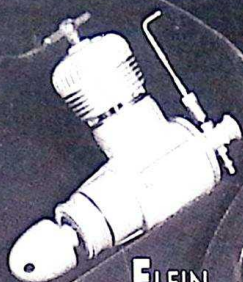
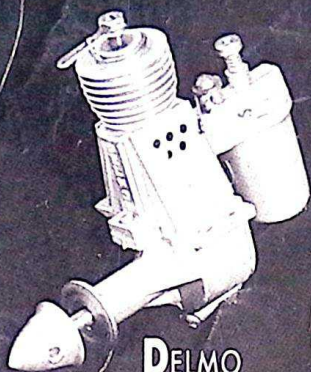


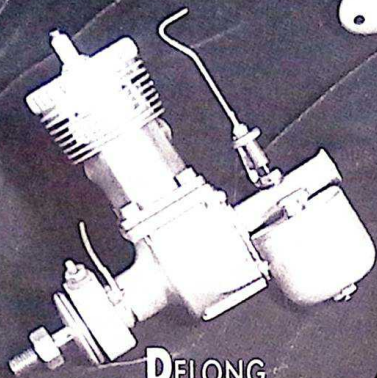
# A PICTORIAL A TO Z OF VINTAGE AND CLASSIC MODEL AIRPLANE ENGINES



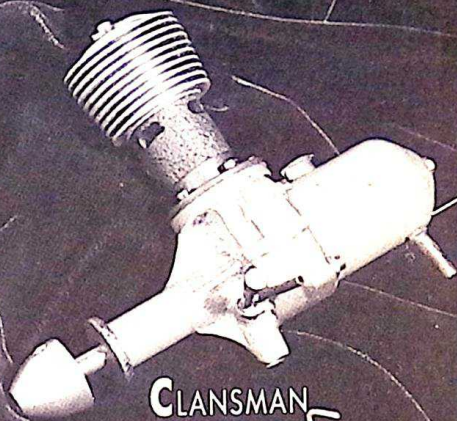
ELFIN



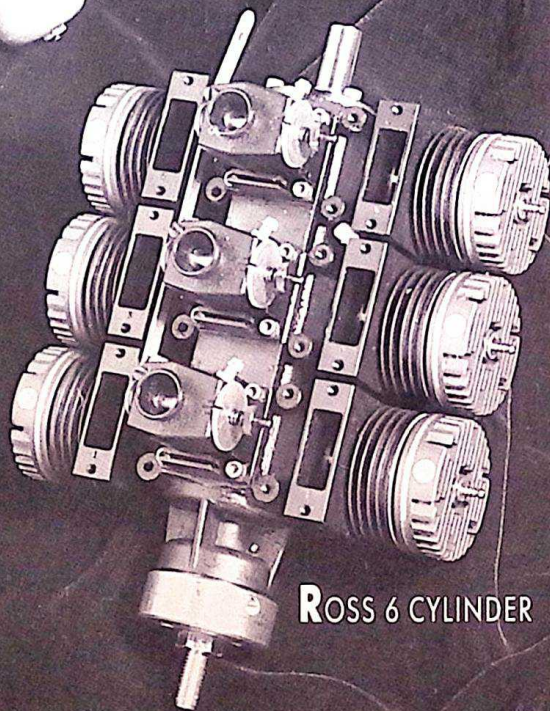
DELMO



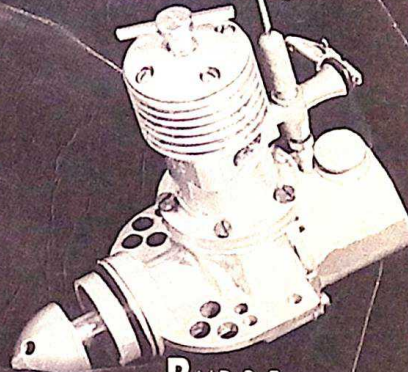
DELONG



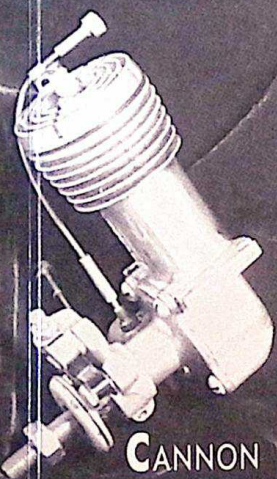
CLANSMAN



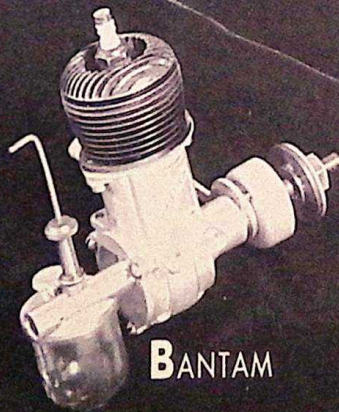
ROSS 6 CYLINDER



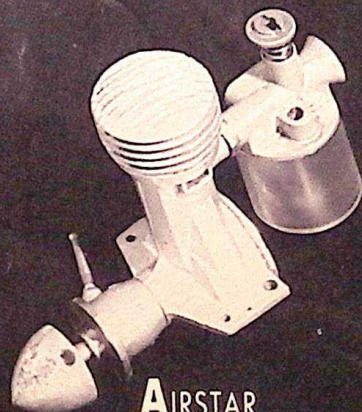
BMP 3.5



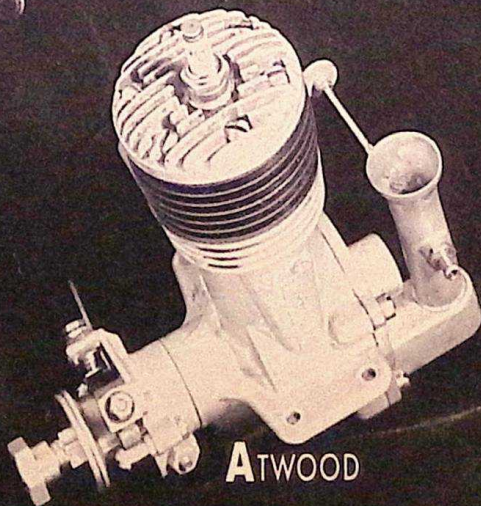
CANNON



BANTAM



AIRSTAR



ATWOOD

from the  
collection of Mike Clanford



Dedicated to the memory of  
Ben Buckle who, with the  
production of his 'Old Timer' plans  
and kits, did more than most to  
generate the tremendous  
enthusiasm in vintage model  
flying today.



# A PICTORIAL A TO Z OF VINTAGE AND CLASSIC MODEL AIRPLANE ENGINES

from the  
collection of Mike Clanford



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Norfolk NR11 7AA



## FOREWORD

During my years of exhibiting old model engines at shows throughout England, hundreds of people have said, "Why don't you do a book?".

Model-flyers and enthusiasts are amazed how many different types of engines there are. Serious collectors often need to date a particular engine they have in their collection, while the general public like to look and wonder at the skill that goes into making these engines, from the hand built 'one-offs', to the mass produced engine in its thousands. This made it apparent that an accurate reference book was needed. So, after nearly two years, a few thousand photo's and a few hundred cups of tea, here it is!

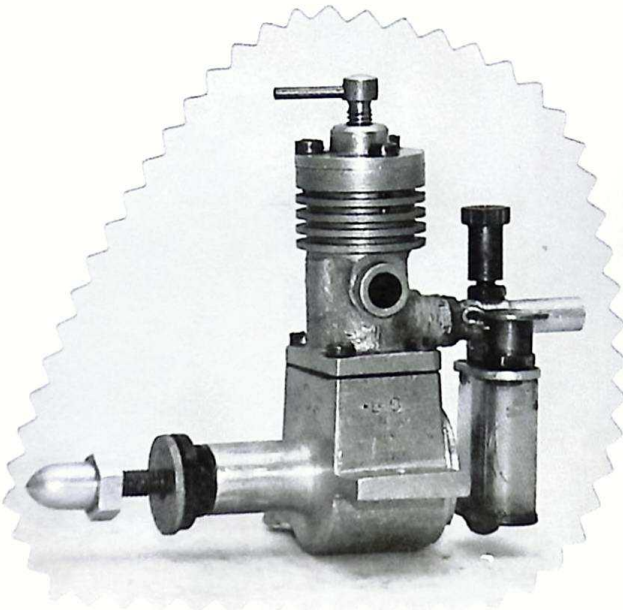
As far as trying to date an engine is concerned, accuracy can often only be as good as an advert in an old magazine. Every effort has been made to get the facts right, but should any reader know different, I would be happy to hear from you.

I would like to thank my many friends and fellow collectors, who helped me with engine data, especially: John Taplin; Basil Miles; and John Oliver.

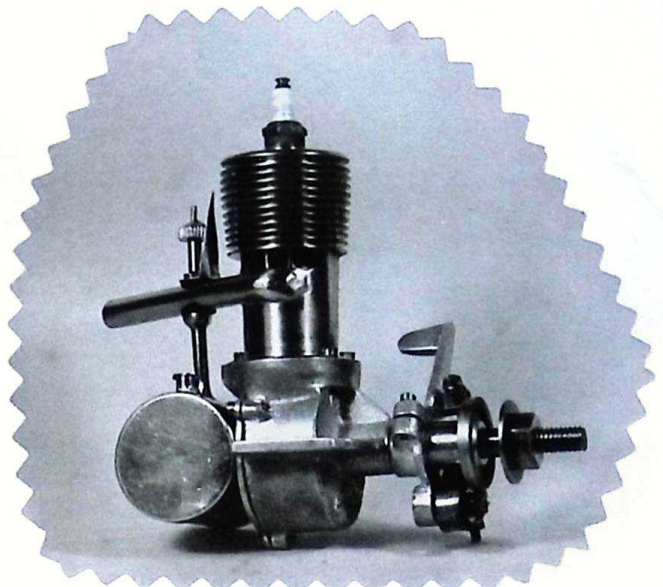
Although this book represents a fair cross-section of all the model airplane engines made, there are still quite a few I would like to add to my collection . . . !

M.C. June 1987

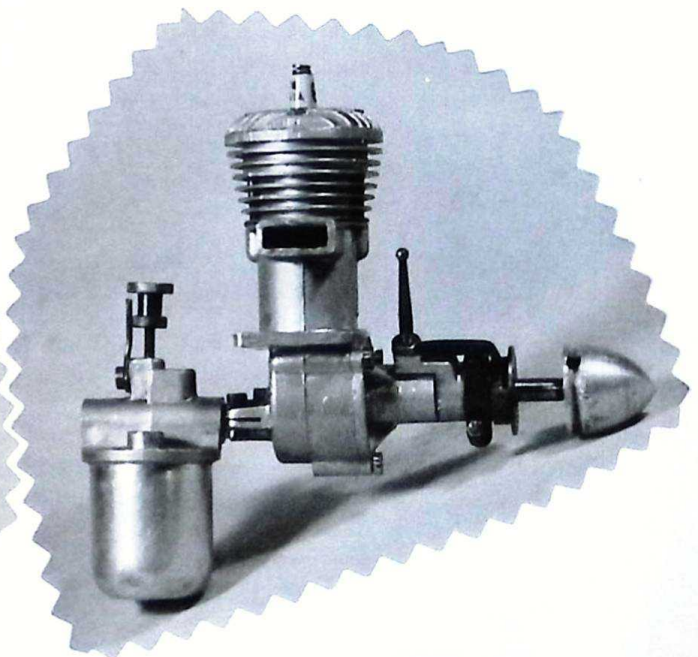
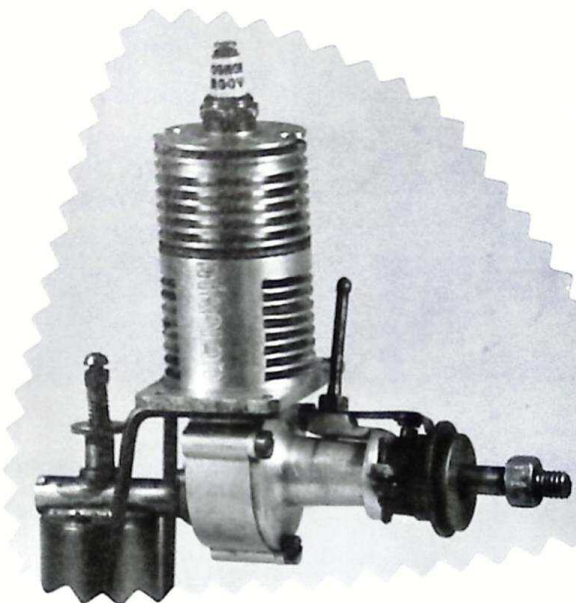




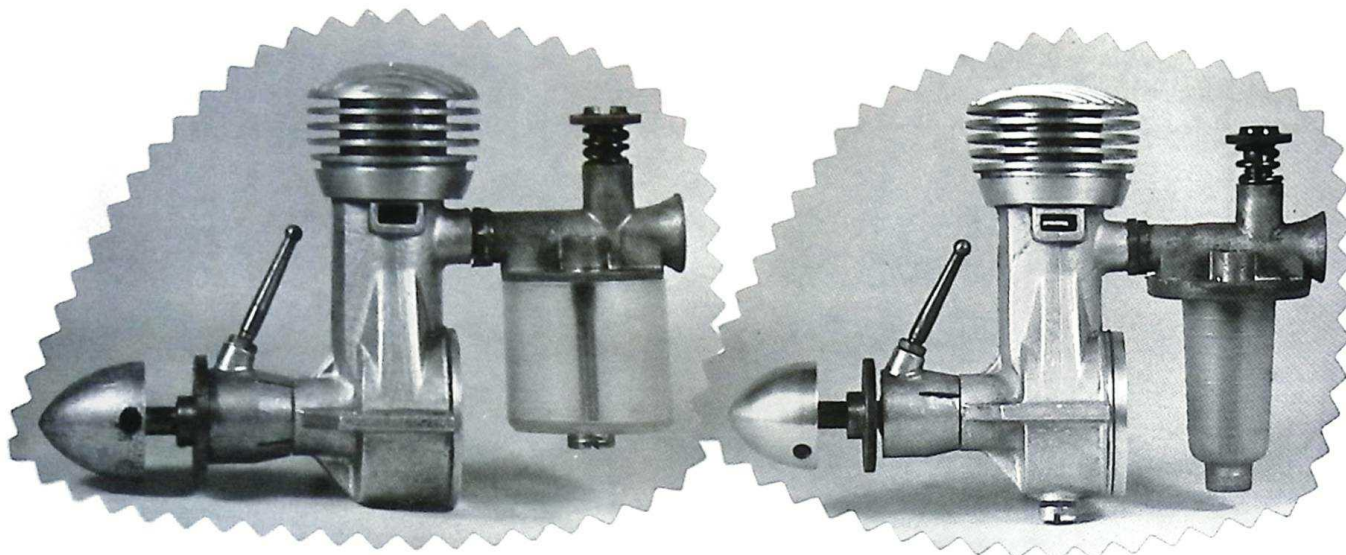
**ACE .5cc.** Sold through Model Aircraft Supplies, Old Kent Road, London from August 1947



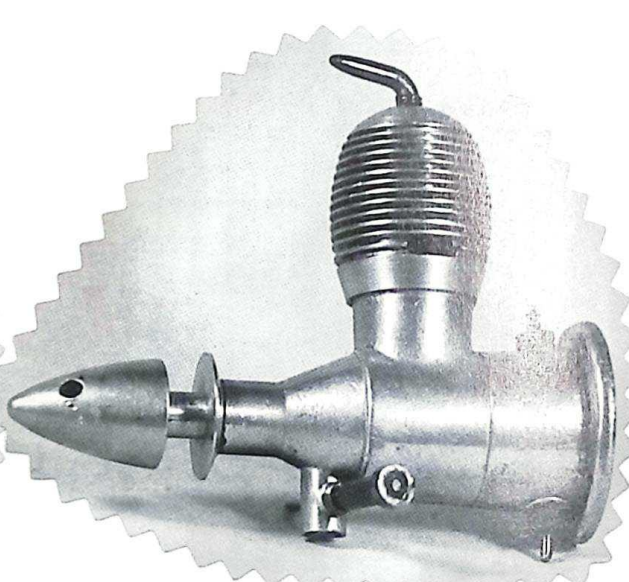
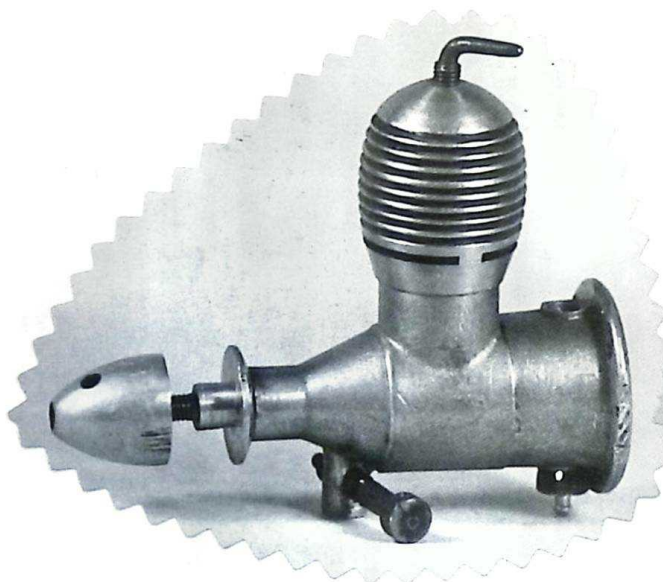
**ACME .99 cu.in.** A pre-War engine from New Zealand



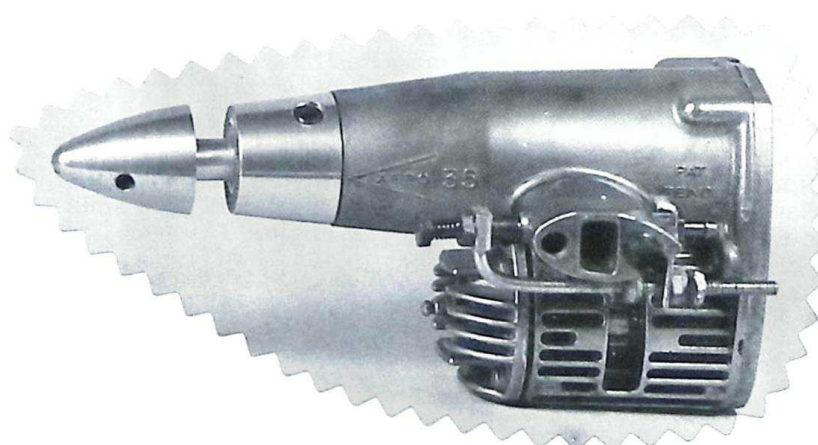
**Airplan 3.5cc.** Pre-production version and production version from France. Basic design similarities obvious between the pre-war machined from solid unit on the left, to the neater castings of the post-war engine.



**Airstar 2.15cc.** Produced in Luton, Bedfordshire, 1947.  
This is the 'control line' version and free flight version

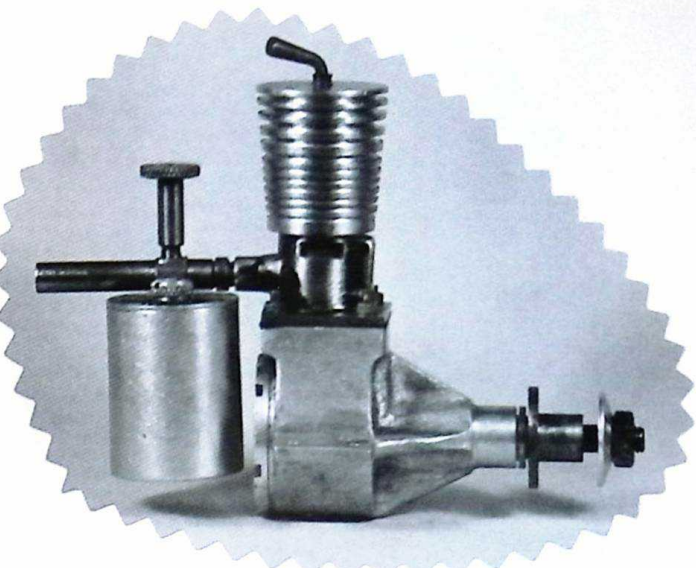
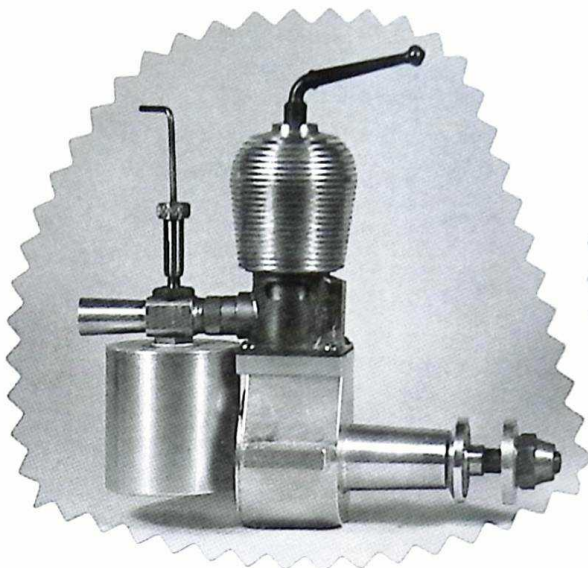


Aerol Engineering of Liverpool, produced the 2cc **Hurricane** and 2cc **Gremlin**, before replacing both with the well known **Elfin 1.8cc**, in 1949

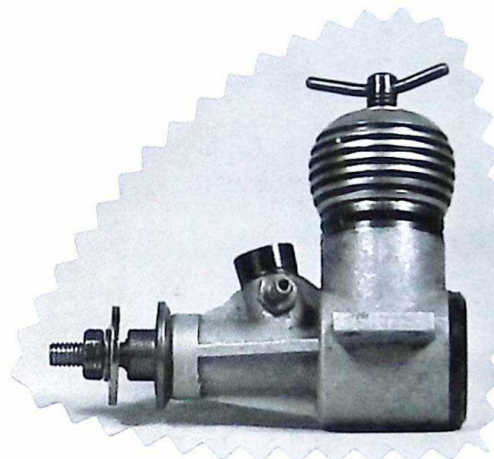
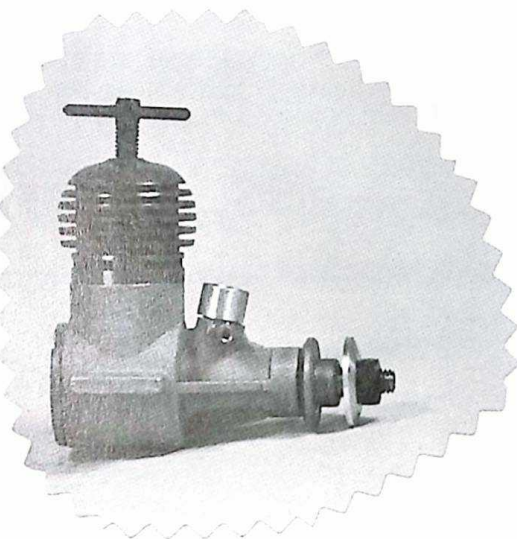


**Aero '35'** from New York U.S.A. in 1963. A smooth runner, but expensive in its day against a conventional '35'



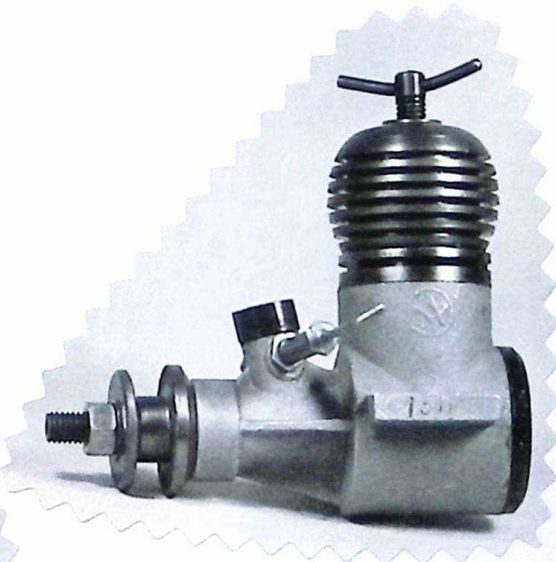
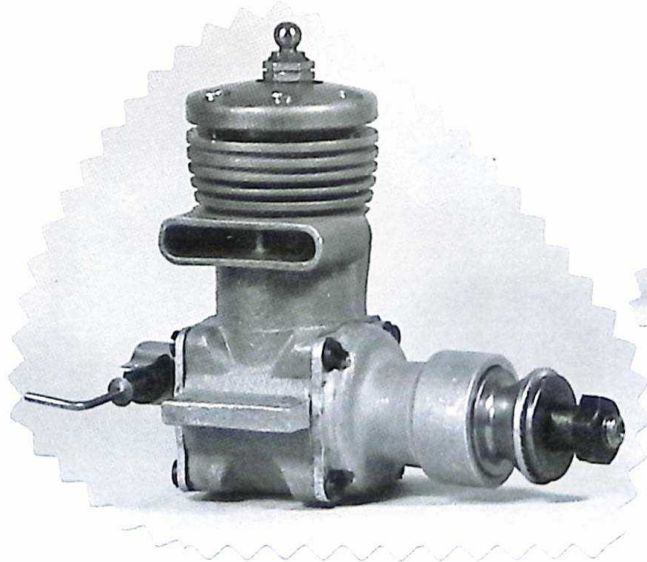


A pair of **Aeromodeller** 5cc diesels, showing two different approaches to construction from drawings designed by Sparey in 1946.  
Sold by Atlas Motors of Dunstable, Bedfordshire, as a kit of parts



**Alag X-4** 1.5cc  
1959

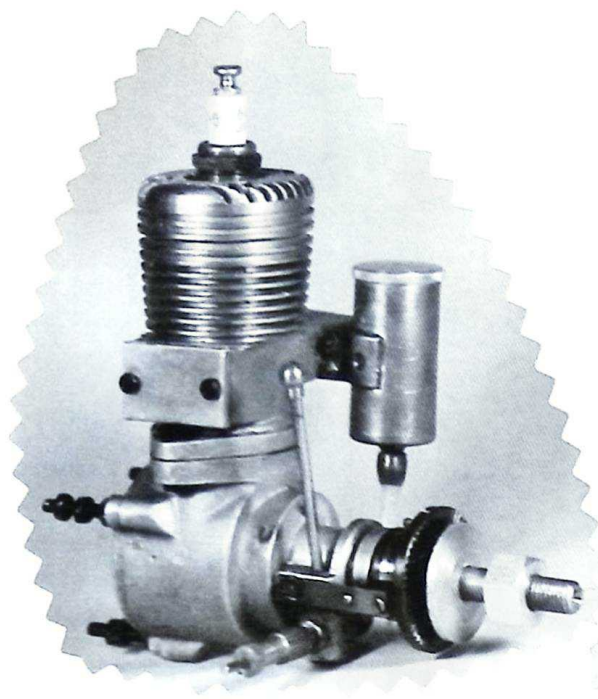
**Alag X-5** 1cc from 1960 in Hungary



**Alag X-3** 2.5cc  
from 1956

**Alag '29' glo, the Y-2.** A few made from 1958

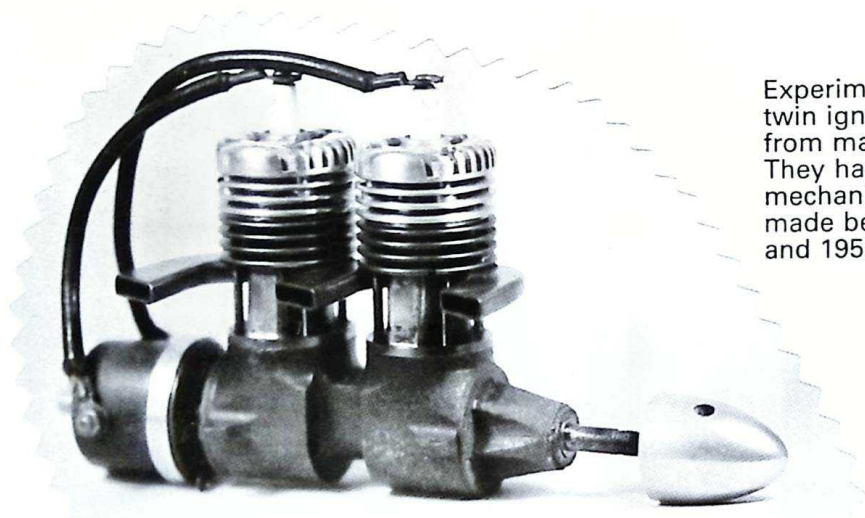




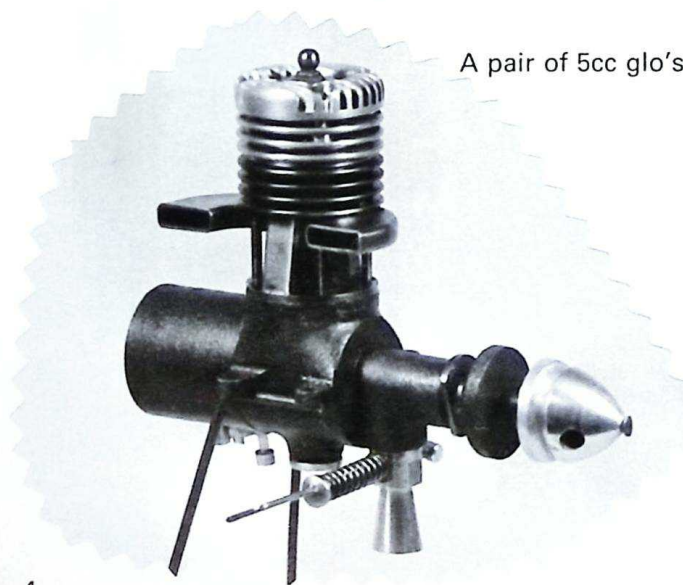
**Alko Special 7.5cc**  
from Czechoslovakia



**Allbon 2.8cc** Produced in Bedfordshire in 1948. Ball bearing shaft version shown. Most were plain bearing



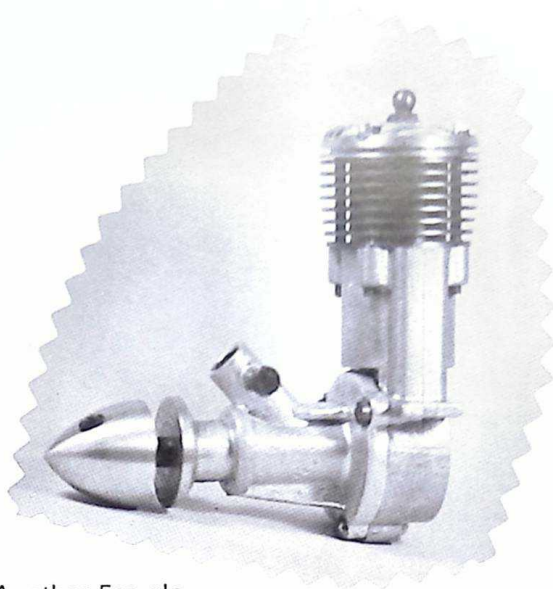
Experimental **Allbon 10cc** twin ignition. Castings from magnesium alloy. They have excellent mechanical fits and were made between 1949 and 1952



A pair of 5cc glo's



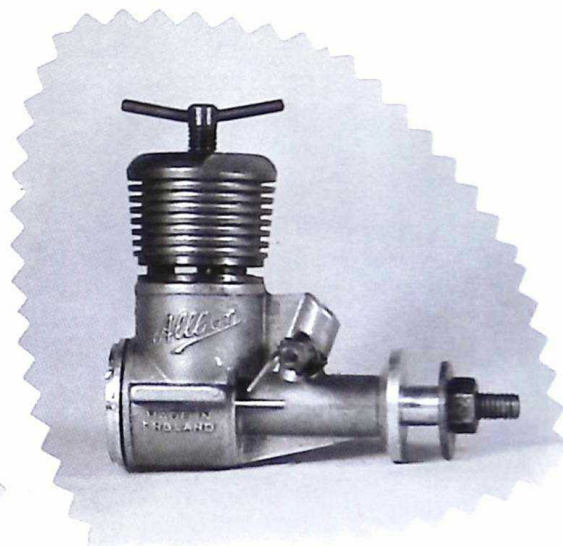
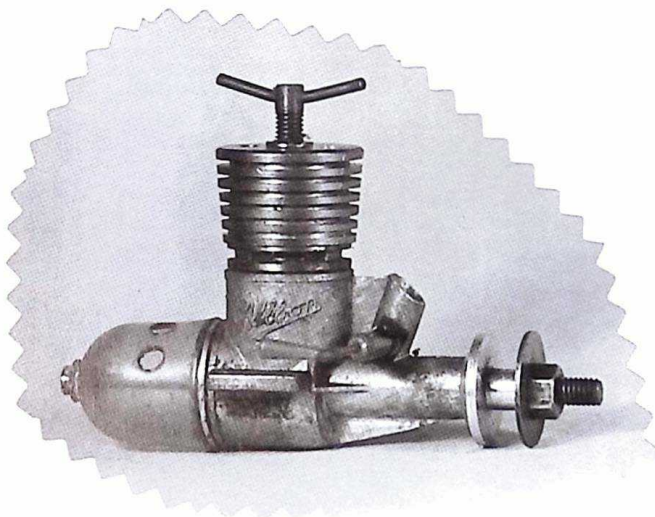




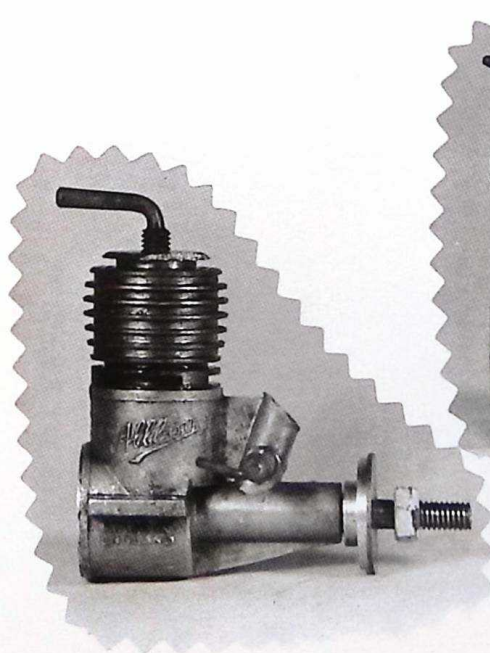
Another 5cc glo



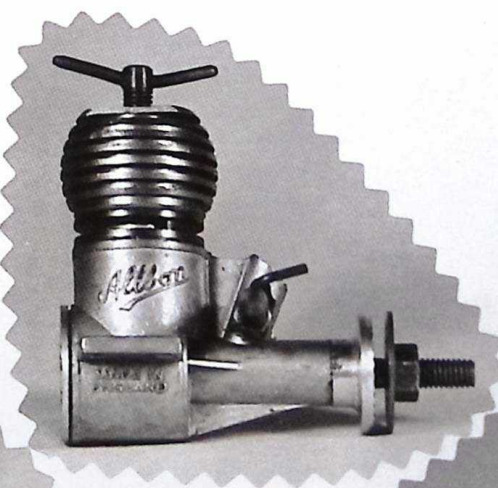
and a 2.5cc diesel



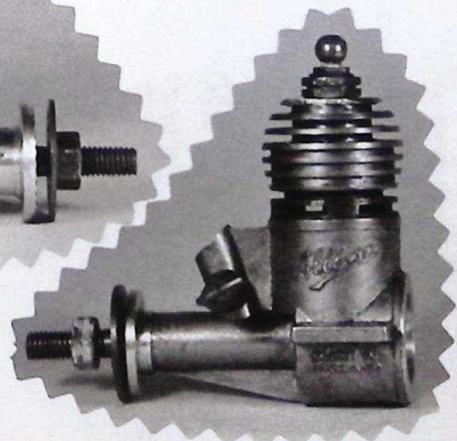
Allbon Spitfire 1cc Series I and II from 1953



Allbon Javelin 1.5cc Series I, 1949

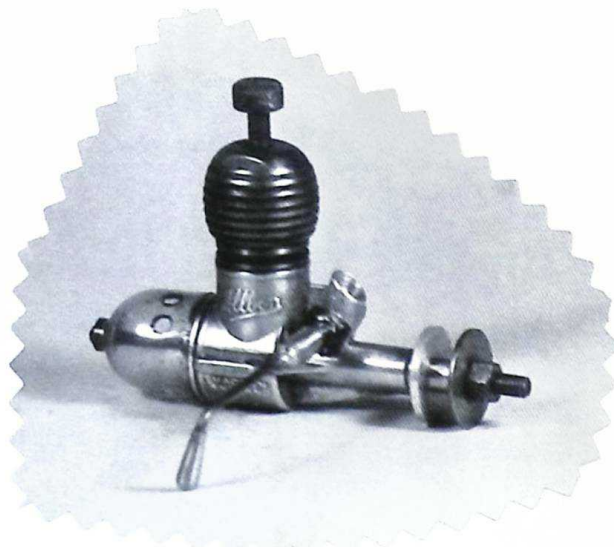


Series II Javelin  
1952

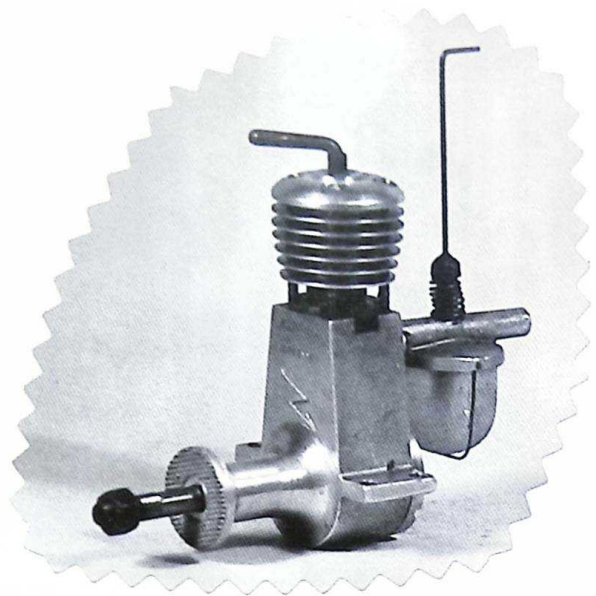


1.5cc Arrow

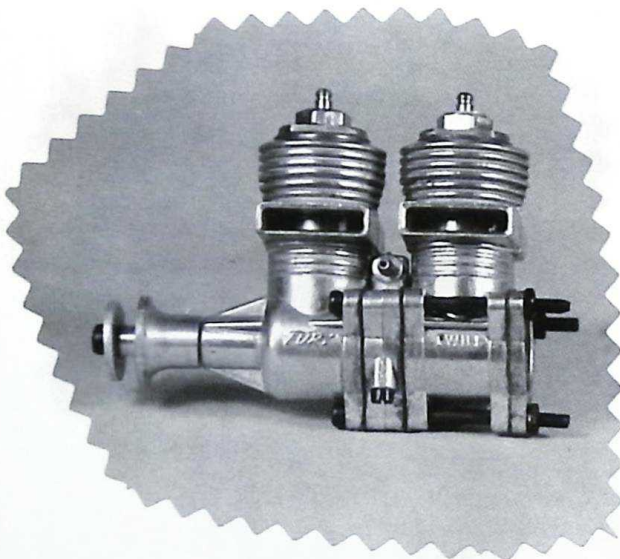




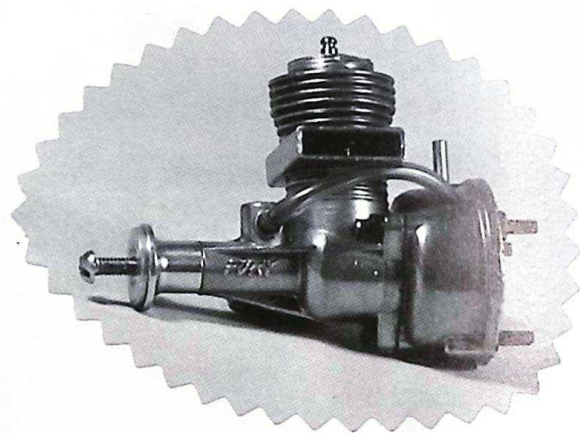
Series I Allbon Dart .5cc from 1951



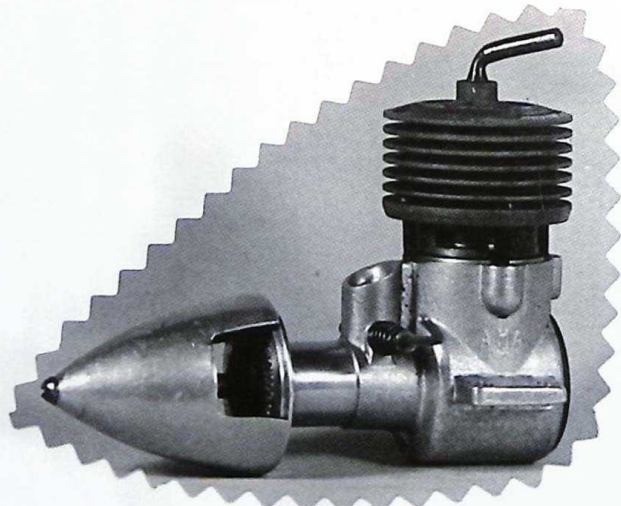
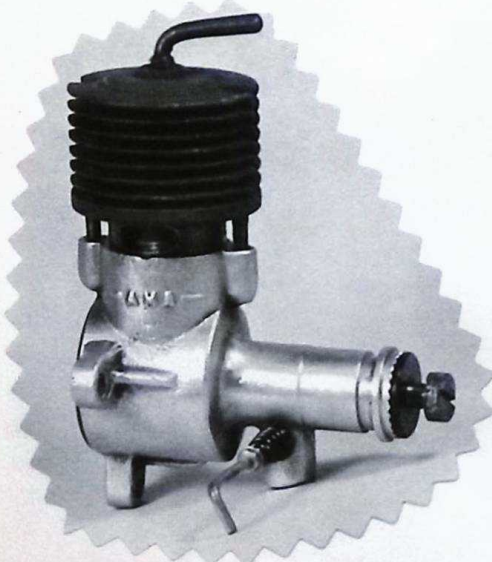
Allouchery 1.25cc from Vincennes, France 1946



Allyn .09 cu.in. of 1955  
Taken over by K&B in May '55  
with no change to engine

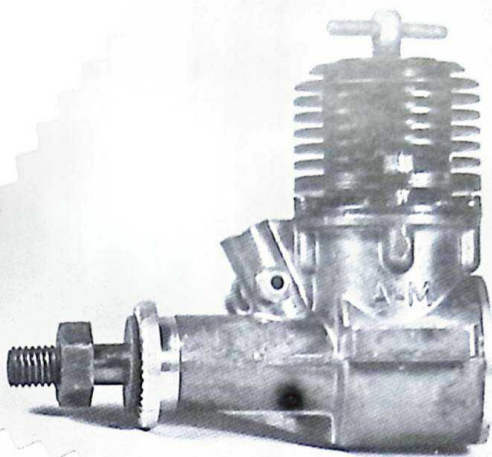


The Allyn .049 from 1953

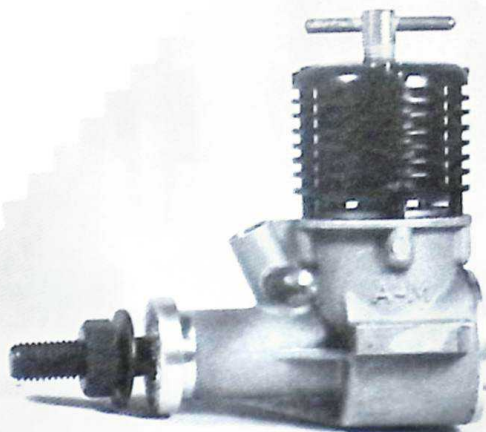


AMA 2.5cc and 3.6cc  
Made in Czechoslovakia in 1953

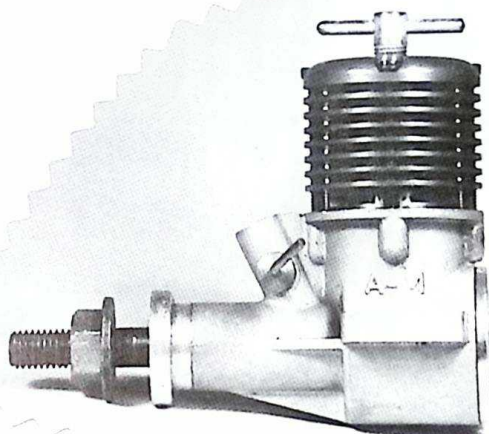




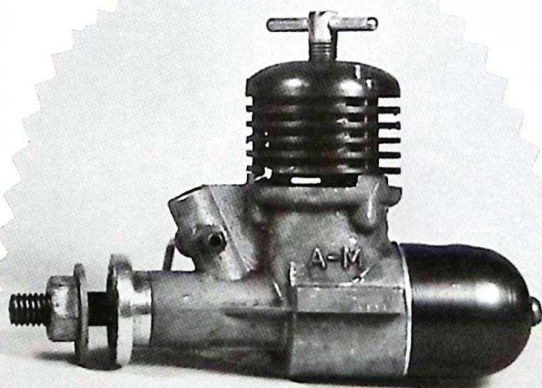
**Allen Mercury or 'A-M'**  
Mkl 2.5cc from 1954



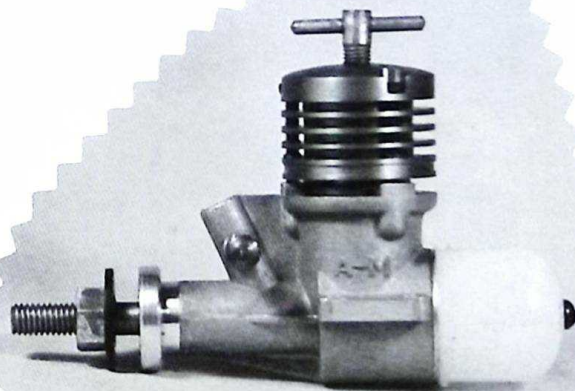
The later MkII. Also had black  
anodised cylinder head



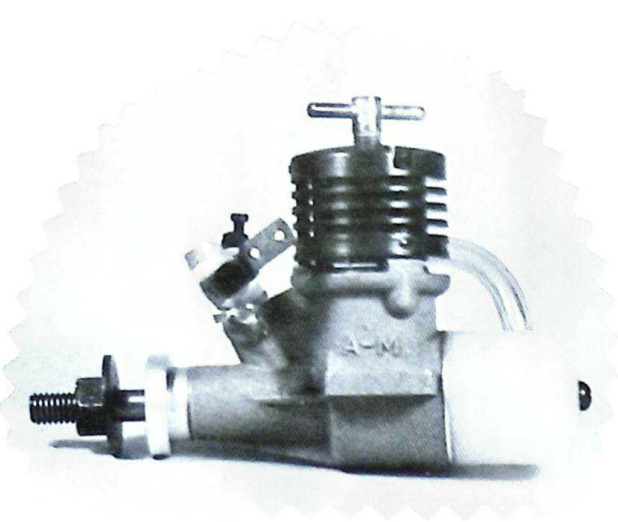
The A-M 3.5 had red anodised cylinder  
head. Basically a 'bored' out 2.5. It was a  
light and quite powerful sport engine



**A-M 10 Series I** with green head and tank.  
The '15' Series I had blue head and tank



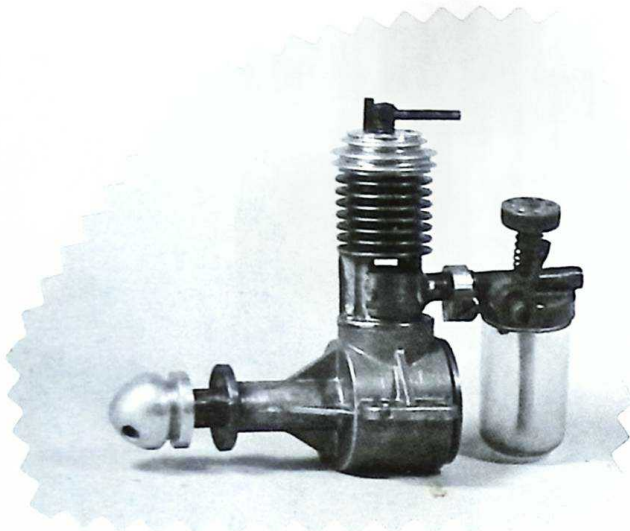
The Series II '10' and '15' had a  
'square look cylinder head and nylon tank



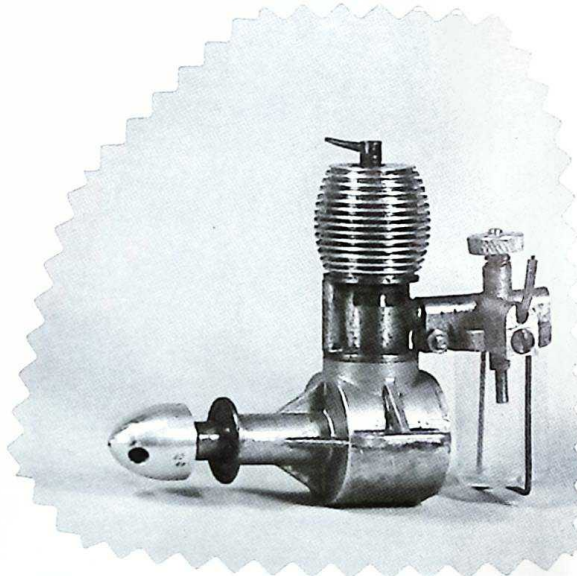
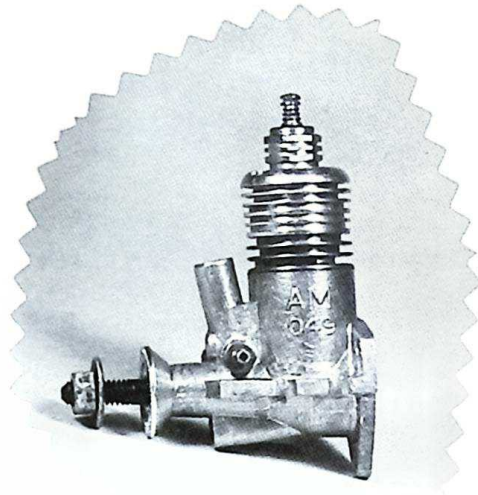
An R C version was available for the '10' and '15'



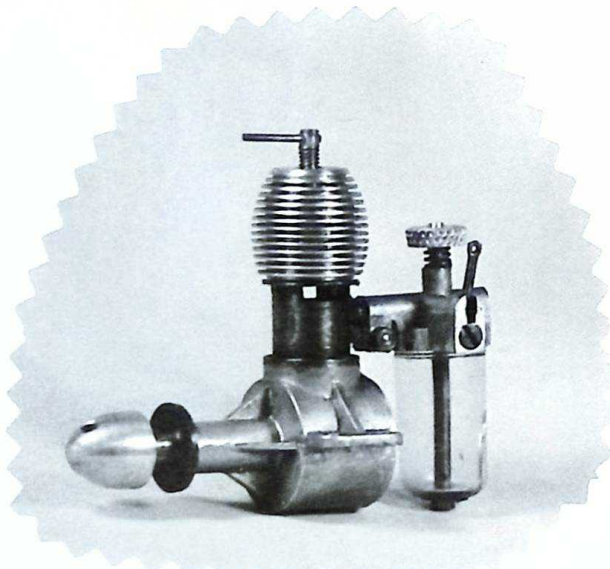
The little .049, with and without recoil starter



**Amco .87 MK I,**  
made at Chester, 1947



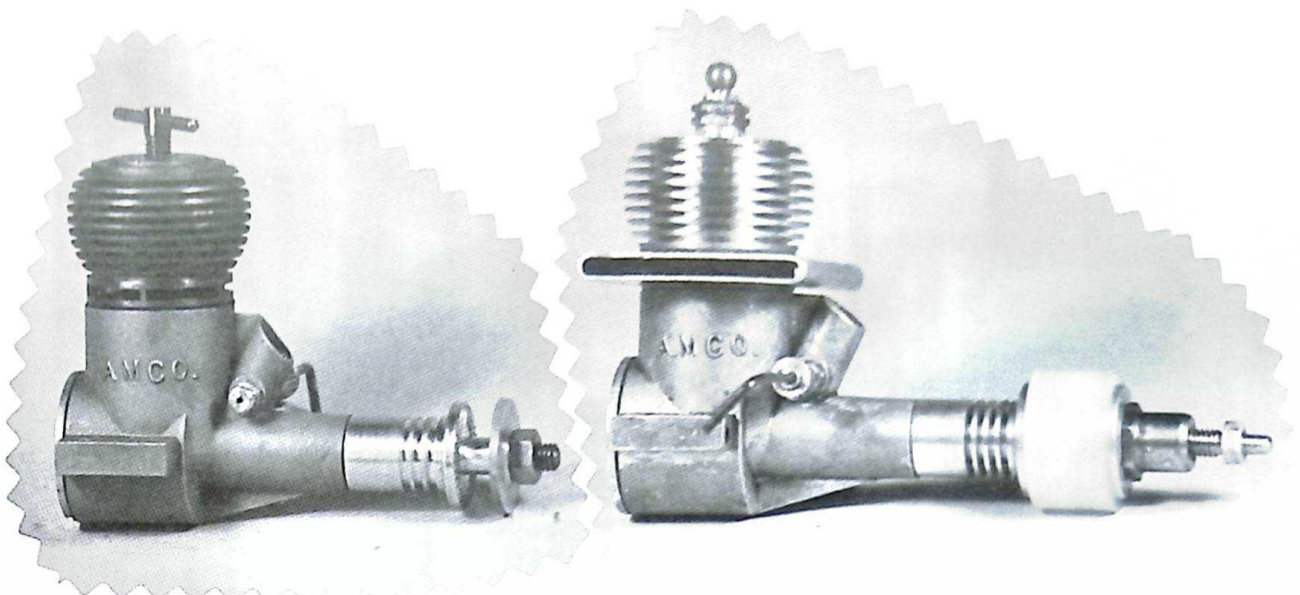
**Amco .87 MK II Series I**  
Early 1948



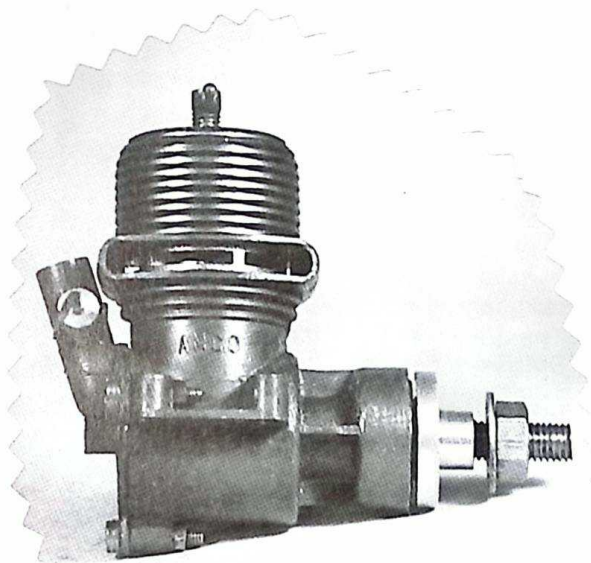
Late 1948

MK II Series II. Note no 'bypass' soldered on as in earlier model. Transfer was cut on inside of cylinder

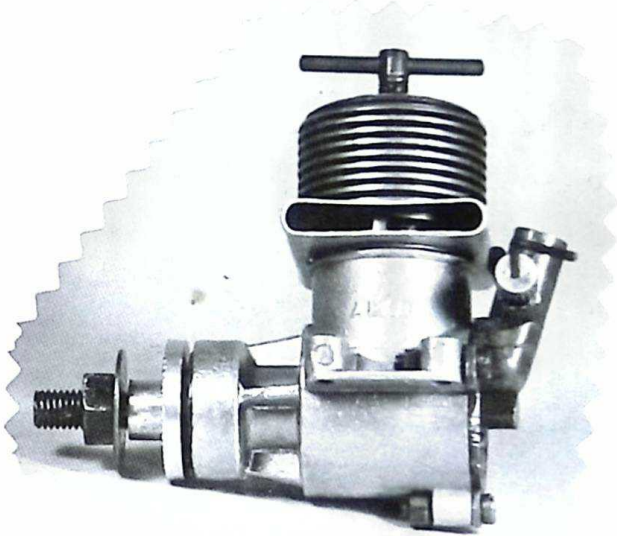




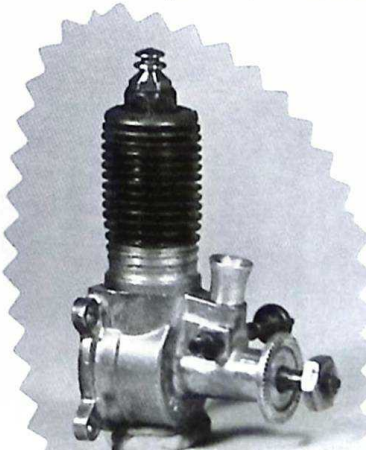
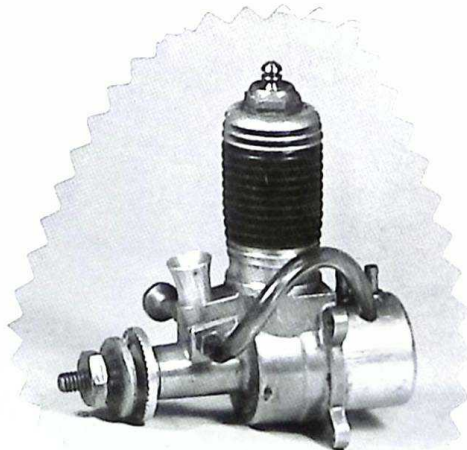
The famous plain bearing 3.5 'Finger Biter' from 1949, and not too popular 'glo' version



The lightweight and powerful B/B 3.5. The dark case models were made at Chester until late 1951

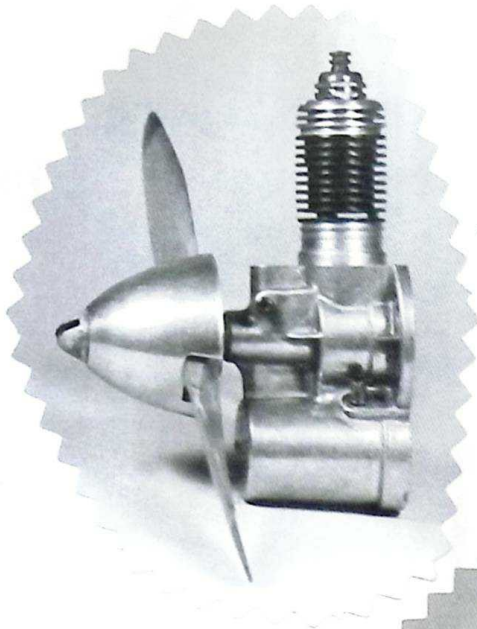


The light case models were re-made at Allperton, Middlesex from late 1952

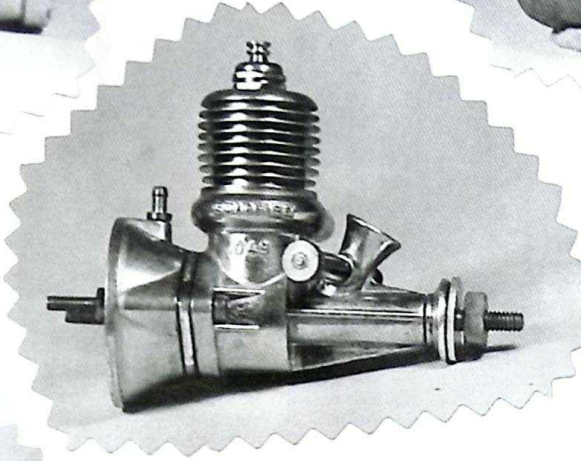
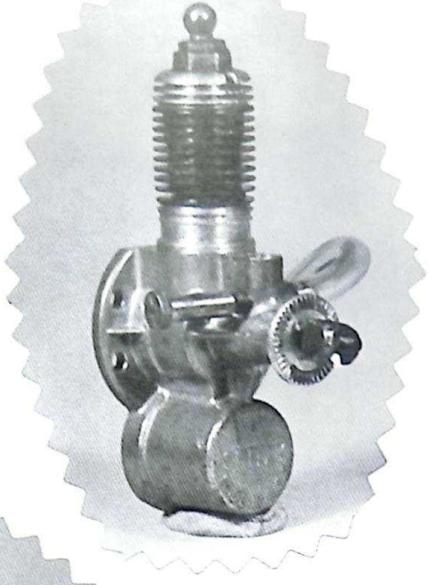


Made in 1949 by Mel Anderson, these are two versions of his .045 cu.in. **Baby Spitfire**

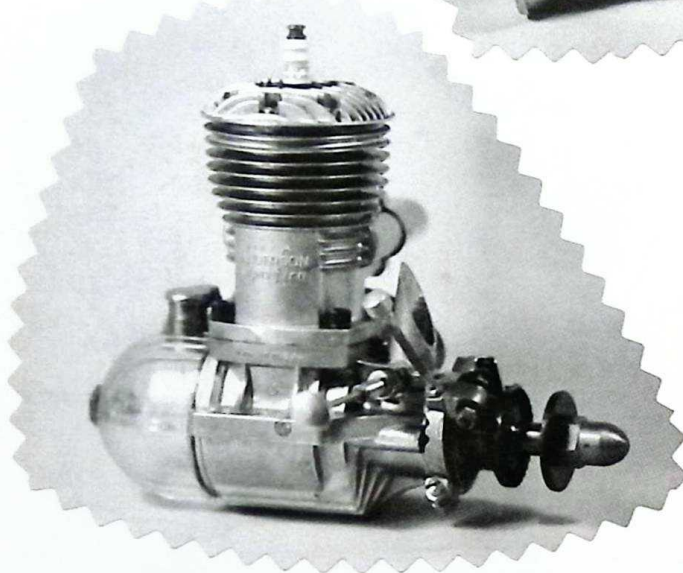




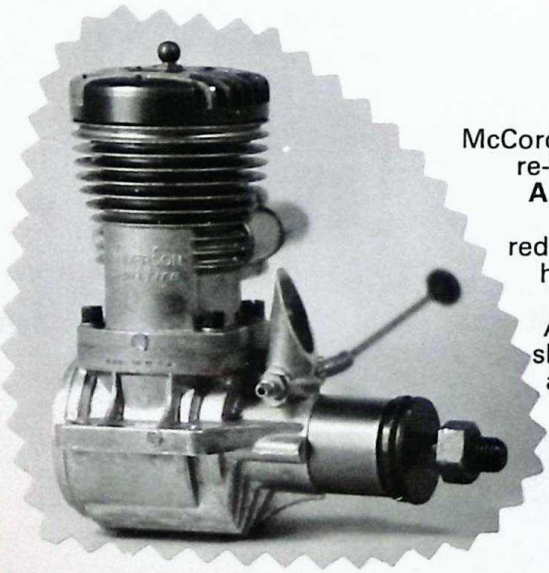
A pair of  
**'Spitzzy' Seniors**  
of .045 cu.in.  
from 1951



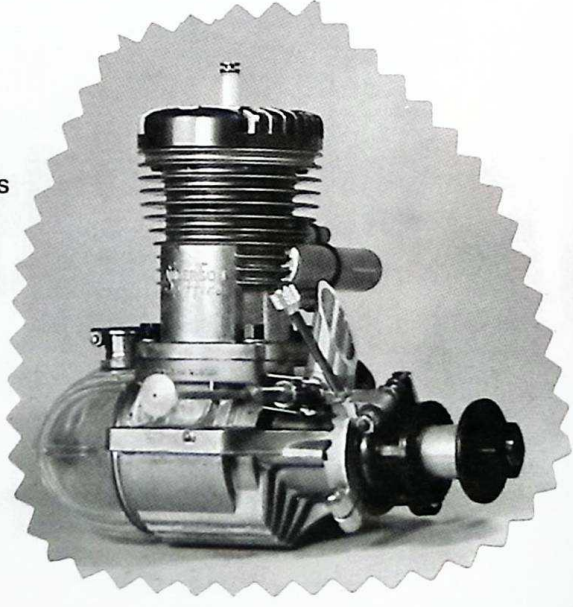
The pretty **'Royal Baby Spitfire'** .049cu.in.  
from 1953. Light  
blue head



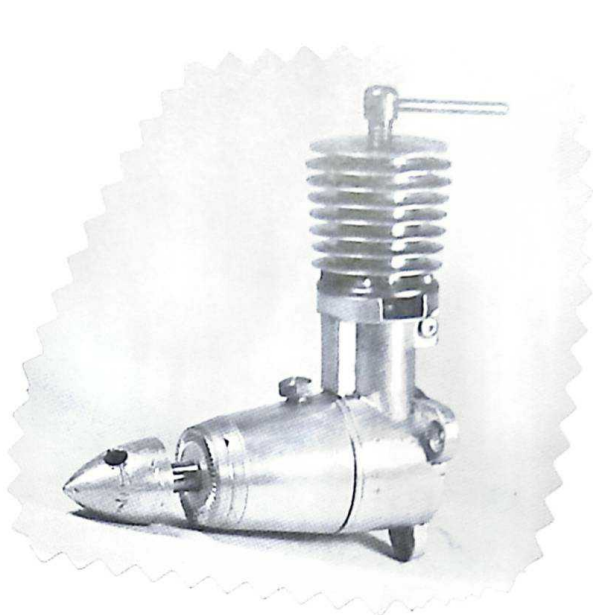
The advanced, (for its time) **Anderson Spitfire** of 1947 at just over 10cc or .604 cu.in.  
The 1948 version had a longer stroke,  
to push its size up to .645 cu.in.



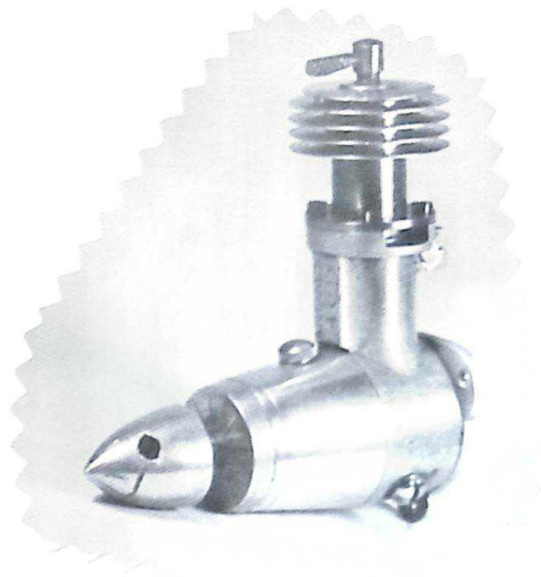
McCord Precision Products  
re-introduced the  
**Anderson '65'** in  
1958 with a  
redesigned cylinder  
head anodised  
bright blue.  
A glo version,  
shown left, was  
also available



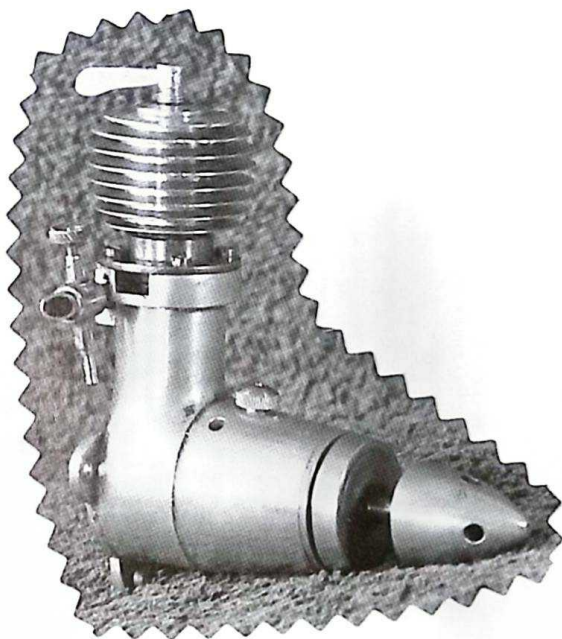




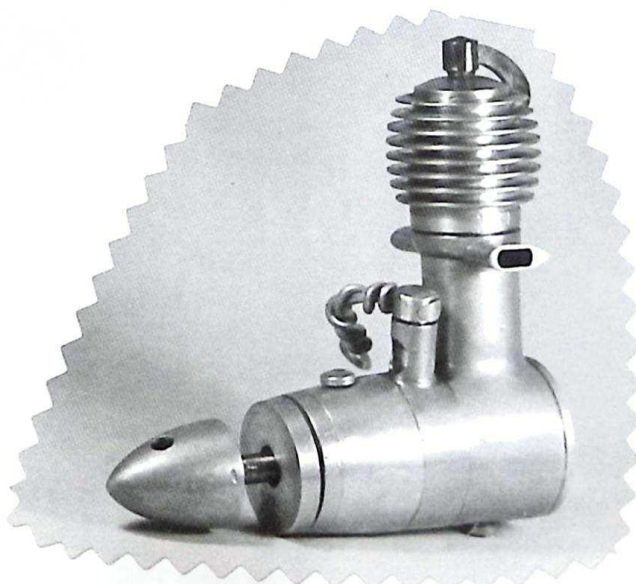
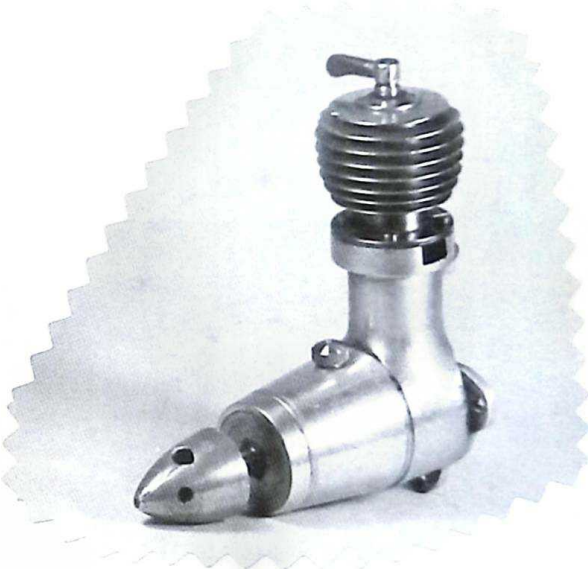
**Antares 3cc.** Made in Italy 1944



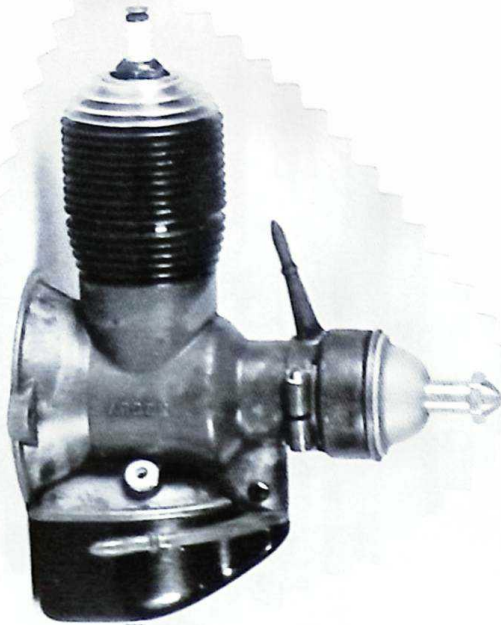
**Antares 4cc** from 1944



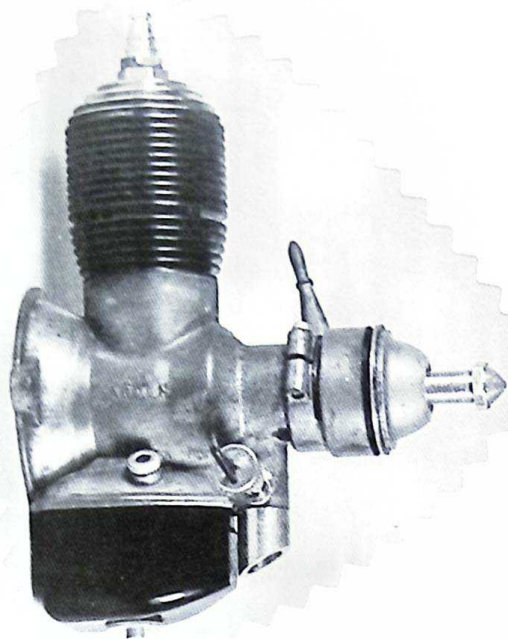
The Series II **Antares 4cc** from 1946



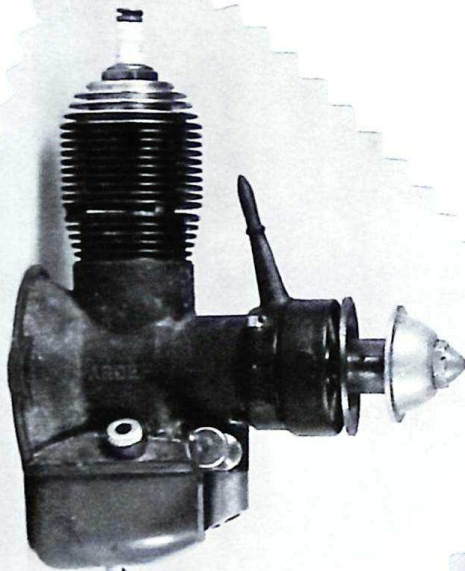
The final version of the **Antares**, from 1947  
Available in 4cc and 5cc sizes



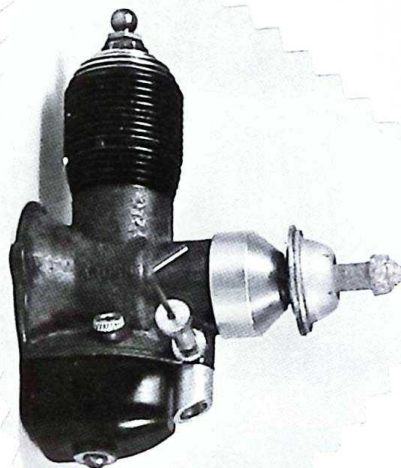
1946 Arden .199 with ball bearings.  
Note throttle intake. The .09 also  
produced with throttle intake



1947 Arden .199 with needle valve and  
original Arden plug

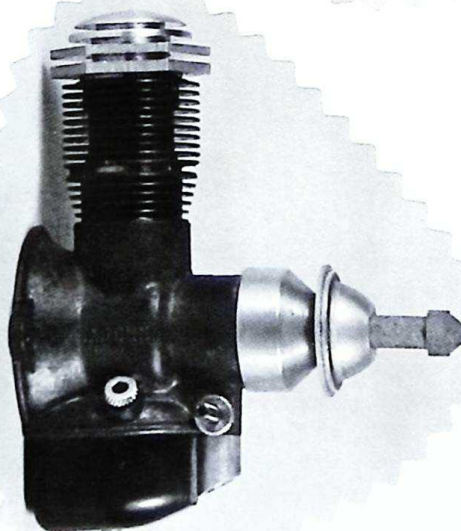


1947 .09 ign.  
with plain  
bearing



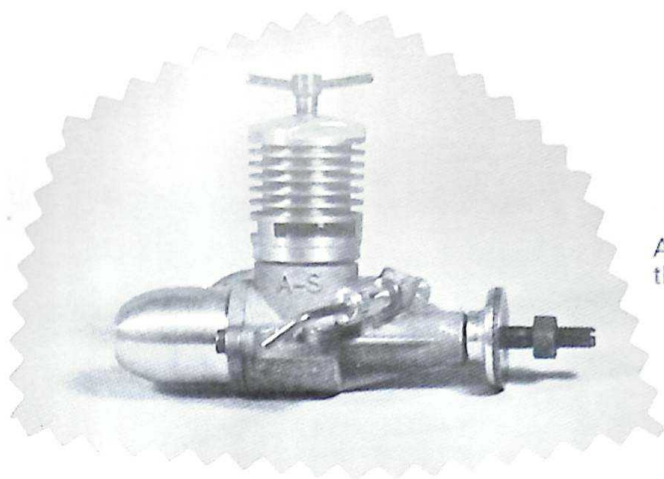
1949 .09 glo

With a weight  
of only 3.5oz  
and r.p.m. of a  
possible 10,000  
the '.19' was very  
popular

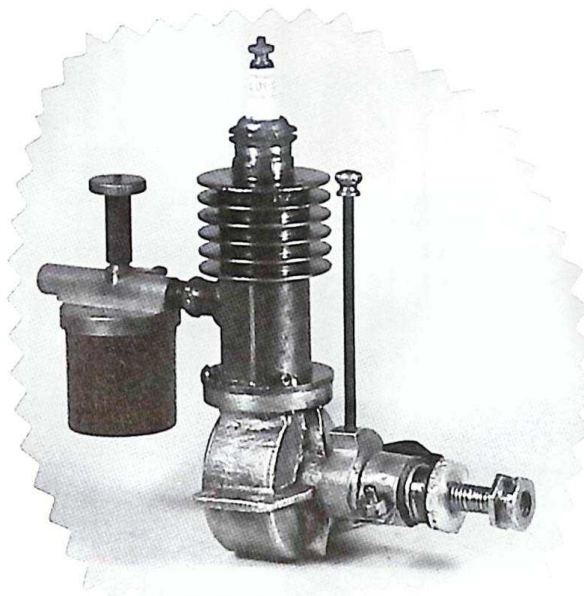


Arden diesel conversion  
on an .09

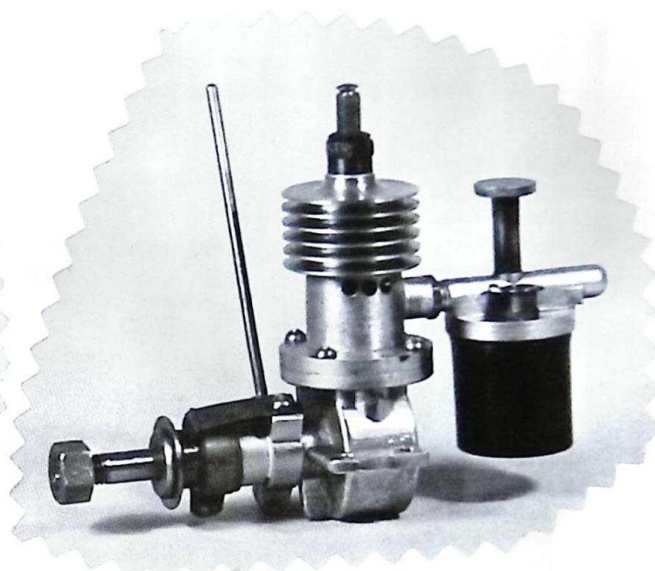




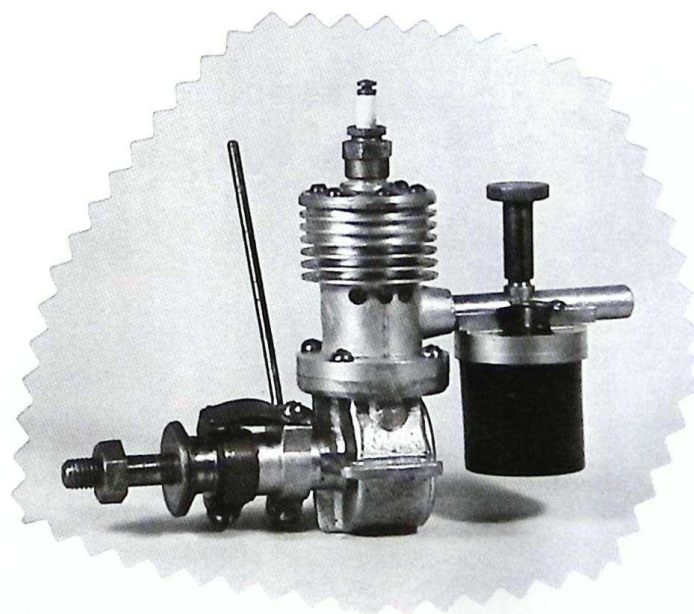
Allbon and Saunders produced the delightful A-S '55' in 1959



Atlas 4cc Pre-production version from early 1946

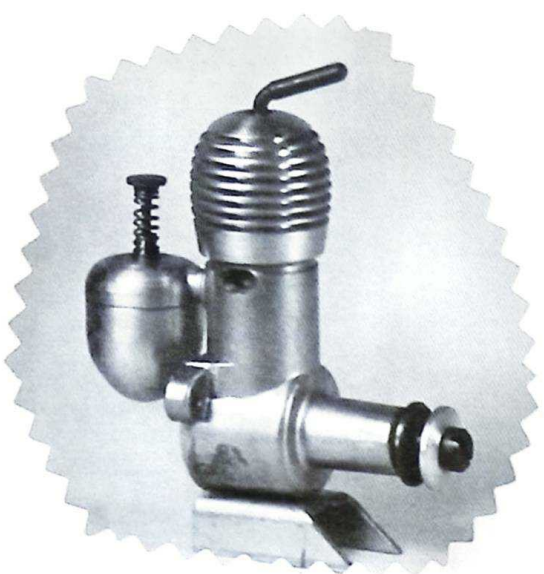


1946 Atlas 3.5cc from Dunstable, Bedfordshire



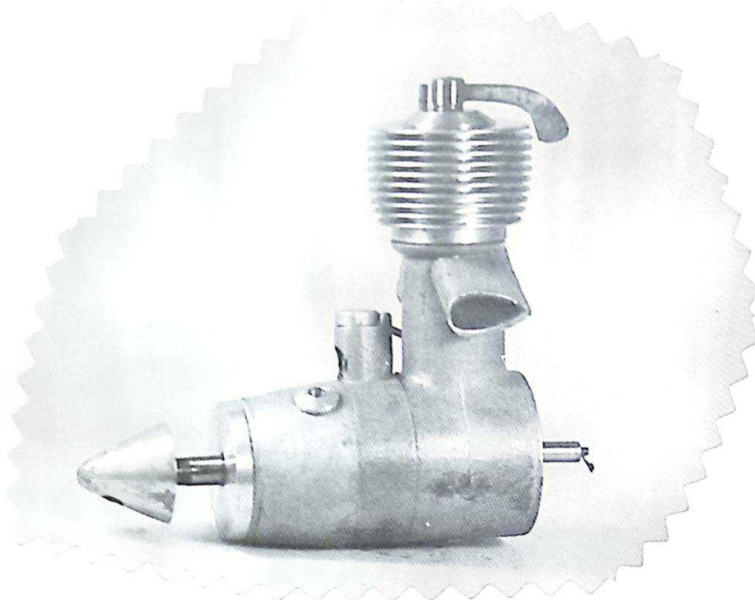
Series II Atlas 3.5cc, late 1946

This engine was developed by Morbone Requisites of Barnet, Herts and sold as the H.P. 3.5 in 1947  
See page 97 for continuation of this engine under 'H.P. 3.5'

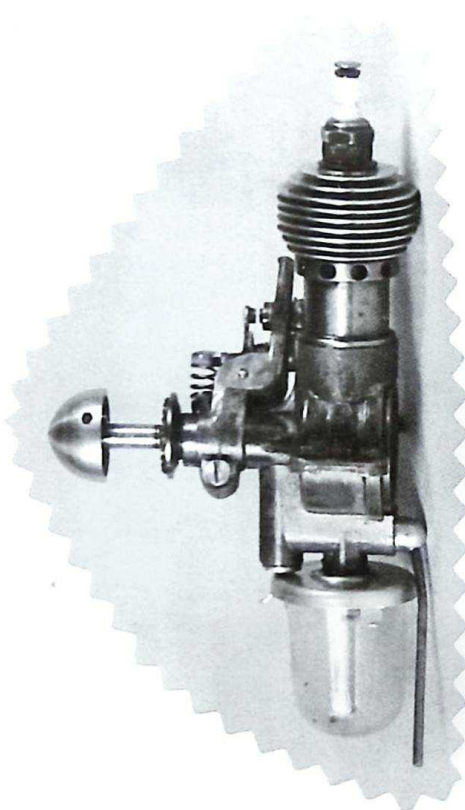


**Atom 1.8cc** Made in Czechoslovakia in 1946

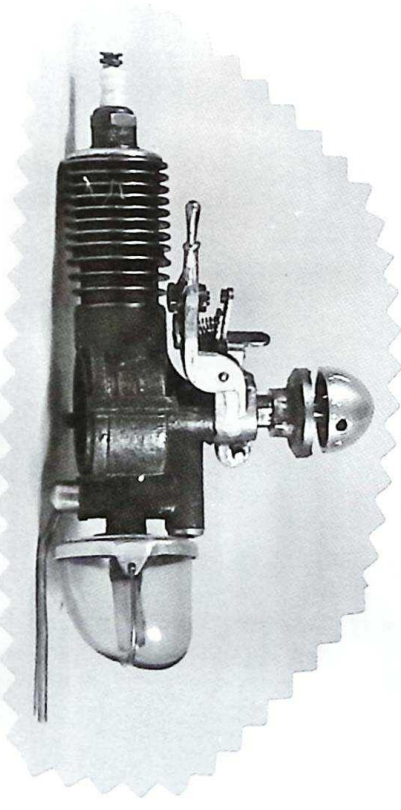
been good fun trying to mount the engine in an airframe, as all you got was a ring with three holes in for the screws to hold said ring to bulkhead. You then screwed the engine onto ring and hoped it finished up vertical!



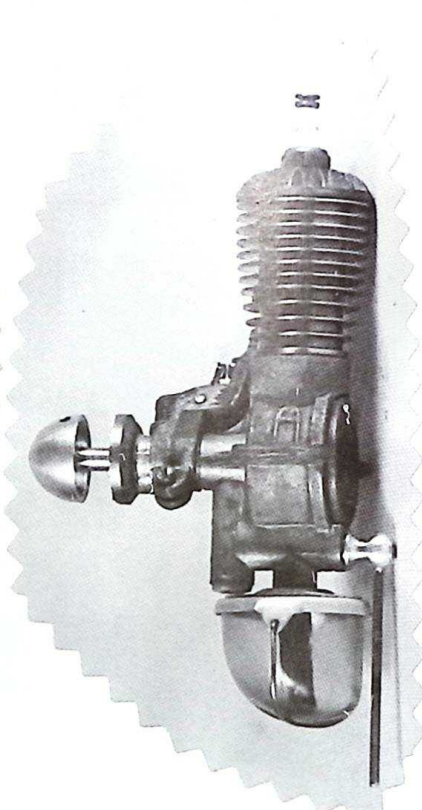
**Atomatic 5cc** made in Rome, Italy in 1945. Note the fuel tank behind the prop driver, and cut out into back of c/case. It must have



**Atom .09 MK I** 1940  
From Microdyne Engines, New York City

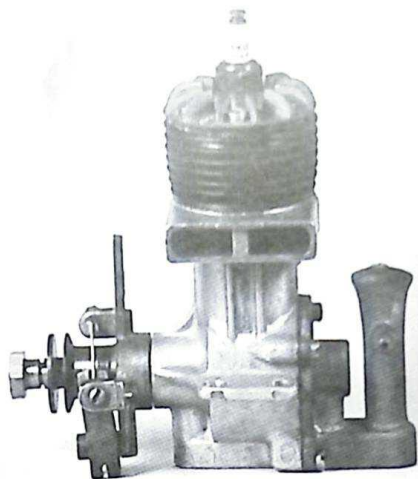


**MK II Atom** 1941

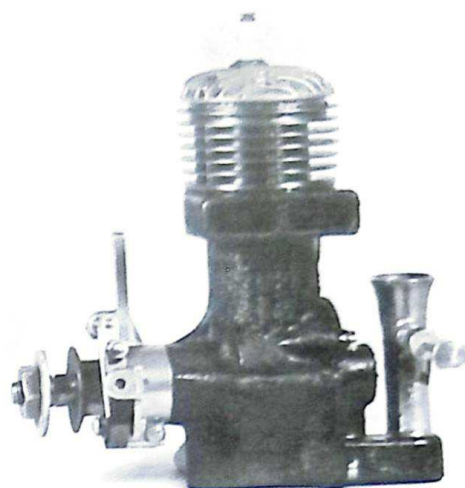


**MK III Atom** 1942

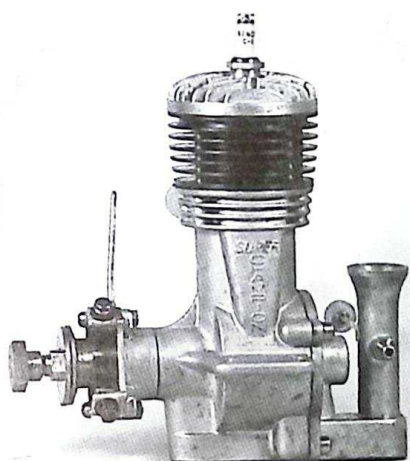




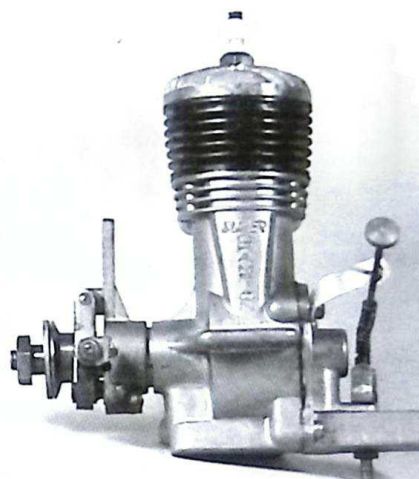
**Atwood Champion 'H' Model**  
Made in 1945



**Atwood Champ 'J' of 1946**



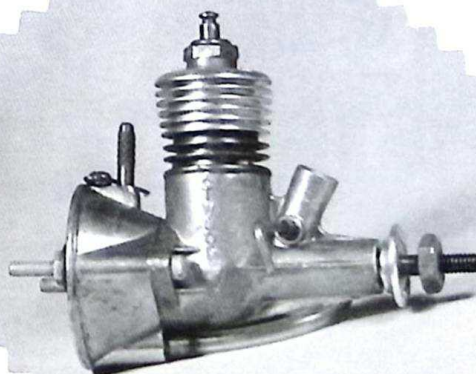
**Atwood Super Champ of 1946**



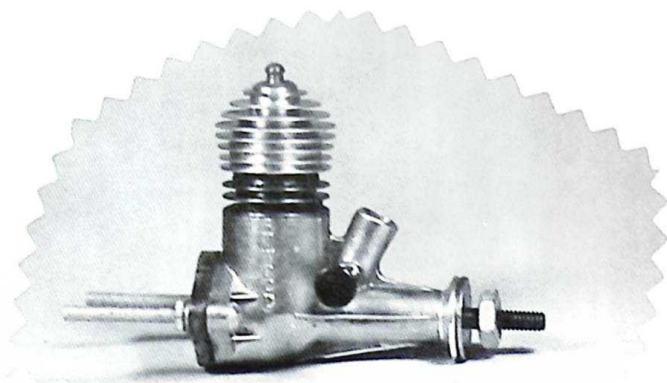
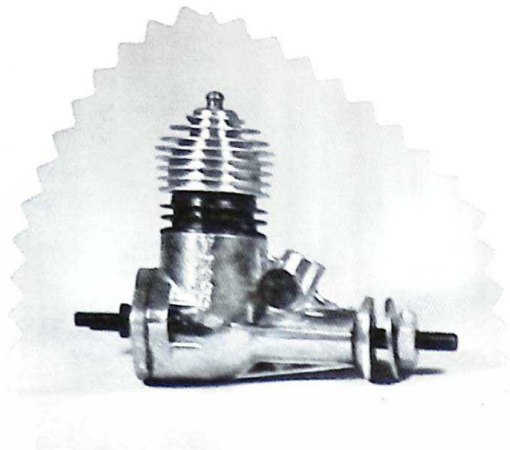
**Super Champ Model DR of 1947**



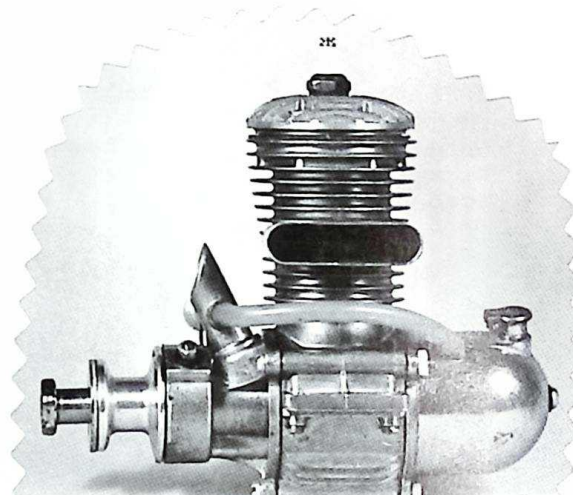
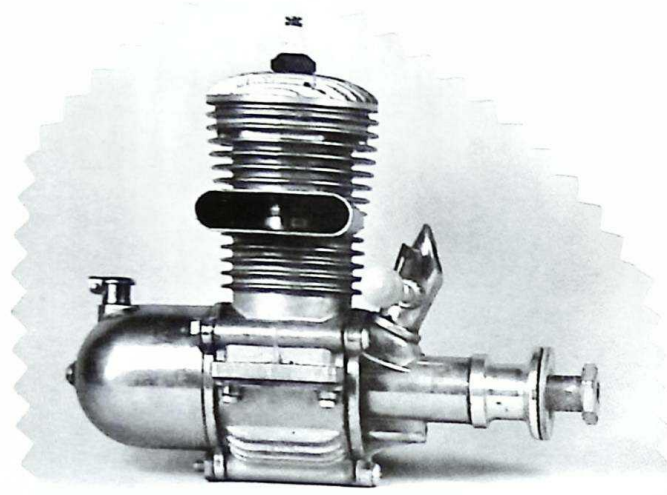
**'Glo-Devil' from 1949**



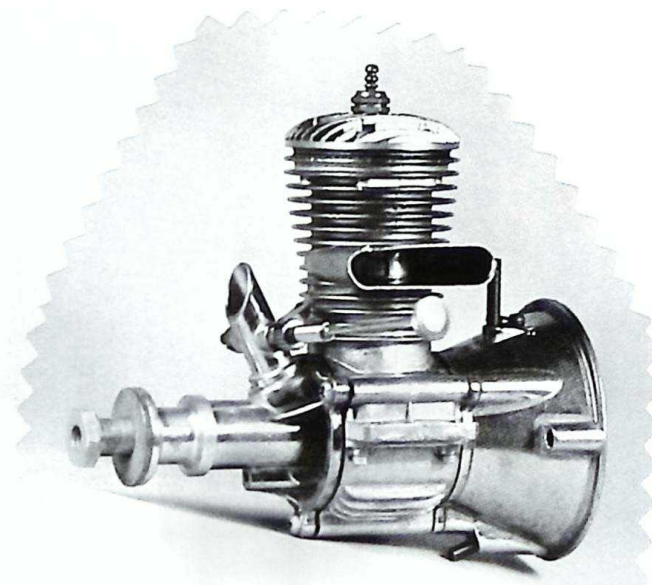
**Atwood .049 of 1953**



Atwood Shriek .049 and .051 from 1956

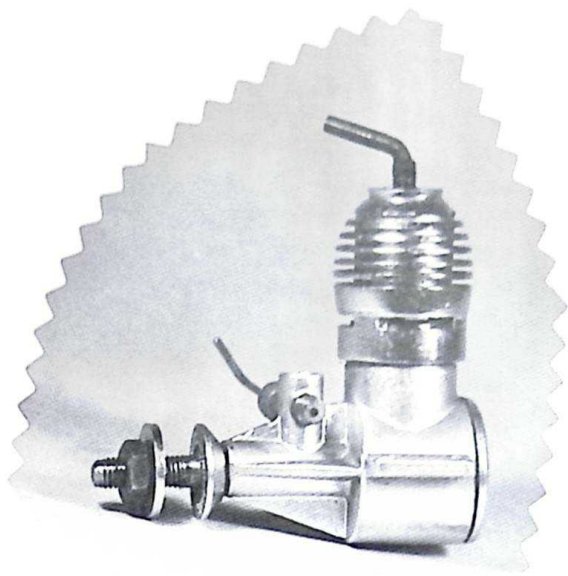


Atwood 'Triumph' .49 glo and ignition, made in 1948  
Also produced in .51 cu.in. sizes

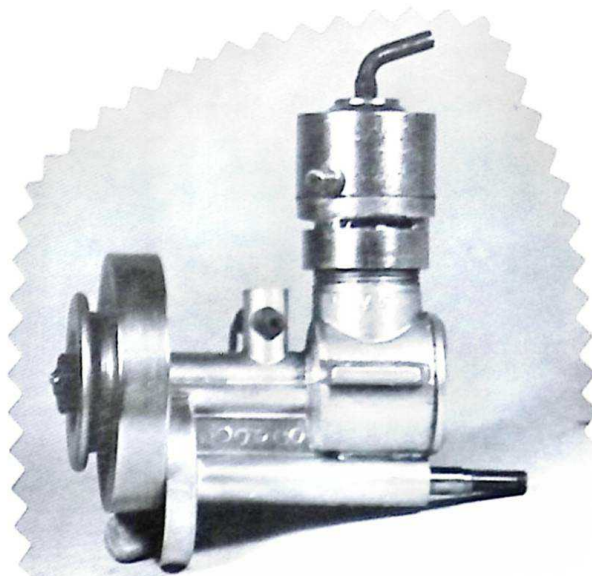


Alternative tank/mount  
on an Atwood 'Triumph'  
.51 glo

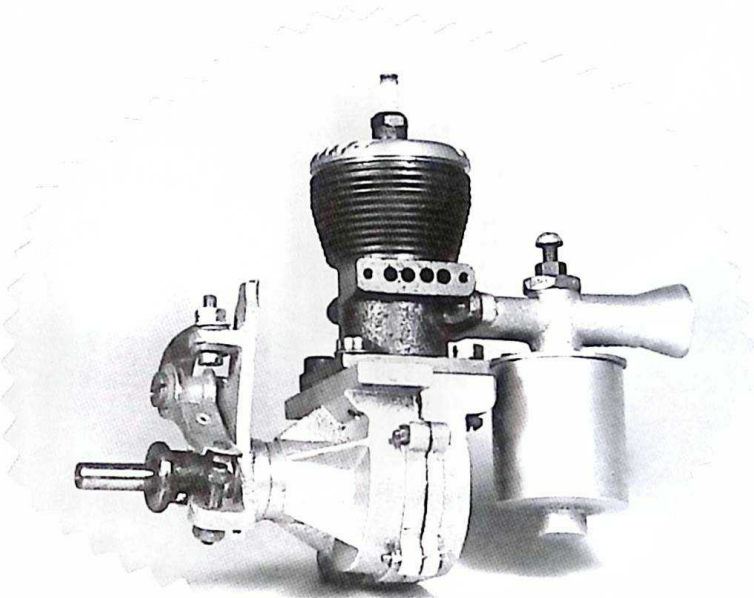




1956 **Aquila Baby 1cc**  
Made by A. Vella, Hungary



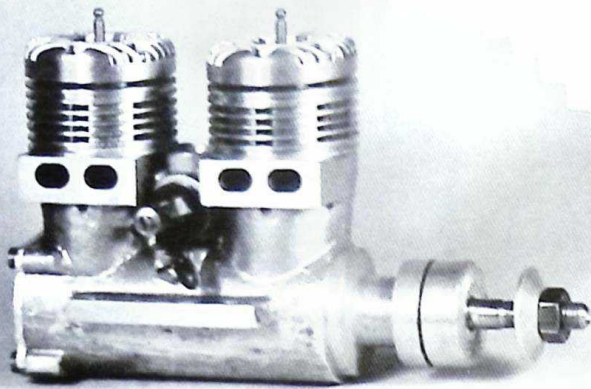
Interesting 1958 w/c version  
using 5:1 gear ratio and  
known as the **Seal Baby**



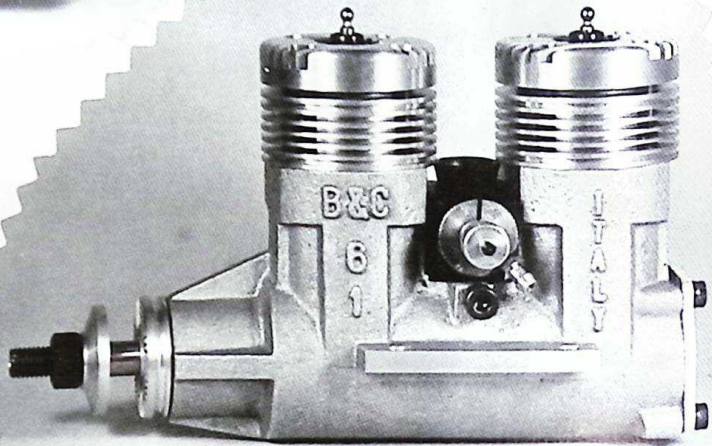
Australian '**Dockland**' engine  
made by Gil Nichols, Melbourne



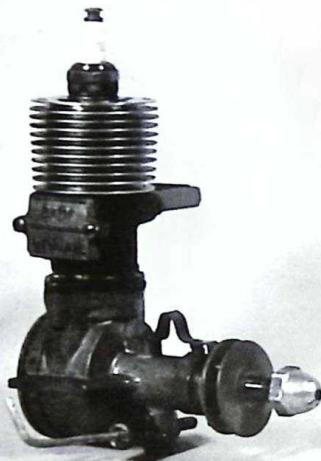
**Avion Mercury '45'** 1.6 cu.in. or 26.25cc and only 20ozs.  
This 1947 example is made from magnesium castings



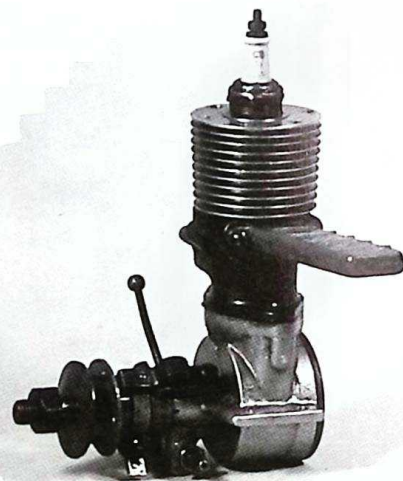
B & C 10cc twin prototype



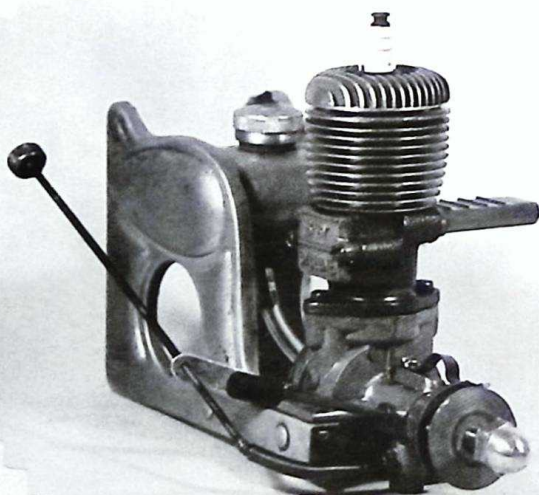
B & C 10cc twin production version



Baby Cyclone .36 cu.in.  
1936 Model 'C' with fixed point

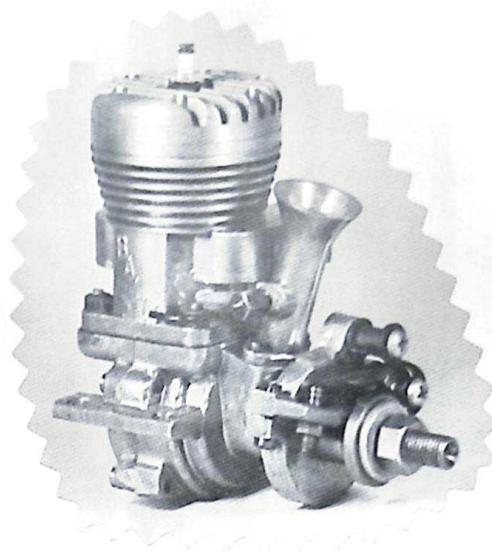


1937 Model 'D'  
with moving point

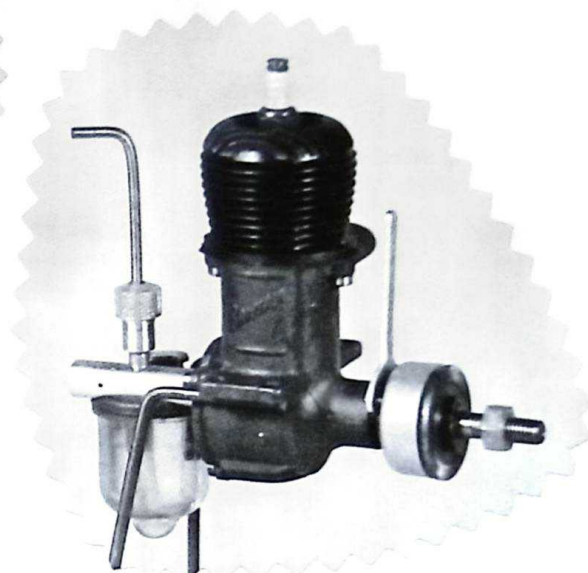


1938 Model 'F' as sold at the time  
with its original mount and tank

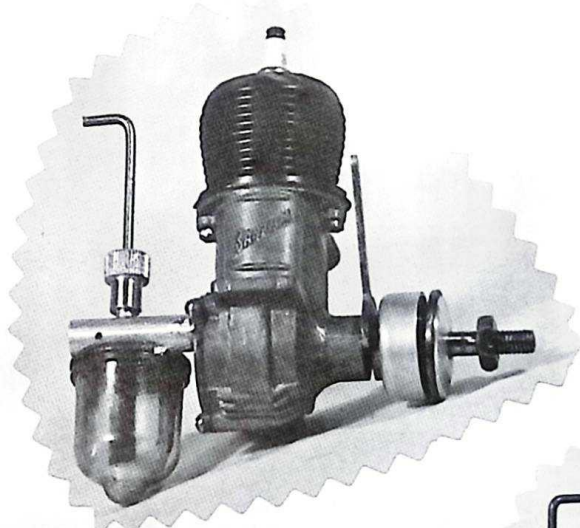




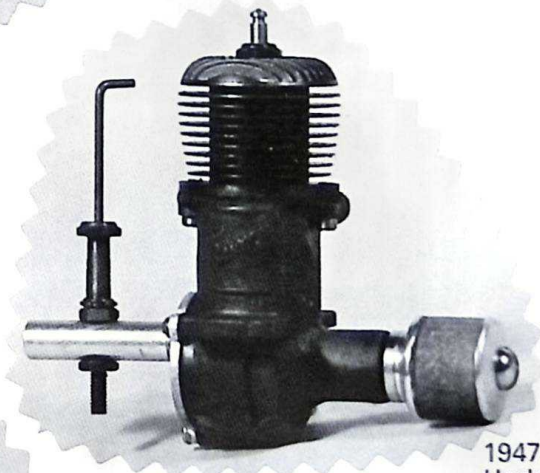
**Ball .604**  
 Manufactured by B & D Racing Engine  
 Labs, Michigan U.S.A., from 1947-49.  
 First advertised for \$35, this later dropped  
 to \$21 before production ceased



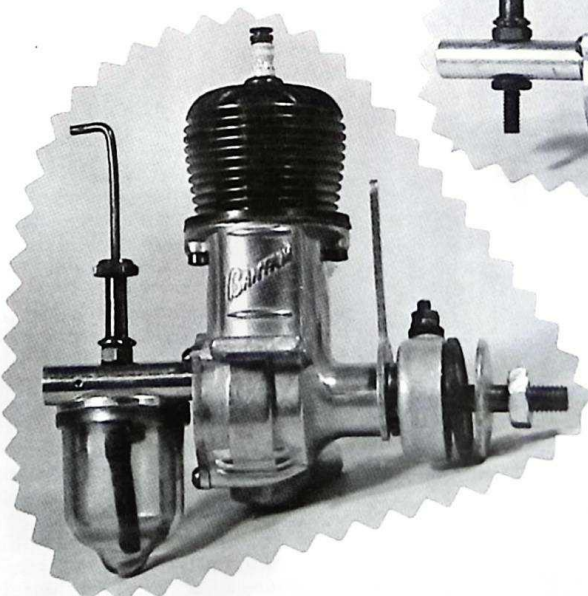
**Bantam .19 1st model** appeared in 1940  
 A well made little engine, using a  
 magnesium crankcase



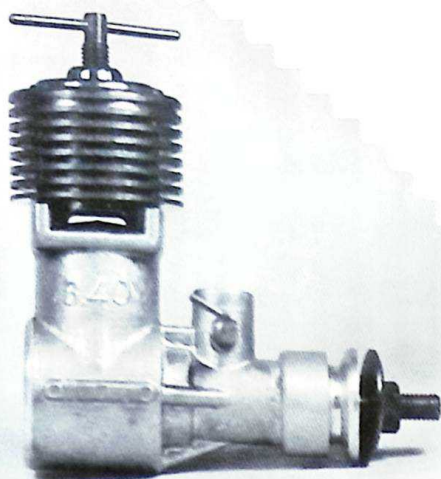
2nd model from 1946 with the 'strap'  
 around the underside of crankcase



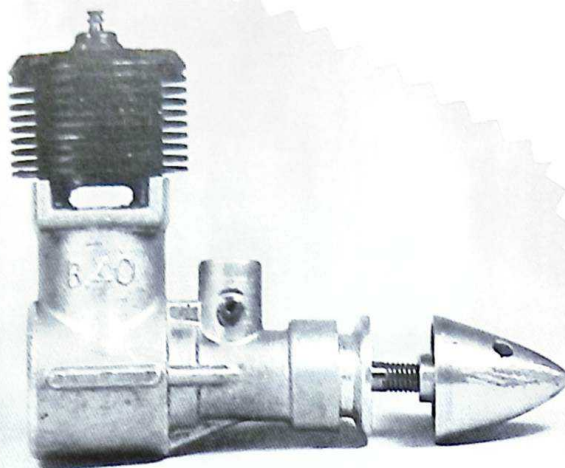
1947-on  
 Herkimer  
 produced the  
**Bantam glo**



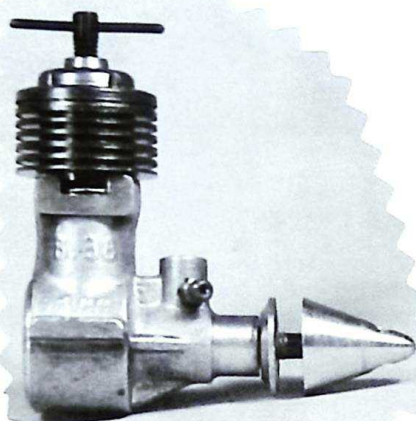
3rd model built by Herkimer (of 'OK' engine fame), from 1947  
 Note aluminium crankcase



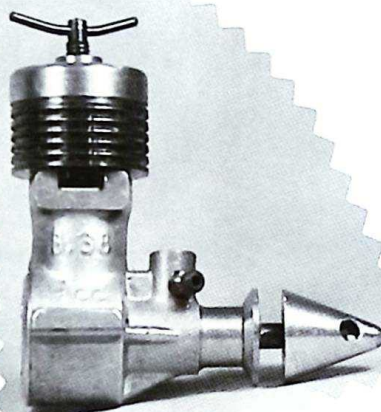
Barbini B .40 2.5cc  
Made in Italy 1956



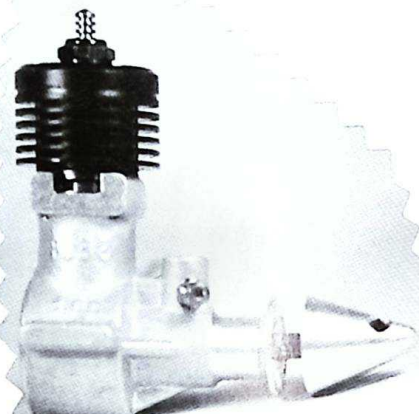
and the B .40 2.5cc glo  
from 1957



The 1cc B 38 MK I  
from 1956

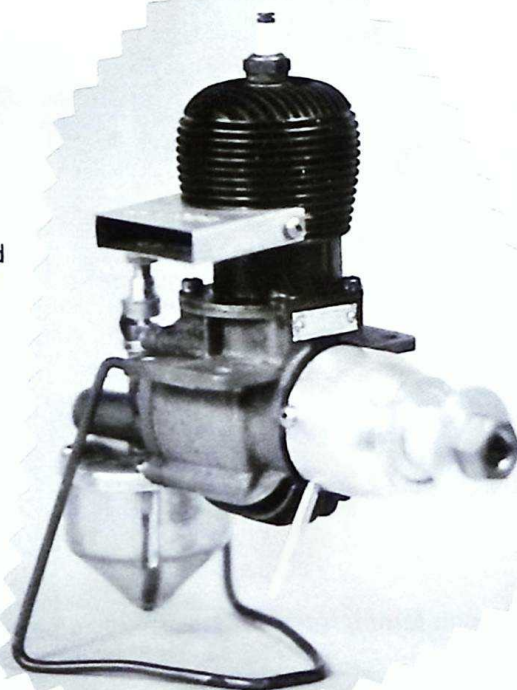


MK II 1957



B .38 glo 1958

**Barker 60**  
**'M.U.M.'**  
man-ul-matic  
induction claimed  
for this well-built  
engine made at  
Cleveland, Ohio  
in 1946

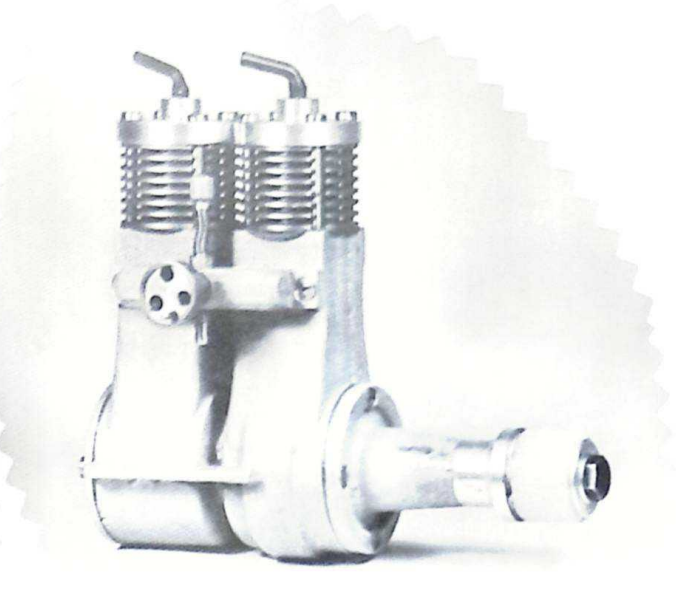
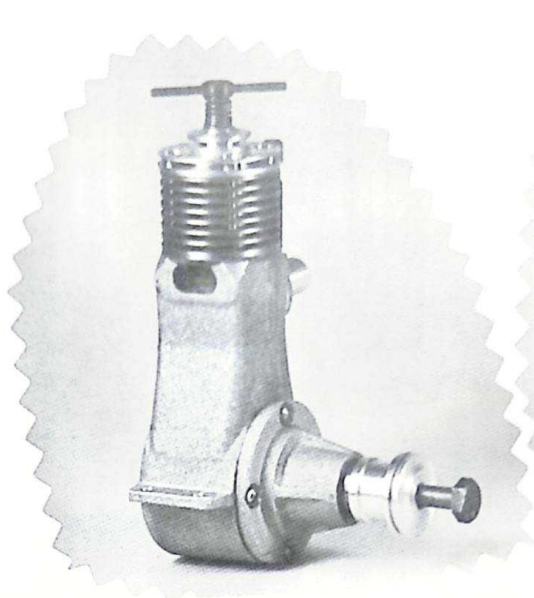


The induction system is the most unique feature of the Barker. It is actually a disc-driven rotary valve, not a disc rotary valve. The 'Man-ul-matic' is actually an automatic choke.

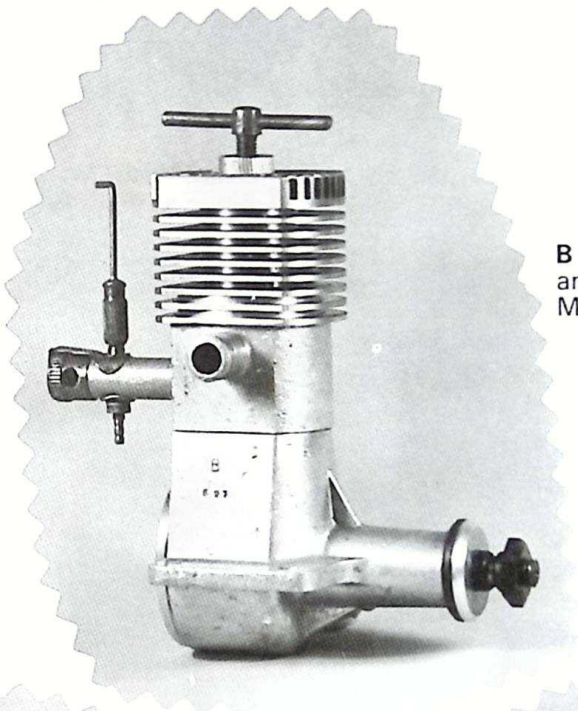
By pressing down on a tension spring/ball, tension is placed on the rotary shaft. By turning the engine backwards while applying this pressure, the crankpin moves to a second position on the rotary valve disc where it is held under tension by a circular spring. This makes the intake open earlier and provides for easier starting.

When the engine starts, the spring/ball is again depressed and the resultant drag on the rotary valve shaft causes the crankpin to slip back to its normal or 'hi-speed' position. Simple, isn't it?!

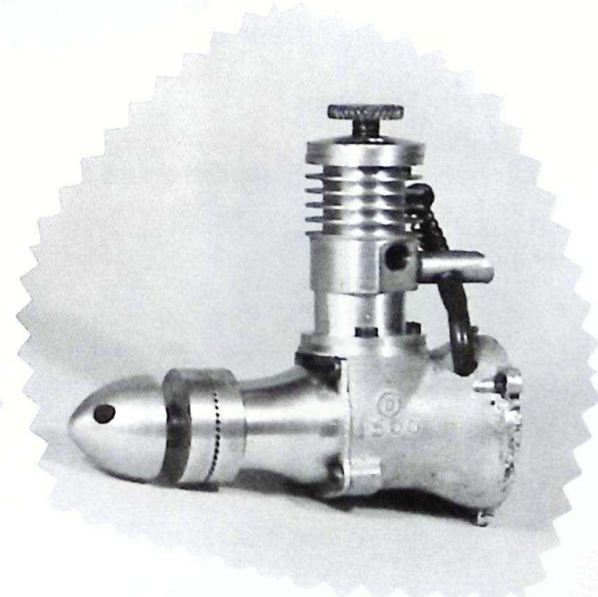
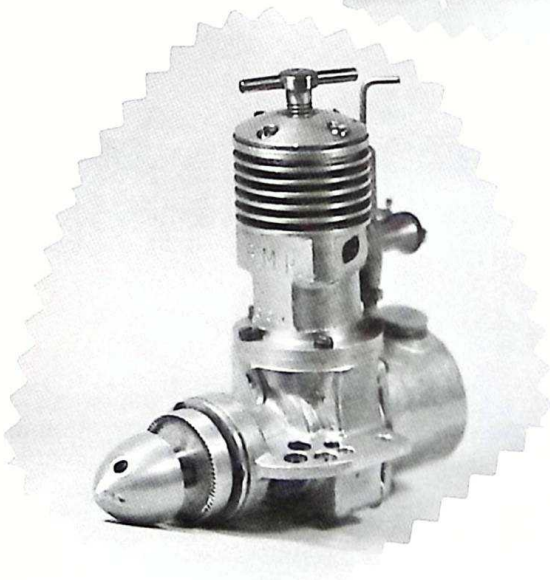




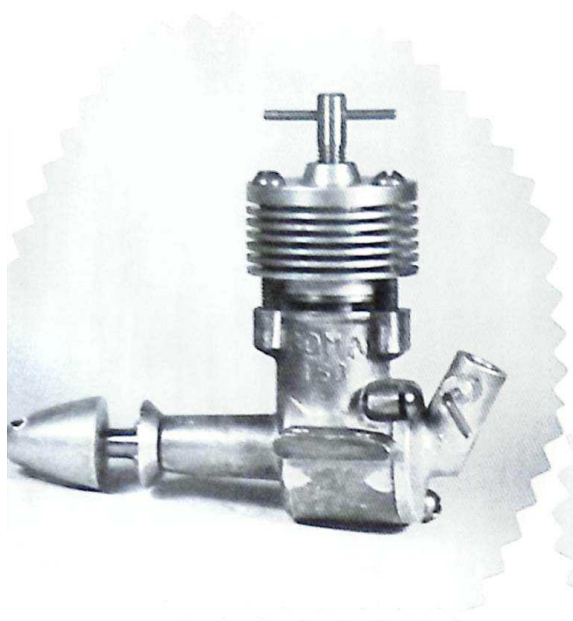
**BE 4. 4.5cc.** Originally produced in 1941.  
A small batch of this and the **BE 6cc** twin were made in the early 1970's by MVVS of Czechoslovakia



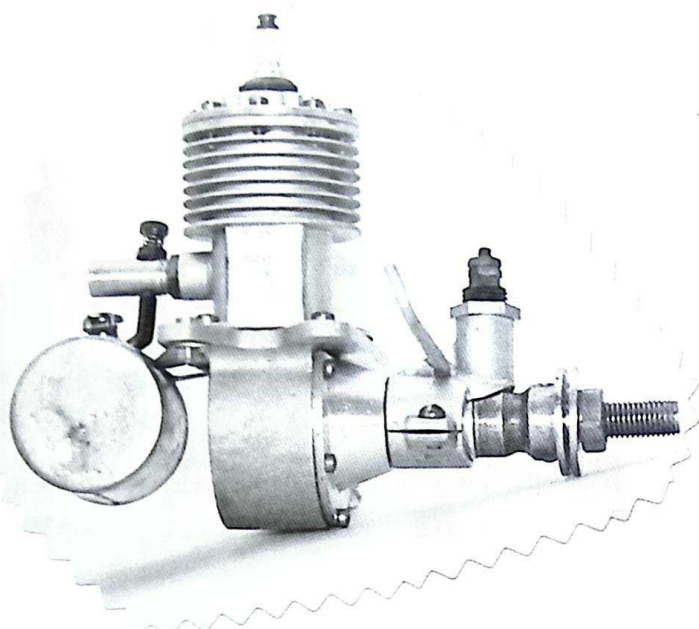
**B .51 A** 'Big 'Un' of 12cc  
and standing nearly 8"!  
Made in 1944



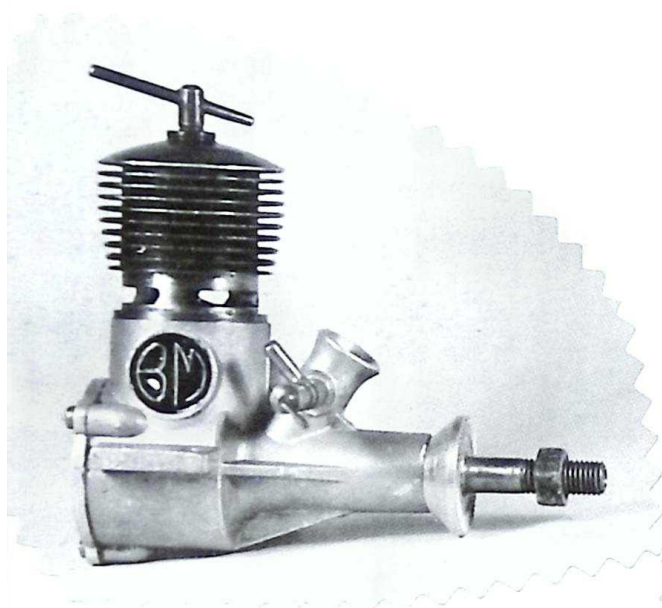
Jan 1947 saw the introduction of this  
rather heavy **3.5cc B.M.P.** from Bournemouth, followed in Feb 1947 by the **.9cc.**  
Both engines had ball-race shafts



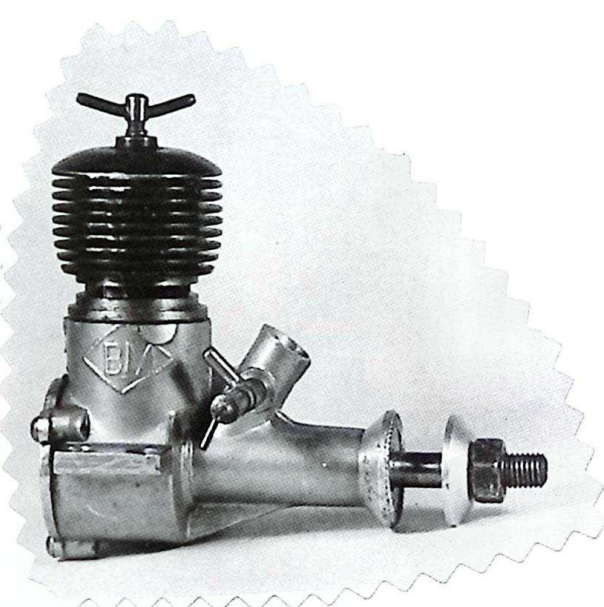
oma 1.5cc. from Indonesia.



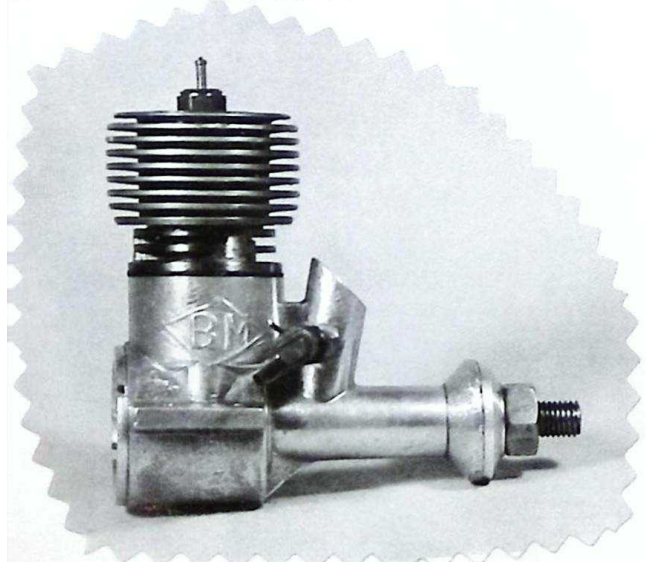
Bond Model 'A' .57cu.in.  
Made in the U.S.A. in 1946



1951 Boss Morin 5cc Series I

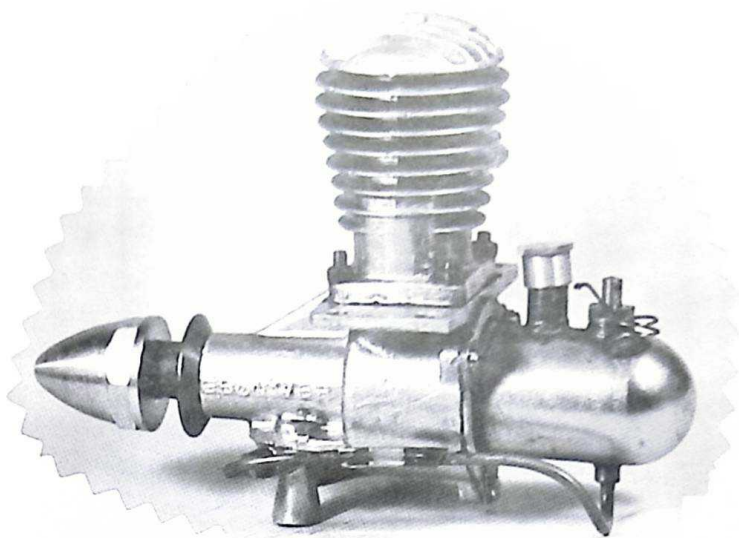


1952 Series II. Made in France in small numbers, as were all Boss Morin engines

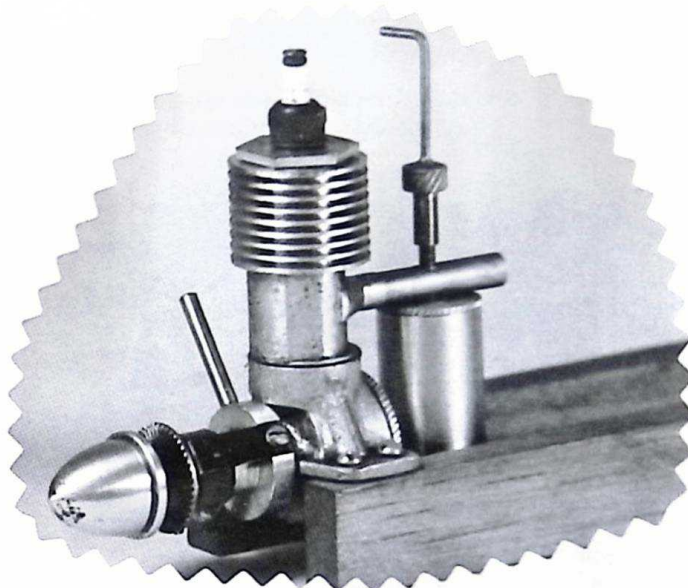


1953 '29' glo

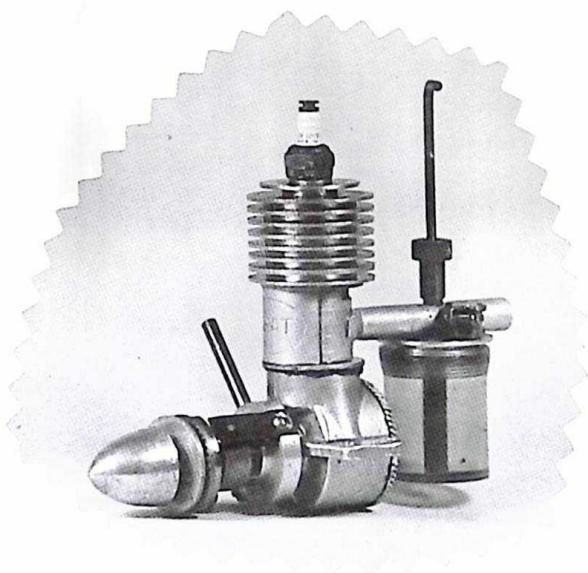




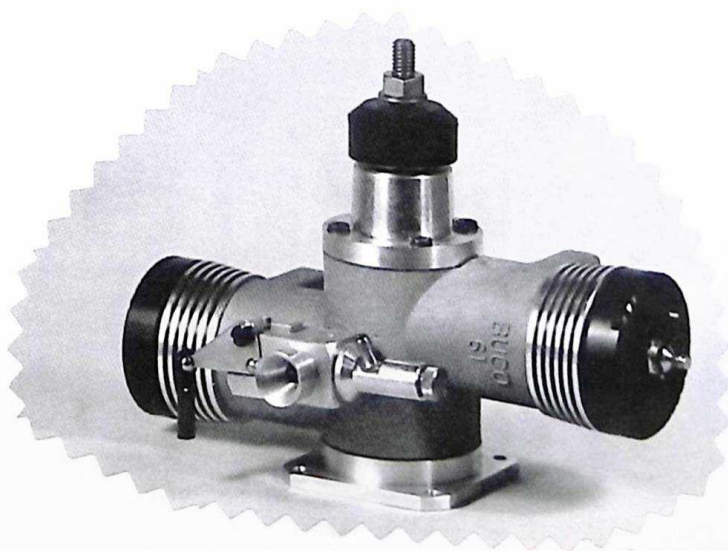
**Bonnier** 5cc. fixed compression diesel  
Made in France around 1946



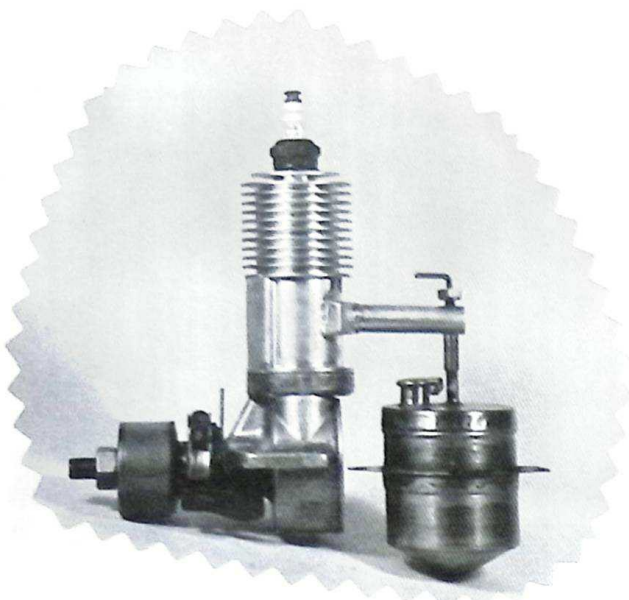
1937 '**Brat**' .138 ign. Sand cast and  
'Hexagon' head model made in U.S.A.  
by the Keener Aircraft Industries  
Los Angeles, California



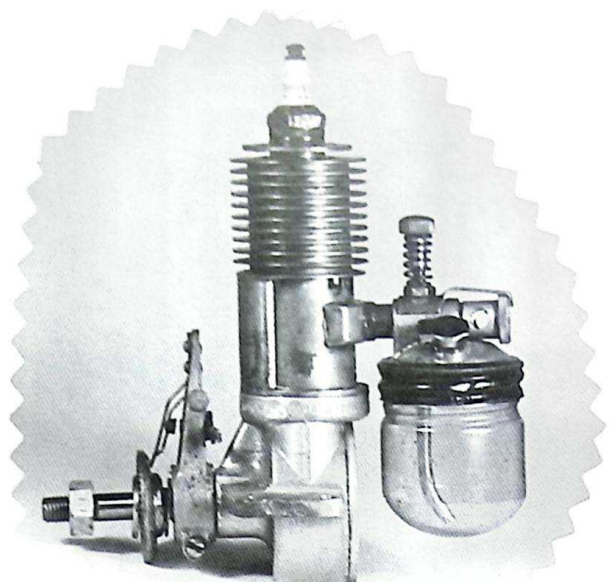
1938 '**Brat**' was .152 cu.in. and had a die cast c/case, round head and plastic tank



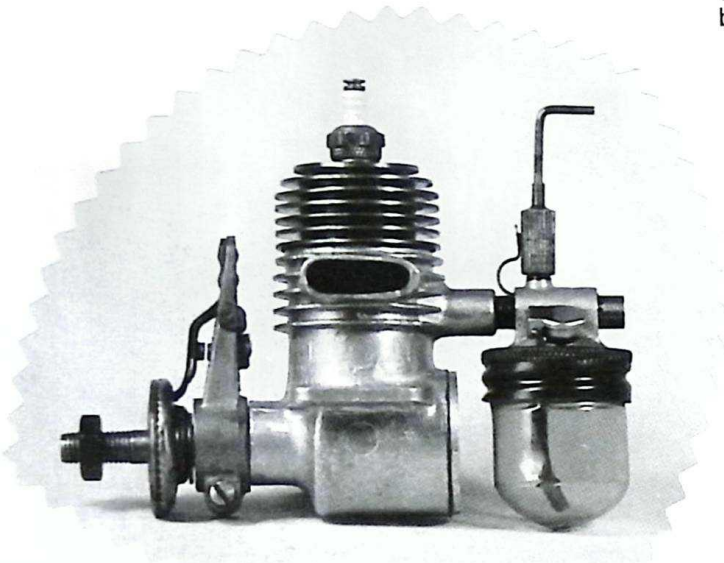
The 10cc **Buco** twin  
A beautifully made  
engine from Switzerland  
in mid to late 1970's



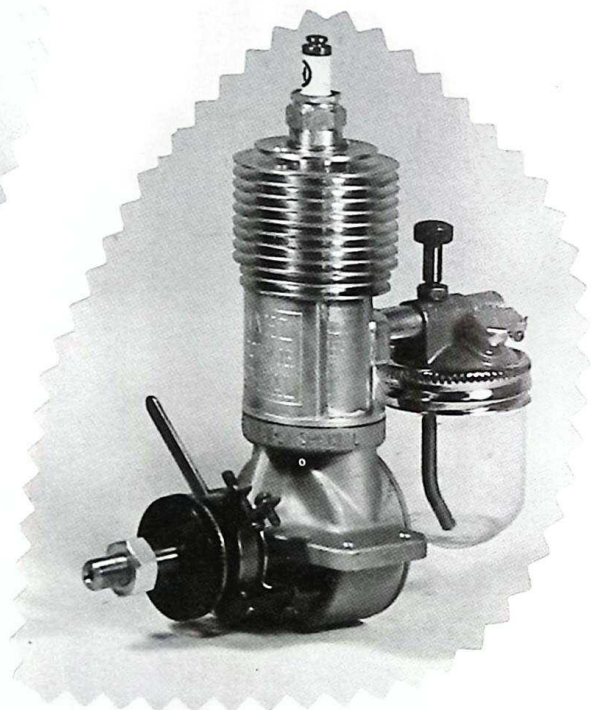
**Brown model 'C' of 1938, has rings and a bent wire needle valve**



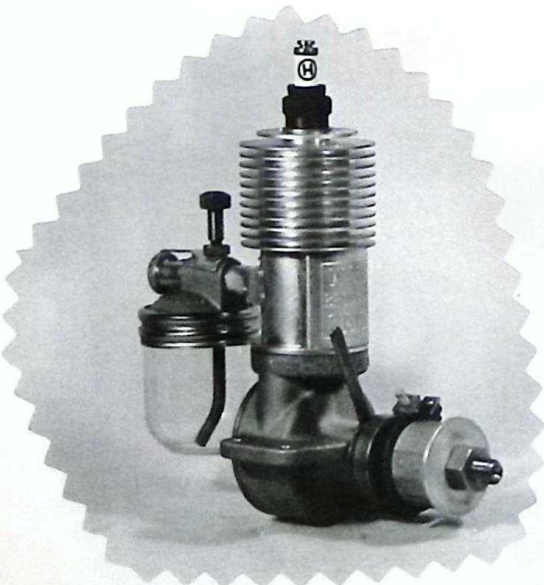
**Brown Junior .601 cu.in. of 1938 with lapped piston. The model 'B' made by Bill Brown at Philadelphia, U.S.A.**



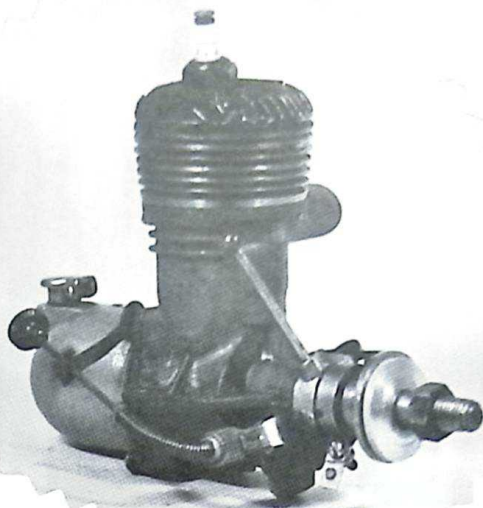
**Brownie '29' from 1940**



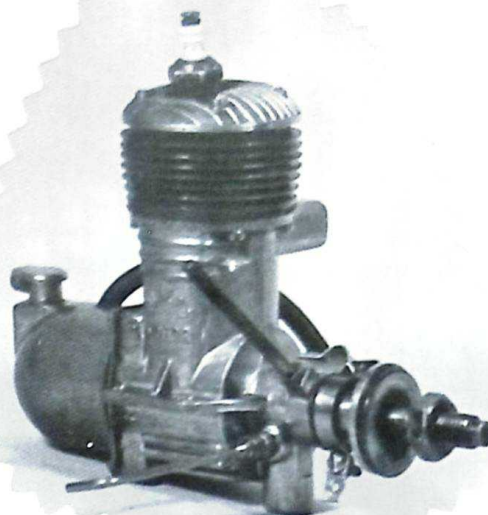
**Two examples of the fine workmanship of Herb Wahl who produced the Brown Jnr. 'Custom' and 'Anniversary Special'**







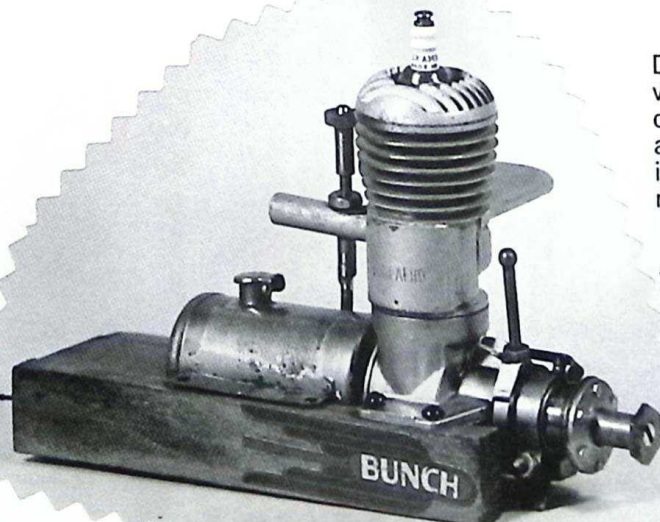
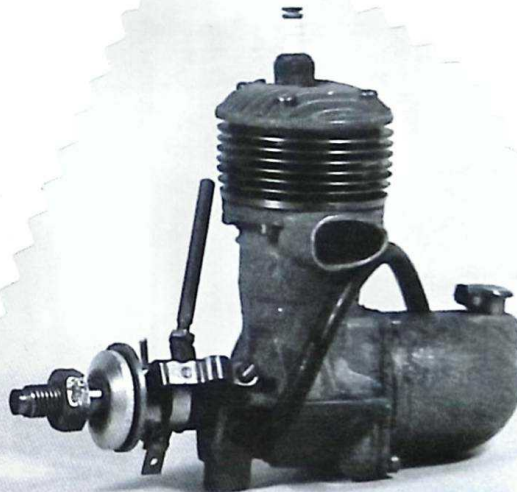
**Bullet .27** 1946 with magnesium castings



Another **Bullet .27**, also from 1946, but with aluminium castings



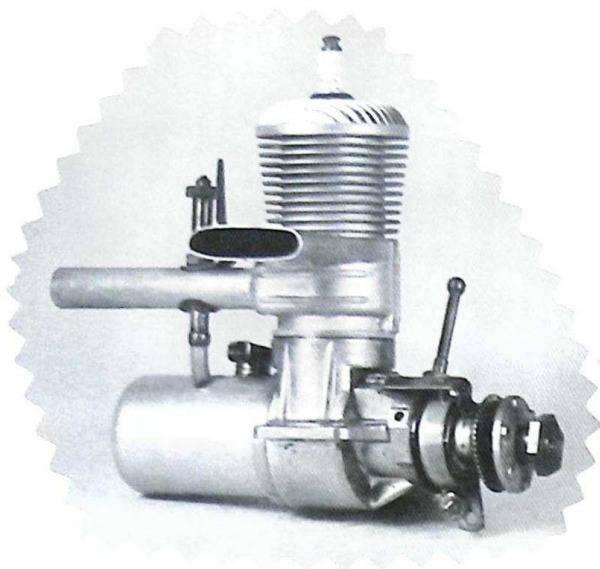
In 1946 the **Bullet .27** was available in Black crackle and Red crackle finish  
Made by Miniature Motors, California



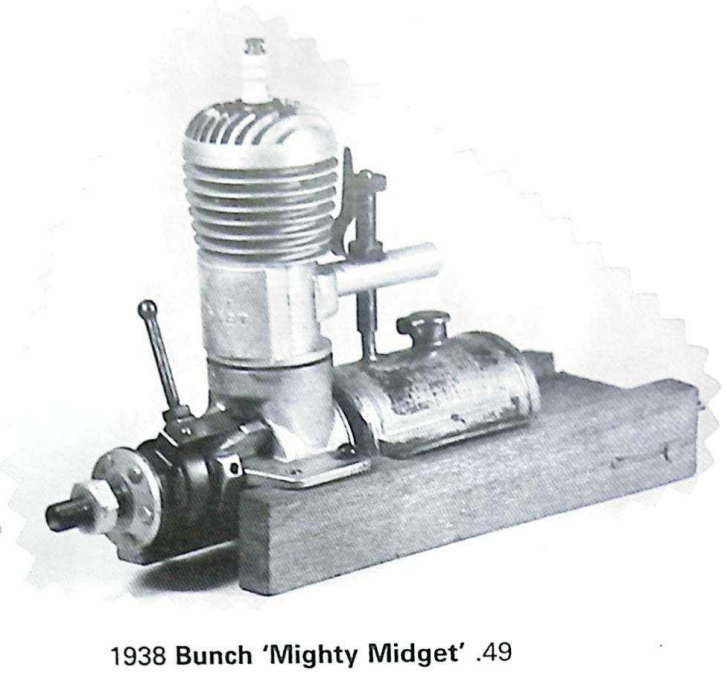
Dan Bunch's Model Airplane Co. was a pioneer model airplane supply company. The first Bunch engines were advertised in June 1936 and manufactured in Indianapolis. By 1938 they were being made in Los Angeles.

