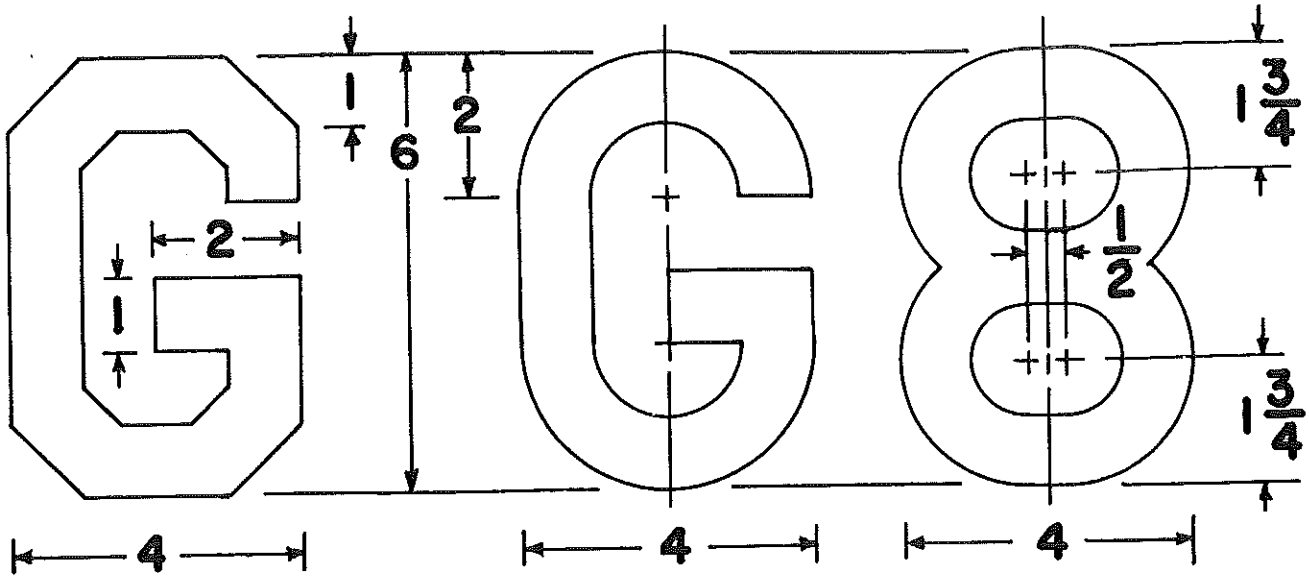
6812



The illustration above shows the general scheme for laying out square and round block characters that are acceptable by FAA/AMA rules. Variations may be made to make the letters more nearly scale in certain cases; typically several variations of the letter "M" exist. Letters are easily drawn using cross-hatched paper. A ruler does the trick for the square characters. A compass or circle template is additionally required for the round characters.

MARKINGS for MODELS

By GEORGE A. WILSON, Jr. . . . (Part 2) The author completes his discussion on markings by summarizing various marking rules, and showing you how to make your own characters, to any size.

LETTER AND NUMBER PATTERNS

In this part, the AMA, FAA, and FAI rules for marking are summarized and several sheets of letters and numbers are given in differing sizes. These may be copied or cut out of the magazine and used to construct sets of basic patterns from which working patterns and/or stencils can be made. (A complete set of block letters and numbers in various sizes is available from our Full Size Plans Service.) The letter/number outline sheets should first be cemented to card or cardboard stock. Then, they can be cut out using scissors. Diluted white glue brushed onto the card stock is a good cement for this use. "Rubber cement" is the best choice; use it as directed on its container.

Patterns made as just described can be traced around to make more durable patterns from metal or plastic sheet. Alternately, stencils can be made from sticky-back material such as shelf paper or drafting tape. Part I of this article covered the techniques for doing this.

The letter/number sheets herewith include both straight and curved sided characters in heights from three inches down to one-half inch. Additional heights can be obtained by constructing your own letters/numbers as shown in the figure or by having the letter sheets enlarged or reduced by your local copy shop. A good shop can do this for about the same cost as a one-to-one copy. A table is shown that will assist you in selecting the proper height for any particular scale you have in mind.

Note that several letters/numbers have been combined in the letter/number sheets to conserve space. Follow the dashed lines to make the variations of the basic character.

The rules for applying identification (license) numbers to full size (FAA) and model airplanes (AMA/FAI) are given in the following paragraphs.

