iFlight Chimera7 Pro V2 O4 (7.5" LR) — Frame Assembly Guide

A logical, step-by-step build order for the iFlight Chimera7 Pro V2 O4 7.5" LR frame kit — rewritten from iFlight's exploded-view diagram, with hardware grouped by what it actually attaches.

iFlight's official documentation for the Chimera7 Pro V2 O4 frame kit is an exploded-view diagram: it lists every part and every screw, but it never walks you through the build in order. This guide reorganizes that same hardware into a logical build sequence, with screw sizes grouped by what they actually attach.

> **Downloads**
>
> - Assembly Guide (PDF) — this guide, formatted for printing
> - Chimera7 Pro V2 User Manual (PDF) — iFlight's official manual
> - Screw Size Gauge (PDF) — print at 100% scale and lay screws over it to identify them by size

Rewritten from iFlight's official exploded-view diagram ("LR18005-Chimera7 Pro V2 O4 Frame Assembly Guide-250224.pdf"), which lists parts and hardware but doesn't walk through build order. This organizes the same hardware into a logical build sequence with sizes grouped by what they actually attach.

Frame specs (for reference): Wheelbase 327mm · Arm thickness 6mm · Bottom plate 3mm · Top plate 2mm · Upper/camera plate 3mm · Motor mounting 16×16mm & 19×19mm (Φ3mm) · Flight stack 30×30mm (Φ3mm) · VTX mounting 30.5×30.5 (Φ3mm) / 25×25 (Φ1.6mm) / 20×20 (Φ2mm)

Tools needed: 1.5mm and 2mm hex drivers (the kit includes one Allen wrench, but a full driver set makes this much easier), thin CA glue or threadlocker (optional but recommended on standoffs/motor screws), tweezers for the small M1.6/M2 hardware.

⚠️ Read this first: the one detail that trips people up

This is the **O4** version of the frame. The kit includes CNC + silicone camera side plates for *both* the O3 and O4 DJI air units, but they use **different screws**:

Version	Side plate screws
DJI O3 Air Unit	M1.6×10 cup head screws
DJI O4 Air Unit Pro (your kit)	**M2×6 hex screws (item #31)**

Since your frame is the O4 kit, use the **M2×6 screws (#31)** on the camera side plates — not the smaller M1.6 hardware, even though both are bagged together.

Full Hardware Reference (translated from the official parts list)

Structural screws (plain hex head)

#	Size	Qty	Used for
21	M3×8	×7	Bottom plate into a standoff base at *shallow* points only — no arm in the stack (an M3×8 is too short to pass through the 3 mm plate + 6 mm arm)
22	M3×12	×5	Mid-height plate-to-standoff screws (longer stack points)
23	M2×5	×5	Camera side plates into the camera mount (thin material, short screw)
26	M3×16	×5	Plate-to-standoff screws where you're passing through two stacked layers
28	M3×6	×7	Short general-purpose: LED/buzzer PCB and other small mounting points
30	M3×30	×4	Longest screws — only for the tall front/nose column, where a single fastener has to span the deepest part of the stack. Too long anywhere else (they bottom out or poke through), so match them to the deepest holes on the diagram
31	M2×6	×5	**O4 camera side panel screws (see note above)**
32	M3×11	×20	Motor mounting screws (through arm guard + arm into motor) and arm-mounting screws into the frame — largest quantity because it's shared across both arms/4 motors

Wash-head screws (wider head, for soft/thin materials)

#	Size	Qty	Used for
24	M2×8	×3	GPS/antenna TPU mounts — wash head prevents pull-through on printed parts
29	M3×8	×5	Top plate down into standoffs — wash head spreads load on the plate's slotted holes

Self-tapping screws (for TPU printed parts — no nut needed)

#	Size	Qty	Used for
25	M2×8	×7	Securing TPU printed mounts (GPS mount, receiver mount, buzzer holder) directly into their own plastic bosses
27	M2×12	×3	Deeper bite into thicker TPU (GoPro base mount / antenna mount)

Aluminum standoffs (frame stack spacers — do not mix these up, they set your stack height)

