XAG P150 RevoCast 4
User Manual

Version 1.0 **EN**

XAG ADVANCING
AGRICULTURE
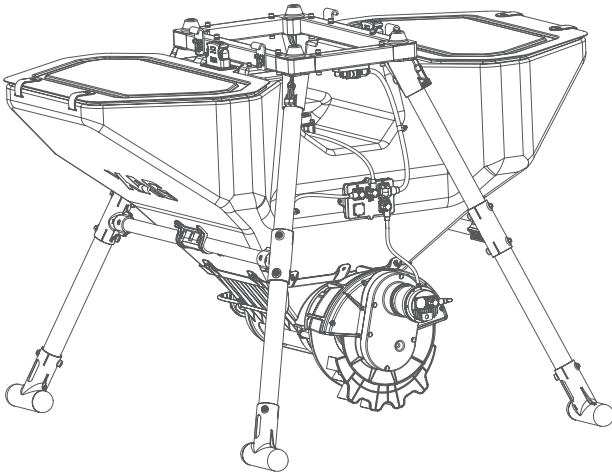
To User

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: XSpace, No.115, Gaopu Road, Guangzhou, Guangdong Province, China
Technical Support Team: support@xa.com

# Contents

Safety Guidelines

- **XAG P150 RevoCast 4** (Model: M4RCP115AH) is only compatible with XAG P150 2024 Agricultural Drone. DO NOT use it on other products or for non-agricultural purposes.
- RevoCast only works with dry granules, ideally non-sticky to the touch, with diameters ranging from 1 to 10 mm.
- Do NOT use granules beyond the size range above as they may lead to less effective operations, or even cause damage to the RevoCast. Please follow the instructions of the granules exactly when you use them.
- It is advisable to use the product on sunny, cloudy or overcast days with winds of force 3 or below in an area free of strong electromagnetic interference.
- NEVER use the product in adverse weather conditions including rain, snow, frost, fog, thunder, hail, dust storm and gale or in an area with strong electromagnetic interference.
- Please install and use the product in strict accordance with this User Manual.
- Before operation, please ensure all the spray rods have been removed to avoid damage caused by the throwing granules.
- Before each operation, check if the feeding motor, spread disc motor and radar level sensor are working properly. Calibrate with the granules to be spread.
- It is NOT allowed to use a non-XAG granule container, covert the container on your own or increase its capacity in that it may result in malfunctions, inefficient operations, or damage to the product, which are not covered by the warranty. User shall solely assume the liabilities for any loss arising therefrom, both financially and legally.
- During operation, ensure the remaining granules are sufficient and return for replenishment when they run low.
- Be careful during operation. Keep clear of the running feeding motor or spread disc motor to avoid getting hurt.
- Stay clear of the operating drone or RevoCast to avoid personal injury.
- Please empty the granule container after operation. Turn off the power and rinse the container, screw feeder shell, discs, and radar level sensor with clean water to remove any residual granules. Then, air-dry the RevoCast in a cool place away from direct sunlight.
- DO NOT wash the RevoCast while it is powered on.
- DO NOT store granules in the container, as they may get damp and clump together, which can affect the motor startup or cause inaccurate feeding.
- DO NOT leave granules accumulated in the spread discs for a long time to prevent granules from sticking to the vanes, which can affect the spread width.
- Please fully clean and check the product to make sure there is no blockage or other malfunctions when it is not in use. Store it in a dry, cool, and safe place.
- Accessories provided by non-XAG manufacturers are NOT allowed for use or repair as they may seriously affect the safety and service life of XAG's products. The warranty does NOT cover any damage to the product caused by using such accessories.
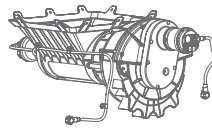
Introduction

XAG P150 RevoCast 4 (RevoCast) is compatible with the XAG P150 2024 Agricultural Drone. From seeding and fertilizing to dispensing feed pellets for fish and shrimp in aquaculture, it offers intelligent, precise, efficient, and flexible production solutions for every user.
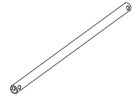
List of Items
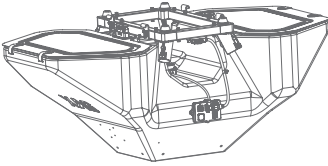
Granule Container
×1

Spread Assembly [1]
×1

Crossbar
×2

Landing Gear #1
×2
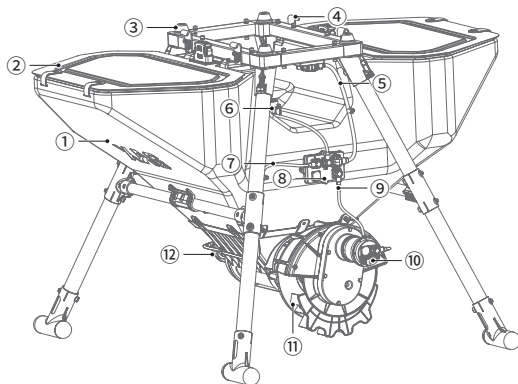

Landing Gear #2
×2

U-Bracket
×2

T-Clamp
×4

Kit [2]

[1] A large screw feeder is included in the spread assembly. Medium and small screw feeders are optional components sold separately.
[2] There are several types of kits. Please install them according to the package labels and the user manual.

