

Hobby Lobby's Junior Beginners Outfit

The subject of this FM Product Review is a complete beginner's package from Hobby Lobby International Inc., Rte 3, Franklin Pike Circle, Brentwood, Tennessee 37027. The package includes a Jr. Telemaster kit, Fox .15 R/C engine, Hobby Lobby six channel radio and two rolls of Superkote covering material. Except for the Fox engine, these items are marketed exclusively by Hobby Lobby. At the time this review was started, the special package price was a very reasonable \$277.00. These items have all proved to be of high quality and perform very well together. And best of all, this combination is ideally suited to someone who is just starting out in radio control airplanes.

The Jr. Telemaster is a trainer designed to take the novice from first flight through competence in four channel flying. It is equally suitable to three channel operation (no ailerons). This is one trainer that really does the job well. As you might imagine, there are some kits which are marketed as

trainers but don't fly so well at all. How can a beginner make a choice based on advertising claims alone? This is risky and, whenever possible, he should seek the advice of an experienced flyer (and read lots of product reviews).

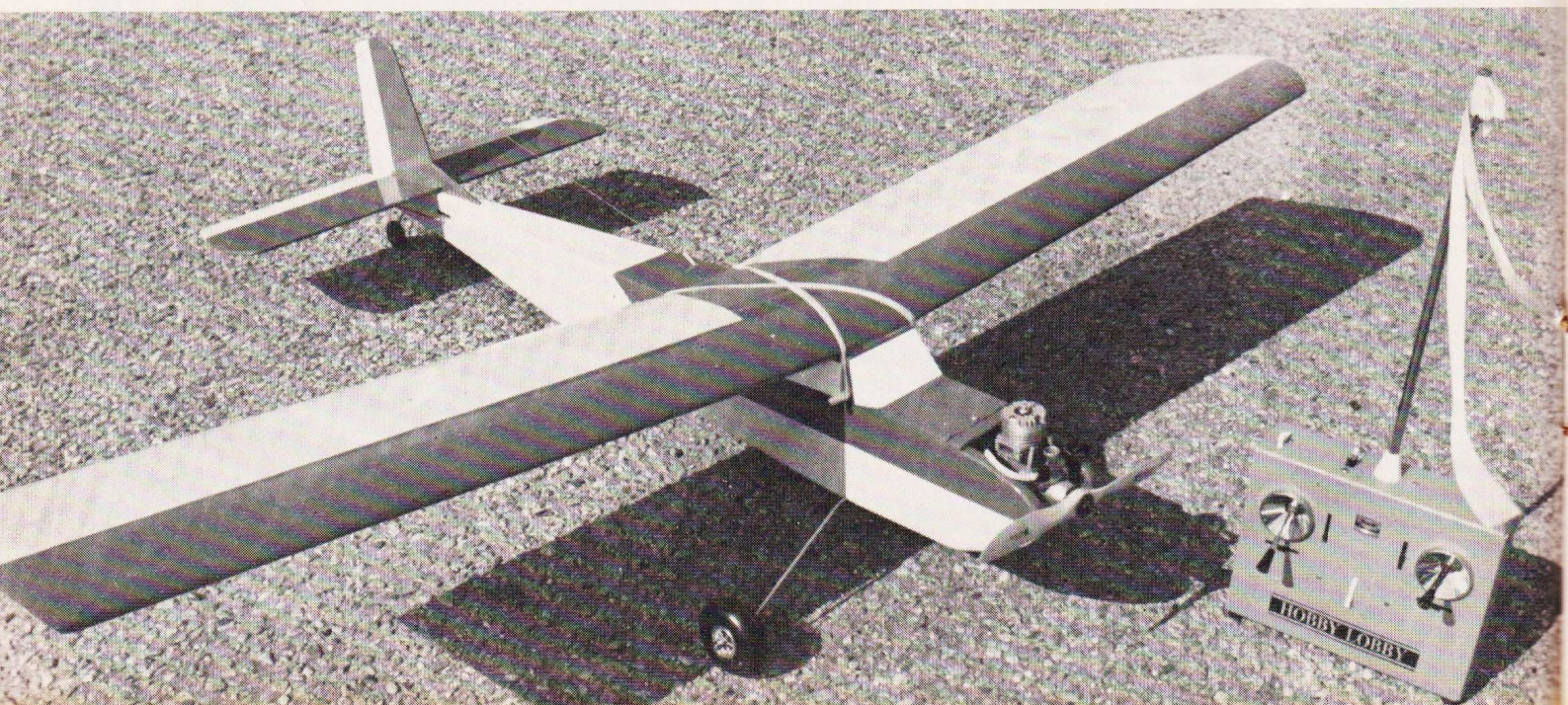
Unfortunately there are varying opinions as to what makes a good trainer, and each instructor may make a different recommendation based on his experience. In fact, one could fill a book on the subject of trainers alone, and that would still not settle all of the controversy. So to put this review into perspective, I'll tell you a little about my feelings on trainers. Later on you will understand why I like the Jr. Telemaster so much.

