Vapor D6 O4 Pro

GEPRC · frame for a 6" FPV drone with DJI O4 Air Unit Pro

Assembly and user manual



Before assembly and the first flight, read this entire manual and the manuals of all installed components carefully. Keep this manual.

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1. Safety instructions

1.1 Before you start

This manual describes the assembly of the GEPRC Vapor D6 O4 Pro frame. The frame is a kit intended for building an FPV drone – the frame alone does not fly; to complete it, a propulsion system, electronics and a video system must be added. Before assembly, read this entire manual as well as the manuals of all components you install in the frame.

- This product is not a toy. It is not intended for children; keep small parts (screws, nuts, standoffs) out of the reach of children – risk of inhalation or swallowing.
- Assembling and building an FPV drone requires basic knowledge of electronics, soldering and flight controller (FC) configuration. If you are unsure, ask an experienced modeller for help.
- Work in a clean, well-lit place and use tools of the correct size. Do not overtighten screws – you may damage the thread, the press-in nut or the carbon plate.

1.2 Carbon fibre parts

- The edges of carbon plates may be sharp. Handle them with extra care.
- Do not drill, sand or cut carbon plates. If unavoidable, work wet, wearing a respirator and safety glasses – carbon dust irritates the skin and respiratory tract and is electrically conductive.
- Carbon fibre is electrically conductive. Wires and electronics must not touch carbon plates and edges directly – risk of short circuit. Route wires so that they do not rub against edges.

1.3 The finished drone

- Rotating propellers can cause serious injury. Fit the propellers only after setup is complete, and remove them whenever you work on the drone before switching the motors on.
- Handle Li-Po batteries according to their manufacturer's instructions: charge under supervision on a non-flammable surface and do not use damaged batteries.
- Before every flight, check that all screws are tight and check the condition of the arms and the battery mounting.

2. Product description

2.1 Purpose

The GEPRC Vapor D6 O4 Pro is a high-strength carbon fibre frame for 6-inch propellers, designed for the **DJI O4 Air Unit Pro** digital video system. Its DC structure (arms moved rearwards) keeps the propellers out of the camera view. The camera is held in aluminium side mounts with vibration-damping silicone inserts that reduce the transmission of vibrations.

- 5 mm thick carbon fibre arms for better rigidity and durability,
- dual camera protection – side panels and front lip,
- quick-release design for easy repairs and maintenance,
- rear antenna mount for both the original O4 Pro antenna and SMA adapters.



GEPRC Vapor D6 O4 Pro – assembled frame (manufacturer's illustration)

2.2 Specifications

Parameter	Value
Model	GEP-Vapor-D6 O4 Pro Frame
Wheelbase (motor diagonal)	274.6 mm
Top plate thickness	2.0 mm
Middle plate thickness	2.0 mm
Arm thickness	5.0 mm
Bottom plate thickness	2.5 mm
FC mounting holes	20 × 20 mm / 30.5 × 30.5 mm
VTX mounting holes	20 × 20 mm / 25 × 25 mm / 30.5 × 30.5 mm
Motor mounting holes	16 × 16 mm
Camera mounting	19 mm / 20 mm
Recommended propellers	6"
Frame weight	224 ± 5 g

2.3 Package contents

- 1× GEP-Vapor-D6 O4 Pro Frame (carbon plates and arms, aluminium camera parts, side panels)
- 2× battery strap 20 × 250 mm
- 2× battery silicone pad
- 1× set of screws
- 1× set of 3D printed parts
- 3× L-shaped hex key (1.5 mm, 2 mm and 3 mm)
- 1× M8 wrench

※ Motors, flight controller (FC), electronic speed controllers (ESC), video transmitter, camera, receiver, propellers and battery are not included.

3. Before assembly

3.1 What else you need

To complete the drone, you need to obtain separately:

- 4 motors with a 16 × 16 mm mounting hole pattern,
- a flight controller (FC) and electronic speed controllers (ESC) – a stack with 20 × 20 mm or 30.5 × 30.5 mm mounting pattern,
- the DJI O4 Air Unit Pro digital video system (the frame is designed for it),
- an RC receiver compatible with your radio transmitter,
- 6-inch propellers, a battery and a charger,
- optionally a GPS module and a GoPro-type action camera.

Choose the motor size, battery voltage and propeller type according to the recommendations of the individual component manufacturers so that they match each other.

