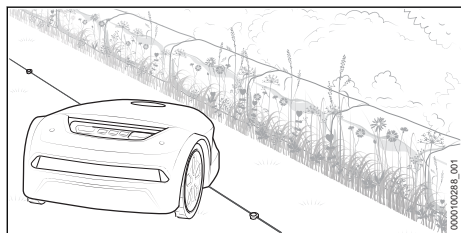
To plan the mowing surfaces:

- ▶ Familiarize yourself with the descriptions about the docking station and wire routing in the following sections.
- ▶ Apply the information to your own garden:
 - Contour of the mowing area
 - Location and position of the docking station
 - Routing of the perimeter wire (note described distances to the edges and wire routing cases)
 - Routing of the guide wire(s) (at least one, maximum of three)

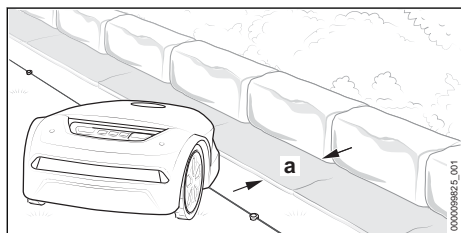
To prepare the mowing areas:



- ▶ Remove any objects lying around.
- ▶ Remove metals, magnetic materials and materials that conduct electricity as well as old perimeter wires.
- ▶ Mow lawns with a lawn mower to the cutting height that will later be set for the operation of the robotic mower. The default setting for the cutting height on the robotic mower is $a = 2.5$ in. (6 cm).
- ▶ Level out holes and rough, uneven patches.
- ▶ Where ground is hard and dry, slightly moisten the mowing area to make driving the wire stakes easier.



- ▶ Depending on the layout of your garden, the robotic mower may leave a strip of grass outside the perimeter wire unmowed. This strip can be used to sow flower seeds, for example, or to create areas with blossoming vegetation for insects.



- ▶ If you want to mow without leaving an edge along inaccessible areas: Install edging stones or flagstones with a minimum width of $a = 9.5$ in. (24 cm) along these areas.

10.2 Preparing the Robotic Mower for Operation

- ▶ Installing the docking station, 11
- ▶ Installing the perimeter wire, 12
- ▶ Completing the perimeter wire installation, 13
- ▶ Installing the guide wire, 14
- ▶ Electrically connecting the docking station, 15
- ▶ Charging the robotic mower, 16
- ▶ Closing the Bluetooth® Interface, 17

STIHL recommends having an authorized STIHL iMOW® servicing dealer install the perimeter wire and guide wire and set up the robotic mower. Consult your dealer for more information.

11 Installing the Docking Station

11.1 General Requirements



WARNING

- To reduce the risk of injury during installation and operation, read and follow the docking station safety precautions and instructions in this manual, 7. To reduce the risk of eye injury, always wear close-fitting protective eye-wear when installing the docking station and setting up the mowing area, 5.3.



WARNING

- To reduce the risk of fire and electric shock, install the docking station's power supply at least one foot off the ground and ensure that there is no risk that it may be immersed in water or other liquids. Do not place the power supply on the ground or at ground level. Always install the power supply on a stable surface.



WARNING

- Since the docking station and power supply heat up during the charging process, do not operate the docking station in a location where combustible gases, liquids, vapors, dusts or other materials and substances are present, 7.

! WARNING

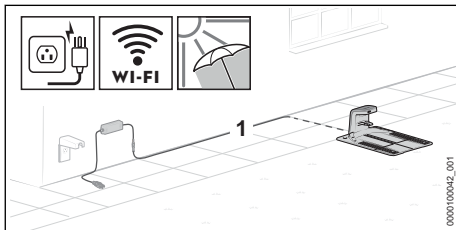
- To reduce the risk of fire and electric shock, connect the docking station only to a covered Class A GFCI receptacle that matches the voltage and electrical frequency stated on the power supply. It must have an enclosure that makes it weatherproof both when the plug cap is inserted and when it is removed. Ensure that the docking station is located in sufficient proximity to reach a covered, weatherproof Class A GFCI receptacle. Always ensure that the power supply cord is out of the cutting path of the robotic mower.

NOTICE

- An invisible dog fence or other in-ground wiring will interfere with the operation of your robotic mower. Investigate all potential sources of electrical interference and discuss these with your STIHL iMOW® servicing dealer before starting installation.

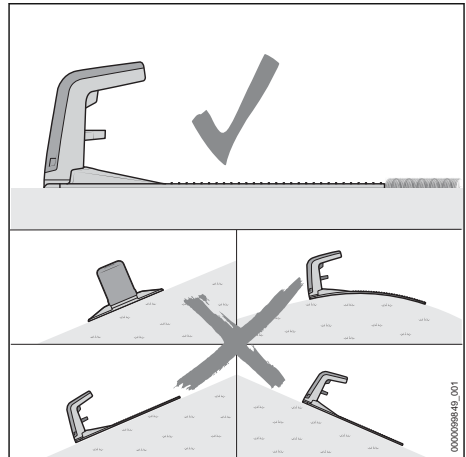
NOTICE

- A canopy top is available to protect the docking station from the elements. Exposure to direct sunlight can lead to increased temperatures inside the machine and battery compartment, which can increase battery charging times and reduce battery lifetime.



