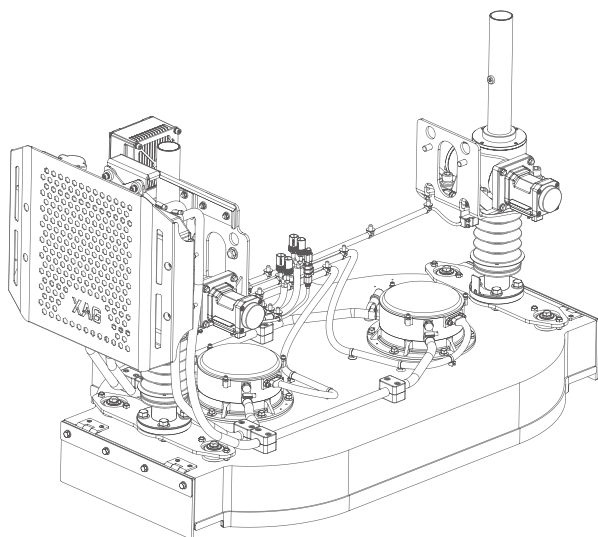


XAG RevoMower 2

User Manual

Version 1.0 **EN**



To User

Dear user, thank you for choosing XAG's products.

For safety purposes and better user experience, it is highly recommended that you read this manual carefully and strictly follow the instructions hereof.

Contact Us

Manufacturer: Guangzhou Xaircraft Technology CO., LTD.

Add: Block C, No.115, Gaopu Road, Tianhe District, Guangzhou, Guangdong Province, China

Technical Support E-mail: support@xa.com

Contents

Disclaimer	1
Safety Guidelines	3
List of Items	4
Main Components	4
Installation	5
Install RevoMower	5
Connect Cooling Tube	7
Wire Cables	7
Add Coolant	9
Use of Device	10
Power On	10
Use of ARC3	10
Maintenance	11
Cleaning After Operation	11
Regular Maintenance	11
Appendix	13
Wiring Quick Guide	13
Specifications	14

Disclaimer

1. Please read this User Manual carefully before using this product, as it has much to do with both operational safety and your legitimate rights and interests, whether you are a buyer or a user. You shall be deemed to have read, understood, agreed and acknowledged all terms and conditions and information stated herein upon activation and use of the product.
2. Not being a toy, plus for certain safety risks, the product is NOT suitable for those who are under 18 years old, or those who have no or limited capacity for civil conduct, or those with mobility impairments, or those without an operator certificate, if any, accredited by XAG or existing laws, regulations and policies. Please keep the product out of reach of children and be particularly cautious while there are children present during use.
3. The product, an operating system for R150 2022 Unmanned Ground Vehicle, is an intelligent hardware for agricultural use manufactured by XAG. Please read this User Manual carefully to scrutinize your legitimate rights and interests, responsibilities and safety guidelines, or it may pose risks of property loss, accident and bodily injury.
4. You pledge to use the product within the bounds of the law only for a legitimate purpose and acknowledge this User Manual and all existing or future policies and norms formulated by XAG.
5. Please note that, as services provided by the product and its auxiliary devices may involve capture, storage and processing of the geographic information and data on the fields, the use of the product shall comply with local laws and regulations dealing with such issues. Otherwise, you shall bear the sole responsibility, both financially and legally, for any illegal acts.
6. To the maximum extent permitted by law, XAG shall not be liable for all responsibilities, both financially and legally, and losses incurred by your operation disobeying the instructions in this User Manual. Also, XAG shall not be liable for any indirect, consequential, punitive, accidental, special or exemplary damage, including any loss resulting from your purchase, use, or inability to use the product, even if you have been advised of the possibility of such loss.
7. To the maximum extent permitted by law, under any circumstances, the liability or compensation amount from XAG to you for all damage, losses and litigation arising therefrom will not exceed the amount that you paid to XAG for purchasing the product.
8. **You understand that in the use of any products, accidents may occur due to single or combined factors, including but not limited to improper operation, surroundings and communication networks. You understand that the aforesaid accidents are reasonable and acceptable in the use of the product, and that XAG shall not be held accountable for such accidents.**
9. On any account, you shall observe the laws and regulations of the country and the region where the product is used. XAG shall assume no liability arising from your violation of relevant laws and regulations.
10. As exclusion clauses may be prohibited by laws in some countries, your rights and interests in different countries may vary. However, this does not imply that the terms contained in this Disclaimer are necessarily invalid.
11. To the extent permitted by law, XAG reserves the rights for final explanation and revision of the terms and conditions hereinabove. XAG also has the right to update, modify or terminate these terms and conditions via channels including its official website, the User Manual and online App, without prior notice.

