

Worlds largest Manufacturer of model airplane parts presents to his friends

# Kavan News

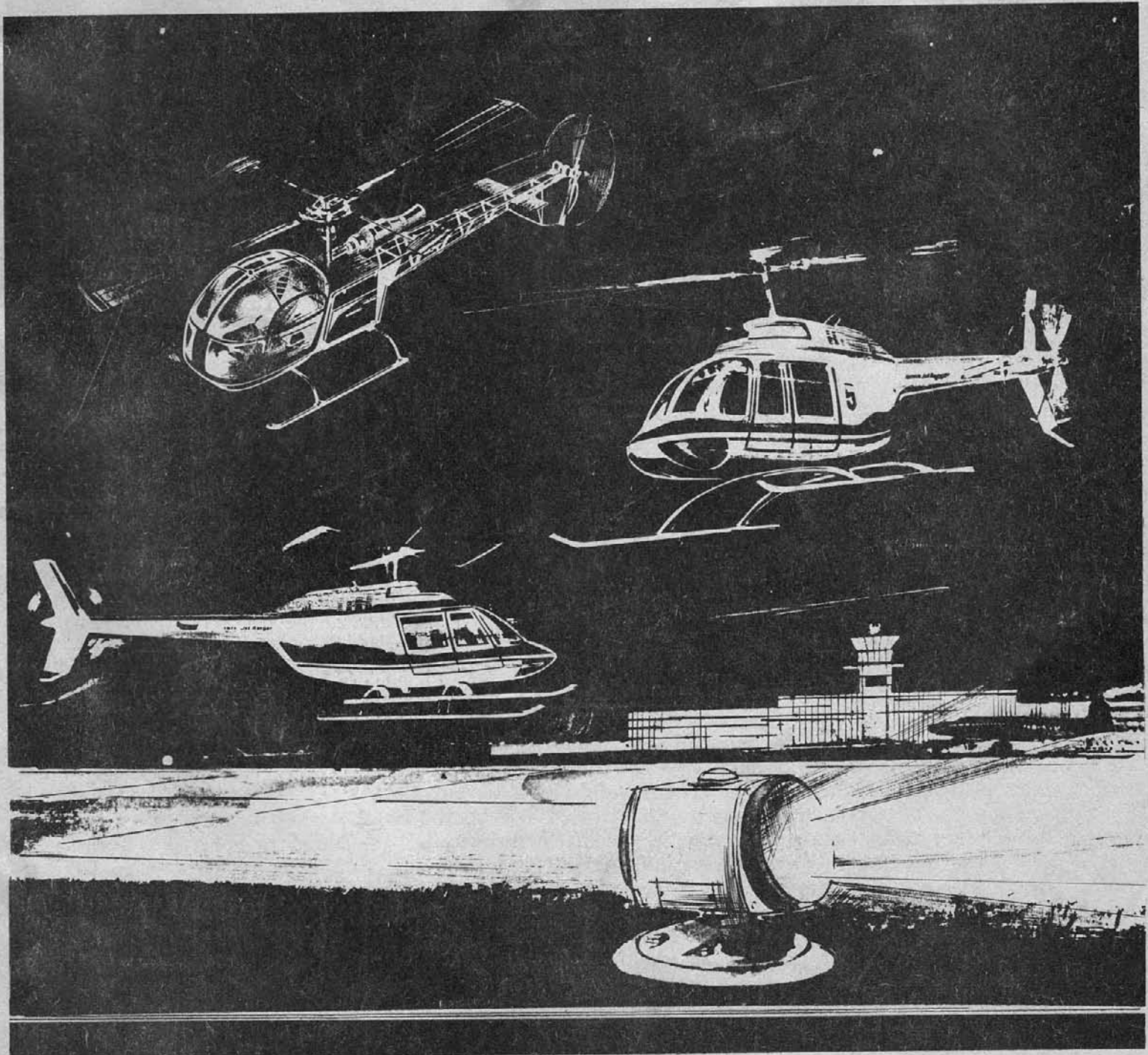


1 Ed

**KAVAN**

QUALITY PRODUCTS

.25¢



# KAVAN STORY



For the last ten years whenever I have met modelers, they have asked me what I had done before I started to manufacture model airplane accessories. This question is asked mostly by people who already know my products, use them and appreciate their technical perfection. I would like to take this opportunity to tell you my story.

Before I started seriously to change my hobby into a business, I was occupied with manufacturing ball point pens used for advertising purposes. The production run was a few million pieces per year which enabled me, financially, to get into a hobby that really is not the least expensive one around — R/C flying. I have been fascinated by this hobby from the very beginning, and still am. I started off flying R/C gliders with a wing span of approximately 8 feet. Later this glider was powered by a 1.5-cc Cox engine and was fun to fly. It did not take me long to discover that it was not quite as easy to fly these models as I had thought.

To find out why, I traveled 20,000 miles in one year in order to visit all the R/C contests for fixed-wing models. I wanted to discuss the problems I had found with experienced flyers. Exchanging my experiences with hundreds of model flyers, I was somewhat disappointed to learn that these professionals were still fighting the same problems that I had come across as a beginner. They

blamed their failures on the radios as well as the servos and the electric motors for the servos.

At that point, I decided to test and check each and every accessory for those model airplanes thoroughly. I went as far as visiting companies that manufactured the real sport planes and passenger planes. I spent a few days with each company in order to acquaint myself with their methods of calculating and manufacturing rudders and elevators, etc. I found out that the most important point to them was to manufacture those parts with as much technical perfection as was known at that time. The same safety standards that applied to the real airplanes had to be applied to models; this has been my goal ever since. After many informative discussions with the engineers of these companies, I decided to manufacture model airplane accessories of the best possible quality.

The first item for my production should have been control links. But the first tests were interrupted as the engine I used for the tests kept failing. I therefore decided to wait with the production of accessories and first develop a carburetor for the Super Tiger 60 that I used at that time. In the beginning, I would not have believed that it would take me 10 months to develop a carburetor. After a nearly endless series of tests, however, I had a carburetor that has been and still is very popular. Since then, the name, Kavan, has become well known. On the occasion of the world championship in Corsica, France, I introduced my carburetor to the model flyers from all over the world. Without a lot of advertising, simply by word of mouth, this carburetor became famous almost immediately. This was the beginning of my business and my success.

But there were some people who were not quite as thrilled about my success as I was. Manufacturers of model engines wanted to keep on selling their fairly simple carburetors. However, after several years, they accepted the need for better quality and workmanship too. To this day, a few manufacturers copy my carburetor, carefully avoiding any conflict with my patent rights, but they are just not the same; they are poor copies. You cannot achieve the same quality of one product simply by copying it.

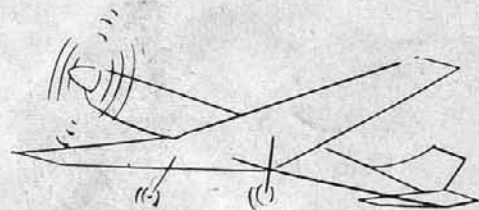
As soon as the development of my carburetor had been completed, not only to my own satisfaction, but also to the satisfaction of the many modelers who were using them, it was time again to go back to the production of model airplane accessories. During the first flight tests, I was wondering why I had to trim my model in flight, after the start. This happened not just once, but almost every time. Of course, I too, blamed the radio and the servos. Here, I was glad about the experience I had gathered while visiting the manufacturers of the real airplanes. I remembered the accuracy applied to the production of the control links and I soon found out that this was the cause of the problems the flyers had with their models. This holds true not only for the links manufactured years ago, but also for some of those on the market today. Then as well as now, manufacturers were using normal steel for their links, not spring-steel. In order to keep the shape of the link, the modeler is instructed to put a rubber band or a piece of fuel tubing around it. All this trouble is necessary so that the manufacturer can save the cost of the fairly expensive spring-steel. The fuel tubing that should hold the link in shape instead causes a squeezing or friction to the control. Consequently, as the rudder has to overcome this friction, the trimming of the model becomes more difficult and the receiver battery will also discharge a lot faster. It was hard to believe that I could fly three times as long with my model after I had solved this problem. Also,



the rudder did not have to be adjusted once it had been set properly. There was no question for me as to which metal I would be using for my links. Since I started manufacturing and selling my spring-steel links, the sales of rival links have gone down considerably.

Before I release an item for sale, it has to withstand various tests. These are conducted not only at the factory, but also in actual flight. I use a unique telemetry link from airplane to ground: Engine RPM in the air is converted to a frequency signal by means of a strobe disc on the back side of the spinner and a photo diode. This information is transmitted to the ground. A miniature 1-oz. transmitter in the airplane and a VHF receiver on the ground do the job within a 3-mile distance. The receiver is coupled to an ultra-precise digital frequency counter. RPM read-out is exact to 1 revolution per minute!

The same thoroughness and accuracy are applied to the development and production of all my products. In case you are not yet familiar with the quality of my products, I suggest that you compare for yourself. As an example, just take the link mentioned above, a fuel tank or a glow plug and you will find that I am right. If you have not tried a Kavan starter yet, I recommend that you have a closer look. It's worth it. Again, you will find that I am not producing and selling a converted electric motor from the automobile industry, but a starter that has been specially designed for model airplanes and model helicopters. So far I have sold approximately 100,000 pieces.



I do not want to discuss each and every item at this point. You will read all that on the following pages. I just want you to know how products are developed, tested and manufactured at Kavan. This goes for item # 1 through item # 133 and also for the helicopters and spare parts.

Let me talk about my helicopters for a moment. Again, my intention was not to design and produce just any rotary wing model aircraft, but a scale model to the last detail. After a series of test flights, I succeeded in having a model helicopter that not only performs all the maneuvers the real helicopter does, but is the first aerobatic model helicopter in existence. The history of the Kavan Bell Jet Ranger is discussed in a brochure that came out on the occasion of its wind tunnel testing. Although the Jet Ranger already seemed to perform properly and had given its owners success at most contests and championships, this wind tunnel test appeared necessary to me. I wanted to know more about the reaction of a model when it is exposed to different wind forces, how it reacts with more or less weight, etc. The cost of the wind tunnel test was rather high, but was valuable experience gained. Not only the company, but also the model flyer will profit even more from it, and you can rest assured that in the Kavan Jet Ranger and the future Alouette 2, you have safe, fully tested models.

The already popular Alouette 2 helicopter has meanwhile gone into production at Kavan. Again, this is a true scale model of the real French helicopter. With about the same flying ability and performance, the Alouette 2 will sell for approximately half the price of the Jet Ranger and therefore, will be desirable for a lot more model flyers than the Bell type. The Alouette 2 is a model that does not scare off the newcomer to model helicopter flying, but is still interesting enough and exciting for the expert.

Whenever I meet with people, the question arises, "What is new?" Instead of saying "Nothing", I tell them about new projects and modifications we plan on already existing products. Of course, the danger here is that other manufacturers take advantage of my original ideas, to state the Alouette 2 as an example. They hurry to copy the idea, and nail together, a flying object to be the first coming out with a new type of model without caring too much about technical perfection. When I first have an idea, or even show the prototype of a model, it still is a long way to the final product that by my standards is good and safe enough for the modeler. My model builder, foreman, factory flyer and myself as a team test all possibilities and options there are. Kavan enthusiasts sometimes have to be a little patient, but it is worth it. The many letters from satisfied Jet Ranger owners prove my system to be right.

The large Kavan range of R/C accessories together with the helicopters have opened the door to a world market. I export to over 35 countries where exclusive importers and distributors are handling my products. At the beginning of 1974, I established a U.S. branch in Santa Ana, California. For all the model builders and flyers who care about quality, I will endeavor to improve the existing products whenever possible; I will definitely keep on searching and experimenting, because our hobby seems to have endless possibilities.

Do not save costs in the wrong place. An item that might be cheaper at first can cause problems and crashes that eventually cost you lots more. Besides, too many repairs take away the fun of flying or building. The use of Kavan products will lead to the success that I wish for each of you.

FRANZ KAVAN

## SUPER SERVICE



***We have no quarrel with those who sell for less, they know what their stuff is worth.***

# LINKS

When using Kavan Links, your power pack will last longer, due to lower friction. All Kavan metal links and rods have a machine cut thread for strength and smoothness. (Other manufacturers use a cheap, hard to turn rolled thread). Kavan links are made from a heavy gauge spring steel that will not fatigue with use. The snap link has a machined shoulder on the pin that provides a positive snap lock. The shoulder also prevents the sides of the clevis from squeezing the control horn, thus putting a heavier load on the servos and causing increased battery drain, as well as less precise control centering. All push rods and links (metal and plastic) are interchangeable. Example, article no 1 may be used with articles No. 12, 14, 15, 17. The plastic used in the flexible rod and tubes accepts epoxy, and fast set glues for a permanent bond. Custom made tubes, push rods, etc. are easy to make.

**STOP LINK, Art. No 1** Black steel with metal rod has butt fitted pin that prevents control horn squeeze. Length 5 inches. 1 piece per package, 12 packages per card.

**SNAP LINK, Art. No 3** Bright plated with metal rod, pin has machined shoulder, positive lock, will not squeeze control horn. The snap link has a machined shoulder on the pin that provides a positive snap lock. The shoulder also prevents the sides of the clevis from squeezing the control horn, thus putting a heavier load on the servos and causing increased battery drain, as well as less precise control centering. Length 5 inches. 1 Piece per package, 12 packages per card.

**SNAP LINK, Art. No 5** Bright plated steel. Same as article No 3, except 8 inches long. 12 pieces per package, 2 packages per card.

**NYLON LINK, Art. No 6** Eliminates metal to metal contact. Super tough nylon with extra reinforcing. Length 8 inches. 12 pieces per package, 2 packages per card.

**STOP LINK, Art. No 7** Black steel-steel rod, in 1/8 inch o.d. plastic tube. Length 36 inches. Packed loose.

**NYLON LINK, Art. No 8** 5/64 inch plastic rod inside, 1/8 inch o.d. plastic tube, flexible. Length 36 inches, Packed loose.

**SNAP LINK, Art. No 10** 5/64 inch plastic rod inside, 1/8 inch o.d. plastic tube, flexible. Length 36 inches, Packed loose.

**SNAP LINK, Art. No 12** Bright plated, 1/8 inch. o.d. plastic rod inside, 11/64 inch o.d. plastic tube, flexible. Length 36 inches. Packed loose.

**PUSH ROD, Art. No 16** Tube only, white, small 5/64 inch o.d. telescopes into article No 17. Length 36 inches. Packed loose.

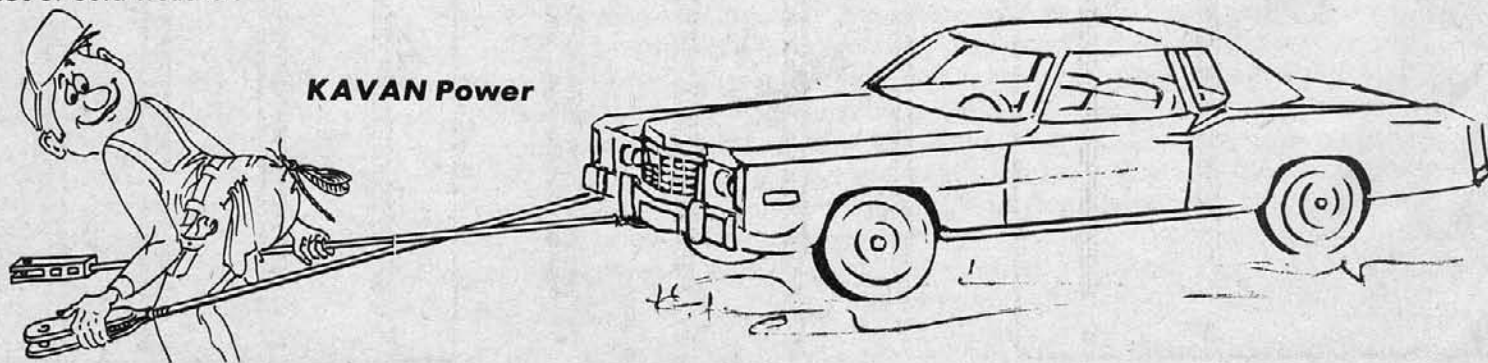
**PUSH ROD, Art. No 17** Tube only, gold, medium 1/8 inch o.d. telescopes into article No 18. Length 36 inches. Packed loose.

**PUSH ROD, Art. No 18** Tube only, white, large 11/64 inch.o.d. telescopes over article No 17. Length 36 inches. Packed loose.