- Choose the docking station location so that the following conditions are met:
 - The power supply cord (1) can be installed outside of the mowing area.
 - The docking station and power supply are in a clearly visible area.
 - The docking station is in the mowing area that is the largest or most frequently mowed.
 - If possible, protect the location against adverse weather conditions and direct sunlight.

- If possible, the docking station is within range of a wireless network (Wi-Fi connection).
- If possible, in a mowing area with a slope, the docking station is in the lower area of the slope.



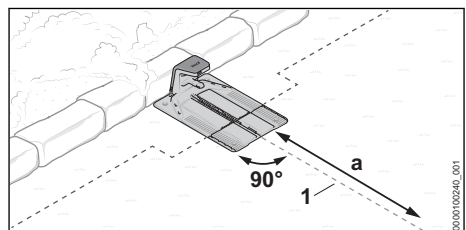
- Align the docking station so that the following conditions have been met:
 - The docking station has been positioned on a level surface.
 - The opening of the docking station is facing forward toward the mowing area.
 - The docking station has been aligned horizontally and is not tilted to the side, the front or the rear.
 - The base plate does not sag and lies flat on the ground.

11.2 Positioning the Docking Station

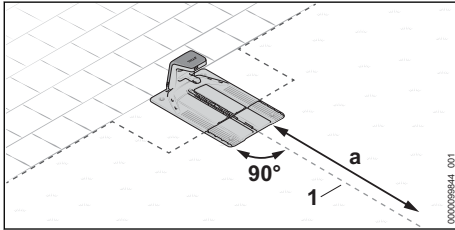
The correct position of the docking station depends on the planned location and its surroundings.

- Select the location and set up the docking station as described.

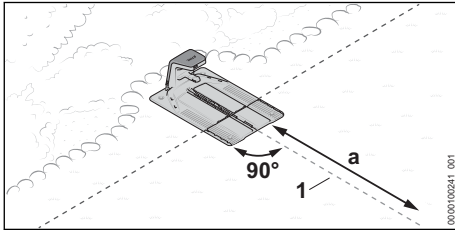
Setting up the docking station within the mowing area



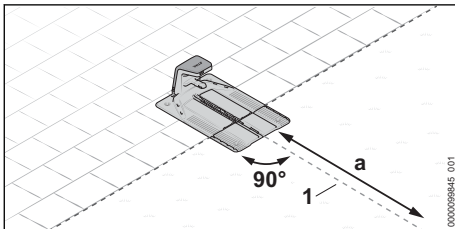
The docking station is at the edge of the mowing area against a wall and the guide wire (1) can be routed in a straight line from the docking station into the mowing area over a length $a = 6.6$ ft. (2 m).



The docking station is at the edge of the mowing area. The adjacent area is navigable and the guide wire (1) can be routed in a straight line from the docking station into the mowing area over a length $a = 6.6$ ft. (2 m).



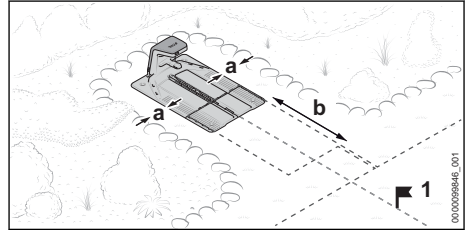
The docking station is partly in a bed and partly in the mowing area and the guide wire (1) can be routed in a straight line from the docking station into the mowing area over a length $a = 6.6$ ft. (2 m).



The docking station is partly in a navigable area and partly in the mowing area and the guide wire (1) can be routed in a straight line from the docking station into the mowing area over a length $a = 6.6$ ft. (2 m).

- Preparing the docking station, 11.3.
- Setting up the docking station in a mowing area, 11.4.

Setting up the docking station outside the mowing area



The docking station is outside the mowing area.

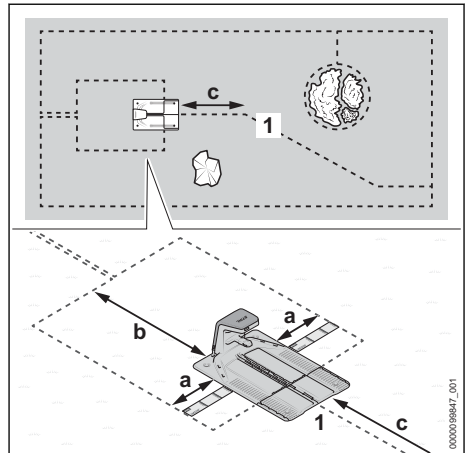
The minimum lateral distance toward adjacent areas must be at least $a = 5.9$ in. (15 cm).

The minimum distance between the front edge of the docking station and the mowing area must be at least $b = 6.6$ ft. (2 m).

In this configuration, the installer must define a starting point (1) within the mowing area to complete the installation. With a starting point established, the robotic mower will start mowing from this starting point and not directly from the docking station. Starting points can be set with the MYiMOW® app. In the app, set the approach frequency of the starting point (1) at 100%.

- Preparing the docking station, 11.3.
- Setting up the docking station outside the mowing area, 11.5.

Setting up the docking station in the center of the mowing area





The docking station is positioned as an island in the center of the mowing area.

In this configuration, the perimeter wire is routed around the docking station toward the rear and the edge of the mowing area. The guide wire is routed toward the front to the edge of the mowing area.

The minimum lateral distance to adjacent areas must be at least $a = 14.5$ in. (37 cm) (length: 1x iMOW® Ruler).

