

# "THE GNAT"

Light, cheap, tight-turning sport flyer . . .  
Ideal for calm-air fun, night flight.

For mid-week flying on local fields . . .

by Don McGovern

.010 to .020 engines, spans 32"

► You need more than one ship in your arsenal. You need variety!

Maybe you like free-flight. Fine, you've got a couple of good contest machines that scream straight up and out. Trouble is you only fly them on weekends, when you can drive miles out to the boondocks. Or, is R/C your dish. If it isn't field size curtailing your flying, it might be a matter of time. No time to tune-up your equipment, and get launched on weekdays.

What you need at times is just a quiet little craft for small local flying sites. A ship that climbs more realistically, in lazy circles, and turns tight enough to stay within the bounds of a smaller clearing. A ship to train young fry on, a ship for plain old simple uncomplicated fun. A cheap, stupid little quiet craft that doesn't ire-up the neighbors.

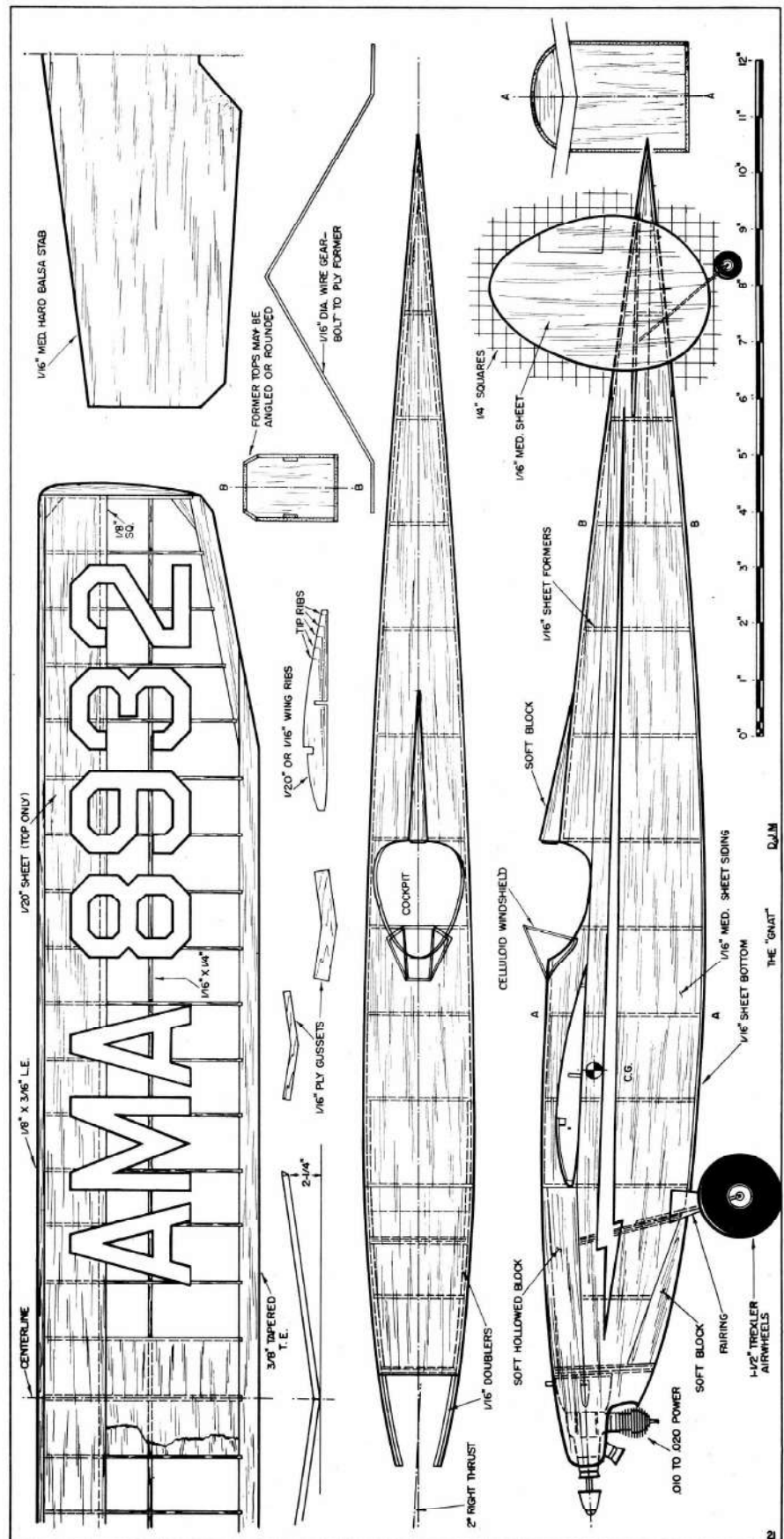
Every once in a while you see an attractive miniature craft that really catches your eye. We remember one such Atom powered craft that showed up many years back. It had appeal, and while this ship is completely different from this craft in mind, we have tried to capture a little of the appeal, sort of a scale model of a larger model. Twin rudders, airwheels and trim set it off.

To fly in confined areas, a ship should be light, tight turning, small for safety, low-powered, inexpensive, durable, and D/T equipped. We think the "Gnat" fills the bill on this. Power is .010 to .020, quite adequate for this ship. Construction is very simple, with sheet tail surfaces and siding. Wing area is adequate for slow flight, and the twin tail adds an unusual look to this sport craft. Fuel supply should be limited, visible, as in an eye-dropper type tank, or timer controlled.

Enlarge the areas of the plan as required by pacing off the dimensions with a pair of dividers. You will find this a very simple aircraft to scale up to size.

