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Warnings

1. The MG Series Spreading System (abbreviated as Spreading System) is only compatible with the DJI AGRAS™ MG series aircraft, and the firmware of the aircraft must be the correct version for supporting the Spreading System. Refer to the Specifications section for more information about compatible aircraft. DO NOT use it with other products or for purposes other than agriculture.

2. The Spreading System is compatible with dry materials of a diameter between 0.5 - 5 mm. DO NOT use with other materials. Use with other materials will adversely affect operating results and may damage the Spreading System. All materials must be used in strict accordance with the instructions for those materials.

3. Internal spread tank load must not exceed 10 kg.

4. Use of a threadlocker is required during the installation process. Make sure that the threadlocker is totally dry and solid before flight.

5. Make sure that the hopper gate and spinner disk function normally before each use.

6. Operate with caution to avoid injury caused by mechanical parts.

7. When spreading is in progress, maintain a safe distance from the Spreading System to avoid injury.

8. If spreading while a radar module is mounted, the minimum detection range of the radar module will be increased from 1.5 m to 5 m due to obstruction from the materials being spread and the radar module may incorrectly detect obstacles. Note that the aircraft cannot sense obstacles that are not within the detection range. The detection performance of the radar module will also decrease. Fly with caution. Refer to the disclaimer and safety guidelines of the corresponding aircraft you are operating or the user guide of the radar module for more information on the radar module.

9. DO NOT use liquids to rinse the Spreading System. It is recommended to use dry compressed air as a cleaning agent.
Introduction

The MG Series Spreading System is compatible with Agras MG series aircraft and offers efficient, reliable, and stable spreading operations. The material delivery system is precisely controlled by the built-in stirring device and hopper gate, which can prevent material blockages and improve operating accuracy and reliability.

Use the app compatible with your aircraft to set parameters such as the hopper outlet size and spinner disk rotating speed. These parameters can be adjusted to meet different requirements. The app provides warning prompts for an empty tank as well as for abnormalities in the rotating speed, temperature, and hopper outlet size. These prompts help ensure system safety.

The Spreading System has two versions, 1.0 and 2.0. They each have a different structure for the spinner disk. Compared with the Spreading System 1.0, the Spreading System 2.0 has a higher material delivery rate and can spread materials 360° around the aircraft. Unless otherwise specified, the descriptions in this document use the Spreading System 1.0 as an example.

In the Box

<table>
<thead>
<tr>
<th>Spreading System x 1</th>
<th>Spare Spinner Disk x 2</th>
<th>Landing Gear Leg Extender x 4</th>
<th>Screw Pack</th>
</tr>
</thead>
</table>

| ![Spreading System](image1.png) | ![Spare Spinner Disk](image2.png) | ![Landing Gear Leg Extender](image3.png) | ![Screw Pack](image4.png) |

M3 × 6

Users have the option to purchase a fender with a screw pack to use with the Spreading System 2.0.

Overview

![Overview Diagram](image5.png)

Installation

A hex key for M3 screws is required for installation.

1. Mount landing gear leg extenders when using with an Agras MG-1S aircraft.
   a. Remove the eight M3×6 screws in the lower section of the two landing gear legs and remove the two landing skids.
   b. Mount the four landing gear leg extenders to the original landing gear legs. Make sure to align the screw holes before inserting and tightening the eight M3×6 screws.
c. Remount the two landing skids using the eight M3×6 screws.

2. For the Spreading System 2.0, there is the option to mount the fender to the spreader. If mounted, the fender will prevent materials from being spread to the rear of the aircraft.

3. Mount the Spreading System to the aircraft.
   a. Loosen the four M3 screws on fixing bracket on the left landing gear leg. Next, slide the fixing bracket to a position 125 mm below the landing gear mounting base as shown below and tighten the four screws.
   b. Lift the spread tank with the mouth of the tank facing towards the rear of the aircraft.
   c. Insert the plugs on the left landing gear leg into the mounting holes on the spread tank.
   d. Slide the fixing bracket on the right landing gear leg to a position 135 mm below the landing gear mounting base as shown below, and align the screw holes on the fixing bracket with the fin on the right side of the spread tank. Tighten the two M3×12 screws, and insert and tighten one M3×10 (Plus) screw.
e. Connect the cable to the Reserved Expansion Port 2 (7-pin) on the bottom of the aircraft body.

