A Pilot's Guide

Cessna 172

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Introduction to the Cessna 172

The Cessna 172, in its many variants and spin-offs must be the leading contender for the title of the world's most popular light plane.

The production statistics alone are staggering; an overall production (depending on which models and types you choose to include) of around 42,000 and a peak production rate of about one aircraft every 30 minutes, in a production run lasting from 1955 through to 1985. The 172 makes a natural progression for those trained in Cessna 150s or 152s, and has a well earned reputation for being safe and forgiving, with few airframe or engine problems.

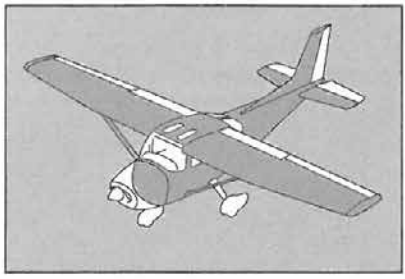
This book covers the 172s built from 1977 through to 1985 (models 172N and 172P). These models are powered by the Lycoming 0-320 engine of 160 HP, replacing the 150 HP version, which itself had replaced the six cylinder Continental engines in the 1960s. The 172 is popularly referred to as the "Skyhawk" and the "Skyhawk II" which was sold with an increased standard package including an avionics fit. As with other Cessna models a significant number were manufactured by Reims Aviation in France. These models are identical to American built examples, but carry the "F" prefix to their model number.

The 172N is powered by the 0-320-H2AD engine which proved to be an expensive proposition, contrary to previous 172 powerplants. It was subject to various ADs (Airworthiness Directives), oil additives and special operating procedures as a result of problems in the valve train. The controversial situation with the H2AD engine continued until 1981 when a new model of engine—the D2J—was introduced, which appears to have been altogether better. Also in this year the maximum flap extension was reduced from 40° to 30° and the gross weight was increased by 100 lbs. In addition, the landing and taxi lights were moved from the lower cowling to the leading edge of the port wing. This final version of the Skyhawk is designated the 172P.

Production of the 172 ended in 1985, another victim of the problems affecting the General Aviation industry in the early 1980s. It is doubtful that any other aircraft will surpass the 172 for production and popularity, and it is certain to have the same longevity as its 150 and 152 stable mates.

PRODUCTION YEAR	MODEL	MODEL NAME
1977 – 1980	172 N	Skyhawk/Skyhawk II
1977 – 1980	F172 N	Reims/Cessna F 172 Skyhawk/Skyhawk II
1981 – 1986	172 P	Skyhawk/Skyhawk II
1981 – 1986	F172 P	F 172 Skyhawk/Skyhawk II

The Airframe



The Cessna 172 airframe can be described as being of all metal construction, the primary structure being constructed of aluminum alloy. Some non-structural components such as the wing tips and wing strut fairings are made from fiberglass.

The fuselage has a semi-monocoque structure; that is the vertical bulkheads and frames are joined by horizontal longerons and stringers which run the length of the fuselage. The metal skin is riveted to this structure. This arrangement is conventional for modern light aircraft and allows loads to be spread over the whole construction. At the rear of the fuselage the tail unit consists of a swept fin with rudder and conventional horizontal stabilizer with elevators. Underneath the rear fuselage a metal loop tie-down point and tail guard is fitted. This loop is vulnerable to damage in a "tail-strike." It is possible for this loop to be pushed back into the base of the rudder. Small holes are drilled in the underneath of the fuselage to act as drainage points. If it is suspected that water has entered the rear fuselage, the tail should be lowered and any water should drain from these holes (as long as they aren't blocked of course).

The wings are of semi-cantilever design (supported by an external strut) and have a 1° dihedral. Where each strut connects to the wing, a metal ring is installed to be used as a tie-down point.

A Pilot's Guide Series by Jeremy M. Pratt

Each *Pilot's Guide* is a comprehensive book on the fundamentals of flying the airplane. Subjects covered in detail include an overall description of the aircraft, limitations, handling characteristics, and loading/performance data. All of the information is gleaned from flying experiences by experts in the industry, and is presented in an easy-to-read format. Pilots will find each guide in the series an invaluable companion to the aircraft's Flight Manual, and an excellent sourcebook for the aircraft's principle characteristics.

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