The following discussion is grossly oversimplified. There appear to be two major categories of trainer: 1) super stable so that it almost flies by itself, and 2) reasonably stable so that it requires attention but is forgiving of errors. I find that the first type tend to be sluggish and very hard to manage in the

wind, but the second type are more responsive and more tolerant of windy conditions. If you live in a windy area, you aren't going to learn how to fly by waiting around on the ground. Also, to some extent, excessive stability robs the student of valuable learning experience. So for most beginners I will recommend a ship in the second category providing it has no bad habits.

What all of this is leading up to is that I think the Jr. Telemaster is an ideal type-2 trainer. With or without ailerons it responds positively to the controls and goes where you point it even in moderate winds. The controls are effective down to the stall point, which is gentle and occurs at a very low speed. It is moderate in size for economy and ease of transportation, yet has plenty of room for radio equipment. Also, it is strong without being heavy or difficult to build. So let's see how it goes together.

The box is deceptively small for a ship that builds up to a 50" span and 409 square inch wing area. The wood is all clear and



Telemaster

Hobby Lobby answers the question of how to get started in R/C with a total approach aimed at the novice. A package of things that work well/**Ron Farkas**

straight, and all the pieces were of suitable density for their respective applications. Only the $\frac{1}{16}$ " fuselage top and bottom sheeting was a little too soft by my standards. The hardware includes machine screws, blind nuts, aileron torque rods, horns, landing gear, tailwheel gear, and a Bridi BHE-19 fiber-filled engine mount. The plans are clear and easy to understand, especially because of the simplicity of the design. The instructions are brief but anything that may be vague can be figured out from the plan. There is a bill of materials which is worth checking before you begin. The only piece that I could not account for was the capstrip material which I easily cut from some stock in my scrap pile.

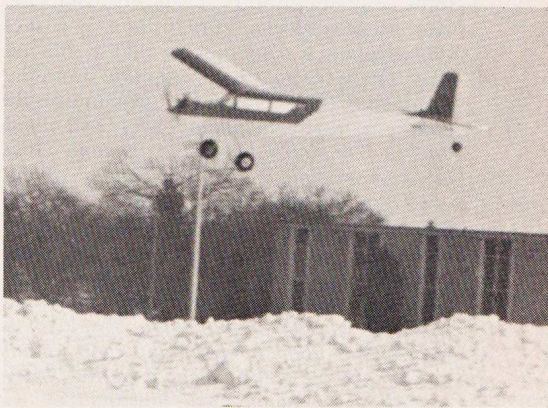
Assembly goes very quickly, especially because the parts fit perfectly. The flat-bottomed wing is built in two pieces on any straight board. The bottom sheeting, capstrips, leading edge and spar are glued together over the plan. The bandsawed ribs are glued down followed by the top spar,