FAA RULES

Presently, the FAA requires license numbers to be shown on each side of the aircraft. In the past, license numbers were required on the top and bottom of the wing and on the vertical fin. AMA requires license numbers to be shown on the top of the right hand wing panel. This makes it possible for the sport modeler to comply with both FAA and AMA rules without conflict. As pointed out in Part I, this article is not for the scale modeler who must research the exact markings used on a particular airplane or particular type of airplane. Our intention is to provide scale letters and numbers that will be in accord with the current FAA and AMA/FAI rules.

The current FAA rules are summarized as follows. The license number must:

1. Be easily readable from both sides. (Wing numbers not required.)
2. Be in a contrasting color to the background.
3. Not be ornamented.
4. Be at least 12 inches high.
5. Use characters two-thirds as wide as they are high, except for the number "1" and letter "I," which are to be one-sixth as wide as they are high, and the letters "M" and "W"; these may be as wide as they are high.
6. Use characters formed from solid lines that are one-sixth the letter height in width.

AMA RULES, GENERAL

Identification. All models entered in competition excepting indoor and scale models (or as specified in certain category sections) shall be identified by the contestant's AMA license number permanently affixed to the upper side of the right-hand lifting surface. Height of the numerals must be at least one inch, or one-third of the wing root chord, which-

Continued on page 80

Equivalent Scales				Corresponding Scale Character Heights	
				12" Full Scale	24" Full Scale
1/6"	= 1'	1 : 72	1/72	1/6"	1/3"
1/4"	= 1'	1 : 48	1/48	1/4"	1/2"
1/2"	= 1'	1 : 24	1/24	1/2"	1"
3/4"	= 1'	1 : 16	1/16	3/4"	1-1/2"
1"	= 1'	1 : 12	1/12	1"	2"
1-1/2"	= 1'	1 : 8	1/8	1-1/2"	3"
2"	= 1'	1 : 6	1/6	2"	4"
3"	= 1'	1 : 4	1/4	3"	6"

Table of Equivalent Scales and Corresponding Scale Character Heights for 12" and 24" for scale characters.

to build than the Albatross, since it uses readily available materials, the carbon fiber and Kevlar for the Albatross would be harder to find.

Well, I was going to write more about the IMS Show, but I have run out of photo space, so perhaps next time. Till then, enjoy spring weather with an electric! •

Markings . . . . *Continued from page 26*

ever is less. Both stroke and width shall be such to enable ready recognition. (Example: Letter "O" should have a width of approximately 1/2 the height or wider, and the other digits should be of the same proportion.)

In the case of a team entry (see AMA Rule 1.9 for definition), the AMA numbers of each of the members of the building-flying team will appear as stated above. In cases where more than two members must appear, the requirements for one-inch or one-third chord will be waived if it is the opinion of the Contest Director that these requirements would lead to confusion in the reading of the numbers.

See FAI section for rules on identification of models for FAI events.

SCALE

(R/C, C/L, Outdoor F/F and Non-Flying Scale)

Identification. Contestant's name and AMA license number should be permanently displayed on the model in an inconspcious location. No point credit shall be lost because of such identification.

FAI

Identification. The wings, fuselage and tailplane, if detachable, must bear the I.C.A.O. mark (for U.S., the letter "N" followed by the flyer's AMA license number). The letters or figures must be clearly legible. All models not identified in this way will be refused by the organizers (except Indoor and Scale).

Note: Only AMA license numbers required for U.S. competitions.

It should be noted that the FAA's requirement for the letters to be two-thirds their height in width is in agreement with AMA's rule that letters should be 1/2 (or more) their height in width. The letters shown in the figures herein follow the FAA rules strictly and, therefore, are applicable for both sport and semi-scale models. •