1938 **Bunch 'Gwin Aero'** .49 cu.in.





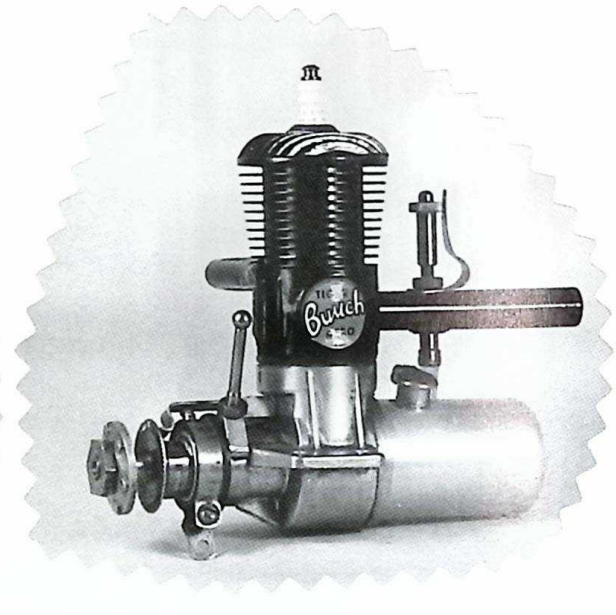
1940 Bunch Tiger Aero of .45cu.in. displacement



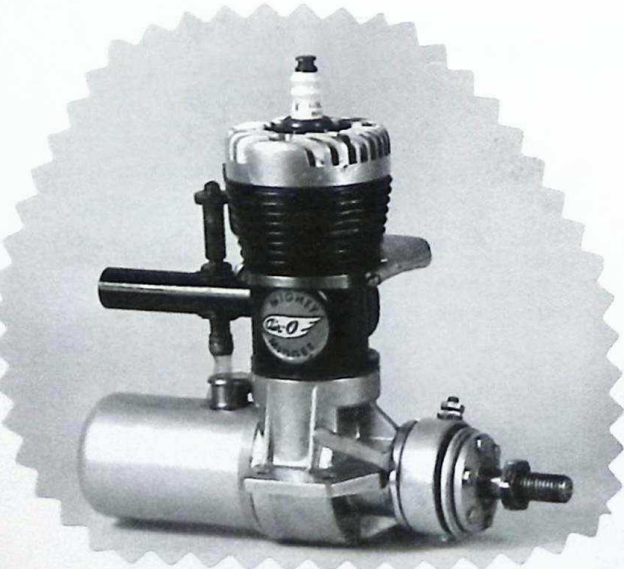
1938 Bunch 'Mighty Midget' .49



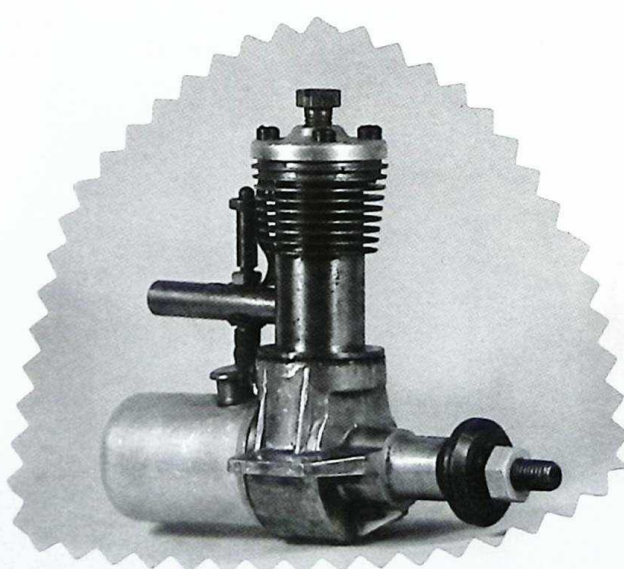
1940 Tiger Aero with plastic tank



1945 Tiger Aero .45

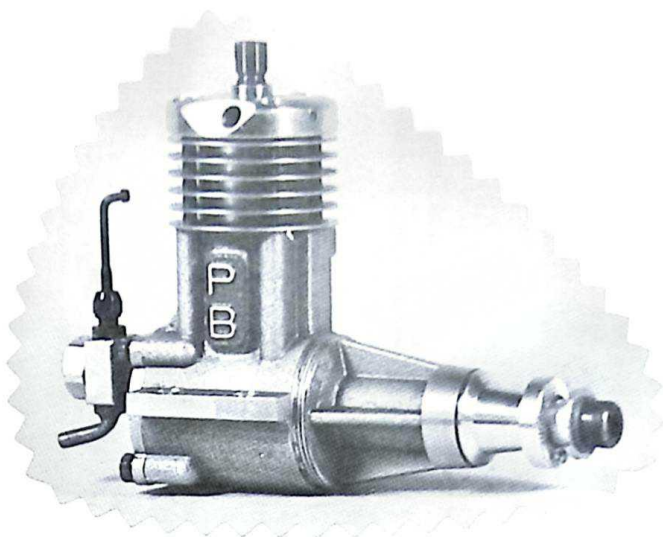


1947 'Mighty Midget' .45



1947 Air-O-Diesel of 5cc

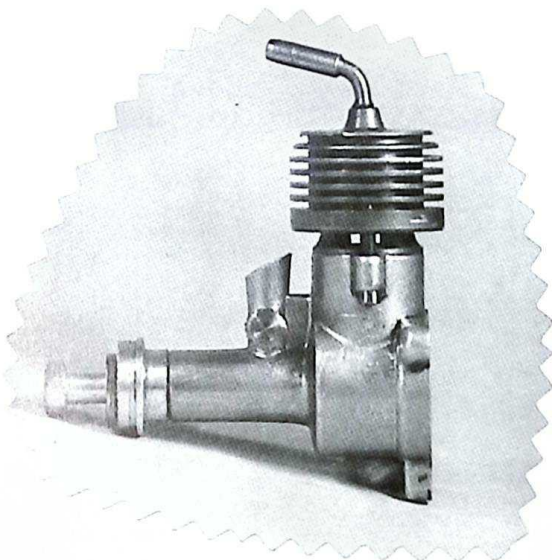




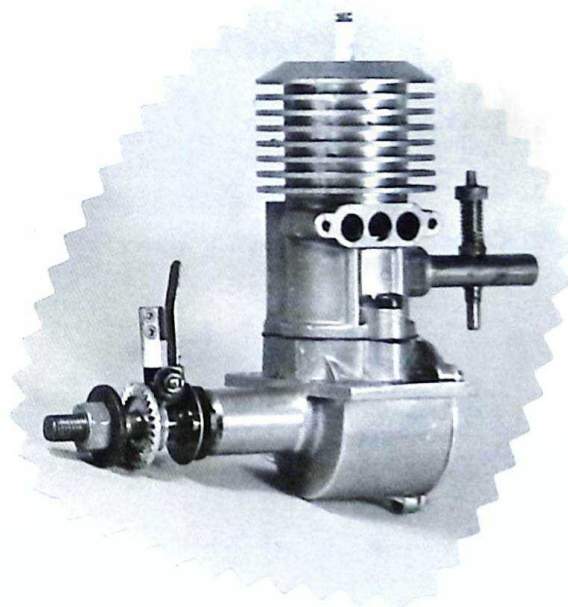
**Bugle 2.5**



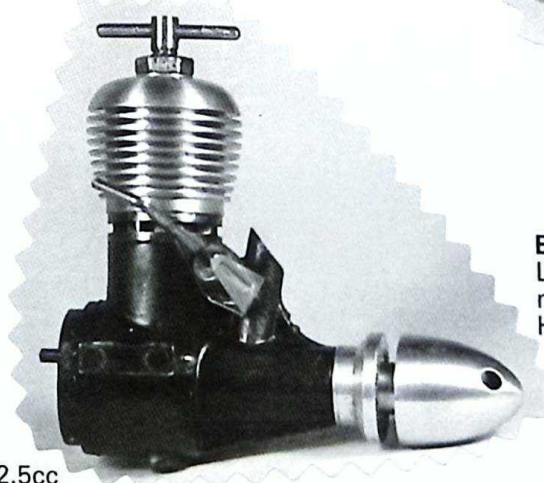
**Bungay .600.** Manufactured by the Bungay Bros. of New York City. First appeared in 1948, with a price of \$37.50. Although very well made and powerful it couldn't compete with the established Dooling and McCoy companies, and disappeared by 1949.



**Bus 1.2** made by Busék, Czechoslovakia



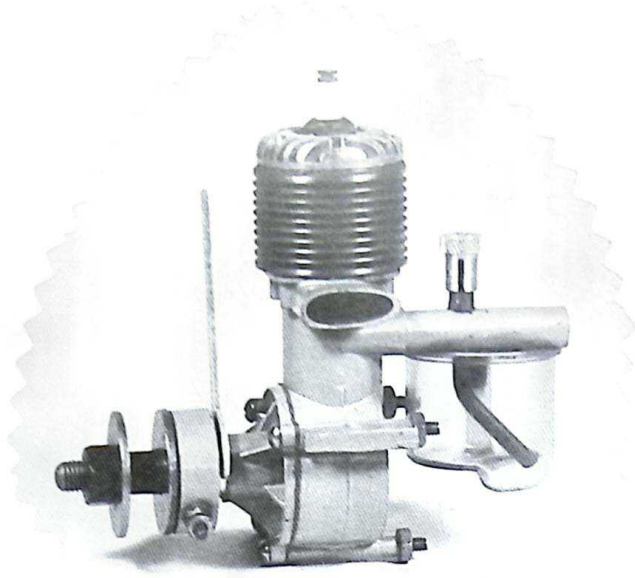
**Buzz 'D' .61 ign.** Largest of the Buzz range of engines, manufactured for the American Hobby Centre in 1948



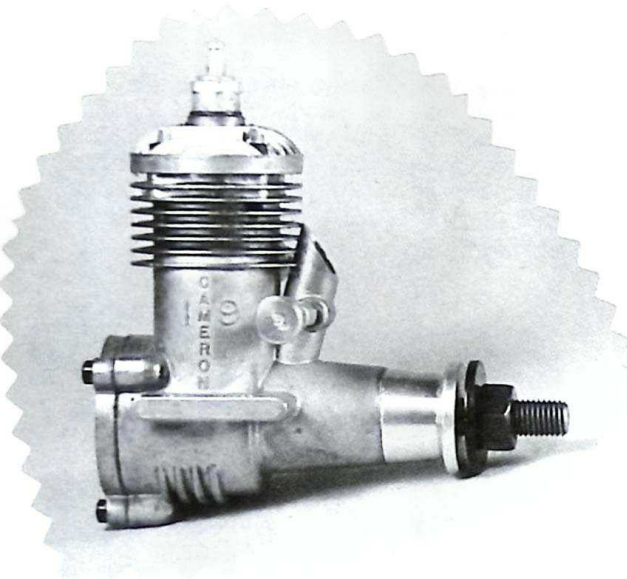
**BMW 250 2.5cc**  
From W. Germany



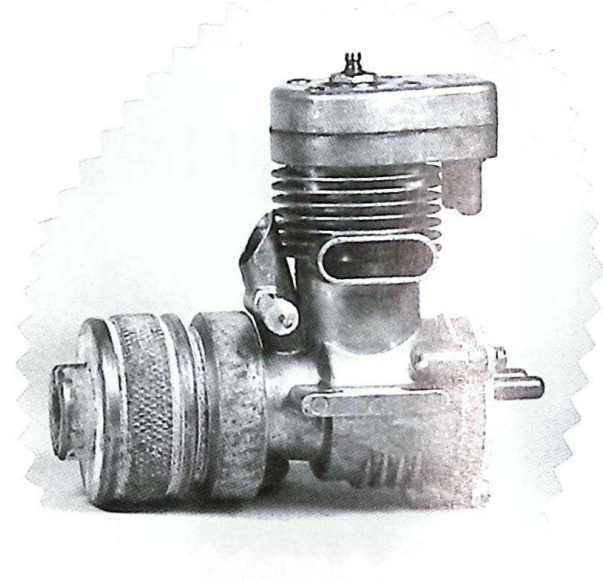
1950 Caml 50 1.8cc from Russia



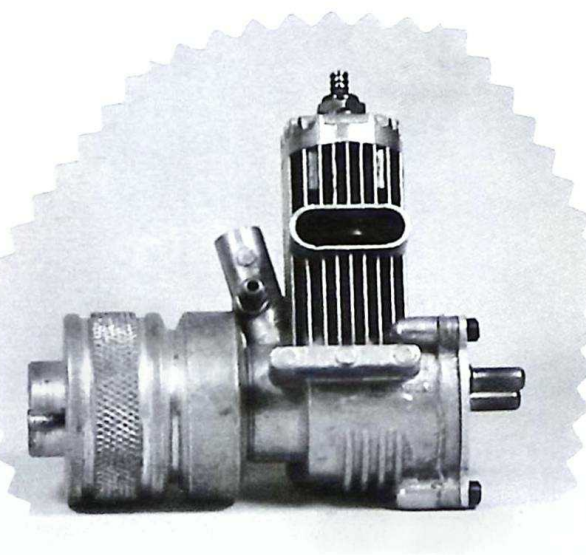
Cameron 23, 1946 from California, U.S.A.



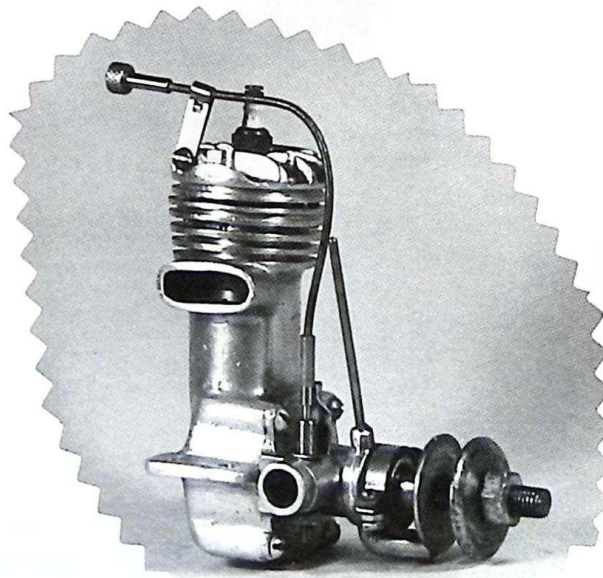
1961 Cameron .15 glo



Cameron .19 water cooled 1955



Cameron .09 Special Marine  
from 1953

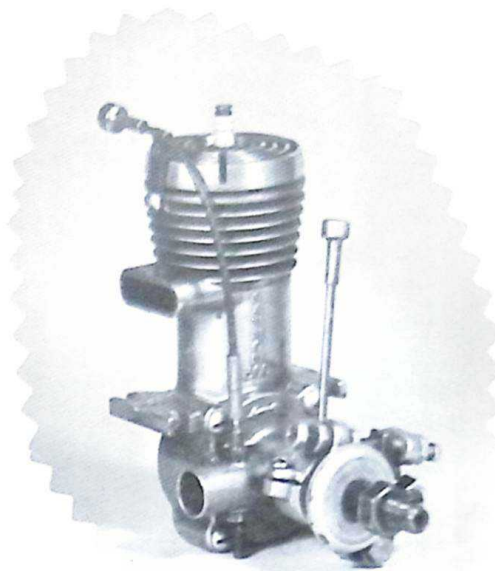


Cannon '300', or .299 cu.in.  
Made by Cannon Manufacturing Co.,  
Cleveland, Ohio, 1941

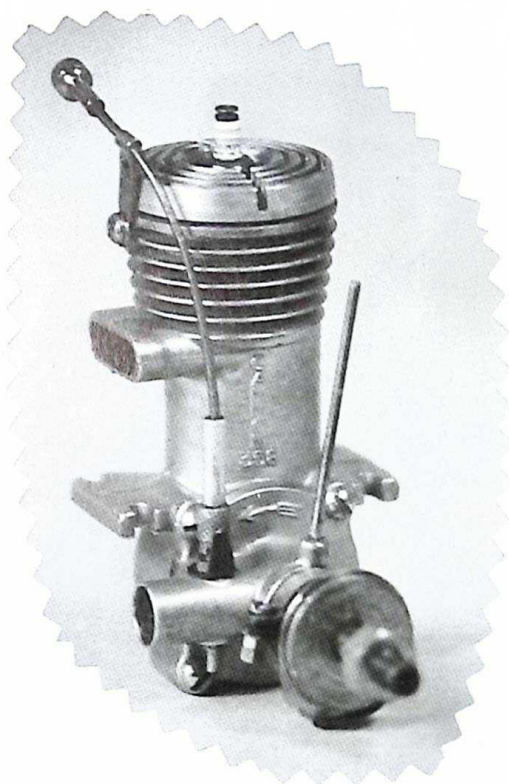




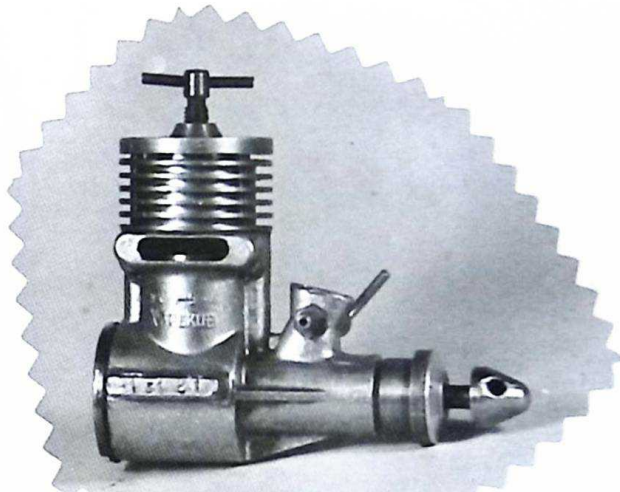
1946 **Cannon '300'** .29cu.in.



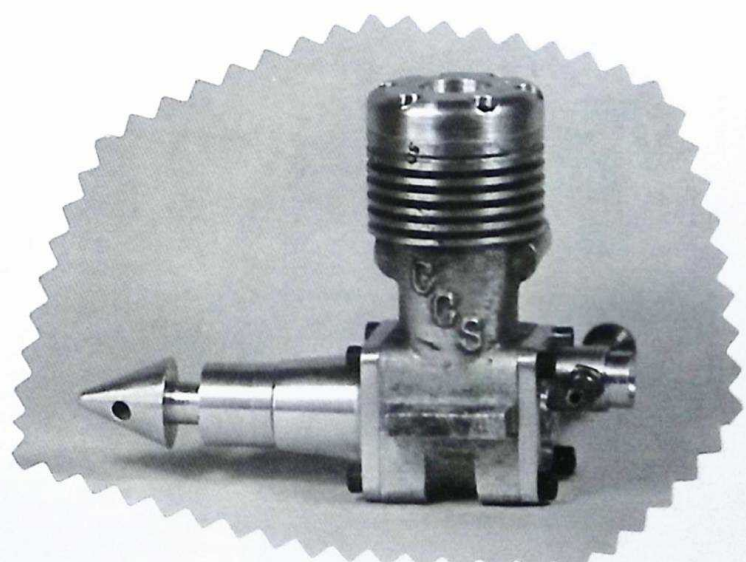
Same again but fitted with the  
'Beefier' 'Strato Timer'



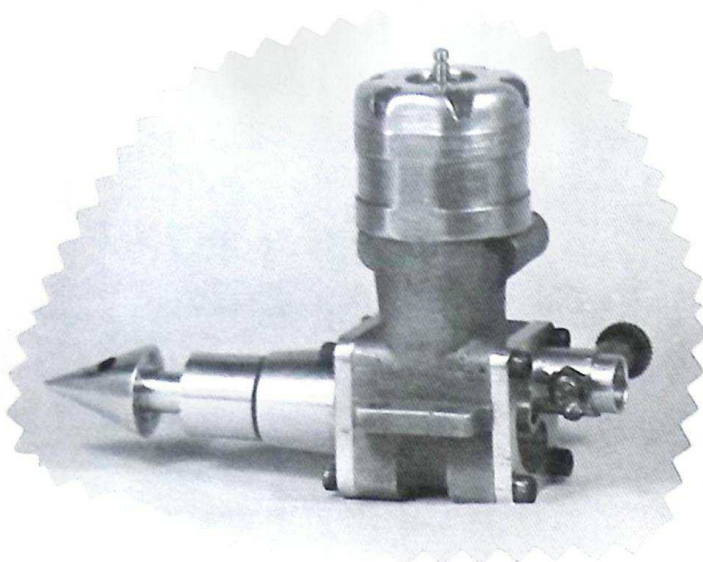
The longer stroke .358  
Post-war **Cannon**



1958 Russian '**Charkov**' 2.5



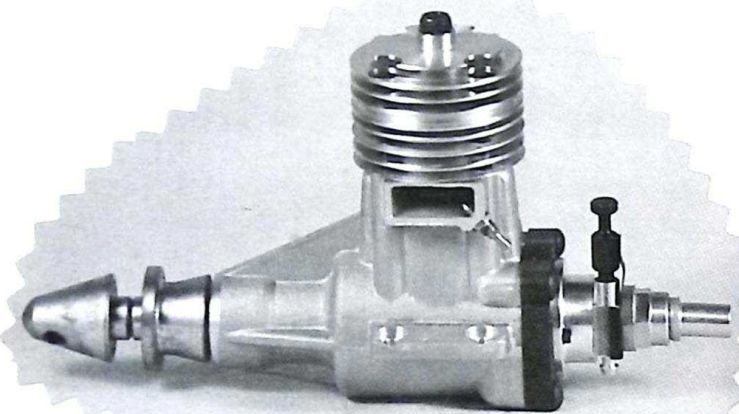
1961 **Carter Checksfield Special** 2.5cc



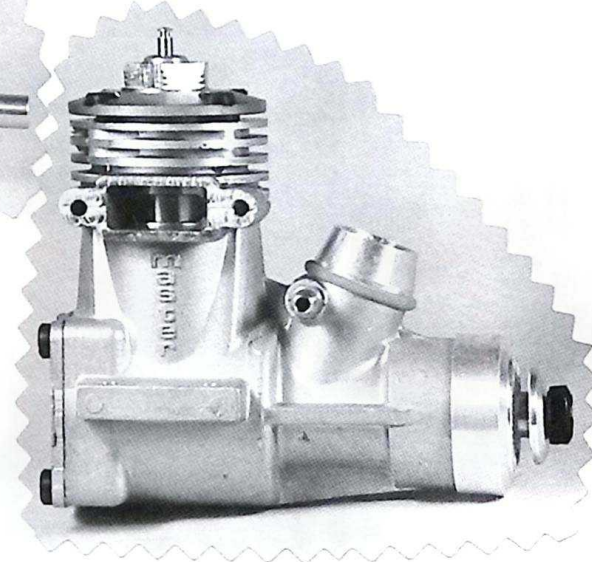
**Carter 'Nipper' 2.5**  
Ray Gibbs' actual winning engine



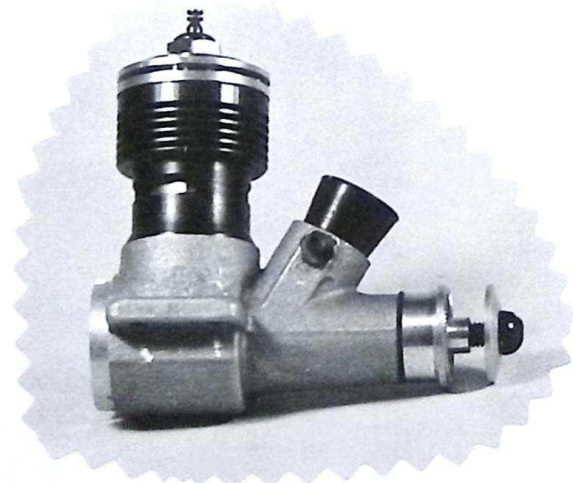
**C.I.E. 2.5cc, 1947**  
Compression Ignition Engine  
Made in Los Angeles



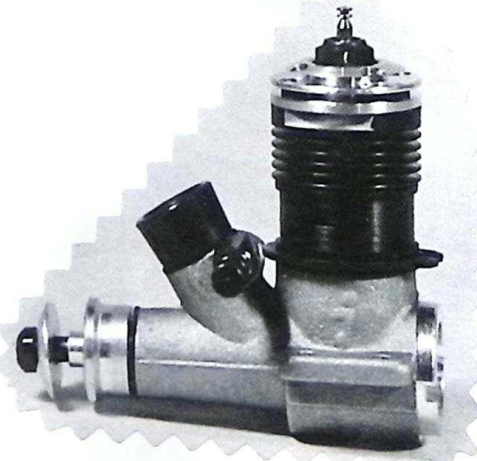
**1984 Cipolla 2.5D. Team Race Engine**



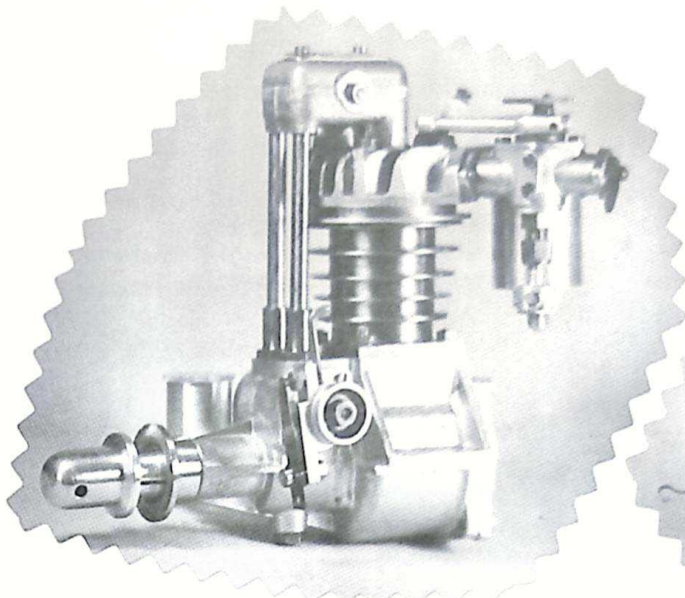
**1985 Cipolla Combat glo 2.5**



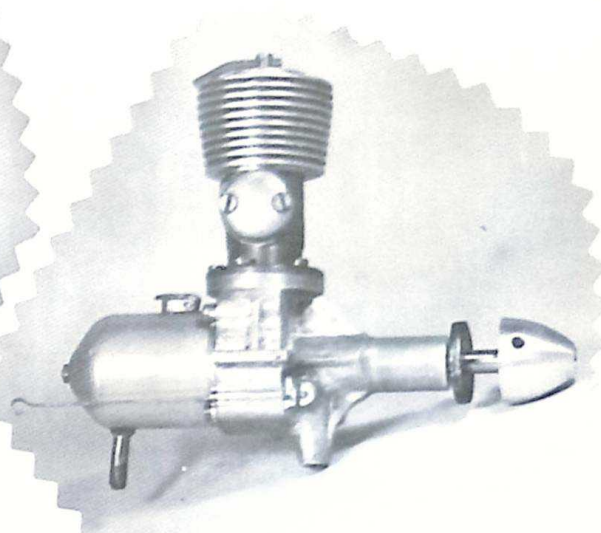
**Cipolla .09 standard and R/C version,**  
with revolving cylinder sleeve, from 1985



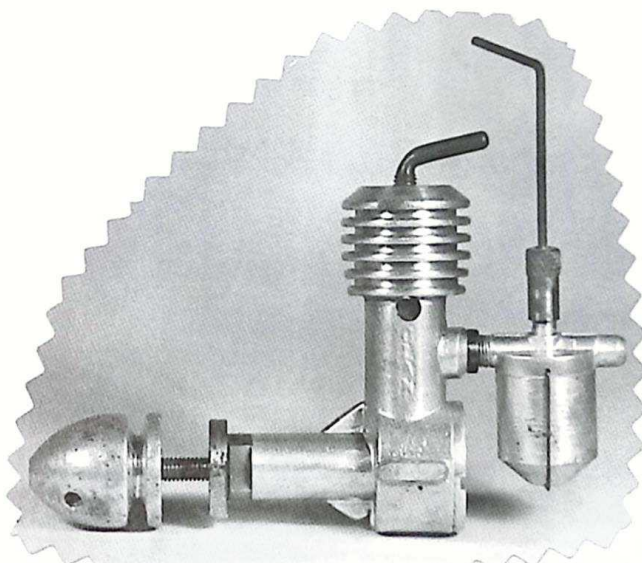




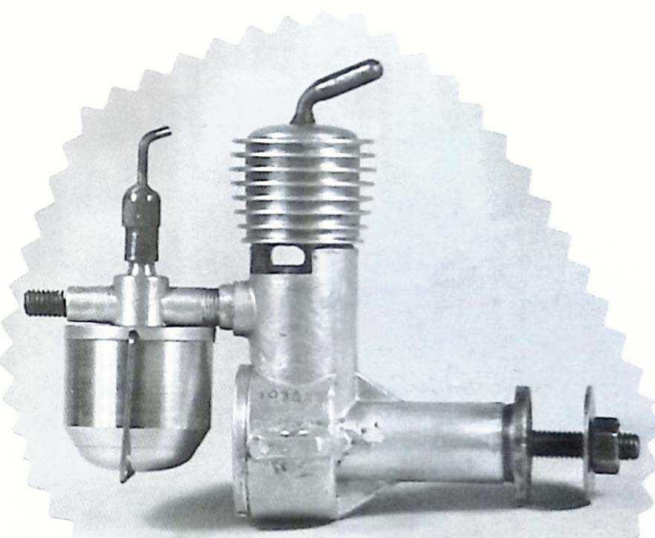
**Channel Island Special 10cc**  
made from 1948 to mid 50's by  
Jensen Ltd of Jersey, C.I.



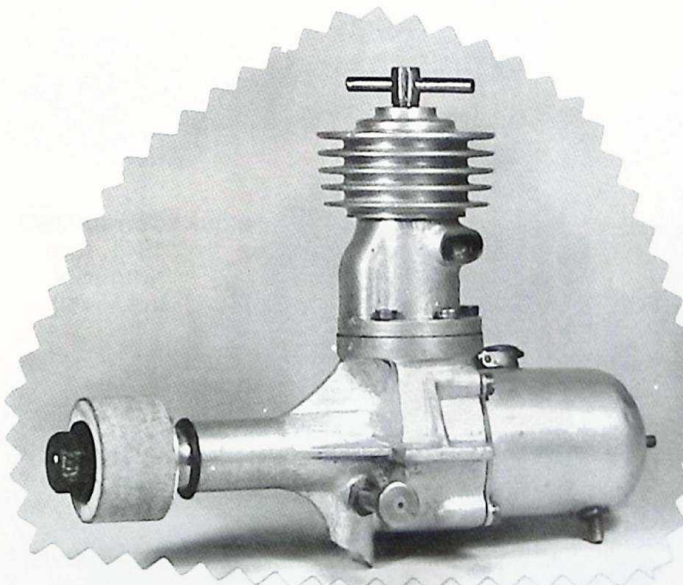
**Clan 'Clansman' 5cc**, made in  
Glasgow in 1946 and distributed through  
Caledonian Models, Glasgow



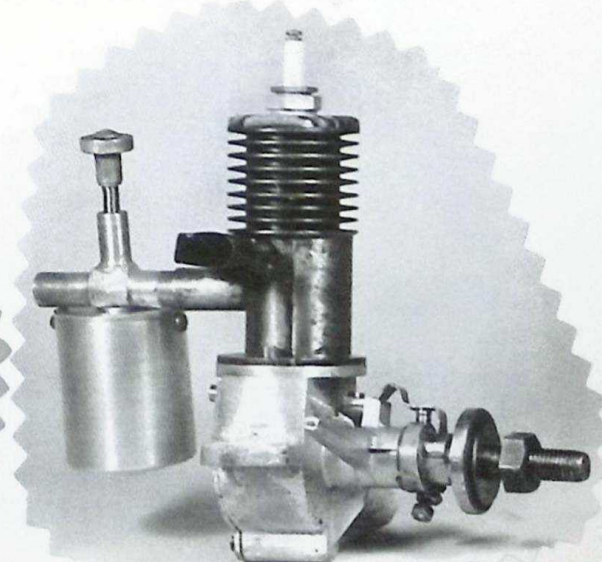
**Clan .9**  
first advertised Sept 1947



**Clan 1.2** did not go into production

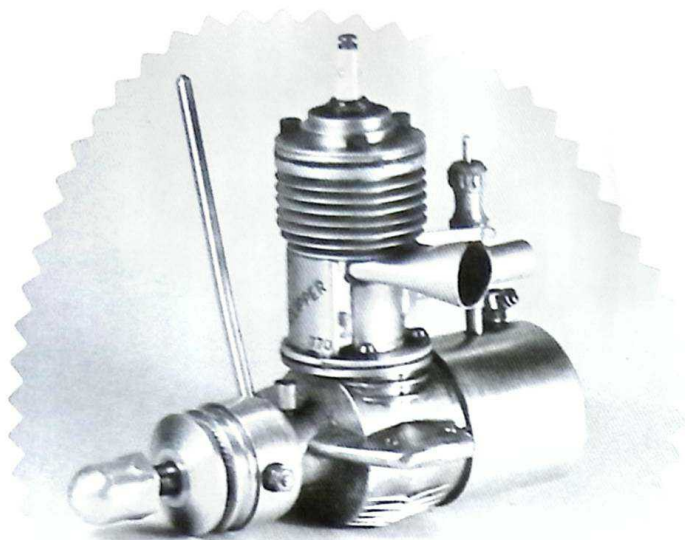


**Clan 'Chieftain' 5cc** also never  
went into production



The **'Cloud 9'** of 1938. Made by  
Cloud Model Aircraft at Dorking, Surrey

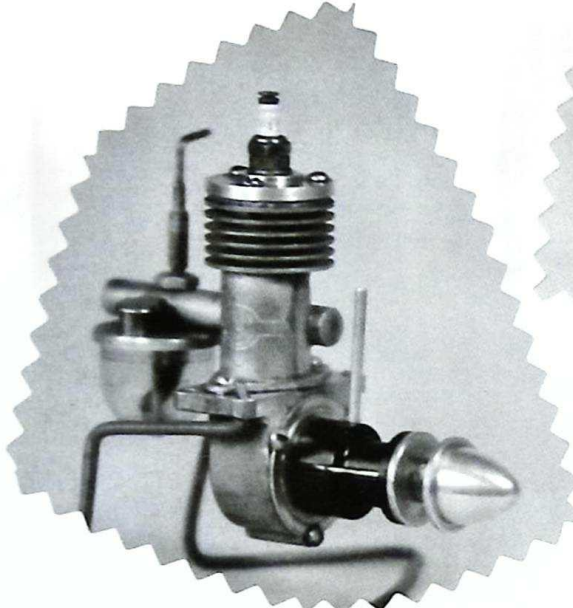




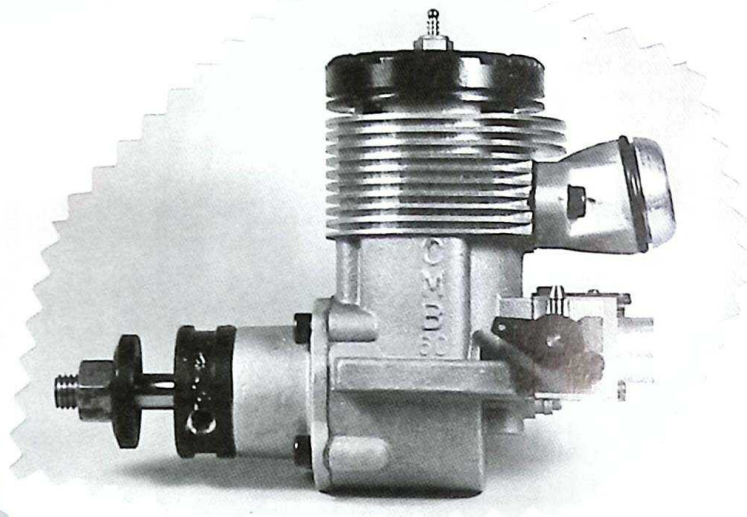
Originally developed for integral generator (not magneto). They never 'got off the ground', with the introduction of the glo plug.

A few Clippers were sold in various versions without the generator. There is rumoured to be about eight 'Generator Clippers' lost in some attic, or similar, along the U.S. West Coast.

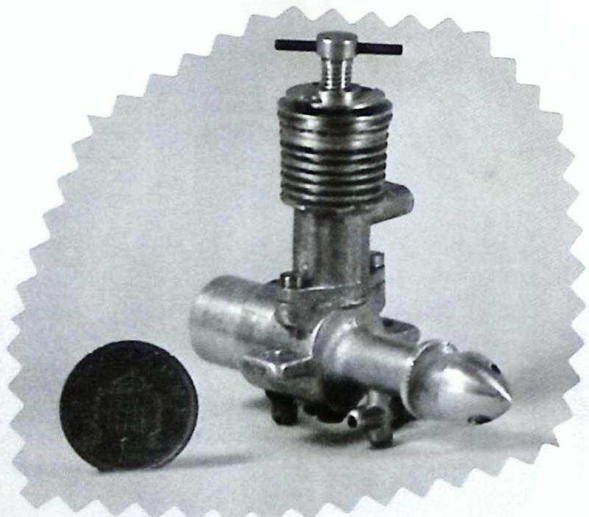
**Clipper 'XX770' .381 ign. 1951**



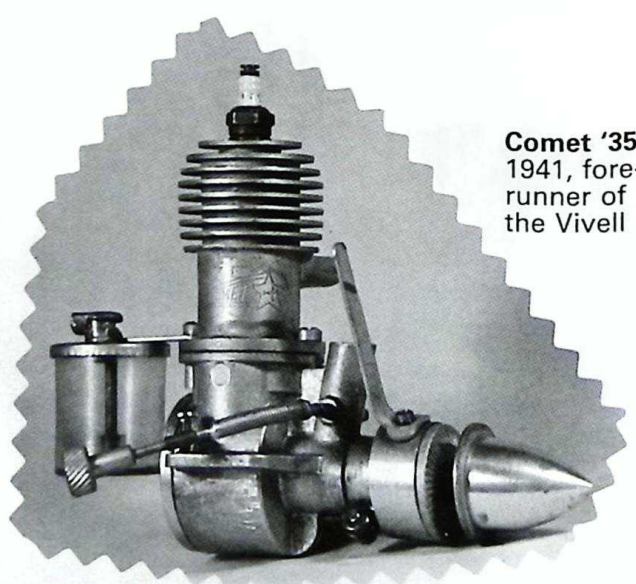
**Cobey-Waite 2.4cc, 1946** was the post war version of the Madewell .14. A few were built in 1972 from original parts



**C.M.B. 60.** A powerful Italian racing engine of the 80's

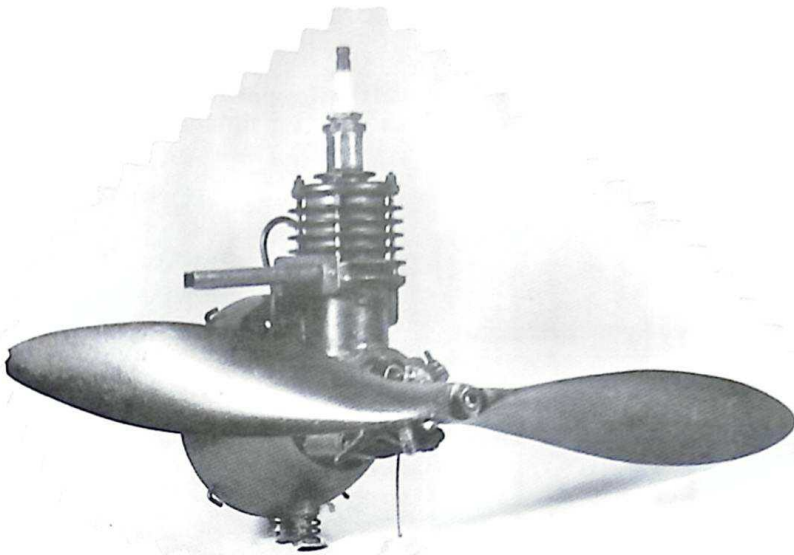


**Comet .4cc.** Sold by Gamages, London in 1948

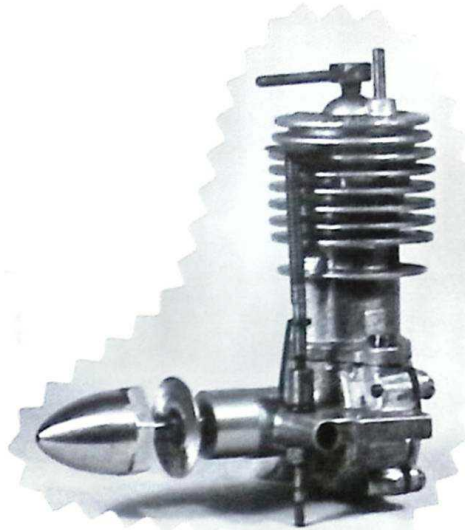


**Comet '35'** 1941, fore-runner of the Vivell

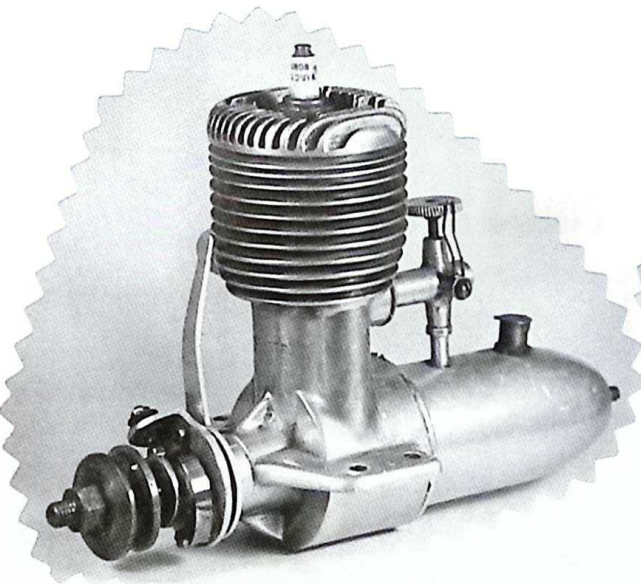




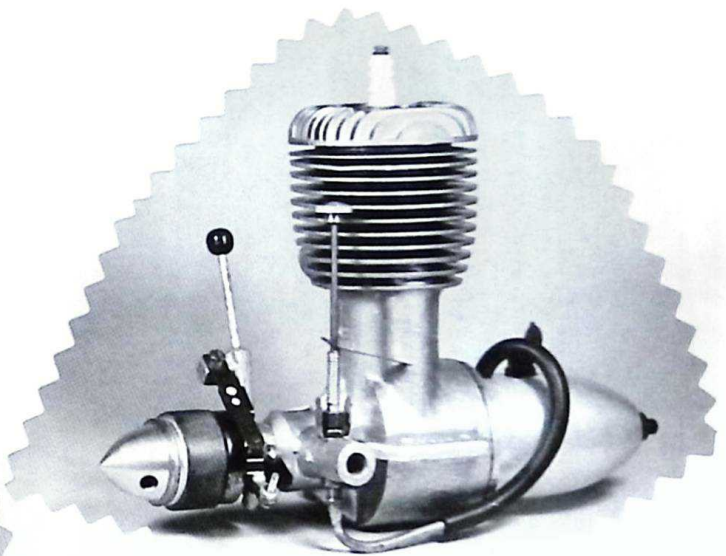
**Comet 18cc** with original 18 x 12 magnesium prop. It managed to turn it at around 3,000 r.p.m. Distributed through Model Aircraft Stores, Bournemouth from 1935. Designed by a Mr Brooks from Bournemouth, who befriended Mr Rodgers from Leicester and persuaded him to build them. Followed in 1936 by the 2.5cc Spitfire, 6cc Wasp and just before the war the 3.5cc hornet. After the War Mr Rodgers produced the Stentor 6cc for about 4 years.



**Comete 5cc.** The cheapest French diesel at under £4 in 1948. Built in Paris, France

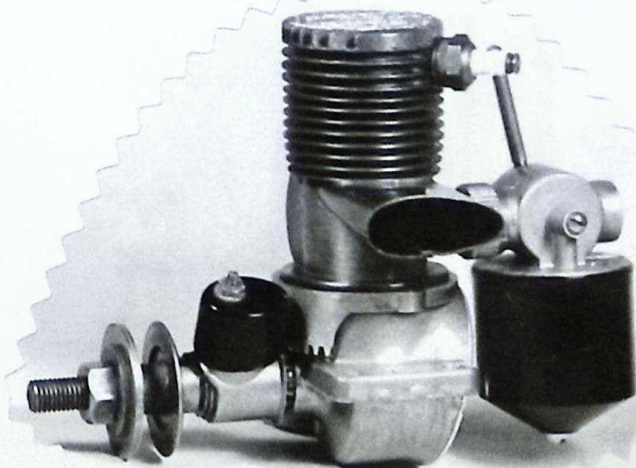


**Comete 10cc sideport** from 1945

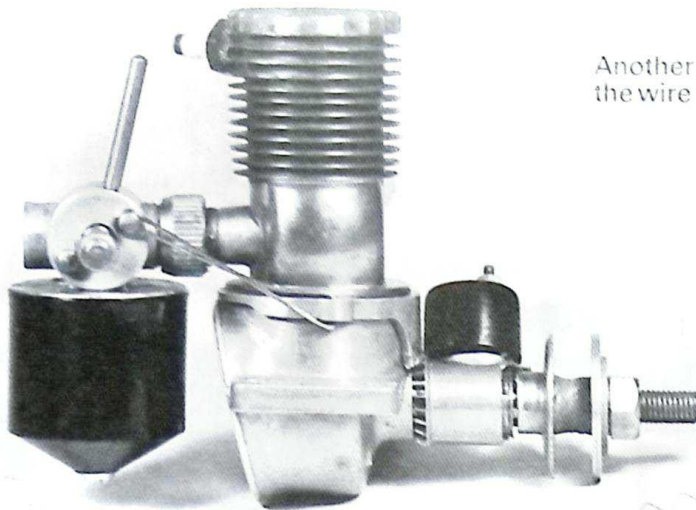


**Series II shaft valve** from 1946

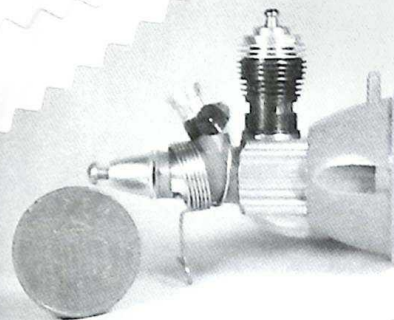
**Condor 'Kopper King'** Built at Pittsburg from 1941 in small numbers, and again just after the war. It looks a beauty with its copper plated cylinder and deep red bakelite tank.



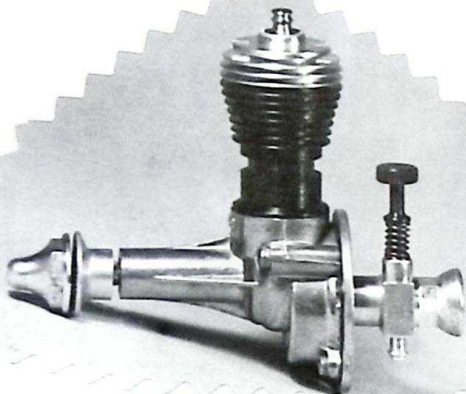




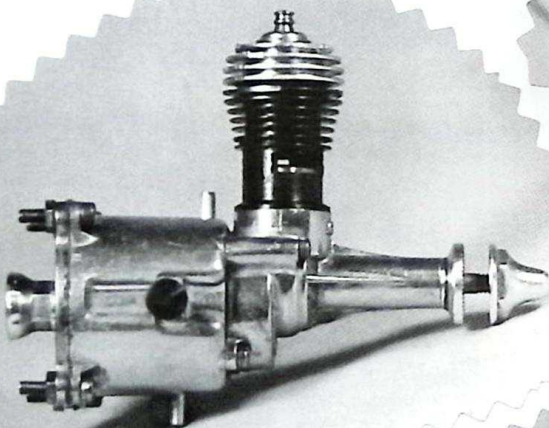
Another view of the **Kopper King**, showing the wire link from carb. to timer assembly



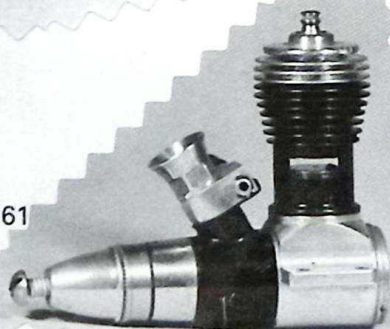
**Cox .010**  $\frac{1}{16}$  of a c.c. The world's smallest mass production engine, with an r.p.m. of up to 30,000!



1953.049 Thimble-Drome  
**'Thermal Hopper'** Free flight and control line versions

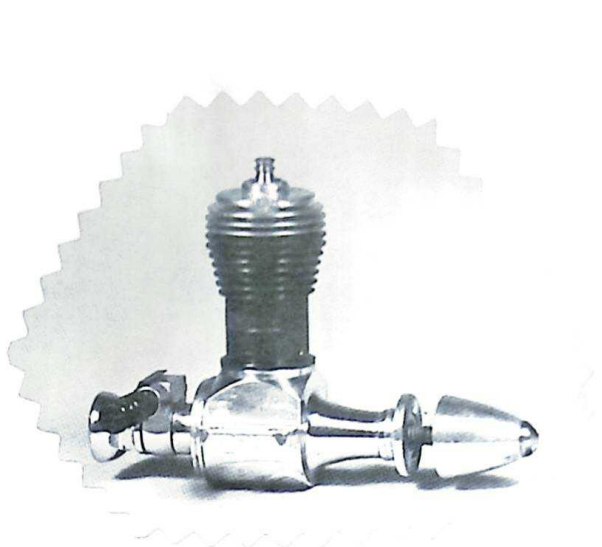


1953 **Thimble Drome** .049 with nylon tank called 'Space Bug Junior'

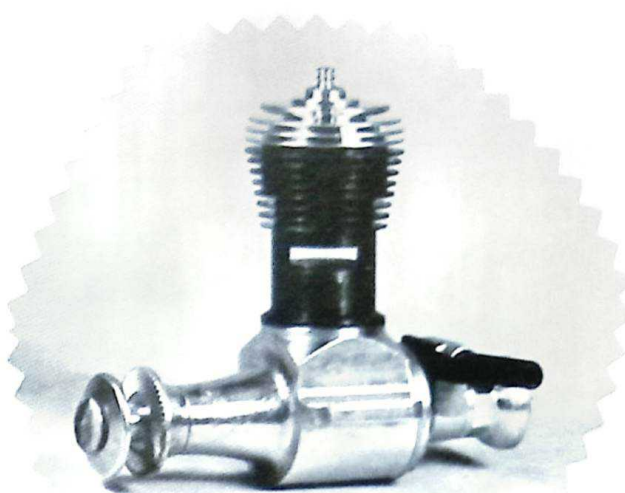


**Cox T.D.** .049 from 1961

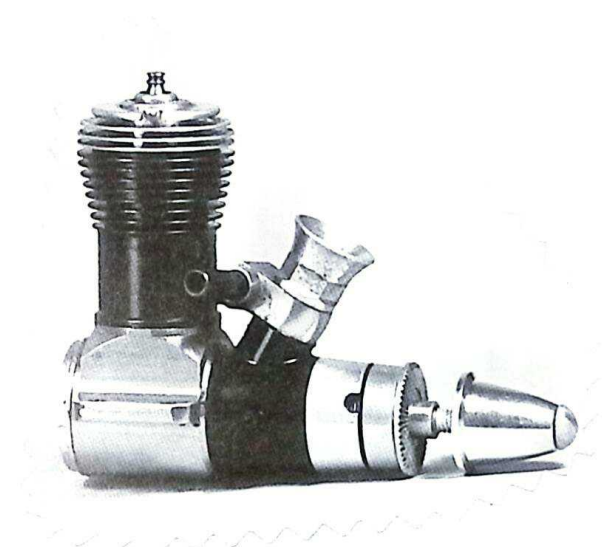




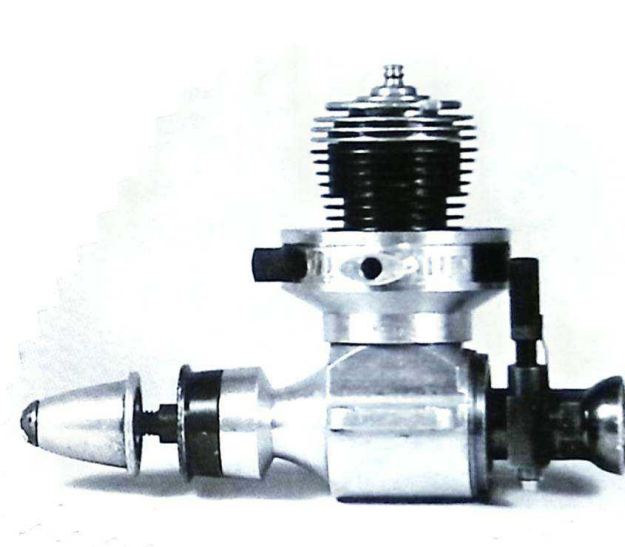
Cox .049



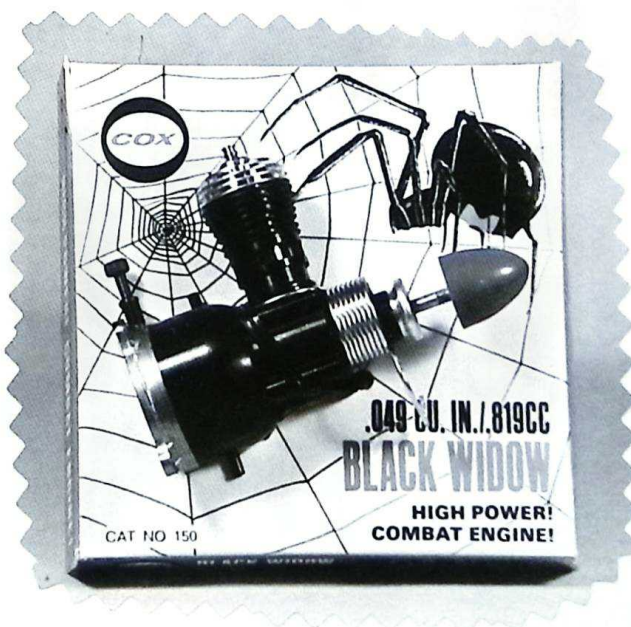
2.5 cc Sportsman plain bearing

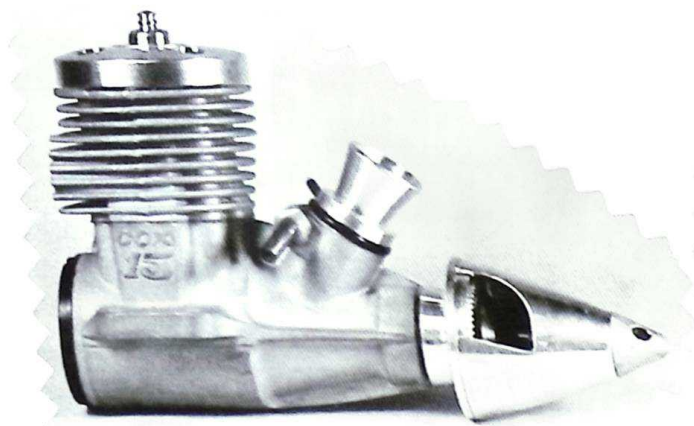


T.D. 15

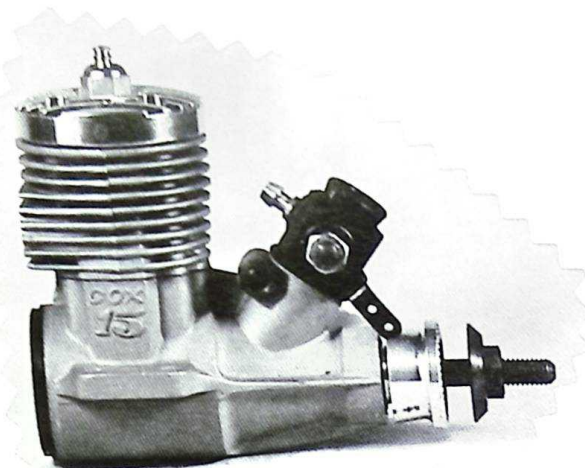


2.5 cc Olympic, Ball bearing

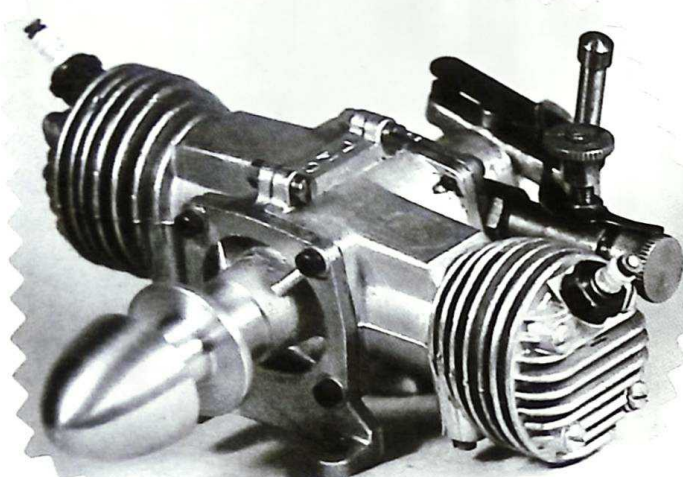




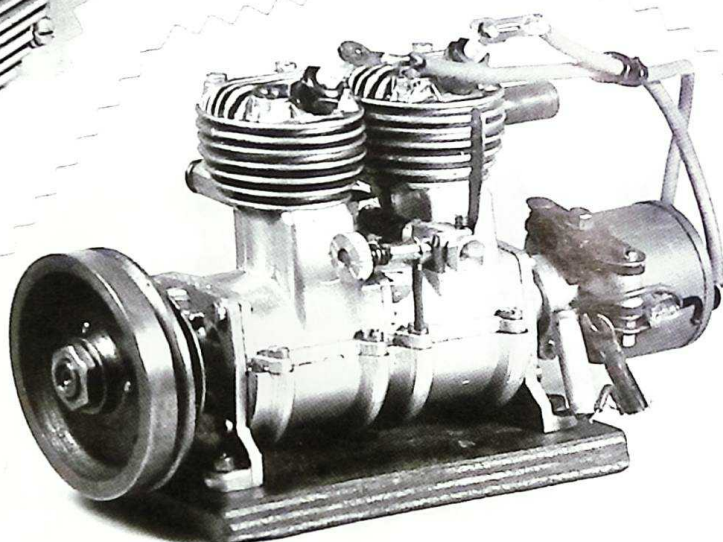
Cox Conquest 2.5 free flight



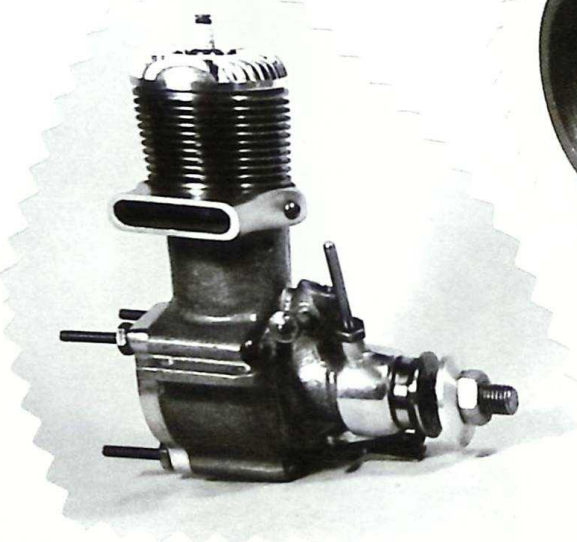
Conquest 2.5 R/C version



**Craftsman Twin.** Designed by Edgar Westbury and built by Craftsmen Models Ltd, Ipswich. Also available in kit form

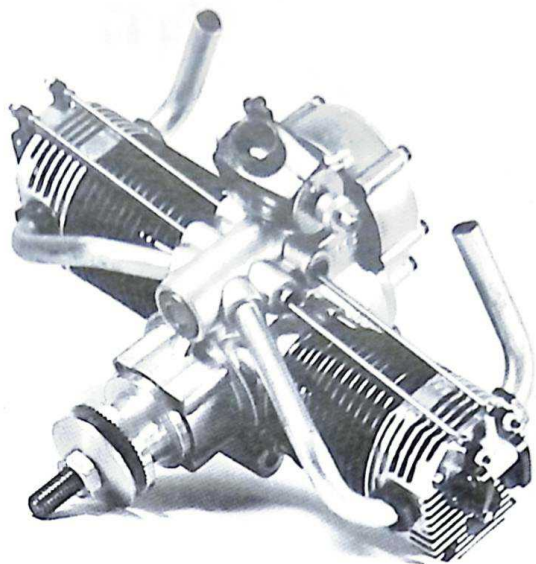


Prototype In-line using Craftsman parts

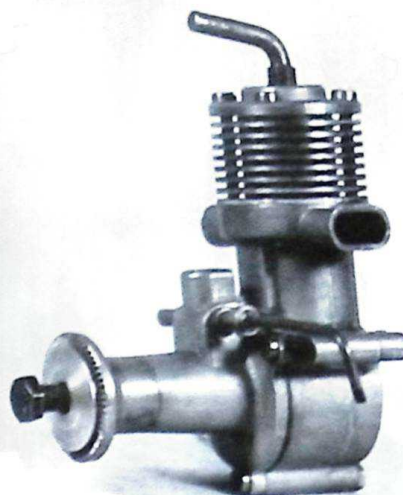


**Cunningham .64 ign.**  
Made from Orwick parts in 1948

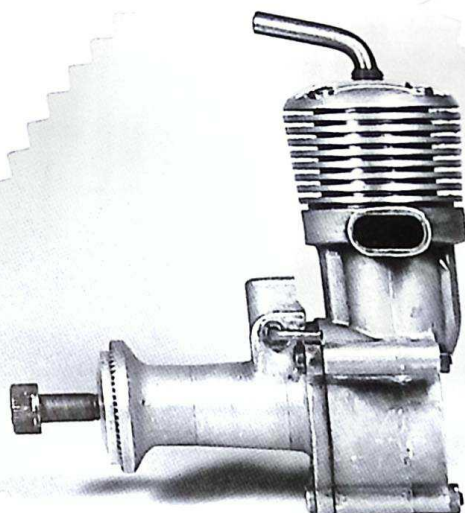




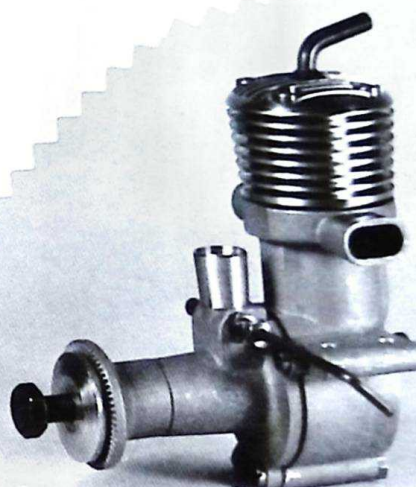
Damo 18 cc



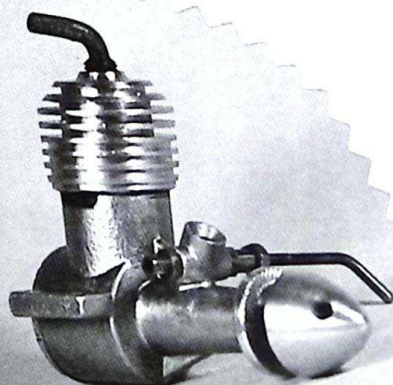
David Anderson 1951 2.5  
First of the front rotary D.A.'s



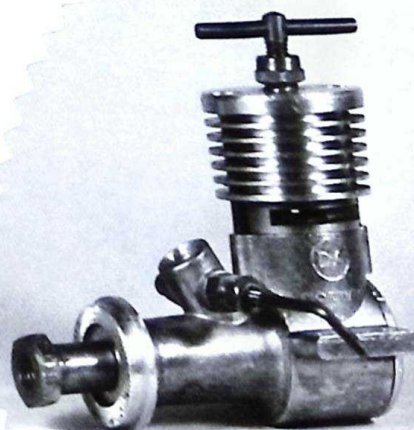
1954 MK II 2.5



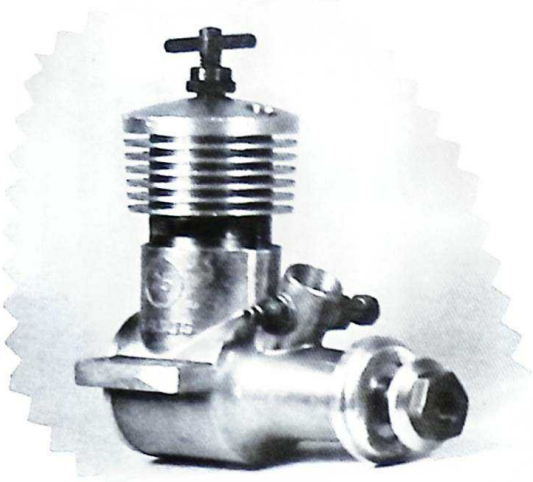
1955 MK III 2.5



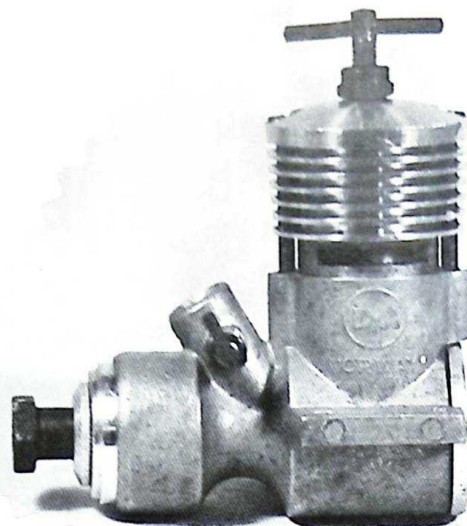
1954 1cc. Few made



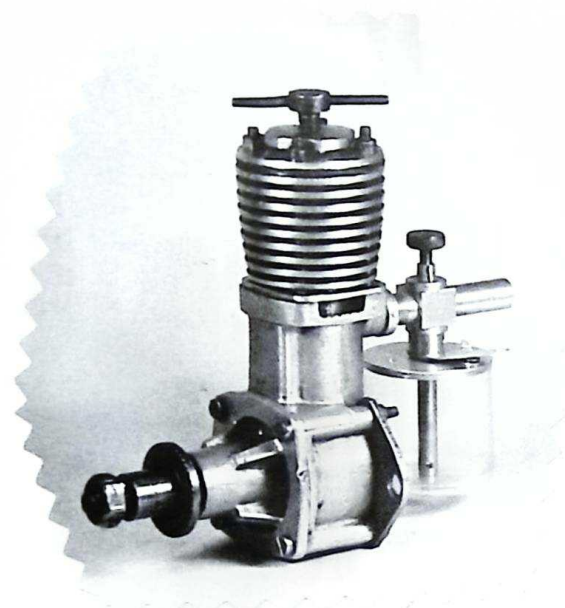
Revised 1cc 'Satellit' of 1959



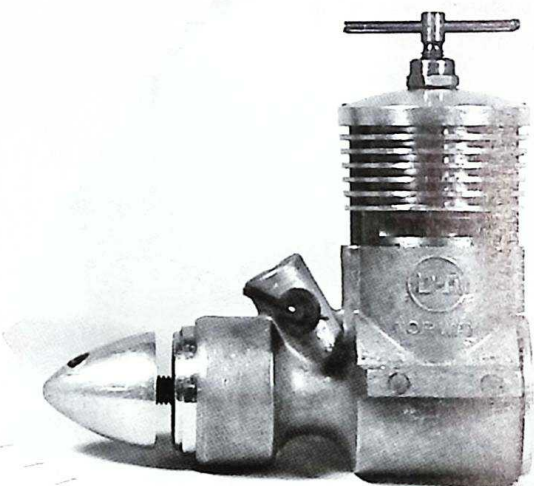
The plain bearing 2.5 'Tellus' from 1957



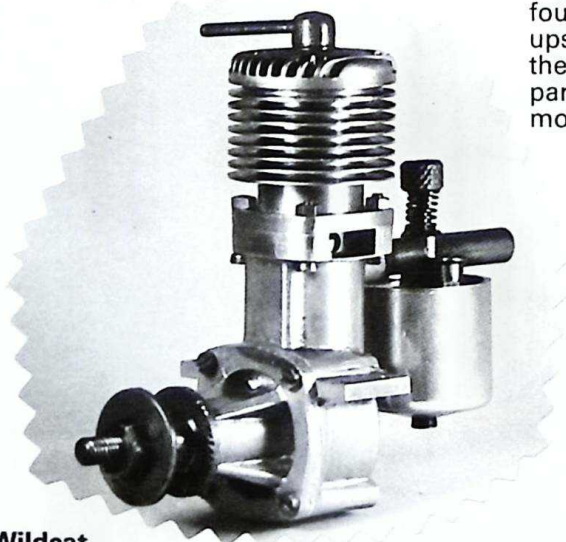
The ball bearing 'Drabant' also from 1957



Davies-Charlton 'Wildcat' 5cc  
Radially mounted MK I, 1947

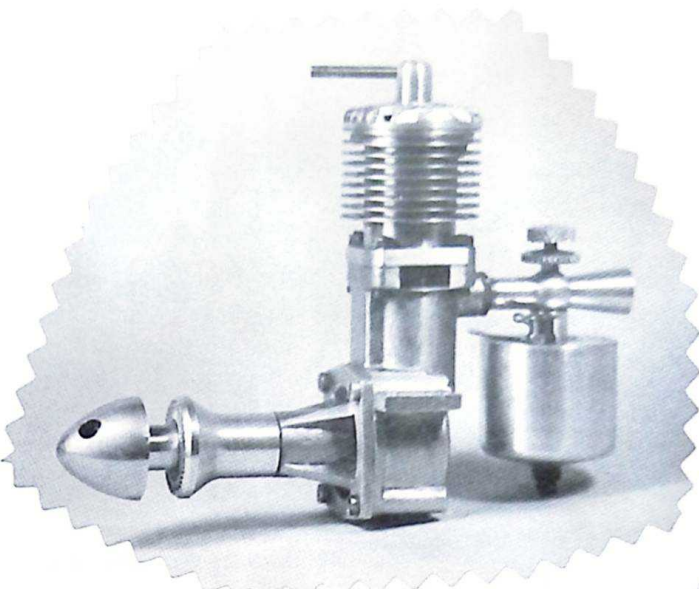


Series II 'Drabant'. It may be noticed on the Drabant in the top picture, the cylinder bolts do not touch the cylinder. This was found to allow the cylinder to rotate and upset the porting. A thicker cylinder was then fitted which allowed the bolts to be partially inserted, preventing any movement.



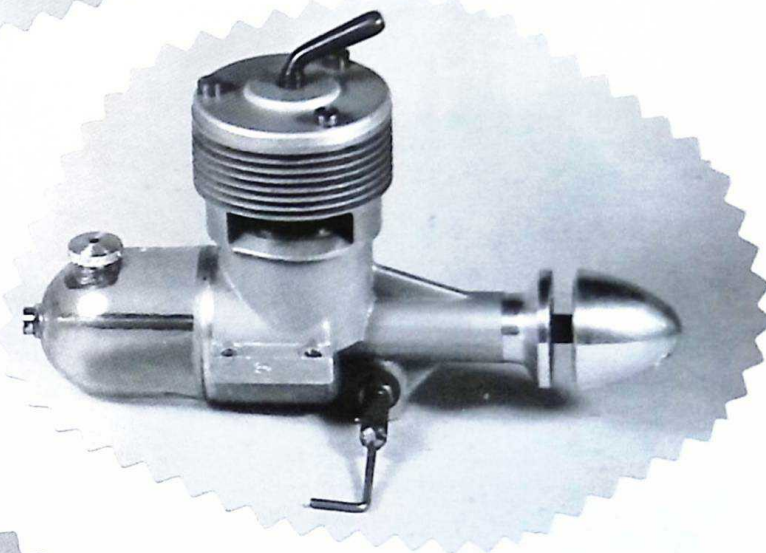
1948 MK II Wildcat



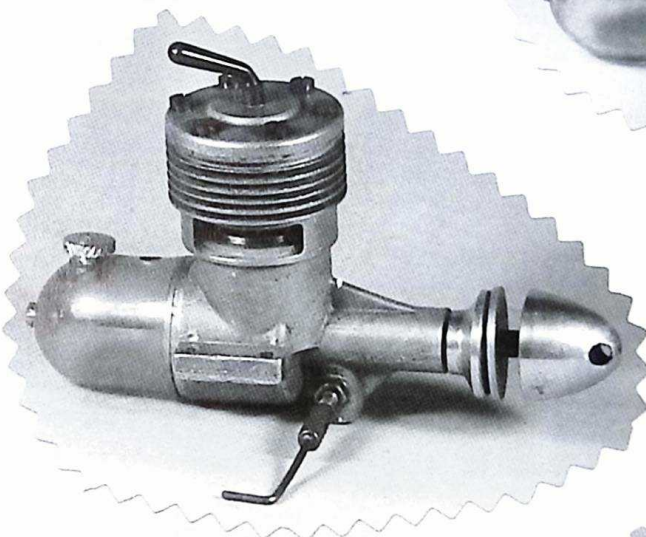


1950 D.C. 350. Note 3 head bolts

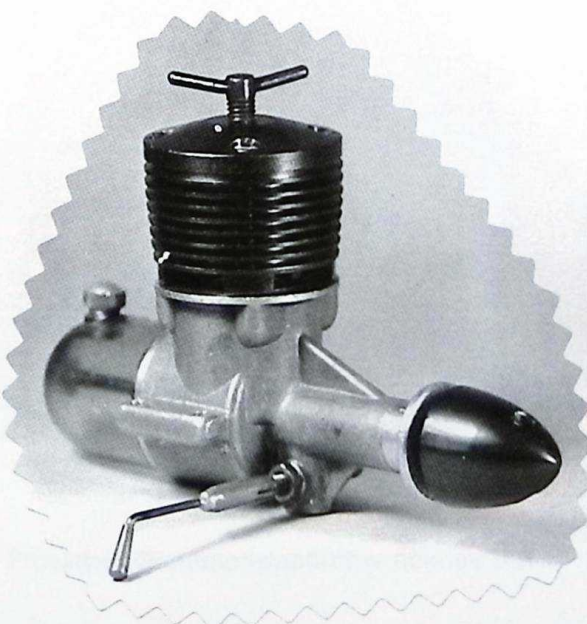
1949 MK III 'Wildcat'



1951 D.C. 350. With 6 head bolts

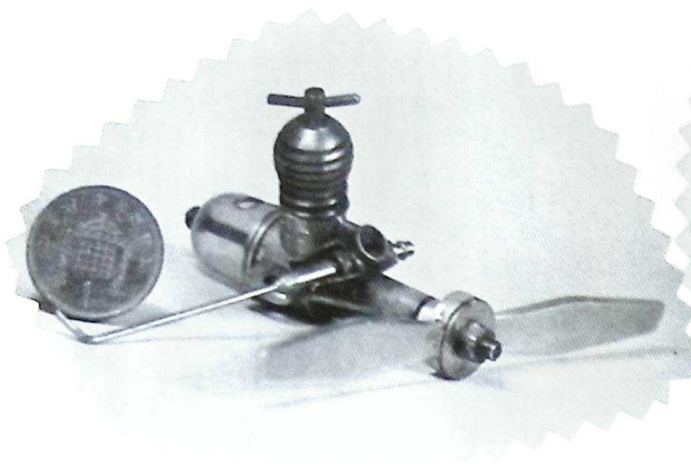


1952 D.C. 350 glo

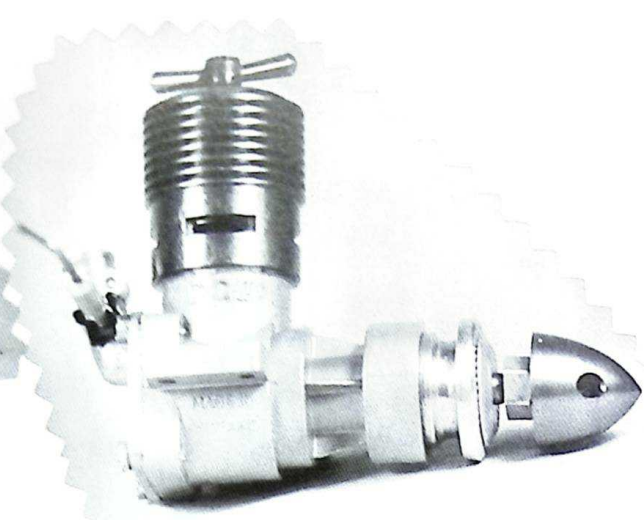


1956 D.C. Manxman. Bright red cylinder and spinner. Produced when D.C. joined with Allbon and moved to the Isle of Man

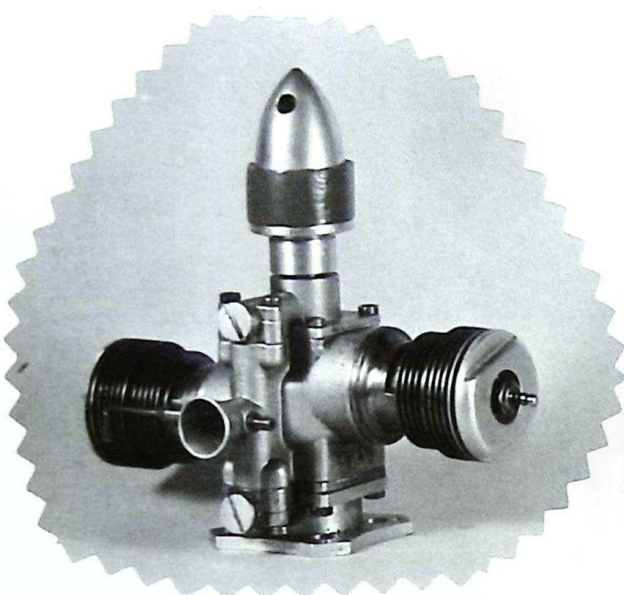




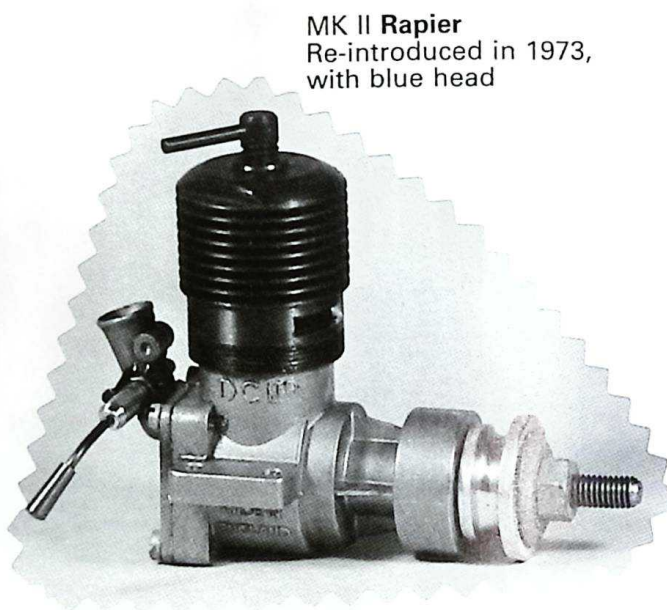
**D.C. Bambi .015 cc**  
Made in 1954



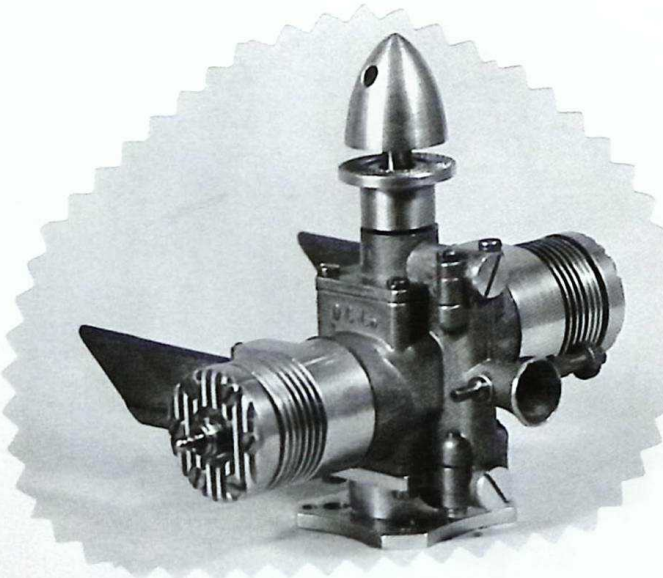
**D.C. Rapier 2.5 cc, 1956**  
Green anodised cylinder head & spinner



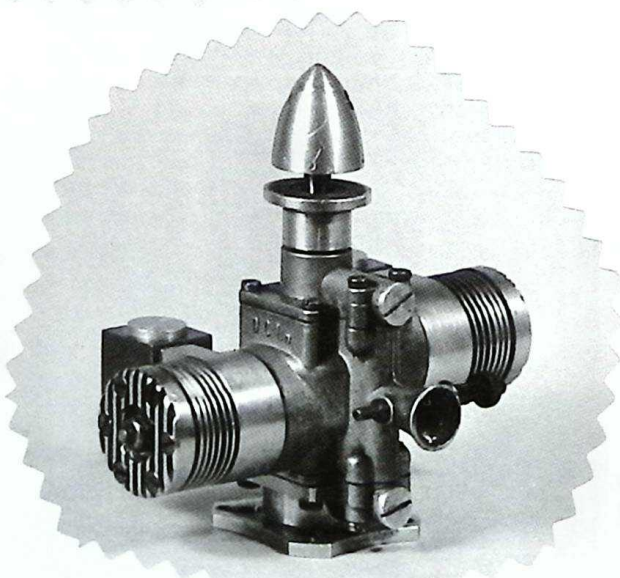
**Prototype D.C. Tornado Twin**



**MK II Rapier**  
Re-introduced in 1973,  
with blue head

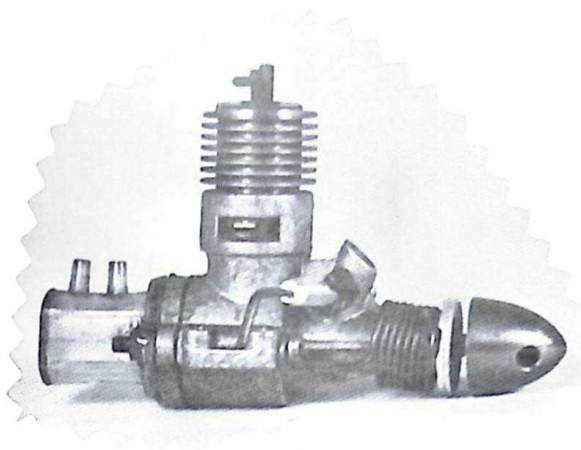


**1958 Tornado Twin**

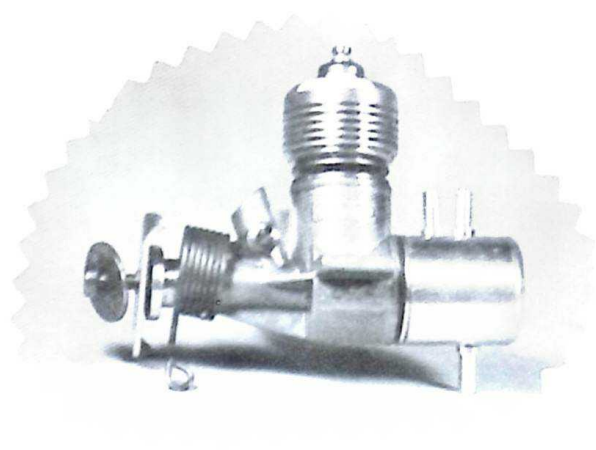


**R/C version with barrel type exhaust**

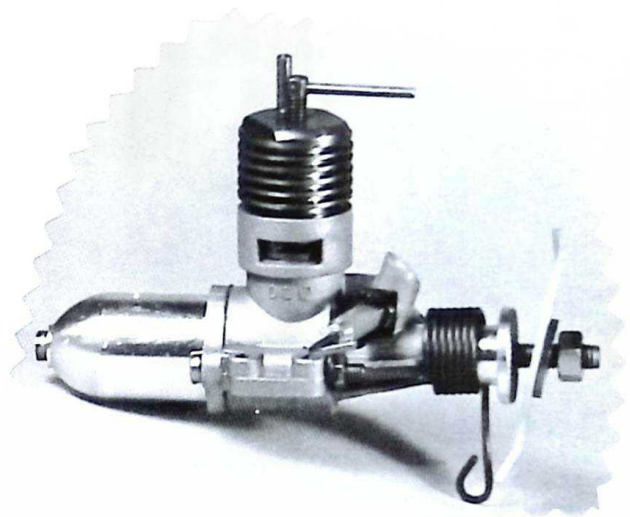
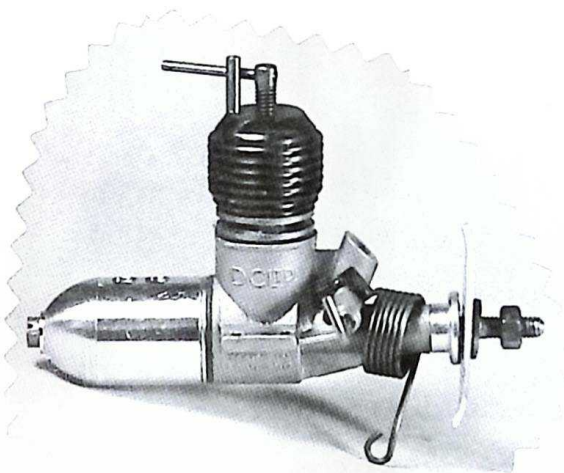




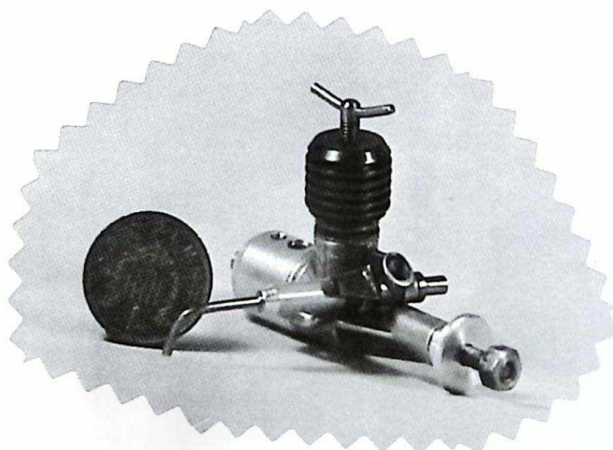
D.C. Super Merlin .76 cc, 1954



1959 .046 cu.in. (.76 cc) 'Bantam'

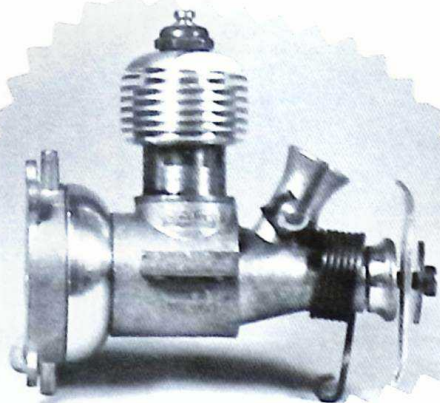


The last .5 **Dart**, and .76 **Merlin** produced in the mid 80's had aluminium tanks

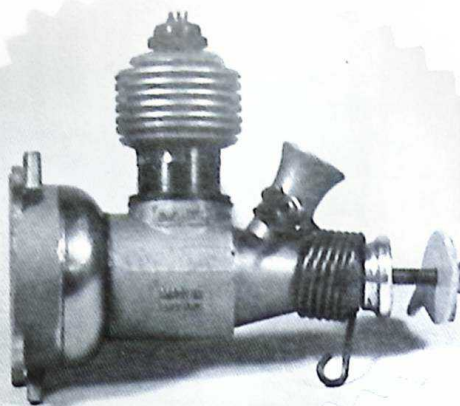


Prototype **Bambi** of the 80's

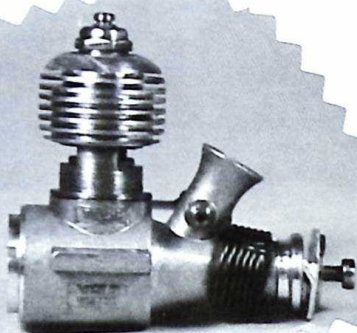
Various D.C. .049 glo 'Wasps' produced in the 70's. When Frog engines ceased to be manufactured by International Model Aircraft in the 60's, D.C. produced the Frog Venom .049. It was distinguished from the Wasp by its red head and tank.



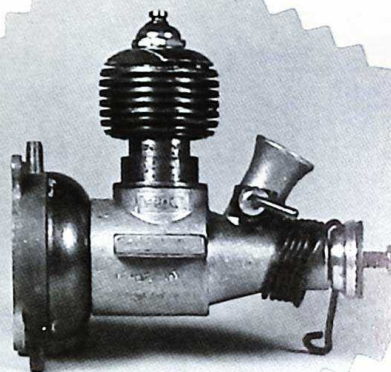
D.C. Wasp .049



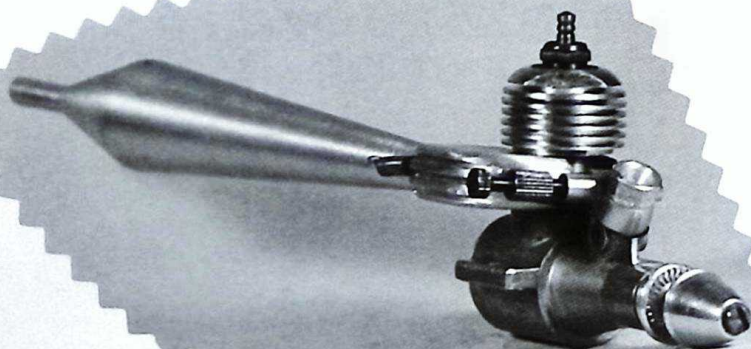
Lugless version



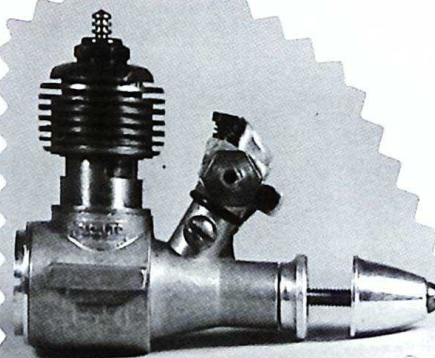
Another Wasp, still retaining 'Frog' name on crankcase



D.C. produced '**Venom**' .049 around 1972

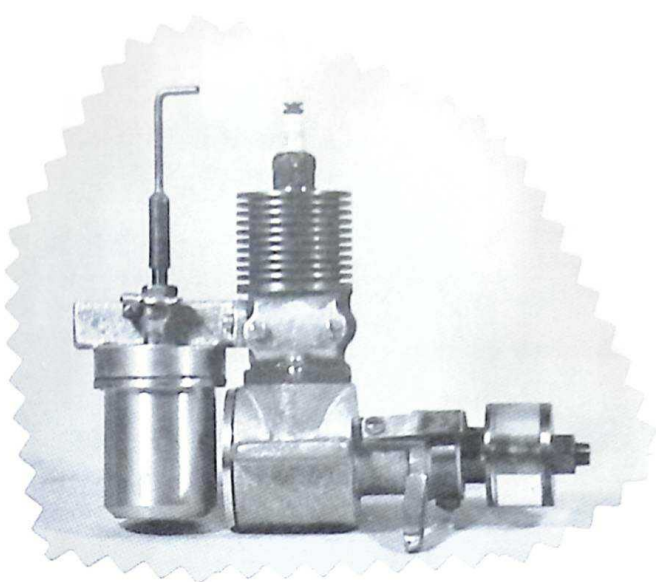


Experimental Wasp. Bored to 1cc, Schnurle ported, with tuned pipe, it reached 17,600 r.p.m. on a 5¼ x 2¾ prop



Another 1cc wasp, with R/C throttle

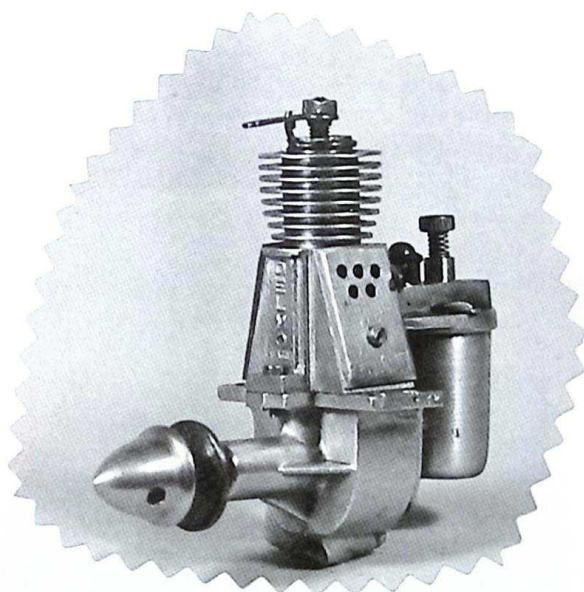




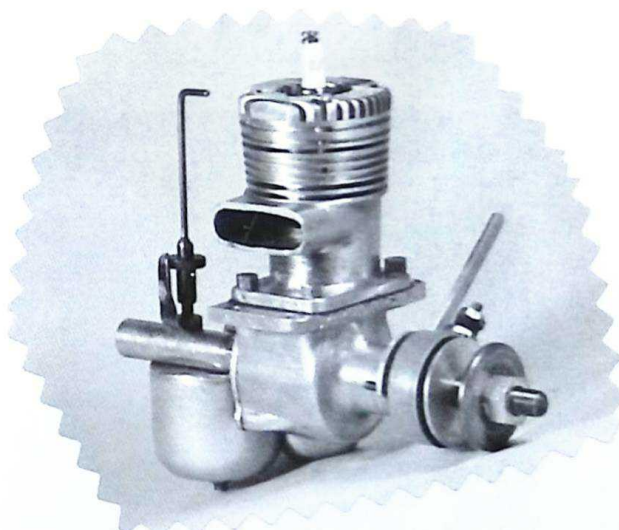
**Dallaire Pee Wee** of .13 cu.in. or 2.3cc.  
Made by Dallaire Model Aircraft, Detroit,  
Michigan 1938



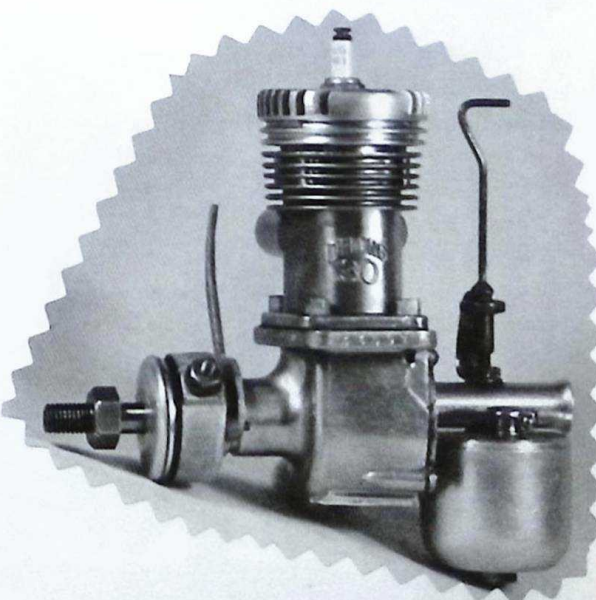
**Deezil 2cc** of 1946. A good try, most could  
have done with a bit more compression!  
Sold through Gotham Hobby Center, New  
York City, for as little as \$1.95 at one stage!



**Delmo 2.6 cc**, 1946  
Made by Mons. J. Debrel, Corbeil, France.  
An unusual feature was, when turning the  
compression screw to adjust settings, it  
was connected to the cylinder liner and  
moved the whole liner up or down!

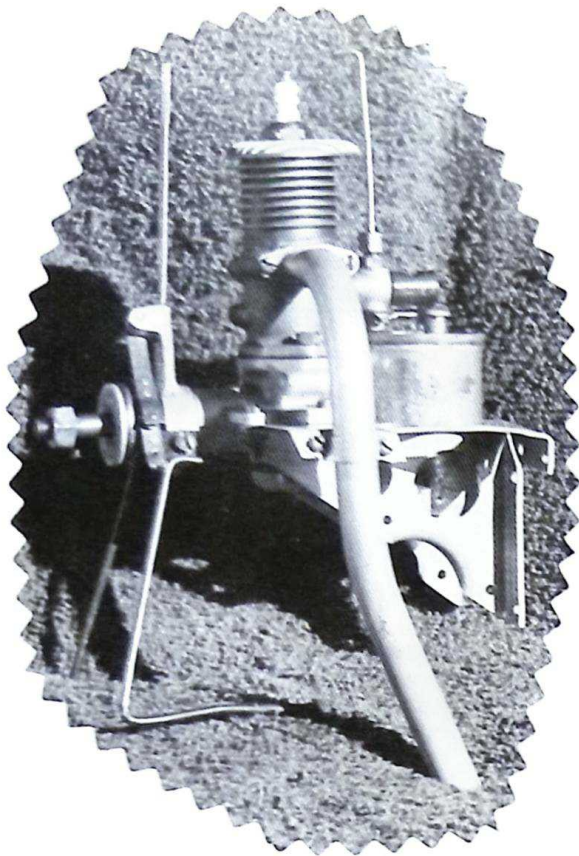


1945 **Delong 30**  
Sandcast

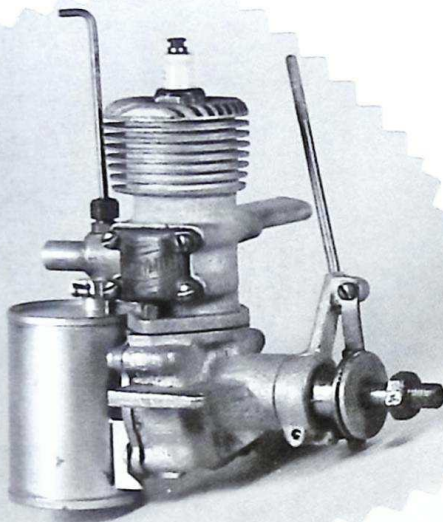
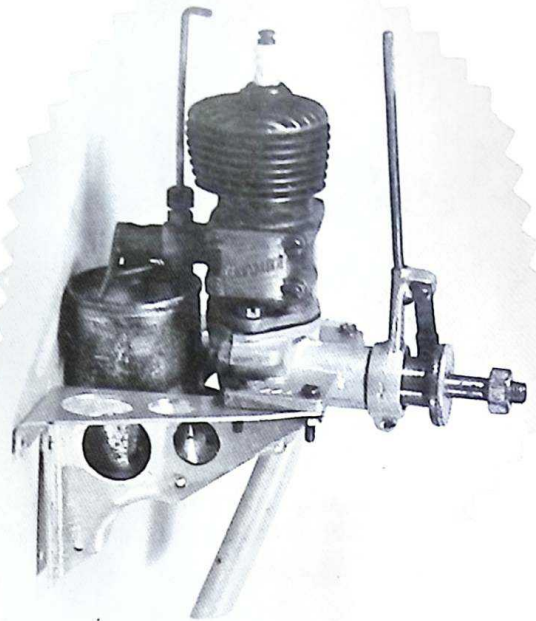


1946 **Delong 30** Die Cast  
Made by Super Motors, Cleveland, Ohio

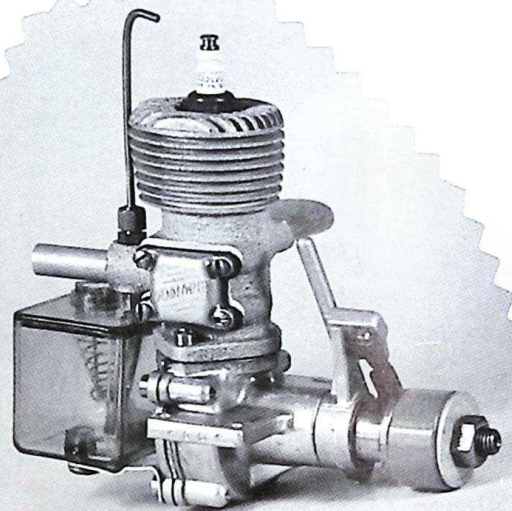




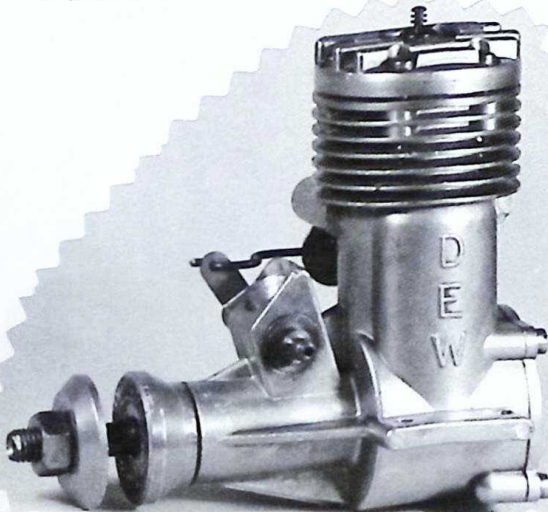
1938, .57 Dennymite 'Airstream' De-luxe  
Made by Righter Manufacturing Co.



1938 Dennymite 'Airstream' 'Tin Pot' tank

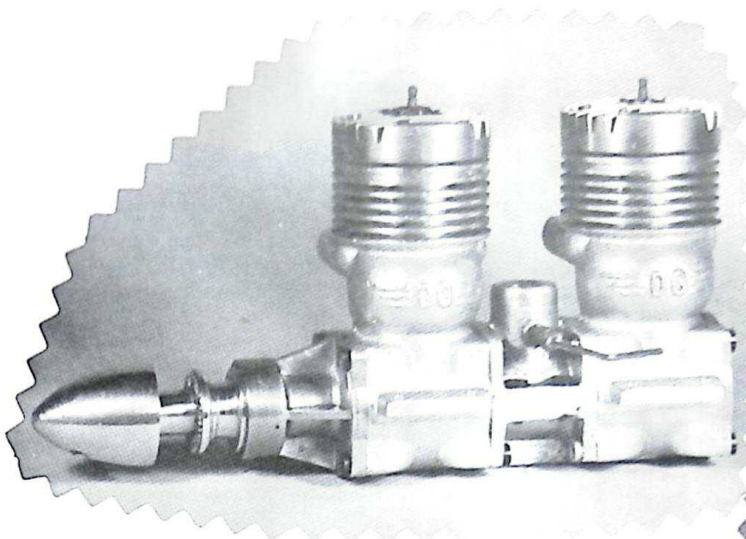


1946 Dennymite made by  
Pacific Airmotive Corp

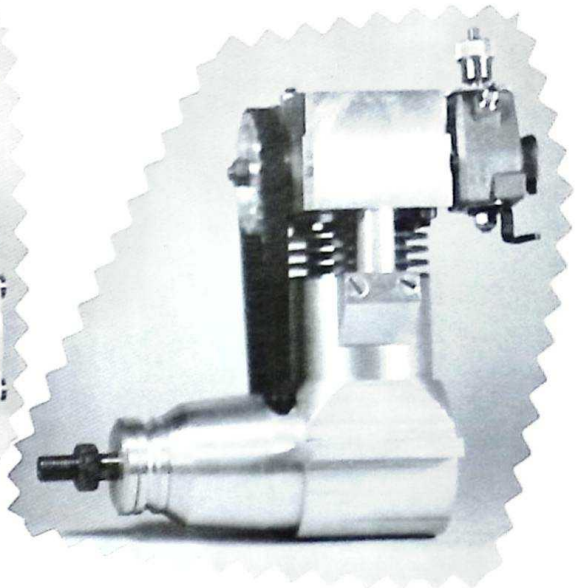


Built by the **DEW** Corporation in Kimball, Nebraska in the early 60's. This .51 R/C engine soon disappeared. The dies and tools sold to another company who changed the name to '**Kustom**' 51, this also did not sell many

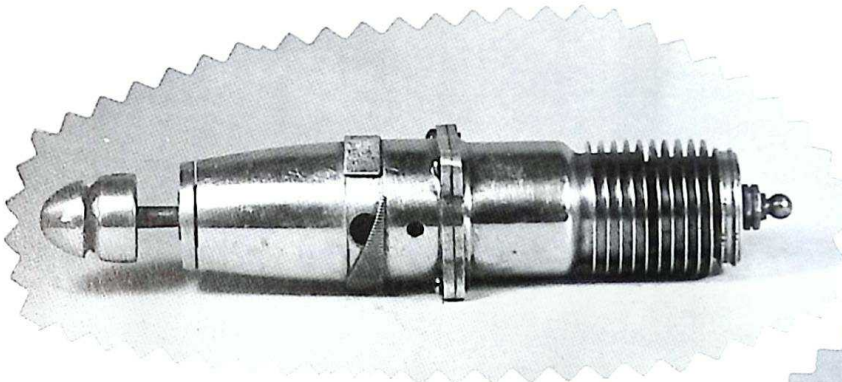




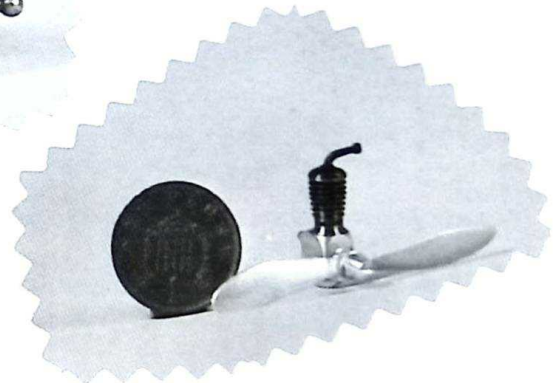
In-line twin made by amateur engineer in Prague from MVVS parts



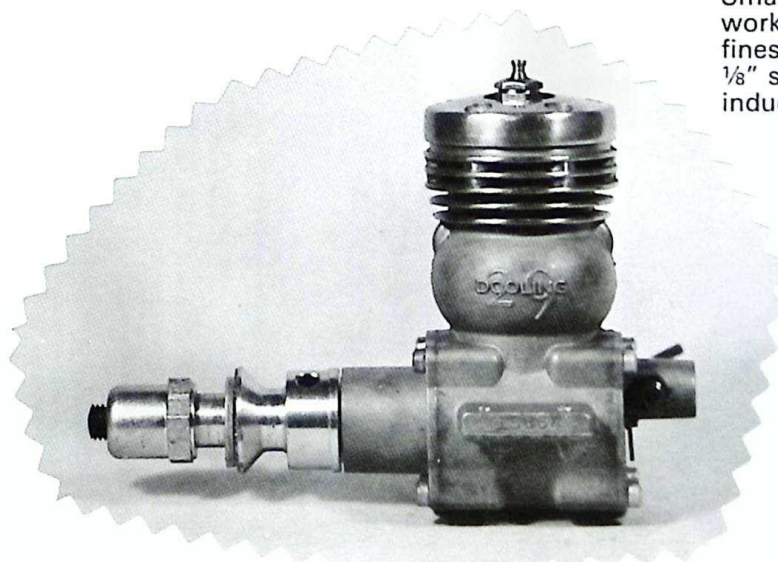
10 cc 'Diamant' 4 stroke from France 1975. Only a few made



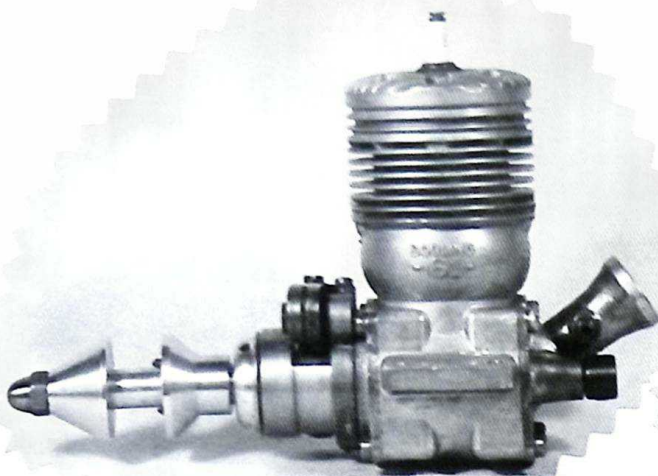
In-line piston engine, built by Epsom engineer **R. Dickson** in 1981



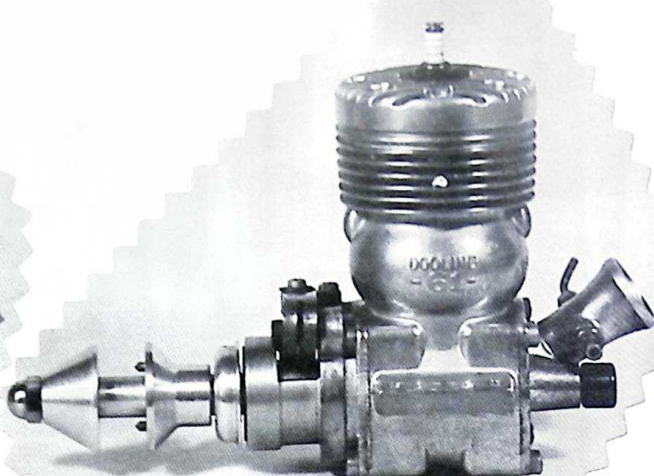
Smallest in the world for a working diesel? Mr Dicksons' finest, it has  $\frac{1}{8}$ " bore and  $\frac{1}{8}$ " stroke with rear disc induction



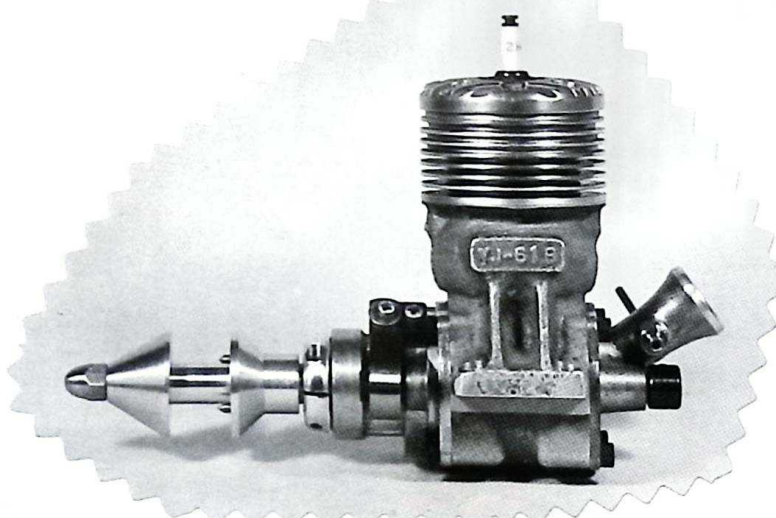
The famous **Dooling '29'** glo, made in 1949 by the Dooling Bros. of Los Angeles



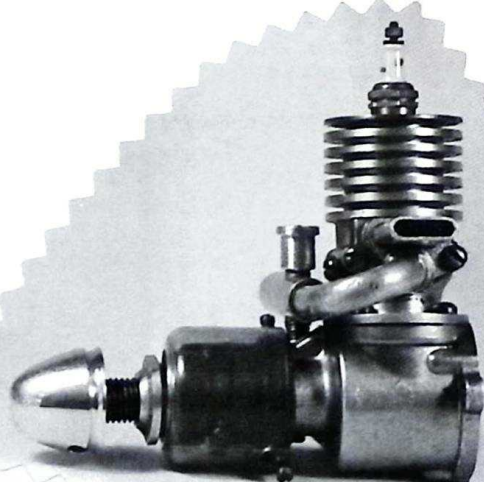
Dooling .61 '10 fin', 1947



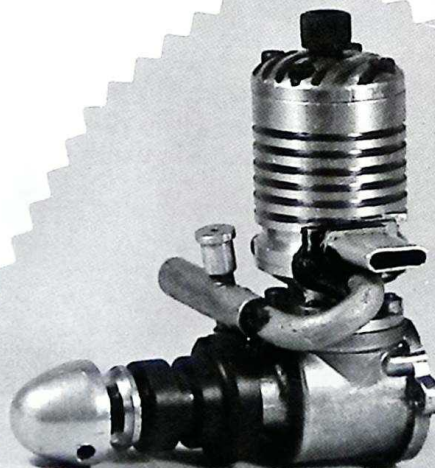
Dooling .61 '7 fin', 1949



**Dooling .61 'Yellow Jacket'.**  
Special strengthened crankcase manufactured by Bruce Underwood, Ohio, U.S.A. in 1958

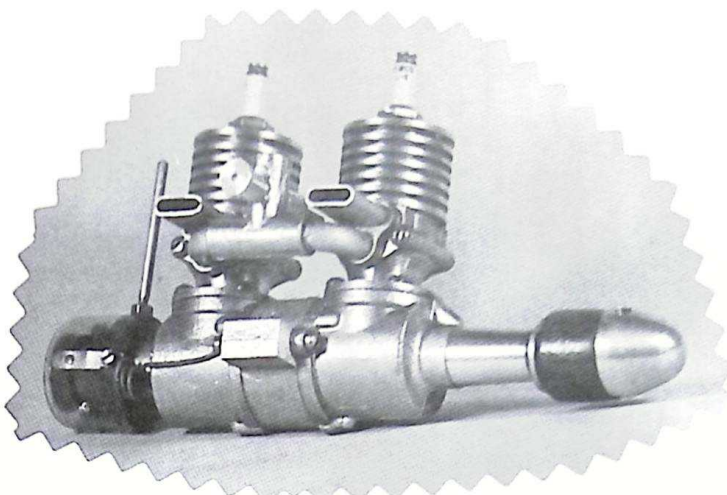


**'Dragon 16' ign.** Made by M.Bastable engineering, London 1948

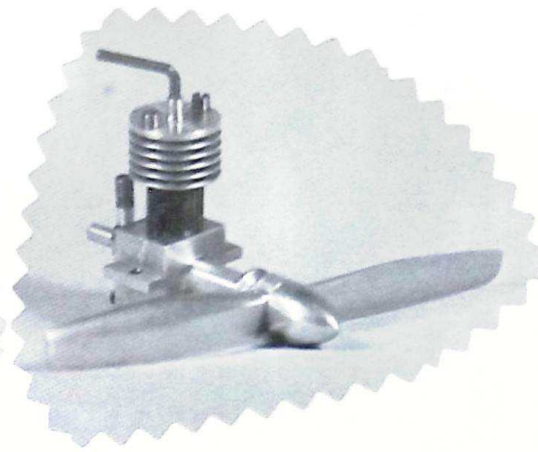


Experimental diesel, runs well

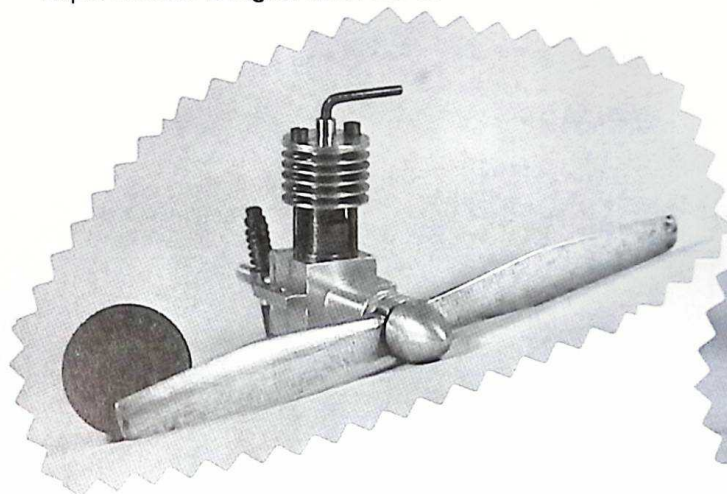




Experimental **Dragon** twin 3.2 cc

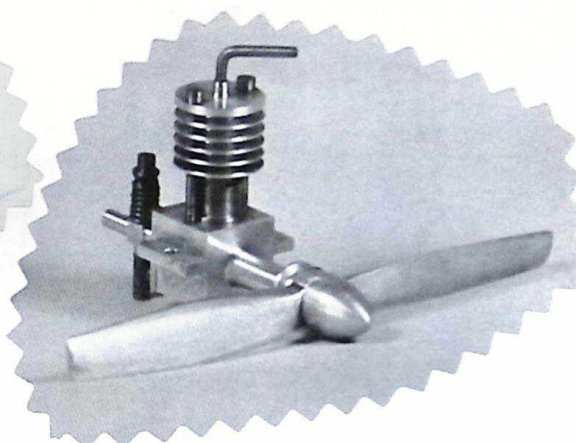


**Dragonfly** .1 cc

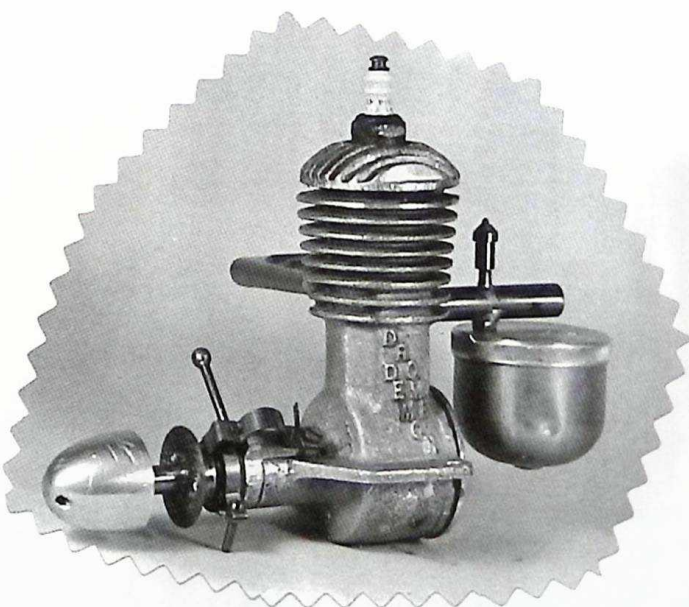


**Dragonfly** .2 cc

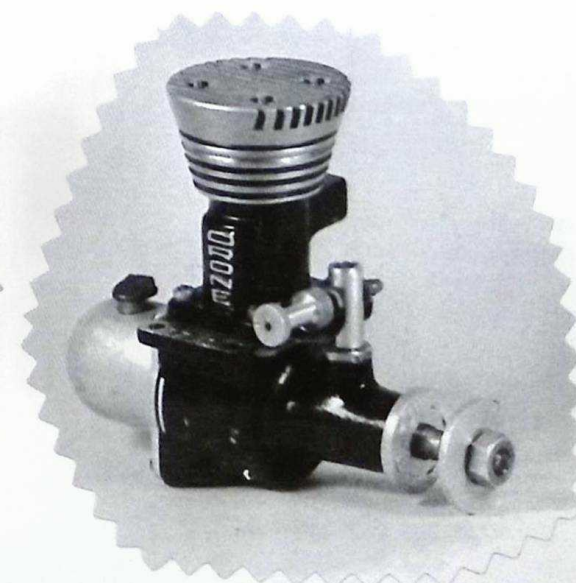
Hand made little engines sold through H.J. Nichols at 308 Holloway Road, London, during the late 1950's for £3 15 Shillings! Got any left Richard?



**Dragonfly** .3 cc



**Drome Demon** of 6cc,  
by Model Aerodrome, Birmingham, 1941



**Drone 'Gold Crown'** fixed compression  
5 cc. Plain bearing. Made by Drone  
Engineering, New Jersey, U.S.A., 1947

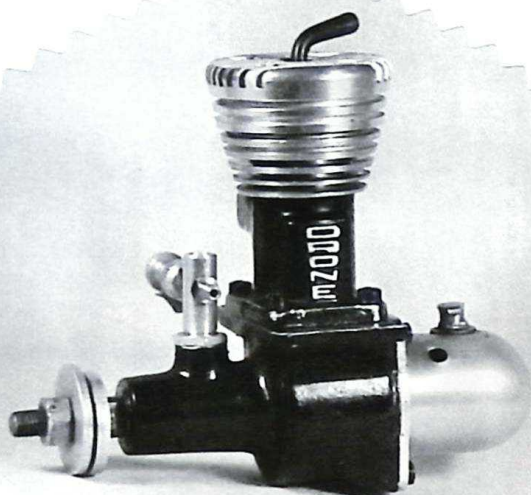




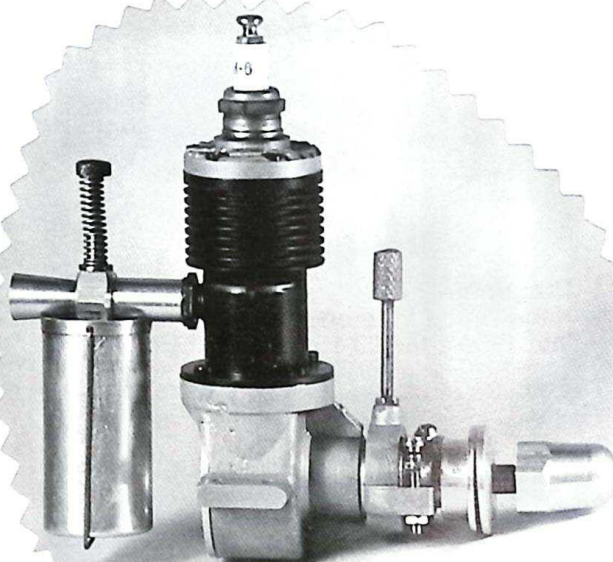
Drone '29' ball bearing also from 1947



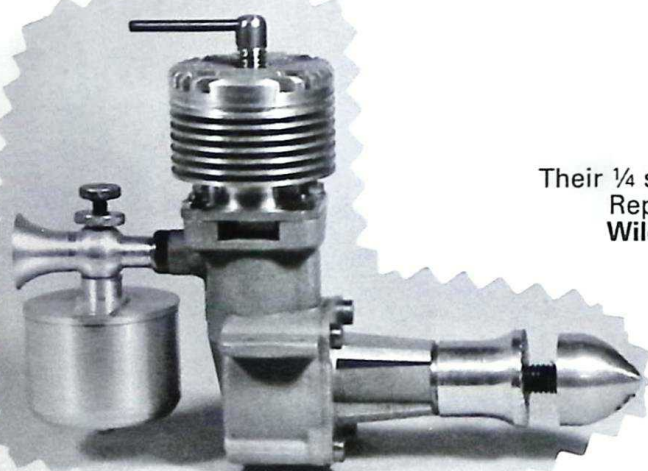
Drone 5cc glo. 1947



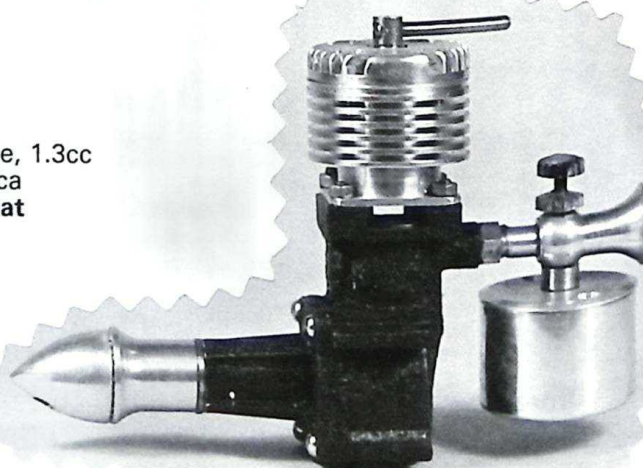
Drone 'Variable Compression'  
5 cc, 1949



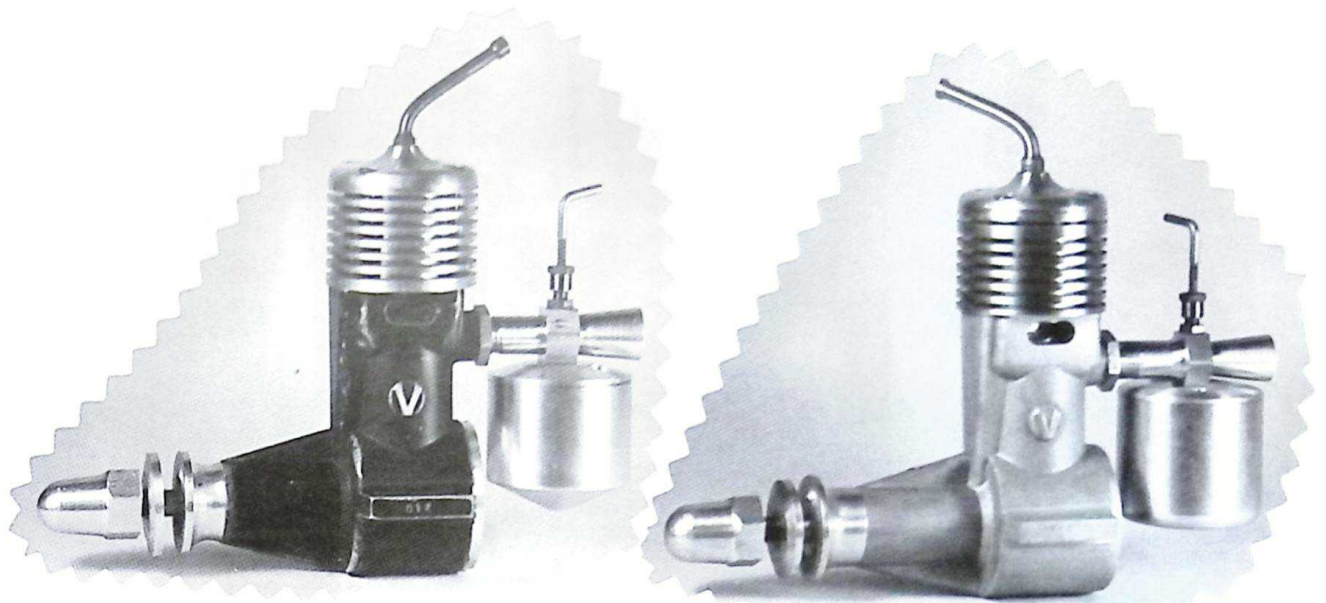
Dunham Engineering 'Mechanair'  
Replica. Made in 1982



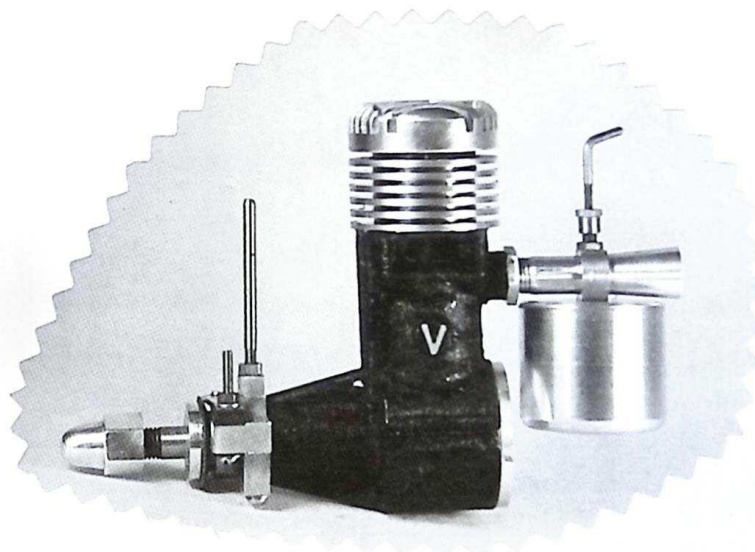
Their ¼ size, 1.3cc  
Replica  
Wildcat



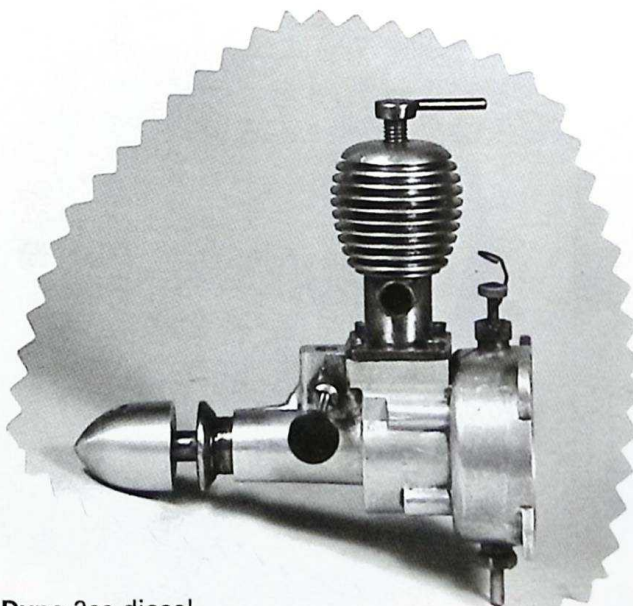




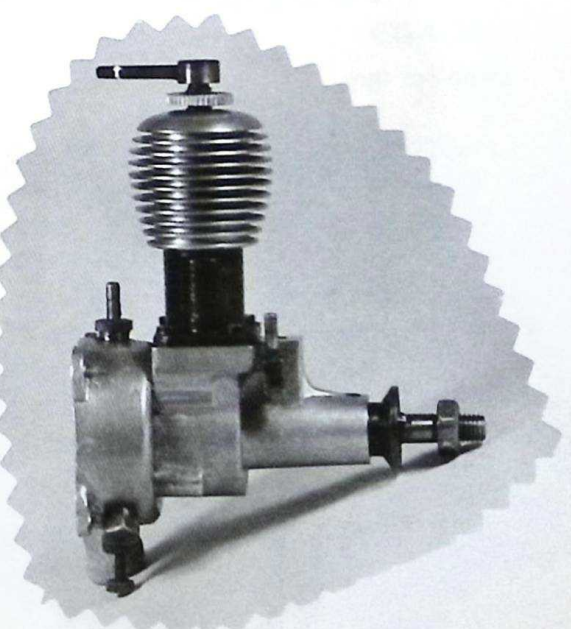
Valkrie 5 cc diesels



Viking 5cc ign.



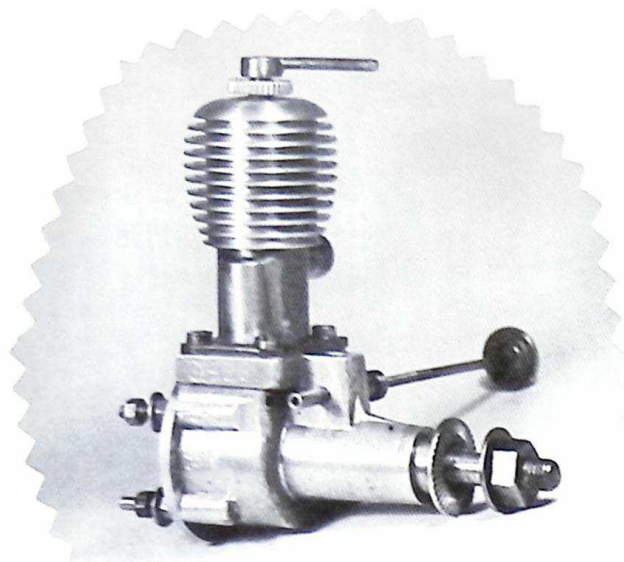
Dyne 2cc diesel



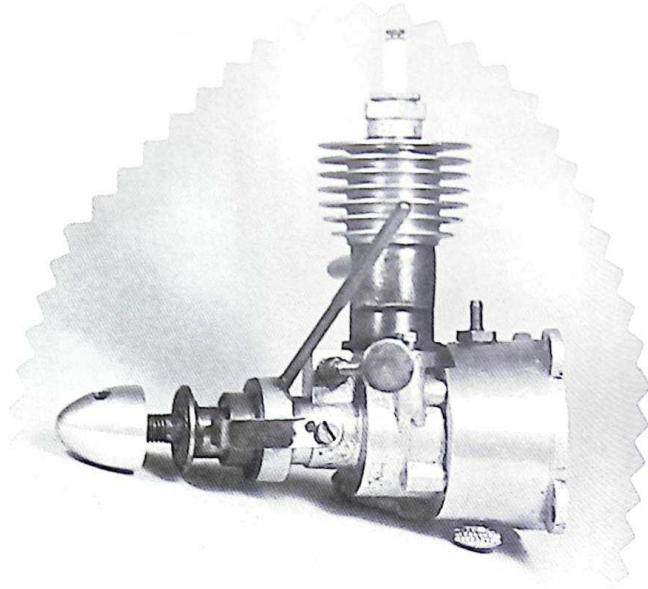
Dyne 4cc diesel

Advertised in September 1947 Aeromodeller  
Sold through Watkins Model Stores, Cardiff

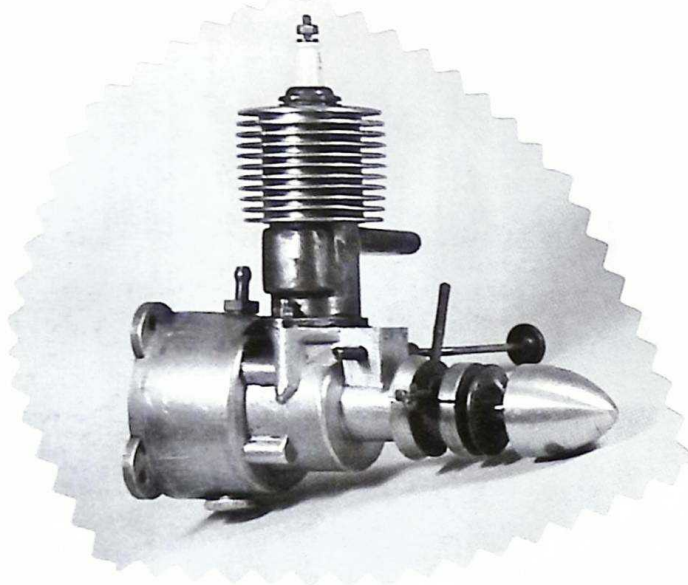




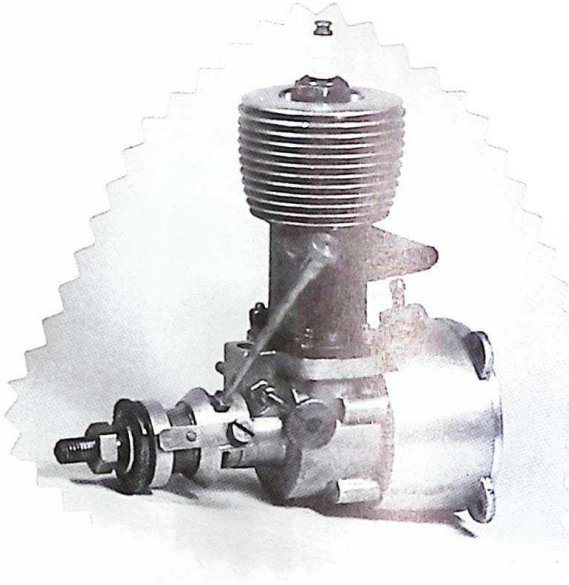
**Dyne 3cc diesel**



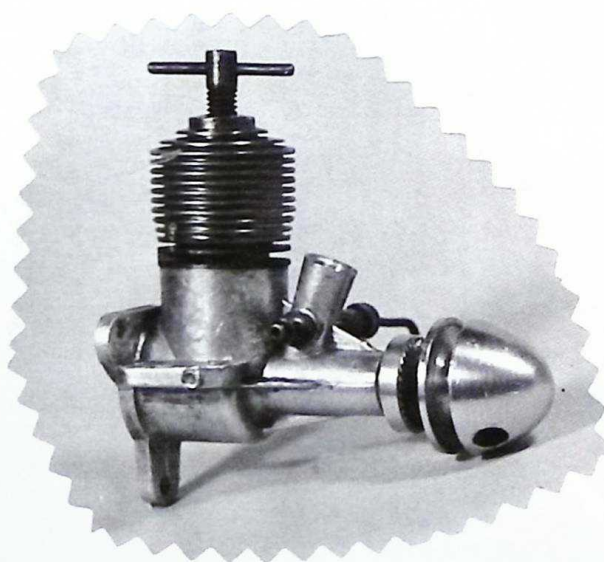
**Dyne 3cc ign.**



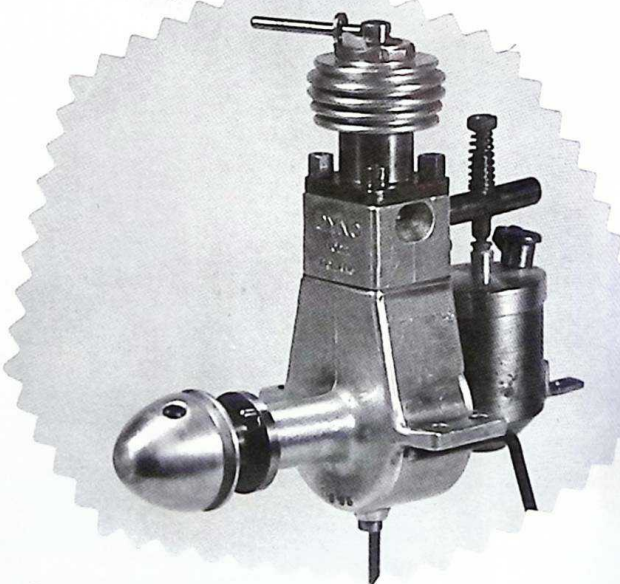
**Dyne 6cc ign.**



**Dyne 10cc ign.**

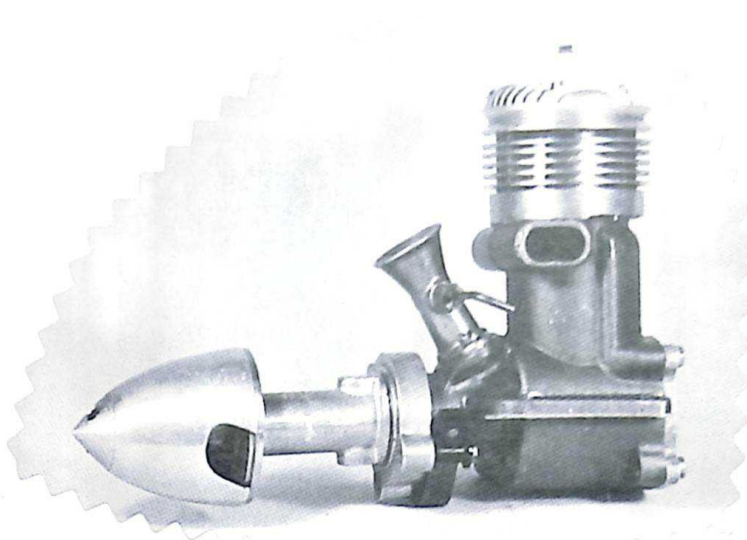


**Dynamic 1.5cc**  
Made in France 1960

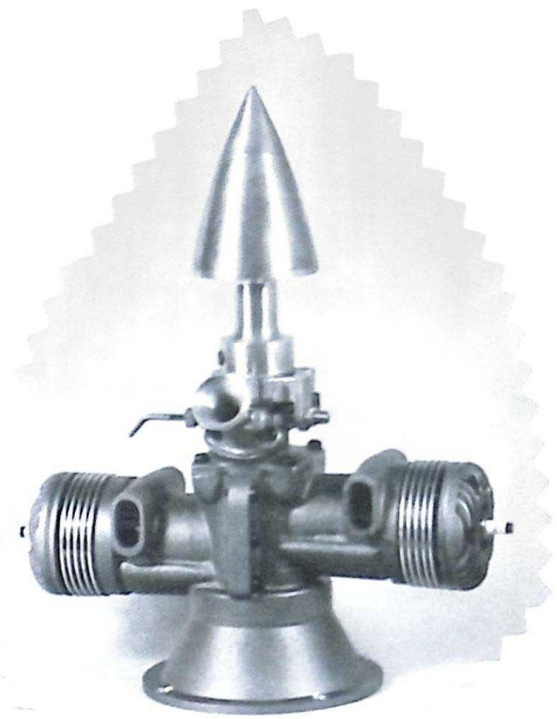


**Dyno 2cc.** Swiss made in 1946. Regarded as the first mass produced engine

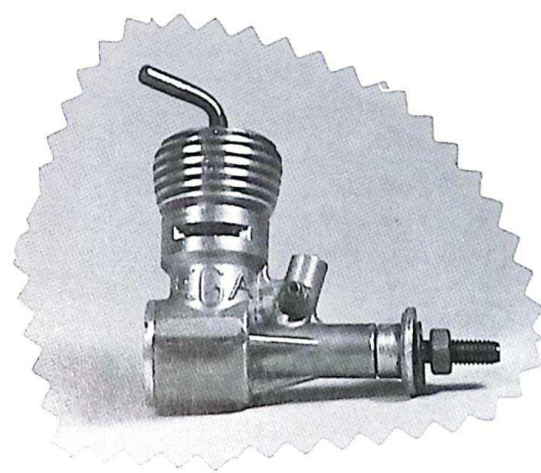




Engineering Developments Corp.  
**'Edco Sky Devil'** .65. Made in 1947. An  
 out-of-the-rut design, with a red crankcase

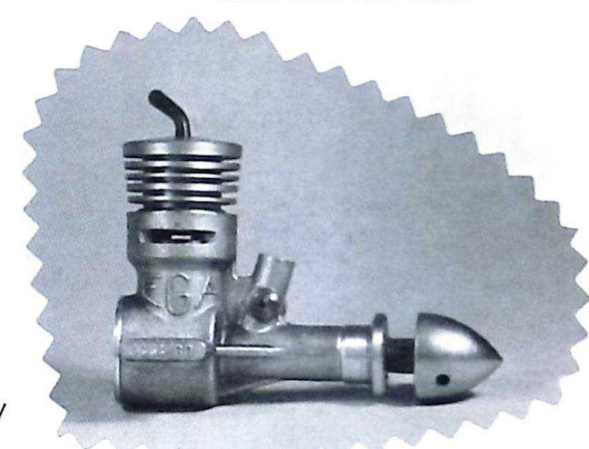


Edco twin few made

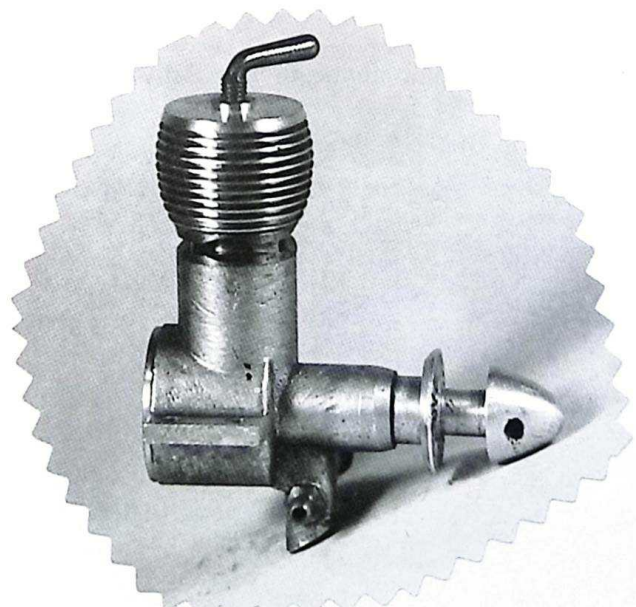


E.G.A. .5 MK I 1961

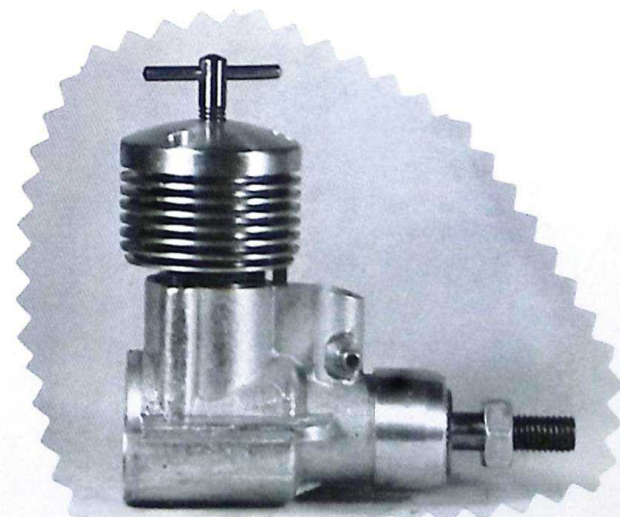
Made in E.Germany



E.G.A. MK II

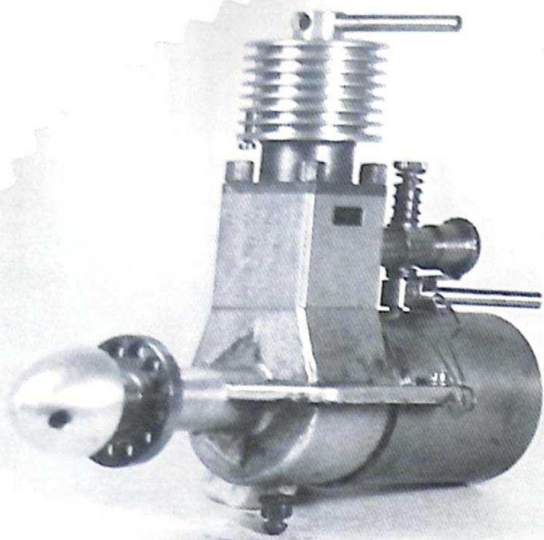


**Eifflander Special 2cc**, 1949 by 'Gig'  
 Eifflander of Macclesfield, Cheshire

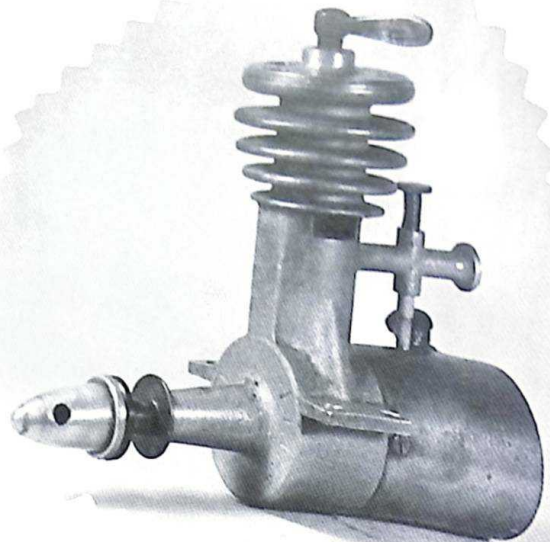


**Eifflander 2.5cc**, 1951 Pre-production  
 version of the P.A.W. range of engines

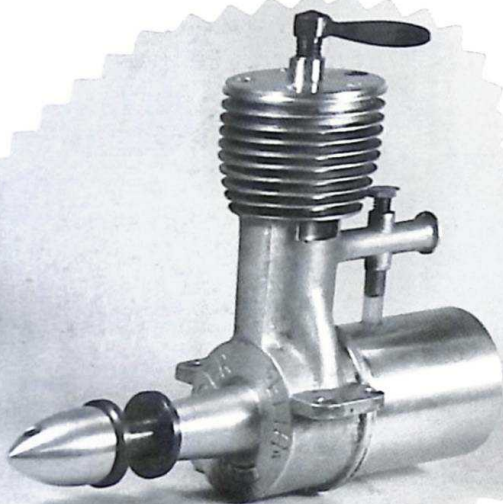




Eisfeld 6cc, 1946. Made in Germany



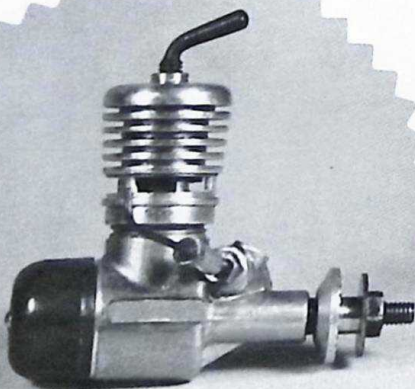
Elia 4.2cc, 1946. Made in Italy



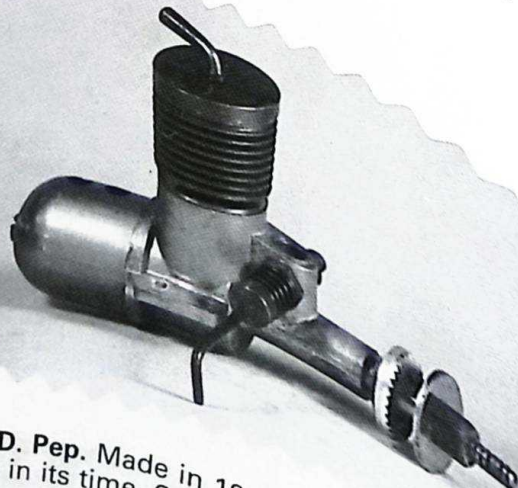
Elia 4.2 MK II, 1947



Electronic Developments .46 'E.D. Baby'  
MK I from 1952

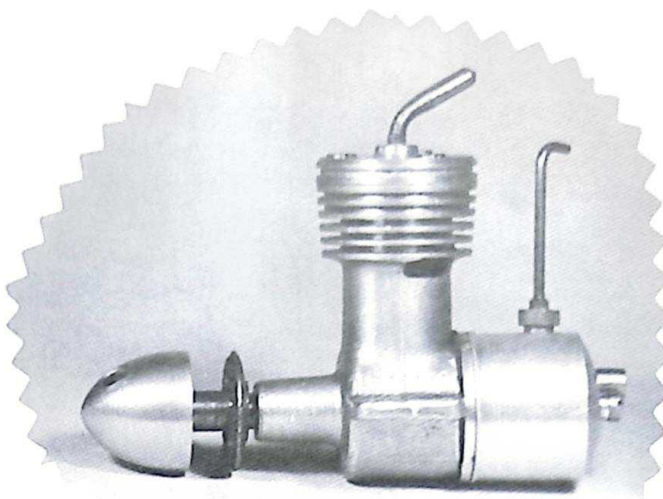


E.D. Baby MK II from 1953

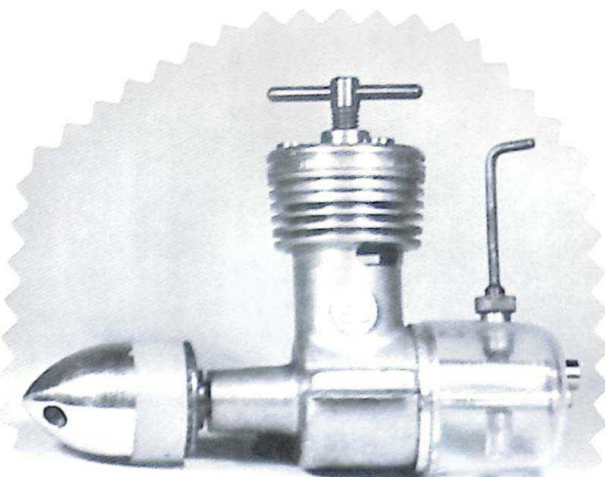


.8cc E.D. Pep. Made in 1960. Cheap little  
engine in its time. Soon disappeared  
was no answer to the easy starting

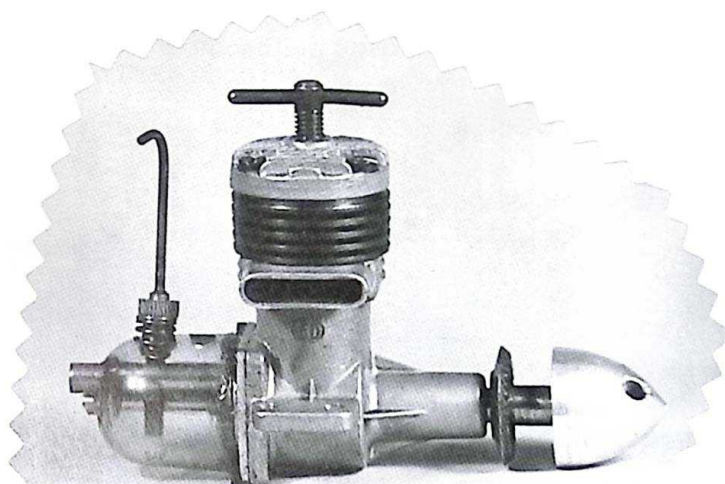




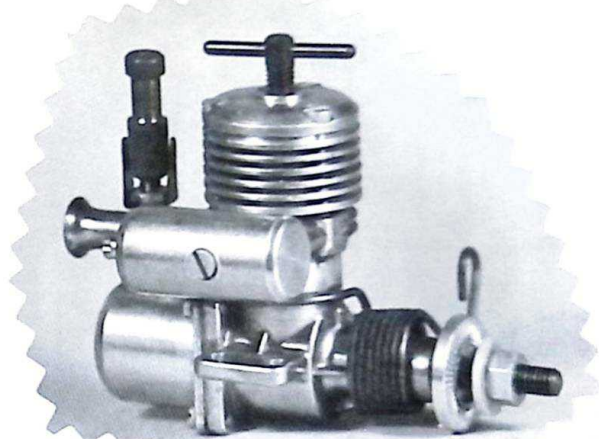
E.D. 'Bee' 1cc, MK I, Series I  
from Sept 1948. Model shown is 1952



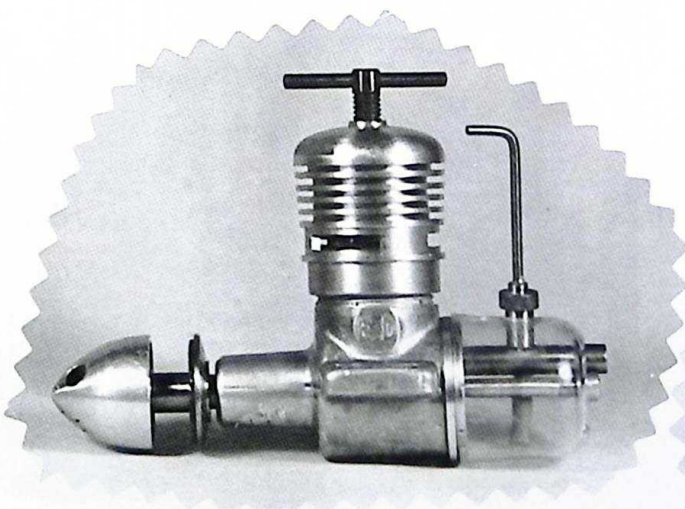
Bee MK I, Series II. From late 1950.  
Model shown is 1953.