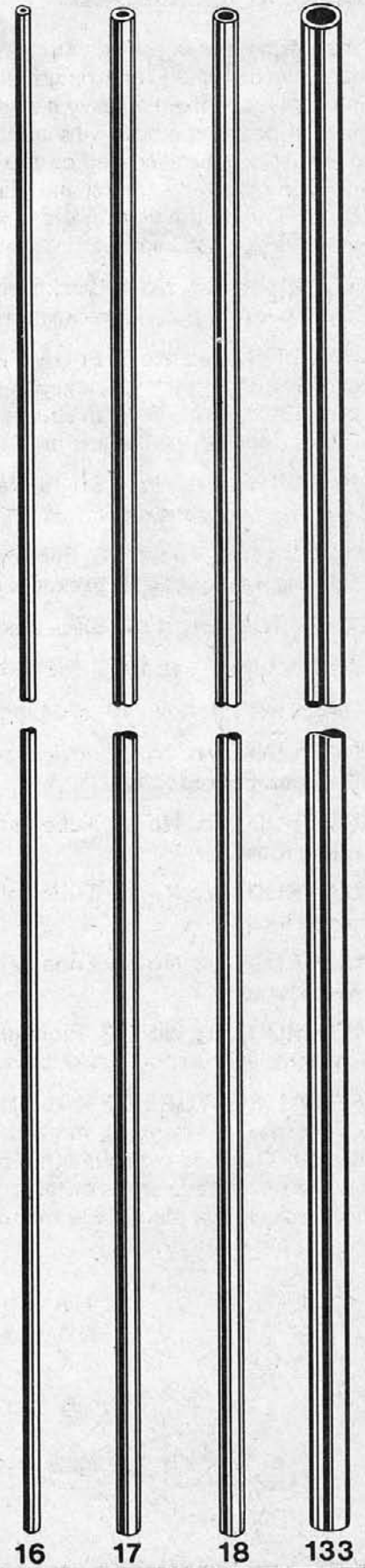
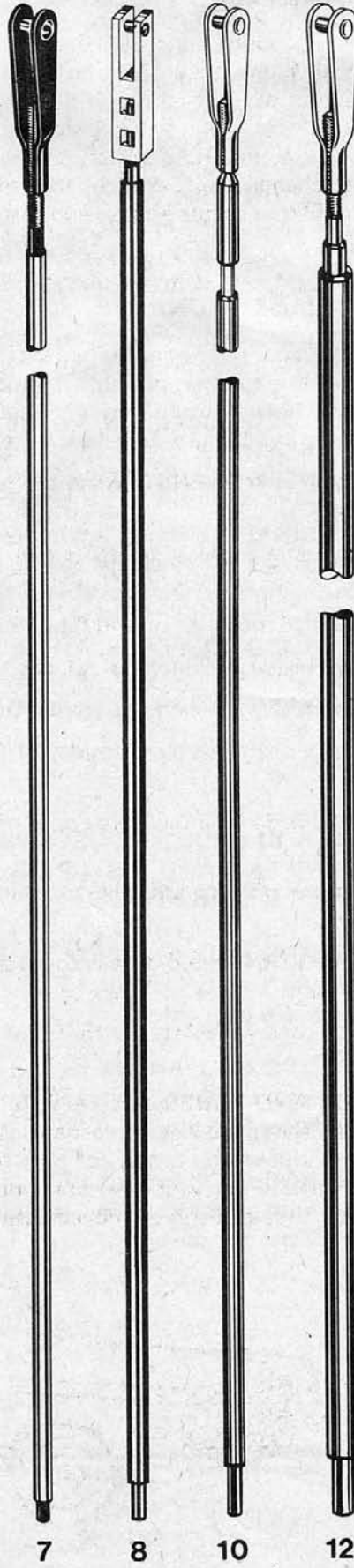
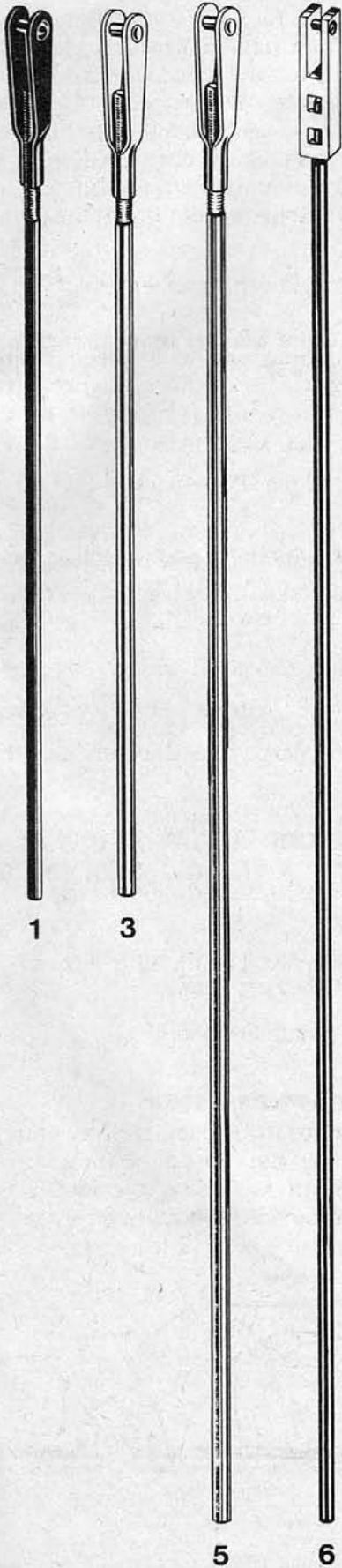
**PUSH ROD, Art. No 133** Fibre glass tube to be used with Art. No 15/1, o.d. 1/4 inch, length 30 inches very light, very strong. Packed loose.

## SPECIAL FEATURE OF KAVAN PUSH RODS AND TUBES, Art. No 7, 8, 10, 12, 16, 17, 18 and 133

During the last few years, more and more model flyers use Kavan plastic rods for control of the rudder, elevator and ailerons. The modeler always has been looking for precision tubes, not only for general use, but most of all for controlling the aileron. After a series of tests, Kavan developed 36 inch tubes which could be made with such close tolerance that there is no radial play inside the tubes, however, they can still be moved easily in axial direction. The material is stable in hot or cold weather.





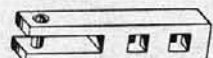




2



4



9



11



130



13



131



14/15

**STOP LINK, Art. No 2**

Black steel, without rod. Same as Art. No 1  
2 pieces per package, 12 packages per card.

**SNAP LINK, Art. No 4**

Bright plated steel without rod. Same as Art. No 3,  
2 pieces per package, 12 packages per card.

**NYLON LINK, Art. No 9**

Without rod. Same as Art. No 6  
2 pieces per package, 12 packages per card.

**SNAP LINK, Art. No 11**

Bright plated with lock nut and machined threaded adapter for soldering to rod or cable. 2 pieces per package, 12 packages per card.

**THREADED COUPLERS, Art. No 130**

Medium, 2 mm  
10 pieces per package, 12 packages per card.

**SNAP LINK, Art. No 13**

Bright plated with lock nut and machined threaded adapter 1/16 inch i.d. for soldering to small wire or cable. 2 pieces per package, 12 packages per card.

**THREADED COUPLERS, Art. No 131**

Small, 1.2 mm  
10 pieces per package, 12 packages per card.

**PUSH ROD ENDS ARE USED WITH WOOD-DOWELS OR ARROW SHAFTS ON ONE END AND A STOP OR SNAP LINK, ART. NO 1, 3 OR 13 ON THE OTHER END**

**PUSH ROD END, Art. No 14**

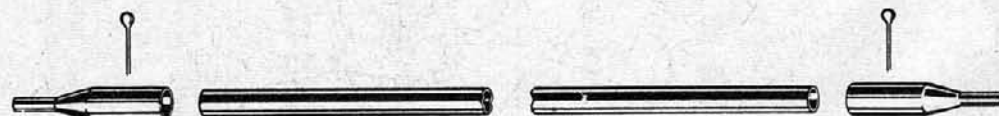
Metal, with safety lock pin 13/64 inch i.d. 2 pieces per package, 12 packages per card.

**PUSH ROD END, Art. No 15**

Metal, with safety lock pin 15/64 inch i.d. 2 pieces per package, 12 packages per card.

**PUSH ROD END, Art. No 15/1**

Metal, with safety lock pin 1/4 inch i.d. 2 pieces per package, 12 packages per card.

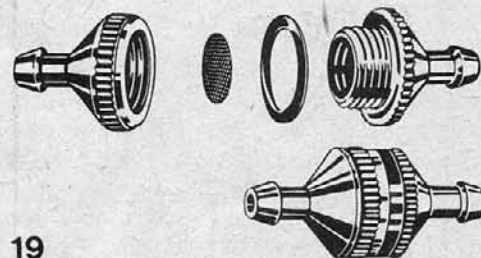


15/1 and 133



**FUEL FILTER, Art. No 19**

Super fine screen for maximum fuel cleaning. Filter screws together for quick, easy cleaning. The diameter of the bore on intake and outlet of the fuel filter is the same as on the carburetor fitting. 1 piece per package, 12 packages per card.



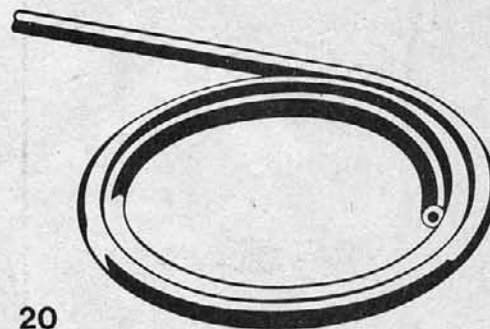
19

**FUEL TUBING, Art. No 20**

Black, special compound, non-hardening, highly resistant to split ends. Length 40 inches. Inside diameter identical to bore on fuel filter and carburetor fitting. 1 Piece per package, 6 packages per card.

**SILICONE FUEL TUBING, Art. No 21**

Impervious to engine heat, non-hardening, kink resistant. Super tough formulated. Inside diameter identical to bore on fuel filter and carburetor fitting. Length 20 inches. 1 piece per package, 6 packages per card.



20

**RUBBER BANDS, Art. No 22, 23, 24**

The Kavan rubber bands are made from a special formula, not affected by high nitro content fuels. To meet Kavan's high standards, the bands must be able to withstand soaking for one week in numerous fuel formulas with various nitro content, including pure nitro methane. After this soaking, they had to stretch five times their normal length, and snap back when released. It took eleven months to develop the proper formula. These rubber bands outlast ordinary bands many times. When using Kavan rubber bands, you fly with confidence.

**Art. No 22**

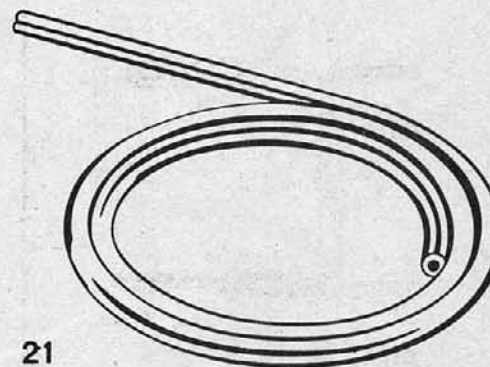
2 1/2 inches long, 7/32 inches wide.  
25 pieces per package, 6 packages per card.

**Art. No 23**

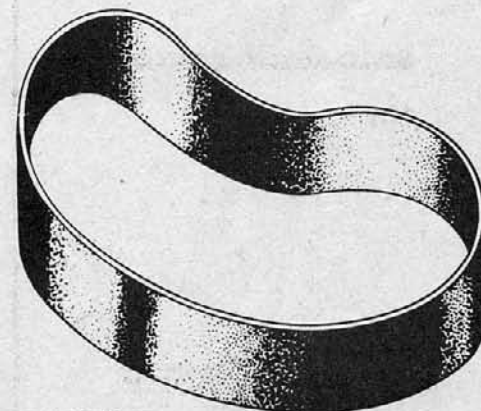
4 inches long, 11/32 inches wide.  
15 pieces per package, 6 packages per card.

**Art. No 24**

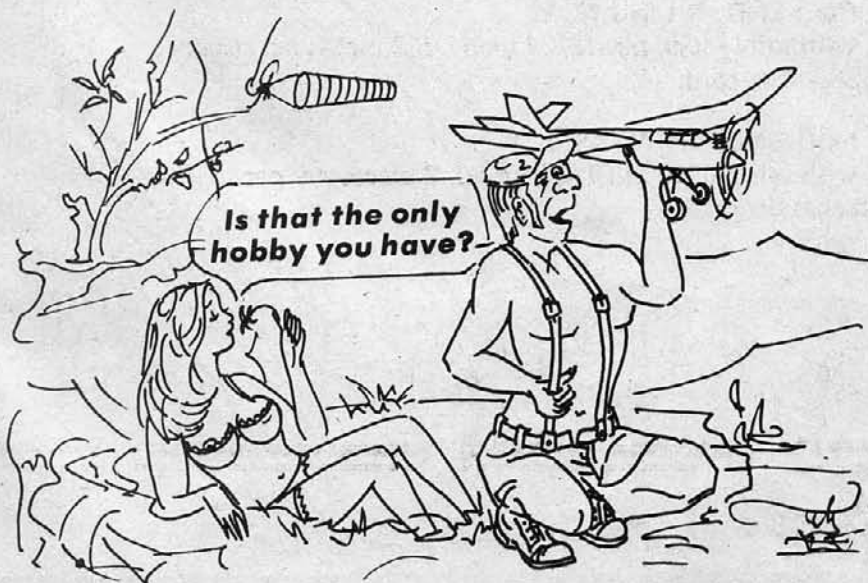
4 1/2 inches long, 13/32 inches wide.  
8 pieces per package, 6 packages per card.



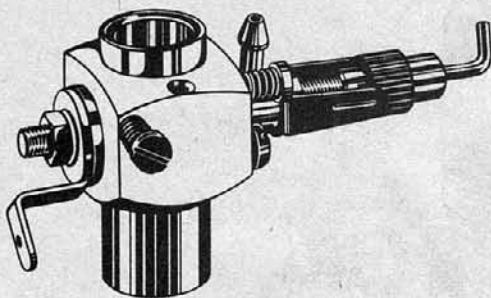
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22/23/24



# CARBURETORS



40

## CARBURETORS, Art. No 40

The Kavan precision carburetor is the most imitated model engine carburetor in the entire world. It is machined from aluminum stock, fitted with a machined brass spray bar assembly, and a precision ground steel rotor barrel. The hole (in the body) for the rotor is honed (not reamed) to a tolerance of plus or minus .0002 (two ten thousandths of an inch.) The extremely close tolerance held throughout the entire carburetor does make it more expensive, however, if you like to set your idle adjustments and then forget them, (as well as obtain maximum top end power) this is the only carburetor for you.

The Kavan carburetor is available for the following engines:

O.S.Max 19  
O.S.Max 30  
O.S.Max 40  
O.S.Max 50  
O.S.Max 58  
O.S.Max 60 SR

Merco 29-34  
Merco 35-61

Sup.Tig.G 60 FI  
Sup.Tig.G 60 Rv  
Sup.Tig.G 60 Fi-New

Enya 35  
Enya 45  
Enya 45 BB  
Enya 60

Rossi 60

Veco 19  
Veco 35  
Veco 45  
Veco 61 USA  
Veco-Germany

K+B 40 F  
K+B 40 R  
K+B 45

H.P. 40 F  
H.P. 40 R  
H.P. 61 F  
H.P. 61 R

Webra 40  
Webra 61/Black Head  
Webra 61 Speed

McCoy 19-35  
Taipan 61  
Meteor 60

Packed loose.

## SPRAY BAR ASSEMBLY, Art. No 41/F and 41 /R

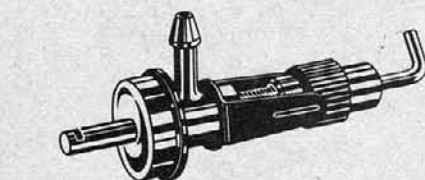
Complete, for above carburetors. Specify front or rear intake.  
1 piece per package.

## UNIVERSAL NEEDLE VALVE, Art. No 42

Fits all Kavan carburetors. 1 piece per package

## IN FLIGHT NEEDLE VALVE ADJUSTMENT, Art. No. 43

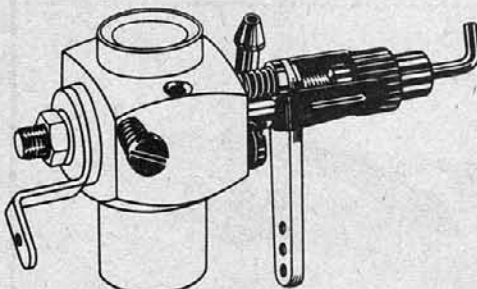
Fits all Kavan carburetors, 1 piece per package.



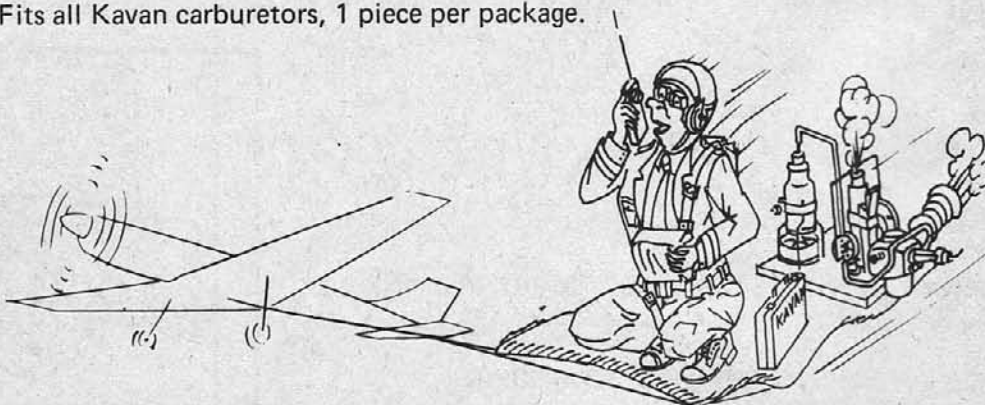
41/F-41/R



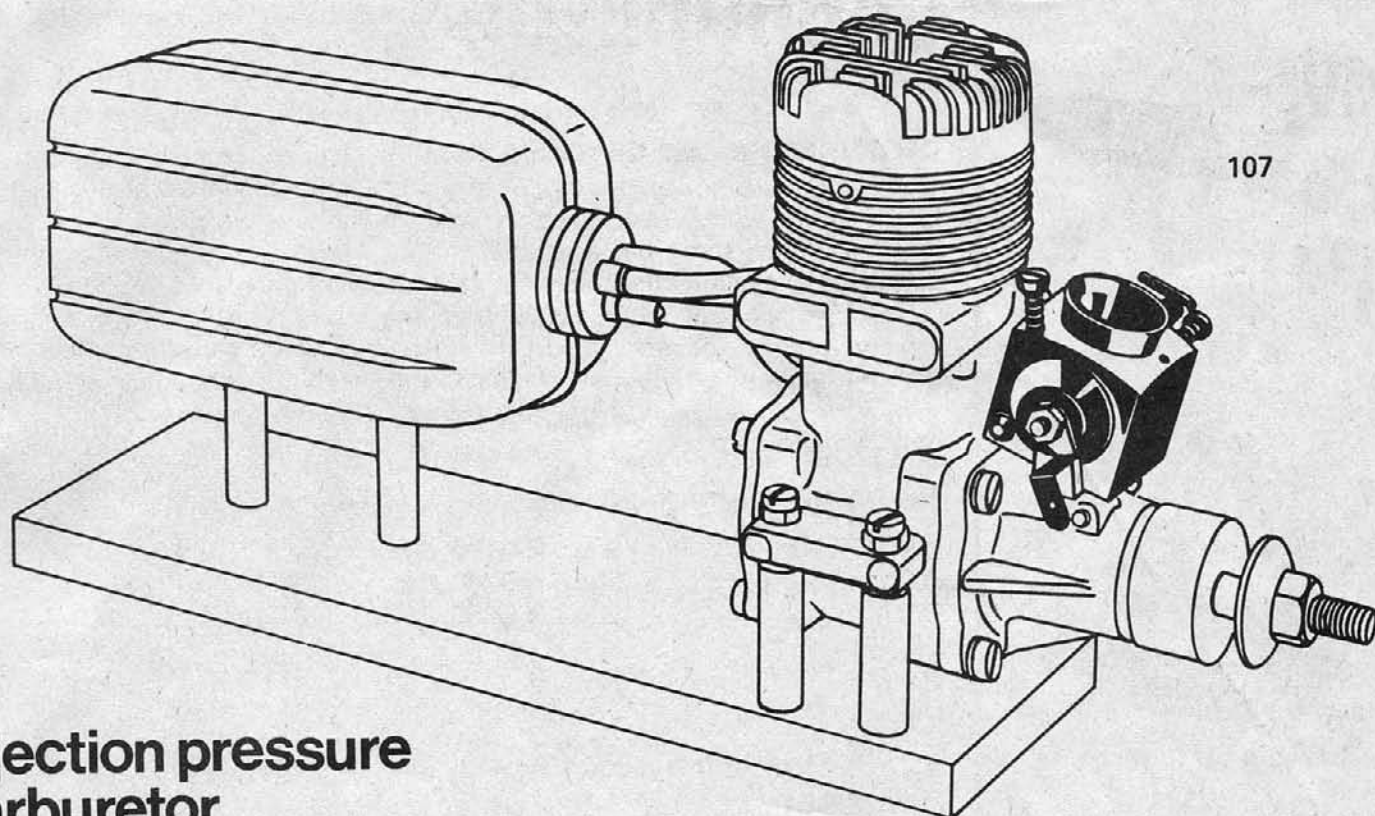
42



43







107

## Injection pressure carburetor

Art. No 107

With cavity of up to 1/2 inch it is designed to operate from pressurized fuel tanks (pressure from muffler). It increases available power of most 40, 60 and larger engines by up to 2000 RPM. A pressure relief valve operates at a pre-set level, changing the system from suction to pressure for optimum idling characteristics. Best results are achieved when using the Kavan muffler, Article No 108..

