Servo Airdrop-2

Aluminium payload release mechanism
User manual



The servo is not included. Read the entire manual before the first installation, in particular chapters 2.1 Safety and 2.2 Regulations.

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1. Product description

1.1 What it is for

The Servo Airdrop-2 is an aluminium assembly for easy release of a payload. It can be used for dropping objects from drones, towing gliders or launching RC aircraft. The body is CNC-milled from aluminium, which makes it light and robust; the servo arm and the linkage are also made of aluminium.

A servo is fitted into the body and, via the linkage, slides a pin out of the hooks. The **Airdrop-2** version has **two hooks**, i.e. two separate release or drop points. The mounting plate with slots allows the mechanism to be screwed to a drone frame or a model.



Servo Airdrop-2 with a servo fitted (servo not included)

1.2 Technical data and package contents

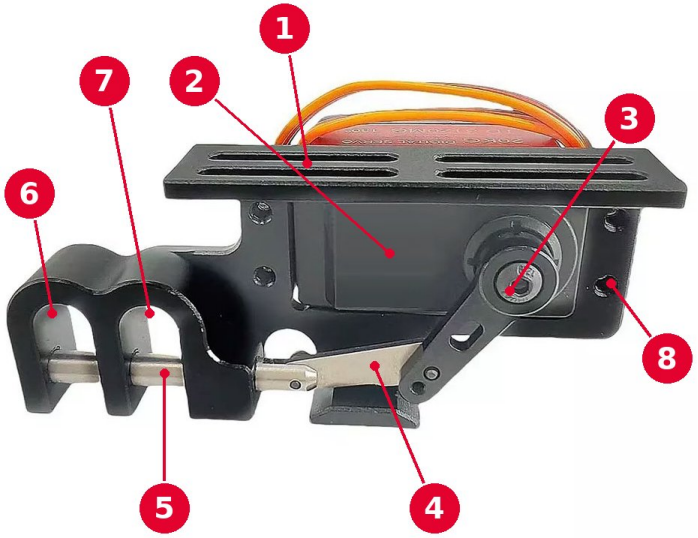
Product designation	Servo Airdrop-2
Body material	aluminium 6061
Weight	36 g (without servo)
Number of drop points	2 (two hooks)
Recommended servo	MG996R
Dimensions	see chapter 1.3

▶ **Package contents**

- 1× aluminium body
- 1× servo arm with linkage and pin
- 1× set of screws

❉ The package does NOT include the servo, screws for mounting to the frame or cables. The servo is sold separately.

1.3 Parts and dimensions



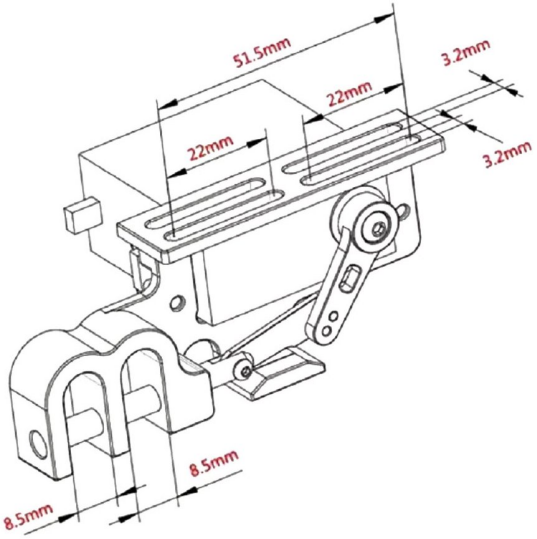
Front view with a servo fitted

① Mounting plate with four slots for screwing to the frame
② Servo (not included)
③ Servo arm
④ Linkage
⑤ Pin – holds the attached payload in the hooks
⑥ Outer hook
⑦ Inner hook
⑧ Threaded holes for fixing the servo

Dimension (according to product drawings)	Value
Overall body length	88 mm
Body height	28 mm
Mounting plate length	61 mm
Slot length in the mounting plate	22 mm
Slot width in the mounting plate	3.2 mm
Hook width	8.5 mm



Body dimensions



Dimensions of the mounting plate slots and hooks

2. Use

2.1 Safety

- The product is a mechanical part intended for building drones and RC models. Installation and operation should be carried out by a person experienced with RC equipment. Keep out of the reach of children.
- Before any work on the drone or model, **disconnect the flight battery** and remove the propellers. Once powered, the servo may move unexpectedly.
- Neither the manufacturer nor the seller specifies a maximum load capacity of the mechanism. Choose the payload weight with a margin, taking into account the drone's performance, the strength of the mounting and the servo torque, and always test any new payload on the ground first.
- The payload must be attached so that it cannot catch on the propellers, landing gear or antenna – neither while swinging in flight nor at the moment of release.
- Never drop objects over people, animals, vehicles, buildings or anywhere a falling object could cause damage.
- Propellers and moving parts of the mechanism can cause injury. Keep your fingers away from the hooks and the pin during tests.