Main Components

① Container
② Lid
③ Boss
④ Hook
⑤ RevoCast Application System Cable
⑥ Radar Level Sensor
⑦ Screw Feeder Motor Cable
⑧ Hub
⑨ Spread Disc Motor Cable
⑩ Spread Disc Motor
⑪ Spread Disc
⑫ Screw Feeder Motor

Installation

Install Landing Gear

① Install landing gear #2 into the hole on the right front side of the granule container (with the long end of the landing part facing outward). Use the long screw (Kit A) to loosely assemble the landing gear, and partially tighten it with the short screw (Kit A). After making the necessary adjustments, tighten all the screws to fix the landing gear to the granule container. Repeat the previous steps to complete the installation of landing gear #1.

Long End of Landing Part
Landing Gear No.
Right
Left
Front
Nameplate
Short Set Screw
Long Set Screw
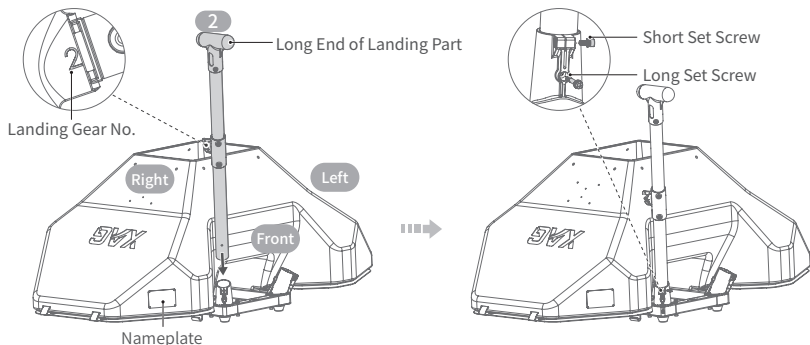
⚠ Note

⚠ When installing, consider the side with the nameplate of the upside-down container as the front. The landing gear #2 is on the right side. The landing gear #1 is on the left side. The diagonal landing gears should have the same number.

② Install and secure the crossbar into the T-joints at both sides. Align the U-bracket (Kit B) with the holes on the container and lightly fasten it with four screws (Kit B).
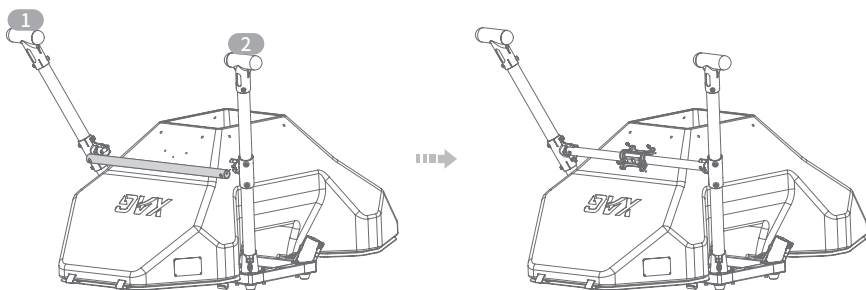
③ Partially secure the two T-clamps on each end of the crossbar with two screws (Kit C). After making the necessary adjustments, tighten all the screws (torque 9-11 kgf.cm) to complete the installation of the right landing gear.
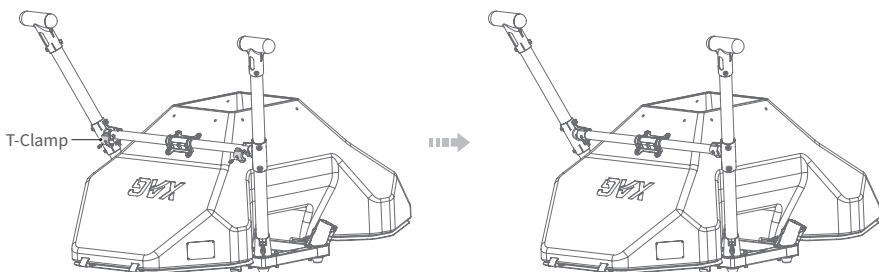
④ Install the landing gears on the left side following the previous steps.
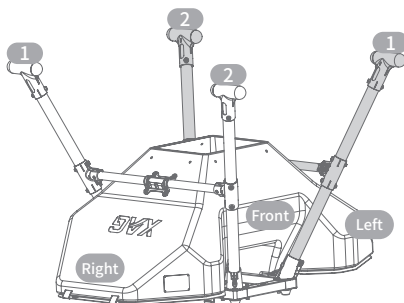
⚠ Note

⚠ Landing gear #1 and #2 are not interchangeable. Install each according to its number to avoid installation failure or damage.

Install Spread Assembly

① Stand the container on its side, open the lid, and place the spread assembly on the container, with the screw feeder facing forward and the disk facing backward. Then stabilize it with your hand.

② Secure the spread assembly onto the container by putting screws (Kit D) through the holes of the assembly and into the exterior holes of the container.

③ To secure the assembly onto the container, place the washer and flange nut (Kit D) inside the container. Secure the flange nut with the wrench from the kit, then tighten the screw. Repeat steps ② to ③ to complete the installation of the remaining screws (a total of eight set screws, washers, and flange nuts).