trailing edge, top sheeting and capstrips. The wing panels can then be removed from the board and aileron torque rods fitted. The instructions are sketchy in this area. Hardwood tapered stock is pre-notched to take the torque rods and all you have to do is glue this assembly to the trailing edge of the wing (without getting glue in the guide tube, of course). I always add a little scrap material in the trailing edge of the wing to give the aileron hinges something to bite into. The tips are glued on and carved, and the wings are ready to join. A center rib of tapered stock is used to ensure that the dihedral is built in. The instructions specify the application of glass cloth to strengthen the center section. I think this material should be included so the builder is not inclined to omit this important step. The completed wing is very strong and resistant to twisting.

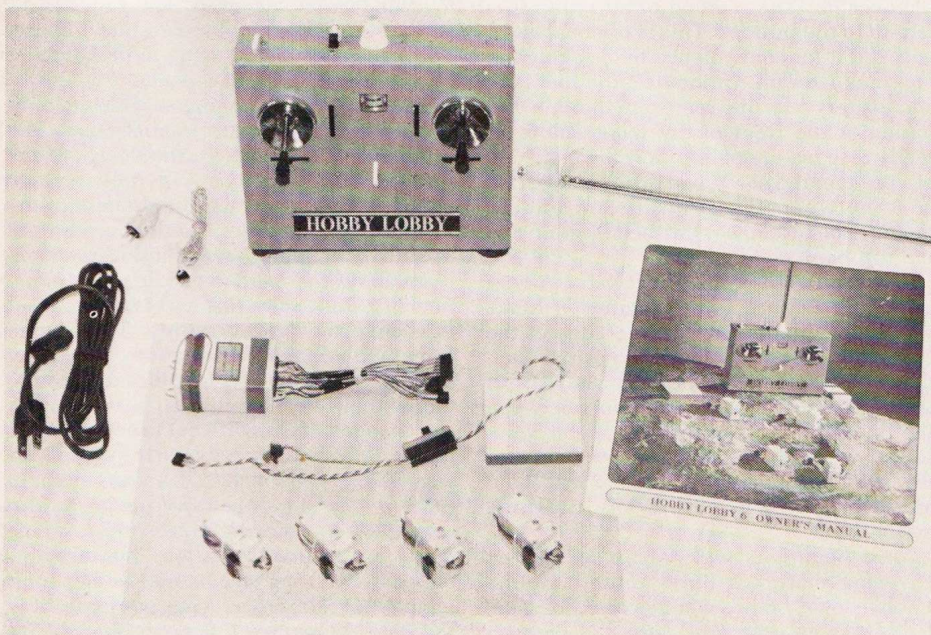
The fuselage is also strong and simple to build. Each side is made of an upper and lower portion which are first glued together,