3.2 Tools and supplies

- 1.5 mm, 2 mm and 3 mm hex keys and M8 wrench (included),
- soldering iron, solder and flux for wiring the electronics,
- cable ties, heat-shrink tubing,
- medium-strength threadlocker for metal-to-metal screws (e.g. motor screws); do not use it on screws threaded into plastic parts.

3.3 Screws and hardware

The assembly figures in chapter 4 use the following hardware designations (dimensions according to the manufacturer):

Designation	Description
M3 × 6	M3 countersunk screw, length 6 mm
M3 × 7 / × 10 / × 11 / × 15	M3 round-head screw, length 7, 10, 11 or 15 mm
M2 × 5 / × 6	M2 round-head screw, length 5 or 6 mm
M2 × 6.5	M2 round-head screw with cushion, length 6.5 mm
M3 × 6 × 23 / × 30	M3 textured aluminium pillar, length 23 or 30 mm
M2 × 3.5 × 15	M2 aluminium standoff, length 15 mm
M3 / M2	rivet (press-in) nuts; M2 made of brass

Damaged 3D printed parts can be reprinted. STL files of the Vapor series parts can be downloaded from the manufacturer's website (geprc.com/downloads/vapord) – according to the manufacturer for non-commercial use only.

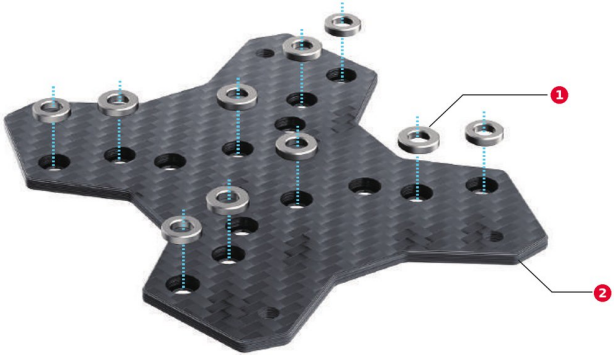
4. Frame assembly

The procedure follows the manufacturer's assembly instructions (*Vapor O4 Pro Frame Assembly Instructions*). The circled numbers in the figures correspond to the list below each figure.

❖ Install the electronics (motors, FC/ESC stack, DJI O4 Air Unit Pro, receiver) as you go – always before they are covered by the side panels and the top plate. For the recommended order see chapter 5.

4.1 Step 1 – Arm Bracket Assembly

Insert the M3 rivet nuts into the arm bracket as shown in the figure.

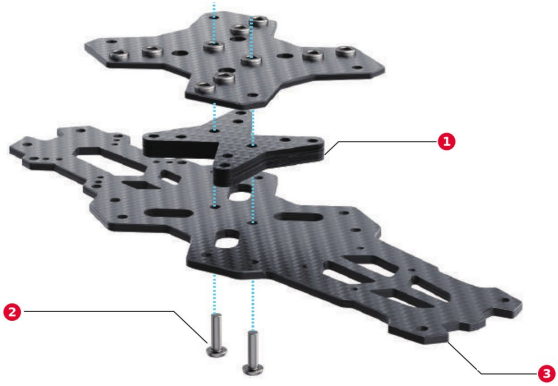


① M3 Rivet Nuts

② Bracket

4.2 Step 2 – Bottom Plate Assembly

Place the arm limiting plate on the bottom plate and join both plates with M3 × 11 screws.



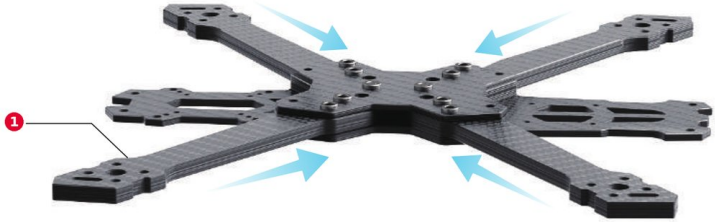
① Arm Limiting Plate

② M3 × 11 Round-Head Screws

③ Bottom Plate

4.3 Step 3 – Drone Arms Assembly

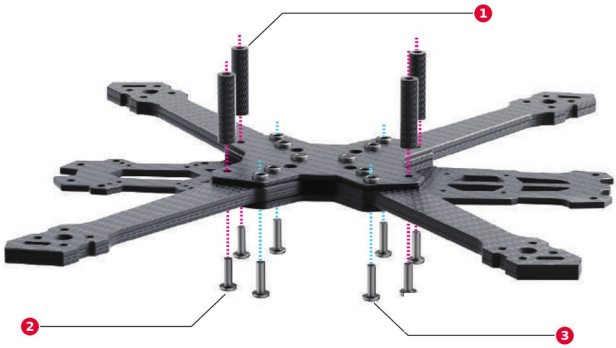
Insert the four arms between the bottom assembly and the arm bracket in the direction of the arrows.