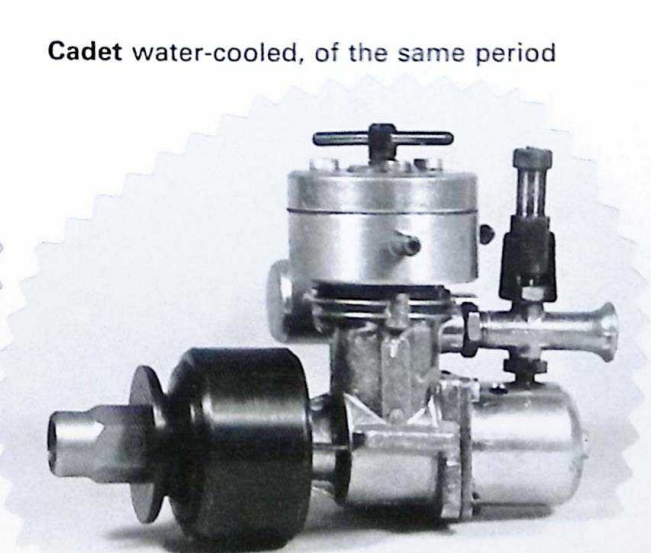
Mk II Bee from 1956



E.D. 1cc 'Cadet' 1962. Designed by George  
Fletcher when he joined E.D.'s from Frog's.  
Not a very successful engine. Designed to  
show silencers could successfully be used.  
It was quiet alright, but had a job 'pulling  
the skin off a rice pudding'!

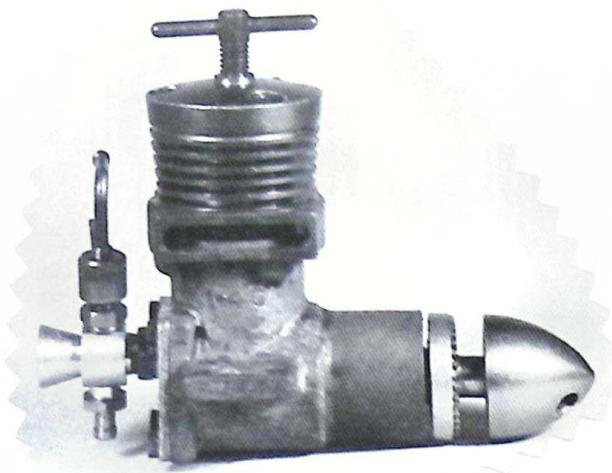


E.D. 1.46cc 'Hornet' from 1952

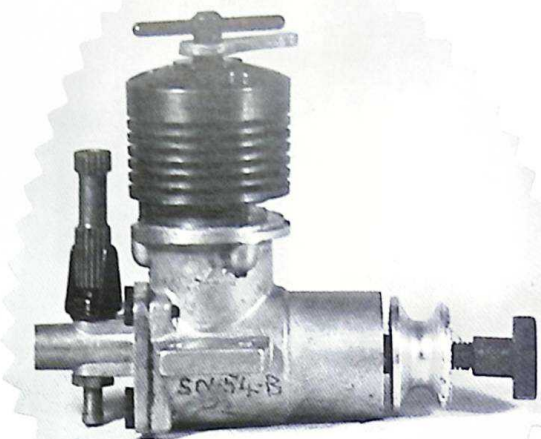


Cadet water-cooled, of the same period

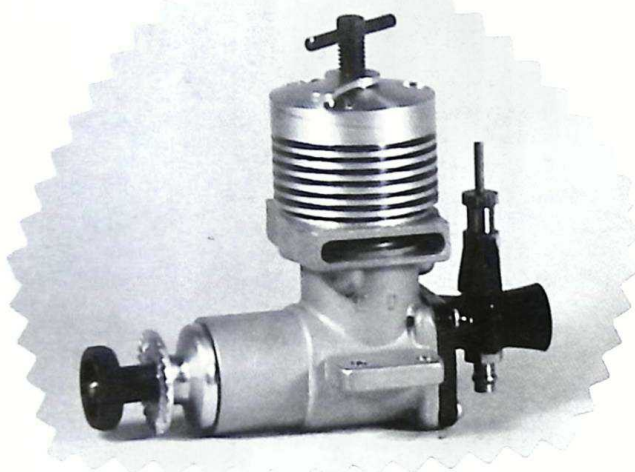




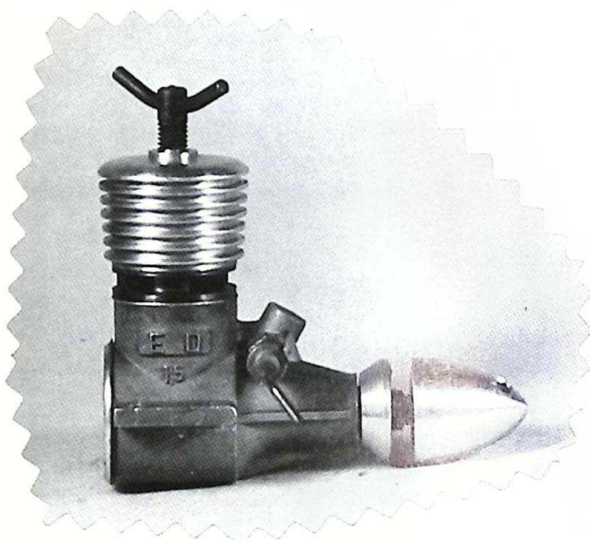
E.D. 1.49cc **Fury MK I**, of 1958 had magnesium case with green cylinder head, spinner, and reed valve induction



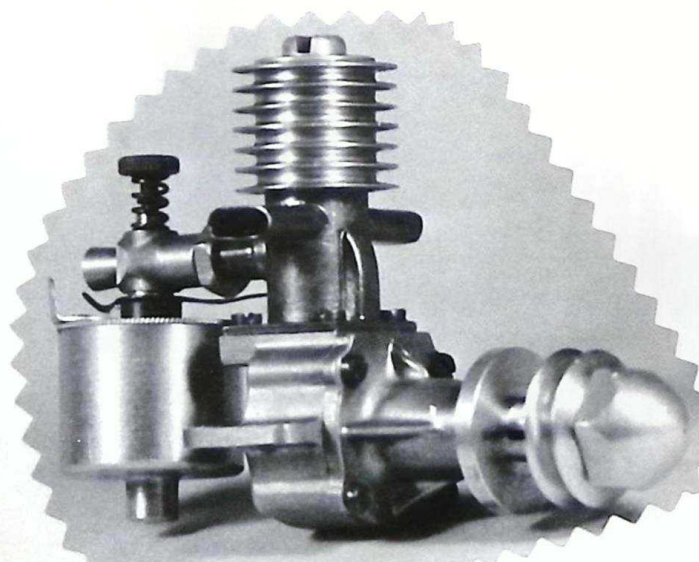
1960 MK II **Super Fury**. Blue cylinder head and disc valve induction



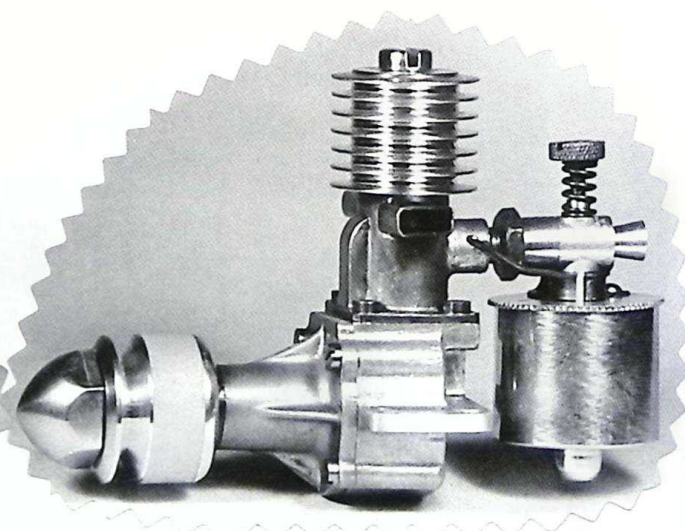
Mk III **Super Fury**, re-introduced in 1970, after a lapse of 7 years



E.D. 1.5cc **'Hawk'**. Made under licence by Webra in W. Germany 1962

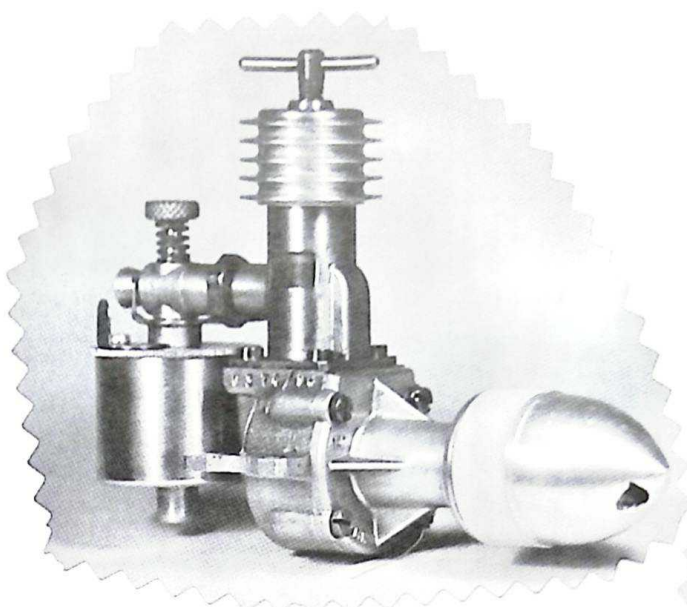


1st production E.D. 2cc of 1946. Note 'round edge' exhaust stacks, known as the MK II or **'Penny Slot'**

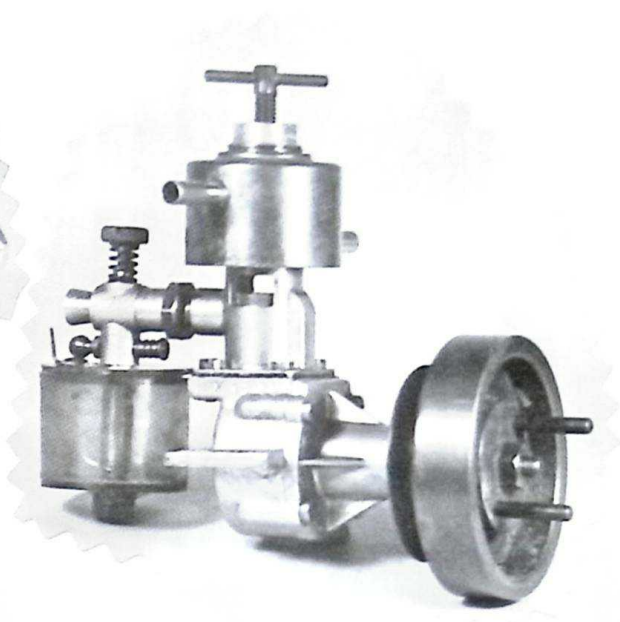


2nd series E.D. 2cc from 1947 with the more common 'square', angled back stacks

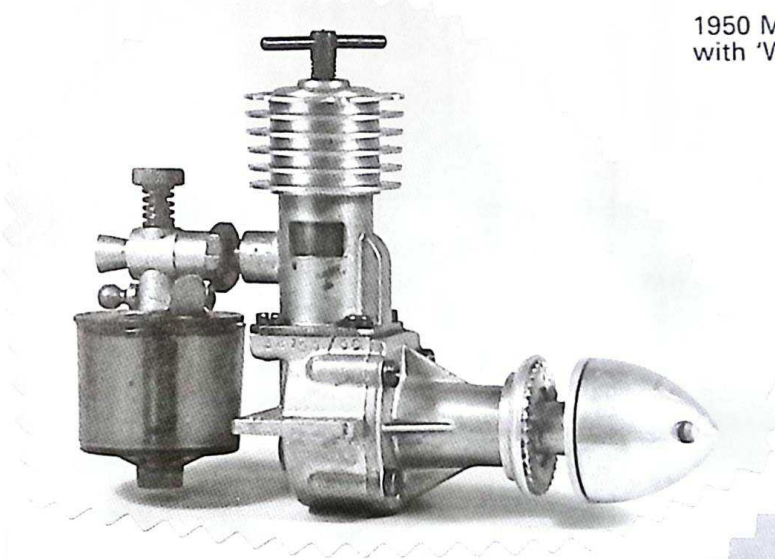




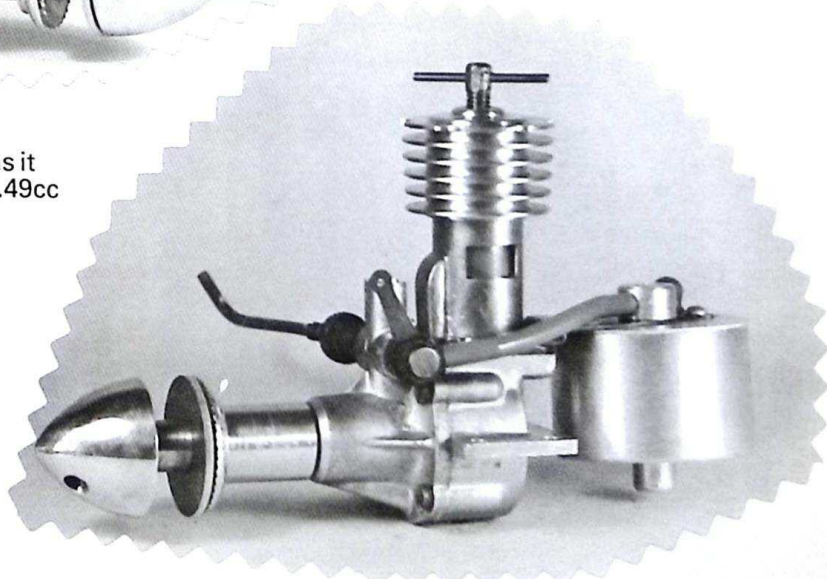
E.D. 2cc **'Competition Special'**  
from December 1947



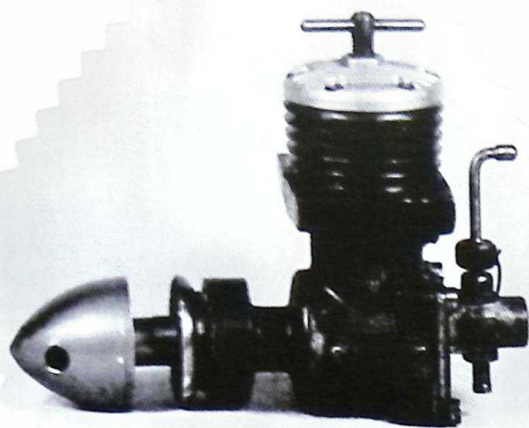
1950 Marine 2cc,  
with 'W' prefix to numbers



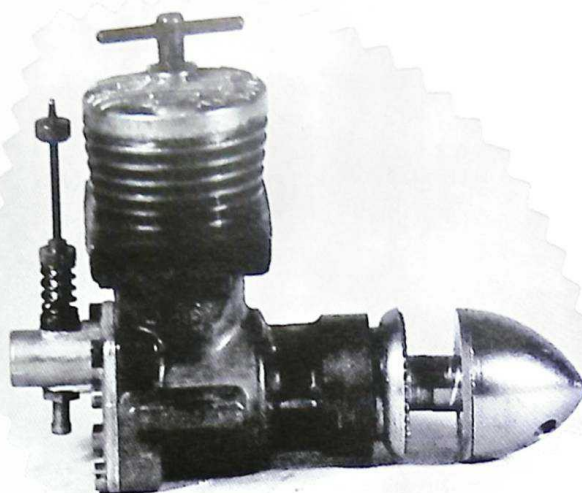
Prototype 2.49 MK III. Very few made as it  
was decided to go for the shaft valve 2.49cc



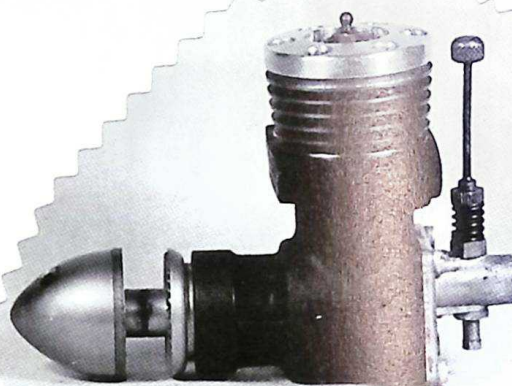
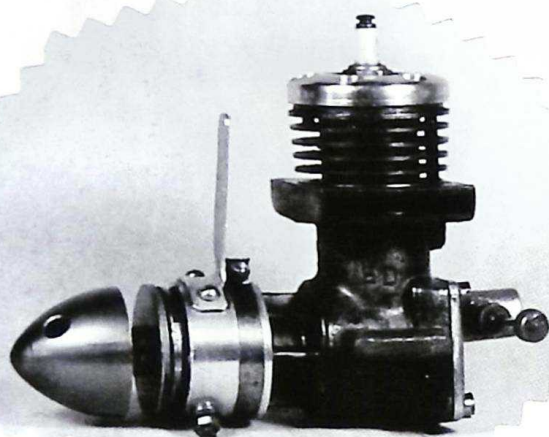
E.D. MK III 2.49 from May 1948



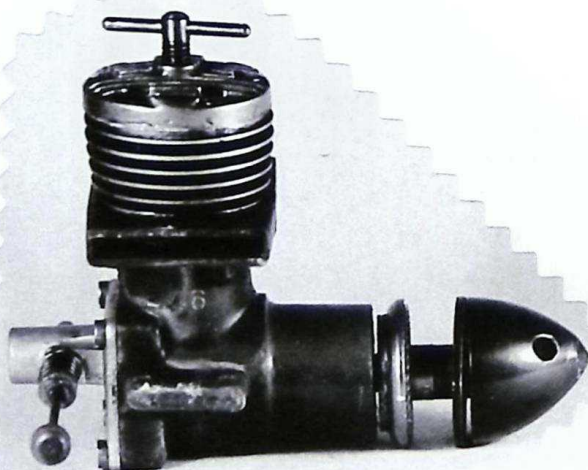
E.D. 2.46 'Racer' MK I 1950  
Note no 'webs' to support c/case between bearing housings



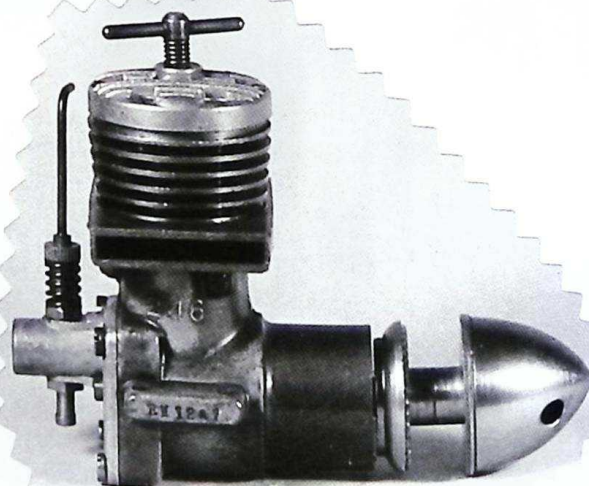
MK II Racer, with strengthened case, from 1951



The **Racer** was also available, at this time, as an ignition or glo engine

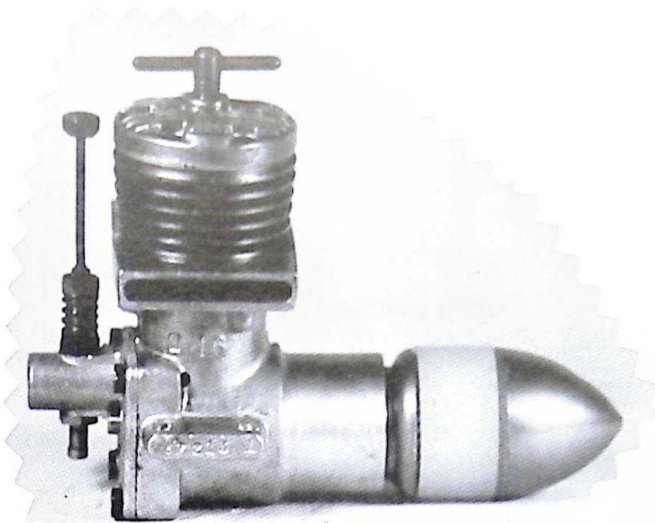


MK III Racer from 1953

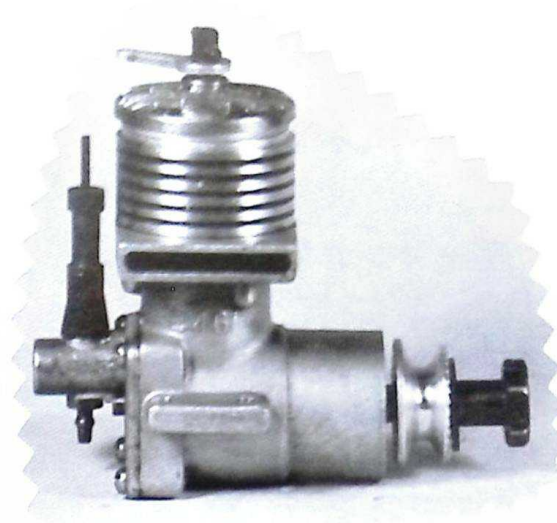


A few MK III's were made, at this time, as reed valve induction, with green cylinder fins and spinner

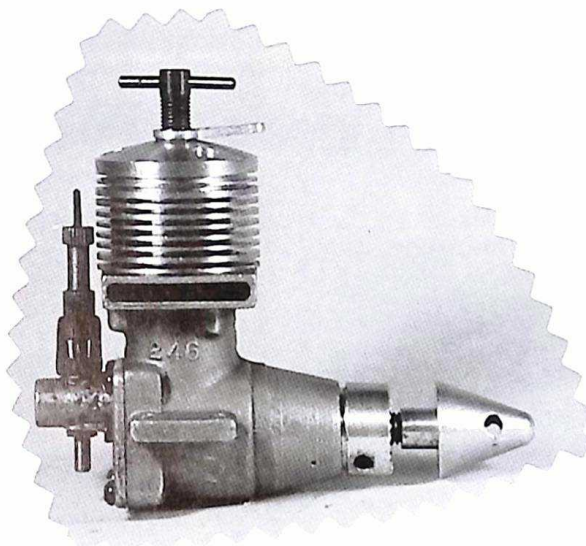




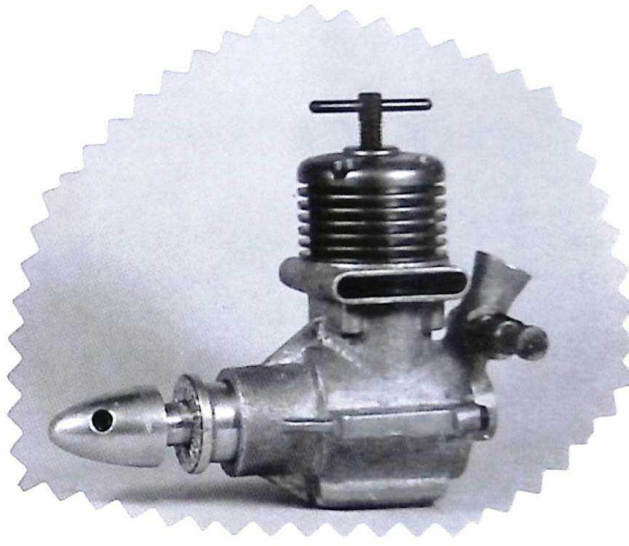
MK IV 'Racer' from 1955  
Now produced with aluminium crankcase  
instead of magnesium



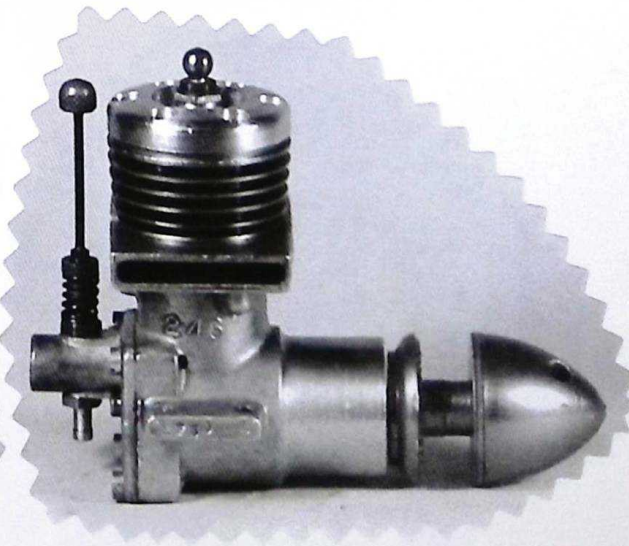
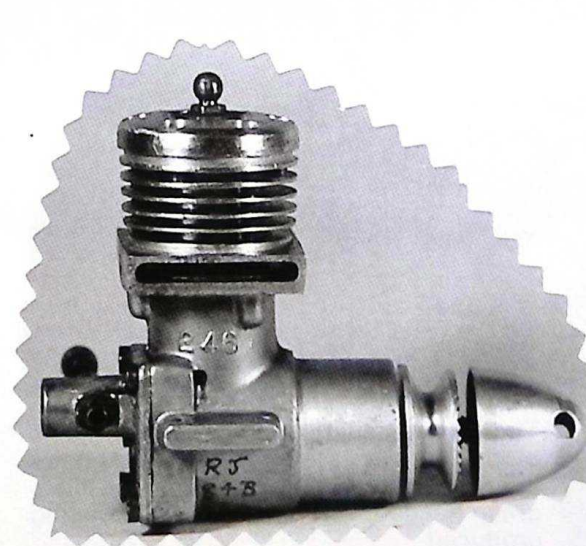
MK V Racer, from 1963



MK VI Racer of 1969. Later series fitted with  
nylon backplate/carb. assembly

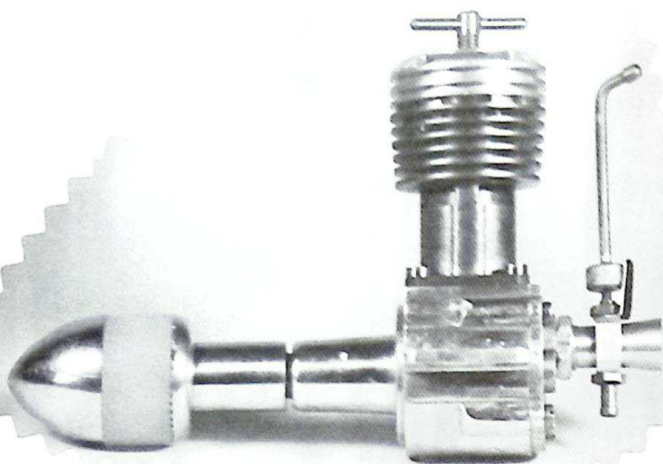


Prototype E.D. 2.5. Drum valve  
induction. Another George Fletcher  
influence, perhaps?

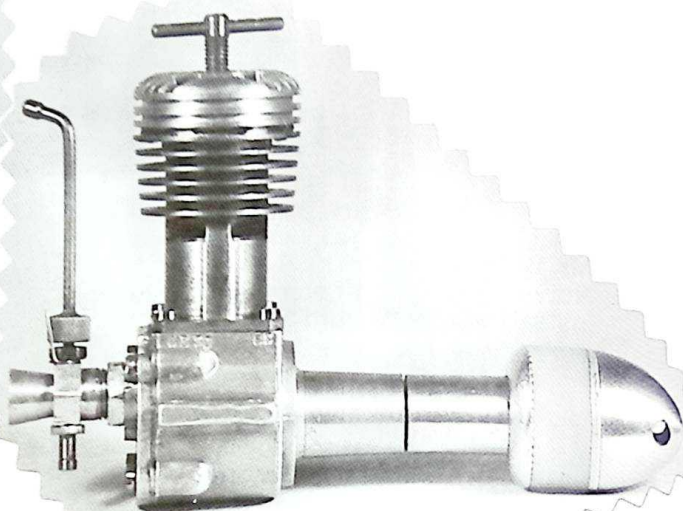


A factory built glo. Much lighter than this MK IV glo converted diesel

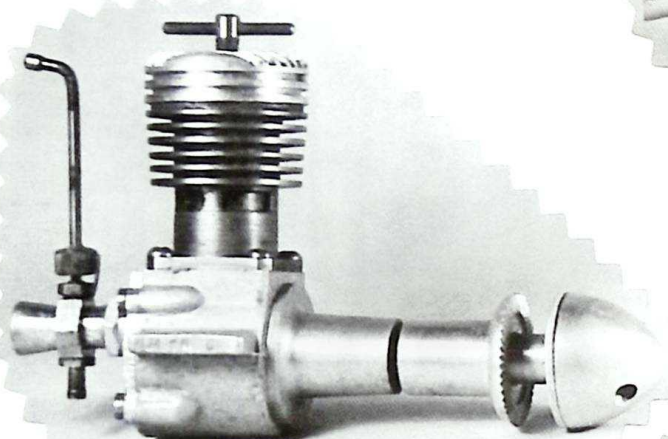




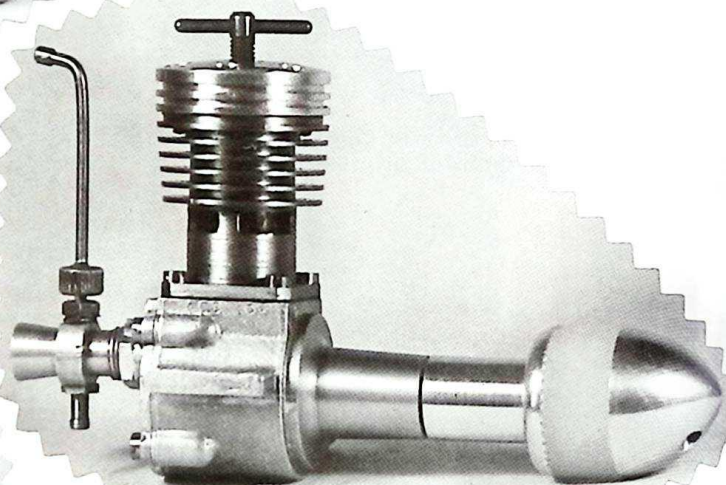
E.D. MK 4 3.46 'Hunter' of 1949  
Early model machined from solid



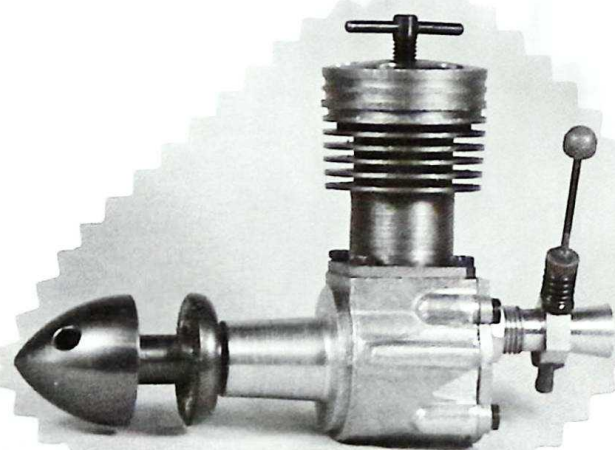
Series II 3.46 with cast c/case from 1950.  
This model dated 1953



Series III 3.46 from 1953

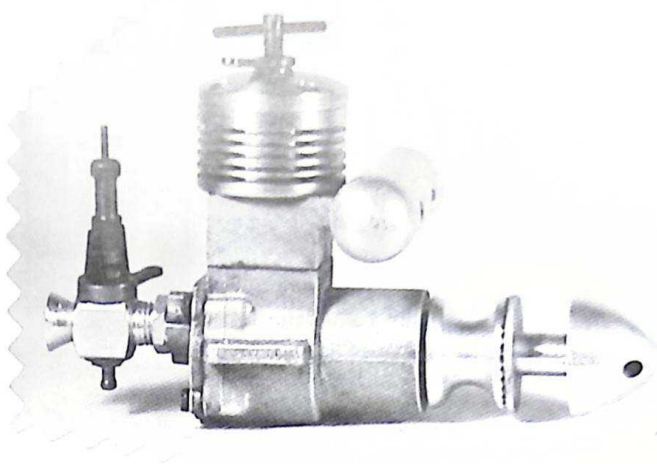


Series IV from 1954

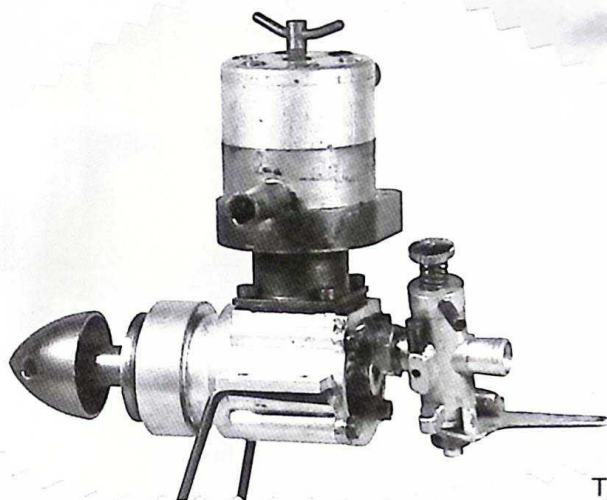
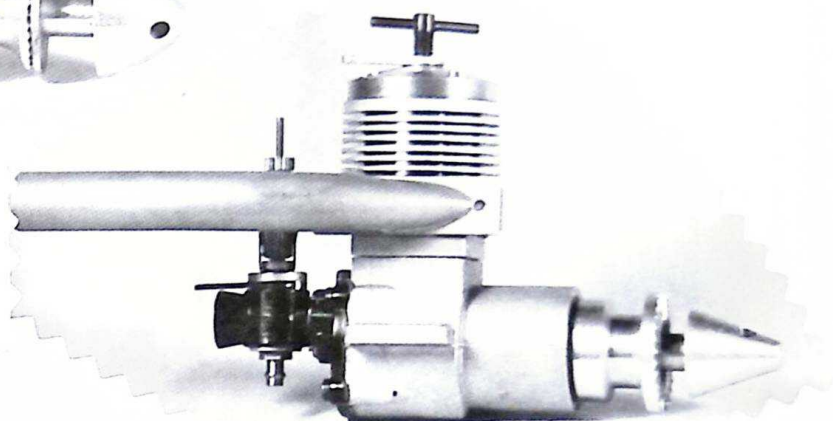


The green head, propdriver and spinner  
model, at left is the one supplied as parts  
to Taplin in the late 1950's, at the time the  
green headed, 7cc Taplin Twin was being  
produced



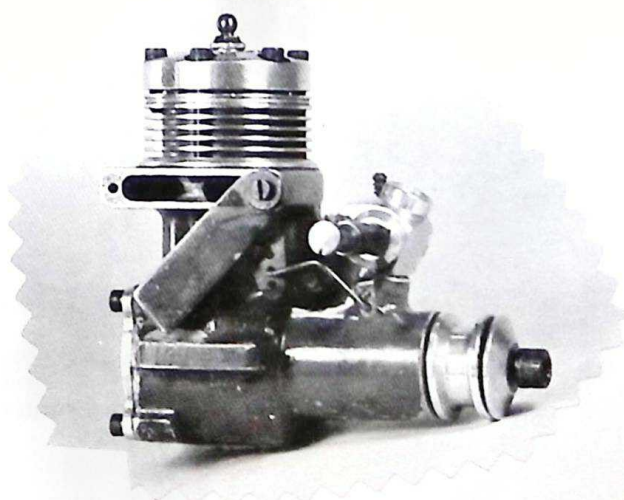


The last of the E.D. 3.46 Series  
5 and 6  
from the late 70's

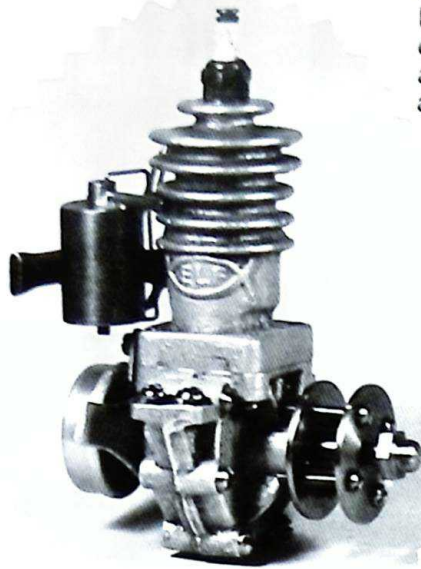


The original 4.5cc E.D.,  
designed and developed by Basil Miles,  
that powered the Cross Channel Dover to  
Calais model in 1951

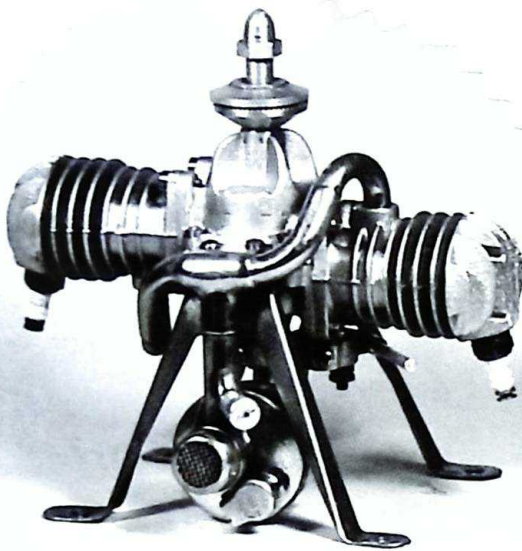
Another George Fletcher design, on the  
right, is the prototype E.D. 10cc **Condor**  
tested by Harry Brooks in 1972.  
Never produced, it was finished with a  
bright red c/case



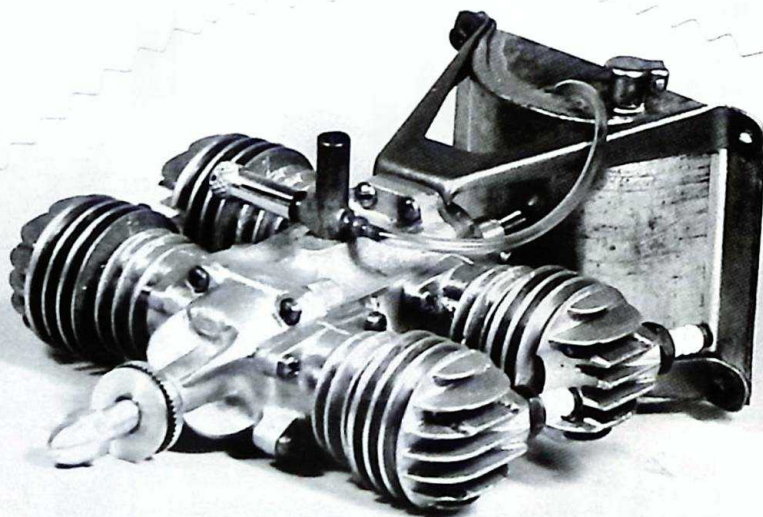
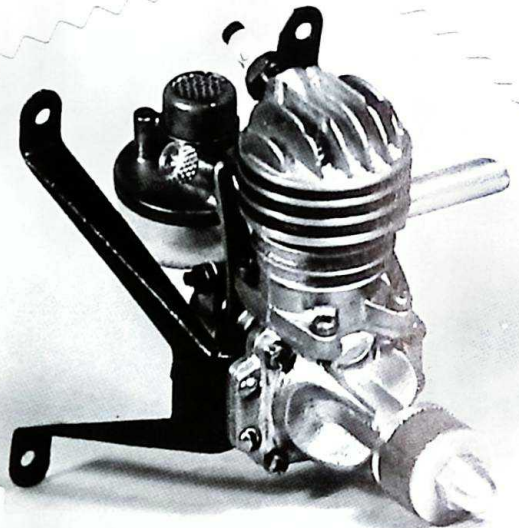
Elf 'Corncob' of 1938. Designed and built by Dan Calkin, who built various small bore engines from mid 1930's to the end of the 40's. It weighed in at 4ozs and turned a 12" x 6½" prop. at 4,000 r.p.m. Quite amazing for a 2.5cc



Elf .097 cu.in. (1.6cc) made from 1941. Model shown is 1945 version, from Portland, Oregon



1941 Elf twin of 3.2cc

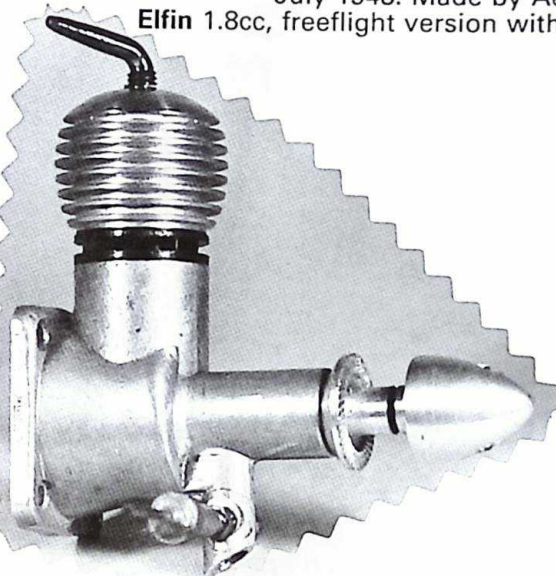


Elf 4 reed valve glo from 1950. .369 cu.in. (6cc) capacity

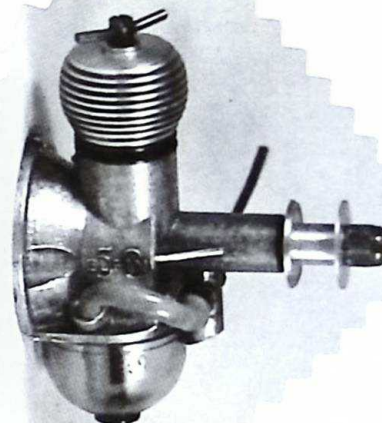




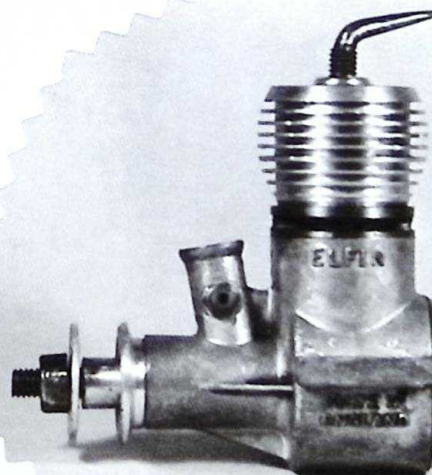
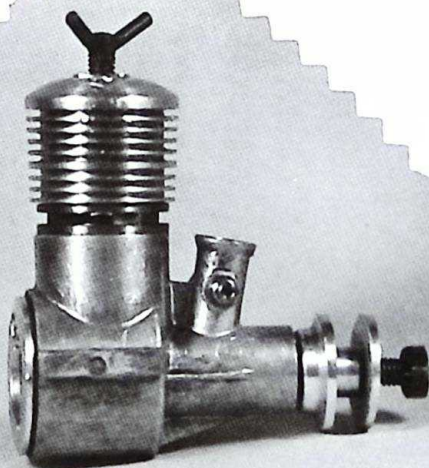
July 1948. Made by Aerol Engineering, Liverpool.  
**Elfin 1.8cc**, freeflight version with tank and control line version without



**Elfin 'Radial Mount' 2.49**, of 1950  
 A light, powerful engine

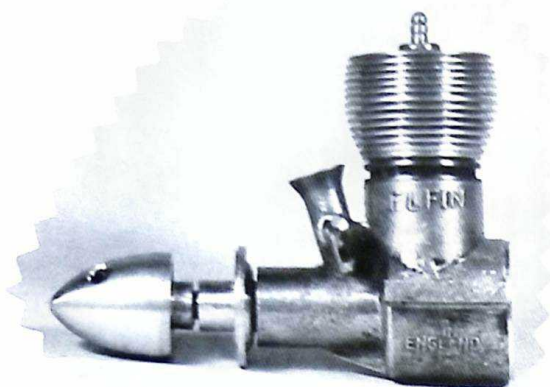


**Elfin .5cc**, 1951

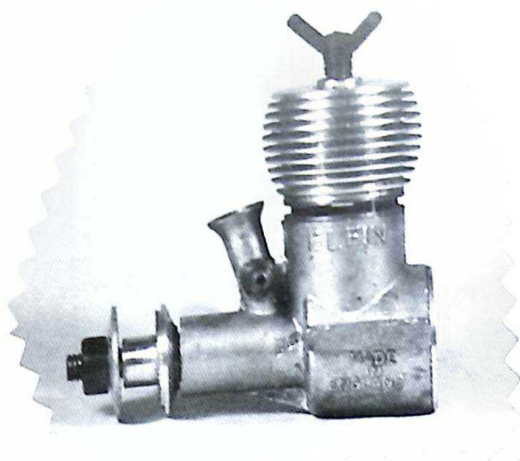


2nd series of **Elfin** were beam mount 2.49's and 1.49's from the late 1950's

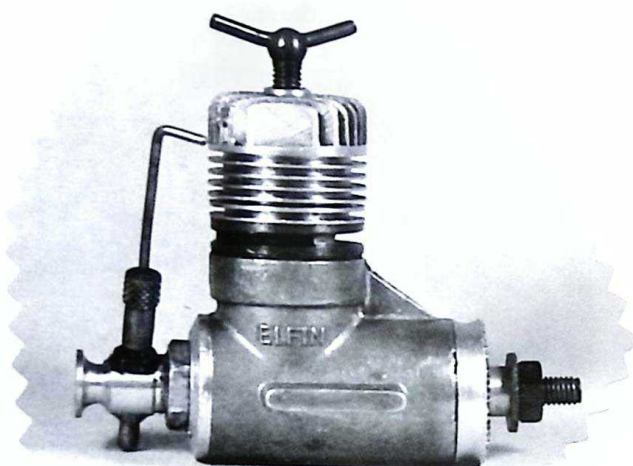




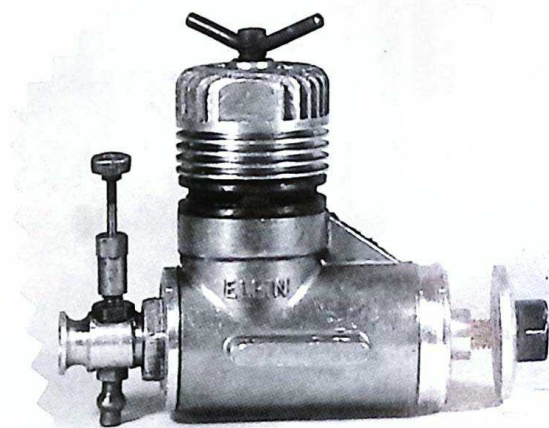
Elfin 1.49 glo



and 1.49 Diesel from December 1950

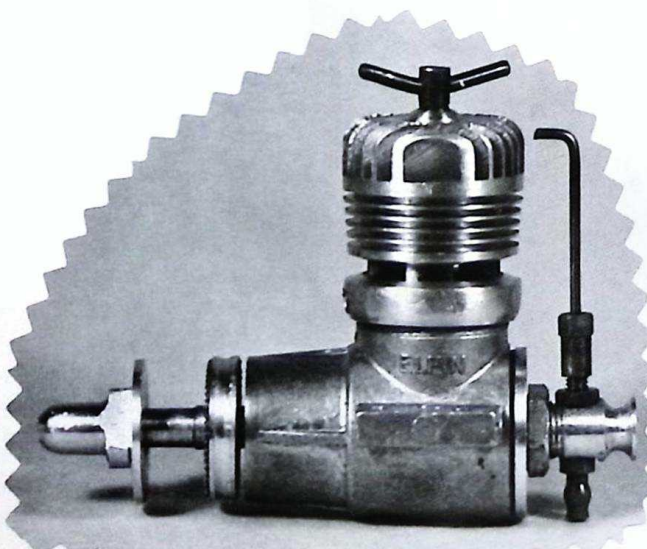


1.8cc B/B 1954

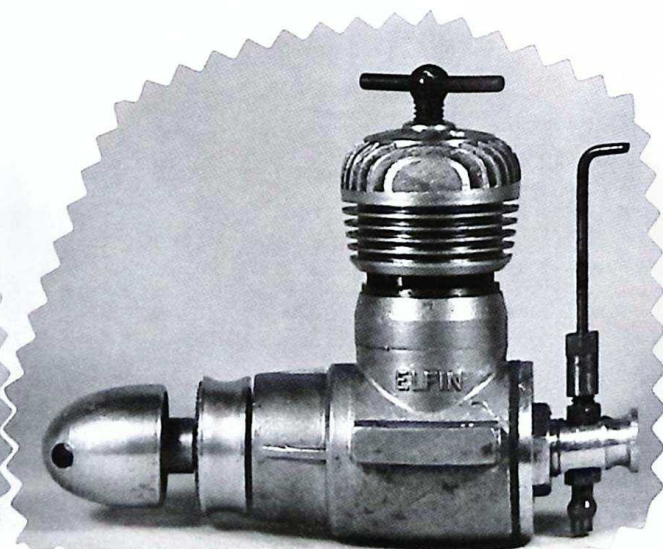


1.49cc B/B 1954

3rd series of Elfins were the 'over engineered' ball bearing engines.  
Nice lookers, but a bit heavy for serious contest work

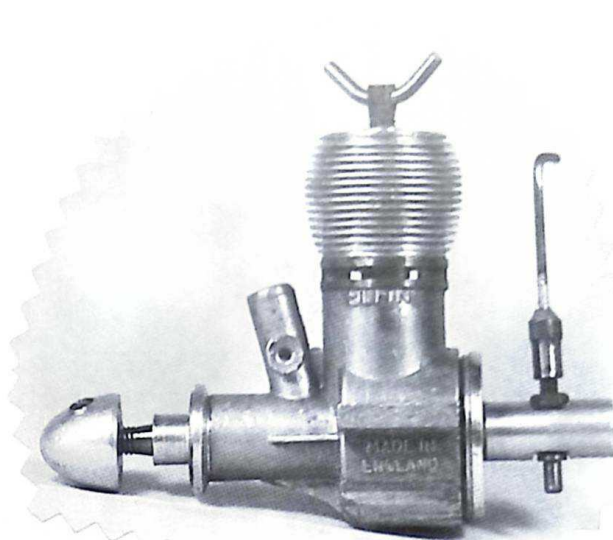


Elfin 2.5 B/B 1955

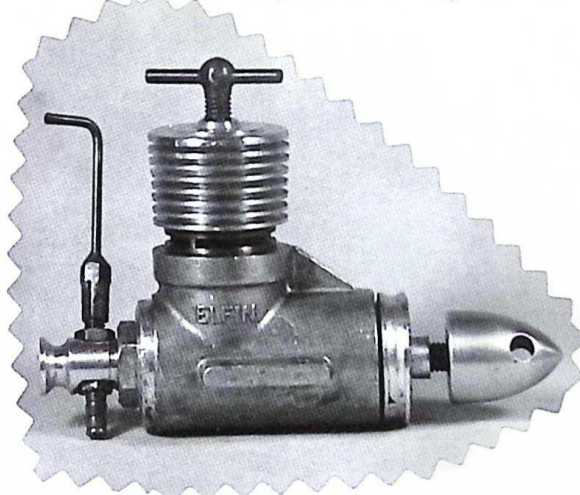


Elfin 2.5cc Series II 1956

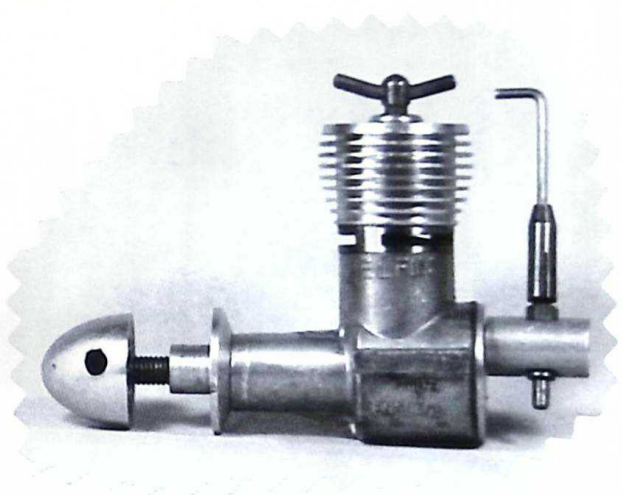




Some experimental engines from the Elfin factory in the mid 1950's



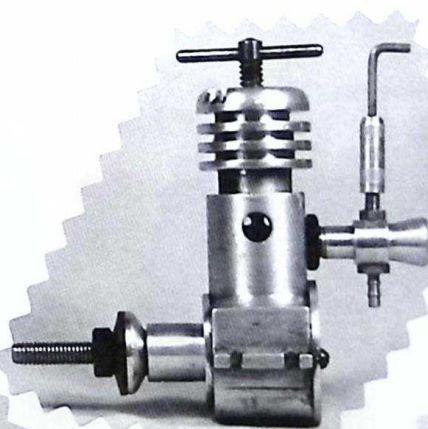
1.49 B/B



1.49 clack valve

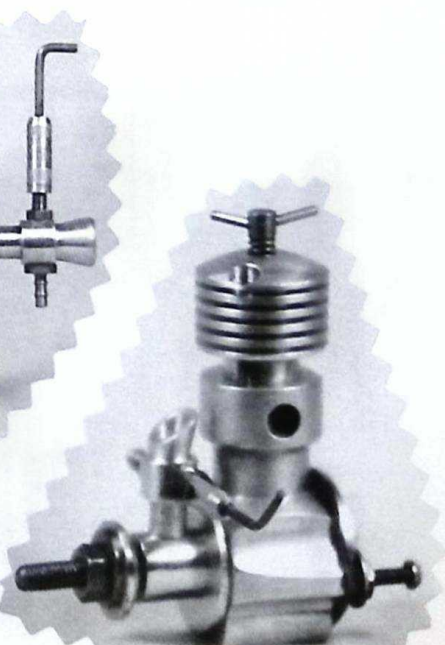


Embee .75 1968



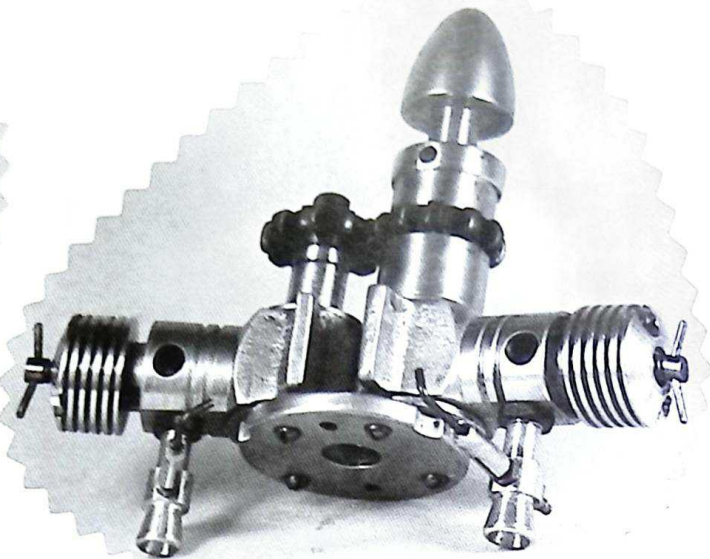
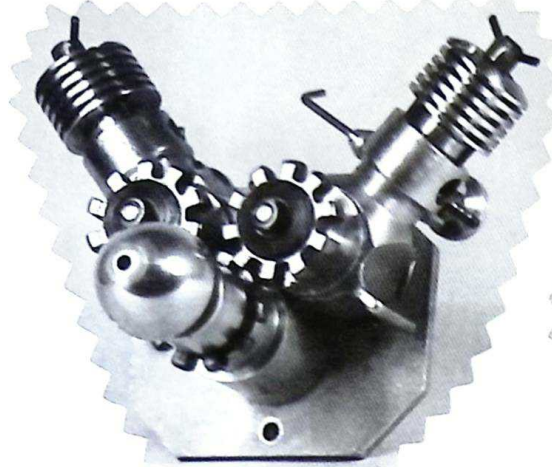
Embee .5 1966

The Embee range were produced by Moore and Bailey of Leicester from 1968-early 1970's. A very quiet running, docile engine

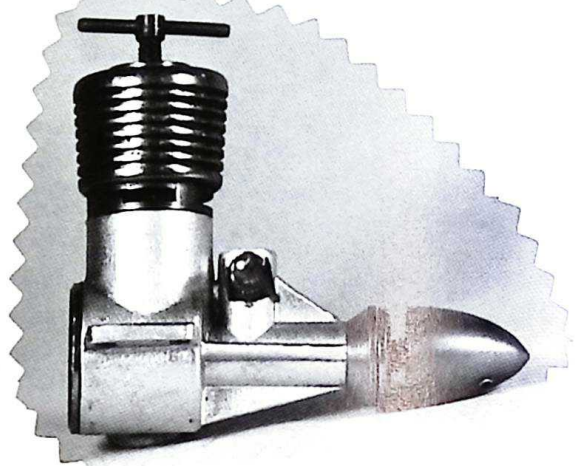
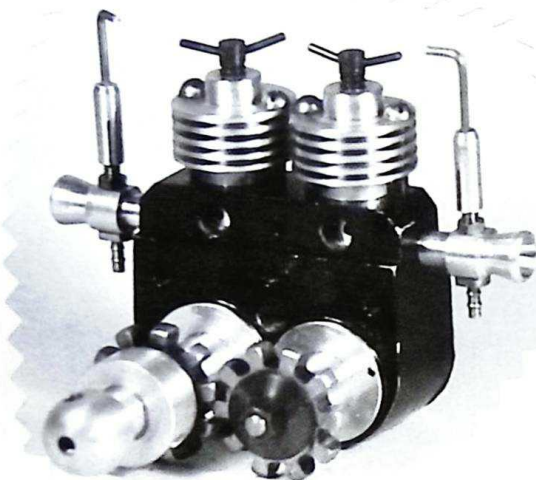


Embee Front Rotary valve .75 1972



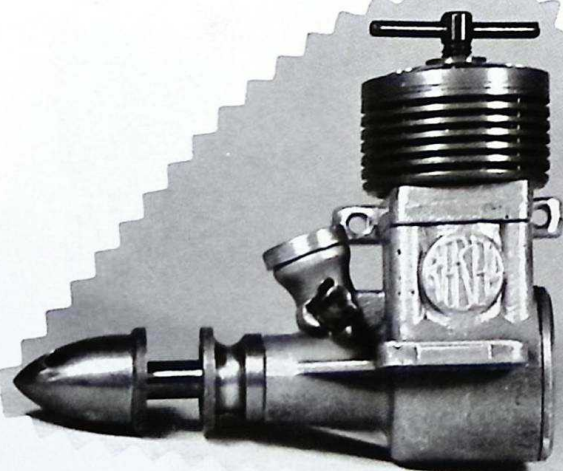


Variations of Pete Moore's geared twins. Impractical due to power/weight ratio, but good fun

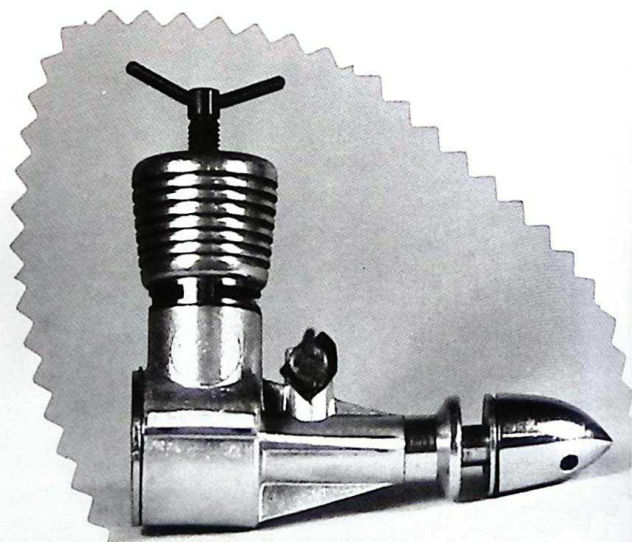


Engel 1.5cc, 1960. Red fins & spinner

This 1.5cc geared twin must be the most unusual in-line twin?

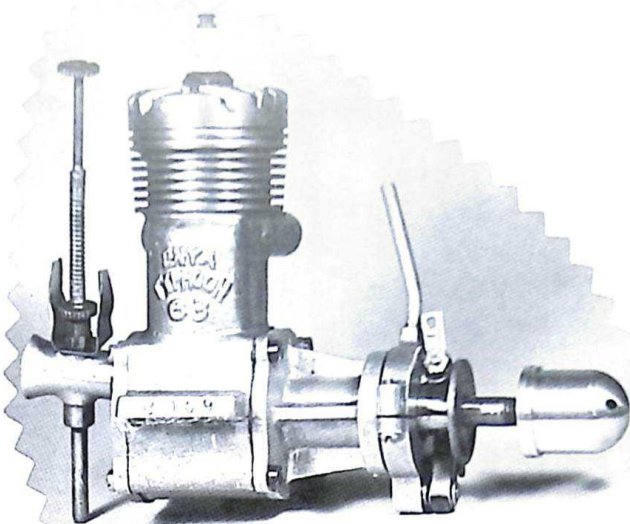


Engel 'Rebell' 2.5 German version of the Hungarian Fok 2.5

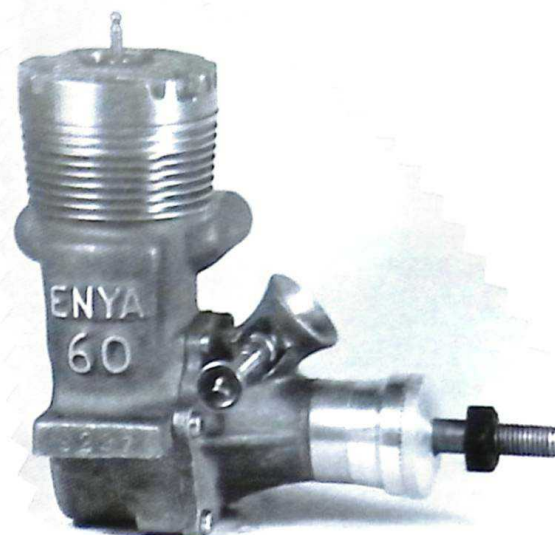


Engel 1.0cc 1960.  
Gold cylinder head and spinner

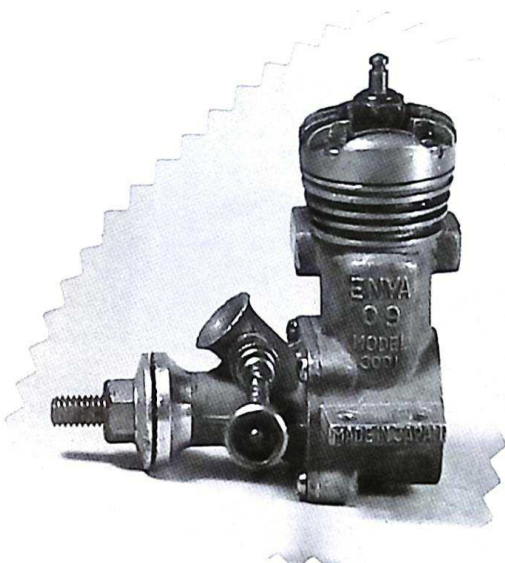




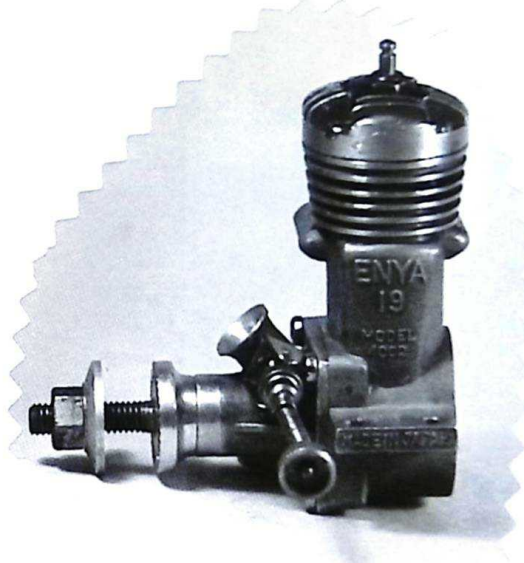
Enya 10cc ignition, 1947, Japan



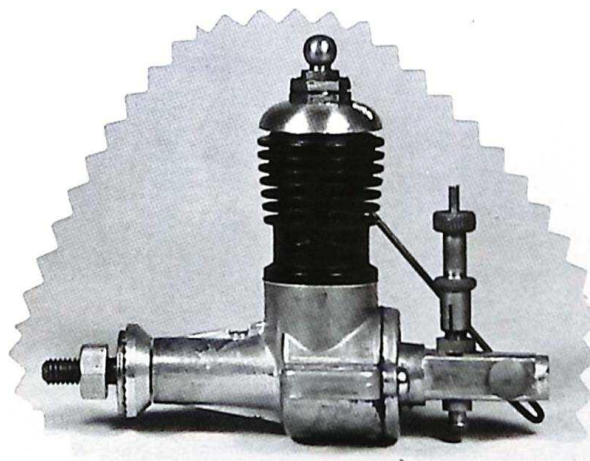
The 1960 plain bearing 10cc stunt engine



Enya .09, 1960



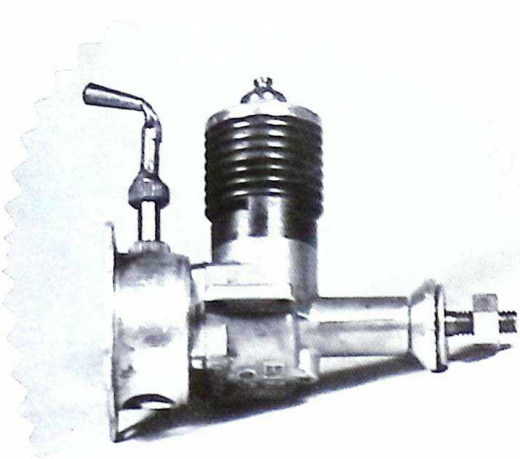
Enya 19 1960



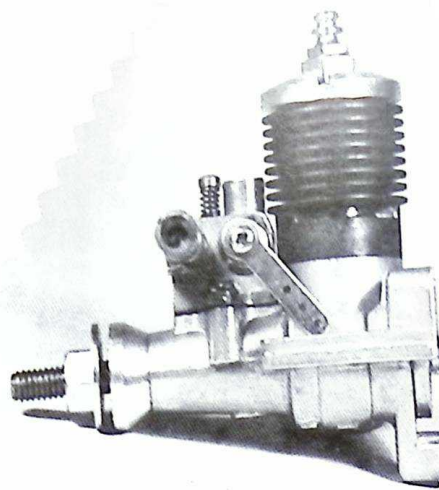
Enya .049 1958 Series I



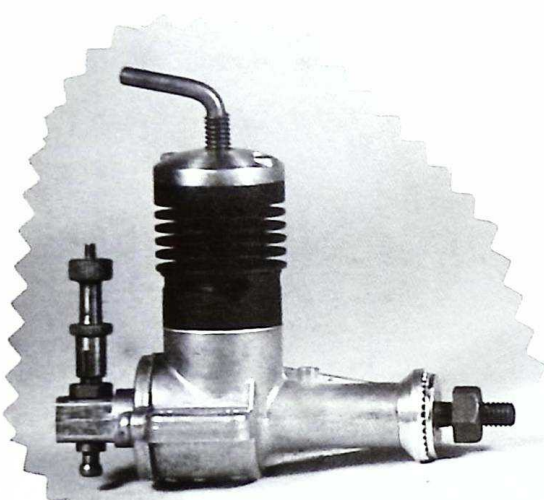
Enya 35 1962. Early attempt at throttle control with 2 needle valves



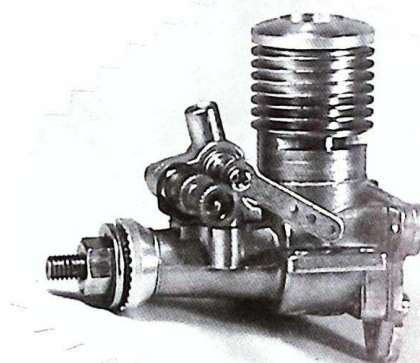
1959 Enya .049 Series II



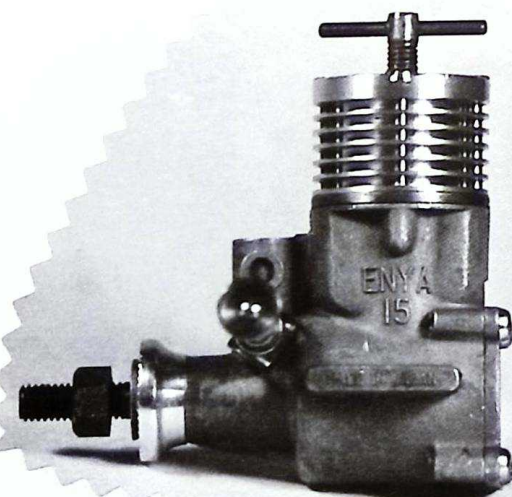
Enya .061 R/C 1962



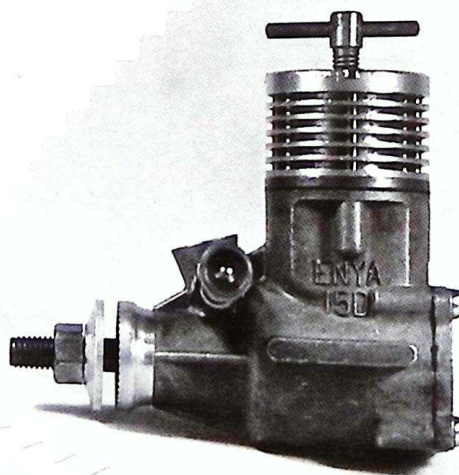
Enya .06 diesel. 1959-60



Enya .049, late 70's

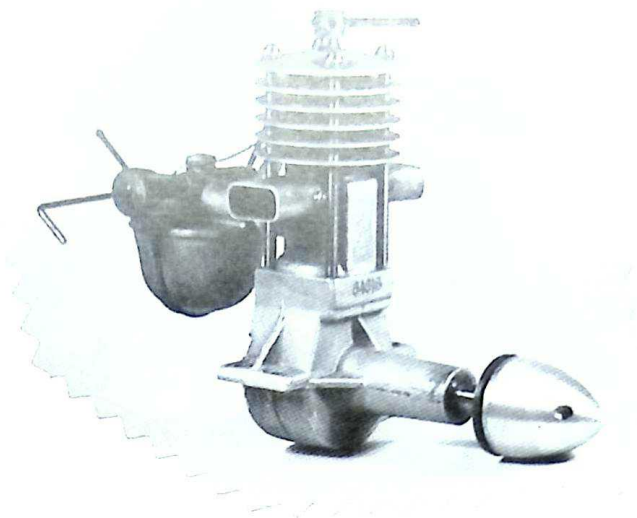


Enya 2.5 diesel mid 1950's



Enya 2.5cc MK II

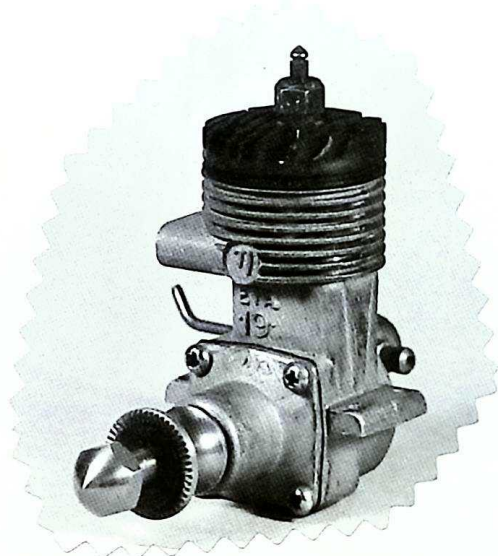




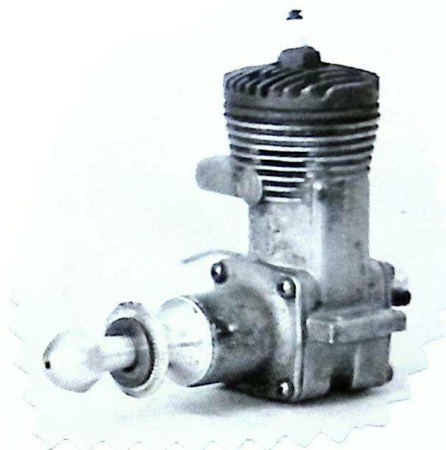
**Eta '5'cc.** Built by Eta Instruments of Watford in early 1947. Had a spring loaded cut out and a choke valve operated by a lever



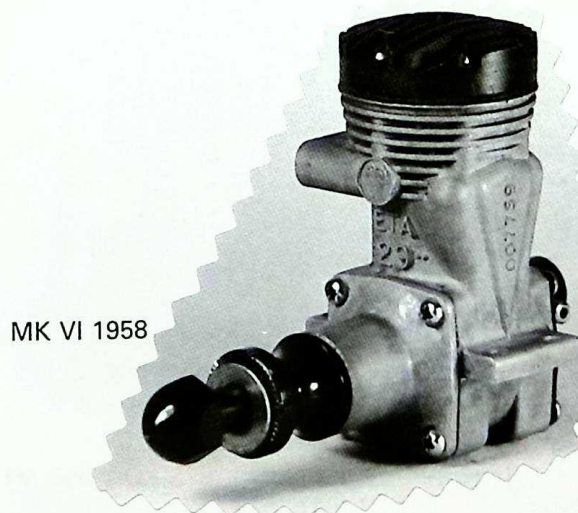
**Eta '5' 'R'** with a red head and spinner. Had a simple carburettor for use in model cars



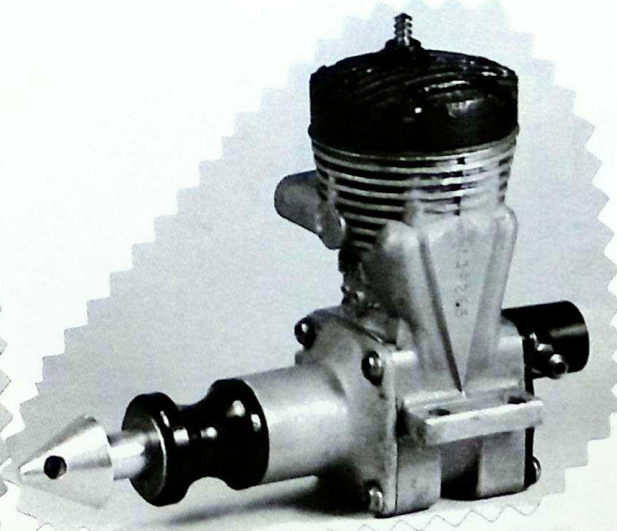
**Eta '19'glo.** This is the MK II version of 1959 with lapped piston. A better running engine than the earlier ringed model



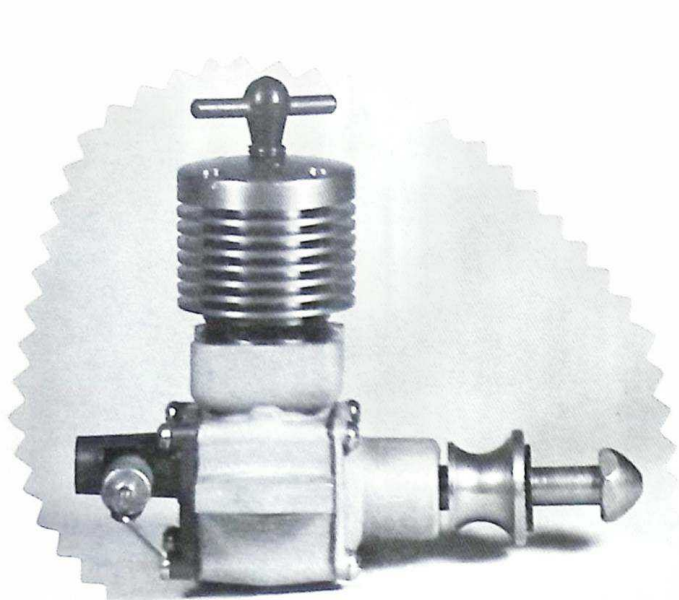
The MK I Eta '29' 1948



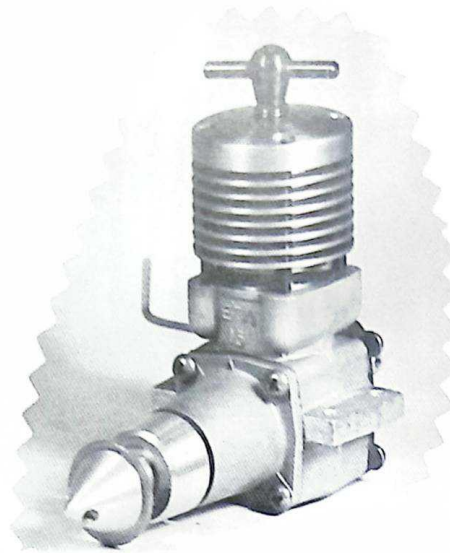
MK VI 1958



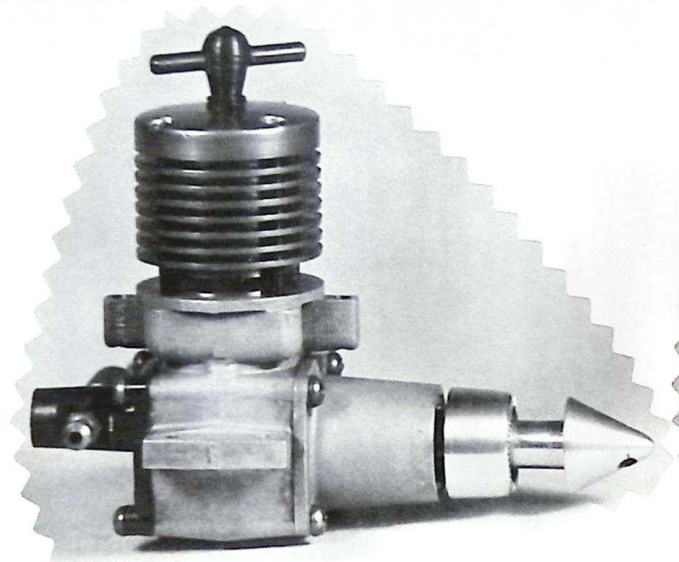
The MK V 1957



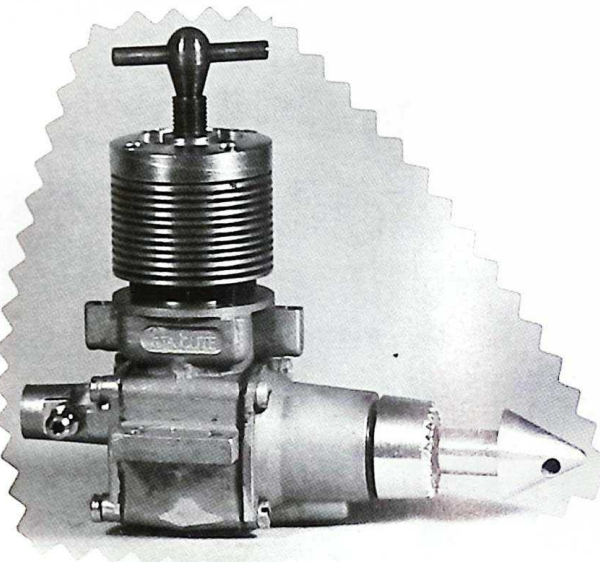
1960 Eta 2.5 MK I



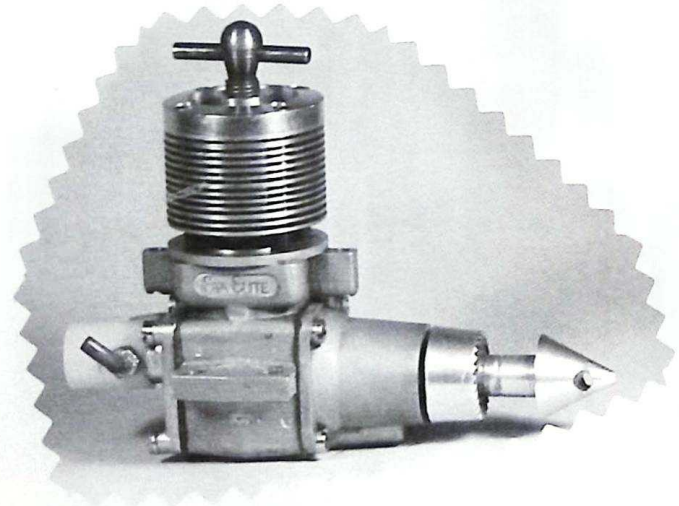
1963 MK II Eta 2.5cc



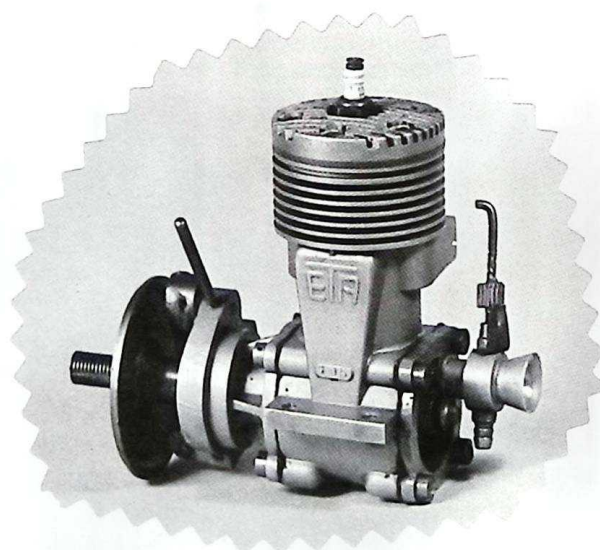
1965 MK III Eta 'Elite' 2.5



1968 Eta Elite Series II

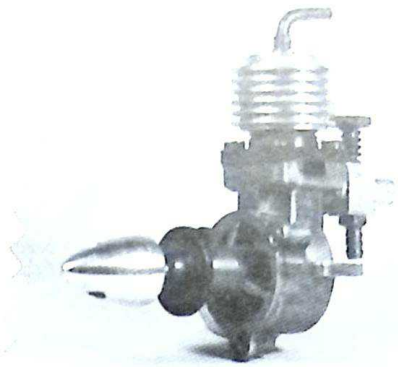


Series II Eta Elite fitted with  
nylon back plate conversion



1949 Eta '.49' ign.



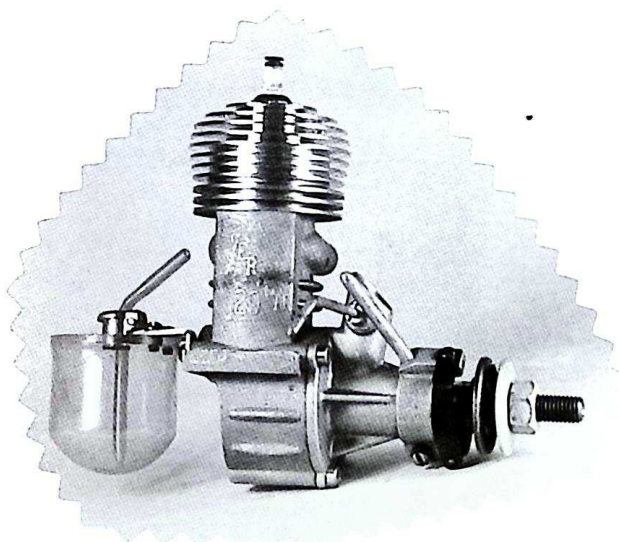


**E.P.C. Moth** .85cc. A cheap little engine at about £1 15s (£1.75p) in 1951

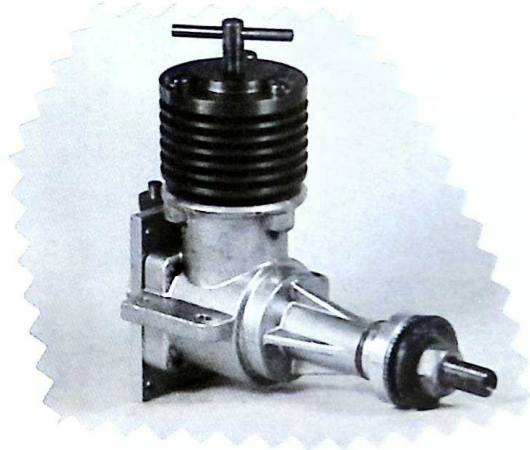


**E.R.E.** (English Racing Engine) 2.5cc. Made by H. Baigenaut, Bournemouth in 1947 and marketed by Replica, Sloane Square, London.

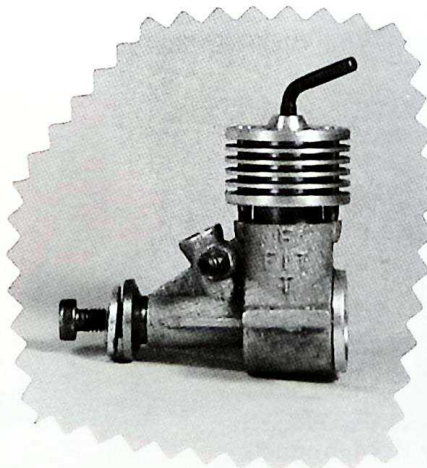
I still 'wince' thinking of the bus I used to get everyday going home from school. The stop was outside Replicas and I remember thinking, 'What a funny looking engine'!



**Everson '29'** from New Jersey, U.S.A. 1947. One of my favourites for appearance and 'feel'

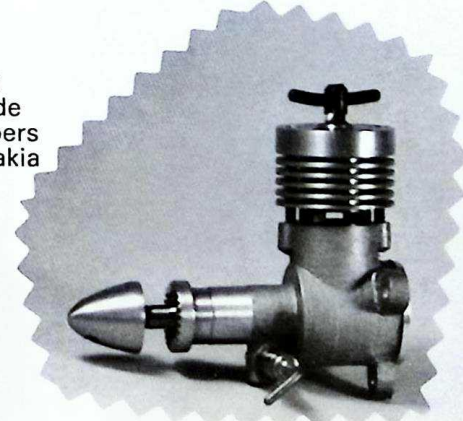


**Favoriet** 2.5cc. A few made in Holland 1960



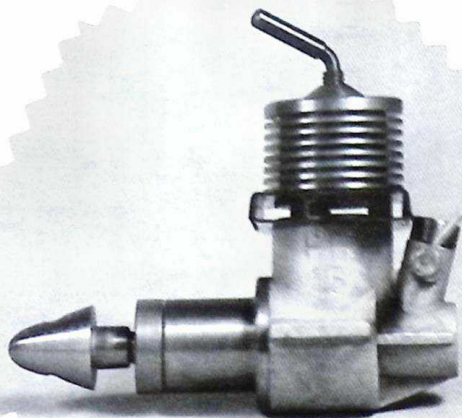
**Fit** .5cc

Nicely built engines. Made in small numbers in Czechoslovakia

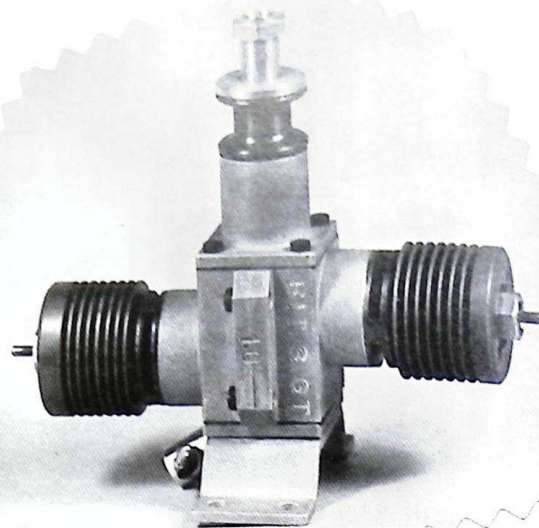


**Fit** 1.0cc.

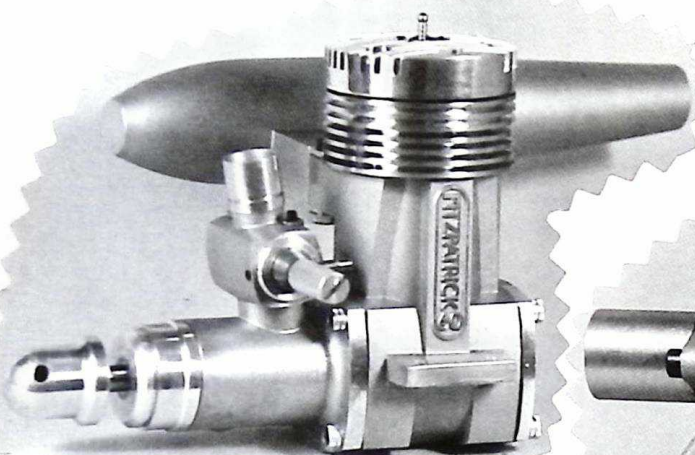




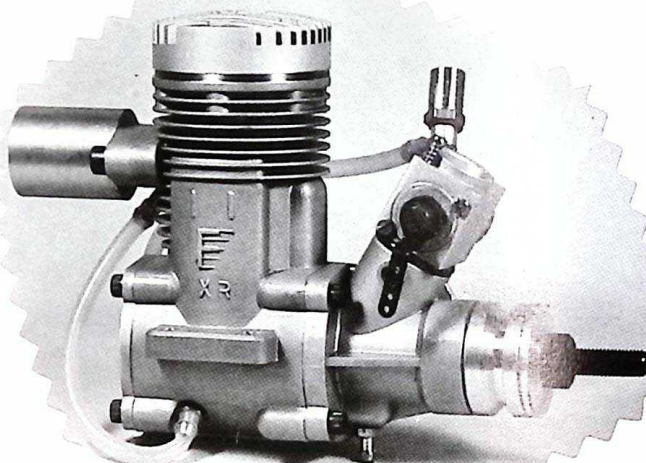
**Fit 1.5cc. Red head, front c/case and spinner, black exhaust**



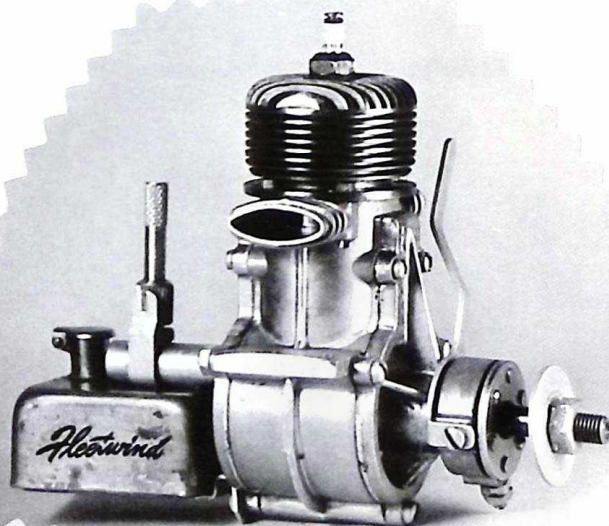
**Fit 3cc twin. Red cylinders. They 'feel' as nice as they look**



**Fitzpatrick '60'. 60 cu.in.**  
A hand built beauty. Made in U.S.A. during 1978. Few sold, maybe due to its \$175 price tag!

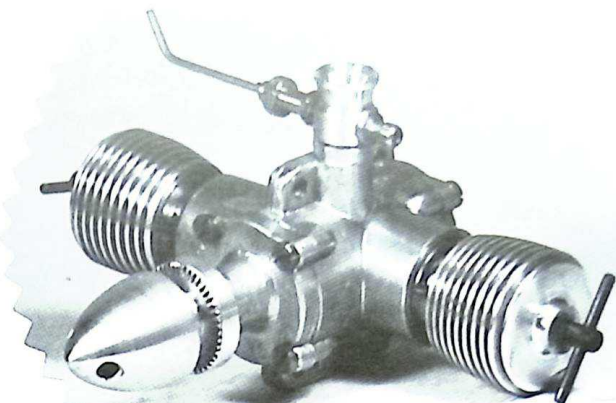


**Fisher .60 cu.in.**  
Another nice piece of work. Designed for top class R/C Aerobatic flying

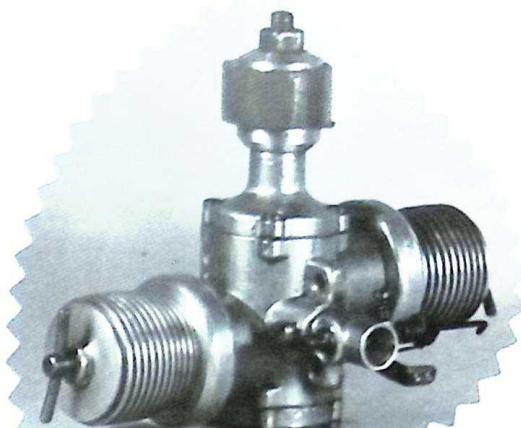


**1946 Fleetwing .60 cu.in.**  
Made by Hoof Products

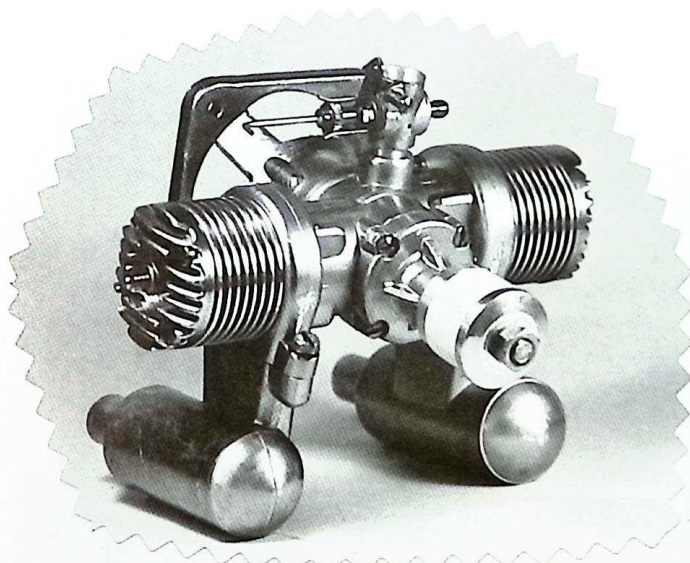




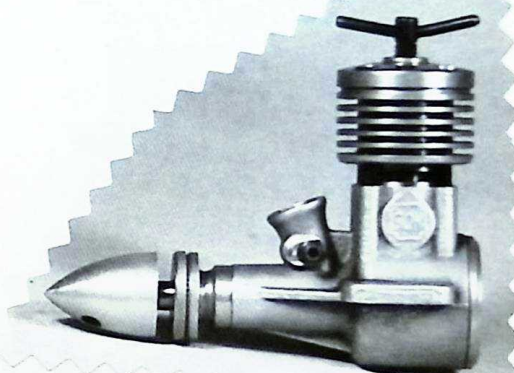
F.M.O. 3.5cc Twin. Made in Cologne, 1959



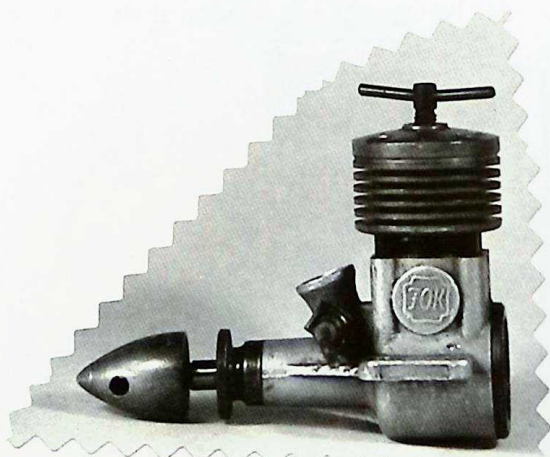
F.M.O. 6cc twin



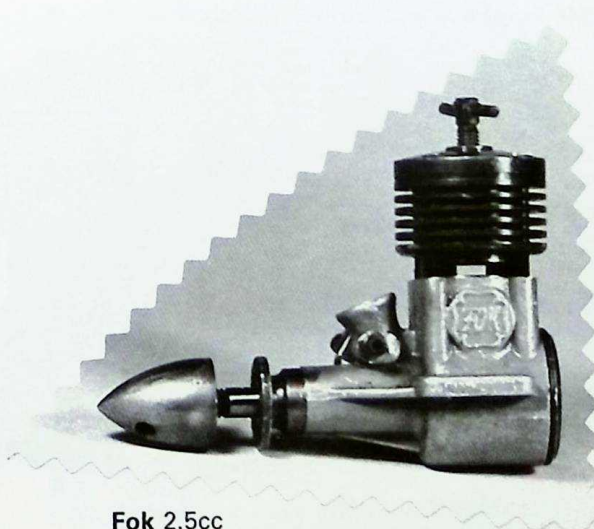
F.M.O. 10cc R/C glo 1961



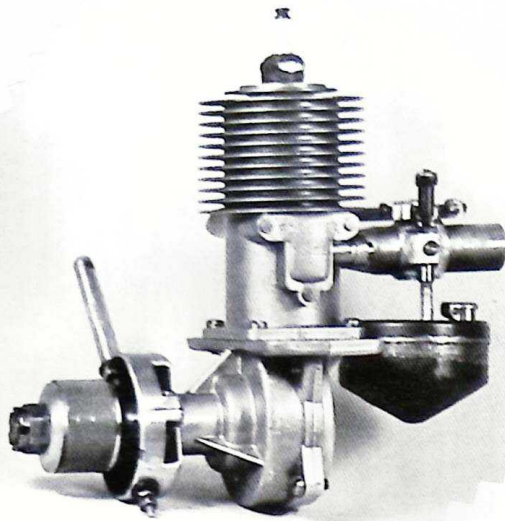
Fok 1.0cc. Made in Hungary



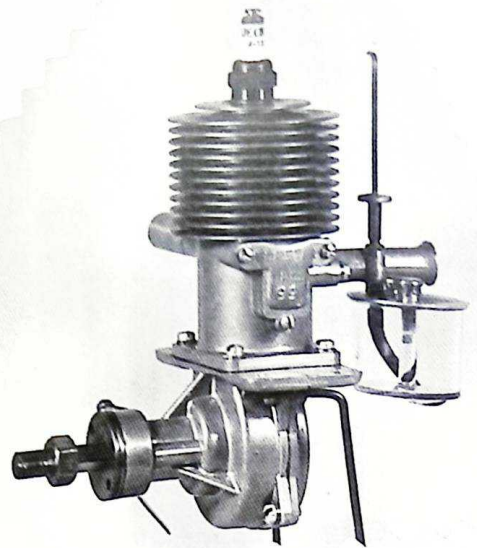
Fok 1.5cc



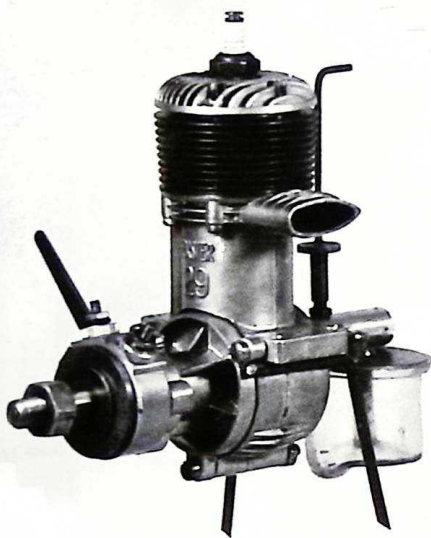
Fok 2.5cc



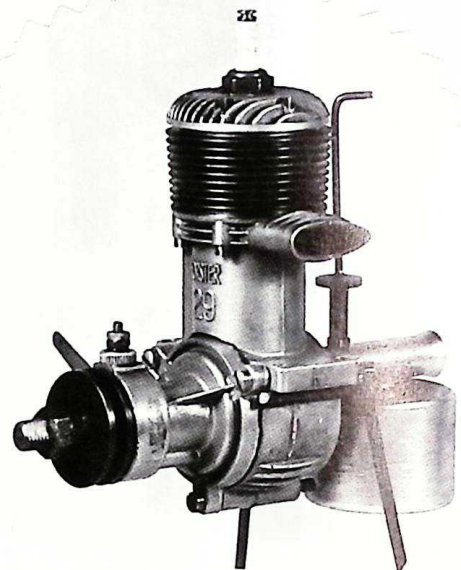
1939 Forster '.99' with throttle control



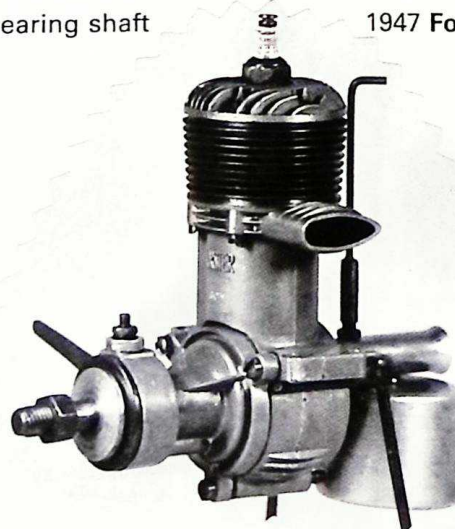
1947 Forster '.99'



1946 Forster .29, plain bearing shaft



1947 Forster .29, ball bearing shaft



1949 Forster .305

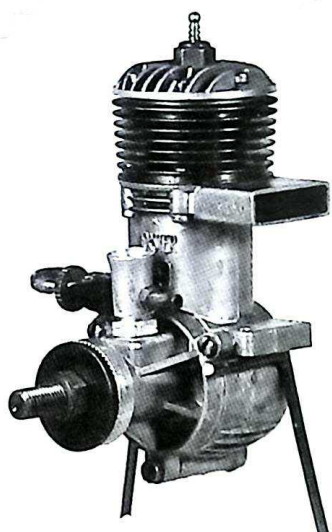




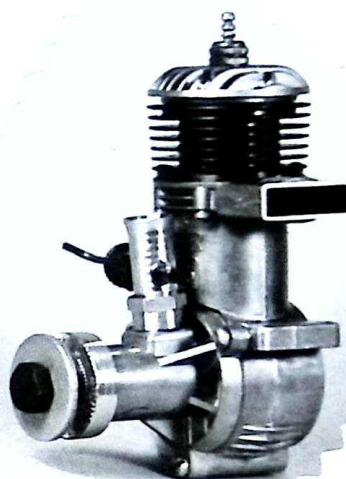
1950 Forster .29 glo



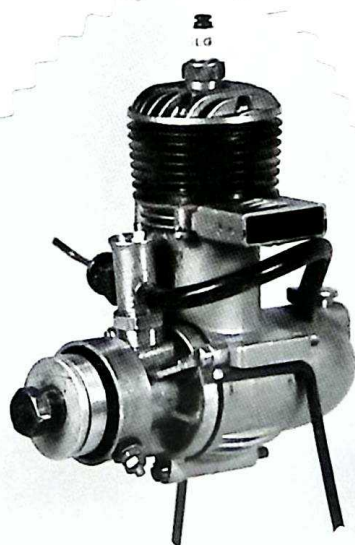
1950 Forster .31 glo



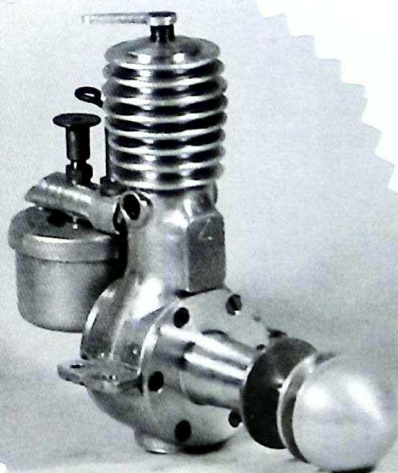
1952 Foster front rotary valve .29 glo



1958 Forster front rotary valve .35 glo

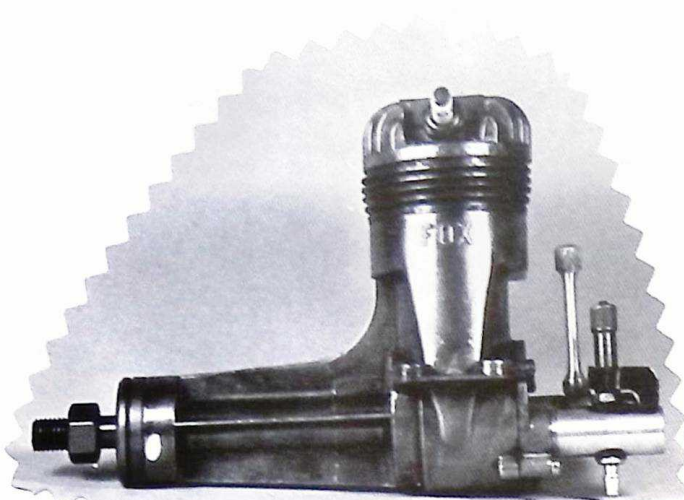


1977 Forster .29. Made by Remco

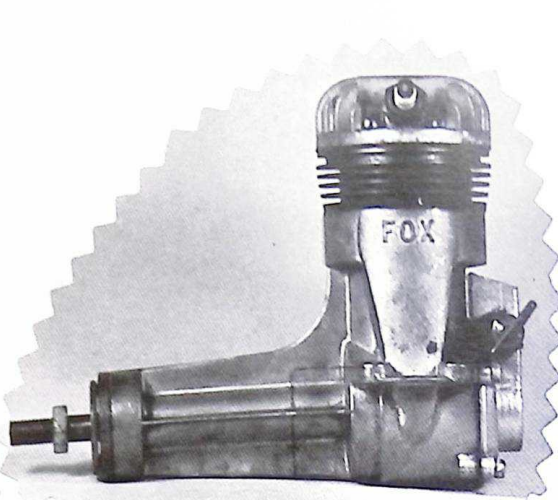


**Foursome** 1.2cc. Made in Brighton, Sussex, 1951. Sold through Arthur Mullet's Model Shop

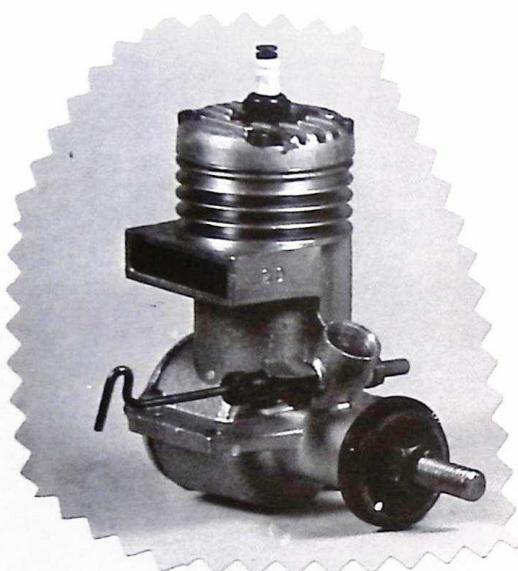




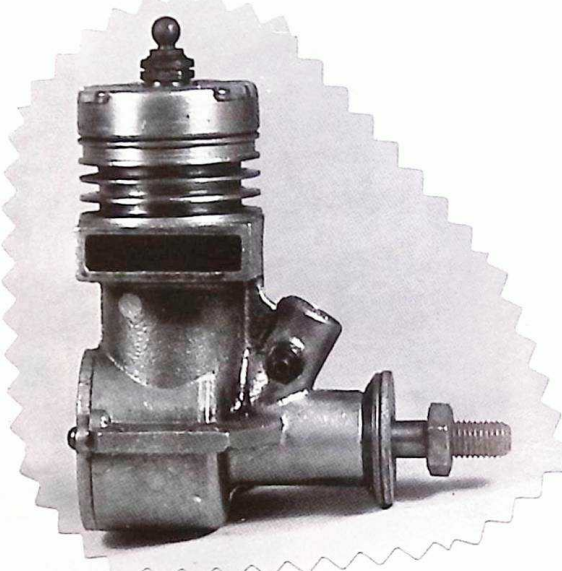
1947 Fox 'High Speed' .59 with piston rings. Manufactured by the Claude Slate Co



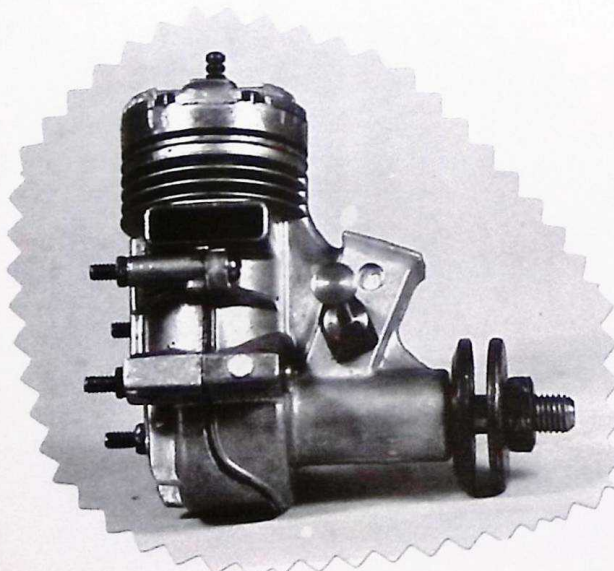
1948 Fox 'High-Torque' .59 with lapped piston  
Fox Manufacturing Co., N. Hollywood, California



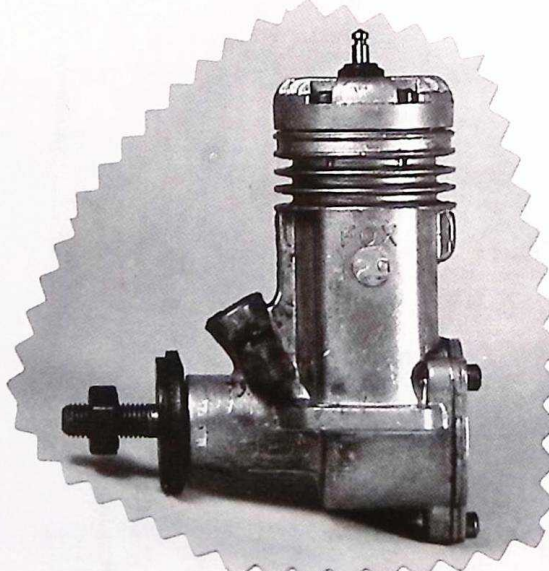
1949 Fox 29 sand cast with 'two bolt' back plate



1949 Fox 35 sandcast

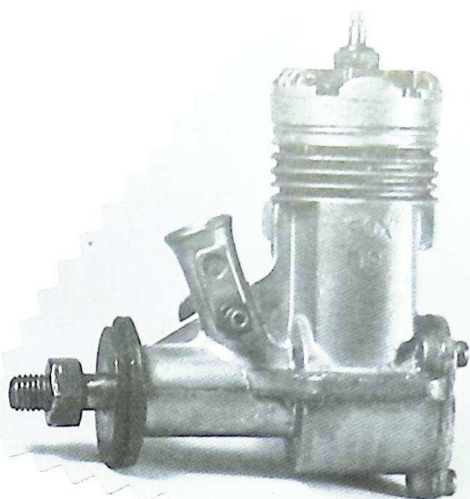


1953 Fox 19 'Split Case'

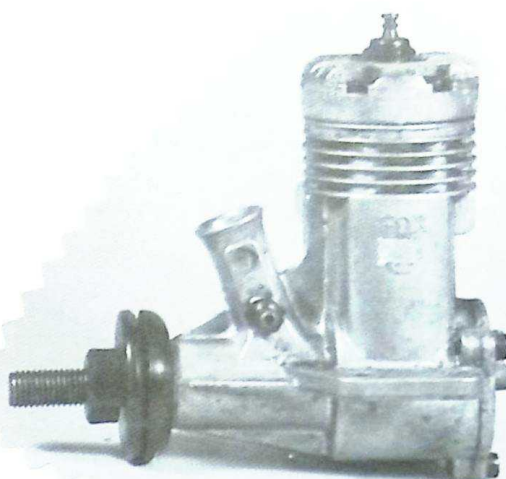


1954 Fox 29 now with 3 bolt back plate

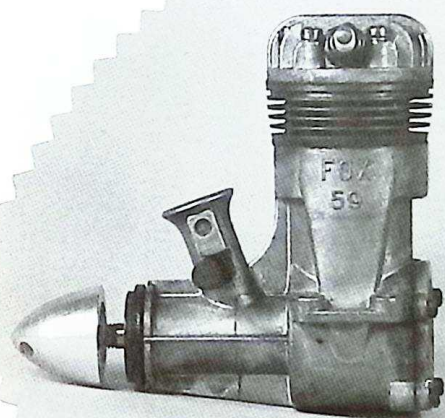




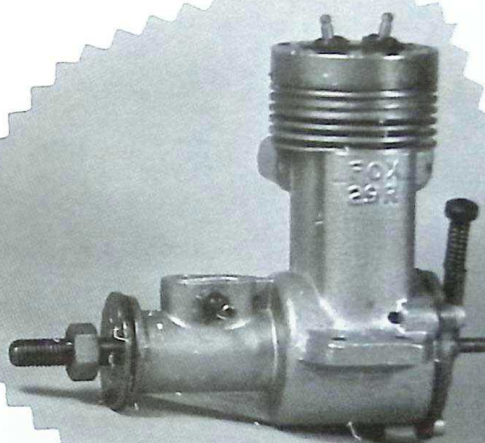
1954 Fox 19



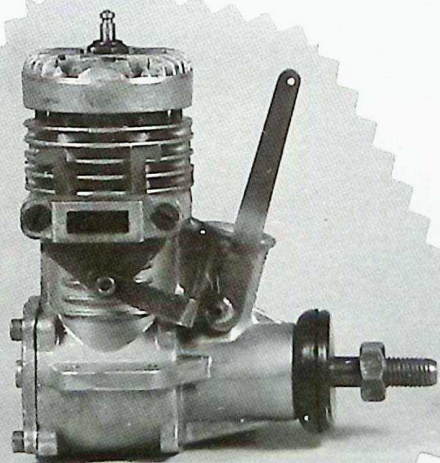
and Fox .201



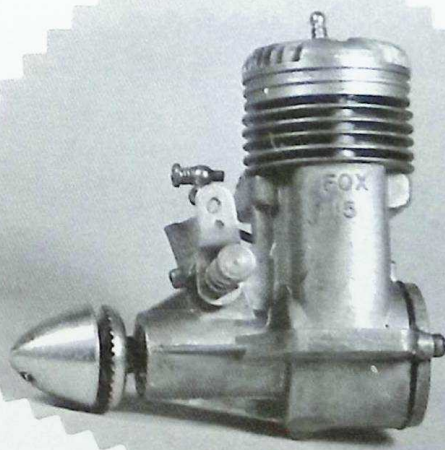
1954 Fox .59 stunt



1956 Fox '29 R'

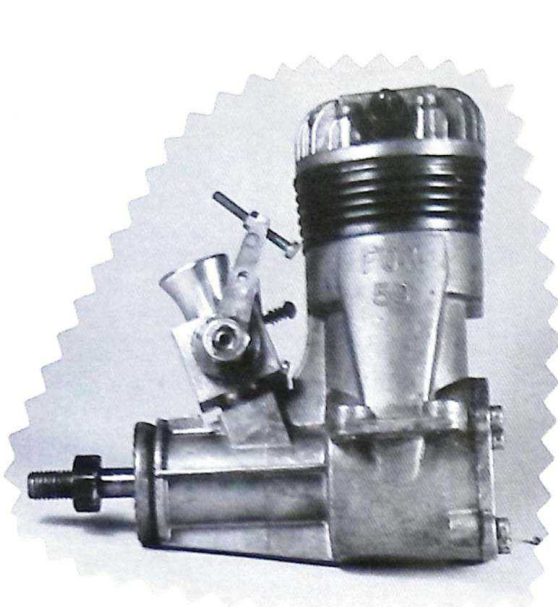


1961 Fox 40 designed for Rat Racing, stunt or combat. Model shown is R/C version with combined throttle and spray bay plus exhaust slide valve, available from late 1963

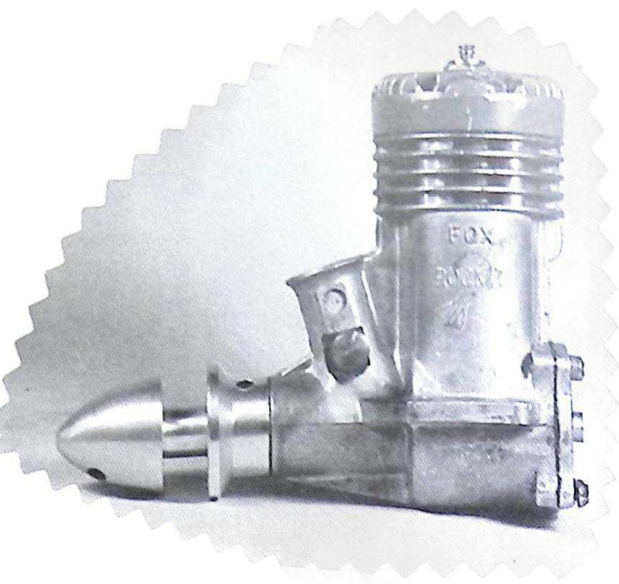


1962 Fox .15 R/C carb.

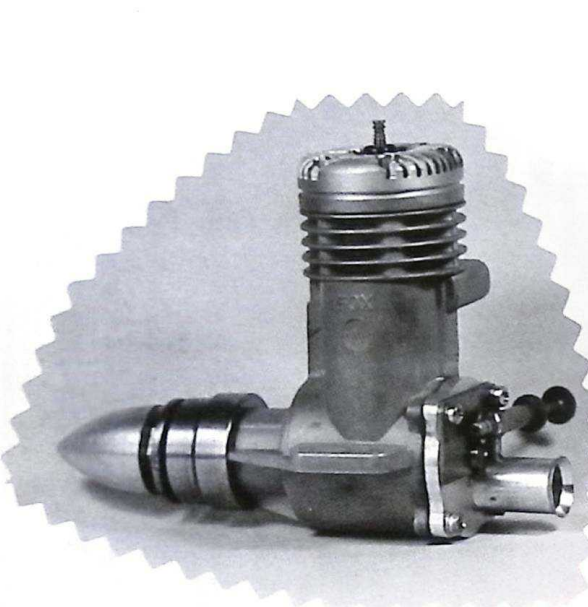




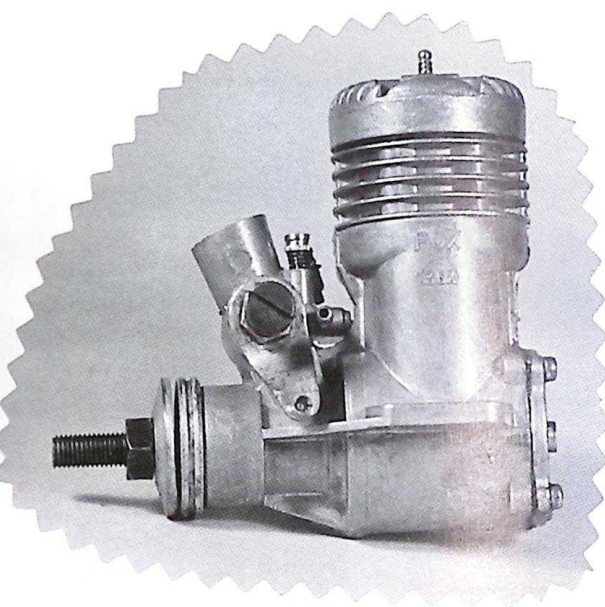
1962 Fox 59 R/C



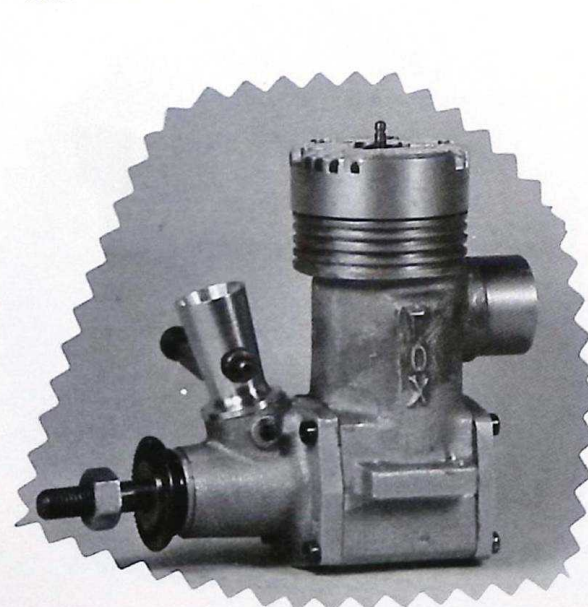
1962 Fox "Rocket"



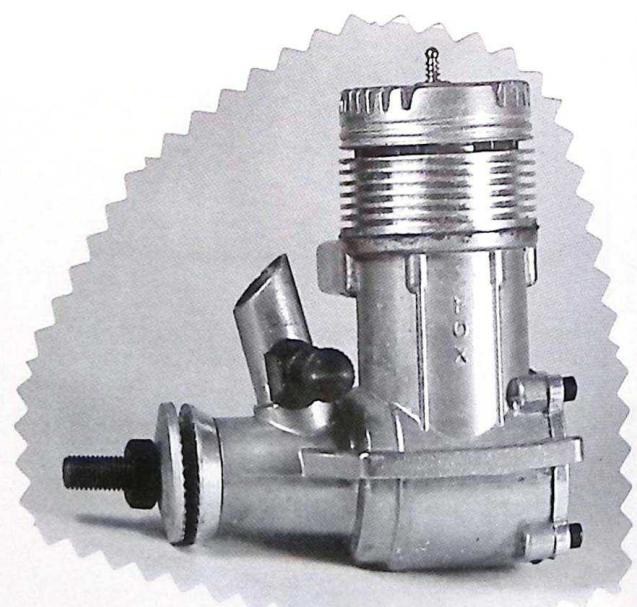
1966 Fox 29x B/B  
with disc valve induction



1964 Fox 36x R/C



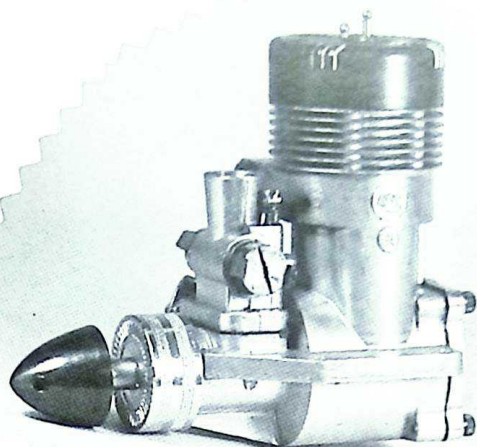
Sandcast Fox 36RX 1980



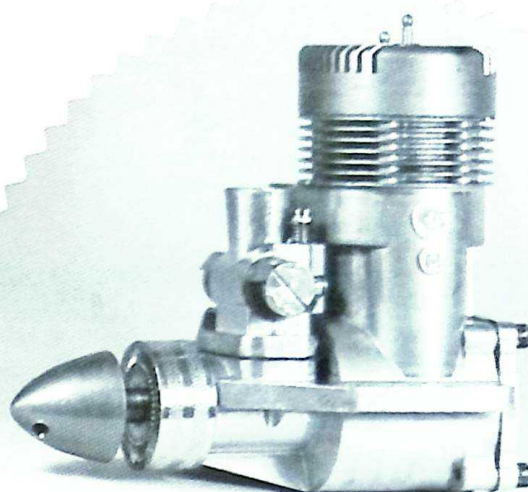
From 1970 Fox 40 stunt



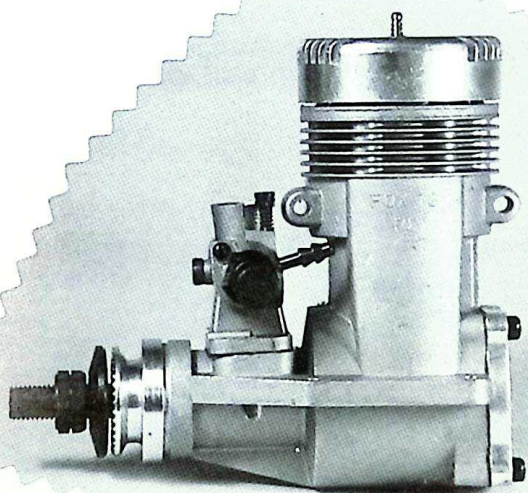
Fox engines from the late 1960's to current



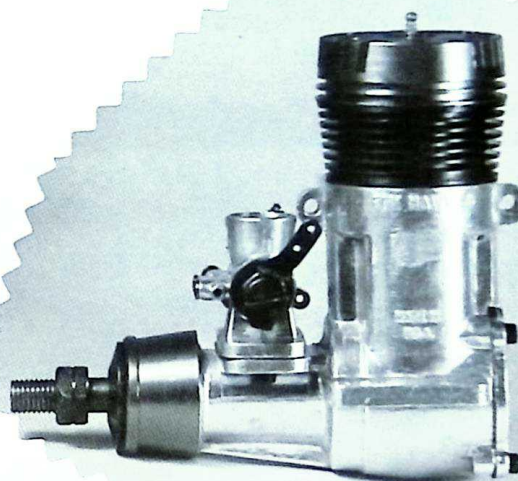
Twin plug '.60', Blue head and Spinner



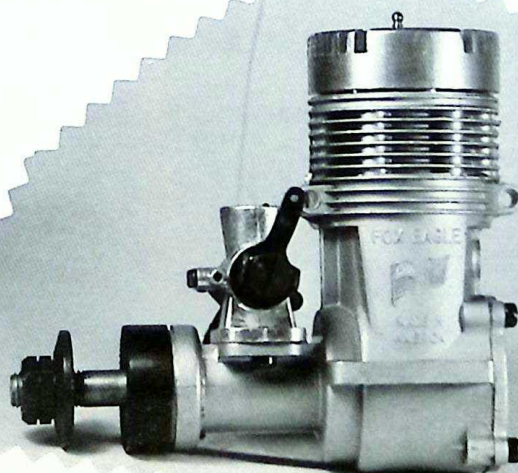
Twin plug '.74', Pink head and Spinner



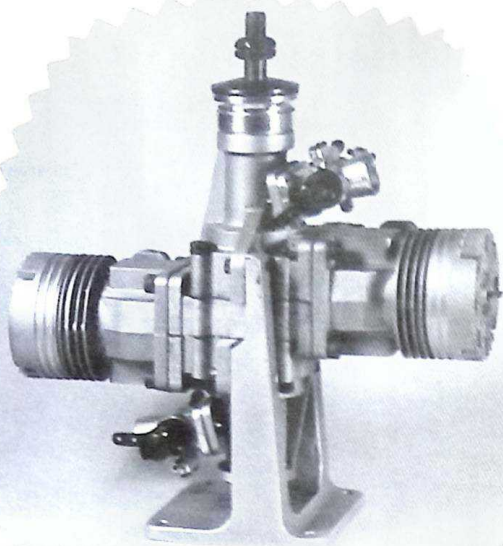
Single plug .78



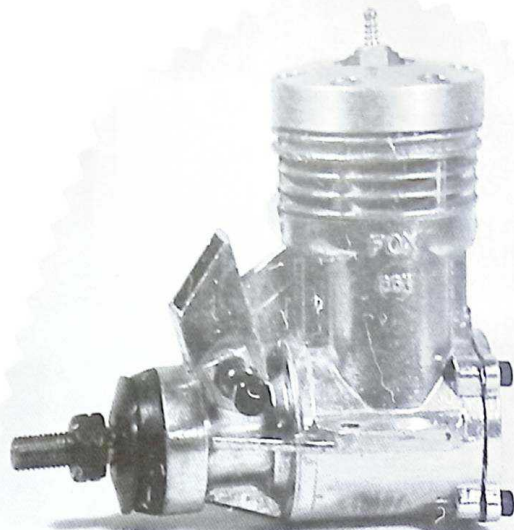
Fox 'Hawk' .60



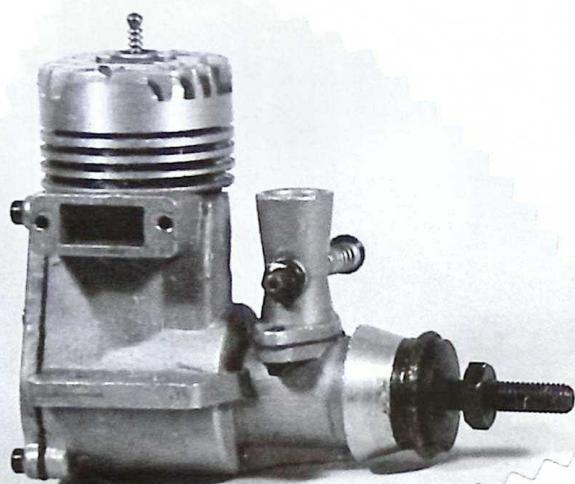
Fox 'Eagle' .60



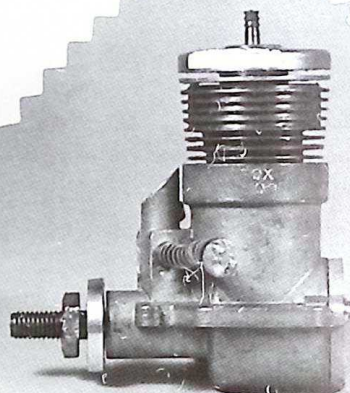
**Fox 1.20 cu.in twin**



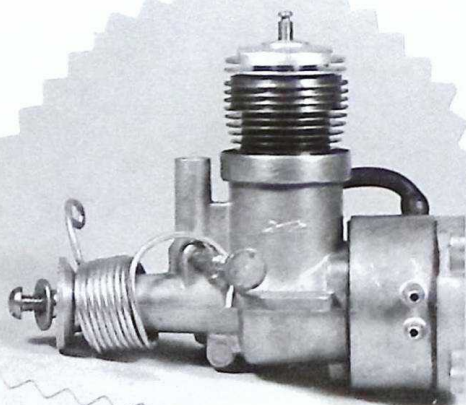
**Fox 36x Rat Racer**



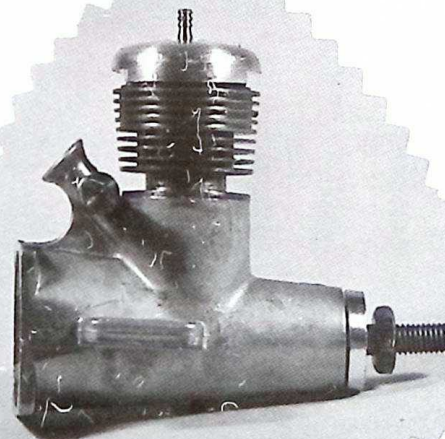
**Fox 40 Schnurle stunt**



**1961 Hustler .10 cu.in.**

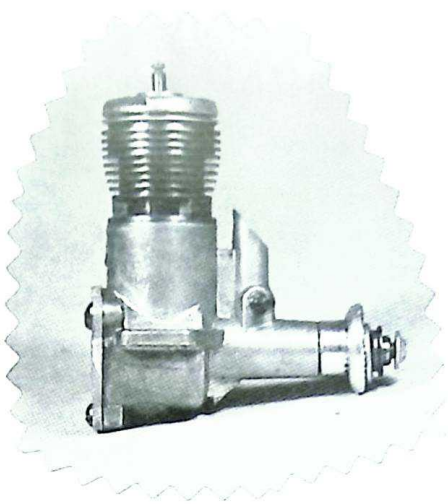


**1960 Comet .07**

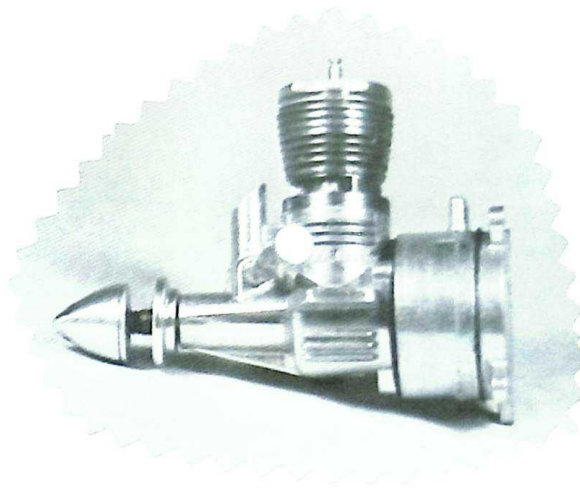


**1959 Fox 'Rocket' .09**

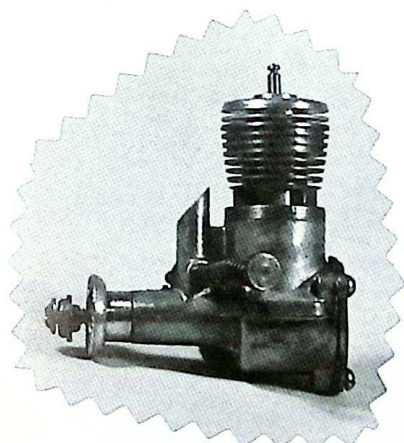




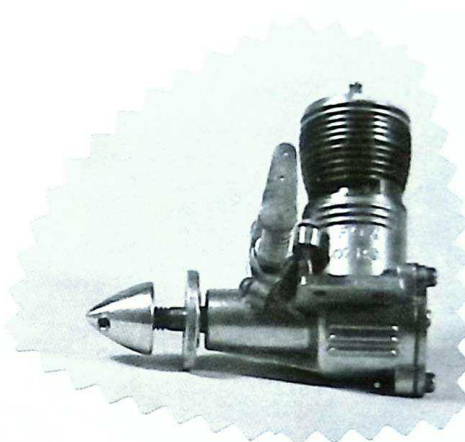
1961 Fox .07



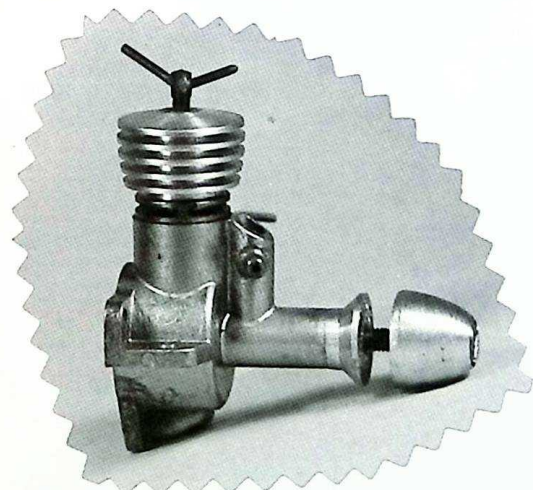
1963 Fox .049



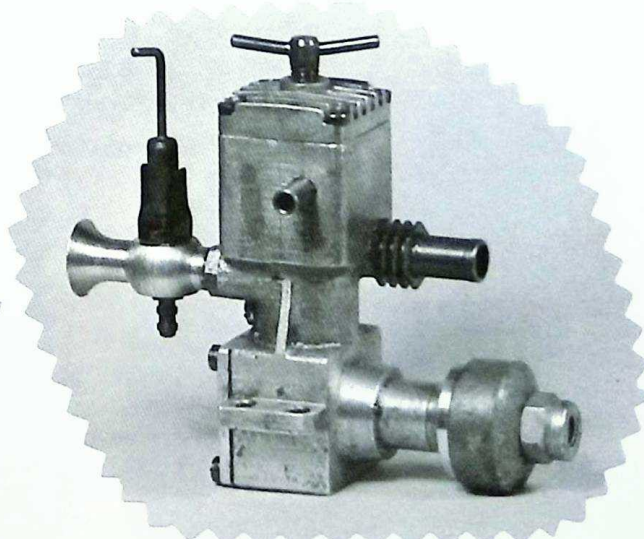
1962 Fox .049



1964 Fox .07 R/C

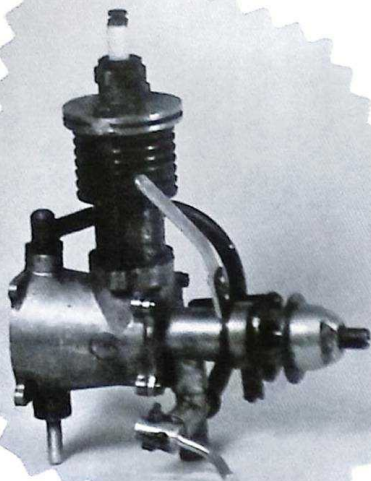


**Frank .5**  
Made in W. Germany 1954

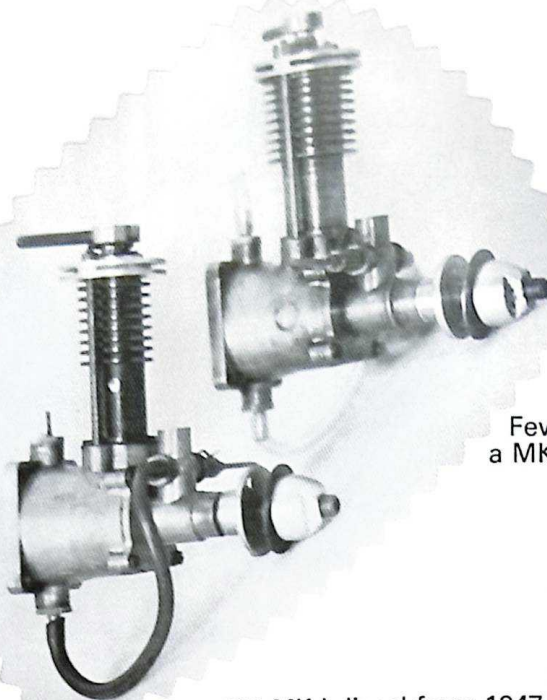


Another **George Fletcher**  
experimental engine. This one's a 2cc  
water cooled diesel



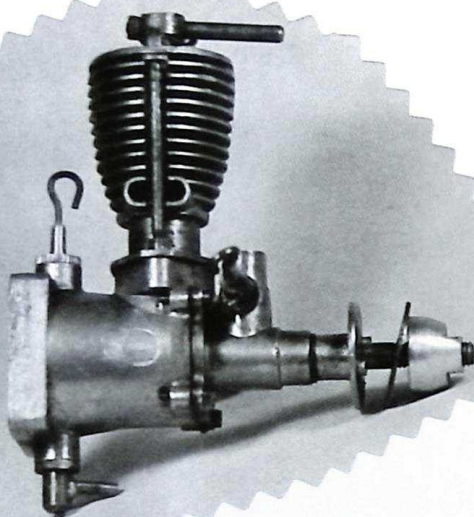


**Frog 1.75cc** petrol engine made by International Model aircraft, Morden, Surrey, 1947

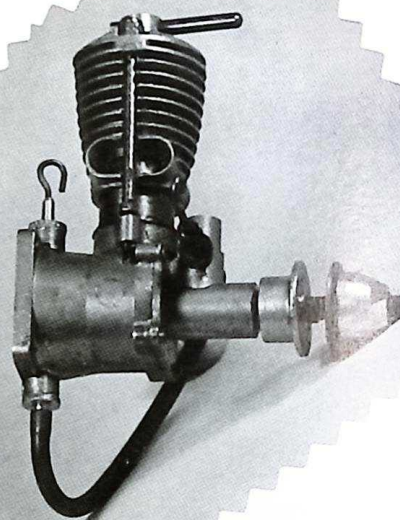


**Frog 1.80**  
Few made in a MK I version

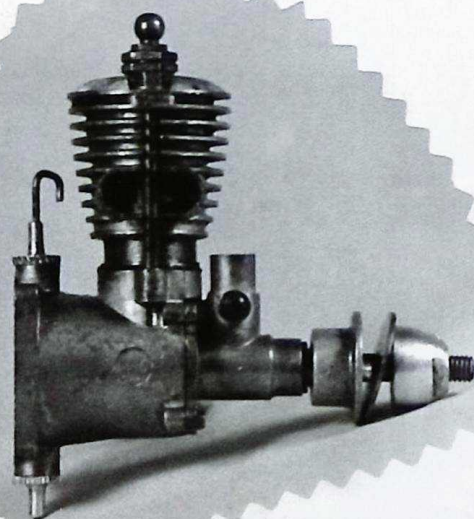
**Frog 100 MK I** diesel from 1947



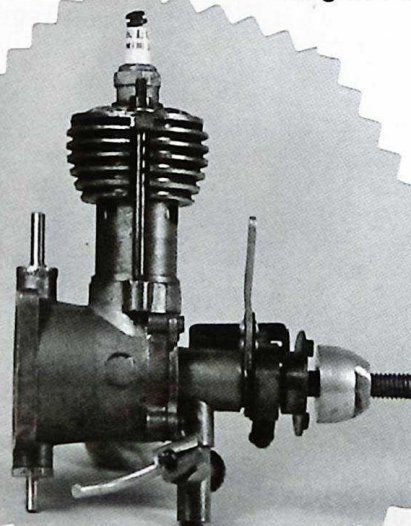
**Frog 100 MK II** from 1948



**Frog 180 MK II** 1948

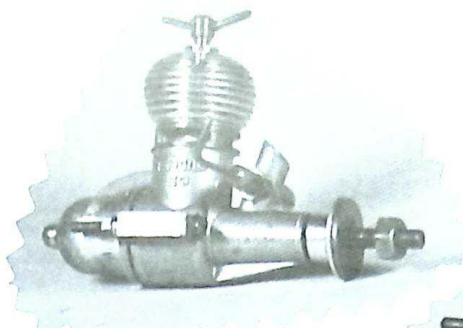


**1.60 'Red-glo'** 1948

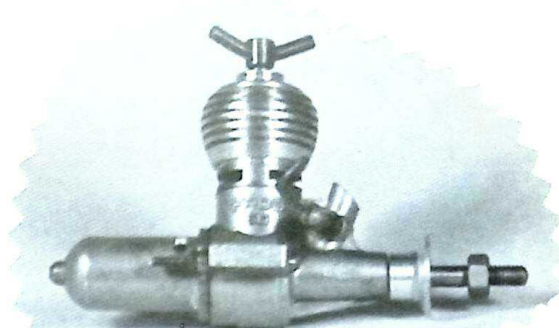


**MK II Frog 1.75**

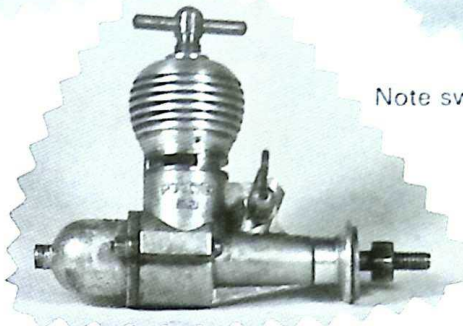




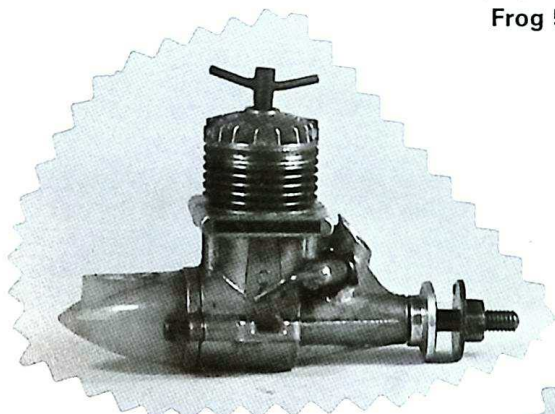
**Frog 50 .5cc MK I 1952**



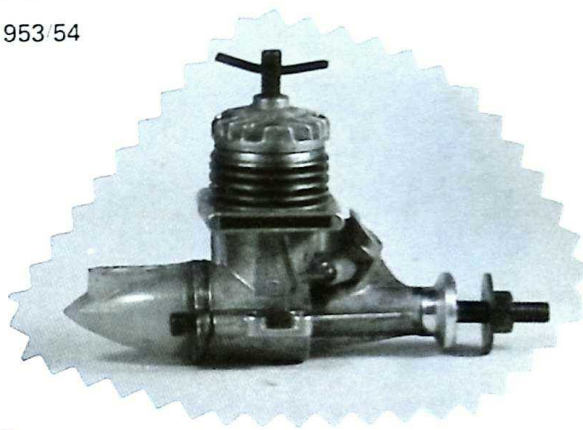
**Frog 50 MK III 1955**  
Note swept back needle valve assembly



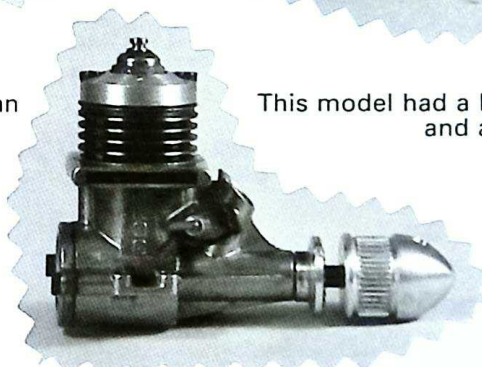
**Frog 50 MK II 1953/54**



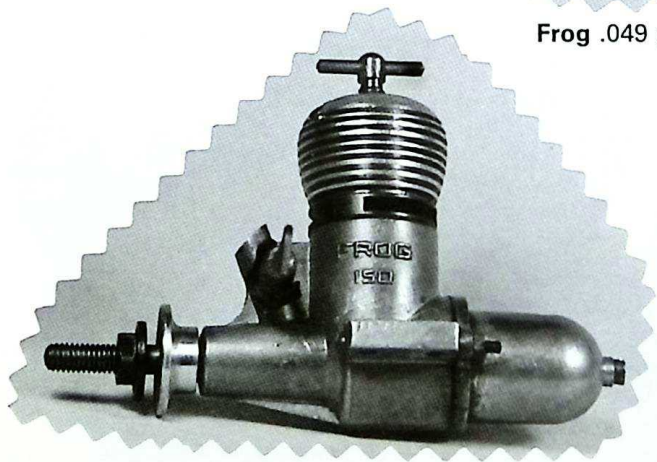
**Frog .80 MK I 1957**  
The Contra piston was fitted with an 'O' ring seal



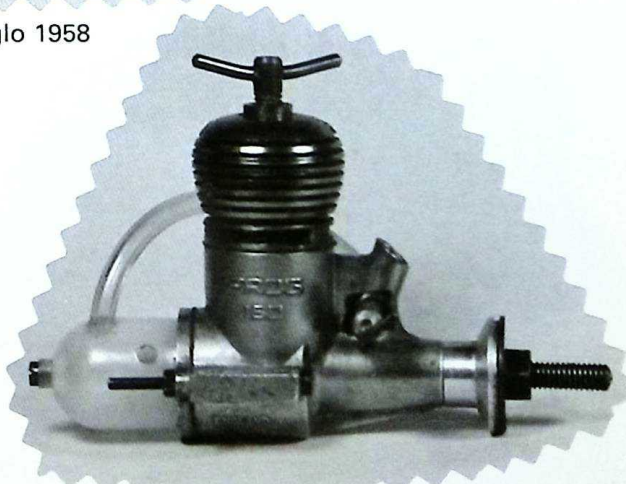
**Frog .80 MK II 1961**  
This model had a lapped Contra piston and a taller cylinder head



**Frog .049 glo 1958**

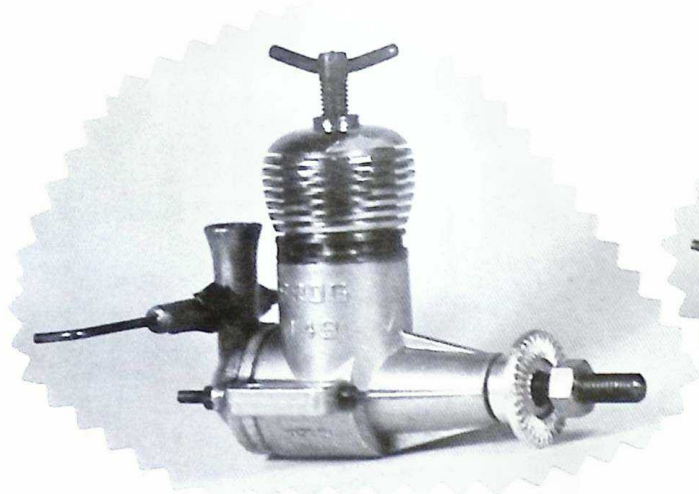


**Frog 150 1951. All natural finish**

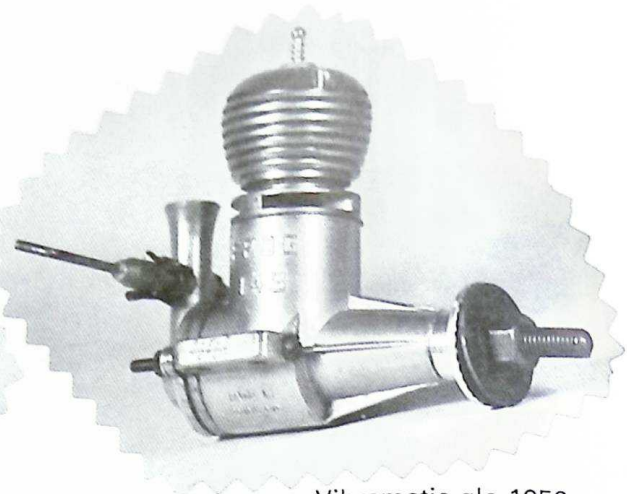


**Frog 150R 1958. Bright Blue head**



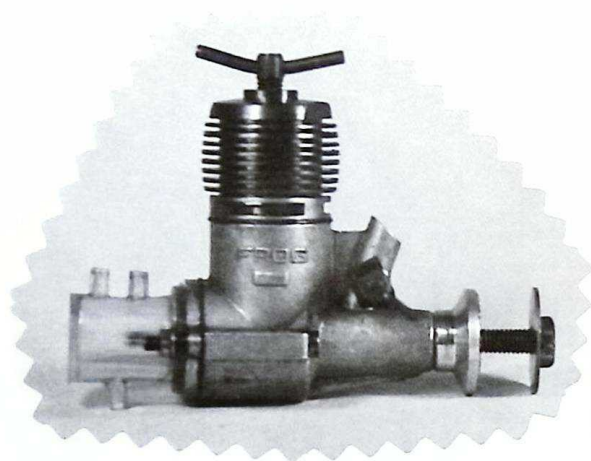


**Frog 1.49 'Vibramatic diesel 1955**

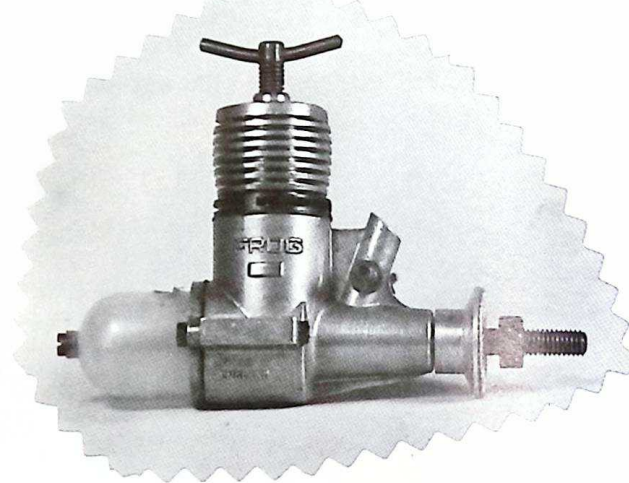


**Vibramatic glo 1956**

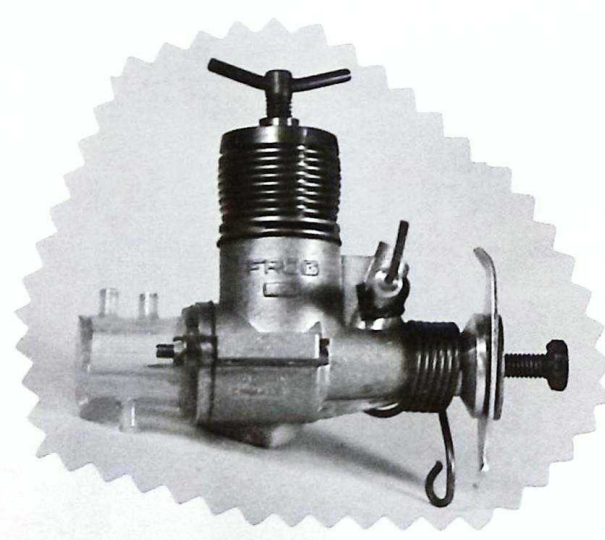
and  
Both had red anodised cylinder heads



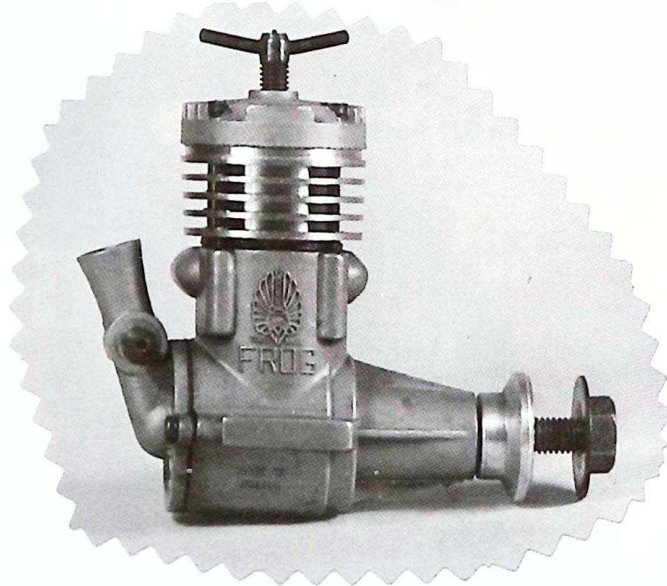
**Frog 150 1965**  
Dark blue head, nylon tank



**Frog 100 1958. Gold head**

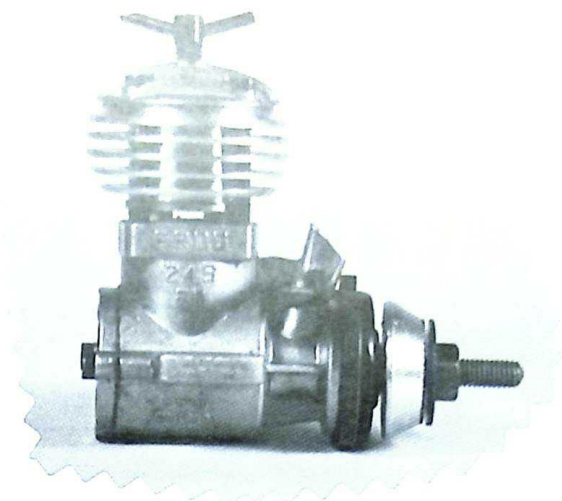


**Frog 100 1965. Red head**

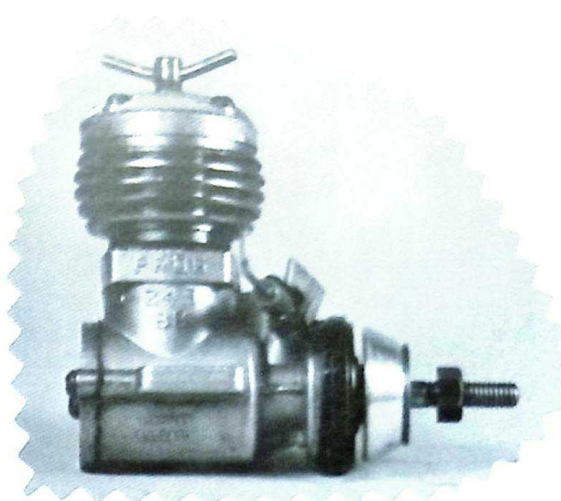


**Frog 3.49, 1959.** The plain bearing model had a shiny case, while the ball bearing engine had a matt finish case. Available with a barrel type R/C carb.