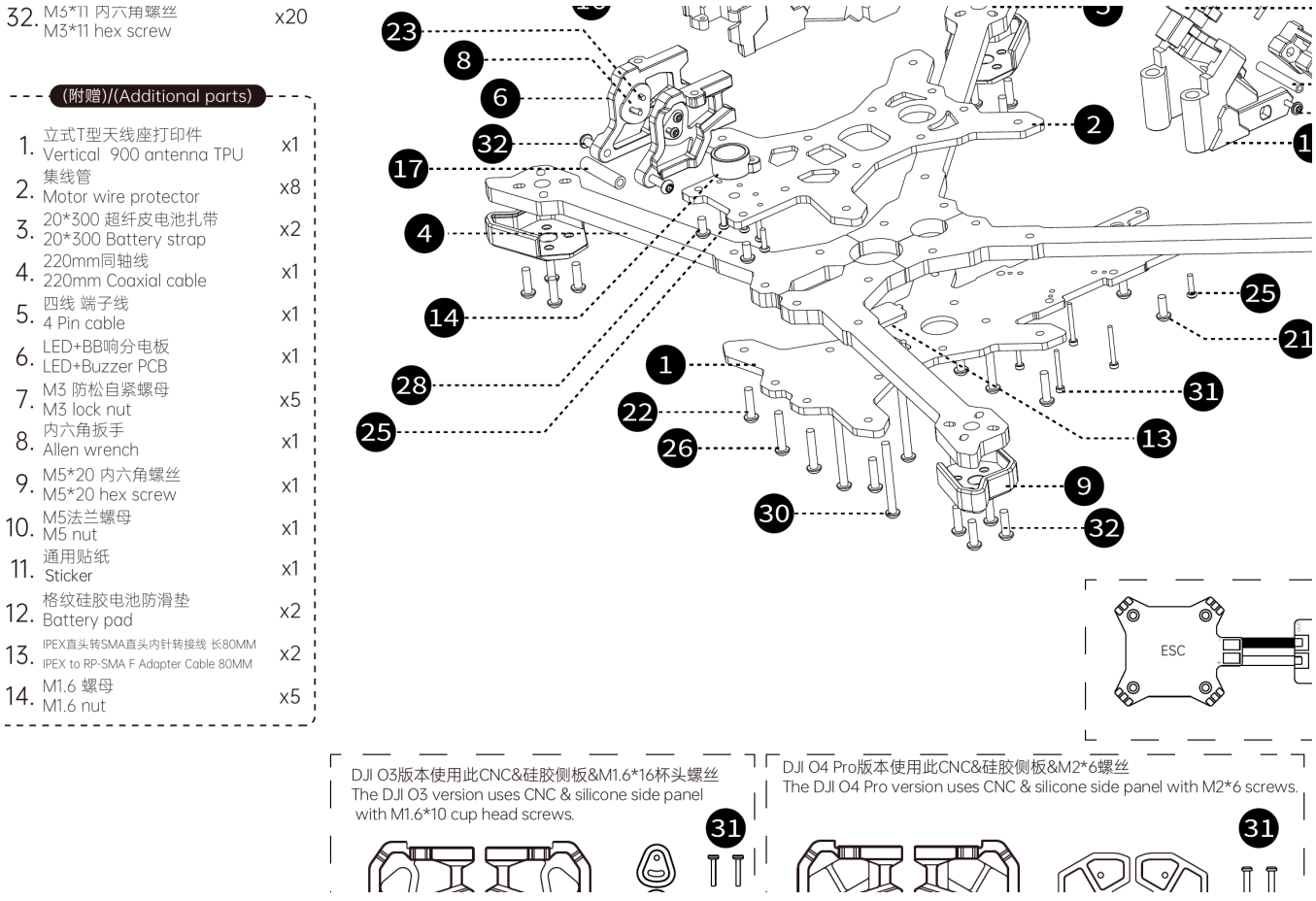
#	Size	Qty	Used for
17	M3×23	×2	Nose/camera stack spacing
18	M3×30	×3	Tallest standoff in the main stack — carries the front stack up to the top plate
19	M3×20	×5	Most common standoff — sets your main stack height between the lower plates and the top plate
20	M2×25	×2	Risers for the GPS/antenna TPU mounts

Nuts, misc hardware

#	Size	Qty	Used for
M3 lock nut	—	×5	General-purpose nyloc lock nuts (not the arm pivot — the parts list labels these M3, ×5)
M5×20 hex screw	—	×1	Arm pivot bolt (quick-release arm mechanism)
M5 nut (flange)	—	×1	Arm pivot — the nut that captures the M5×20 pivot bolt
M1.6 nut	—	×5	Spare, matches the M1.6 O3-version side panel screws (not used in your O4 build)