④ Connect the spread disc motor cable of the assembly to the interface P1 of the hub, and the screw feeder motor cable to the interface J1. Secure the screw feeder motor cable onto the container by fixing the cable clamp with two set screws and washers (Kit E). Finally, tighten the eight partially-threaded screws (Kit F) on the two connectors to secure them to the hub.

Disc

Screw Feeder Motor

Front

Nameplate

Spread Disc Motor Cable   Screw Feeder Motor Cable
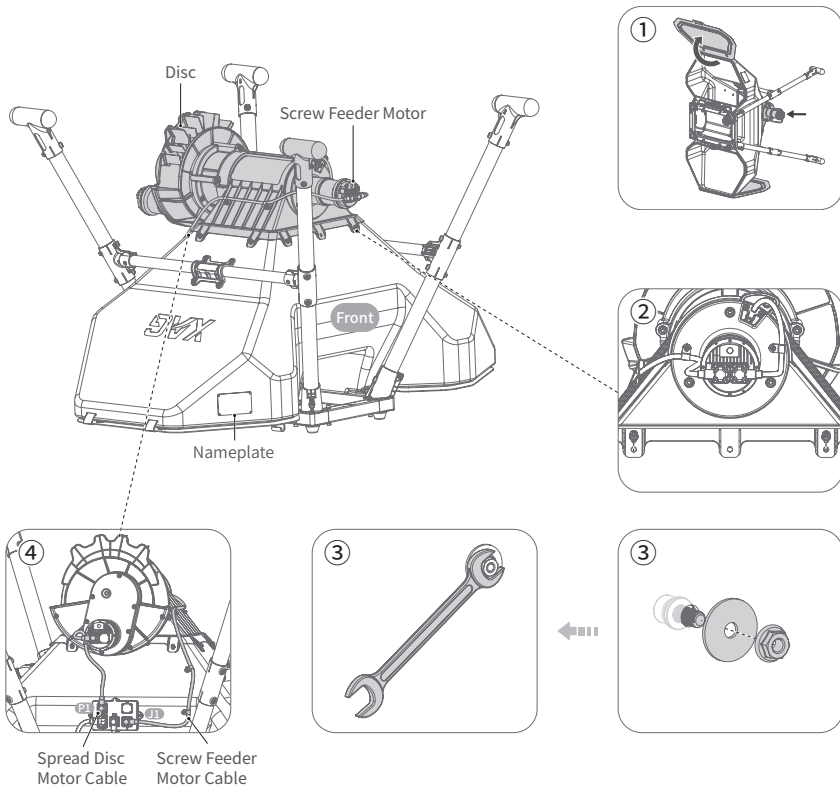
⑤ Flip the RevoCast upright to complete the assembly installation.
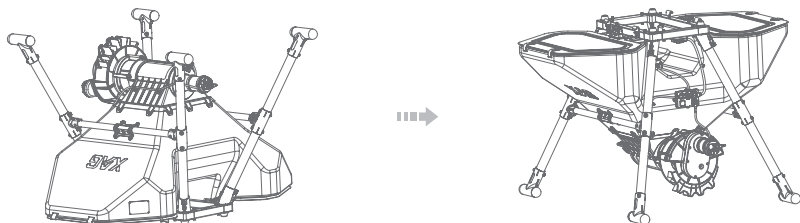
Drain Liquid

Clean the device before installing the RevoCast as the caustic pesticide could corrode the device, shortening its lifespan. Here are the steps of cleaning:

Detergent: soapy water or laundry powder solution

A. Clean RevoSpray System

① After adding soapy water or laundry powder solution, start spraying with the "XAG One" to remove the residual pesticide.

② Add clean water and spray again to remove the residual soapy water or laundry powder solution. Drain off any liquid left in the tube to avoid any damage to other things caused by the liquid during the flight.

B. Clean the Drone

Use a cloth with soapy water or laundry powder solution to wipe the pesticide stains and mud off the surface of the drone. Finally, use a cloth with clean water to thoroughly wipe it clean.

Remove RevoSpray System

Remove Spray Rod Assembly

To avoid damage to the spray rods during spreading, please remove the spray rods before using RevoCast (take the left one as an example).

① Unscrew the four set screws of the arm ESC, open the ESC cover, and disconnect the nozzle signal cable.

② Take out the cover from Kit G, install it on the nozzle signal cable hole, and fix it with four partially-threaded screws.

③ Unscrew the two set screws of the motor cover, pull out the nozzle signal cable and disconnect the liquid tube, then reinstall the motor cover.

④ Turn the spray rod knob counterclockwise until it is completely unlocked, and then remove the spray rod assembly.