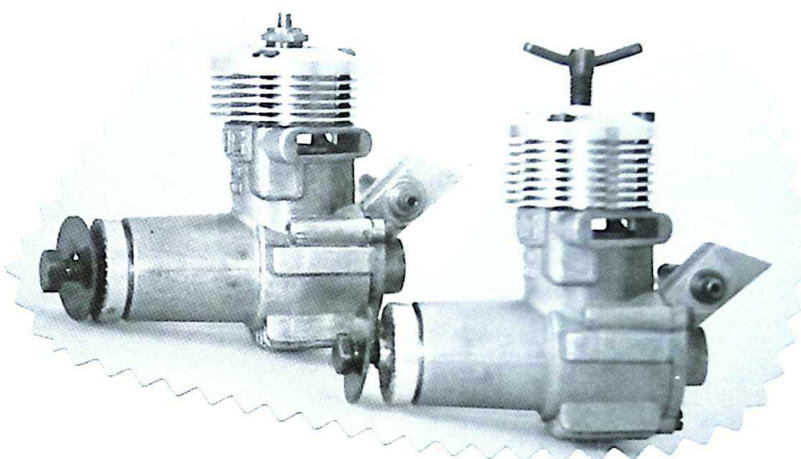




**Frog 2.49 VB/B 1955.** All natural finish

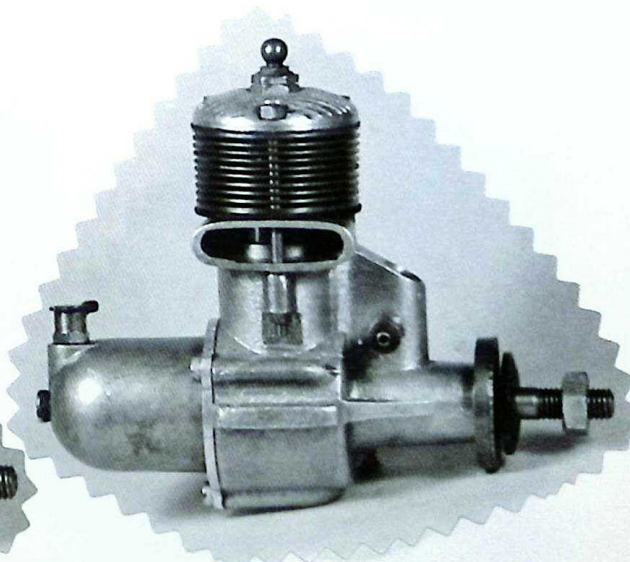
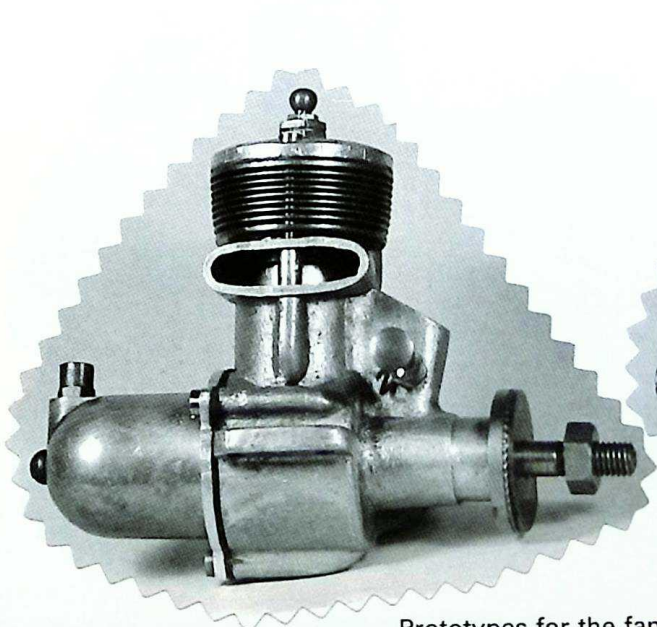


The later modified version with red anodised cylinder fins and thicker head



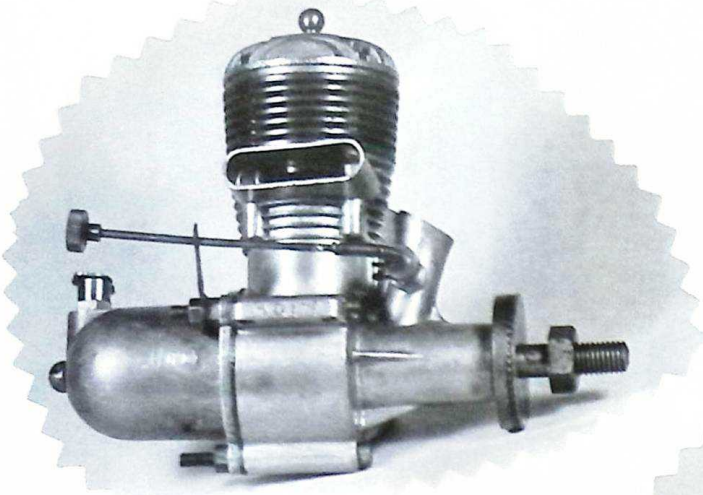
**Frog Venom 1.5cc glo**  
Plain bearing

**Frog Viper 1.5cc 1961.** A powerful engine, using twin ball races, it was capable of 15,000 r.p.m.

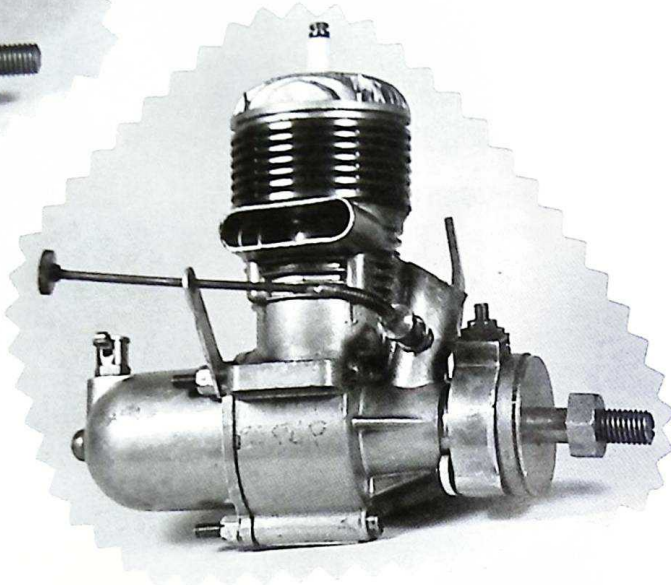


Prototypes for the famous **Frog '500'**

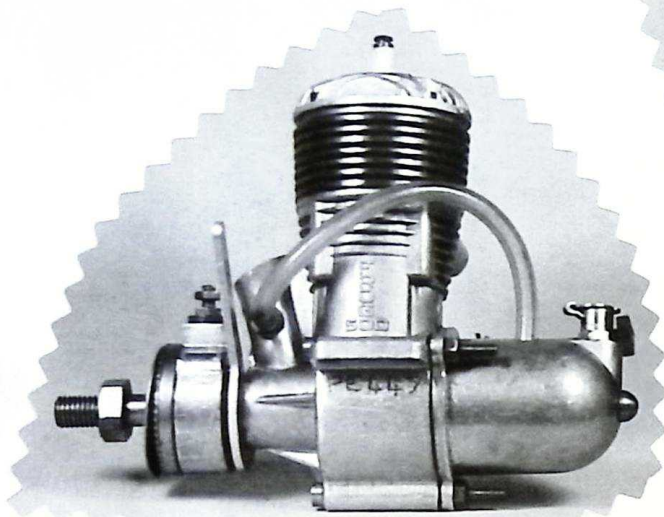




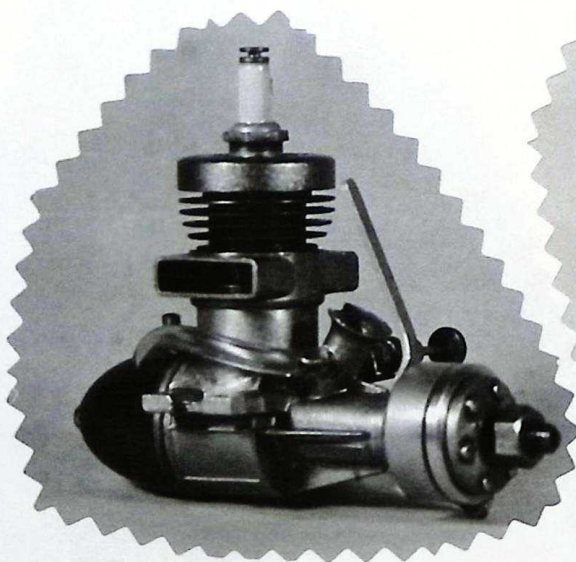
The popular **Frog 500 glo** from 1949



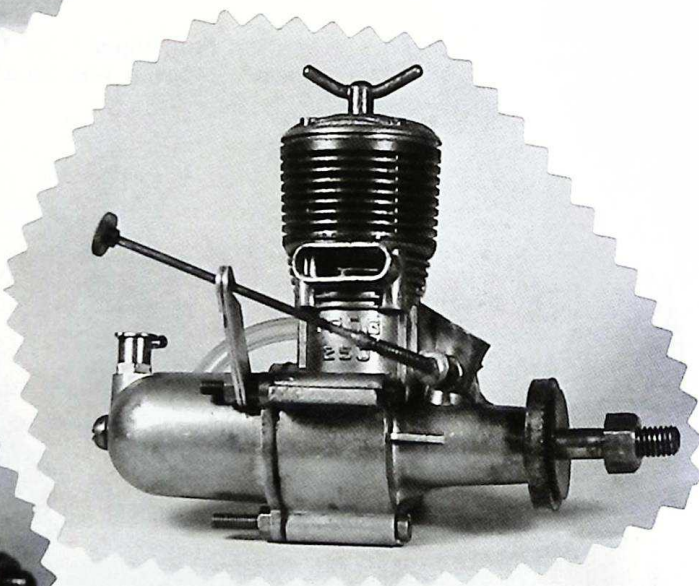
The Series II **500 ign.**,  
had thicker mounting lugs



**Frog 500 ign. MK I**

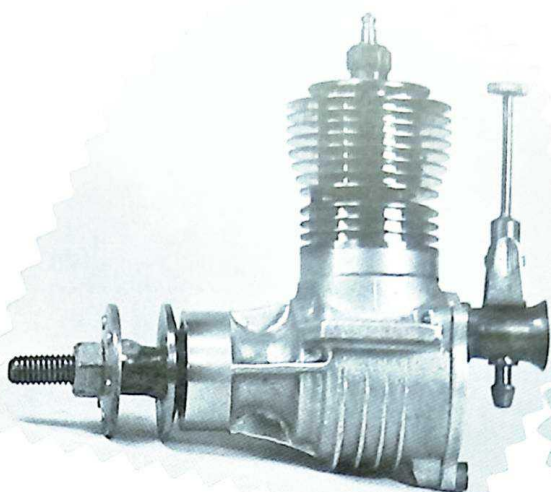


**Fuji .29**, 1955, with ign. conversion

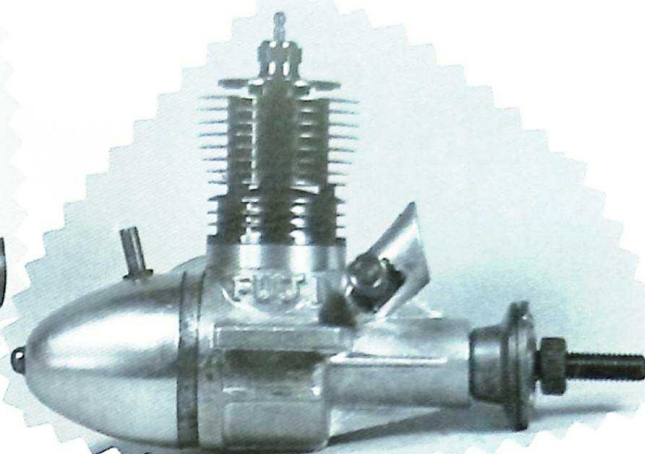


**Frog 250 2.5cc** 1950



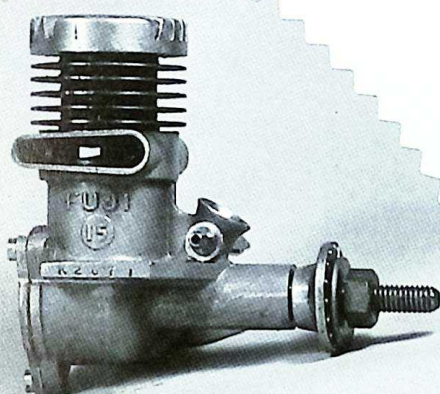


Fuji 29'R

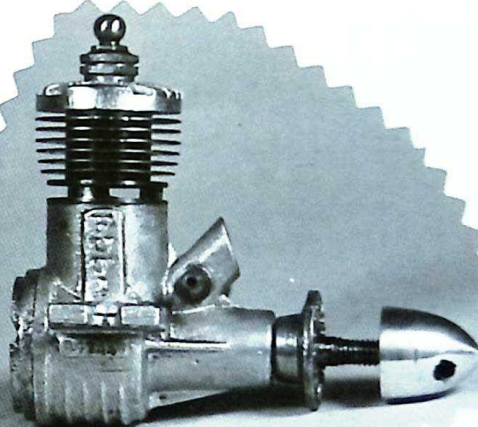


Fuji 29 stunt

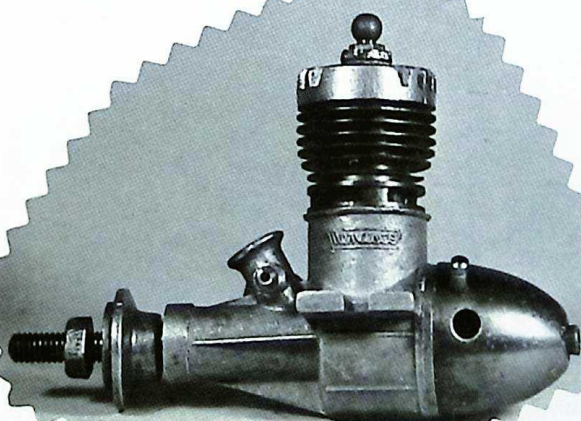
These sandcast beauties from 1949, look and feel right



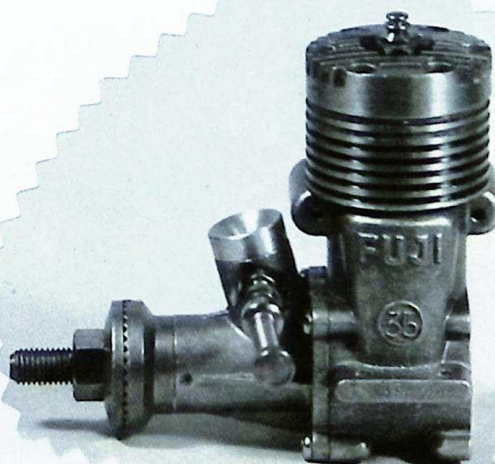
Fuji 15 1959



Fuji .09 1955

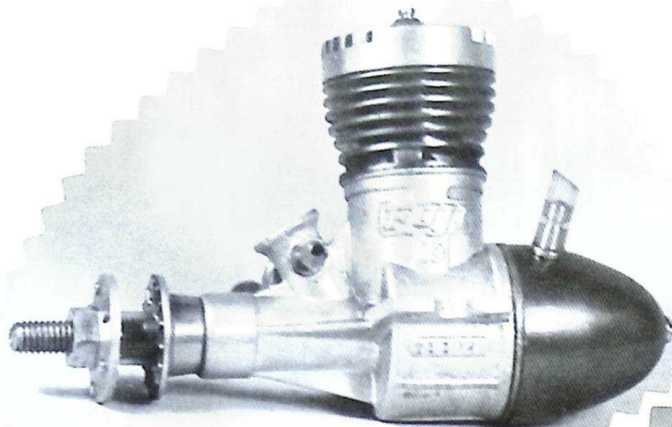


Fuji .09, 1963

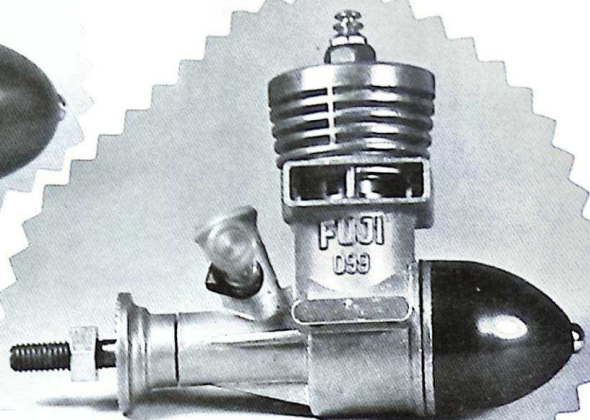


late 60's 35 stunt

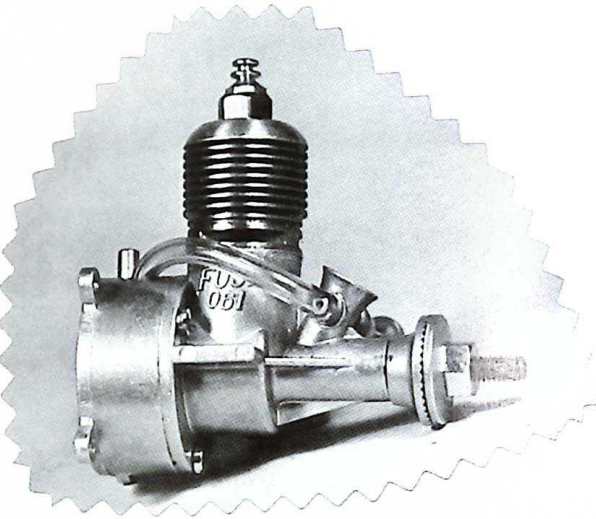
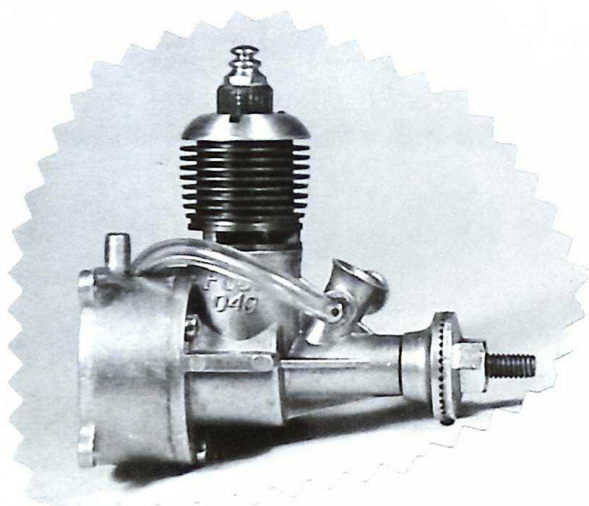




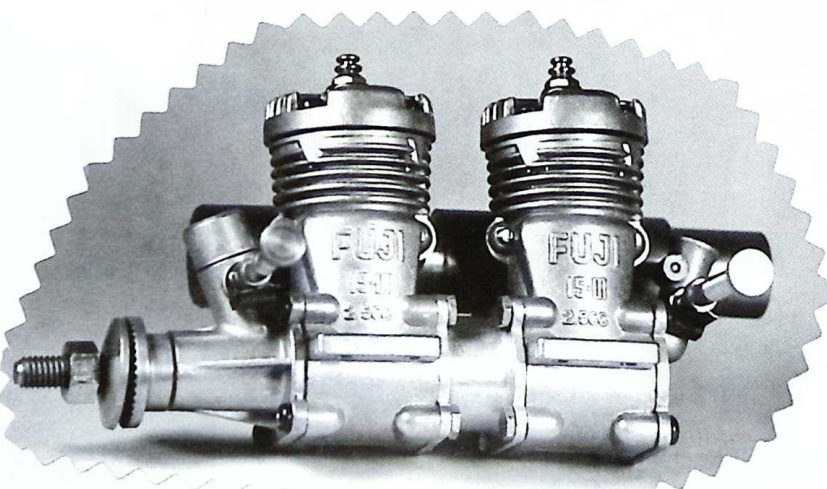
Fuji 19 from 1963. Nicely made with red anodised tank



Fuji .099 from 1967

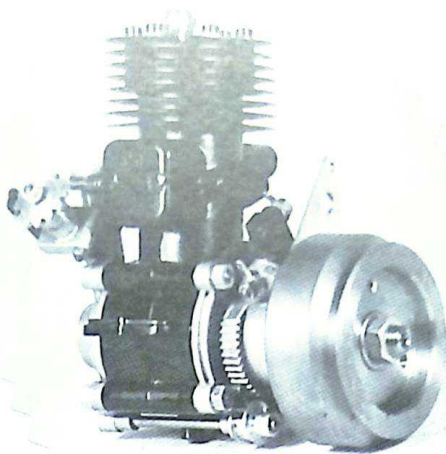


Into the 60's with the Fuji .049 and .061

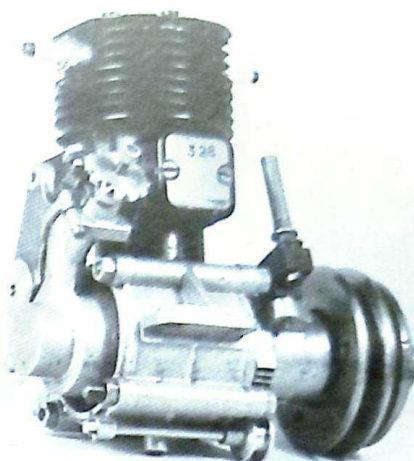


An experimental 5cc Fuji twin

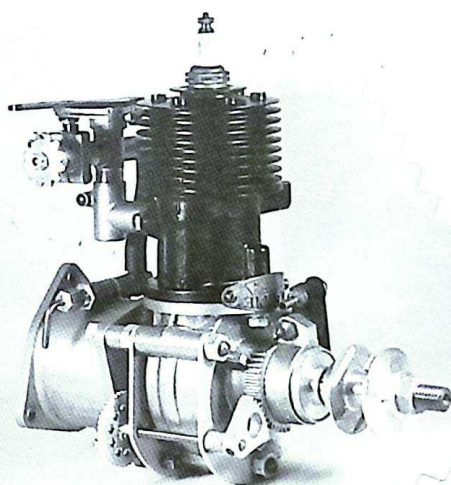




Gerald Smith 'Lapwing' 10cc



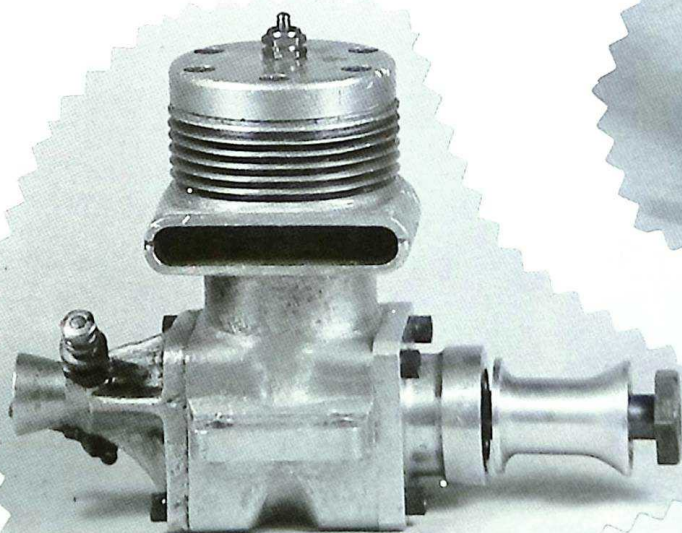
Lapwing 10cc twin plug



15cc 'Magpie' All the Gerald Smith engines are first class engineered units. Made at Nuneaton, near Coventry, his engines were first advertised in June 1946

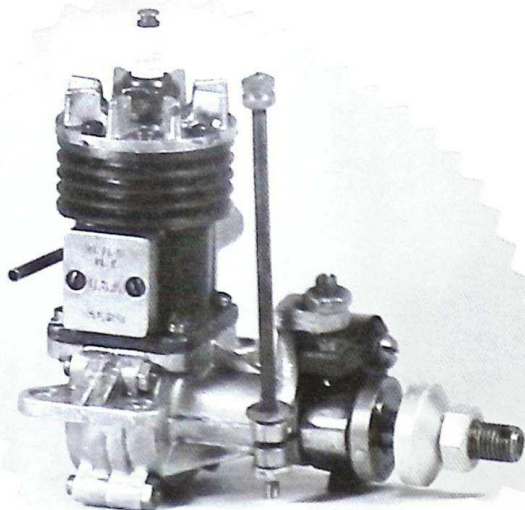


**G.H.G. 2.4cc.**  
Made by George H. Ginns  
at Coventry 1947

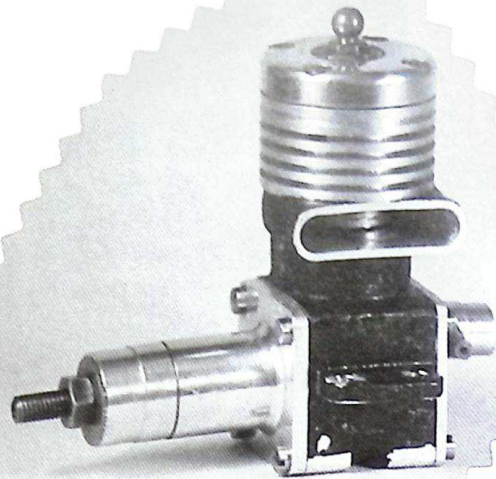


From the **G.H.G.** workshop,  
a prototype 10cc glo

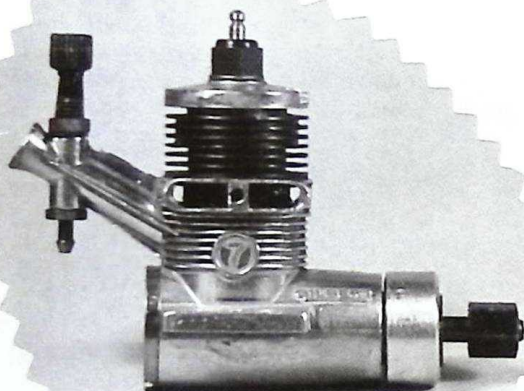




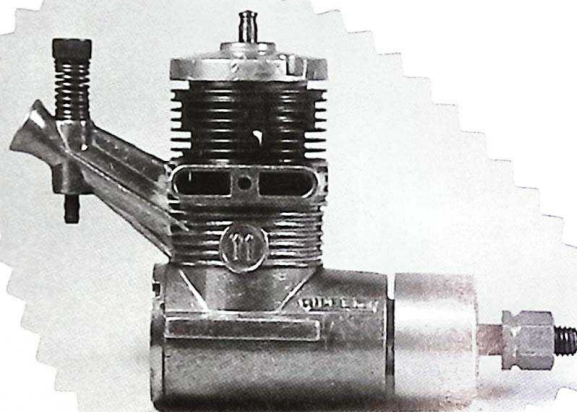
G.H.Q. from 1936-1948 .51 cu.in.



Ray Gibbs 'Viper' 2.5 glo

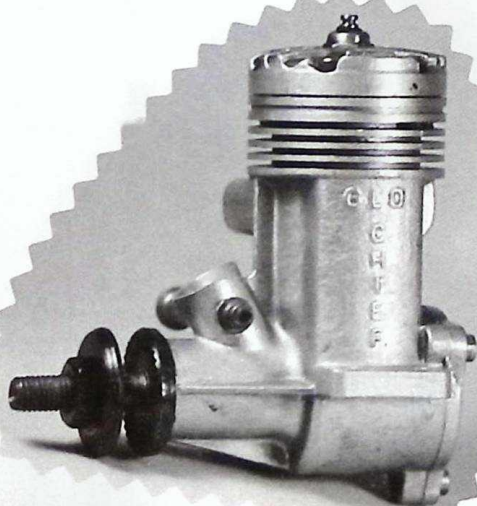


Gilbert .07

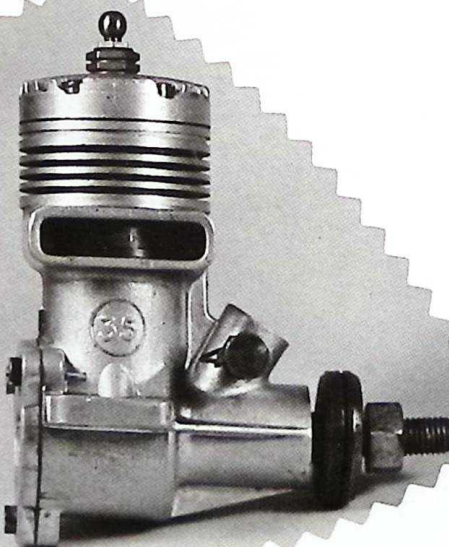


Gilbert .11

Manufactured by the makers of Holland Hornet and Johnson in 1962



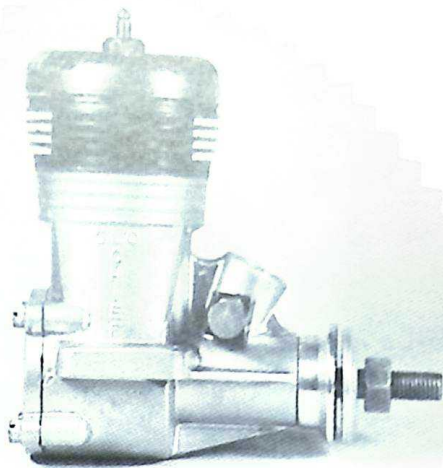
Gordon Burford's Glo-Chief .29 and



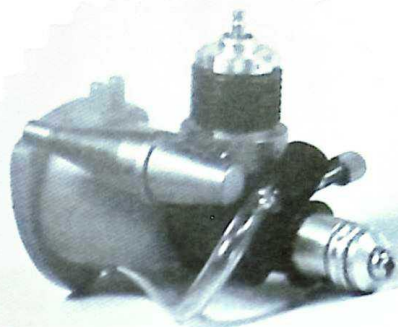
.35, 1956

Re-named from 'Sabre' after a costly court battle with Davies Charlton, over the name 'Sabre'

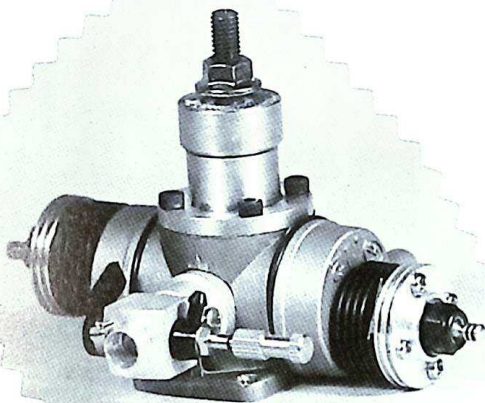




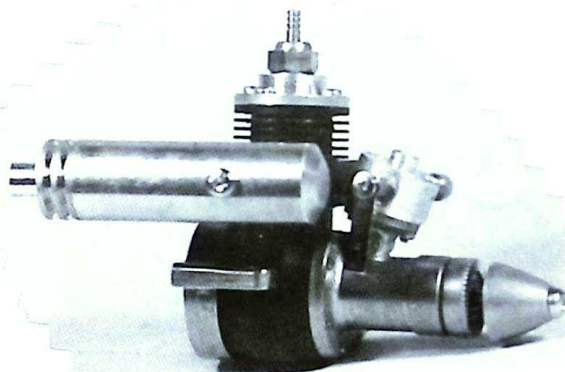
**Glo-Chief .45.** A well balanced engine for stunt control line flying



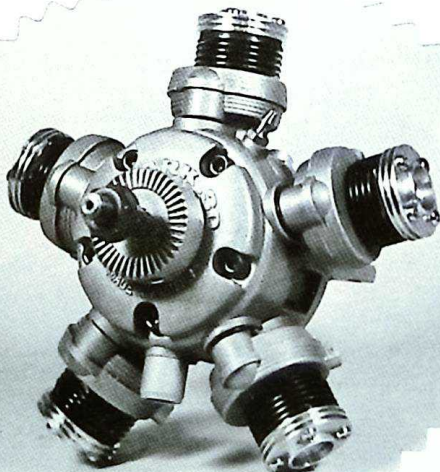
**G-Mark 'Humming Bird' .3cc**  
Made in Japan from the mid 1970's.  
G-Mark produced a range of budget priced engines



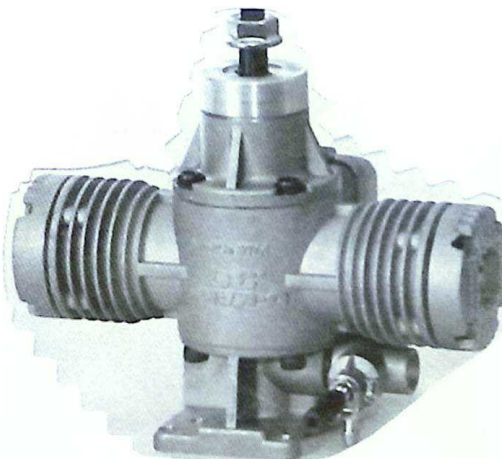
**G-Mark 2cc twin**



**G-Mark .061 R/C**

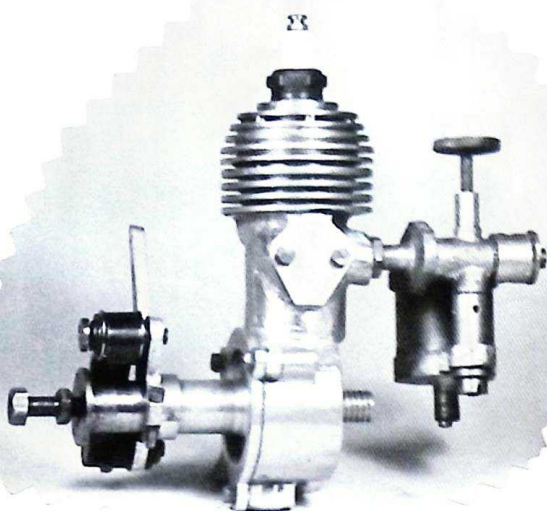


**G-Mark 5cc Radial**

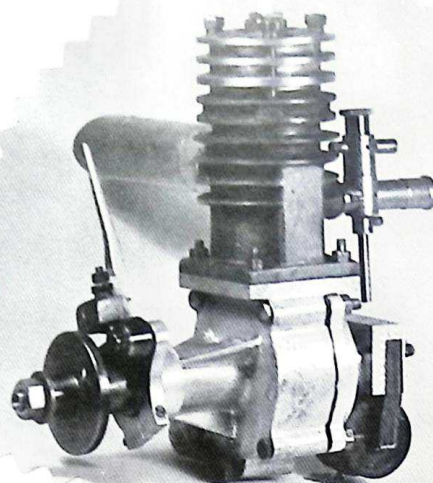


**G-Mark '.30'** A nicely made 5cc twin



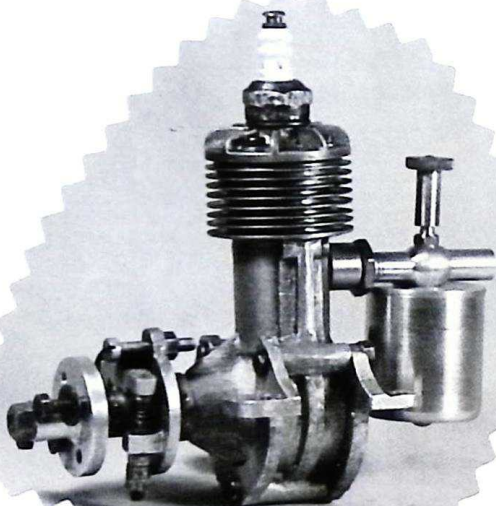


**Grayson 'Gnome' 3.5cc.**  
Made by E. Gray & Son, London,  
England 1935



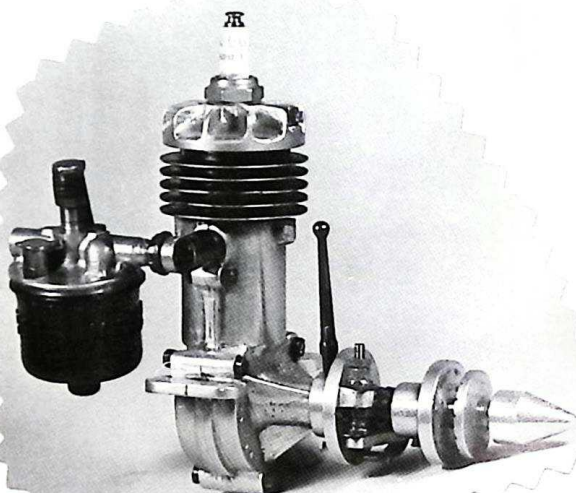
**Grayspec 15cc**

Gray & Son advertised around ten engines  
in their 1930 catalogue. Most were O.H.V.  
4 strokes from 20cc to 30cc

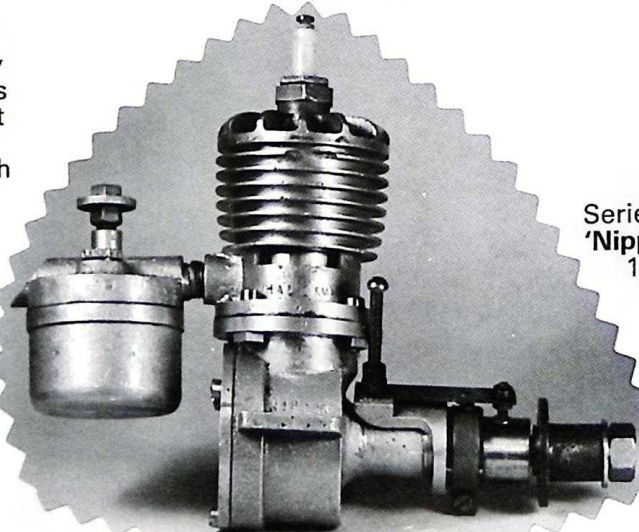


**Hallam 'Baby' 3cc 1942**  
Produced at Poole, Dorset.

Some Hallam engines were assembled by  
the company, but many more were sold as  
casting kits. This makes for many different  
types of the same model with so many  
amateur engineers adding their own touch

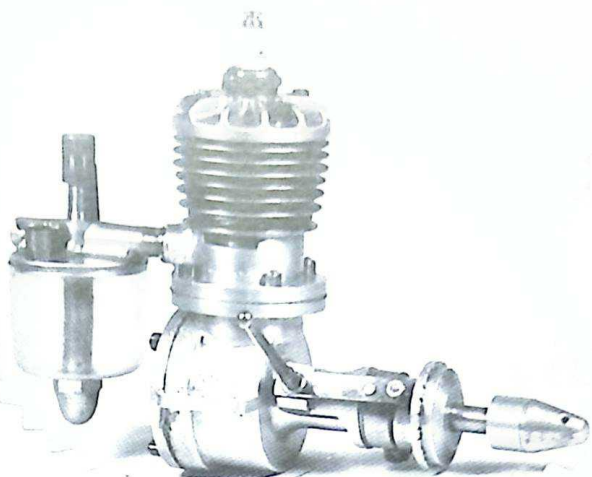


**Hallam 'Nipper' 1942**

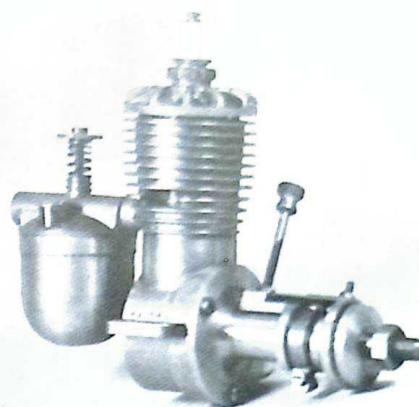


**Series II  
'Nipper'  
1945**

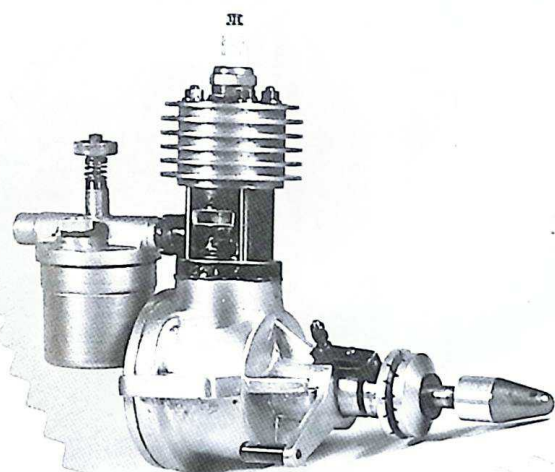




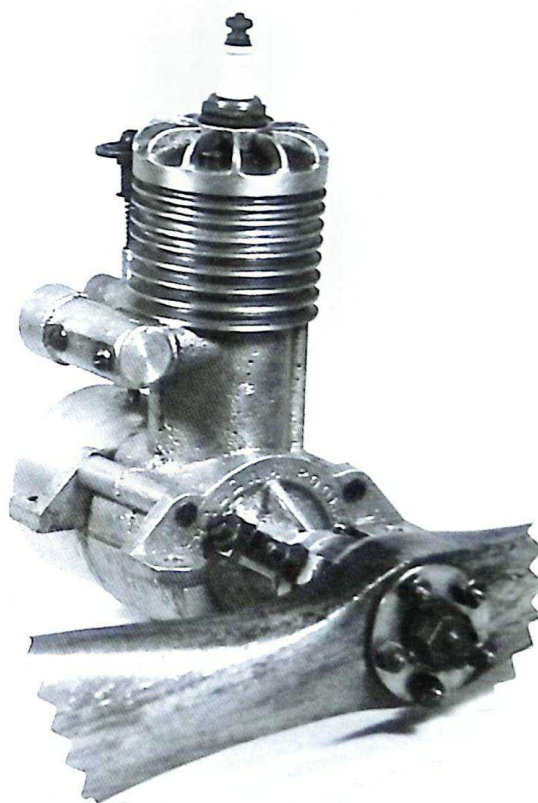
Hallam 'Nipper' MK II 5.4cc 1945



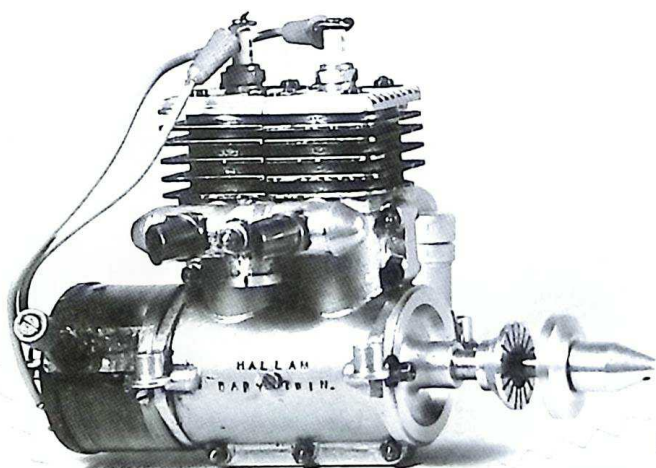
'Nipper' 1947 Series III 5.4cc  
Also made as a 9cc model called  
the 'Super Nine'



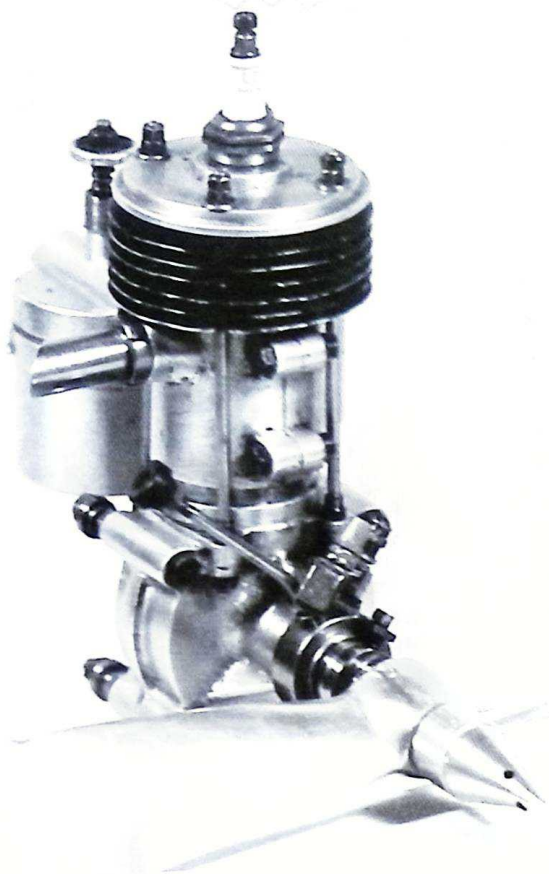
Hallam 7.5cc



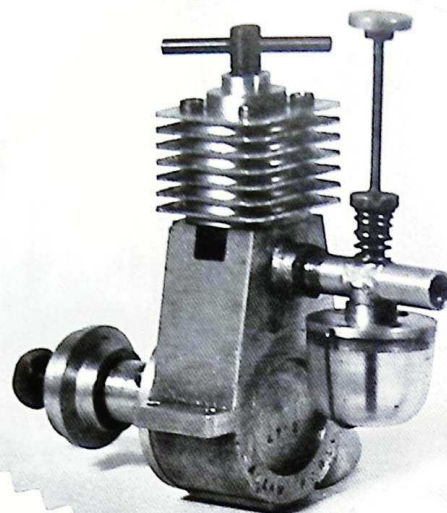
Hallam 10cc 1944



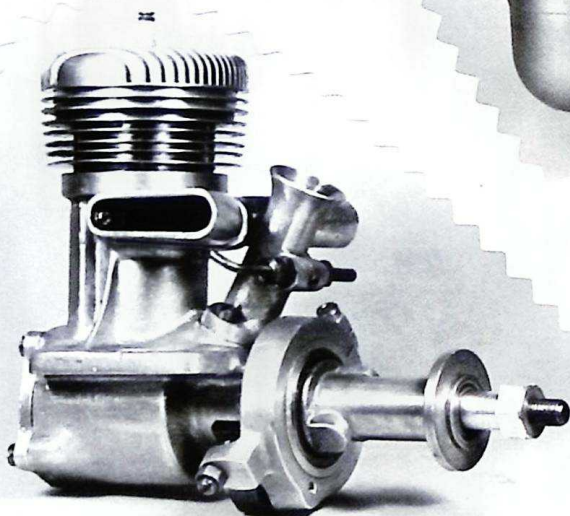
Hallam 5cc twin, 1945



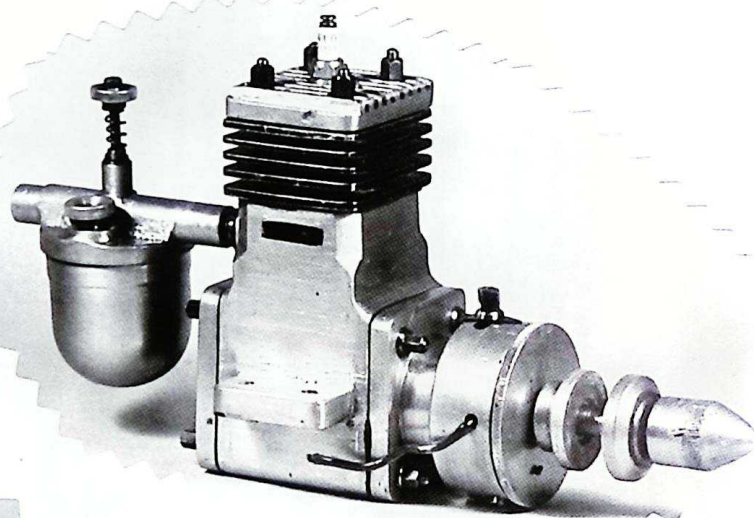
**Hallam 13.6cc 1940**



**Hallam 2.5cc diesel.** Winner of the 'Bournemouth Model Aircraft Power Cup' in 1947

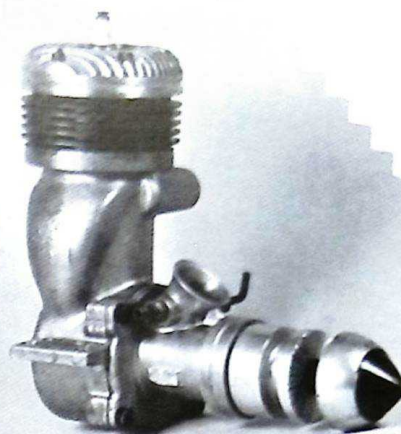


**Hassad .60 Custom.** Designed primarily for use in model car racing, by Ira Hassad, California, 1947

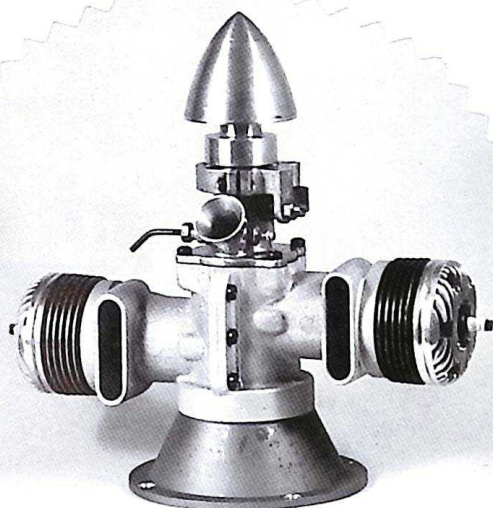


**1947 Hallam 10cc ign. Experimental**





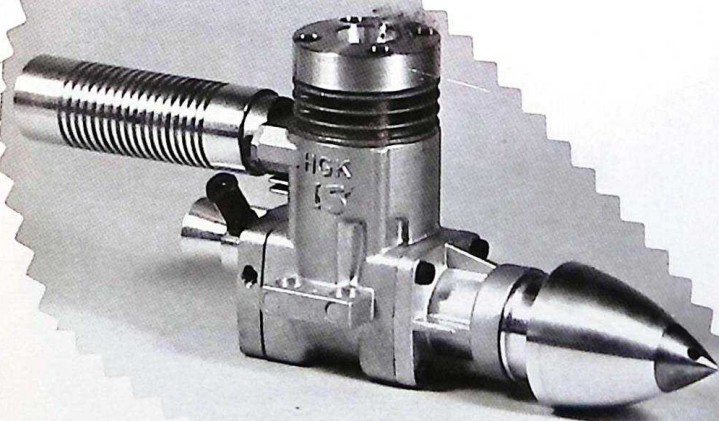
Hassad designed 'Blue Streak' .65 ign. and .65 glo.  
Blue anodised cylinder fins made this an attractive engine



**Blue Streak Twin** of 1.20 cu.in. capacity,  
only a few made



**Healey .99** hand built by Healey in  
Rayleigh, Essex before being made in  
Chester as the 'Amco .87'

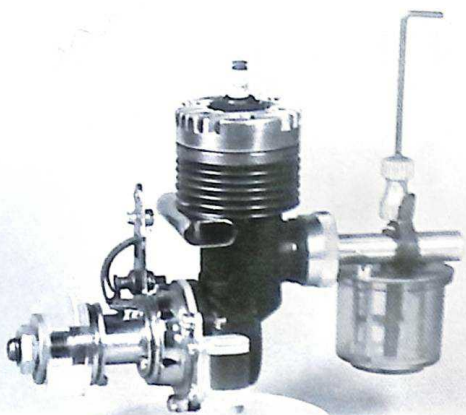


**H.G.K. 15 Racing glo** 2.5cc from Japan 1984

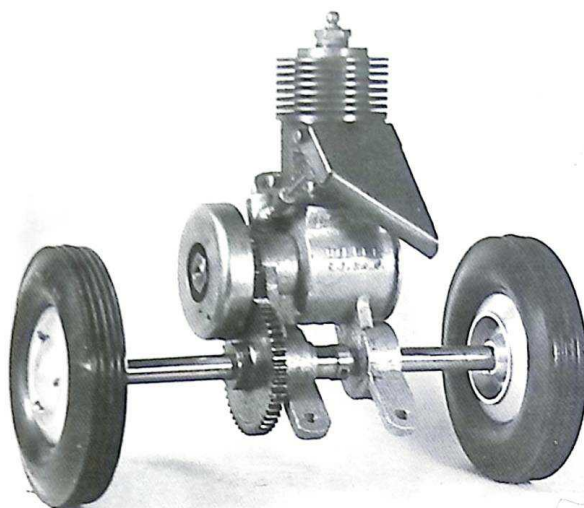


**Healey 1.2cc**





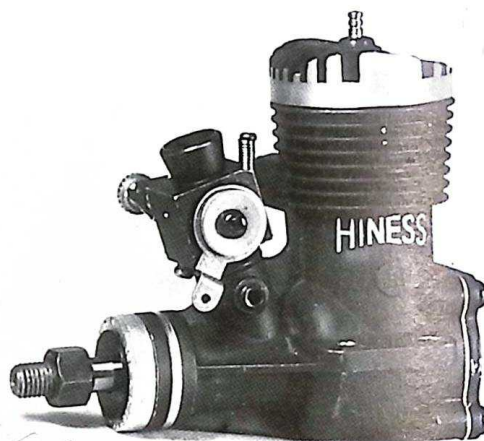
1948 Hetherington 'Meteor' .23 cu.in.  
Pretty little engine, with unusual features like the c/case being made by brazing steel parts together, and a copper disc used as a poppet valve induction. A system used so successfully by Cox in his .049's years later



Hiller 'Hornet' 1940 U.S.A.  
Designed solely for tethered racing cars

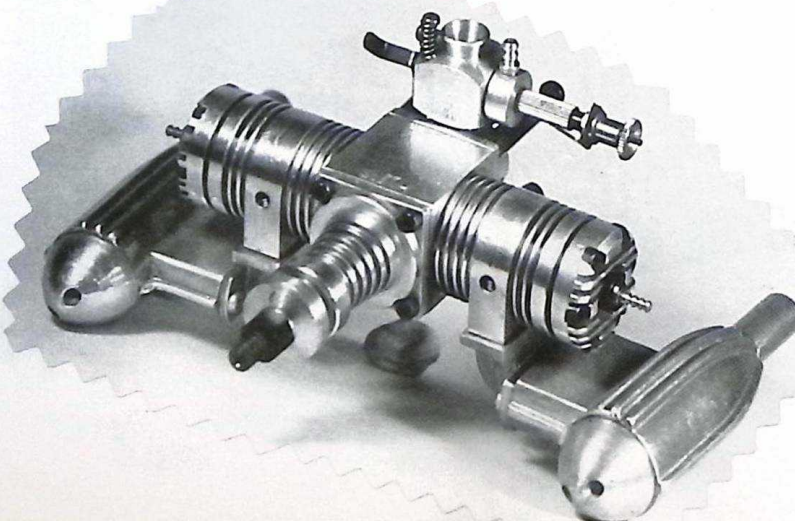


Hiness .44 Made in small numbers in Japan, mid 70's

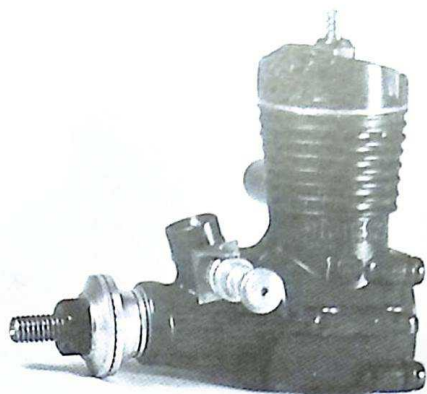


Hiness .20

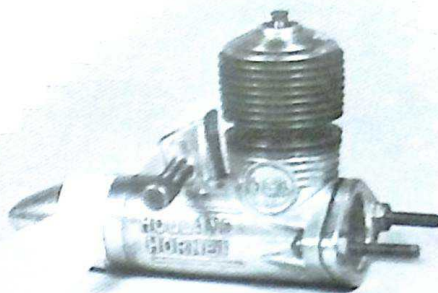
Hiness .44



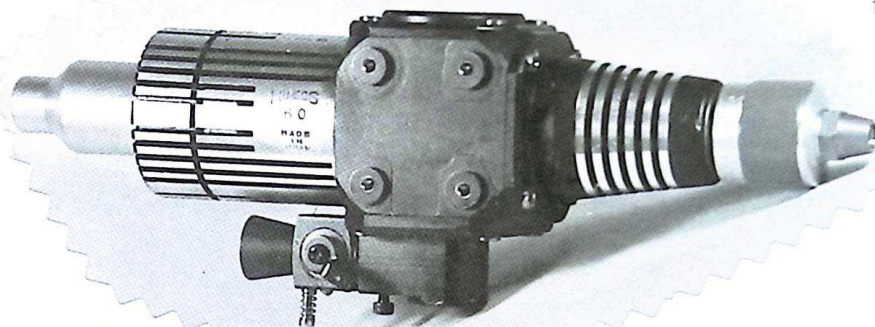




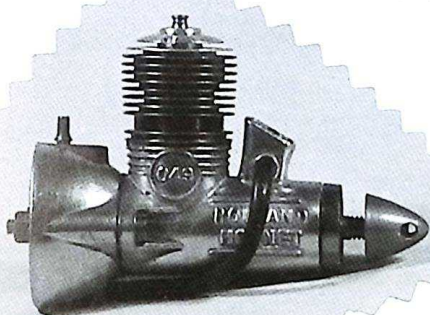
Hines .09



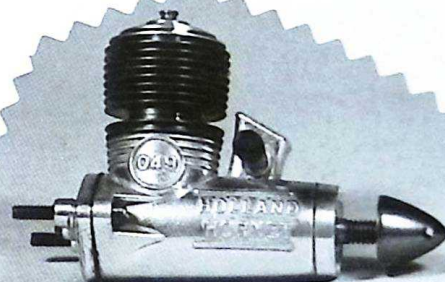
1959 Holland 'Hornet'  
.051. A high  
performance engine  
designed mainly  
for F F contest  
flying



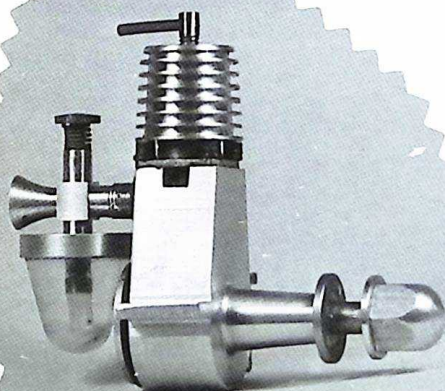
10cc In-line piston Hines 'Arrow'



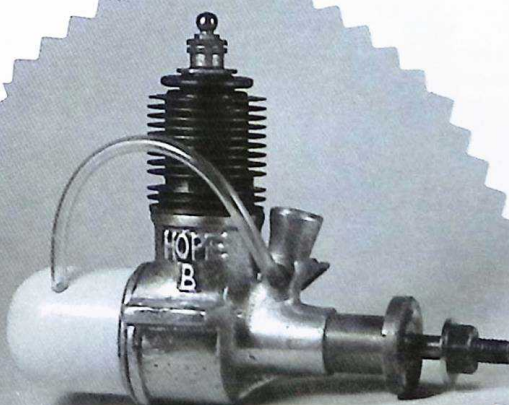
Holland .049, with accessory tank fitted



1957 Holland .049

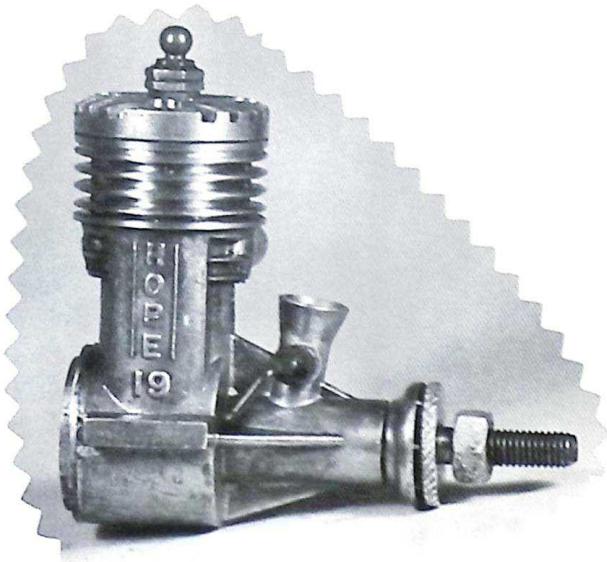


Hobbs .75. Made in small numbers during  
1975 in Bedfordshire

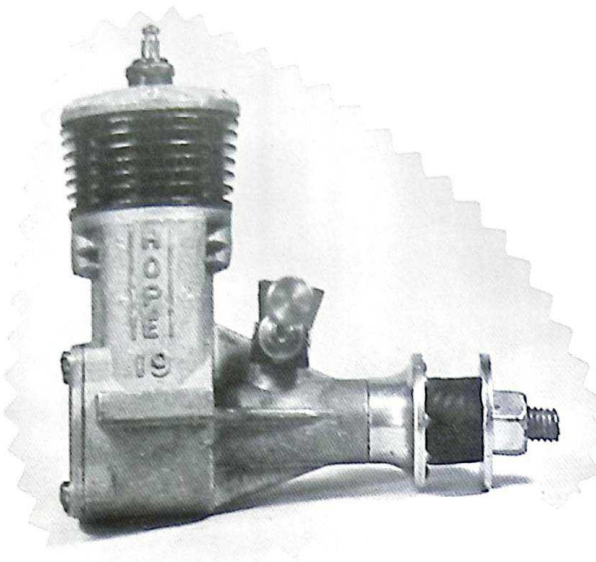


1947 Hope '.29' from Japan, originally  
designed for ignition

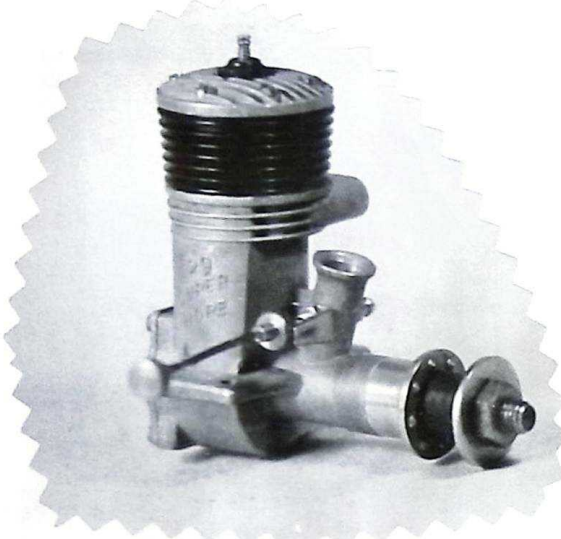




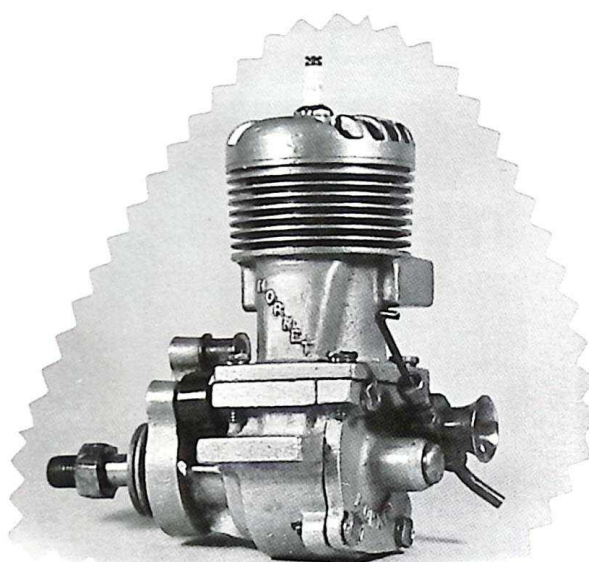
**Hope 19**, produced around 1950



**19 Series II** from 1952

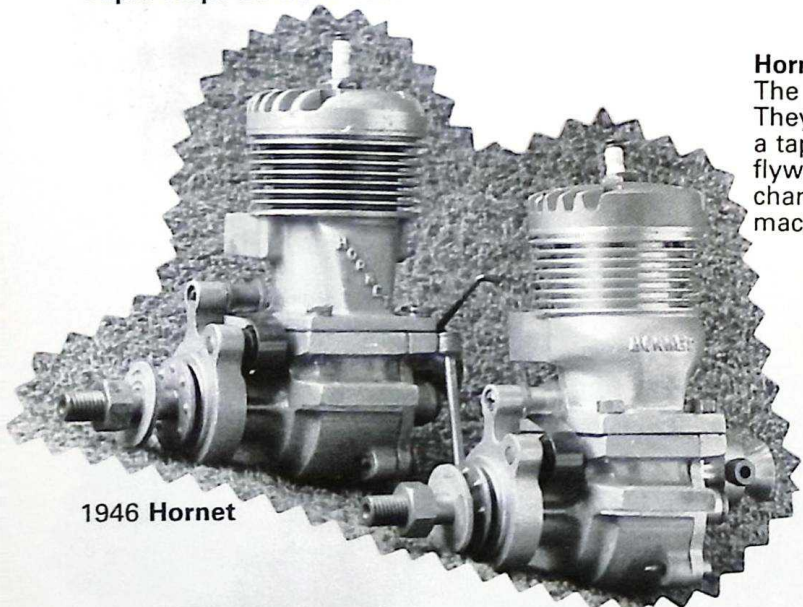


**Super Hope 29** from 1953



**Hornet .60**, 1946

The first Hornet .60's appeared in 1941. They were used in model car racing, where a tapered collect was used to secure the flywheel to the shaft. The crankshaft was changed in 1946 and a square shank machined on to it, to take a prop driver



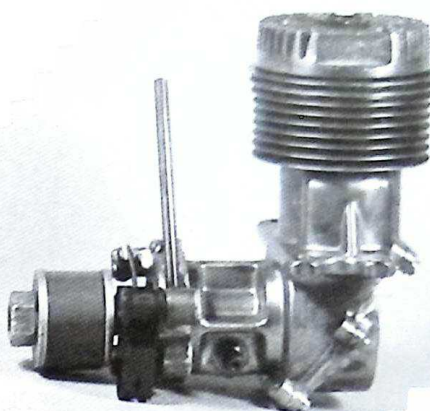
**1946 Hornet**

**MK II Hornet .60**, 1950. Known as the 'Bulge Bypass' model. It also featured a gold anodised head. Not many made

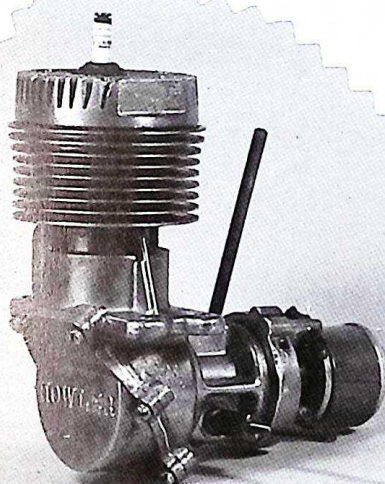




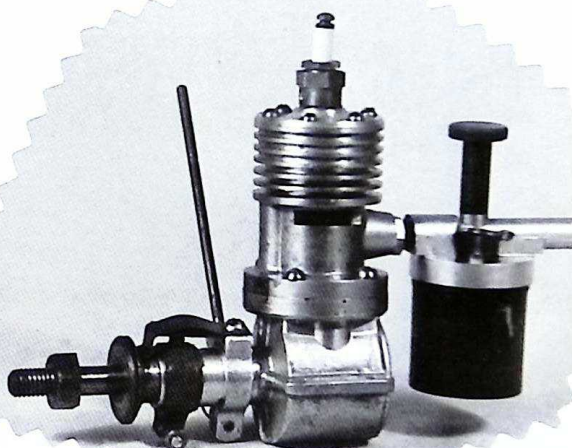
**Hornet 3.5cc, 1939**  
Sold through Model Aircraft Stores,  
Bournemouth



**1946 Howler .60.** An interesting engine as  
it has no air intake at the needle valve. Air  
was taken in by sub-piston induction and  
mixed with the fuel which had entered  
c/case through a hole in c/shaft and exiting  
via two opposite holes in the crank web

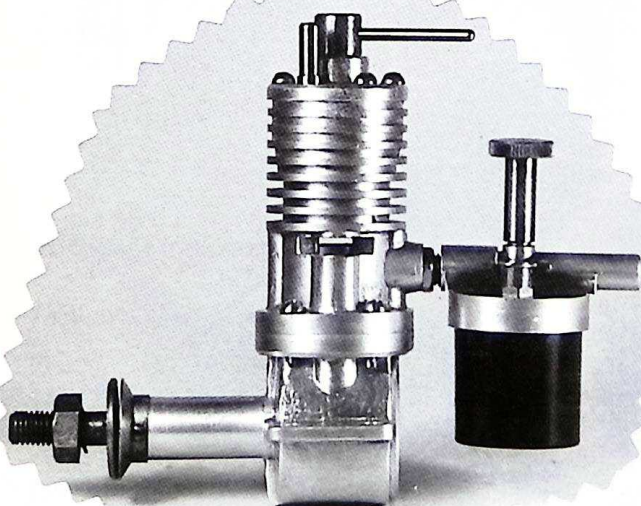


Rear view of the Howler

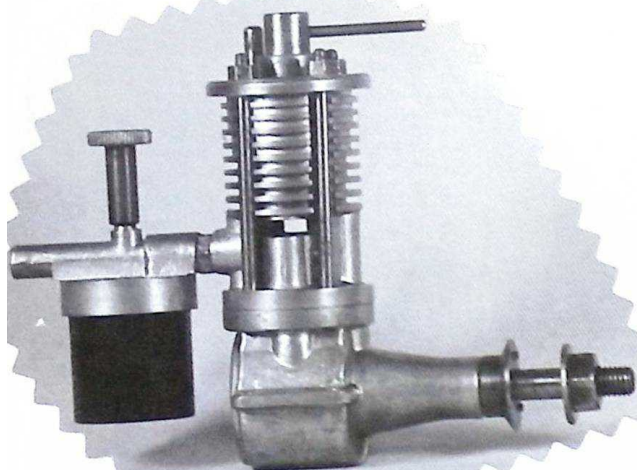


**H.P. 3.5cc, 1947. Series III**  
At the same time as the H.P. Series III was  
being produced the makers at Morbone  
Requisites, Barnet, were working on a  
diesel version

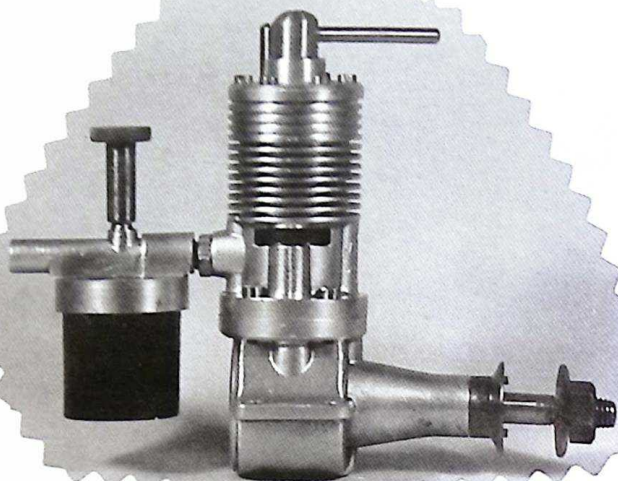
At left is the Series I diesel of 1947



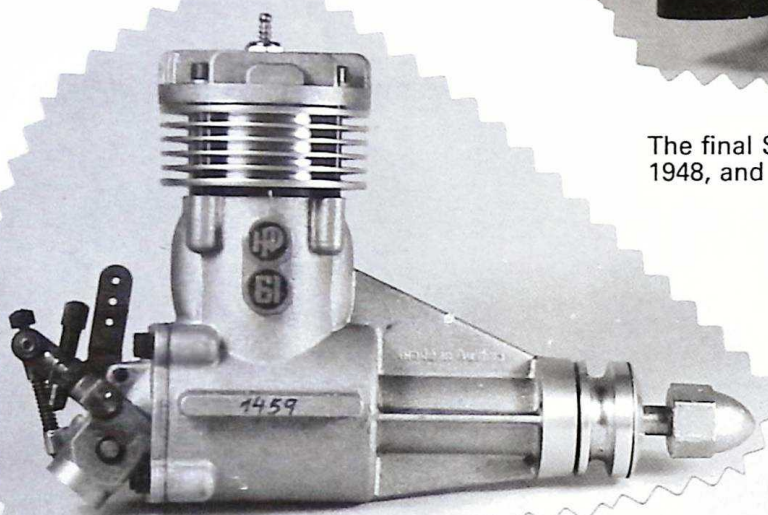




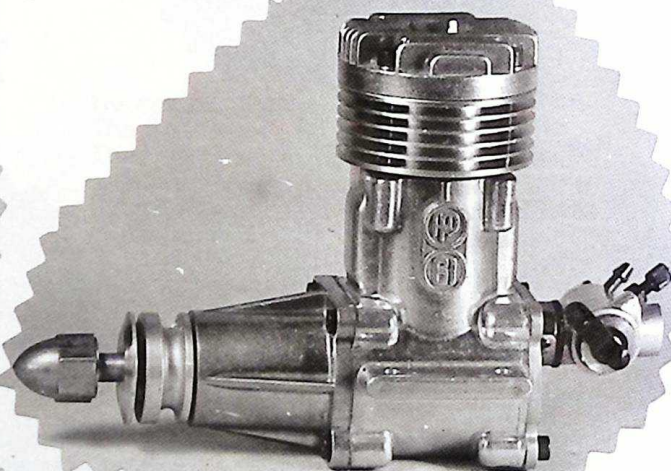
H.P. Series II diesel, late 1947 with stronger crank case and now 4cc capacity



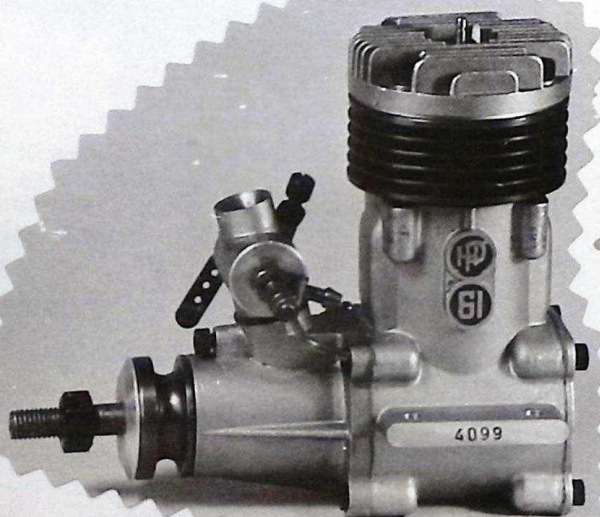
The final Series III H.P. 4cc diesel from 1948, and a nice runner it is too!



The H.P. 61 from Austria 1969  
One of the most powerful 60's of its time



Series II, rear induction 1971

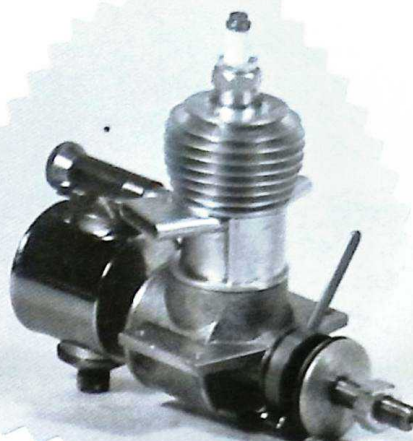


MK II .61, also from 1971



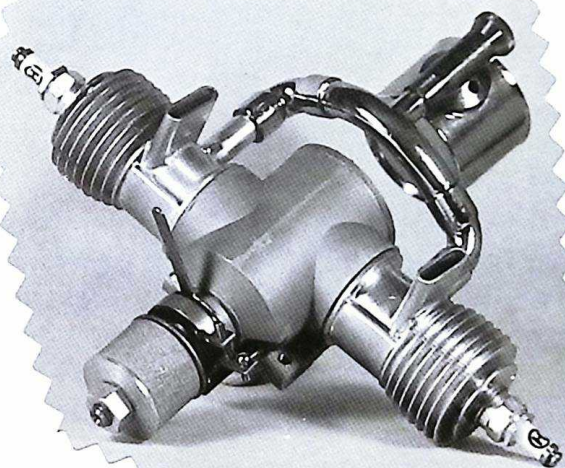


**H.P. 'Gold Cup' 1.20 cu.in.** A few makers have joined a pair of their current .61's that were enjoying good sales as singles, but proved just interesting collectors items as big twins



**.48 Hurleman 1946**  
Mr Hurleman started the .48 series of engines in 1938. He was also experimenting with a .96 cu.in. twin

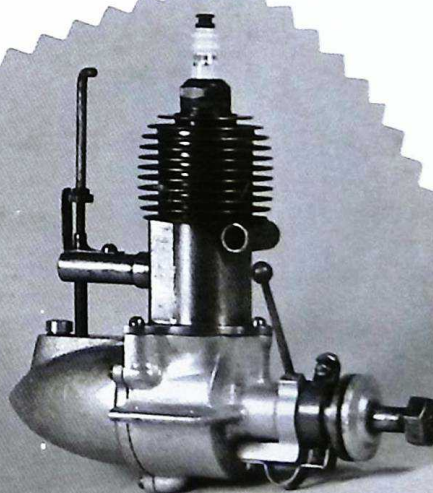
These two examples were built by Herb Wahl, Pennsylvania, in 1974 from original castings and parts



**Hurleman .96**

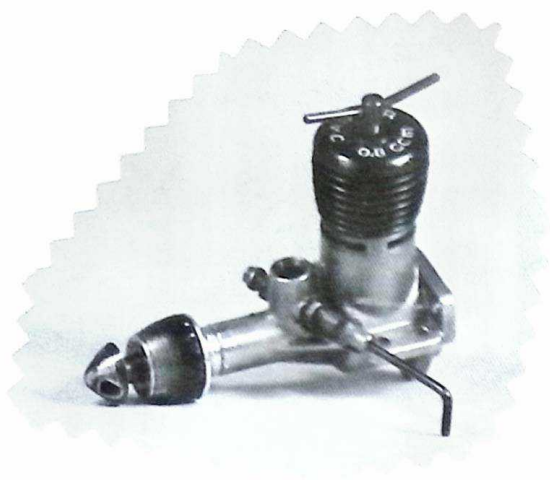


**1955  
Jaguar 2.5**  
Germany

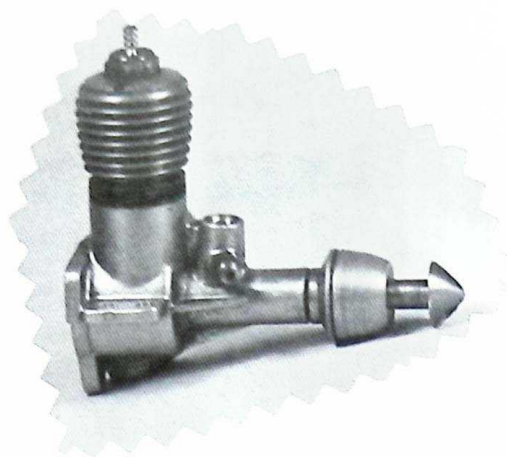


**'Imp' G-9** by International Models of New York, 1940

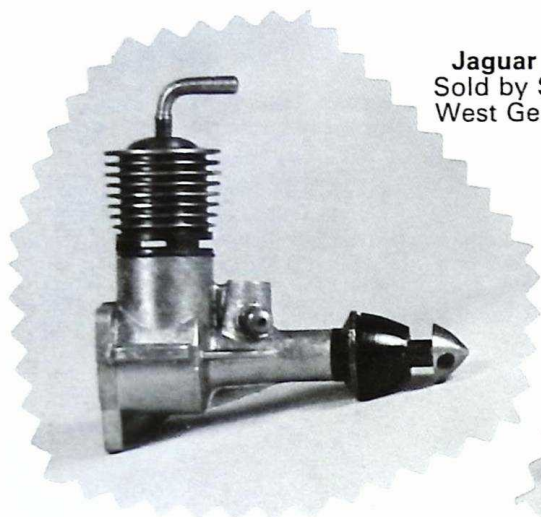




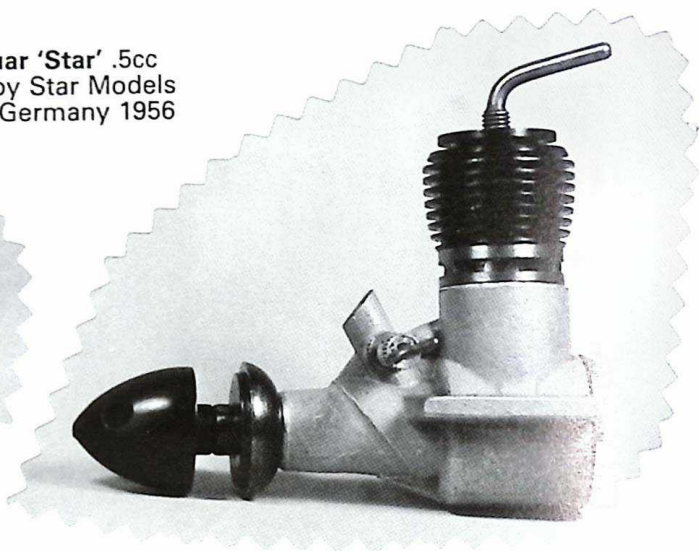
**Jaguar .8cc**



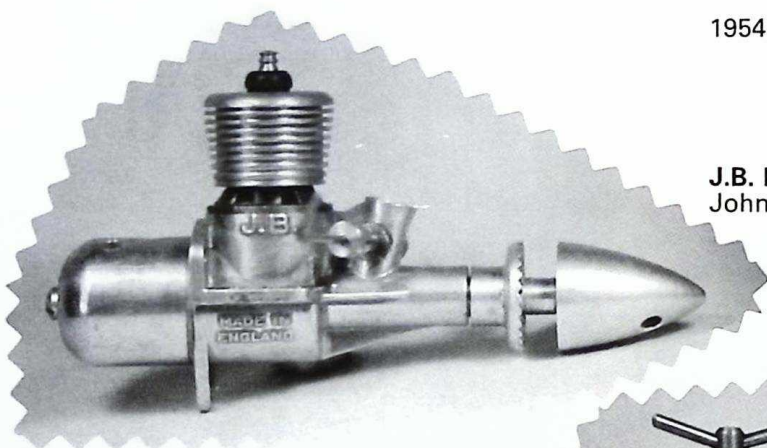
**Jaguar .5cc glo**



**Jaguar 'Star' .5cc**  
Sold by Star Models  
West Germany 1956

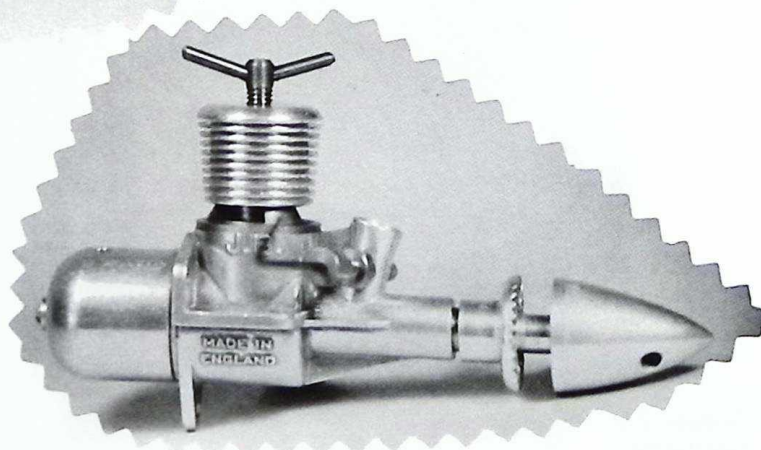


**1954 Jaskolka 2.5 from Poland**

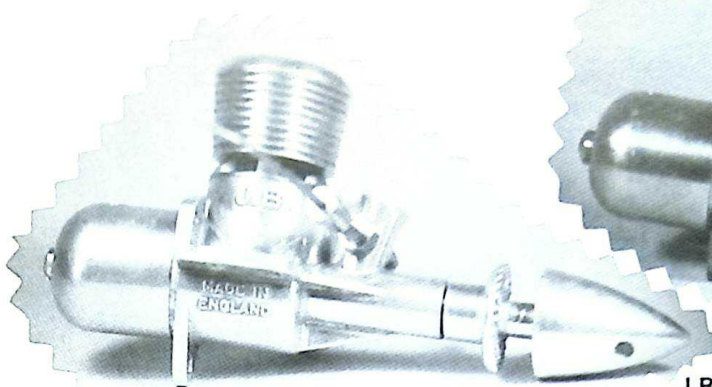


**J.B. Bomb 1cc diesel**

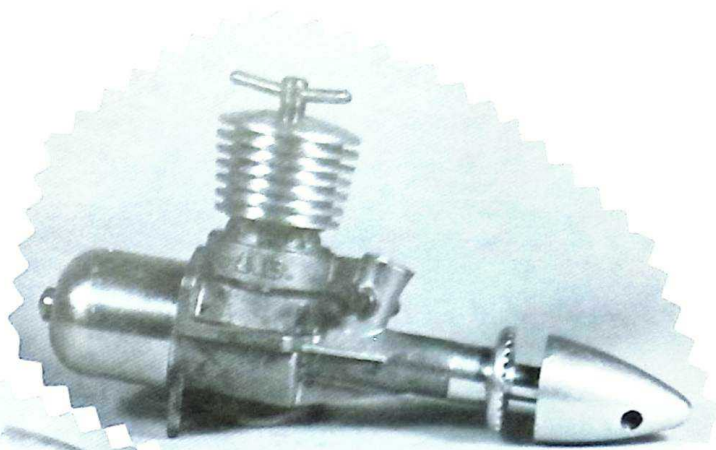
**J.B. Bomb 1cc glo.** Designed and built by  
John Ballard in 1957



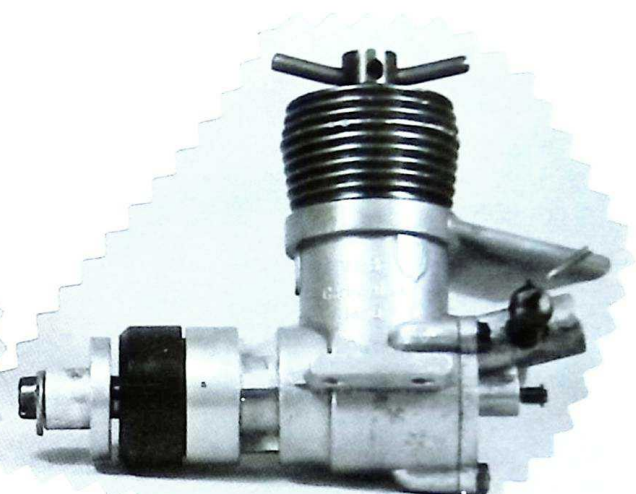
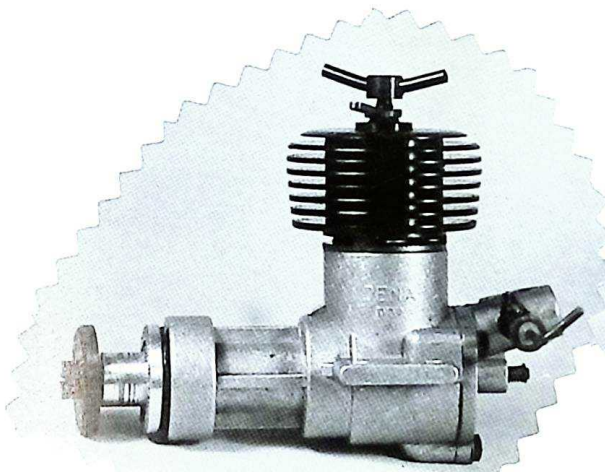




**J.B. Atom 1.5cc diesel**  
also built 1957

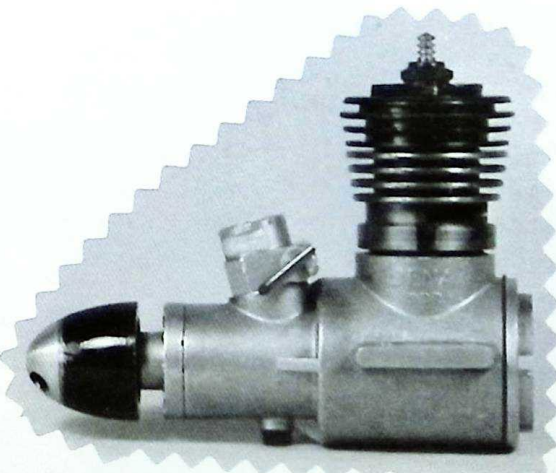
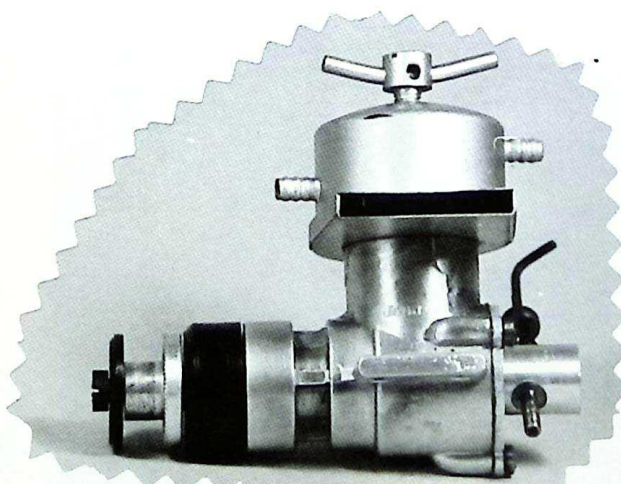


**J.B. Atom 1.5cc glo**



Blue head for the 2cc Zeiss Jena

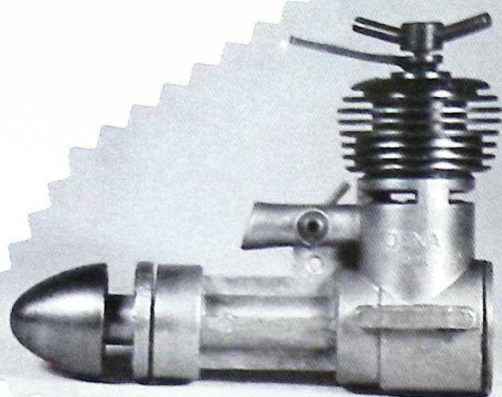
1956 **Jena 2.5 disc valve.**  
Made by the Zeiss Camera Co. of  
E. Germany



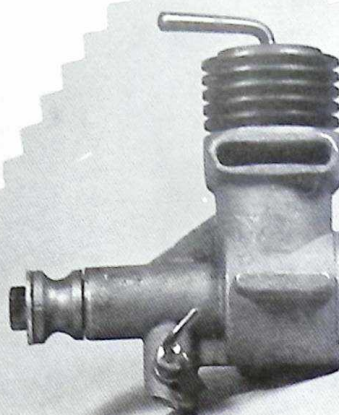
**Jena 2.5cc glo.**

2cc water cooled version using  
'clack' valve induction

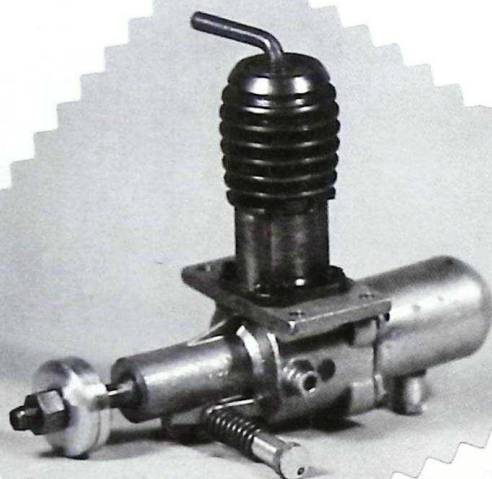




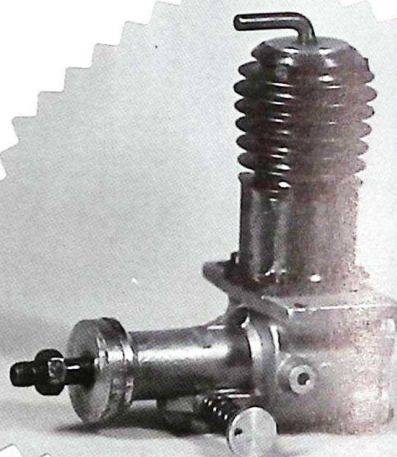
**Jena 1cc 1959**



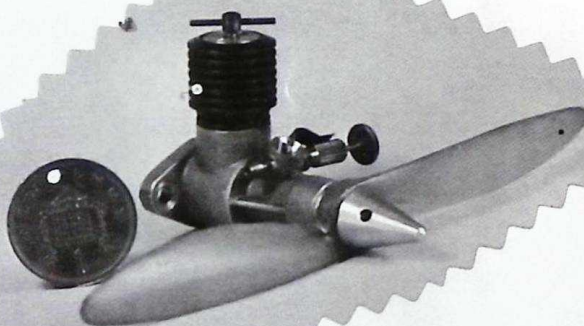
**Junior 2cc 1957. Made in Czechoslovakia**



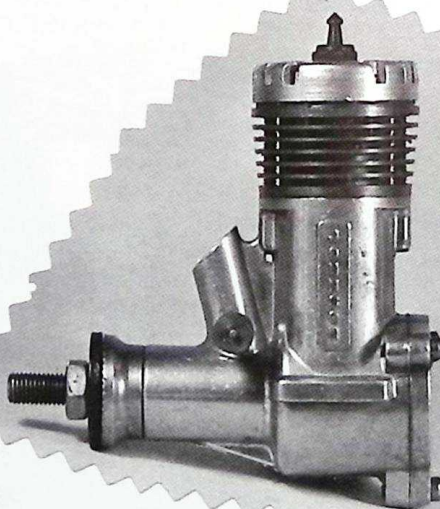
**Jide '8' 1.8cc**  
Made in South of France 1948



**Jide '12' 3cc**

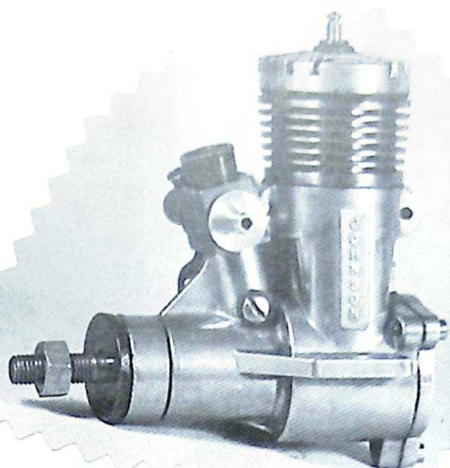


**Jon .3cc.** Well made little engine  
by J. Garcice in Czechoslovakia

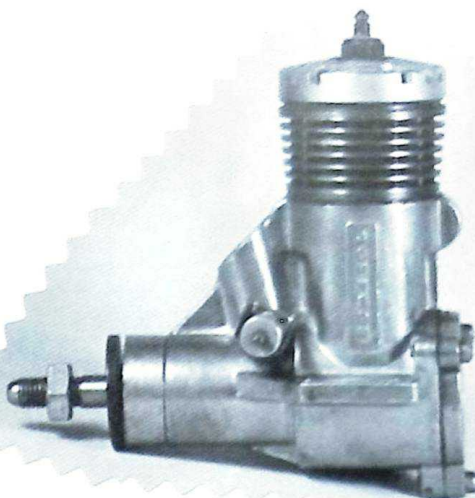


**1956 Johnson 29.** Also made as .35  
Developed from earlier Orwick engines,  
re-made by Dynamic Models

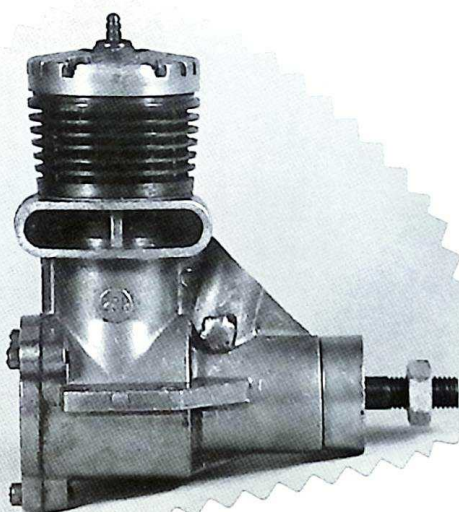




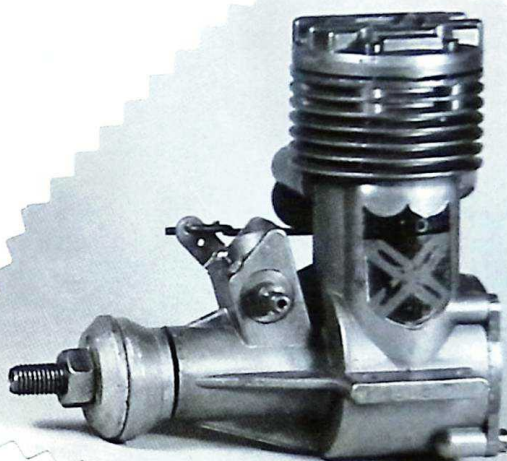
Johnson .35cc R/C



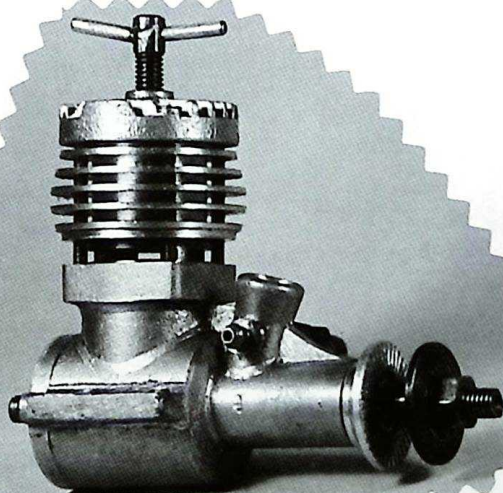
.36 Ball Race



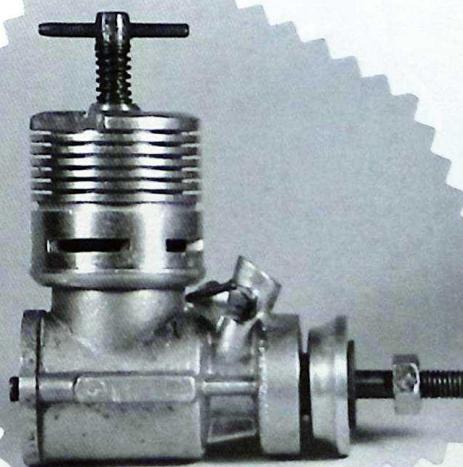
Johnson 29 'R'



Kustom .51. Formerly the D.E.W.

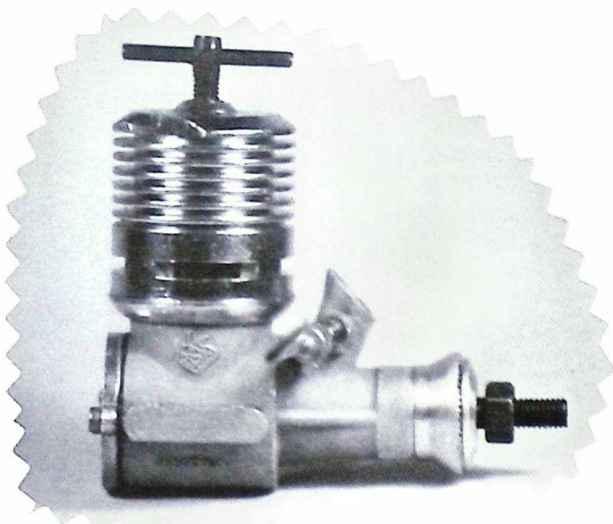


So that's where all the old Frog tooling went!  
The **Kumar** (or **K**) 3.5cc.  
Sold through Aurora, India

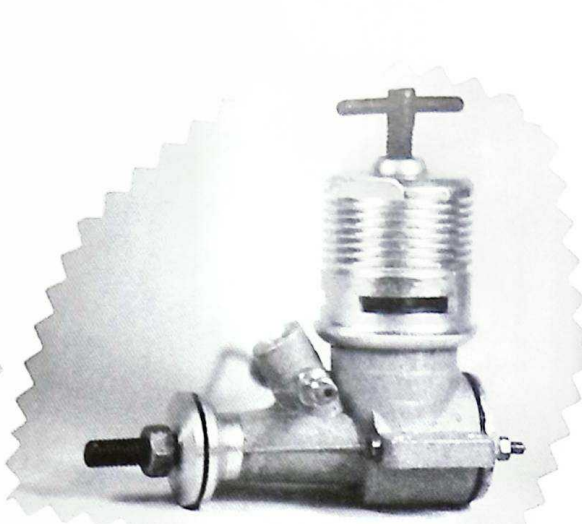


K 2.5cc

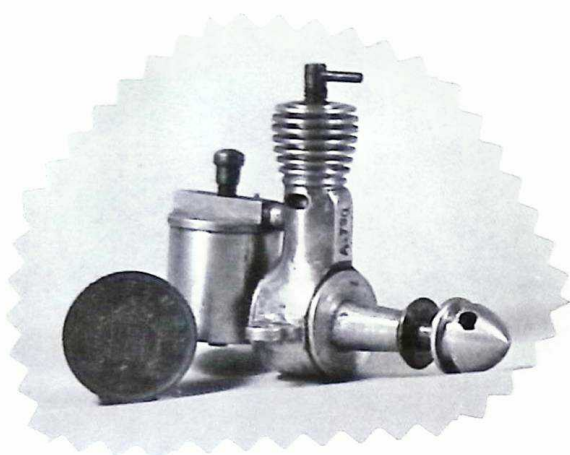




Another K 3.5cc. Looks a bit like an A.M.

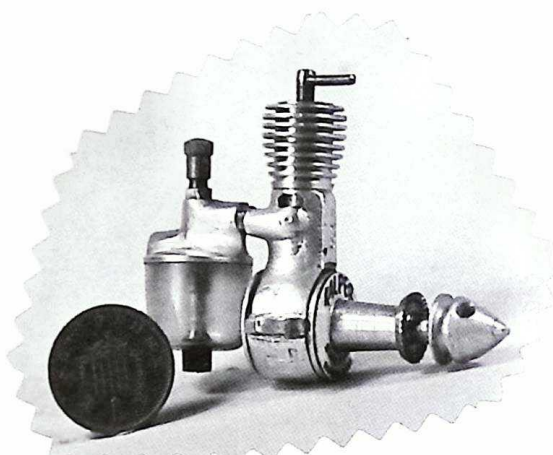


K 1.5cc

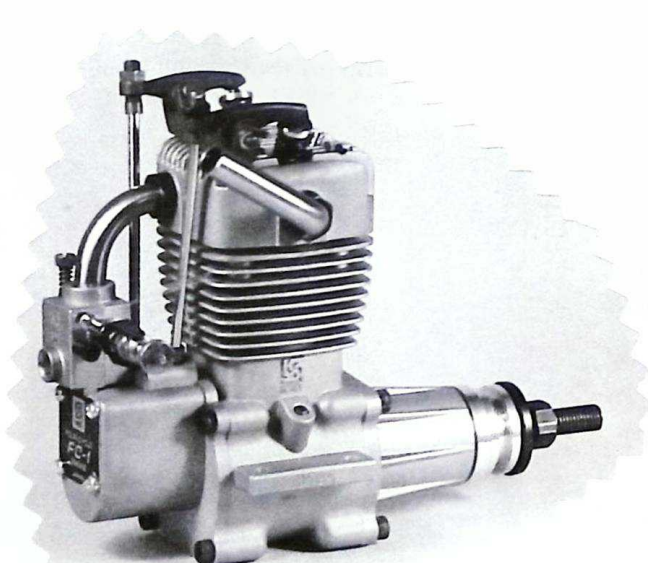


1948 pre-production version of the .32cc Kalper

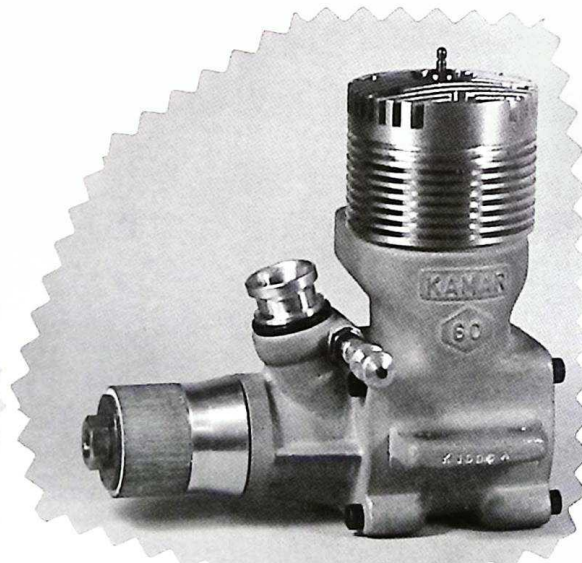
Made by Seymour, Hilda & Co., near Brighton. Sold through Arthur Mullett's Model Shop



Kalper .32cc MK II

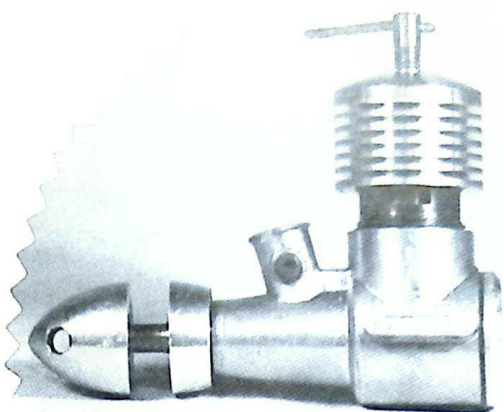


Kalt .45, 4 stroke. One of the 1st production 4 cycles. Beautifully made, but expensive

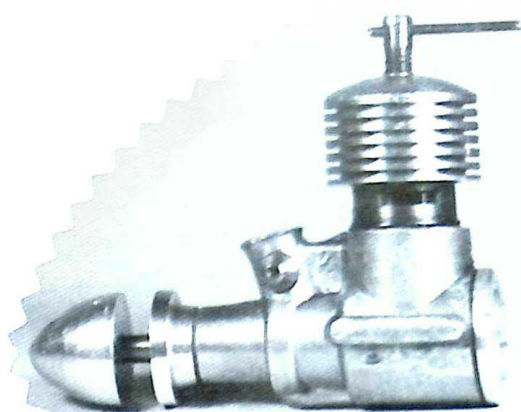


Kamar .60. Built in small numbers by John Kamar of Seattle, Washington, 1966

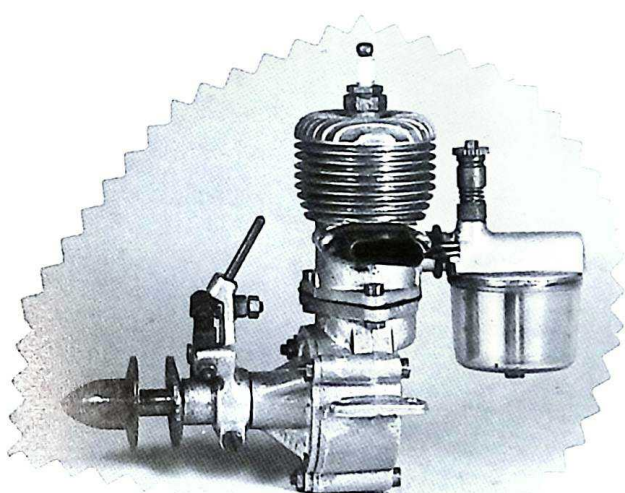




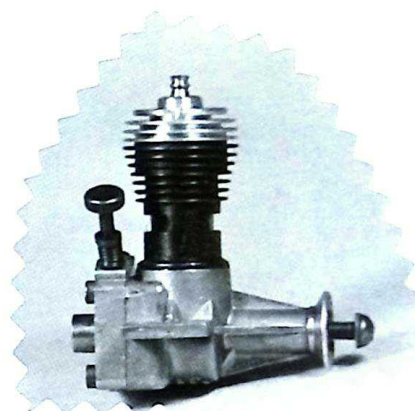
**Kapito 1.5cc. Series I**



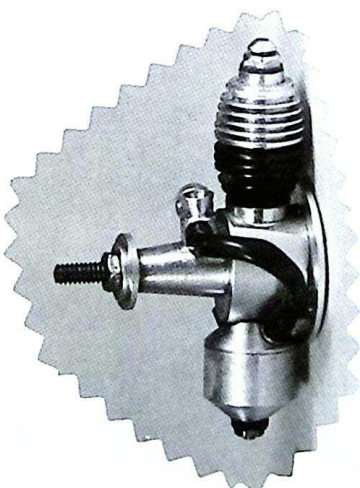
**Kapito 1.5cc Series II**  
Made in New Zealand, 1955



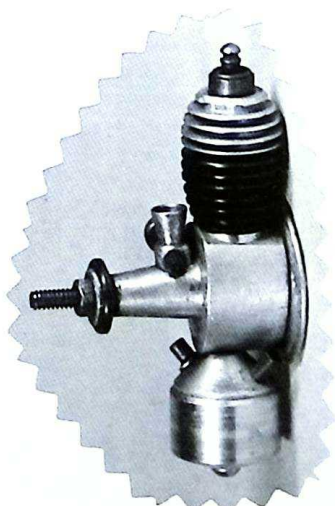
**Keil '6'cc ign.**  
Made in 1946 for Keil Kraft  
Anyone out there know who actually  
MADE them?



**Keil Kraft 'Cobra' .049** from the 60's.  
No comparison to the power and overall  
finish of the Cox 049's of the time. Made  
by J. Rodwell of Hornchurch, Essex



**1949 K&B .020 cu.in.**  
**'Infant'**

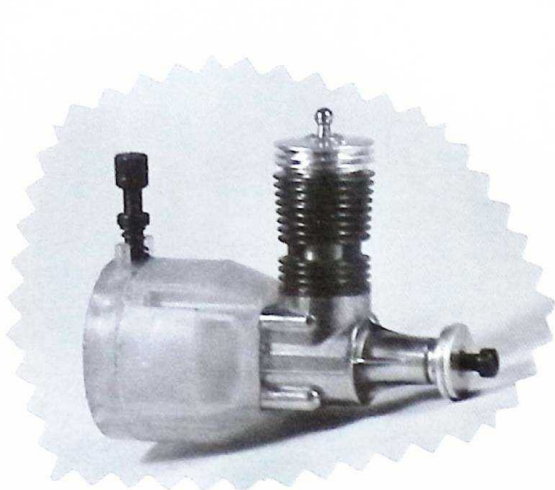


**1950 K&B**  
**Torpedo Junior .035**

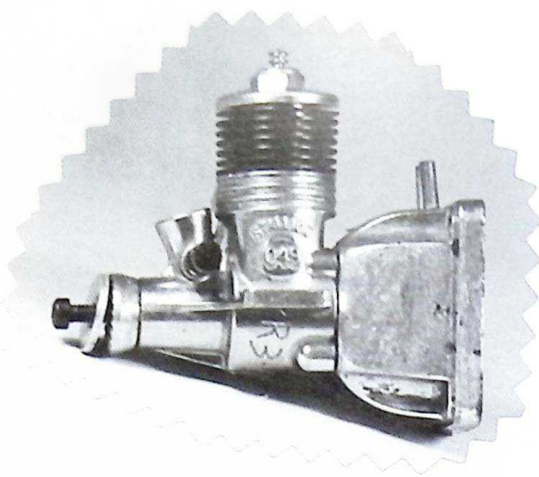


**1950 Torpedo .049**

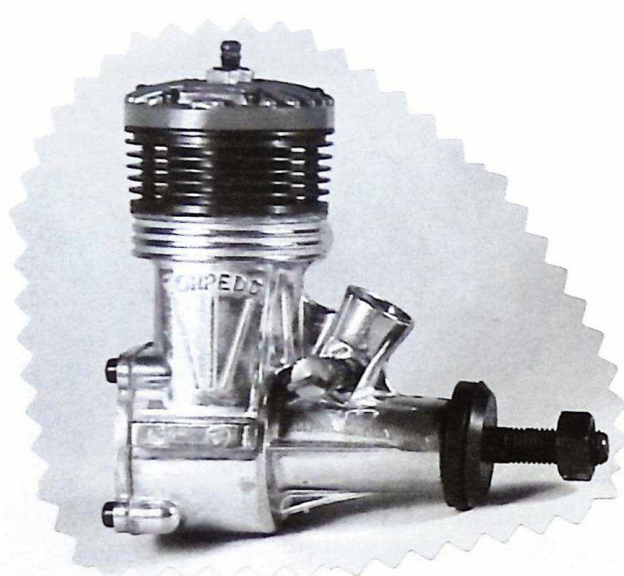




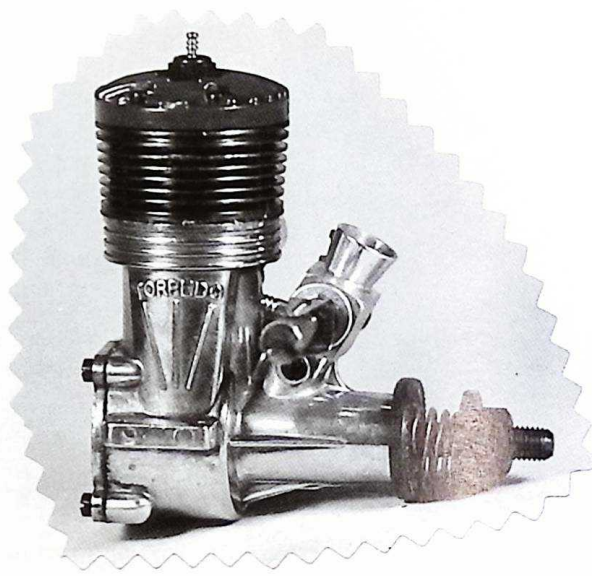
1959 Aurora Tornado .049



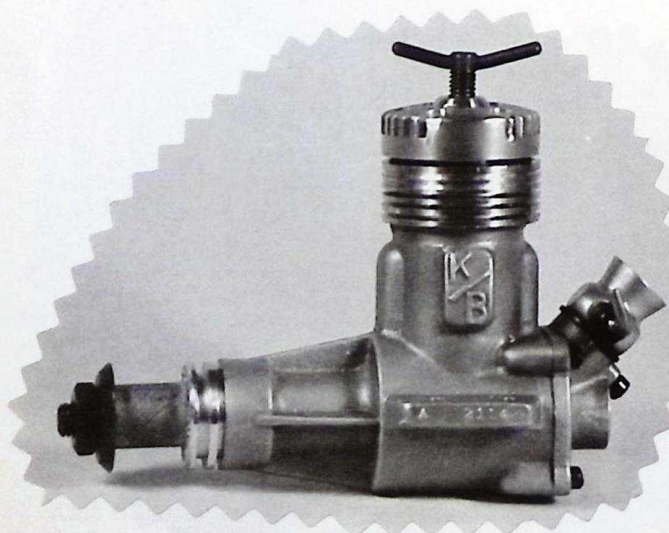
1963 K&B Stallion .049



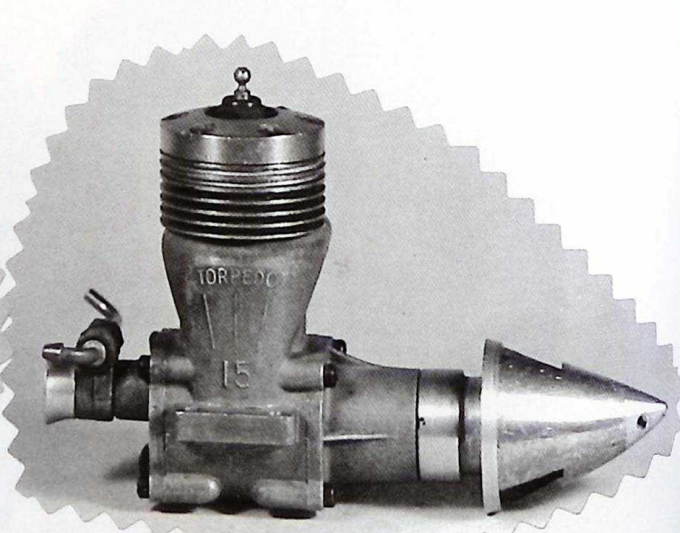
1954 K&B 'Green Head' .35 Stunt



1958 '.45' R/C with Black cylinder head

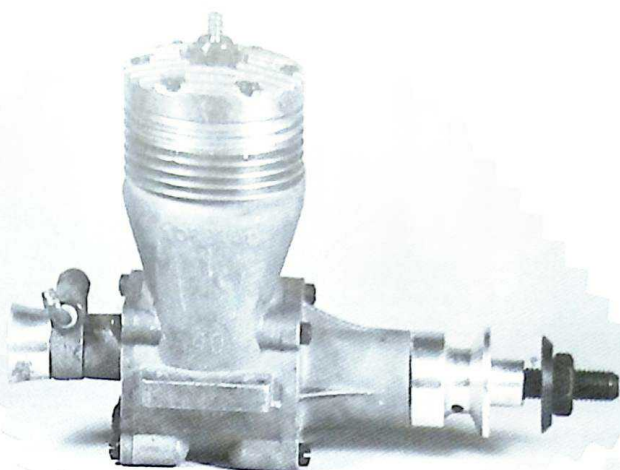


1973 K&B 2.5 team race diesel

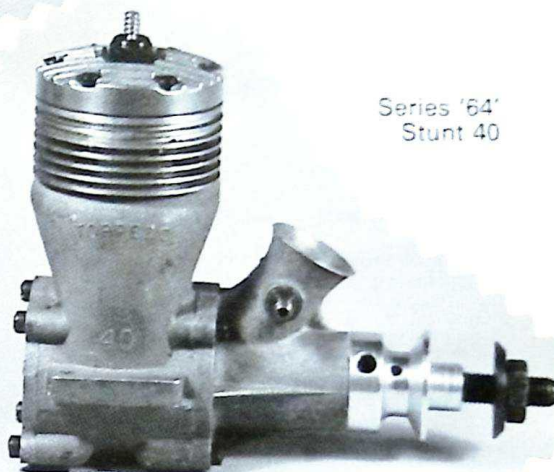


1964 Series K&B 15 'R' Powerful engine developed for speed flying

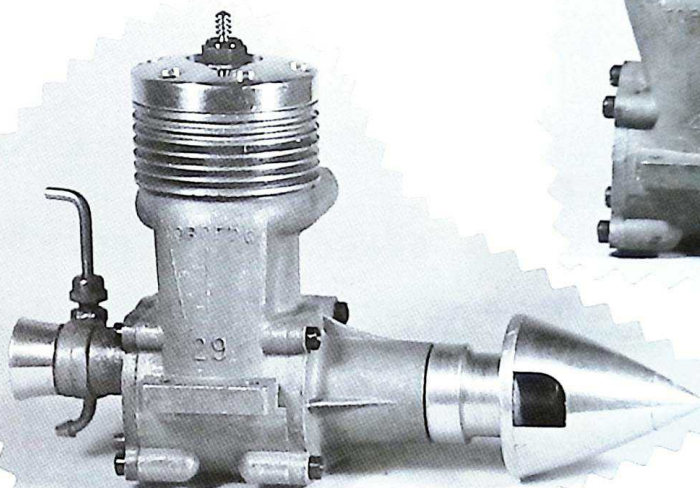




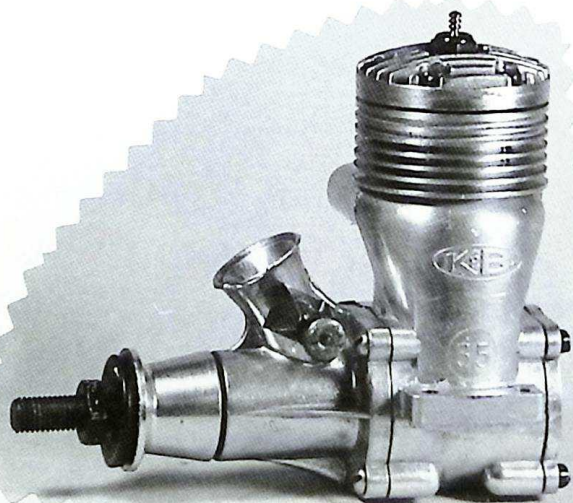
1964 K&B Series '64' .40



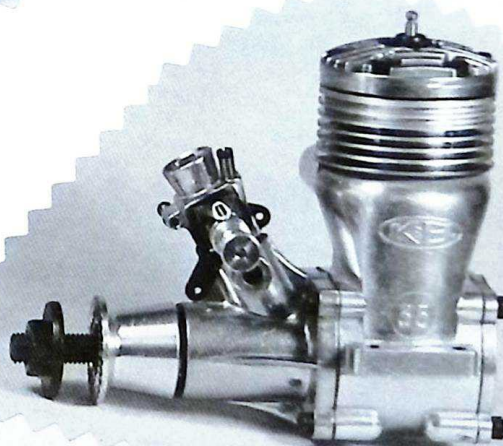
Series '64'  
Stunt 40



K&B 29 'R' 1961

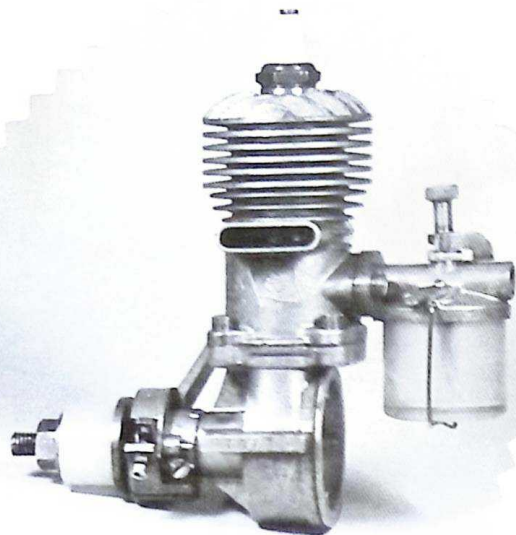


K&B .35 stunt, 1975

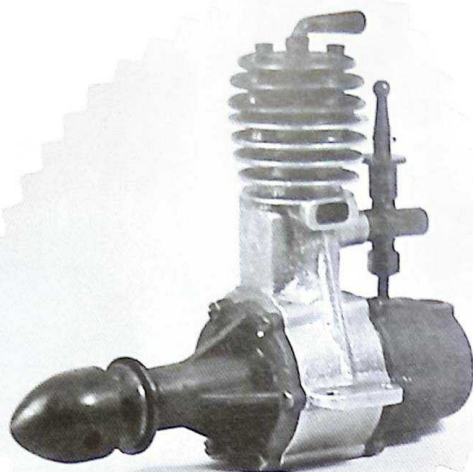


K&B .35 R/C 1975

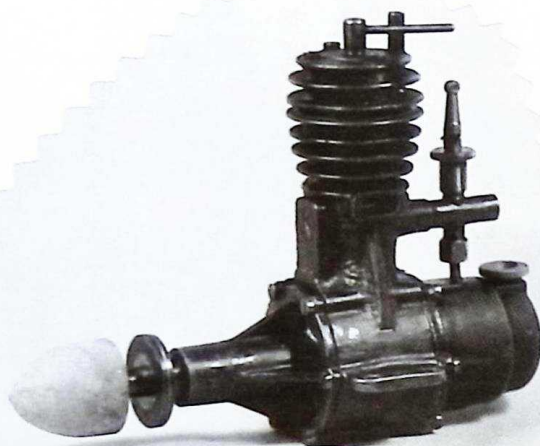




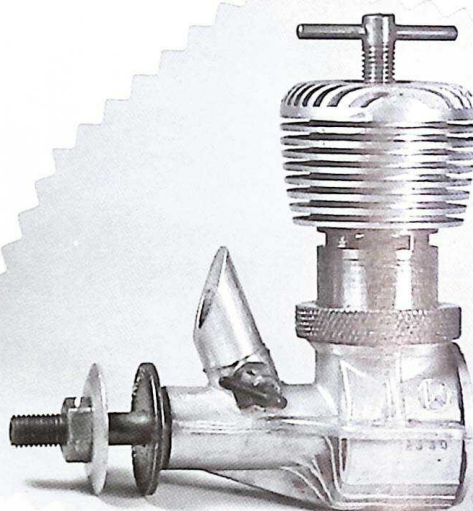
K E 10cc. Made in Japan around 1945



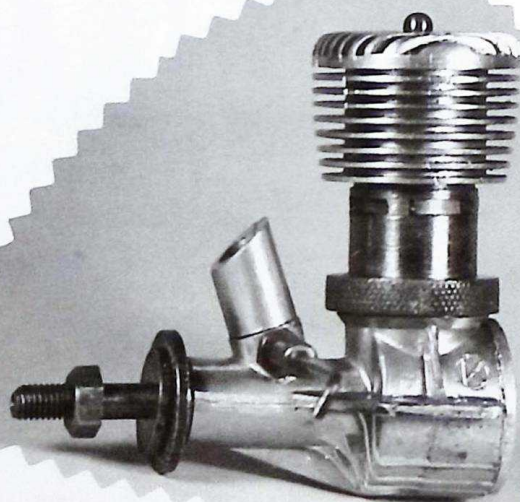
Kemp 4.4cc Series I 1946  
Made by K. Engineering, Gravesend, Kent



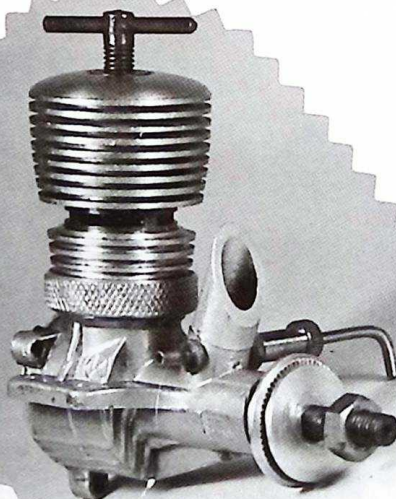
1947 Series II 4.4cc



1949 MK I 5cc 'K' **Vulture** Soon followed by a MK II that had fins at base of cylinder, and aluminium locking ring

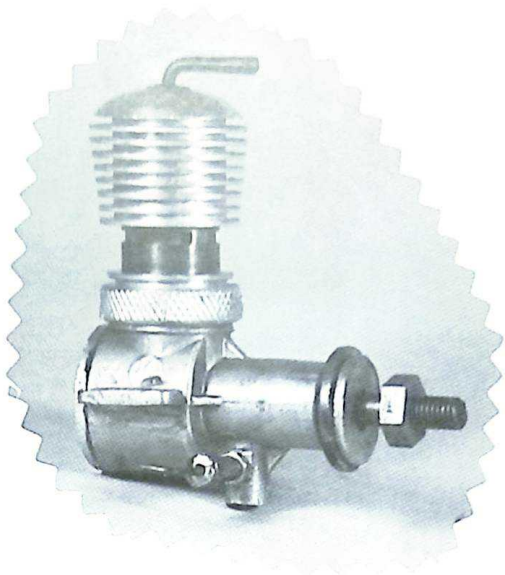


MK I glo **Vulture**

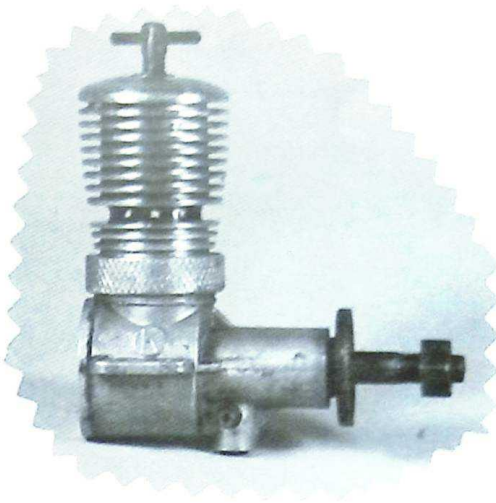


1949 MK III **Vulture** Note 'ears' for radial mounting, and no fins on head

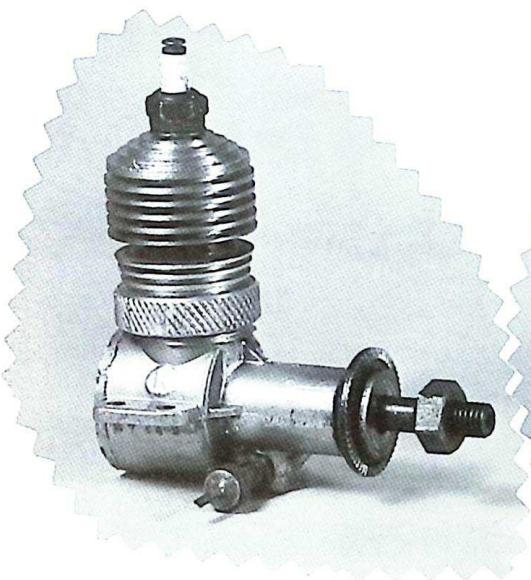




K 'Kestrel' 1.9cc, 1949



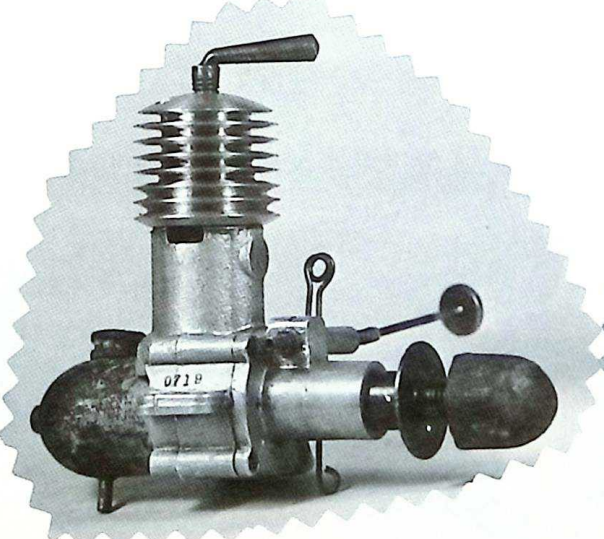
K 'Falcon' 2cc 1949



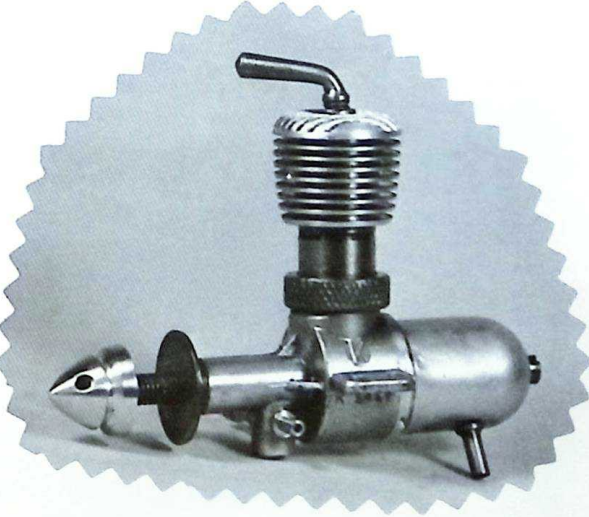
K 'Tornado' glo 1.9cc 1950



K 'Eagle' 1cc 1949

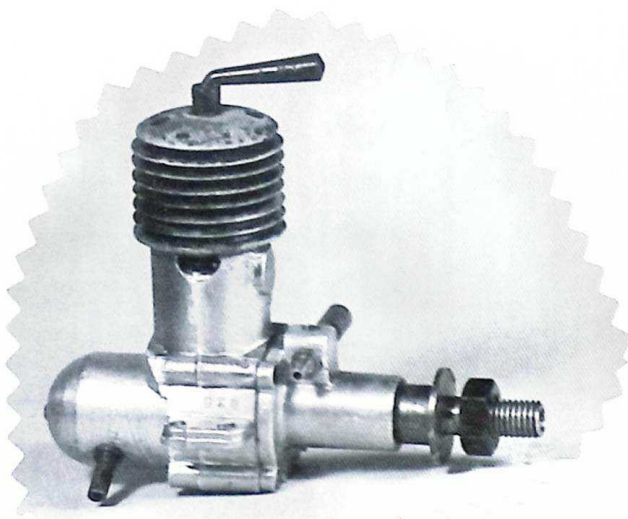


K 1cc. Made with the 4.4cc in 1947  
Note magnesium tank and spinner

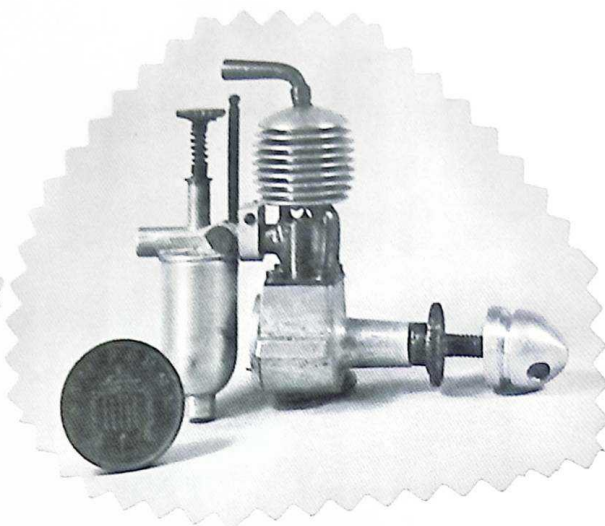


MK IIK 1cc 'Eagle' 1949

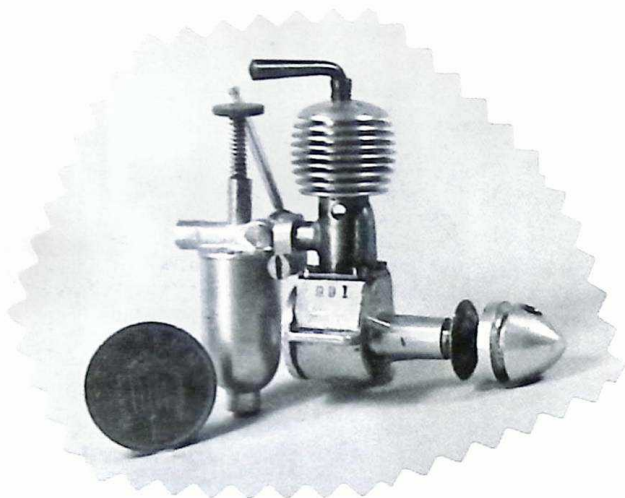




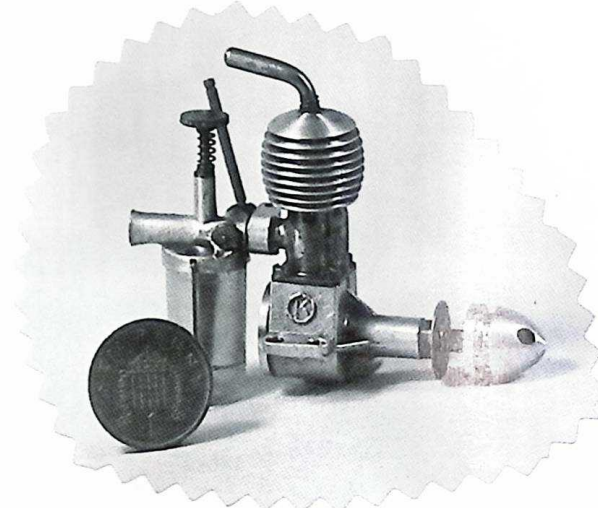
Another K 1cc with aluminium tank and magnesium cylinder head



K .2cc MK I 1947



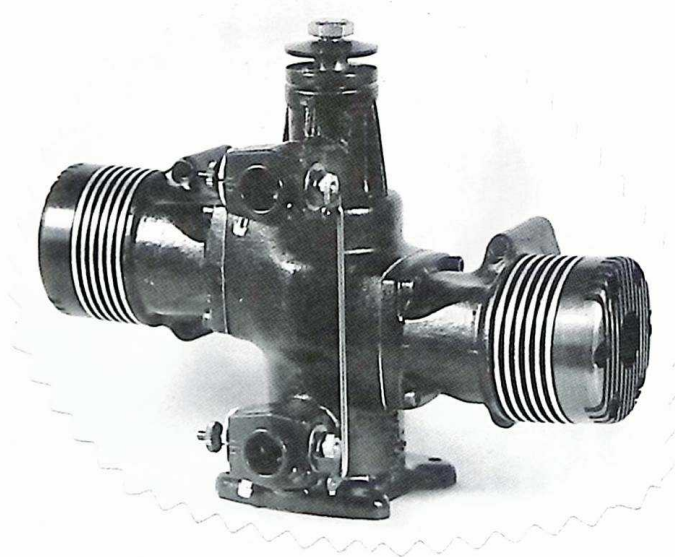
K .2 MK II  
1948 K .2 MK I Series II. Addition of 3 small webs on c case



Late '48 K .2 MK I Series III. Has 4 small webs on c/case

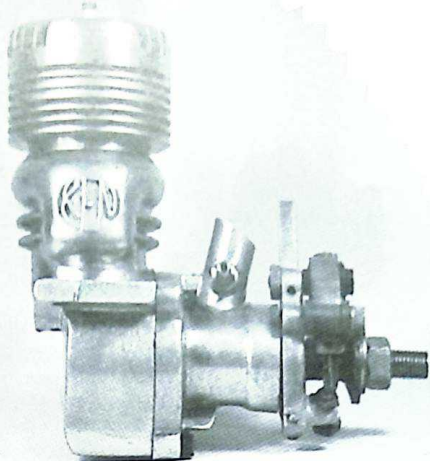


MK II K .2cc Front rotary valve 1949

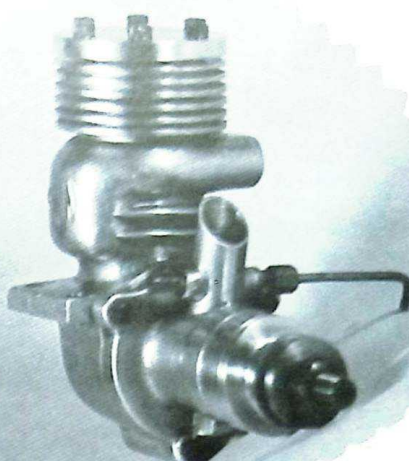


1.20 cu.in. **Kendel** twin. Made in Elyria, Ohio 1980. Ignition version also made. Turned a 16 x 5 prop at 10,000 r.p.m.