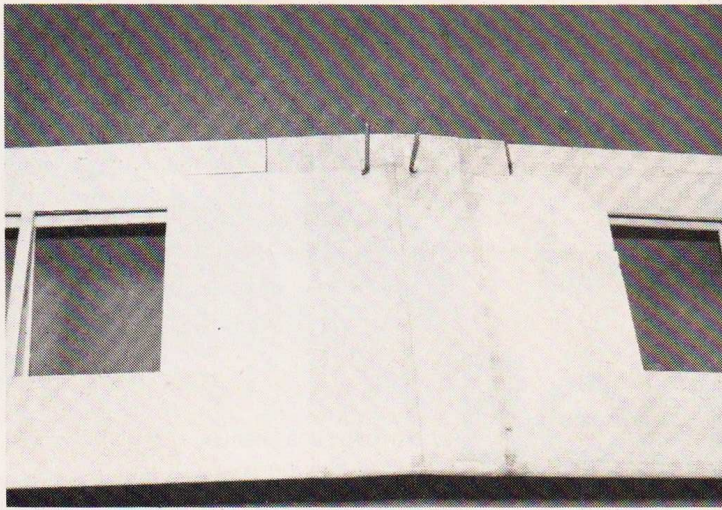


PHOTOGRAPHY: BOB ABERLE

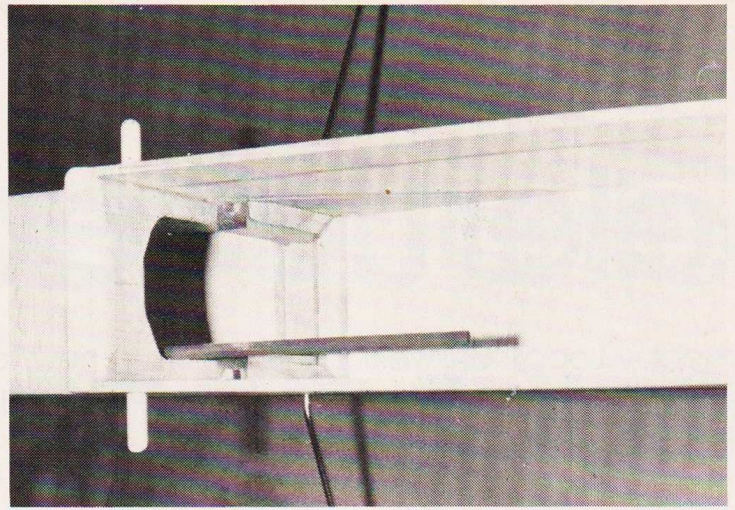


The complete Hobby Lobby six-channel system with four servos and nickel-cads. A.C. cord plugs into wall outlet and bottom of trans. Charging can be done only with both units connected (left). This series of shots (above top to bottom) shows the first launch of the Jr. Telemaster. Author cranks engine while temperature is below freezing. Hank Stumpf is the helper. No zooming tendency.

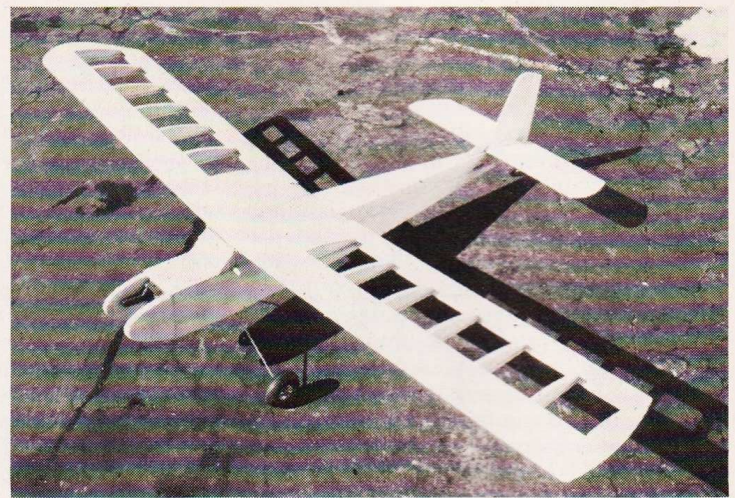
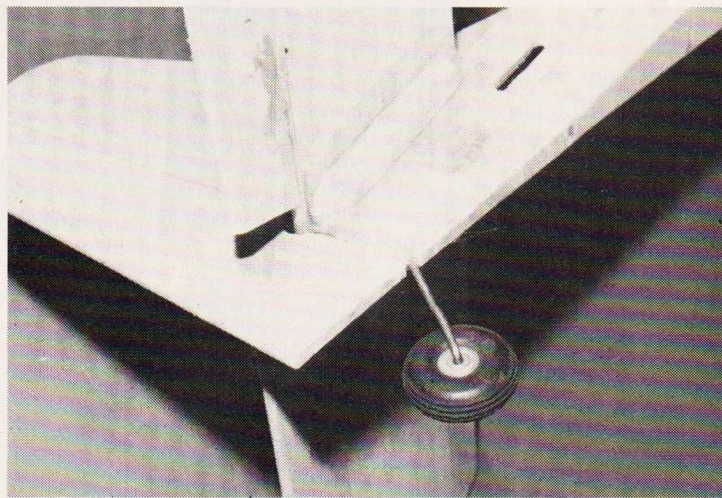