Warning

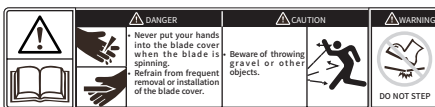
User is required to read through the User Manual and obtain an operator certificate, if any, accredited by XAG or existing laws, regulations and policies. Otherwise, it may cause serious injury to yourself or others, or damage to the product and property loss. User should be strongly safety-conscious. This product is not suitable for those who are under 18 years old, or those who have no or limited capacity for civil conduct, or those with mobility impairments. Do NOT use the components that are not provided or suggested by XAG. Please install and use the product by strictly following XAG's instructions.

Safety Guidelines

- Do NOT open the blade cover amid mowing to prevent safety hazards caused by gravel or other objects thrown by the spinning blade.
- It is NOT allowed to adjust the cutting height when the blade is spinning.
- In case of a fractured blade, please replace it together with the washer immediately to avoid abnormal vibration.
- When installing the blade, please wear work gloves and exercise caution to avoid getting injured by the sharp blade.
- In case of a damaged or deformed blade, please replace it with a new one immediately.
- When something gets caught in the blade cover, shut off the vehicle, remove the object, and make sure the motor is well-functioning.
- It is necessary to inspect the blade, bolt and outer housing for abrasion, damage and bolt-loosening before each use. After replacing the worn or damaged blade and bolt, if any, tighten the bolt to keep balance.
- Please refrain from frequent removal or installation of the blade cover.
- In case of a fault amid mowing, shift to "P", park the vehicle and shut off the power before inspection. Otherwise, under-vehicle inspection, repair or maintenance is not allowed.
- When the vehicle runs into something, press the emergency stop button to stop the mower, and shut off the power. Inspect the mower and the vehicle for damage, and complete the repairs before the restart.
- Keep the product away from heat to prevent damage to its electronic devices or other parts.