Build Order

Stage 1 — Bottom plate + arms



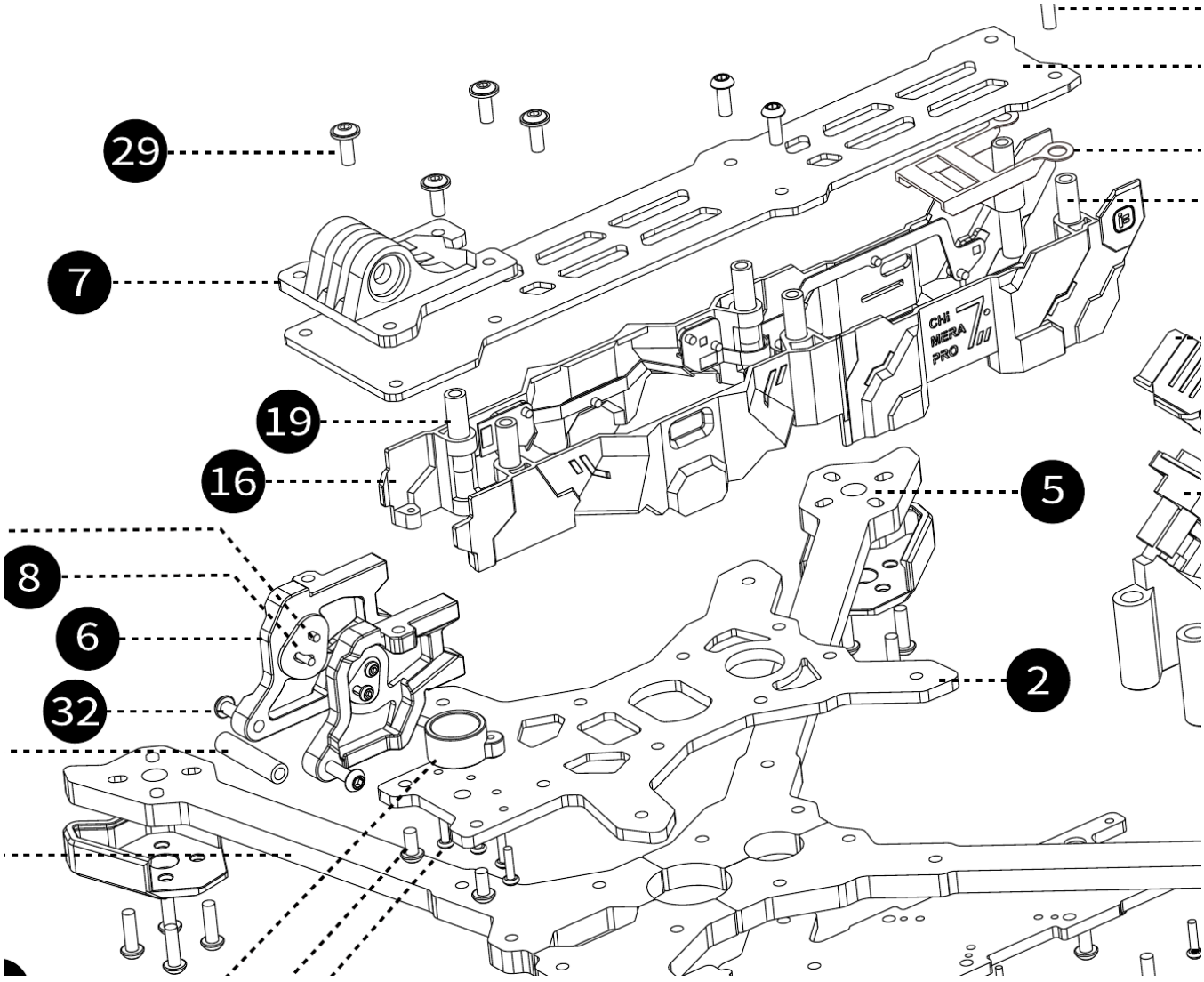
Official exploded-view detail — the numbered callouts match the hardware reference above.

1. Lay the **bottom plate (#1)** flat.
2. Sandwich both **front arms (#4)** and both **rear arms (#5)** between the **bottom plate (#1)** and the **counter plate (#2)** — those are the only two plates in this joint. Don't fully tighten yet — leave everything finger-tight so you can square up the arms.
3. Fasten the sandwich from underneath. **Mind the screw length here:** any hole that passes *through an arm* has to clear the 3 mm bottom plate **plus** the 6 mm arm — that's 9 mm before the screw even

reaches the standoff/threaded part above — so those points take the longer **M3×12 (#22)** or **M3×16 (#26)** screws (and the full-height columns take the **M3×30 (#30)**). An **M3×8 is