DRONE PREFLIGHT CHECKLIST

JOUAV · Part 107 & Commercial Operations Edition

HOW TO USE THIS CHECKLIST

Single-pilot operation: The pilot in command completes every item from start to finish without interruption. If the inspection is interrupted for any reason, restart from the beginning of the current section.

Two-person operation: One person reads each item aloud; the second person (PIC) performs the actual check and reports pass, fail, or not applicable. The reader does not judge — the PIC does.

Before you begin: Aircraft powered off. All components assembled. This checklist, a pen, and the aircraft's operating manual within reach.

Thresholds: Where this checklist says "per manufacturer limits," use the numbers in your aircraft's manual. Do not substitute generic figures.

Not applicable items: Mark N/A and write the reason. A blank box is treated as a skipped check.

FLIGHT INFORMATION

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Field	Entry
Date	
Time (local)	
Location / coordinates	
Pilot in command (name)	
Certificate / license no.	
Aircraft model	
Aircraft serial no.	
Registration no.	
Payload / configuration	

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Field	Entry
Mission type	
Visual observer (if any)	
Operating framework	☐ FAA Part 107 ☐ EASA ☐ Other: _____

SECTION A — CORE INSPECTION (10 CATEGORIES)

Complete every category before power-on. Numbering is continuous so a two-person crew can reference items directly (e.g., "item C4").

A. Airframe & Structural Inspection

#	Check	Pass	Fail	N/A	Notes
A1	Fuselage free of cracks, dents, deformation, stress marks	☐	☐	☐	
A2	Arms, wings, structural joints secure, no looseness	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
A3	All fasteners, screws, locking mechanisms tight	☐	☐	☐	
A4	Landing gear and mounting points undamaged, aligned	☐	☐	☐	
A5	Folding arms / removable components lock positively	☐	☐	☐	
A6	Fixed-wing: hinges and control surfaces move freely, no play	☐	☐	☐	
A7	All required components installed after transport	☐	☐	☐	

B. Propulsion System & Motors

#	Check	Pass	Fail	N/A	Notes
B1	Propellers free of chips, cracks, deformation, wear	☐	☐	☐	
B2	Propeller installation and CW/CCW alignment correct	☐	☐	☐	
B3	Propellers fully seated and locked	☐	☐	☐	
B4	Each motor spins freely by hand — no grinding, resistance, debris	☐	☐	☐	
B5	Motor mounts and attachment points secure	☐	☐	☐	
B6	Propulsion wiring and connectors intact	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
B7	Fixed-wing / VTOL: forward-flight propulsion and control surfaces checked	☐	☐	☐	

C. Battery & Power System

#	Check	Pass	Fail	N/A	Notes
C1	Flight battery charge level sufficient for mission (per manual)	☐	☐	☐	
C2	No swelling, cracks, dents, leakage, or discoloration	☐	☐	☐	
C3	Battery connectors and contacts clean, undamaged	☐	☐	☐	
C4	Battery installed and locked	☐	☐	☐	
C5	Battery cycle count within manufacturer limits	☐	☐	☐	
C6	Controller and ground station power sufficient	☐	☐	☐	
C7	Spare batteries / power supplies on hand	☐	☐	☐	
C8	Cold conditions: batteries warmed per manufacturer spec	☐	☐	☐	

D. Flight Controller, Avionics & Communication

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#	Check	Pass	Fail	N/A	Notes
D1	Aircraft and ground station power on, systems initialize normally	☐	☐	☐	
D2	Flight controller status nominal, no unexplained warnings	☐	☐	☐	
D3	Communication between aircraft and ground station confirmed	☐	☐	☐	
D4	Telemetry and video feed transmitting	☐	☐	☐	
D5	Antennas and communication connections secure	☐	☐	☐	
D6	Control stick and command response correct on all axes	☐	☐	☐	
D7	Firmware and software versions compatible	☐	☐	☐	
D8	Failsafe settings and return-to-home behavior configured	☐	☐	☐	

E. Navigation & Positioning

#	Check	Pass	Fail	N/A	Notes
E1	GNSS/GPS signal and satellite count meet aircraft requirements	☐	☐	☐	
E2	Compass and IMU status normal; recalibrated after site change if required	☐	☐	☐	
E3	RTK/PPK status and correction data	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
	active (where applicable)				
E4	Home point correctly recorded	☐	☐	☐	
E5	No navigation warnings	☐	☐	☐	
E6	Positioning accuracy meets mission requirements	☐	☐	☐	
E7	Survey/LiDAR: RTK base or network, coordinate system, PPK logging set	☐	☐	☐	