Packed loose.

The injection pressure carburetor is available for the following engines:

O.S.Max 40  
O.S.Max 50  
O.S.Max 58  
O.S.Max 60 SR

Sup.Tig.G 15 Fi

Sup.Tig.G 21-29

Sup.Tig.G 21-46

Sup.Tig.G 40 Rv

Sup.Tig.St 51-60

Sup.Tig.G 60 Fi

Sup.Tig.G 60 Rv

Kraft 60

Veco 61 USA  
Veco-Germany

H.P. 40 F

H.P. 40 R

H.P. 61 F

H.P. 61 R

Rossi 60

Webra 40  
Webra 61/BLK. HD  
Webra 61 Speed

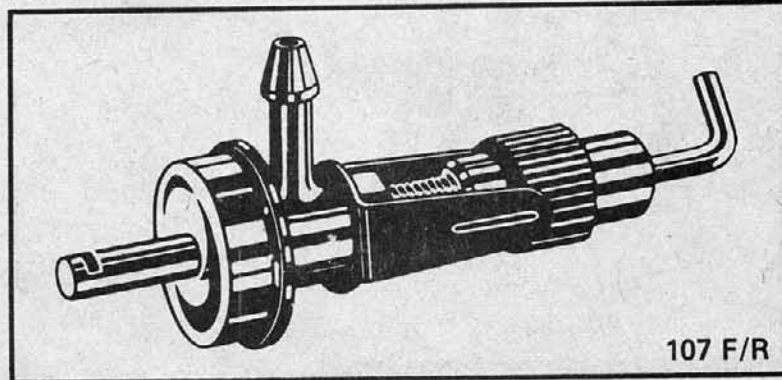
Taipan 61  
K+B 40 R  
Meteor 60

O.P.S. 40

O.P.S. 60

Enya 45  
Enya 45 BB  
Enya 60  
Enya 60New

Packed loose.



107 F/R

**SPRAY BAR ASSEMBLY, Art. No 107/F**  
Complete, front. 1 piece per package.

**SPRAY BAR ASSEMBLY, Art. No 107/R**  
Complete, rear. 1 piece per package.

**SPINNERS, Art. No 44 - 54**

Kavan nylon spinners are bright chrome plated to give that "quality" look to your models.

**Art. No 44** 1/4 inch x 28 threads (American engines) 1 3/4 inches diameter

**Art. No 45** 1/4 inch x 28 threads (American engines) 2 inches diameter

**Art. No 46** 1/4 inch x 28 threads (American engines) 2 1/4 inches diameter

**Art. No 47** 1/4 inch x 28 threads (American engines) 2 1/2 inches diameter

**Art. No 48** Enya engines 1 3/4 inches diameter

**Art. No 49** Enya engines 2 inches diameter

**Art. No 50** Enya engines 2 1/4 inches diameter

**Art. No 51** Enya engines 2 1/2 inches diameter

**Art. No 52** Veco engines 2 1/4 inches diameter

**Art. No 53** Rossi engines 1 3/4 inches diameter

**Art. No 54** Rossi engines 2 1/4 inches diameter

1 piece per package, 3 packages per card.

**PILOT, Art. No 55**

Hand painted, 1 inch scale, unbreakable

1 piece per package, 3 packages per card.

**RUBBER FINGER GUARD, Art. No 56**

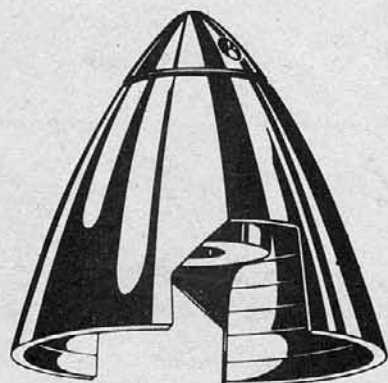
Eliminate sore fingers and broken nails with this specially designed finger guard.

1 piece per package, 6 packages per card.

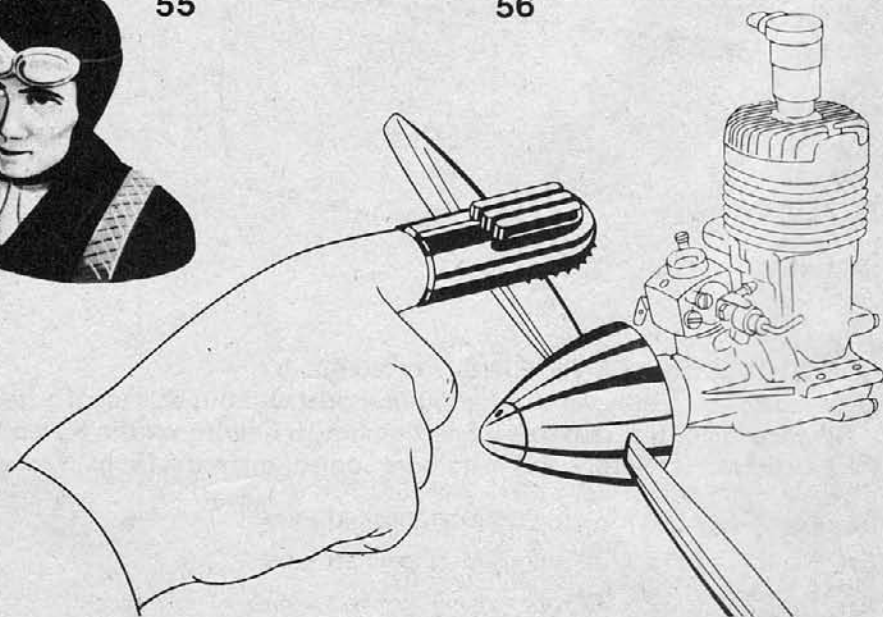


55

56



44-54

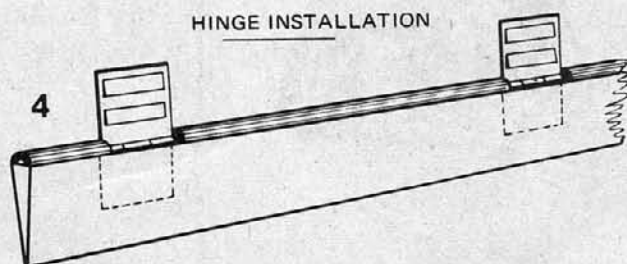
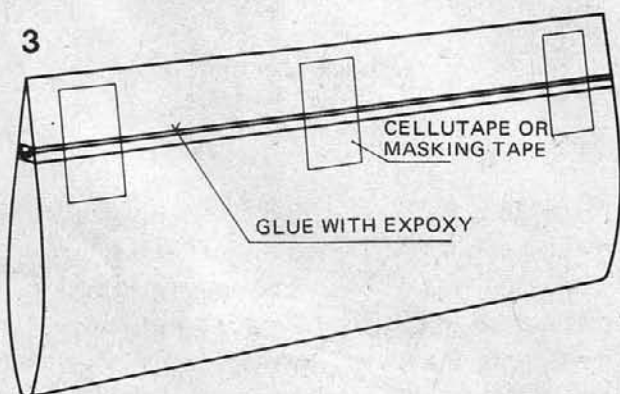
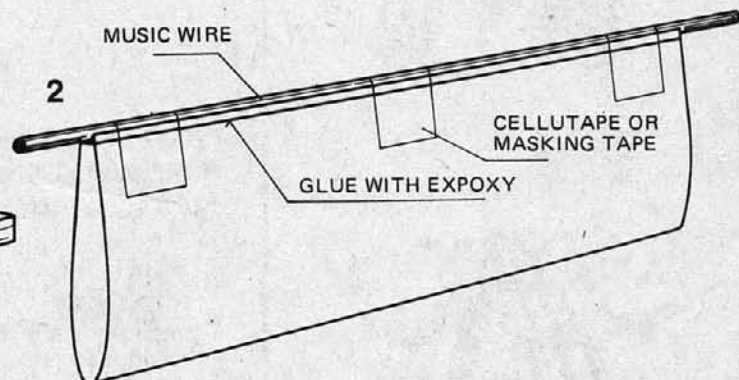
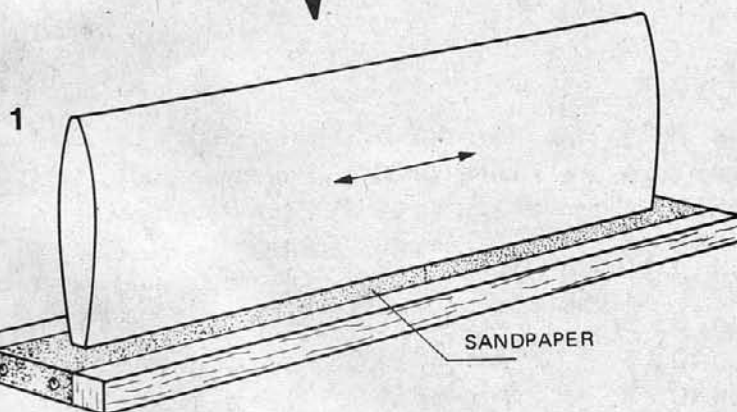
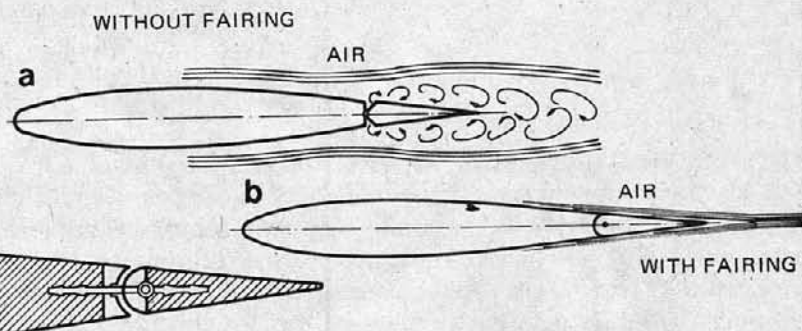




# REVOLUTION IN MODEL-FLYING!

## CONTROL SURFACE FAIRING

**NEW**



Pat. pend!

### CONTROL SURFACE FAIRING, Art No 80 - 82

Once used, you will never want another model without this terrific item. It is difficult to describe the tremendous difference in control response when flying with or without the Kavan fairing. On that next model, we suggest that you take an extra 30 minutes and install the control surface fairings. You will be glad you did.

Art. No 80 1/4 x 32 inches long, packed loose

Art. No 81 5/16 x 32 inches long, packed loose

Art. No 82 13/32 x 32 inches long, packed loose

# PROPS

## PROPELLERS, Art. No 57 - 66, 57 G - 66 G, 57 M - 66 M, 67, 68

The Kavan propellers are made in very accurate, computer designed molds. It is impossible to obtain this same degree of accuracy with a commercially made wooden propeller. The fibre glass propellers are very strong, and hold their shape and pitch at all RPM levels. The extra stiffness eliminates the "whip" common to all non-wood propellers and produces more thrust. The heavier, well balanced Kavan propellers create smoother running engines at all speeds. The metallized propeller is the fibre glass propeller with bright chrome plating.



**KAVAN props never fail**

Art. No 57	Nylon	6 x 4	Art. No 57 G	Fibre glass, blue	6 x 4
Art. No 58	Nylon	7 x 4	Art. No 58 G	Fibre glass, blue	7 x 4
Art. No 59	Nylon	8 x 4	Art. No 59 G	Fibre glass, blue	8 x 4
Art. No 60	Nylon	8 x 6	Art. No 60 G	Fibre glass, blue	8 x 6
Art. No 61	Nylon	9 x 4	Art. No 61 G	Fibre glass, blue	9 x 4
Art. No 62	Nylon	9 x 6	Art. No 62 G	Fibre glass, blue	9 x 6
Art. No 63	Nylon	10 x 4	Art. No 63 G	Fibre glass, blue	10 x 4
Art. No 64	Nylon	10 x 6	Art. No 64 G	Fibre glass, blue	10 x 6
Art. No 65	Nylon	11 x 6	Art. No 65 G	Fibre glass, blue	11 x 6
Art. No 66	Nylon	11 x 7 3/4	Art. No 66 G	Fibre glass, blue	11 x 7 3/4
		narrow blade			narrow blade
		12 pieces per carton			12 pieces per carton
Art. No 57 M	Fibre glass, metallized	6 x 4			3 pieces per package
Art. No 58 M	Fibre glass, metallized	7 x 4			3 pieces per package
Art. No 59 M	Fibre glass, metallized	8 x 4			1 piece per package
Art. No 60 M	Fibre glass, metallized	8 x 6			1 piece per package
Art. No 61 M	Fibre glass, metallized	9 x 4			1 piece per package
Art. No 62 M	Fibre glass, metallized	9 x 6			1 piece per package
Art. No 63 M	Fibre glass, metallized	10 x 4			1 piece per package
Art. No 64 M	Fibre glass, metallized	10 x 6			1 piece per package
Art. No 65 M	Fibre glass, metallized	11 x 6			1 piece per package
Art. No 66 M	Fibre glass, metallized	11 x 7 3/4,			1 piece per package
		narrow blade			
Art. No 67	Fibre glass, natural	11 x 7 3/4, wide blade			1 piece per package
Art. No 68	Fibre glass, metallized	11 x 7 3/4, wide blade			1 piece per package