① Nozzle Signal Cable

③ Nozzle Signal Cable
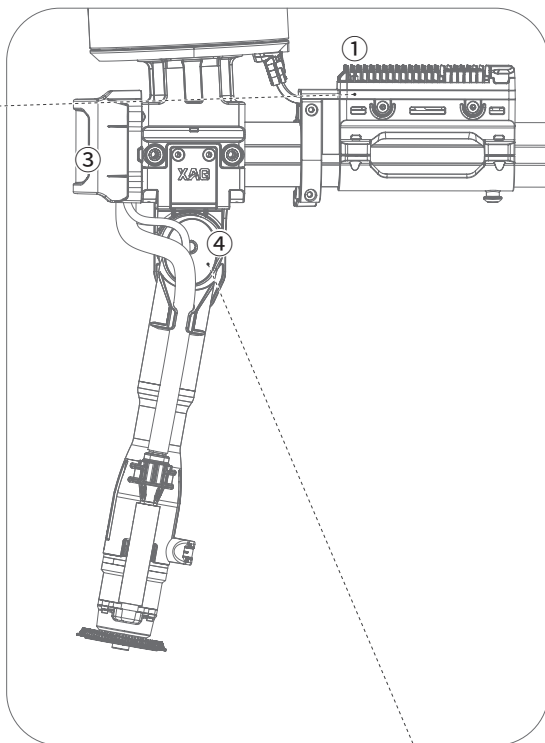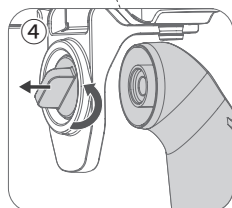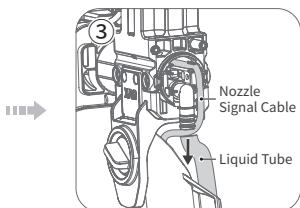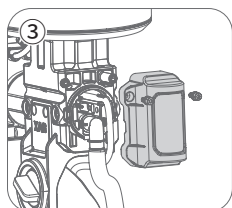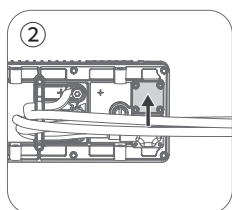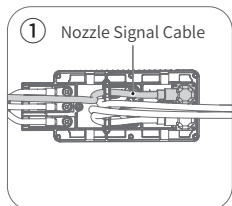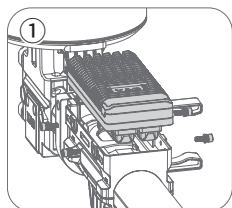
Liquid Tube

Remove RevoSpray

① Remove the airframe application system cable and the RevoSpray application system cable from the cable holder and disconnect them.

② Disconnect the two liquid tubes connected to RevoSpray from the airframe.

③ Open the two hasps on each side of the airframe and remove the RevoSpray.
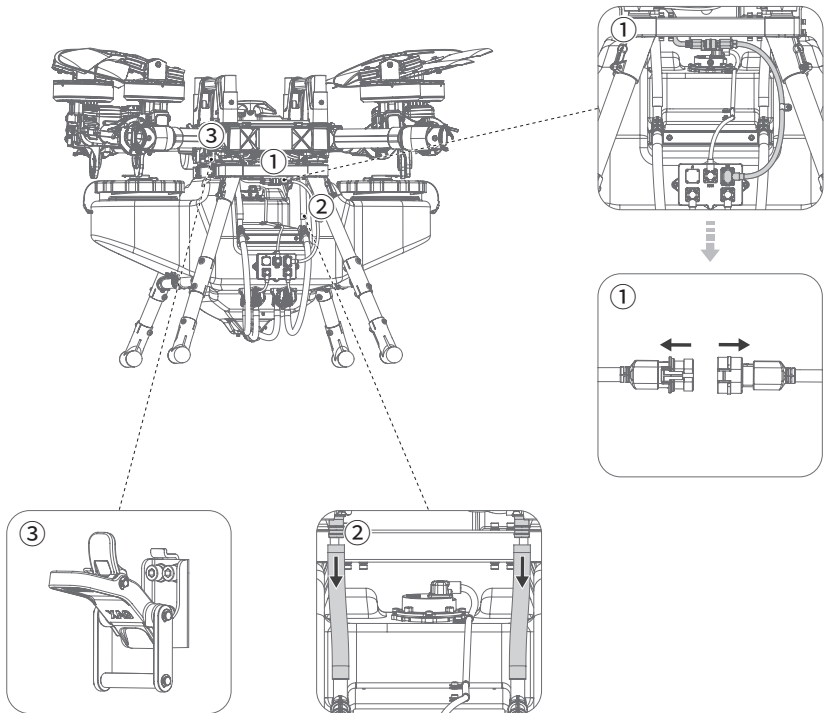
⚠ Note

⚠ Make sure the liquid tube is free of residual pesticide before removing RevoSpray.

⚠ Make sure all the spray rod assemblies have been removed before using RevoCast. Otherwise, users shall bear the responsibilities for the damage to the components.

Install RevoCast

① Secure the airframe onto the RevoCast by aligning the holes of the airframe with the bosses on the RevoCast.

② Open the two hasps on each side of the airframe and fasten the airframe to the RevoCast.

③ Connect the application system cable of the airframe to that of the RevoCast, then affix them to the cable holder.