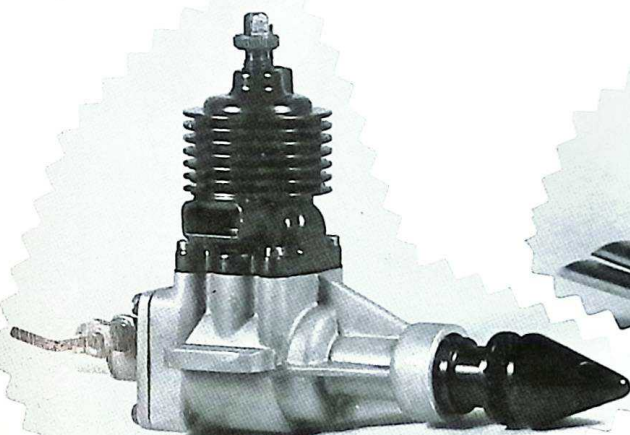




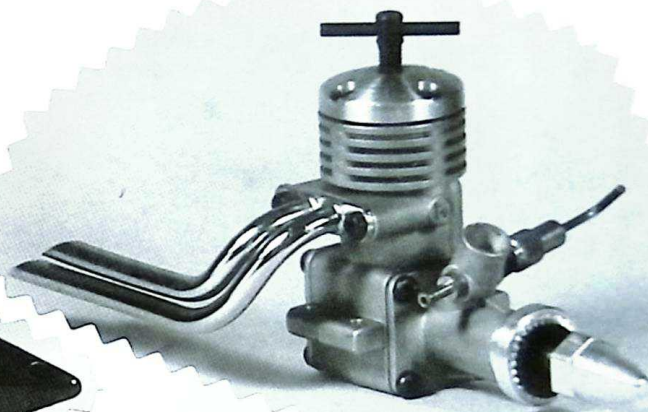
**Ken .6010cc 1946.**  
Made by Kencraft Co.  
at Garden Grove, California



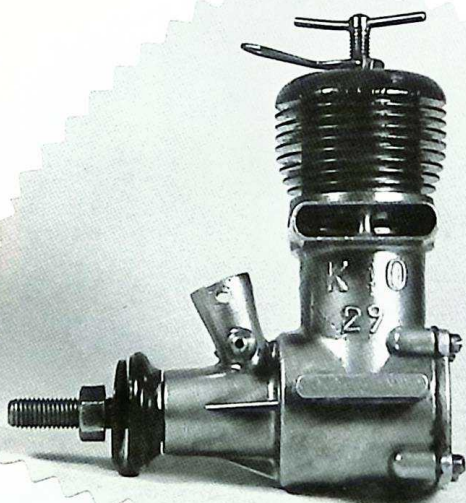
**Ken .60 fixed compression diesel.**  
Few made



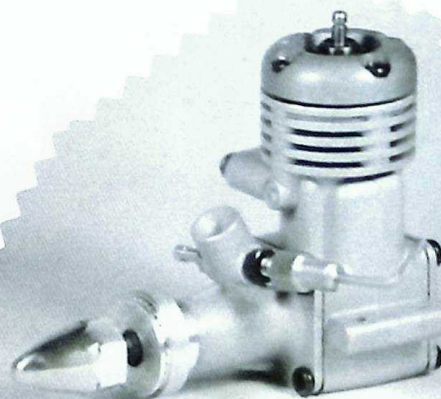
**K.M.D. 2.5cc Team Race diesel** from  
Russia. One of their more 'quality' engines



The delightful 1.5cc '**King Cat**',  
from Kingshire Products, Bedfordshire,  
during 1979

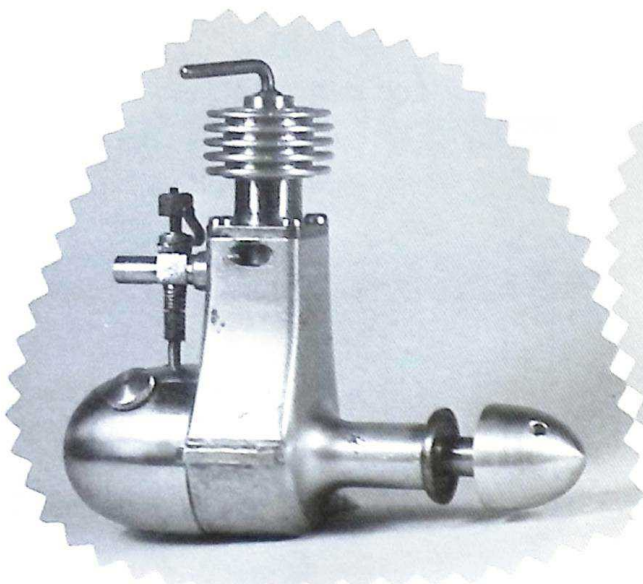


**K.O. .29 5cc diesel**, made in Japan, mid 50's



The 1.5cc '**Glo Cat**' from the same period

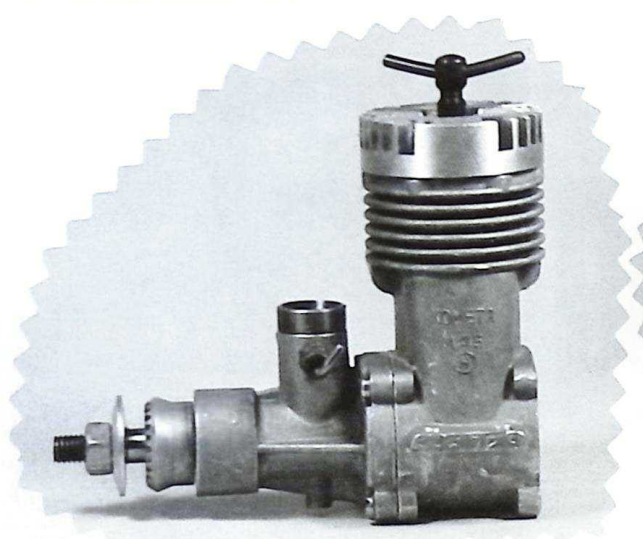




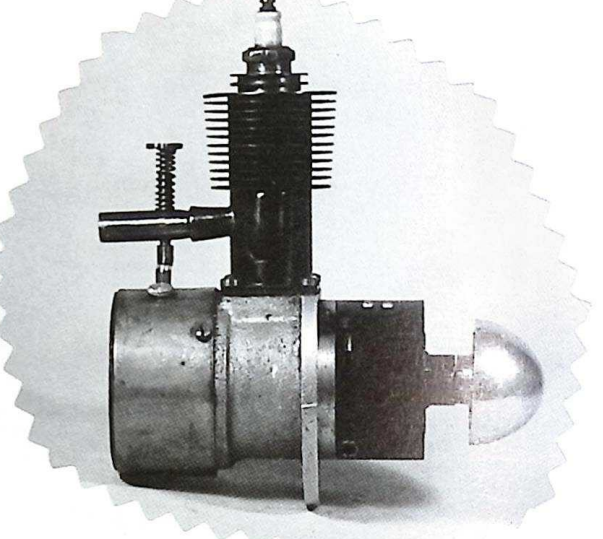
**Komet** 2cc diesel. Made at Vasteras, Sweden 1944.



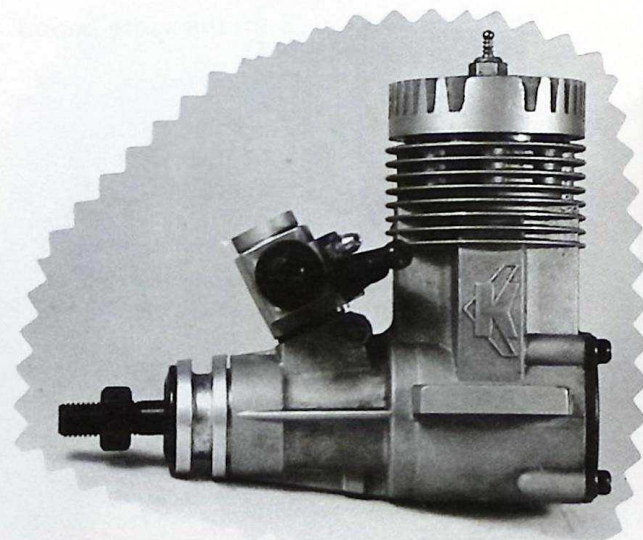
**Komet MK II** 2.7cc 1946



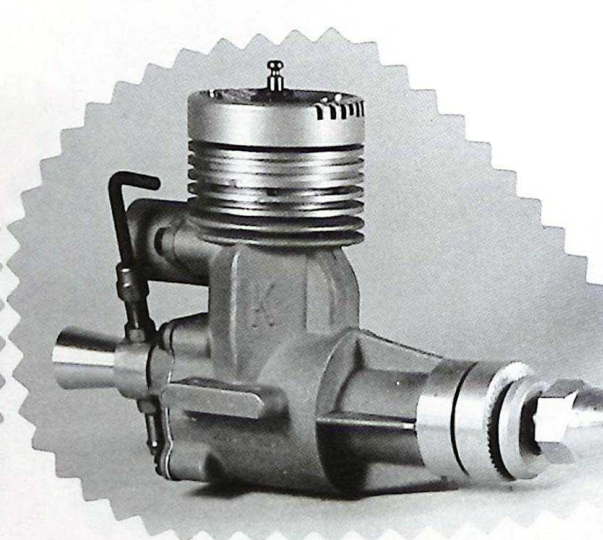
**Kometa** 5cc diesel. Russian copy of the Super Tigre 5cc glo of 1958



**'Kratmo'** 10cc 1939. Designed & Built by Walter Kratzsch at his small factory near Leipzig

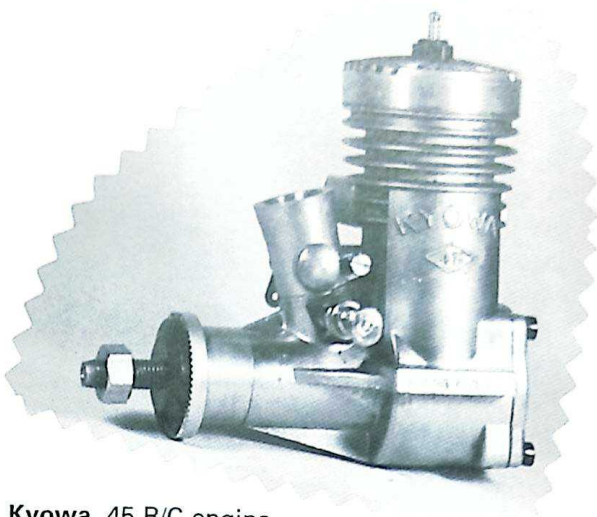


**Kraft** .61 R/C 1975

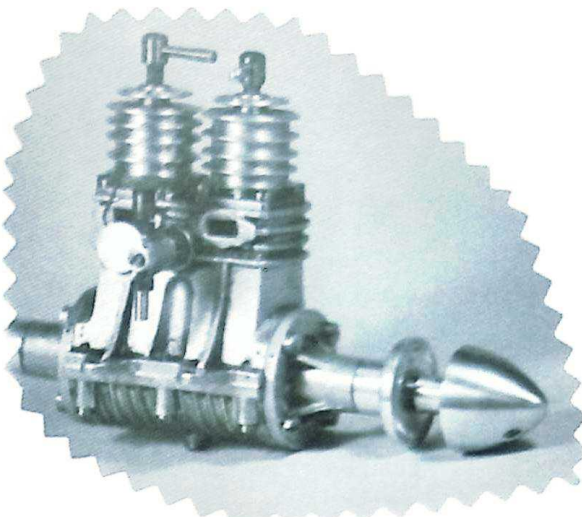


**Kosmic** 2.5cc glo, made in Italy 1975  
Also made as a diesel

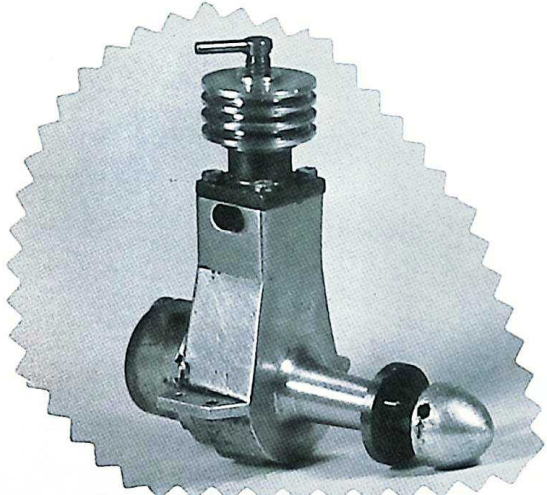




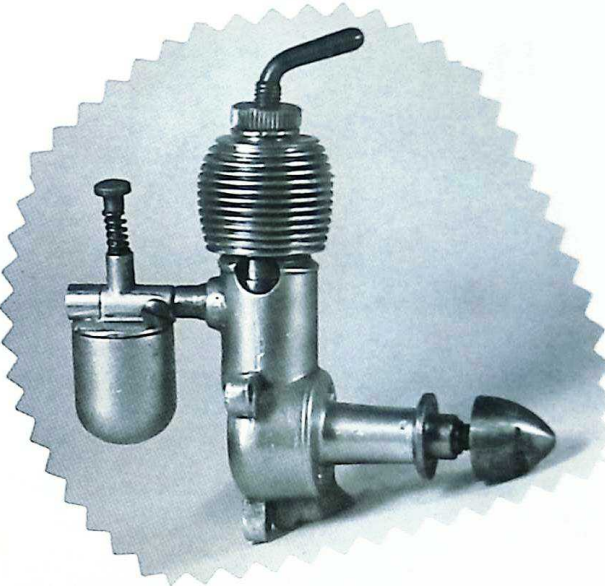
**Kyowa .45 R/C engine**  
Made in Japan, around 1960



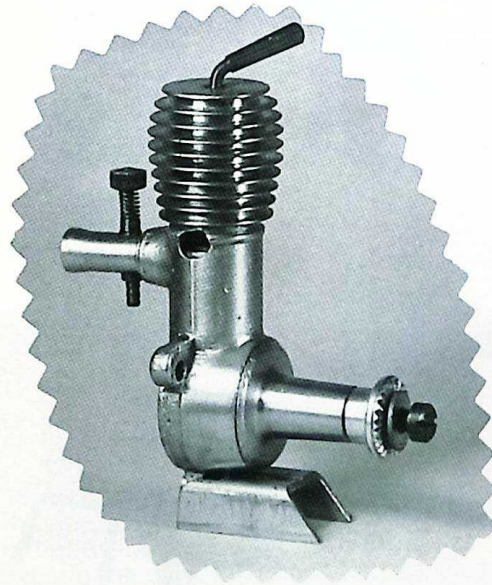
**1949 'Ladybird' 2.5cc twin**  
Designed by Edgar Westbury



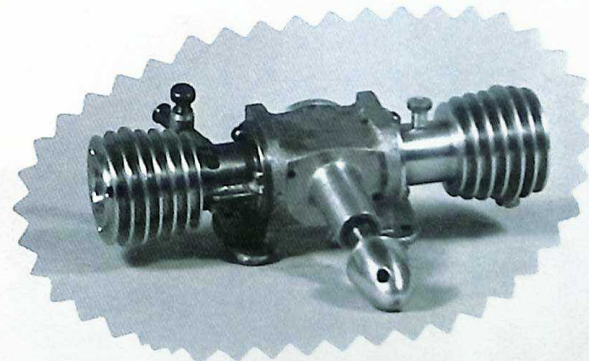
**Leesil 2.5cc 1947.** Made in the Bradford, Yorkshire area in very low numbers



**Letmo MD-3 2.7cc** from Czechoslovakia, 1948/49

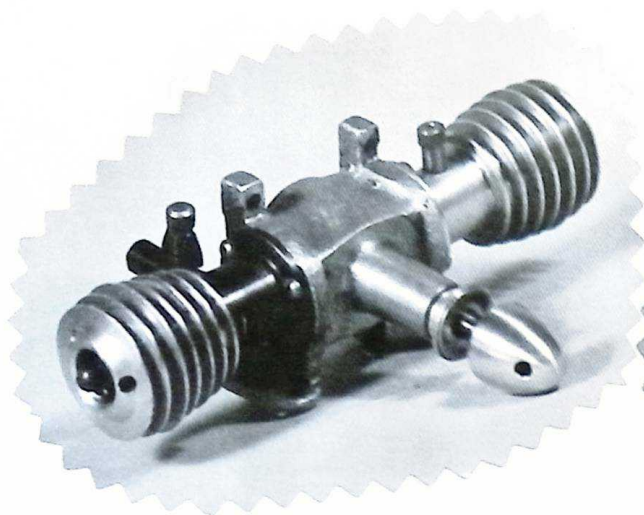


Series II **Letmo 2.7cc**

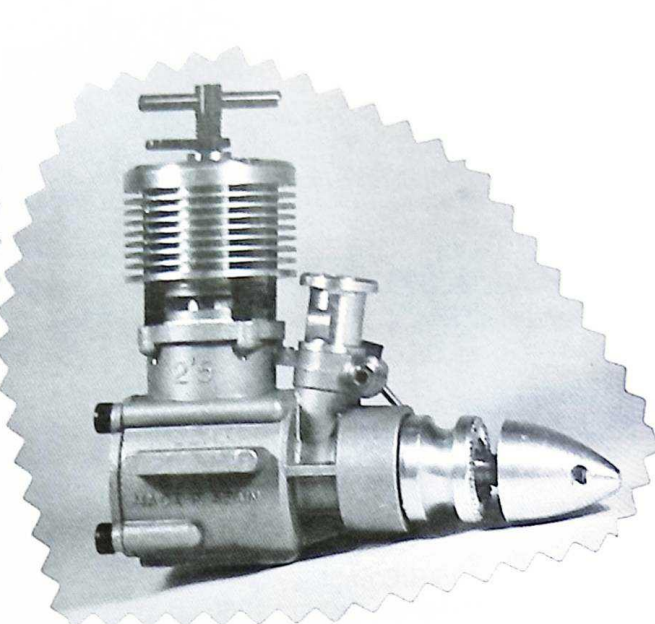


**Lionheart 2.5cc 'Dummy twin' diesel.** Right hand 'cylinder' is fuel tank. Sold by Premier Models, N. London 1949

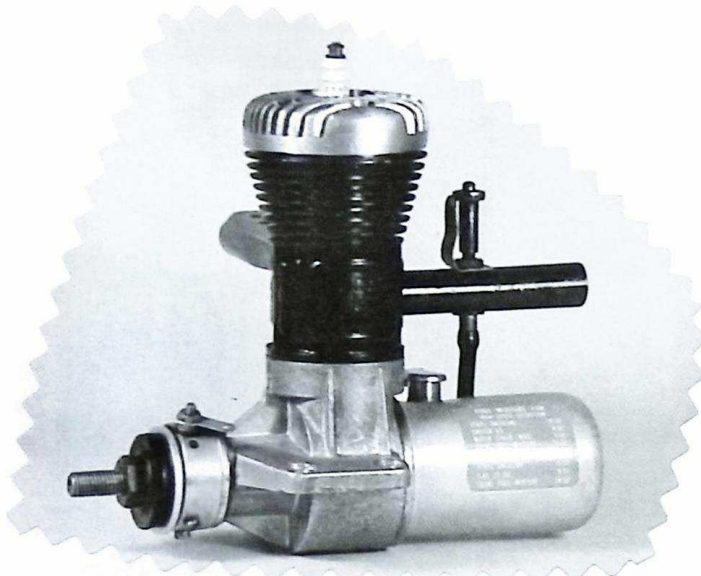




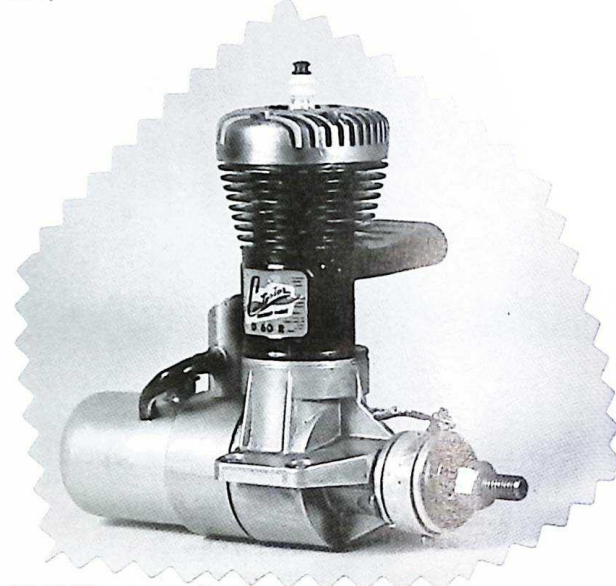
Series II **Lionheart** , as a glo



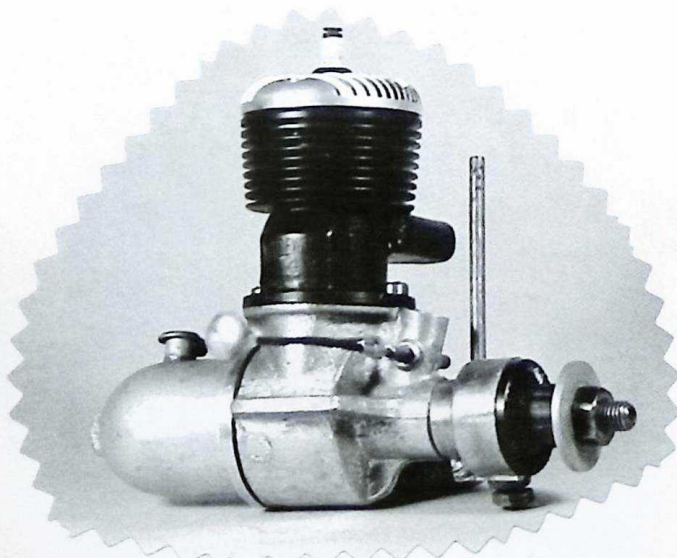
1980 **Llam** 2.5cc.  
Very much a Webra diesel copy



1946 **Lucas & Smith** 'Contestor' side-port  
10cc ignition. Designed by Dan Bunch



1946 'Contestor'  
Drum valve induction version

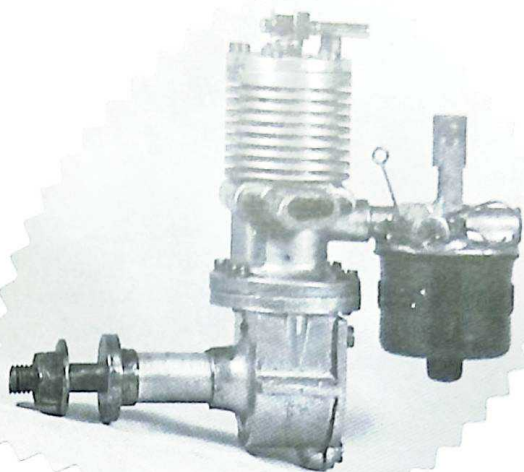


1947 **Madewell** .49, Oakland, California.  
A Vivell designed engine

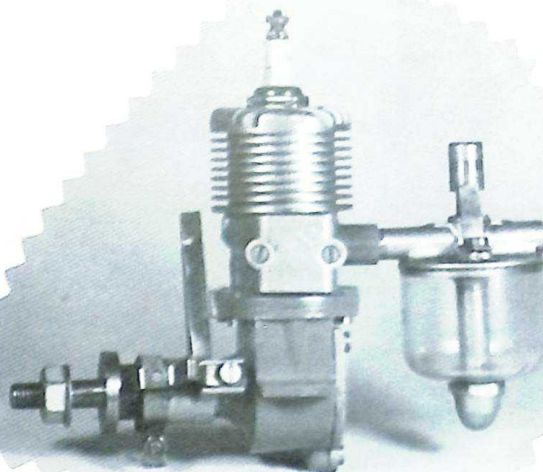


Pre-production **Majesco** 2cc 1945. Made in  
Parkstone, Dorset

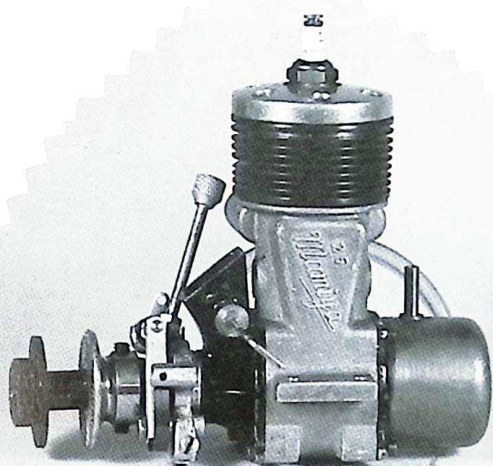




Production version of the **Majesco 2.2cc** diesel from 1946

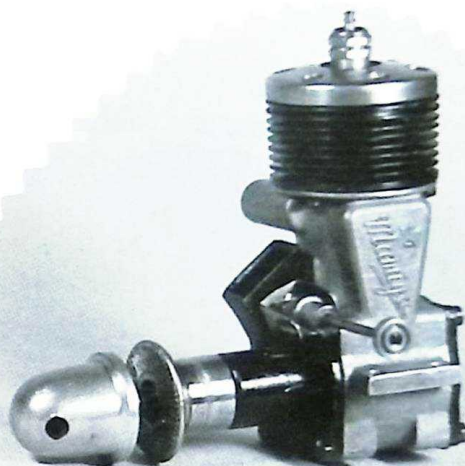


**Majesco 4.5cc ign.** also from 1946



1949 **Mamiya 29 ign.**

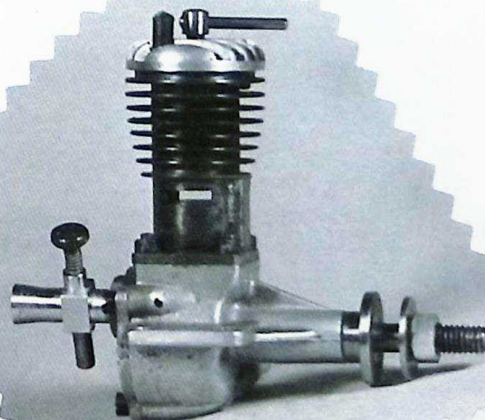
Made in Japan



1949 **Mamiya glo .29**

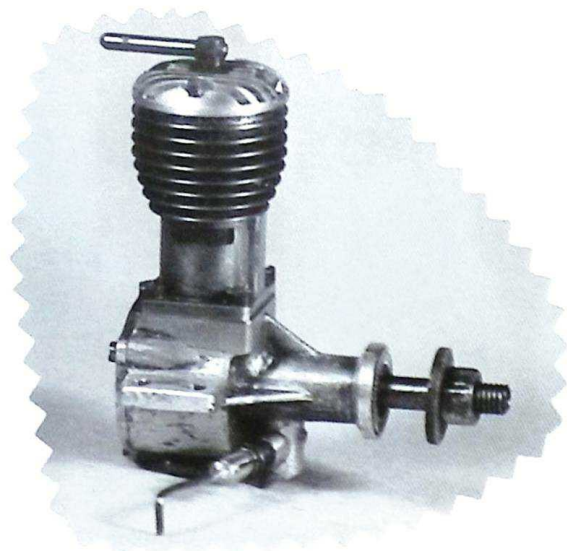


1945/46 **Marquet 5cc.** Made by G. Marquet in Lyon, France. Mr Marquet was a builder of lightweight motorcycles. It could explain the carb. float bowl for a tank!



1946 **Maraget 1.9cc.** Designed by J. Maraget at Puteaux, France.



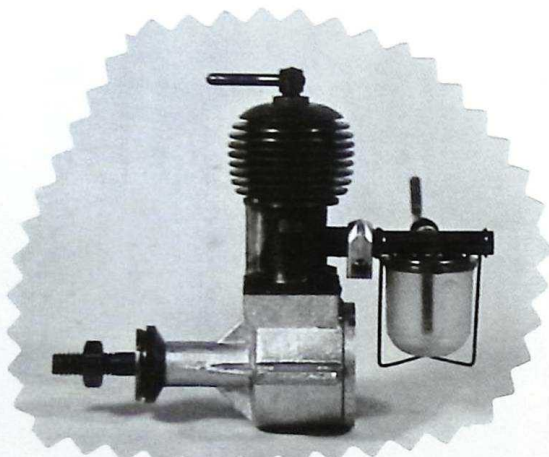


**Maraget 2.2cc 1946**

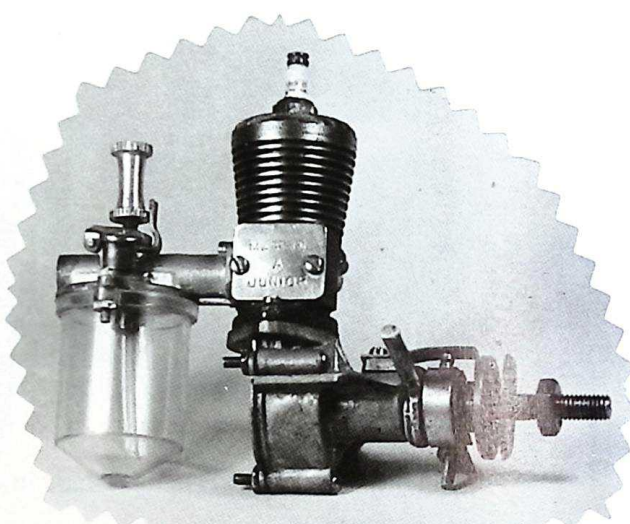


**Maraget .9cc 1946**

Most of the Maraget range were made to order, keeping production low

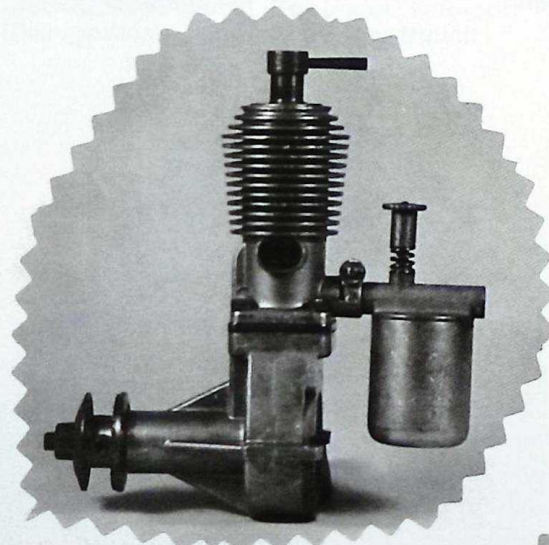


**1948 Maraget .9 Series II**

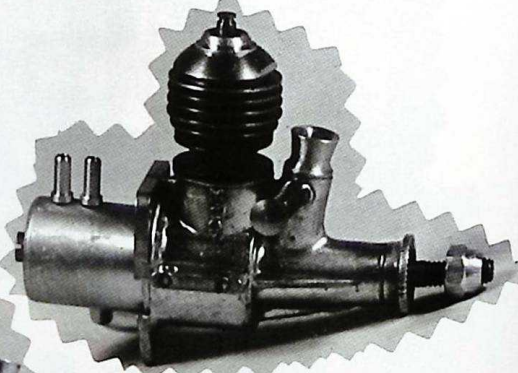


**1940 Marvin Junior 2.3cc**

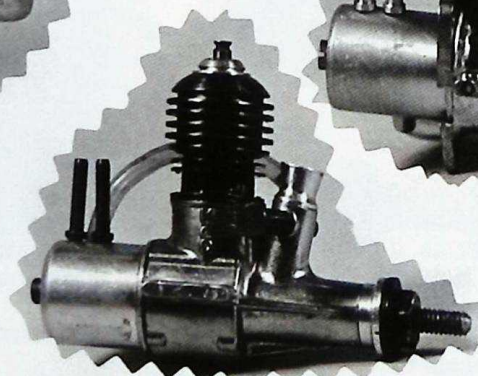
Made in Michigan, U.S.A. the later version had an enclosed timer



**2.8cc Masco Buzzard.**  
Available as a casting kit during 1948 from Model Accessories Supplies, Leighton Buzzard

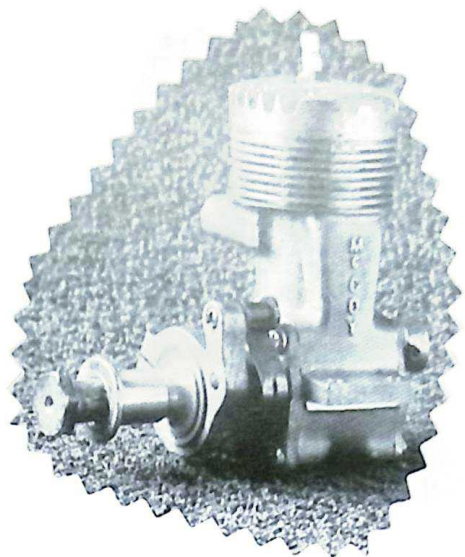


**McCoy .051, 1958**

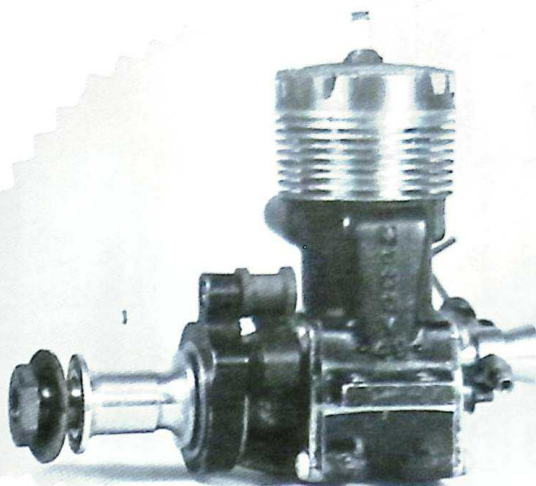


**McCoy .049 glo, 1955**

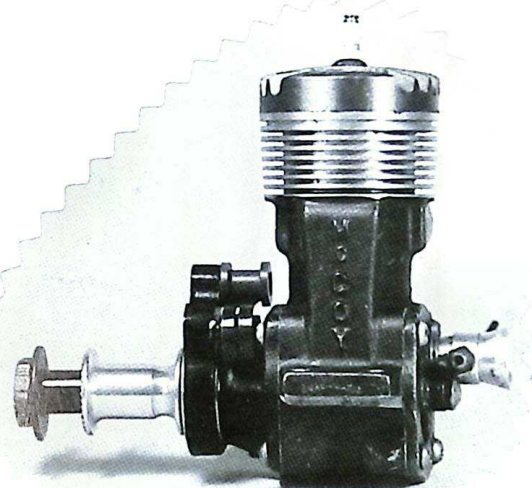




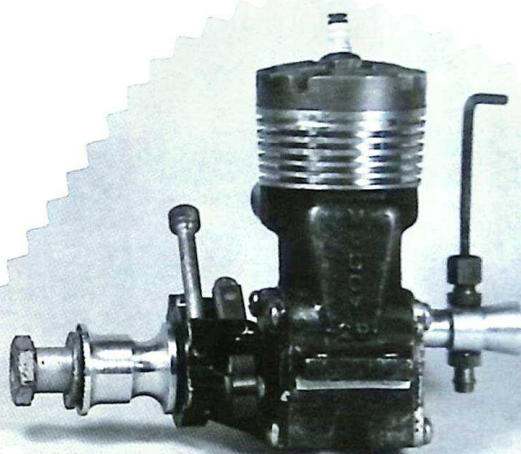
1946 McCoy .60. Natural metal finish



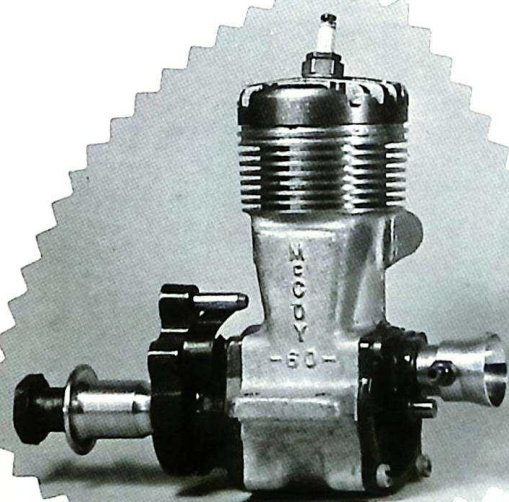
1947 McCoy .60 ign.  
Red head and Black case



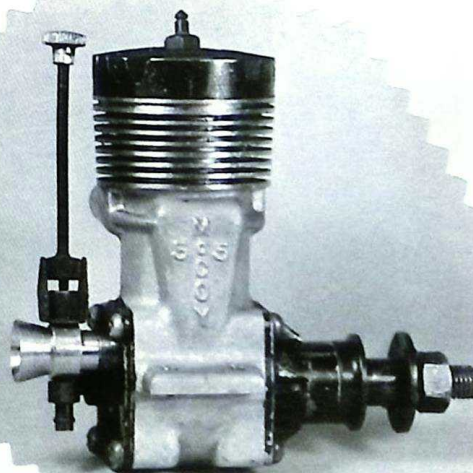
1947 McCoy .49



1947 McCoy .29

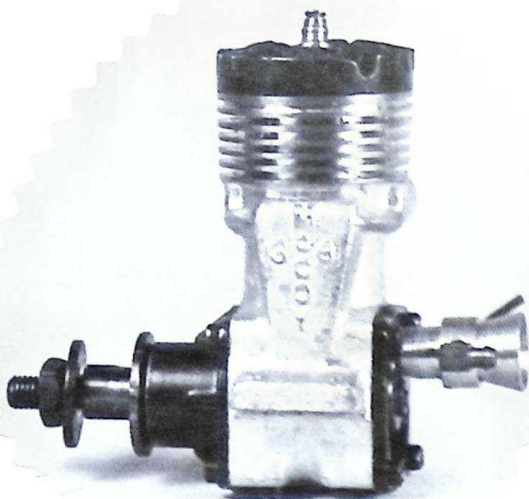


1948 McCoy .60 Series '20'

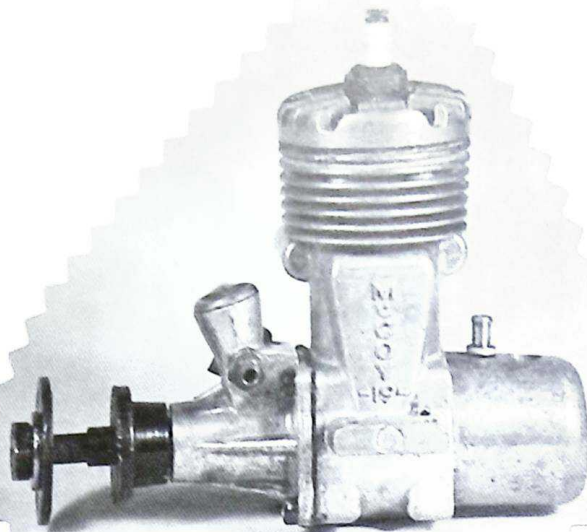


1948 McCoy 'Sportsman Senior' .55  
(9.1cc) glo Black head, front housing,  
and back plate

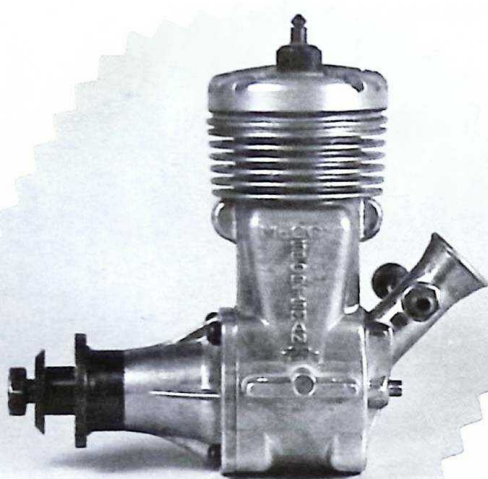




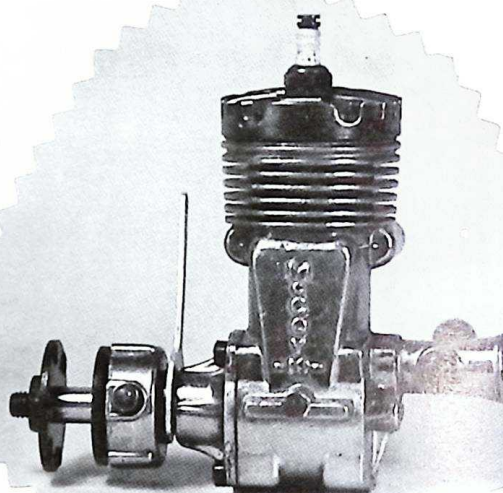
1948 McCoy 'Sportsman Junior' .36 cu.in.  
(5.9cc) glo again with black anodised parts



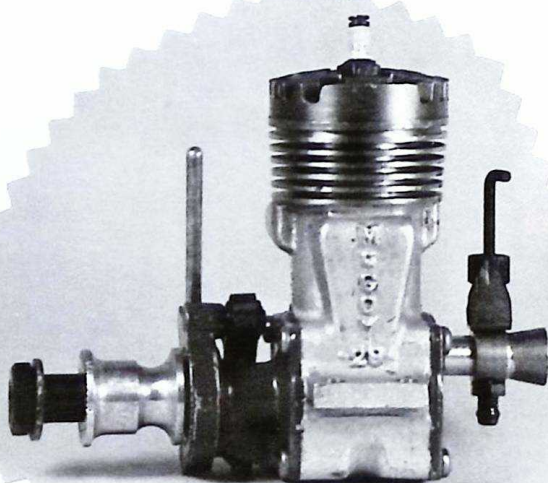
1948 McCoy .19 glo.  
All natural finish



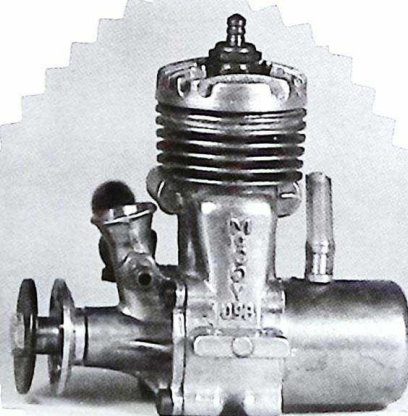
1949 'Sportsman' .29 glo



1948 McCoy .19 ign  
Red head, shiny die cast parts

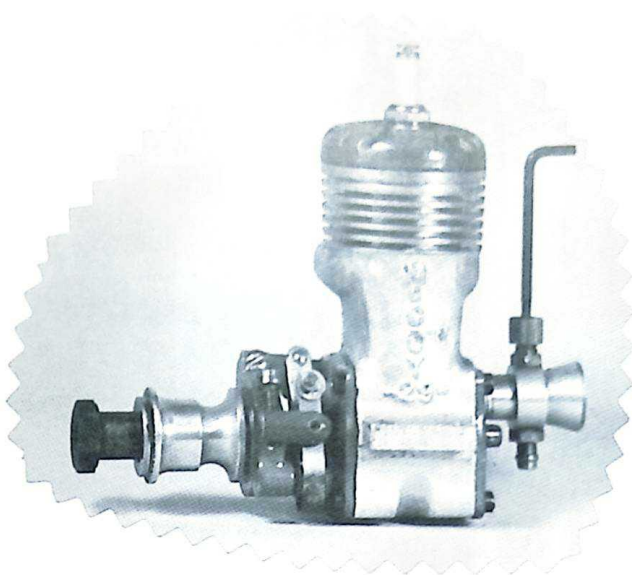


1949 McCoy 'Redhead' .29 ign

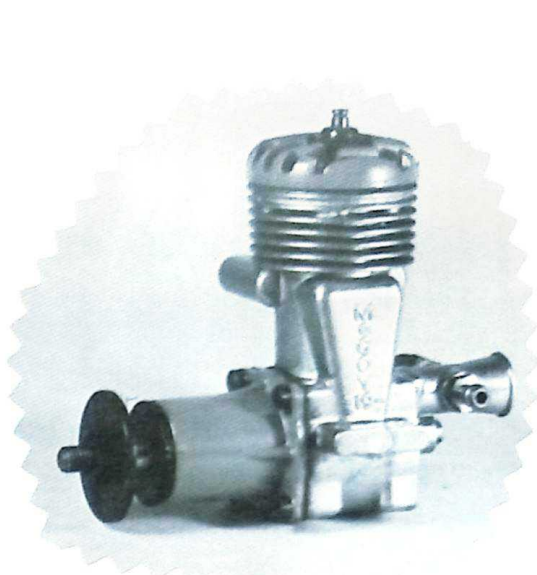


1950 McCoy .098 glo

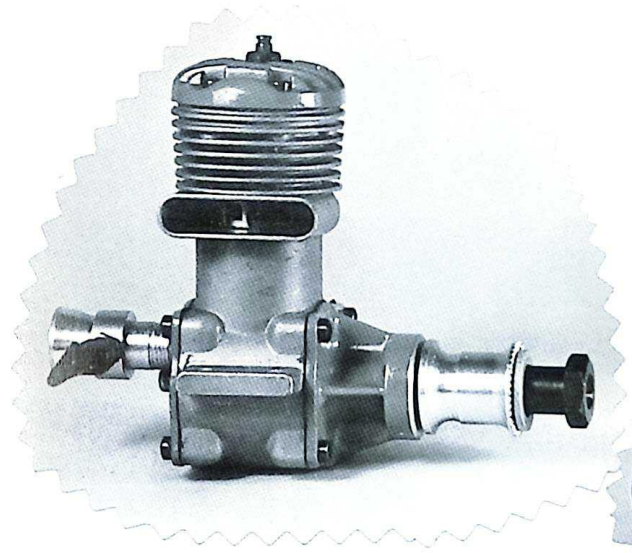




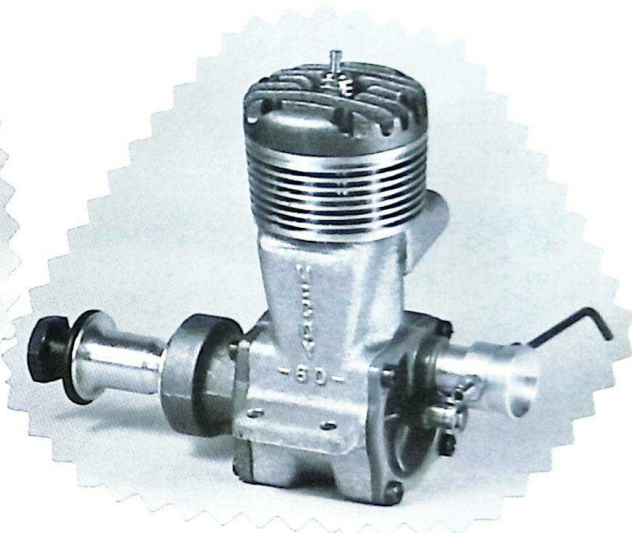
1950 McCoy 'Redhead' .29, ign



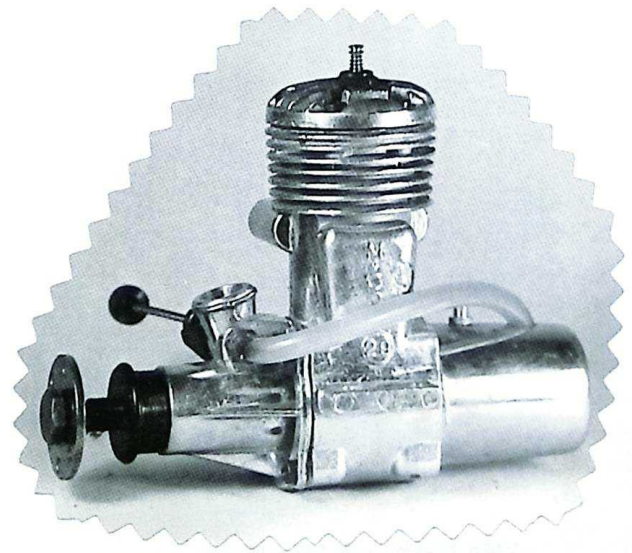
1950 McCoy 'Redhead' .19 glo.  
Red front housing. Ball bearing shaft



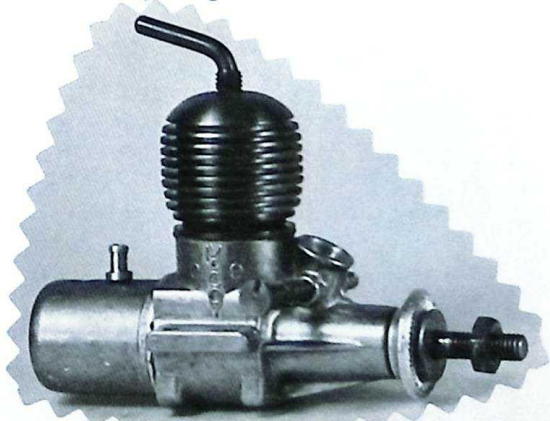
1950 McCoy 'Redhead' .29



1950 McCoy .60 glo 'Series 20'

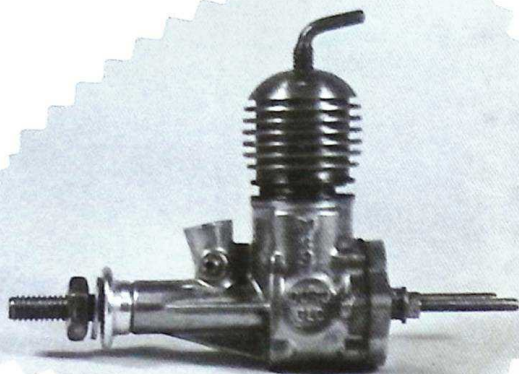


1954 'Super Stunt' .29 glo  
All natural, polished finish

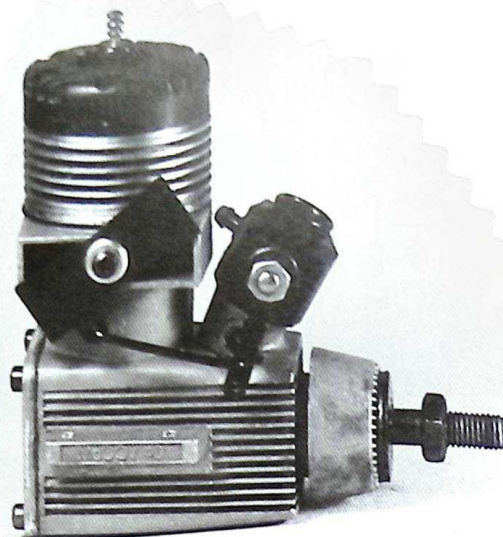


1954 McCoy .09 diesel

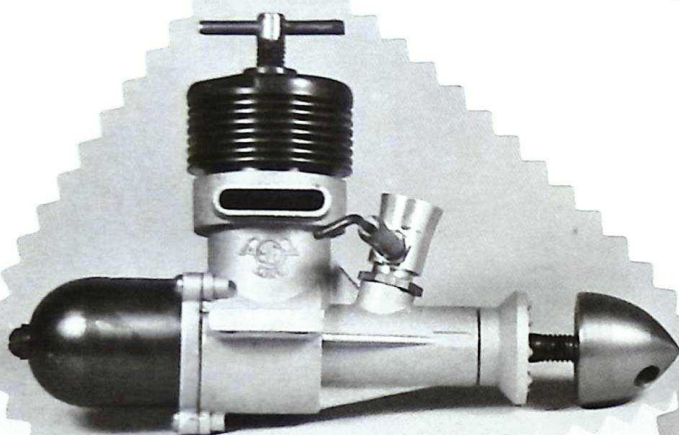




1953 **McCoy** .049 diesel  
Later version in '54, had beam mounts

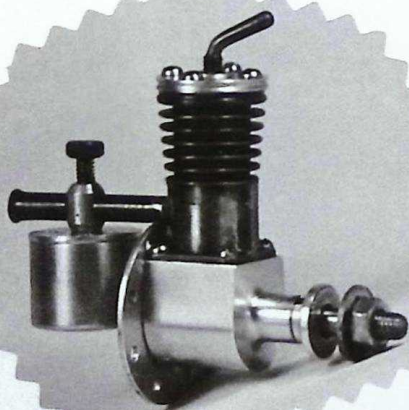
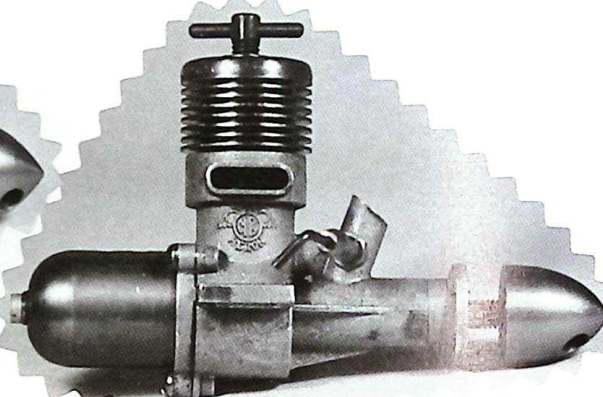


Testors produced the **McCoy** .40 from 1971

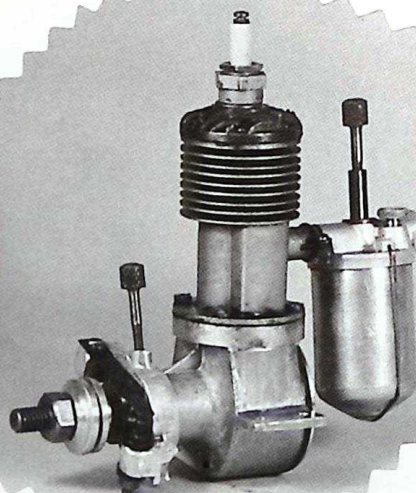


1960 M.E. '**Snipe**' 1.5cc

1960 M.E. '**Heron**' 1.0cc  
Produced by Marown Engineering on Isle of Man

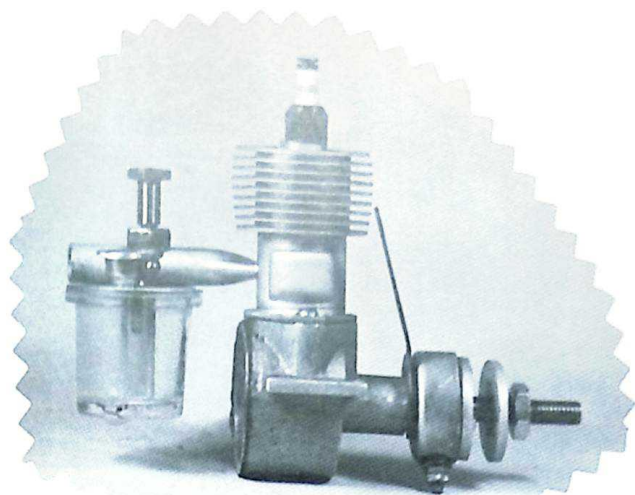


**M.E.C.** 1.2cc 1948. Sold through  
Premier Model Supplies, London

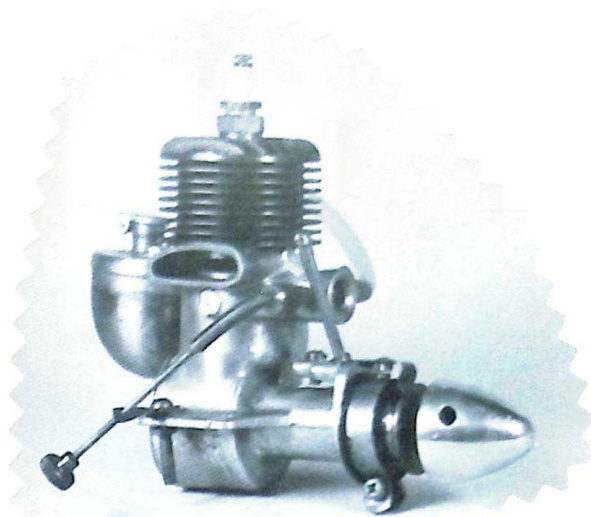


1946 **Mechanair** '**Red Head**'  
Made in Birmingham. A rugged unit of  
5.9cc. Developed from the Astral 5.9cc  
from Leeds 1946

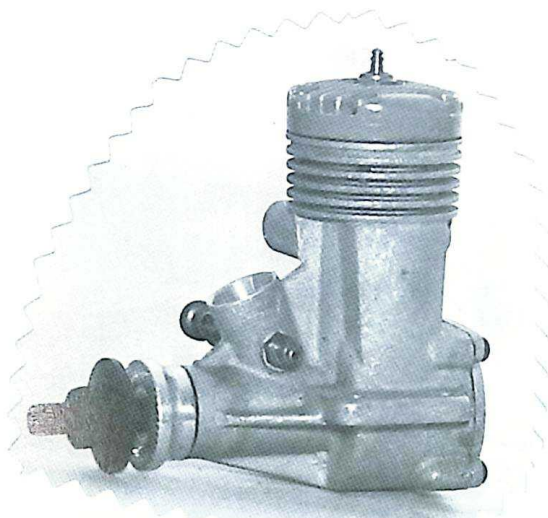




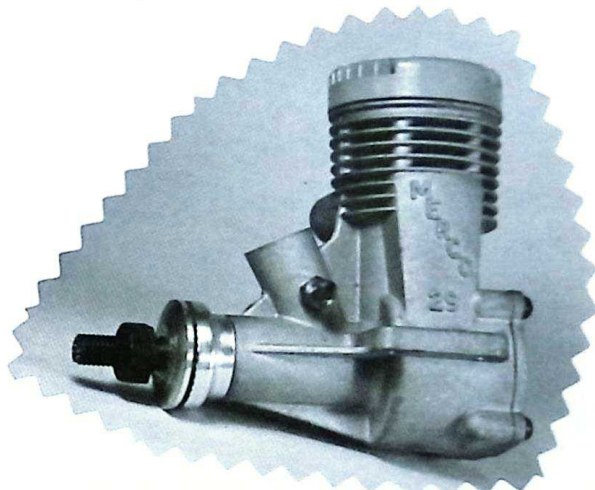
1940 **Megow** .19 ign. from Chicago, Illinois



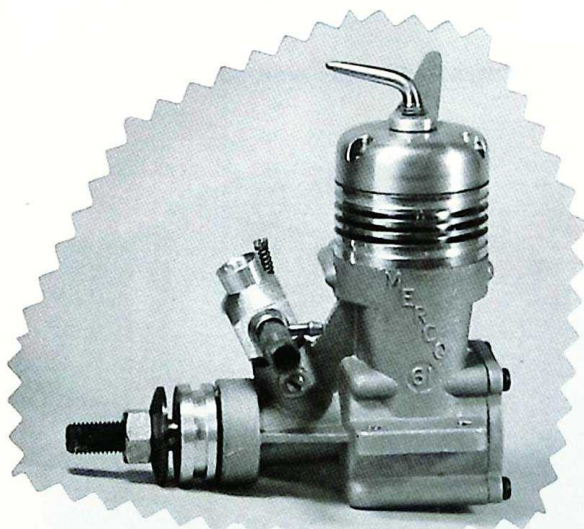
1946 **Melcraft** 'Blue Streak' .29. Very dark blue cylinder fins. From Michigan



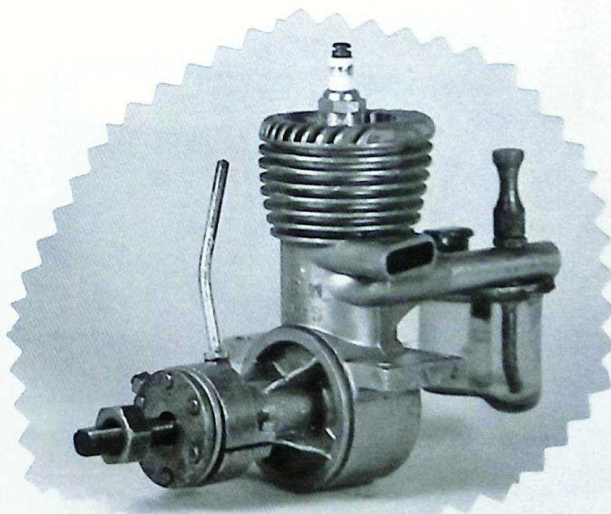
Pre-production **Merco** .29 Stunt



Production version **Merco** .29 Stunt. Available as R/C in .29 and .35 sizes. Orange cylinder head

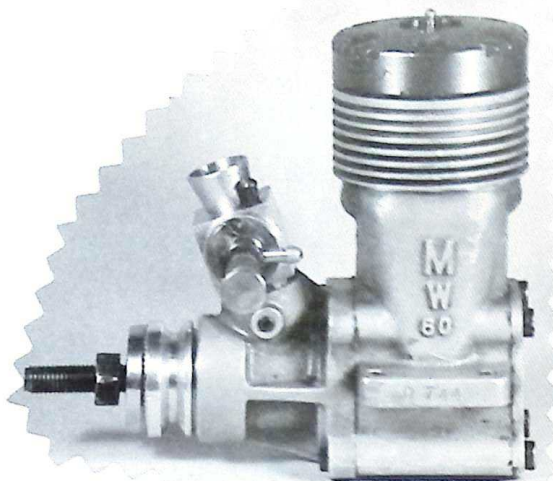


**Merco** .61 with Davies Diesel Conversion

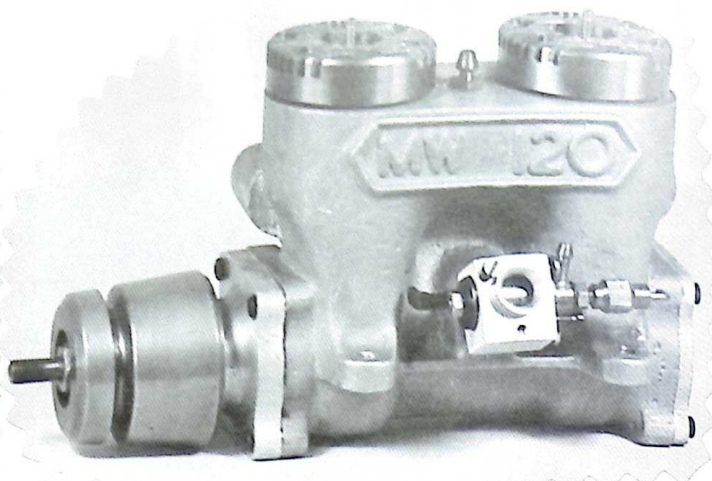


1946 **Merlin** .24 ign. from Ontario, Canada

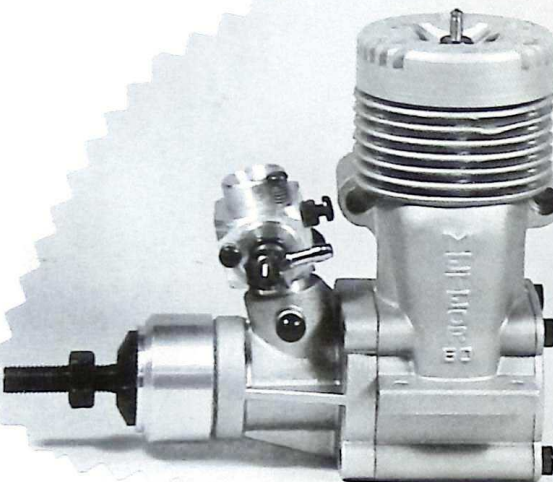




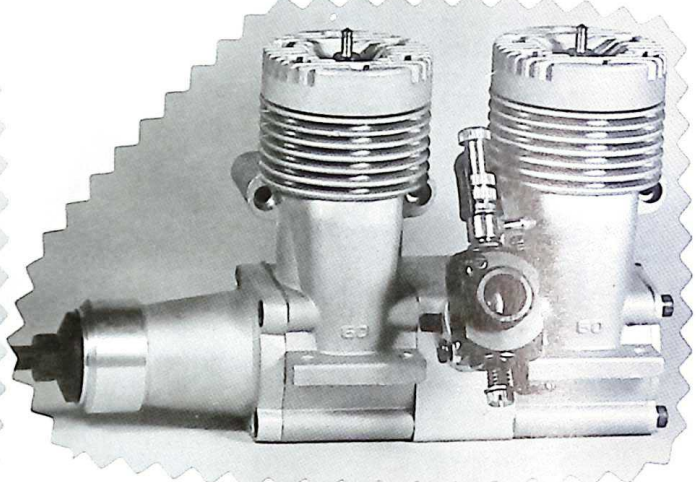
**Mid-West .60.** Made in the Birmingham area in the Mid 70's, few made



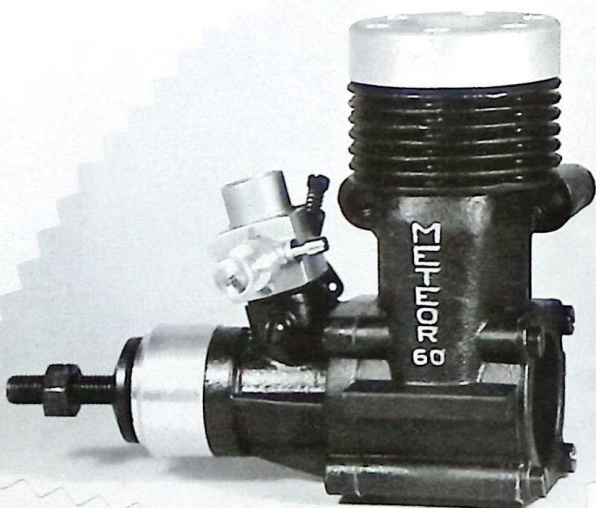
Experimental **Mid-West 1.20cu.in.**



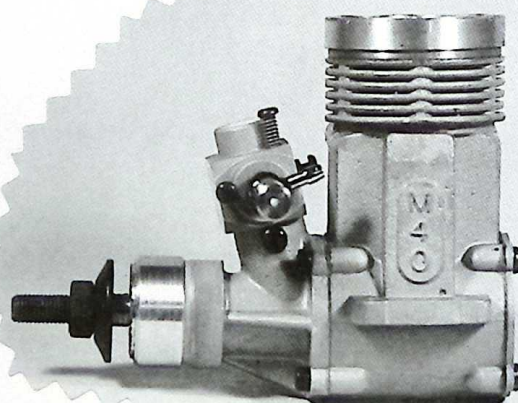
**Meteor .60** Developed from the Mid-West engine



Prototype 120 cu.in. twin

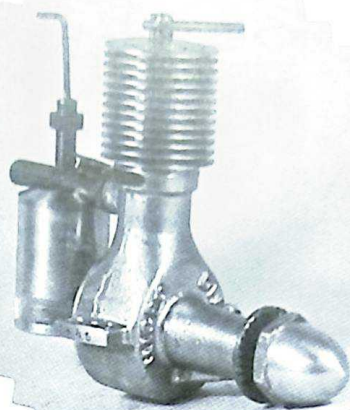


Series II **Meteor 60** with black case

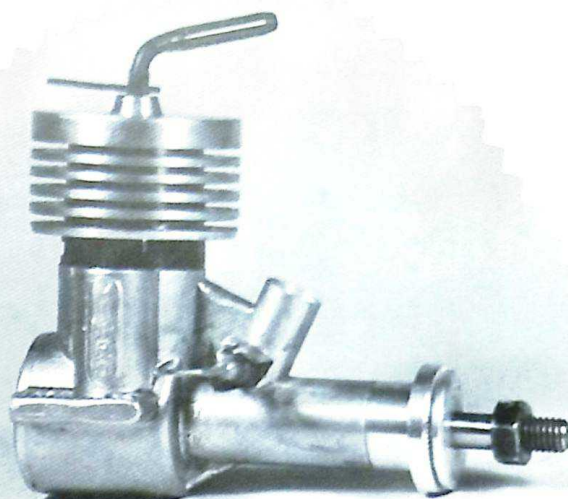


**Meteor 40**

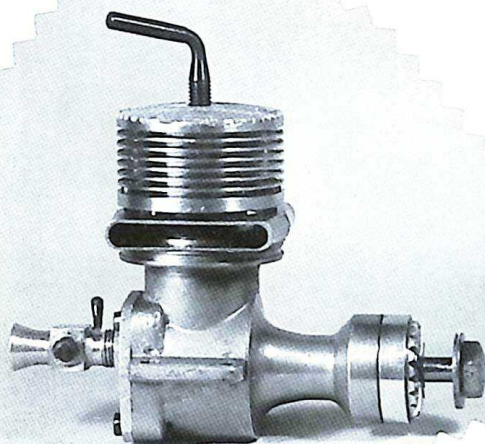




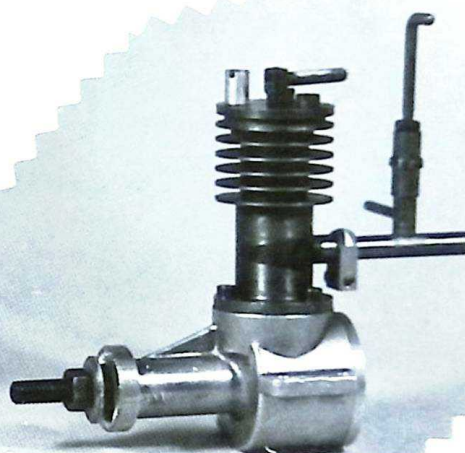
1948 2cc **Micro Diesel** from Detroit, another one of my favourites. It has the feel of a well oiled Mills 1.3



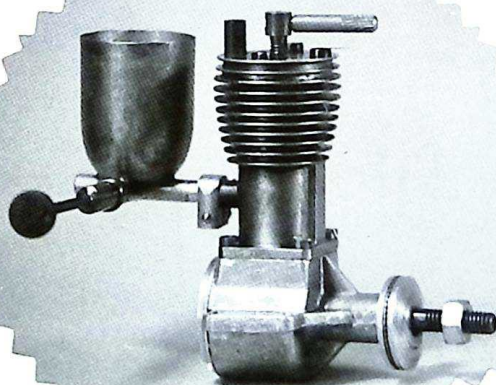
**Mikro 3.5cc**, 1965 from Czechoslovakia



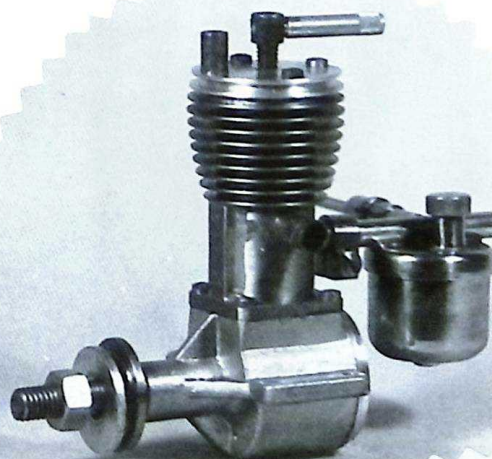
**Mikro 5cc**, 1960 from Czechoslovakia



1945 **Micron 2cc**, pre-production model. Designed by Mr A. Gladieux, Paris, France

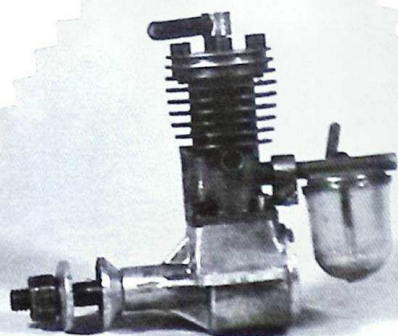


1946 **Micron 2.8cc**

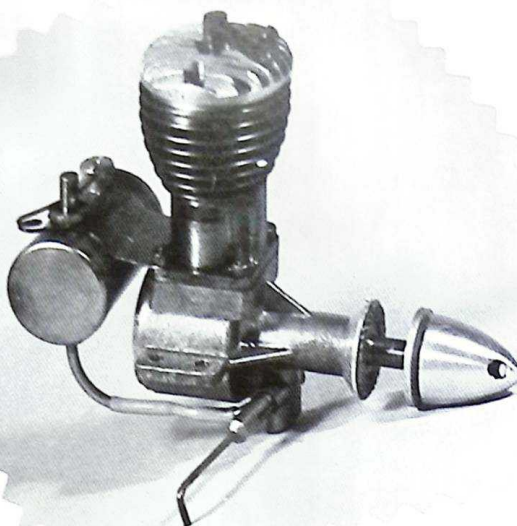


1946/7 **Micron 2.8cc**

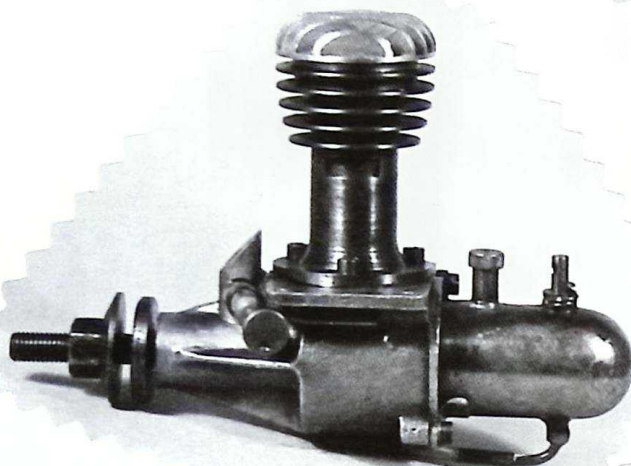




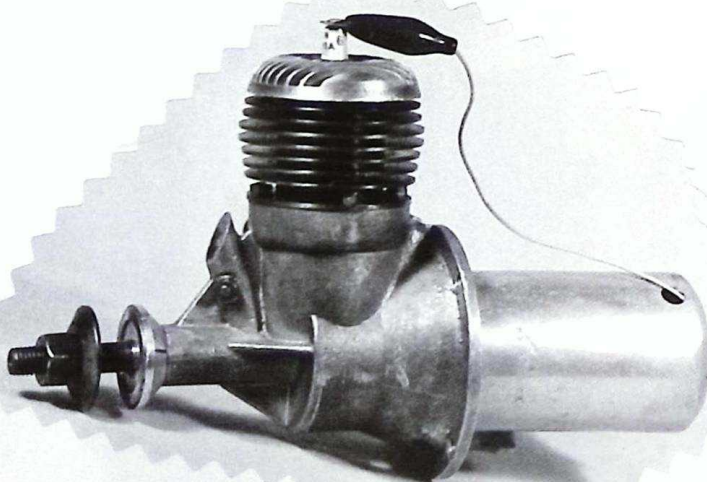
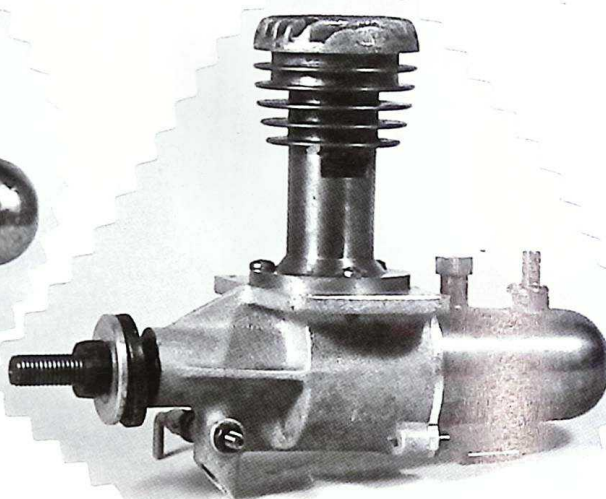
1946 .8cc Micron



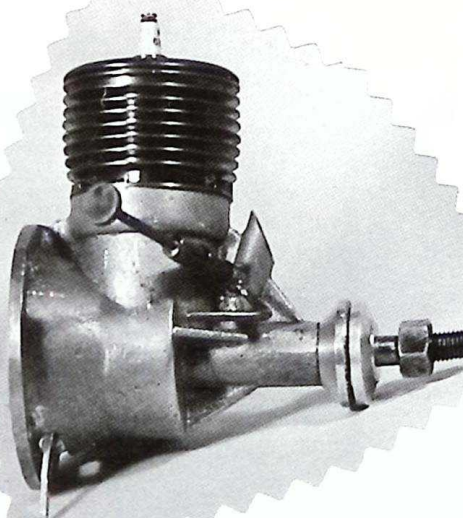
1948 Series II Micron 2.8cc



Two versions of the 1946 **Micron** 5cc fixed compression diesel. One of the most successful contest engines of the late 1940's



1947 **Micron** 10cc ign. with magneto

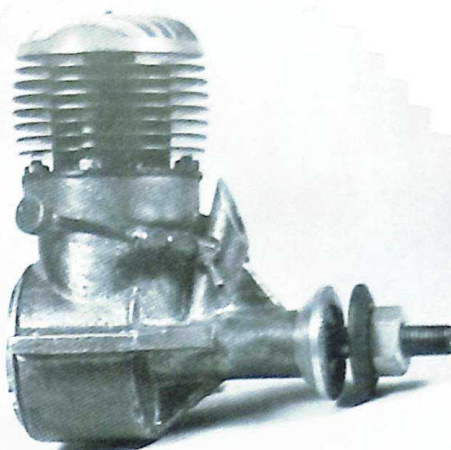


1948 **Micron** 10cc ign.

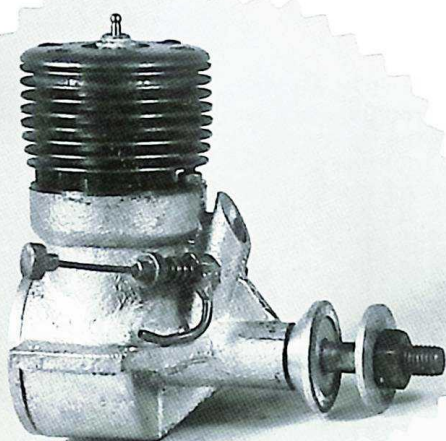




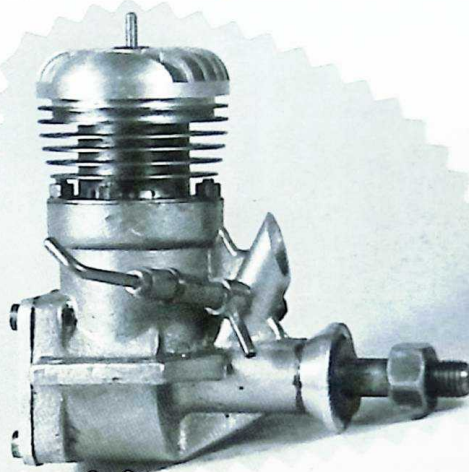
Another view of the **Micron 10cc ign.**, showing how well the points are kept clear of oil and dirt.



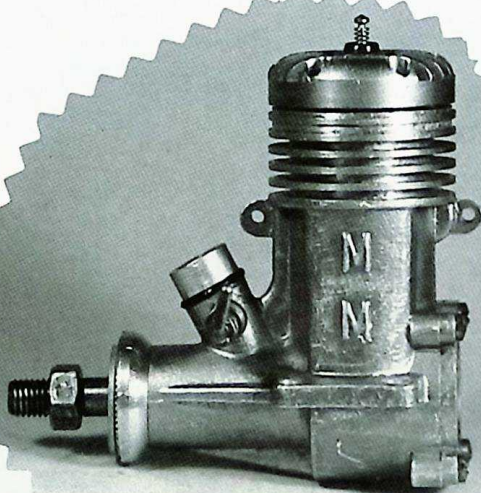
1950 **Micron 10cc glo**



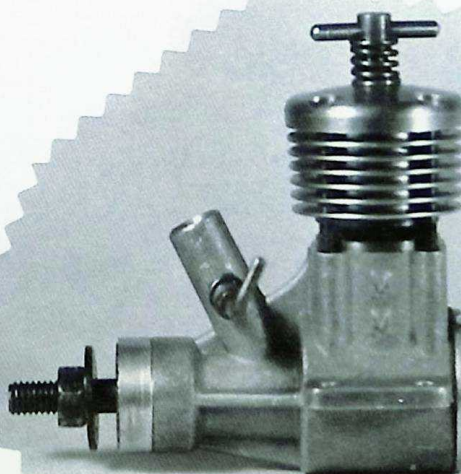
Series II **Micron 10cc glo**



1950 **Micron 5cc glo**

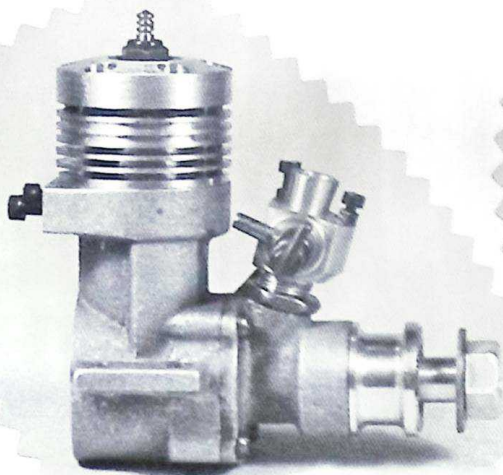


**Micron .29cc glo.** Stunt 1974

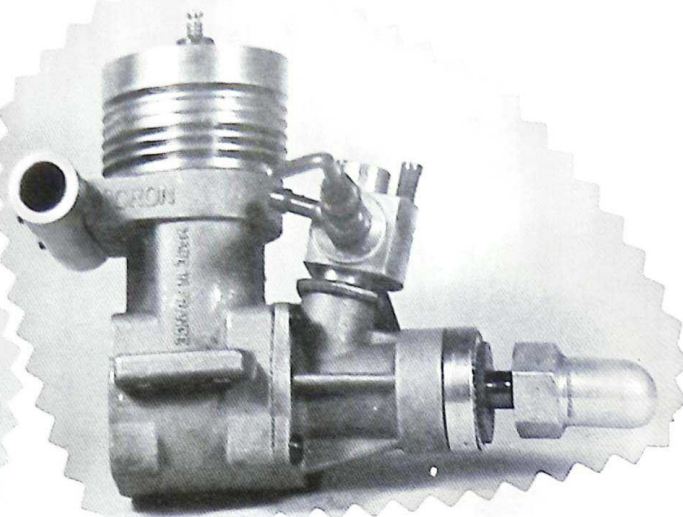


**Micron 2.5 cc 'Team Race' diesel** of 1975

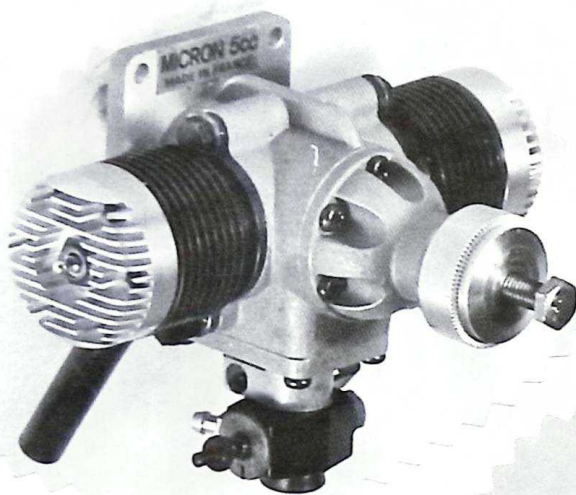




Pre-production, sandcast  
**Micron .21** (3.5cc), 1974

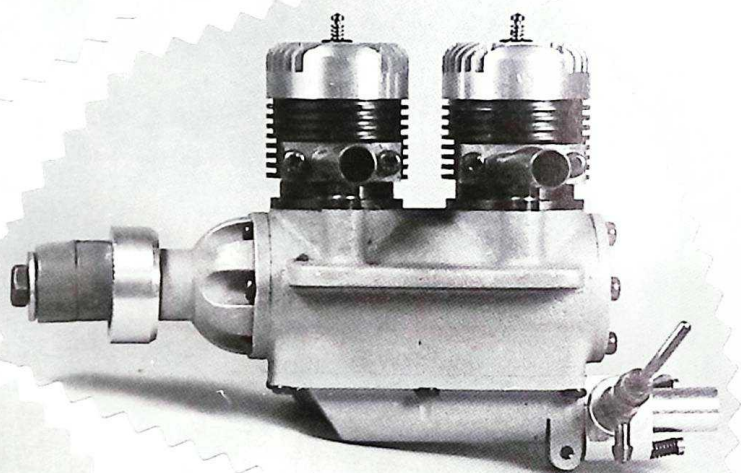


Production **Micron .21** 1974/5

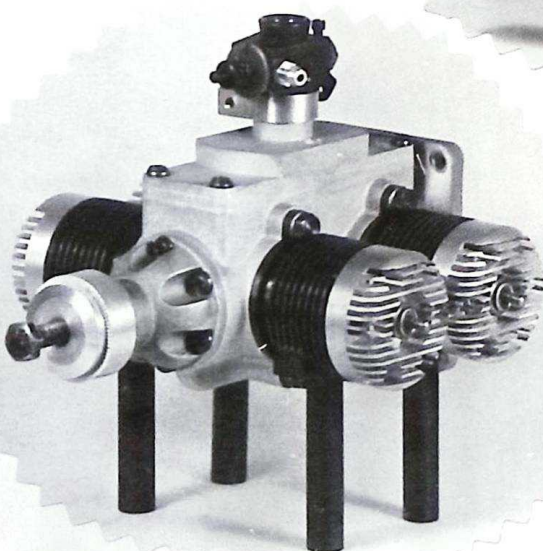


**Micron 4.9cc** twin

In 1975, Micron produced a run of multi-cylinder engines. They were a bit on the heavy side for their size, for practical purposes. They were beautifully made, but expensive

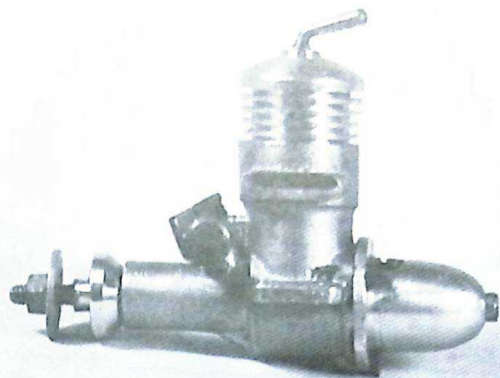


**Micron 5cc.** In-line twin



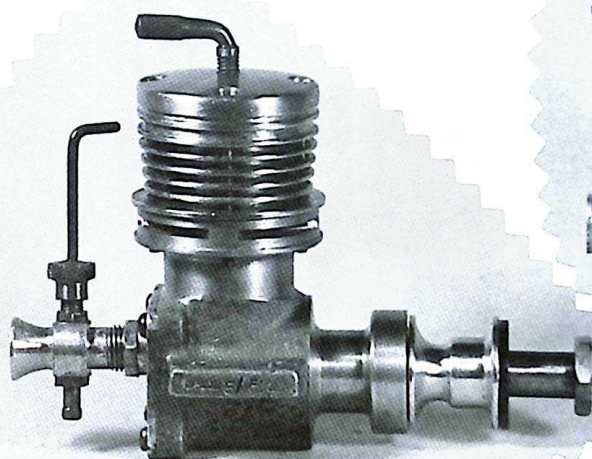
**Micron 10cc** 4 cylinder glo



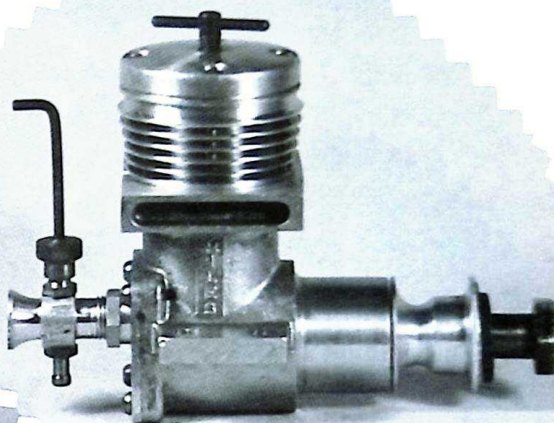


**Miles .054 cu.in. (.9cc) prototype**

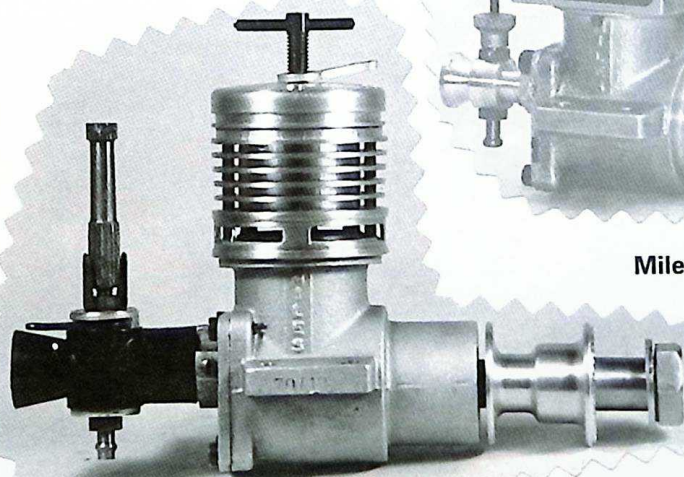
Basil Miles was greatly involved with the design of the E.D. 2.46 Racer. He started to produce his own design engines from his garden workshop in Ewell, Surrey in the late 1940's. By the early 1950's, his 5cc diesel was well known. 'Steam' must have been coming out of his workshop windows, as he burnt the midnight oil turning out such a different array of engines, often to special order. The following pages are a tribute to his work.



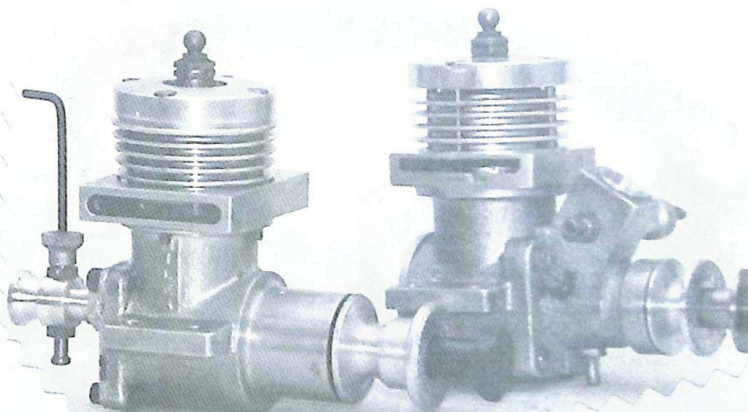
**1951 Miles 'Special' 5cc Series I**



**1953 MK II 5cc**



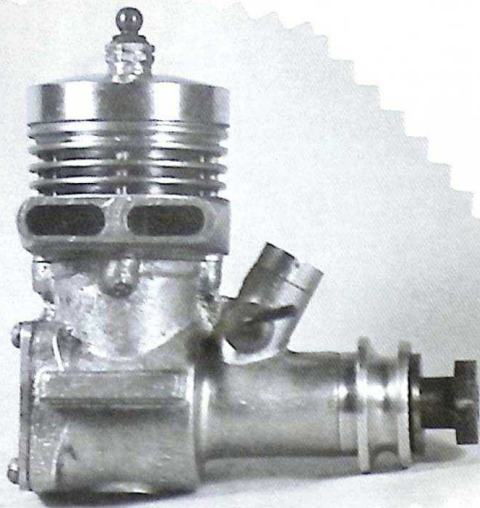
**Miles 5cc. As produced by E.D.'s in the 1970's**



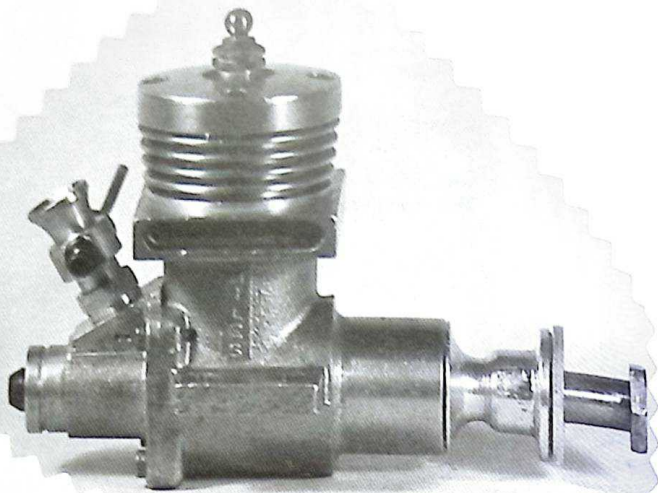
**Miles 5cc glo**

**Miles 'Special' Re-worked to a .40 cu.in. for Rat-Racing**

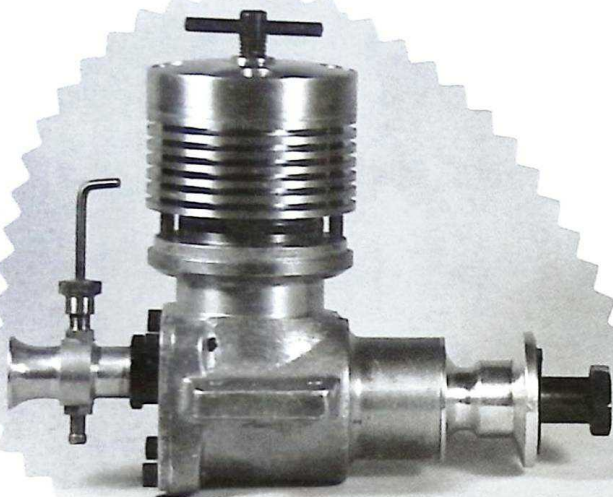




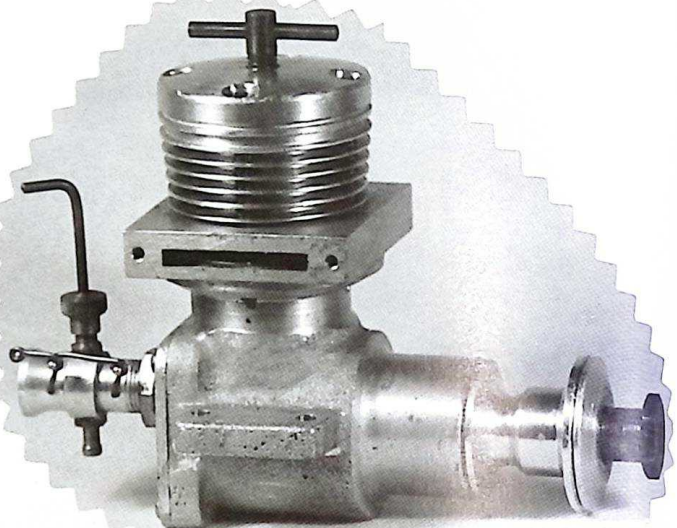
.35 glo, Stunt



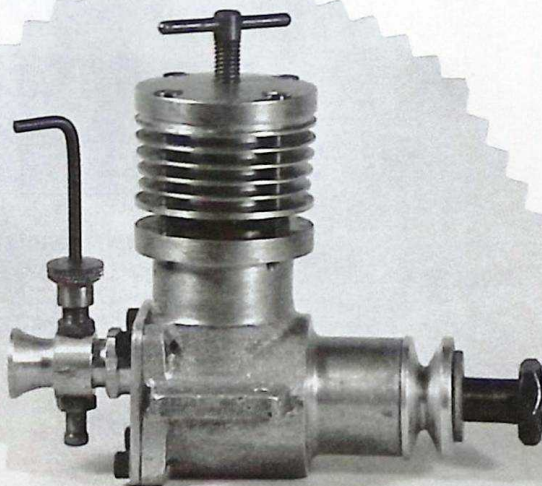
.35 glo, Drum Valve



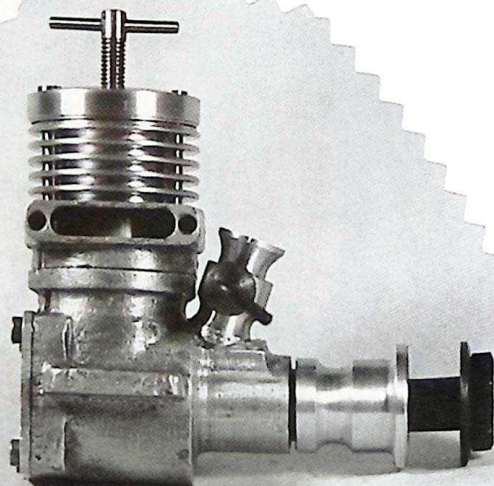
10cc diesel. Powerful but docile  
on a 14" x 6" 'Truflex' prop.



8cc diesel. Fitted with 'butterfly' throttle

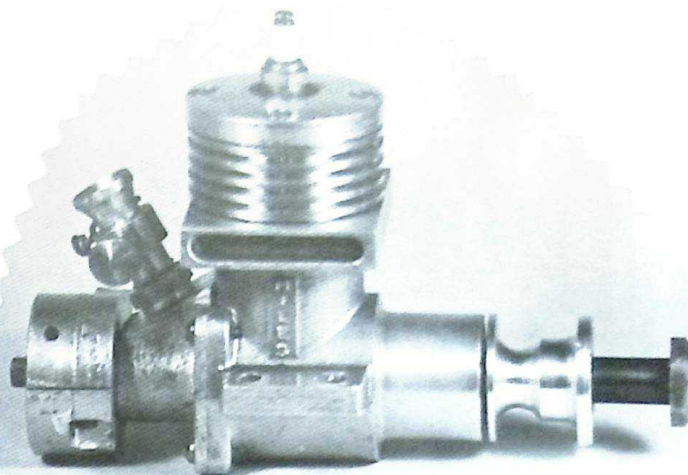


3.5cc diesel, rear disc valve

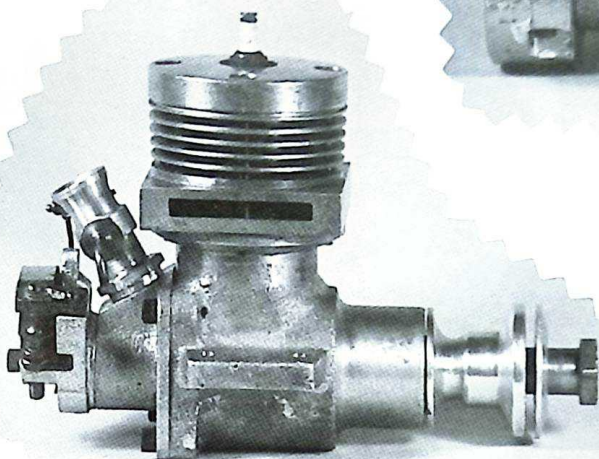


3.5cc diesel, front rotary valve

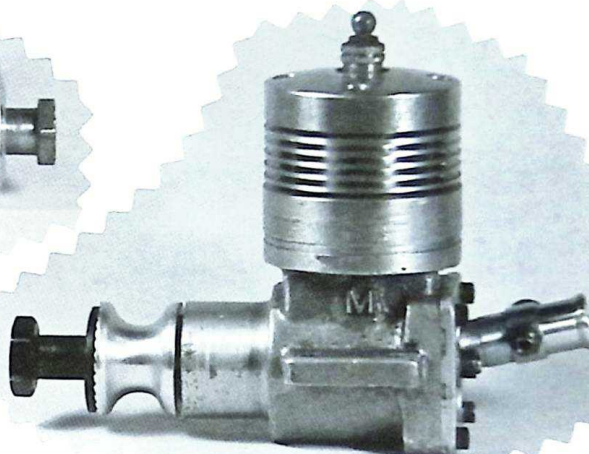




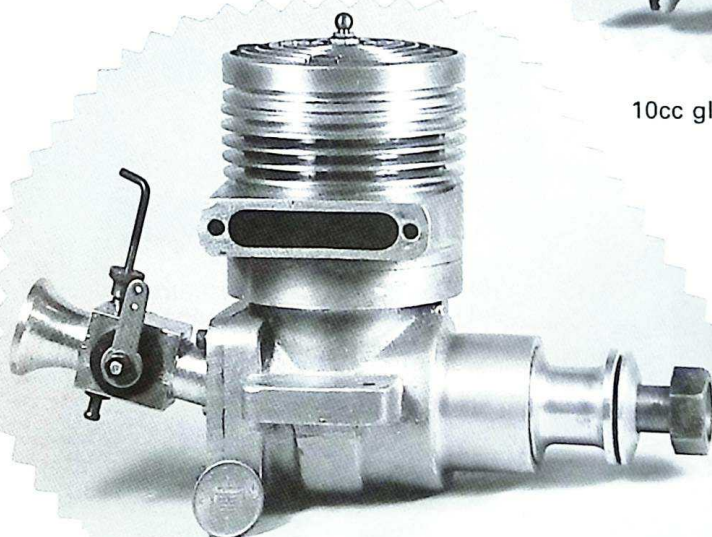
Miles 5cc ign



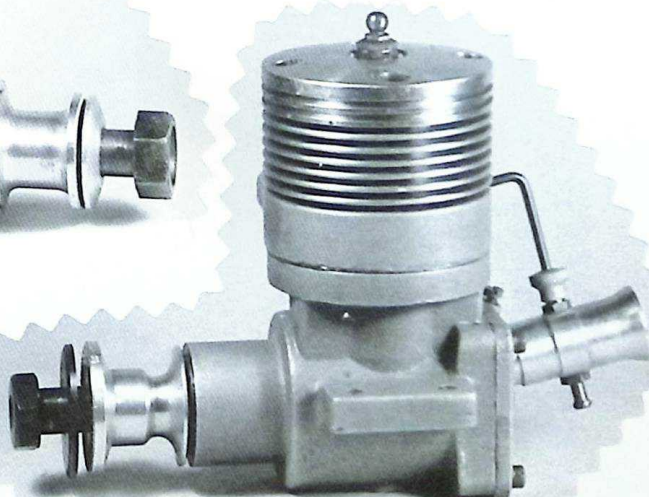
Miles 10cc ign. Has a coupled 'butterfly' throttle to ign. advance and retard



10cc glo, 'Schnuerle ported'

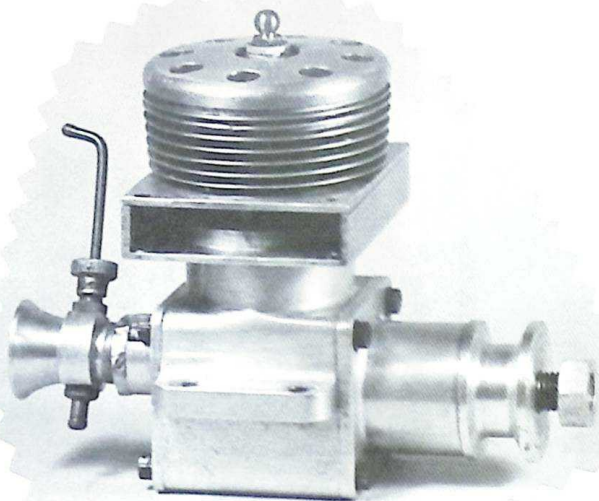


25cc glo. Side exhaust. That penny almost slides down the carb intake!

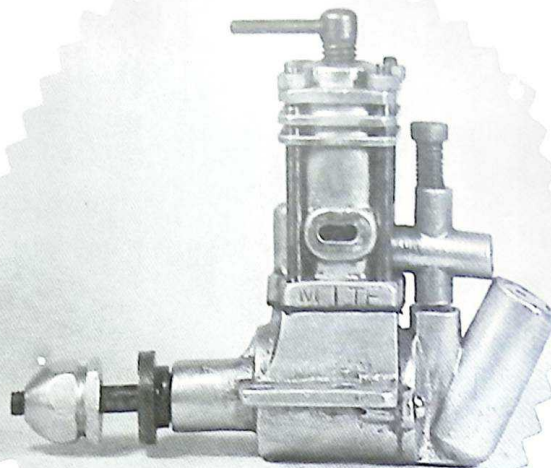


15cc. Side exhaust glo

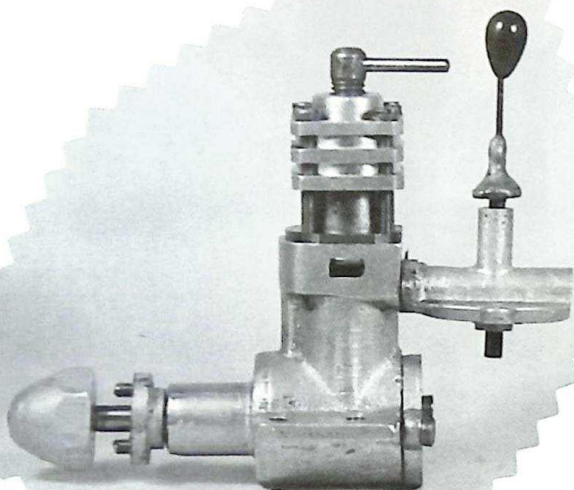




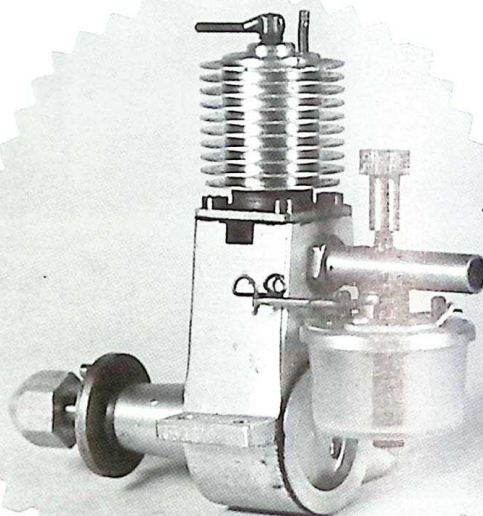
The first 10cc prototype Miles, to test the porting



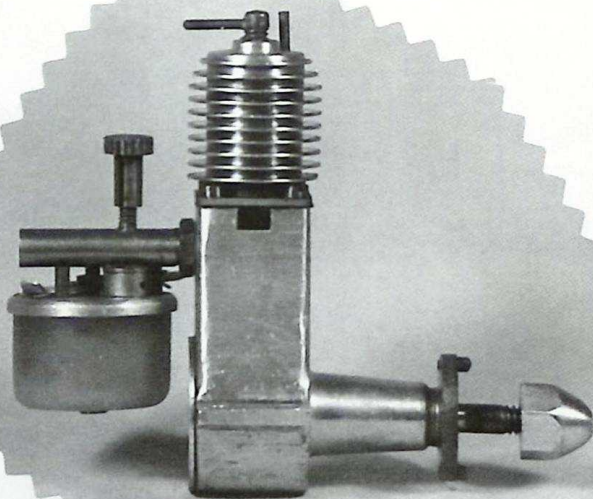
1947 Milford 'Mite' of 1.4cc. Some say the 'Mite' is whether it goes or not!, but this one runs well. Made at Harrow, Middlesex



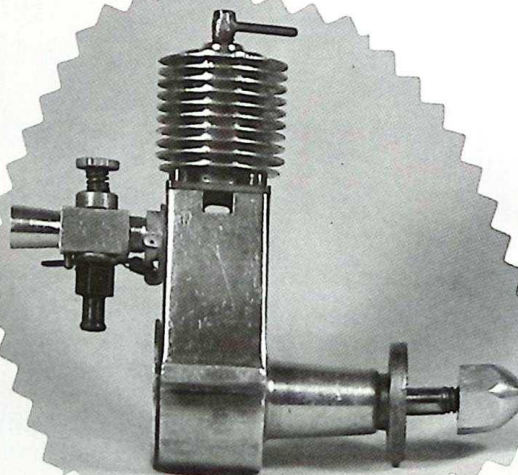
Mk II Milford mite, few made



Mills 1.3cc Mk I. Manufactured by Mills Bros, Holborn, London. July 1946



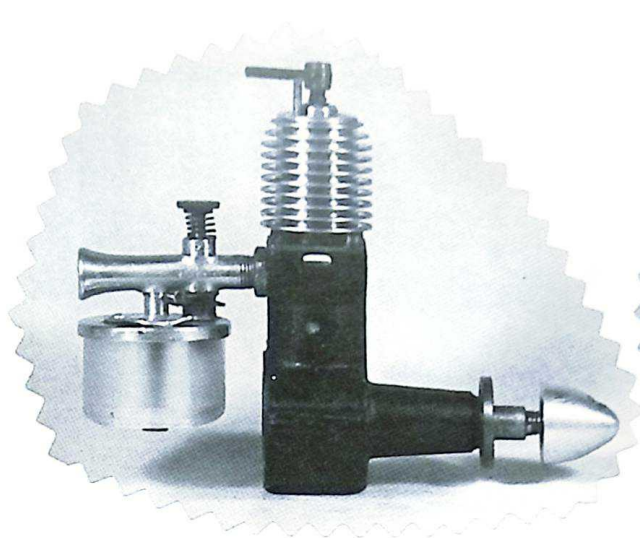
Mills MK I Series II, from March 1947



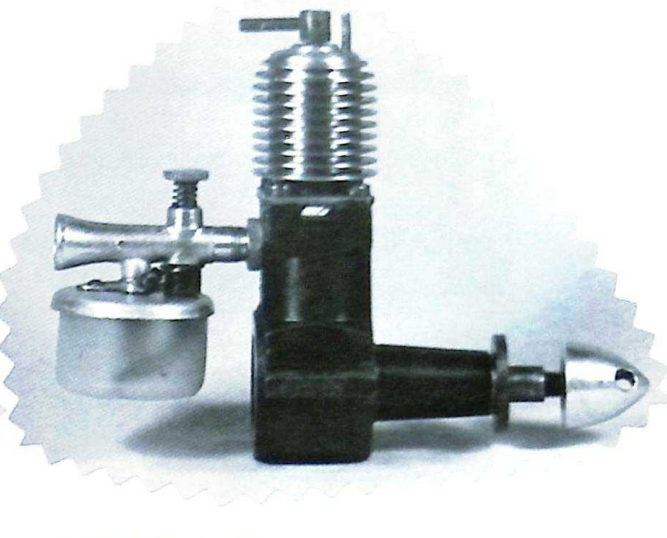
MK I fitted with Mills throttle control. Simple but effective



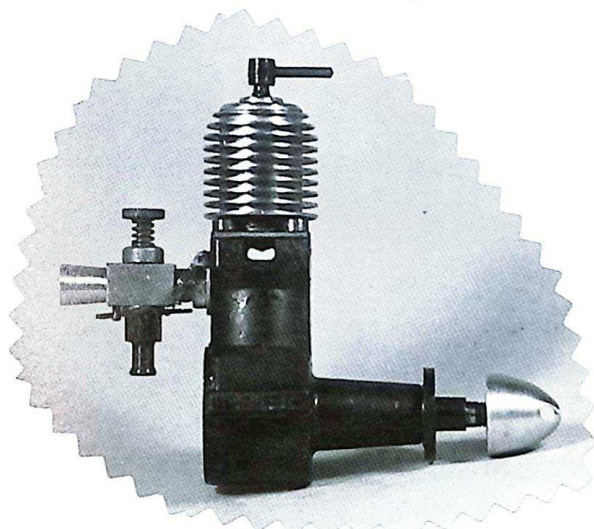
As the MK II Mills' were made from magnesium, they were anodised black to stop oxidation. It also gave them a look of quality to match their performance



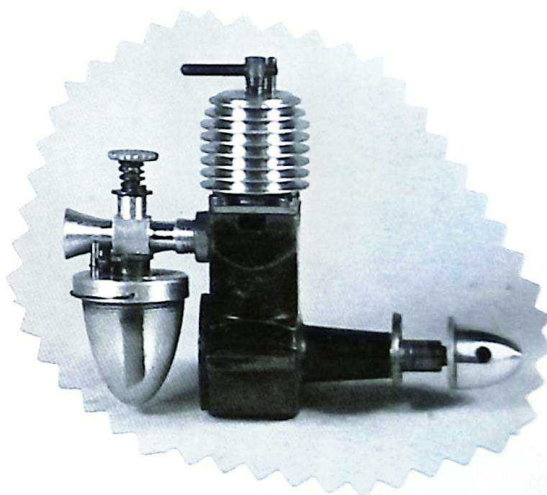
Mills 1.3 MK II Series I from May 1948



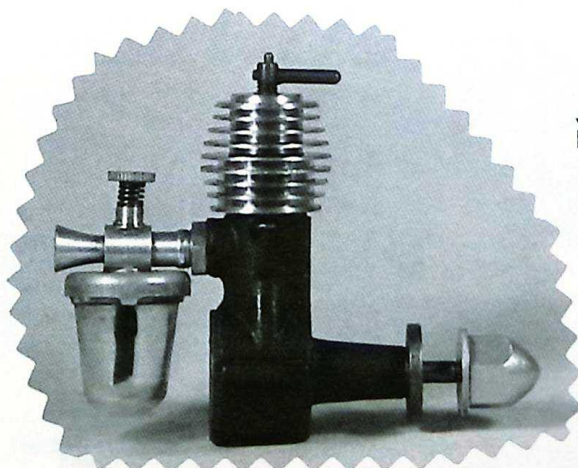
1.3 MK II Series II  
Note lower induction intake, which  
boosted the power slightly



MK II, with throttle control. Sold by Mills  
as an accessory for 8s 6d (that's 42½p!)

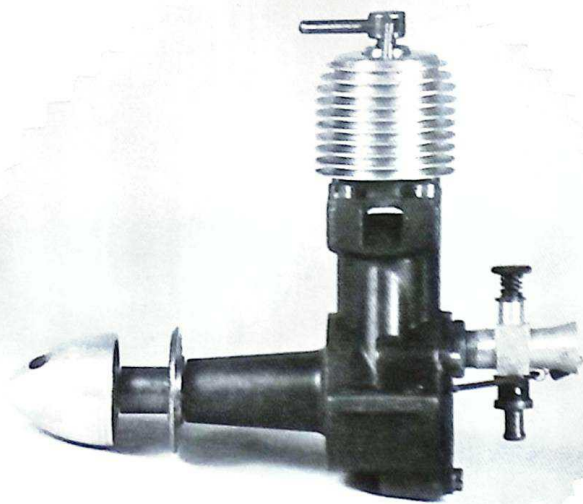


1948 Mills .75cc

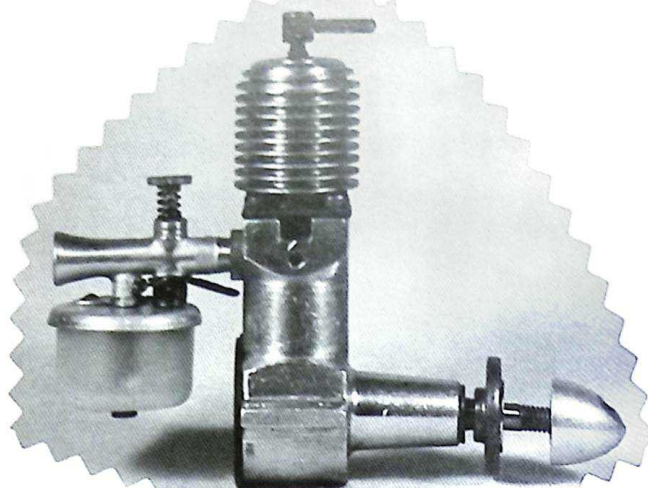


Just about everybody's favourite  
Mills P .75cc from Dec 1949

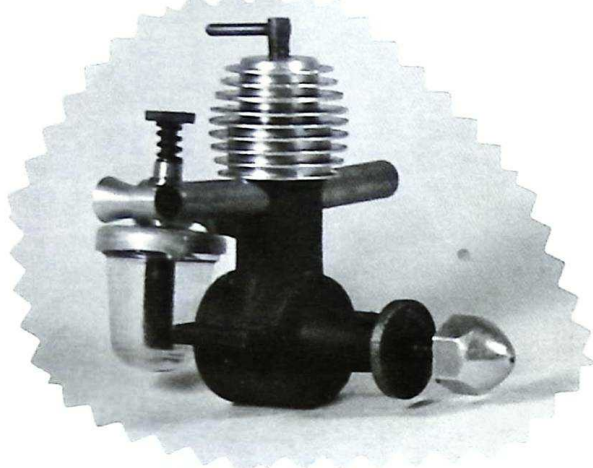




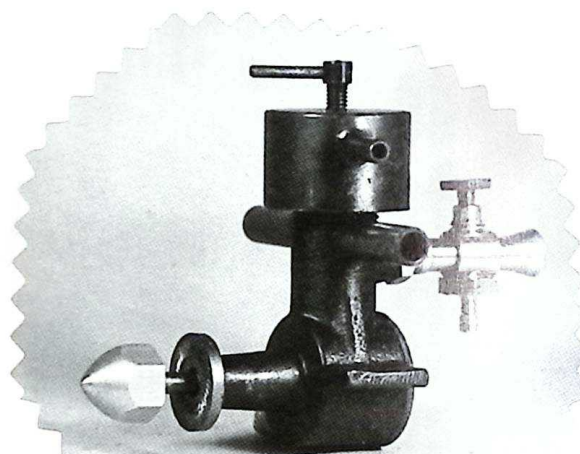
1949 Mills 2.4cc. Low number made as it was out- performed by its competitors



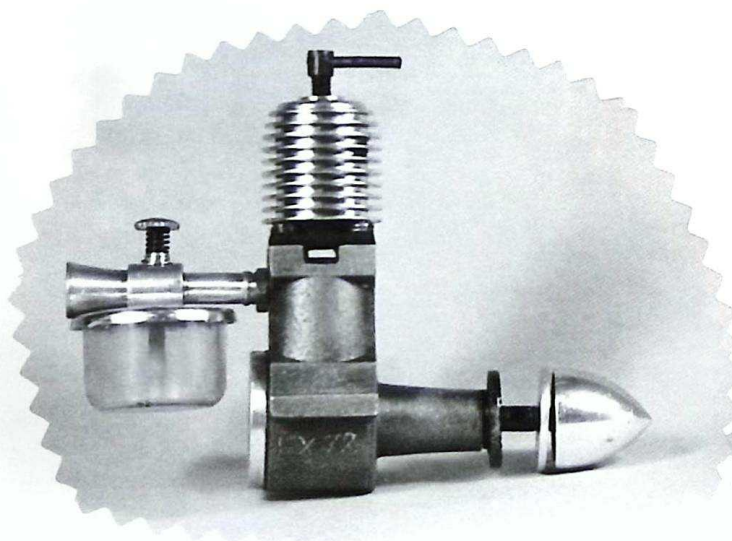
In June 1948 a few Mills 1.3 MK II's were made with aluminium c/case and drilled and tapped below exhaust, to take a small exhaust pipe fitted each side



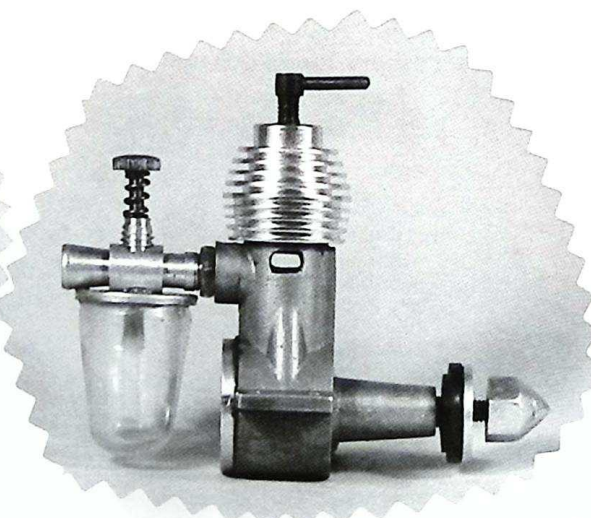
This P.75 has the screw-in exhaust pipes on the c/case used for the marine version



A Mills .75 sold as a marine unit

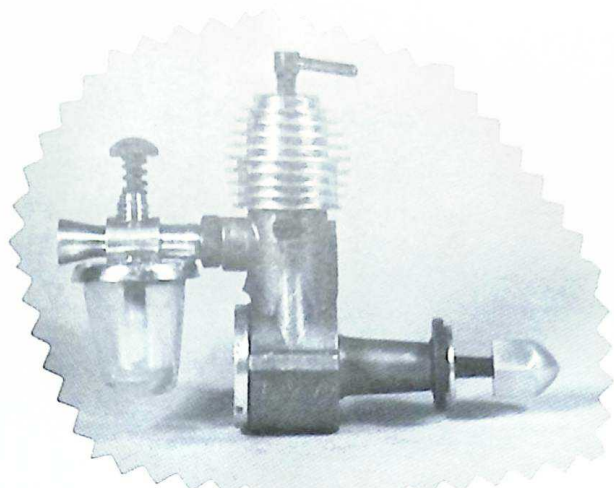


During the 1970's, the Aurora Co. of India bought the Mills tooling. Above is their 1.3

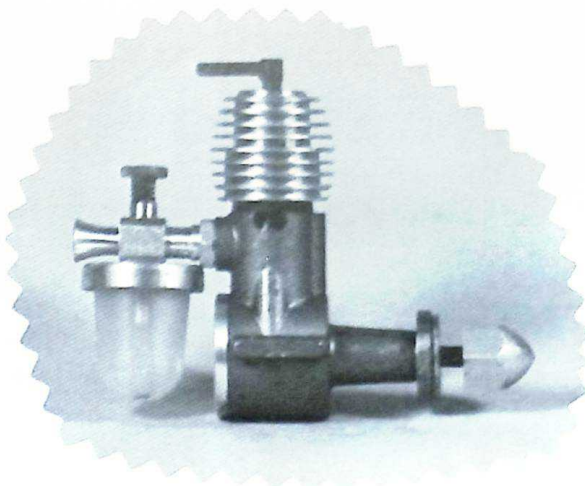


Series I Mills .75, made in India. Running fits could have been better!

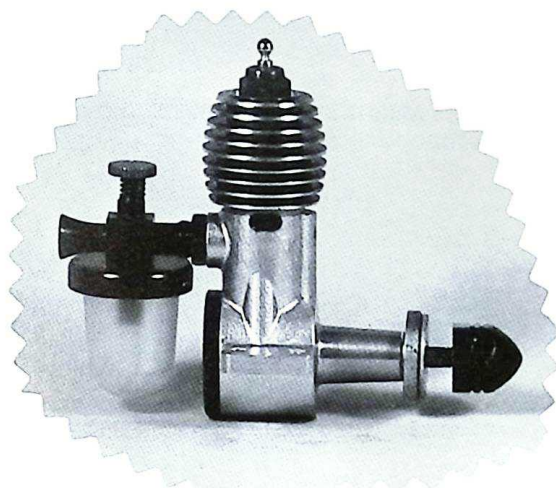




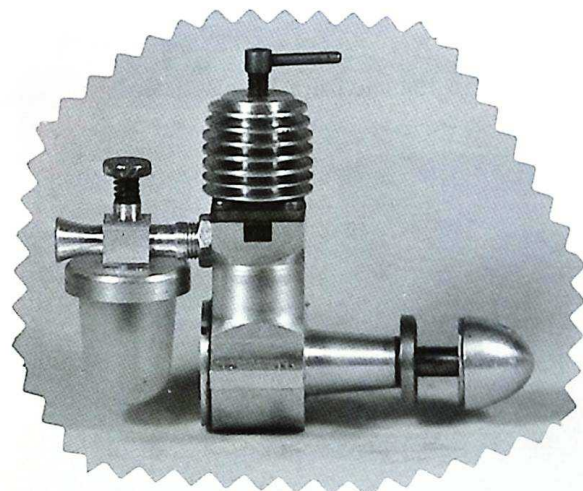
Series II .75 from India. It looked, felt and ran better



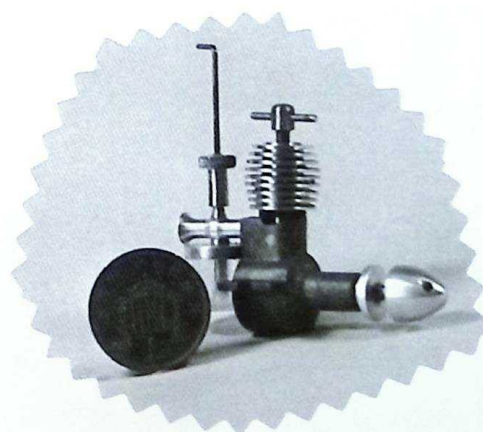
Gordon Burford, of Taipan engine fame, produced a run of 'copy' Mills .75 in 1974. Known as the '**Doonside Mills** .75'. The Series I is shown above. The Series II is shown below. Note the case strengthening webs. The cylinder heads were anodised various colours.



Number 20 of a run of 20, **Doonside** .75 glo, with black anodising

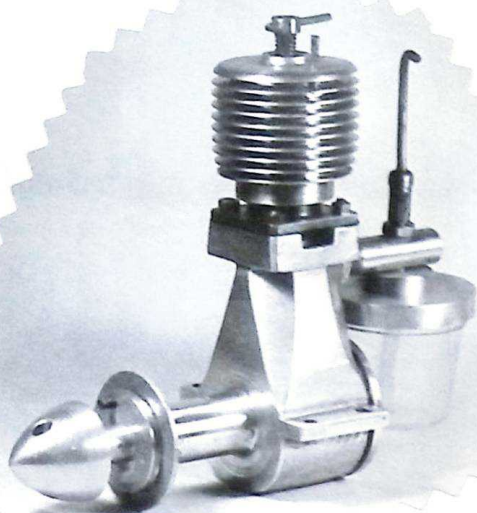


Experimental **Doonside** MK I Mills .75

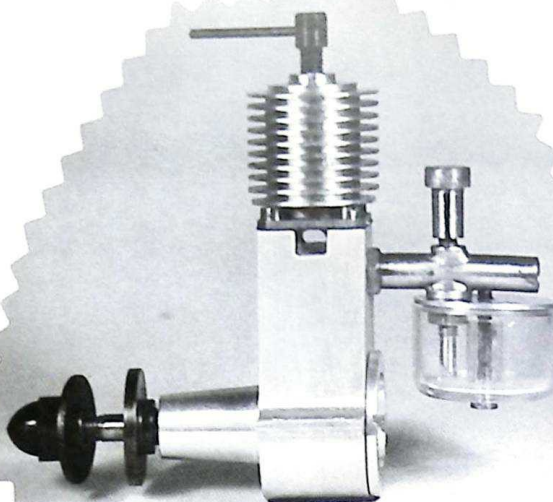


One of a pair of .2cc prototypes built by Mills at Woking

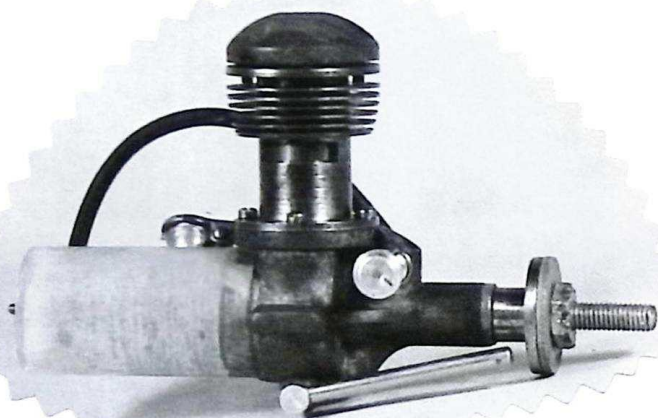




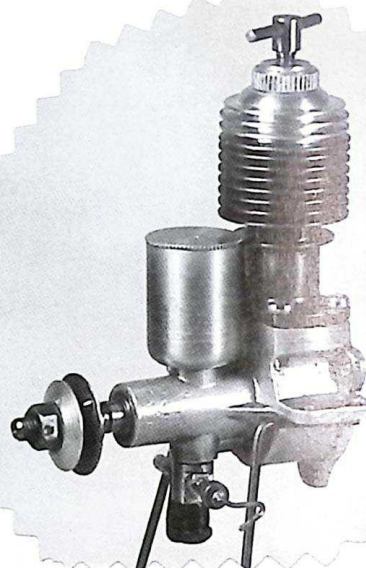
An experimental 5cc Mills from their Woking factory



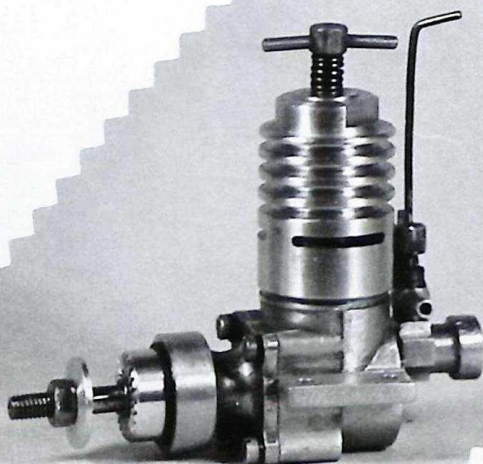
Replica Mills 1.3 MK I, built by Attachport Ltd, Leicester 1983



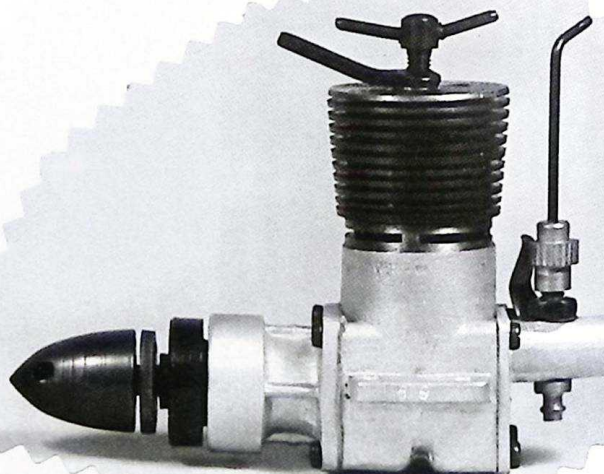
1947 Mite .098 (1.6cc). Fixed compression. Made at Brooklyn, N.York



K .16 1949/50 from Russia, 4.4cc

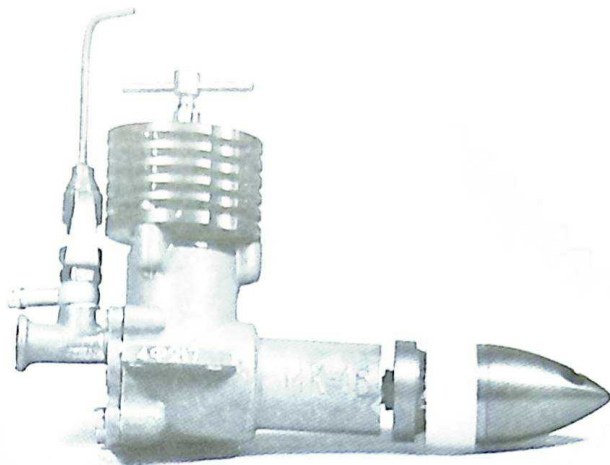


MK 12c 2.5cc 1956. Made in Russia

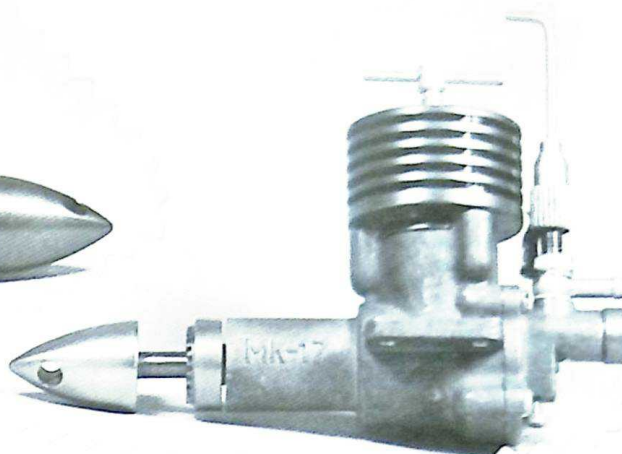


MK 12v Russian copy of Webra Mach I 1958

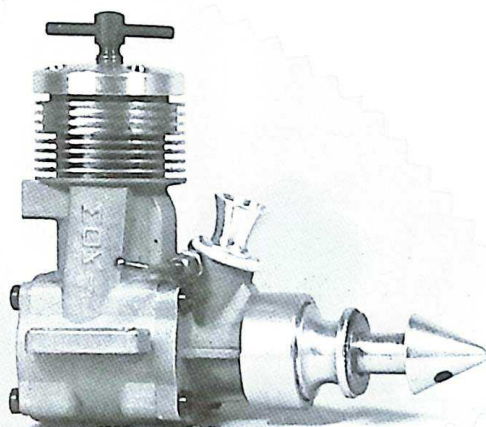




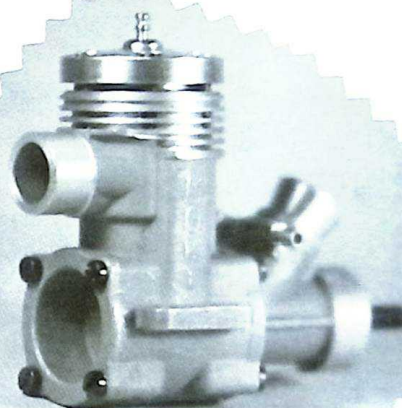
**MK16 1.5cc 1958**  
Nicely made Russian engines. Supplied  
with set of tools and propeller



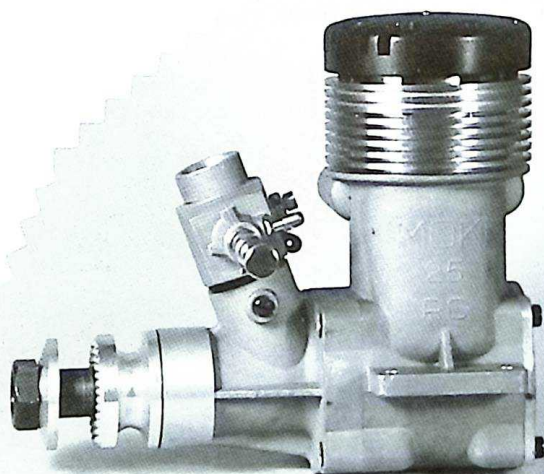
Series II **MK17 1.5cc**



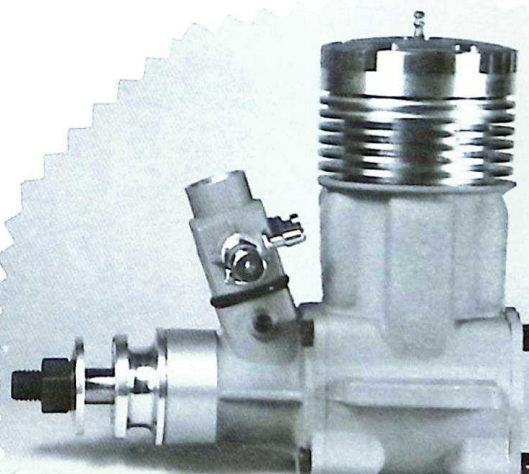
**Moki 2.5cc Team Race diesel.** Attention to  
detail is evident with superb internal fits



**Moki 2.5 glo, speed engine**  
Made in Hungary

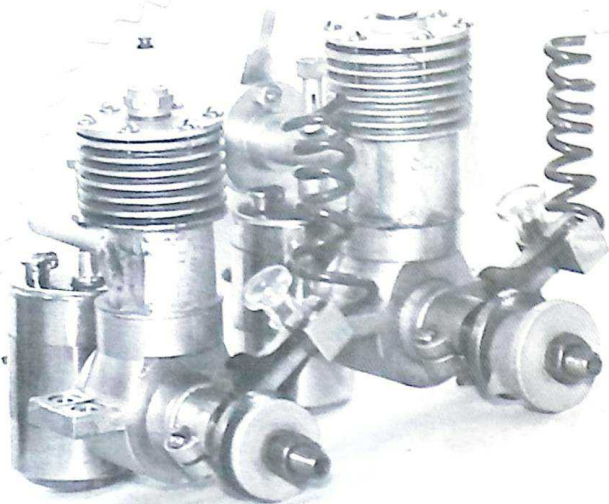


1975 **Moki 25cc.**  
Big, powerful and very thirsty



**Moki 10cc R C glo.** A well made engine

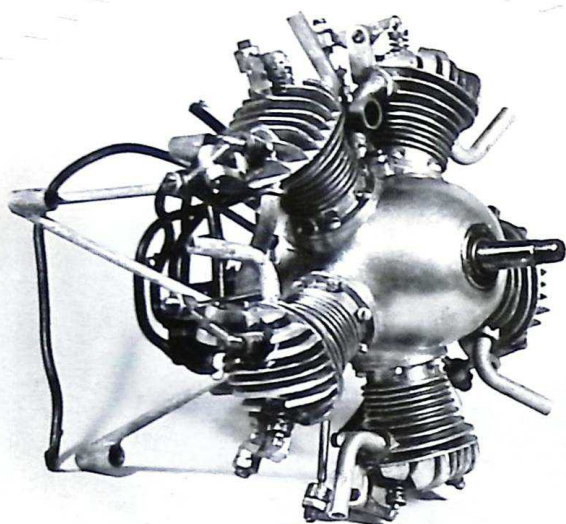




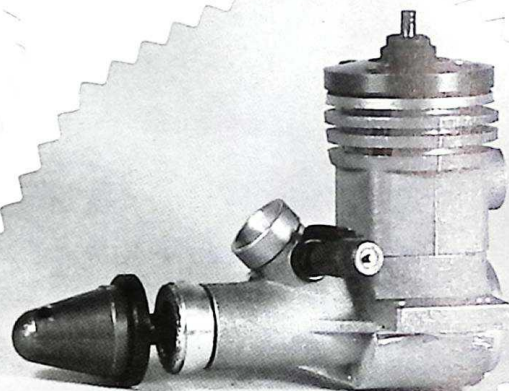
1941 **Molnar** '.78' and '.99'.  
Made at Trenton, New Jersey U.S.A.