F. Camera, Sensors & Payload

#	Check	Pass	Fail	N/A	Notes
F1	Payload installed and locking mechanisms engaged	☐	☐	☐	
F2	Cables and electrical connections secure, clear of propellers	☐	☐	☐	
F3	Lenses and sensor surfaces clean	☐	☐	☐	
F4	Gimbal movement and stabilization verified	☐	☐	☐	
F5	Camera / sensor settings match mission	☐	☐	☐	
F6	Storage capacity sufficient for full mission	☐	☐	☐	
F7	Payload communication and data recording active	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
F8	Payload weight and center of gravity within manufacturer limits	☐	☐	☐	

G. Ground Control Station & Support Equipment

#	Check	Pass	Fail	N/A	Notes
G1	Ground control station undamaged	☐	☐	☐	
G2	Controller battery level sufficient	☐	☐	☐	
G3	Display and software operating correctly	☐	☐	☐	
G4	Antennas and communication accessories connected	☐	☐	☐	
G5	Mobile devices / tablets charged	☐	☐	☐	
G6	Charging equipment and spare batteries on hand	☐	☐	☐	
G7	Cables, tools, spare parts available	☐	☐	☐	
G8	Ground station placement safe with clear line of sight	☐	☐	☐	

H. Weather & Environmental Conditions

#	Check	Pass	Fail	N/A	Notes
H1	Wind speed and gusts within aircraft operating limits	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
H2	Temperature and humidity assessed	☐	☐	☐	
H3	Visibility adequate for mission and visual observation	☐	☐	☐	
H4	No precipitation or icing risk	☐	☐	☐	
H5	Cloud cover and lighting suitable	☐	☐	☐	
H6	Nearby obstacles identified (buildings, trees, power lines, towers)	☐	☐	☐	
H7	Terrain and ground conditions at takeoff/landing assessed	☐	☐	☐	
H8	Electromagnetic interference sources noted	☐	☐	☐	
H9	Weather changes during mission window reviewed	☐	☐	☐	

I. Airspace & Regulatory Compliance

#	Check	Pass	Fail	N/A	Notes
I1	Local airspace classification checked	☐	☐	☐	
I2	Flight authorization obtained where required	☐	☐	☐	
I3	NOTAMs and temporary flight restrictions reviewed	☐	☐	☐	
I4	Altitude and operating limitations	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
	confirmed				
I5	Aircraft registration and identification requirements met	☐	☐	☐	
I6	Pilot qualifications and permissions current	☐	☐	☐	
I7	Remote ID broadcasting (US operations)	☐	☐	☐	
I8	Site-specific or local restrictions confirmed	☐	☐	☐	
I9	Airspace re-verified on site immediately before flight	☐	☐	☐	

J. Mission Planning, Crew Briefing & Emergency Preparedness

#	Check	Pass	Fail	N/A	Notes
J1	Mission objectives and operating area confirmed	☐	☐	☐	
J2	Flight route and altitude reviewed	☐	☐	☐	
J3	Flight boundaries and geofence set (where supported)	☐	☐	☐	
J4	Obstacles along flight path identified	☐	☐	☐	
J5	Takeoff and landing locations defined	☐	☐	☐	
J6	Emergency and alternate landing areas	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
	identified				
J7	Visual observer positions confirmed (where applicable)	☐	☐	☐	
J8	Crew roles and responsibilities assigned	☐	☐	☐	
J9	Lost-link and emergency procedures briefed	☐	☐	☐	
J10	Communication methods between crew confirmed	☐	☐	☐	
J11	Site permissions and client approvals verified	☐	☐	☐	

SECTION B — POWER-ON VERIFICATION

Complete after the aircraft is powered on and before launch.