The little Cox Tee-Dee .010 and .020 engines can really scream on the props designed for them. These are perfect for aircraft trimmed for peak power, but really more than you often might like for more realistic sport flight. If you have a yen for less thrust, try an oversized prop on these engines. A .049 prop on an .010 for instance will purr along like a little underpowered rubber model. A little experimentation on your part will give you any

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## THE .020 "GNAT"

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amount of controllable power you would like. Be sure to check your fuel consumption carefully if using a timer-tank, as a difference in r.p.m. may fly the ship right out of sight on the same amount of fuel.

**Construction:** Look the design over carefully, and eyeball the materials and wood sizes required. As the ship is quite small, try to use nothing but the best for lumber, and cut out the required parts carefully with a razor or model knife. Balsa for the wing panels should be warp-free, medium grade, medium-soft for the sheet tail surfaces, free of warps, and straight grained medium weight for fuselage sheeting. Both sides should be matched for grain and bending qualities.

This ship once trimmed out in daylight might be fun at night. A single miniature cell attached to a switch and bulb will create a suitable night-flying light. If your field is large and flat, you might want to install a full set of flying lights in the wing tips, tail etc. for nighttime flying fun.

Cover the surfaces with colored tissue of your choosing, and spray with water to shrink. Apply thin coats of clear dope, laced with a couple of drops of castor oil ounce of dope to lessen shrinkage and warping. Decals may be applied as desired, but steer away from massive coats of colored pigmented dope, as it adds a lot of weight to a frail craft.

**Flying:** As on all models, pay attention to warps and balance before attempting flights. If you detect any warps, they may be easily removed with steam from a tea kettle spout. Twist the panel an amount equal to the warp in the opposite direction, in the path of the steam, remove to cool air, and hold for a couple of minutes. Allow it to seek its own position for an hour or so, then adjust again as needed.

Trim the balance to the indicated center of gravity with dabs of clay or other ballast as required, if required. Next, test glide the model into soft grass, watching carefully for pronounced turn or any diving or stalling characteristics. Shim the surfaces accordingly until the model holds a steady floating glide.

Try minimum power at the start. We suggest a larger prop than you might normally care to run on. Limit the engine run, and do not launch if it is anything but calm. The ship should spiral up in gentle right turns under power, and transfer to a smooth left glide circle.

Hope it provides you with a pack of fun. Add your own embellishments, wheelpants perhaps, parachuting pilot etc. It is a ship for your flying pleasure and experimentation. Take a youngster along with you, and let him do a bit of the flying, it's a guaranteed way to make new modelers.

## MODEL BUILDERS

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ture Stunt, Sport Race and Balloon Bust.

● KAT member **Bob Larsh** is going great guns on Ol' Timer jobs. Went down to Tullahoma, Tenn., and took firsts in A and B, second in C with his "Brooklyn Dodger"—all Ohlsson ignition engines. At the Nats, he came second with his Arden .19 ignition Twin Cyclone.

● Speaking of old ships, **Sal Taibi** won C Gas at Nats with his original "Starduster." The ship has been recovered twice. Not old, but new: Among powerplants seen at the Nats were a new K&B .40 with an L-section ring at top of the lapped piston; also a Carter-McCoy .29 with McCoy out-sides and Carter innards. The CM .29 was used in an AMA team racer, turned 21 laps from a standing start in 0:55. Also reported—a Fox .29XX (no details) and an experimental Wart .60 which turned 220 mph. (From KAT "Newsletter").

● The "Fox Valley" gang up around Aurora, Ill., have been running a series of local meets. Featured events are Combat, Stunt and Rat Race or other race events. They also fly Balloon Bust. **Dick Johnson** of Rockford turned up with a Fox .15 Jr. "Ringmaster" and showed the guys with the .35 jobs how to bring down the bags. Might be a lesson here.

● Up in Oregon, the "Willamette MC Invitational" got off to a bad start when a ban was placed on the use of the Controline site. An evening on the phone with calls to Coral Gables, Fla., finally resulted in permission to use the site—with certain restrictions. Surprisingly, the meet got under way on time. **Bill Wagner** turned in the top performances in both B and C speed at 153.78 and 157.88 respectively. And **Avery Clark** took first in Jet for the third year in a row at 130.38 mph. Near-twin "Busters" were entered in Scale by **W.R.** and **Jon Linke**. The different sized ships had most spectators taking a double look. The day ended with a buck-a-plate beef stew dinner in nearby Timber-Linn Park.

Free-flight was held the next day in Brewster with first flights being recorded around 8:00 A.M. The five-minute max rule proved to be a bit too much due to winds. Even the help of the Tri-City Citizens' Band volunteers wasn't enough to keep drifting ships spotted when some of the real boomers came along in late morning. The Ol' Timers event brought out some striking entries, noteworthy being an old Miss America and a Red Zephyr. **John Lorence** won with a Bantam .19 Ranger.

When all the scores were in, **Chuck Stohlmeyer** had again copped the

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## ESTES INDUSTRIES

**PENROSE 8, COLORADO**

Championship Trophy by virtue of five first places (A and B Speed, Proto, AFF and Handlaunch). Uncontested U.C. top banana was **Bill Wagner** with wins in A and Proto Speed (Open Class) in addition to those mentioned above. The meet drew 88 ukie entries and 103 FF entries.

● The San Diego "Orbiteers" fly Ol' Timers too. May be their site, but it seems to us that their times run a bit higher than those reported elsewhere. For instance: **Bill Thompson** put up a "Strato Streak" (on glo) for 17:58; good time at any meet. **Larry Boyer's** (Continued on Page 46)

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