① Drone Arms

4.4 Step 4 – Aluminum Pillars Installation

Clamp the arms and plates together from below with M3 × 11 and M3 × 15 screws and fit the M3 × 6 × 23 aluminium pillars on the top side – the figure shows the positions of the screws and pillars.



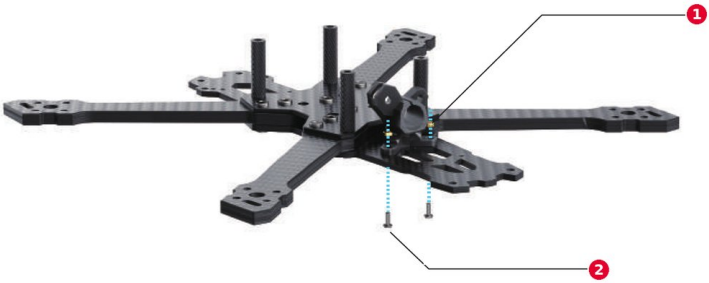
① M3 × 6 × 23 Textured Aluminum Pillars

② M3 × 11 Round-Head Screws

③ M3 × 15 Round-Head Screws

4.5 Step 5 – Capacitor Fixed Parts Assembly

Fasten the capacitor mount with M2 × 6 screws into the M2 brass rivet nuts.



① M2 Brass Rivet Nuts

② M2 × 6 Round-Head Screws

4.6 Step 6 – Camera Aluminum Parts Assembly

Fit the aluminium camera side mounts and the front plate and fasten them from below with M3 × 10 screws.



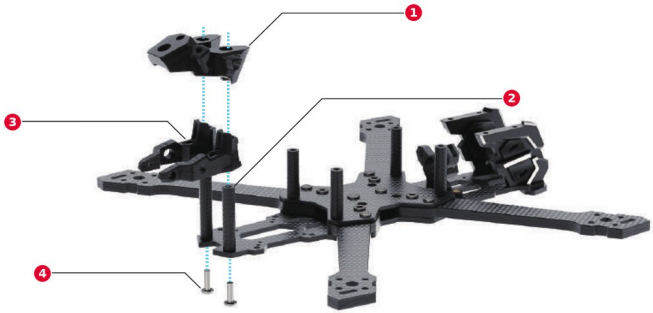
① Camera Aluminum Parts

② Front Plate

③ M3 × 10 Round-Head Screws

4.7 Step 7 – Antenna Fixed Parts Assembly

At the rear of the frame, install the M3 × 6 × 30 textured pillars, the receiver antenna mount and the VTX antenna mount. Fasten them with M3 × 7 screws.



① VTX Antenna Fixed Parts

② M3 × 6 × 30 Textured Aluminum Pillars

③ Receiver Antenna Fixed Parts

④ M3 × 7 Round-Head Screws

4.8 Step 7a – Antenna mount with SMA connector

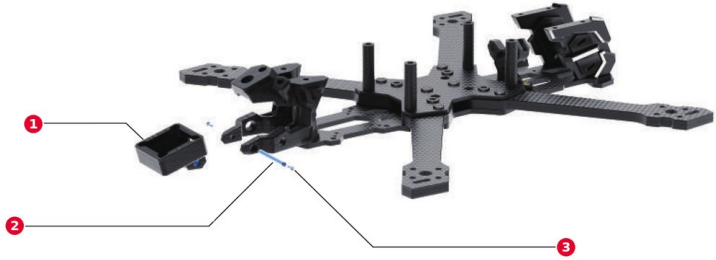
If you use an SMA adapter instead of the original O4 Pro antenna, fit the SMA mount instead of the VTX antenna mount from step 7.



① VTX Antenna SMA Fixed Parts

4.9 Step 8 – GPS Fixed Parts Assembly

Attach the GPS module mount to the rear of the frame using the M2 × 3.5 × 15 aluminium standoff and the M2 × 6.5 screw with cushion.