The minimum distance between the rear edge of the docking station and the edge of the mowing area must be $b = 6.6$ ft. (2 m).

It must be possible to route the guide wire (1) in a straight line from the docking station into the mowing area over a length of $a = 6.6$ ft. (2 m).

- Preparing the docking station,  11.3.
- Setting up the docking station in the center of the mowing area,  11.6.

11.3 Preparing the Docking Station

To connect the power supply cord:

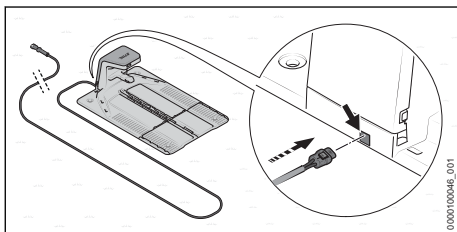


WARNING

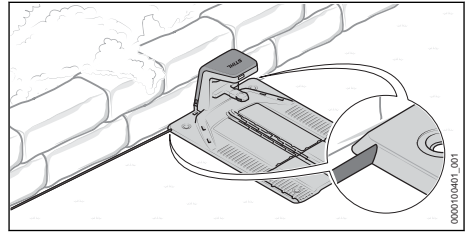
- To reduce the risk of electric shock, make sure the power supply is not plugged into the electrical socket when handling the connector and inserting it into the docking station. Always unplug the power supply from the electrical socket before removing the cover of the docking station.

NOTICE

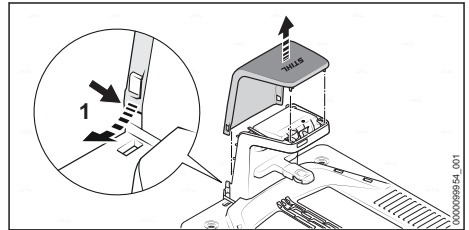
- Once fully inserted, the plug connections of the power supply cord are protected against contamination, e.g. dust and dirt. Dirty plug connections will interfere with the proper operation of the docking station.
 - Protect open plug connections against contamination.
 - Clean the contaminated plug connections periodically as described in this instruction manual.



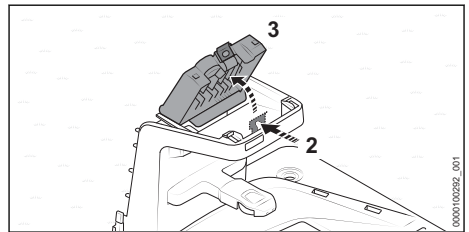
Normally the connecting cord is connected from the rear.



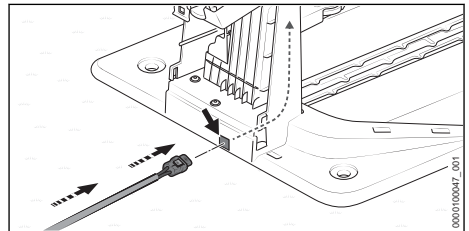
If the docking station has been positioned directly against a wall, it is also possible to install the connecting cord under the base plate. The connecting cord can be routed out of the base plate to the left or right.



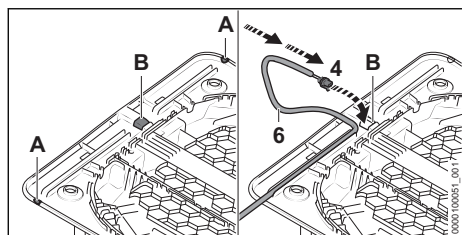
- Slightly bend the hood (1) toward the outside on both sides and remove it upward.



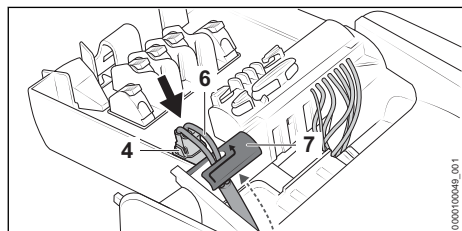
- Press the retaining latch (2) and open the cover (3).



- If you intend to connect the docking station from the rear:
 - Insert the connector (4) into the conduit (5) and feed the connecting cord (6) through. Push the connecting cord upward inside the docking station.



- If the docking station has been positioned directly against a wall, or if you want to route the connecting cord underneath the base plate toward the side:
 - Open the edge and deburr it on the desired side of the base plate at position (A).
 - Cut out and deburr an opening in the center of the base plate (B).
 - Insert the connector (4) into the opening (B) and feed the connecting cord (6) through. Push the connecting cord upward inside the docking station.

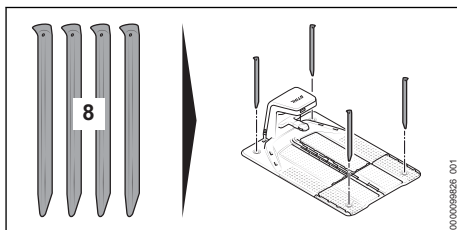


- Secure the connecting cord (6) in the cable holder (7).

NOTICE

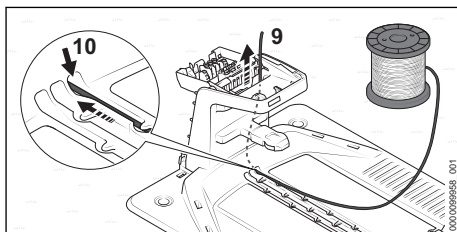
- Make sure the connector and port on the circuit board are clean before connecting them.
- Insert the connector (4).
The connector audibly and noticeably engages on both sides.