The bottom of wing (above) showing aileron torque rods. Servo cutout is not made yet. Do not omit glass cloth on the center section. The underside of the tail (below) shows the triangle stock that adds to gluing area. Tailwheel bracket is a nylon aileron torque rod bearing glassed in.



View inside cabin (above) shows the authors landing gear modification. Fuselage doubler and triangle stock add strength where loads are greatest. Uncovered airframe (below). It's boxy but lean and trim. Very sturdy construction. The landing gear has wide spread for ground stability.



and the nose doubler added. The sides are joined with two formers and then brought together at the tail. It is wise to sandwich the tailwheel bracket in at this time or else later it is almost impossible to cut a neat slot in the joint between the aft fuselage sides. After attachment of the firewall and plywood bottoms nose sheeting it is time to install the landing gear blocks. This is the only part of this airplane's construction that I did not like. The wire gear is designed to cross the fuselage bottom and get captured in upright blocks inside the fuselage. This is a standard torsion bar setup. While the bottom cross block is grooved for the two thicknesses of wire, the uprights should each be grooved for one thickness and the groove offset. However, all three blocks had the wide groove so I added a $\frac{1}{8}$ " square hardwood strip to the uprights to close it up. This might have been an oversight when the kit was packaged since the plans and instructions clearly describe the offset required when installing the blocks. The landing gear retaining straps were longer than the width of the bottom block so the mounting screws would not be caught by the hardwood. I added a hardwood cross brace at the back of the block to receive the screws. Also, I did not feel that these blocks would stay put in the event of a hard landing, so before installing them I added a shallow doubler of $\frac{1}{32}$ " plywood to the fuselage sides and after in-

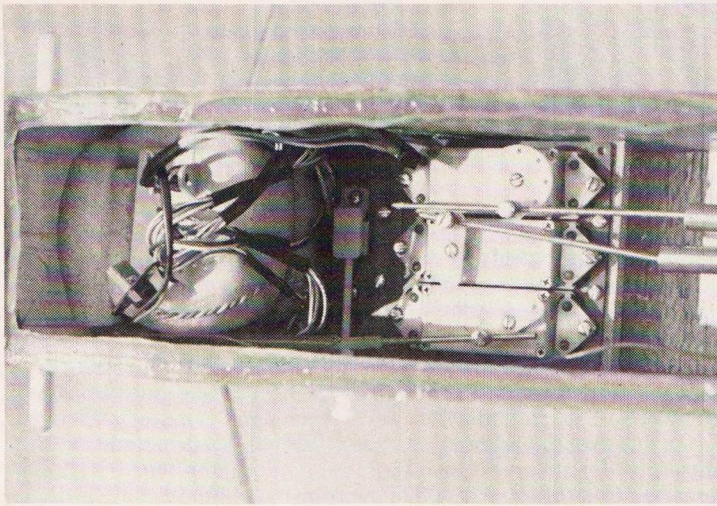
stalling the blocks I boxed them in with some triangle stock. I believe that straightening the wire gear is preferable to repairing the blocks. After fitting pushrods, the fuselage top and bottom are closed in with cross grain sheet. I took the advice in the instructions and made the nose hatch removeable. The method of attaching it is left up to the builder. This is optional and I only did it for convenience in checking the former at the front of the wing saddle. A really nice feature of this kit is the inclusion of a pre-tapered hardwood thrust wedge that goes between the firewall and engine mount. The fuselage is finished by gluing on the soft balsa cowl cheeks.