Sport Scene . . *Continued from page 48*

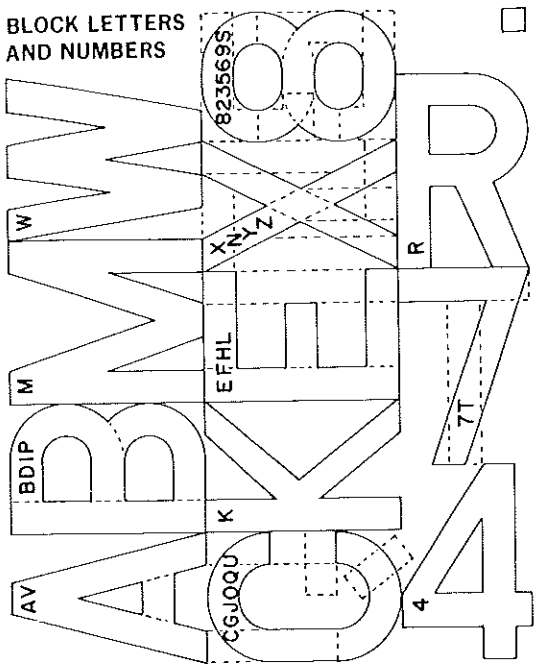
right, twice for left, and a third sequence of blips to kick the elevator up. They could be wired to sequence a second actuator in a cascaded system to give engine, elevator, etc.

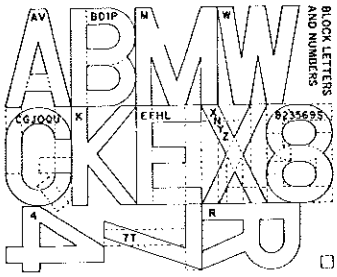
If all this sounds impractical and complex, your are right, it was. To top it all off, the radios were dreadful. You didn't range check in the modern sense, you literally tuned the radio on the field by walking away from the transmitter and adjusting the receiver as you went to feel for maximum range.

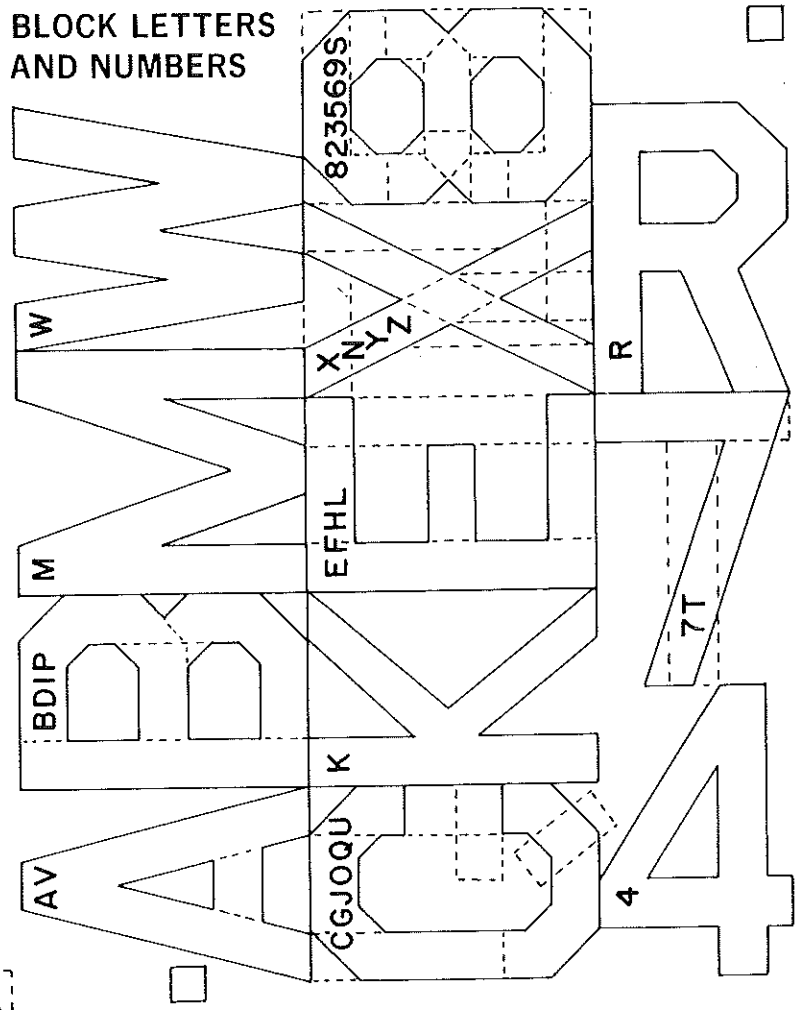
Occasionally the radios would stay in tune, and the engine would run, and you could remember the sequence and not lose orientation or fly out of range (yes, you could still easily see the model when it flew out of range in those days) and actually complete a flight. The standing joke in the past was that radio control was the modern way to crash upwind.

