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Issue No. 3

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## EDITORIAL

Radio Race Car are very happy to be able to tell you that we have gone truly international with sales in over 12 world countries and a distributor in the United States. Both my co-editor and I would like to thank you all for making this magazine so popular and for writing, telephoning or just chatting to us at Race meetings to let us know what is happening in your part of the world. Please keep those letters and articles coming in!

By the way, did you know that we pay £5.00 for every good idea or building tip connected with R/C racing that we publish? You didn't, — well, put pen to paper and let us have that brainwave you thought of and if we publish it we will forward your fiver.

We have a terrific calendar ahead this year in both 1/12th and 1/8th racing, including the World Championships in Indianapolis, and the 1/12th European Championships in Italy. Radio Race Car of course will continue to bring you all the best in R/C racing.

Tony Stephenson.

## SPECIAL NOTICE

Owing to a misprint in our Issue No. 2 regarding the 35Mz for use at the Malvern meeting it should have read U.H.F. only. As we all know 35Mz are definitely forbidden. Apologys to all concerned.

## STOP PRESS NEWS!

Dave Preston has just returned from California where agreement has been reached on the Associated team for 1981, they are:-

Dave Preston  
Phil Booth  
Debbie Preston  
Wally Baily

all driving. Wait for it, the 'Wobley' Suspension car seen last year developed by Dave and Phil in conjunction with Associated.

This car will be made and marketed by Associated but probably won't be seen in any great numbers until next year lots more about the car and its development later.

Nick Adams has been made Chairman of E.F.R.A. Ted Longshaw (President) feels it is a very beneficial move, and wishes Nick all the best (as we do) in his new post.

Dave Preston and Phil Booth have Formed a new company to distribute O.P.S. engines as from March 1st.

Cover: Gene Husting placed 2nd 'A' main GT Super Stock.

## ISSUE 3

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## LOW HANDICAP MEETING

Roy Price of Roy Price Models has expressed the concern that high handicap priority for places at Open Meetings may stifle the interest of many people in the 1/12 scale racing scene. Roy says "For this reason I am proposing (repeat, only proposing at this stage) to organise a meeting for 15% ratings and below as of 01.1.81. If I get enough support for this idea than it will go ahead on some future date avoiding other events. Ninety-nine keen types ready to shell out a four pound note are required to cover costs. It will be held at the 'RPM Racing' venue (i.e. somewhere in the vicinity of Maidenhead). All I need initially is around 100 postcards or sealed envelopes stating 'yes' from potential entrants. 'Roy would also like a yes or no answer to this question: "Would you be prepared to have to purchase and run with a motor supplied by the organisers and drawn by random lot? The motor would be a close tolerance Igarishi 35 turn and fully run in at 2 volts costing around 4.00".

Have a think about Roy's ideas and let him know your views. Roy can be reached at Roy Price Models, Clove House, Broadway, Farnham Common, Bucks. Tel. 02814 6221.

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# Around the Clubs

We have had a superb response to this part of the magazine from Clubs around the country. Many thanks... keep the information coming!

## ROTHERHAM ELECTRIC CAR CLUB.

The club meets every Monday evening 7 p.m. to 11 p.m. at Montgomery Hall, Wath on Dearne, near Rotherham. Current membership is 50 plus, but new members are welcome. Subscriptions are £5.00 a year over 16, & £2.00 for under 16's. Racing fees are 75p & 50p respectively. The venue consists of 250 feet of track, polished wood (slippery at times!), licensed bar, snacks etc.

An 'off-road' section has recently been formed with approx. 15 members, running mainly Tamiya 1/10 scale and 1/12 scale kits and the occasional scratch built. It is the Club's intention to build a purpose made circuit for off road vehicles in the near photos (more about this in an article and photographs to follow). The circuit will be a permanent one and will feature some interesting new developments for off-road racing. The subs. for the off road section are as above (1/12 scale electric members get a reduction).

A club championship is run throughout the year with Open, handicap and Junior sections and this will also apply to the 'off-road' section with club meetings on Sundays throughout the Spring and Summer.

The Club's programme for 1981 is:-

June 27th-28th National Open Meeting for 'off roaders'. 1/8 scale I.C., 1/10 & 1/12 scale electric. This is to be held in conjunction with Rotherham Motoring Weekend (last year's attendance was over 60,000).

N.B. Interested competitors for 1/8 scale I.C. class, please contact me as soon as possible in order that I can decide if the demand is sufficient to run this class.

July 11th Special Invitation Meeting for 'off roaders'. Details with S.A.E.

Sept. 12th & 13th. National Open Meeting. 1/12 electric modified (Saturday & Standard (Sunday) classes. Entry forms will be in B.R.C.A. Circuit Chatter.

FOR any further information contact Phil Maxfield, 40, The Brow, Brecks, Rotherham, S. Yorks. Tel. 0709 545055.

