

The period between the two World Wars was an exciting and meaningful time for aviation in Europe, as it was in this country. The coined term, "Golden Age of Aviation", was certainly applicable worldwide. In addition to the challenges being met by innovative engineers in order to push towards the outer limits of performance, a strong spirit of nationalism existed and competition between countries, particularly in Europe, became rampant. Most European designs evolved to participate, and, of course, excel in one or more of these various competitions. The IIIrd Challenge de Tourisme International held at Berlin's Staaken Aerodrome in August 1932 was a prime example of just such an event, and thus our subject was conceived.

Doświadczalne Warsztaty Lotnicze (D.W.L.) was tasked by the Polish Ministry

of Transport in late 1930 to develop an entry for the coming Berlin event. The team of Stanislaw Rogalski, Stanislaw Wigura, and Jerzy Drzewiecki immediately began work on the design which evolved as the R.W.D.6, and three aircraft were built. On its initial test flight in June 1932 the prototype crashed and was destroyed as a result of a malfunction of the Handley Page leading edge slots during takeoff. Drzewiecki, the pilot, escaped unhurt. After a comprehensive examination of the malfunction was conducted and appropriate modifications were made on the two remaining aircraft they departed for Berlin.

Sixty-seven airplanes from all of Europe's major manufacturers entered the competition, however, only 47 machines arrived, representing six countries. In addition to the two R.W.D.6s, Poland also sent three P.Z.L.19s. The favored aircraft were the Mes-

# An RWD-6 for Rubber Scale

By Col. Hurst Bowers

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A rubber powered version of the award winning Polish STOL craft of the 1930's. Different!

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PHOTOGRAPHY: COL. HURST BOWERS

serschmitt M.29s, however both of these machines crashed prior to the competition, leaving the Italian Breda 33 at the top of the list, with the Klemm K1.32, the Heinkel He64c, and the Darmstadt D.22 favored. As history has recorded, the Polish team and aircraft performed brilliantly, with the R.W.D.6 SP-AHN flown by Zwirko and Wigura being judged the winner. The two R.W.D.6s scored highest in equipment ratings, with the



The R.W.D.-6 made its debut at the 1932 Berlin airshow. It was a prime example of that year's state-of-the-art. It makes for an interesting model.



P.Z.L.19s coming in second. The Poles were the unquestionable winners of this historic event which goes to prove the superb state of the art existing in that country at the time. Unfortunately the euphoria was short-lived, for in September 1932, R.W.D.6 SP-AHN encountered severe turbulence while enroute to Prague and shed both wings. Zwirko and Wigura were lost and all of Europe joined Poland in sorrow.

The R.W.D.6, which set the pattern for today's STOL aircraft, was a relatively simple and esthetically pleasing craft. It was a two place, high wing, monoplane of composite construction. The wooden wing utilized an airfoil developed by the Warsaw Aerodynamic Institute and had a large single spar with plywood covered "D-box" leading edge and fabric covering the remainder. The Handley Page slots extended the entire span. Flaps and ailerons extended over the full trailing edge. The entire tailplane was wood framed and covered except for the elevators and rudder, which were covered with fabric. The fuselage was conventional welded steel tubing with wooden formers and stringers, covered at the nose with dural, though the cabin section with plywood, and aft to the tail with fabric. A 140 horsepower Armstrong Siddeley seven cylinder radial Genet Major engine was installed, complete with antidrag ring cowling and ground adjustable metal propeller. Two wing fuel tanks carried approximately 32 gallons for a range of slightly over 400 miles. The wingspan was 36 feet, 1 inch; length was 21 feet, 8 inches, and gross weight was 1650 pounds. Maximum sea level speed was approximately 140 m.p.h., cruise was 118 m.p.h., and landing speed was 37 m.p.h. The service ceiling was approximately 20,000 feet.

To the best of my knowledge, based upon

nearly fifty years in our hobby, this airplane has not been modeled in this country. I'm sure someone will probably refute this and I hope they will for I would hate to think that such a pleasing airplane had escaped the notice of scale modelers since 1932.