Safety Signs

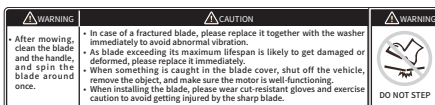
1. Machine Hazard



2. High Temperature

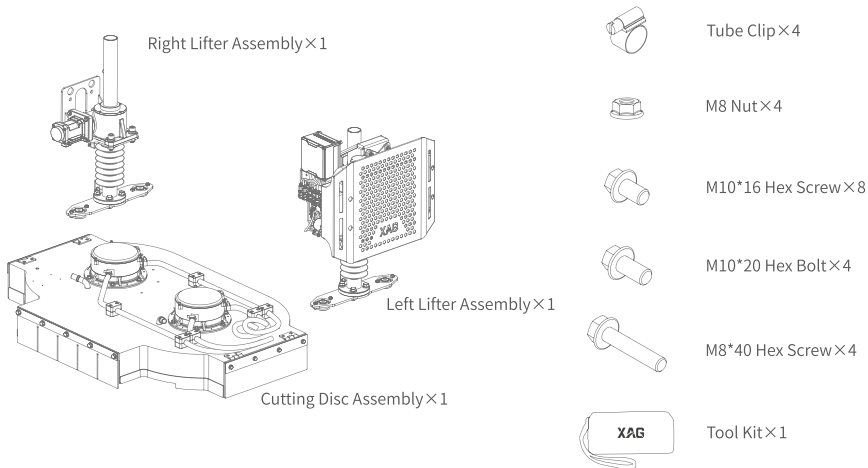


3. Low Coolant

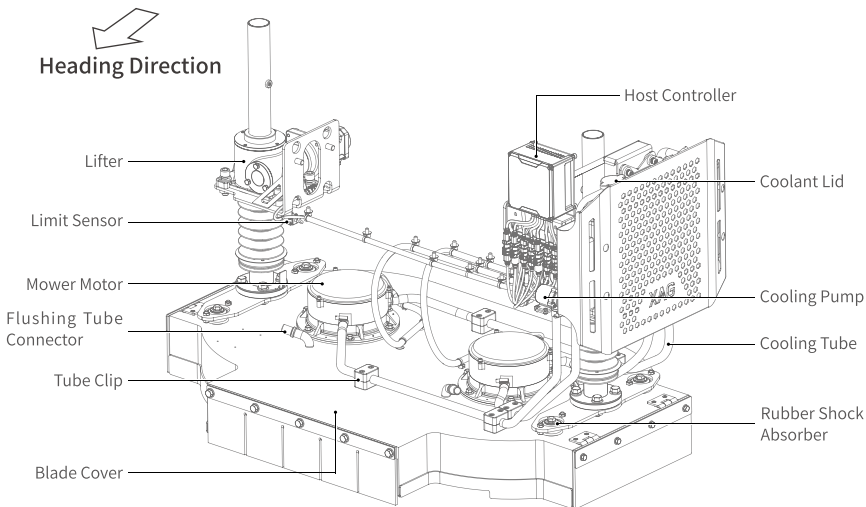


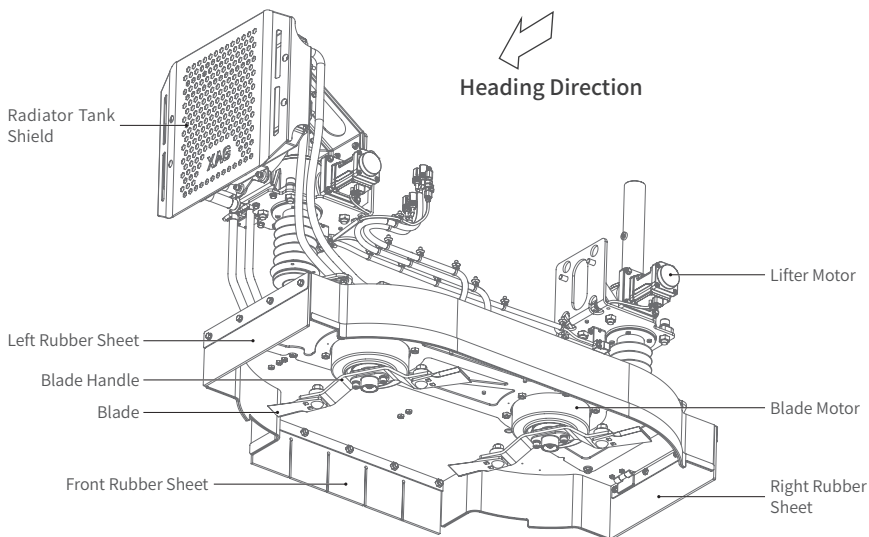
List of Items

Please see that all of the following items are present when unpacking the box. Should there be any item missing, please contact your seller.