S.A.E. with all correspondence please.

## SOLENT ELECTRIC CAR CLUB.

Secretary: M. Langdige, 17, Cooks Lane, Southbourne, Emsworth, Hants.

The club races every Monday evening and alternates between Cosham Community Centre, behind the Police Station, and Court Lane Middle School, Hilary Avenue, Cosham. If we're not at one we'll be at the other where we run a quarterly Club championship with the occasional 2hr team race to relieve the monotony of 5 minute races.

Membership is currently 50 with a regular hardcore of 20-25 racers turning up including visitors from other clubs. We have made our own dott-bots of fibre glass and use these and sand filled fire hose to lay out our track.

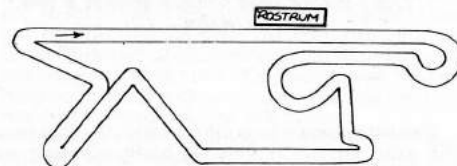
Timing is done with a locally made all singing all dancing electronic lap counter which although expensive has proved to be the greatest improvement in the functioning of the club. Visitors are always welcome, wherever they are from, we can always fit them in or use them as marshals.

Although we have not been too successful in the 1980 League or Opens we have had some good results in Local inter-club endurance races, which are proving very popular with close results.

We cater for all grades of drivers, with novices getting all the help they need from the members. There are 2 'mobile shops' run by club members which keep us well supplied with goodies. Cars are still mostly scratch built but quite a few of those Gemma... Jemmy... Jimminy cars have now appeared which is a bit of a bugger as they keep winning. I've just acquired a Lightning 2000 (thank you Ted) so now I'll show 'em.

## NORTHERN IRELAND RADIO CAR CLUB

BALLEE HIGH SCHOOL, BALLYMENA.



The above named club is the only club in N. Ireland organising 1/8th scale racing. With some 30 members and a few visitors they race 1/12th on Thursday evenings, and 1/8th on Saturday afternoons.

The track is on the school playground and is well marked out in yellow lines by kind permission of the Principal, Mr. Scott.

At present we are working hard to erect a permanent Rostrum, the surface is very smooth and murder on tyres, (approx. 30 mins per set) the main straight is 63m long with a total lap length of 225m. Membership is £20 per year which includes £5 membership to the RADIO CONTROLLED CAR ASSOCIATION OF IRELAND, the National governing body. Anyone interested in 1/8th scale racing should contact Secretary John Campbell, 4, Suffolk Close, Antrim. BT 41 2 SY.

## CLEVELAND R/C MODEL CAR CLUB.

Chairman: Dennis Trowbridge Tel 0642 583244.

Secretary: Ken Rigby, 1. Topcliffe Road, Thornaby, Cleveland. Tel. 0642 764531.

Organisation is now well in hand for the Cleveland Grand Prix on 9/10th May at the Thornaby Pavillion, with the entry almost full (at time of writing). Many people are really looking forward to the Modified meeting on the Saturday which will be the very first national modified race to be held on a large circuit. To quote the two track designers, "The only thing missing will be the banking on the bends, but we are working on that!!

The Club have recently moved to a new venue for 1981 at St. Barnabas Church Hall, Barnabas Road, Middlesborough. The floor surface is polished wood, and following the acquisition of a new very big mop, the grip is FANTASTIC, which provides for very close and exciting racing. A new club championship is underway, being led at the moment by Dennis Trowbridge, hotly pursued by Steve Robinson and Tony Wells.

One useful thing (following the new B.R.C.A. rules for 1981) all the heats and finals are eight minutes in length. This means each driver gets two heats plus a final. All finals are run using the American system of A,B,C,D etc.

Visitors are welcome, but please ring either Dennis or Ken to check starting times, etc.

## BARNWELL RADIO MODEL VEHICLE SOCIETY.

### SECRETARY:

Phil Starling,  
101, Vinery Road,  
Cambridge CB1 3DW

This recently formed club meets every Thursday evening at 7p.m. at The East Barnwell Community Centre, Newmarket Road, Cambridge. It caters not only for 'pure racing', but also for stock cars and buggies (all 1/2 electric), with special courses for each class.

Membership at the moment stands at around 20 with 15 turning up regularly. New members are always welcome. Membership is currently £6 a year. Anyone interested and wanting further details, please contact the Secretary at the above address.

## BURY METRO RADIO CAR CLUB.

### CHAIRMAN:

John Richardson,  
492, Manchester Rd.,  
Bury.  
061-764 4610

### SECRETARY:

Peter Barry,  
98, Bankhouse Rd.,  
Bury.  
061-764 5798

The club meets every Monday at 7p.m. at the Transparent Paper Mills (TPL) Social Club. The growing membership of 30 reflects all levels of age and skills. A club championship, with trophies, is held every five weeks with a handicapping system in operation. All makes of electric cars are raced on the small polished wood track surface. The race fee is only 25p and interested racers should contact the Secretary or Chairman.