57-66



57G-66G

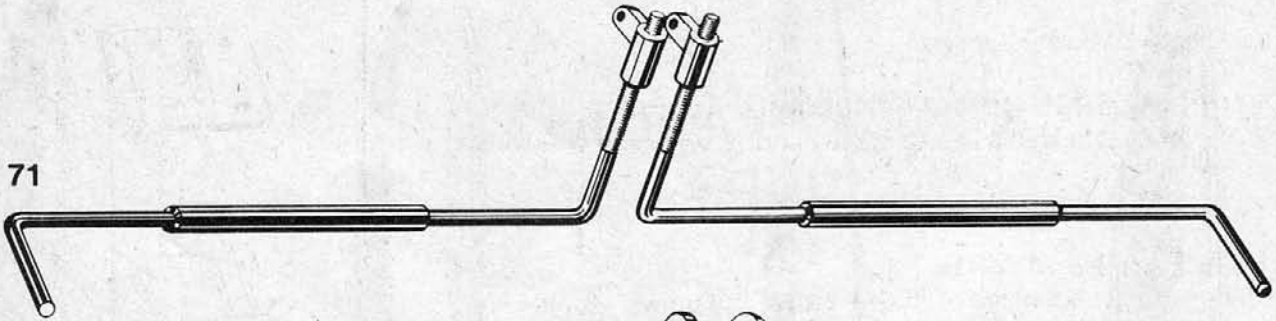


67 Wide

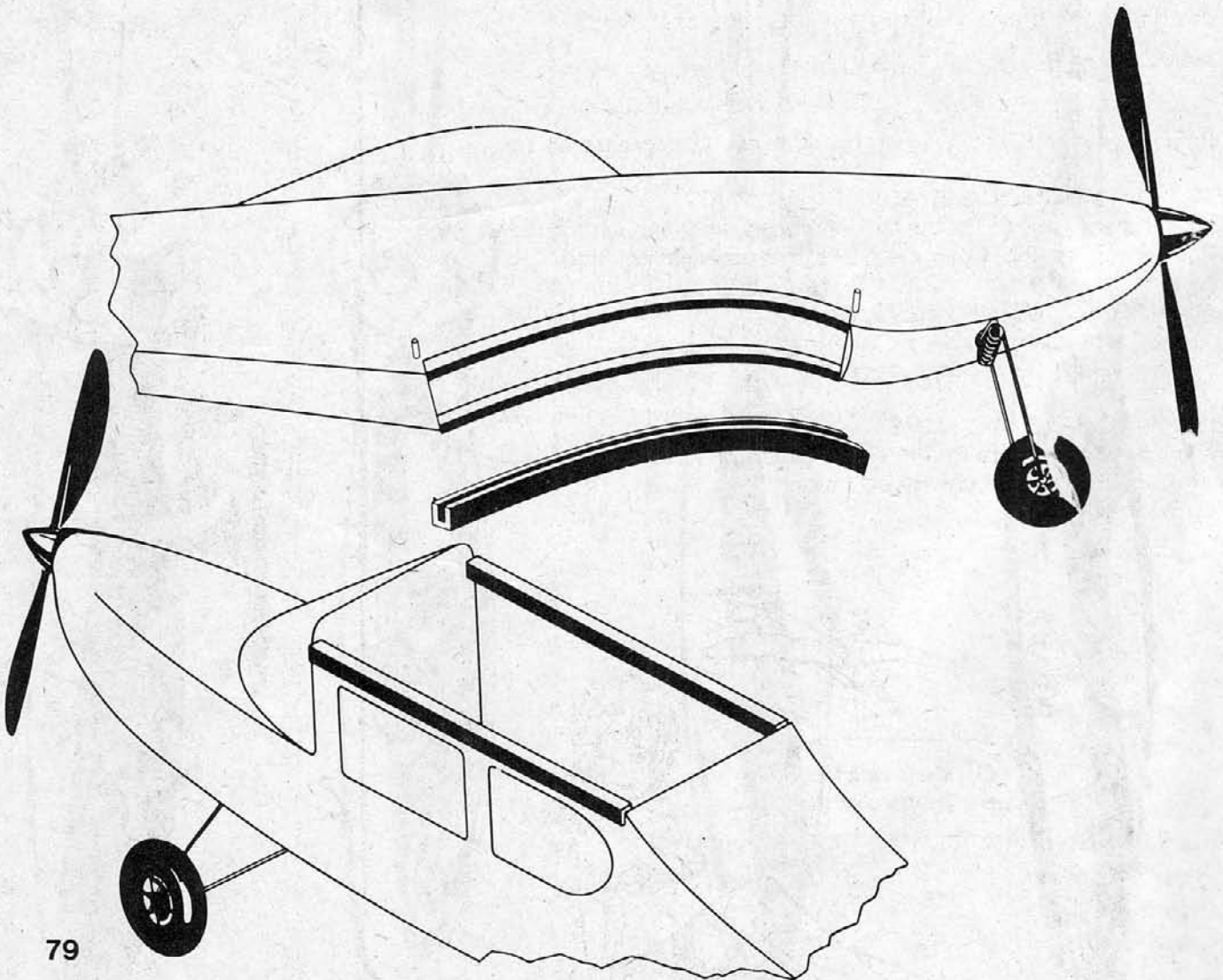
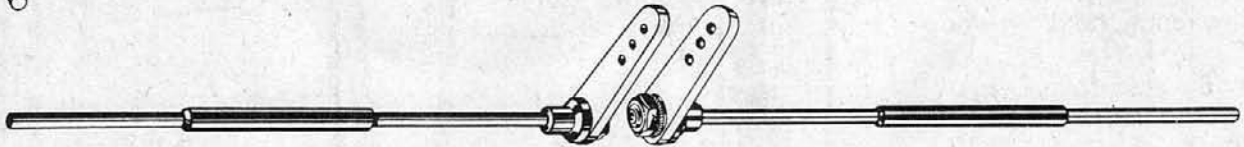


68 Wide

71



72



79



**CONTROL HORNS, ADJUSTABLE Art. No 71**

Adjustable, for ailerons, flaps, "V" stabs. No set screws to loosen which could cause a crash.

1 pair per package, 6 packages per card

**DIFFERENTIAL ALLERON HORNS, ADJUSTABLE Art. No 72**

With these completely adjustable aileron control horns you can get those "straight as a string" rolls.

1 pair per package, 6 packages per card.

**NYLON HINGES, Art. No 73, 73/3**

The Kavan Nylon Hinges are made of "super tough" nylon with molded in holes for maximum "hold" in wood or foam. For .19 and larger size models.

Art. No 73 6 pieces per package, 12 packages per card.

Art. No 73/3 15 pieces per package, 12 packages per card

**CONTROL HORNS, Art. No 74 - 76**

Reinforced nylon to prevent twisting, no nuts needed.

Art. No 74 Small, 1 inch. 1 pair per package, 12 packages per card.

Art. No 75 Medium, 1 1/4 inch. 1 pair per package, 12 packages per card.

Art. No 76 Large, 1 1/2 inch. 1 pair per package, 12 packages per card.

**NYLON WING MOUNTING BRACKETS, Art. No 77**

With bolts. Strong enough for the largest models, light enough for the smallest. Non-slip screwdriver slot. 1 pair per package, 6 packages per card.

**NYLON WING MOUNTING BOLTS, Art. No 78**

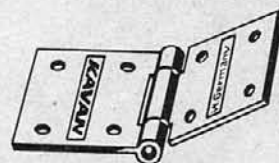
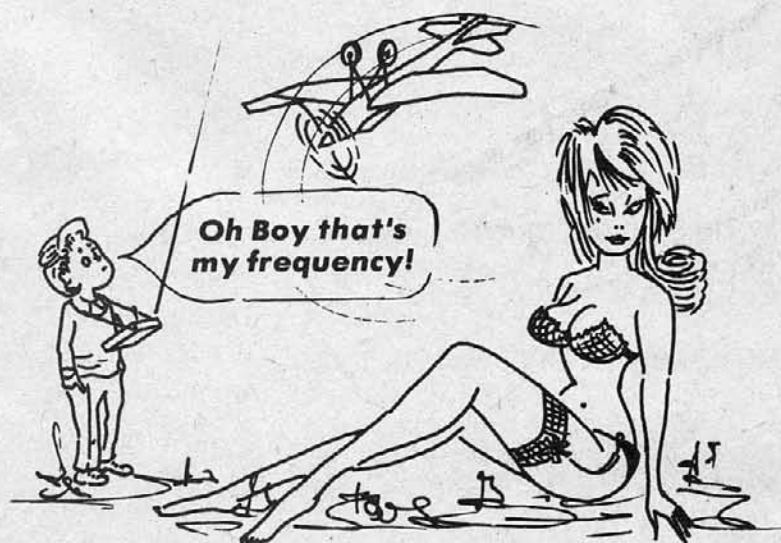
With non-slip screwdriver slot.

4 pieces per package, 12 packages per card.

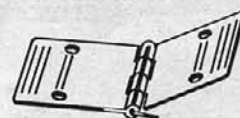
**RUBBER WING SEAT, Art. No 79**

Use these soft wing seats to fill those ugly gaps, will not mar wing surface. Excellent for padding field box model holder.

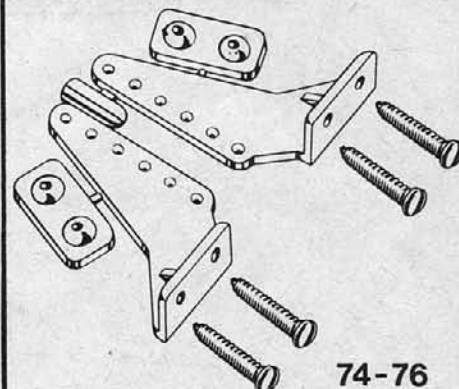
2 pieces per package.



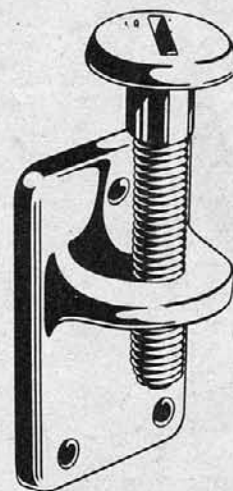
73



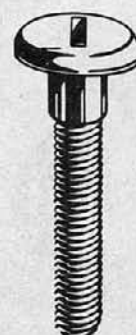
129



74-76



77



78

# BLIND NUTS



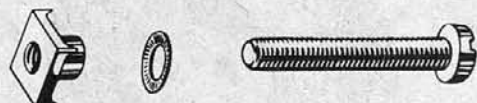
83-84

Kavan Blind Nuts are machined from solid stock, not stamped from sheet metal. The nuts are high tensile steel for extra holding power.

## SERVO MOUNTING KIT, Art. No 83, 84

Also for mounting servo board. Each set contains 4 bolts, 4 flat washers, 4 grommets, 4 spacers, 4 blind nuts.

1 set per package, 12 packages per card.



85-86

## STEEL ENGINE MOUNTING BOLT SET, Art. No 85

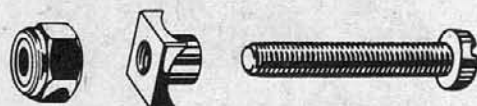
Each set contains 4 bolts, 4 lock washers, 4 blind nuts. 1/8 x 3/4 inch bolts.

1 set per package, 12 packages per card.

## STEEL ENGINE MOUNTING BOLT SET, Art. No 86

Same as Article No 85 except 5/32 x 1 inch bolts.

4 pieces per package, 12 packages per card.



87-88

## SPECIAL ENGINE MOUNTING BOLT SET, Art. No 87

Same as No 85 except also contains 4 nylon lock nuts.

4 pieces per package, 12 packages per card.

## SPECIAL ENGINE MOUNTING BOLT SET, Art. No 88

Same as Article No 86 except also contains 4 nylon lock nuts.

1 set per package, 12 packages per card.

89-91



## BLIND MOUNTING NUTS, Art. 89

7/64 inch, fits bolt No 93.

10 pieces per package, 12 packages per card.

92



## BLIND MOUNTING NUTS, Art. No 90

1/8 inch, fits bolt No 94.

8 pieces per package, 12 packages per card.

## BLIND MOUNTING NUTS, Art. No 91

5/32 inch fits bolt No 95.

8 pieces per package, 12 packages per card.

93-95



## NYLON LOCK NUTS, Art. No 92

5/32 inch.

8 pieces per package, 12 packages per card.

## STEEL MOUNTING BOLTS, Art. No 93

7/64 x 5/8 inch.

25 pieces per package, 12 packages per card.

## STEEL MOUNTING BOLTS, Art. No 94

1/8 x 3/4 inch.

20 pieces per package, 12 packages per card.

96



## STEEL MOUNTING BOLTS, Art. No 95

5/32 x 1 inch.

15 pieces per package, 12 packages per card.

## STEEL SHEET METAL SCREWS & WASHERS, Art. No 96

1/8 x 5/8 inch.

20 pieces per package, 12 packages per card.



**AIRWHEELS Art. No 97 - 102, BLACK**

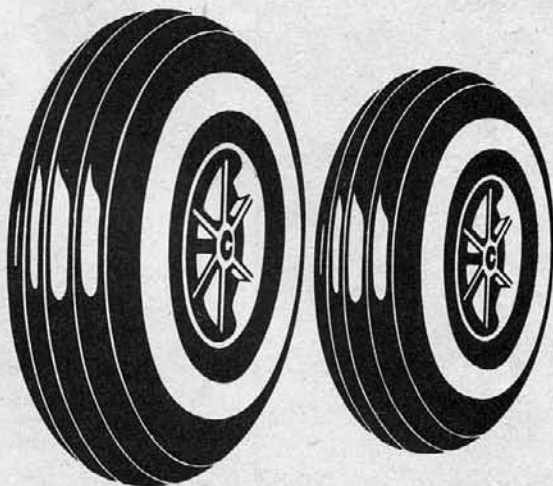
Specially compounded rubber for low bounce, without loss of runway gripping ability. When the model is left sitting for extended periods, this wheel shows less flat spot than any other tested. Straight line tread for better tracking. Available in black or white wall.

Art. No.	97	air wheel	(Ø 1 3/4")	45 mm
Art. No	98	air wheel	(Ø 2")	50 mm
Art. No	99	air wheel	(Ø 2 1/4")	56 mm
Art. No	100	air wheel	(Ø 2 1/2")	62 mm
Art. No	101	air wheel	(Ø 2 3/4")	68 mm
Art. No	102	air wheel	(Ø 3")	75 mm

Packed 2 wheels per card.

# WHITE WALL TIRES

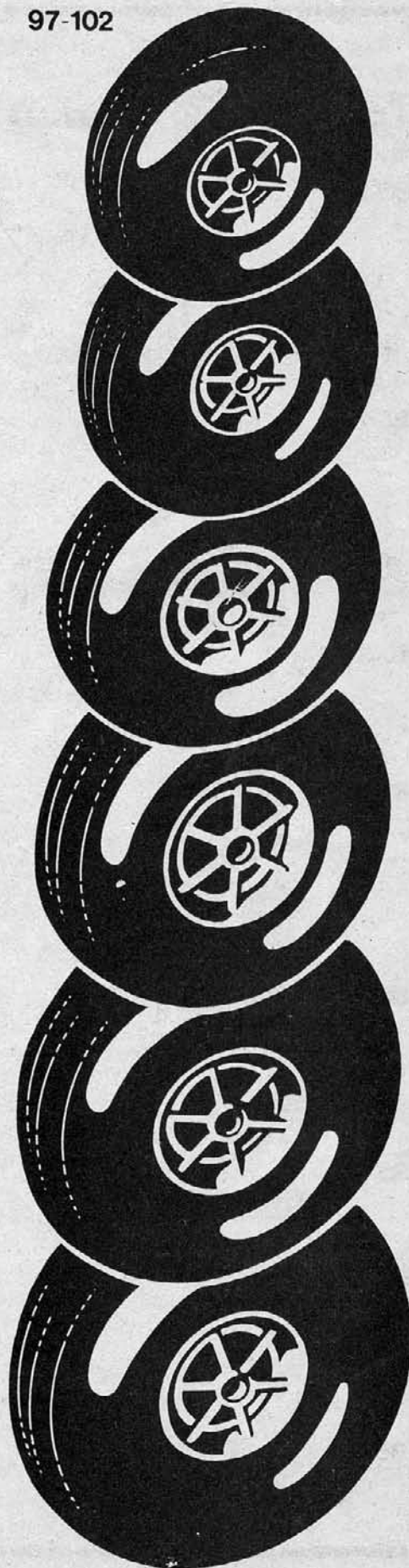
Art. No 97 W — 102 W



Art. No	97 W	air wheel	(Ø 1 3/4")	45 mm
Art. No	98 W	air wheel	(Ø 2")	50 mm
Art. No	99 W	air wheel	(Ø 2 1/4")	56 mm
Art. No	100 W	air wheel	(Ø 2 1/2")	62 mm
Art. No	101 W	air wheel	(Ø 2 3/4")	68 mm
Art. No	102 W	air wheel	(Ø 3")	75 mm

Packed 2 wheels per card.

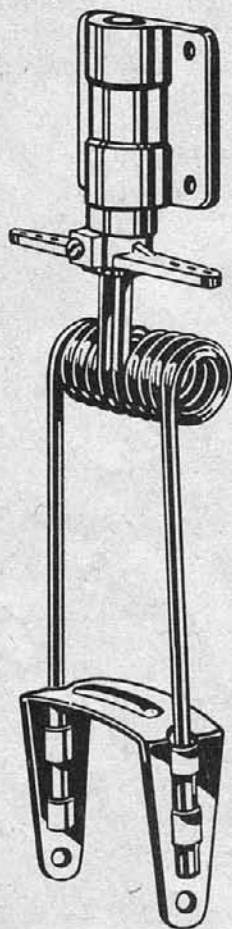
97-102



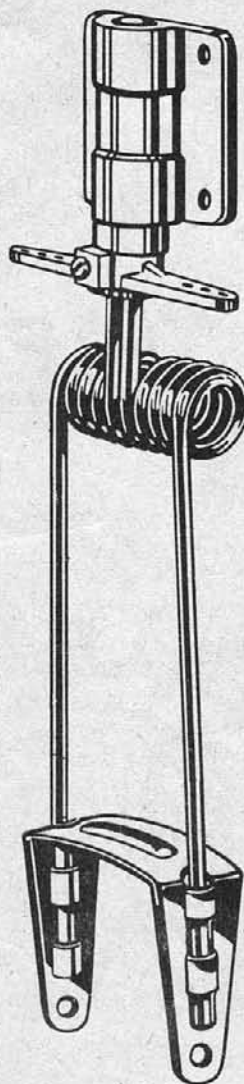
**STEERABLE NOSE GEAR, Art. No 103 - 105**

Precision made in two sizes to fit most aircraft models. The large size is available with or without brake assembly for a controllable and firm braking action. Tough, flexible steel springs and struts assure positive steering without bounce or wobble. All units feature E-Z firewall mounting, heavy duty steering arm, axle, bushings and spacers.

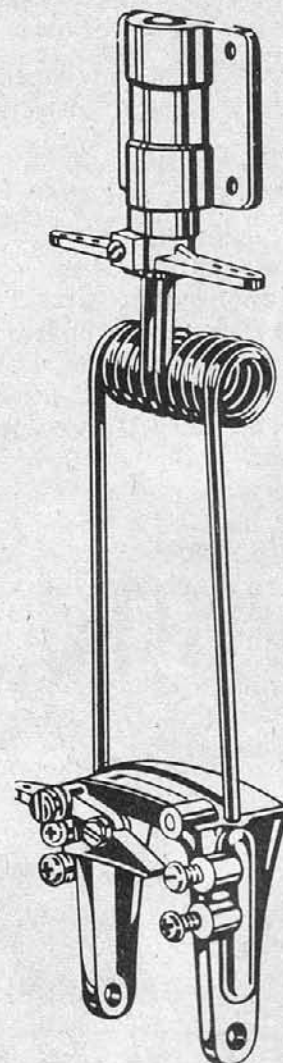
1 piece per package, 2 packages per card.



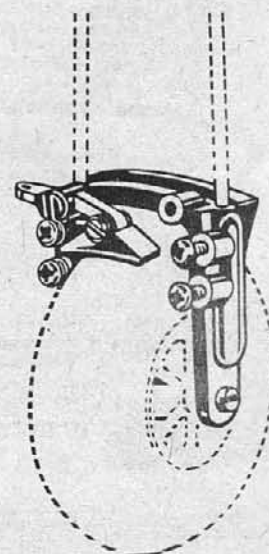
**Art. No 103 Class A & B (small)**



**Art. No 104 Class C (large)**



**Art. No 105 Class C with positive action brake**



**106**

**NOSE GEAR BRAKE ASSEMBLY, Art. No 106**

Available separately with all hardware for custom brake installations. Excellent for that large R/C aircraft where differential braking is desired.

1 piece per package, 6 packages per card.



**MUFFLER, Art. No 108**

When Mr. Kavan decided to build a muffler for model airplane engines, he set two goals; first, adequate silencing, second, little or no loss of engine power.