Securing the docking station

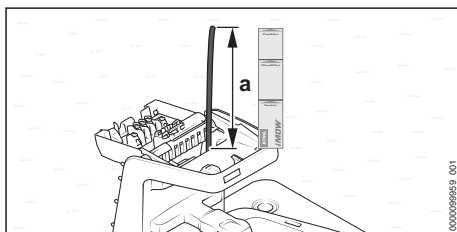


- Secure the docking station with four ground stakes (8).

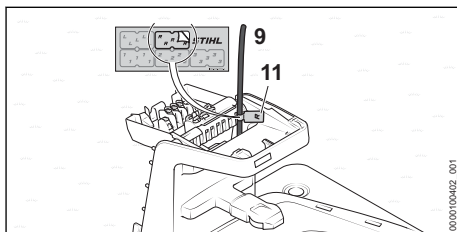
Feeding the perimeter wire



- Insert the beginning of the perimeter wire (9) into the right conduit (10) and feed it through. Push the wire upward inside the docking station.

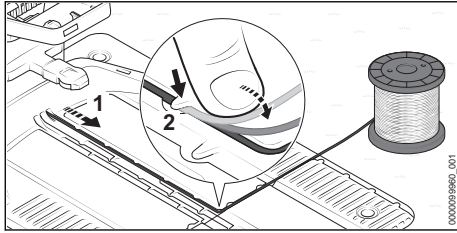


- Feed the perimeter wire through until it protrudes upward for $a = 14.5$ in. (37 cm) (length: 1x iMOW® Ruler).

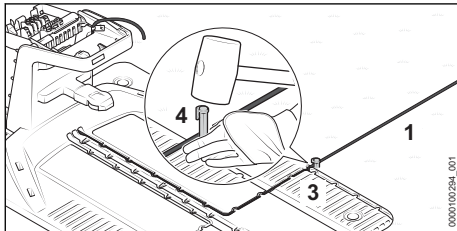


- Using the appropriate cable marker (11), mark the beginning of the wire (9) near the housing. Marking will facilitate the subsequent connection to the correct terminal.

11.4 Setting up the Docking Station within the Mowing Area

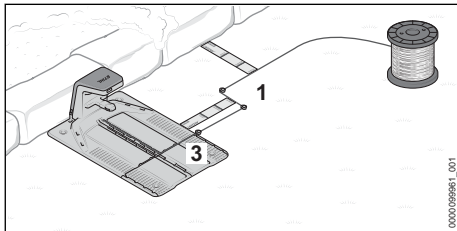



- Install the perimeter wire (1) in the base plate so that the guide wire lies flat in the wire channel and is secured by the hook (2).



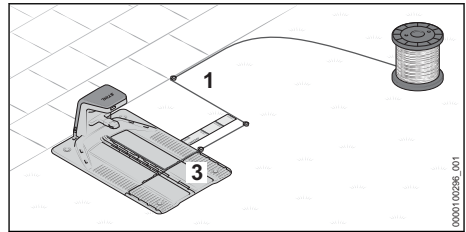
- Directly attach the perimeter wire (1) on the base plate (3) with a wire stake (4).


If the docking station is against a wall:



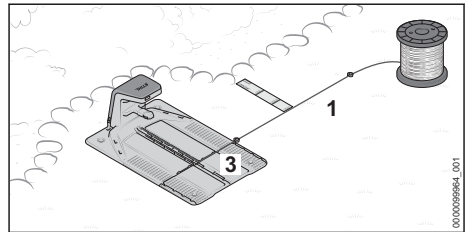
- Route the perimeter wire (1) 14.5 in. (37 cm) (length: 1x iMOW® Ruler) away from the base plate (3) toward the side.
- Route the perimeter wire parallel to the base plate toward the edge of the mowing area and maintain a distance from the wall of 14.5 in. (37 cm) (length: 1x iMOW® Ruler).
- Route the perimeter wire clockwise around the mowing area,  11.4.


If the docking station is in an adjacent, navigable area:



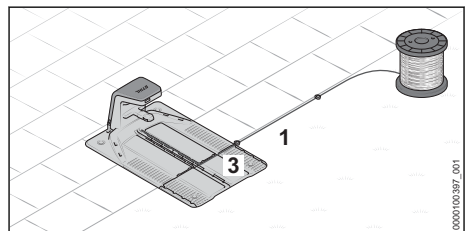
- Route the perimeter wire (1) 14.5 in. (37 cm) (length: 1x iMOW® Ruler) away from the base plate (3) toward the side.
- Route the perimeter wire parallel to the base plate toward the edge of the mowing area.
- Route the perimeter wire clockwise around the mowing area,  12.


If the docking station is partly positioned in a bed and partly in the mowing area:



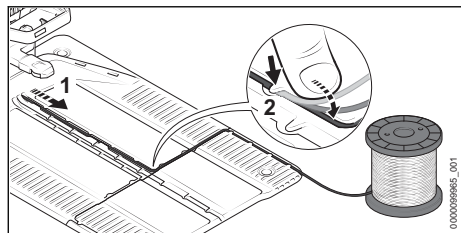
- Route the perimeter wire (1) away from the base plate (3) toward the side and maintain a distance of 14.5 in. (37 cm) (length: 1x iMOW® Ruler) parallel to the bed.
- Route the perimeter wire (1) clockwise around the mowing area,  12.

