

SCOTTISH AVIATION Bulldog MDL 120/121 Model Guide

The SCOTTISH AVIATION Bulldog MDL 120/121 is a two-seat, side-by-side single-engine piston trainer. Beagle designed it and Scottish Aviation built it at Prestwick. The RAF bought 130 as the Bulldog T Mk 1 and sold them to civilian operators after withdrawing the fleet in 2001. For a buyer, the main questions are wing-spar fatigue life and how the aircraft has been used.

KEY TAKEAWAYS

- Wing-spar fatigue life is the key issue: the as-built safe life is 114 FI, and many airframes are nearing it.
- Mod BH.193 raises the spar-joint safe life from 114 FI to 200 FI; de Havilland Support Ltd makes the kits.
- Max takeoff weight is 1066 kg. Above 1015 kg the g limits are +4.4 to -1.8g; at 1015 kg or below they are +6 to -3g.
- Check the g meter and aerobatic history: the checklist says do not fly if the g meter shows the aircraft was outside its limits.

AIRFRAME LIFE AND THE SPAR MODIFICATION

The Full Scale Fatigue Test set the as-built maximum safe life at 114 FI. Cracking in the wing-to-fuselage main spar joint led to Mod BH.193. It fits longer, stronger joint straps, new doublers and stepped bolts, and raises the safe life to 200 FI. The source article says it had been fitted to only one Series 120 and one Series 100 aircraft before the RAF programme ended. Ask for the aircraft's FI total and whether the mod is embodied.

LIMITS AND HANDLING FIGURES TO KNOW

Never-exceed speed is 185kt and max normal operating speed is 135kt. Clean stall power-off at 1066kg is 53kt. Final approach with full flap is 70kt and the crosswind limit is 35kt. Aerobatics need flaps up and only momentary inverted flight is allowed. Spinning needs a minimum abandon height of 3000ft AGL, and each turn loses about 350ft. These figures come from one aircraft's checklist (G-BULL).

PRE-PURCHASE INSPECTION POINTS

The checklist walkround covers the items to inspect: oil quantity (min 5.5 ltr, max 7 ltr), oil and fuel leaks, and alternator belt tension. It also covers cowling fasteners, tyre condition, nosewheel oleo extension of at least 8 cm, control-surface hinges and dents on the wing leading edges. In the run-up, magneto drop must not exceed 175 and oil pressure must be in the green band.

SPECIFICATIONS

Max Takeoff Weight Kg	1066
Seats	2

PERFORMANCE

Crosswind Limit Kt	35
Climb Speed Kt	80
Climb Speed Above 5000ft Kt	75
Takeoff Min Fuel Flow Gph	16
Climb Fuel Flow Gph	15
Spin Height Loss Per Turn Ft	350
Spin Min Abandon Height Ft	3000

V-SPEEDS

Rotate Speed Kt	55
Vne Kt	185
Vno Kt	135
Best Glide Speed Kt	75
Stall Clean 1066kg Kt	53
Stall 45 Flap 900kg Kt	48
Final Approach Full Flap Kt	70
Max Canopy Open Kt	120

SAFETY NOTES

- The checklist is not authoritative; fly to the Pilot's Operating Handbook and the aircraft's C of A.
- Fatigue cracks give no warning until they appear, so confirm the airframe's fatigue life used against the 114 FI limit.
- Maximum canopy-open speed is 120kt. Fire drills call for bailing out above 1500 ft AGL if a fire continues.