

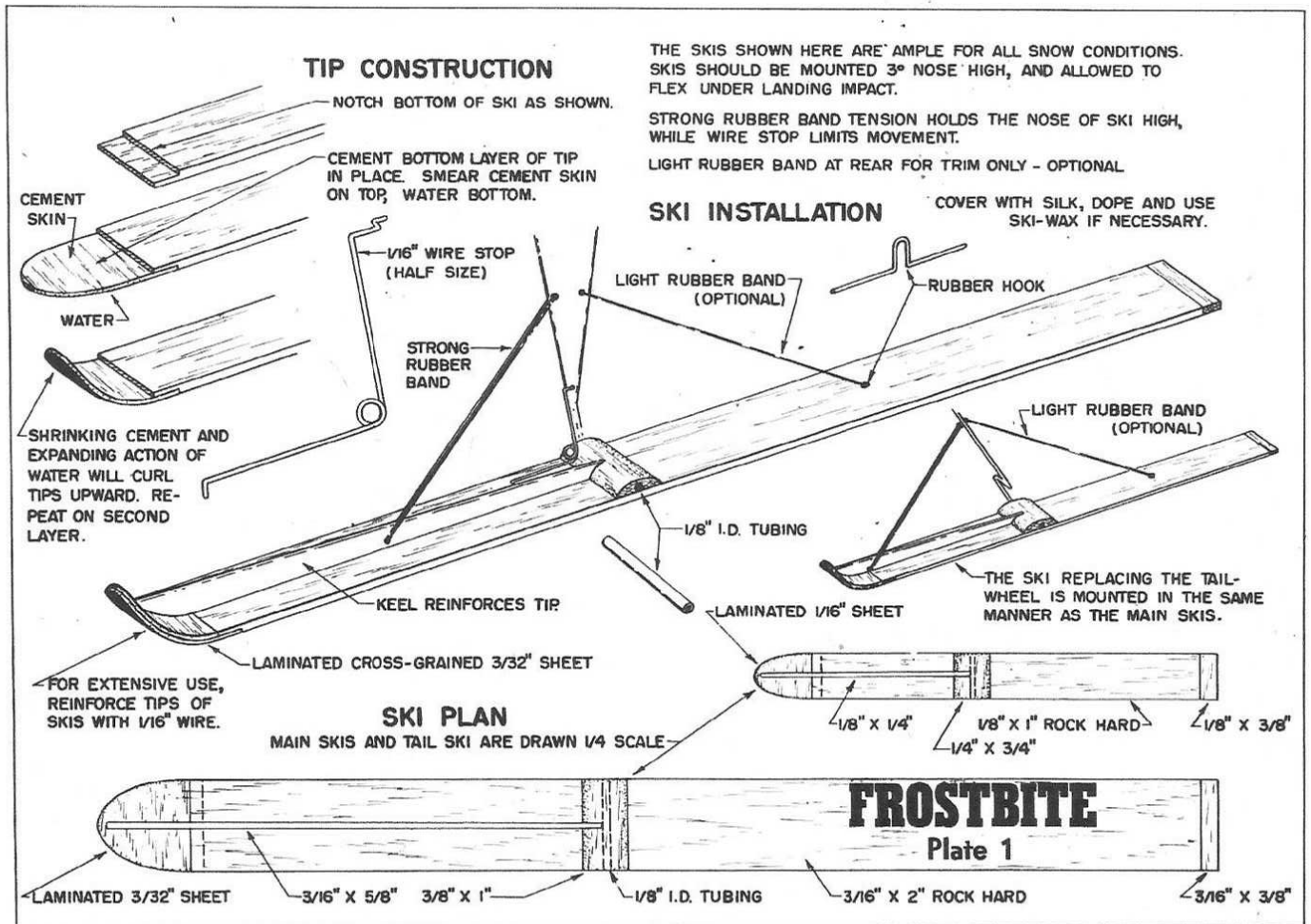
A good view of the fuselage construction and the comparable size of the skis to the rest of the ship. Designed for snow and water flying, the ship is provided with waterproofed ignition, fuel tank and framework.



The finished product gives realistic performance as well as beauty. The details for the dethermalizer are described on the plans. Although the original was powered with a Super Cyclone, smaller engines can be used.