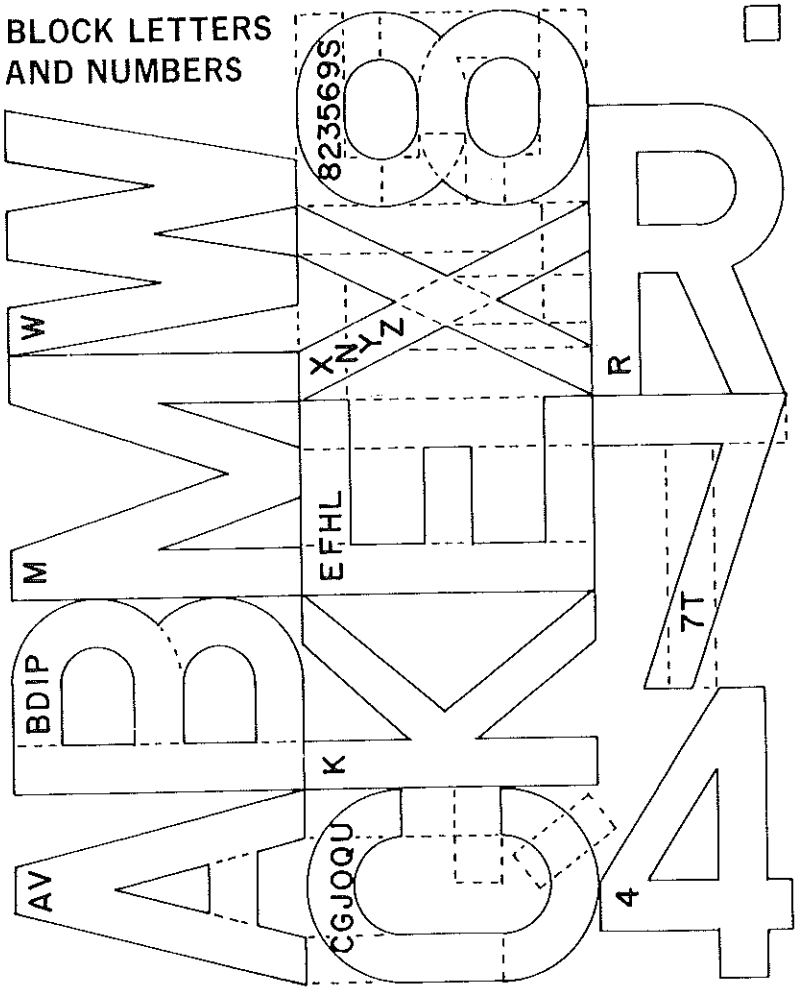
Some time ago, I lamented that there aren't any high-performance small biplanes for R/C. I am right to some extent, there are no Acrostar class .049 biplanes around, but wrong, in that there are some pretty sporty bipes about. Specifically, I am reminded of the "Sunny" biplane for .15 power from Mark's Models, The Flyline "Stearman C3B" for .049 schoolyard scale, Carl Goldberg's "Curtis Hawk," Sig's "Aerobipe," and the "Gere Sport from Airtronics, and the "Pitts Special" from Royal. In addition Special Edition Plans (P.O. Box 2555, Schenectady, NY 12309) has the "Chicken Hawk."

So what would I like to see in a small, high performance bipe? I think that a model of about 36 inch wingspan, 5 inch chords, for a total area of 360 in^2. Power would be a .10 of good output. Weight would have to be kept to about 25 ounces to give a model which would have vertical flight capability. This would be difficult to achieve in a monoplane, but with the short chord and span, the fuselage on a biplane is small and the stabilizer percentage seems to run on the small side too. With working bracing wires, the structure can be designed very light and still will handle the "g" loads. See Bill Northrop's old Sproose Goose for how to build a light bipe, and scale it down. I could see going only aileron and elevator to keep the weight down and the C/L engine with drilled venturi and pressure tank to get the power up. Full symmetrical airfoils are in order. Well? Who is brave out there? The Royal "Pitts Special" kit may come close to these specs, but I haven't gotton to look at the kit. If any of you have experience with this kit, please let the rest of us know how it is (send *black and white* photos too if you can). *(Hmmm. . .*









FULL SIZE LETTERS AVAILABLE IN 1/2", 1", 1-1/2", 2", and 3" SIZES, PLUS GENERAL SCHEME FOR LAYING OUT SQUARE AND ROUND BLOCK LETTERS TO ANY SIZE DESIRED – SEE PAGE 100.