Hole

Boss
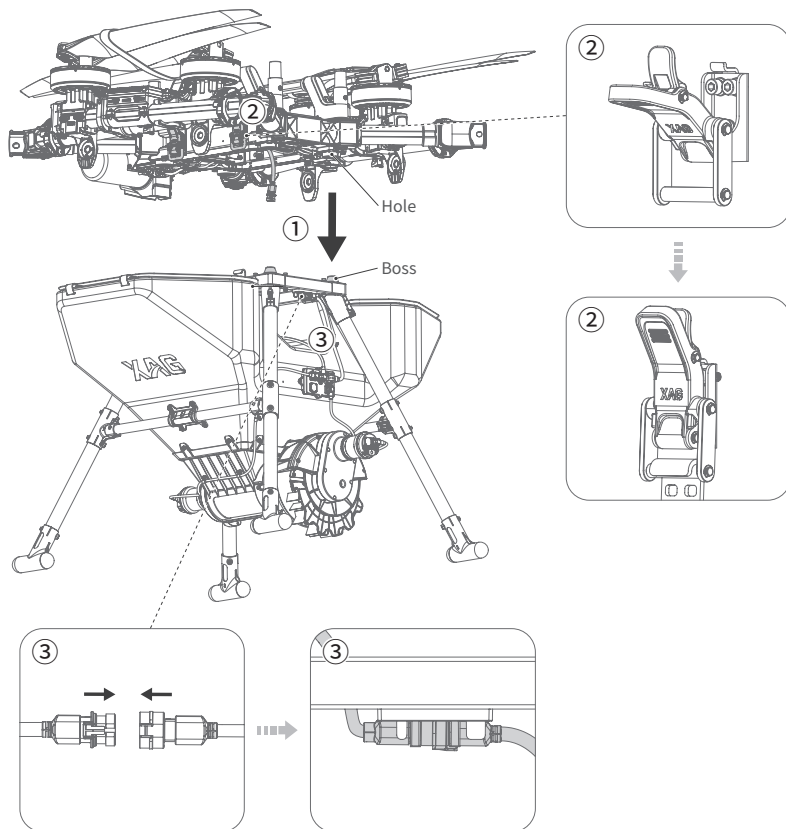
Use of RevoCast

Firmware Update

Before using the device, please check if the firmware version is up to date. If not, make sure to install the latest version.

1. Open XAG One and tap "Me"-"Device". Select the drone or remote controller for the operation and go to Device Details. Tap " 器 " to go to "General". Tap "Firmware Update" to check for updates.

2. When an update is pushed, tap "Download and Install". After the update is complete, tap "Finish" and return to Device List to see if all devices for the operation have the latest firmware. If not, repeat the above steps until all updates are complete.

Spreading Calibration

Before using RevoCast for the first time or after replacing new granules or screw feeders of different models, spreading calibration is required. Before calibration, please remove the spread disc assembly.

① Disconnect the spread disc motor cable from the hub.

② Remove the spread disc assembly by unscrewing its four set screws.
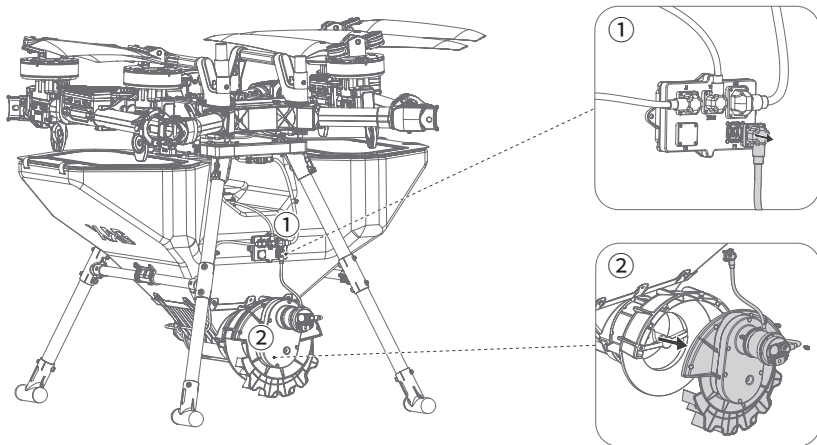
1. Open "XAG One" and tap "Me" and then "Device" to select the drone and enter Device Details.
2. Tap " 🌧 " to enter Spreading System. Tap "Granule" and then " ⊕ " in the upper right corner to create granules. Enter the name of granules to be calibrated, and tap "OK".
3. Go back to "Spreading System" after selecting the granule. Tap "Spreading Calibration", select the screw feeder model and tap "OK". Add the granules to the granule container until it exceeds 60% of its volume, and tap "Next".
4. Place the drone about 50 cm above the ground. Hang the bag/container on the handheld electronic scale, tare the scale, and fix the bag/container under the outlet. Check "Empty container is placed under the outlet" and tap "Start Discharging".
5. After it stops discharging, use the handheld electronic scale to weigh the bag/container and granules. Fill the actual weight in grams into the App and tap "Submit" to complete the calibration.
6. After spreading calibration is completed, install the spread disc assembly and connect the spread disc motor cables.

Manual Spreading Test

Before spreading, please start "Manual Spreading Test" to make sure RevoCast works well.

1. Open "XAG One" and tap "Me" and then "Device" to select the drone and enter Device Details. Tap " 🌧 " to enter Spreading and select "Manual Spreading Test".
2. Tap "Start" to start manual spreading test.

