

Where to Find 3D-Printable Files

- **MakerWorld** — Excellent choice for Bambu Lab owners. Many models include ready-to-use print profiles. [MakerWorld](#)
- **Printables** — Excellent general-purpose repository with a large collection of functional and hobby-related models. [Printables](#)
- **Thingiverse** — One of the largest and oldest collections; especially useful for finding older or unusual parts. [Thingiverse](#)
- **Thangs** — Powerful search engine that can help find models across multiple repositories. [Thangs](#)
- **Cults3D** — Large collection of free and paid models. [Cults3D](#)
- **MyMiniFactory** — Large collection of free and paid models, particularly strong for detailed hobby models. [MyMiniFactory](#)
- **GrabCAD** — Engineering-oriented library; useful when looking for CAD models or engineering components. [GrabCAD](#)

From Download to Printed Part

Download an **STL** or **3MF** file and open it in your slicer (such as **Bambu Studio**). The slicer converts the model into printer instructions, allowing you to choose the filament, layer height, supports, infill and orientation. **Slice** → **Preview** → **Send to printer** → **Print**. 3MF files may already contain many of the recommended print settings, which can make the process even easier. [PrintingXYZ](#)

Common RC Parts to Search For

- Landing gear
- Wheels and wheel pants
- Motor mounts
- Servo mounts and trays
- Control horns
- Pushrod guides
- Battery trays
- Canopy mounts and latches
- Wing joiners
- Hatches and hatch latches
- Cooling ducts
- Propeller adapters
- FPV camera mounts
- Antenna mounts
- GPS mounts
- Replacement fuselage or wing sections
- **Complete RC airplane designs** for printing from scratch

Creating Your Own 3D-Printable Parts with Autodesk Fusion

One of the biggest advantages of 3D printing is that you don't have to rely on finding someone else's design. **Autodesk Fusion** is a powerful CAD program that allows you to design your own replacement parts and modifications specifically for your airplane.

Getting Started with Fusion

Autodesk Fusion is free for personal/hobby use for qualifying non-commercial projects. The current Personal Use license is available for three years at a time and can be renewed.

[Autodesk Help](#)

1. Create a free Autodesk account.
2. Go to the **Fusion for Personal Use** page.
3. Select **Get Autodesk Fusion for Personal Use**.
4. Download and install Fusion.
5. Start with basic **Sketch** → **Dimension** → **Extrude** → **Fillet** → **Hole** tools.

[Autodesk Fusion – Personal Use](#)

Good YouTube Channels / Resources

- **Kevin Kennedy – Product Design Online** — Excellent beginner Fusion instruction. His "[Learn Fusion in 30 Days](#)" series is a great place to start.
- **Autodesk Fusion** — Official Autodesk channel with tutorials and tips. [Autodesk Help](#)
- **CAD Build Fly RC** — Fusion tutorials specifically aimed at designing RC airplanes, including wings, ailerons, servo hatches and other aircraft components.

Great First RC Projects

Don't start by designing an entire airplane! Start with a **small part that solves a problem you already have**.

- **Battery tray** — Measure your battery and design a custom holder.
- **Servo mount** — Design a mount for a servo that doesn't fit the stock location.
- **Control horn** — A simple part that teaches sketches, dimensions and holes.
- **Pushrod guide** — Very simple and useful.
- **Canopy latch** — Great first project involving precise dimensions.
- **Battery strap guide** — Simple geometry with holes and slots.
- **Landing gear mount** — A little more challenging and introduces stronger mechanical design.
- **Wheel** — A great introduction to circles, revolved features and patterning.
- **FPV camera mount** — Useful and teaches angles and mounting holes.
- **Wing attachment plate** — Introduces multiple holes, symmetry and precise dimensions.
- **Custom hatch** — A good intermediate project involving fitting two parts together.

