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Drone Production Scale-Up Checklist

A practical checklist for FPV drone companies preparing for Drone Dominance orders, gauntlet down-selects, pilot builds, or full-rate production. Eleven areas where production readiness is won or lost.

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01 BOM & revision control

- [ ] Single controlled BOM is the source of truth — no tribal-knowledge builds
- [ ] Revision level appears on every drawing, work instruction, and kit list
- [ ] Engineering change process defined: who approves, how the line is notified
- [ ] Approved component substitutions documented with equivalency rationale

02 Component sourcing & approved vendor rules

- [ ] Approved vendor list (AVL) exists and is enforced at purchasing
- [ ] Country-of-origin documentation collected for covered components
- [ ] NDAA-covered component screening completed (cameras, radios, flight controllers)
- [ ] Second sources identified for long-lead and single-source parts

03 Assembly work instructions

- [ ] Step-level work instructions with photos for every build station
- [ ] Torque specs, adhesive cure times, and solder standards documented
- [ ] Operator training matrix tracks who is qualified on which station
- [ ] Instructions versioned and synced to BOM revision

04 QC gates & acceptance criteria

- [ ] Incoming inspection criteria defined for critical components
- [ ] In-process QC checkpoints at high-risk assembly steps
- [ ] Final functional test protocol with written accept/reject criteria
- [ ] First article inspection process for every new revision

05 Serialized component tracking

- [ ] Serial number scheme defined and applied at a fixed build step
- [ ] Component lots linked to finished-unit serials
- [ ] Firmware version recorded per unit at flash station
- [ ] Test results stored against serial number, retrievable on request

06 Packaging & labeling requirements

- [ ] Label spec confirmed with customer (format, UID, barcode symbology)
- [ ] Manuals, inserts, and accessories on the pack-out checklist
- [ ] Battery handling and ESD requirements documented at pack stations
- [ ] Case-pack and palletization specs match customer routing requirements

07 Labor model & throughput assumptions

- [ ] Takt time per unit validated by time study, not estimate
- [ ] Line balanced across stations — no single station starves the line
- [ ] Units-per-shift target set with yield assumption stated
- [ ] Ramp curve defined: pilot rate → full rate, with dates

08 Rework & failure tracking

- [ ] Defect codes defined and logged at every QC gate
- [ ] Rework loop routes failed units through re-test, not around it
- [ ] Scrap criteria and disposition rules written down
- [ ] Weekly pareto review of top defects drives corrective action

09 Inventory staging & line-side replenishment

- [ ] Kits staged ahead of the line for at least one shift of production
- [ ] Min/max levels set for line-side consumables
- [ ] Shortage escalation path defined — who gets called, when
- [ ] Cycle count cadence covers high-value components

10 Fulfillment & shipping plan

- [ ] Ship-to rules and delivery points confirmed per order type
- [ ] Lithium battery shipping compliance verified (UN 3480/3481)
- [ ] Serialized pack lists generated for every shipment
- [ ] Proof-of-delivery and shipment records retained per program requirements

11 Surge capacity plan

- [ ] Trigger thresholds defined: what order size or deadline activates surge
- [ ] Labor surge source identified before it's needed
- [ ] Fixtures and test stations duplicated or duplicable on short lead
- [ ] Supplier surge commitments documented for critical components

Gaps on this list? That's what a Production Readiness Review is for — a working session on your BOM, build process, and volumes with the team that would run your line.

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