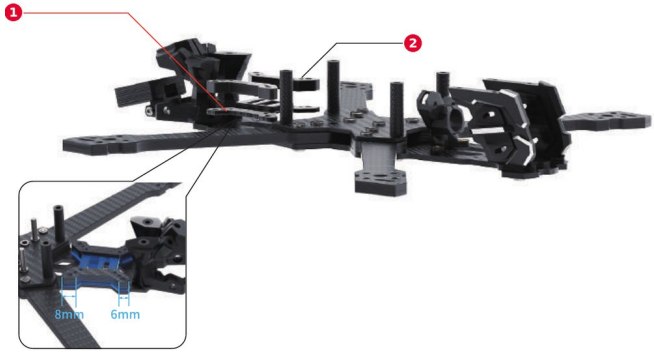
① GPS Fixed Parts

② M2 × 3.5 × 15 Aluminum Standoff

③ M2 × 6.5 Round Head with Cushion

4.10 Step 9 – VTX Washers Assembly

Fit the VTX washers onto the pillars and install the receiver mount. The 8 mm and 6 mm dimensions are shown in the detail view.

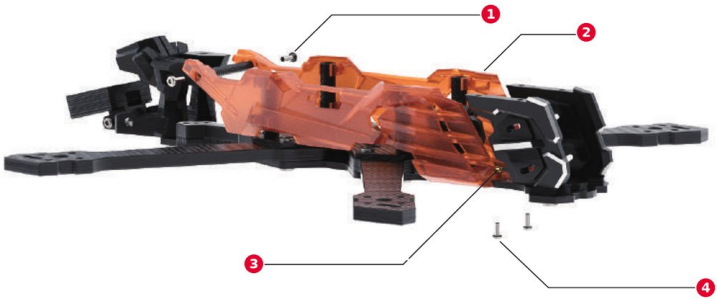


① Receiver Fixed Parts

② VTX Washers

4.11 Step 10 – Side Panel Assembly

Fit the side panels and fasten them with M2 × 5 screws into the M2 brass rivet nuts.



① M2 × 5 Round-Head Screws

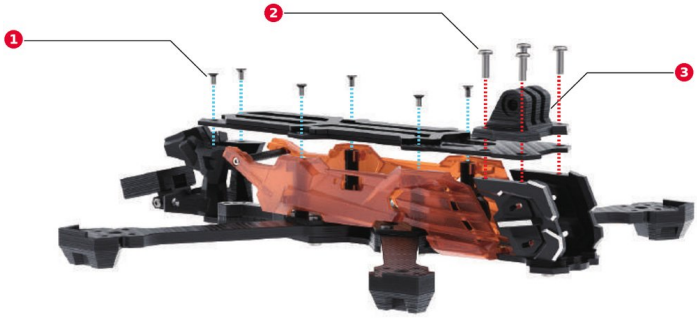
② Side Plate

③ M2 Brass Rivet Nuts

④ M2 × 5 Round-Head Screws

4.12 Step 11 – Top Plate Assembly

Place the top plate and fasten it with M3 × 6 countersunk screws. Attach the GoPro mount with M3 × 10 screws.



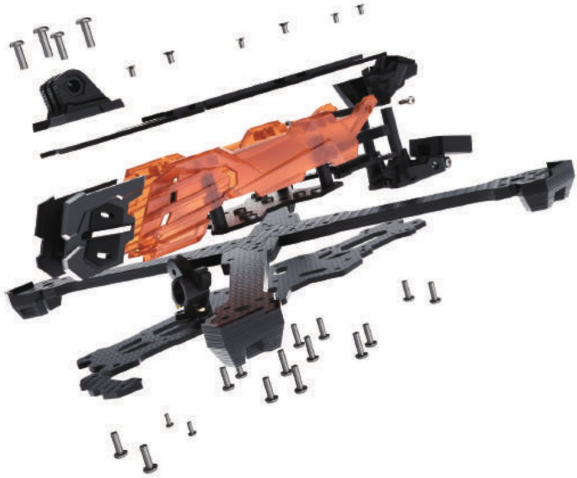
① M3 × 6 Countersunk Screws

② M3 × 10 Round-Head Screws

③ GoPro Mount

4.13 Complete assembly

Now the frame is fully assembled. The exploded view shows the position of all parts and screws.



Exploded view of the complete frame

5. Installing the electronics and finishing

5.1 Recommended order

① After step 4, mount the motors at the ends of the arms (16 × 16 mm mounting holes). Use screws of suitable length – the screw must not reach into the motor windings.

② Mount the FC/ESC stack in the centre of the frame (20 × 20 mm or 30.5 × 30.5 mm pattern) and solder the motor wires and the power cable.