Many months of testing produced the patented Kavan muffler that rapidly became the standard of the hobby industry. Not only did it attain the original goals, but some engines tested actually show an increase in power when using the muffler.

Additional benefits are provided by the unique design utilizing the venturi principle. The exhaust gases enter the muffler at the precise angle to provide maximum benefit from the venturi at the front of the muffler housing.

The swirling action of the exiting exhaust gases cause a lowering of pressure at the front of the muffler. This induces cool air into the muffler around the specially designed streamlined cap. This cool air flows past the exhaust ports, cooling the piston and cylinder. The lower operating temperature means less power robbing varnish build-up on the piston and rings. An additional benefit of cooler running, is increased engine life. 1 piece per package.

**MUFFLER STRAP KIT, Art. No 108a**

This kit contains all parts necessary to attach the Kavan muffler to an engine except for the adapter: 2 straps, adapter washers, bolts and spring. 1 kit per package, 6 packages per card.

**MUFFLER EXTENSION, Art. No 109**

3/4 inch long. Used to move the muffler further from the engine to clear cowlings, etc.

1 piece per package, 6 packages per card.

**MUFFLER ADAPTER, Art. No 110**

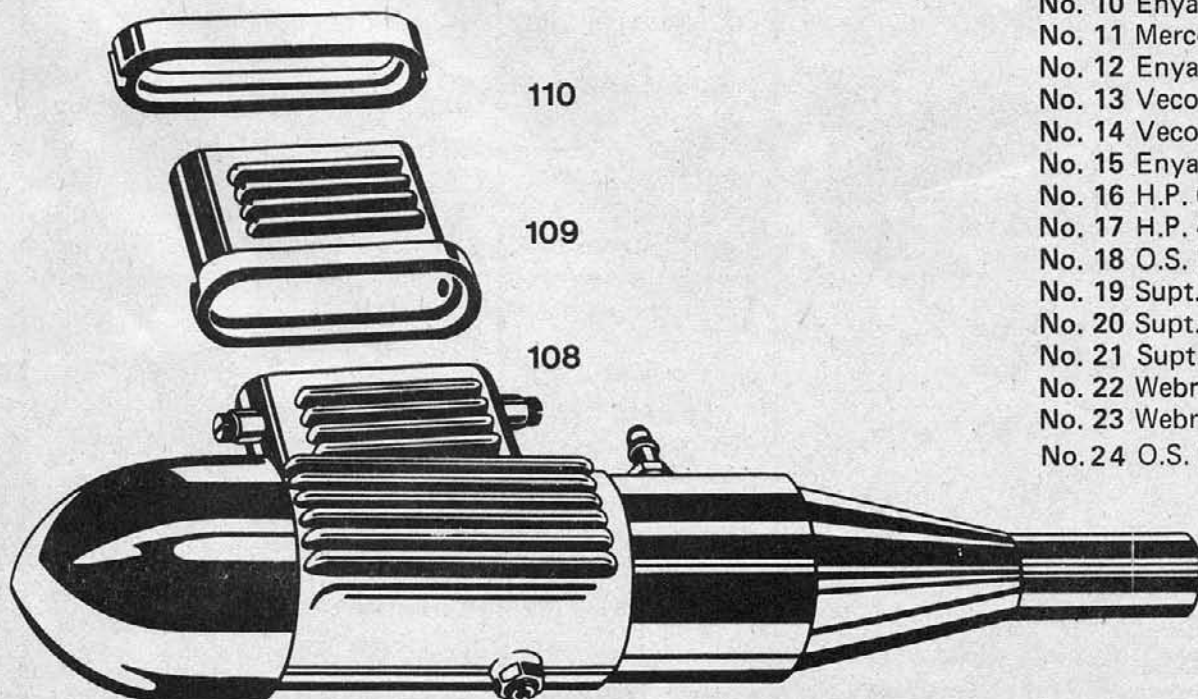
Adapts muffler or muffler adapter to engines.

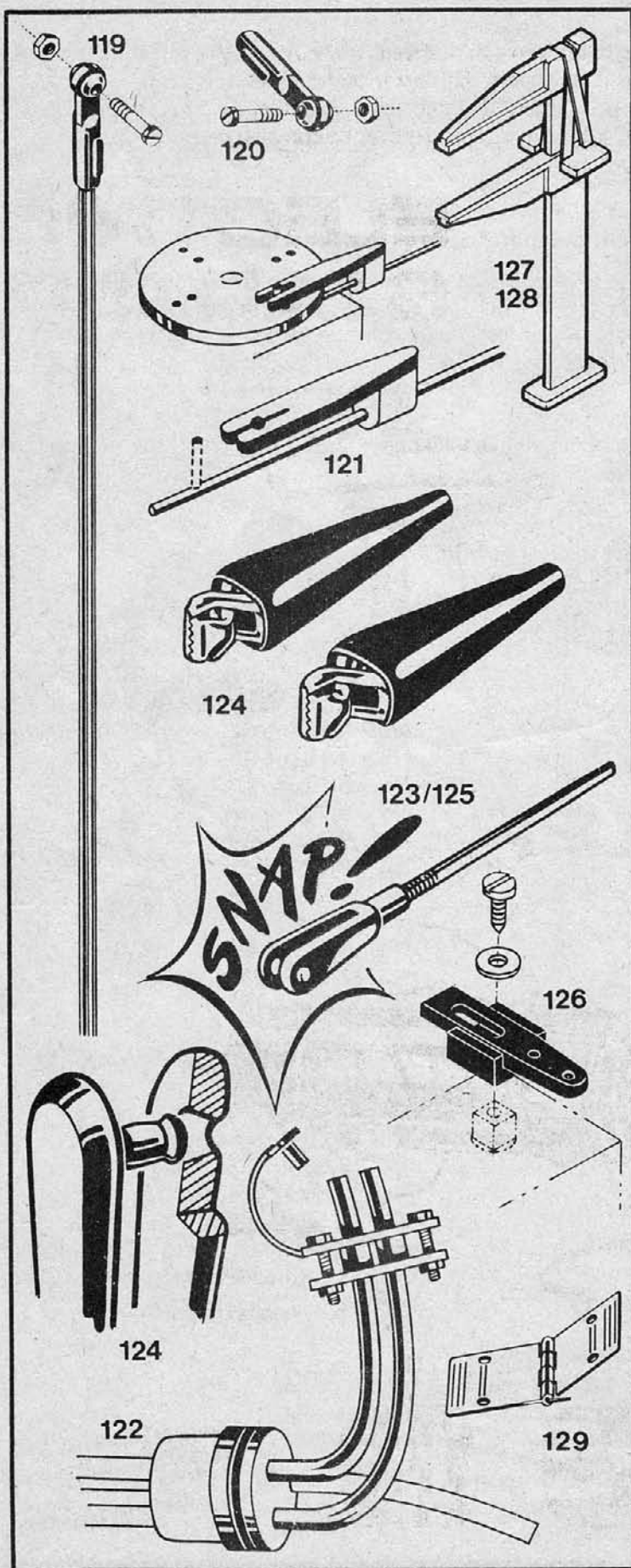
1 piece per package

**ADAPTER for MUFFLER**

- No. 0 Supt. ST 51 - 60 - K + B 40
- No. 1 Supt. G 60 - Fi - RV
- No. 2 O.S. Max 60
- No. 3 Webra 61 - Veco 61 (Germany)
- No. 4 Merco 49 - 61 MK I + II.
- No. 5 Rossi 60
- No. 6 Taipan 61
- No. 7 Enya 45
- No. 8 Merco 35
- No. 9 Webra 40
- No. 10 Enya 35
- No. 11 Merco 49 - 61 MK III.
- No. 12 Enya 60/II
- No. 13 Veco 45
- No. 14 Veco 61
- No. 15 Enya 60/III, O.S. Max 60 SR
- No. 16 H.P. 61
- No. 17 H.P. 40
- No. 18 O.S. Max 40
- No. 19 Supt. G 21 - 29
- No. 20 Supt. G 40
- No. 21 Supt. G 60 Fi New
- No. 22 Webra 61 Speed New
- No. 23 Webra 40 Speed New
- No. 24 O.S. Max 40SR

# MUFFLER



**BALL LINK, Art. No 119**

The ball link is ideal for connecting push rods to control horns where it is difficult or impossible to achieve perfect alignment. Two examples are V tails and throttles. 8 inches. 1 piece per package, 6 packages per card.

**SPARE BALL LINKS, Art. No 120**

With ball, screw and nut. 1 piece per package, 12 packages per card.

**SERVO CONNECTOR, Art. No 121**

Slide connector on push rod wire, bend wire 90°, eliminates one clevis. Cannot disconnect accidentally. Length 8 inches. 2 sets per package, 6 packages per card.

**FUEL TANK FILLER ADAPTER, Art. No 122**

With protector cap. May be mounted on side of model. 1 piece per package, 12 packages per card.

**NYLON MINI SNAP LINK, Art. No 123**

Constructed of rugged, moulded nylon. The link includes a positive lock feature, shoulder snaps into place with an audible "click". Prevents disastrous accidental uncoupling from the control horn. 8 inches. 12 pieces per package, 2 packages per card.

**BATTERY CLIPS, Art. No 124**

Insulated, solderless type. 2 pieces per package, 12 packages per card.

**NYLON MINI SNAP LINK, Art. No 125**

Same as Article No 123, except without rods. 2 pieces per package, 12 packages per card.

**ADJUSTABLE SERVO ARM, Art. No 126**

Nylon, increase or decrease throw on rotary servo as desired. 1 piece per package, 12 packages per card.

**PLASTIC CLAMPS, Art. No 127**

Small, opens to 1 1/2 inches. Parallel jaws, variable holding pressure. Use them once and you will never be without. 5 pieces per package.

**PLASTIC CLAMPS, Art. No 128**

Large, opens to 4 1/2 inches. See description above. 2 pieces per package.

**MINI NYLON HINGES, Art. No 129**

3/8 inch wide. 10 pieces per package, 12 packages per card.



**ELECTRIC STARTER Art. No 111**

The only starter designed especially for starting model engines. It utilizes a high speed, low current motor for long battery life, driving the spinner adapter via a set of 5 to 1 reduction planetary gears. This arrangement makes it one of the most powerful starters in the world. The Kavan starter is small, easy to hold, light weight, and versatile. Adapters are available for starting cars, boats, helicopters, planes (with spinners and without spinners) and it may be converted in seconds to an electric drill.

**STANDARD REPLACEMENT RUBBER Art. No 112**

For spinner starting. 1 piece per package, 3 packages per card.

**"V" BELT FOR STARTER Art. No 113**

1 piece per package, 3 packages per card.

**RUBBER FOR STARTING WITHOUT SPINNER Art. No 114**

1 piece per package, 3 packages per card.

**RUBBER FOR CAR STARTING Art. No 115**

1 piece per package, 3 packages per card.

**"PVC" BELT FOR STARTING BOATS Art. No 116**

1 piece per package, 3 packages per card.

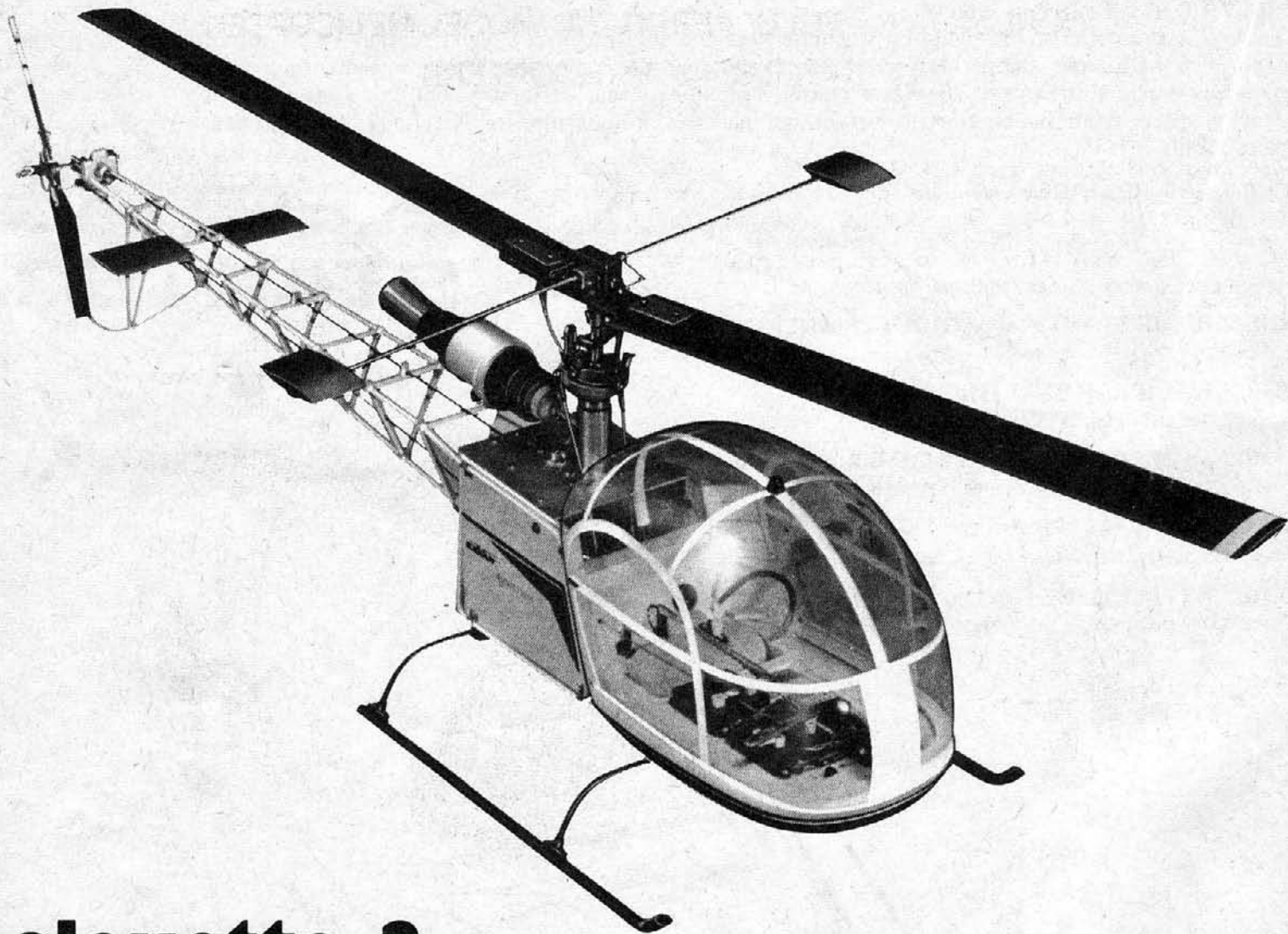
**ALUMINUM ADAPTER Art. No 117**

Replaces plastic drive housing. 1 piece per package, 3 packages per card.

**DRILL ATTACHMENT Art. No 118**

1 piece per package, 3 packages per card.

# ELECTRIC STARTER



## alouette 2

The Alouette 2 is a scale model of the famous French helicopter used by military, police, and customs officers throughout Europe.

The Alouette 2 kit is manufactured to the same exacting quality standards as the Kavan Bell Jet Ranger, and is equipped with the same patented "Kavan" control system.

This system operates with a four-channel, four-servo radio control unit, and the model will perform all the maneuvers of the full-scale helicopter, plus loops and rolls.

Many exclusive features found in the Alouette 2 kit are the direct results of wind tunnel tests conducted on the Jet Ranger model.

The easy-flying Alouette is an excellent model for the beginner, yet it is exciting enough for the advanced flyer. Owing to unique design engineering, and the pre-assembled tail boom, building time is cut to just a few hours.

### SPECIFICATIONS

Weight 6 lbs.  
Engine 40 cu. in.

Main Rotor Diameter 42 in. (108 cm)  
One-piece main rotor blade, laminated  
Easy starting without using belts, pulley, etc.

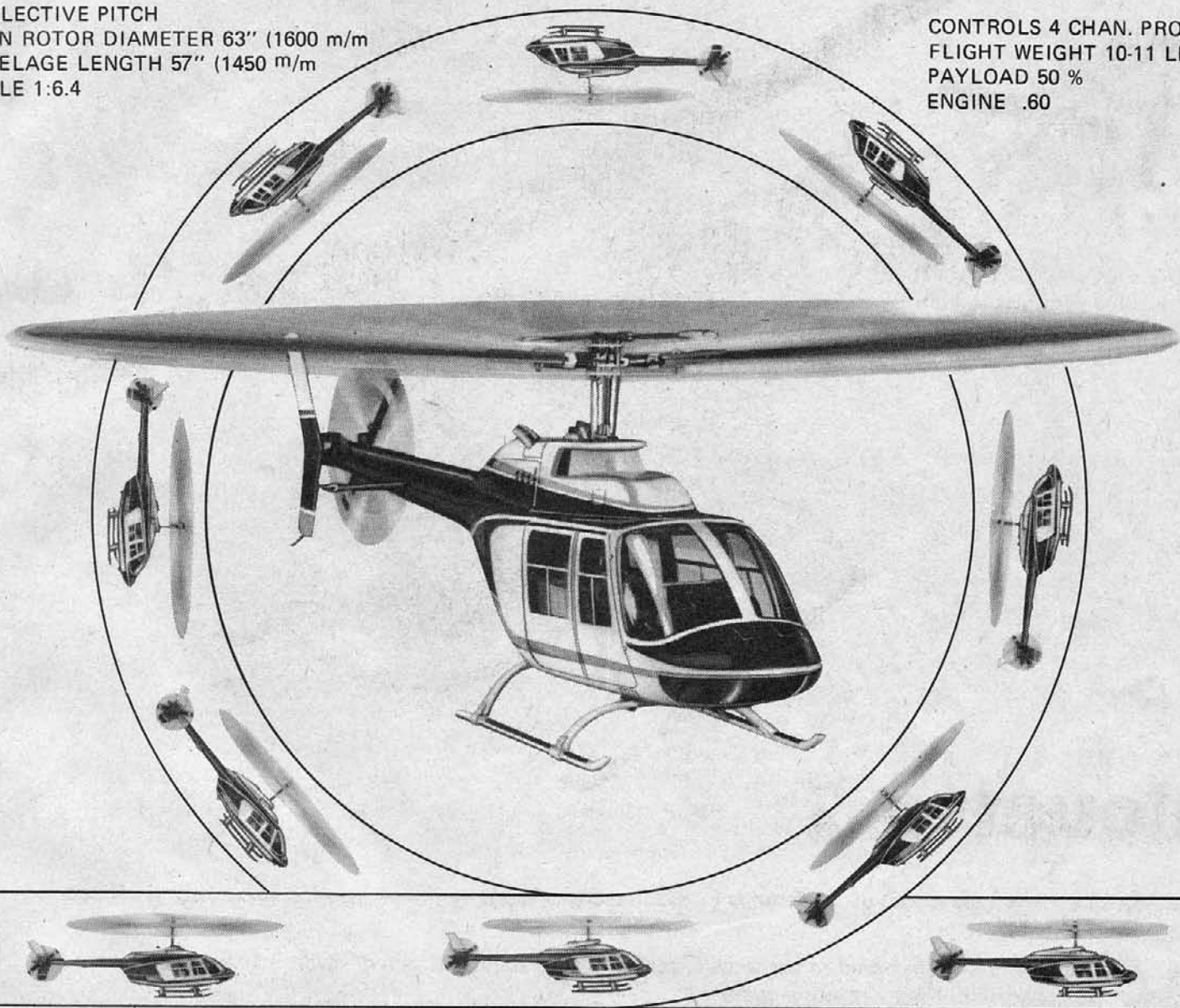
Scale 1 to 10  
Clear molded canopy



## WORLD'S ONLY FULLY AEROBATIC MODEL HELICOPTER THE KING OF HELICOPTERS

COLLECTIVE PITCH  
MAIN ROTOR DIAMETER 63" (1600 m/m)  
FUSELAGE LENGTH 57" (1450 m/m)  
SCALE 1:6.4

CONTROLS 4 CHAN. PROPO.  
FLIGHT WEIGHT 10-11 LBS  
PAYLOAD 50 %  
ENGINE .60



In 1:6.4 scale, this precision flying model helicopter opens new doors to the R/C flyer, who knows the difference superior engineering can make. It will test your skill and add variety to your hobby and above all, give you untold pleasure and satisfaction; not to mention making you the envy of your flying field companions. In the age of R/C helicopters, only the Kavan Bell Jet Ranger has utilized its outstanding engineering principles to perform feats of controlled flying up until now thought impossible. While other helicopters use fixed rotor pitch to lift off, the Kavan Bell Jet Ranger with throttle wide open, clutch engaged, use true-to-prototype pitch to obtain lift response.