Main Components



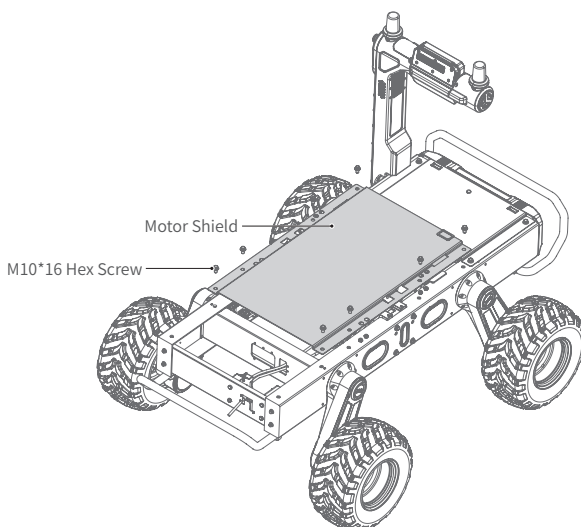


Installation

Install RevoMower

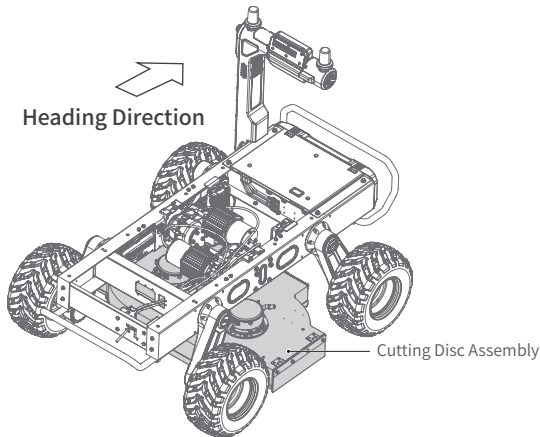
Remove Motor Shield

Unscrew eight M10*16 hex screws that fix the motor shield, and remove the shield.



Place Cutting Disc Assembly

Install the cutting disc assembly on the bottom of the vehicle with the front rubber sheet in heading direction.

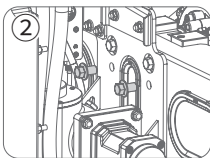


Fix Servo Assembly

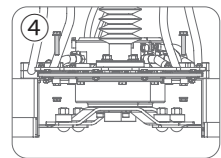
- ① Fix right servo assembly on the right of vehicle using two M10*20 hex bolts.
- ② Fix left servo assembly on the left of vehicle using two M10*20 hex bolts.

Fix Cutting Disc Assembly

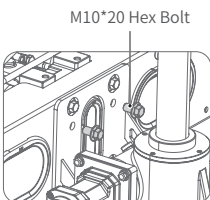
- ③ Lift the right rubber sheet, and fix right servo assembly and cutting disc assembly using two M8*40 hex screws and two M8 nuts.
- ④ Lift the left rubber sheet, and fix left servo assembly and cutting disc assembly using two M8*40 hex screws and two M8 nuts.



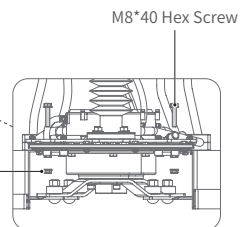
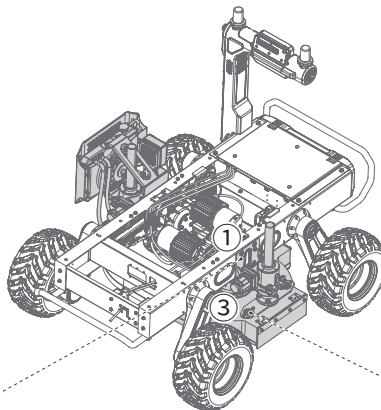
Left Servo Assembly