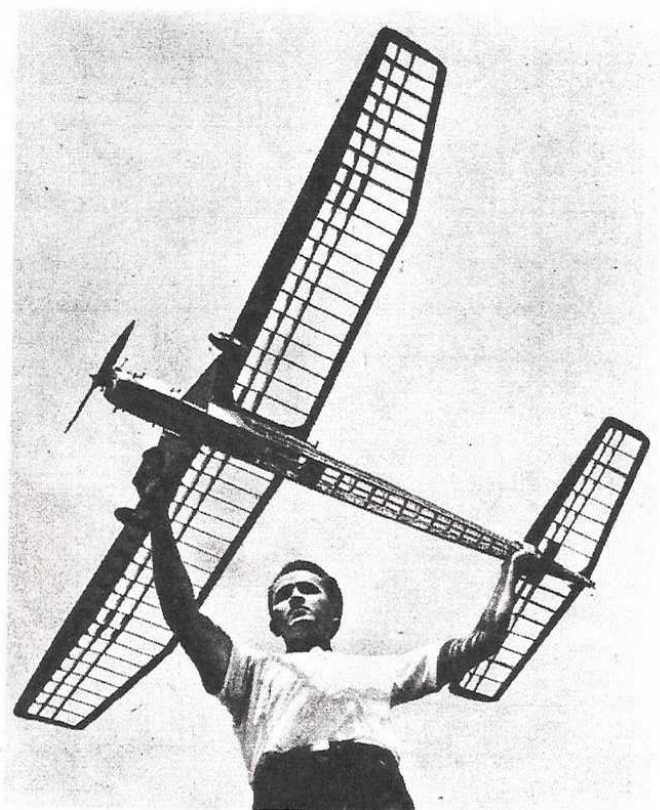
FROSTBITE

by Don McGovern





Airfoil is the N.A.C.A. 6409. The sheet planked leading edge assures retention of the proper airfoil shape. Note the long tail moment arm, polydihedral wings, and the wide, well-forward landing gear for good takeoffs.



Fuselage construction is typical box-type, for easy assembling, with stringers for additional strength. There is ample room in the fuselage for converting the design to radio control use. Note sheet balsa rudder.

Here's a job that can provide you with sport flying the whole year round. It performs equally well with wheels, skis or twin floats.

● Fossil remains of a Class C "Free Flitus" were found recently in the freshly turned earth for a large housing development. Archaeologists called in were quick to venture opinions. A "Flying Quakus" cried one. A "Snuper Buccaneer" ventured another. Arguments ran hot and heavy and soon drifted to the cause of the gradual extinction of the Class C "Free Flitus."

Lack of flying fields, construction time, added expense, transportation and such were termed responsible. Some even said swarms of "1/2A's" stung the "C's" into near oblivion.

Whatever the cause, it is sad to see them go, for in many ways no other model can match the majesty of a "C" job in flight. The blustering roar of a .60 engine straining for the take-off and battling for altitude, followed by the effortless glide, lives on in the hearts of all modelers who were on the contest field a dozen years ago.

Fortunately our hobby is one of creation, and if we long for a seven-footer for a change of pace, we are free to build one. We cannot breathe life into a dinosaur's fossils, but we have only to prime our rusty trusty "Cykes" and flip the old shillelagh to pour life into a giant model of our choosing.

In keeping with the spirit of things, we chose an ignition system for the seven-foot Frostbite. With the cold tang of winter shrouding the country and lakes frozen over, an ignition engine, skis and a rugged ship such as this are a natural. If fields are scarce come spring, we can switch to floats.

Construction is routine, so we will not bore you with the step-by-step account of how to smear cement on your good pants. Instead, we will endeavor to cover the points of interest in the design and construction.

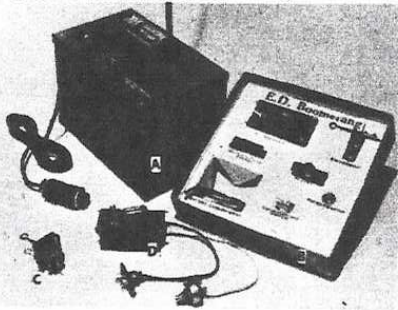
Performance will increase and weight decrease with a

The wingspan is eighty-four inches, giving a smooth, flat, consistently good glide. Although the author used an ignition engine in the original, any glow-plug engine, from .29 on up to .61, can be used in the ship.



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D. "BOOMERANG" HARD TUBE RECEIVER has same characteristics of standard "Boomerang" unit except for higher voltages necessary. Special polarized relay is used and specialized controls can be added. Weight 3 1/2 ozs. Price includes escapement and all switches, plugs, sockets, etc. WIRED AS A UNIT, READY TO INSTALL, NOT A KIT! **\$26.95**

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FROSTBITE

glow-plug engine. However, idling and more complete control of the engine is possible with an ignition system. This comes in handy for radio-control work, sport flying and seaplane operation with extended motor runs, as well as for test-flying and low-power take-offs. The slight loss in performance is not important, as this model is not primarily designed for contest endurance flights.