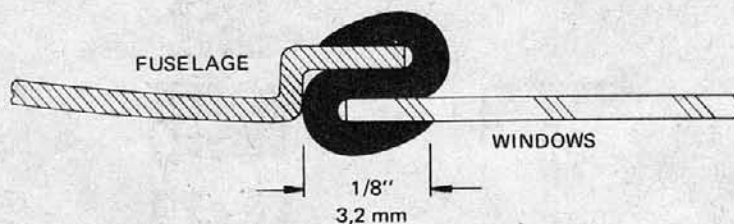
Ever heard of a kit manufacturer spending \$ 30,000 to further improve his product after it had won more contests than all competitive models combined? KAVAN DID. Ever heard of a kit manufacturer who maintains an owners file, and sends periodic newsletters to announce modifications found to increase the performance of his products? A service that will keep your Jet Ranger as up-to-date as the latest kits available? **KAVAN DOES.**

Ever heard of a kit manufacturer who publishes a list of "technical advisors" throughout the U.S.A. who will answer your "how to" questions? **KAVAN DOES.**

Ever heard of anyone who knowingly accepts anything less than the best? **KAVAN DOES NOT, DO YOU?**

# ACCESSORIES FOR KAVAN BELL JET RANGER

NEW



NEW

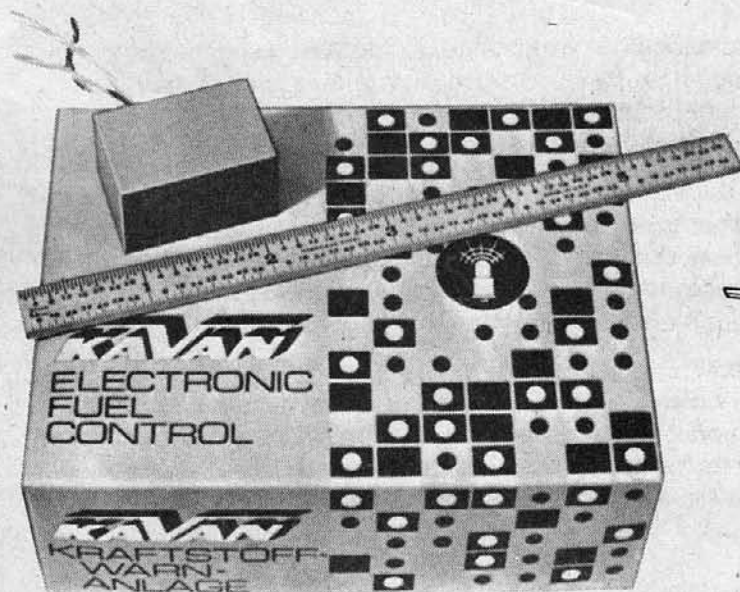
## WINDOW MOUNTING CHANNEL, Art. No 132

For installing windows in helicopters, boats, etc. Also for installing canopy on fixed wing models. For use with fibre glass or other thin mounting surface. 16 feet per package. 3 packages per card.



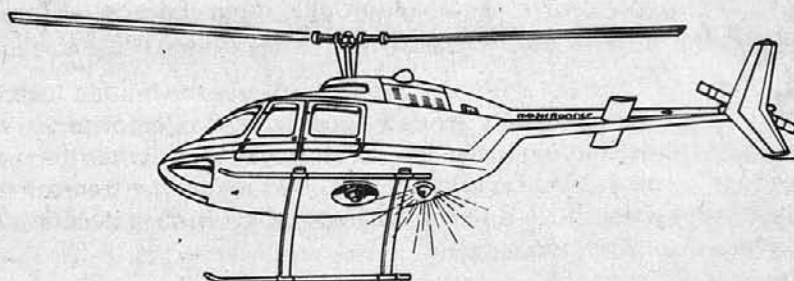
## POSITION BLINKING LIGHTS, Art. No 3904

Red and green position lights as well as white "strobe" light. Automatically blinks via solid state module.



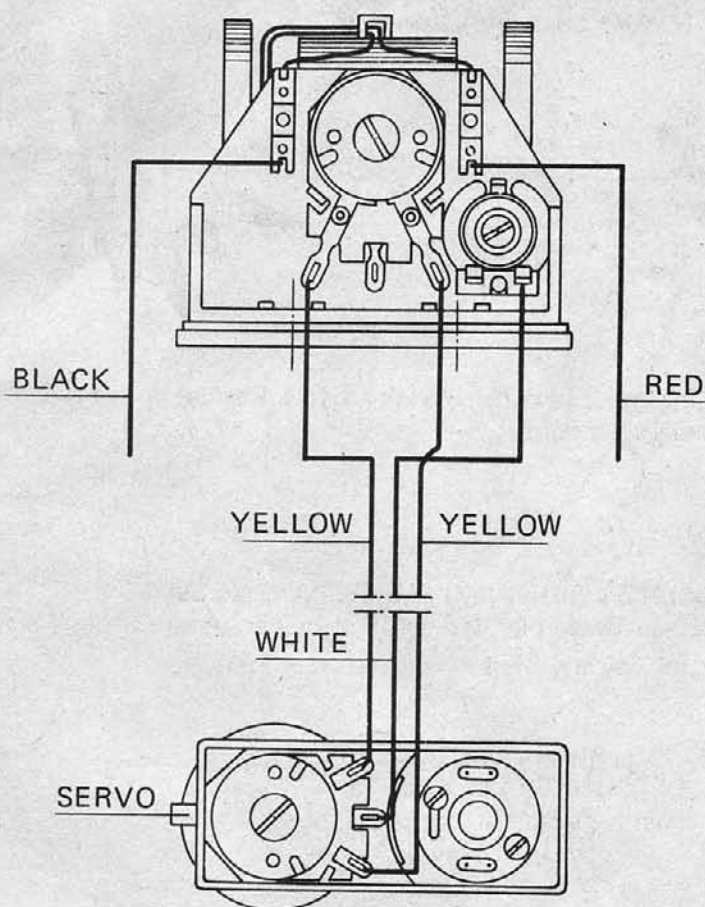
## ELECTRONIC FUEL CONTROL, Art. No 3906

Utilizes two (2) electronic probes in fuel tank. When fuel level reaches a predetermined (adjustable) level, warning lights blink. Activated by solid state module.

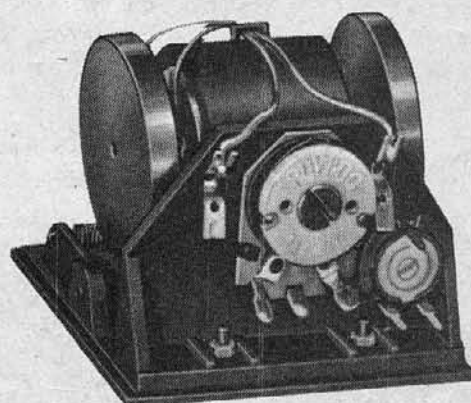
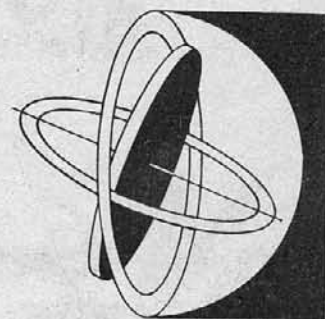




The electrical hook-up shown is for most servos available.



**DON'T  
LOSE  
YOUR  
TAIL!**



GYROSCOPE, Art. No 3901

## GYROSCOPE

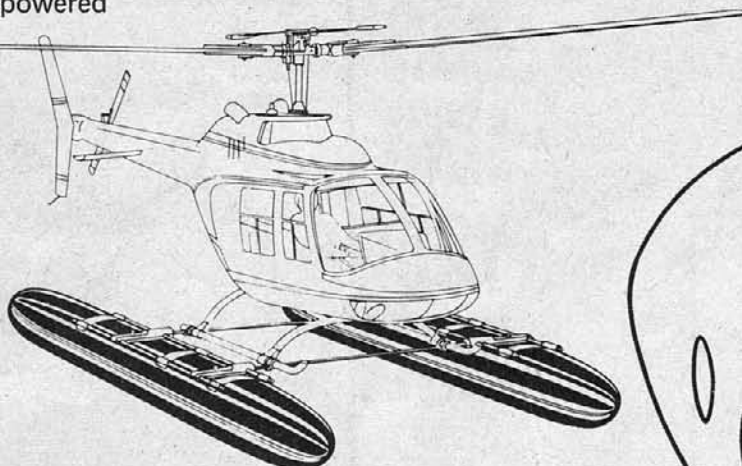
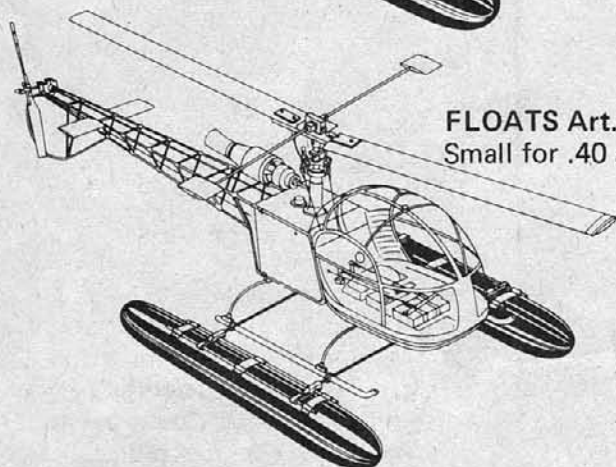
The KAVAN GYRO is essentially a very small, lightweight, automatic pilot which may be installed anywhere in the R/C model helicopter, and is used to help control the flight of the model under conditions of turbulent winds, or, when for any reason, it is desirable to maintain straight flight under difficult conditions. Obviously, one of its prime advantages is that it can absorb the work-load in controlling the tail rotor while the beginning pilot is concentrating on the other controls.

Altitude and power control, along with the pitch and roll movements do not present too much of a problem to the tyro, however, watch out for that swinging tail! To further complicate the problem, it must be remembered that moving any one control will always require additional inputs because of interaction of the forces of flight, especially the change in torque whenever power is applied.

Installation of the KAVAN Gyroscope bypasses the human factor in that it literally senses the rotational turning of the chopper and automatically sends a signal to the tail rotor servo, which then corrects the unwanted movement. Normally when the pilot is flying his helicopter, his eyes "see" what the model is doing, his brain calculates just what correction needs to be made, and his muscles react by moving the transmitter control stick in the proper direction. The corrective signal is then transmitted to the receiver, which in turn decodes the information and causes the servo to move the control in the proper direction also.

**FLOATS Art. No 3914**

Large for .60 powered

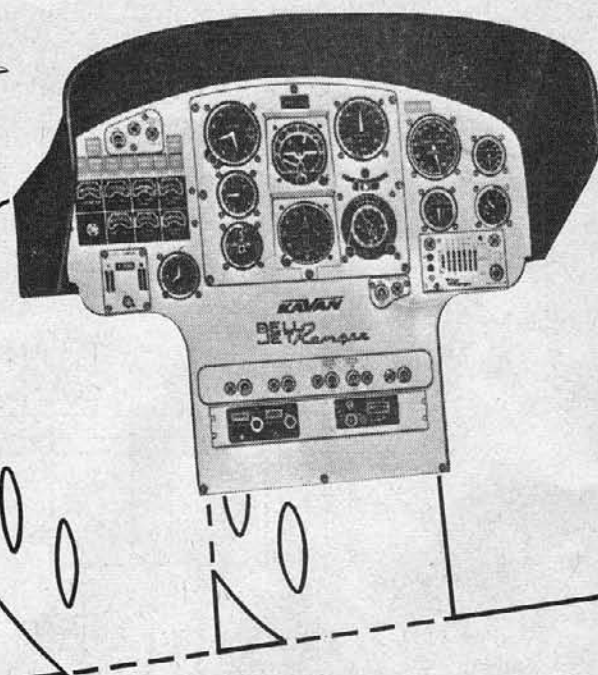
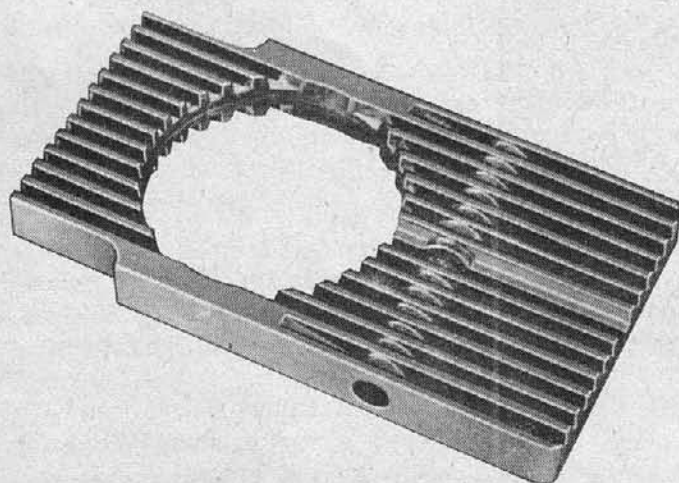
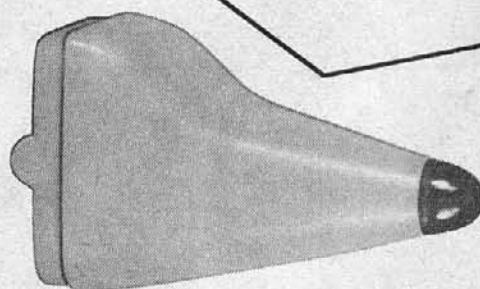
**FLOATS Art. No 2914**  
Small for .40 and under**HEAT SINK, Art. No 3910**

No 1 Supt. G 60 Fi, Webra 61 Speed  
Supt. ST 51 - 60  
Enya 60/III, Veco 61-USA  
O.P.S. 60, O.S.Max 60 SR

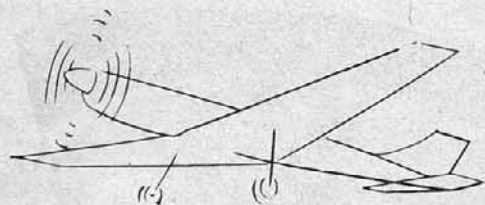
No 2 Webra 61 Blackhead, Veco 61 (Germany)  
O.S.Max 60, Rossi 60

No 3 Merco 49 - 61, Taipan 61

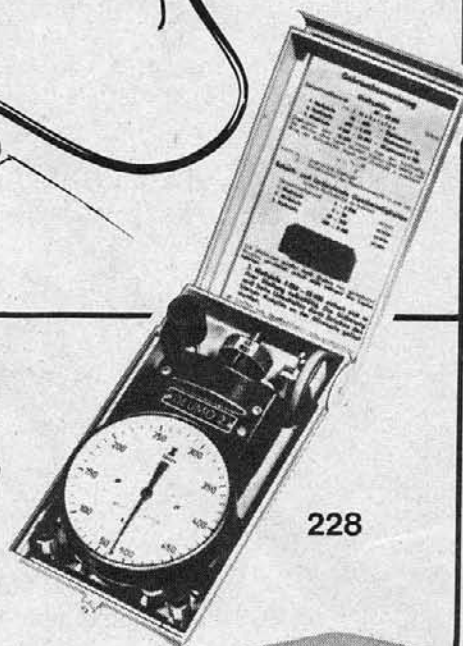
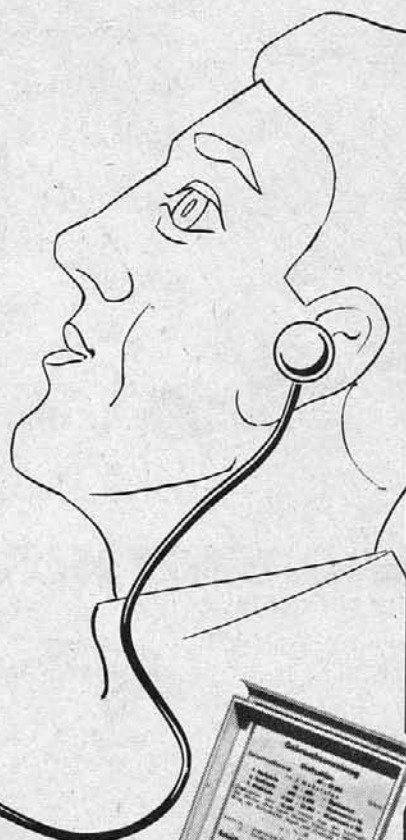
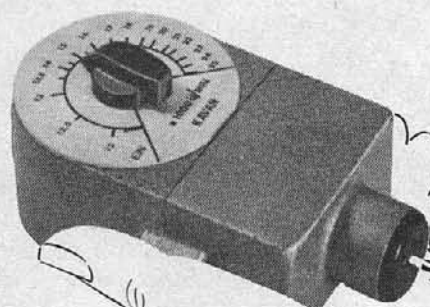
No 4 H.P. 61, Enya 60 (NEW), Kraft 60

**COCKPIT, Art. No 3912**  
Glare shield  
instrument panel**TAIL CONE, Art. No 3913**  
Plastic with clear lens in tip for strobe light.**PILOT FOR HELICOPTER, Art. No 3911**  
Available hand-painted and unpainted.