only 8 mm** long, so it can't span an arm point at all — reserve the **M3×8 (#21)** for the shallow points where the bottom plate meets a standoff base with *no* arm in the stack. Check each hole against the diagram and match the screw to how deep the stack is at that point.

> **Dry-fit to square the arms.** The arms clamp at the very bottom of the frame stack — bottom plate (#1) underneath, counter plate (#2) on top. (You can confirm this on the assembled-frame renders in the manual: the carbon arms sit at the lowest layer, and the structural screws enter from below, up through the bottom plate.) Assemble this joint loosely first so you can square all four arms before torquing the screws down.

Stage 2 — Vertical stack (standoffs)



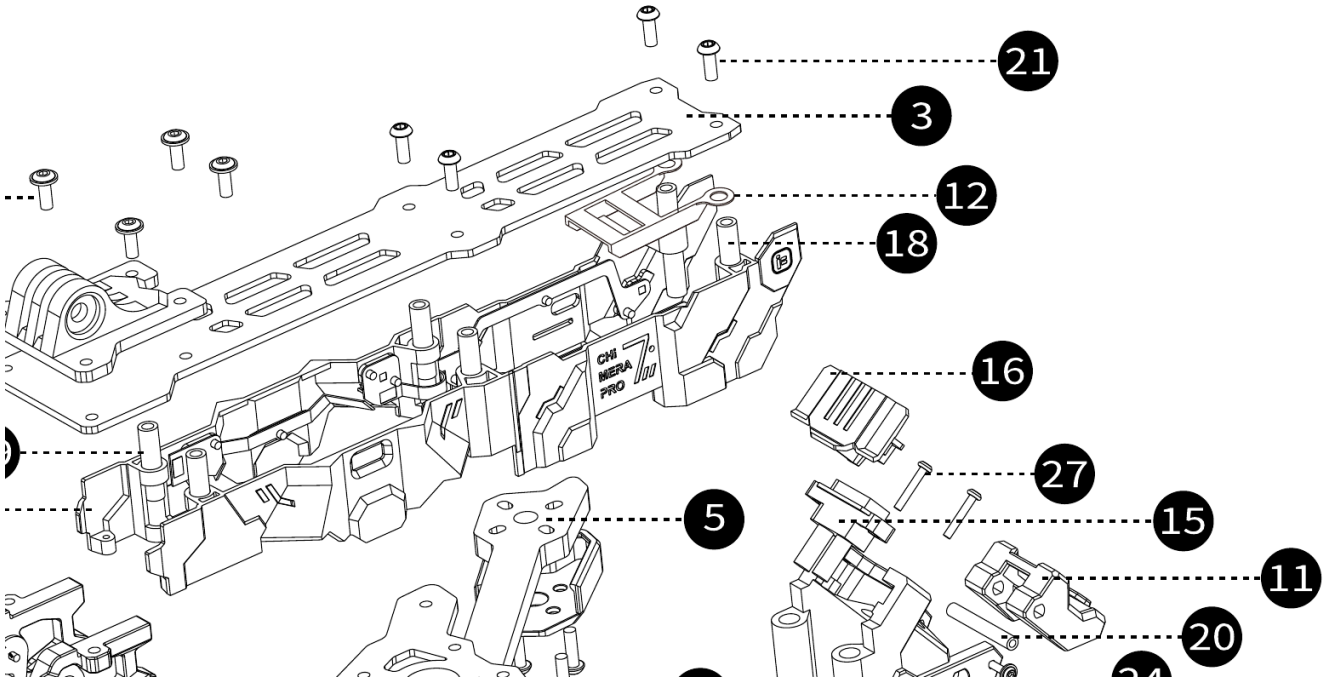
The standoffs set your stack height — note the taller ones clustered at the nose.