Usage

1. Open the cover of the spread tank as shown, add compatible materials, and close the cover.

2. Power on the remote controller, and then power on the aircraft.
3. Enter Operation View in the app.
4. To set the hopper outlet size, spinner disk rotating speed, and flying speed, tap the Spreading Settings button [89%], which is located towards the top of the interface. Adjust the settings so that they are suitable for the materials you are using and test to make sure the performance is as expected.

For the Spreading System 1.0, when measuring between 7.5 to 9 kg/ha of materials spread, it is recommended to:
• Adjust the hopper outlet size so that the material delivery rate is 1 kg/min.
• Adjust the spinner disk rotating speed so that the spreading range is 4 to 6 meters.
• Set the flying speed to 4 m/s (flying speed setting is unavailable in Manual Operation Mode).

For the Spreading System 2.0, when measuring 45 kg/ha of materials spread, it is recommended to:
• Adjust the hopper outlet size so that the material delivery rate is 8 kg/min.
• Adjust the spinner disk rotating speed so that the spreading range is 5 to 7 meters.
• Set the flying speed to 5 m/s (flying speed setting is unavailable in Manual Operation Mode).

5. Enter the operation mode required for spreading. The operations of the Spreading System vary depending on the operation mode.
Route Operation Mode
After starting an operation, the aircraft ascends to an altitude of 4 meters and the spinner disk spins. When the aircraft reaches the route starting point, the hopper gate opens according to the set value and the aircraft flies along the route and spreads material automatically. Spreading cannot be started or stopped manually.

The operation resumption function can be used during operation. Once the operation is paused, the hopper gate closes automatically to stop spreading while the spinner disk is still spinning. After operation is resumed, the aircraft returns to the breakpoint or projection point and continues spreading.

A-B Route Operation Mode
After the aircraft enters A-B Route Operation Mode, the spinner disk spins. When the aircraft reaches the first turning point, the hopper gate opens according to the set value and the aircraft flies along the route and spreads material automatically. Spreading cannot be started or stopped manually.

The operation resumption function can be used during operation. Once the operation is paused, the hopper gate closes automatically to stop spreading while the spinner disk is still spinning. After operation is resumed, the aircraft returns to the breakpoint or projection point and continues spreading.

Manual Plus Operation Mode
Switch to M+ after the aircraft takes off. Press the Spray button to start the spinner disk. The hopper gate opens according to the set value and the aircraft spreads material automatically once it has begun flying.

Manual Operation Mode
Switch to M after the aircraft takes off. Use the Spray button on the remote controller to start or stop spreading.

In all operation modes except Manual Operation Mode:
- When the aircraft flies forward or backward, the hopper gate opens automatically to start spreading.
- When the aircraft flies left or right, the hopper gate closes automatically to stop spreading while the spinner disk continues to spin.

Spreading System Calibration

When to Calibrate
The Spreading System has been calibrated before delivery. There is no need to calibrate it before using for the first time. Calibration is required in any of the following cases:
- The hopper gate cannot fully open or close.
- The material delivery rate is different from the desired value.
- The app incorrectly displays empty tank warnings.

Calibration Procedure
In the app, enter Operation View. Tap ☀️ at the top of the screen, then tap Calibration in ☀️ Spreading System Settings. Wait until the app indicates calibration is complete. If calibration fails, try again.
**Maintenance**

1. Clean the residue inside the spread tank and spreader regularly. It is recommended to use dry compressed air and a clean, soft dry cloth. DO NOT rinse with liquids.

2. The spinner disk is a consumable part. If obvious signs of wear are noticeable, follow the steps below to replace the spinner disk.
   a. Make sure that the aircraft is powered off, and then unplug the Spreading System cable.
   b. To unlock the spreader, pull the spreader lock knob out, rotate it 90°, and release. Then rotate the spreader to detach it.
   c. Remove the nut, washer, four M3x8 screws, and spinner disk at the bottom of the spreader. Mount a new spinner disk and secure it using the washers, M3x8 screws, and nut.
   d. Check the spreader lock knob is in an unlocked position. Insert the spreader with the knob located to the left of the circular indentation on the spread tank.
   e. Rotate the spreader to mount it to the spread tank. To lock the spreader, pull the spreader lock knob out, rotate it 90°, and release. Make sure that the spreader is locked in position.
Operate with caution to avoid injury caused by mechanical parts.

