

DIAMOND DA42 TDI Model Guide

The DIAMOND DA42 TDI is a low-wing, retractable-gear twin built mainly from carbon-fibre reinforced plastic. The source documents describe two Thielert TAE 125-02-99 diesel engines of 135 hp each, a T-tail, winglets and a Garmin G1000 panel. The documents give a maximum takeoff weight of 3935 lbs. Check the paperwork against the Airplane Flight Manual.

KEY TAKEAWAYS

- Two 135 hp turbocharged diesels, each with FADEC and two ECUs; they burn Jet A1 and no additives are permitted.
- Max takeoff and landing weight are both 3935 lbs; empty weight is listed as 2928.90 lbs.
- Fuel: 25 gal useful per main tank, plus optional 13 gal aux tanks in the nacelles.
- Recommended RSB 42-139 replaces the rudder T-yoke axle; ask whether it has been done.

WEIGHTS, FUEL AND LOADING

Listed limits: empty weight 2928.90 lbs, max takeoff and max landing weight 3935 lbs. Baggage is limited to 66 lbs in the nose and 100 lbs in the cabin. Each wing tank holds 25 gal useful. Aux tanks of 13 gal each are an option, so confirm they are fitted. Maximum fuel unbalance in cruise is 5 USG.

ENGINES AND SYSTEMS TO INSPECT

Each Thielert diesel makes 135 hp at 2300 RPM and has two ECUs, with only one active at a time. The propeller is a three-blade constant-speed feathering unit. Check the engine and gearbox oil levels, drain the fuel filter sediment bowl for water, and test the fire detector, stall warning and gear on every preflight. Allow a 2-minute idle before shutdown to protect the turbocharger.

SERVICE HISTORY: RUDDER T-YOKE AXLE

RSB 42-139 / 42NG-081 (21-Oct-2019, category Recommended, compliance at owner's discretion) covers DA 42, DA 42 M, DA 42 NG and DA 42 M-NG airplanes by serial number. It replaces the rudder T-yoke axle after two reports of a loose axle nut that could reduce rudder control. Labour is about 3 hours with a 200 h or annual inspection, otherwise about 6 hours.

SPECIFICATIONS

Engine Power Hp	135
Main Tank Useful Gal	25
Aux Tank Useful Gal	13
Max Operating Altitude Ft	18000
Max Restart Altitude Ft	8000

PERFORMANCE

Max Operating Altitude Ft	18000
Max Restart Altitude Ft	8000
Best Glide Speed Kts	85
Best Angle Climb Speed Kts	82
Best Rate Climb Speed Kts	82

V-SPEEDS

Vfe App Kts	137
Vfe Ldg Kts	111
Vs0 Ldg 1400kg Kts	54
Vs0 Ldg 1785kg Kts	62
Vs Clean 1400kg Kts	63
Vs Clean 1785kg Kts	69
Vx Kts	82
Vy Kts	82

WEIGHT & BALANCE

Empty Weight Lbs	2928.9
Max Takeoff Weight Lbs	3935
Max Landing Weight Lbs	3935
Max Nose Baggage Lbs	66
Max Cabin Baggage Lbs	100

SAFETY NOTES

- Restart in flight is limited to 8,000 ft and 80-120 KIAS; max operating altitude is 18,000 ft.
- In-flight shutdown must occur above 1300 RPM or the propeller start lock engages. Never rotate propellers by hand.
- The checklist is a reference only; the Airplane Flight Manual governs. Diesel fuel temperature must be at least +5° before takeoff.