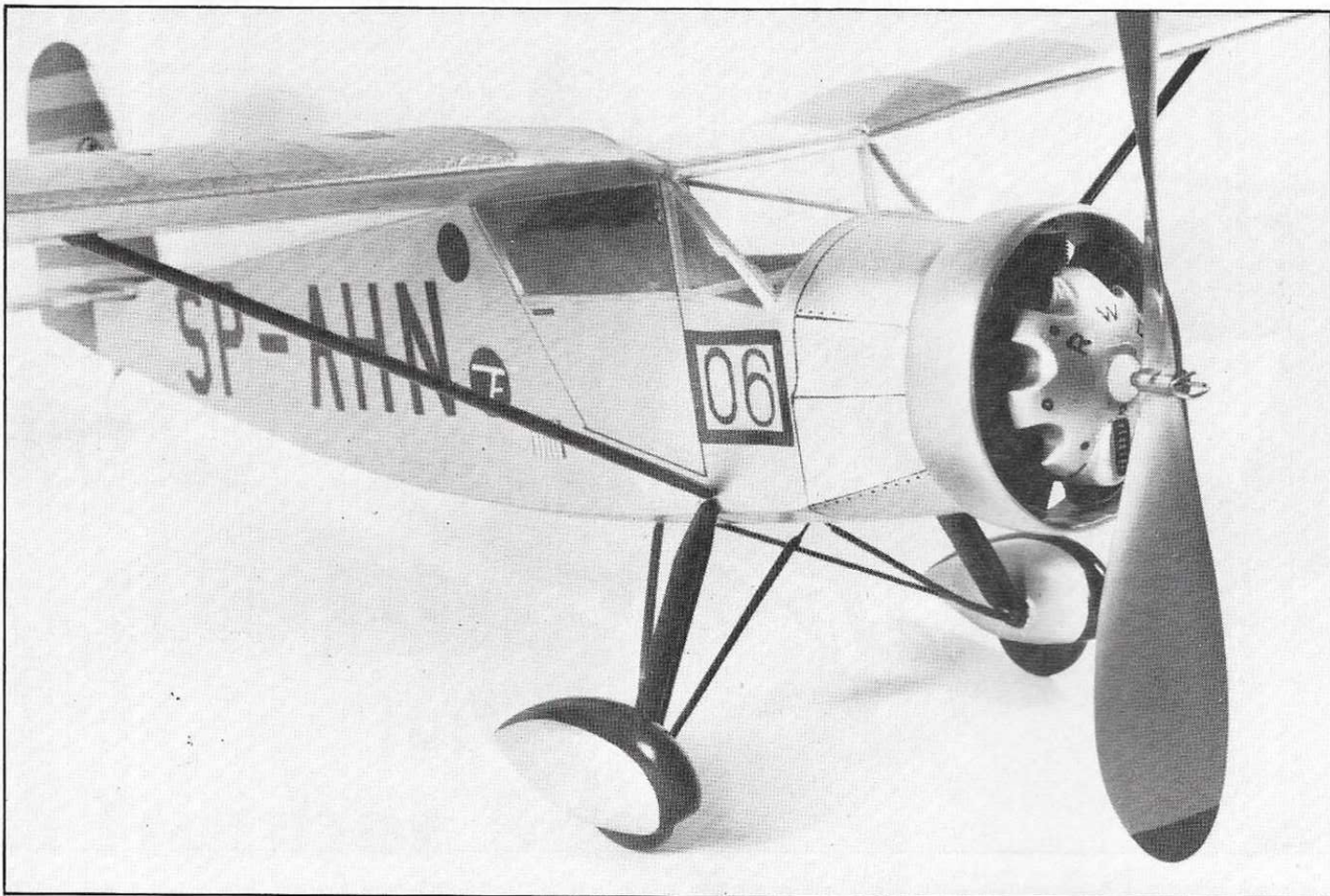
I developed my plans from three small views found in the Putnam Publication, *POLISH AIRCRAFT, 1893-1939*, by Jerzy B. Cynk, and settled on a 30 inch wingspan, which I consider to be optimum for rubber power. The model construction is entirely conventional and I can think of no area where instructions other than those found on the

drawing is necessary. There are several areas, however, which I will comment on for I have found these techniques to be helpful.

Correct wing alignment is always a problem on models whose panels must be affixed on each side of the fuselage. This is solved by using aluminum tubing receivers at the appropriate position on the fuselage with alignment pins accurately placed on the root rib. The use of sheet balsa covering for nose sections, cowlings, etc., is made much easier if the material is soaked for a short time in hot water with a generous amount (approximately 15 to 20%) of household ammonia



The forerunner of today's STOL aircraft, the R.W.D.-6 is relatively simple and has pleasing lines. Wings are aligned with aluminum tubing and alignment pins. Williams Brothers engine cylinders add detail.



added. The sheet becomes quite supple and greater bends can be negotiated without breaking or cracking. This technique may also be used for wingtip and tail laminations. Dummy engines have always been most time consuming, but use of the wonderful Williams Brothers universal cylinders has solved this problem and on rubber models the very slightly added weight serves to eliminate the usual need for nose ballast.

Everyone has their own best method for covering with Japanese tissue, but I have found after many years of trial and error that it can be used for "wet covering" thus obtaining a reasonable compound curve capability. I cut Titebond glue with water about three times, then brush the fluid over the outlines to be covered and allow it to dry thoroughly. When dry, cut tissue to approximately the correct size and shape, leaving about 1/2 inch excess to work with. Lay the tissue over the section to be covered and dampen it with water from an atomizer. As the tissue "wilts" over the framework, very carefully work it tight, and press it gently along the preglued edges with the thumbs. This must be done rapidly as the tissue begins to dry quickly and very little moisture is needed to melt the glue enough to firmly grip the tissue. When dry, apply clear and color dope either by brush or spray, however, keep it thin and light and the spray is usually best. I still prefer using good black tissue for trim and numerals, but it is hard to find these days, so often I must cut a stencil from contact paper and spray on the details. Here again the preference of the modeler should prevail.

Obtaining proper rubber/propeller combinations is of paramount importance, and this optimum is usually achieved only through

trial and error testing and trimming. Start this task on the R.W.D.6 by using a 9 inch Peck plastic propeller and six strands (3 loops) of good quality 1/8 inch lubricated rubber approximately 1 1/2 times the length of the fuselage. As trimming progresses you will possibly find that additional rubber will be necessary, but the lower power will greatly increase the survivability of the model dur-

ing the critical early stages of testing. Properly constructed, trimmed, and of light weight, your R.W.D.6 should prove to be consistently capable of achieving one minute duration flights.

I hope that you will enjoy this model as much as I have. In fact, I have become so enthusiastic over the Polish aircraft of the 1930s that I hope to do a series of them. ☺



**Fuselage lettering** can be cut from good quality black tissue or stenciled and sprayed. Original model was test flown on Peck 9 inch plastic prop and 1/8" rubber. Author has logged consistent one minute flights.