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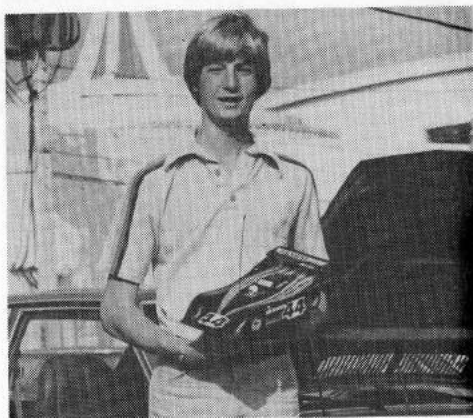
# 1/12 FLORIDA WINTERNATIONALS 1981.

An important date in the American R.C. car racing calendar is around February when they hold the 'Winternationals' in Florida. Until this year only 1/8 (gas) cars had competed, but this year 'The Florida Electric Auto Racers' (F.E.A.R.) based in Orlando staged a 1/12 electric car meeting.

The cars were almost all basically kits with modifications, Associated, Jomac, Bolink etc. I didn't feel that there was the same degree of scratch building that we see in England. There were lots of nice graphite chassis, axles and shaker plates etc. It was also a trend to use novak servos, not as yet seen in the U.K. (all the first 16 drivers used Novaks!). The transit speed is very fast — 90 in .27 seconds. Instead of special go faster bits, the emphasis is on weight, neatness and reliability to win races, plus of course a lot of skill.

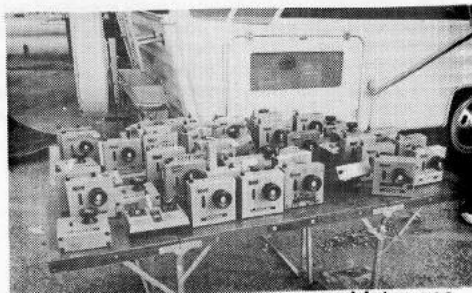
The venue was on a large and I mean large, car park attached to one of Orlando's shopping precincts.

After much thought and rationalisation I decided to enter the 1/12 race and stay on in Florida to report on the 1/8 racing the following week. Not that I would enjoy it very much, it would be hard gruelling work! No time for pleasure or so I informed my wife — just like a week of racing and reporting in Bradford really, just a bit warmer!



Mike Lavacot winner Winternationals 1/12 1981.

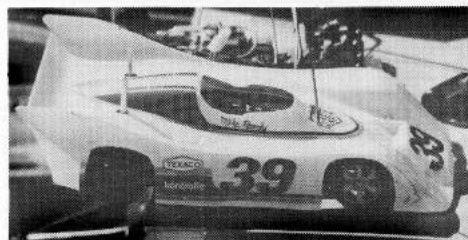
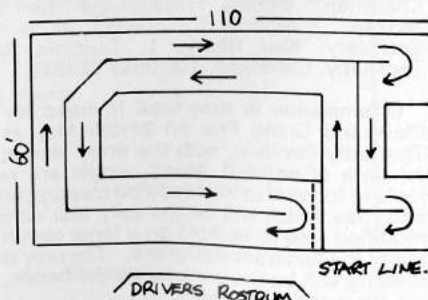
The track was large (see layout) and marked in white plastic tube, about 2" diameter. This was nailed, yes nailed, to the tarmac to give a really secure track that wouldn't shift when hit or be too damaging on car bodies. This layout gave a good racing circuit of about 130 yards with plenty of interesting racing lines to take with a good long sweeping curve and straight where the modified class cars could really wind on.



The Editors lone Omega amidst a sea of Futaba.

Saturday was a beautiful sunny day that saw the start of the qualifying heats running as many as possible between 8 a.m. and 6 p.m. with the best times to count. By this time many drivers were not only showing how fast they could go but how much more 'physical' the electric racing was compared to England. In fact the standard of 'Nerfing' and 'T boneing' was down to a fine art. Some of the guys were rough and halfway through the qualifying heats it became clear that it was not only speed that was going to count but how long you could keep going. 8 minutes is a long time with modified motors, especially the very fast ones that were appearing from the Mike Reedy pits, so batteries became vital.

The Associated Team had arrived 'Mob handed' with boxes of tyres, motors and all sorts of goodies. It was towards them that we were looking for a strong favourite for Sunday's final. The problem here was that there were so many 'strong drivers, quite a number who were using the 1/12 championships as a warm up to the 1/8 I.C. championships the following week. Bill Jianas, Art Carbonell, Rick Davis, Curtis and his dad, Gene Husting to name but a few.



Mike Reedy's car with the very popular Toj, SC 303 body shell.

