

The Piper PA-28-180 Cherokee is a four place, fixed landing gear landplane, Lycoming O-360-A3A or O-360-A4A engine of 180 hp (134 kW), gross weight 2,400 lb (1,089 kg). First certified on 3 August 1962. It is a all-metal, unpressurized, single-engine, piston-powered airplane with low-mounted wings and tricycle landing gear. It has a single door on the copilot side, entered by stepping on the wing.

Some of my earliest memories are of my dad flying over our house in his Piper Cherokee as I played in the yard. His commute to his job by car was almost an hour and a half. So on the days with decent weather he would fly to work instead. We lived close enough to the municipal airport, and when he flew over we all knew about how long it would be until his arrival. The fly-over was always a low-altitude high banked turn so there would be no mistake that it was him. It was with these fond memories in mind that I set out on this project.

The basic construction of the model is straight forward flat sides of 1/20" balsa strip built over the plan with formers top and bottom. Stringer notches are cut into the formers and the stringers should sit just proud to give a metal-like skin appearance. The formers are cut from the plan. However, the builder may want to leave some wood in the middle and trim out once the stringers are in place. Scalloping formers is common and if done correctly can reward the builder with a much lighter model. A considerable amount of longeron twist from the wing LE forward is required for the final placement of the nose formers so part N1 is best left off the side construction until after the fuselage is nearly complete. The wing is of one-piece-thru design and can be built over the plan using one strip of 1/16"x1/8" for the TE that can be cracked as the wing panels are lifted to achieve the dihedral indicated. The wing tips are 2 pieces of 1/32"x1/16" laminated around a form using a white glue/water mixture or soft balsa block. The wing is covered with tissue and doped prior to assembly to the fuselage. The one-piece wing design will allow the builder to adjust the wing incidence to suit. The wing incidence shown on the plan is 3°.

Although the plan indicates the 1/20" balsa strip construction, the test planes were built with 1/16" and 1/32". The 1/16" model resulted in a 14.7 gram completed airframe without rubber motor and the 1/32" came in at 10.4 grams. The 1/16" version required more ballast but was easy to fly in most all conditions and trimmed out quickly. This model utilized a single loop of 1/8" tan rubber 14" long with 800 turns and a 4-3/4" plastic propeller. The 1/32" model was only able to fly in calm air but did so with some nice duration-like flights. The final set up for that version was a 4-1/2" balsa propeller with 1.4 P/D and a single loop of 0.09 tan rubber wound to the 80% breakpoint. Even though the scale stabilizer was installed on both test models, the larger stabilizer was later utilized to allow the models to fly well at a lower airspeeds. The final CG position ended up at 0.6 inches back from the LE (27%) and with the thrust settings given on the plan turned in a right hand pattern with no rudder adjustments.

Covering the models with tissue was straight forward with the exception of the top of the fuselage. The rounded area over the cockpit needed two strips of tissue to avoid any wrinkles. White Esaki Japanese tissue was used for both models. A light coating of white lacquer paint was applied on the 1/16" version with water-slide decals printed on a inkjet printer. For the 1/32" version, the pattern provided was printed directly onto the tissue.

The front windscreen was cut from the pattern given. It was first masked and painted to simulate the front divider and installed. Then the flat side windows were cut from the plan side view and applied.

I have to agree somewhat with a good friend that there really isn't anything too great about the actual plane. Only that it has been around for over 50 years giving a great number of people the freedom to enjoy the clear blue skies.



N8150W

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