Fix Left Cutting Disc Assembly



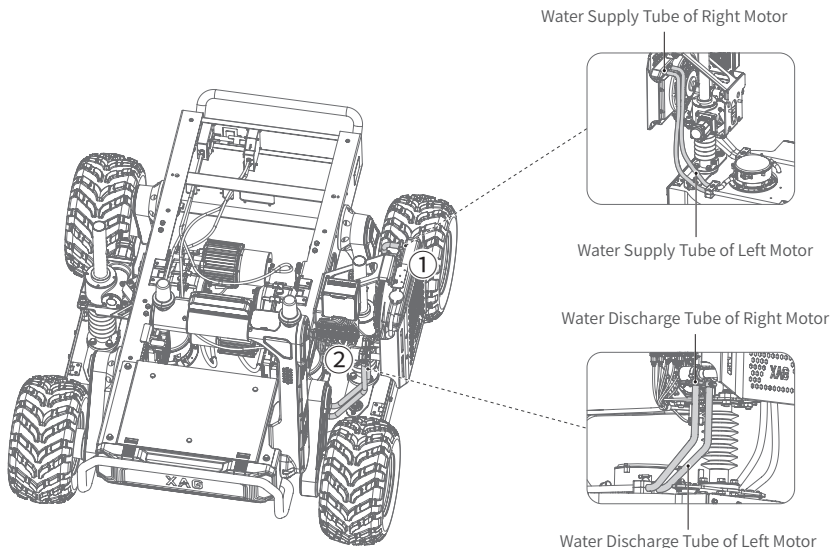
Right Servo Assembly



Fix Right Cutting Disc Assembly

Connect Cooling Tube

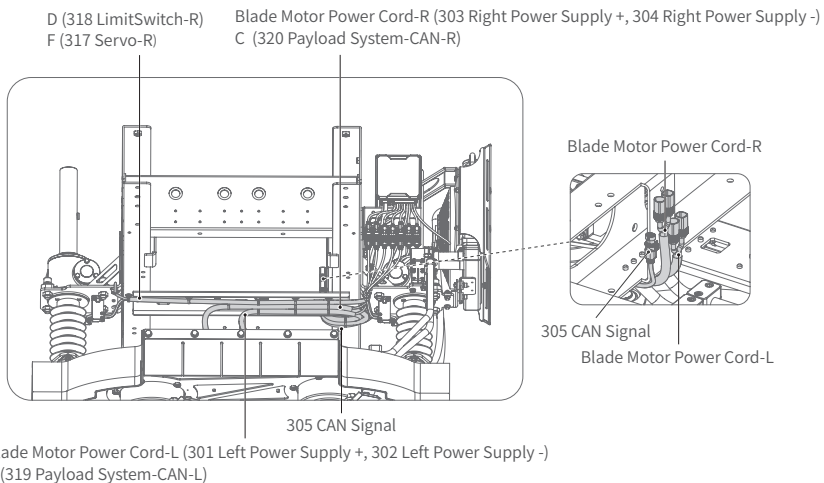
- ① Connect the water supply tubes of left and right motors, and tighten the tubes using tube clips.
- ② Connect the water discharge tubes of left and right motors, and tighten the tubes using tube clips.



Wire Cables

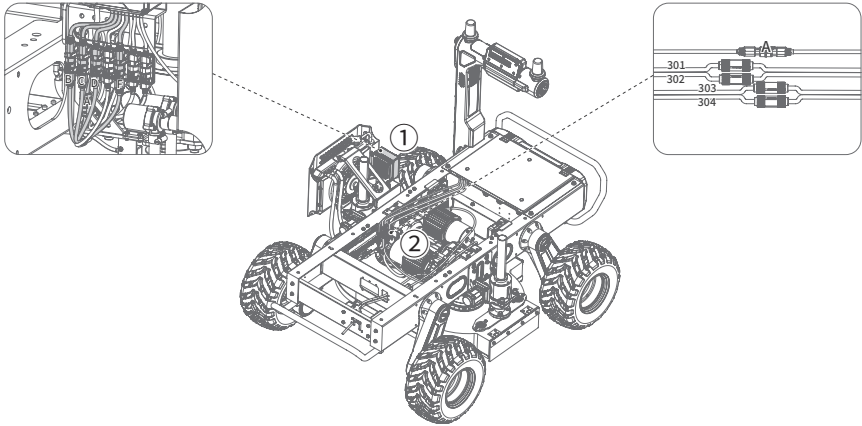
Run Cables

Fix and tighten all the communication cables and power cords under the chassis with cable ties to avoid cable damage due to vehicle bumping.