4. Thread the **M3×20 standoffs (#19, ×5)** into the bottom-plate/arm assembly — these form the bulk of your main stack height.
5. Add the **M3×23 (#17, ×2)** and **M3×30 (#18, ×3)** standoffs at the nose/front stack positions as shown in the diagram — these are taller because the nose/camera section stacks higher than the rest of the

frame.

6. Drop the **counter plate (#2)** onto the standoffs, **raised-boss side up** — the face with the raised standoffs around the four centre (flight-stack) holes faces the top plate, and the flat side sits down toward the arms. (The diagram draws it this way and it's the only orientation that lets the stack mount on the bosses with clearance, but the drawing doesn't state it outright — set it on both ways for a second and confirm nothing fouls underneath before you screw it down.)

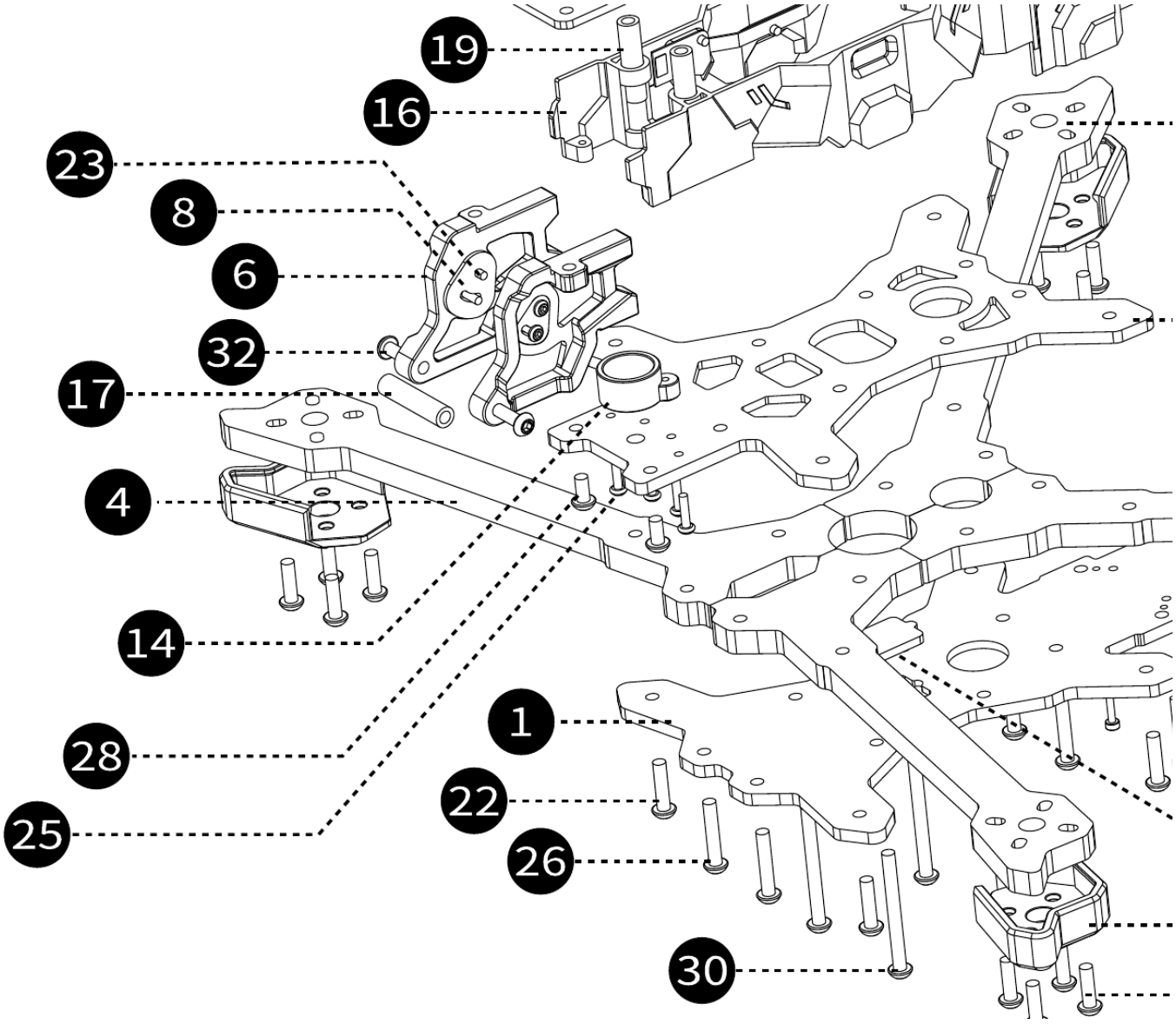
Stage 3 — Top plate



Watch the intermediate M3×12 vs M3×16 callouts here — they're the easiest pair to mix up.

7. Set the **top plate (#3)** on top.
8. Secure it with the **M3×8 wash-head screws (#29, ×5)** — the wide head keeps the screw from pulling through the top plate's slotted mounting holes.
9. At the tall front/nose column — the deepest points in the stack — use the long **M3×30 screws (#30, ×4)**. They're the only screws long enough there; don't use them elsewhere, where they'd bottom out or protrude. Match them to the deepest holes on the diagram.
10. Use the **M3×12 (#22)** and **M3×16 (#26)** screws for the intermediate-height connections. These are the *same* longer screws used at the arm roots in Stage 1 — the kit gives you five of each (×5) to cover both the arm roots *and* these points, so don't use them all up in one place. Check the diagram for which length each hole takes; the two are close in length and easy to swap by mistake.

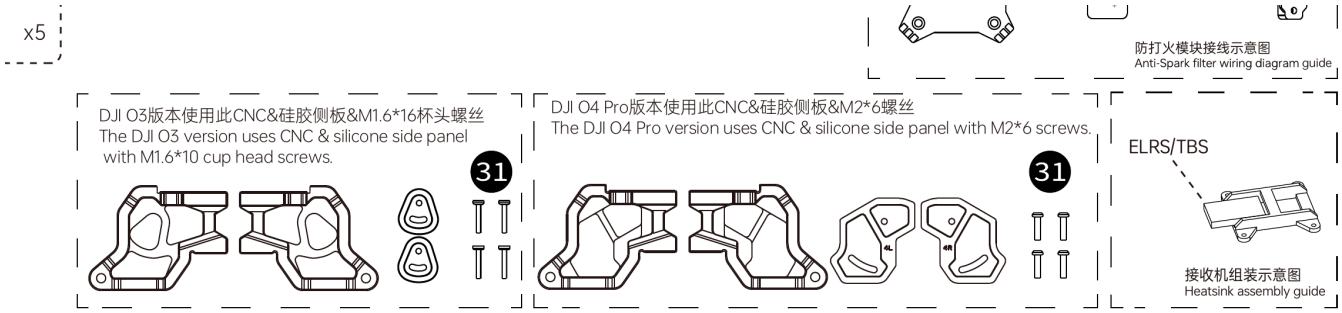
Stage 4 — Nose / camera stack



The busiest part of the diagram — six-plus leader lines cross here, so trace each callout carefully.

1. Mount the **GoPro bottom stand TPU (#7)** to the front of the stack.
2. Attach the **CNC camera side plates (#6, ×2)** and **dual-hole silicone camera side plates (#8, ×2)** using:
    - **M2×5 hex screws (#23, ×5)** where the plate seats against thin material, and
    - **M2×6 hex screws (#31, ×5)** — remember, this is the O4-specific screw, not the O3's M1.6.