If the docking station has been positioned partly in a navigable area and partly in the mowing area:

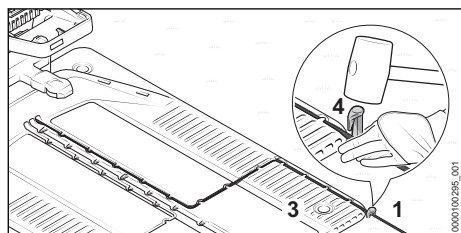


- Route the perimeter wire (1) away from the base plate (3) toward the side and along the navigable area.
- Route the perimeter wire clockwise around the mowing area,  12.

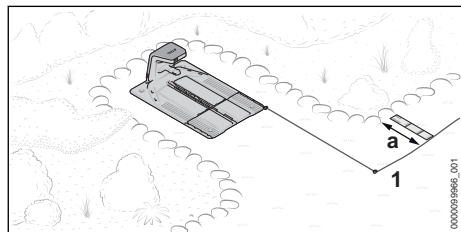
11.5 Setting up the Docking Station outside the Mowing Area




- ▶ Install the perimeter wire (1) in the base plate so that the guide wire lies flat in the wire channel and is secured by the hook (2).

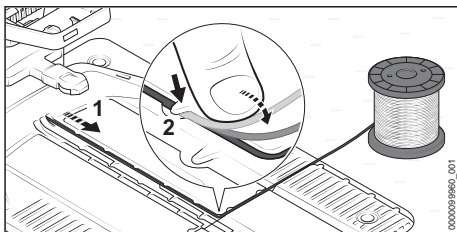


- ▶ Attach the perimeter wire (1) directly on the base plate (3) with a wire stake (4).

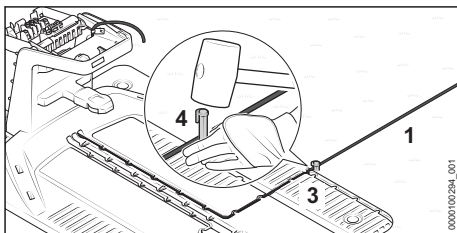


- ▶ Route the perimeter wire (1) toward the front to the mowing area.
The correct distance to the edge of the mowing area depends on whether the edge of the mowing area is navigable, or a distance of $a = 14.5$ in. (37 cm) (length: 1x iMOW® Ruler) needs to be maintained.
- ▶ Route the perimeter wire clockwise around the mowing area,  12.

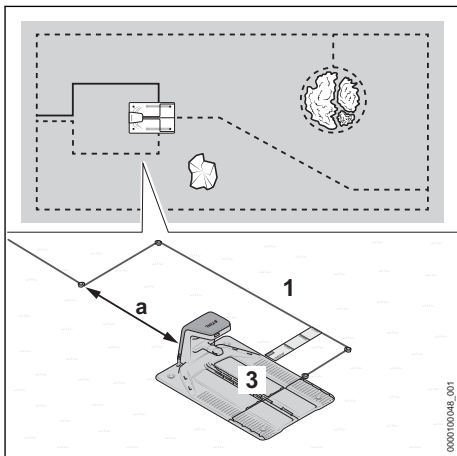
11.6 Setting up the Docking Station in the Center of the Mowing Area




- ▶ Install the perimeter wire (1) in the base plate so that the guide wire lies flat in the wire channel and is secured by the hook (2).



- ▶ Attach the perimeter wire (1) directly on the base plate (3) with a wire stake (4).



- ▶ Route the perimeter wire (1) at least 14.5 in. (37 cm) (length: 1x iMOW® Ruler) away from the base plate (3) toward the side.
- ▶ Route the perimeter wire at least $a = 6.6$ ft. (2 m) behind the base plate.


- Route the perimeter wire in the center behind the docking station toward the edge of the mowing area. Maintain the correct distance to the edge of the mowing area depending on the adjacent area.
- Route the perimeter wire clockwise around the mowing area,  12.

12 Installing the Perimeter Wire

12.1 General Requirements



WARNING

- To reduce the risk of injury to bystanders and unauthorized users, secure the perimeter wire in the ground with the wire stakes. Ensure that the perimeter wire and stakes are buried or properly secured low enough to the ground that they will not get caught in the robotic mower's mowing blades or present a tripping hazard. To reduce the risk of eye injury, always wear close-fitting protective eyewear when installing the docking station, perimeter wire and guide wire,  5.3.

NOTICE

- For the first two weeks of operation after initial installation, set the mowing height on the robotic mower to its highest level. That will help reduce the likelihood of cutting the perimeter wire with the mowing blades.

NOTICE



Take care when using a trimmer near the perimeter of the mowing area. If you are not careful, perimeter wire that is not buried could be cut by the rotating trimmer line.

NOTICE

- Avoid contacting the perimeter wire when de-thatching or aerating the lawn. Also use caution when operating a line trimmer near the perimeter wire. De-thatching, aerating and trimming operations can result in a cut or damaged perimeter wire. Refer to your sketch of the mowing area and take special care to avoid the perimeter wire when performing these operations.