③ Insert the DJI O4 Air Unit Pro camera into the aluminium camera side mounts, place the video transmitter unit in the rear of the frame (20 × 20, 25 × 25 or 30.5 × 30.5 mm patterns) and fix the antenna in the rear mount.

④ Install the receiver and its antenna in the dedicated mounts, and the GPS module if used.

⑤ Before fitting the side panels and the top plate, check the routing of all wires and the function of the electronics.

5.2 Cable routing

- Route wires away from the propellers so that they are not pinched between the plates and do not rub against carbon edges.
- Do not bend antenna coaxial cables at sharp angles.
- Secure the battery lead so that it cannot get into the propellers in flight.

5.3 Battery

Place a silicone pad on the top plate and secure the battery with both supplied straps. Before every flight, check that the battery is held firmly and cannot shift. Choose the battery voltage and capacity according to the recommendations of the motor and stack manufacturers.

5.4 Setup and first power-up

Configure the flight controller (motor direction, board orientation, receiver binding, Arm (motors on), Disarm (motors off) and failsafe) according to the instructions of the manufacturer of the electronics used. During all bench tests keep the **propellers removed**.

6. Operating the finished drone

6.1 The law of the country where you fly applies

Regulations (EU) 2019/947 and 2019/945 apply in all European Union member states, but national implementing rules differ from country to country – registration portals, minimum pilot age, geographical zones, mandatory insurance, permitted frequency bands and maximum transmit power. The information in this chapter describes the situation in the Czech Republic. If you operate the drone in another country, you must comply with the regulations of the country in which you fly.

6.2 Classification and category of operation

- A drone built on this frame is a privately built unmanned aircraft system without a class identification label (C0–C6).
- The frame alone weighs 224 g, so the finished drone will exceed 250 g. In the open category it can be operated in subcategory **A3** – far from people, at least 150 m from residential, commercial, industrial and recreational areas – or within a model aircraft club or association.
- Before flying, consider the actual take-off mass including the battery and action camera.

6.3 Registration and competence

- A drone with a camera requires **operator registration**; in the Czech Republic with the Civil Aviation Authority (ÚCL). Display the registration number on the drone.
- For subcategory A3 the pilot must hold a valid proof of completion of online training and test.
- Operating limits of the open category: maximum height 120 m above ground, visual line of sight (VLOS), no flying over assemblies of people.
- When flying with FPV goggles, an unmanned aircraft observer must stand next to the pilot and watch the drone directly.
- Respect geographical zones and personal data protection. Liability insurance is recommended.

Frequency bands and transmit power are determined by the radio components (DJI O4 Air Unit Pro, RC receiver and transmitter) – follow their manuals and the limits valid in the country of operation. The user is responsible for the correct power setting.

7. Maintenance and storage

7.1 After every flight

- Check the arms and plates – replace cracked or delaminated carbon parts immediately.
- Check that the screws are tight, especially the arm, motor and top plate screws.
- Check the condition of the battery straps, silicone pads and 3D printed parts.

7.2 Replacing an arm

The frame has a quick-release arm design. Before replacement, disconnect the battery and remove the propellers. Loosen the arm bracket screws (step 4), slide out the damaged arm, insert a new one and tighten the screws again. Move the motor to the new arm and check the routing of its wires.

7.3 Storage

Store the drone in a dry place out of the reach of children, protected from direct sunlight and high temperatures. Store the battery disconnected, at 3.8 V/cell, according to its manufacturer's instructions.

8. Information for the EU and Czech Market

8.1 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

8.2 Product conformity and identification

- The product is a mechanical frame (kit) without any electrical or radio components. The safety of the product is ensured by the importer in accordance with Regulation (EU) 2023/988 on general product safety (GPSR).
- **Product identification:** manufacturer GEPRC, type designation **GEP-Vapor-D6 O4 Pro Frame**.
- The electronic components that you install in the frame (flight controller, ESCs, motors, video transmitter, receiver) carry their own markings and documentation from their manufacturers.

8.3 Disposal

- The frame contains no electrical components and no battery. At the end of its service life, dispose of it in accordance with the waste management rules applicable at your place of residence (carbon fibre plates, aluminium and steel parts, plastics).
- Before disposal, remove all installed electronics and the battery from the frame. These belong at take-back points for electrical equipment and batteries – never in mixed waste.
- Sort the packaging materials into the appropriate recycling containers.

9. 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 8.1.
- 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.