The entire tail is $\frac{3}{16}$ " sheet balsa. A very important feature is the incidence block which goes under the leading edge of the stabilizer. This gives about $\frac{1}{8}$ " positive incidence and is claimed to be one of the reasons the plane flies so well. The joints between the fin, stabilizer and fuselage are all reinforced with triangle stock. This completes the airframe. It is very rugged to withstand abuse, and it will accept any finishing method.

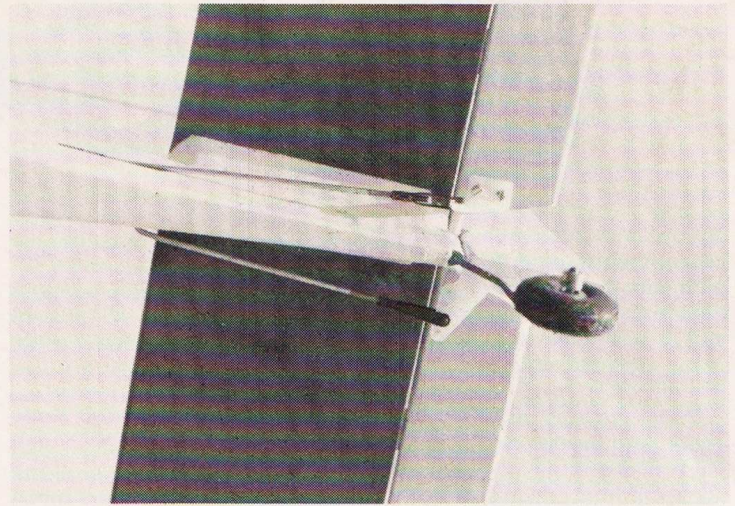
Most beginners will choose an iron-on covering material. Superkote is Hobby Lobby's own brand, manufactured in England. It is easy to work with and only re-

quires a low level of heat. It is pliable during the covering process and remains that way to give very good puncture resistance. It shrinks so well that just about any wrinkle can be removed. Also, it sticks very well to wood and to itself when you make lapped joints or add trim pieces. Superkote comes in a wide variety of colors. Some are unusual, like the brown and cream that I chose. You will really enjoy using Superkote and be very happy with the results.

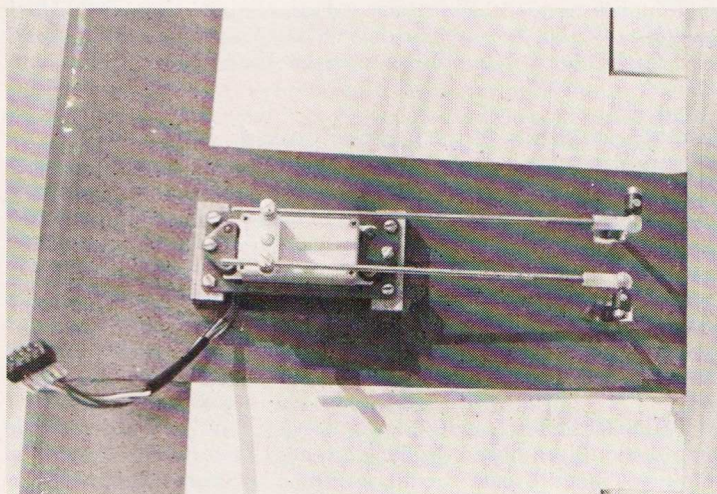
The Fox .15 R/C engine is somewhat unconventional but entirely satisfactory. The difference is primarily in the design of the throttle. The beginner will probably not notice or care about the uniqueness of the Fox design. However, modelers who are used to other engines will, most likely, complain about the method of idle adjustment. Actually, mine idles fine and I have not had to change the factory setting. The engine comes with detailed instructions for making these adjustments and I would urge you to follow them explicitly if you have to make any changes. It is significant to note that this is the plain bearing schneurle ported version which is now standard .15 R/C motor in the Fox line (a ball bearing version is also available). Its power seemed above average for a sport engine of this size, but it retains the easy handling characteristics of a sport engine. Its robust crankcase is a loose fit in the BHE-19 mount (and won't fit a .15 size



The radio installation (**above**) shows that everything fits just right. The servos are mounted in the optional side-by-side tray with integral switch mount. The aileron servo is mounted in the wing opening and held in an optional tray screwed to the hardwood rails (**below**).