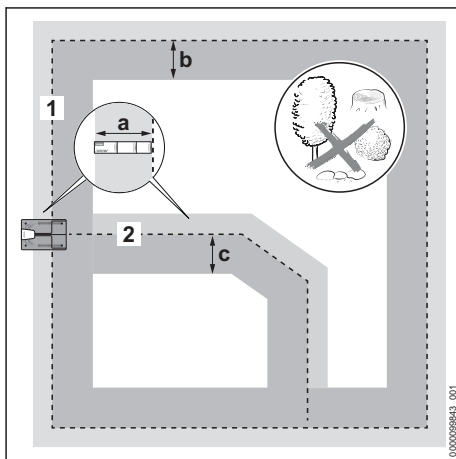
NOTICE

- Use only wire and wire stakes authorized by STIHL.

NOTICE

- Especially when installing with a wire laying machine, make sure that the perimeter wire runs loosely from the spool. Avoid pulling on the perimeter wire. Tensile stress can lead to wire breaks.

To check the routing of perimeter wire and guide wire in the mowing area:



- Make sure that the mowing area along the perimeter wire and the guide wire is flat and clear of obstacles as far as possible along the following widths:

Perimeter wire (1)

- Toward the outside: a = 14.5 in. (37 cm)
(length: 1x iMOW® Ruler)
- Toward the inside: b = 3.95 ft. (1.2 m)

Guide wire (2)

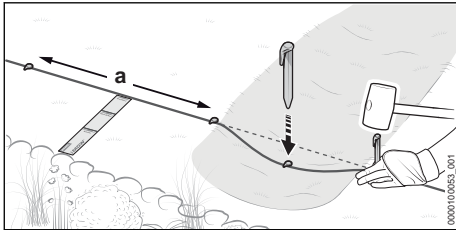
- Toward the right in the direction of travel toward the docking station: a = 14.5 in. (37 cm) (length: 1x iMOW® Ruler)
- Toward the left in the direction of travel toward the docking station: c = 3.95 ft. (1.2 m)

To install the perimeter wire:

- Install the perimeter wire clockwise starting at the docking station.
- Do not kink, cut, put tension on or cross the perimeter wire.

- ▶ Make sure that the perimeter wire does not cross over a guide wire.
 - ▶ Exception: When installing a corridor, the guide wire must cross the perimeter wire.
- ▶ Keep a minimum distance of 3.3 ft. (1 m) to perimeter wires of adjacent robotic mower installations.
- ▶ Install the perimeter wire in a continuous loop around the entire mowing area with a maximum length of 2789 ft. (850 m).
- ▶ Do not install the perimeter wire and the guide wire at different depths.

To secure the perimeter wire and guide wire:



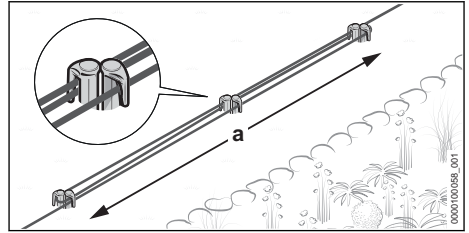
- ▶ Use wire stakes to secure the perimeter wire and guide wire so that the following conditions are met:
 - The maximum distance between the wire stakes must not exceed $a = 3.3$ ft. (1 m). Stakes may need to be closer together if the ground is uneven. This prevents the wire from being cut by the mower blades.
 - The perimeter wire and guide wire lie flat on the ground in all areas.
 - The wire stakes are buried completely into the ground.

To install wire reserves:

Wire reserves make it easier to correct or adjust the perimeter wire installation when, for example:

- A planting bed is extended and blocked off.
- Bushes and shrubbery grow and the perimeter wire must be installed around the plants in a larger arc.
- The perimeter wire was cut too short at the docking station and cannot be connected.

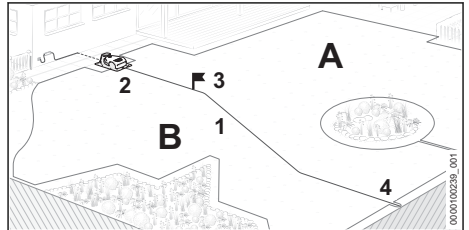
One or several wire reserves can be installed.



- ▶ Route $a = 3.3$ ft. (1 m) of perimeter wire in parallel and closely together around 2 wire stakes without the perimeter wires crossing over each other.
- ▶ Secure the wire reserve using additional wire stakes.

12.2 Planning the Guide Wire and Installing the Connection Point in the Perimeter Wire

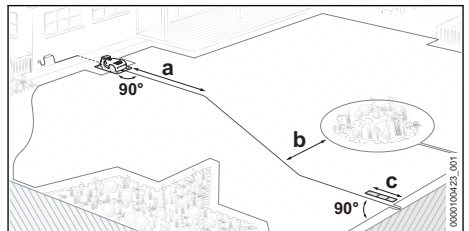
Carefully plan the routing of one or several guide wires in advance. Take into account the position of all guide wires when installing the perimeter wire. At least one guide wire must be installed, and up to three guide wires may be installed.