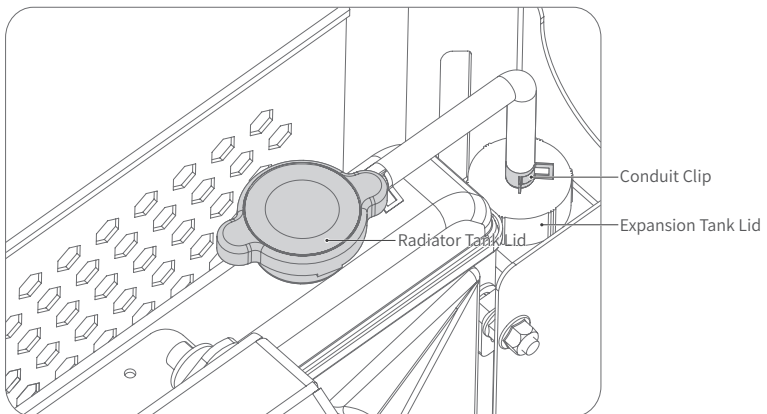
Wiring

- ① Connect D (318 Limit Switch-R), F (317 Servo-R), C (320 Payload System-CAN-R) and B (319 Payload System-CAN-L) in turn, referring to "Wiring Quick Guide – XAG RevoMower 2".
- ② Connect A (305 CAN Signal), 301 Left Power Supply +, 302 Left Power Supply -, 303 Right Power Supply + and 304 Right Power Supply - in turn.



Add Coolant

Slowly fill the radiator tank with coolant until the coolant is about to overflow and then fill the expansion tank with coolant to between the "TOP" and "LOW" mark. Install radiator tank lid, start the coolant test on App to make it idle until there is no air overflow from the expansion tank, check if the liquid level is within the specified range, and install the expansion tank lid, connect the conduit and tighten the clip.

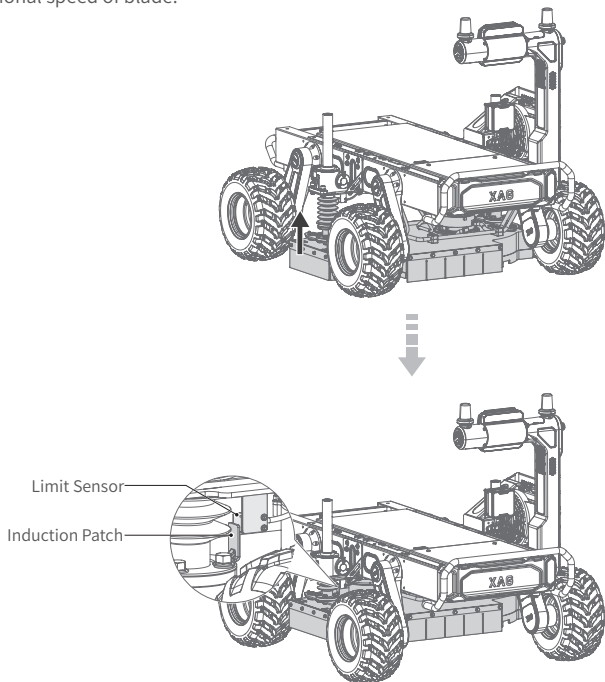


Use of Device





Power On

Install the battery in the vehicle and power it on, then the mower automatically rises until the limit sensors on the left and right sides sense the induction patches, and the mower returns to the starting position and stops rising.

After ARC3 is connected to the vehicle, turn knob C clockwise to lower the mower (the lowest position of blade is 2 cm from the ground); turn knob C counterclockwise to raise the mower (the highest position of blade is 17 cm from the ground); short press the F1 button to turn on mowing mode; turn knob D clockwise to increase the rotational speed of blade; turn knob D counterclockwise to decrease the rotational speed of blade.