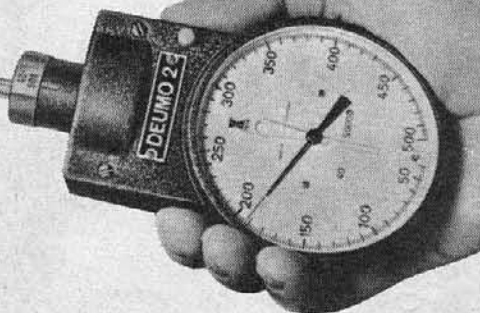
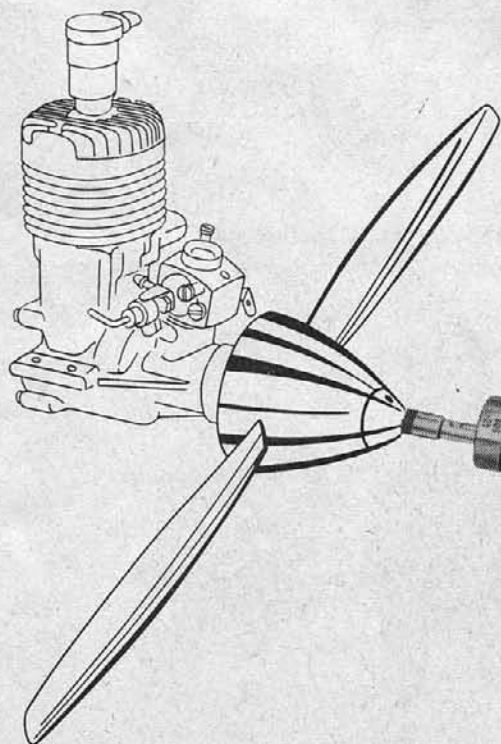




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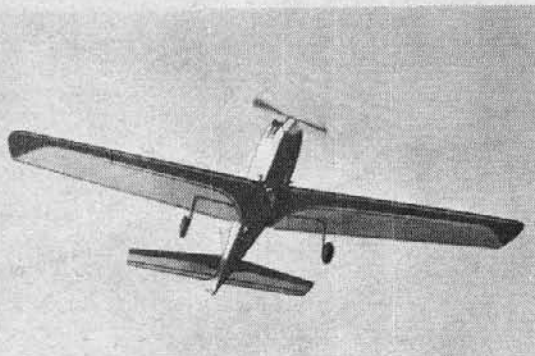
**Art. No 229****Audio Tachometer**

This is a most important instrument for checking in-air or on-the-water R.P.M.. Is your engine working at the optimum point of its power-curve? Is a particular fuel or glow plug superior under actual working conditions? The Audio Tachometer will tell you.

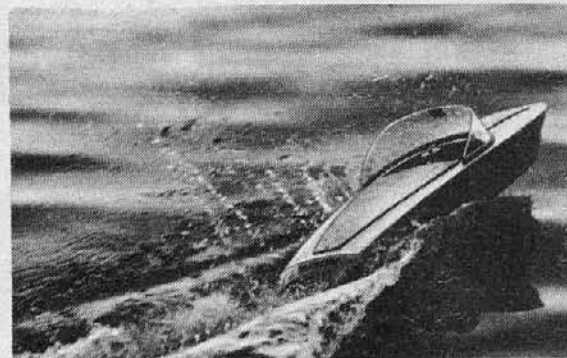
**Art. No 228****R.P.M. — Tachometer**

Precision mechanical — electrical tachometer.

That is exactly what you need for engine — checking and benchtesting in your hop-up program!



Taurus in flight. This model is equipped with telemetering which transmits, via a micro transmitter, various information to the ground control station.



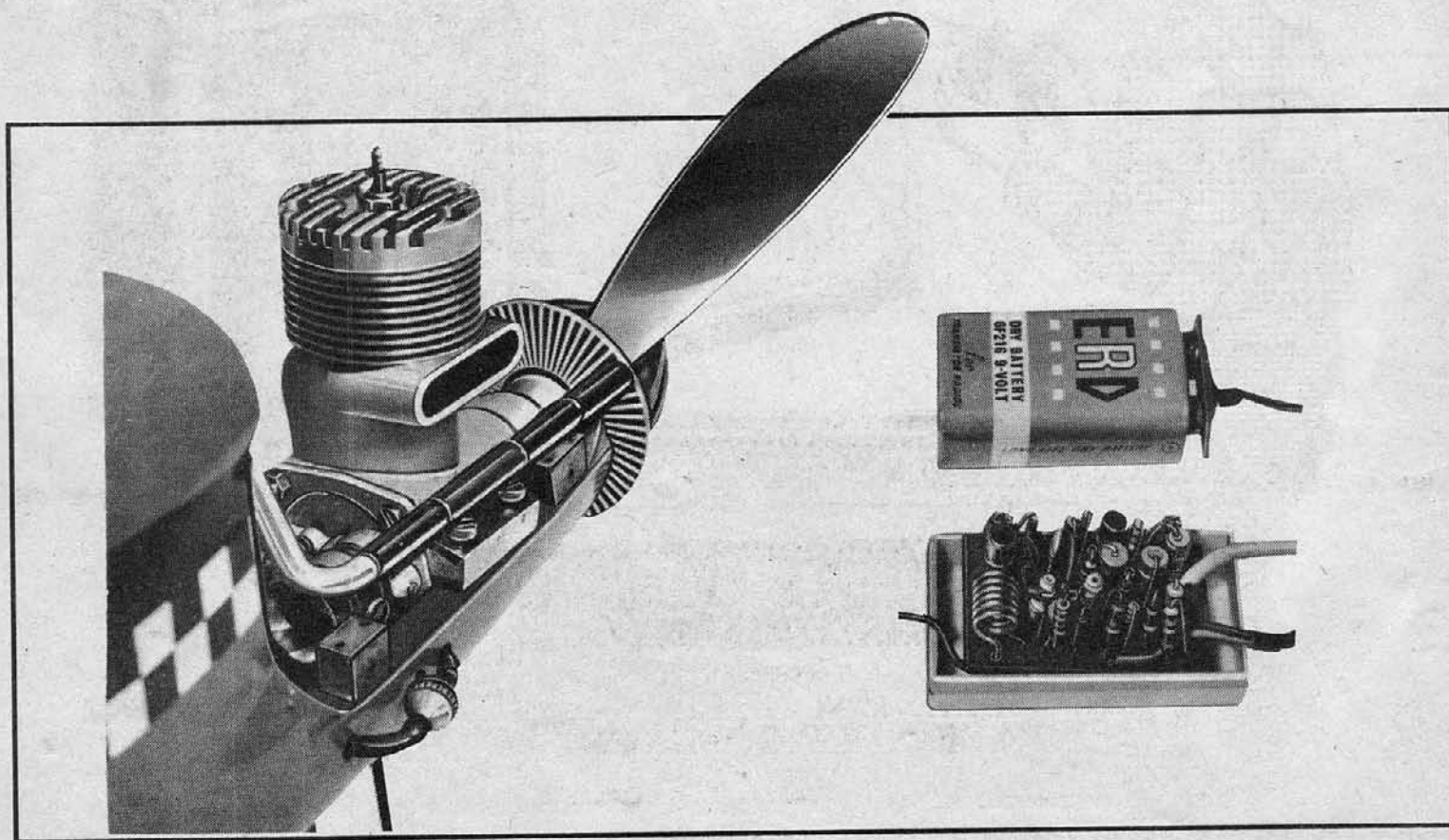
This model is equipped with telemetering which transmits, via a micro transmitter, information to the control station.

## Modern science working with Kavan.

To test Kavan propellers, glow plugs and all other accessories under real flying conditions we are using a unique telemetry link from airplane to ground.

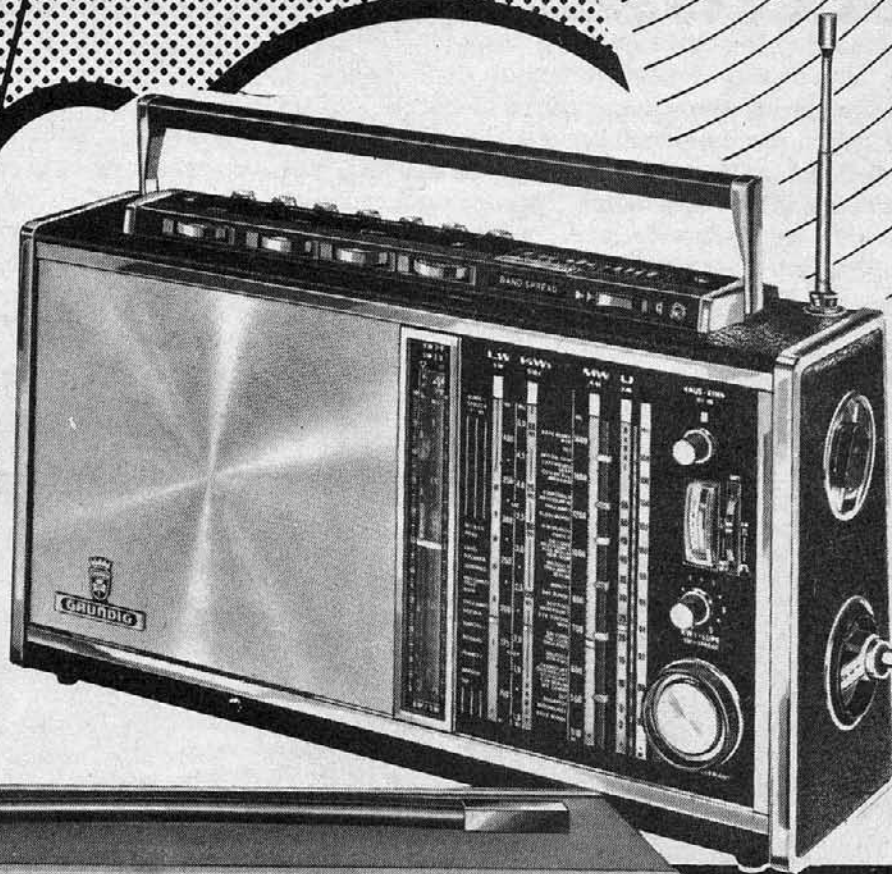
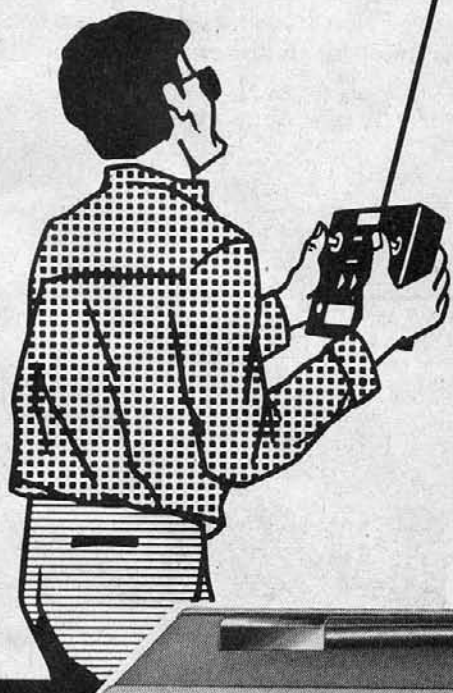
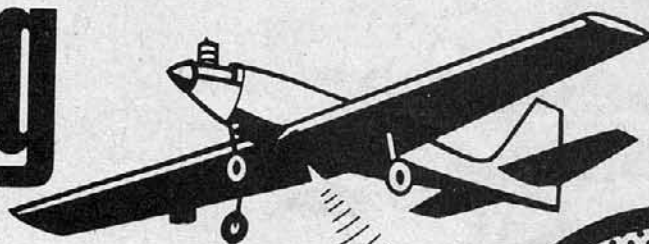
Engine R.P.M. in the air is converted to a frequency signal by means of a strobe disc on the backside of the spinner and a photo diode. This information is transmitted to the ground. A miniature (weight 1 oz.) transmitter in the airplane and a VHF receiver on the ground does the job within a 3 mile distance. The receiver is coupled to an ultra-precise digital frequency counter. The R.P.M. readout is exact — to 1 revolution per minute!

This is just one example of unconventional techniques being used by Kavan for the benefit of every modeller. Modern research — improved products. This is Kavan's motto.





# Telemetry



# Kavan horsepower props diagram

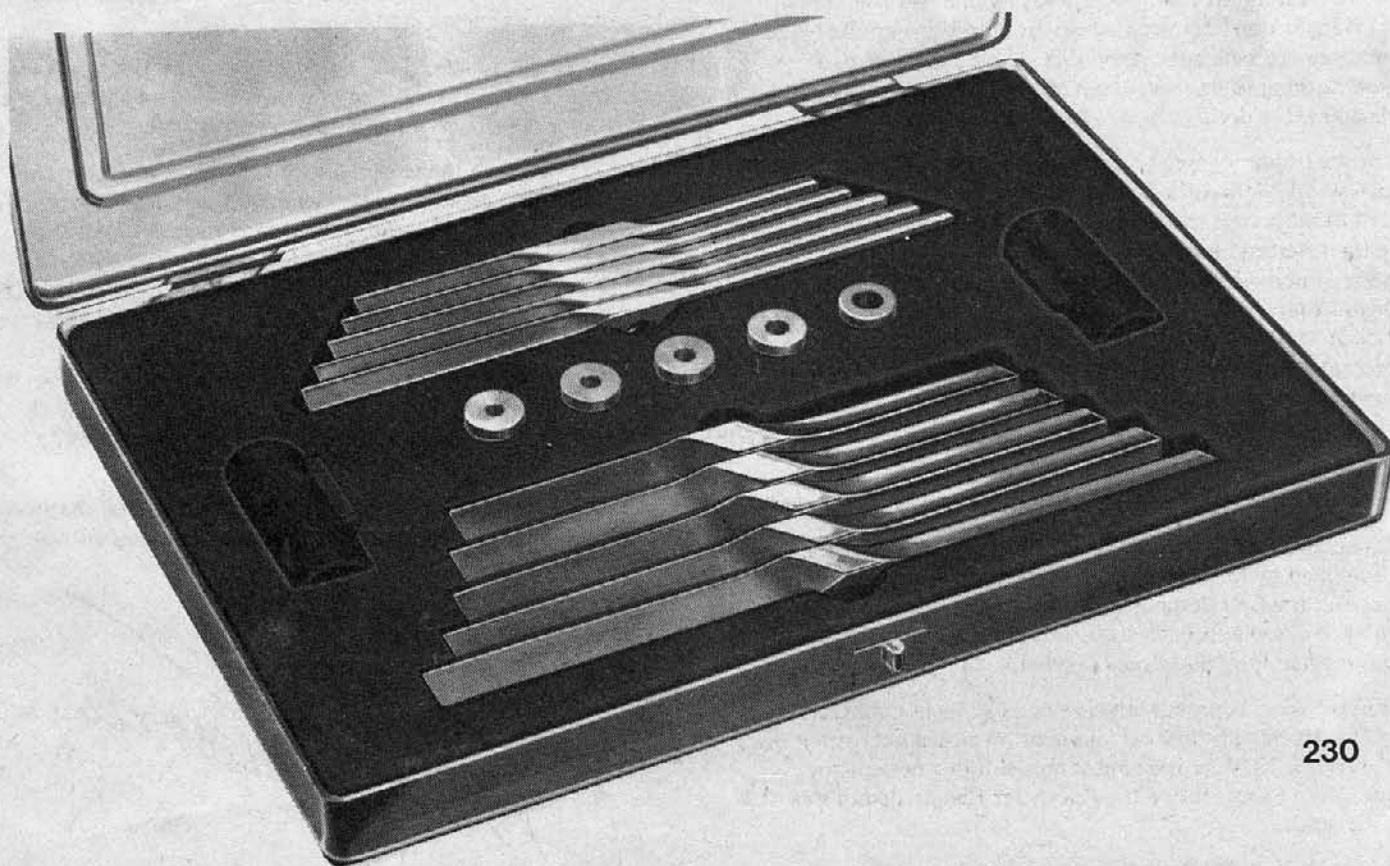
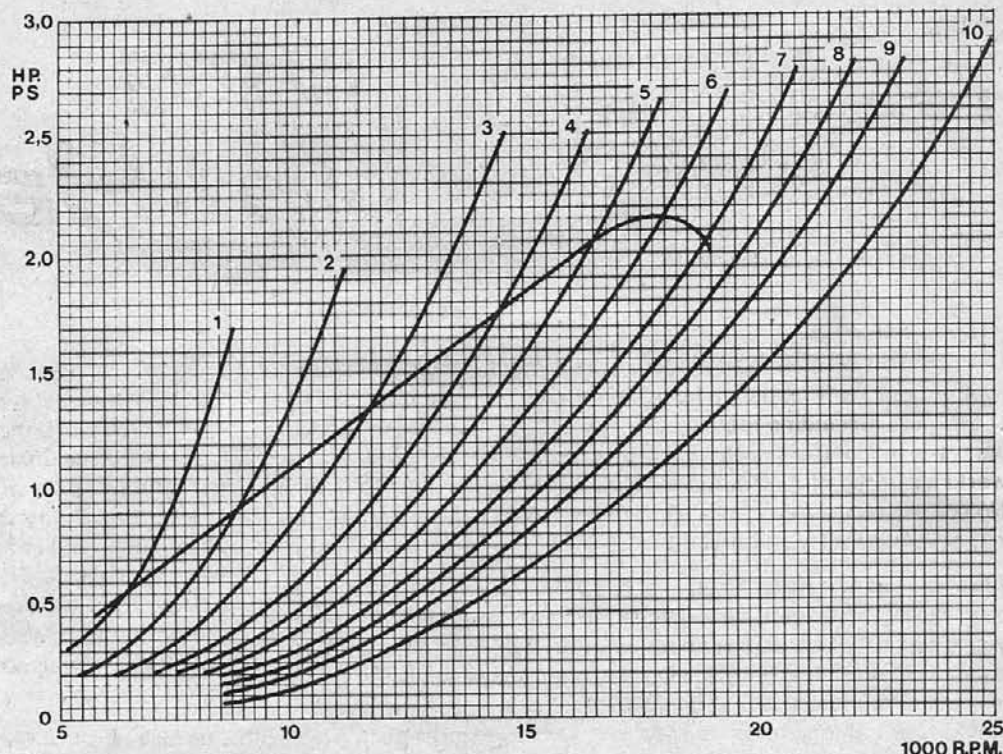
Art. No 230

Brake Horsepower Props

A set of exactly calibrated test  
props.