B1. Power-On System Checks

#	Check	Pass	Fail	N/A	Notes
P1	All systems initialize normally, no unexplained delays	☐	☐	☐	
P2	Every system warning reviewed and understood	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
P3	GNSS lock and satellite count meet requirements	☐	☐	☐	
P4	Communication links stable at launch point	☐	☐	☐	
P5	Battery voltage and capacity checked under load	☐	☐	☐	
P6	Payload recognized, sensor status nominal	☐	☐	☐	
P7	Flight mode and failsafe settings match mission	☐	☐	☐	
P8	Home point correctly recorded	☐	☐	☐	

B2. Control & Propulsion Response

#	Check	Pass	Fail	N/A	Notes
P9	Control inputs on all axes produce proportional, smooth response	☐	☐	☐	
P10	Propulsion systems spool up normally, no hesitation	☐	☐	☐	
P11	No unusual vibration, grinding, or irregular sound	☐	☐	☐	
P12	Fixed-wing / VTOL: control surfaces and actuators respond through full range	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
P13	Aircraft confirmed ready for takeoff per manufacturer procedures	☐	☐	☐	

B3. Abort Procedure Confirmation

#	Check	Confirmed	Notes
P14	Pilot can interrupt the flight	☐	
P15	Pilot can interrupt the return-to-home command	☐	
P16	Pilot can disarm motors mid-air (where applicable)	☐	

B4. Controlled Initial Flight Check

#	Check	Pass	Fail	Notes
P17	Takeoff in controlled area, aircraft stable	☐	☐	
P18	Control response verified in flight	☐	☐	
P19	Telemetry and link quality stable	☐	☐	
P20	No drift, vibration, or abnormal system behavior	☐	☐	

Hover height and duration: per manufacturer manual. For fixed-wing and VTOL, follow the manufacturer's takeoff, climb, and transition procedure — do not apply a multirotor hover test. Any anomaly: land and diagnose.

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SECTION C — COMMERCIAL OPERATIONS ADD-ON

Attach to Section A for commercial and industrial missions.

C1. Five Extra Commercial Checks

#	Check	Pass	Fail	N/A	Notes
M1	Project scope, deliverables, acceptance criteria confirmed in writing	☐	☐	☐	
M2	Coverage area, resolution, accuracy targets match flight plan	☐	☐	☐	
M3	Aircraft configuration matches mission type	☐	☐	☐	
M4	Payload compatibility and calibration status confirmed	☐	☐	☐	
M5	Storage capacity covers full mission, not just first sortie	☐	☐	☐	
M6	Pilot qualifications and currency confirmed	☐	☐	☐	
M7	Crew roles assigned and understood	☐	☐	☐	
M8	Safety briefing covers emergencies, not just flight plan	☐	☐	☐	
M9	Ground hazards identified, safety boundaries established	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
M10	People, vehicles, infrastructure near operating area assessed	☐	☐	☐	
M11	Emergency response arrangements and access routes confirmed	☐	☐	☐	
M12	Mission parameters and sensor settings verified before launch	☐	☐	☐	
M13	Storage and data recording active and sufficient	☐	☐	☐	
M14	Flight plan will produce data meeting project requirements	☐	☐	☐	

SECTION D — MISSION-SPECIFIC ADD-ONS

Complete only the section matching your mission.

D1. Surveying & Mapping

#	Check	Pass	Fail	N/A	Notes
S1	Camera calibration current, capture settings verified	☐	☐	☐	
S2	Altitude and GSD confirmed against accuracy requirements	☐	☐	☐	
S3	Front and side overlap set for processing	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
	method				
S4	Flight boundaries and waypoints match survey area	☐	☐	☐	
S5	GNSS/RTK correction data available and confirmed	☐	☐	☐	
S6	Storage sufficient for full area	☐	☐	☐	
S7	Lighting suitable (sun angle, shadows, cloud)	☐	☐	☐	
S8	Flight plan covers entire survey area without gaps	☐	☐	☐	

D2. LiDAR & Power Line Inspection

#	Check	Pass	Fail	N/A	Notes
L1	LiDAR sensor mounted and secured per manufacturer specs	☐	☐	☐	
L2	GNSS/IMU configuration verified, recording active	☐	☐	☐	
L3	Data recording and time synchronization confirmed	☐	☐	☐	
L4	Inspection corridor and flight route defined	☐	☐	☐	
L5	Towers, cables, obstacles identified along corridor	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
L6	Terrain clearance and altitude profile checked	☐	☐	☐	
L7	Endurance and power reserve sufficient for corridor length	☐	☐	☐	
L8	Emergency landing options identified along route	☐	☐	☐	

D3. Forestry & Environmental Monitoring

#	Check	Pass	Fail	N/A	Notes
F1	Survey boundaries and coverage confirmed	☐	☐	☐	
F2	Multispectral / camera settings verified for planned index	☐	☐	☐	
F3	Terrain, canopy height, elevation changes vs. flight altitude	☐	☐	☐	
F4	Wind conditions checked — canopy turbulence considered	☐	☐	☐	
F5	Potential landing areas identified in or near survey zone	☐	☐	☐	
F6	Flight route and data storage confirmed	☐	☐	☐	
F7	Communication coverage verified across operating area	☐	☐	☐	

