

Stinson 108

The **Stinson 108** was a popular general aviation aircraft produced by the Stinson division of the American airplane company Consolidated Vultee, from immediately after World War II to 1950. It was developed from the prewar Model 10A Voyager.^[1] Stinson was bought by Piper Aircraft in 1949. All Stinson model 108, 108-1, 108-2, 108-3 and 108-4 aircraft were built by Stinson at Wayne, Michigan. When Stinson sold the type certificate to Piper in 1949, approximately 325 airplanes of the 5,260 model 108s built by Stinson were complete but unsold. These 325 model 108s went to Piper as part of the sale. Piper then sold that inventory as the Piper-Stinson over the next few years.

1 Design and development

The fuselage was of fabric-covered steel tube. After-market modifiers have obtained supplemental type certificates (STC) allowing conversion to an aluminum covering. Many different engines have been installed in the 108 by STC such as the Lycoming O-360, Franklin 220/220, Continental O-470.^[2]



Swiss Stinson 108-2 at Manchester Airport, England in 1950. This earlier model has the shorter vertical fin with curved trailing edge.

One distinctive feature was the partial leading edge slot installed on the wings and aligned with the ailerons on the trailing edge, ensuring that the portion of the wing containing the aileron remains unstalled at higher angles of attack, thus contributing to docile stall behavior.

Total new production of the Stinson Model 108, by Stinson, was 5,260, total does not include the 2 converted prototypes. Stinson delivered approximately 4,935 aircraft and Piper delivered approximately 325 aircraft.^[3] Piper later sold the type certificate to Univair Aircraft

Corporation. Univair built and certified the model 108-5, 1 built. Total new model production by Stinson and Univair is 5,261 aircraft.

2 Variants



1946 model Stinson 108 (not a 108-1, 2 or 3)



1946 model Stinson 108-1

The 108 variants closely resemble each other but can be visually distinguished by their design changes:

Prototype 108 Two prototype model 108s were converted from Stinson model 10A airframes. FAA records show NX31519 was model 108 serial number 1, and NX31532 is model 108 serial number 2. Both registrations later changed to NC. The production model straight 108 would also use serial number



1946 Stinson 108-1

1 and 2, so there was for a short period 2 duplicate serial numbers;^[4]

108 The 108 does not have a right-side cargo door on the fuselage, 741 built;

108-1 The 108-1 up to s/n 108-1469 does not have a right side baggage door, s/n 108-1470 and above has a right-side baggage door on the fuselage, 1507 built;

108-2 The 108-2 was essentially the same as 108-1, with exception of 165 hp (123 kW) replacing the 150 hp (112 kW) engine & inflight adjustable rudder trim, 1252 built. There was a conversion kit to add the rudder trim to the earlier airplanes advertised.



Stinson 108-3

108-3 The 108-3 introduced a taller vertical fin with a rudder featuring a straight trailing edge. Larger fuel tanks (50 U.S. gallons (190 L; 42 imp gal) versus 40 U.S. gallons (150 L; 33 imp gal)) were also incorporated into the wings. The -3 has a higher gross weight than its predecessors of 2,400 lb (1,089 kg), allowing full fuel, four 170 lb (77 kg) occupants, and 50 lb (23 kg) baggage allowance, 1759 built.

108-4 The 108-4 was a higher powered model 108, sn 108-4693, NX149C, not certified, flown experimentally by Stinson, later by Piper, 1 built.^[5]

Flying Station Wagon The “Flying Station Wagon” version was an option available with the -1, -2 and -3 models, had a utility interior^[1] incorporated wood paneling and a reinforced floor, allowing 600 lb (272 kg) of baggage in the passenger compartment. The aircraft could be fitted with wheel, float or ski landing gear. The single 108-4 built was a Flying Station Wagon.

108-5 The 108-5 was built by Univair, similar to the 108-3 with a 180 hp (134 kW) Franklin engine. Univair purchased the Stinson 108 type certificate from Piper, 1 built in about 1975. This airplane brings total model 108 production to 5,261, of which 5,260 were built by Stinson, 1 by Univair.

Voyager 125 Powered by a 125 hp (93 kW) Lycoming O-235 piston engine.

Voyager 150 Powered by a 150 hp (112 kW) Franklin 6A4-150 piston engine.

Voyager 165 Powered by a 165 hp (123 kW) Franklin 6A4-165-B3 piston engine.

3 Specifications (108-3)

Data from Plane and Pilot^[6]

General characteristics

- **Crew:** one
- **Capacity:** three passengers
- **Empty weight:** 1,300 lb (590 kg)
- **Gross weight:** 2,400 lb (1,089 kg)
- **Fuel capacity:** 50 US gallons (190 l; 42 imp gal)
- **Powerplant:** 1 × Franklin 6A4 six cylinder, horizontally opposed four stroke, aircraft engine., 165 hp (123 kW)

Performance

- **Maximum speed:** 143 mph (230 km/h; 124 kn)
- **Cruise speed:** 121 mph (105 kn; 195 km/h)
- **Stall speed:** 65 mph (56 kn; 105 km/h)
- **Range:** 510 mi (443 nmi; 821 km)
- **Service ceiling:** 16,500 ft (5,029 m)
- **Rate of climb:** 850 ft/min (4.3 m/s)

4 See also

Related development

- Stinson Voyager

Aircraft of comparable role, configuration and era

- Aeronca Sedan

5 References

- [1] Simpson, Rod (2005). *The General Aviation Handbook*. Midland Publishing. p. 290. ISBN 1-85780-222-5.
 - [2] . Western Aviation Magazine. 1962. p. 37. Missing or empty |title= (help)
 - [3] Stinson Voyager Production Record
 - [4] FAA Records for NX31519 and NX31532
 - [5] FAA Records for NX149C
 - [6] Plane and Pilot: *1978 Aircraft Directory*, page74. Werner & Werner Corp, Santa Monica CA, 1977. ISBN 0-918312-00-0
- Andrade, John (1979). *U.S.Military Aircraft Designations and Serials since 1909*. Midland Counties Publications. ISBN 0-904597-22-9.

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