Use of ARC3

Remote Controller	Action	Description
	Short Press	Turn on/off mowing mode
	Turn	Turn knob A clockwise/counterclockwise to accelerate/decelerate the vehicle.
	Turn	Turn knob C clockwise/counterclockwise to lower/raise the mower.
	Turn	Turn knob D clockwise/counterclockwise to increase/decrease the rotational speed of blade.

Maintenance

After operation, check the vehicle's components and clean its surface so as not to cause damage.

Cleaning After Operation

Clean the vehicle and the inside of the blade cover after each operation to prevent them from corrosion by foreign objects including grass, leaves and mud, which will result in a shortened lifespan. The cleaning steps are as follows:

Detergent: clean water, soapy water or laundry powder/water mixture

Blade Cover: Connect a hose to the connector of the flushing tube on the cutting disc and turn on the faucet. Move the cutting disc to its lowest position using the remote controller or our App, turn its blades on and make sure they run at their maximum speed. Remove the hose after two minutes and stop the blades after one minute of idling. Move the cutting disc to its highest position and then disconnect the vehicle's power supply. Check whether there is any foreign object inside the blade cover, if so, wring out a damp rag and wipe it off.

Vehicle: Disconnect the vehicle's power supply, wring out the damp rag and wipe the blades and the surface of the vehicle to remove mud.

Regular Maintenance

Wear and tear as well as malfunctions in/of the vehicle could occur as a result of ordinary use. Regular maintenance ensures that the vehicle performs at its best in future operations with fewer malfunctions and improved efficiency. The maintenance steps are as follows:

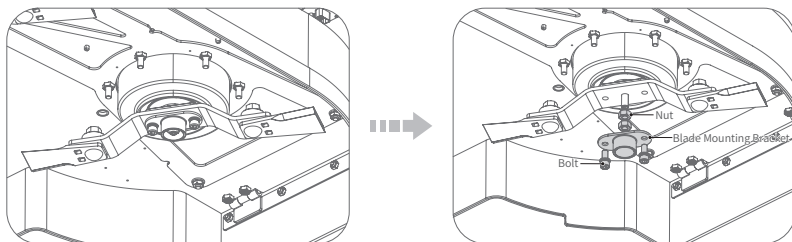
- ① Check if any screw on the vehicle is loosening or missing.
- ② Check if the connectors of each component are firmly in position.
- ③ Check if the antennas are deformed.
- ④ Grease the chains and motors regularly.
- ⑤ Clean the device regularly and thoroughly.

Maintenance and Replacement of Blades

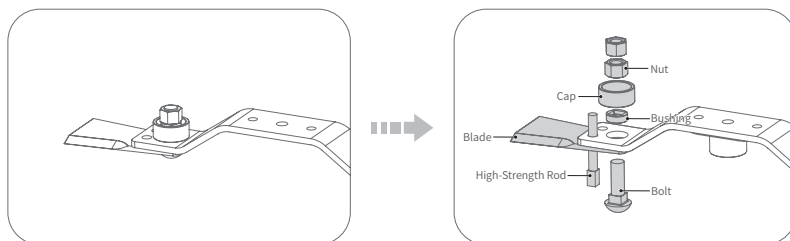
Check the blades regularly and replace the bolts and blades timely in case of cracks, deformation and damage, or they might cause imbalance, abnormal vibration and even malfunctions.

Steps for Replacement:

1. Wear cut resistant gloves and open the blade cover;
2. Unscrew both bolts from the mounting bracket of the blade and remove the bracket;
3. Unscrew both nuts from the blade handle and remove the handle;



- Secure the blade with a high-strength rod;
- Unscrew both nuts from the blade, remove the cap, bushing, bolt and blade.
- Put the new blade and handle back in place, and make sure that the bolt and nuts are tightened.