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D4. Infrastructure & Construction

#	Check	Pass	Fail	N/A	Notes
I1	Site access and flight permissions confirmed with site management	☐	☐	☐	
I2	Cranes, buildings, power lines, other obstacles identified	☐	☐	☐	
I3	Camera resolution and capture settings match inspection needs	☐	☐	☐	
I4	Inspection route and coverage defined	☐	☐	☐	
I5	GNSS interference risk assessed around structures	☐	☐	☐	
I6	Coordination with site personnel completed	☐	☐	☐	
I7	Takeoff and landing areas clear of active operations	☐	☐	☐	

SECTION E — PLATFORM-SPECIFIC ADD-ONS

Complete only the section matching your aircraft.

E1. Multirotor

#	Check	Pass	Fail	N/A	Notes

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#	Check	Pass	Fail	N/A	Notes
R1	Propellers inspected, aligned, locked	☐	☐	☐	
R2	Motors and motor mounts checked	☐	☐	☐	
R3	Battery installed and secured	☐	☐	☐	
R4	Flight controller and GNSS/compass status verified	☐	☐	☐	
R5	Gimbal and camera operational	☐	☐	☐	
R6	Takeoff and landing area clear	☐	☐	☐	
R7	Hover stability confirmed after launch	☐	☐	☐	

E2. Fixed-Wing

#	Check	Pass	Fail	N/A	Notes
W1	Wings, fuselage, structural connections inspected	☐	☐	☐	
W2	Control surfaces and linkages checked for play and correct movement	☐	☐	☐	
W3	Propulsion system inspected and operational	☐	☐	☐	
W4	Servos and actuators tested through full range	☐	☐	☐	
W5	Navigation systems verified	☐	☐	☐	
W6	Launch and recovery systems checked	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
W7	Flight route and landing area confirmed	☐	☐	☐	

E3. VTOL

#	Check	Pass	Fail	N/A	Notes
V1	Vertical-lift motors and propellers inspected	☐	☐	☐	
V2	Forward-flight propulsion inspected separately	☐	☐	☐	
V3	Wings, fuselage, structural connections checked	☐	☐	☐	
V4	Control surfaces and actuators verified	☐	☐	☐	
V5	Transition-related systems and configuration confirmed	☐	☐	☐	
V6	Navigation and positioning verified for both flight phases	☐	☐	☐	
V7	Takeoff and landing settings confirmed for the site	☐	☐	☐	
V8	Transition procedures reviewed and understood by crew	☐	☐	☐	
V9	Energy reserve confirmed for vertical takeoff, transition, cruise, landing	☐	☐	☐	
V10	Takeoff and landing area assessed for VTOL-specific requirements, including	☐	☐	☐	

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#	Check	Pass	Fail	N/A	Notes
	transition clearance				

SECTION F — GO / NO-GO DECISION

Hold the launch if any of the following is present:

☐ Structural damage of any kind

☐ Battery abnormality — swelling, damage, or insufficient reserve

☐ Unstable control or communication links

☐ Critical navigation or system warnings

☐ Weather exceeding the aircraft's operating limits

☐ Missing or unverified flight authorization

☐ Payload not securely mounted

☐ Any unresolved safety hazard on the ground or in the airspace

If any box above is checked, the flight is NO-GO.

Decision	
Final decision	☐ GO ☐ NO-GO

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Decision	
Conditions / notes	
Decision made by (PIC)	
Decision time	
Signature	

SECTION G — POST-FLIGHT CLOSEOUT

#	Check	Done	Notes
PF1	Power down per manufacturer procedure	☐	
PF2	Airframe, propellers, motors, landing gear inspected for new damage	☐	
PF3	Batteries checked for heat or swelling; usage and cycle count recorded	☐	
PF4	Collected data backed up	☐	
PF5	Abnormal system behavior recorded	☐	
PF6	Maintenance scheduled if required	☐	

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#	Check	Done	Notes
PF7	Checklist updated if the flight exposed a gap	☐	

Preflight and post-flight are one loop. A problem found after landing must be closed before the next preflight.

JOUAV · Industrial VTOL UAV Systems

This checklist is a template. Customize inspection items, aircraft profile, and thresholds to your operation and your manufacturer's manual. It does not replace the aircraft's operating manual or the regulatory requirements of your jurisdiction.

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