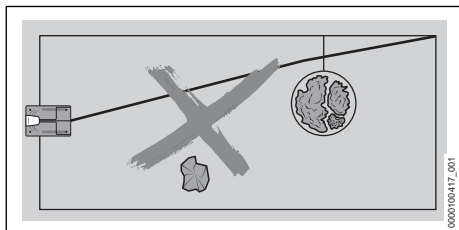
A guide wire (1) has the following functions:

- Guides the robotic mower's return to the docking station (2)
- Enables the robotic mower to navigate to a starting point (3)
- Splits the mowing area into zones (A and B)

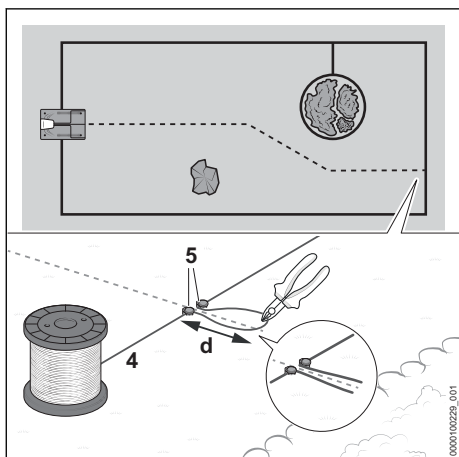
Starting at the docking station (2), install the guide wire across the mowing area and connect it to a point on the perimeter wire (4) that is as far away as possible.




- Plan the guide wire so that the following conditions are met:
 - Route the guide wire for $a = 6.6 \text{ ft. (2 m)}$ in a straight line from the docking station to the mowing area.
 - The minimum distance between the guide wire and the perimeter wire is $b = 10.75 \text{ in. (27.5 cm)}$
 - Route the guide wire with a minimum distance $c = 14.5 \text{ in. (37 cm)}$ (length: 1x iMOW® Ruler) in a straight line and at a right angle to the perimeter wire and connect it.



- The guide wire must not cross over a restricted area connection.
 - The guide wire must not be connected to the perimeter wire in a corner.
 - The guide wire must not cross over a perimeter wire.
- Exception: When installing a corridor, the guide wire must cross the perimeter wire.
- The guide wire must not be kinked or under tension, and it must not cross over itself.



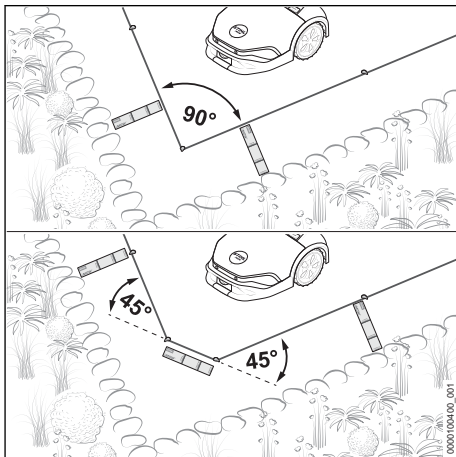
The connection point for the guide wire must be installed during the installation of the perimeter wire (4).

- Secure the perimeter wire at the intended areas using a wire stake (5).
- Place the perimeter wire in a loop with a length of $a = 6 \text{ in. (15 cm)}$ and secure with another wire stake.
- Cut the perimeter wire at the end of the wire loop, such as with a wire cutter. The wire ends are connected to the guide wire at the completion of the installation.  14
- Continue to install the perimeter wire around the mowing area.

12.3 Corners

Corners with a 90° angle

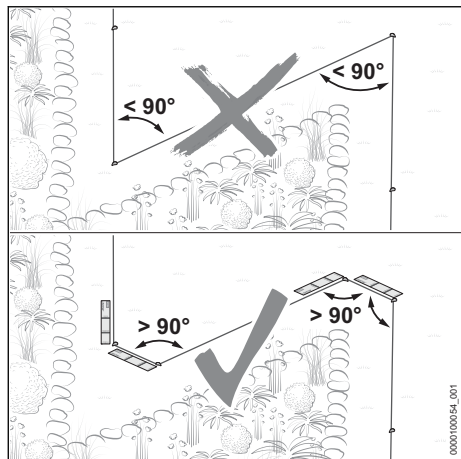
Corners with a 90° angle can be split into two corners with a 45° angle. This allows the robotic mower to change direction more smoothly.



- Route the perimeter wire in corners for at least 14.5 in. (37 cm) (length: 1x iMOW® Ruler) across the area.

Corners with an angle < 90°

Divide corners with an angle < 90° into two corners. This allows the robotic mower to change direction more smoothly.



- ▶ Make sure that corners are not at an angle less than 90° .
- ▶ If the angle is less than 90° : Split the angle.
 - ▶ Install one corner with an angle greater than 90° . Then route the perimeter wire in a straight line for at least 14.5 in. (37 cm) (length: 1x iMOW® Ruler).
 - ▶ Then install a corner with an angle greater than 90° . Subsequently route the perimeter wire in a straight line for at least 14.5 in. (37 cm) (length: 1x iMOW® Ruler).

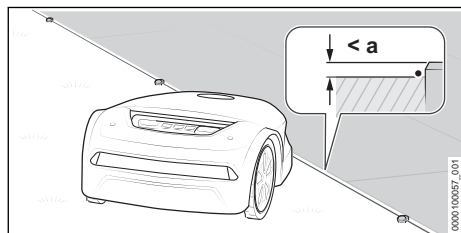
12.4 Navigable Area

The robotic mower is able to navigate areas directly adjacent to the mowing area if the difference in height between the navigable area and the mowing area is no more than 0.6 in. (1.5 cm). The ground must be solid and there must not be any obstacles.

Examples:

- Patio
- Paved path
- Edging stones or flagstones

Edgeless mowing is enabled by maintaining a short distance between the perimeter wire and the navigable area.