'Mr. Motor Man! Mike Reedy, also of Team Associated was kept so busy answering questions about batteries, gear ratios, motor etc. (a lot of them from me), that he had his time cut out getting his own car ready to race on time. This sort of attitude was widespread with the majority of drivers. It's great to see drivers help each other with problems and any bits that have been forgotten or left behind.

Sunday was again a beautiful day and drivers were eager to make full use of the further controlled practice until noon. Times had now become very fast with only seconds separating the 8 drivers in the A Main — Bill Jianas and Rick Davis both with 30.13 (30 laps and 30 seconds); Curtis Husting 30.14; Mike Lavacot 30.16 and young Ralph Birch Jr. 30.17; four seconds between the first five drivers!



Frank Pupello alias 'Mr Concours' from Tampa Florida

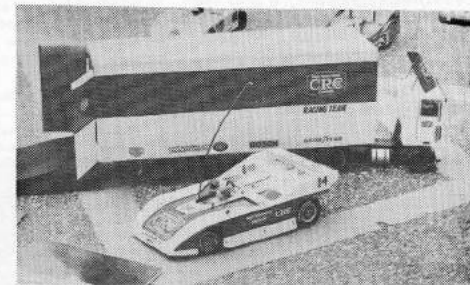
After lunch and before the finals there was a brief respite from racing with the concours. There were some really terrific cars on show with really superb paint jobs. As judging was half way through, our attention was drawn to a 1/12 electric, eight wheel, articulated unit, sounding its 'bull horn'. This truck was great but what was even better was when the tail gate dropped and the R/C race car was driven out to park alongside. Detail on the car was incredible with mirrors and amazing driver detail. The outfit is the creation of Frank Pupello from Tampa, Florida, who has really gone to town on this. There was no doubt among the judges that he was the winner and as this was announced he rapidly put on his 'Mr. Concours strikes again' tee shirt. That's confidence!



Rick Davis & Mark Parus, Rick's van provides useful mobile pits.

1.30 and the main finals started with low heats working up to the 'A' Main. It was obvious that times were going to get even faster. Drivers at the motel (we had almost the whole block) had been 'thrashing' most of the night getting their cars into top shape for the finals. Grip was excellent — I had never known such grip and the track was eating tyres.

The very closely fought finals lead up to the 'A' Main, the one that really counted. The 'A' Main started at a blistering rate with young Ralph Birch Jr. getting his 'Lightning 2000' car into the lead, followed by Mike Lavacot, Art Carbonell, Curtis Husting, Repete Fusco, Kent Clausen, Rick Davis with Bill Jianas bringing up the rear after a poor start. Bill in fact had an unlucky race, accidentally hitting a marshall delaying him even further (his day came 6 days later at the 1/8 race).



The winning outfit 1/12 concours. Both truck and car are Radio controlled built by Frank Pupello.

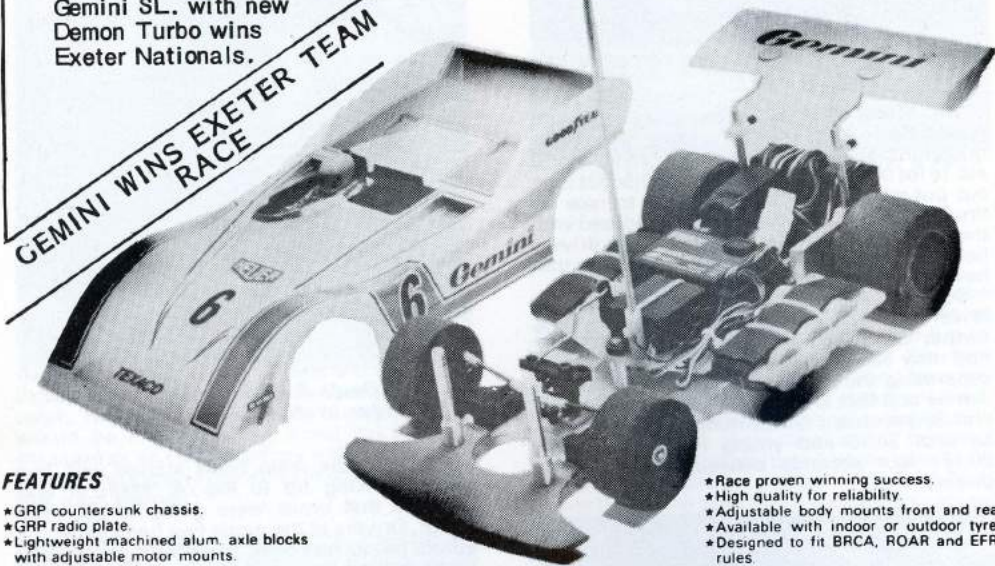
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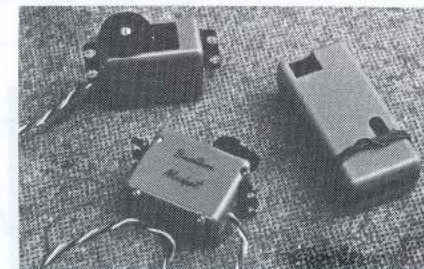
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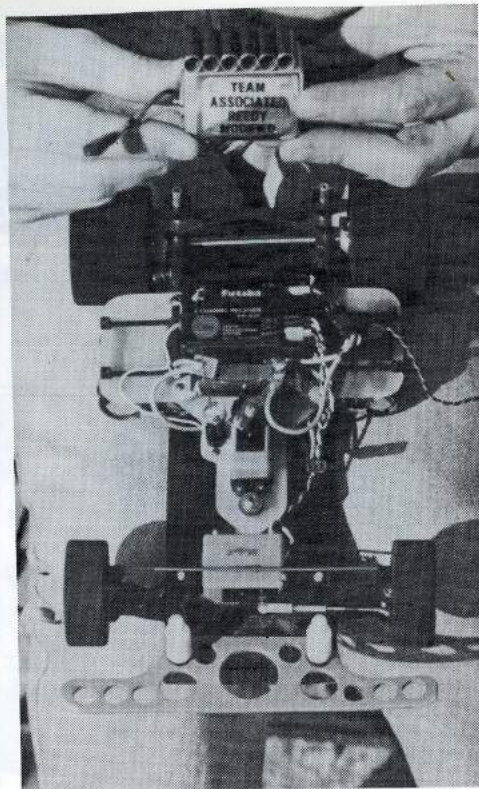
After about 3 minutes Art got into the lead and by faultless driving steadily increased. The race then developed into a battle between Art, Mike and Ralph.