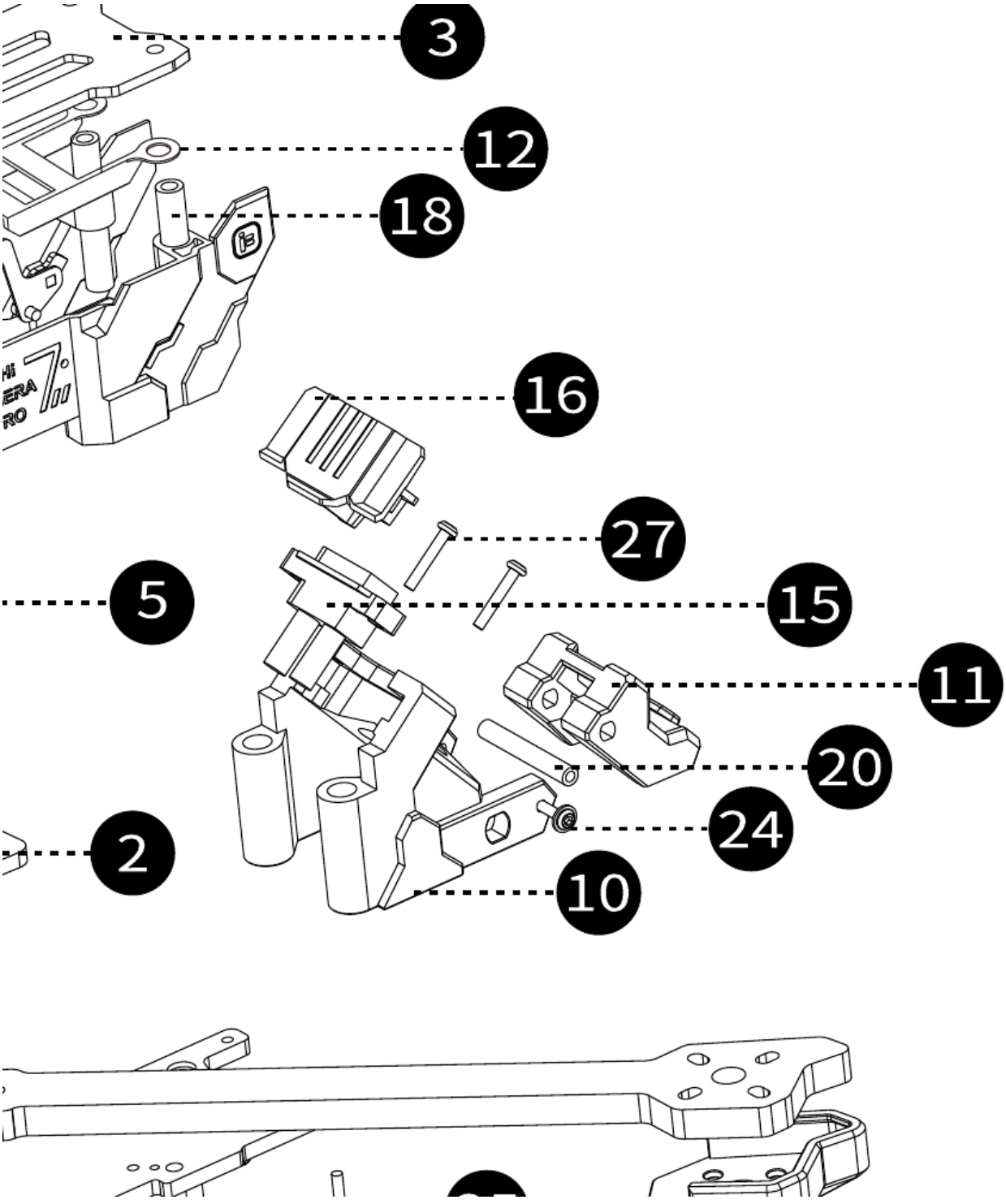
Stage 5 — Side panels



The O3 (left) and O4 Pro (right) side-panel sets from the manual. Your kit is O4 — use the M2×6 screws (#31), not the O3's M1.6 hardware.

13. Install the pre-assembled **side panels with LED (#16)** onto the frame's center body at the front. Use the general M3×6 (#28) or M3×8 (#21) hardware as shown at that connection point — these panels seat against the frame and are secured with the surrounding stack screws rather than dedicated fasteners.

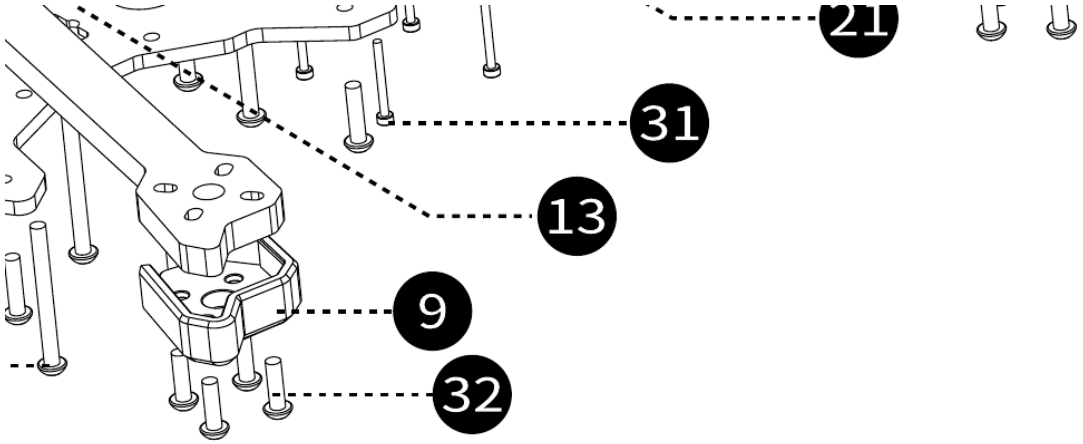
Stage 6 — GPS, antenna, receiver mounts (all TPU printed parts)