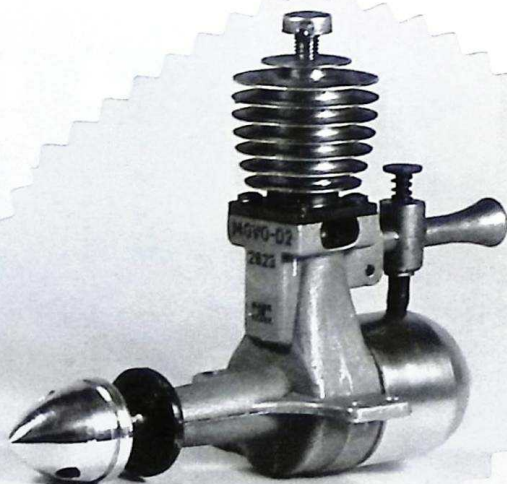
1945 **Morton M-5** 4 stroke ign. Made at  
Omaha, Nebraska. Later built by Burgess  
Battery Co, of Illinois



A view of the **M-5** showing 'full size  
practice' engine mounts.



**Moskito** 1.5, Germany.  
Available in small numbers until 1982

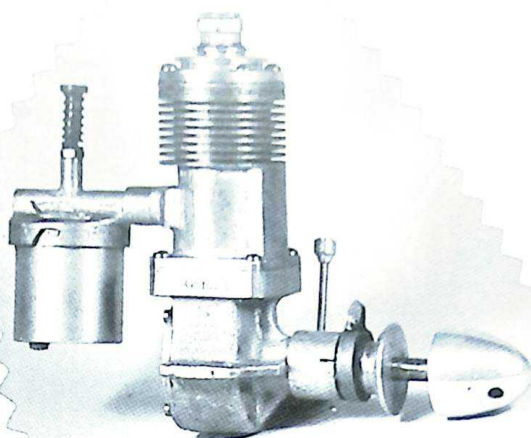


**Movo D-2**, 1947 Milan, Italy

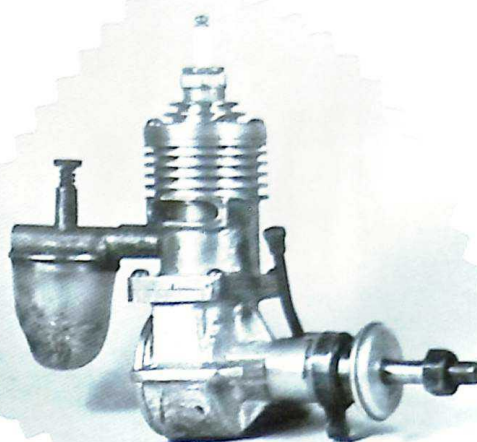


Series II **Movo**, with tank that could be set  
in any position

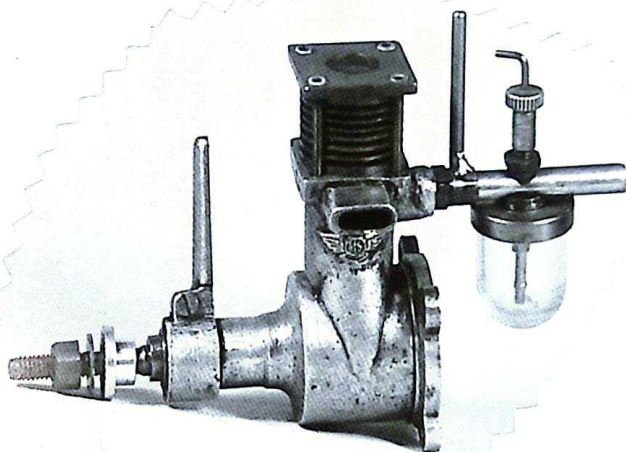




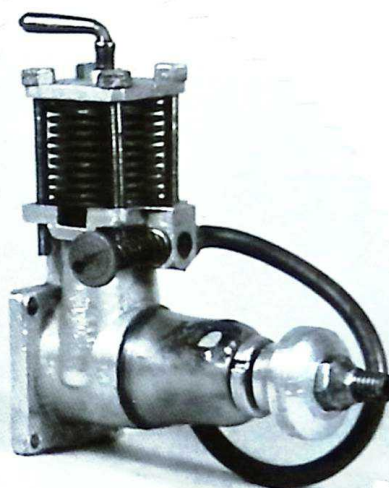
M.P. 'Lyon' 10cc 1947



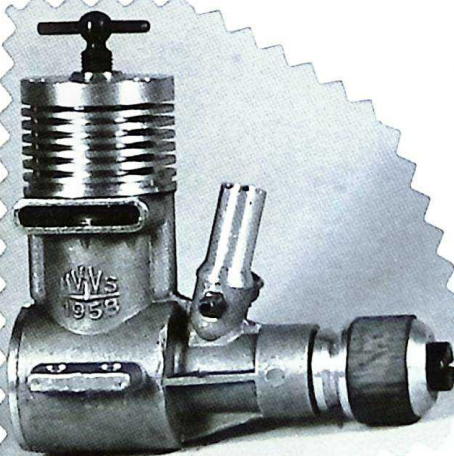
M.P. 'Lyon' 5cc 1947



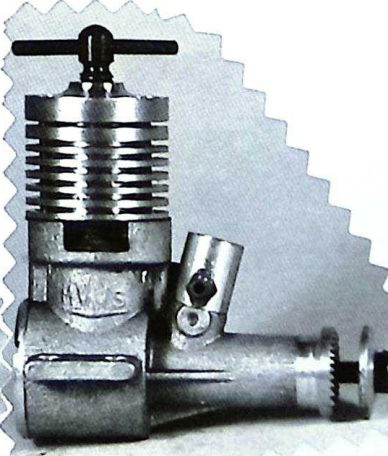
M.S. 2.5cc 1947  
Used eccentric bearing to vary compression. Very few made



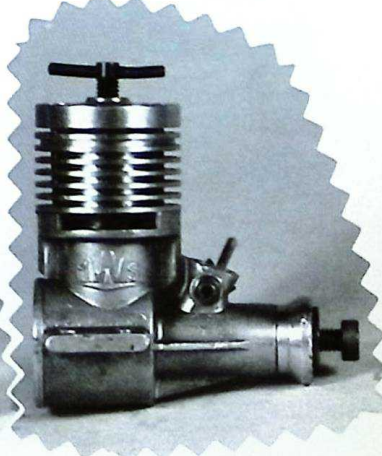
M.S. 1.24cc. March 1948  
Sold through the Model Shop, Newcastle



M.V.V.S. 2.5cc 1958 series.  
Made in Czechoslovakia

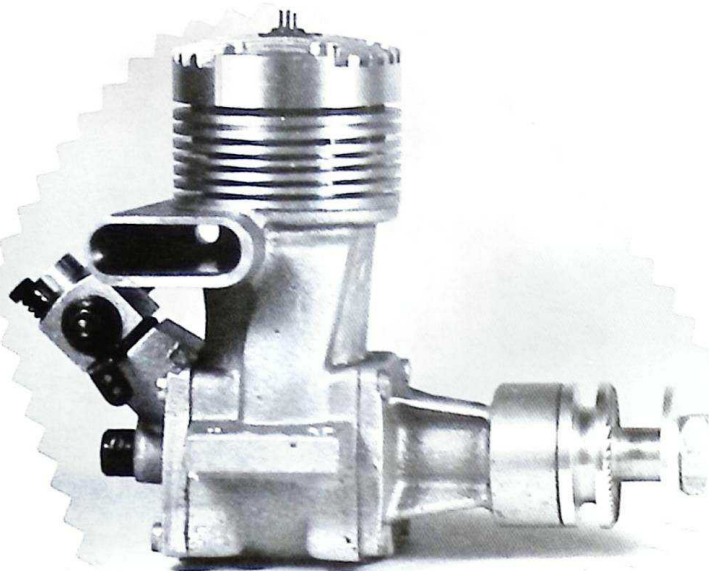


1.5cc

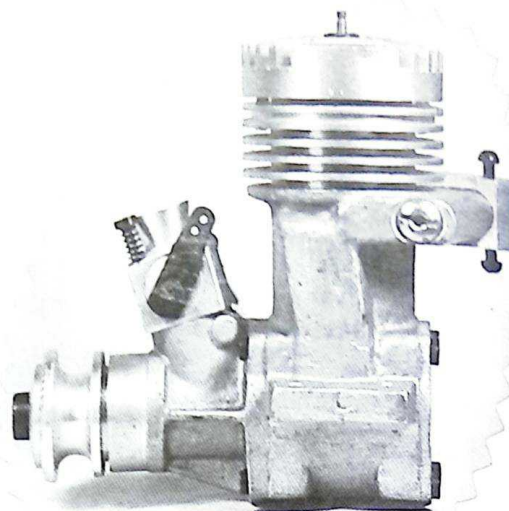


1.0cc

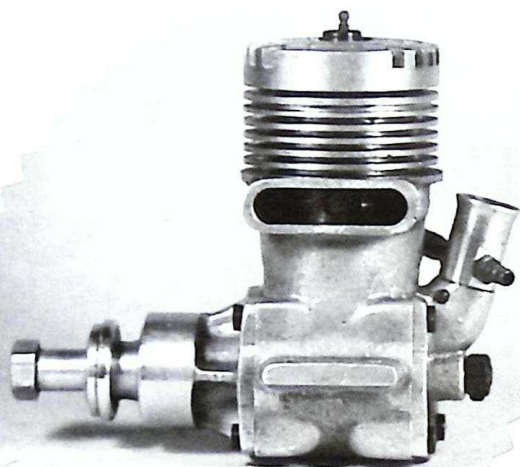




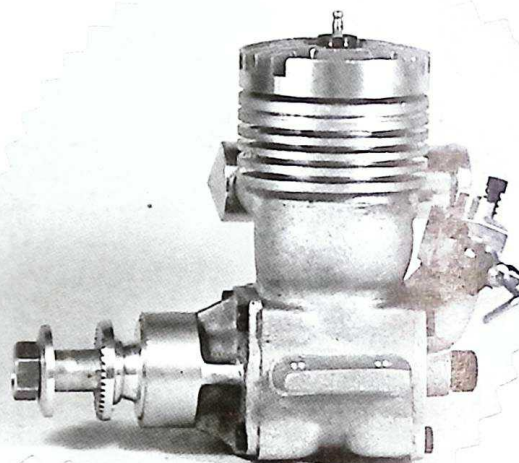
**M.V.V.S. .60 R.C.**  
Drum Valve Induction, from 1966



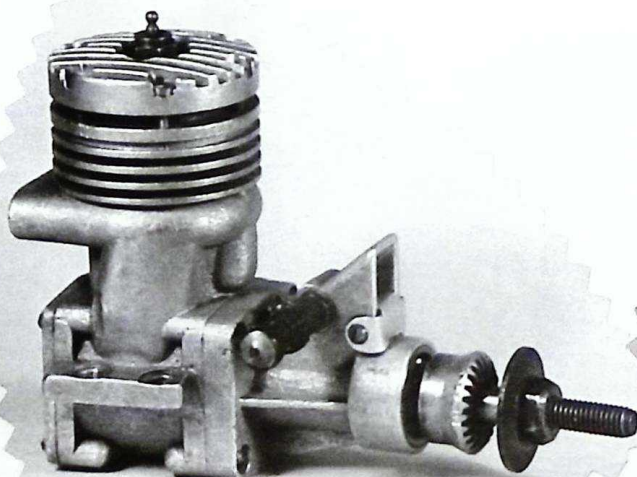
**M.V.V.S. .60.** Front Rotary Induction, from 1966. Both engines sandcast, with good workmanship throughout



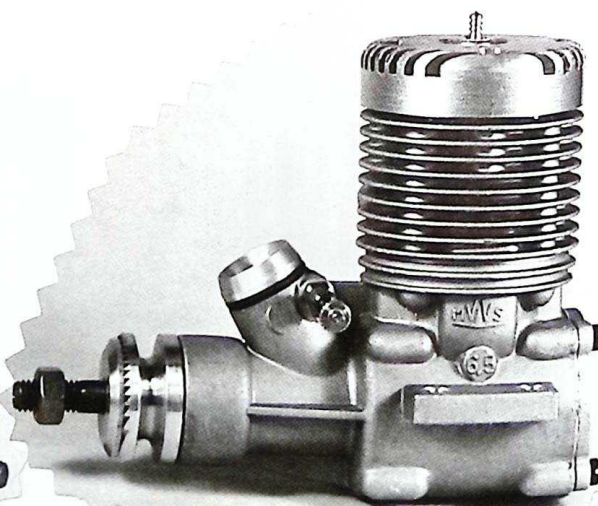
**M.V.V.S. 5.6cc stunt**  
Used by Gabridz to win the  
World Stunt Champs. in 1967



5.6cc. R/C version

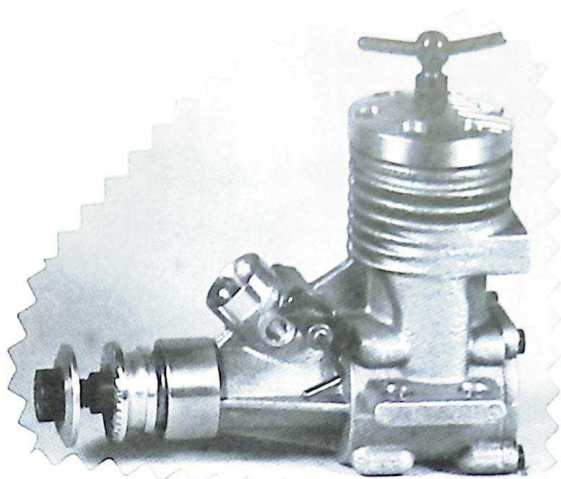


**M.V.V.S. .40.**  
Experimental speed engine

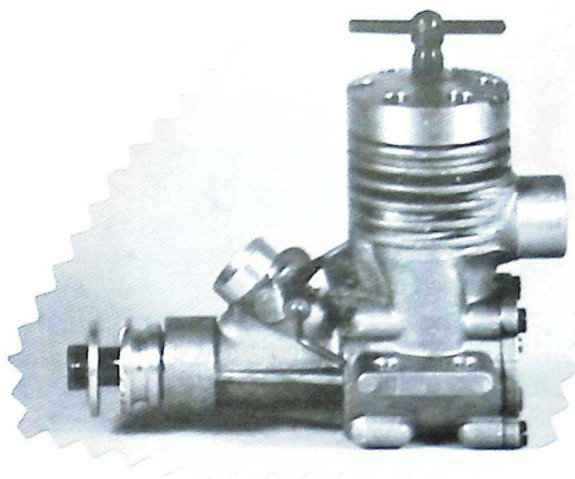


1978 **M.V.V.S. .40 cu.in.** stunt engine

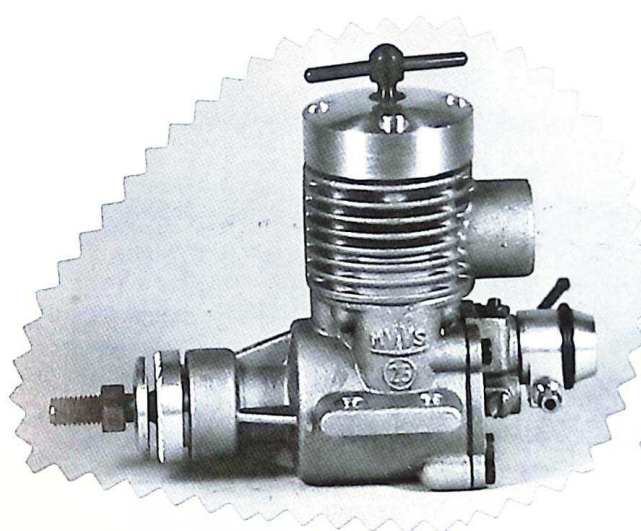




1963 M.V.V.S. 2.5cc 'Super'  
Team Race/Combat engine

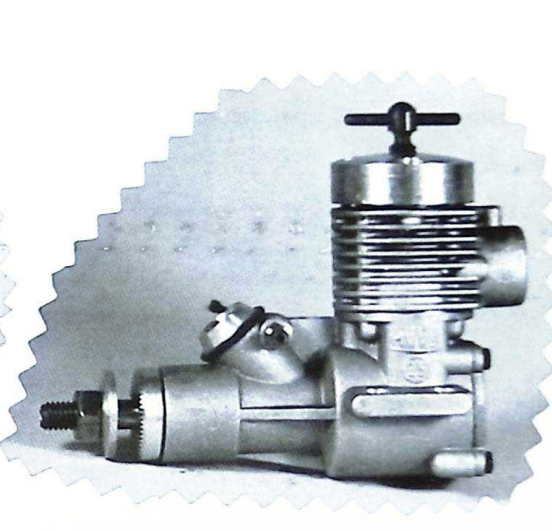


1971 Series 2.5cc  
Team Race/Combat engine

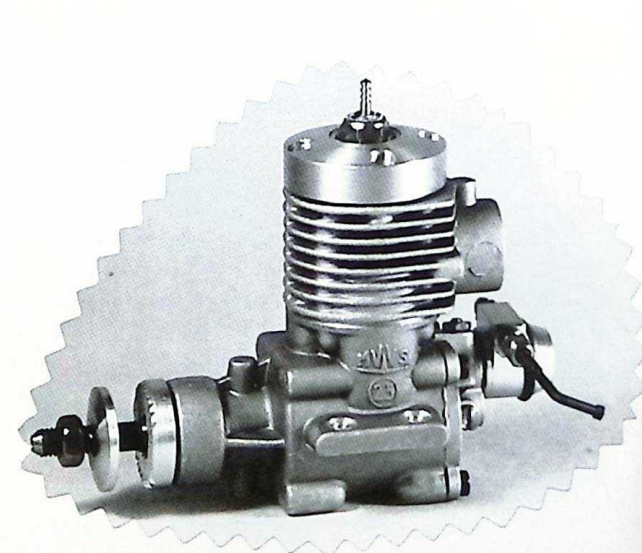


1976 M.V.V.S. Rear

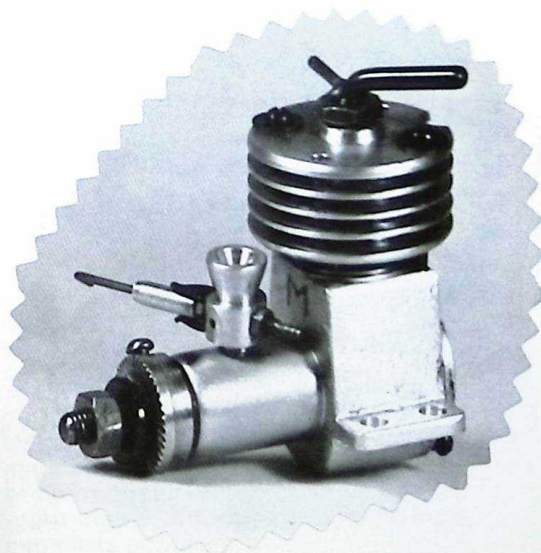
and



Front Induction Team Race engines

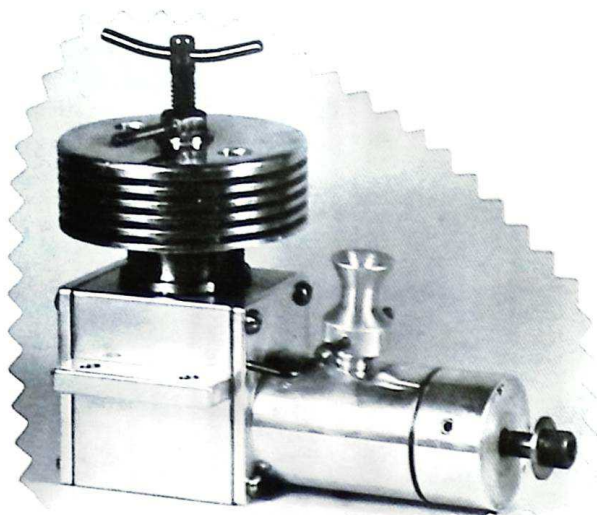


1978 2.5cc glo

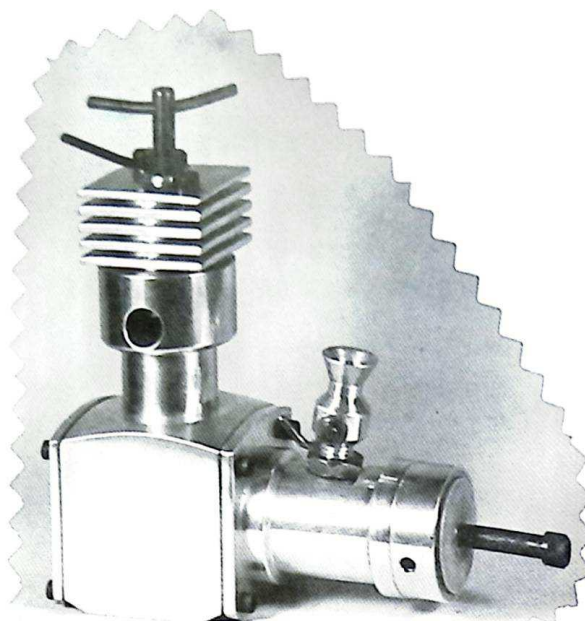


Moore 2.5cc Combat engine. Built in the  
early 70's by Pete Moore of EMBEE fame

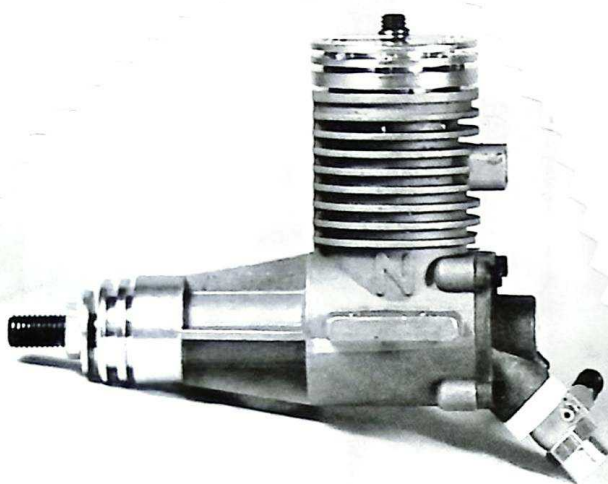




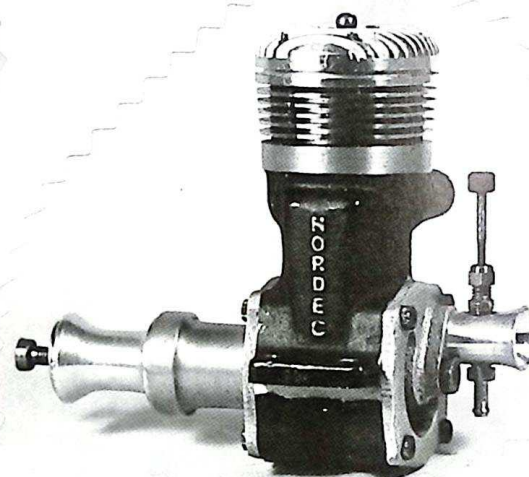
**Moore 10cc 'Paperweight'**



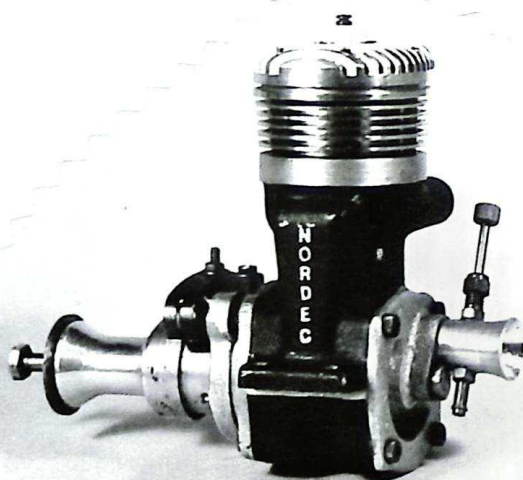
**Moore 7cc.** Found with a wooden skateboard attached. On investigation, flywheel and pulley on c/shaft connected by belt to rear axle. Pete's youngster must have had a lot of fun!



**Nelson 2.5cc**, from 1976. A quality built engine for Team Racing, at a price

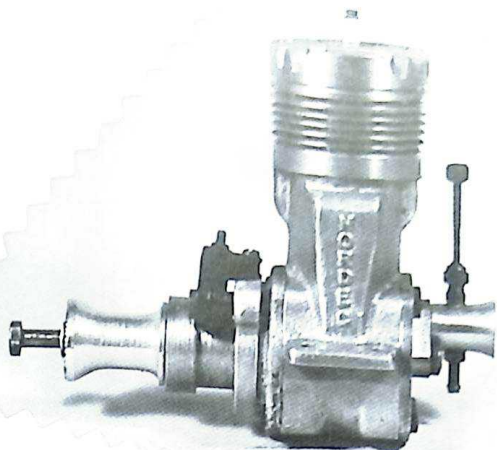


**1948 Nordec MK I glo**  
Built by the North Downs Engineering Co.  
at Whyteleafe, Surrey



**1948 Nordec MK I ign**

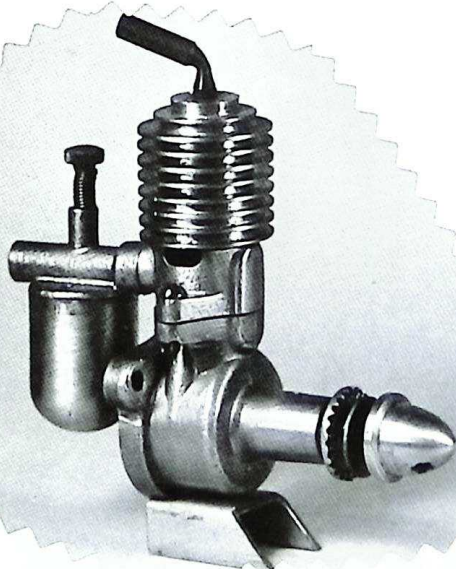
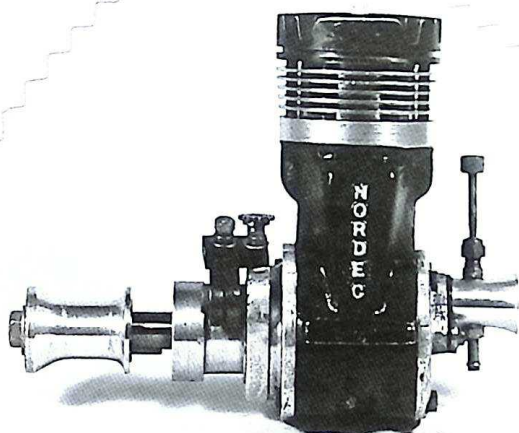




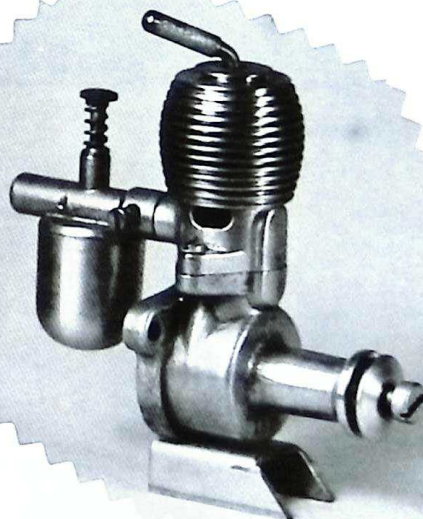
**Nordec MK II** Pre-production version,  
backplate machined from solid



**Nordec MK II** glo and  
MK II ign, from 1949 on the left.  
Who didn't notice the propdriver had slid  
forward on the shaft when the photo  
was taken?!



**N.V. 21** 2.1cc Series I  
Made in Czechoslovakia from 1950

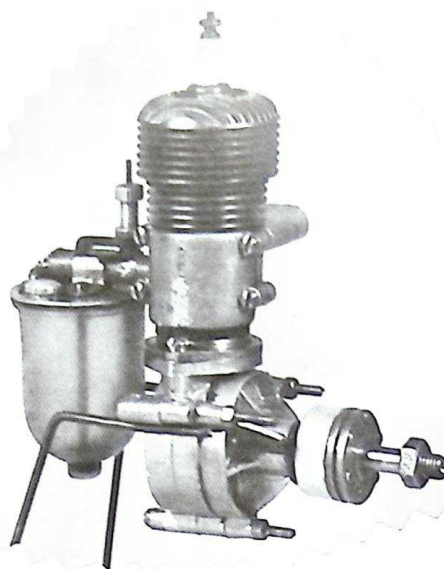


**N.V. 2.1cc** Series II  
Easy starters and they run well, but not so  
easy to mount in an airframe as a beam  
mount engine, otherwise they might have  
been more popular





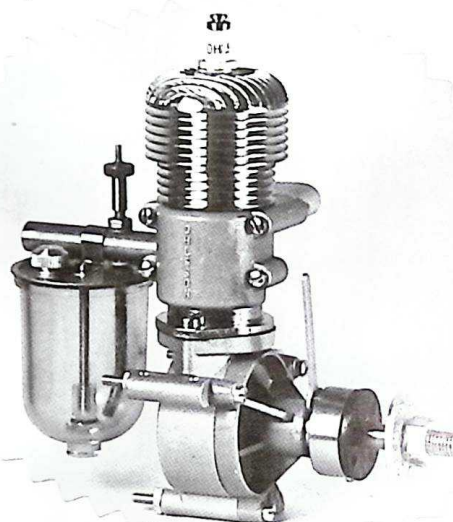
1937 Ohlsson .56 ign. Radial Mount



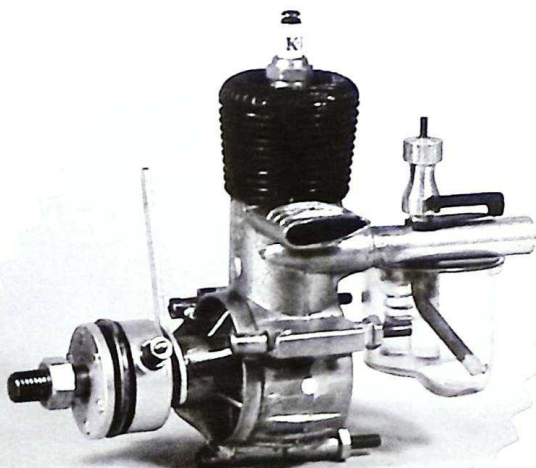
1938 Ohlsson .56cc ign (9.2cc).  
Lugs for beam mounting



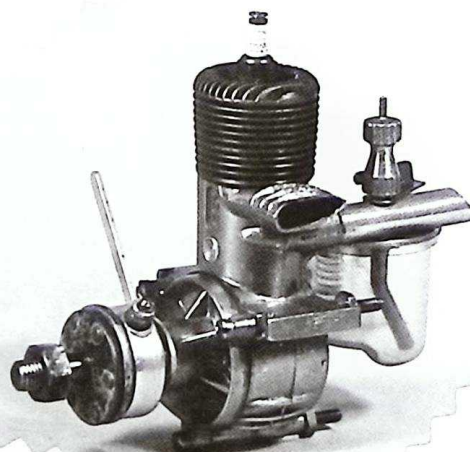
1938 Ohlsson '.23' (3.8cc)



**Ohlsson Commemorative** built by  
Herb Wahl in the early 80's. Beautifully  
made with 18ct gold plated cylinder head  
and fins.

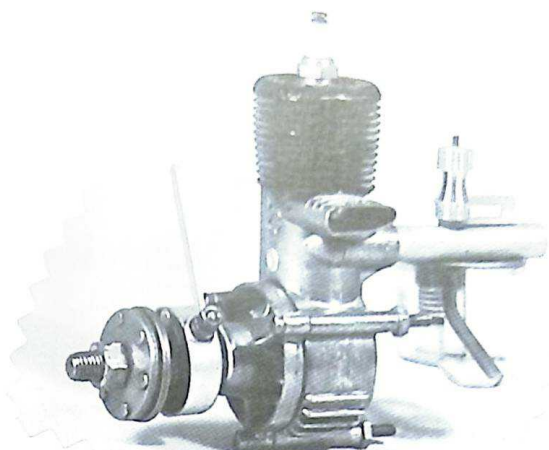


1940 Ohlsson and Rice .23  
Ohlsson became a partner with Harry Rice  
in 1939

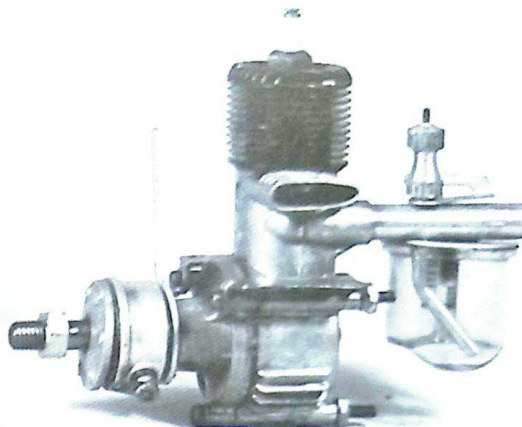


1940 Ohlsson and Rice .19



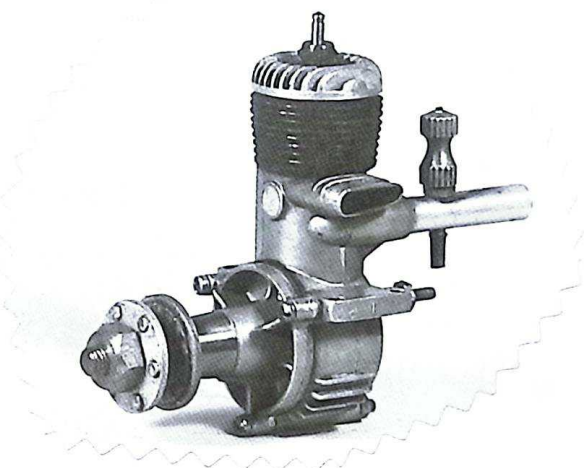


1947 Ohlsson .23 (or O&R .23).  
Radial mount

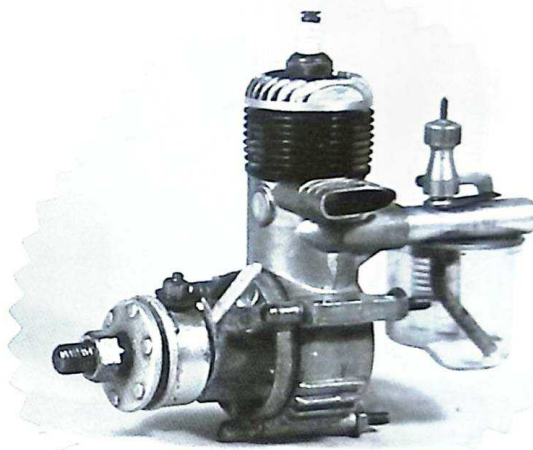


1947 Ohlsson .19n (O&R .19).  
Radial mount, with steel beam mount  
conversion plate, an O&R accessory

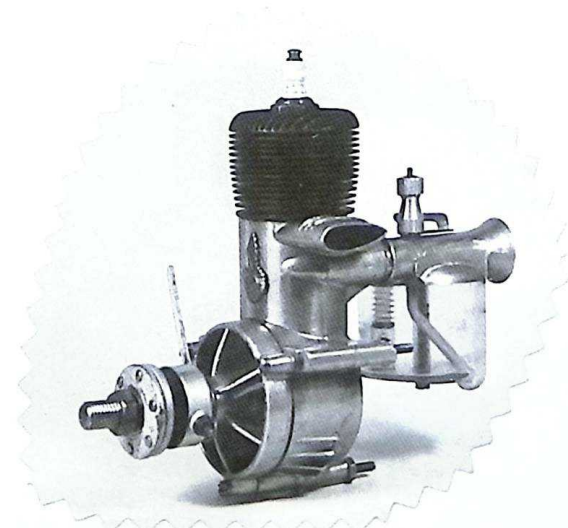
At their factory in Los Angeles, O&R were producing an amazing 1,000 engines a day,  
towards the end of 1947



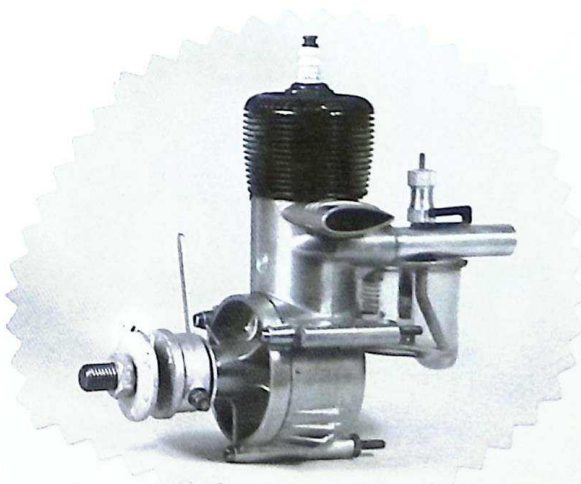
1948 O&R '.23' glo



1948 O&R .19 ign. Beam mounts

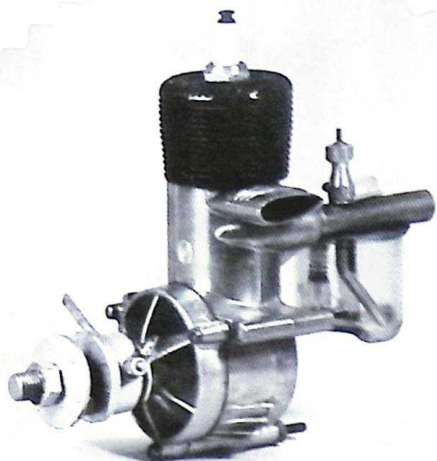


1941 O&R .60 Custom

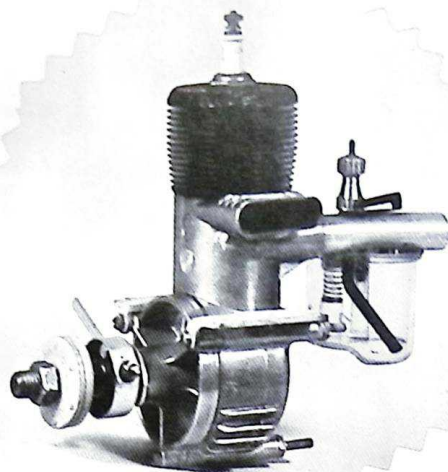


Late '41 to Sept 1946 O&R .60 ign

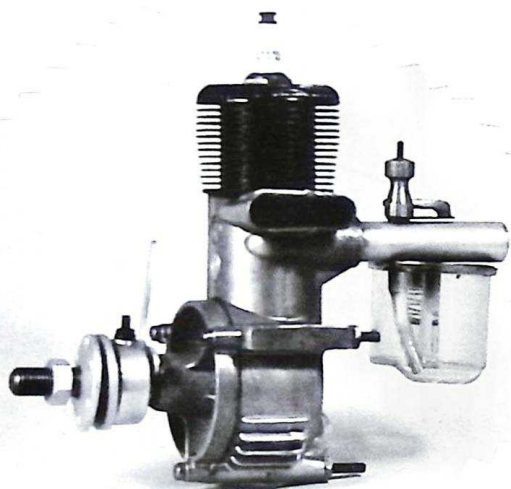




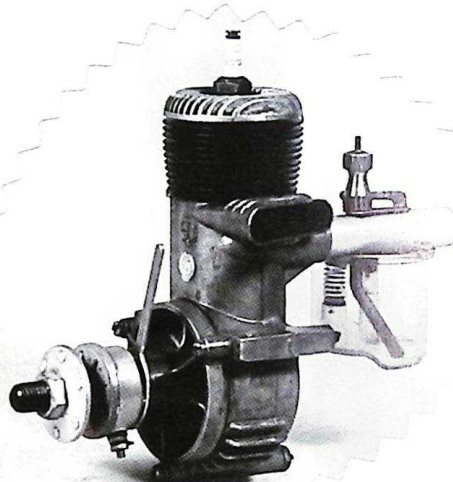
Oct. 1946 .60 ign



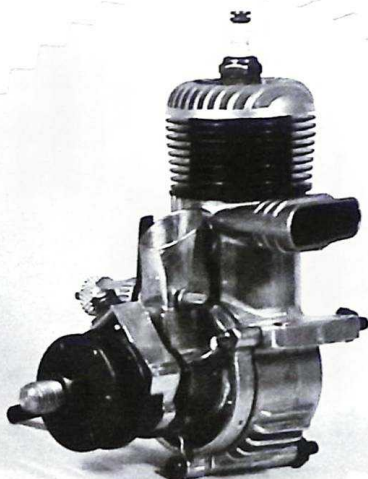
April 1947 .60 ign  
'Beamless' crankcase



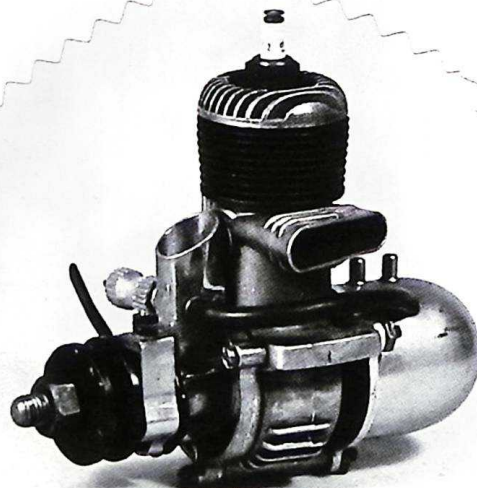
June 1947 .60 ign. Beam mounts



1949 .60, with aluminium head

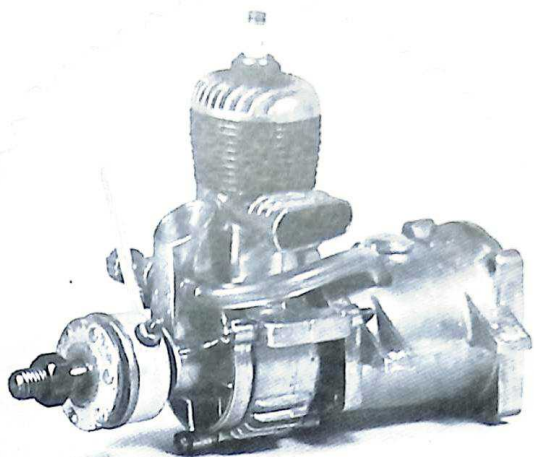


1949 O&R .29. Blue anodised head  
and 'new' "adjustomatic" timer



'49 O&R .29, with metal accessory tank





June 1948 **O&R .23**,  
with cast tank/mount accessory



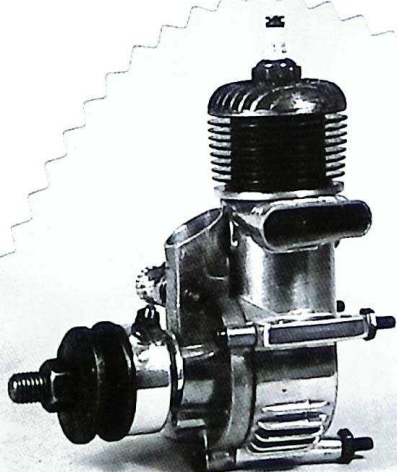
1950 **O&R .60**



1950 **O&R .60**, with purple head and  
'adjustomatic' timer



1951 **O&R .29 glo**



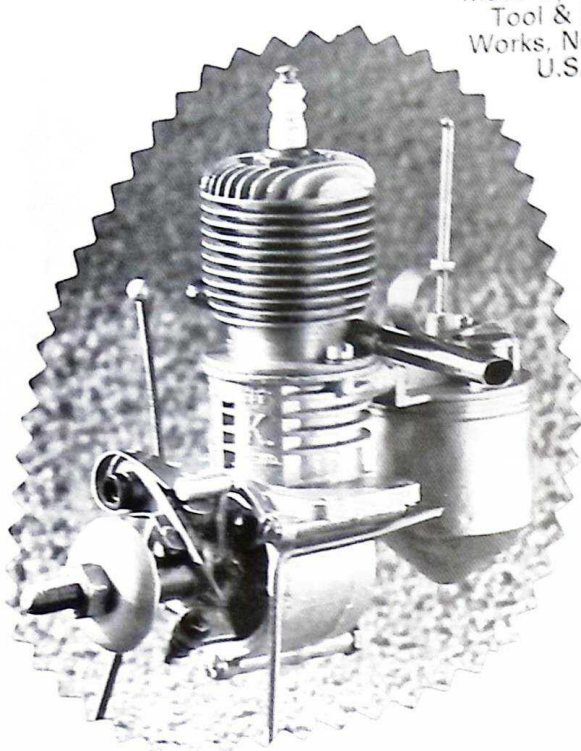
1950 **O&R .33**, with red anodised head and  
'adjustomatic' timer



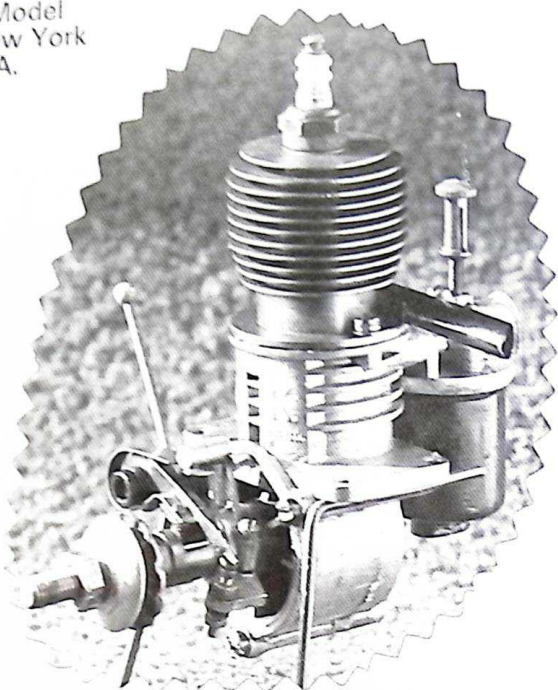
1956 **O&R 'Mite' .049**.  
The 1955 'Midget' .049 came complete  
with a cast tank/mount



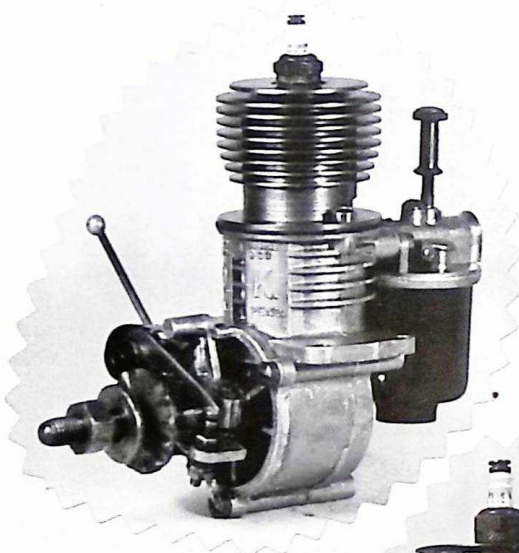
O.K. Motors,  
Made by Herkimer  
Tool & Model  
Works, New York  
U.S.A.



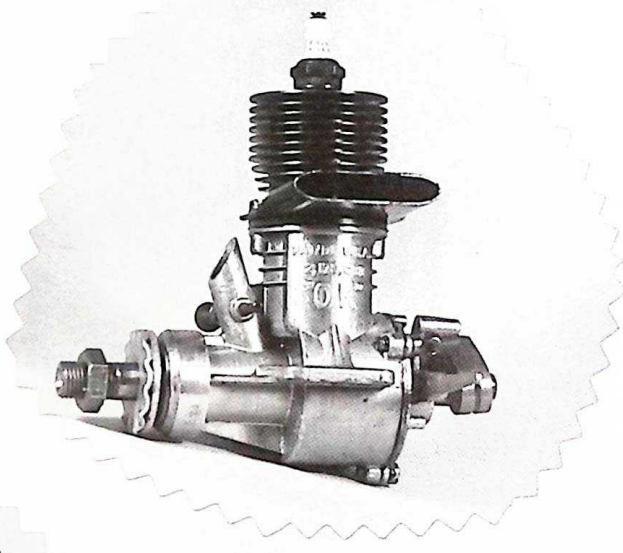
1938 O.K. 'De Luxe' .616 ign. Metal tank



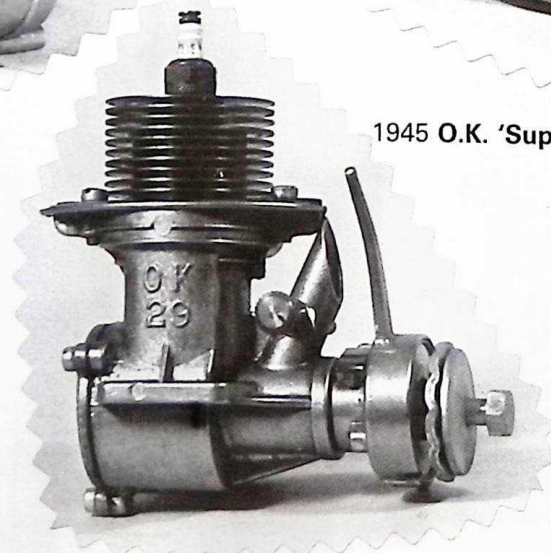
1939 O.K. 'Special' Red plastic tank



1940 O.K. .49 cu.in.



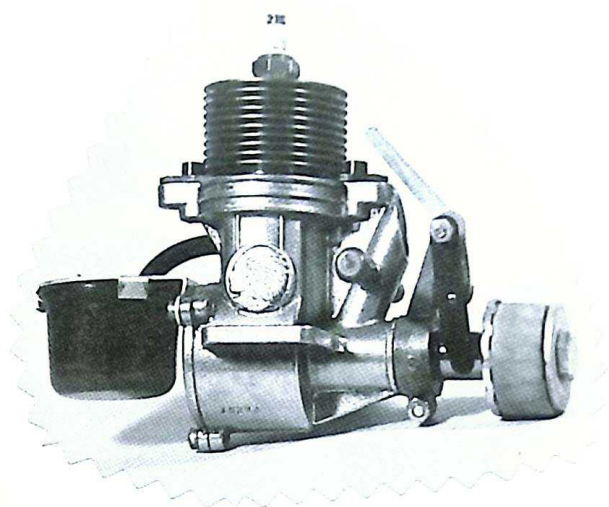
1945 O.K. 'Super'.60 ign



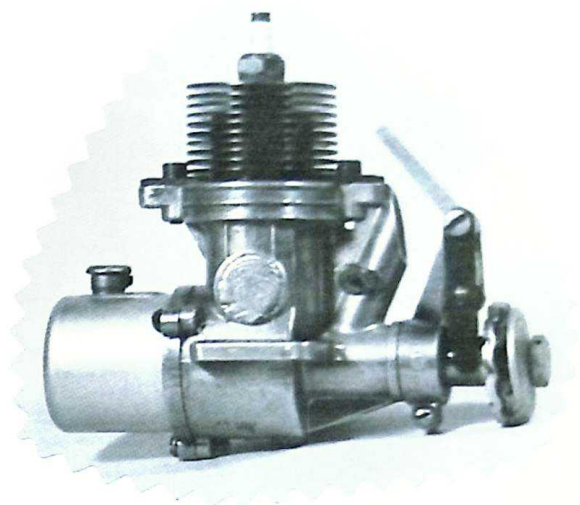
1946 O.K. .29 ign



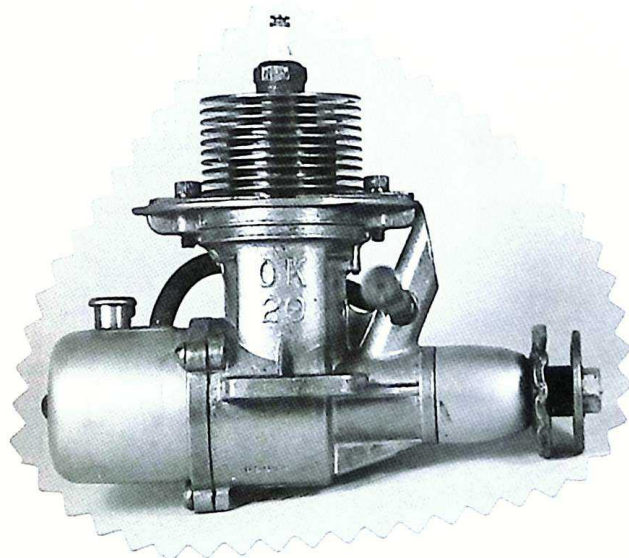
Due to fierce competition at the end of the post war era, Mr Brebeck of O.K. Engines wanted to market an engine in the 'cheap' category, without hurting the reputation of his good 'O.K.' engines. A fictitious company was set-up called 'Mohawk Engineering', and the 'Mohawk .29' sold as if made by another company. Priced at just under \$9 in 1947, as against the \$18 of the O.K. .29 ign. Noticeable machining differences were: no main bearing used; shaft ran in the die cast aluminium c/case; the metal was left between the venturi and cylinder; and a very basic timer assembly. All saving money.



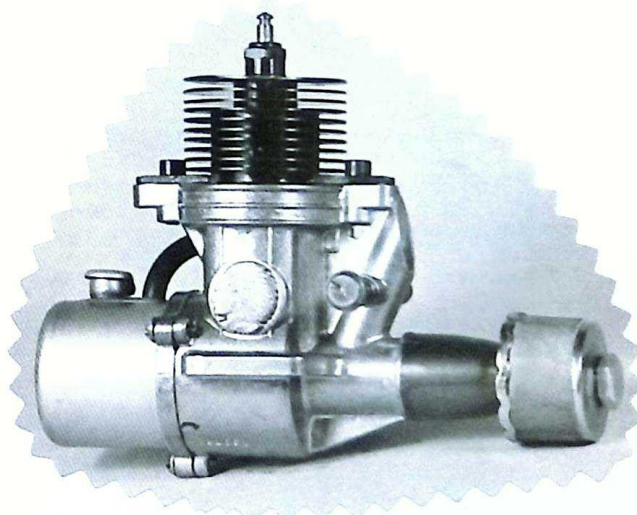
1947 Mohawk Chief .29 ign  
1st model with hanging tank,  
as with the O.K. .29



Second series Mohawk .29, with metal tank

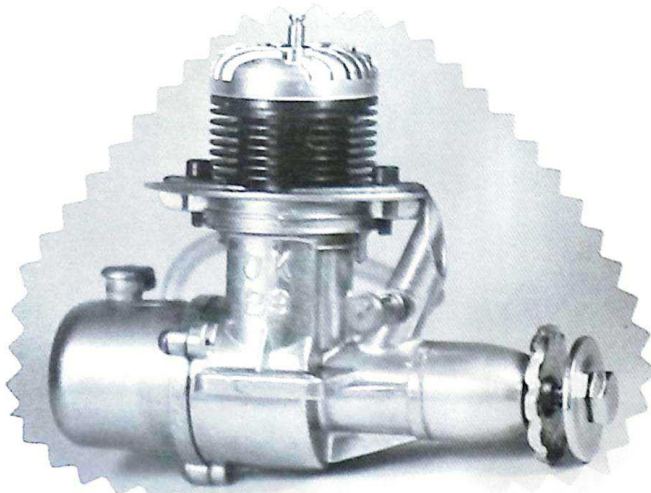


1947 O.K. 'Hothead' .29 glo  
Tank and cam cover anodised gold

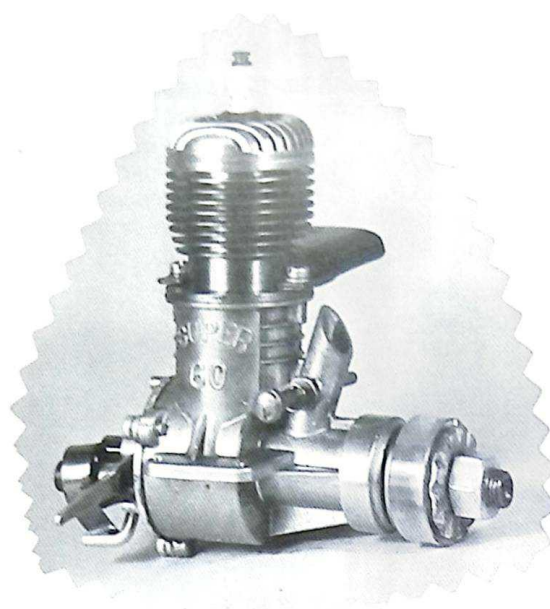


1948 Mohawk Chief .29 glo  
1st models had blue tanks and cam cover,  
finishing in 1949 with gold, as the O.K.

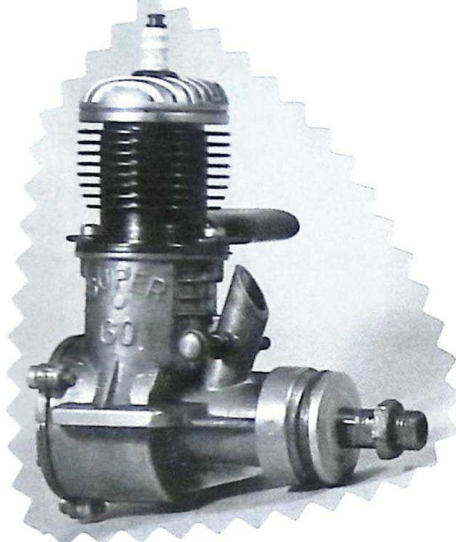




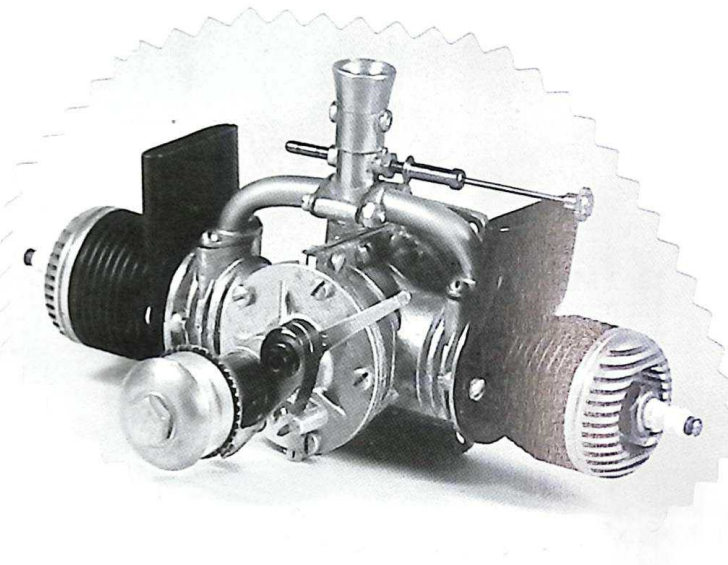
1950 O.K. Super .29 'Hot Head'  
Had gold anodised cam cover, tank and  
bolt-on cylinder head



1949/50 O.K. 'Gold Head' .60 ign

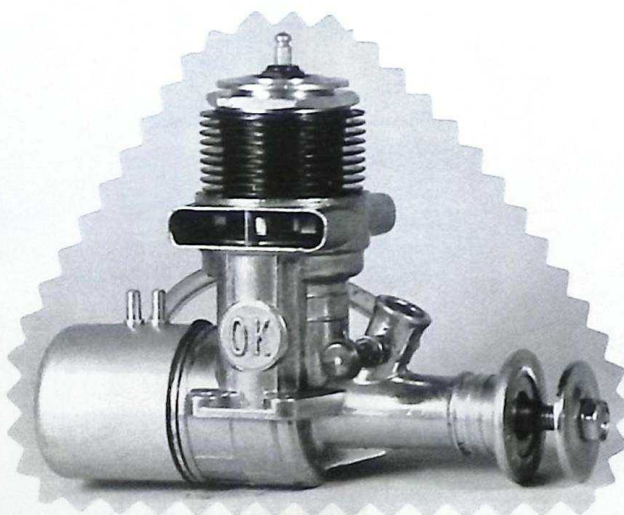


1949/50 O.K. 'Gold Head' glo.  
Special backplate had no provision  
for a cam

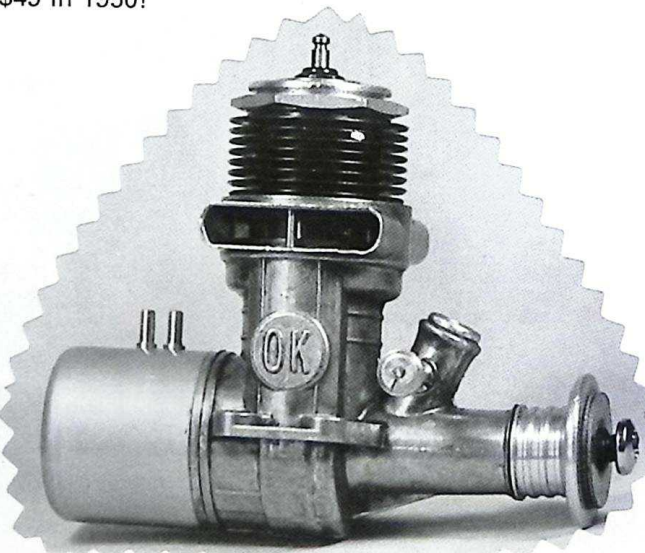


1950 O.K. 'Gold Head' Twin of 1.20 cu.in.

This range of O.K. engines, with their 'ebonised' black cylinders and gold heads, were beautiful.  
And all for \$49 in 1950!

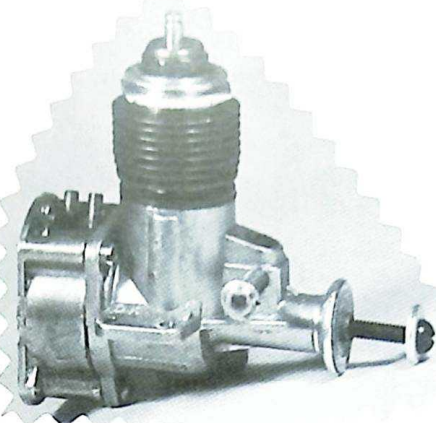


1955 O.K. .29 glo.  
Red prop. driver and tank

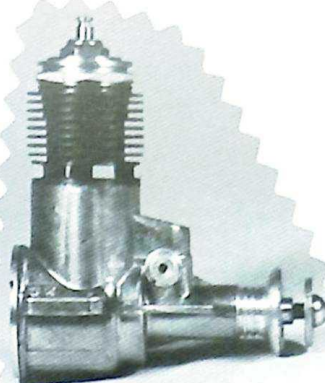


1955 O.K. .35 glo.  
Gold prop. driver and tank

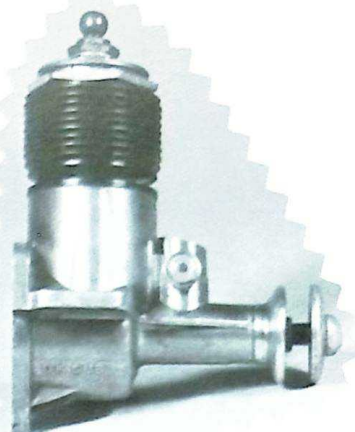




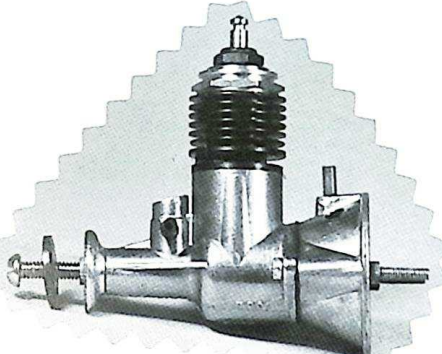
.049 cu.in.  
O.K. 'Cub' Series from 1950



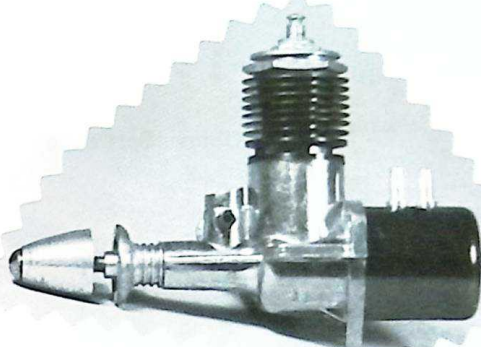
.074



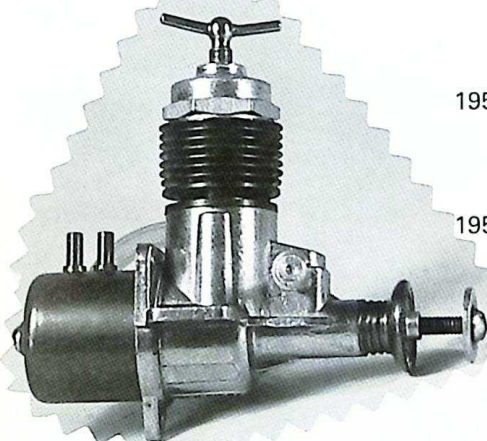
.099



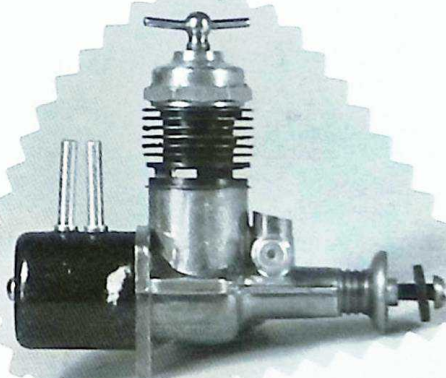
1951 O.K. .039



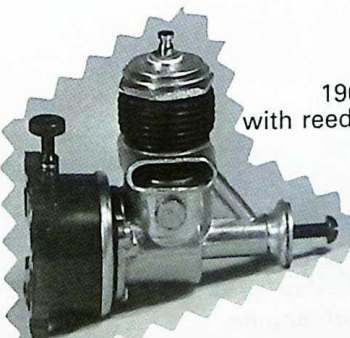
1951 O.K. .049. Red anodised tank



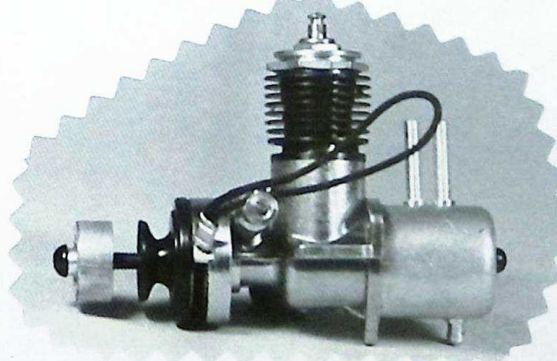
1953 O.K. .075 diesel  
on the left  
(1.2cc)



1953 O.K. .049 diesel  
on the right  
(.75cc)



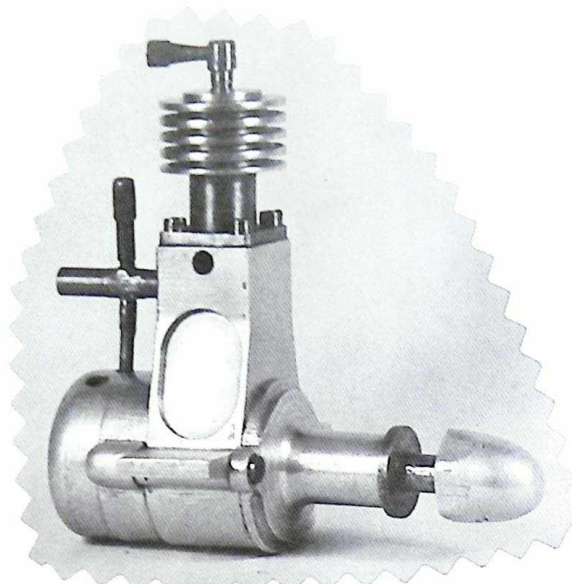
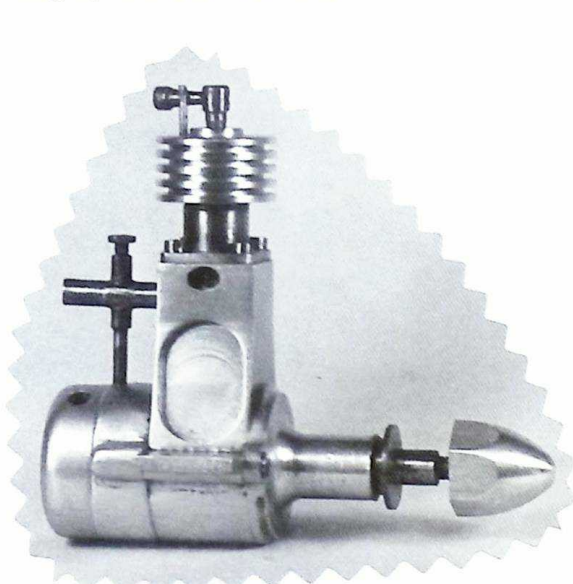
1961 O.K. .024 glo.  
with reed valve induction  
shown full size



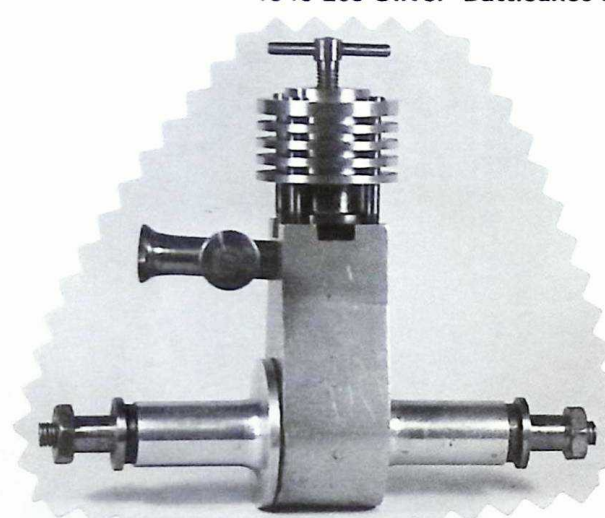
1957 O.K. .049 'S' 'Spring Start'



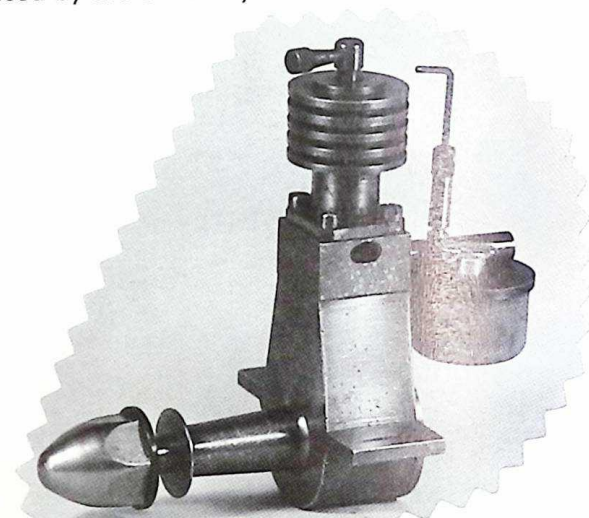
The engines of John Oliver, especially the 'Tiger' Series must be the most famous of 2.5cc diesels. In standard form their quality and performance in Combat circles is legendary. The following photographs are a tribute to the J. Olivers, for giving the model world such a fine engine.



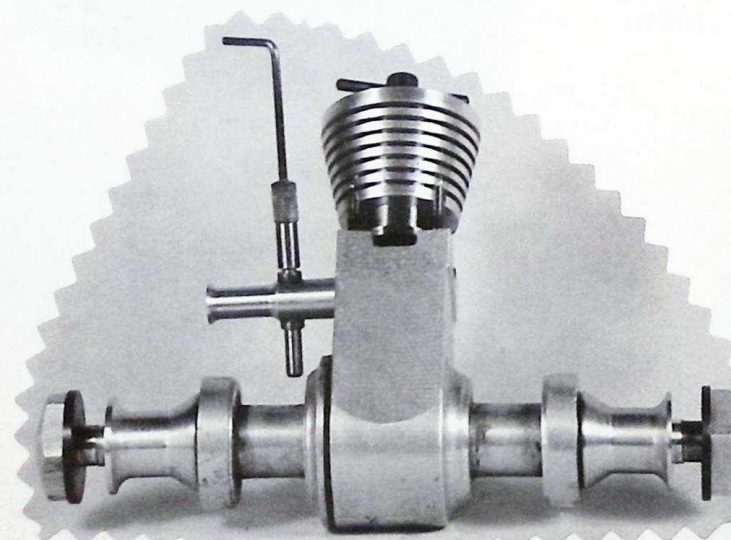
1946 2cc Oliver 'Battleaxes'. Influenced by the Swiss Dyno



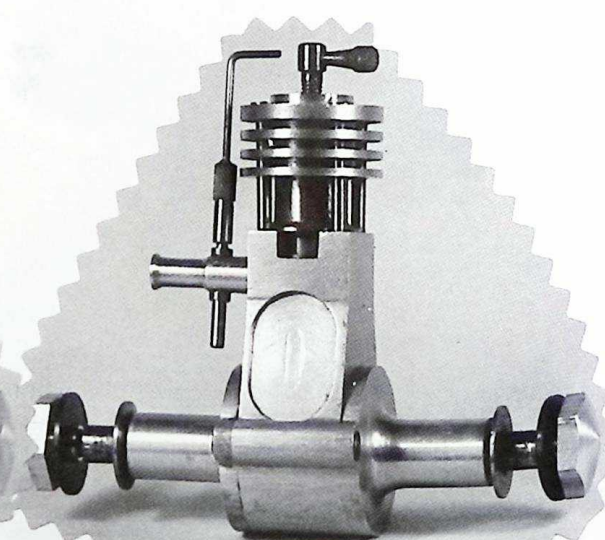
2cc tethered car version of the **Battleaxe**



1947 2cc 'Fury'

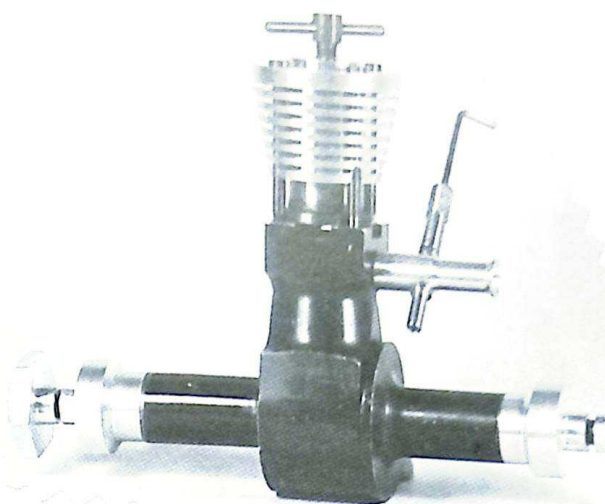


2.5cc twin B/B shaft car engine  
A 'one-off' from 1948. Pre-Jaguar

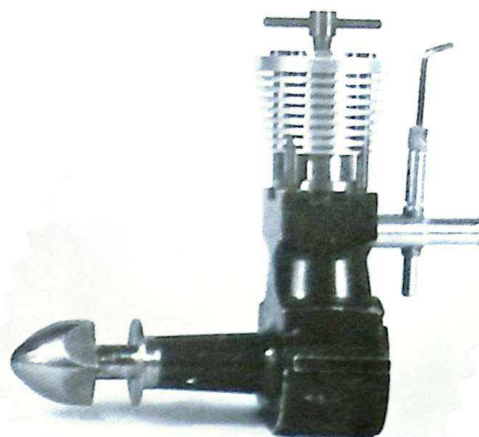


2.5cc **Battleaxe** 'car' engine

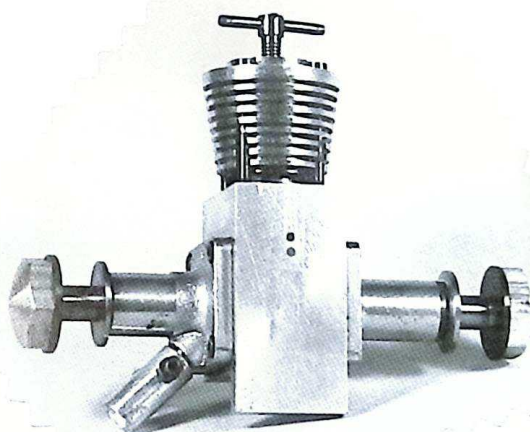




1948 'Jaguar' 2.5cc twin shaft

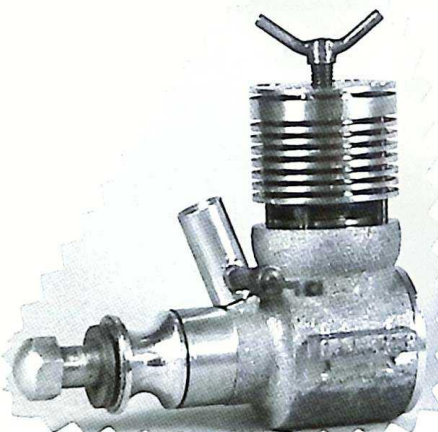


1948.9 **Jaguar** 2.5cc. Sold commercially as the 'Raylite Panther' from the Raylite Model Shop, Nottingham

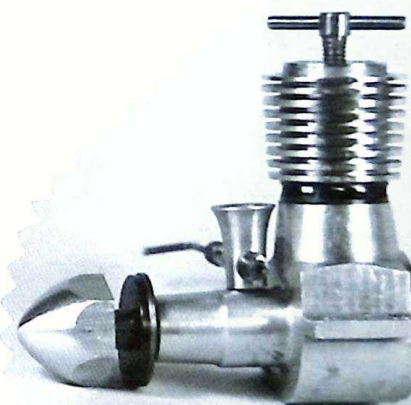


A pre-MK II experimental 2.5cc twin shaft from late '49 to early '50

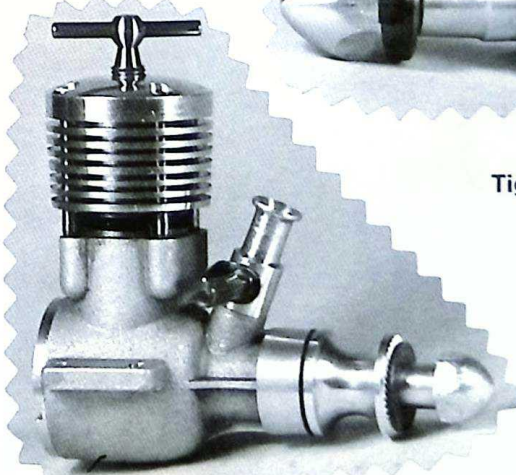
Rumour has it that Gerry Buck, who used to race tethered cars with John, suggested the name "Tiger" after John Jnr. had been awarded first prize by Speedway 'Ace' "Tiger" Stevenson, after winning a car meeting at Stoke in 1950



**Tiger MK II**, 1952

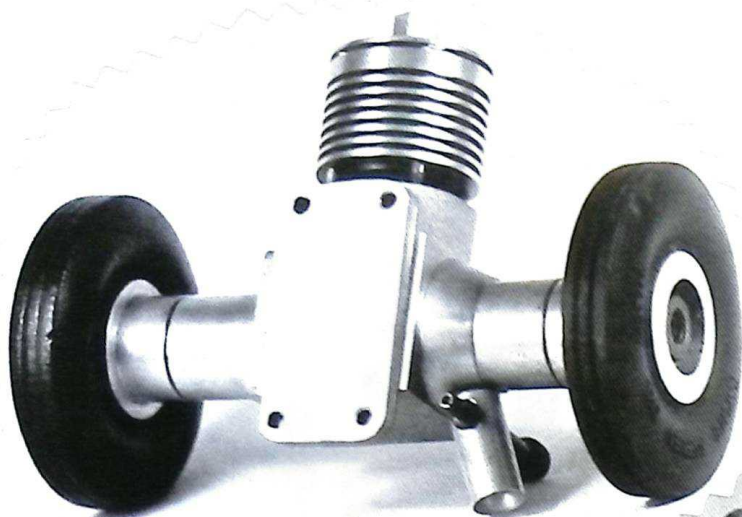


**Tiger MK I**, 1950

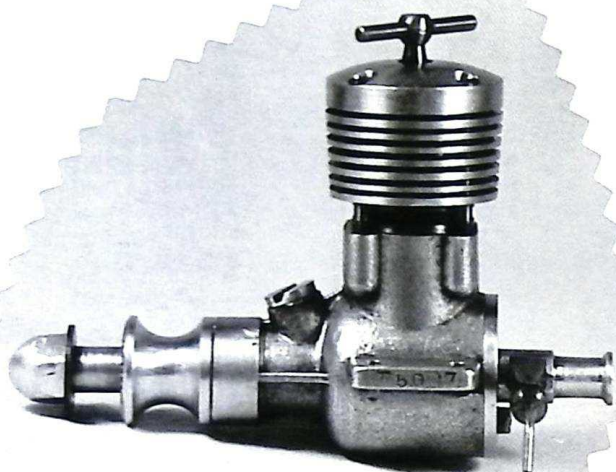
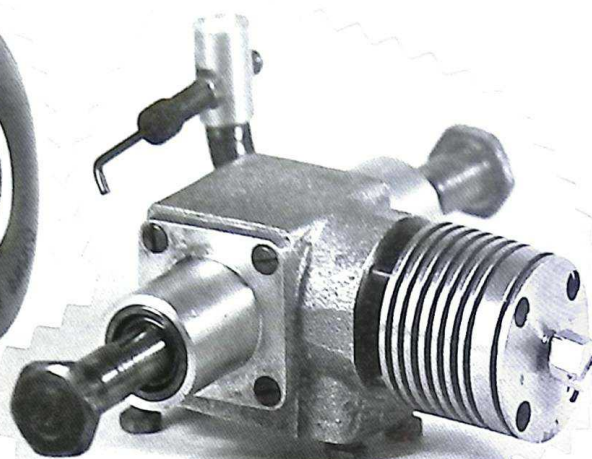


**Tiger MK III**, 1954

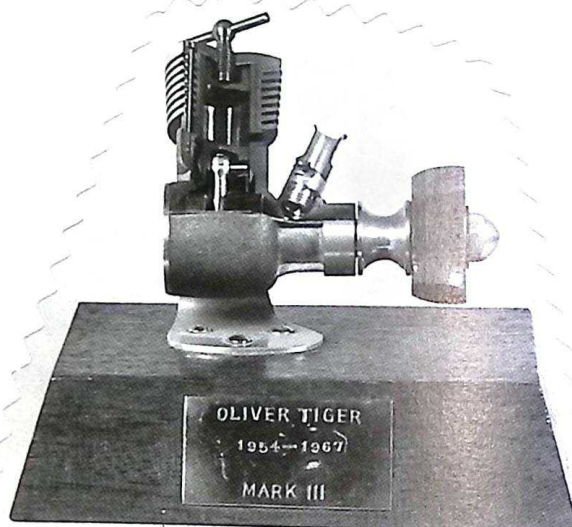




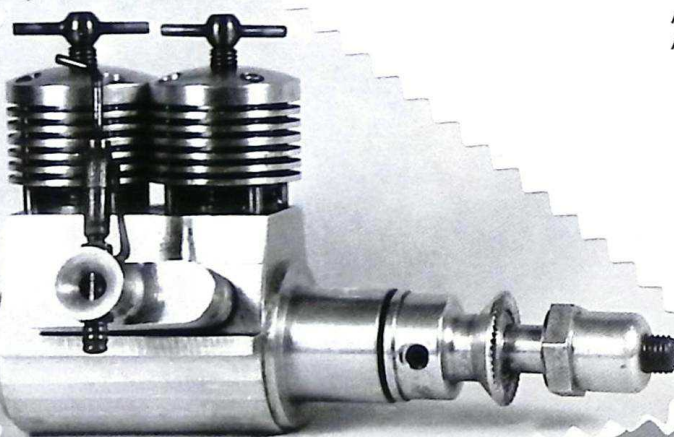
1952 'Tiger' MK II Car units



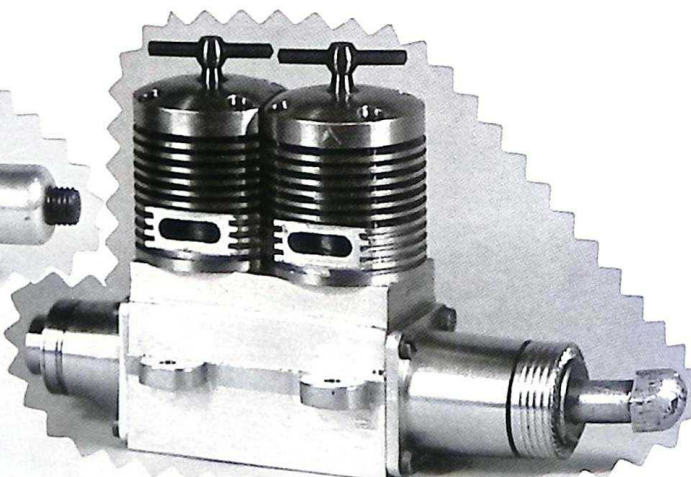
Experimental MK III Reed Valve Induction



A sight to make purist's eyes water!  
A cutaway 'Ollie'!

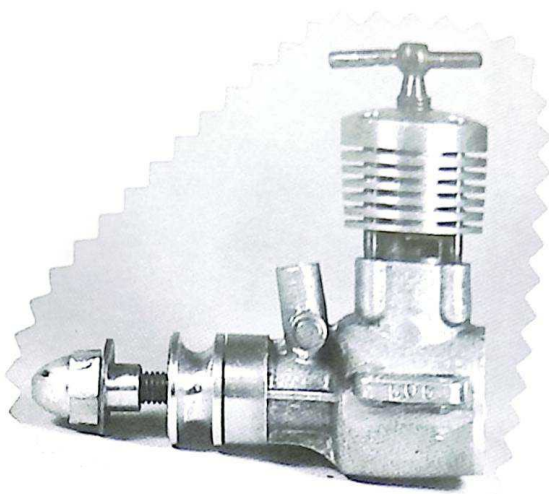


Experimental twin using 'Cub' parts, from 1956

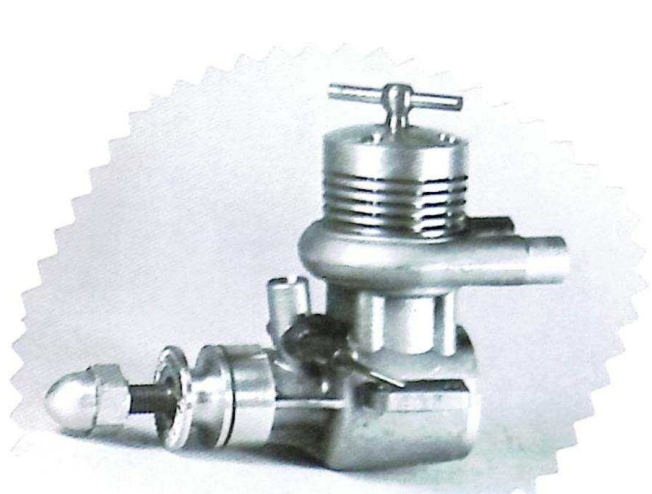


Experimental 6.5cc twin 'Schnuerle port', 1975

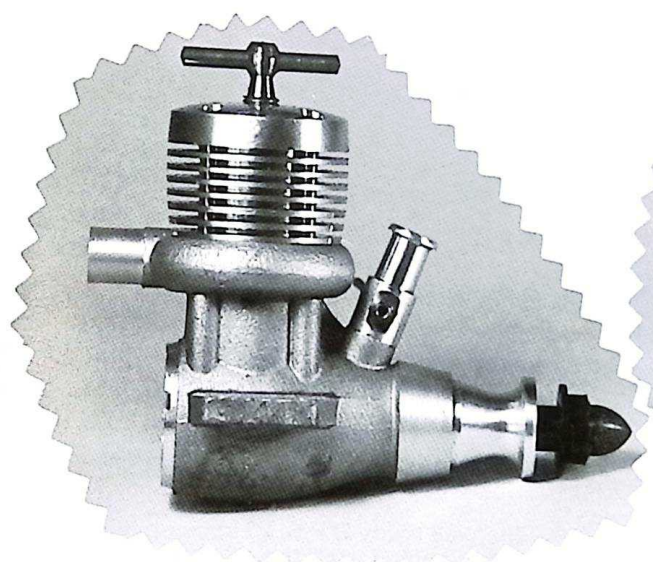




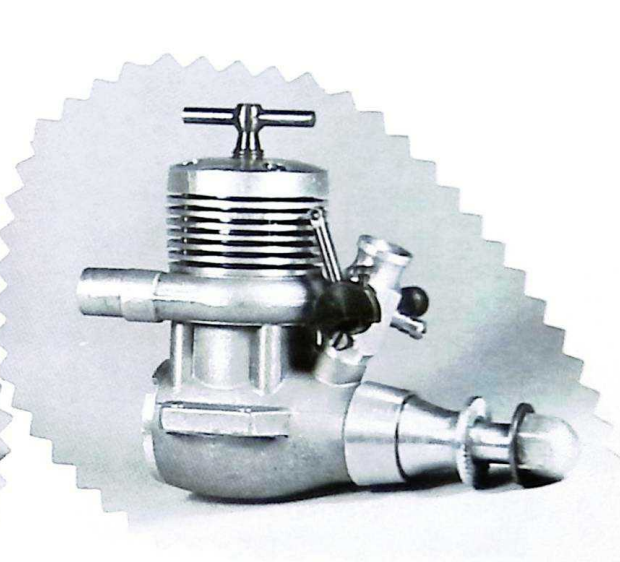
**Cub 1.5cc.** May 1964



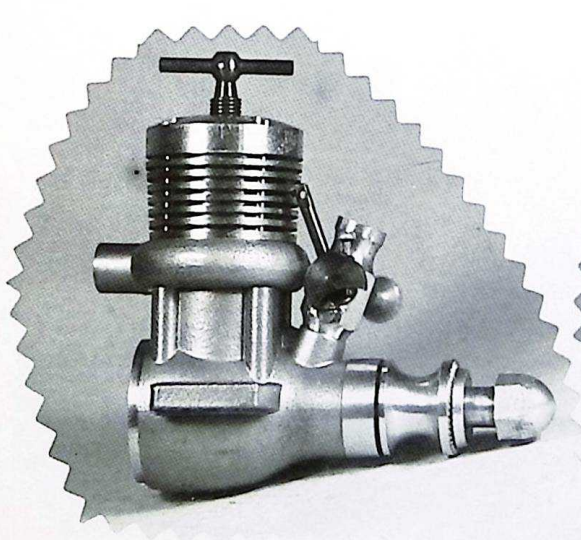
**Cub 1.5cc.** Jan 1966



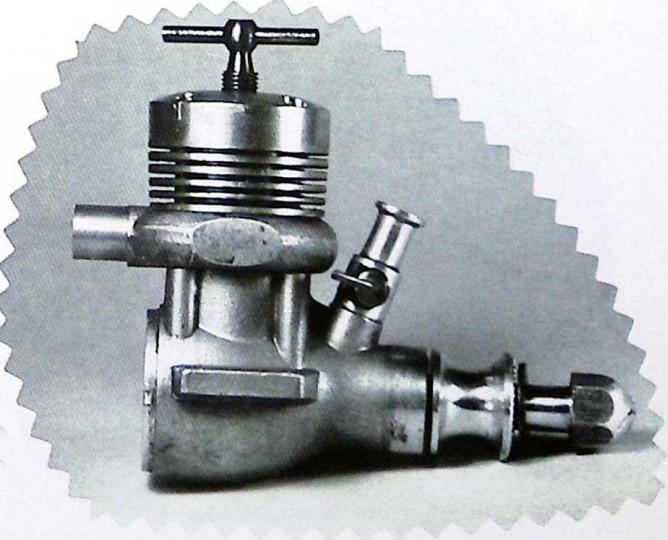
**Standard MK IV 2.5cc**



**MK IV 2.5cc with R/C throttle**

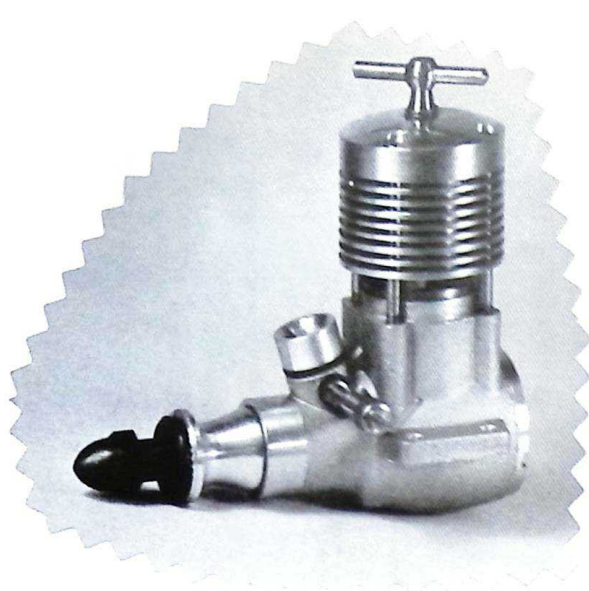


**Major 3.5cc with R/C throttle**

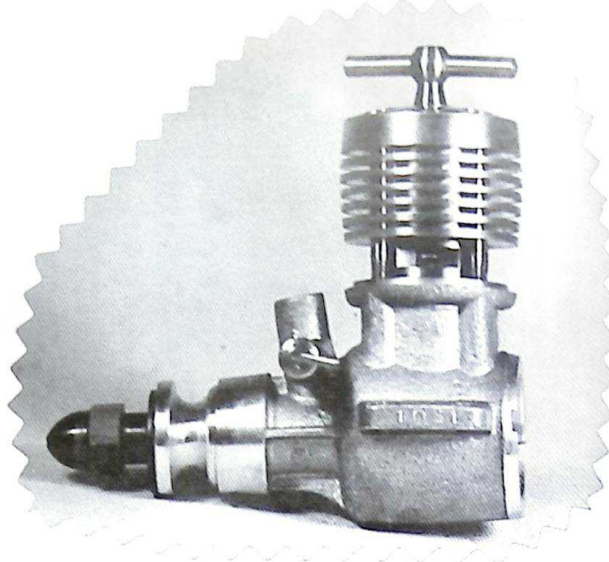


**MK I Major crankcase, MK IV shaft and Major Bore, giving 3.25cc. A 'one-off'**

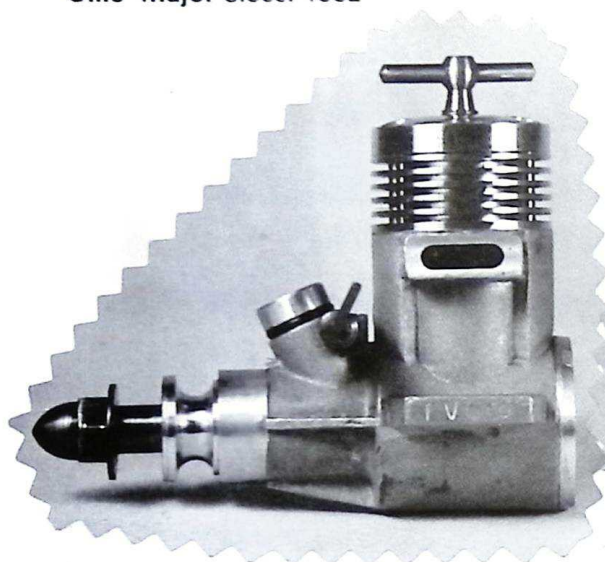




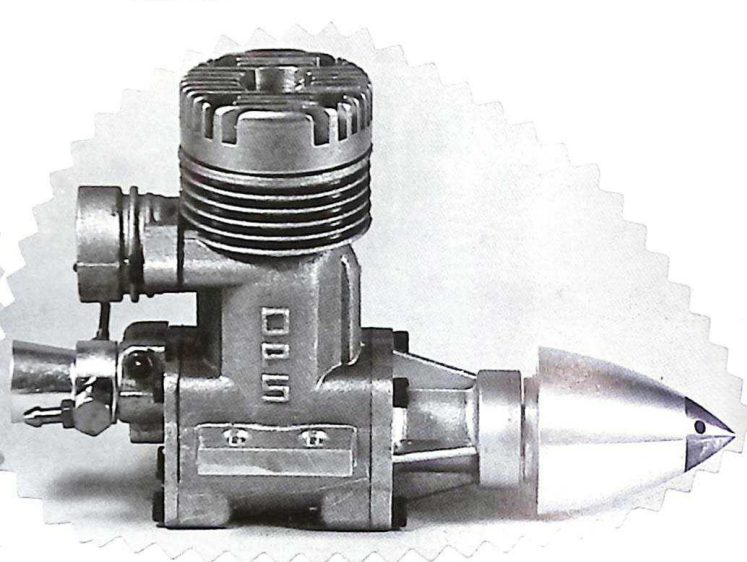
'Ollie' Major 3.5cc. 1982



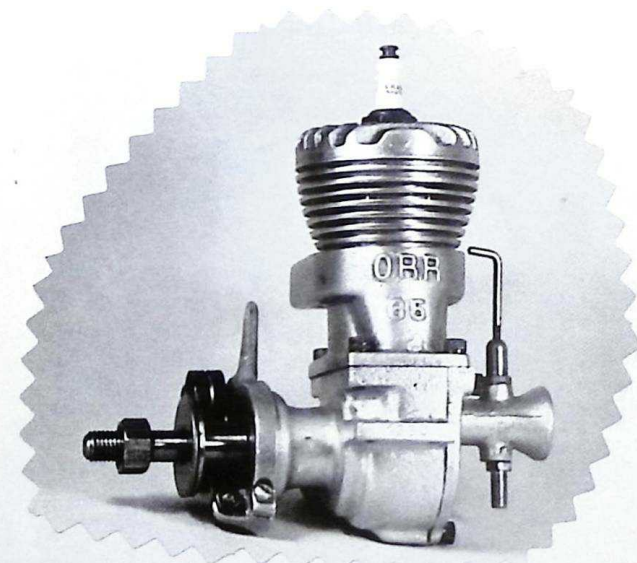
Cub 1.5cc. 1978



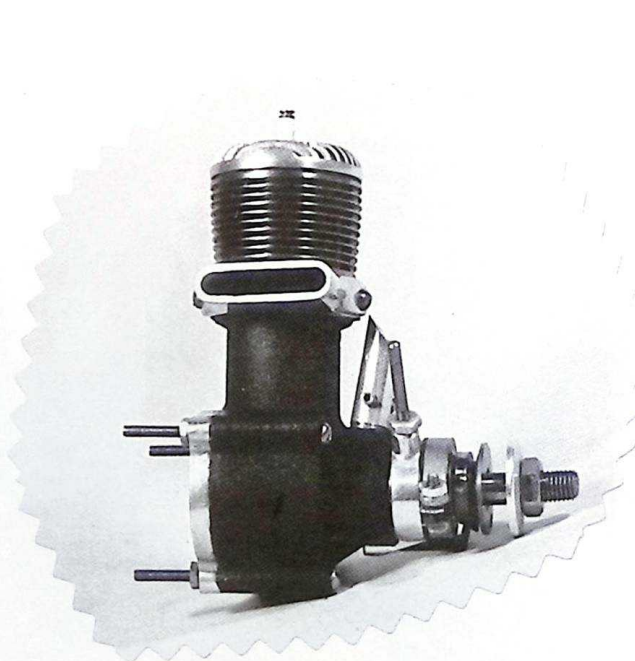
Oliver MK V , 1979 2.5cc



The well made O.P.S. 29 speed/pylon racing engine from the mid 70's



1946 ORR .65, from Michigan U.S.A.

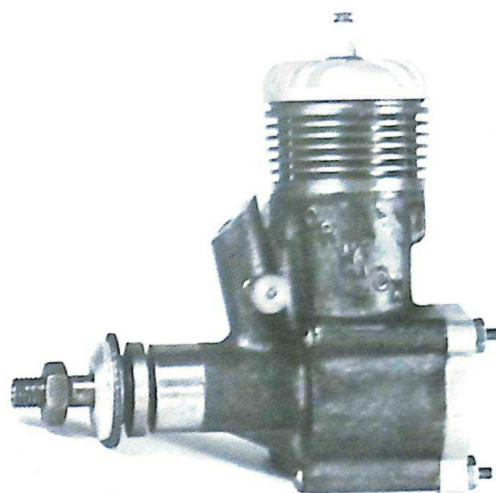


1946 Orwick .64. Finished with black crackle paint on c/case

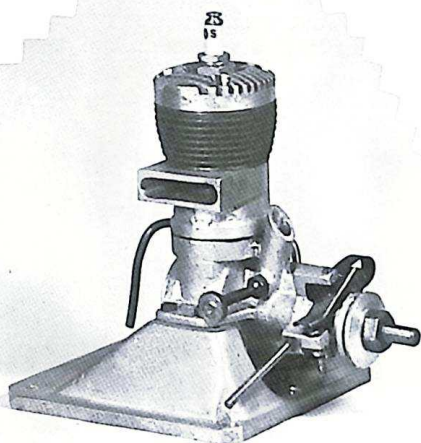




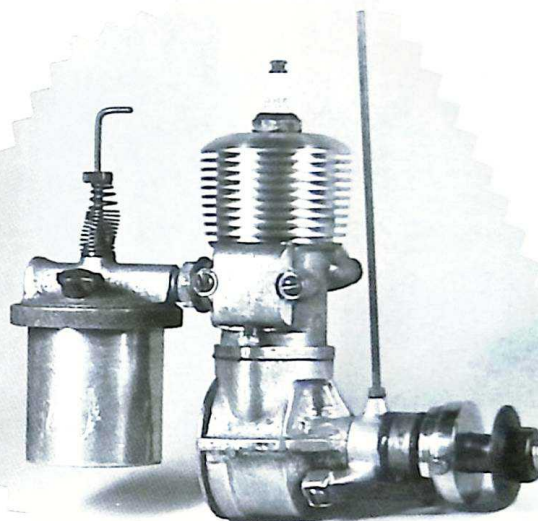
1946 Orwick .64, finished in smooth  
'pea green' paint



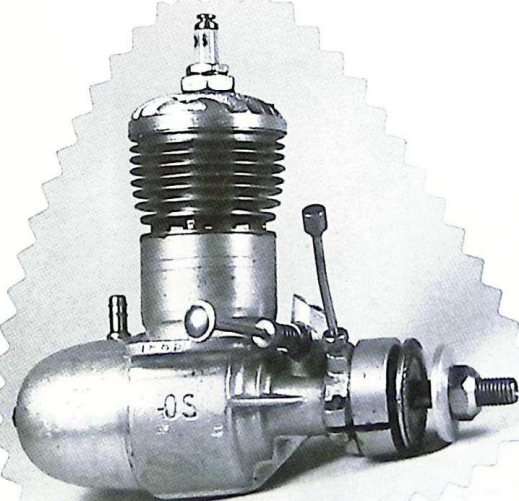
1953 Orwick .29 glo  
Has dark green crankcase



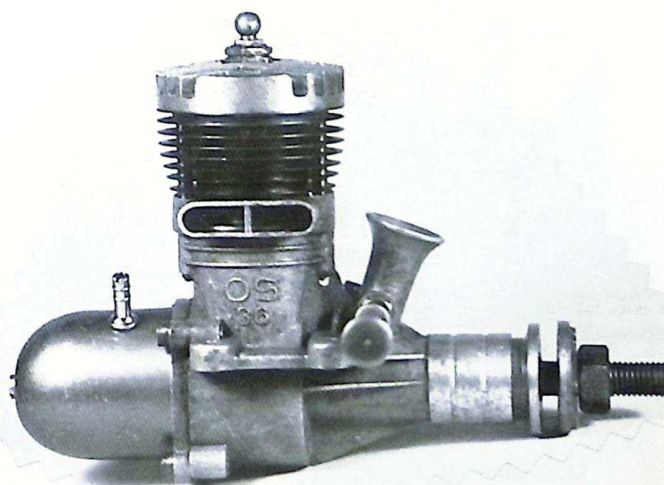
O.S. .60 1945.  
Complete with O.S. Engine Stand



O.S. .60 ign. 1941 Japan

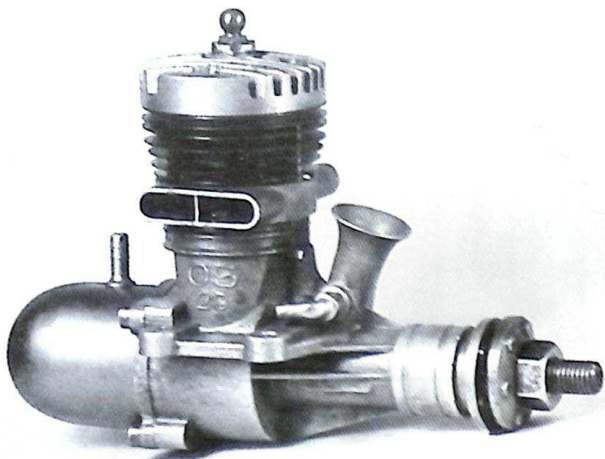


O.S. .60 ign. 1946

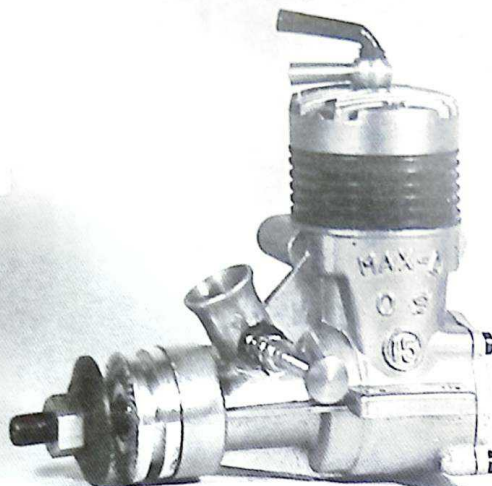


1953 O.S. .36 glo. Made at Osaka, for  
distribution in America

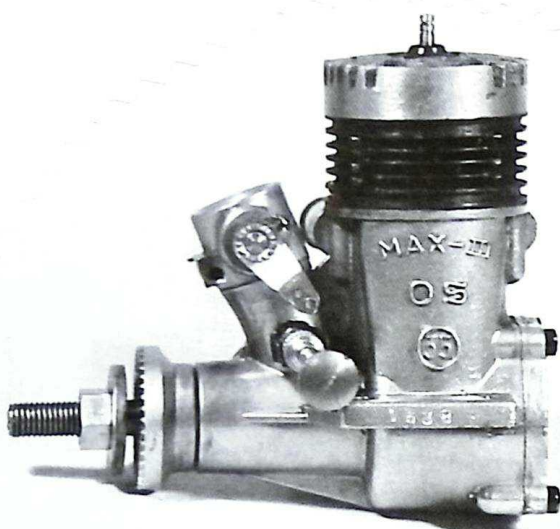




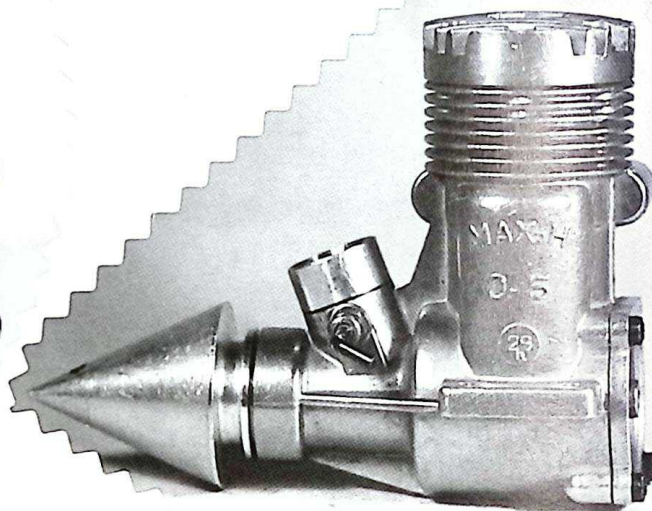
1953 O.S. .29.  
Both the .29 & .35, have red anodised tanks



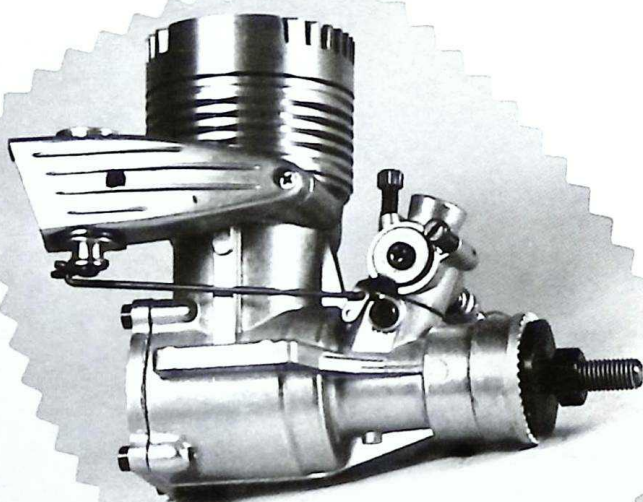
O.S. Max '15' 2.5cc diesel from 1958



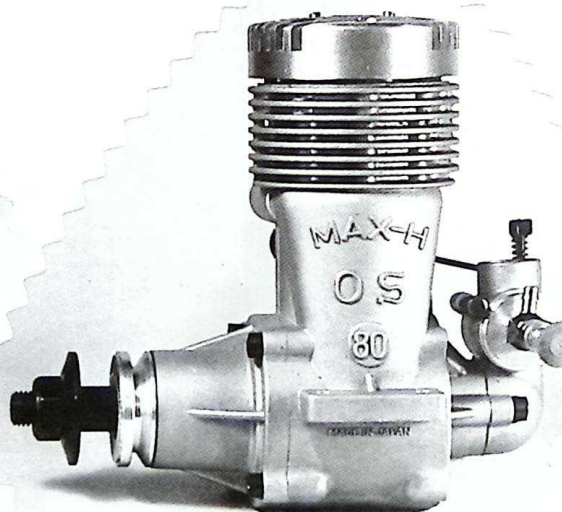
An O.S. Max .35 R/C, around '63



Max 29'R' from 1965

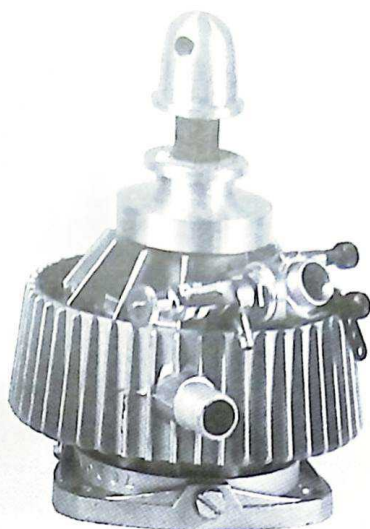


O.S. Max .56, 1965

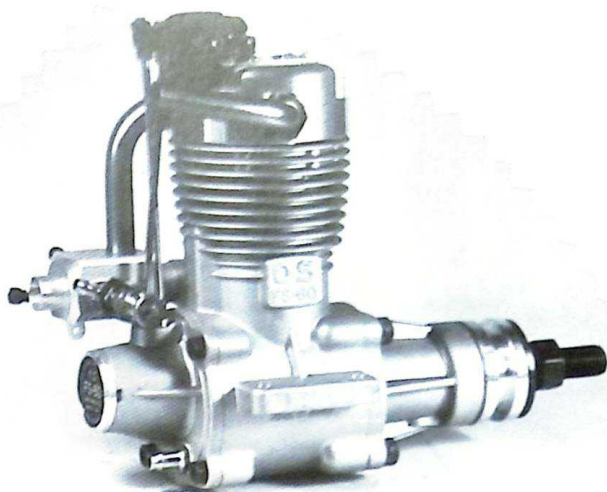


Max .80, 1966. Also made as a .61

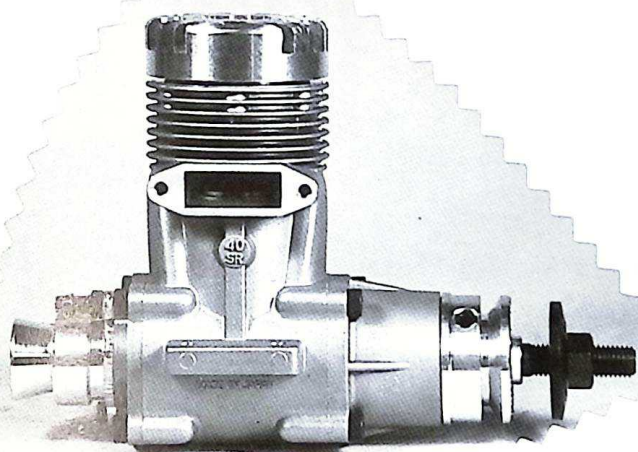




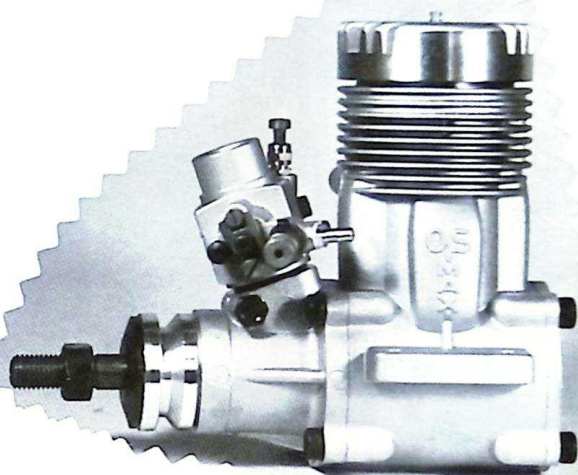
1973 O.S. 'Wankel' Produced under licence from Graupner



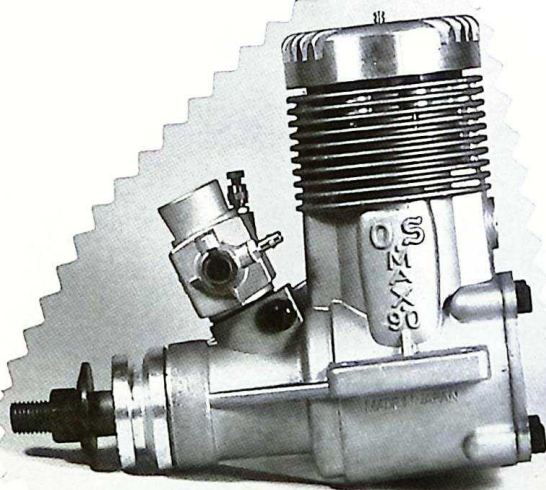
1976 O.S. 4 stroke. Series I



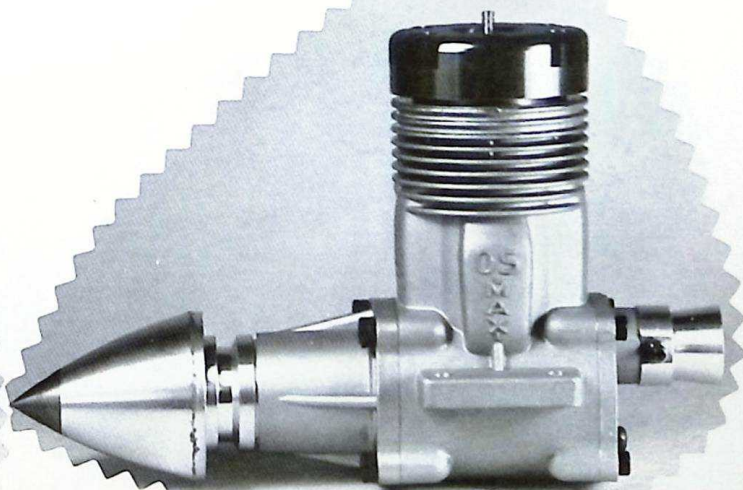
1974 Pylon Racing O.S. 40'R'



O.S. Max .61. Current model

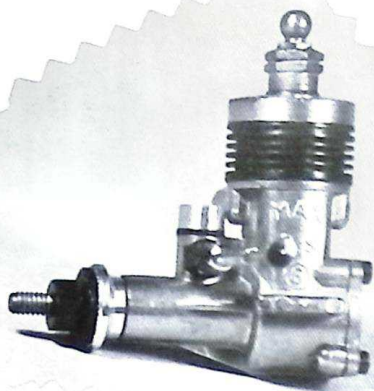


O.S. Max .90

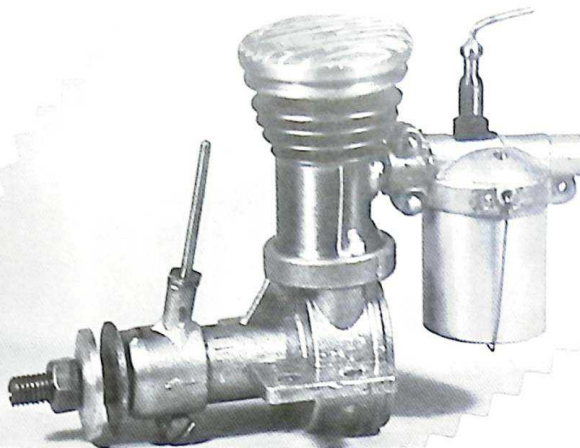


1977 the beautiful O.S. 65'R', built like a watch, with light blue metallic head





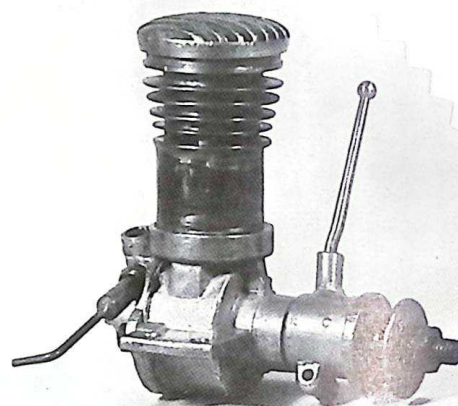
Almost dwarfed by the plug is the  
**O.S. Max .6**, 1962



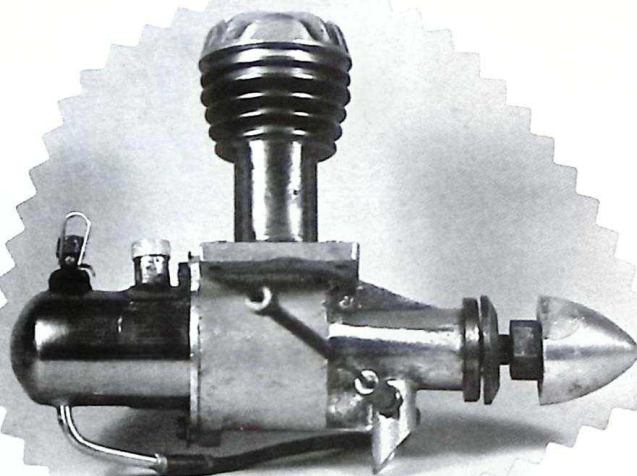
**Ouragan 3.3cc** 1947, Paris, France  
Eccentric shaft to adjust compression,  
similar to Airstar



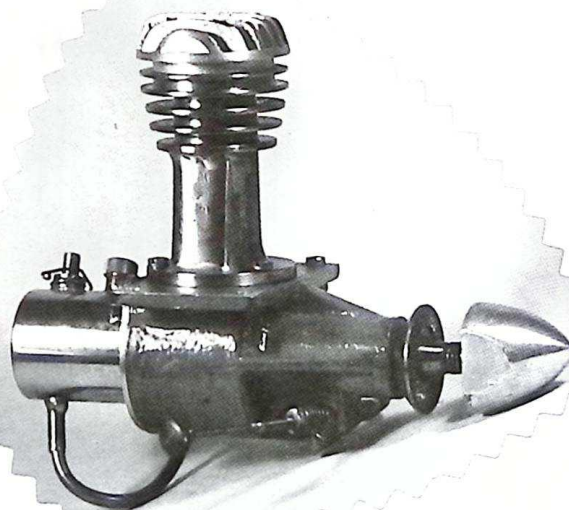
**Ouragan 3.3** rear drum induction, from  
1949. Quite an advanced induction system  
for its time



**Ouragan 5.0cc** diesel

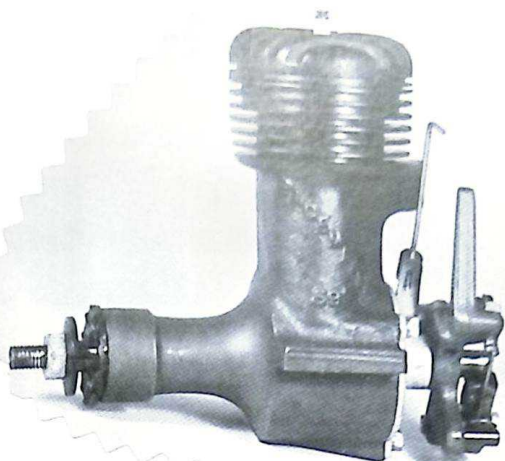


1946 **Owat 5cc** diesel fixed compression.  
A copy of the Micron, but not such good  
quality

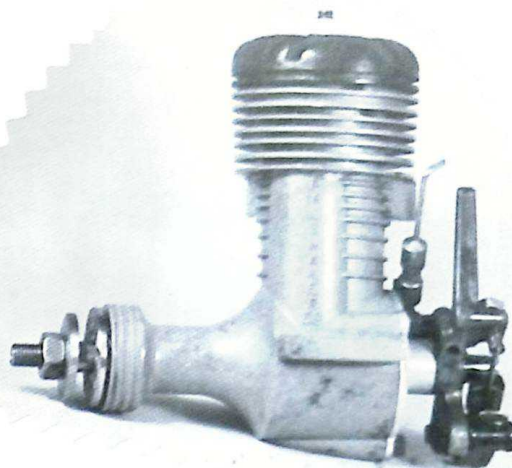


Series II **Owat** had red painted c/case and  
tapered fit prop. driver, as compared to the  
square 'hole to fit' shank on the Series I

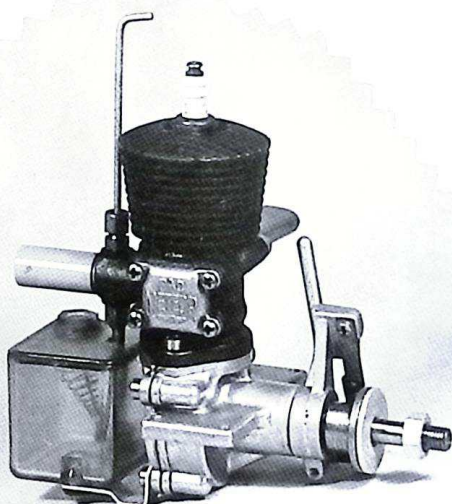




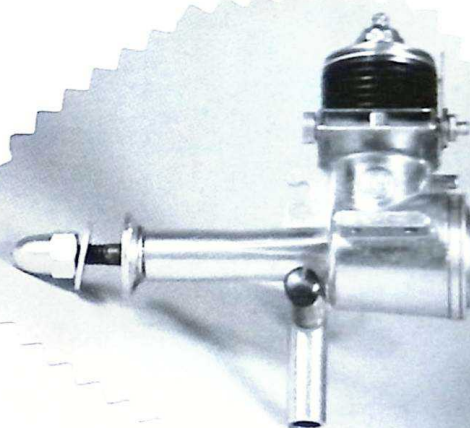
1946 'Pacemaker 59'  
First series was sandcast magnesium



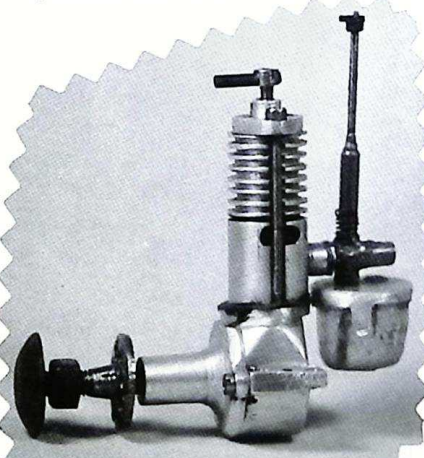
'Pacemaker 59' 2nd series die cast



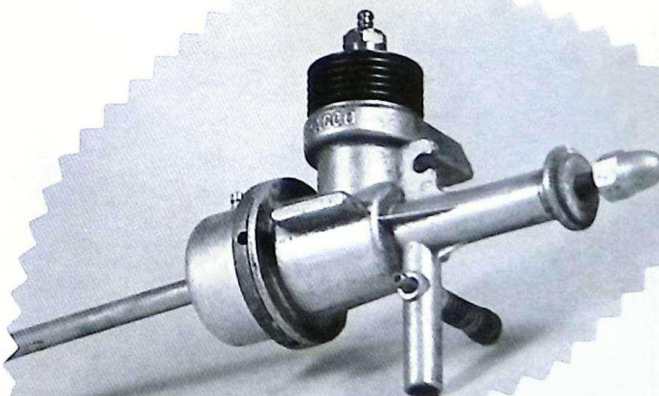
P.A.C. .57, 1947  
Pacific Airmotive Corp. Last of the  
Dennymites, few made



1959 Pagco .09. Modified from a  
Bill Atwood engine

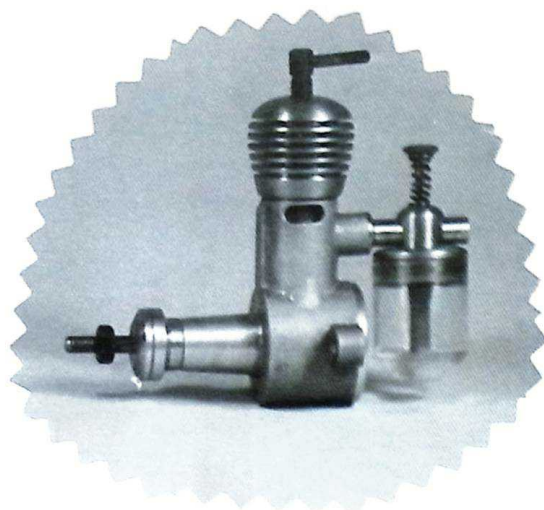


P.E. Norman, (of Ducted Fan fame)  
designed and built some of his engines.  
This is .75cc

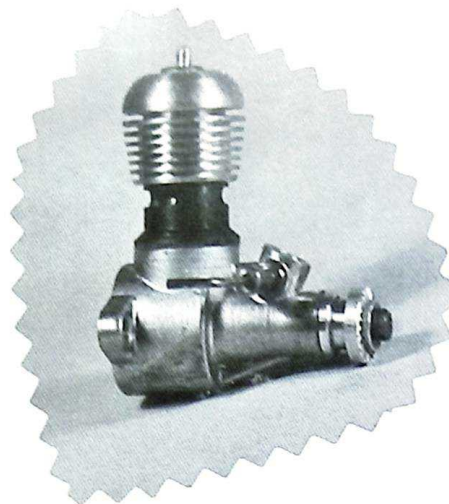


This Pagco .09 fitted with extension shaft  
for helicopter drive



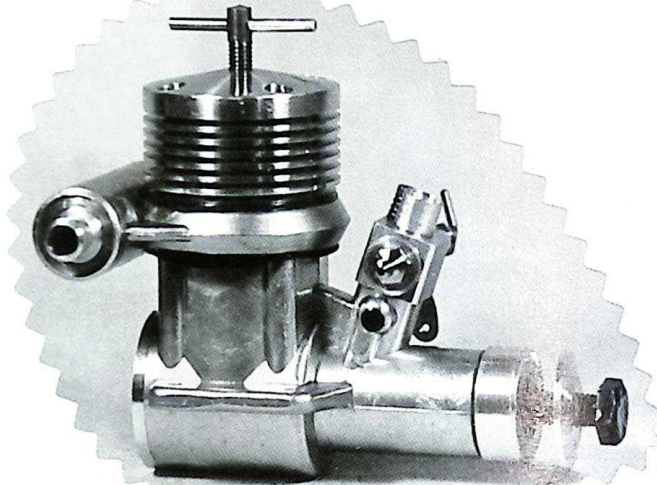
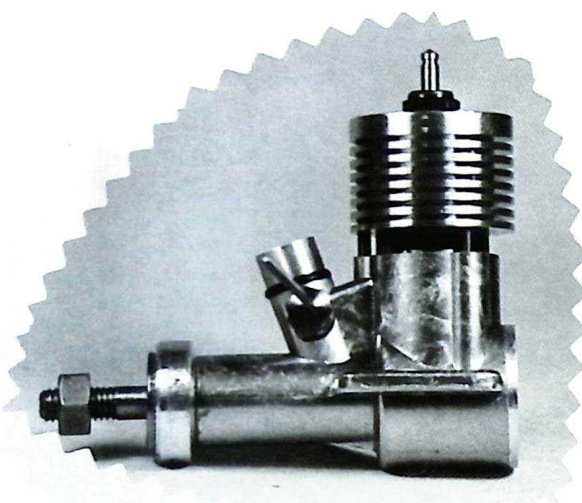


**J Patramana .4cc**

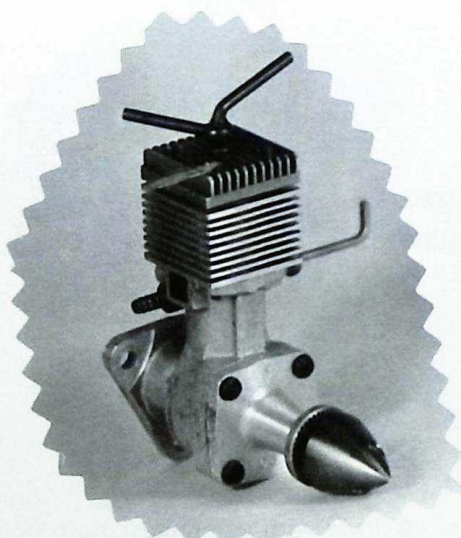


**Patramana .5cc glo**

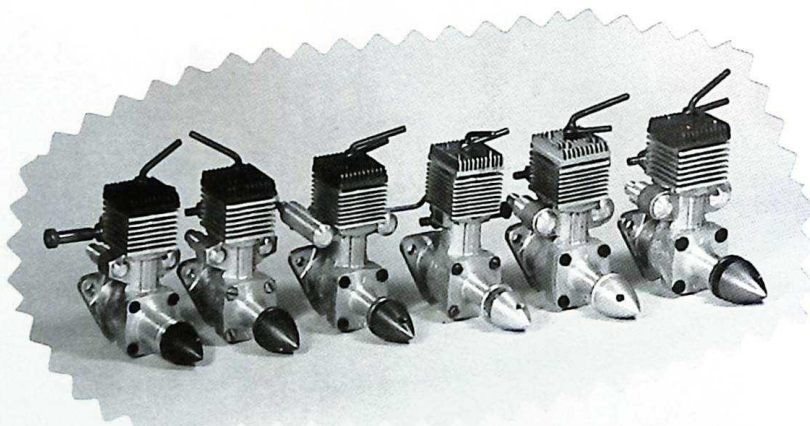
Czechoslovakia certainly had its share of excellent model engineers.  
The engines above, Pfeffer and Garcia to name just a few



**P.A.W. (Progress Aero Works)** produce quite a list of engine sizes, from .8cc glo (above left), to the .35 cu.in. (5.7cc) (above right)  
All are good value-for-money, well made and reasonably priced



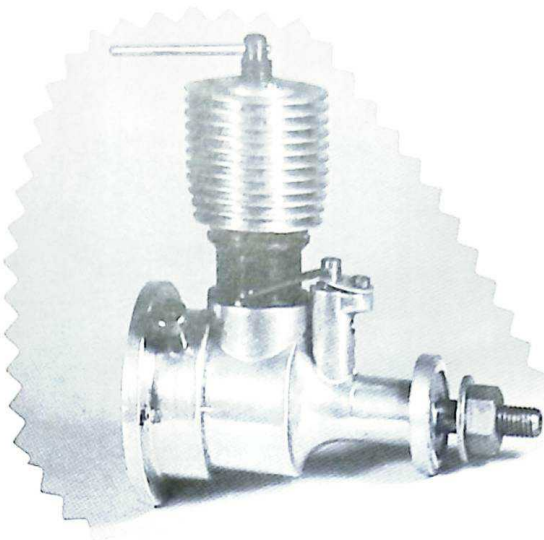
First model 'square head'  
**Pfeffer 1969**



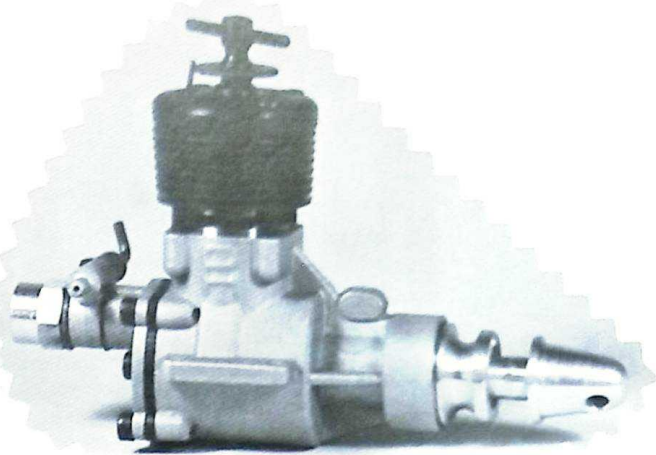
**MK IV   MK IV   MK II   MK I   MK III   MK III**  
Ball Bearing

Various Series available on and off in small numbers  
over the last 18 years

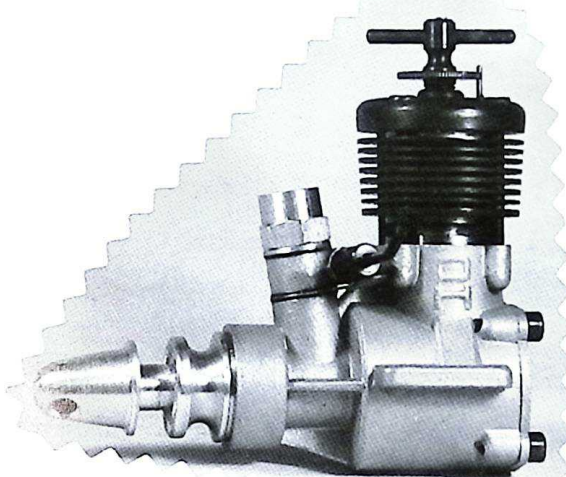




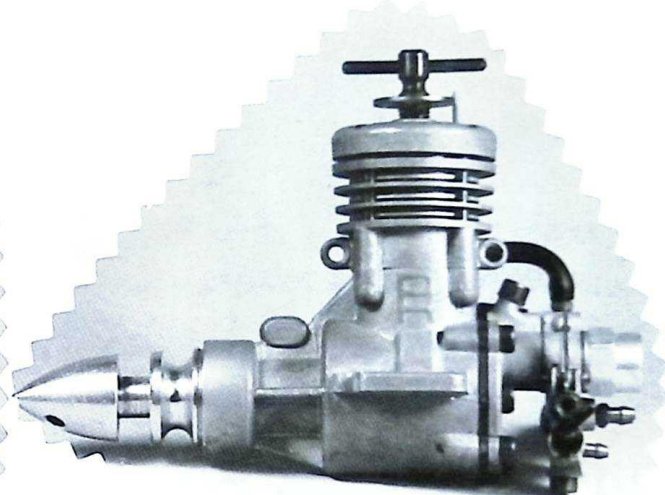
1947 **Pepperell** 2cc diesel from New Zealand, very few made



1980 **Peres** 2.5 Team Race diesel. Well made, performance engines. Made in Spain



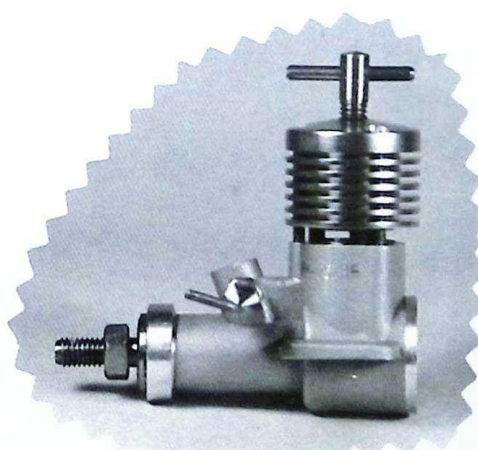
**Peres** 2.5cc Combat diesel



**Peres** 2.5cc "Special". Built in cut-out fuel feed. Used in Spanish T.R Team by the Peres Brothers in 1976

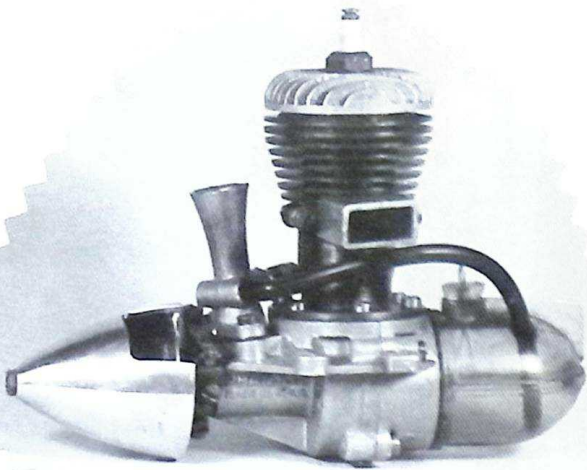


1941 Model '**Perky**' .19 from Brooklyn, N.Y. 1940 model had vertical plug

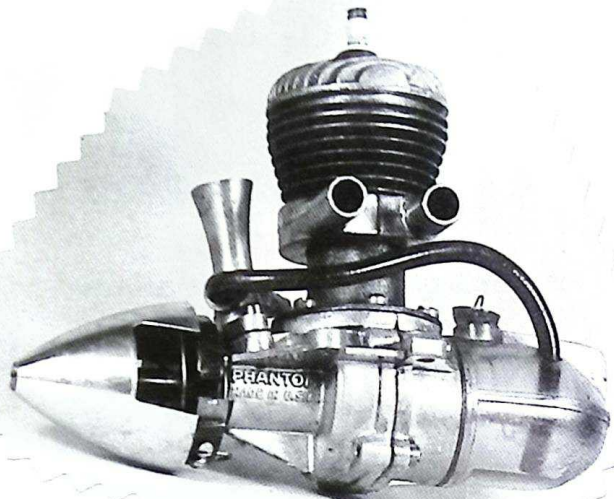


**P.K.** .8cc. Short run of P.A.W. 80's, with 'blasted' finish to c/case and gold anodised head. Sold through Performance Kits

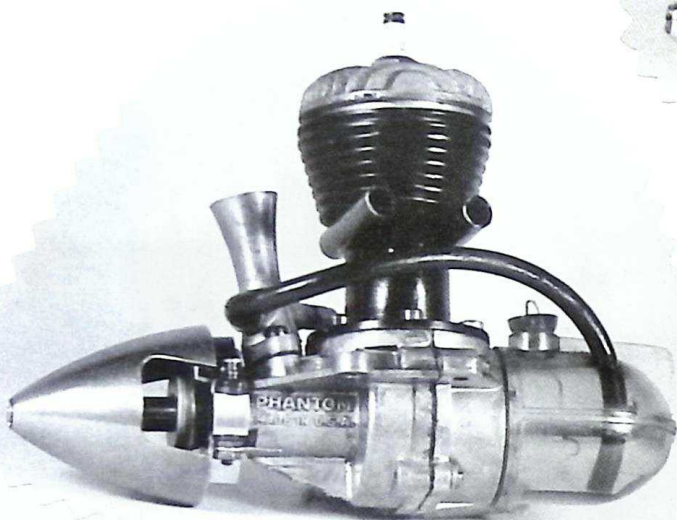




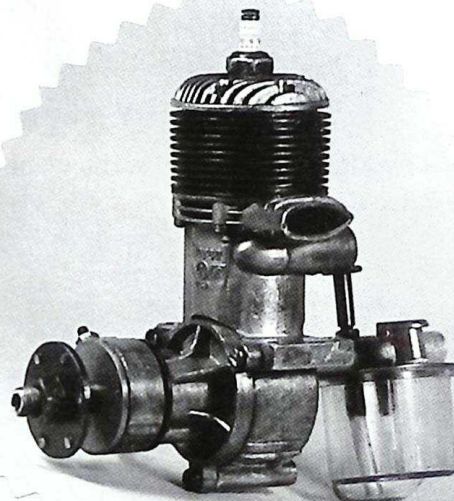
**Phantom P-30** 1941, from Phantom Motors, Los Angeles. The MK I has a bolt-on rectangular exhaust stack.