These positions held for lap after lap, Mike Lavacot driving possibly faster than Art but overcooking it on one or two bends. It was towards the 7th minute that the Delta car started to look tired and it was obvious the batteries were on their way out. Excitement grew to a frenzy as the Delta fans and Associated fans cheered the drivers as the seconds ticked by and the race end approached, Art trying everything to coax the last bit out of his car but to no avail as the Associated car of Mike Lavacot overtook him to win by one second! Like I said 8 minutes is a long time on a modified motor.

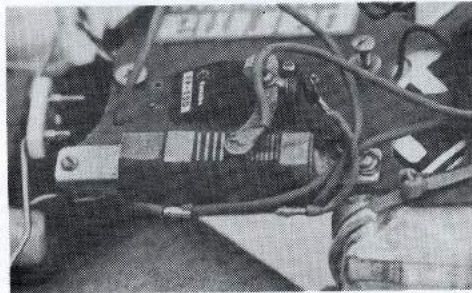
The Florida hosts had arranged for a barbecue at a nearby restaurant where the awards were made by 'Pat' Warholic, the local General Electric man. This was most pleasant and provided a good venue where the racetrack battles could be discussed and refought over a beer.

I should like to thank all the organisers for the good racing enjoyed by all and to hope that this will be an annual event.

\* \* \*



Scratch / Associated of Bob Churchham.  
Note : Modified Radio Plate. Wide graphite Chassis and fancy motor heat sink.



New Parma 'shortened' resistor seen on I om McGarry's car. Note: the top speed override contacts.



Left to Right :- Mark Bare, Race Director 1/12 with Ken MacDowell (Mr Parma), Sue & Schuur.

### A HEAT BEST QUALIFYING TIME

Bill Jianas	30.13
Rick Davis	30.13
Curtis Husting	30.14
Mike Lavacot	30.16
Ralph Birch Jr.	30.17
Art Carbonell	29.02
Kent Clausen	29.03
Repete Fusco	29.04

### B HEAT BEST QUALIFYING TIME

Olle Soderholm	29.05
Gene Husting	29.06
Mike Kimrey	29.09
Ray Hepner	29.14
Al Chuck	29.17
Pete Fusco	28.04
Mike Hamilton	28.05
Chuck Phelps	28.09