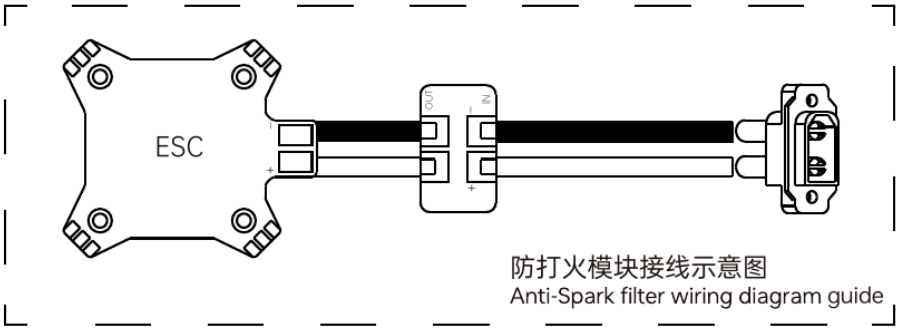


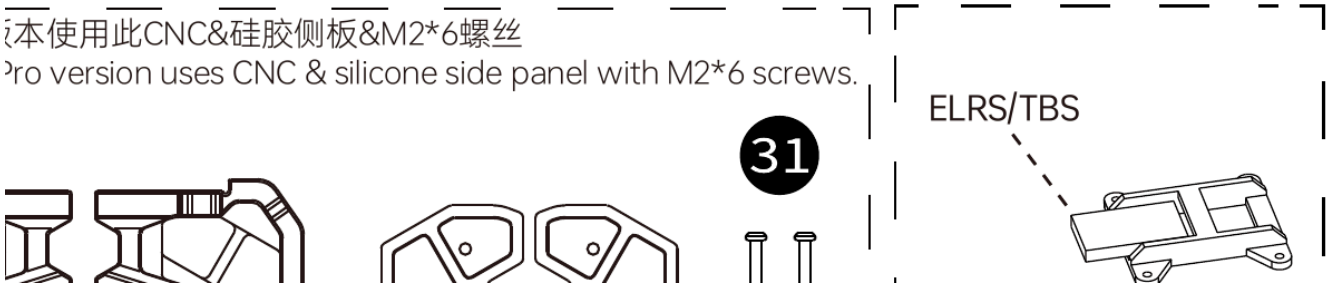
All TPU parts here — self-tapping screws bite directly into the plastic, no nuts needed.

14. Attach the **GPS mount TPU (#11)** and **antenna mount TPU (#10)** using the **M2×25 aluminum standoffs (#20, ×2)** as risers, then cap with **M2×8 wash-head screws (#24, ×3)**.
15. Attach the **receiver mount TPU (#12)** and **buzzer holder (#14)** using **M2×8 self-tapping screws (#25)** — these bite directly into the TPU, no nut required.
16. Mount the **LED logo TPU (#13)** and the **vertical 900 antenna TPU** (from the additional-parts bag) with **M2×12 self-tapping screws (#27, ×3)** where a deeper bite is needed.

Stage 7 — Arm guards & motor prep





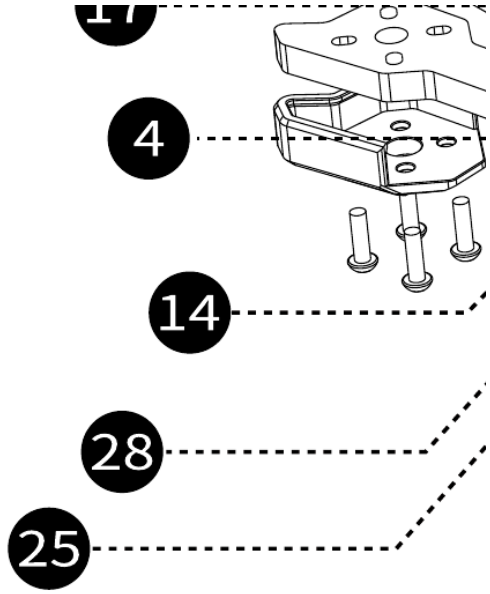


The M3×11 screws (#32) are the largest quantity in the kit (×20) — they cover all four motor mounts plus the arm-mounting points.

17. Slide the **arm guard TPU bumpers (#9, ×4)** onto each arm tip.
18. When you mount your motors (not included in this kit), use the **M3×11 hex screws (#32)** — this is by far the largest hardware quantity (×20) because it covers all 4 motor bolt patterns plus the arm-mounting screws at each tip.
19. Feed the **motor wire protectors (from additional parts, ×8)** over each motor's phase wires as you route them into the arm.

Stage 8 — Arm pivot (quick-release mechanism)

