Piper PA-31 Navajo Model Guide

The Piper PA-31 Navajo is a twin-engine piston aircraft built from 1967 to 1984, with 6 to 10 seats. Registry data for the PA-31 family (PA-31, PA-31-300, PA-31-325, PA-31-350) shows up to 880 nm range, 183 kt cruise, 3100 kg MTOW, 8 passengers and a 24000 ft ceiling. These are family maxima, not figures for one variant. Confirm the airplane's own flight manual and weight and balance report.

KEY TAKEAWAYS

- Twin piston, built 1967-1984, seats 6 to 10. The family includes PA-31, PA-31-300, PA-31-325 and PA-31-350 variants.
- One operator sheet lists max takeoff weight 6500 lbs, usable fuel 242 gal and 350 hp rated per engine at max continuous.
- AD 2003-24-07 requires a rudder torque tube corrosion inspection every 12 months. AD 82-16-05 requires exhaust coupling inspection every 100 hrs.
- Two investigated accidents involved fuel exhaustion. Check fuel planning habits and the fuel system's condition.

FAMILY FIGURES AND PAPERWORK

Registry figures cover the whole PA-31 family: up to 880 nm range, 183 kt cruise, 3100 kg MTOW, up to 8 passengers and a 24000 ft service ceiling. These are maxima across variants. The Piper operating manual (issued September 1970) says it is incomplete without the FAA-approved flight manual and a weight and balance report. The flight manual is the authority if the two disagree.

LIMITS FROM AN OPERATOR SHEET

An evaluation sheet for a Navajo Panther PA-31 lists Vne 230, Vno 180, Vmca 78, Vso 70 and Vyse 106 KIAS. It gives max takeoff 6500 lbs, 100/130 fuel, 246 gal total (242 usable), baggage 150 lbs forward and 200 lbs aft, and 150 lbs per nacelle. Max crosswind is 20 kt. Spins are not approved. Check these against the specific airplane's own manual.

WHAT TO INSPECT AND ASK FOR

Ask for proof of compliance with AD 2003-24-07 (CASA AD/PA-31/130): rudder torque tube and rib corrosion, an area with no inspection access or drain, with a risk of losing rudder control. Also ask about AD 82-16-05 (exhaust V-band couplings, every 100 hrs). Emergency AD 2002-04-51 required crankshaft removal on listed TIO-540/LTIO-540 engines of 300 hp or higher, so check the engine serial numbers.

SPECIFICATIONS

Total Fuel Capacity Gal	246
Usable Fuel Gal	242
Engine Rated Power Hp	350

PERFORMANCE

Family Max Range Nm	880
Family Max Cruise Speed Kt	183
Family Max Service Ceiling Ft	24000
Max Crosswind Kts	20

V-SPEEDS

Vne Kts	230
Vno Kts	180
Va Kts	155
Vmca Kts	78
Vso Kts	70
Vx Kts	85
Vy Kts	100
Vyse Kts	106

WEIGHT & BALANCE

Max Takeoff Weight Lbs	6500
Baggage Forward Max Lbs	150
Baggage Aft Max Lbs	200
Nacelle Baggage Each Max Lbs	150

SAFETY NOTES

- Fuel exhaustion: F-HGPS (2018) ran out of fuel. N80HF (2010) lost both engines, with no fuel leak found and higher-than-planned consumption.
- N250AC (1976) had pitch control problems and the elevator trim was found significantly nose-down. Trim runaway was a possible scenario, so check trim and autopilot condition.
- Engine failure above 83 KIAS on takeoff (sheet): feather the dead engine, gear up, bank 5° into the operating engine, accelerate to 88 KIAS.

AI-aggregated guide for the Piper PA-31 Navajo · sources: PIPER NAVAJO PANTHER PA - 31 (#13489) · Pilot's Operating Handbook (#13417) · PIPER PA-31-310/325 Navajo (#13493) · AIRWORTHINESS DIRECTIVE (#13477) · EMERGENCY AIRWORTHINESS DIRECTIVE (#11607) · Accident to the Piper PA-31 "Navajo" registered F-HGPS (#13428) · AAIB Bulletin: 4/2011 N80HF (#13433) · AAIB Bulletin: 3/2019 N250AC (#13491) · generated 2026-10-16 · Reference only, not for flight. Check the original documents before relying on this guide.