The engine and fuel tank are located in a bathtub-shaped section which straps on to the main fuselage with rubber bands. This permits radical or trivial thrust adjustments on the field. Access to tank and engine is also simplified. When in use as a seaplane, the engine may be readily flushed after a dunking. Tank design is waterproof.

The landing gear is double-strut, 1/8" wire with laminated sheet fill-in, to prevent the rear strut from buckling inward and cause wheel misalignment.

On the original, the ignition units such as the coils, condenser and timer were enclosed in waterproof plastic sacks. In addition, rubber fuel-line tubing (from Elmic timers) was slipped over the ignition wires with the aid of rubber lubricant, to protect them from the water.

To facilitate easier chasing when in use as a ski ship or seaplane, the wing is not the pop-off type. Rather, it is strapped to wing dowels, permitting the wing to flex, but not pop free. It is tough enough to chase in snow or water, without hightailing after a wing flipping end-over-end down wind. This is optional of course.

The boxy nature of the fuselage is ideal for radio-control work. Present-day receivers, escapements and batteries will fit nicely in its spacious area.

Dethermalizing a model of this size and type is a problem. A burning fuse

can sever only a thin, tightly drawn rubber band, so the usual method of coupling the stab to the fuselage with the band to be severed is out of the question here, as the large stab would not be held securely.

As shown on the plans, we resorted to a leverage system. The stab is strapped securely to the fuselage with rubber, while a spring under tension on the stab attempts to reject the catch. This catch is held in place by a lever, in turn held by the thin rubber to be severed. The system proved foolproof.

For added durability, two coats of clear dope were sprayed on the framework. This was done primarily to prevent absorption of water when the ship is in use as a seaplane. It also adds to the strength, fuel-proofing and warp resistance.

Double-covering the wing and stab will greatly prolong the life of the model, and prevent 70% of the annoying punctures usually encountered. One layer of white Jap tissue (with close pores) will prevent water absorption, and one layer of Skysail (open pores) will add the strength and color desired. The fuselage was covered with China Silk.

Use two to three coats of dope on the first layer of tissue, then apply the second covering wet, doping to extremities only, except on the undercambur of the wing, where both layers of tissue must be doped to every rib and spar. Four coats of clear dope on top of the final covering complete the job.

Test-fly as a land plane if convenient, using very low power and gradually increasing same. There is no trick to flying with skis. Remember that the skis must be under sufficient tension to keep the nose high. Should one ski tip droop in flight, it could cause a spiral dive. Slight adjustments in incidence may be necessary when switching from wheels to skis or floats.

Once your Frostbite rumbles across the snow and lifts itself into the winter sky, we think you will be glad you tried your hand at flying a Class C "Free Flitus"!

BILL OF MATERIALS

(Balsa unless otherwise specified)

12-1/8" x 1/8" x 36" (Medium)	Fuselage stringers, super structure
8-1/8" x 3/16" x 36" (Medium)	Fuselage stringers
12-1/8" x 1/4" x 36" (Medium)	Fuselage stringers, spars, etc.
6-1/4" x 1/4" x 36" (Hard)	Wing and stab leading edges
2-1/4" x 1/2" x 36" (Medium)	Stab spars
6-1/4" x 3/4" x 36" (Medium)	Wing spars
12-3/16" x 3/16" x 36" (Medium)	Longerons, up-rights, cross-pieces
6-1/4" x 1" x 36" (Medium)	Tapered trailing edges
7-1/8" x 3" x 36" (Medium)	Leading edge, center planking
15-1/8" x 3" x 36" (Medium)	Wing, stab ribs, rudder, planking
2-3/16" x 2" x 36" (Medium)	Skis
1-1/2" x 3" x 36" (Soft)	Cowl around engine
1-2" x 2" x 24" (Soft)	Wing tip blocks
1-1" x 1 1/2" x 18" (Soft)	Stab tip blocks

6" x 12" piece of 1/8" plywood for gear, firewall;
6" x 12" piece of 1/8" plywood for stab rest, wing gussets; 2 lengths of 1/8" piano wire; 1 length of 1/8" piano wire; 1 length of .045" piano wire; 3/8" x 5/8" x 12" bass for motor mounts; 3/8" x 1/2" x 12" bass for bearers; 3/16" dowel; 3 1/2" airwheels, 3/4" tail-wheel if desired; ignition components if desired; timer or fuel shut-off device; ignition or glow-plug engine, .29 to .65 cu. in. displacement; silk if desired, Jap tissue. Skysail; cement, clear dope, colored dope (fuel-proof for glow-plug engines); pins, nuts, bolts, washers, tubing.