

DIAMOND DA42 Model Guide

DIAMOND DA42 is a twin-engine piston airplane (the DA 42 Twin Star), covered here by the EASA-approved DA 42 AFM, the Canadian DA42 L360 AFM and the NG-VI NXi checklist. Family variants include DA 42, DA 42 NG and DA-42-M-NG. Family-level maxima are up to 1030 nm range, 185 kt cruise and 20000 ft service ceiling. Confirm the figures for a specific serial number in its own AFM.

KEY TAKEAWAYS

- Get the AFM that matches the airplane: the autopilot fit (KAP 140 or none, versus Garmin GFC 700) decides which manual applies.
- Check that EASA AD 2007-0183 (ECU backup batteries) has been complied with on any earlier-serial airplane with TAE125 engines.
- Maximum demonstrated crosswind is 17 knots (L360 AFM). Structural cruising speed is 151 KIAS and never-exceed speed is 188 KIAS (GFC 700 supplement).
- Optional equipment varies: AUX fuel tanks, ice protection and continuous-flow oxygen (up to 18,000 ft). Check the equipment inventory.

WHICH MANUAL APPLIES

The DA 42 AFM (Rev. 5, 15-Nov-2007) is valid for airplanes with a KAP 140 or no autopilot. Airplanes with a Garmin autopilot need the separate AFM Doc. No. 7.01.06-E. The DA42 L360 is a Canadian-built variant with its own AFM (Rev. 6, 18-Aug-10, Transport Canada). Make sure the airplane's papers match.

ENGINE ELECTRICAL AIRWORTHINESS DIRECTIVE

EASA AD 2007-0183 R2 followed a double in-flight engine shutdown on a DA42 with TAE125-01 engines. The cause was a takeoff with an insufficiently charged main battery and a momentary voltage drop when the gear retracted. The FADEC engine controls depend on aircraft power. The AD required ECU backup batteries (MSB 42-042) within 200 flight hours or by 30 November 2007. Verify the logbook entry.

WHAT TO CHECK ON INSPECTION

From the NG-VI NXi checklist: main gear strut at least 4cm of bare piston and nose strut at least 15cm. Tire pressure is 4,5 bar main and 6 bar nose. Look at the gearbox and engine oil levels and drain the gascolators. Test the gear warning and the variable elevator stop. If fitted, check the AUX tanks and the de-ice system. For fuel additives, see the AFM.

SPECIFICATIONS

Oxygen System Max Altitude Ft	18000
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PERFORMANCE

Max Demonstrated Crosswind Kt	17
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V-SPEEDS

Max Structural Cruising Speed Vno Kts	151
Never Exceed Speed Vne Kts	188

SAFETY NOTES

- Do not take off with an insufficiently charged main battery: low voltage can reset the FADEC on both engines and feather the propellers (EASA AD 2007-0183).
- Smoking is never permitted in the DIAMOND DA42, and especially not while the oxygen system is in use. A leak in the oxygen system may greatly increase the risk of fire.
- If the oxygen cylinder gauge reads 200 psi, begin a descent to below 10,000 ft.