## 1/12 WINTERNATIONALS 'A' MAIN

Drivers Name	Yrs. Exp.	Kit or Scratch	Chassis Material	Nicads	Diff. Type	Motor	Front Tyres	Rear Tyres	Speed Control	Body Shell	Radio TX	Radio RX	Servos	Sponsor	From
1 MIKE LAVACOT	5	Associated	Graphite	Sanyo	Associated	Reedy	STD Soft	Associated Stock	Associated Resistor	Associated TOJ St 303	Futaba	Novac	Novac	Associated	La Habra California
2 ART CARBONELL	10	Delta Prototype	Graphite	Sanyo	Associated	Reedy	Associated Med/Soft	Associated Stock	Associated Resistor	Associated TOJ	Futaba	Futaba	Novac	Delta	
3 RALPH BIRCH JR.	1 1/2	Jomac Lightning 2000	G.R.P.	Sanyo	Jomac	Reedy	Jomac STD 'D' Med	Jomac STD D Soft	Parma Resistor	Jomac Schkee	Futaba	Futaba	Novac	Jomac	Ditton Texas
4 KENT CLAUSEN	2	Associated	STD G.R.P.	Sanyo	Associated	Reedy Red Dot	Associated Moulded	STD Associated Soft	Associated Resistor	Associated TOJ	Futaba	Futaba	Novac	Associated	Santa Ana California
5 CURTIS HUSTINGS	5	Associated	Graphite	Sanyo	Associated	Reedy Red Dot	Associated Soft	STD Associated Soft	Associated Resistor	Associated TOJ	Futaba	Novac	Novac	Associated	Fountain Valley California
6 REPETE FUSCO	7	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Soft	Associated Stock	Associated Resistor	Associated TOJ	Futaba	Futaba	Novac	Associated	New York City
7 RICK DAVIS	10	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated 1 Soft 1 Moulded	Associated Stock	Associated Resistor	Associated TOJ SC303	Futaba	Futaba	Novac	Associated	Gross Point Woods Michigan
8 BILL JIANAS	8	Scratch with Associated Parts	Graphite	Sanyo	Associated	Reedy	Associated Stock Soft	Associated Stock	Associated Resistor	Associated TOJ	Futaba	Novac	Novac	Associated	Garden Grove California

## 1/12 WINTERNATIONALS 'B' MAIN

Drivers Name	Yrs. Exp.	Kit or Scratch	Chassis Material	Nicads	Diff. Type	Motor	Front Tyres	Rear Tyres	Speed Control	Body Shell	Radio TX	Radio RX	Servos	Sponsor	From
1 GENE HUSTING	12	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Soft	Associated Stock	Associated resistor	TOJ	Futaba	Futaba	Novac	Associated	Fountain Valley California
2 RAY HEPNER	7	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Stock	Associated Stock	Associated resistor	TOJ	Futaba	Futaba	Novac		Orlando Florida
3 AL CHUCK	6	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Soft	Associated Stock	Associated resistor	TOJ	Futaba	Futaba	Novac	Associated	Monterey California
4 MIKE HAMILTON	3	Jomac Lightning 2000	Graphite	Sanyo	Jomac	Pro/Slot	Jomac A	Jomac D	Parma resistor	Schkee	Futaba	Futaba	Novac	Jomac	Denton Texas
5 OLLE SODERHOLM	4	Bolink	G.R.P.	Sanyo	Bolink Schum't	Bolink	Bolink Grabber	Bolink Tracker	Bolink L'weight resistor	Bolink CAC1	Futaba	Futaba	Futaba + Novac	Bolink	Stockholm Sweden
6 CHUCK PHELPS	5	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Soft	Associated Stock	Associated resistor	TOJ	Futaba	Futaba	Novac	Associated	Phoenix Arizona
7 MIKE KIMREY	3	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Hard	Associated Stock	Associated resistor	TOJ	Futaba	Futaba	Novac	Associated	Upland California
8 PETE FUSCO	9	Associated	G.R.P.	Sanyo	Associated	Reedy	Associated Stock	Associated Stock	Associated resistor	TOJ	Futaba	Futaba	Novac + Futaba	Associated	New York City

# Diary Dates

1/8 NATIONAL POINTS MEETING			1/8 PORCHE SREIES		
MAY	17	WREXHAM	MAY 3.4.5.	LIFORD PARK	
JUNE	7	MENDIP	JUNE 21	TIBSHELF	
JULY	12	WOMBWELL	JULY 26	LAMBTON PARK	
AUG	16	ALDRSHOT	SEPT 20	BOURNMOUTH	
AUG	30	WEST BURTON			

OFF ROAD RACING					
MAY	17	CHESTERFIELD			
JUNE	27	ROTHERHAM			
JULY	26	CHESTERFIELD			
SEPT	20	CHESTERFIELD			

1/12th					
APRIL	No date given	ITALY	8 mins.	STANDARD – £130-150	
	To be announced			(OUTDOOR – DRY)	
				(INDOOR – WET)	
JUNE	7	Venue to be announced	1/12th	OUTDOOR STANDARD	
AUGUST	15 & 16	CHESTERFIELD	INDOOR	(Sat. Mod. – Sun. Std. PS)	
FEBRUARY	9	CHESTERFIELD	TEAM INVITE		
JULY	18 & 19	BATTERSEA	OUTDOOR	(Sat. Mod. – Sun. Std. PS)	



## APOLOGY

The editors of Radio Race Car would like to apologise to all our customers for the delay in publishing Issue 3. This was due to circumstances beyond our control. We will be back on schedule with Issue 4 which will be on the bookshelves at the end of July, with all the best in radio controlled car racing.