Replace Coolant

Change coolant after the vehicle has been in use for two years or travelled 60,000 kilometers.

Steps:

1. Discharge Coolant

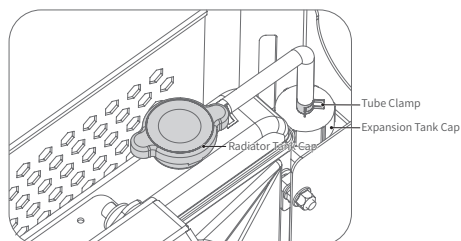
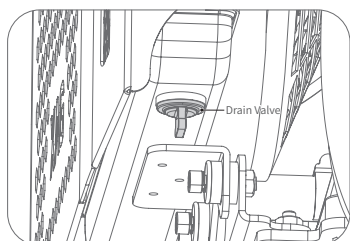
Remove the tube clamp and then the tube from the expansion tank. Unscrew the expansion tank cap, radiator tank cap as well as the drain valve at the bottom of the radiator tank by turning them counterclockwise. Start coolant test in the App, and end the test once the coolant drains away (waste coolant needs to be stored in a special container and disposed of in line with local environmental policies).

2. Clean the Cooling System

Fill the radiator tank with soft water through its inlet and keep water flowing through the whole tank. Meanwhile, start coolant test in the App and do not end the test until clean water comes out. Remove the expansion tank, clean it with soft water and then put it back in place. When soft water stops coming out from the outlet of the radiator tank, flush coolant through the tank to remove residual soft water and then tighten the drain valve at the bottom of the radiator tank.

3. Add Coolant

Fill the radiator tank with coolant until it is about to spill. Then, fill the expansion tank with coolant until it reaches somewhere between the "TOP" and "LOW" marks. Tighten the radiator tank cap, start coolant test in the App to let it idle until the expansion tank stops spilling out air, and then check whether coolant is at the required level before tightening the expansion tank cap, putting the tube and its clamp back in place.



Appendix

Wiring Quick Guide

The diagram below will guide you through the process of wiring the module.

无人割草机模块接线指引 V1.1

Wiring Quick Guide - XAG RevoMower 2

<p>A 314 供电电源 Supply-P</p> <p>305 通讯信号 CAN</p> <p>B 319 左执行通讯 Perform System-CAN-L</p> <p>C 320 右执行通讯 Perform System-CAN-R</p> <p>D 318 右限位开关 Limit-Switch-R</p> <p>E 317 左限位开关 Limit-Switch-L</p> <p>G 306 舵机 Lift</p> <p>I 314 水泵 Water-Pump</p>	<p>F 317 右舵机 Lift-R</p> <p>H 314 水泵 Water-Pump</p> <p>J 316 电子扇 Electronic Fan</p>
---	---

注意 **Caution**

禁止在通电状态下拆装任意模块
Never remove/install any module when the power is on.
所有模块安装完毕后,才可接通电源
Do NOT power up the device until all modules are installed.

XA.COM

Specifications

Model	M4RM-900A
Installation	Mounted
Cutter Type	Rotary
Cutting Width	900 mm
Cutting Height	20-170 mm
Speed Control of Blades	Manually
Cooling Method	Liquid cooling
Blade Quantity	4
Drive Mode of Blades	Direct drive
Rated Speed	1800 RPM
Max. Speed	3300 RPM
Power of Single Motor	3000 W
Rated Torque	16 N · m
Rated Max. Torque	27 N · m



info@xa.com



@XAGofficial



@XAG_official



YouTube @XAG Official



This manual is subject to update without prior notice.

©Guangzhou Xaircraft Technology CO., LTD. All Rights Reserved.

All information in this User Manual (including but not limited to any text description, illustrations, photos, methods, processes, etc.) belongs to Guangzhou Xaircraft Technology CO., LTD and is protected by copyright law. Without written authorization, no individual or institution is allowed to reproduce, extract, translate, distribute, or otherwise reproduce or quote any content hereof.