## Specifications

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compatible Aircraft</strong></td>
<td>Agras MG-1S, Agras MG-1S Advanced, Agras MG-1P series</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Spreading System 1.0: 1.8 kg</td>
</tr>
<tr>
<td></td>
<td>Spreading System 2.0: 2.1 kg (excluding fender)</td>
</tr>
<tr>
<td><strong>Spread Tank Volume</strong></td>
<td>13 L</td>
</tr>
<tr>
<td><strong>Spread Tank Internal Load</strong></td>
<td>10 kg</td>
</tr>
<tr>
<td><strong>Compatible Material Diameter</strong></td>
<td>0.5 - 5 mm</td>
</tr>
<tr>
<td><strong>Max Hopper Outlet Area</strong></td>
<td>Spreading System 1.0: 8.6 cm², Spreading System 2.0: 32.3 cm²</td>
</tr>
<tr>
<td><strong>Spreading Range</strong></td>
<td>Varies according to material diameter, spinner disk rotating speed, hopper outlet size, and flying altitude. For best operating performance, it is recommended to adjust the corresponding variables to achieve a spreading range of 4 - 6 meters (for Spreading System 1.0) or 5 - 7 meters (for Spreading System 2.0).</td>
</tr>
</tbody>
</table>

* The firmware of the aircraft must be the correct version for supporting the Spreading System. Check the release notes of the corresponding aircraft on the official DJI website.
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注意事项
1. MG 系列播撒系统（简称“播撒系统”）仅适用于 DJI MG 系列农业植保机（具体机型见“规格参数”），且需配合支持播撒系统的飞行器固件使用。切勿在其他产品上使用或用于农业植保以外的用途。
2. 播撒系统适合使用颗粒直径为 0.5 - 5 mm 的干燥物料。切勿使用其他物料，否则将影响作业效果，甚至损坏播撒系统。使用时，严格按照物料本身的使用说明进行操作。
3. 播撒系统作业箱内部最大载重 10 kg。切勿超重使用。
4. 安装时务必使用螺丝胶，并确保螺丝胶完全干燥固化后再飞行。
5. 每次使用前，检查仓门开合是否顺畅，播撒盘运转是否正常。
6. 使用时务必小心，谨防机械结构伤手。
7. 进行播撒作业时，务必远离播撒系统，以免造成人身伤害。
8. 若已安装雷达模块，进行播撒作业时，雷达模块可能出现误报，且由于播撒颗粒的遮挡，雷达模块的最小检测距离将由 1.5 米变为 5 米。如有障碍物处于探测范围以外，则飞行器无法感知障碍物。同时，雷达模块的检测性能亦有所减弱，务必谨慎飞行。更多雷达模块注意事项请参考对应飞行器的《免责声明和安全操作指引》或雷达模块的《使用说明》。
9. 禁止水洗。建议使用干燥的压缩空气进行清洁。

简 介
MG 系列播撒系统是一款适用于 DJI MG 系列农业植保机的配件，将其安装至飞行器，可完成高效、可靠、稳定的播撒作业。内置搅拌装置及落料口仓门控制结构，精准控制落料速率，并有效防止落料堵塞，提高作业准确度及可靠性。

用户可通过与飞行器配套使用的 App 设置仓口大小、播撒盘转速等，满足不同作业场景的使用需求。App 可提示无料报警及转速、温度、仓口大小等参数异常报警，确保系统安全运行。

播撒系统分为 1.0 和 2.0 版本，其播撒盘结构有所不同。与播撒系统 1.0 相比，播撒系统 2.0 具有更大的落料速率，且可以在飞行器水平方向上 360° 范围内播撒物料。若无特殊注明，本文均以播撒系统 1.0 为例进行说明。
**物品清单**

<table>
<thead>
<tr>
<th>部件名称</th>
<th>数量</th>
</tr>
</thead>
<tbody>
<tr>
<td>播撒系统</td>
<td>×1</td>
</tr>
<tr>
<td>备用播撒盘</td>
<td>×2</td>
</tr>
<tr>
<td>起落架延长管</td>
<td>×4</td>
</tr>
<tr>
<td>螺丝包</td>
<td></td>
</tr>
<tr>
<td>M3 × 6</td>
<td></td>
</tr>
</tbody>
</table>