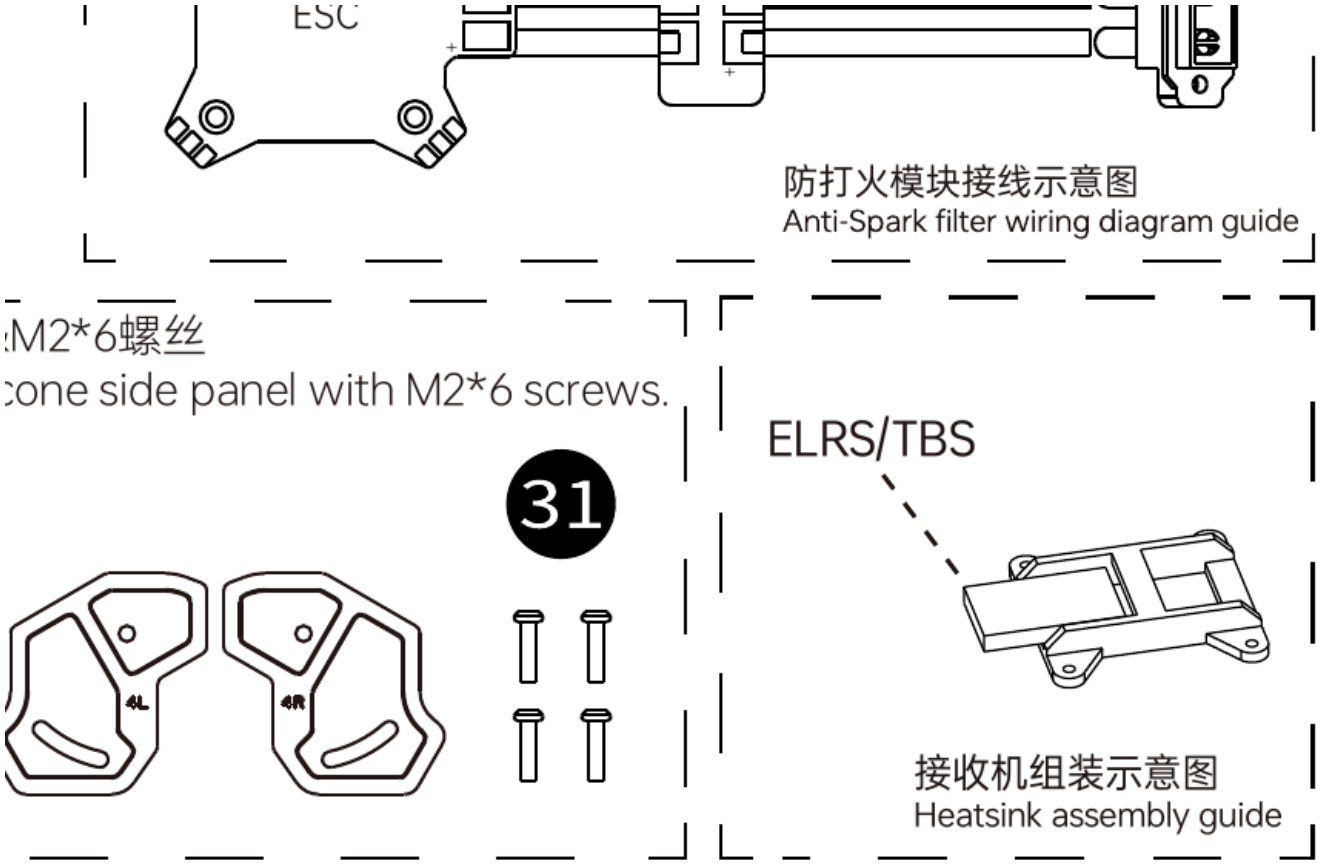
x1	2. 集线管 Motor wire protector	x8
x1	3. 20*300 超纤皮电池扎带 20*300 Battery strap	x2
x1	4. 220mm同轴线 220mm Coaxial cable	x1
x1	5. 四线 端子线 4 Pin cable	x1
x1	6. LED+BB响分电板 LED+Buzzer PCB	x1
x1	7. M3 防松自紧螺母 M3 lock nut	x5
x1	8. 内六角扳手 Allen wrench	x1
x2	9. M5*20 内六角螺丝 M5*20 hex screw	x1
x3	10. M5法兰螺母 M5 nut	x1
x5	11. 通用贴纸 Sticker	x1
x2	12. 格纹硅胶电池防滑垫 Battery pad	x2
x7	13. IPEX直头转SMA直头内针转接线 长80MM IPEX to RP-SMA F Adapter Cable 80MM	x2
x5	14. M1.6 螺母 M1.6 nut	x5
x5		
x3		
x7		
x5		



The M5 arm-pivot hardware lives in the additional-parts bag alongside the coaxial cable, battery straps and spares.

20. If your kit is using the quick-release arm feature, the arm pivot bolt is the **M5×20 hex screw**, captured by the single **M5 flange nut**. Snug this enough that the arm pivots smoothly but doesn't have play — don't overtighten, as it's meant to fold/release. (The five **M3 lock nuts** in the same bag are general-purpose spares, not pivot hardware.)

Stage 9 — Wiring accessories



The cables, pigtails and battery pads that finish the frame off before your electronics go in.

21. Route the **220mm O4 MIPI coaxial video cable** and **4-pin cable** from the camera stack back to where your flight controller/VTX will sit.
22. Connect the **IPEX-to-RP-SMA antenna pigtails (×2)** from your VTX to the antenna TPU mounts.
23. Apply the **anti-slip battery pads (×2)** to the top and/or bottom plate, and keep the **battery straps (×2)** and **1.6mm nuts** aside — those are for battery mounting once your electronics are in.

Notes on ambiguous hardware

A few of the mid-length M3 screws (#22 M3×12, #26 M3×16, #21 M3×8, #30 M3×30) look nearly identical once out of the bag and are only distinguishable by careful measurement — I'd recommend sorting them into labeled containers *before* you start, since the diagram's callout lines get genuinely hard to trace visually at the stack's busiest points (the front nose section, where 6+ leader lines cross).

To make sorting painless, print the **screw size gauge (PDF)** at **100% scale** (no "fit to page" — that will shrink it and throw off the measurements). Lay each screw over the outlines to read off its size and item number before you commit it to a stack point.

A note on part names and build order

This guide is reconstructed from iFlight's exploded-view diagram, so the only parts and item numbers used here are the ones the official parts list actually names (bottom plate #1, counter plate #2, top plate #3, arms #4/#5, and so on) — I've deliberately avoided inventing part names like "brackets" or "decks" that don't appear in the kit. The **item numbers are authoritative; the build *order* and any description of how parts physically stack are my interpretation** of an isometric drawing. Where stacking order or a fastener's exact location matters, trust the numbered callouts in the diagram over my prose, and dry-fit before you torque anything down.