⚠️Note

⚠ During manual spreading test, the screw feeders and spread discs will be rotating rapidly. Please stay away from the drone to avoid accidents.

Spreading Settings

Before spreading, please set spreading parameters in "Spreading Settings".

1. Open "XAG One" and tap "Operation" in the menu bar to enter Operation screen.
2. Select the fields for operation on the map. After that tap "Operation Settings" to set spreading parameters as needed.
3. In the Basic Settings, select "Granule", adjust "Spreading Amount" and set "Change segment for spreading", and enable/disable the "Feed Spreading mode" in the Advanced Settings.
4. After the spreading settings and route settings are completed, the drone can be started for spreading operation.

Maintenance

Clean RevoCast

In order to avoid piling up and clogging, please clean RevoCast after daily operation to ensure the spreading efficiency. Here are the steps of cleaning:

① Disconnect the connector of spread disc motor cable from the hub.

② Unscrew three set screws securing the bottom of the screw feeder shell.

③ Unscrew three set screws securing the outer side of the screw feeder shell.
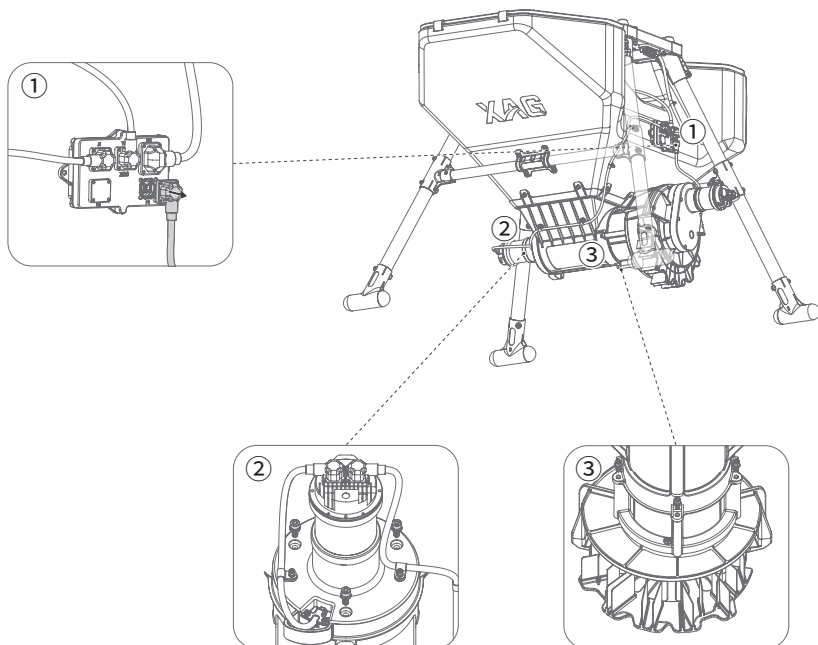
⚠Note

⚠ If the granules inside the RevoCast are corrosive, please clean RevoCast with soapy water or laundry powder solution first, then rinse it with clean water.

⚠ Places prone to residual granules: 1. between the screw feeder shell and the screw feeder. 2. within the space that the spread disc rotates.

⚠ Apply grease to lubricate gearbox gears and the disc linkage box every 50 hours of operation.

④ Pull out the screw feeder shell assembly and rinse the screw feeder and spread disc assembly with clean water to remove all foreign matters, and then air-dry the screw feeder shell assembly in a cool place.

⑤ Open the granule container lids on both sides, rinse off the residual granules and air-dry in a cool place.

⑥ After the screw feeder shell assembly and container are air-dried, reinstall the screw feeder shell assembly and tighten the screws. Start manual spreading test before the next spreading operation to ensure that RevoCast works well.
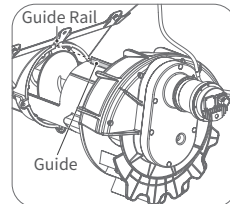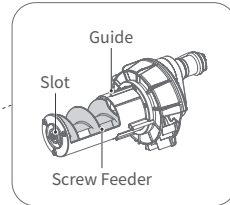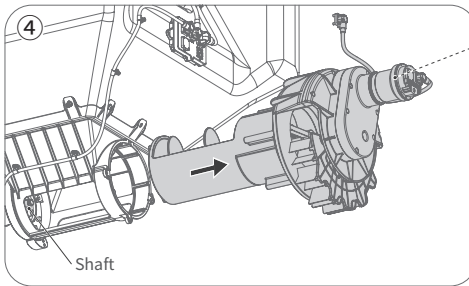
⚠Note

⚠ When reinstalling the screw feeder shell assembly, align the guides with the guide rails and insert into RevoCast. When inserting, adjust screw feeder to align the slot under screw feeder with the motor shaft. Tighten the set screws, and gently shake to ensure that the screw feeder shell assembly is installed securely.

Replace Screw Feeder

If the wear depth on one side exceeds 2 mm (the original diameter is 120 mm), please replace the screw feeders to ensure that RevoCast works well.

① Refer to the "Clean RevoCast" (pages 11-12) to pull out the screw feeder shell assembly.

