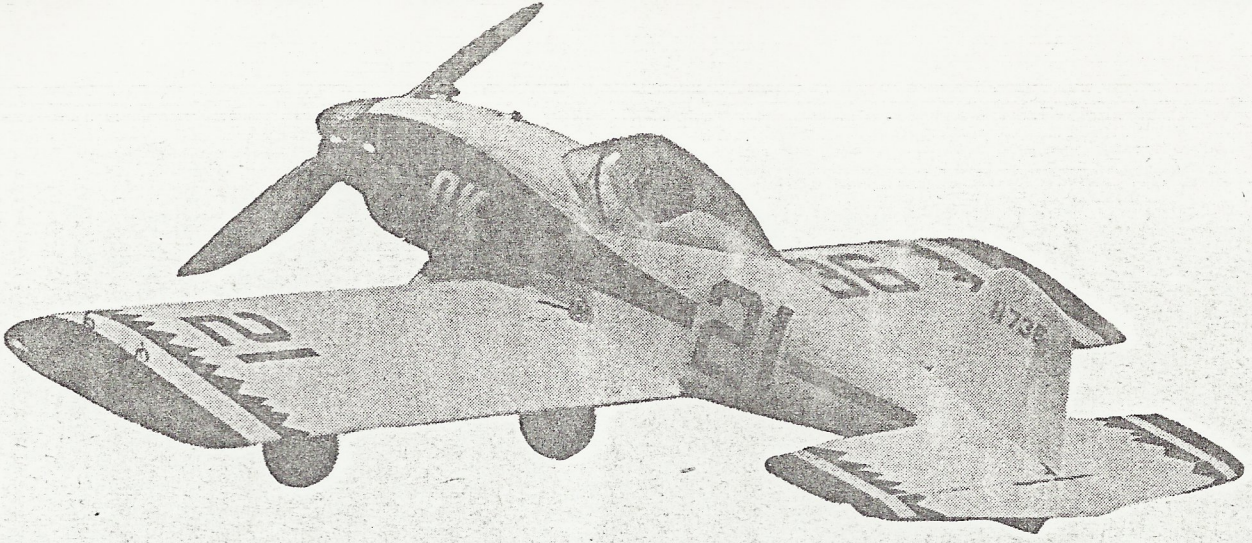

Team X 1/2 = Fun

PROTO and Team Racing, as developed by West Coast builders, have literally taken this country as well as Europe by storm. The engine and area restrictions plus realistic appearance not only keep the speeds down to a safe limit allowing some maneuvering but also reduce the advantages of "Hot" engines. Surprisingly enough most models of this type are built for pure sport rather than for competition purposes. Many scale types are adaptable to both Proto and Team Racing and several have won races.

Now that the 1/2A engines are here to stay, a junior edition of this phase of our fine sport is spreading even faster than its big brother. Simplicity of construction, economy of engine costs and ease of transportation plus a larger selection of flying sites (due to the small circle required) are reasons enough for its popularity. However the extreme realism of these models, as well as the fact that the builder can add his own pet ideas without being accused of being "off scale" seem to be the main attractions.

As previously mentioned, most of these models are used for sport. However, a set of rules should be formulated for the benefit of those who wish to participate in Team Races (and once you have you always will) and for classification purposes. 1. Based on our previous experience with small bore engine powered models, it does not appear practical to completely cowl the powerplant as on the larger class models; nevertheless it is not impossible and bonus points should be given to the models with this feature. 2. Models should resemble past, present or future designs and should possess a cockpit with pilot so located in order not to interfere with the engine installation, i.e.; The hypothetical pilot should have enough leg room up to the firewall (tank excluded). 3. Landing gear must allow the model to take off and land in conventional manner. Retracted gear should extend for landings. 4. Bonus points should be awarded to exact scale models. 5. Total projected wing area should not be less than 40 sq. in. 6. Engines must be in 1/2A category, and as we all know, the most powerful engines do not always win these races. 7. The fuel tank capacity should be restricted to 1/2 oz. thereby requiring several pit stops in each race for those hungry engines.

Obviously the above mentioned rules are in no way final, but we built our model in accordance with them and the result was a fast, easy-to-handle, realistic ship patterned after the present day Goodyear racers. The landing gear was located well forward in order to insure safe landings without propeller breakage. The fuselage size was kept to a minimum and although some may say the tail moment arm is too short, no trouble was encountered in so far as sensitivity was concerned. The model responded to every wrist movement and yet we flew three laps "blind" and were told that the plane did not change altitude more than 3'. This latter result is very beneficial in Team Racing in view of the fact that the other entrees must be surveyed many times during a heat in order to enable the flyer to spot openings etc. Our *Midget Racer* is fitted with a pancaked *Cub .074* engine. We used the largest of the small bore engines to test the effect it had on this size model. Top speed was between 70 and 75 mph without trying. Evidence leads us to believe that much higher speeds are feasible. The engine cylinder is partly enclosed with a standard plastic bubble canopy with the front and rear ends cut off. This seems like the perfect engine installation on these models to achieve realism.

The wide variety of designs that can be obtained in this class is illustrated in Figures One and Two. Our Figure One design stems from the pre-war *Thompson* and *Greve* Trophy racers with *Gee Bee*, *Brown* and Steve Wittman's Barn Doors characteristics thrown together plus some of our own ideas. It clearly illustrates that cowling one of these tiny engines is quite possible and smooth, clean lines can still be retained. Figure Two leans towards the future and is a figment of the author's imagination. With swept-back wings and tail surfaces plus the prone pilot position just over the pancaked engine, this design should make an interesting model racer, and performance should be as good if not better than more conventional designs. Both these models can be constructed using the same methods we used on our own *Midget Racer*. Scale is given for the benefit of those who desire to enlarge these drawings.

Some modelers may prefer to build our *Midget Racer* in the Big Brother 125 sq. in. minimum area size whereupon we sketched a small plan with suitable scale (Figure Three). This model will take any engine of .29 size. Here again construction is identical to the smaller plane except that construction should be proportionately heavier. A larger cowl than that which is illustrated will be required to enclose the entire engine and meet the Team Racing Rules for the 125 sq. in. class.

Now to get started on this 1/2A *Midget Racer* model. Begin construction with the fuselage. Cut out the sides from sheet