对于播撒系统 2.0，用户还可选购挡板及螺丝包配合使用。

**部件名称**

**安 装**

请自备适用于 M3 螺丝的内六角扳手。

1. 在 MG-1S 飞行器上使用时，需安装起落架延长管。
   a. 移除左右起落架下方的 8 颗 M3 × 6 螺丝，然后移除两根起落架底管。
   b. 安装 4 根起落架延长管至原起落架支撑管，注意对准螺丝孔，然后拧紧 8 颗 M3 × 6 螺丝。
   c. 重新安装起落架底管，拧紧 8 颗 M3 × 6 螺丝。
2. 对于播撒系统 2.0，用户可选择安装挡板至播撒机，安装挡板后播撒系统将不会向飞行器后方播撒物料。

3. 安装播撒系统至飞行器:
   a. 拧松左侧起落架上作业箱固定件的4颗M3螺丝，然后将其滑动至距离起落架安装位置125 mm处（如图），拧紧螺丝。
   b. 使播撒作业箱加料口朝向机尾，托起作业箱。
   c. 使左侧起落架上的作业箱固定件嵌入作业箱的安装孔。
   d. 将右侧起落架上的固定件上滑至距离起落架安装位置135 mm处（如图），使作业箱右侧的固定片与起落架上的安装孔对齐，拧紧2颗M3×12螺丝和1颗M3×10 (Plus) 螺丝。
   e. 将连接线插入飞行器底部的预留扩展接口 2（7针）。

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使用

1. 按照图示方式打开作业箱盖子，加入适量物料，然后关好。

2. 依次开启遥控器及飞行器。

3. 进入 App 作业界面。

4. 点击上方的播撒参数设置按键，设置仓口大小、播撒盘转速、飞行速度等。用户需自行根据所使用的物料调整各参数并进行测试，以达到预期作业效果。
   对于播撒系统 1.0，以物料亩用量 0.5 - 0.6 kg 为例，建议：
   • 调节仓口大小使每分钟落料量为 1 kg；
   • 调节播撒盘转速使播撒范围为 4 - 6 m；
   • 设置飞行速度为 4 m/s（手动作业模式下飞行速度设置不生效）。
   对于播撒系统 2.0，以物料亩用量 3 kg 为例，建议：
   • 调节仓口大小使每分钟落料量为 8 kg；
   • 调节播撒盘转速使播撒范围为 5 - 7 m；
   • 设置飞行速度为 5 m/s（手动作业模式下飞行速度设置不生效）。

5. 按照飞行器使用方法进入所需作业模式进行播撒作业。播撒系统在不同作业模式下的运行方式略有不同。

航线作业模式
执行作业后，飞行器起飞上升至 4 米高度，同时播撒盘开始转动。飞行器飞至航线起点时，仓门按照所设值开启，飞行器沿航线飞行并播撒物料。用户不可手动开启或停止播撒。
作业时可使用作业恢复功能：作业暂停后，仓门关闭，播撒停止（播撒盘仍继续转动）；继续作业后，飞行器飞回中断坐标点或投影点，然后自动继续播撒作业。

A-B 点作业模式
切换至 A-B 点作业模式后，播撒盘开始转动。飞行器飞至第一个节点时，仓门按照所设值开启，飞行器沿作业路线飞行并播撒物料。用户不可手动开启或停止播撒。
作业时可使用作业恢复功能：作业暂停后，仓门关闭，播撒停止（播撒盘仍继续转动）；继续作业后，飞行器飞回中断坐标点或投影点，然后自动继续播撒作业。
增强型手动作业模式
飞行器起飞后，切换至 M+ 作业模式。此时用户需短按一次遥控器喷洒按键（此时作为播撒按键使用）以使播撒盘转动。飞行器开始飞行后，仓门按照所设值开启，并自动播撒物料。