② Unscrew the four screws securing the screw feeder shell and the spread disc assembly, and remove the spread disc assembly.
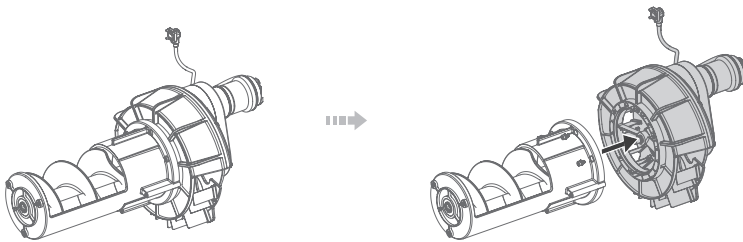
③ Replace the screw feeder with a new one, and reinstall the spreading assembly .

④ After replacing the screw feeder, spreading calibration and manual spreading test are required to ensure the RevoCast works well before the next spreading operation.
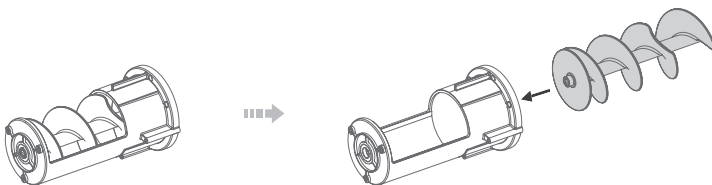
Examples of Granules for Different Sized Screw Feeders

Screw Feeder Size	Granule
L (Standard)	Fertilizer
M (Optional)	Rice
S (Optional)	Rapeseed

Specifications

Model	M4RCP115AH
Dimensions	1086 × 1012 × 743 mm
Weight	14.8 kg
Capacity of Granule Container	115 L
Rated Load of Granule Container	70 kg
Quantity of Screw Feeder	1
Max. Rotational Speed	15000 rpm
IP Rating	IP65
Operating Ambient Temperature	0° C to 40° C
Storage Ambient Temperature	0° C to 40° C
Effective Spread Width	3-8 m (subject to flight height, seed's weight & shape, dosage, environment, etc.)
Applicable Granule Size	1-10mm (dry and solid granules)
Spread Amount Accuracy	±10% (subject to granule type and moisture)
Compatibility	XAG P150 2024 Agricultural Drone

Disclaimer

1. Please read the User Manual carefully before using this product, as this Disclaimer has much to do with both operational safety and your legitimate rights and interests. You shall be deemed to have read, known, understood, agreed to and accepted all the terms and conditions as well as information stated herein upon the use of this product.

2. Not being a toy and with certain safety risks, this product is not suitable for those who are under 16 years old, those who have limited or no capacity for civil conduct, those with mobility impairments, or those who have not legally obtained a conventional agricultural drone operator certificate under existing laws and regulations of the location where the product is used. Individuals who have not obtained the conventional agricultural drone operator certificate as required by law are not allowed to come into contact with or use this product. Please be particularly cautious when operating this product with children, crowds, or animals present.

3. This product is the RevoCast of the XAG P150 2024 Agricultural Drone solely designed for agricultural use. Be sure to read the User Manual carefully before using this product to understand your legitimate rights and interests, responsibilities as well as safety guidelines. Otherwise, property damage and accidents could be caused; personal safety could be at risk.

4. Operator undertakes to use the product within the bounds of the law for legitimate purposes only and agrees to the terms and conditions stated herein as well as potential related policies and norms formulated by XAG. User understands and accepts that flight records and data created during use will be automatically uploaded and saved to XAG's server. XAG shall resume no responsibility for the failure to analyze such flight records and operation data caused by the unsuccessful upload for any reason attributable to the user.

5. Please install, use, transport, and maintain the product under the instructions in this User Manual. Do NOT convert, modify or disassemble this product on your own as any malfunction or damage arising therefrom or resulting from your improper use will not be covered by the warranty, and you shall solely assume the liability arising therefrom, both financially and legally.

6. To the maximum extent permitted by law, under no circumstances shall XAG offer an implicit or explicit guarantee for this product, including but not limited to implicit guarantees pertaining to vendibility, fitness for a particular use, or non-infringement.

7. To the maximum extent permitted by law, XAG shall not be liable for any loss caused by your use of this product outside the instructions in this User Manual. Furthermore, XAG shall not be liable for any indirect, consequential, punitive, accidental, special or exemplary damage, including any loss incurred as a result of your purchase, use, or inability to use the product, even if you have been advised of the possibility of such loss.

8. 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.

9. You understand that in the use of any products, accidents may occur as a result of a 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.

10. On any account, purchaser or user shall comply with the laws and regulations of the country and region where the product is used. XAG shall assume no liability arising from the violation of relevant laws and regulations by the purchaser or user.

11. Please note that the use of this device with drones may involve the collection, storage, and processing of the geographic information and data of farmland, which are subject to applicable laws and regulations. Before using this product, please ensure compliance with the laws and regulations concerning the collection, storage, and processing of the geographic information and data of farmland in the location where the product is used. Any financial or legal liability arising from any violations of the laws and regulations shall be borne solely by the operator.