# The Season Opens

BY NICK ADAMS

It was a case of Exeter ecstasy for anyone interested in the design of 1/12 competition electric cars, on arriving at Exeter on February 14/15th.

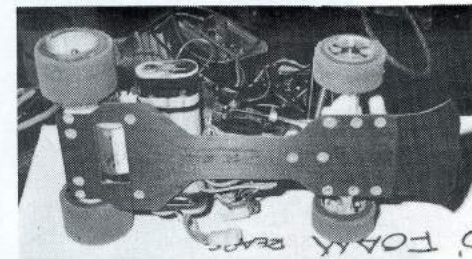
After the season ended last year, the governing body, the British Radio Car Association, passed new and significant rules relating to the competition 1/12th cars. Firstly, to come into line with the American ROAR rules, the weight limit was reduced from 2lb 2oz to 1lb 15oz; secondly, the race duration was put up to 8 minutes; and thirdly, a mandatory strip down of at least the top three driver's motors in the 'A8 final to ensure that they met the standard class motor rule.

Those at the top in 1980 immediately realised that to stay competitive and perfectly legal, they would have to aim to produce a lightweight car that would perform for 8 minutes on the Igarashi 35 turn legal motor. Although not generally recognised at the time, this spelt the end for the super nurtured Mabouchis which can not last 8 minutes at competitive speeds. So various groups disappeared over winter to develop and test, and each one hoping to find that new development to give them the edge in 1981.

Well you could not have asked for a better group of different cars, than those that turned up at Exeter and you couldn't have even guessed at the result, because unbelievably the performance of such innovative and such standard cars were so equal as to have confused everyone.

Before looking at some of the cars, I give my explanation as to the closeness of racing as this. 'The standard 35 turn motor has in one superb stroke made the racing entirely dependent on setting up the car and driving skill'.

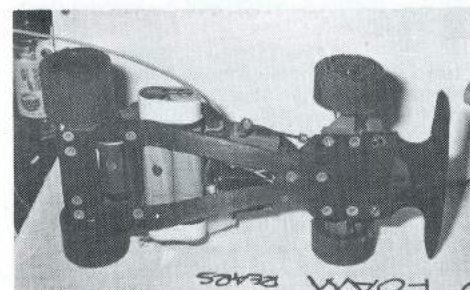
This, once beyond the dreams of most, has suddenly become reality.



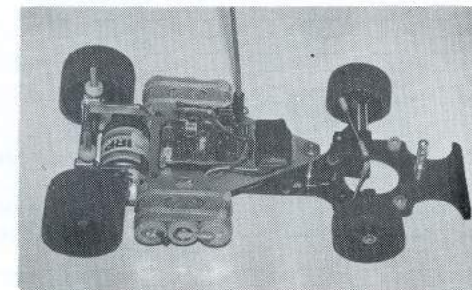
2. Carbon-fibre laminate chassis eg.2  
The Davis Brother's cars.

Starting with last years two most successful manufactured kits, the Gemini and the Associated we see quite a change in one but not the other. The Associated, already quite light in weight remains unmodified except by the enterprising individuals, and Photographs 1 & 2 show how the advent of carbon fibre laminate is producing very interesting standard chassis variations. The design of the chassis affects the flexibility of front and rear end of the car and if not carefully thought out can produce totally unpredictable behaviour. The two chassis shown belong to Jimmy and Wayne Davis, who have been running Associated longer than anyone in this country, but do they know something that we don't??? Notice the small bumpers which are quite legal, but are fairly light in weight. Both cars retain standard parts and configuration as far as the rest of the car is concerned. They both weighed in at about 2lb 1oz.