手动作业模式
飞行器起飞后，切换至 M 作业模式。用户可使用遥控器播撒按键手动开始或停止播撒。

除手动作业模式外，其他作业模式下：
- 飞行器前后飞行时仓门自动开启，进行播撒；
- 飞行器左右飞行时仓门自动关闭，停止播撒（播撒盘仍继续转动）。

播撒系统校准

需要校准的情况

播撒系统出厂时已完成校准。若使用时出现以下情况，则用户需自行校准：
- 仓门无法完全打开或关闭；
- 落料速率与预期值有偏差；
- App 误报无料报警。

校准步骤

进入 App 作业界面，点击右上方的图标，在 播撒系统设置中点击校准，然后等待校准完成。若校准失败，请重试。

维护保养

1. 定期清理作业箱及播撒机内的残渣。建议使用干燥的压缩空气吹气进行清理，并使用干净柔软的干布擦拭。切勿水洗。
2. 播撒盘为易损耗部件，如存在明显磨损，请按如下步骤及时更换播撒盘：
   a. 确保飞行器电源断开，然后断开播撒系统连接线。
   b. 向外拔出播撒机锁止旋钮，转动 90° 后松开以解除锁定，然后转动播撒机将其拆下。
c. 移除播撒机下方的螺母、垫片、4 颗 M3 × 8 螺丝及播撒盘，然后安装新的播撒盘，装回垫片并拧紧 M3 × 8 螺丝及螺母。

![播撒盘结构图]

d. 确保播撒机锁止旋钮处于解锁状态，将旋钮位置偏向作业箱上圆形凹槽的左侧，然后向上嵌入播撒机。

e. 转动播撒机将其安装至作业箱，然后向外拔出锁止旋钮，转动 90° 后松开以锁定播撒机。

![播撒机安装过程图]

务必确保播撒机锁定到位。

⚠️ 务必小心操作，谨防机械结构伤手。

### 规格参数

<table>
<thead>
<tr>
<th>参数</th>
<th>MG-1S、MG-1S Advanced、MG-1P 系列农业植保机</th>
<th>播撒系统 1.0：1.8 kg，播撒系统 2.0：2.1 kg（不含挡板）</th>
<th>13 L</th>
<th>10 kg</th>
<th>0.5 - 5 mm</th>
<th>播撒系统 1.0：8.6 cm²，播撒系统 2.0：32.3 cm²</th>
<th>与物料颗粒直径、播撒盘转速、仓口大小、飞行高度等因素有关。</th>
<th>建议用户调整相关变量，使播撒范围处于 4 - 6 m（播撒系统 1.0）或 5 - 7 m（播撒系统 2.0），以获得较好的作业效果</th>
</tr>
</thead>
<tbody>
<tr>
<td>适用飞行器</td>
<td>M-1S、M-1S Advanced、M-1P 系列农业植保机</td>
<td>播撒系统 1.0：1.8 kg，播撒系统 2.0：2.1 kg（不含挡板）</td>
<td>13 L</td>
<td>10 kg</td>
<td>0.5 - 5 mm</td>
<td>播撒系统 1.0：8.6 cm²，播撒系统 2.0：32.3 cm²</td>
<td>与物料颗粒直径、播撒盘转速、仓口大小、飞行高度等因素有关。</td>
<td>建议用户调整相关变量，使播撒范围处于 4 - 6 m（播撒系统 1.0）或 5 - 7 m（播撒系统 2.0），以获得较好的作业效果</td>
</tr>
</tbody>
</table>

* 需配合支持播撒系统的固件使用，请留意 DJI 官网对应机型的发布记录。
Rare earth elements must be disposed of separately, not mixed with other waste. This can lead to problems for recycling processes. Therefore, it is important to properly separate and dispose of these materials. 

Elimination ecological
The disposal of electronic waste is a crucial issue for the safety of the environment. The existence of hazardous substances, such as lead (Pb), mercury (Hg), cadmium (Cd), and hexavalent chromium (Cr(VI)) must be minimized to prevent environmental damage. 

The content of these substances in electronic waste must comply with the prescribed limits. The European Union has set specific limits for various electronic waste materials, including batteries and accumulators. These limits are enforced to protect the environment and human health. 

For example, the content of lead in batteries and accumulators is limited to 0.4% of their weight. Similarly, the content of mercury in fluorescent lamps is limited to 0.2 mg per lamp. 

These limits are set to ensure that electronic waste is managed in an environmentally friendly manner. The improper disposal of electronic waste can lead to pollution of soil and groundwater, as well as harm to wildlife and human health. 

Therefore, it is important to properly separate and dispose of electronic waste to prevent environmental damage. This can be achieved through proper labeling and disposal of electronic waste, as well as promoting recycling and reutilization of electronic waste materials. 

In conclusion, the proper management of electronic waste is crucial to protect the environment and human health. The implementation of proper measures, such as separation and disposal, is necessary to prevent environmental damage and promote sustainable development.