Find actual power vs. R.P.M. — curve  
of your engine simply by taking R.P.M.  
readings with the brake-props on your  
test-bench! For the first time it is  
possible to find the power-peaking-  
R.P.M. of your engine. Optimum choi-  
ce of flying props is now easy: In the  
air the engine should turn at power-  
peaking-R.P.M..

Check with Audio Tachometer.



230

## Brake-horsepower-props!





# THE KAVAN Jet Ranger STORY

Development of the Kavan model of the Bell Jet Ranger helicopter took four years from design board to release date. The total cost of the project, (including tooling cost) was approximately \$400,000. No other model (helicopter or fixed-wing) produced anywhere in the world has received such extensive testing, or cost so much to develop. No corners were cut that would in any way lower the quality of this kit, or impair its flying capability.

After the last test flight was made, but before giving the go-ahead for production, Mr. Kavan made one last effort to assure himself that everything possible had been done to meet the design objectives. He contacted six companies that manufacture full-size helicopters and explained his intention to produce the model and see it fly. As it would take too long for all the top engineers to visit his plant in Nuremberg, Mr. Kavan decided to take the model to the companies, to be examined by their top engineers. The model was exhibited and flown before two manufacturers of full-size helicopters in Europe, plus Bell, Sikorski, Lockheed, and Hughes in the U.S.A.

At this point, Mr. Kavan felt that everything possible had been done to get the Jet Ranger ready for production, yet he still wanted an opinion from these top helicopter engineers. Their assurance that they could add nothing to improve the performance was indeed good news. At this point, the design was finalized and production began.

Our goal from the beginning was to produce the finest helicopter (model) in the world. We have received many letters (from modelers who have built other brands of helicopters) telling us that they feel that we have the finest model that they have built. These letters, along with a very impressive list of contests won by the Kavan Jet Ranger, indicates that we did reach our goal. (The Kavan Jet Ranger won first place at the 1973 U.S.A. National Model Airplane Championship; first through ninth places at the 1973 European Championships; first, second, and third places and also first place in scale at the 1974 U.S.A. National Model Airplane Championships.)

Despite these impressive "wins", research goes on continuously in an effort to further improve this excellent model.

Late in 1973, a completely new type of control for the main rotor blades was developed by Mr. Kavan. This innovation was recognized by the engineers at the Bell Company of Texas (who make the full-size Jet Ranger) as a new approach and advised Mr. Kavan to apply for a patent immediately. (Patent now pending)

The innovation (referred to in our advertising as a "head modification") makes the Jet Ranger the first "aerobatic" model helicopter in the world. Early in 1974, at the largest model-flying demonstration in Europe, Mike Bosch, flying the Kavan Jet Ranger demonstrated its aerobatic ability.

Before an estimated 25,000 people, he put the Jet Ranger through a series of thrilling maneuvers that had the crowd cheering. When it seemed impossible to add anything else to this already spectacular performance, Mike climaxed the flight with some perfect loops.

To our knowledge, this was the first time that a model helicopter had looped at a public flight demonstration. In September 1974, in Tokyo, Mike Bosch performed the same maneuvers. At the 1974 National Model Airplane Championships held at Lake Charles, Louisiana, Jet Ranger models flown by Mike Bosch and Ernie Huber again demonstrated their ability to loop. The 1974 International Tournament of Champions, held at Las Vegas, Nevada, was the scene of another success for the Jet Ranger. Although this was a contest for fixed-wing models, there were a number of helicopter kit manufacturers making demonstration flights. During the entire three days, the only helicopter that performed loops was the Kavan Jet Ranger. In fact, no other manufacturer even attempted to do loops.

The high point of the helicopter demonstration came on Sunday afternoon. On his last flight, Aubrey Radford, the Kavan Service Representative from Jacksonville, Florida, stole the show by doing a "barrel roll" with his Jet Ranger. Please note that the aerobatics we have mentioned were done at large contests, which were well covered by the modeling press. Our claims of aerobatic ability are backed by magazine articles and photos.

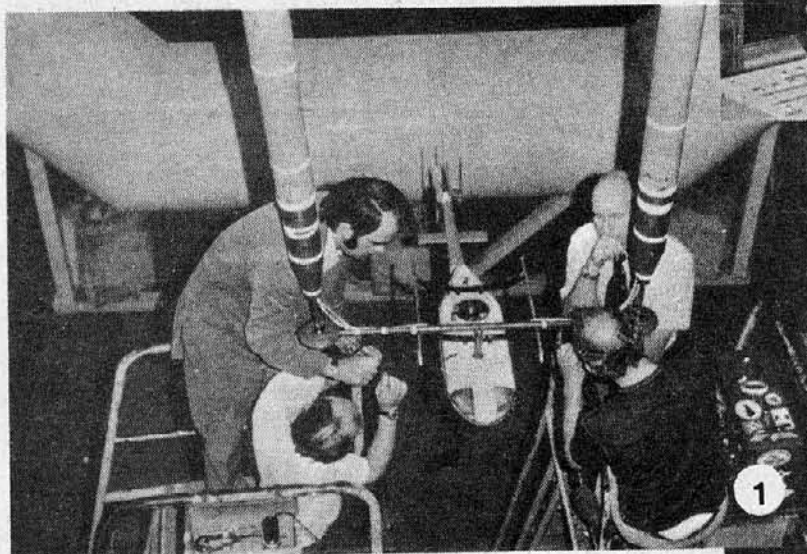
At Kavan, our goal is to provide the modeler with the finest line of models, accessory items, and service available anywhere in the world. We have spared no effort or expense to attain this goal.

In addition to producing the largest-selling helicopter model in the world, Mr. Kavan also set up a unique service for the Jet Ranger owners. When you send in the registration card enclosed in each kit, your name is entered on a list of owners to receive special bulletins from time to time. These bulletins announce any modifications found to increase the performance of the Jet Ranger. As an added incentive to register your Jet Ranger, you will receive, free of charge, the "head modification" which costs \$30.00, retail. This free gift is received for registering your first Jet Ranger model; it is not given just because you purchased the kit. This added service will keep your Jet Ranger as up-to-date as the latest kits available.

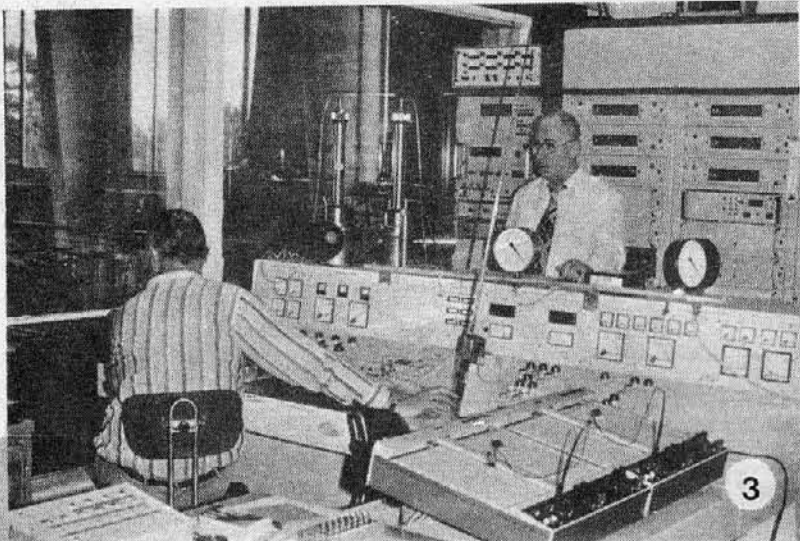
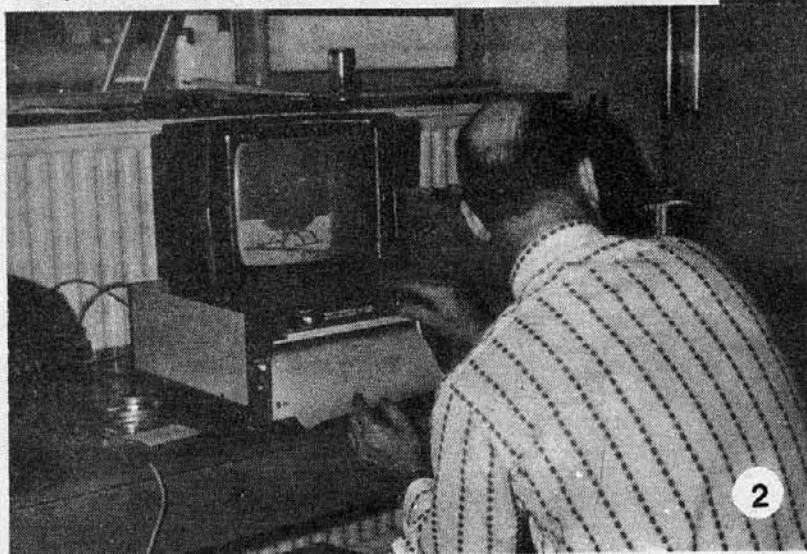
The Kavan Jet Ranger story started in 1971, and additional chapters will be written at contest and sport flying events for many years.

# KAVAN

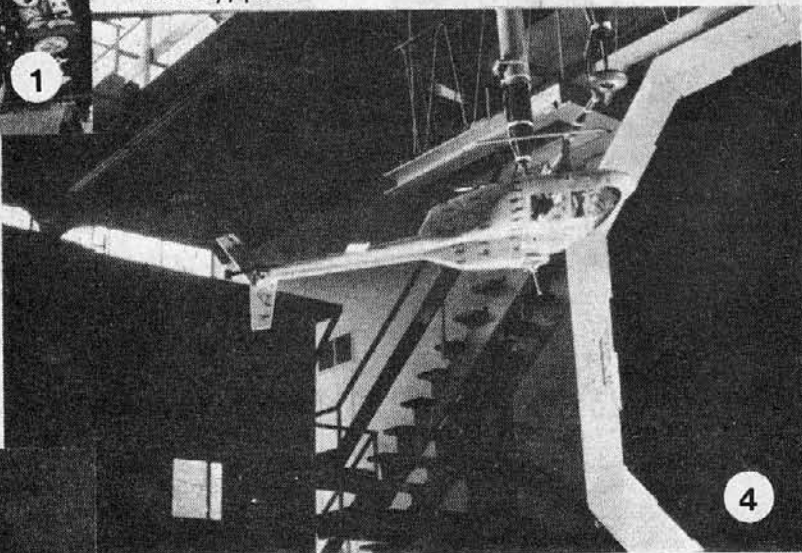
## wind tunnel test



Recently, the low-speed wind tunnel at the German Research Institute, in Braunschweig, Germany, was the scene of some most unusual activities. The usual tests being conducted on full-size aircraft were suspended for one full week. Mr. Franz Kavan, world-renown manufacturer of top-quality model accessories and helicopter kits, leased the test facility for the entire week, at a cost of approximately \$ 30,000.00. He planned



to run a series of tests on a radio-controlled scale model of the Bell Jet Ranger helicopter that he produces in his Nuremberg factory. Mr. Walter Sonneborn, of the Bell Company in Texas, was brought in to supervise the tests. Mr. Sonneborn was born and reared near Bremen, Germany, and often works at research institutes. He was chosen to conduct the tests because of his intimate knowledge of the test facility, plus



the fact that he is one of Bells' top engineers, and is completely familiar with the full-size Jet Ranger. The purpose of these tests were twofold: first to compare the relationship of the scale model and the full-size helicopter; and second, to gather information that will enable



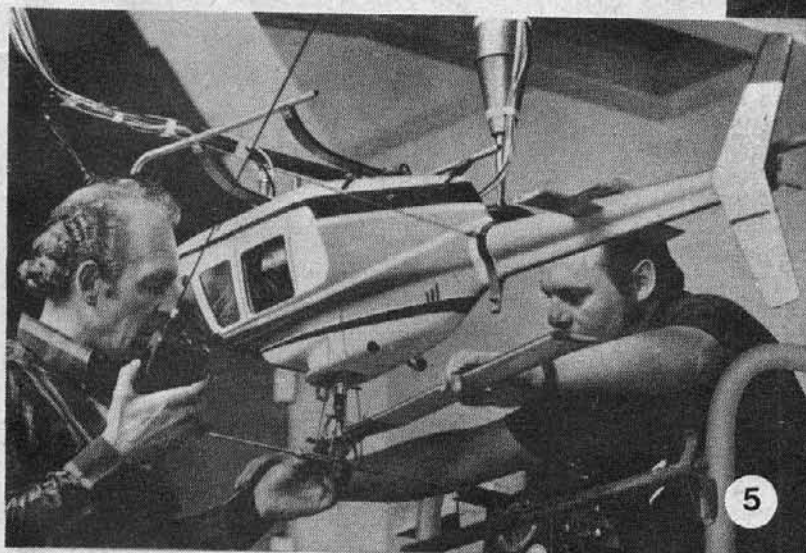


him to make improvements on current models, as well as for future releases.

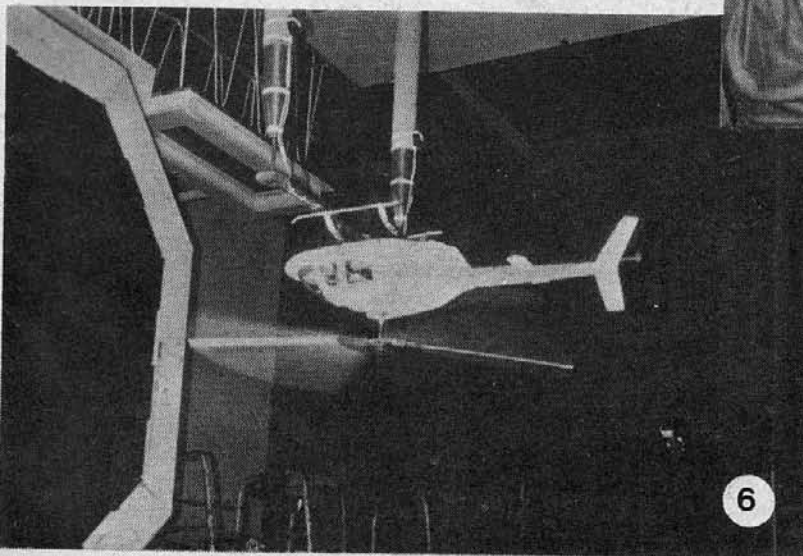
Mr. Kavan has always made every effort to produce the highest quality products available. At the 1974 National Model Airplane Championship in the USA, First, Second, and Third places were won with the Kavan Jet Ranger models. It would seem that, having developed his radio-controlled helicopter to this point, he would be satisfied and would direct his talents to other projects. Such was not the case because these wind tunnel tests were conducted after the Nationals. Thus,



valuable to give to his competitors free of charge. Radio-controlled flying of model helicopters is increasing very rapidly, not only in the United States, but all over the world. This is evidenced by Mr. Sonneborn's statement that the Bell Company and Mr. Kavan have so far sold just about the same number of Jet Rangers!



it is obvious that these tests were not only for the purpose of developing a new helicopter, but for the purpose of improving an existing model. Very few manufacturers will spend such a large sum of money to make further improvements on a model that has already become Number One in sales and performance. Mr. Kavan said that he would like to list some of the things that he learned from these tests, but the information is too



#### CAPTIONS FOR WIND TUNNEL PHOTOS

1. Mr. Sonneborn supervising the mounting of the Jet Ranger on the scale for testing.
2. Data readout plus video telemetry kept close check on Kavan's latest head modification.
3. Mr. Kavan keeps close watch on instruments as engineer maneuvers model by radio control.
4. Fuselage with rotors removed, and tufts of yarn attached to show airflow pattern at 80 mph.
5. Part of the Kavan factory crew check helicopter between wind tunnel flights.
6. Test in progress with engine running and radio controls operating.
7. Mr. Sonneborn checking a computer readout while 16 items are being tested simultaneously and also keeping verbal contact with rest of crew members.
8. Additional data readout being checked by crew member.

# **KAVAN**

## **QUALITY PRODUCTS**

**WORLD'S ONLY FULLY AEROBATIC  
MODEL HELICOPTER**



**BELL JET RANGER**  
UNDISPUTED WORLD CHAMPION.  
WINNER OF MORE CONTESTS  
THAN ALL OTHER HELICOPTERS  
COMBINED. THE WINNERS' CHOICE!

**ALOUETTE 2**  
NEWEST ADDITION TO THE KAVAN  
QUALITY PRODUCTS FAMILY. AN  
EXCELLENT MODEL FOR THE BE-  
GINNER, EXCITING ENOUGH FOR  
THE EXPERT.



SEE THESE MODELS AND THE MOST COMPLETE LINE OF QUALITY  
ACCESSORIES IN THE ENTIRE WORLD AT YOUR DEALER, ACCEPT  
NO LESS THAN THE BEST, DEMAND KAVAN.

**DEMAND THE BEST—  
DEMAND KAVAN  
AT YOUR DEALER**