The photo **above** shows the underside of the tail and the control pushrods. The horns that are provided have plenty of adjusting holes. The Fox .15 installed (**below**). Throttle arm points up. The linkage on left, the engine is very accessible for tuning and clearing.



mount) so center it carefully before drilling the mounting holes. I later added a Fox closed front muffler for this engine and it was a good compromise of silencing and power loss.

Now let's talk about the Hobby Lobby six channel radio. This set is made to Hobby Lobby specifications by a nationally famous manufacturer, E.K. Logictrol. A three channel Hobby Lobby system appeared in a FLYING MODELS product review (Nov 1976) and other E.K. Logictrol sets were reviewed in Oct 1975, Aug 1976 and Feb 1978. The Hobby Lobby six channel transmitter is a dual stick configuration with proportional levers for both auxiliary channels. Four servos are supplied, and the set has full rechargeable ni-cad batteries. Servo trays are an available option. Hobby Lobby is quite proud of their receiver design which incorporates four of the servo amplifiers in the receiver case, instead of in each servo as done by other radio manufacturers. To house the additional electronics, the receiver case is a little large by today's standards. The servos, on the other hand, are very small and light but still suitable for the largest airplanes in common use. Total airborne weight with four servos is 11.5 ounces. Installation was a snap in the Jr. Telemaster but the receiver might be a tight fit in some of the smallest planes around. The really great feature of this electronics

design is that spare flight control servos are a ridiculously low \$14 each. Therefore you can have a complete set of servos in your backup ship for a very low additional cost. Servos for either of the auxiliary channels are conventional with the amplifiers inside (\$31 each). There are probably several other pros and cons to this configuration but, for the beginner, reliability is all that really counts. The radio performed flawlessly during this review. There were no problems or glitches of any kind in spite of the fact that most of the flight testing was done in below freezing temperatures.

It seems that I can only get together with the cameraman on weekdays during lunch break. This usually affords time for two or three flights and about twenty photos. The field was covered with snow that had a crusty surface. The ship was ready to fly at a weight of three pounds two ounces for a wing loading of 17.7 ounces per square foot. This is about right for a plane of this type. With the sun softening the snow it was decided that the first flight begin with a hand launch. My helper took a few steps and just let go. The Jr. Telemaster flew straight out and only required a bit of up trim on the transmitter. In spite of gusty winds the penetration was good and the ship flew smoothly at full throttle. At low throttle settings it was so stable that very little correction was necessary to maintain a constant

heading. In fact, the first landing was practically at my feet.

For the next flight I replaced the wheels with skis. This time the Jr. Telemaster skimmed across the snow and lifted off after about forty feet. The weight and drag of the skis hardly made any difference in the flight characteristics, and the Fox .15 still pulled it along at a good pace. The rest of the flight was spent doing touch-and-goes for the cameraman. That was the photosession end.

On another day I disconnected the aileron servo and plugged the rudder servo into the aileron channel. The ship flew just as well on three channels using only rudder, elevator and throttle control. I personally think that ailerons give you more control when it's windy though. Since that time it has been flown by several flyers of varying experience levels and all agree that it is a delightful little trainer. It does all the things a trainer should do to build up the proficiency of the student, and it is also a fine sport ship after the pilot is beyond the beginner stage.

So there you have it, an economical package of things that work well. If you are just starting out in radio control you can be confident in choosing any of the items from this review. And, for you instructors out there, the next time you are asked to recommend a kit to a beginner, remember the Hobby Lobby Jr. Telemaster. E