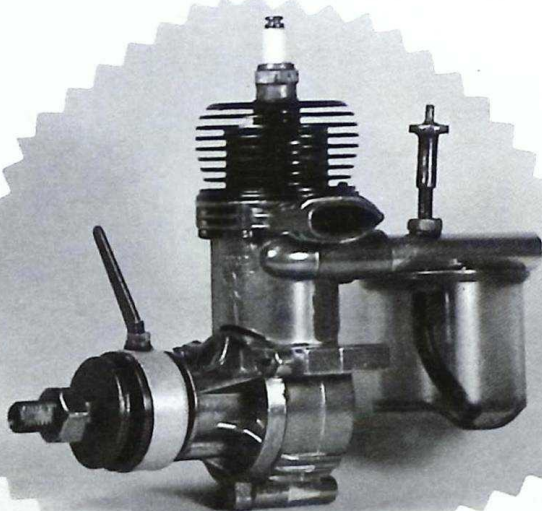
**1946 MK II Phantom P-30.** Modified needle valve assembly, timer and bolt-on twin stacks



**1947 MK III Phantom,** has brazed-on stacks

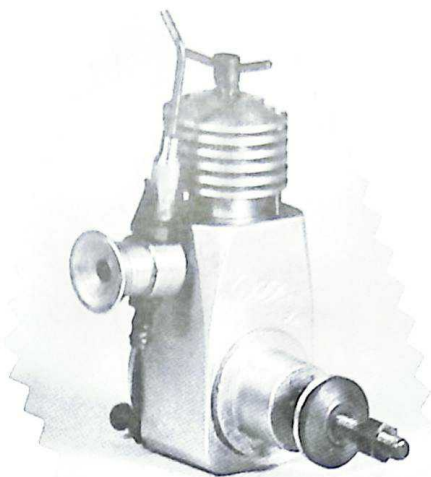


**1947 Pierce 'Model J-Super'** .29. Rear Rotor. Note use of sideport crankcase, which is blanked-off

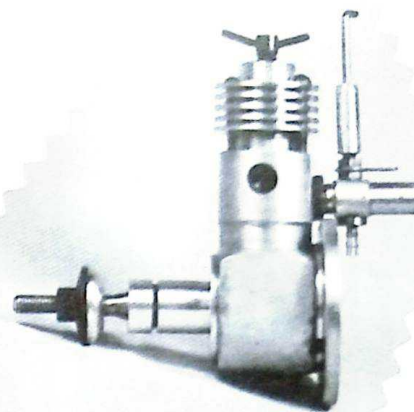


**Pierce 'Model J'** .29, 1947

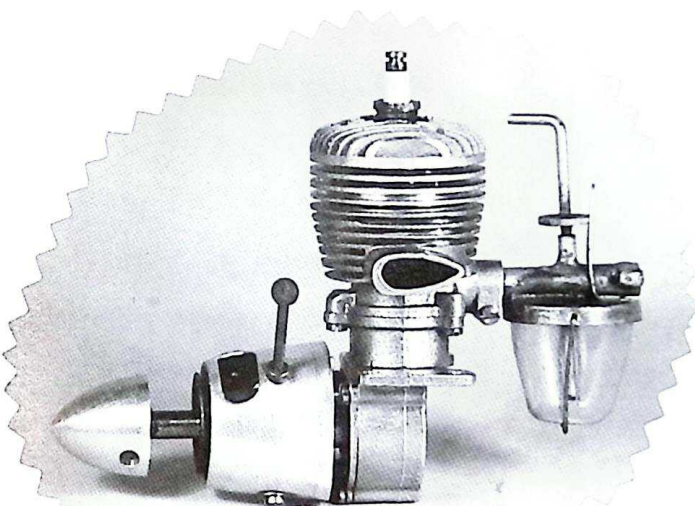




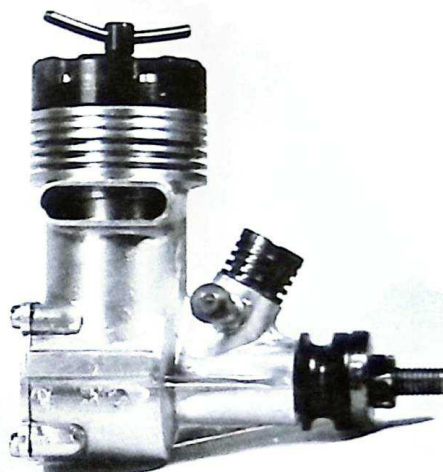
**P.M.C. 'Imp' .75 MK I 1982**  
Used 'Embee' parts



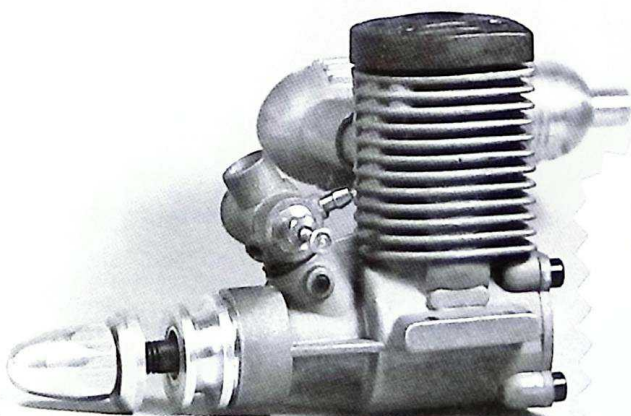
**Series II Imp 1.2cc, with throttle valve**



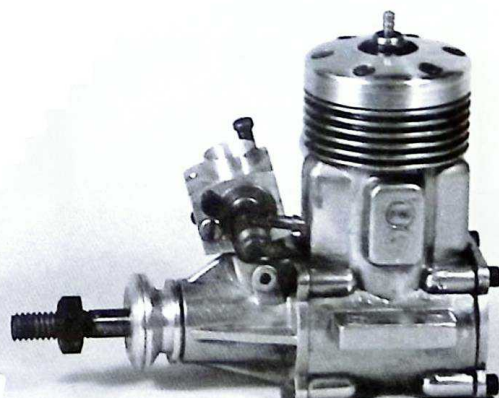
**1941 Polycromatic 2cc, from France.** Not a lot known about this pretty little engine



**1968 Russian 'Polyot' 5cc diesel**



**Powermax 20 cu.in. R/C**



**Prototype Powermax 40, R/C**



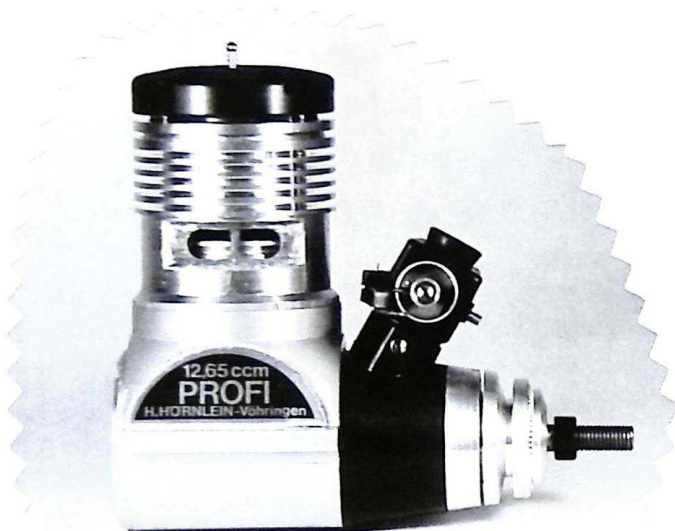


**Profi** .10 cu.in.

Profi Engines, from Germany 1974.  
The series started at 1.7cc thru 2.5, 3.5, 6.5,  
10cc and finished at 12.6cc. Nicely made  
units that didn't catch on



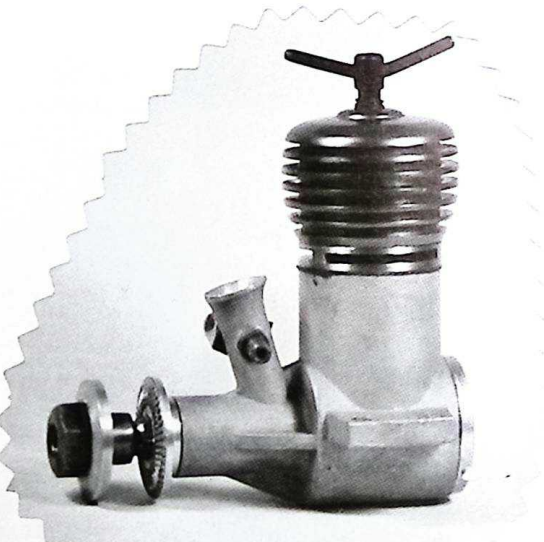
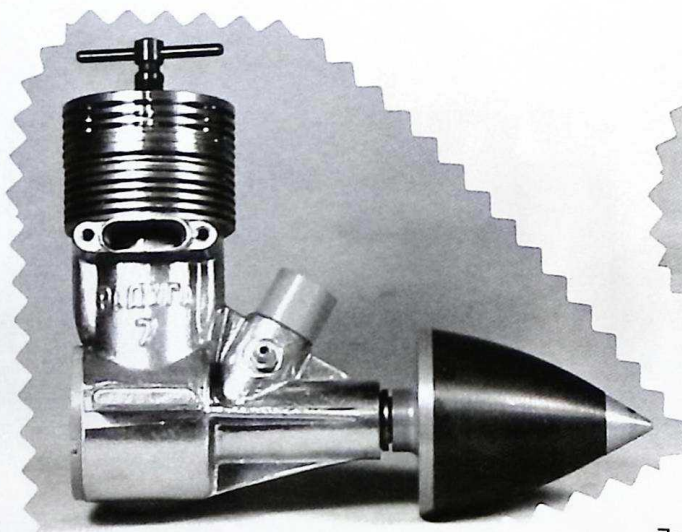
**'Powermax'** 5 cyl. Radial  
One of a pair of 25cc made when the  
company was at Heywood Lancs., in 1974



**Profi** .76 cu.in.



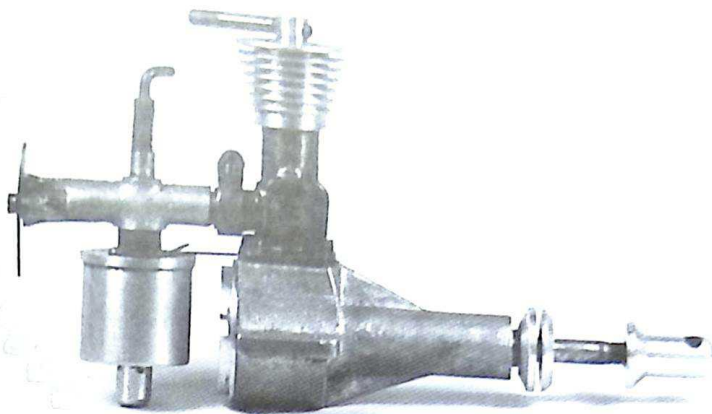
**Profi** .15 cu.in.



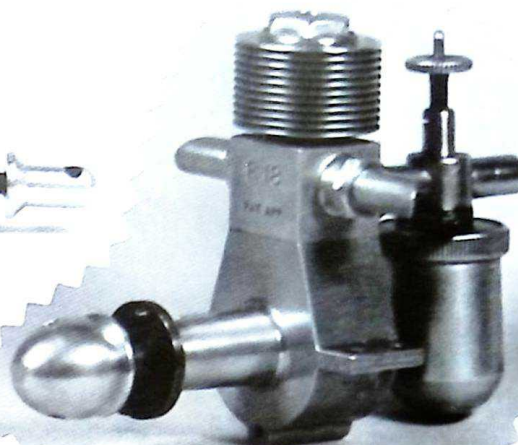
1956 **Proton** 2.5 from Hungary

7cc **'Raduga'** 1974, Russian made

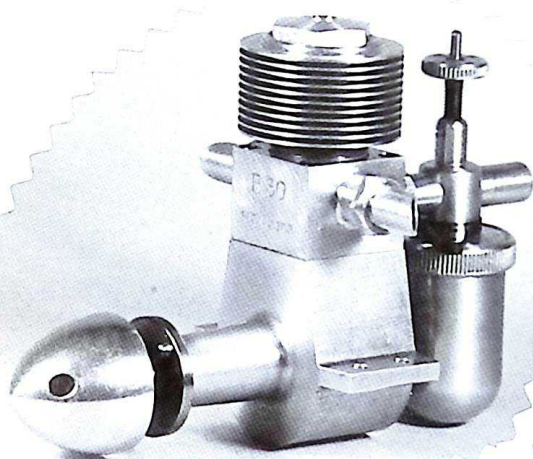




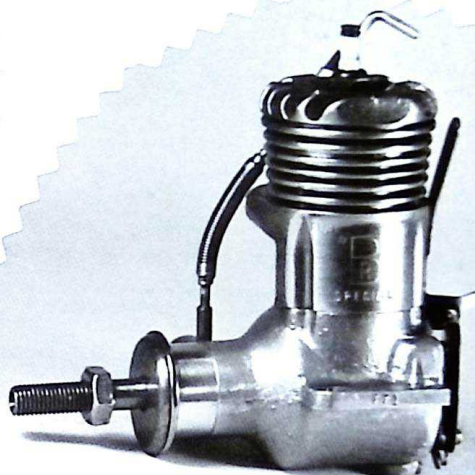
**Rapier 1cc.** Marketed by Raylite in 1948.  
From Nottingham, home of the Oliver  
Panther at that time



1948 **Rawlings 1.8cc**, from Warwick



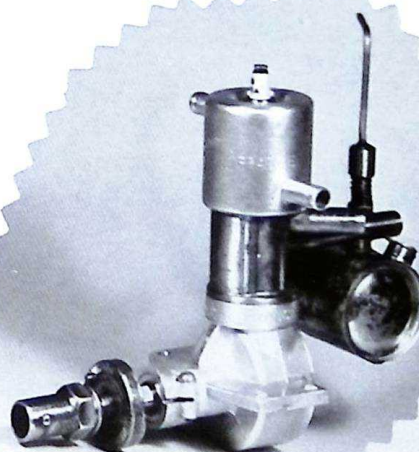
1948 **Rawlings 3.0cc**



1946 **R.B. Steele** the "RB Special" .29 ign.,  
from Cleveland, Ohio

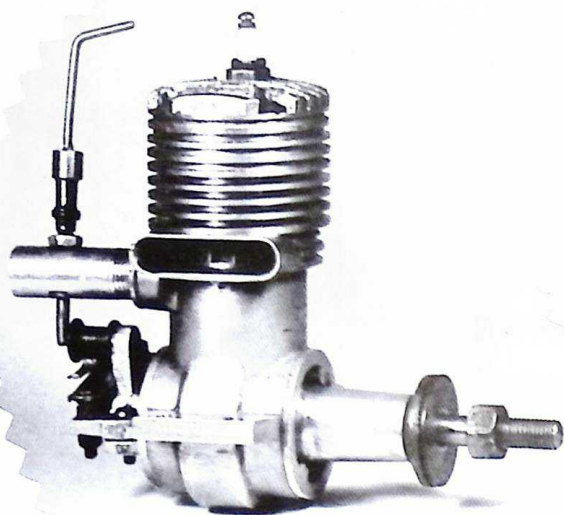


1940 **Rea 7.5cc**, from France

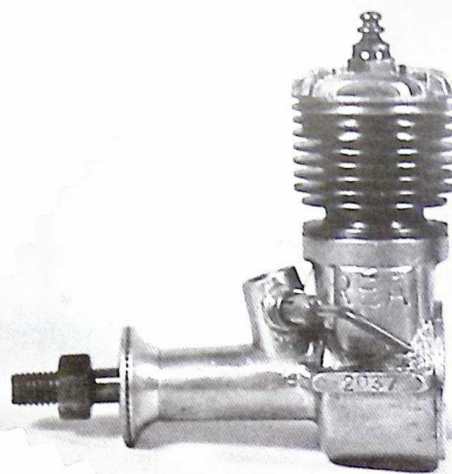


1939 **Rea 7cc Marine ign.**, from France

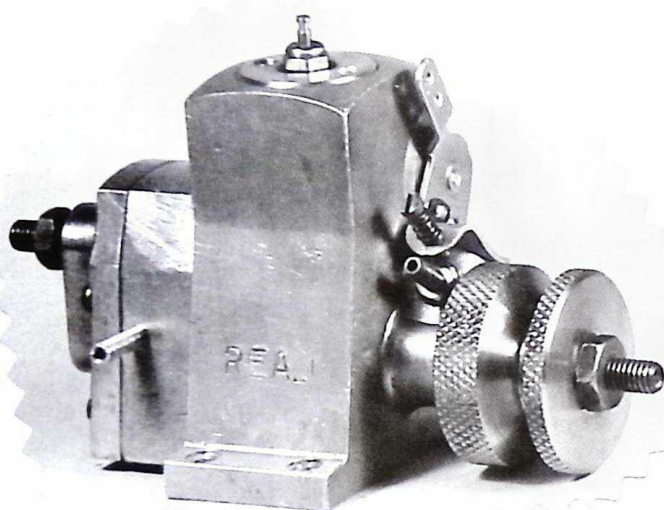




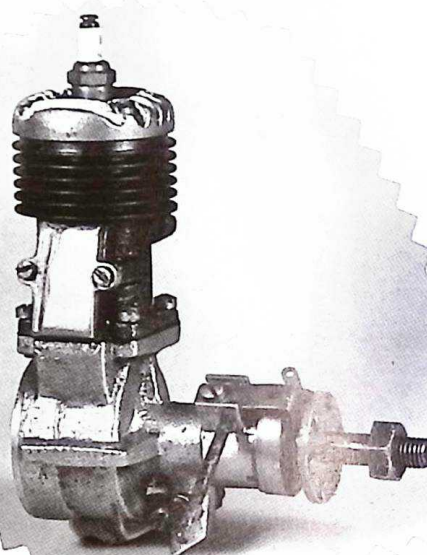
1949 Rea 10cc ign.



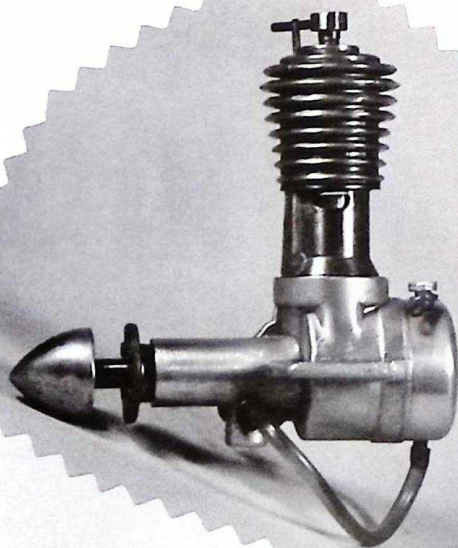
Rea .29 glo, 1950



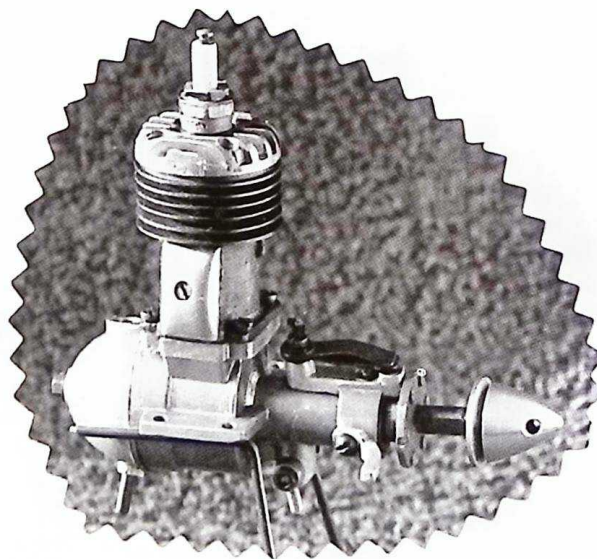
Rea 3.5cc Marine, with geared pump for water cooling



1946 Reeves 6cc Series I from Salop, Staffs



1948 3.5cc Reeves diesel

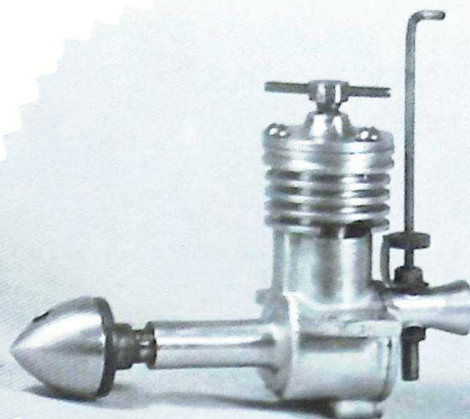


Series II, 6cc Reeves

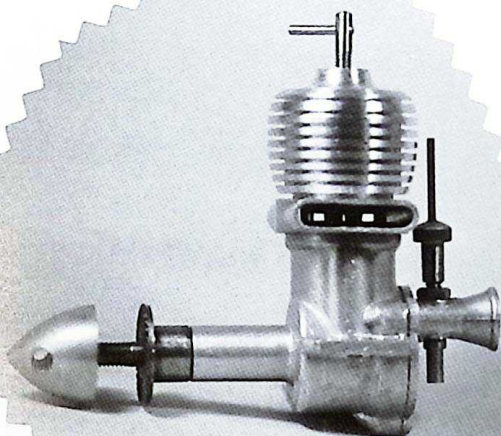




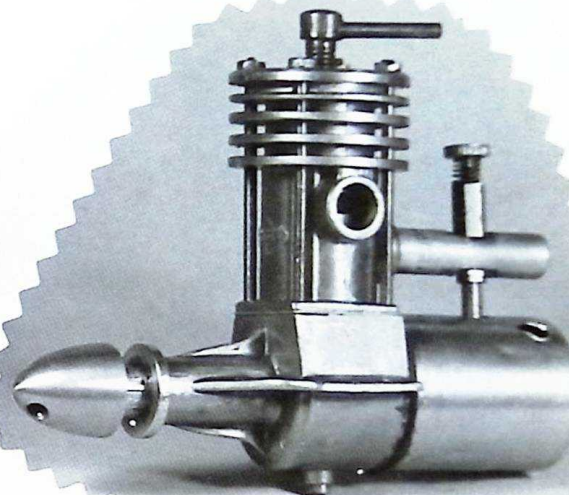
1949 Reeves 4cc



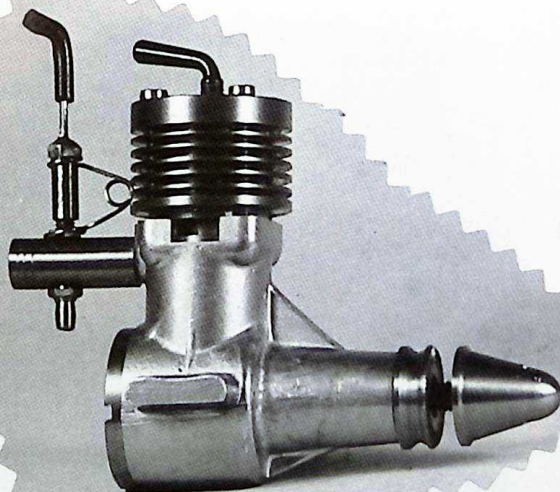
1950 Reeves H18 1.8cc



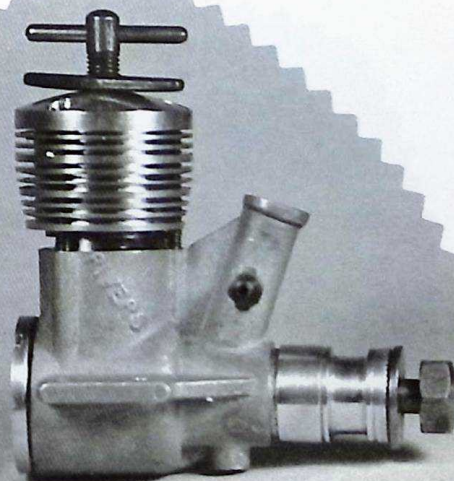
1952 Reeves 2.5cc "Goblin"



1949-1955 R.G.U. 5cc, Germany

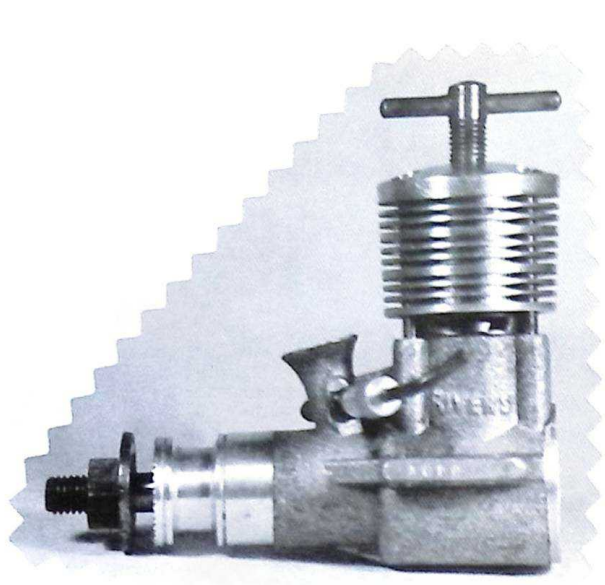


**Retro '15'** 2.5cc from Luxembourg, early 1970's. An attractive engine, with red anodised head, carb. intake and spinner

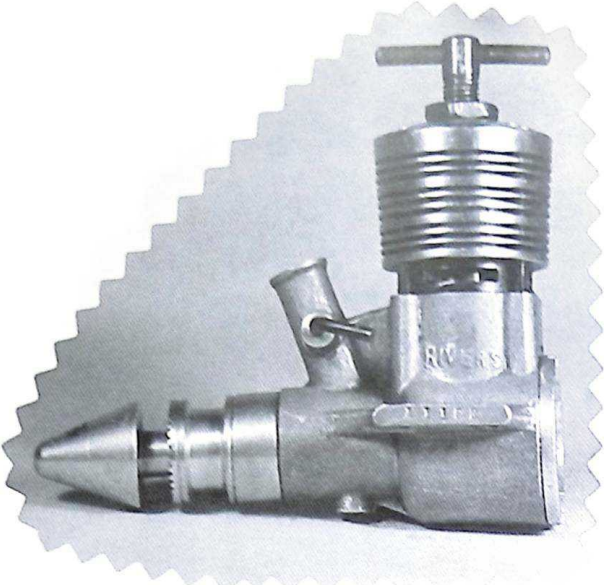


**Rivers 3.5cc "Silver Arrow"**  
Made from 1960 by A. Rivers, Hounslow, Middlesex. Powerful, needle roller shaft, diesel

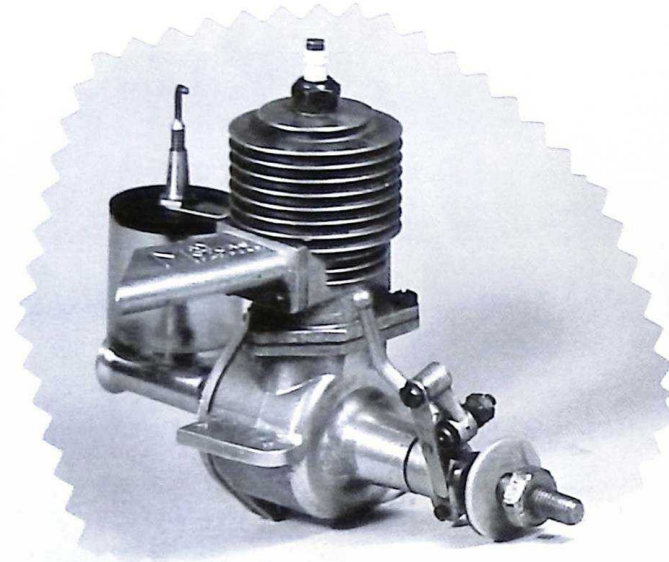




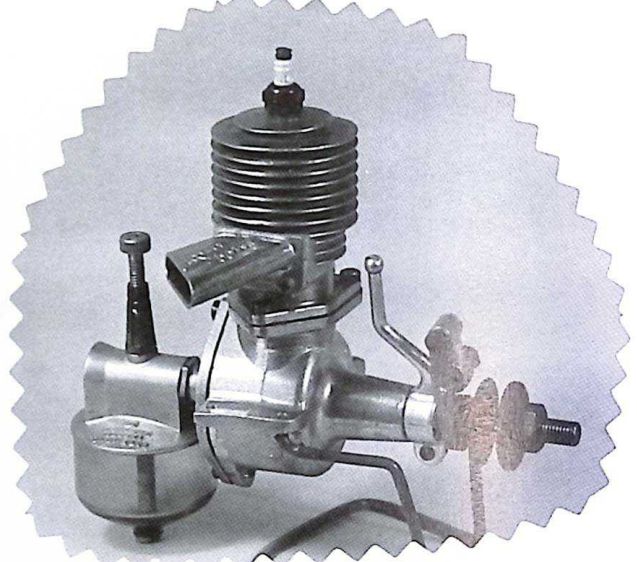
**MK I 2.5 Rivers Silver Streak**



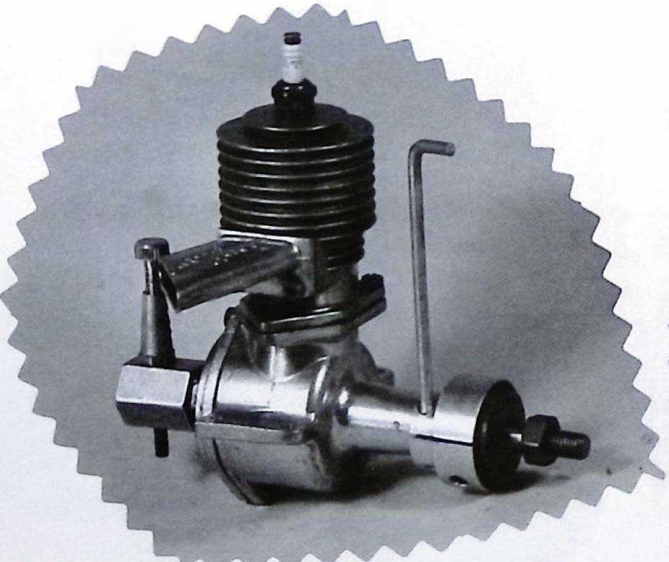
**MK II Rivers Silver Streak**



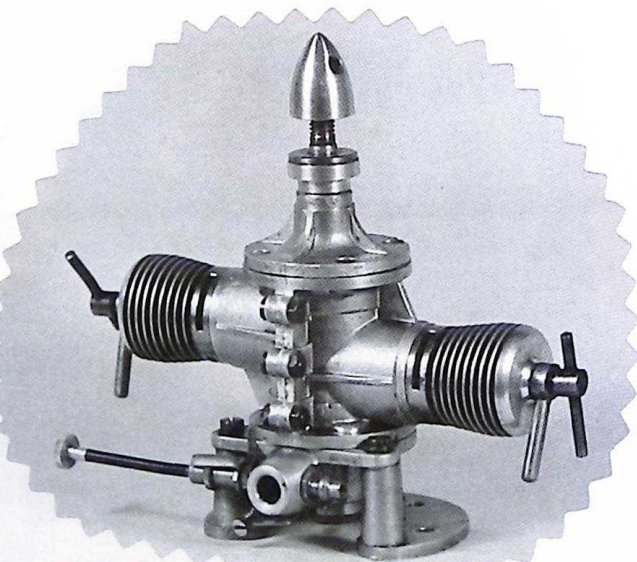
**1941 May Rocket .56**  
Designed and built by Ashton May of May Motors, Michigan



**1945 Rocket 'Victor' .46**  
Manufactured by Corporate Products of Detroit

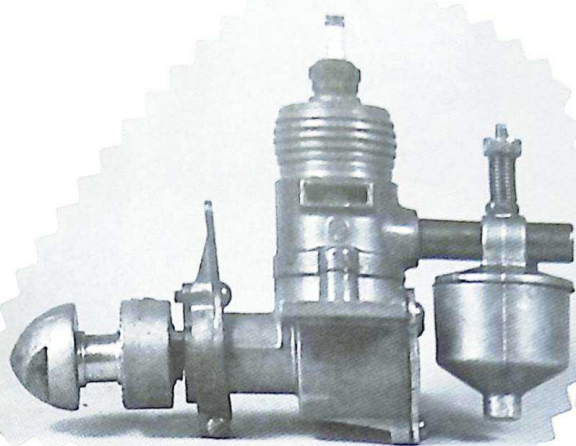


**1947 Rocket 'Special' 4610**  
The last Rocket, with revised timer, venturi and separate tank

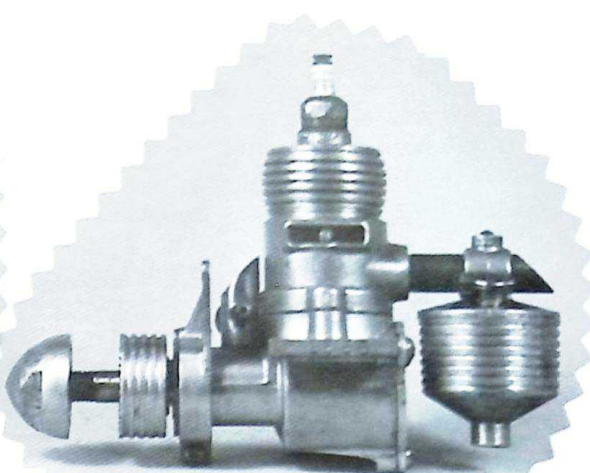


**1964 Robbe 'Duo' 5cc twin from Germany**

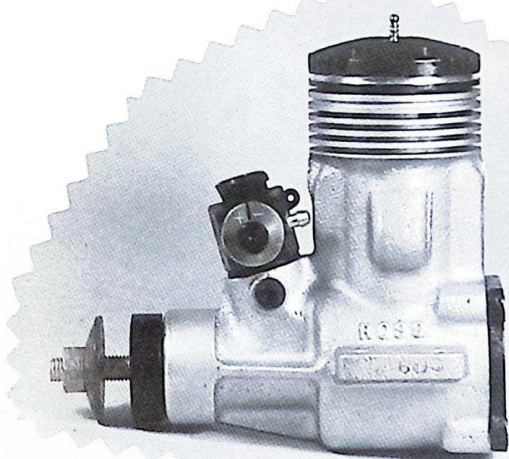




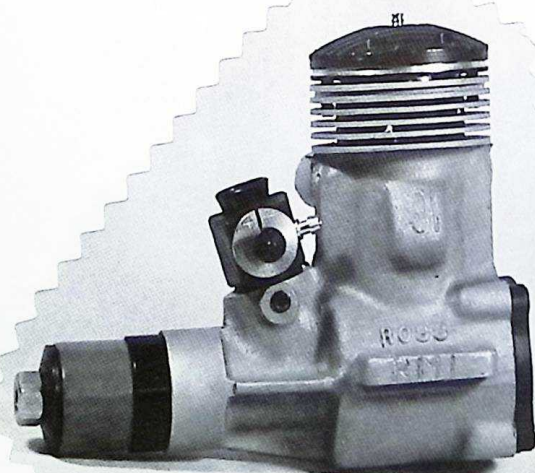
1942 **Rogers .29**  
Manufactured by Cliff Rogers from Philadelphia



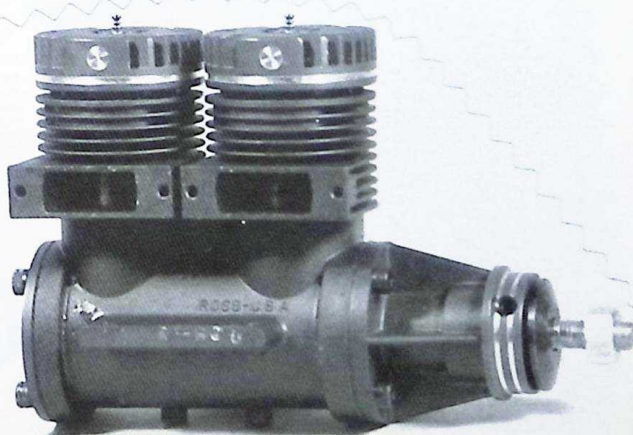
Later series of **Rogers .29**. Front rotary valve. Blanked off side port intake, used to hang tank from



1974 **Ross '61'**, white case and black case



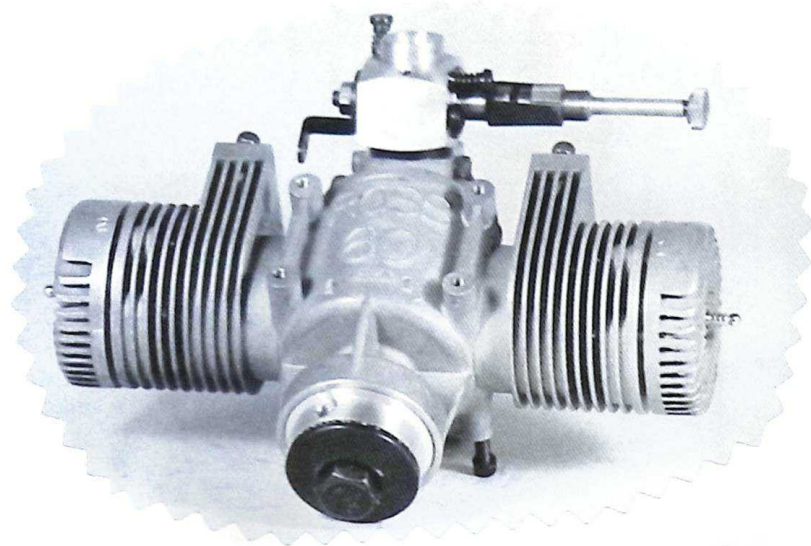
**Ross '.91'**



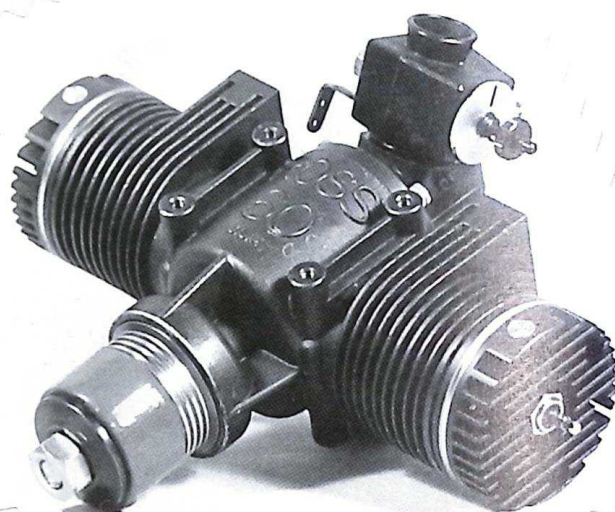
**Ross 10cc In line**



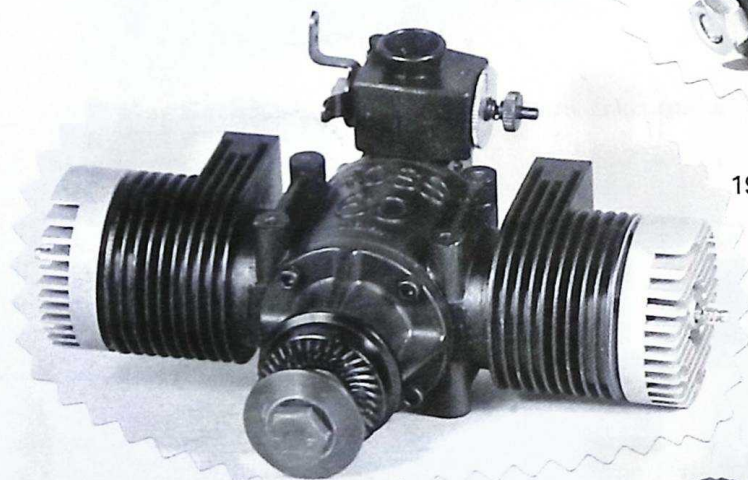
**Lou Ross** designed a whole range of multi-cylinder engines. They have often been described in much detail in various magazines. These pictures show just a small variety of Lou's fine engines



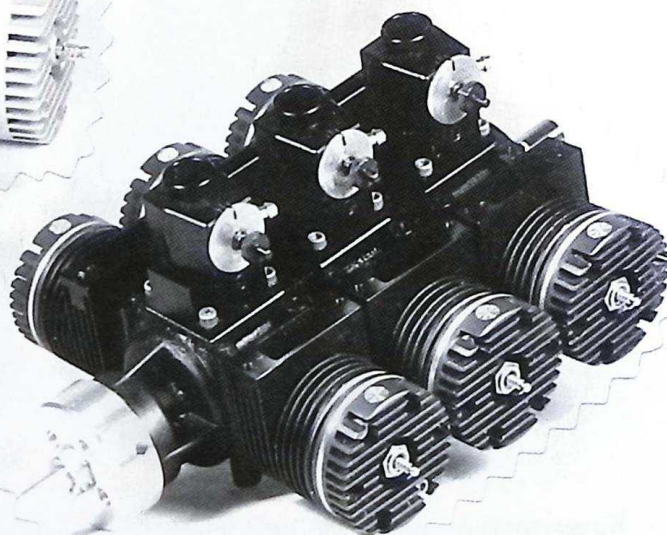
1970 Ross .60 cu.in.



1974 Ross .60

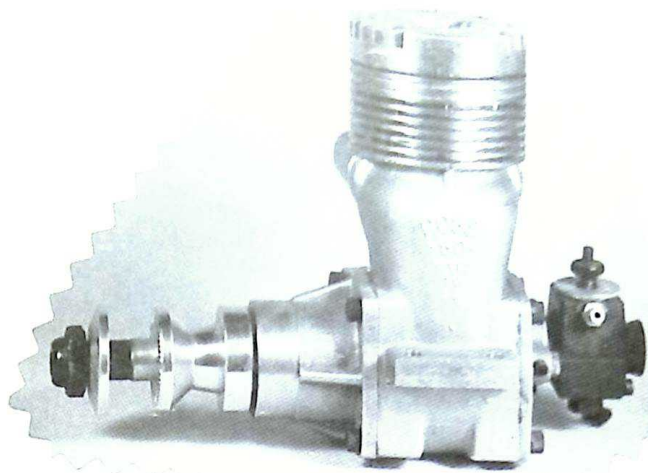


1976 Ross .60

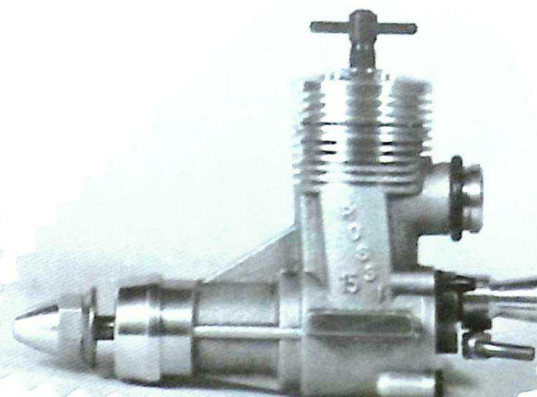


The exciting 30cc Ross 'Six'

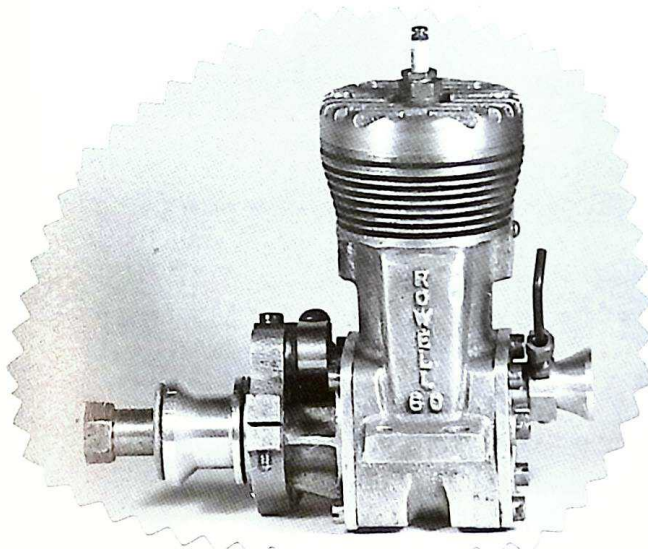




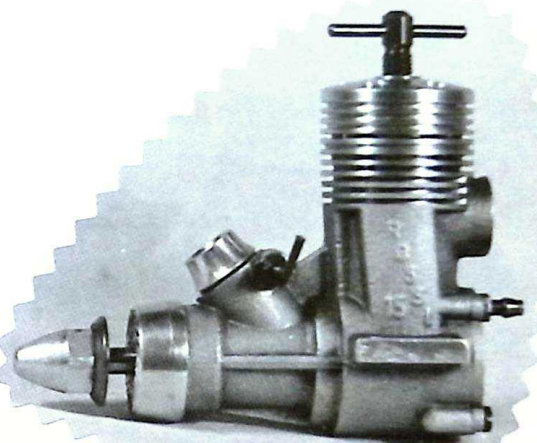
1963 **Rossi** .60 R/C. The 'Rolls Royce' of 10cc speed and R/C in the 60's



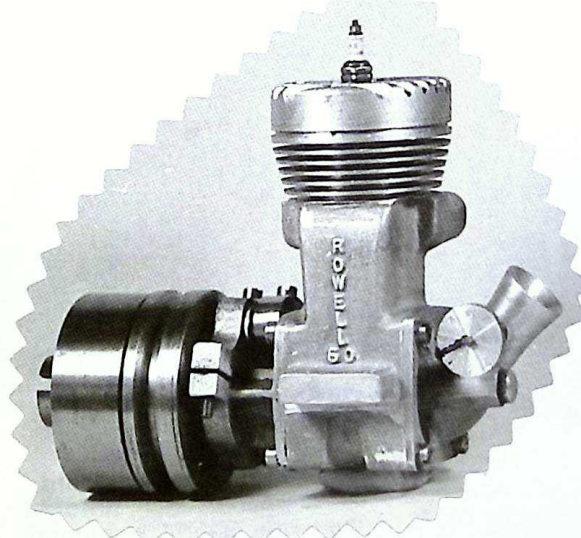
**Rossi 15** 2.5cc Team Race engine 1974



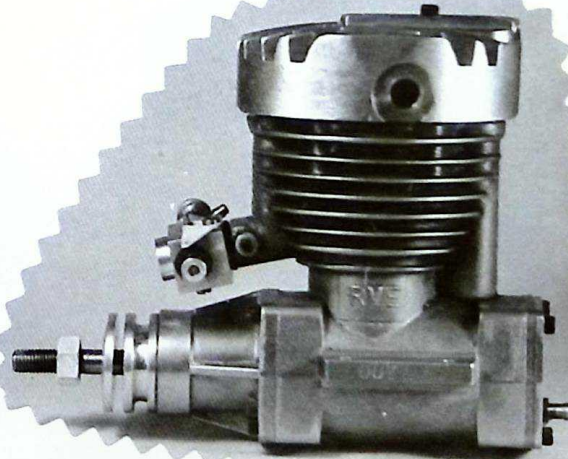
1948 **Rowell** .60 from Dundee, Scotland



1970 **Rossi** 2.5cc combat engine

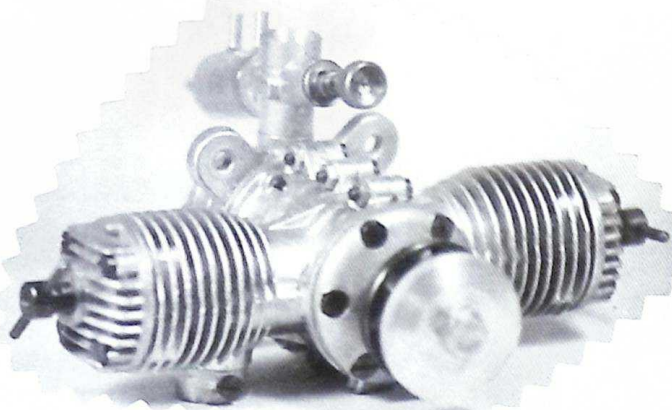


1949 **Rowell** .60 Series II with clutch flywheel

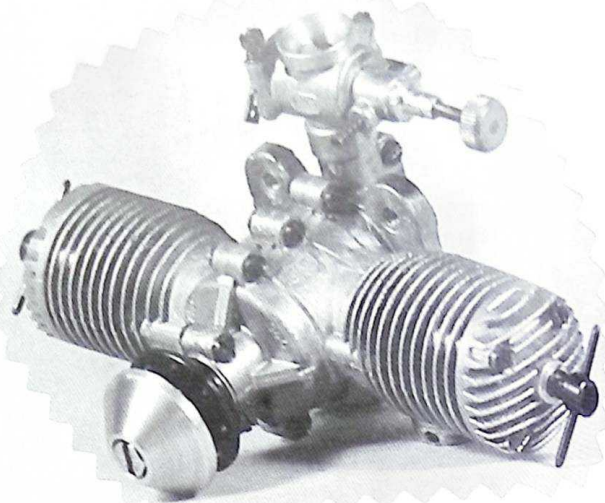


**R.V.E.** 10cc. Rotary valve four stroke, from the North of England in the early 80's

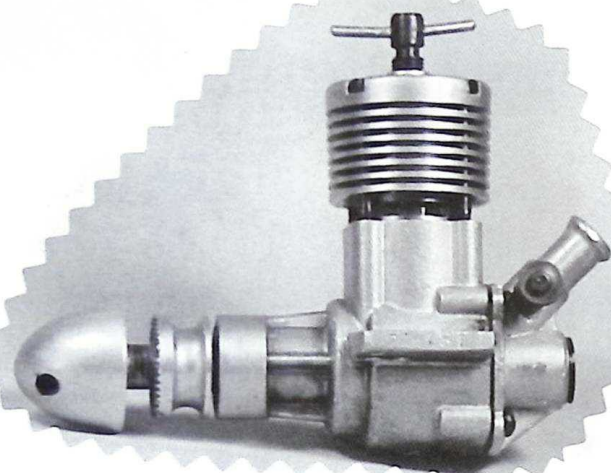




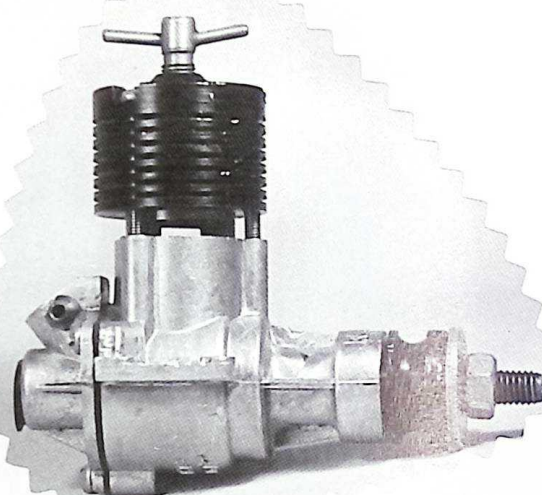
Ruppert 7cc twin diesel



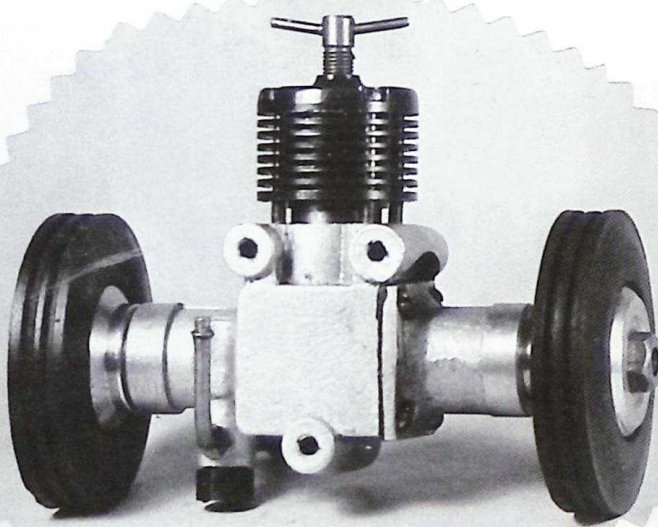
Ruppert 10cc twin diesel



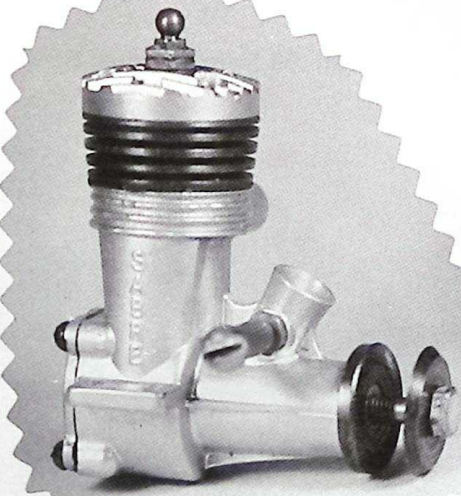
1962 **Rhythm** 2.5cc from Russia.  
1st class finish on model above built for  
competition use



Mass produced **Rhythm** 2.5 is not quite in  
the same class

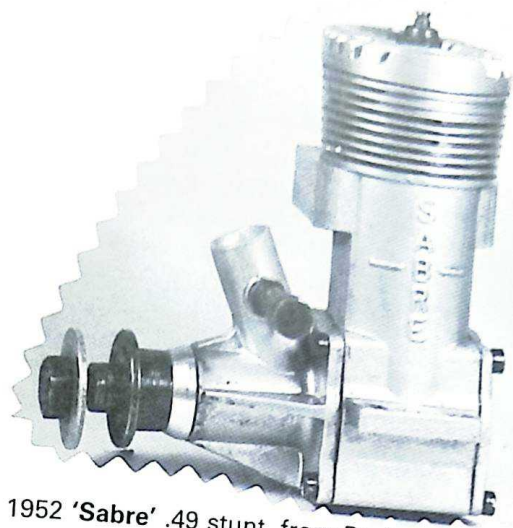


**Rhythm** 2.5cc car unit

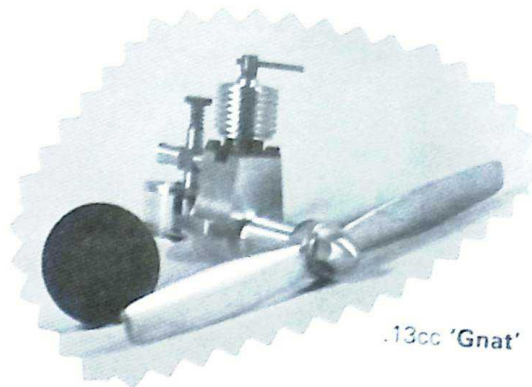


1953 '**Sabre 19**'. Made by Gordon Burford,  
Australia. Because of court case, brought  
by D.C.'s on the name '**Sabre**', re-named  
'**Glo-Chief**' in later series



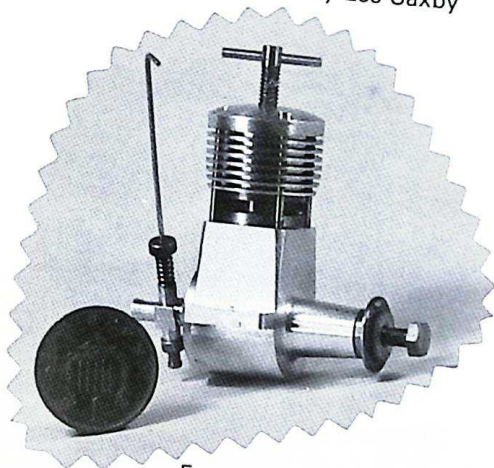


1952 'Sabre' .49 stunt, from Burford



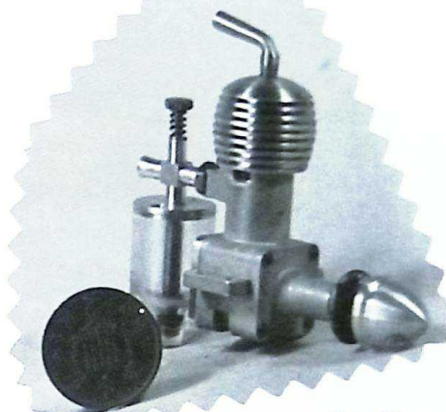
.13cc 'Gnat'

The beautiful  
little diesels made  
by Les Saxby

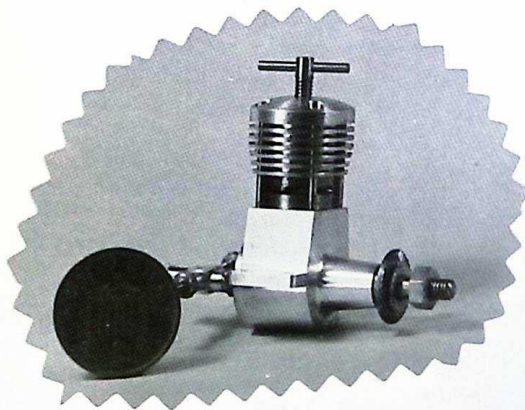
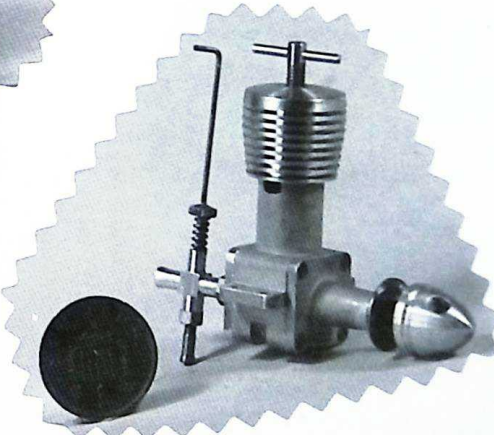


.5cc

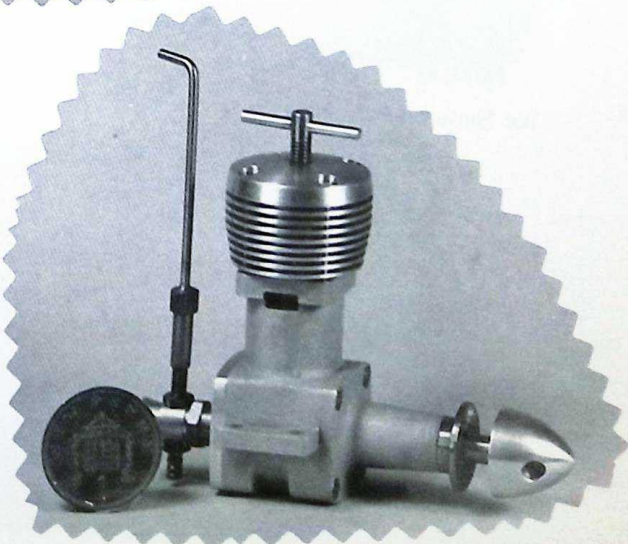
.3cc 'Nipper'  
rear disc



.3cc 'Nipper'  
side port

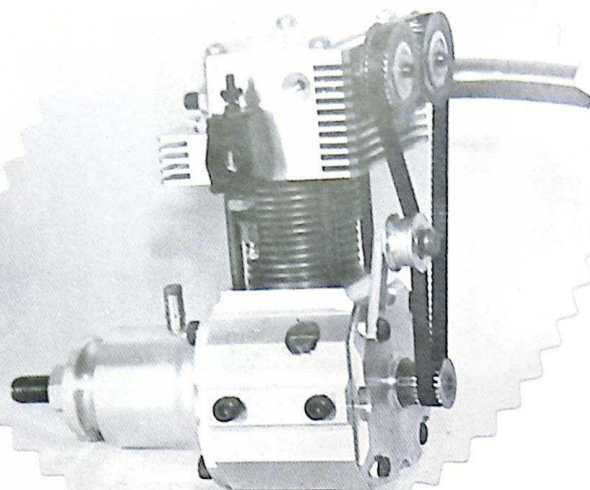
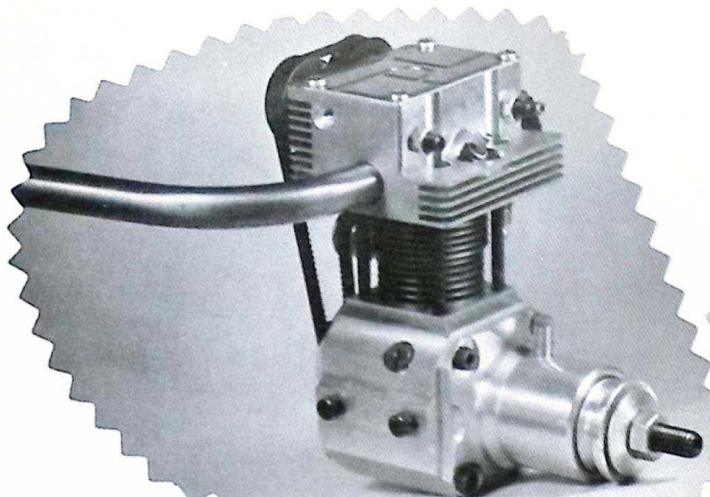


.3cc

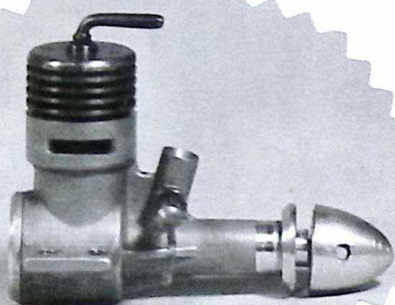


1cc

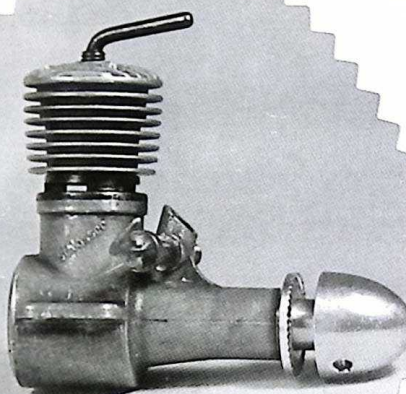




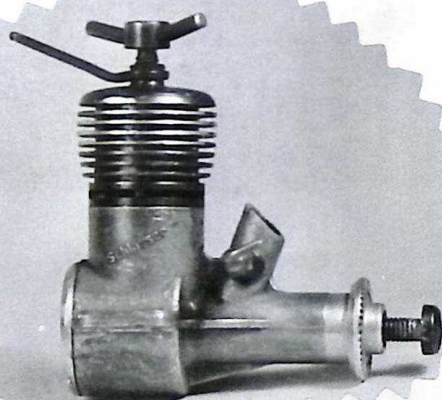
**Schilling** 10cc over-head cam 4 stroke. Available in various forms of multi-cylinder arrangements from the mid 1970's. Made in Germany



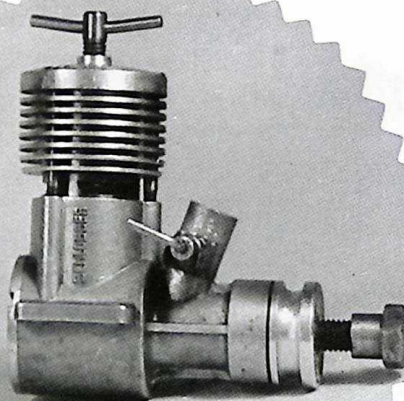
**Schlosser** .5cc 1959  
Produced when Beno Schlosser moved from E. to West Germany



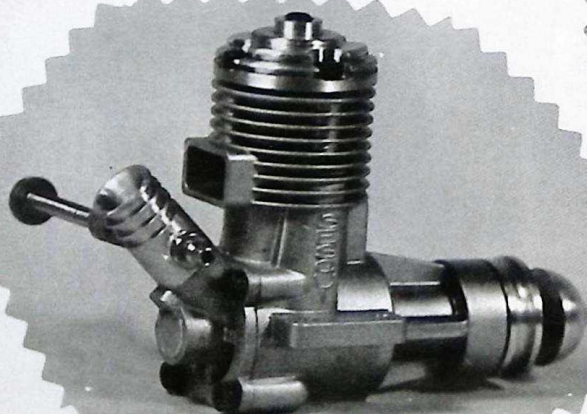
**Schlosser** 1cc 1955



1cc Series II **Schlosser**



1964 **Schlosser** 1.5cc Ball Bearing shaft

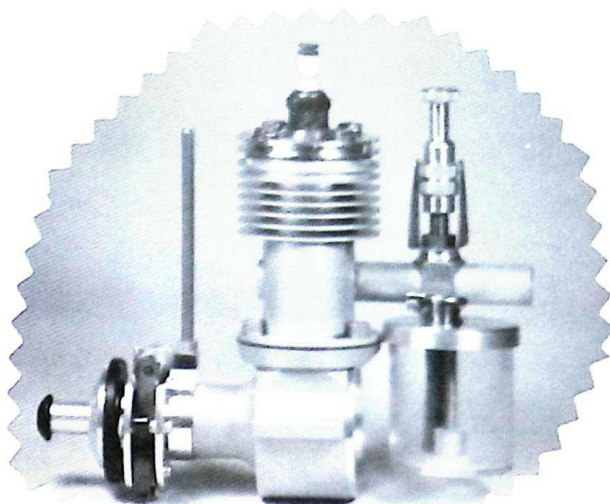


'**Sesqui**' 1.5cc low production diesel from Gordon Burford, Australia

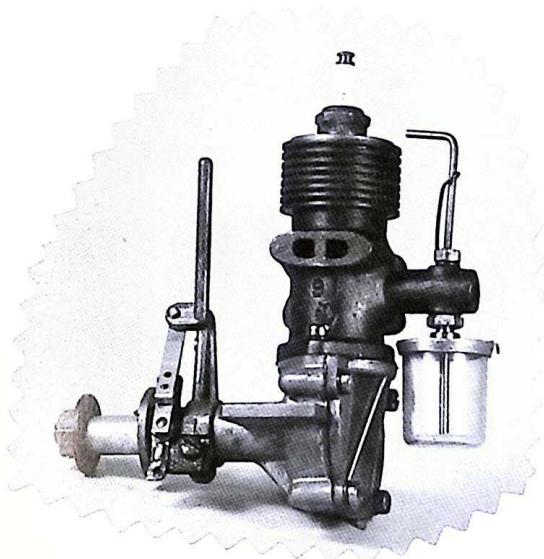




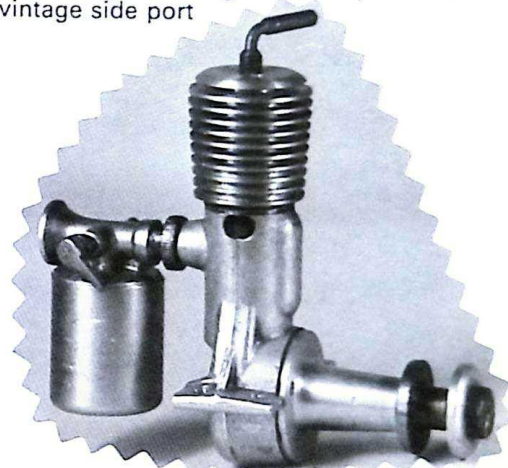
**Seventy Seven Products U.S.A.**  
Custom built ign. engine, using Merco .61 parts. This example finished with blue crank case, polished head and gold plated timer assembly



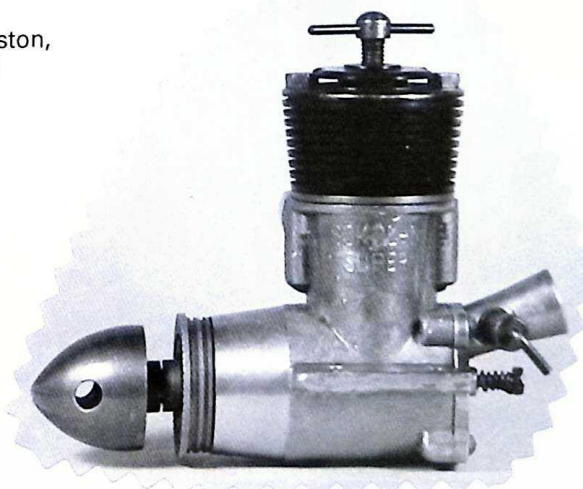
**Simplex '19'.** Designed and built by John Morrill, U.S.A., as a well made, modern ignition engine, but styled as a vintage side port



**1940 Sky Chief .52**  
Single exhaust port was lapped piston, dual port was ringed piston model

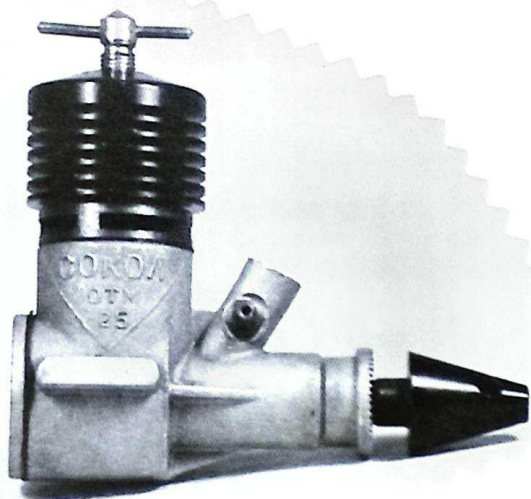


**1950 Sim 2-B 2cc diesel,** from Poland

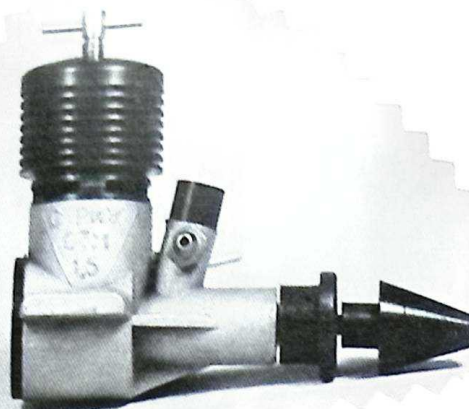


**5cc Super Sokol** made in Poland

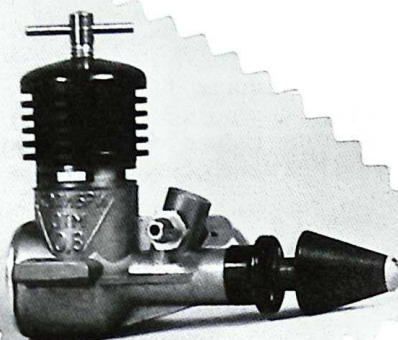




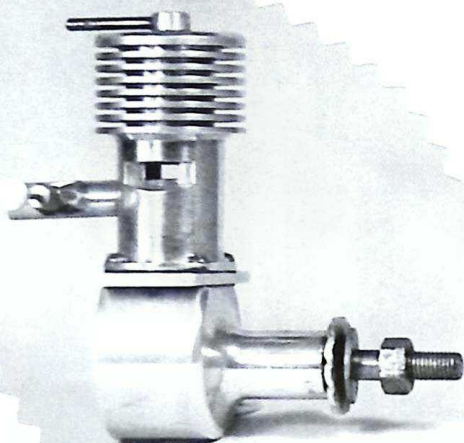
1972 **Sokol 2.5**, made by O.T.M. Russia



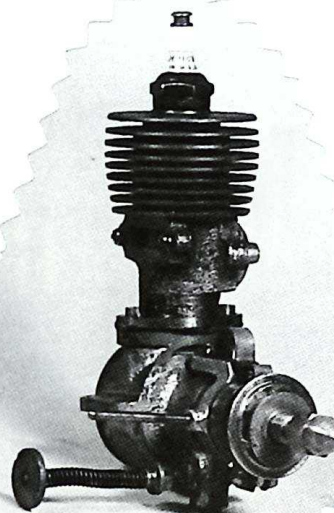
O.T.M. 1.5cc



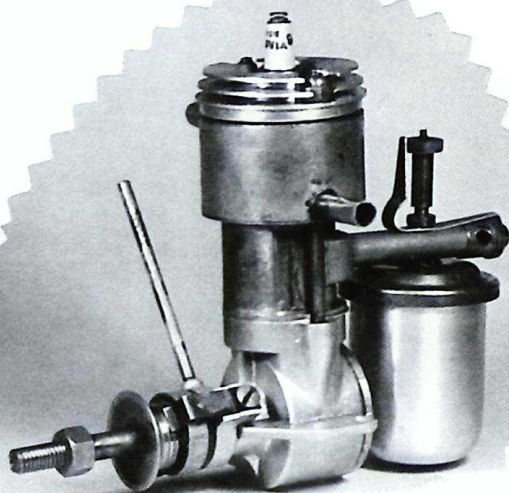
O.T.M. .8cc



1947 '**Speed Demon**' 5cc diesel  
Made at Long island, N.York  
Machined completely from bar stock

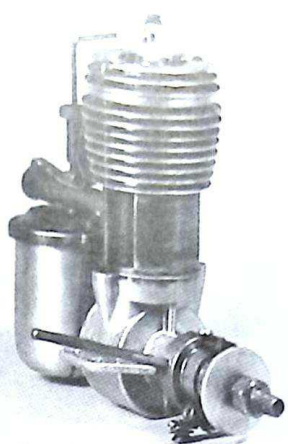


Pre-War 2.5cc '**Spitfire**' Manufactured for Model Aircraft Stores, Bournemouth, by Rodgers and Geary, of Leicester, makers of the Wasp, and Hornet, and after the War the 6cc Stentor. Rather delicate construction using magnesium crankcase and cylinder head



1941 **Stab 10cc Marine**  
Made in small numbers by M. Stab, Paris, France

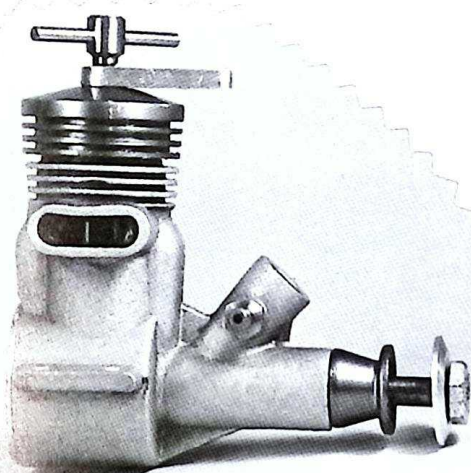




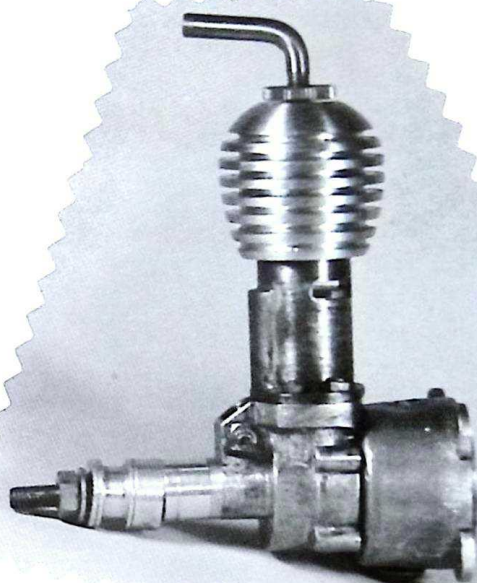
1941 **Stab** 10cc ign.



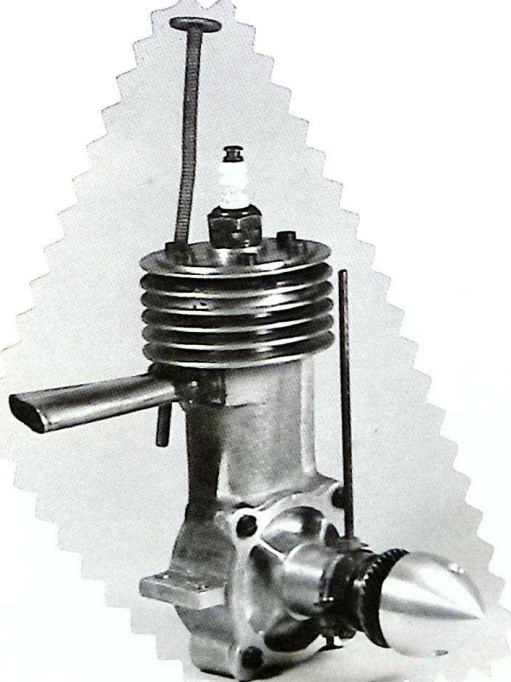
1941 **Stab** 3.5cc ign.



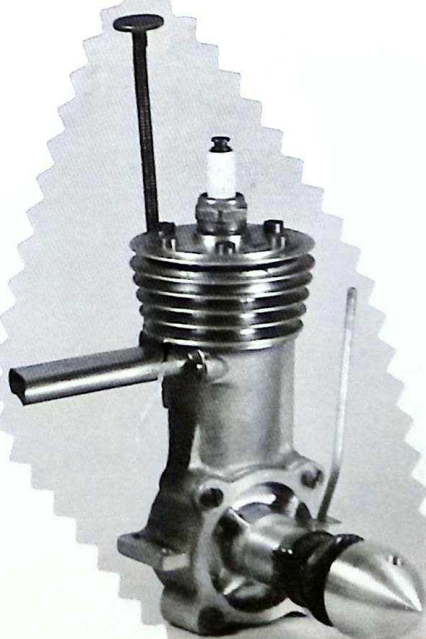
1955 **Start** 1.5cc from Czechoslovakia



1948 '**Streamline**' 9cc  
Made from Dyne' parts, few made

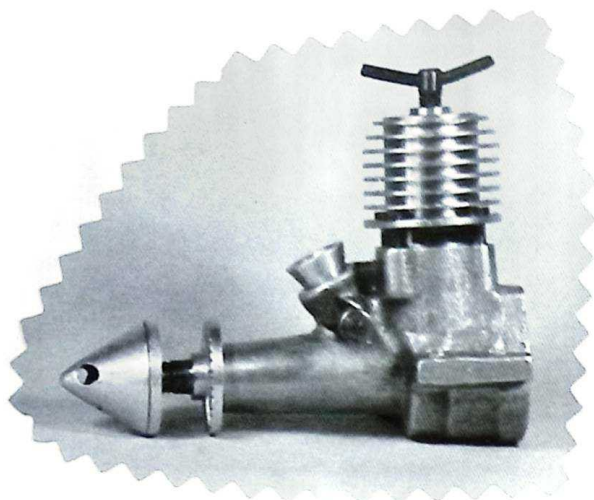


1946 **Stentor** 6cc from  
Model Aircraft Stores, Bournemouth

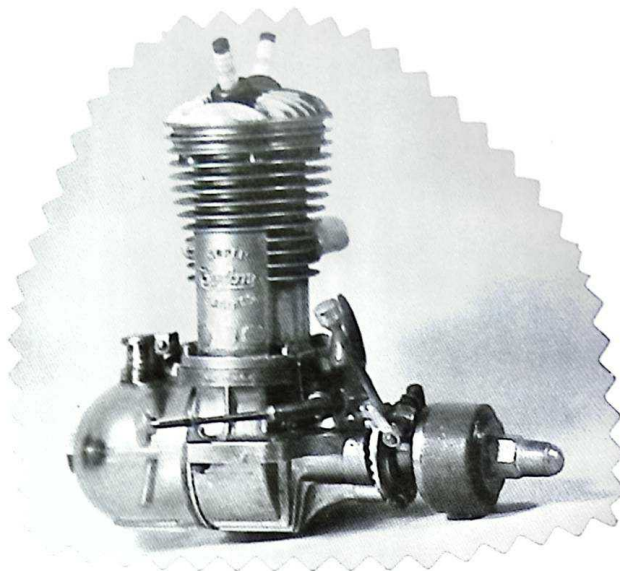


MK II **Stentor**  
Note wider  
exhaust,  
and tapered  
cyl. head

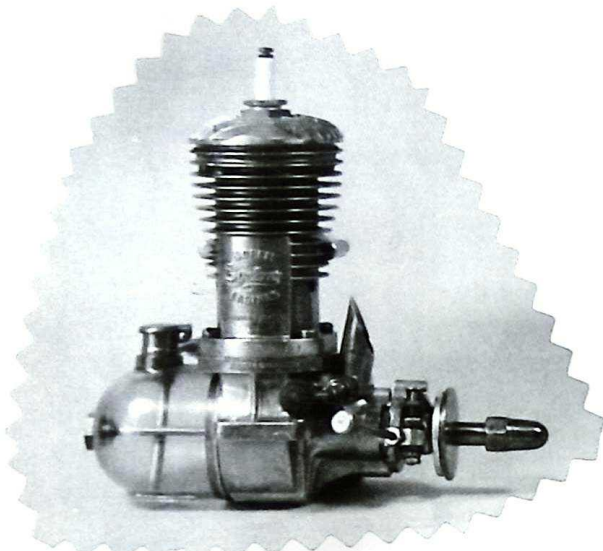




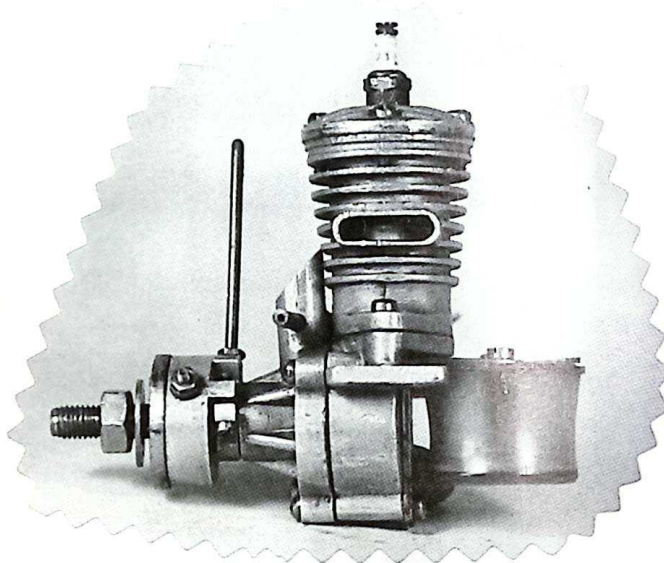
**Sugden Special 2.5cc.** Designed by Dave Sugden, available as a casting kit



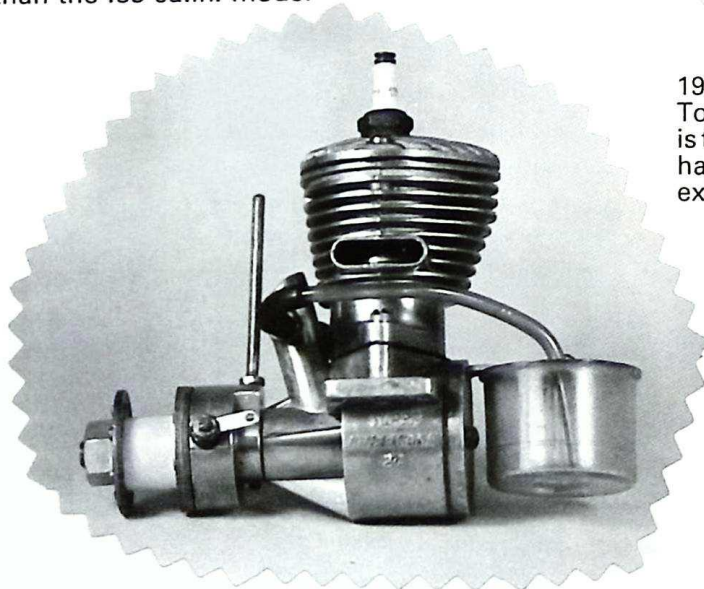
'Aircraft Industries', progressed from the 1938 'Baby Cyclone' to the 1940 **Super Cyclone 'G'** .65 ign., with single or twin plug



1940 **Super Cyclone G.R.** model, reduced to .603 cu.in. Note thicker cylinder flange than the .65 cu.in. model

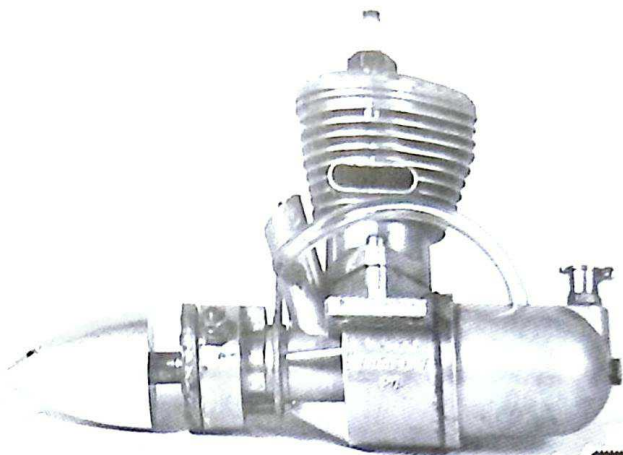


1945 **Hurricane .24.** Made by Ray Hunter, Toronto, Canada. Sand cast model shown is the 3rd in the series. The first two models had thinner, parallel fins, stopping at the exhaust

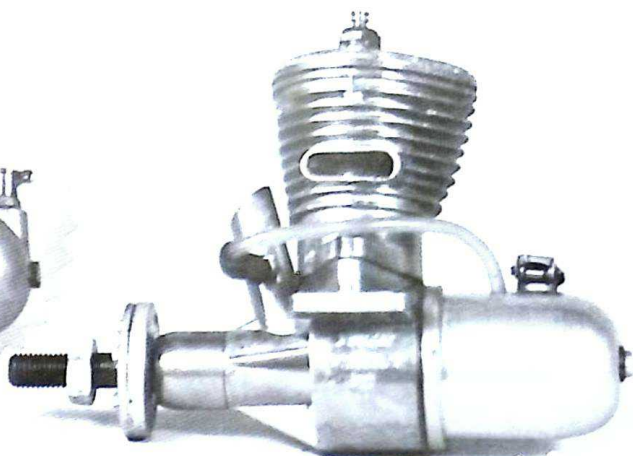


1945 4th series '**Super Hurricane**' .24. Die cast model

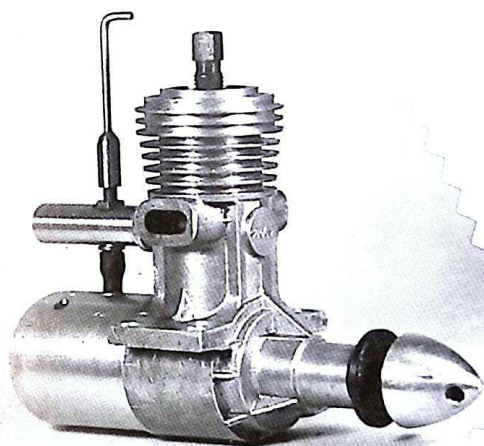




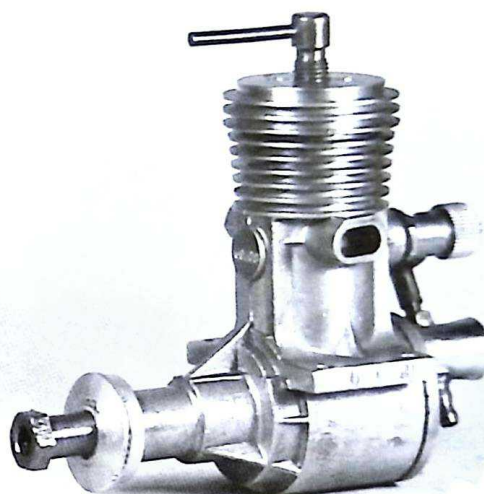
1948 Model 4A. Now fitted with streamline plastic or metal tank. These units were completely sealed, needing no gaskets to fit



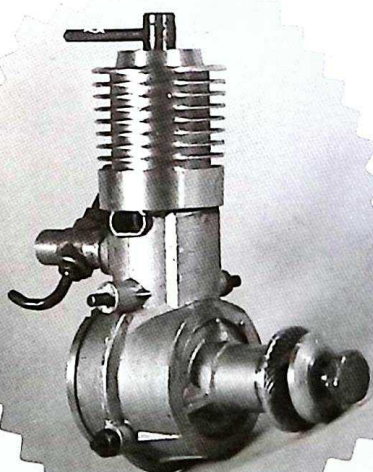
1948 Model 4B 'Super Hurricane' .24. Last production engine. Had brass cover over cam and metal tank



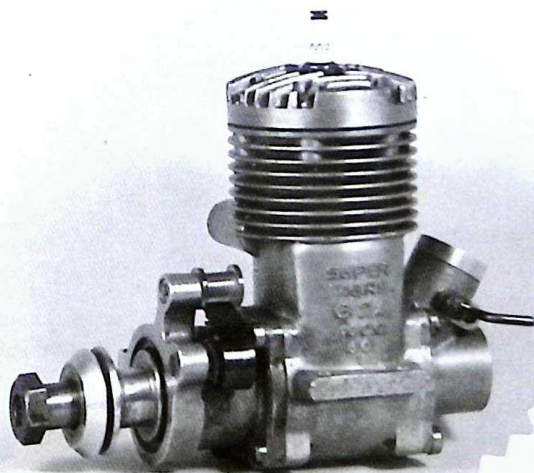
1947 'Osam' (later 'Super Tigre') 5.6cc diesel, from Cremona, Italy



1948 'Osam' 5.6cc

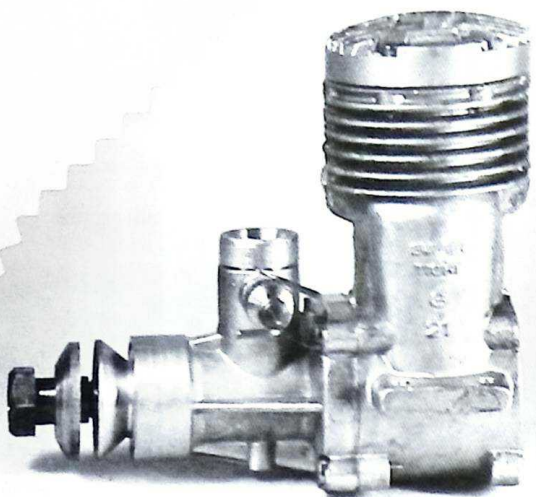


1948 Super Tigre 5cc

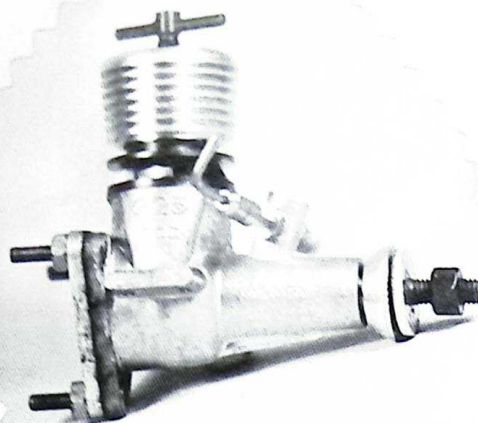


1948 Super Tigre 10cc ign.

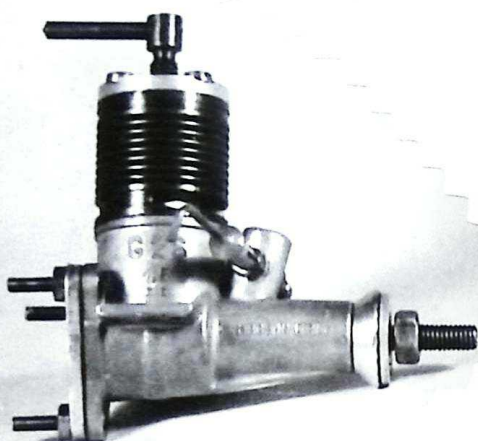




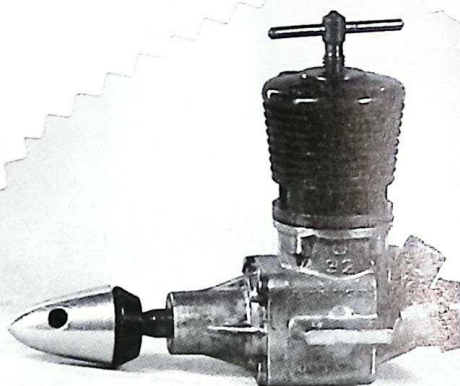
1951 Super Tigre G 21 5cc glo



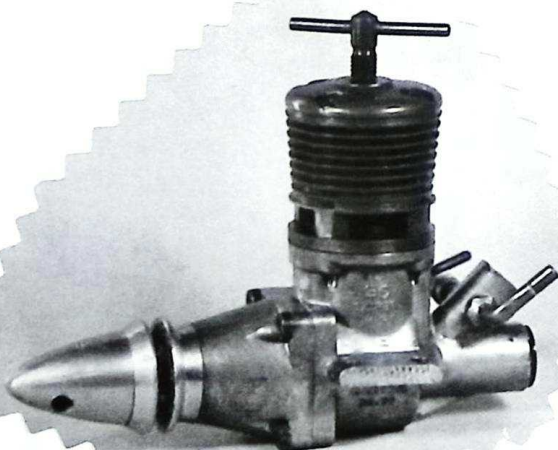
1954 G 25 1cc



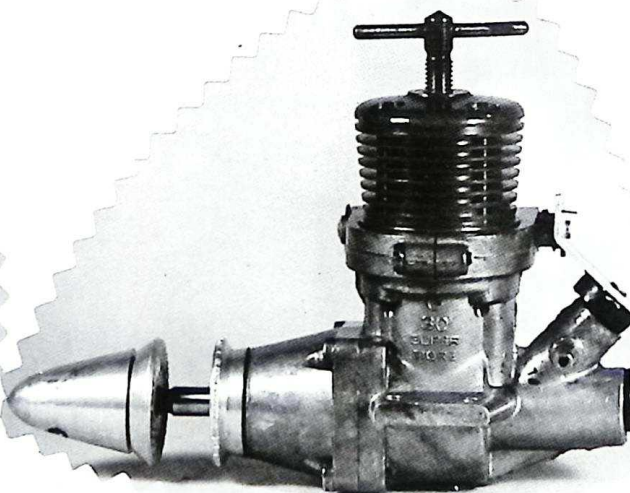
1954 G 26 1.5cc



1957 G 32 1cc. Ball race engine.  
A 'different', well made engine

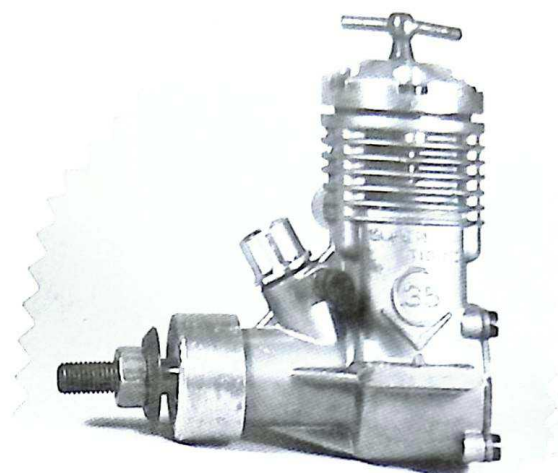


1957 G 30 2.5cc. Ball race engine,  
of good performance

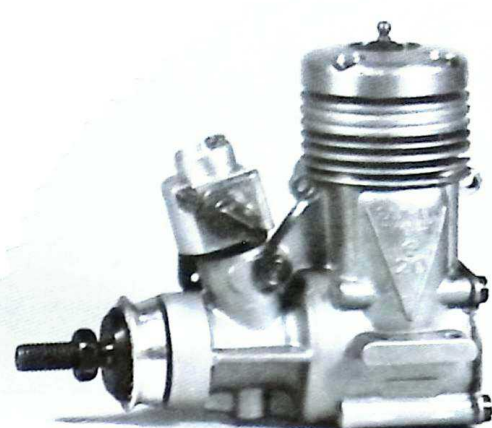


1957 G 30 2.5 diesel, with early  
R/C exhaust throttle

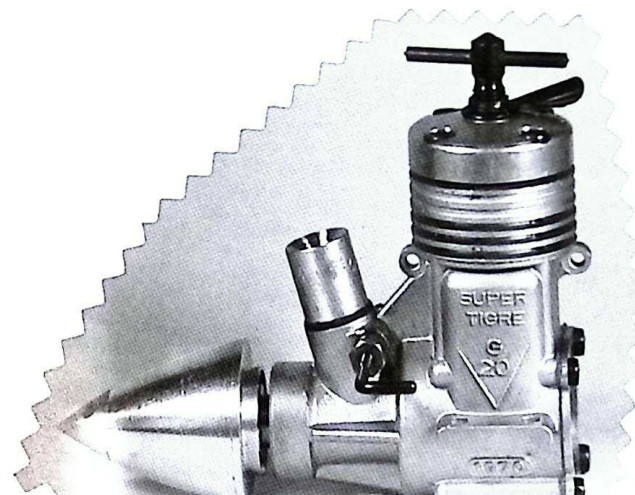




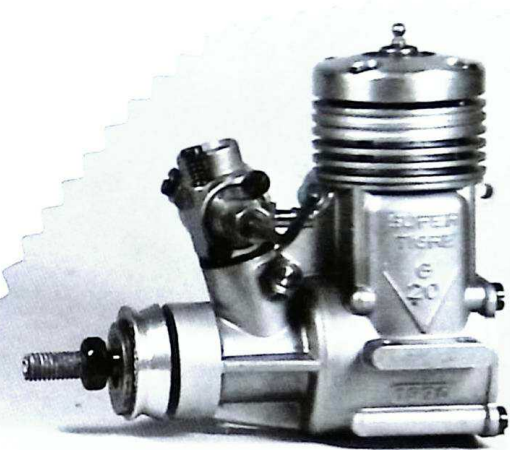
Experimental Stunt '35' diesel from 1962



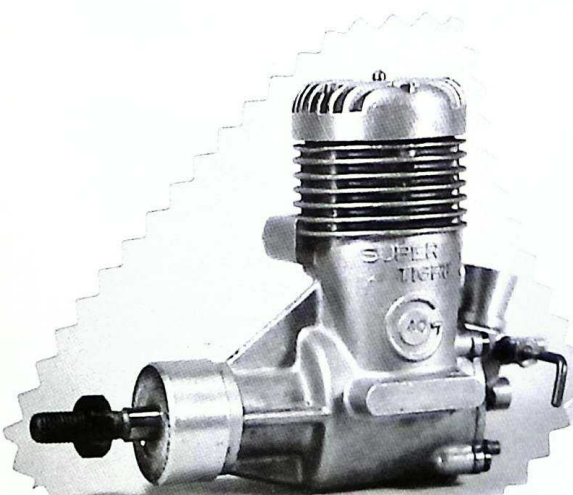
1960 Super Tigre G 20 2.5cc R C glo, Series I



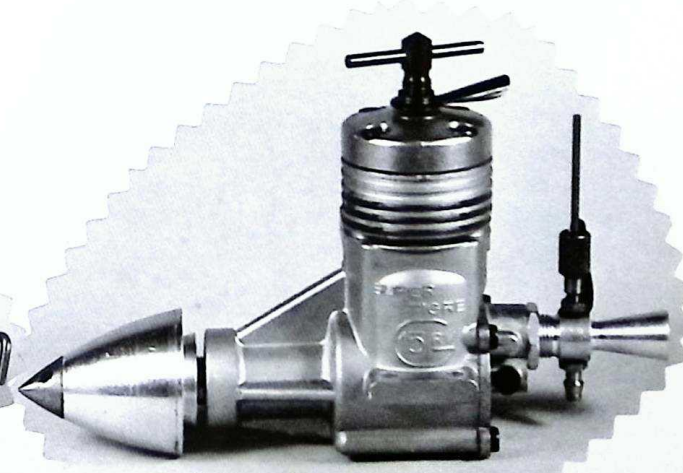
1961 G 20 2.5cc diesel



Series II G 20

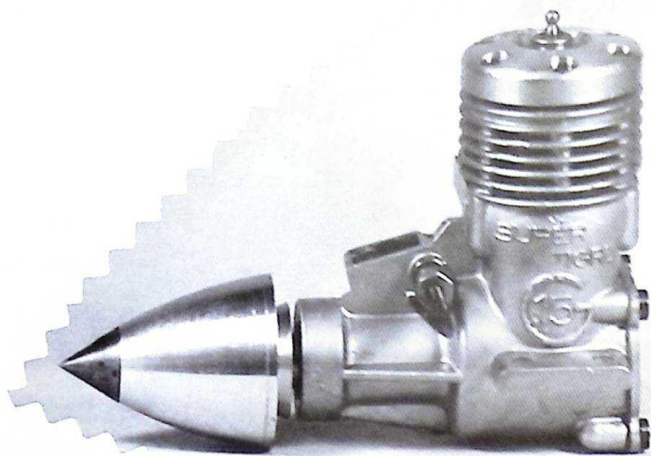


1966 Super Tigre '40' Stunt

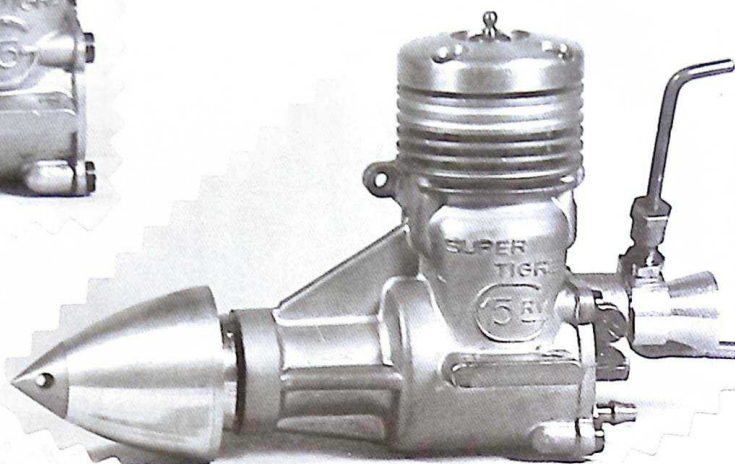


1967 G 200 2.5. Rear induction diesel

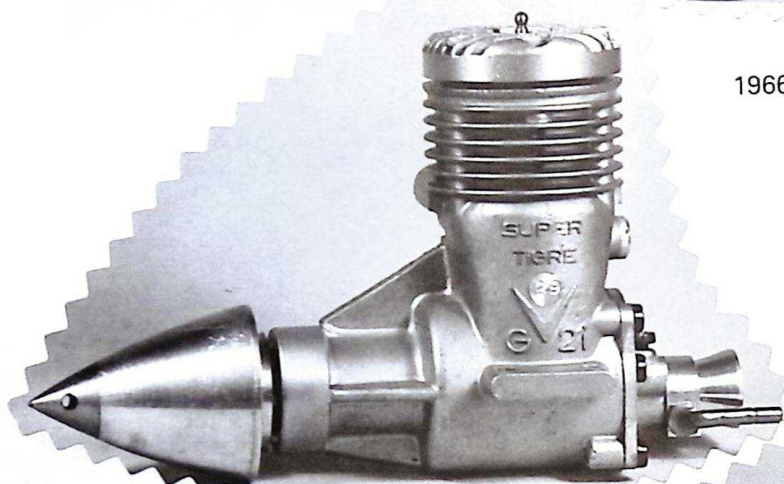




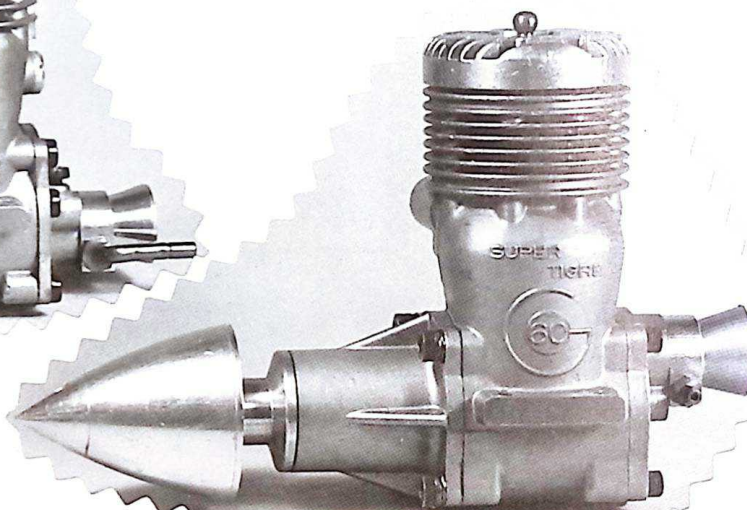
1964 Super Tigre 2.5cc Combat



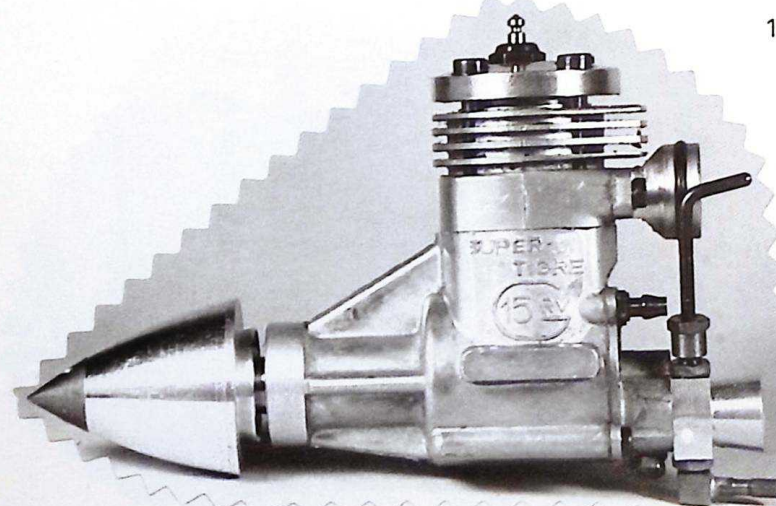
1966 Super Tigre 2.5 rear valve glo



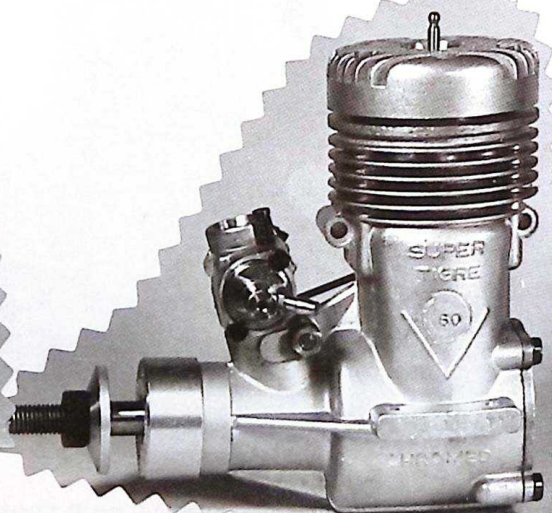
1966 G 21 Series, 5cc Speed engine



1967 Super Tigre 10cc Speed engine

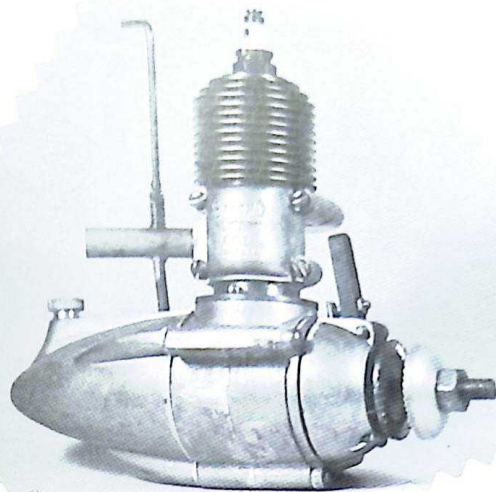


1967 G 20. Rear exhaust, rear induction Speed engine

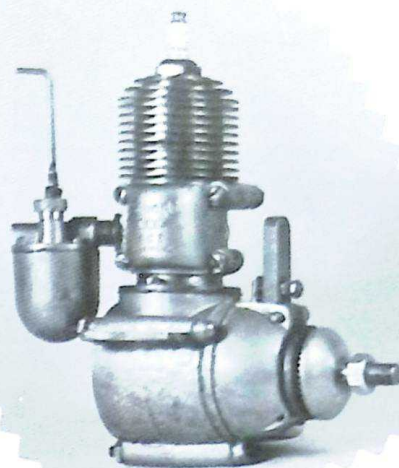


1966 Super Tigre 10cc R/C engine, with chrome bore

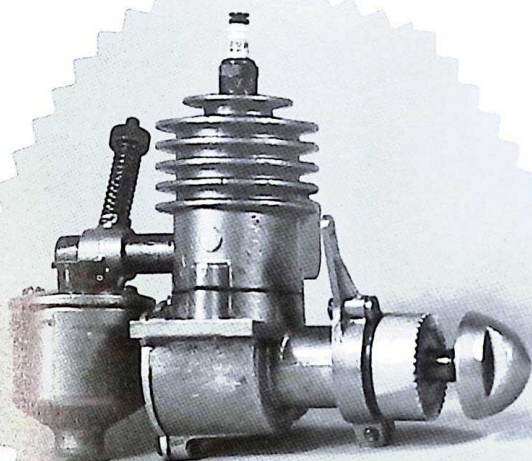




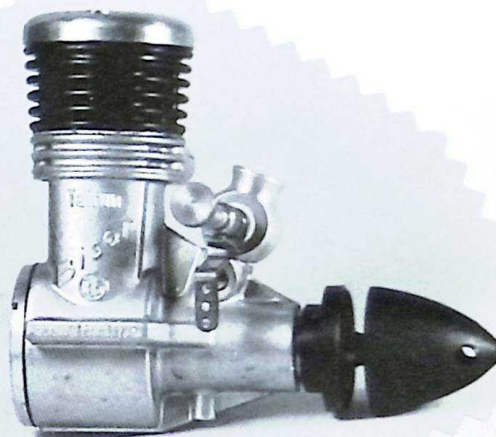
1937 Syncro Ace .56 cu.in.



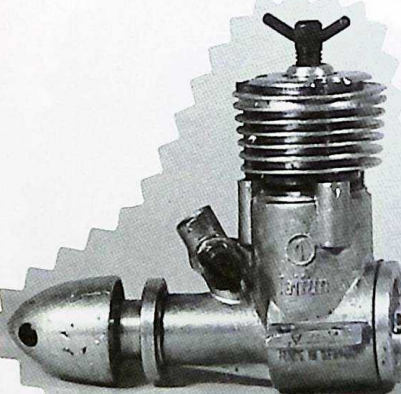
1938 Syncro Ace 'Special'



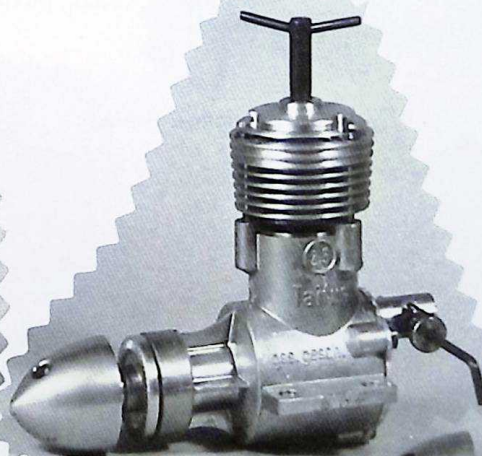
1940 Syncro B-30 5cc ign.



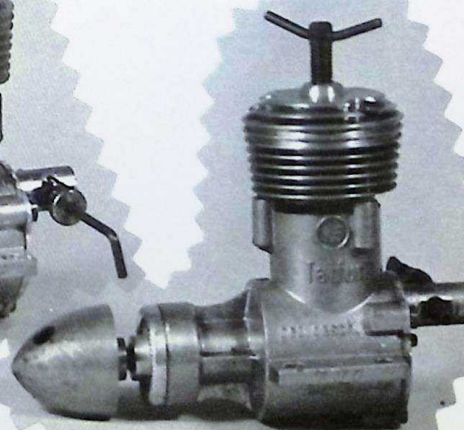
Taifun 'Bison' 3.5cc R/C, 1960.  
Manufactured by Johannes Graupner,  
Germany



1.0cc



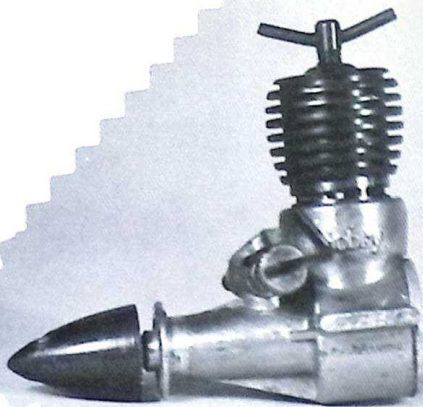
2.5cc



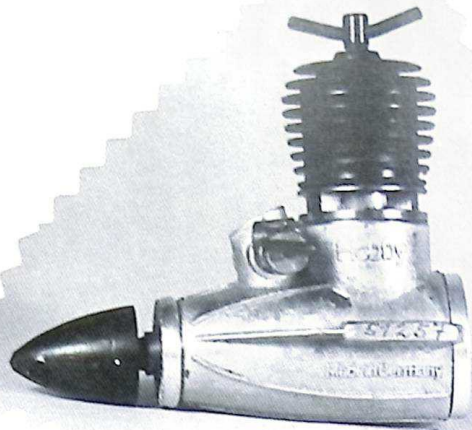
3.5cc

Nicely made Taifun's from 1953. The 1.0cc front rotary valve in contrast to the disc valve 'Meteor' 2.5cc and disc valve Super' 3.5cc

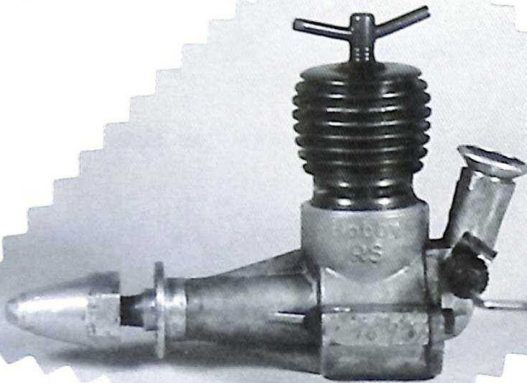




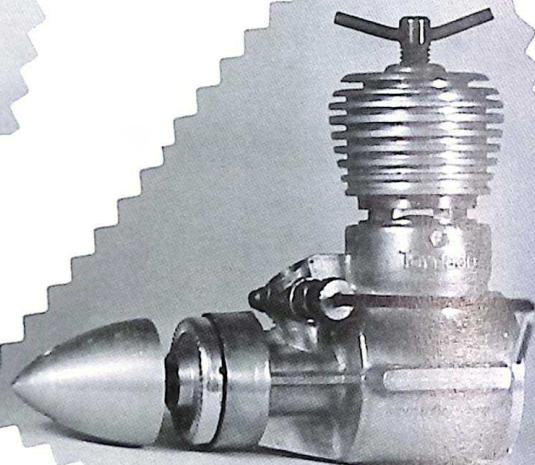
**Taifun Hobby MK I 1cc, 1954**



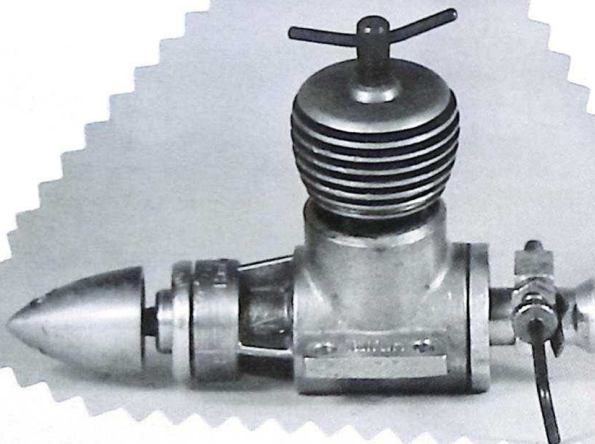
**Hobby 1cc MK II, 1959**



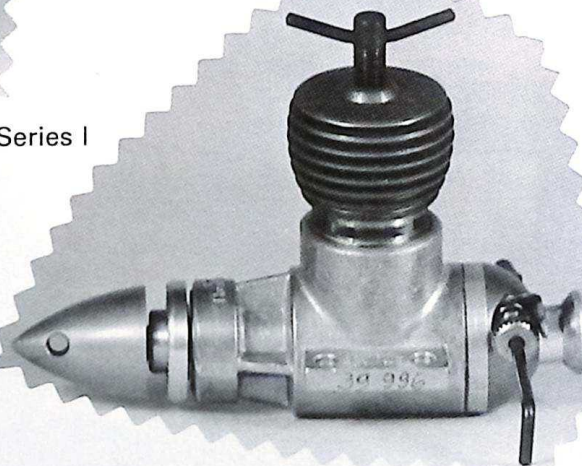
**Hobby 1cc RS 1957  
Reed valve**



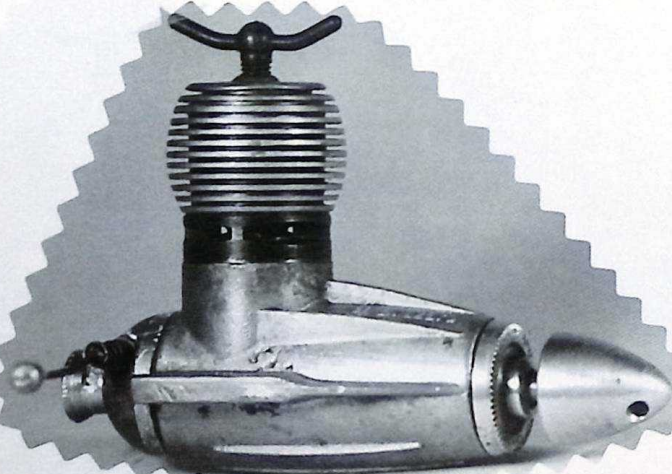
**1954 Taifun 'Tornado' 2.5cc**



**1957 1.5cc 'Hurricane' Series I**

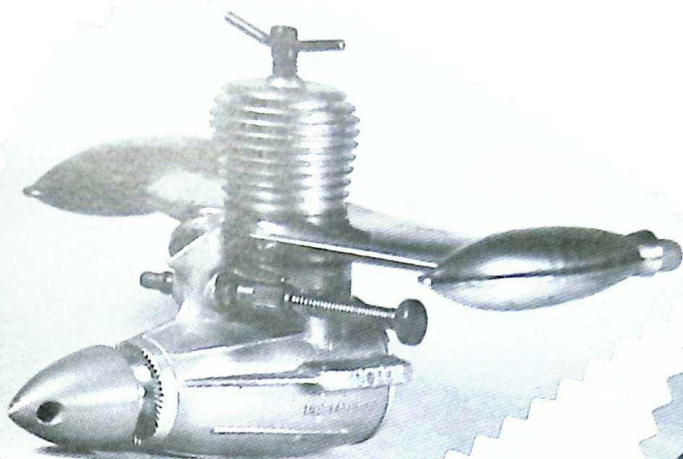


**Hurricane Series II 1.5cc. Both are twin  
ball bearing engines**

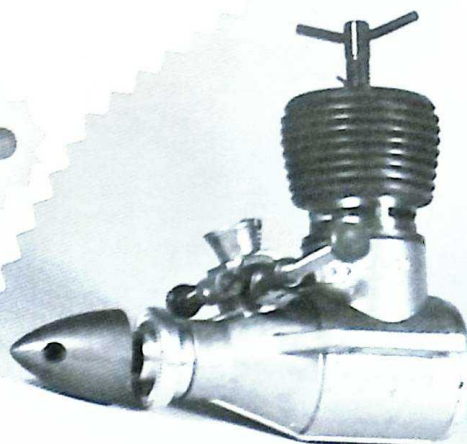


**1958 2.5cc 'Blizzard'**

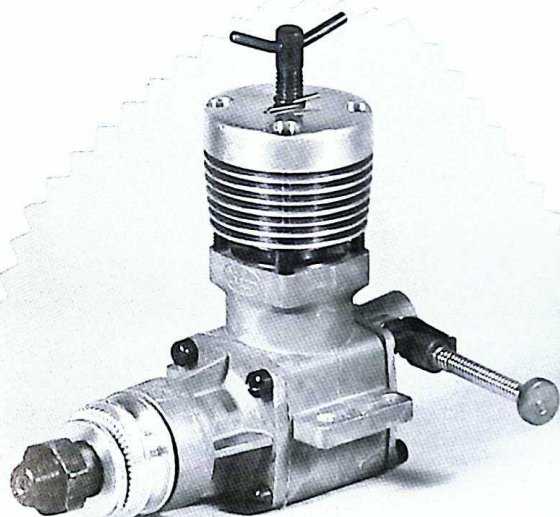




The pretty 2.5cc 'Rasant' with pink anodised head and spinner and polished brass silencer unit, from 1959

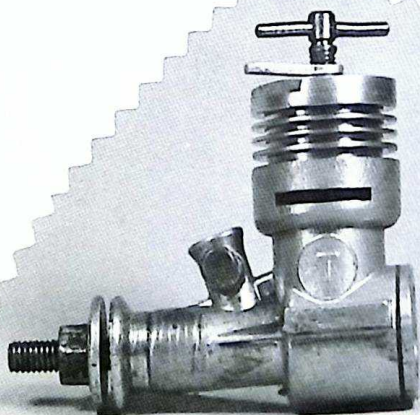


1962 Taifun 'Zyklon' 2.5cc R C

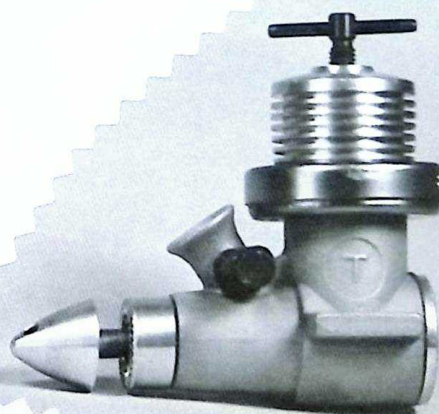


1960 Taipan 'Tyro'. Made by Gordon Burford, N.S.W., Australia. "Taipan" a deadly Australian snake

1963. The well-made, low production run 'Orkan' 2.5cc

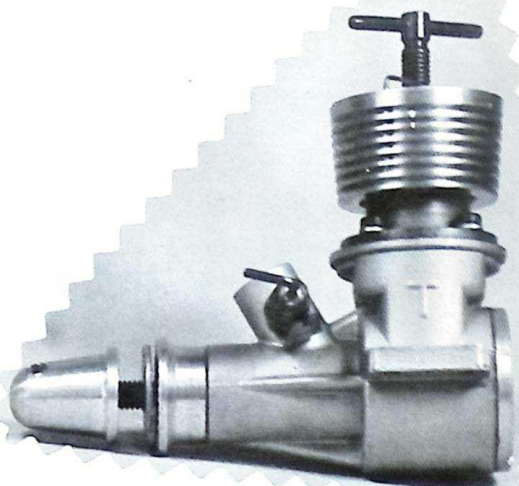


1961 1.5cc MK I

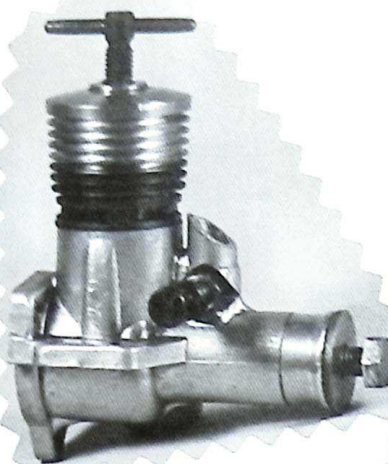


1966 series, 1.5cc

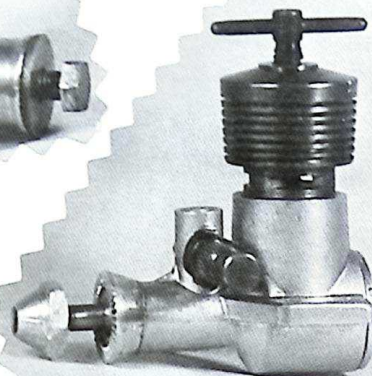




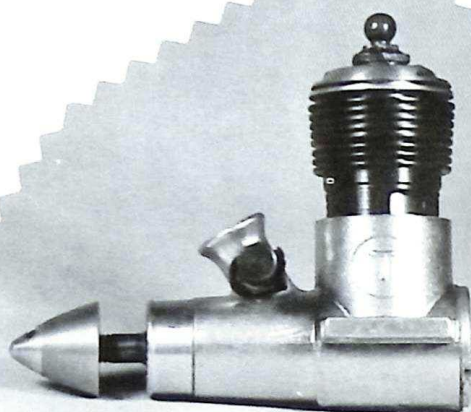
1970 'Tyro' 1.9cc



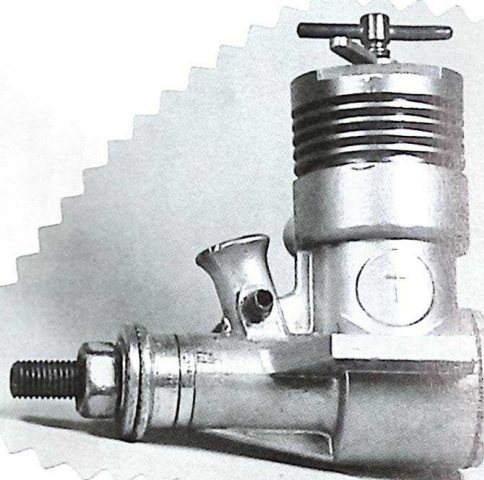
1963 1.5cc



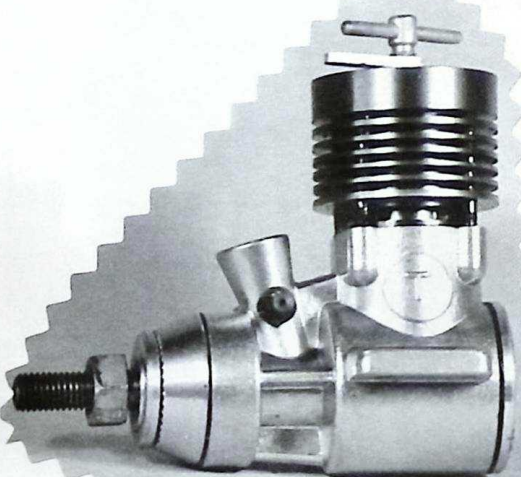
1965 1.0cc



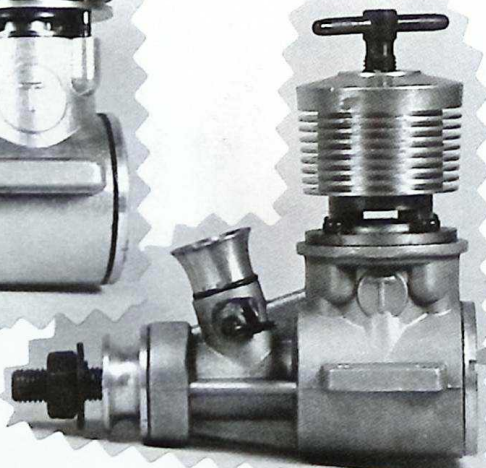
1965 MK II 1.5cc glo with full shaft and deeper fins than the MK I, which also had a 'stud' shaft



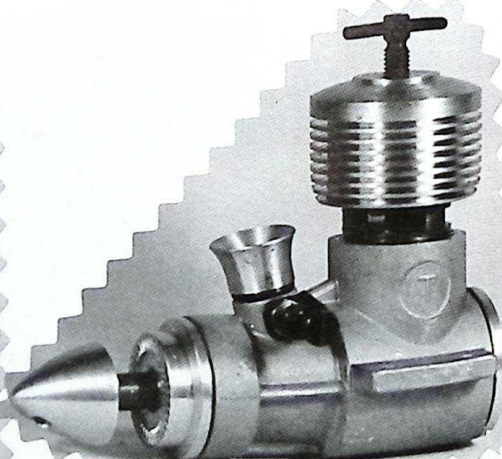
1960 MK I 2.5cc Series 4



1961 2.5cc Series 5

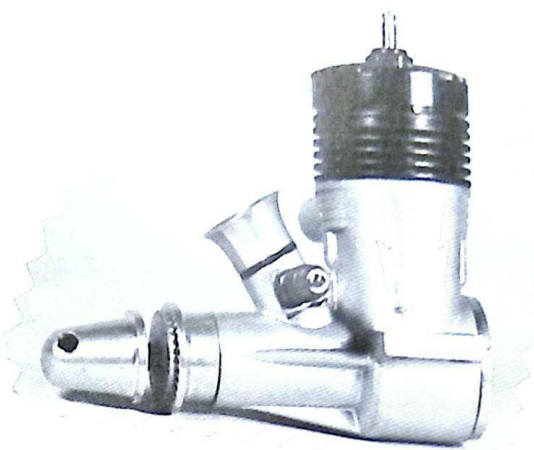


1970 2.5cc Series 12

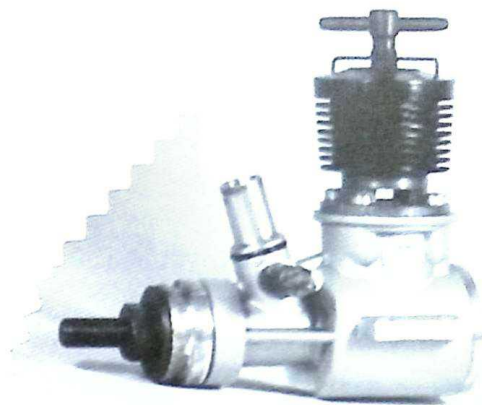


1968 Series 11, 2.5cc

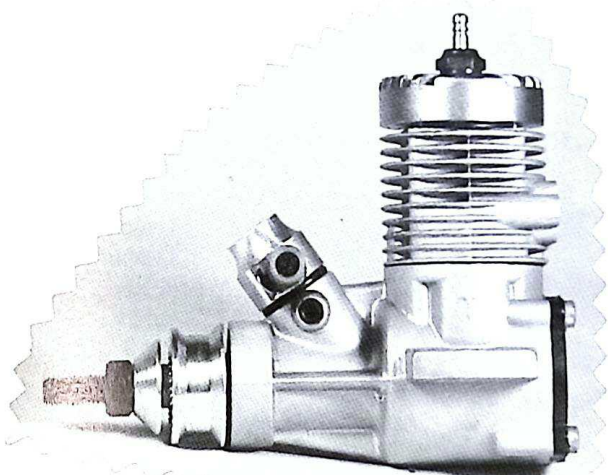




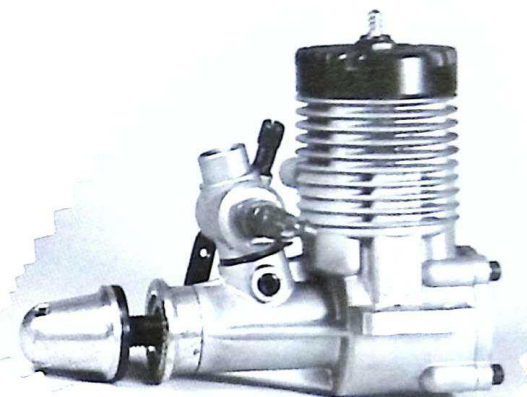
1968/9 Tyro glo



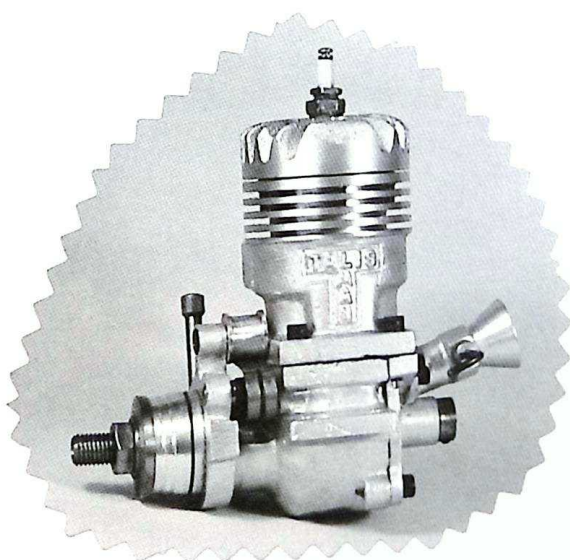
1972 Series 13. Had larger front race than the series 12, and modified crankcase



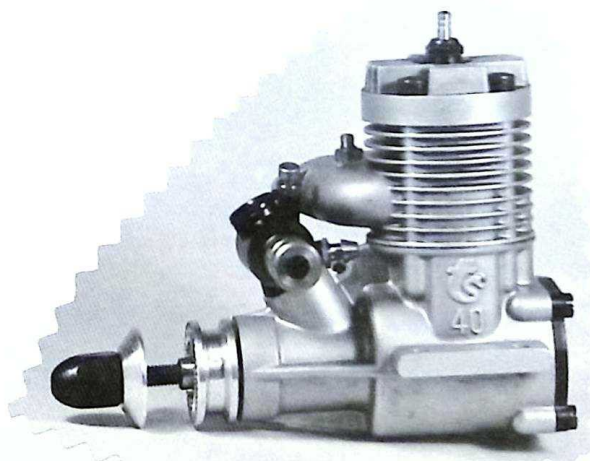
1972-74 2.5cc Combat version.  
Also available as an R/C engine. Had gold head, rear exhaust and went well



1974 Black head 3.5cc glo



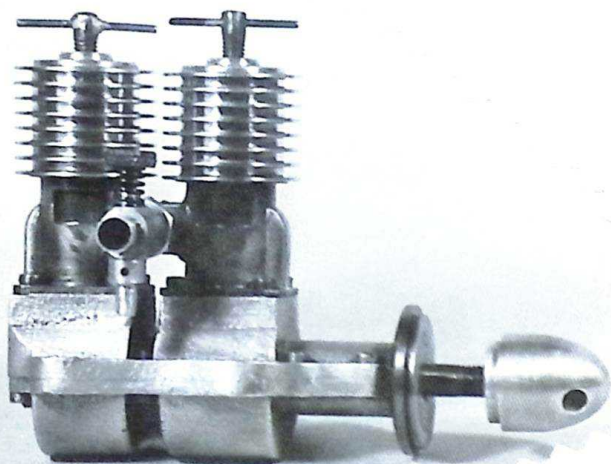
**Talisman .60.**  
Built from a casting kit of a 1946 design by Bill Cubitt in California, U.S.A.



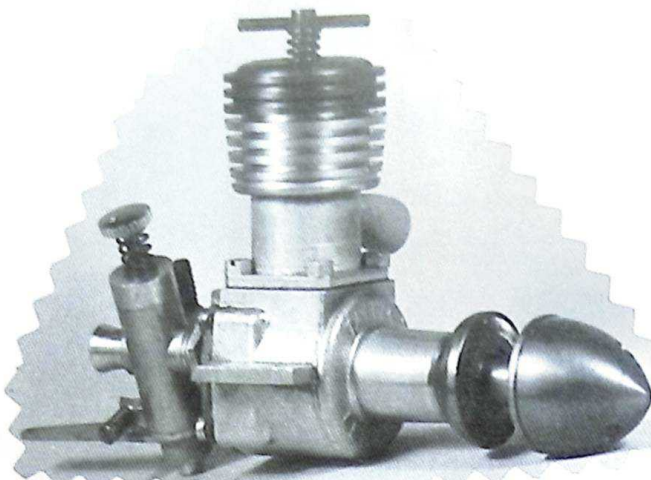
1975 Taipan .40 R/C, note snake emblem

My thanks to Ivor F., close-friend and colleague of Gordon Burford for his help in dating the Taipan, Sabre and Glo-Chief engines

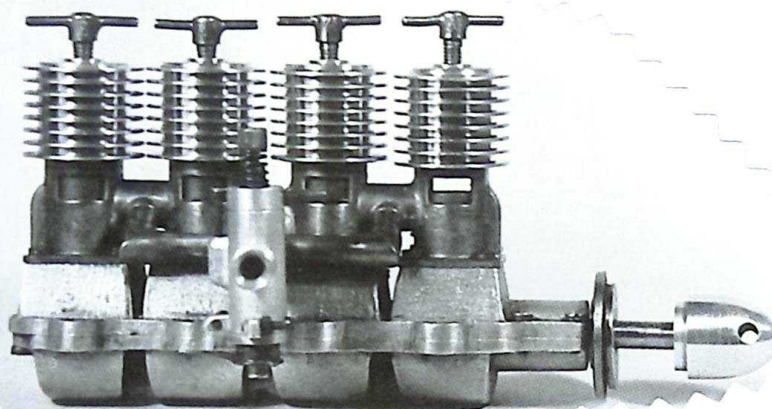




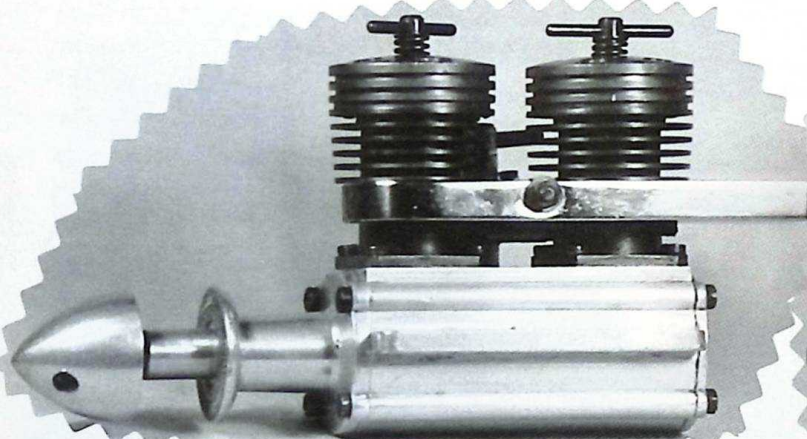
Experimental 5cc **Taplin Twin** from 1953



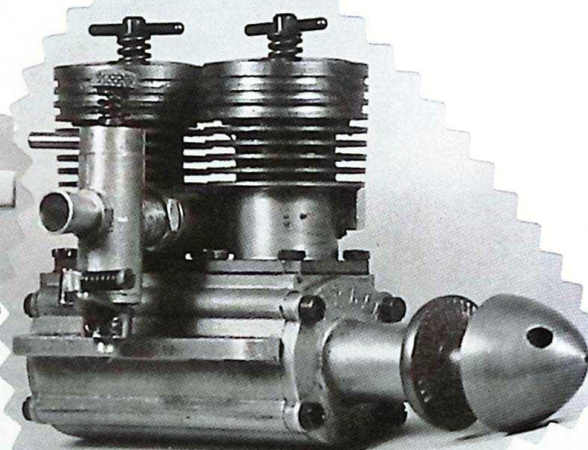
**Taplin Tempest A** well made 3.5cc R/C throttled diesel, from Dinton Engineering 1969



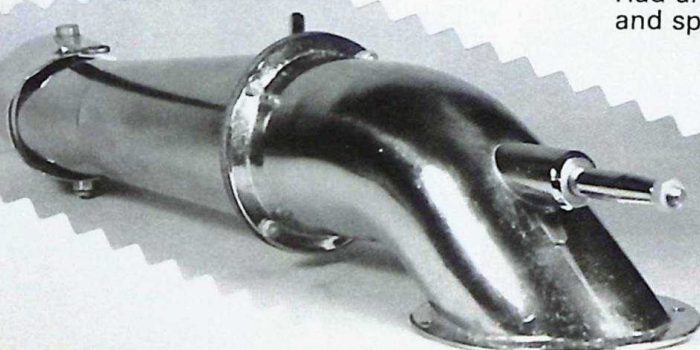
Experimental 10cc 4 cylinder **Taplin**



1958 Pre-production 7cc **Taplin Twin**.  
Note c/case machined from solid



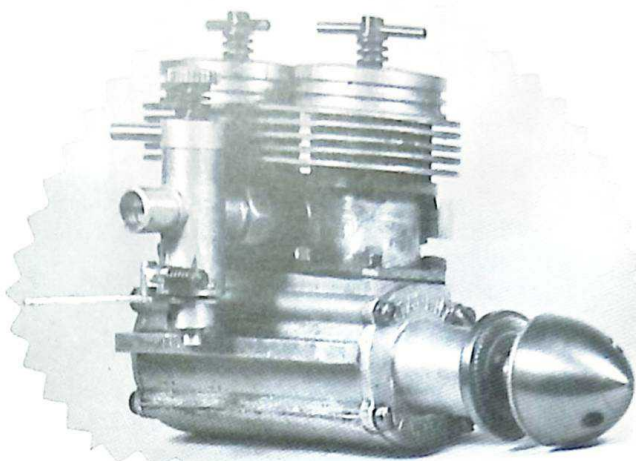
Production 7cc **Taplin Twin** 1959.  
Had anodised green heads, prop-driver and spinner



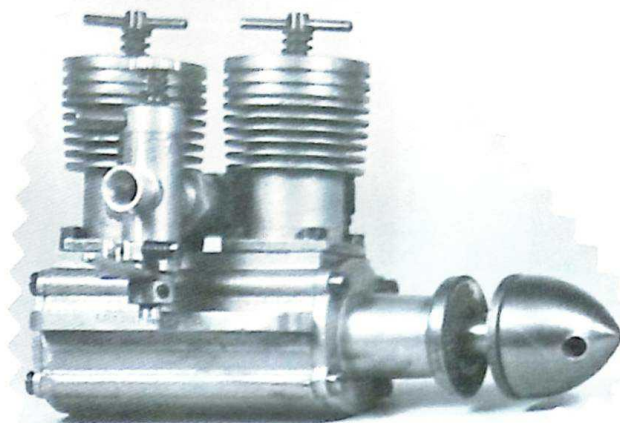
The **Taplin-Baker Hydro-Jet**. Water screw turning in tube forced water out with enough force to power 48" models

1960

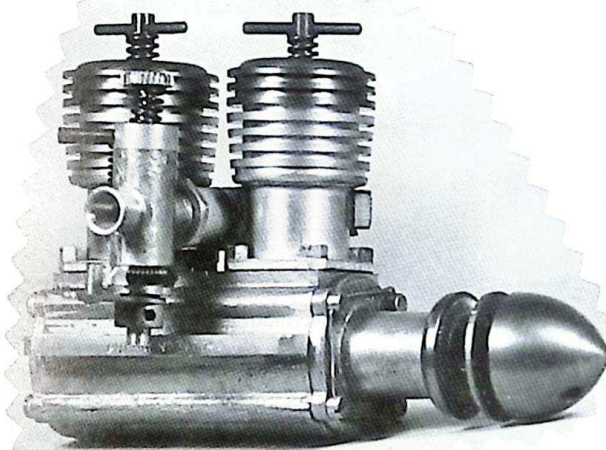




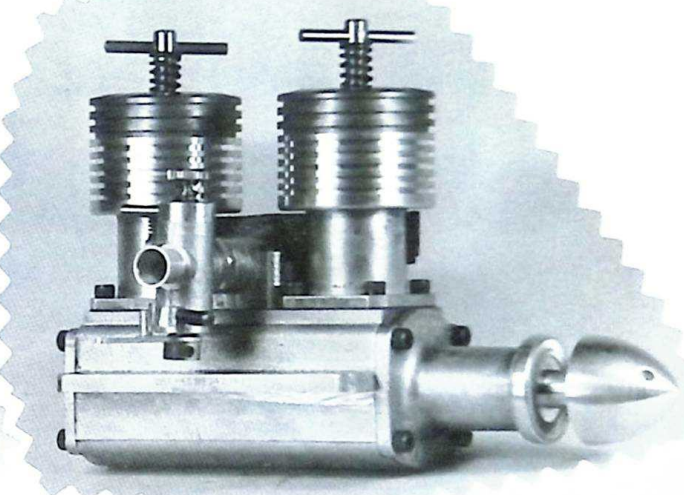
1962 MK II **Taplin** 8cc twin. Had red heads and elongated fins joining both cylinders. Few made as it proved too time consuming to assemble



1963 MK II, Series II. Red, bolt-on heads, prop driver and spinner



1967 MK III 8cc. Screw on cylinder heads, slide-on fins allowed easy change to water jacket if needed



15cc **Taplin** Twin. Designed primarily as a boat engine, a few aircooled versions were made in 1965

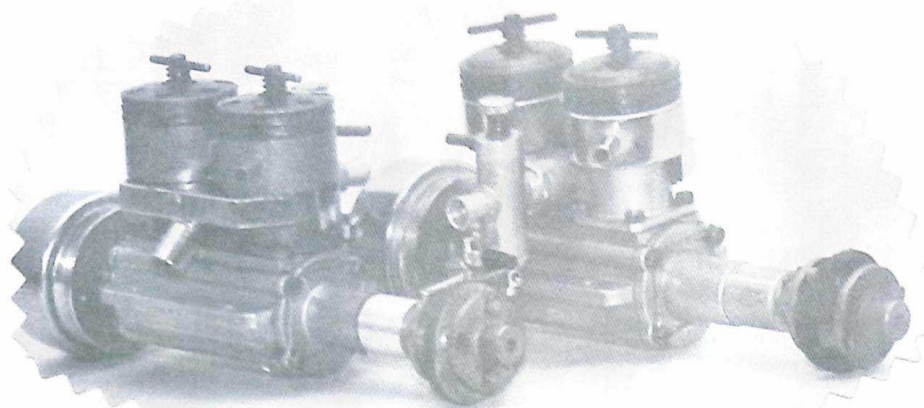


Last of the **Taplin** 8cc twin parts sold to Aurora Model Co., India

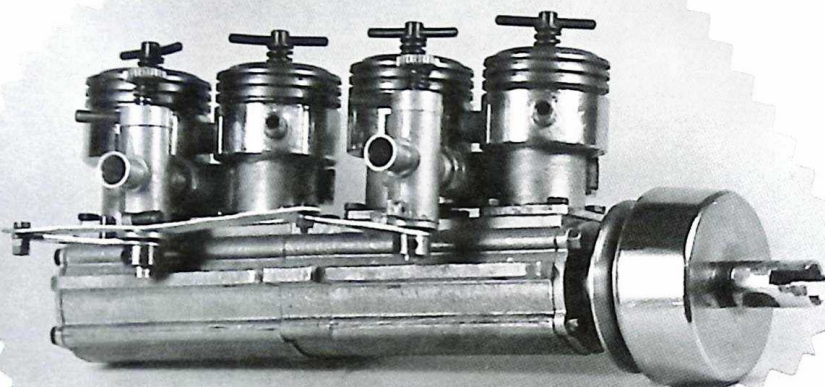
A PRECISION PRODUCT  
THE TAPLIN TWIN  
MARK III  
R/C

AURORA MODEL MFG. CO. PVT. LTD.  
CALCUTTA-700 071 INDIA

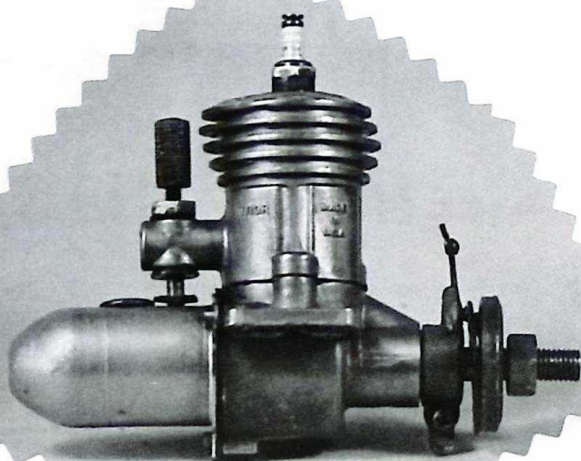




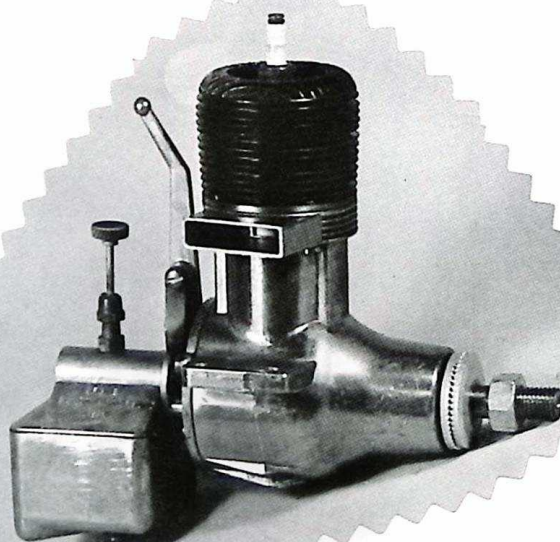
MK I 7cc **Taplin** and MK III 8cc **Taplin Marine**,  
with 'made to order', double ended shaft



One of a pair of specially built  
16cc 4 cylinder marine engines

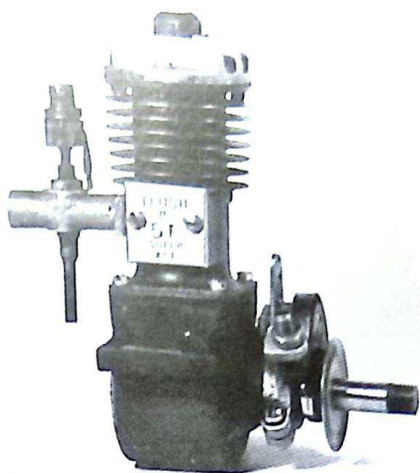


1946 **Thor** .29 ign

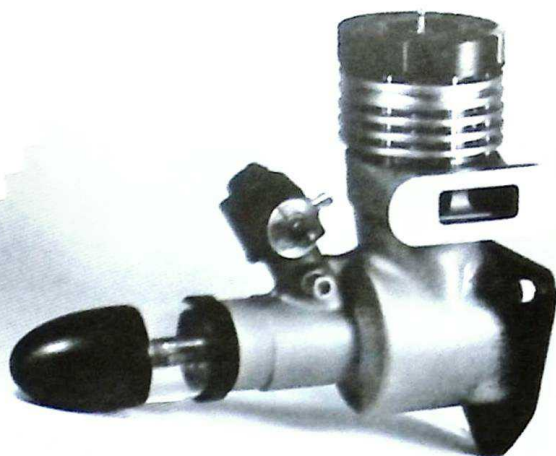


1946 '**Thunderbird**' .60.  
Made by Scott Motors, U.S.A.

