used and enclosed in a plywood box.

The drum is a 5½ inch length of 3 3/8 x .032 aluminum tube. The tube is heated, to expand it, and two disks of .064 sheet aluminum are pressed into place, fig. 3. The upper disk is flush with the end of the tube while the lower disk is recessed sufficiently to allow the drum to drop over the clock and maintain 1/8 inch clearance between the tube and base plate. (Ed. note: An ordinary tin can also makes a satisfactory drum if the clock is not covered. Select one containing a liquid so it can be drained without cutting out an end.)

A surplus altimeter was selected (Kollsman sensitive) and the case, hands, dial, barometeric setting gears and all removable parts on the dial side of the frame were removed and discarded. Nothing below the frame (bellows side) was disturbed — this preserves the greater portion of the calibrations and compensations. The altimeter frame is attached to the back plate by several machine screws in such a position that the rocking shaft is about mid drum height (2½ inches from base), fig 2.

A stylus arm was made from brass shim stock, V- crimped for rigidity and with a needle-point turn at the end. This arm must be as light as possible to reduce acceleration effects on the operation of the instrument. The screw holding the sector counter weight is loosened and the stylus arm is slipped between the counter weight and sector and locked in place. Moving the counter weight *toward* the rocking shaft may provide sufficient balance to offset the stylus weight, although it is usually necessary to remove some of the balance weight by filing to obtain a satisfactory balance. (Ed. note: 1/16 inch dia. aluminum tubing, such as hobby stores carry for model builders, also makes good stylus arms.)

A base line is very useful in evaluating barograms, so another brass stylus is rigidly attached to the back plate to provide the base line. The stylus clearance lever is cut from .032 aluminum sheet and serves to hold the stylii from the drum while changing the foil (it is also the lever you forget to trip until well on your way toward a new soaring record).

The drum height given is good for about 28,000 ft. altitude so that it could be reduced, decreasing the case height, if a lower maximum altitude is desirable. It takes time, effort and a few tools, but you *can* build your own barograph.

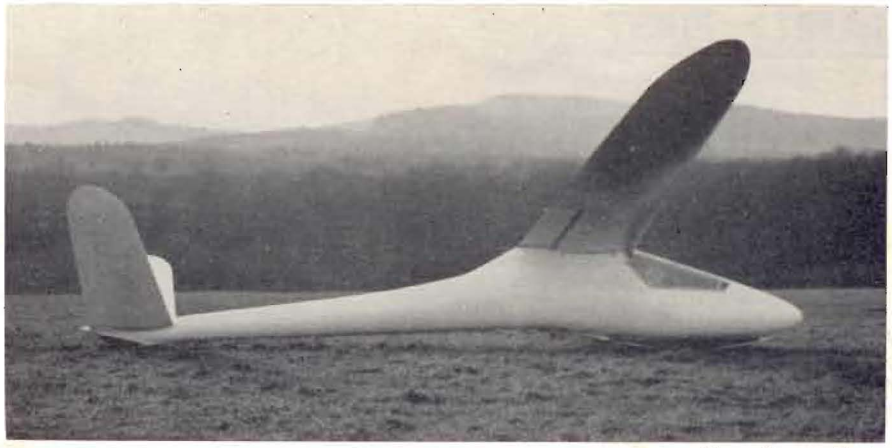

Photo: Herman Nagler

The new Kria, a small, yet high-performance, German sailplane of balsa-plastic construction. Span, 39 feet; wing area, 106 sq. ft.; AR, 14.33; airfoil, STE 961-516.

ORCHIDS TO KRIA

This sleek new balsa-plastic sandwich constructed sailplane was built with one idea in mind — a top performer for a fast competition. In applying the latest concepts of aerodynamics and structures, the designers and builders have created one of the most aesthetic and yet practical ships we have seen.

Several hands and brains in Germany teamed together to produce the Kria. Dr. Eppler developed the airfoil and is the man responsible for the aerodynamics. Herman Nagler did the stress work and actual building. (He is now with Dr. Raspet, until May, evaluating another of this team's products — the Phoenix.) The third team member is soaring's own Wolf Hirth. It was in Wolf's shop, and under his guiding hand that both the Phoenix and the Kria were built.

The Kria was flown for the first time shortly after Christmas, 1958, and proved a real joy for its developers. It reached anticipated performance levels and is a true example of what a small ship can do, if planned carefully. Mr. Nagler reports that it will fly very slow for good thermalling and yet is capable of a very low sink rate, comparable to the Phoenix, at 100 mph speeds.

The photo reveals some of the desirable features incorporated in the Kria design. Note the good ground clearance, the economical and distortion free flat-wrap canopy, small yet effective ailerons that roll 45° to 45° in less than four seconds, and a very low drag fuselage with a minimum of wetted area. The 110° Vee tail gets the surfaces up out of the weeds and rocks, for off airport landings. Details that the photo doesn't reveal are the automatic hook-up of the flaps, ailerons, and rudder-vators, when the wing and tails are installed. Excellent visibility and a roomy cockpit add to the comfort and pilot attraction.

One detracting feature, while cost reducing, is the one-piece wing. A 39 foot wing just cannot be trailered in an efficient manner and should the developers decide to go into production on the Kria, they must give attention either to dividing the wing into two panels, or make the tips removable — a la Skylark.

Not withstanding this detail, we do want to give you a preview of the newest thing in high-performance soaring, at the same time congratulating those responsible for its development. We do hope they will favorably consider commercial production in a practical configuration suitable for competition and handling ease.

Orchids to Kria — Eppler, Nagler, and Hirth! —George E. Coder, Jr.

HIGH VISIBILITY PAINT DRAFT RELEASE NO. 58-19

In November, the Civil Aeronautics Board published a notice of proposed rule making stating that they are contemplating requiring *all* aircraft to use high visibility paint on "certain surfaces." Deadline for comments on the proposal was January 15th. SSA's official response recommended that the requirement not be made mandatory until the expected life of the florescent paints (at present it is "up to one year") was significantly increased and application techniques simplified. Further actions on this proposal, if any, will be reported as they are made known.