Common Plastic Types

Filament	Density / Weight	Layer Adhesion*	Impact Strength**	Heat Deflection Temp.	Key Characteristics
PLA	~1.24 g/cm ³	13.8 kJ/m ²	26.6 kJ/m ²	57°C / 135°F	Easy to print, stiff, excellent detail
PLA Tough	~1.20–1.25 g/cm ³	25.9 kJ/m ²	80.6 kJ/m ²	60°C / 140°F	Tougher and more impact resistant than standard PLA
PETG	~1.25 g/cm ³	13.6 kJ/m ²	52.7 kJ/m ²	69°C / 156°F	Tough, good layer bonding, somewhat flexible
ASA	~1.07 g/cm ³	4.9 kJ/m ²	41.0 kJ/m ²	100°C / 212°F	Excellent UV/weather and heat resistance, <i>produces toxic fumes</i>
TPU 95A	~1.20 g/cm ³	Very High	~123 kJ/m ²	~55°C / 131°F	Flexible, extremely impact resistant
PLA Aero (LW-PLA)	~0.55–1.05 g/cm ³ *	2.5 kJ/m ²	24.5 kJ/m ²	53°C / 127°F	Very lightweight; foams during printing
ASA Aero (LW-ASA)	~0.46–0.97 g/cm ³ *	3.4 kJ/m ²	32.0 kJ/m ²	85°C / 185°F	Very lightweight; foams during printing; UV resistant, produces toxic fumes

* Layer adhesion represented by published Z-direction impact strength where available.

** Impact strength represents published XY-direction impact strength.

*** Aero filament density varies substantially with the **foaming/printing ratio**, so the printed density can be intentionally adjusted.

Recommended Printers

	Bambu Lab A1	Bambu Lab P2S
Approx. price	\$300	\$549
Build volume	256 × 256 × 256 mm	256 × 256 × 256 mm
Design	Bed slinger	CoreXY
Enclosure	✗ No	✓ Yes
PLA	★★★★★	★★★★★
PLA Aero	★★★★★	★★★★★
PETG	★★★★★	★★★★★
TPU	★★★★★	★★★★
ASA	⚠ Not recommended	✓ Much better
ASA Aero	✗ Not recommended	✓ Recommended
RC planes	★★★★★	★★★★★
Ease of use	★★★★★	★★★★★
Beginner friendly	★★★★★	★★★★
Best for	Most RC hobbyists	Advanced RC printing & materials

Companies Making 3D-Printed RC Airplanes

There are several companies producing complete 3D-printable RC airplane designs. Prices below are approximate **U.S. costs for the digital files**, unless otherwise noted. Electronics and filament are generally additional.

Eclipson

[Eclipson Airplanes](#)

Best place for a first 3D-printed airplane

- Large selection of trainers, sport planes, aerobatic planes, EDFs and scale aircraft.
 - Very beginner-friendly designs and instructions.
 - Digital airplane files generally **€15–€50 (~18–55)**.
 - Eclipson standardizes electronics across many models, allowing electronics to be reused from one airplane to another. [Eclipson](#)
 - **Recommended first planes:** Model A, Model T, Model B, Spark.
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3DLabPrint

[3DLabPrint](#)

Best for scale aircraft and warbirds

- Huge selection of scale airplanes.
- Particularly impressive for **P-51s, B-17s, P-38s, DC-3s, A-10s, Mustangs, Spitfires and other warbirds**.
- Digital files typically 20–60. [3DLabPrint](#)
- Many designs include STL files, prepared G-codes and detailed assembly instructions.
- They also sell **filament + model bundles**, which can simplify getting started. [3DLabPrint](#)

Recommended: Great choice once someone has some experience with 3D printing and wants to build something impressive.

Planeprint

[Planeprint](#)

Best for lightweight/high-performance designs

- Strong emphasis on **LW-PLA and lightweight 3D-printed aircraft**.
- Large selection ranging from simple aircraft to sophisticated scale and EDF models.
- Current digital models generally run **€20–€70 (~23–80)**. [Planeprint](#)
- Examples include the **EVO, Eagle NG, Sea Fury, Learjet 35, Cub, Bronco, Swift S1 and many others**.
- Also offers individual components and upgrades such as floats, skis, longer wings and EDF systems. [Planeprint](#)

Recommended: Particularly interesting for club members who want to explore **LW-PLA and lightweight aircraft construction**.

What Does It Cost to Build One?

A realistic budget for a first 3D-printed RC airplane is roughly:

	Approximate Cost
Digital airplane design	20–50
LW-PLA / PLA filament	15–30
Motor	10–25
ESC	10–20
Servos (3–6)	15–35
Propeller	3–8
Battery	15–30
Misc. hardware/glue	10–20
Typical total, excluding radio/receiver	~100–200