2.2 Regulations for dropping from a drone

Regulations (EU) 2019/947 and 2019/945 apply in all Member States of the European Union, but national implementing rules differ from country to country. The information in this chapter describes the situation in the Czech Republic. If you operate a drone in another country, **the law of the country in which you fly is decisive**.

- In the **open category** of operation, an unmanned aircraft must not **drop any material** or carry dangerous goods during flight (Article 4(1)(f) of Regulation (EU) 2019/947).
- Dropping objects from a drone is therefore only possible in the **specific category** on the basis of an operational authorisation from the competent authority (in the Czech Republic the Civil Aviation Authority, www.caa.gov.cz), or within the authorisation of a model aircraft club or association, if its conditions allow it.
- Glider towing and launching of model aircraft are governed by the rules for model operation in the country concerned and by the conditions of the model club or airfield.
- The operator and the pilot are responsible for compliance with the regulations. The mechanism itself does not replace any authorisation.

2.3 Installing the servo

① Set the servo to its initial position (e.g. by connecting it to the receiver and setting the channel to the “locked” position), and only then fit the arm.

② Insert the servo into the body so that the servo shaft is on the side of the holes (item 8) and the linkage (item 4) (see the figure in chapter 1.3).

③ Screw the servo into the threaded holes (item 8) using the supplied screws.

④ Fit the aluminium arm (item 3) onto the servo shaft and secure it with a screw. The arm must have no play on the shaft.

⑤ Check that in the locked position the pin (item 5) passes through both hooks (items 6 and 7) and that the linkage moves freely, without binding.

※ The servo should not push against a stop in its end positions. Continuous load against a stop overheats the servo and shortens its service life.

2.4 Mounting on a drone or model

- The mechanism is screwed to the frame through the four slots (item 1) in the mounting plate (slot width 3.2 mm). The slots allow the mechanism to be shifted lengthwise to balance the drone.
- Screws and nuts for mounting to the frame are not included – choose them according to the design of your frame.
- Position the mechanism so that the attached payload hangs as close as possible to the drone's centre of gravity. The centre of gravity must not shift significantly after the drop.
- Secure the screw joints against loosening due to vibration (e.g. with medium-strength threadlocker).

2.5 Connecting and setting up the servo

- Connect the servo to a free servo output of the receiver or the flight controller (FC) and configure the output as a servo in its software.
- Power the servo according to its manufacturer's specifications from a source (BEC) able to deliver sufficient current. A weak source can cause a voltage drop when the servo starts moving and reset the receiver or the flight controller.
- Assign the control to a switch on the transmitter. A **three-position switch** is suitable for the Airdrop-2: position 1 = locked, position 2 = release of the outer hook (item 6), position 3 = release of both hooks.
- Set the end points so that in the locked position the pin passes securely through both hooks and in the “release” position it slides out of them completely, but the servo does not push against a stop.
- Also select the “locked” position as the value for loss of signal (failsafe) to prevent an unintended drop.

2.6 Attaching and releasing the payload

① Switch the servo to the “release” position – the pin slides out of the hooks.

② Insert the eyelet or loop of the payload into the hook. One payload can be attached to each hook.

③ Switch the servo to the “locked” position – the pin passes through the hooks and closes the loops. Pull by hand to check that the payload holds.

④ Test the release on the ground before take-off. As the pin retracts, it releases the outer hook (item 6) first and only then the inner hook (item 7) – check at which servo position each hook is released.

⑤ In flight, only drop over a clear and secured area and only where it is permitted (chapter 2.2).

2.7 Maintenance

- Before each flight, check the tightness of the screws, the fixing of the arm on the servo shaft and the free movement of the pin in the hooks.
- Keep the pin and the hooks clean. Dust, sand or dirt can increase friction and prevent the payload from being released.
- Replace a bent pin or linkage, a damaged hook or a servo with play in its gears – do not use the mechanism with damaged parts.
- After a crash or a hard landing, always check the entire mechanism and test the release function on the ground.

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

3.2 Disposal

- The Servo Airdrop-2 is a mechanical part without electronics or batteries. The body is made of aluminium; the pin and the screws are metal.
- At the end of its service life, hand it over for metal recycling or to a collection yard in accordance with local rules. Do not dispose of it with mixed municipal waste.
- The servo (sold separately) is electrical equipment – at the end of its service life, hand it over at a take-back point for electrical equipment, not into mixed waste.
- Sort the packaging by material into the appropriate containers for separated waste.

4. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 3.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.