

Diamond DA40 Diamond Star Model Guide

The Diamond DA40 Diamond Star is a four-seat single-engine piston airplane, built since 2000. Sources describe a composite airframe, large baggage space and low fuel burn. The family spans a 180 hp Lycoming version and a turbocharged 168 hp jet-fuel Austro AE300 version (NG). Confirm the engine, airworthiness directive status and logbooks on any airplane you inspect.

KEY TAKEAWAYS

- Four seats, composite airframe, big baggage space and a Garmin G1000 NXi option; the brochure also stresses visibility and low fuel burn.
- Engines: 180 hp Lycoming IO360M1A, or the 168 hp turbocharged Austro AE300 on jet fuel (NG, Tundra Star). Check which one the airplane has.
- Nose gear leg part D41-3223-10-00 needs repeated crack inspections under an AD unless it was replaced with the modified leg. Grass use shortens the interval.
- Intentional spins are prohibited, and the DA40 is not certified for developed spin recovery (ATSB).

NUMBERS FROM THE BROCHURE

The brochure lists key facts for two variants. The Lycoming XLT: useful load 900 lbs, 8.2 gph at 65% power, max speed 142 kts. The NG: 5.1 gph at 60%, max speed 154 kts, full power to 14,000 ft, under 8.5 gph at max continuous. Both list a 16,400 ft max altitude. The NG useful load reads 897 lbs in one brochure edition and 904 lbs in another.

WHAT TO CHECK BEFORE BUYING

Ask for nose gear AD records. AD A-2005-005, superseded by AD 2009-0016, sets inspections at no more than 100 flight hours for mainly grass use and 200 for mainly paved use. A fatigue fracture failed a leg 33 hours after an inspection. On the diesel DA40 D, a third injector change calls for a thread repair; the maintainers' logbook did not track the count.

HANDLING AND PROCEDURES

The emergency checklist gives 73/68/60 KIAS for engine failure and emergency landing, and 73-80 KIAS for a windmill restart. Never unlatch the rear door in flight. The preflight calls for at least 5 qts of oil. Checklists are reference only and do not replace the Airplane Flight Manual.

SPECIFICATIONS

Engine Power Hp	180
Ng Engine Power Hp	168
Max Altitude Ft	16400
Ng Full Power Altitude Ft	14000

PERFORMANCE

Xlt Fuel Burn 65pct Gph	8.2
Xlt Max Speed Kts	142
Ng Fuel Burn 60pct Gph	5.1
Ng Max Speed Kts	154

V-SPEEDS

Windmill Start Speed Min Kts	73
Windmill Start Speed Max Kts	80

WEIGHT & BALANCE

Xlt Useful Load Lbs	900
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SAFETY NOTES

- A DA40 entered a developed spin during incipient-spin training and crashed. Follow the limitations, and ask the manufacturer what early spin entry is allowed.
- G1000: GPS altitude must never be used for vertical navigation. The Jeppesen database updates every 28 days; an outdated one is flown at the pilot's own risk.
- A loose injector on a DA40 D caused total loss of fuel pressure and a forced landing after takeoff. Verify injector maintenance records.