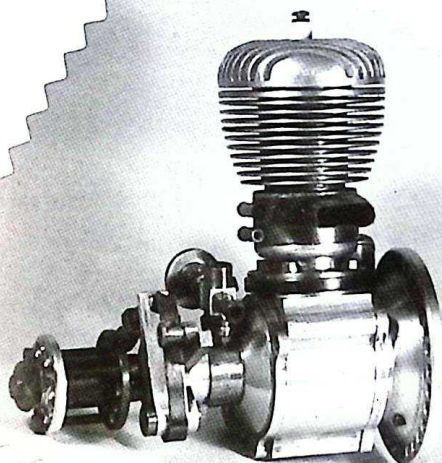




Designed by the Tlush Bros., from New York. **Tlush 'Super Ace'** .51 cu.in. Production from 1934, until 1941. Some 5,000 engines were made, most going overseas. The Tlush family are now leaders in the field of magnesium casting for use in the space industry



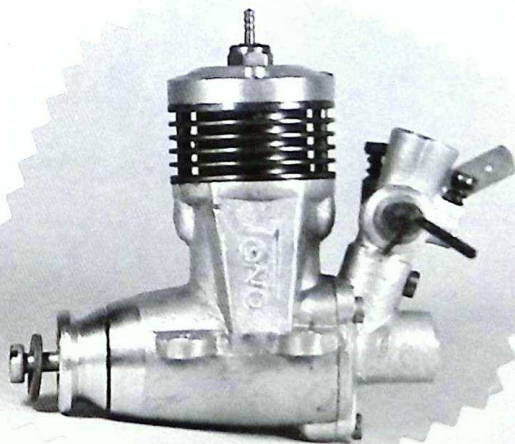
**Titan** .60 R C glo, U.S.A. Built from a casting kit



**R.J. Trevithick** 10cc ignition Prizewinner at Dorland Hall Exhibition, March 1947. Picture of above engine in March/April Aeromodeller

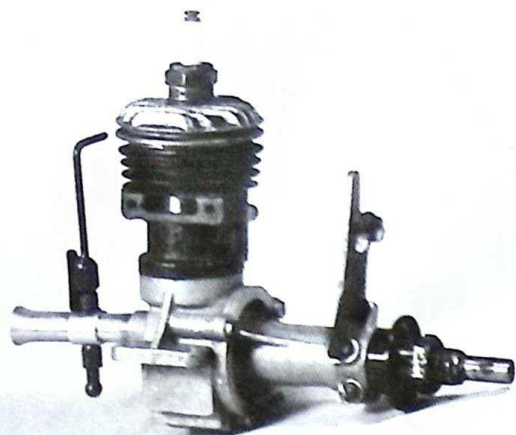


**R.J. Trevithick** built 2cc ignition from 1946

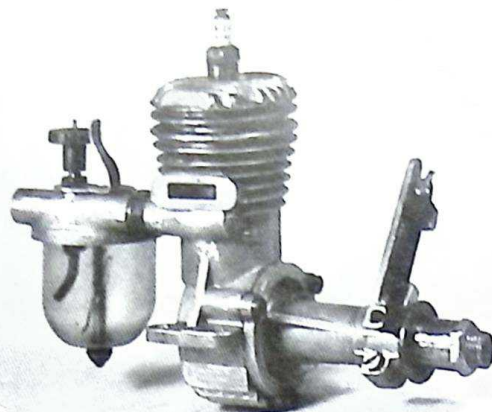


**Tono** 3.5cc R C version, from 1964. Engine from Czechoslovakia, designed by Frantisek Stary

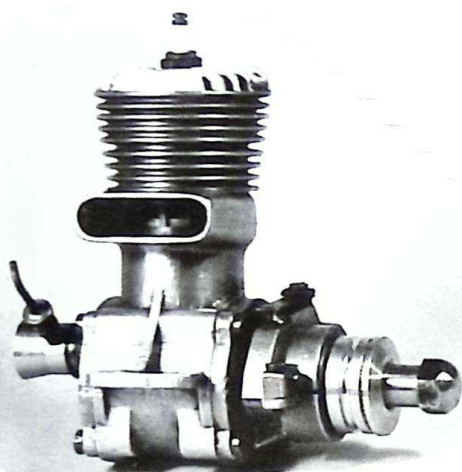




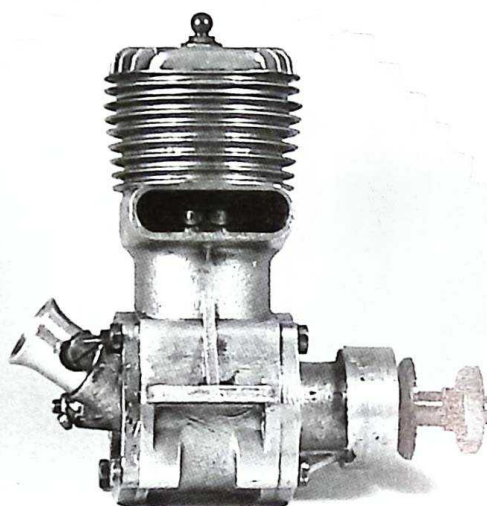
'Arrow' 5cc. Rotary disc induction,  
produced by 'Ten-Sixty-Six' Products, at  
Battenhall Road, Worcester, 1946



5cc 'Falcon' ign., from '1066' Products

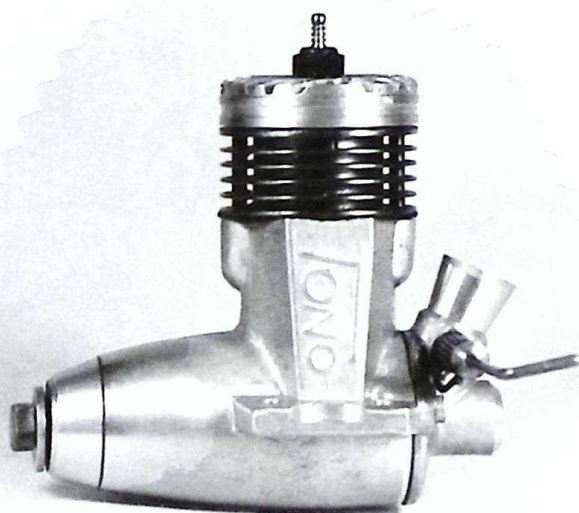


1949 10cc 'Conqueror' ign.,  
from '1066' Products

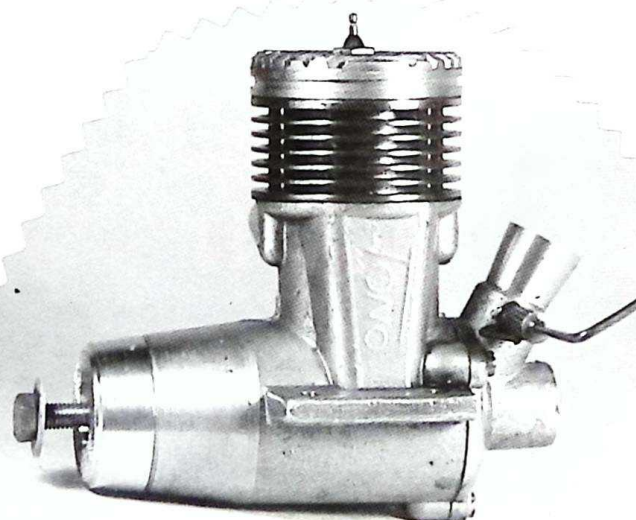


Series II **Conqueror** 10cc glo.

All the engines from 'Ten-Sixty-Six' were  
available as casting kits from basic  
materials plus drawings to finished items,  
requiring assembly

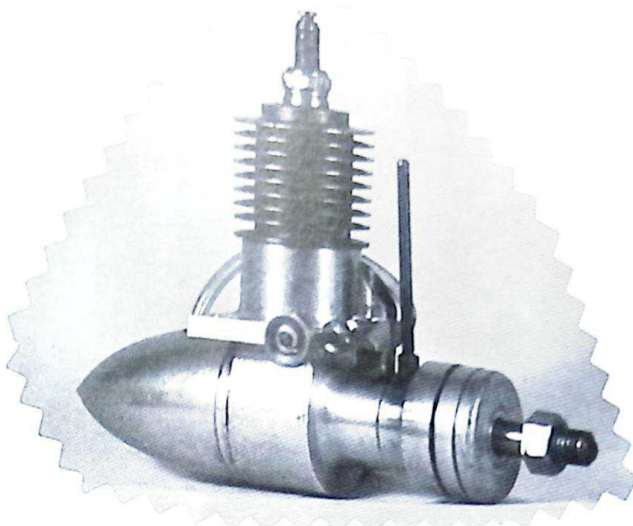


**Tono** 5.6cc, standard glo

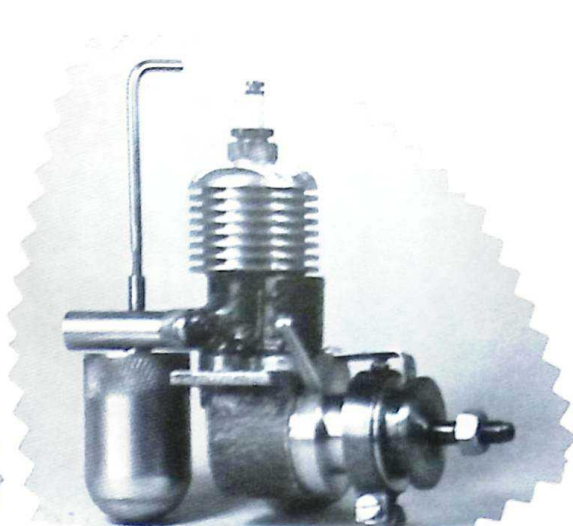


**Tono** 10cc, standard glo

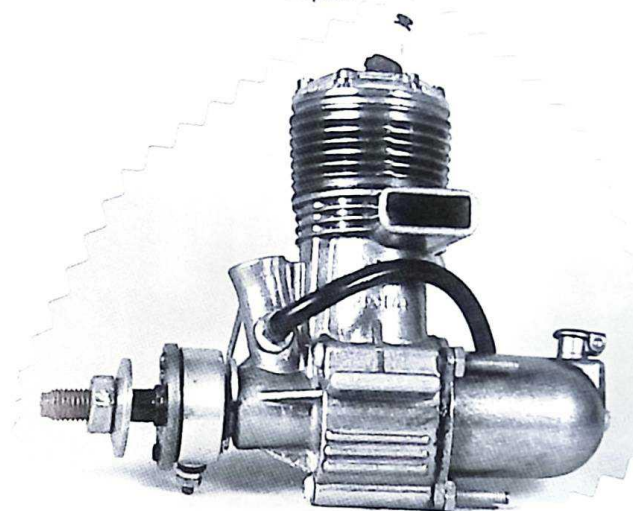




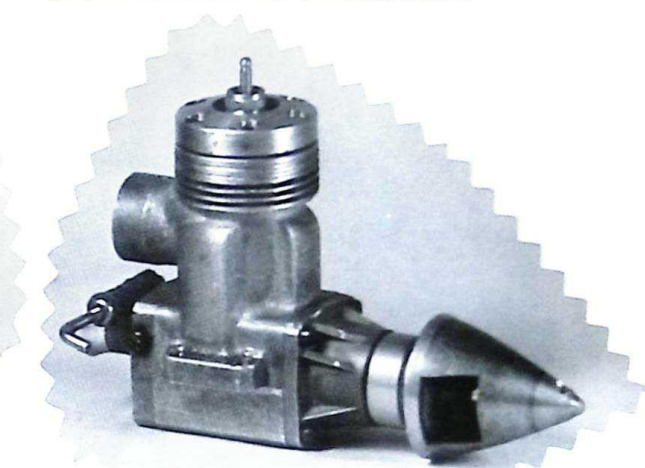
1941 Top '19' from Japan



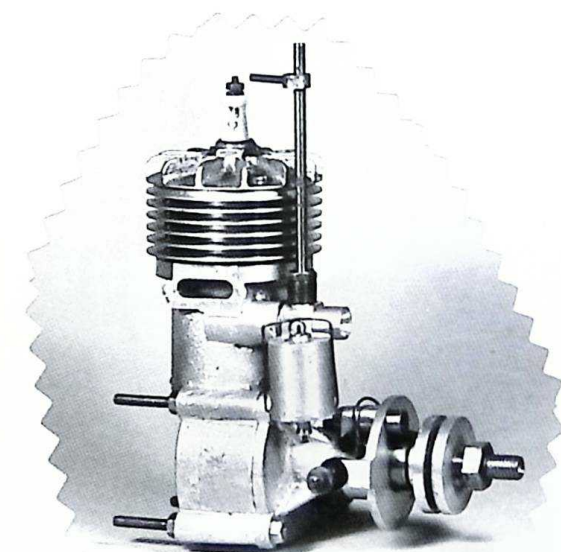
1937 Trojan 'Junior' .19 cu.in.  
Cylinder painted dark blue, with roller  
bearing shaft. 1939 Trojan 'Senior' was .23  
ign., but with tubular exhaust stacks



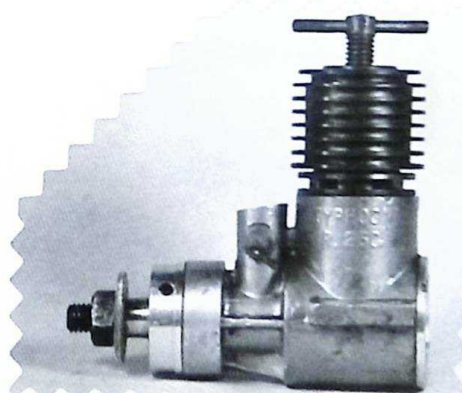
1947 'Torpedo' Special .29 from  
Miniature Motors, California



T.W.A. .15, Racing glo, 1966  
Built by the 'Theobald Wisniewski  
Association' using some K&B parts

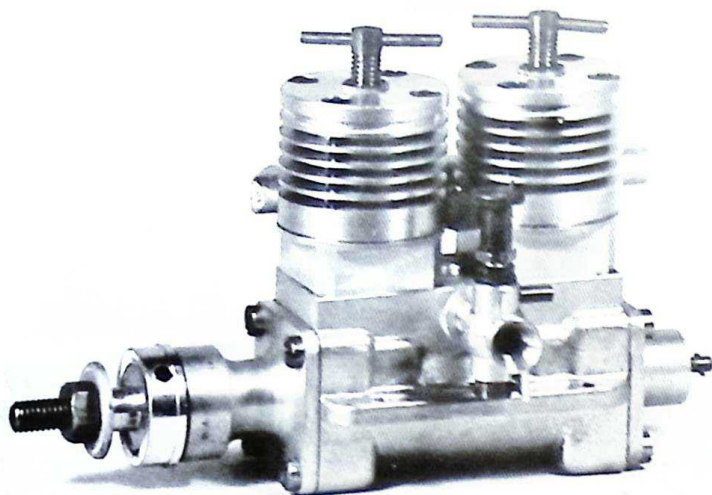


1946 10cc 'Typhoon' made by a Mr Taylor  
for Model Aircraft Stores, Bournemouth.  
First advertised in May 1946 for £10/10s  
(£10 50p)

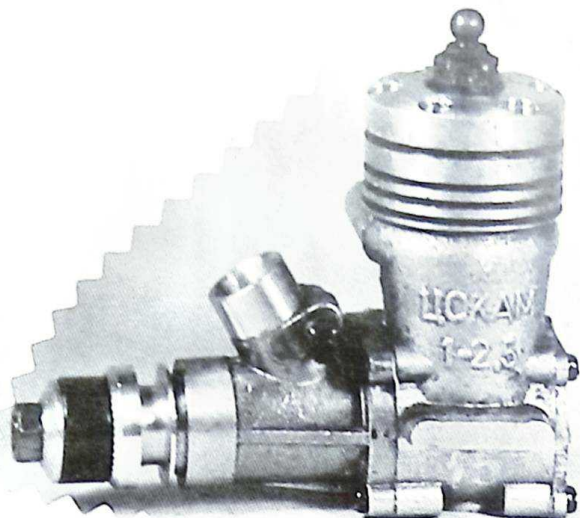


1953 Dutch 'Typhoon' 2.5cc diesel.  
Ball bearing model

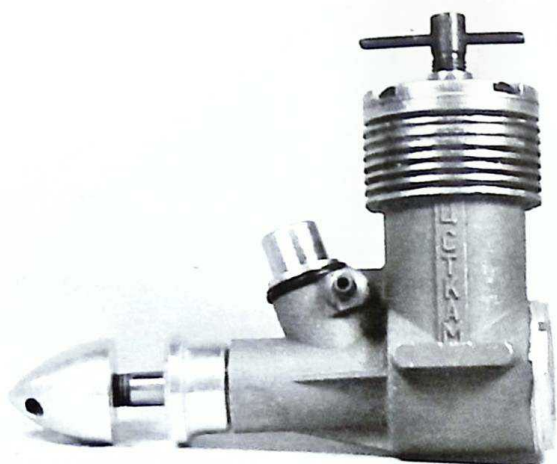




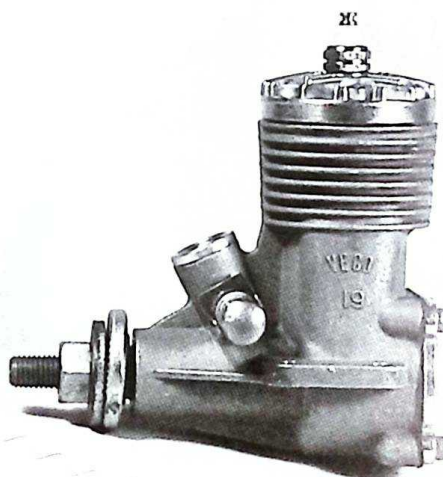
1960 Dutch Typhoon 6.8cc twin, few made



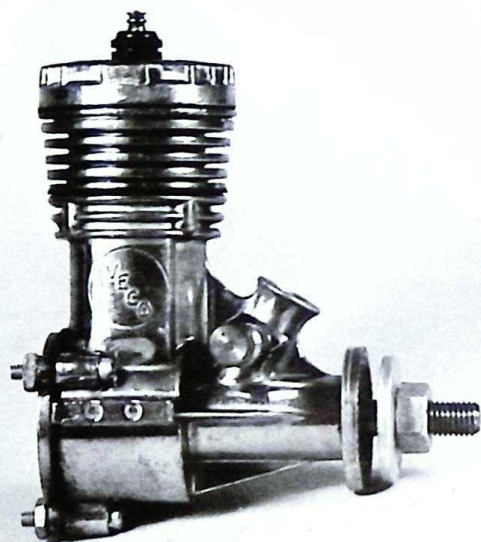
Uckam 2.5cc glo 1969, from Russia



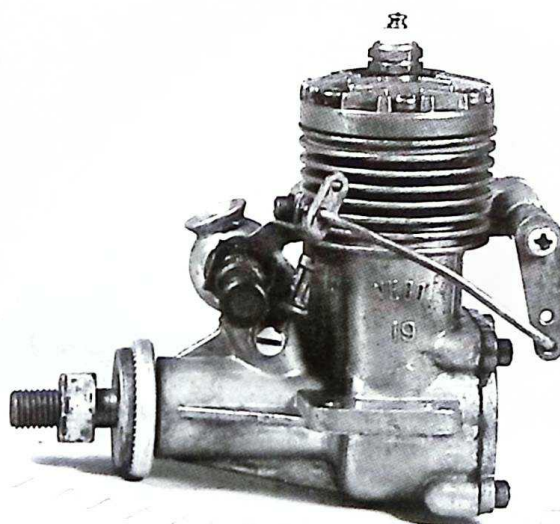
1975 Uckam 2.5cc diesel



1953 Veco .19, U.S.A.

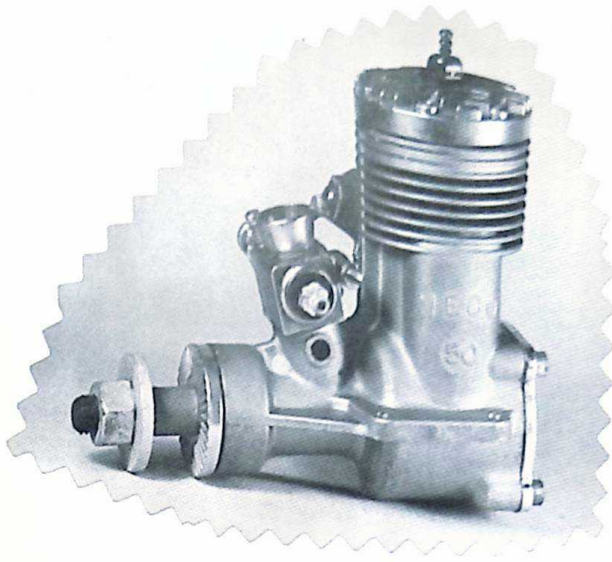


1957 Veco 35 'Stunt'

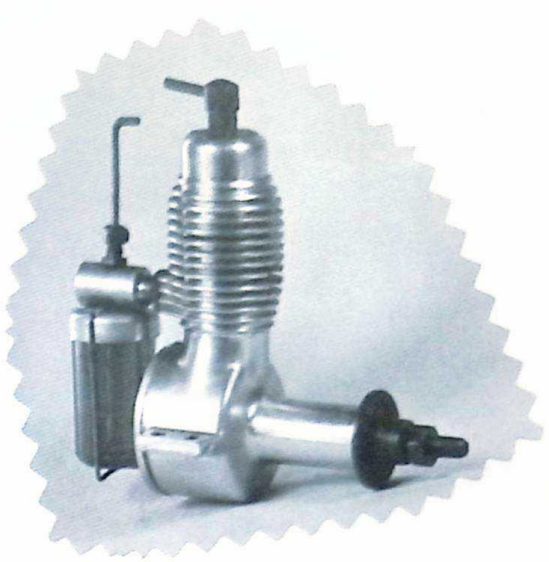


1959 Veco .19 R/C

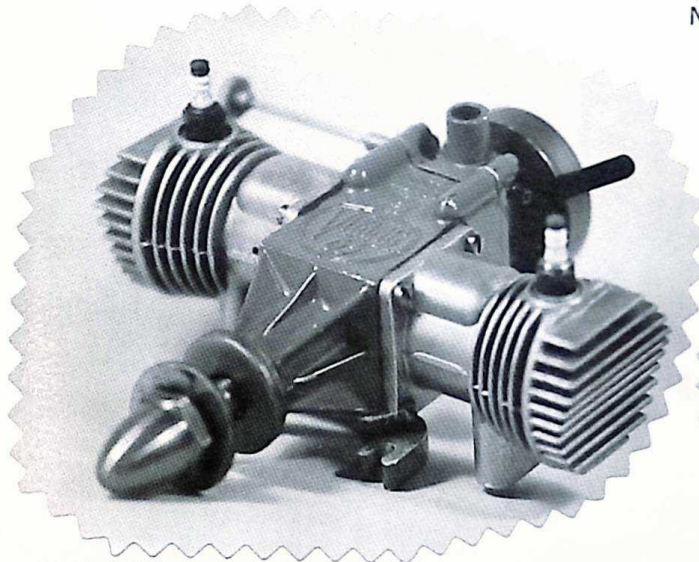




1969 **Veco** .50 R/C



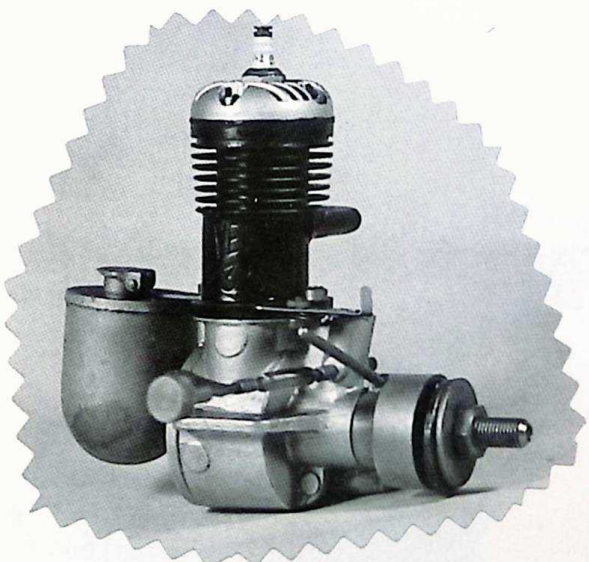
1947 **'Viking'** 2cc diesel from Denmark.  
Note small round exhaust facing forward



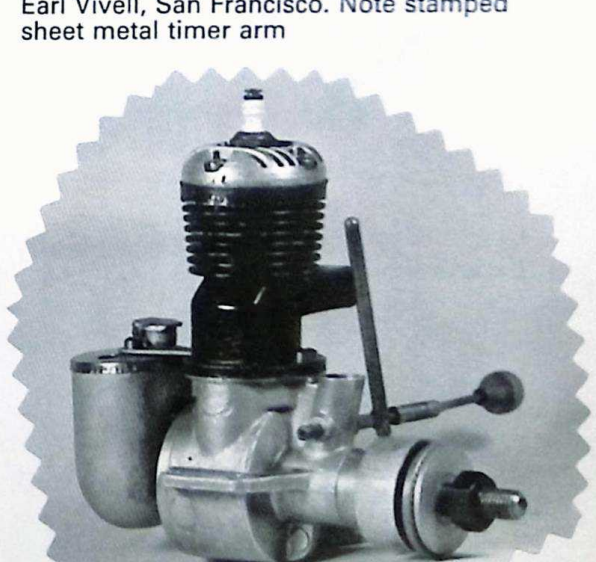
1946 **'Viking'** .65 twin.  
Made in Burbank, California



Late 1944 **Vivell** .35. Manufactured by  
Earl Vivell, San Francisco. Note stamped  
sheet metal timer arm

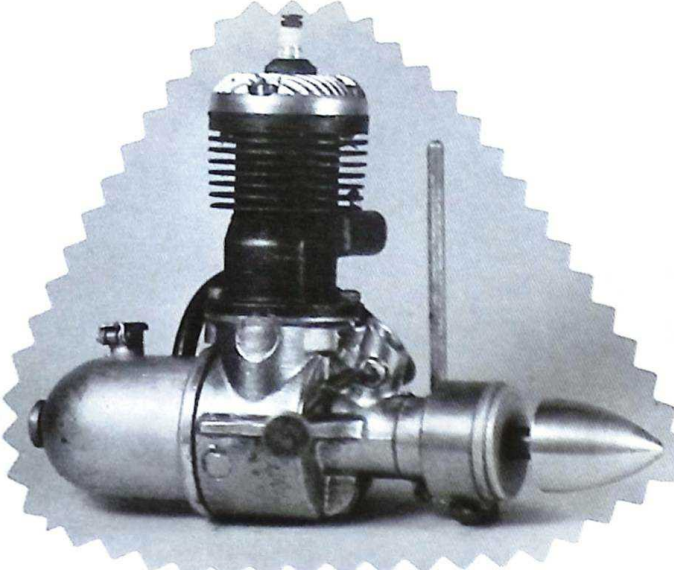


1945 2nd model **Vivell** .35 had an improved  
timer assembly, with threaded rod  
timer arm

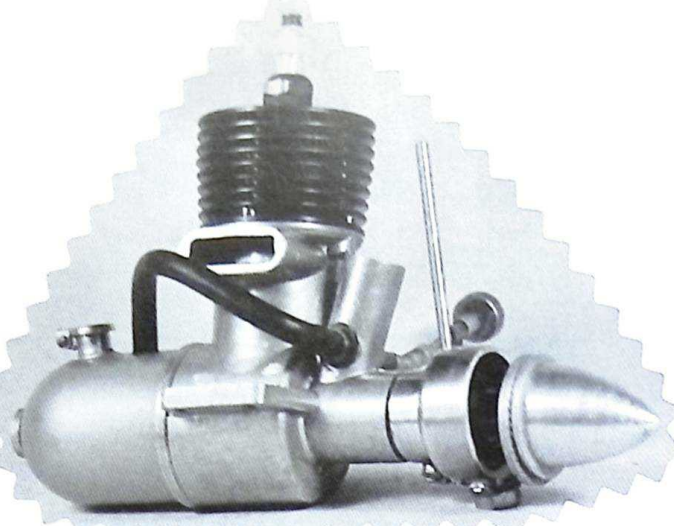


1946 3rd model **Vivell** .35. Had larger  
by-pass, exhaust port and high  
compression cyl. head

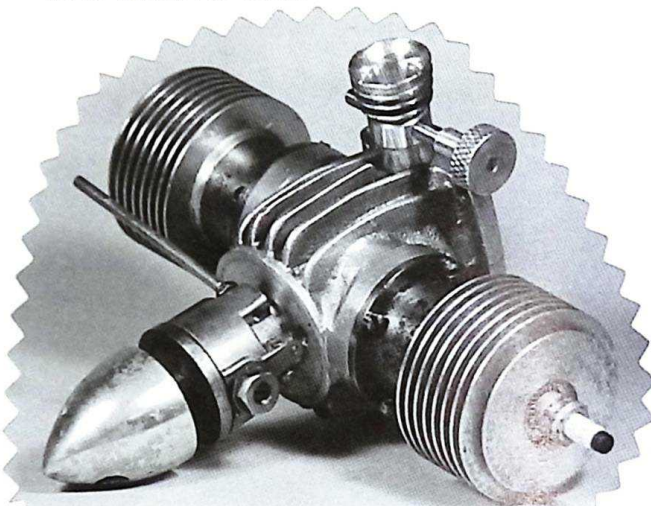




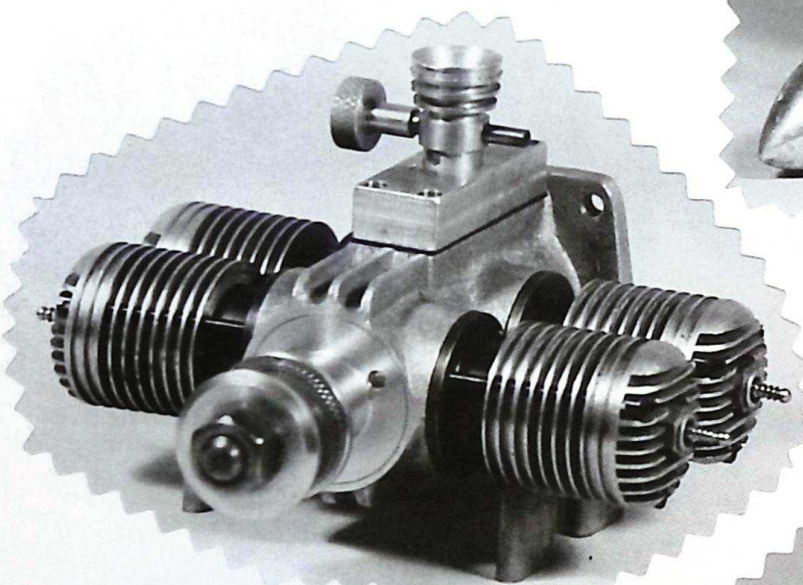
The 4th and 5th model **Vivell .35's**, differed only from the 3rd model, in tank position. Instead of a 'hang tank', they had a streamline metal tank held by a centre bolt. Model shown is 5th model Vivell, identical 4th model, except for angled intake



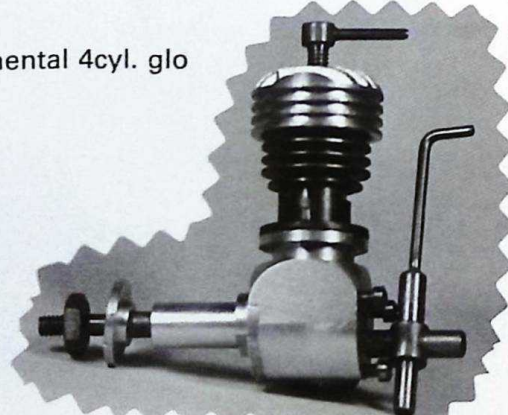
1946 **Vivell .49 cu.in.**



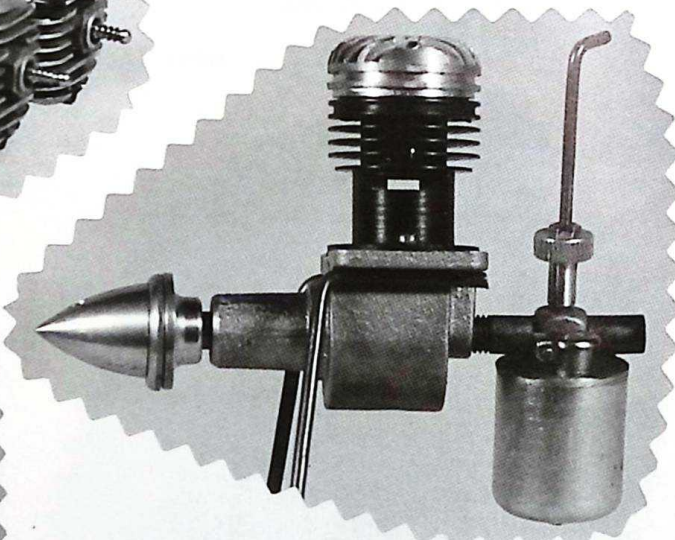
1946 1st Model **Vivell 10cc twin**



Experimental 4cyl. glo

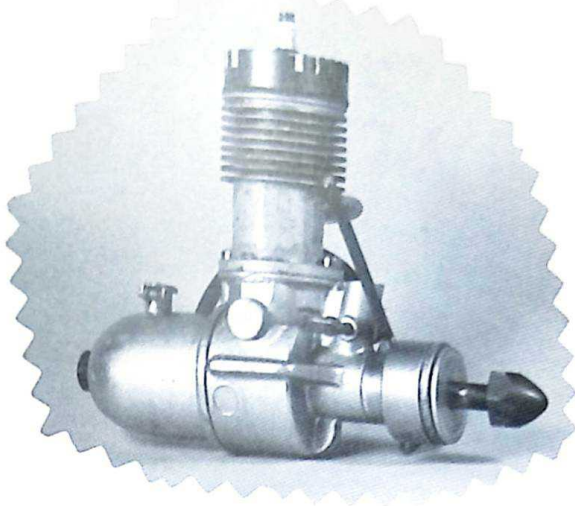


**Vivell .035 diesel**  
from 1948. Only  
around 50 made

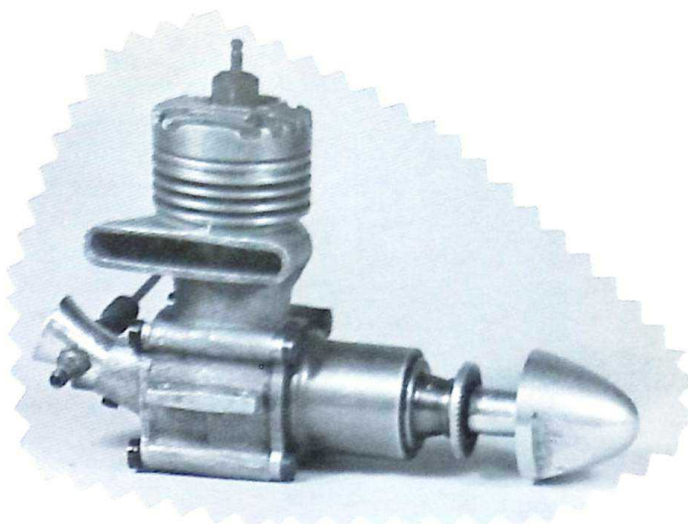


1948 **Vivell .098 cu.in. diesel.**  
Some had 'fixed' compression head,  
others had variable compression  
head as shown. This had a  
'fin thicker' head, to carry  
the contra-piston

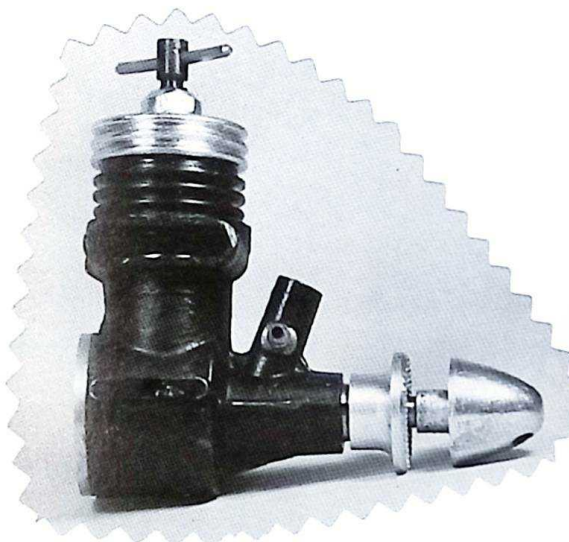




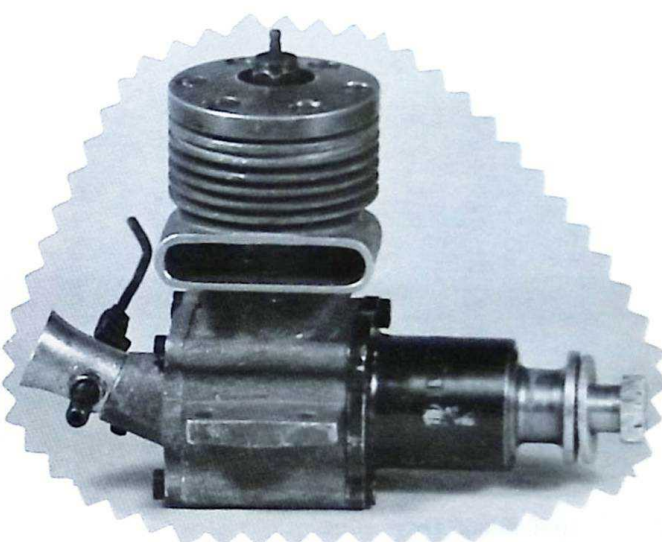
**Vivell .35.** Assembled by Bill Swag German from original parts, but with new style cylinder heads and spinner nut anodised green or blue



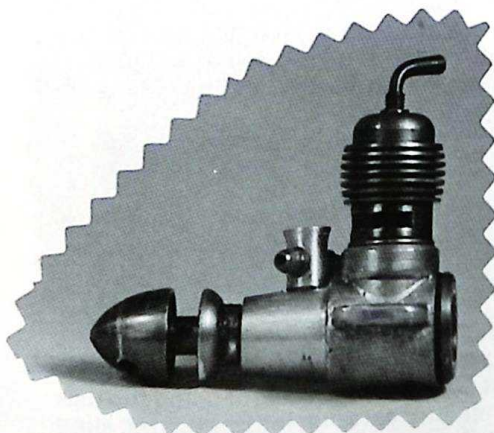
1957 **Vlatavan 2.5 glo** from Russia



1950's **Veterok 1.5cc** from Russia



1957 **Vlatavan 5cc glo.** Both models have red anodised front housings

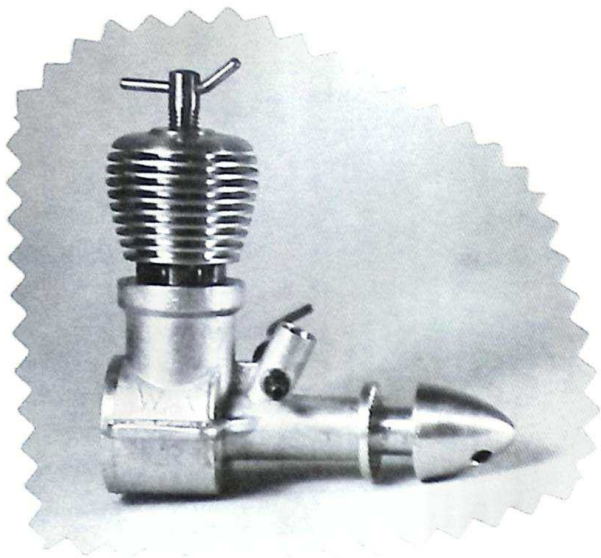


**Veterok .3cc,** with red anodised head, p/driver and spinner

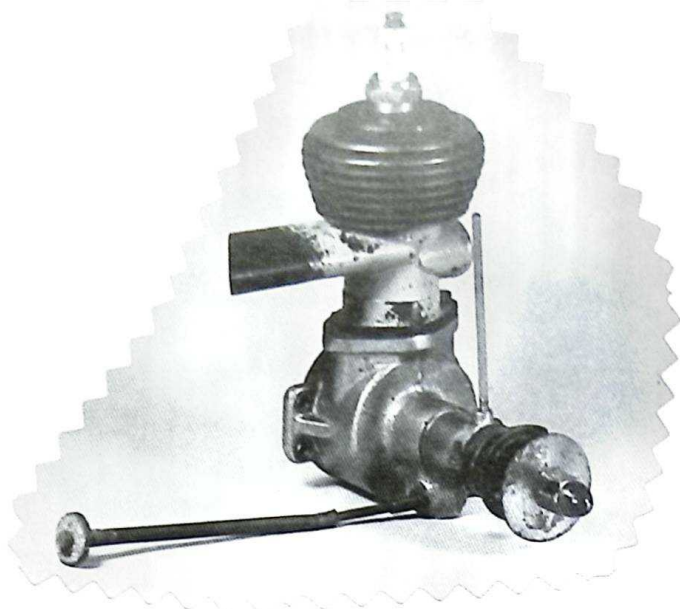


**V.T. .2cc,** was the smallest of the Alag 'family' from Hungary

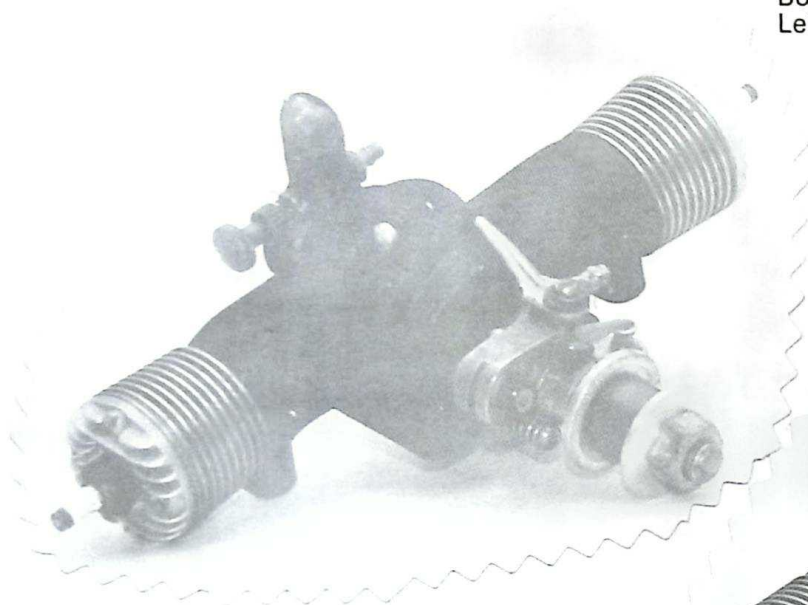




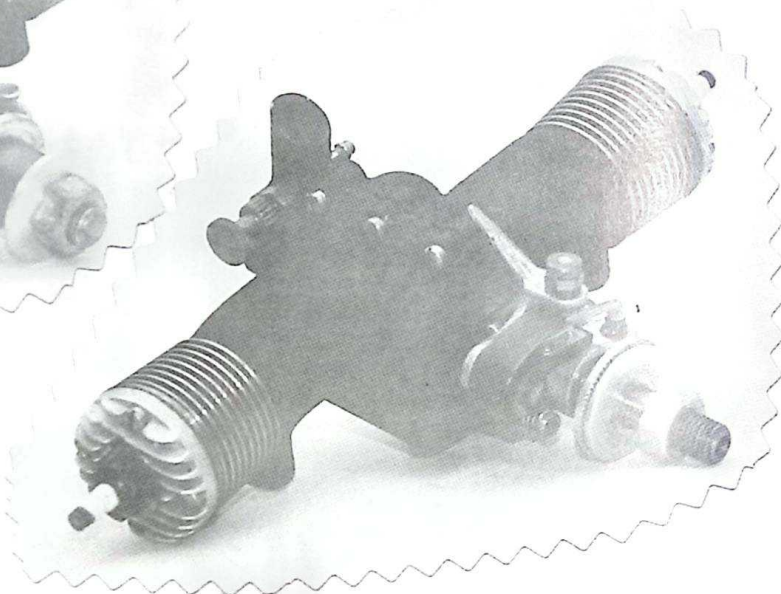
1953 **Waf** 1cc from Germany



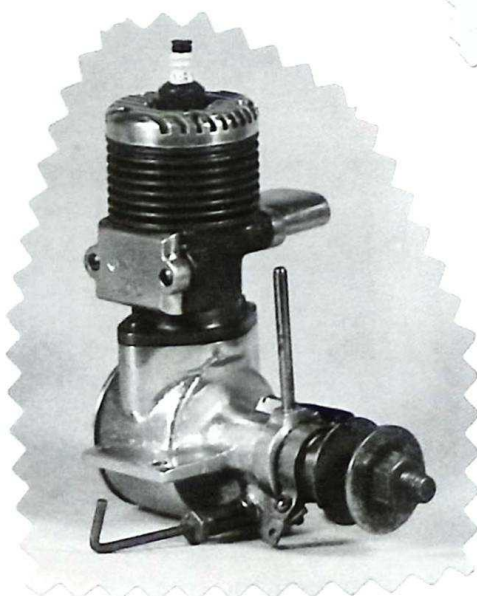
Around 1939 '**Wasp**' 6cc ignition engine. Manufactured for Model Aircraft Stores, Bournemouth, by Rodgers and Geary of Leicester



1946 **Wasp** twin, 10cc.  
1st Model had only 6 bolts holding crankcase halves together

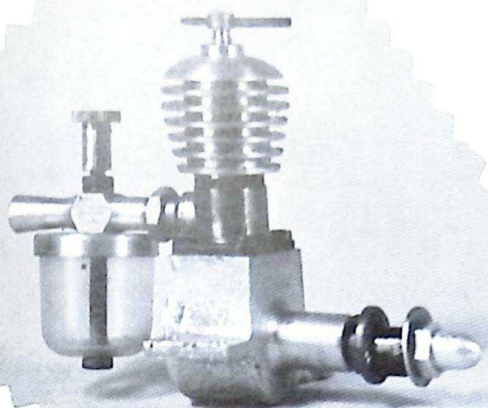


Later series had improved '10 bolt' holding two halves together. Both models finished in attractive black crackle paint. Made in Los Angeles, California

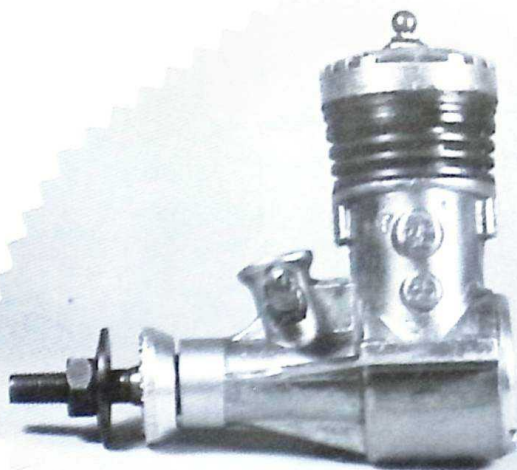


1946 **Wensen** .36, U.S.A.  
Referred to as a post-war version of the 'Baby Cyke'. Most notable improvement being the use of cast aluminium replacing the fragile zinc alloy of the Baby Cyke

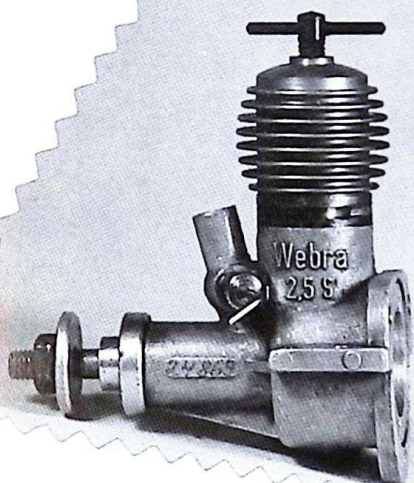




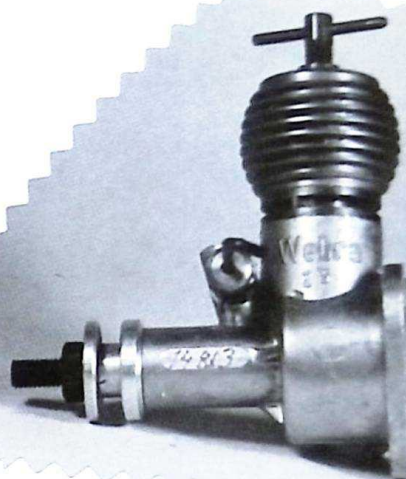
1948 **Weaver** 1cc. Later available as drawings from Aeromodeller



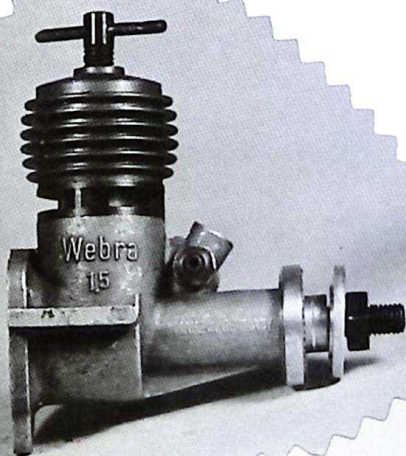
1957 **W.B.** .35 cu.in. glo from Brazil.  
Designed by Weschollek and Baumann



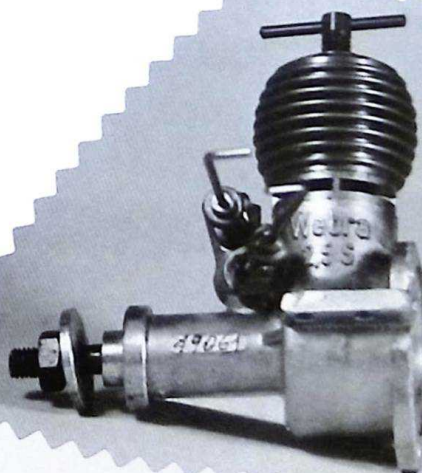
1951 **Webra 'S'** 2.5cc beam mount 'Winner'



1951 **Webra** 2.5 Radial Mount. Made in the  
U.S. Zone of Germany by Fien-und  
Modelltechnik

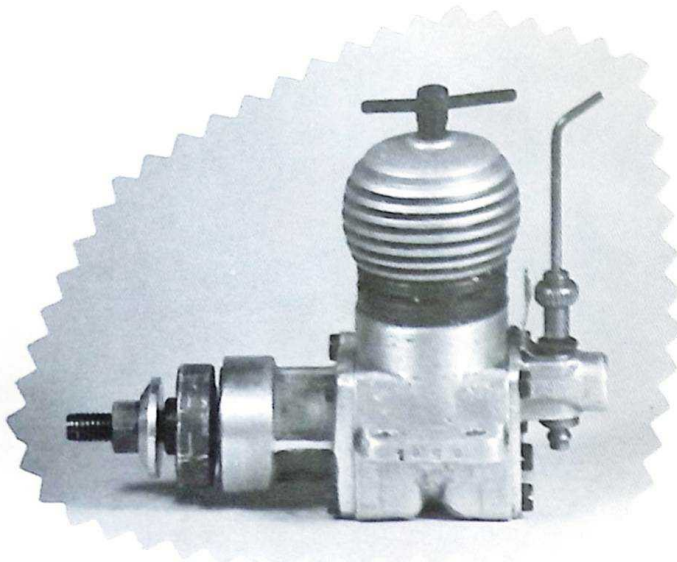


1952 1.5cc '**Record**'

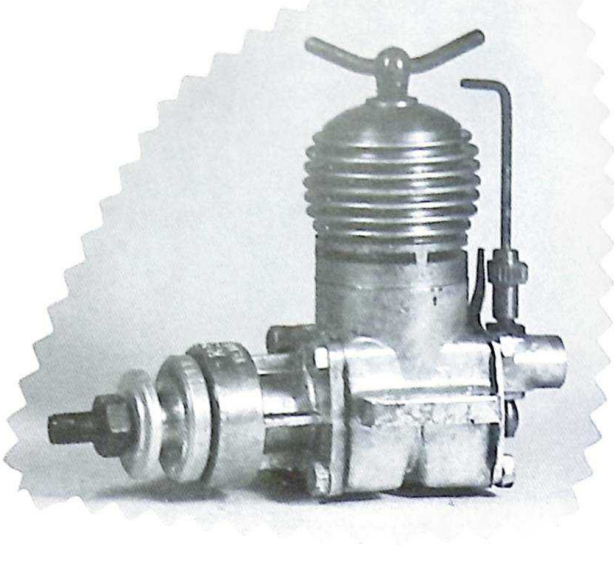


1955 '**Winner**'  
2.5cc with twin needles for R/C work

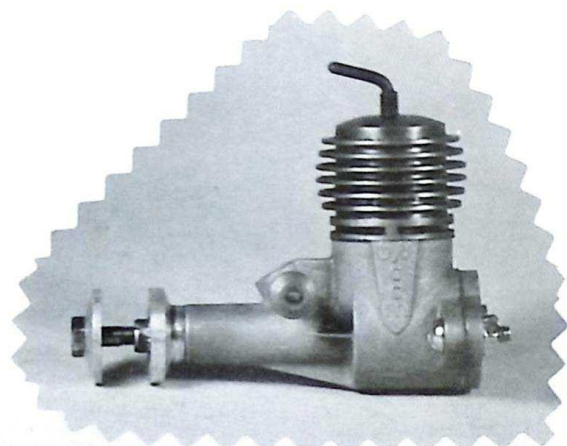




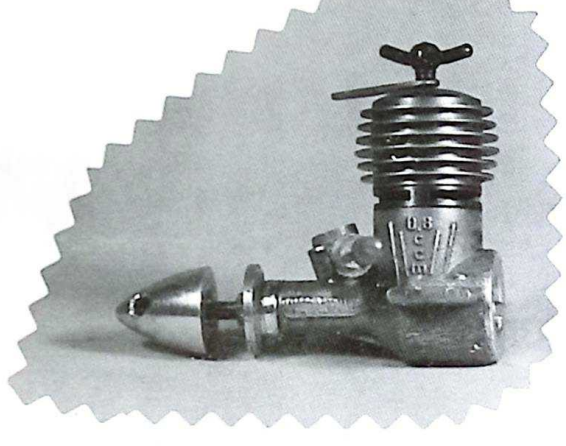
Early sand cast Mach I



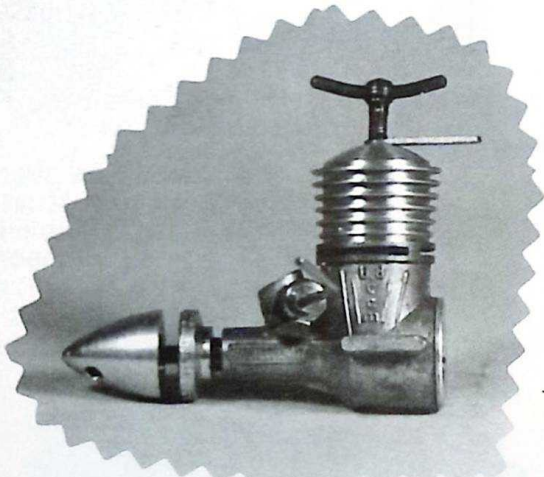
Mach I, Produced from 1953



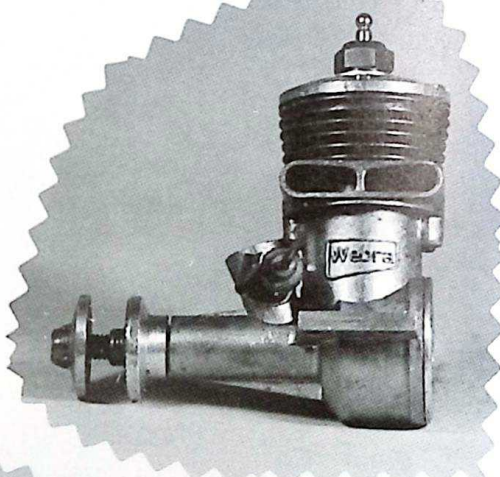
Late 1954 Webra 'Piccolo' .8cc MK I



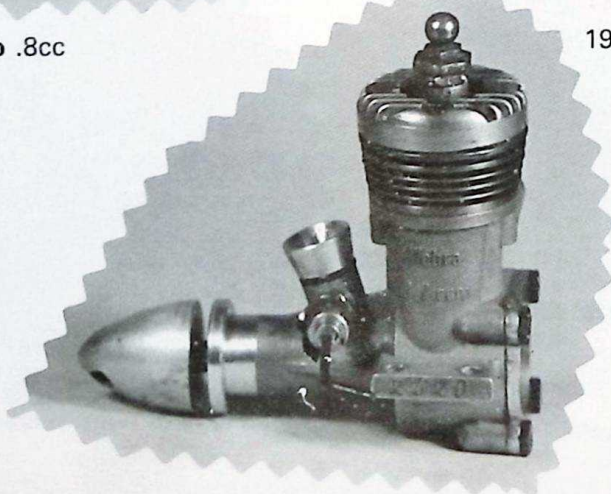
1963 Series II Piccolo .8cc



1964 Series III Piccolo .8cc

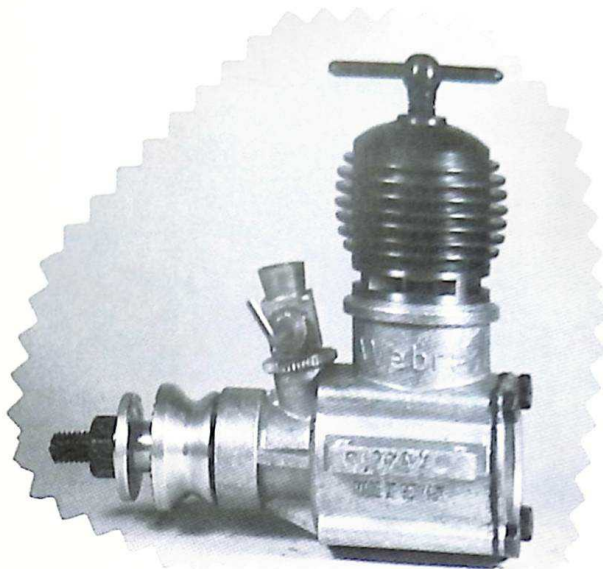


1957 Webra 'Sport Glo' 1.7cc

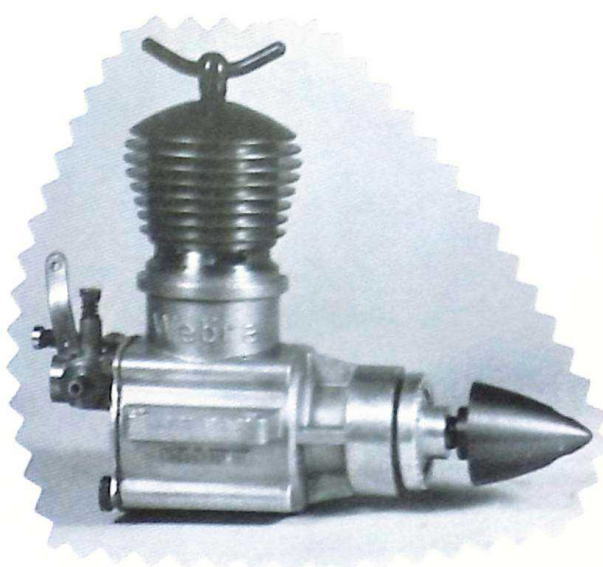


1966 'Sport Glo'

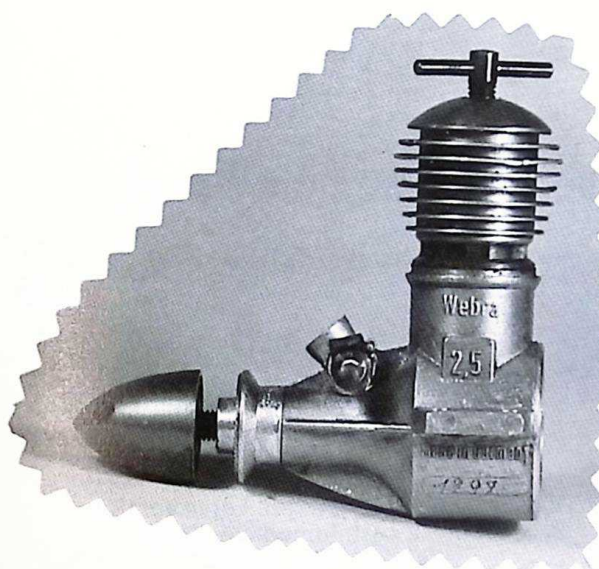




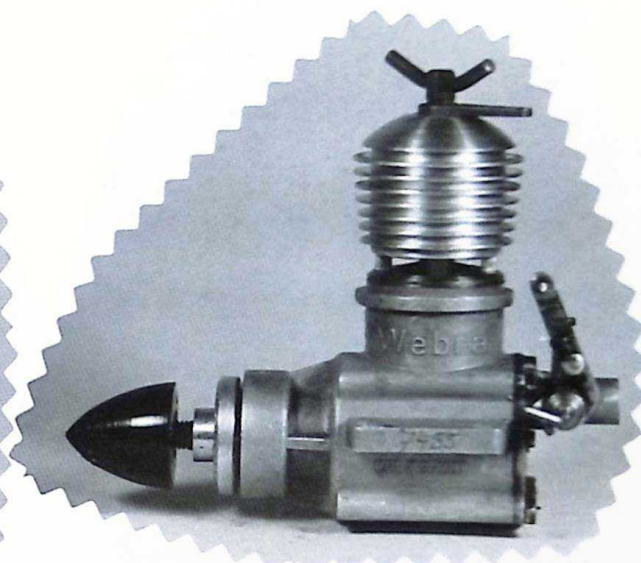
1958 3.5cc **'Bully'**, with blue anodised head. The 2.5cc 'Komet' had a red head



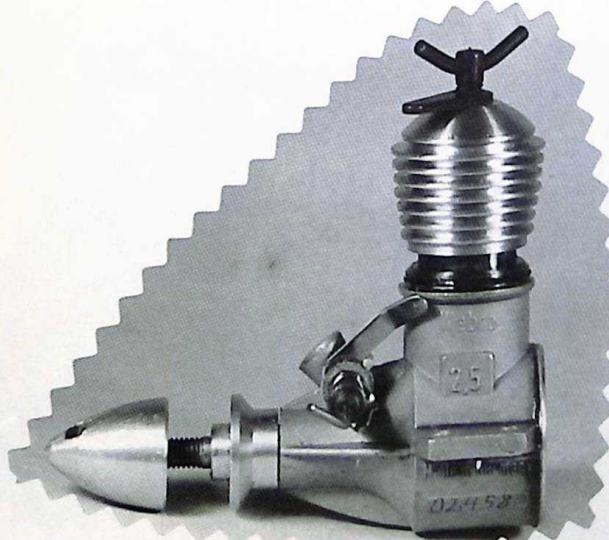
1960 Webra **'Bully'** 3.5cc MK II with R/C carb.



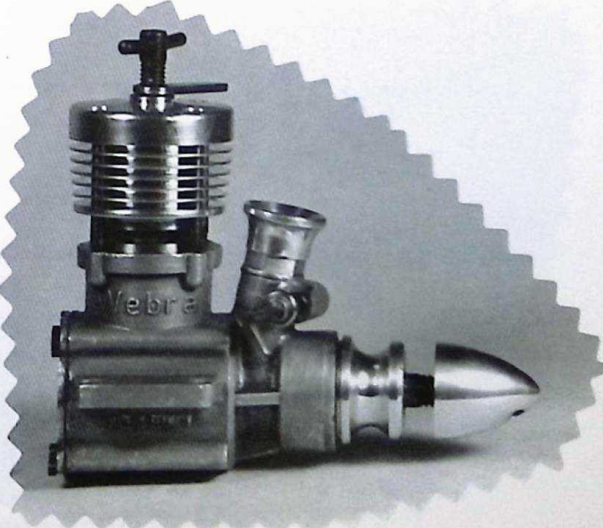
1960 2.5cc **'Winner'** with red anodised Head/spinner



1961 3.5cc **'Bully'** Series II, MK II

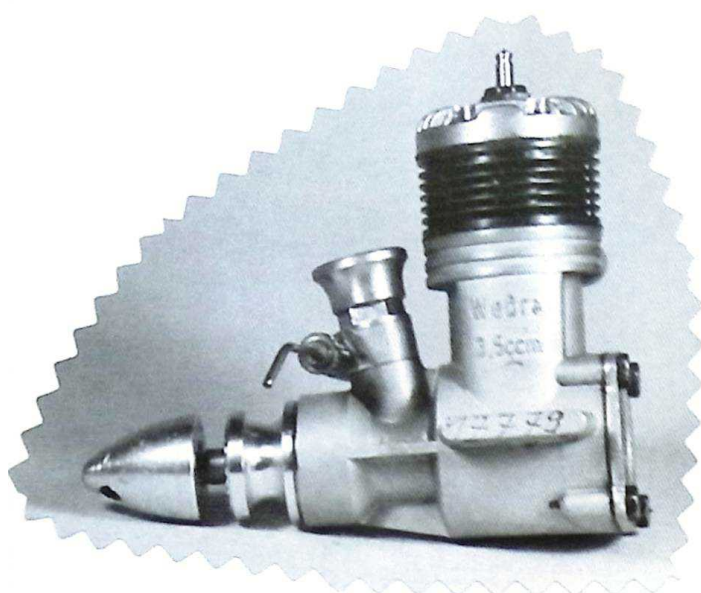


1961 2.5cc **'Winner'** Plain metal finish

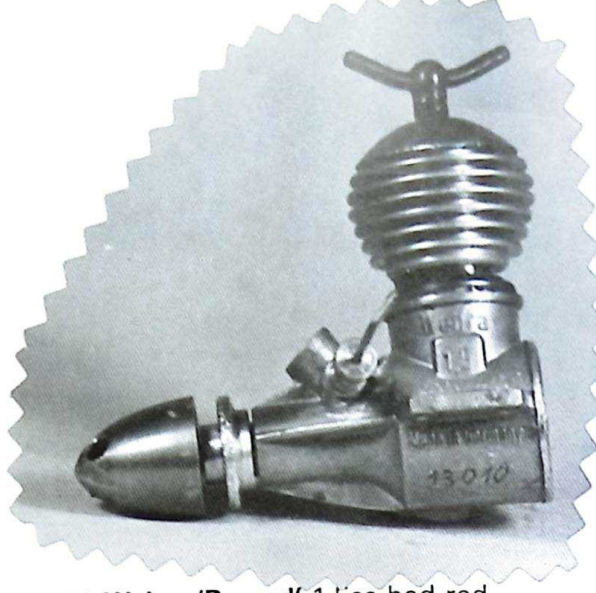


1964 Webra **'Mach II'** 'Racing Special'  
Available from 'Intermodel Products',  
W. Germany

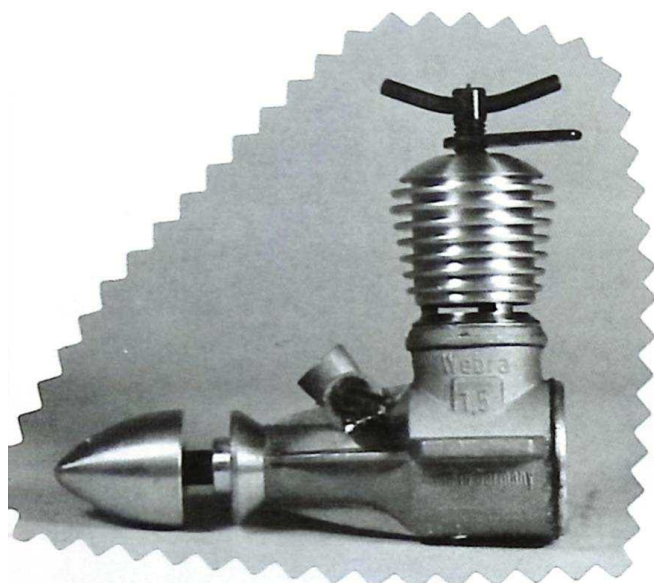




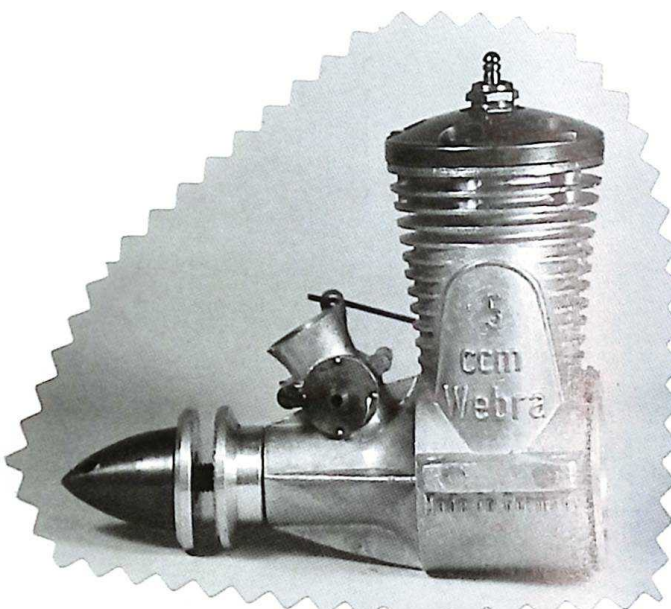
1964 Webra 'Glo-Star' 3.5cc



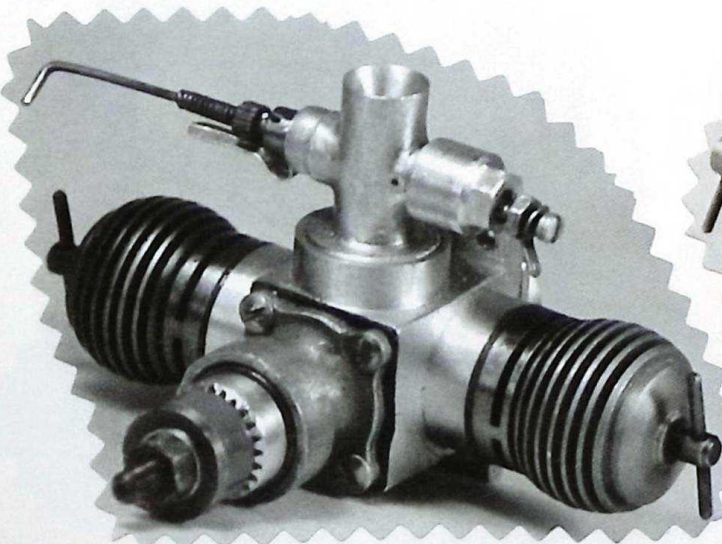
1960 Webra 'Record' 1.5cc had red anodised head/spinner



1963 1.5cc 'Record'  
All natural metal finish



1961 5cc 'Big Ben' R/C glo. Later version in 1966, had a cast, finned cyl. head

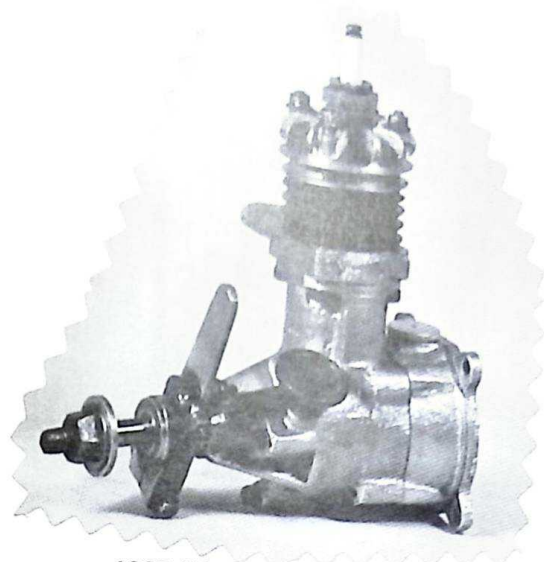


Experimental  
Webra 5cc twin

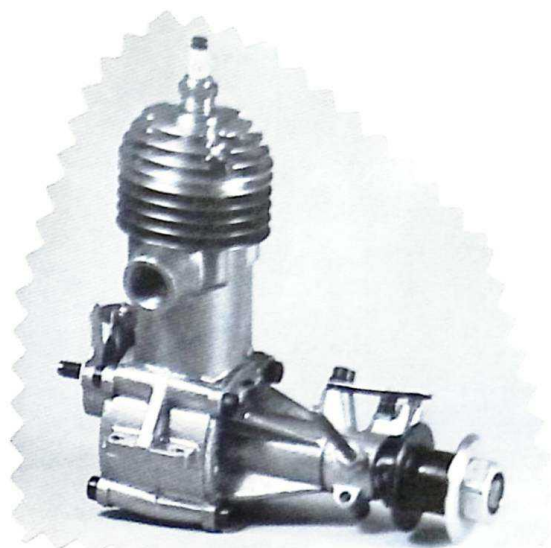


7.6cc twin by Webra in 1958.  
Previously designed and built by 'Ruppert' at 8.5cc capacity

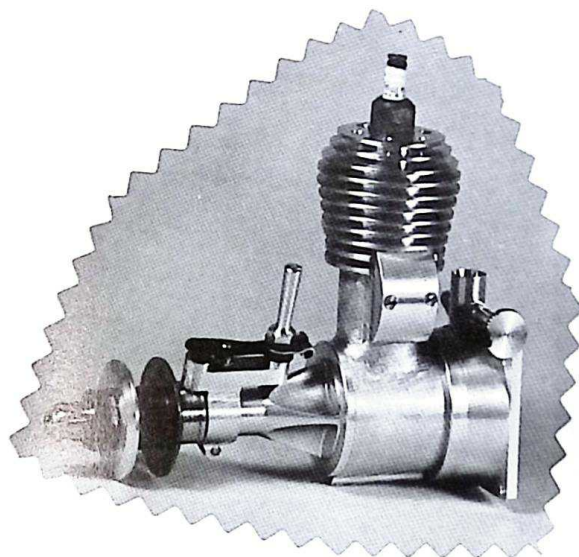




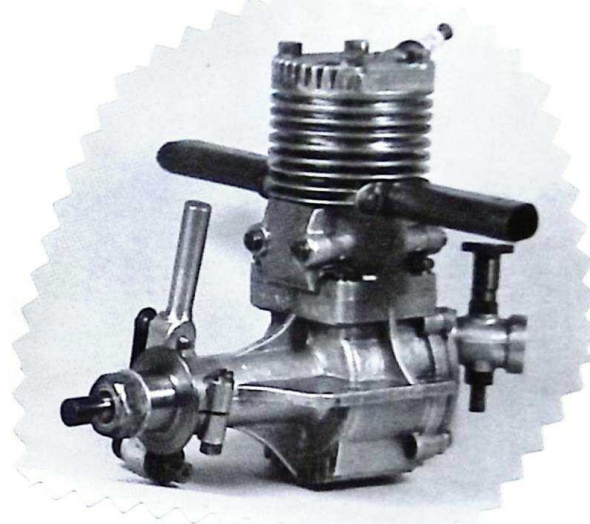
1937 Westbury 'Kestrel' 5cc



1938 Westbury 'Atom Minor' 6cc



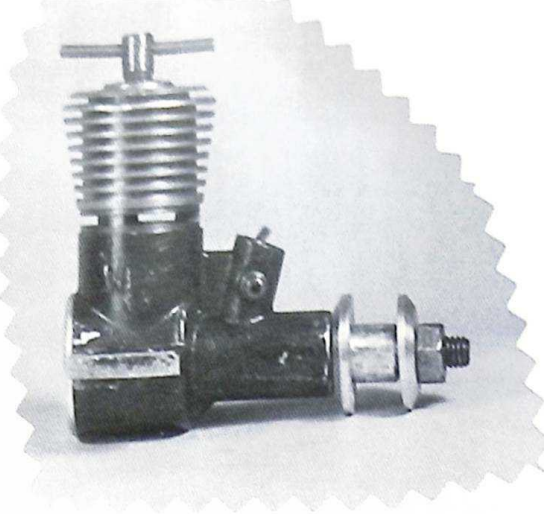
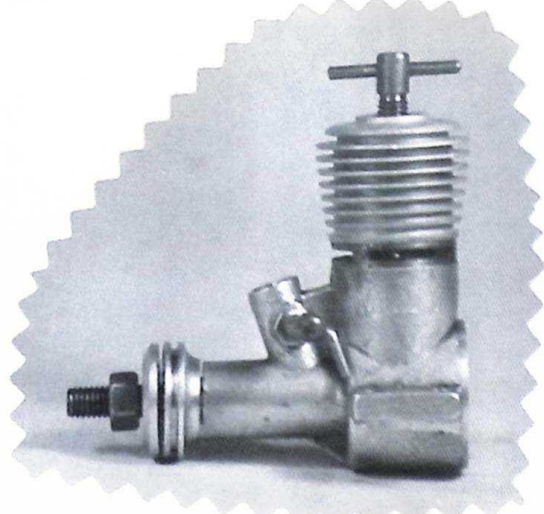
1939 2.5cc Westbury 'Zephyr'



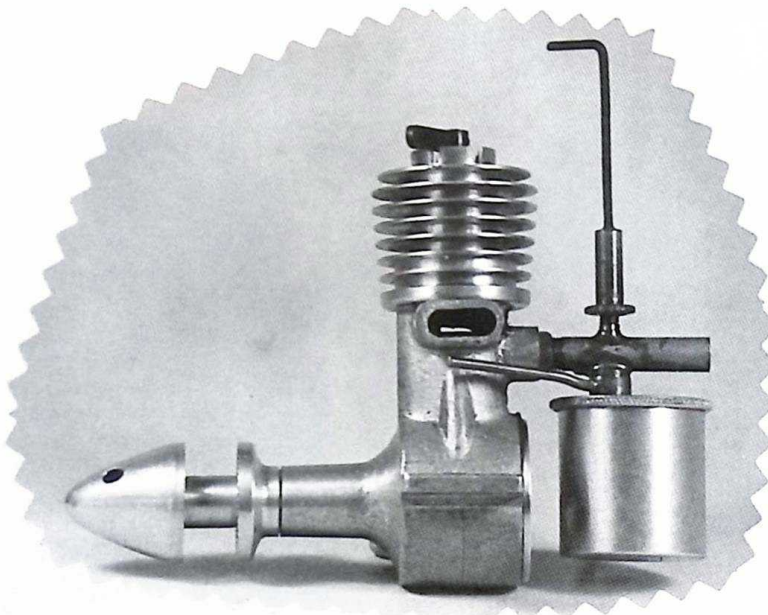
1941 Westbury 'Ensign' 10cc

Edgar Westbury was Associate Editor of 'The Model Engineer' in the 1930's and 40's. He designed many engines, two stroke and four stroke. Drawings and some casting sets are still available. Back in the early 1930's working with Capt. (later Col.) Bowden, who built the 'Kanga' Bi-plane, he built an engine that powered the 'Kanga' to a flight of over 70 seconds. Quite an achievement at that time. This prompted Mr Westbury to design an engine specially for Model Aircraft propulsion. The 15cc 'Atom Minor' was born. It was fitted to a Bowden designed high wing monoplane, called the 'Bee', and achieved a record flight on its first day out. This engine's highest achievement was powering Capt. Bowden's 'Blue Dragon' to a height of over 4000 feet in 1934, with an 'out of sight' duration of nearly 13 minutes! A later version of the 'Atom Minor', using ball races on the crankshaft, was produced by A.E. Jones Ltd who also produced the 5cc 'Kestrel'

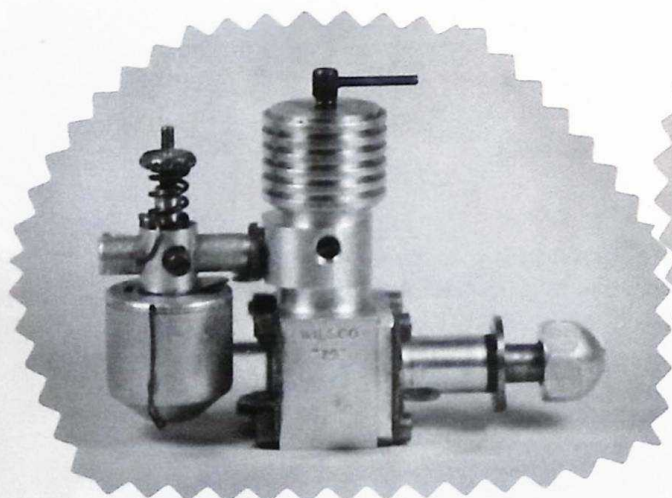




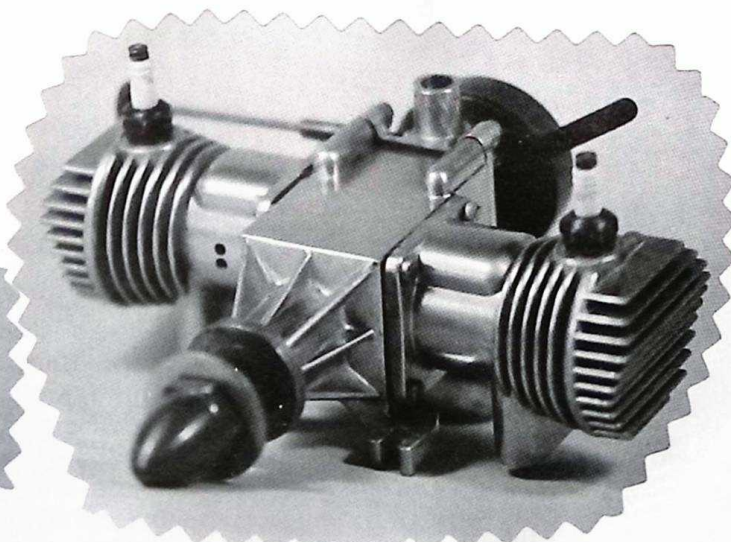
Late '50's, early '60's **Wilo** 1cc and 1.5cc, from W. Germany



1949 '**Weston**' 3.5cc diesel. Made at Weston-Super-Mare, Somerset. Few made

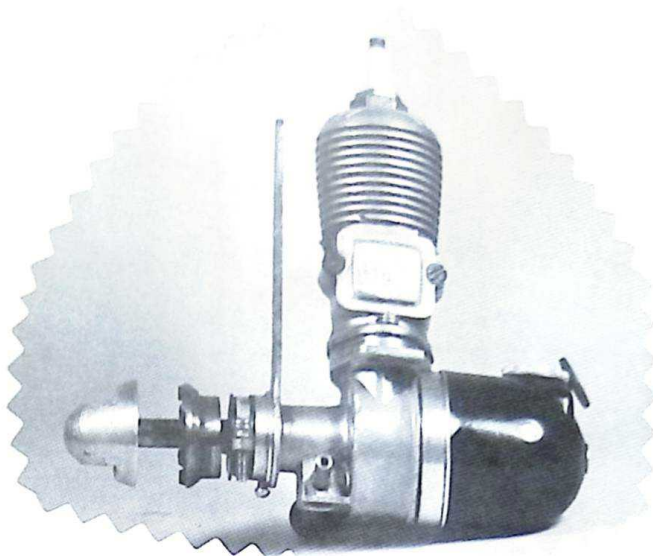


1948 '**Wilsco**' .75cc. Built by Williams & Scott, at Balsall Common, Nr. Coventry. Few made

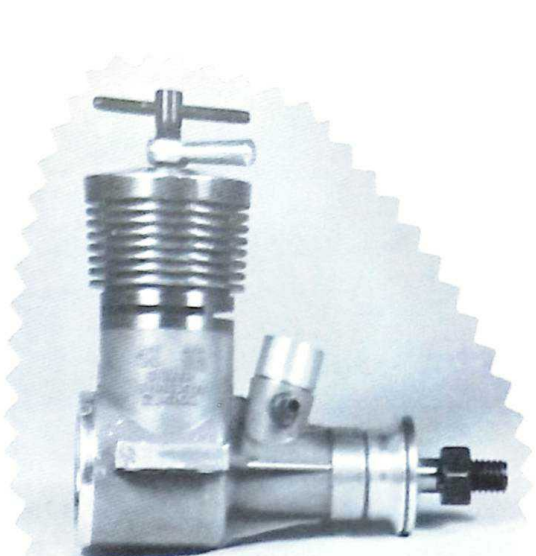


'**Wizard**' .65 cu.in. twin. Cleaned and polished version of the 'Viking'. Blue anodised timer cover and spinner

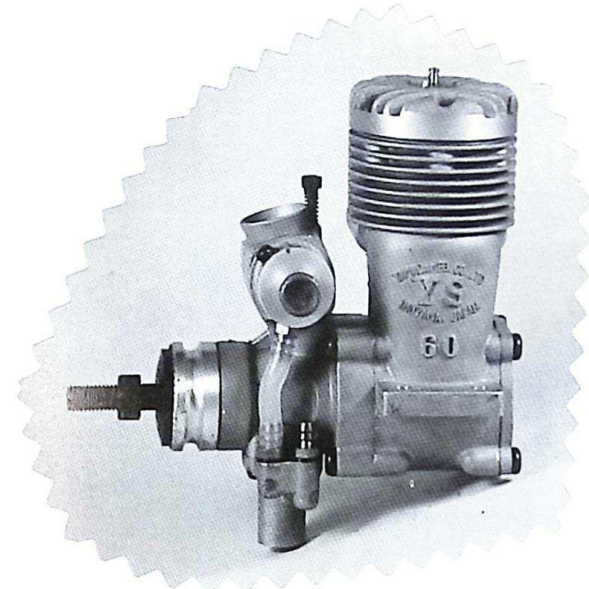




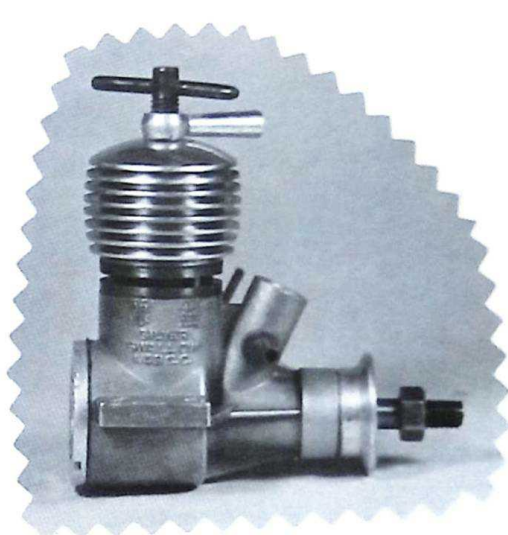
1946 'Whirlwind' 6cc,  
made by 'Jenco of Leicester



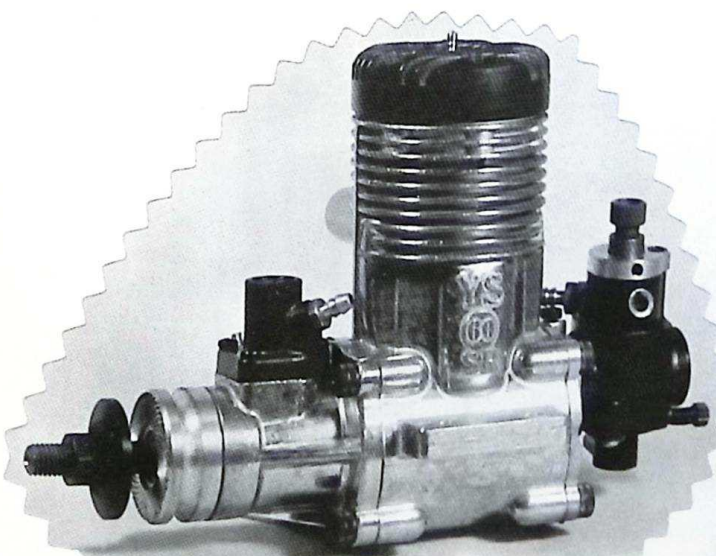
1962 'Yin-Yan' 'Silver Swallow'  
2.5cc from China



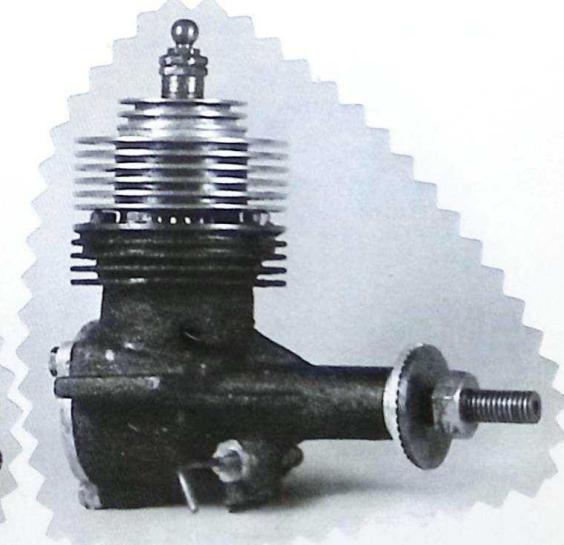
1973 'Y.S.' .60 with built-on fuel pump



1962 'Yin-Yan' 'Silver Swallow' 1.5cc

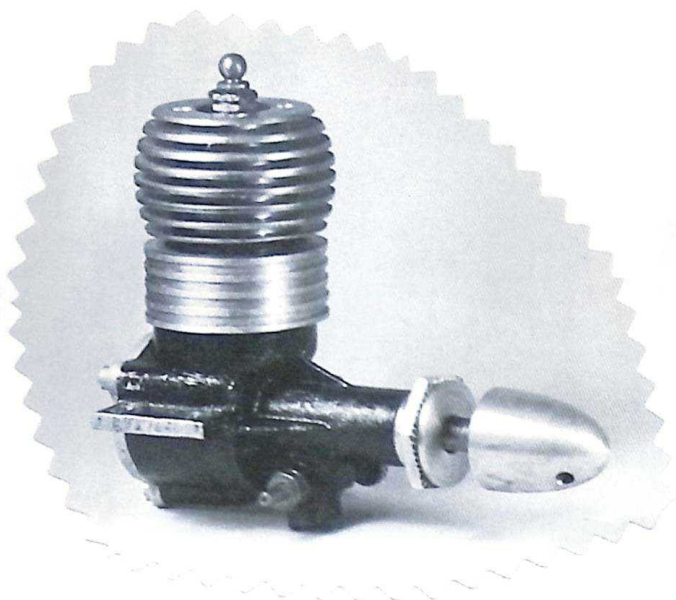


Later series Y.S. .60, also with pump

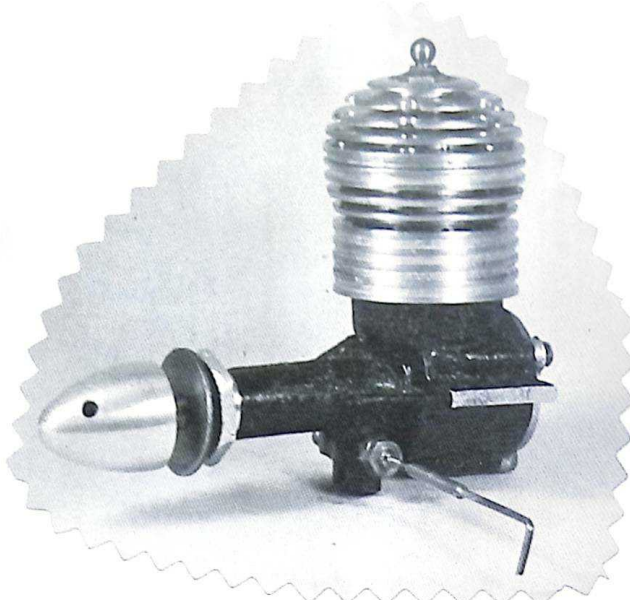


1949 Yulon .30. Made by  
Yulon Engineering, Birmingham

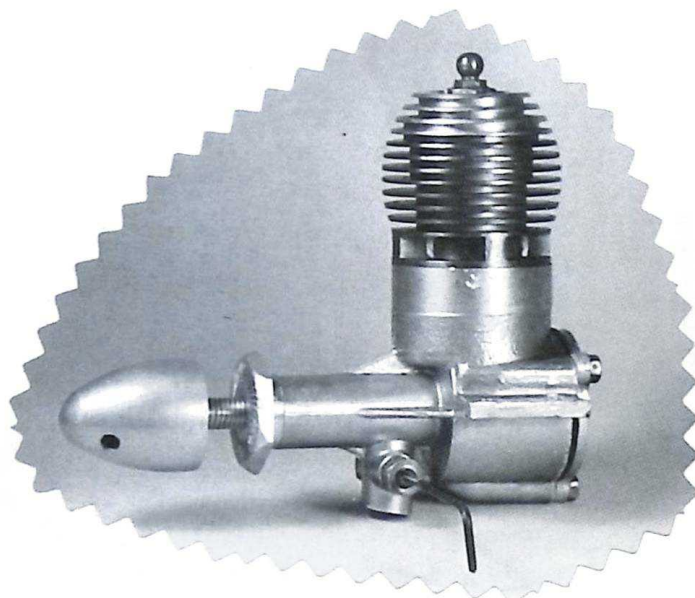




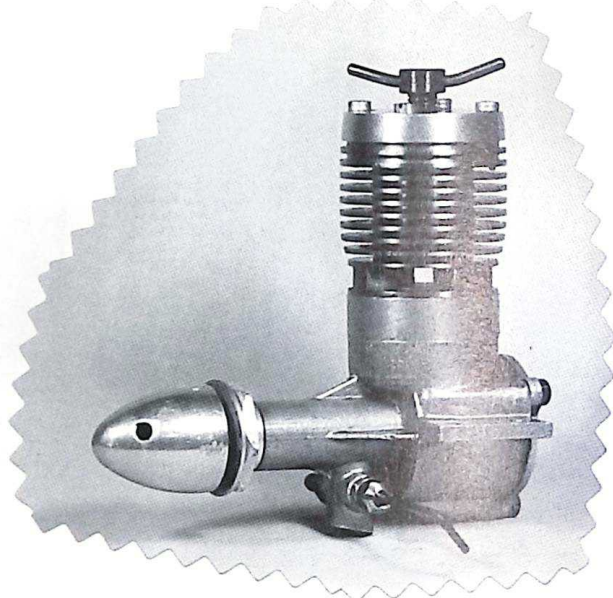
1950 Yulon .29



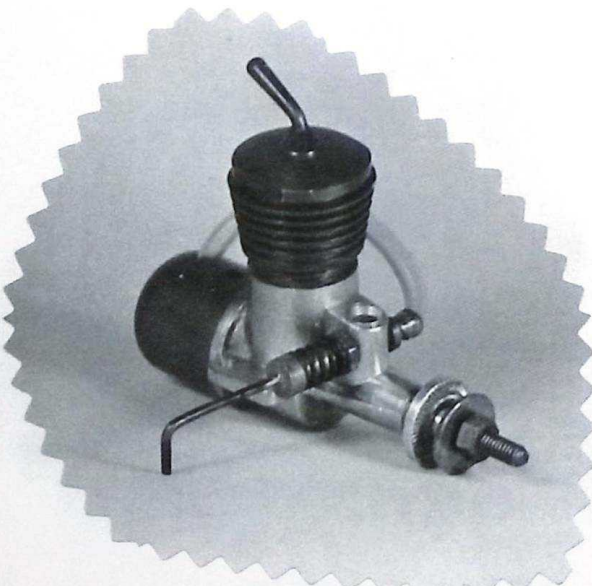
1950 Yulon .49



1951 Yulon 'Eagle' 5cc



Experimental 5cc 'Eagle' diesel

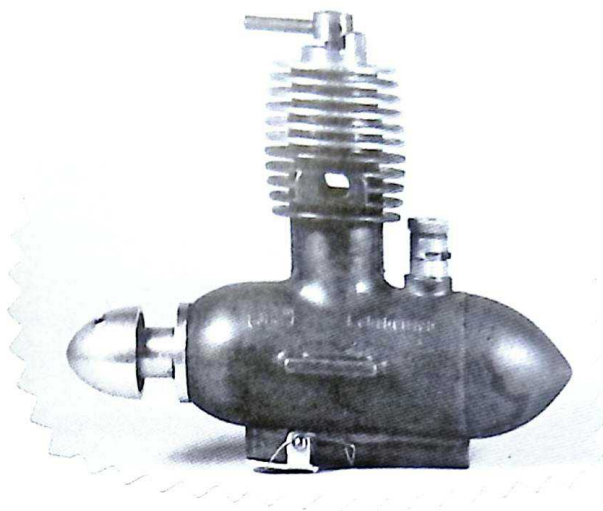


1962 Z.A. 'Griffon' .92cc. Made by De-Za-Lux Developments, Brentford, Middlesex



1963 Z.A. .92 2nd Series. Note square intake and 'shaped' lugs

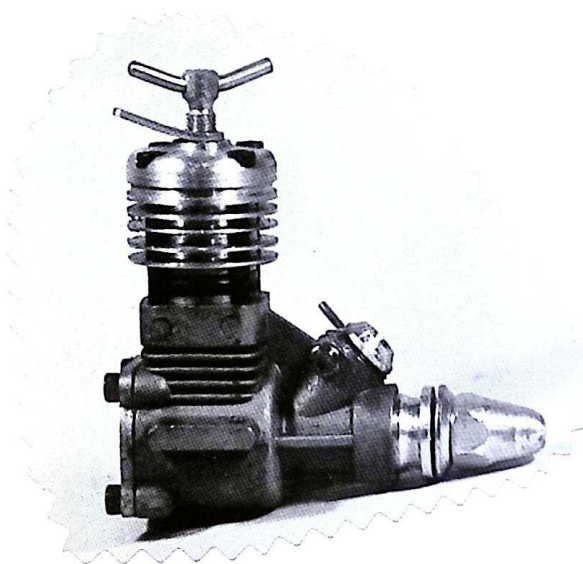




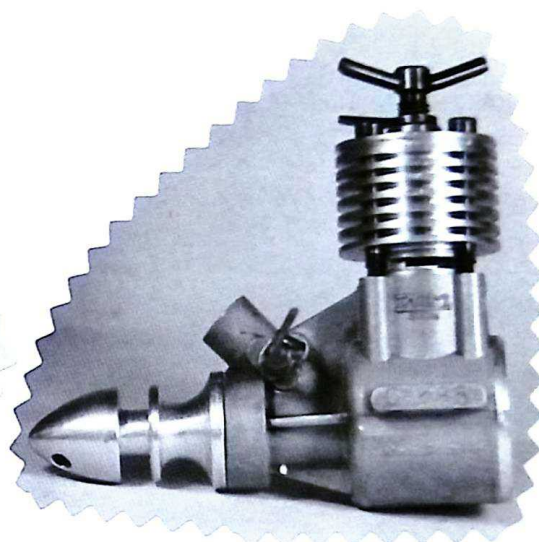
Zeiss 'Pioneer' 2cc from the early 1940's



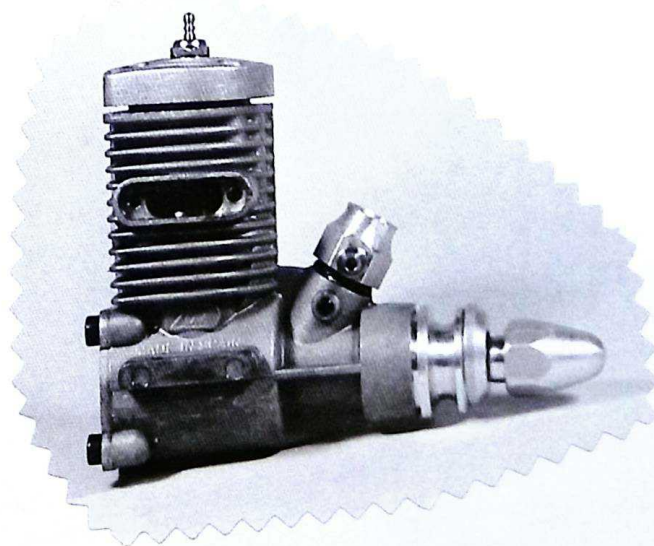
1948 1cc 'Zena' from Italy



1973 'Zom' 2.5cc diesel,  
from Madrid, Spain



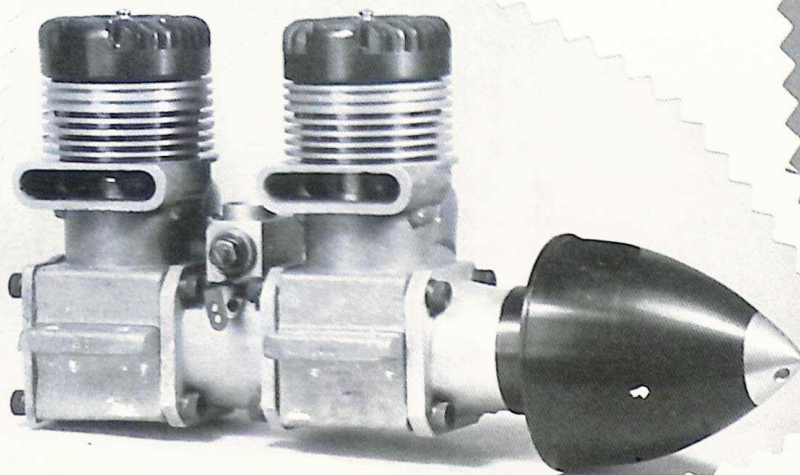
1974 Series II 'Zom' 2.5cc



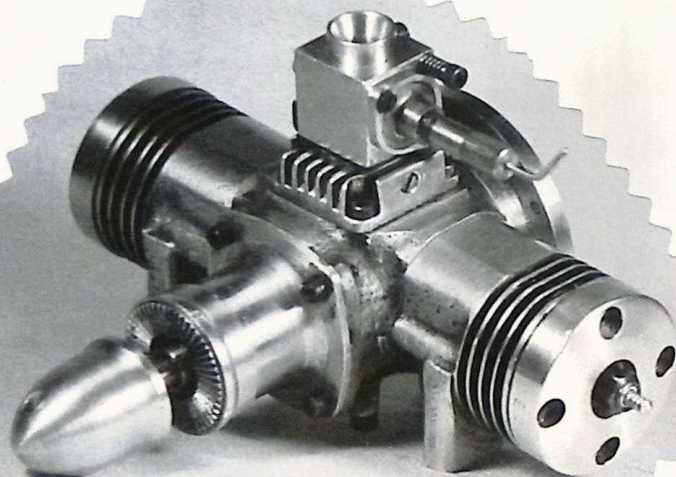
1979 Zom .19 glo.  
Supplied complete with tools, silencer and R/C carb



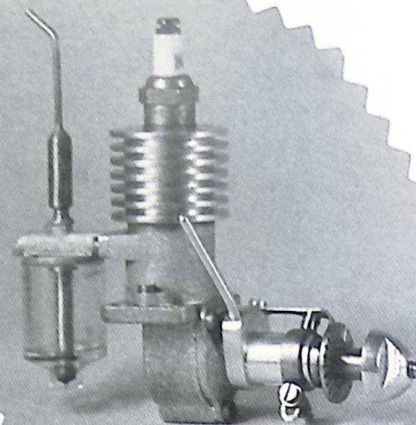
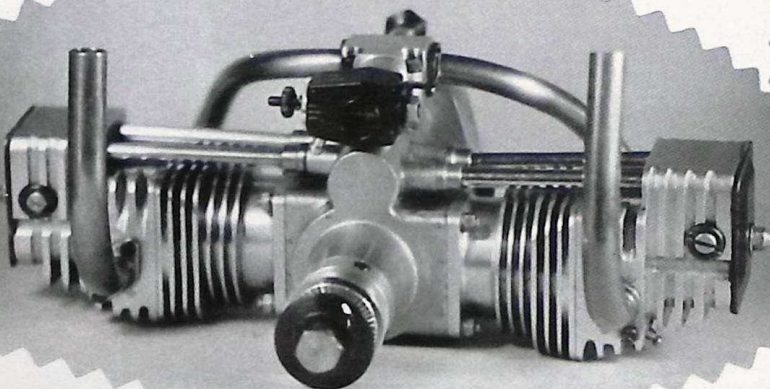
## Miscellaneous Engines



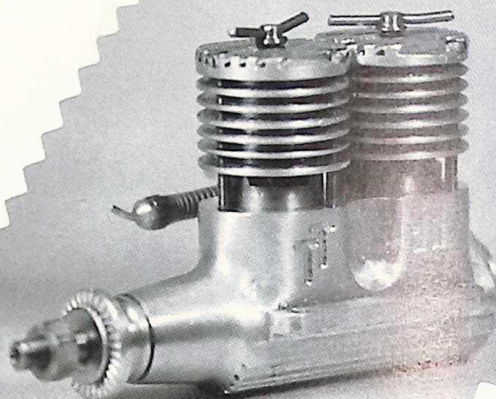
From Czechoslovakia,  
an AL-KO '120'



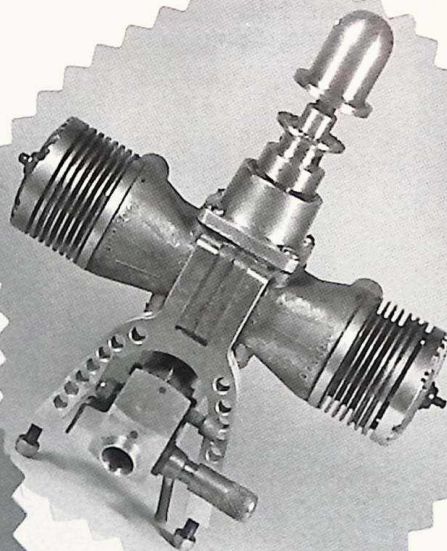
3 twins built by  
Mr Brian Wallis of Lincoln



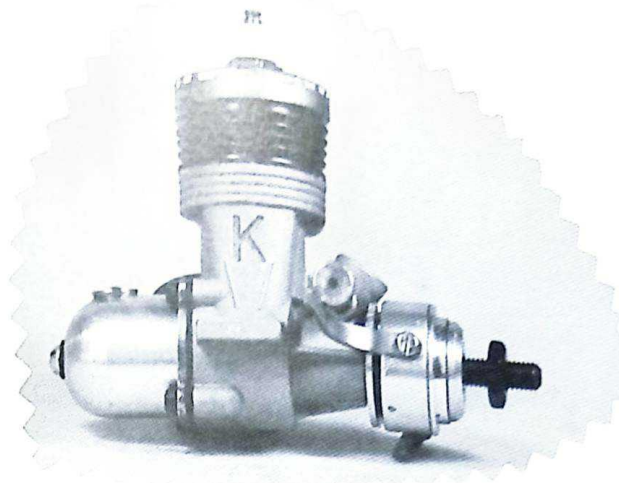
.3cc ign built by  
Mr Chris Goodley



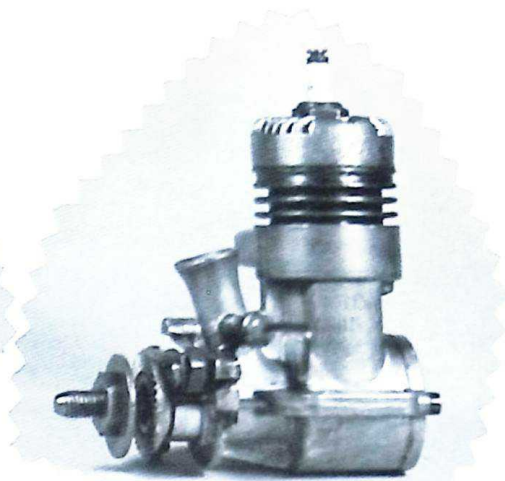
**Turner Twin .38.** Built using  
P.A.W. piston/liner assemblies, 1977



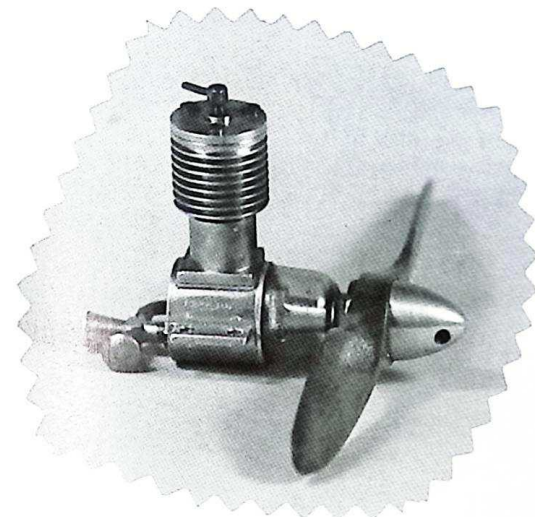




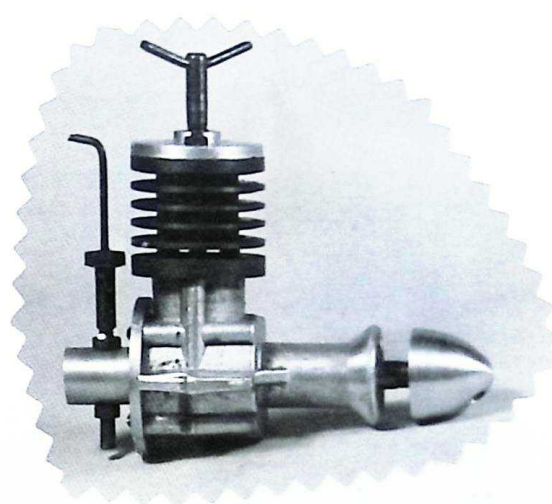
Basic K & B .15 glo engine.  
Reworked, converted to ign. and named  
the 'Klondike 15'



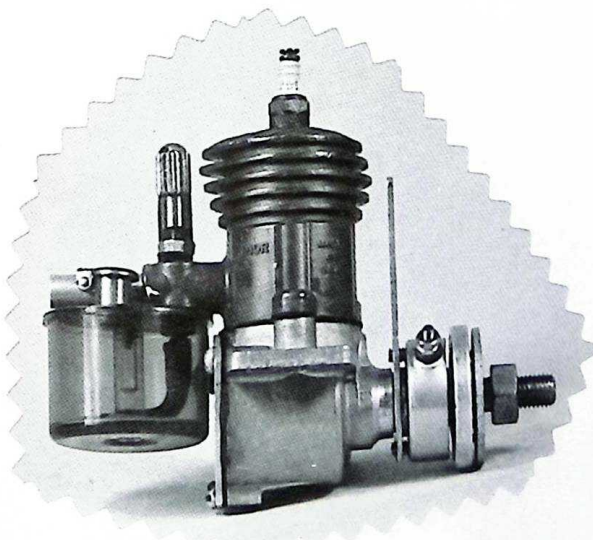
Fox .15, converted to ign.



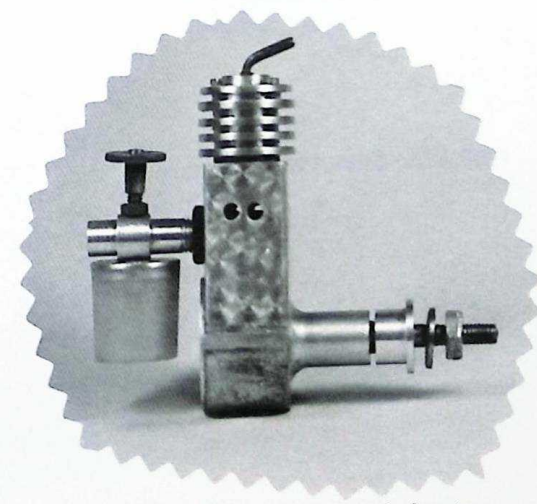
Nice little .3 diesel built by  
High Wycombe engineer



1cc reed valve induction, built by members  
of the N. London Model Car Club, to propel  
midget tethered racers

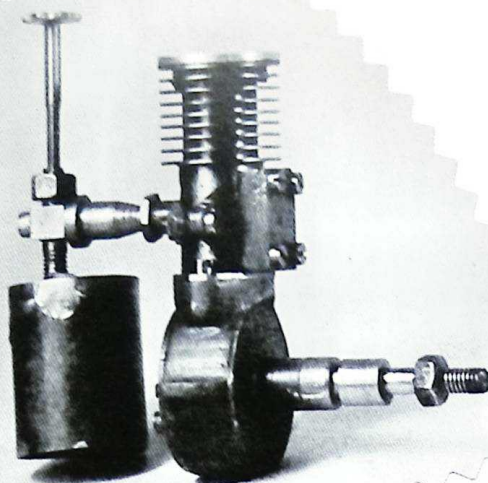
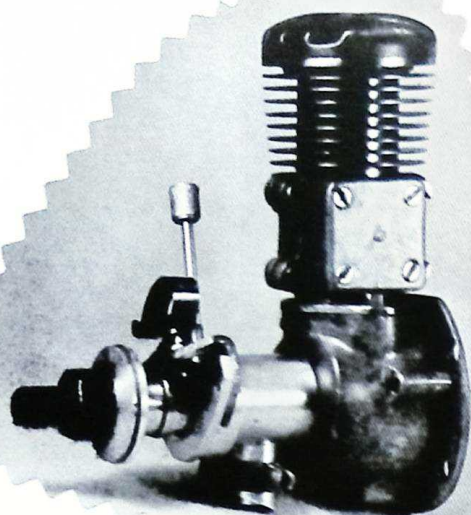


Thor .29 with Fechner conversion

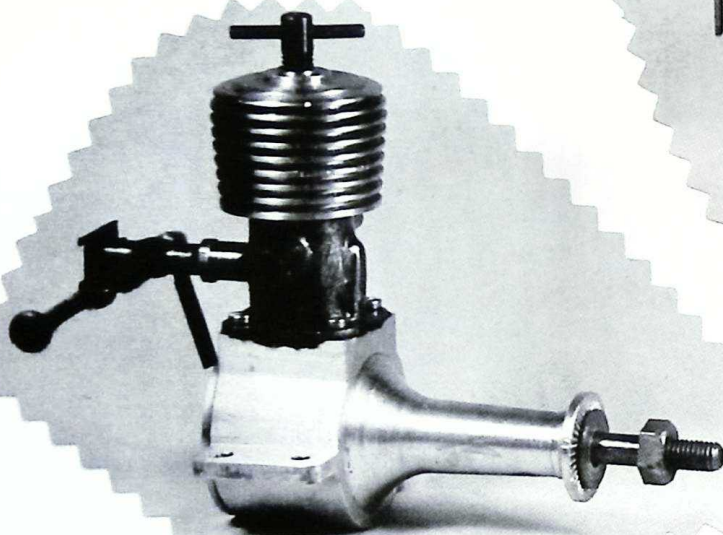
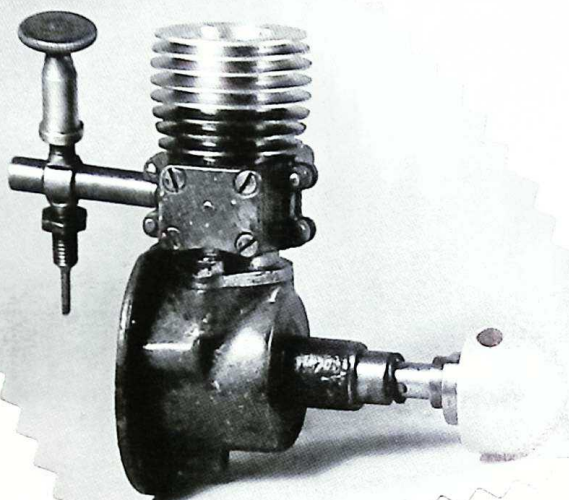


1949 50.6cc 'Elf' diesel. Made at Leicester

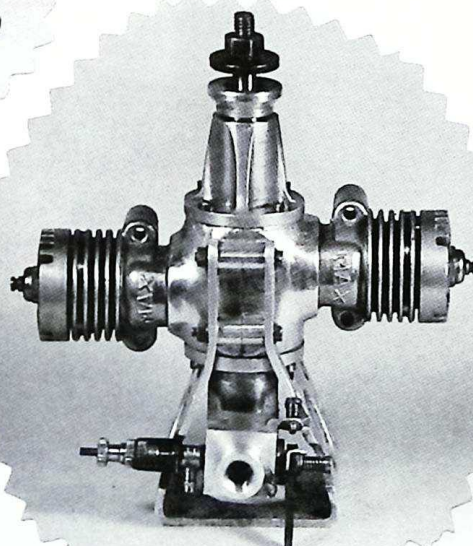




Three pre-war petrol engines.  
Made with magnesium crank cases,  
by apprentices at the  
Bristol Aircraft Factory



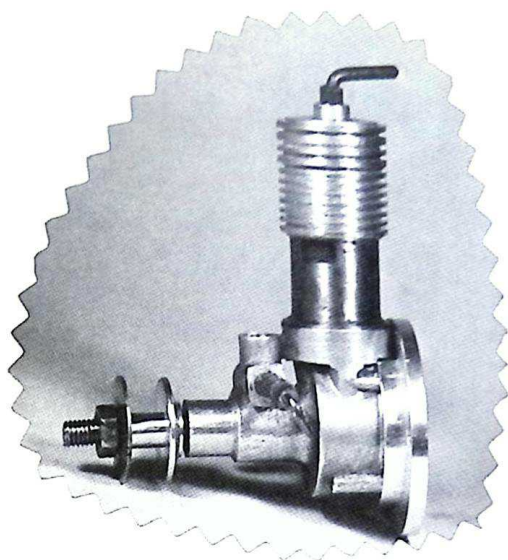
1953 4.5cc Sumptner Special



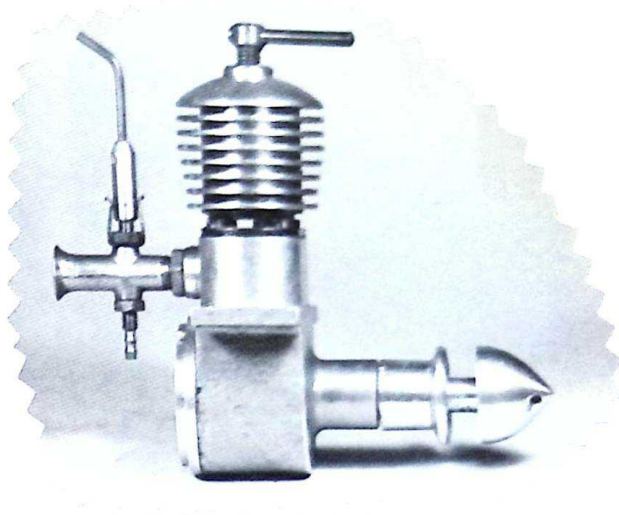
A well made  
twin using O.S.  
Max .15 parts



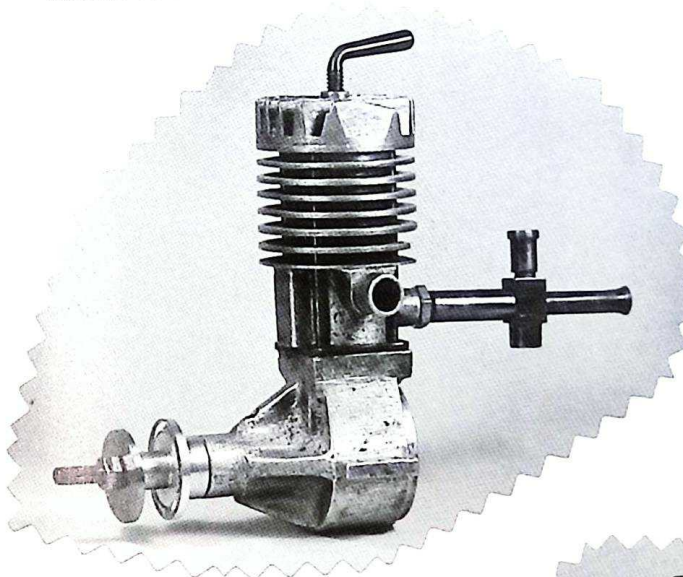
The following are 'Unknown' to me, I would be very pleased to hear from anybody who can identify any of them



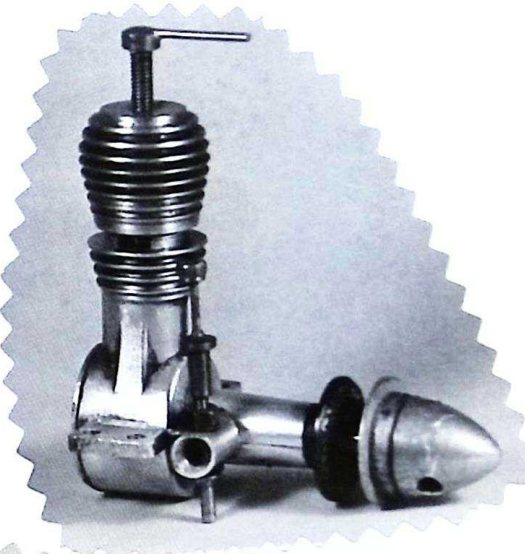
About 1.5cc



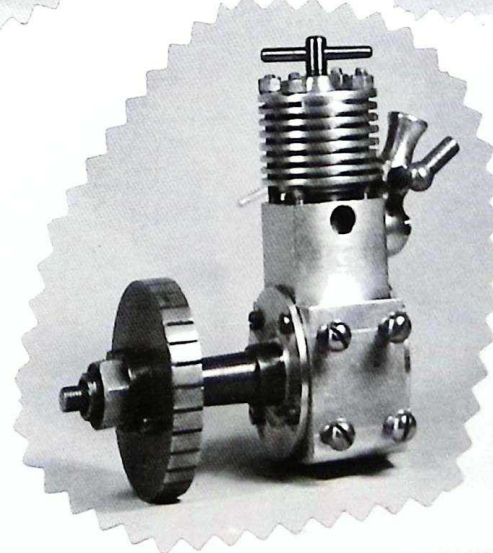
Pictured full size above



5cc

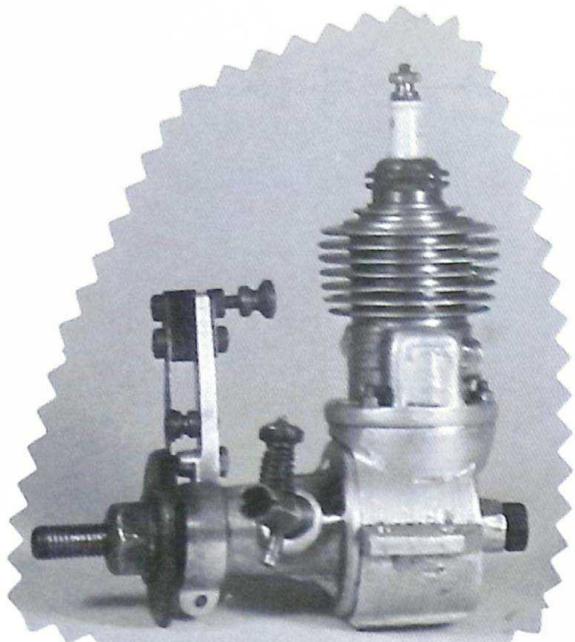


2cc

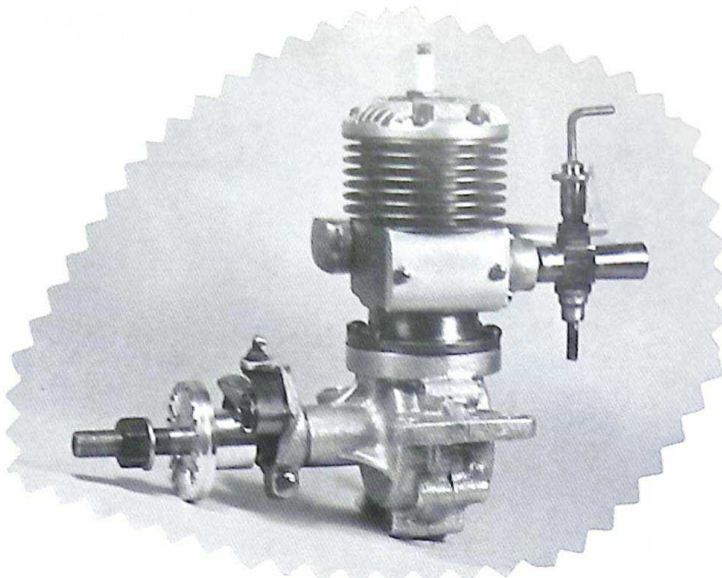


2cc, for model car installation

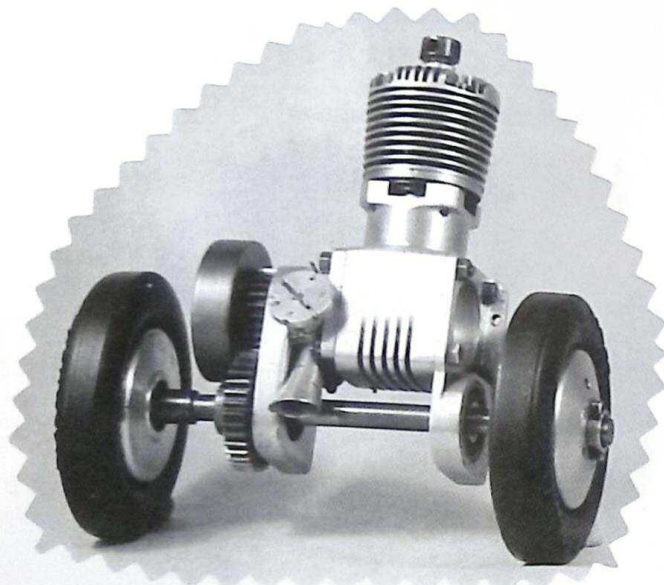




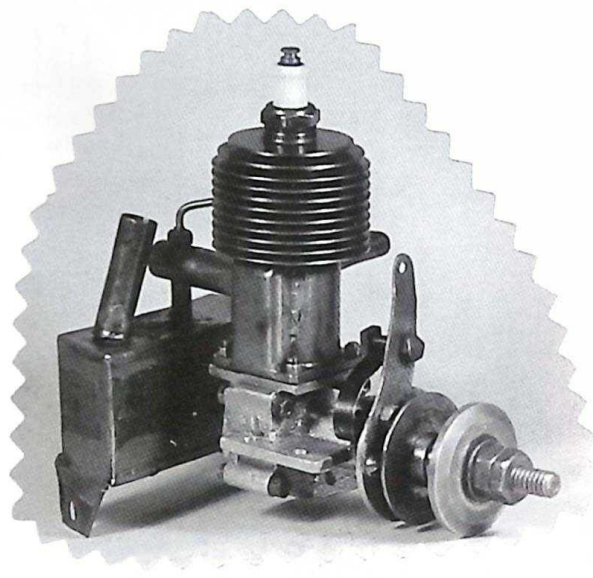
5cc? Initial 'T' on side of case



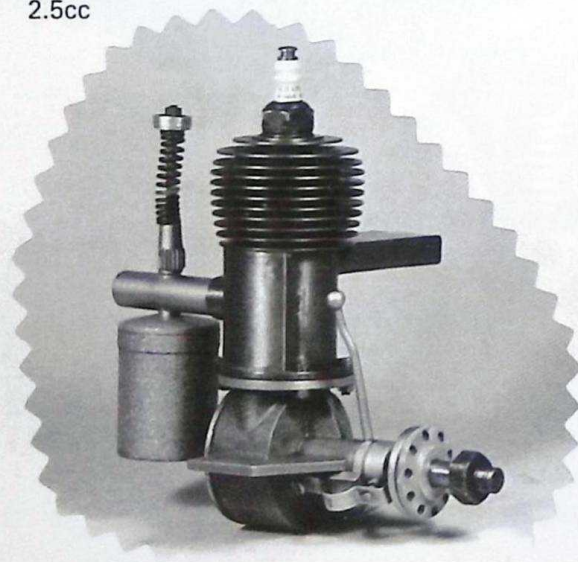
15cc



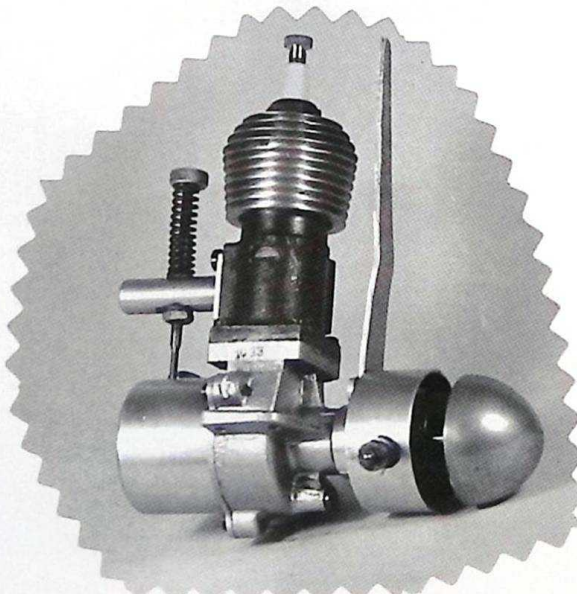
2.5cc



10cc



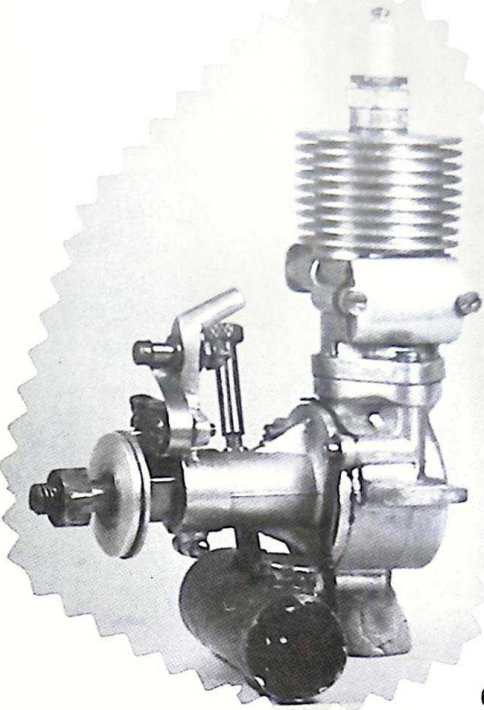
About 9cc. Well made with excellent 'fits'



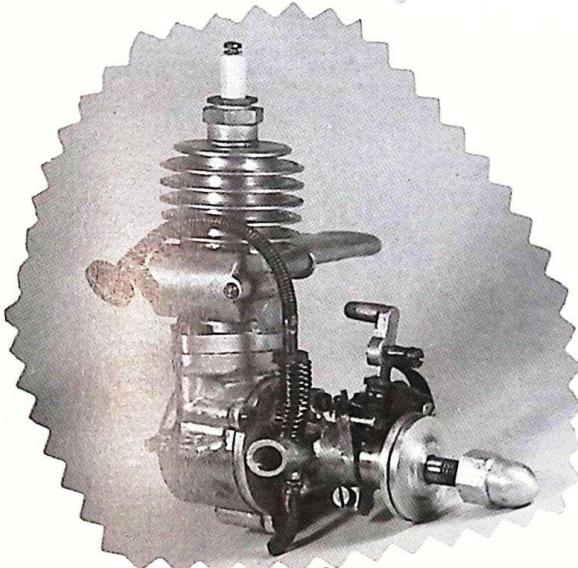
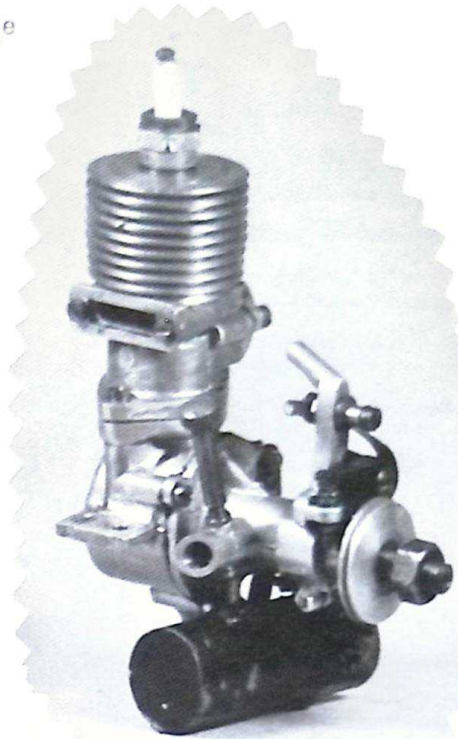
1947 8cc, made by B.H. Kratzsch, Germany



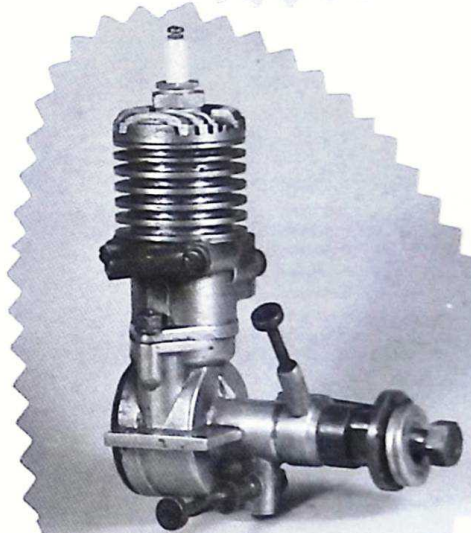
Another page  
of 'Wotzits'



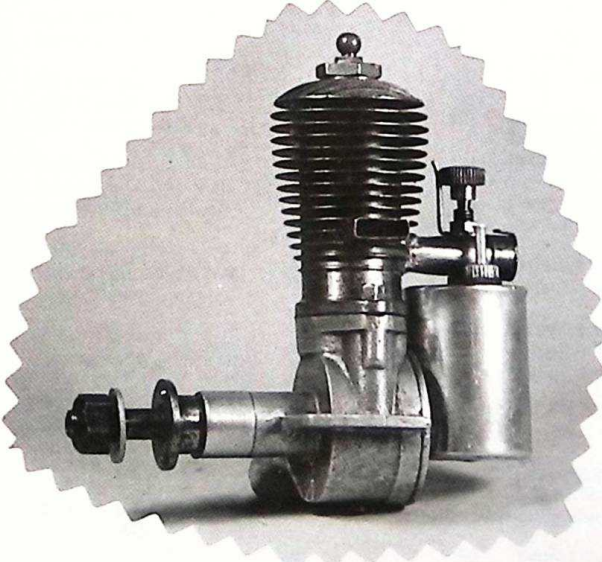
6cc



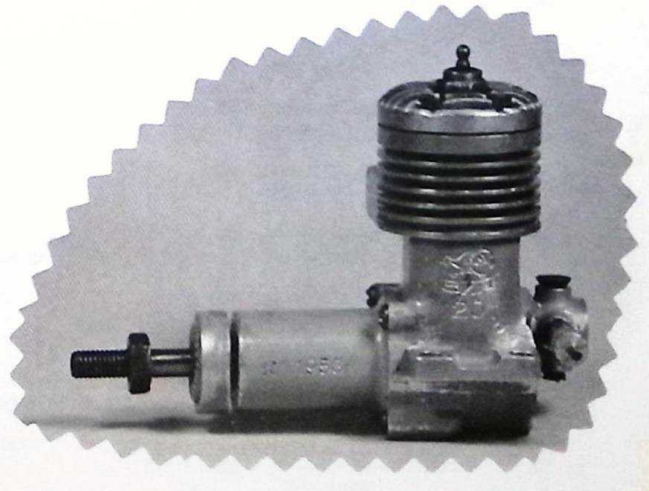
6cc



7cc



5cc



1960 2.5cc VIP-20 glo. Designed by  
V.I. Petukov, claimed 18,000 r.p.m.



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Aero .35
- 3 Aeromodeller 5cc  
Alag
- 4 AL-KO 7.5cc  
Allbon 2.8  
Allbon prototypes
- 5 Allbon Spitfire  
Javelin Arrow
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Allouchery  
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- 35 Cox .049-2.5cc
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- 39 D.C. 350 diesel and glo  
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- 40 D.C. Bambi  
D.C. Rapier and Tornado Twin
- 41 D.C. Merlin, Dart and .046 Bantam
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- 43 Dallaire "Pee Wee"  
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113 Kyowa .45 R/C

## L

Ladybird 2.5cc Twin  
Leesil 2.5cc  
Letmo 2.7cc  
Lionheart 2.5cc

114 Lionheart glo  
Llam 2.5  
Lucas & Smith 10cc

## M

114 Madewell .49  
Majesco 2cc

115 Majesco 2.2cc and 4.5cc  
Mamiya .29  
Marquet 5cc  
Maraget 1.9cc

116 Maraget 2.0cc and .9cc  
Marvin Junior 2.3cc  
Masco Buzzard 2.8cc  
McCoy .049 and .051

117 McCoy .60, .49, .29 and .55

118 McCoy .36, .19 glo, .29 Sportsman,  
.19 ign., .29 ign. and .098 glo

119 McCoy .29 ign., .19 glo,  
"Super Stunt" .29 glo and .09 diesel

120 McCoy .049 diesel,  
Testors McCoy .40  
M.E. Snipe and Heron  
M.E.C. 1.2cc  
Mechanair 5.9cc

121 Megow .19  
Melcraft .29  
Merco .29 and .61  
Merlin .24 ign.

122 Midwest .60 and 1.20 Twin  
Meteor .40 and .60

123 Micro 2cc diesel U.S.A.  
Mikro 3.5 and 5cc Czechoslovakia  
Micron 2.0cc and 2.8cc

124 Micron .8cc, 2.8cc,  
5cc fixed compression and 10cc ign.

125 Micron 10cc ign. glo, 5cc glo  
and 2.5cc diesel

126 Micron 3.5cc R/C, 5cc Twin,  
10cc 4 cylinder

127 Miles .9cc, 5cc diesel and glo

128 Miles .35 glo, 8cc and 10cc diesels  
and 3.5 diesels

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129 Miles 5cc ign., 10cc ign., 10cc, 15cc  
and 25cc glo

130 Milford Mite  
Mills 1.3 MKI

131 Mills 1.3 MKII and .75 MKI and II

132 Mills 2.4cc, Various .75cc's

133 Mills .75 Doonside

134 Mills 5cc  
Mite .098 diesel  
MK 12c 2.5cc  
MK 12v 2.5

135 MK 16 and 17  
Moki 2.5 diesel and glo,  
10cc R/C glo,  
and 25cc R/C glo

136 Molnar .78 and .99  
Morton M-5  
Moskito 1.5  
Movo 2cc

137 MP Lyon 5cc and 10cc  
M.S. 2.5cc and 1.2cc  
MVVS 2.5cc, 1.5cc and 1.0cc

138 MVVS .60 R/C, 5.6cc and .40

139 MVVS 2.5 diesel and glo  
Moore 2.5

140 Moore 7cc and 10cc

## N

Nelson 2.5cc  
Nordec 10cc glo and ign.

141 Nordec 10cc glo and ign. MK II  
N.V. 2.1cc

## O

142 Ohlsson .56, .23 and .19 ign.

143 Ohlsson .23, .19 and .60 ign.

144 Ohlsson .60's and .29's

145 Ohlsson .23 ign., .33 ign.  
.60 'purple head' and .049 glo

146 O.K. .60 ign., .49 ign. and .29 ign.

147 O.K. .29 ign. and Mohawk .29

148 O.K. .29, .60 and  
1.20 Twin 'Gold Heads'  
and .29 and .35 glo's

149 O.K. Cubs

150 Oliver "Battle axe" engines

151 Oliver "Jaguar" 2.5, MKI 2.5cc,  
MKII and MKIII 2.5cc

152 Oliver Car units and Twins

153 Oliver Tigers

154 Oliver Cub, Major and MKV  
OPS .29  
Orr .65  
Orwick .64

155 Orwick .64 and .29  
O.S. .60 ign. and .36 glo

156 O.S. .29 glo, .35 R/C, .56 R/C, .80 R/C,  
29'R' and .15 diesel

157 O.S. Wankel .60 4 cycle, .40'R',  
FSR.61 and .90 and .65'R'

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Ouragan 3.3cc diesel  
Ouragan 3.3cc and 5cc  
Owat 5cc



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