12. As exclusion clauses may be prohibited by national laws and regulations, your rights may vary. However, this does not imply that certain or all terms contained in this Disclaimer are necessarily invalid. For any reason that certain terms stated herein are deemed void, other terms shall remain in effect.

13. To the extent permitted by law, XAG reserves the right for final explanation and revision of the terms and conditions stated hereinabove. XAG also has the right to update, modify or terminate these terms and conditions via its official website, User Manual, online App, etc., without prior notice.

Warning

Before using a drone and its peripherals, user is required to read through the User Manual and obtain a UAS operator certificate accredited by XAG or the laws, regulations, and policies of the country/region where the product is used. Otherwise, improper operation of the drone and its peripherals may cause serious injury to user or others, or cause damage to the product and property loss. Safety awareness is of great importance during operation. Meanwhile, this product is not suitable for children or those who are under 16 years old, those who have no or limited capacity for civil conduct, or those with mobility impairments as prescribed by law. Please install and use the product by strictly following XAG's instructions in the User Manual. Do NOT use any components that are not provided or suggested by XAG for the repair of the product.

Compliance Information

FCC Compliance Notice

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Brand name / model number： *M4RCP115AH*
Suppliers Name(FCC): Pegasus Spray Inc
Suppliers Address (FCC): 2235 79th Ave NE, Medina, WA 98039, USA
Suppliers phone number and / or internet contact information: +1 (503) 866-1228

EU Compliance Statement

"Hereby, *[Guangzhou Xaircraft Technology CO.,LTD.]*, declares that this *[XAG P150 RevoCast 4]* is in compliance with the essential requirements and other relevant provisions of 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address:
www.xa.com/en/service/downloads"

Brand name / model number： *M4RCP115AH*
Suppliers Name(EU)： *NIK ELECTRONICS LTD*
Suppliers Address (EU)： *Sofia, 11B Brussels Blvd., fl.13*
Suppliers phone number and / or internet contact information： *00359899952228*

KCC Warning Message

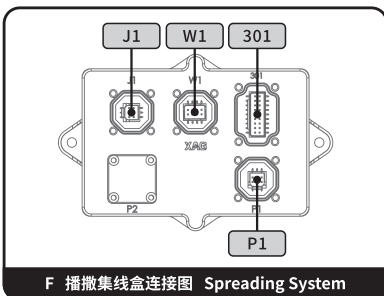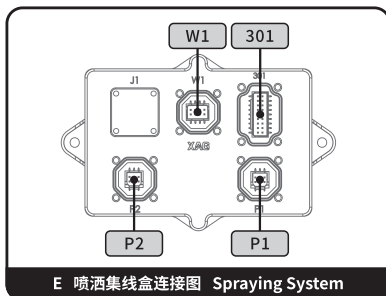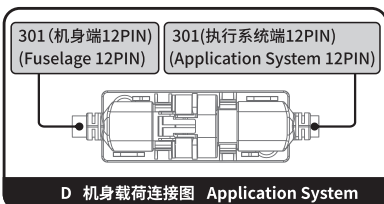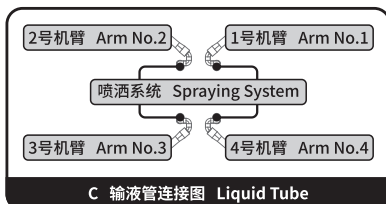**이기기는업무용환경에서사용할목적으로적합성평가를받은기기로서가정용환경에서사용하는경우전파간섭의우려가있습니다 .**

Appendix

Wiring Quick Guide

模块接线指引　　XAG 极飞科技

A 飞行控制系统连接图　Flight Controller

Labels: A, B, C, 4G-M, RTK-L, WIFI-L, WIFI-R, RTK-R, 4G-DIV

B 机头集线板连接图　Nose Cable Hub

Labels: 301, B, A, M1, M2, M4, M3, BAT

C 输液管连接图　Liquid Tube

2号机臂　Arm No.2 ／ 1号机臂　Arm No.1 ／ 喷洒系统　Spraying System ／ 3号机臂　Arm No.3 ／ 4号机臂　Arm No.4

D 机身载荷连接图　Application System

301（机身端12PIN）(Fuselage 12PIN) ／ 301（执行系统端12PIN）(Application System 12PIN)

E 喷洒集线盒连接图　Spraying System

Labels: W1, 301, J1, P2, P1

F 播撒集线盒连接图　Spreading System

Labels: J1, W1, 301, P2, P1

A 飞行控制系统
A Flight Controller

B 机头集线板
B Nose Cable Hub

1号机臂
Arm No.1

2号机臂
Arm No.2

4号机臂
Arm No.4

C 输液管
C Liquid Tube

3号机臂
Arm No.3

D 机身载荷
D Application System

E 喷洒集线盒
E Spraying System

F 播撒集线盒
F Spreading System

⚠ 注意 CAUTION

1.禁止在通电状态下，拆装任意模块。
  Never disassemble or assemble any module while powered on.
2.所有模块安装完毕后，才可启动电源。
  Do NOT turn the power on until all modules are installed.
3.接线时保持接线头、接头槽、密封圈洁净。
  Keep connectors, ports, and sealing rings clean when wiring.
4.安装输液管时，请勿压折。
  Make sure tubes are not crushed or twisted when assembled.

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