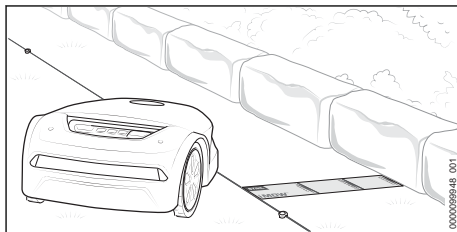
- ▶ Route the perimeter wire parallel to and without any distance from the navigable area. The maximum height difference between the mowing area and navigable area must not exceed $a = 0.6$ in. (1.5 cm).

12.5 Unnavigable Area

An area is unnavigable if obstacles close to the ground protrude into the mowing area, the ground is not solid or is very uneven and if the difference in height between the mowing area and the adjacent area is more than 0.6 in. (1.5 cm).

Examples:

- Wall or fence
- Hedge or shrubbery with branches that grow close to the ground
- Stone garden or gravel path
- Heavily rooted or uneven ground



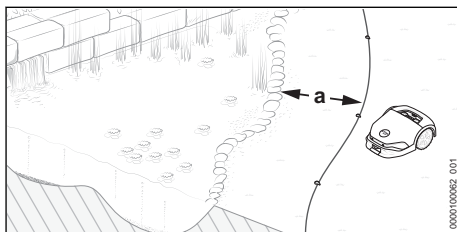
- ▶ Route 14.5 in. (37 cm) (length: 1x iMOW® Ruler) of perimeter wire parallel to the unnavigable area.
- ▶ If the unnavigable area is within the mowing area: Block off the unnavigable area with a restricted area.

12.6 Water Areas

An increased wire distance must be maintained from water areas that have not been blocked off from the mowing area by a fixed obstacle at least 4 in. (10 cm) high.

Examples:

- Garden pond
- Pool
- Stream or watercourse



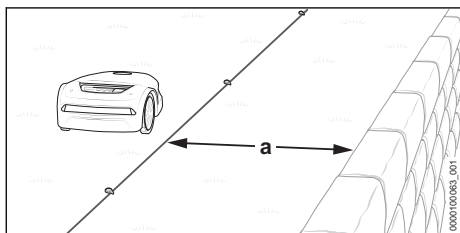
- Route the perimeter wire at a distance of $a = 3.3 \text{ ft. (1 m)}$ parallel to the bank area.
- If the water area is within the mowing area: Block off the water area with a restricted area.

12.7 Drop-off Edge

Keep an increased wire distance to drop-off edges that have not been blocked off from the mowing area by a fixed obstacle at least 4 in. (10 cm) high.

Examples:

- Stairs
- Retaining wall
- Tiered slope



- Route the perimeter wire at a distance of $a = 3.3 \text{ ft. (1 m)}$ parallel to the drop-off edge.

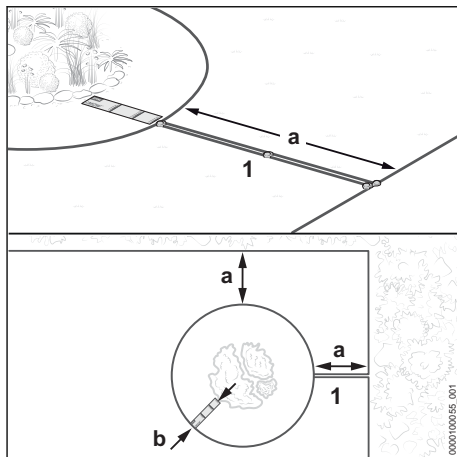
12.8 Restricted Area

A restricted area is an area that the robotic mower must avoid, including obstacles that cannot be mowed or objects that are too low for the mower to bump off of to change direction.

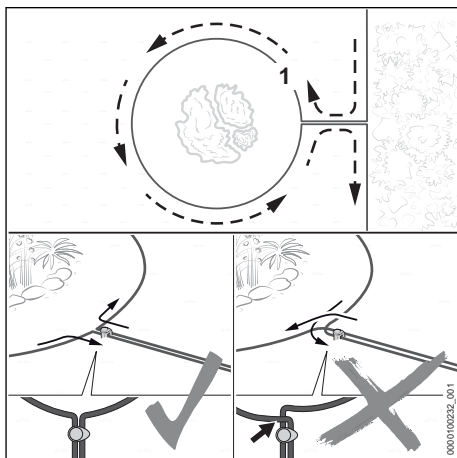
Examples:

- Planting bed without a fixed border
- Garden pond or pool without a fixed border
- Obstacles that the device must not come into contact with:
 - Obstacles that are not strong enough to withstand the bump from the mower
 - Obstacles lower than 4 in. (10 cm)

To help ensure reliable operation, install the guide wire in a round shape around restricted areas - no angular or inwardly curved shapes



- Route the perimeter wire (1) away from the edge toward the restricted area. Make sure that the following dimensions are maintained for the restricted area:
 - Minimum distance to other perimeter wires $a = 21.75 \text{ in. (55 cm)}$
 - Wire distance $b = 14.5 \text{ in. (37 cm)}$ (length: 1x iMOW® Ruler) (for water areas and drop-off edges, $b = 3.3 \text{ ft. (1 m)}$)
 - Minimum diameter of the restricted area: 29.25 in. (74 cm)



- Route the perimeter wire (1) around the area to be blocked off.
- Route the perimeter wire parallel and close together back to the edge without the perimeter wires crossing each other.