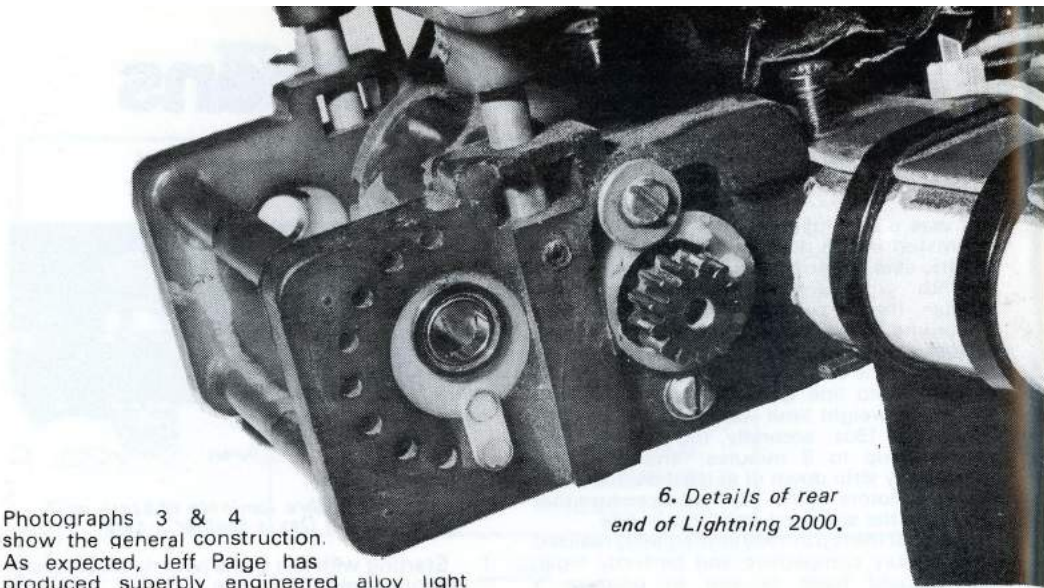
Phil Greeno surprised everyone by revealing his new lightweight Gemini to be called either the SUPER LIGHT or FEATHER LIGHT. The prototypes running before Exeter at Alley Pally were known as the Black Shadow, but this name seems to have been misconceived.



1. Carbon-fibre laminate chassis. eg.1

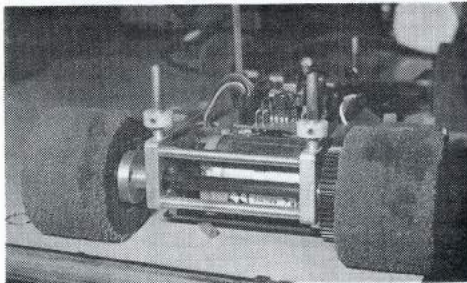


3. Top view of new Greeno Car.

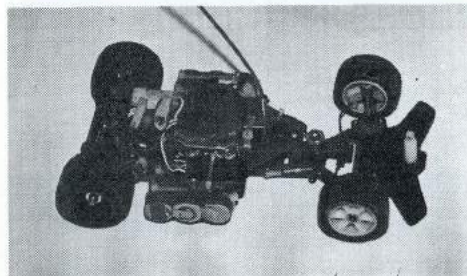


6. Details of rear end of Lightning 2000.

Photographs 3 & 4 show the general construction. As expected, Jeff Paige has produced superbly engineered alloy light weight rear blocks inter-connected by two alloy bars, the whole being extremely rigid and also producing an excellent heat sink for the motor, a very significant plus point. The car retains a conventional layout with chassis, shaker plate configuration controlling flex and mounting components. Track and wheelbase are the accepted norm with 7/8" between wheels.



4. Exceptionally well engineered rear end of Phil Greeno's new kit 1. Note Carbon Axle.



5. Jomac Lightning 2000 car.

Demon electronic speed control forms an integral part of the shaker plate, becoming a stressed component. The carbon fibre laminate chassis may not be used in the final production. The extremely lightweight servo saver will soon be seen in many scratch built cars. The motor, of course was the MRP 550, which Phil imports, and the car weighed in at about 2lb 2oz.

Keeping with the kit cars. Photograph 5 shows one of the new Jomac Lightning 2000 cars, this one belonging to Dave Tongue who is now sponsored by Ted Longshaw Model Cars, the importer of the kit. Dave's car was standard except for the addition of the Demon speed control. You have probably seen the adverts for this car which list all of its features, but it is an all new kit, with interesting springing on the front axles which apparently provide a lot towards making the car very stable and predictable. Photograph 6 shows details of the rear end with adjustment for centre of gravity of rear axle, and the can which prevents the motor moving out of mesh once set. Motor used was the Jerobee 520 and the car weighed in at 2lb 4oz.

Photograph 7 shows the underside of Alan Blakemans Alpha car which remains unmodified from last year, but which has several excellent features, such as the centre diff. and ballraced live front hubs. The car is one of the lightest at 1lb 15oz with wing, yet still lacks that all important win.

Cecil Schumacher makes quite a range of parts for the electric cars, but he is most well known for his differential. However, Photograph 8 shows his development car which features an interesting front end made

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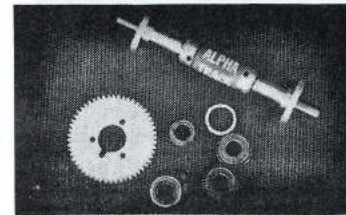
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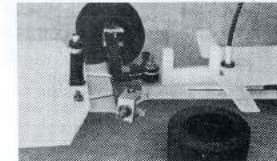
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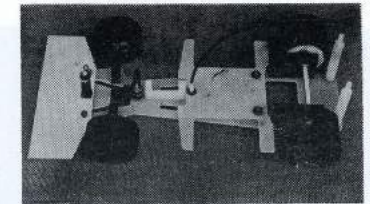
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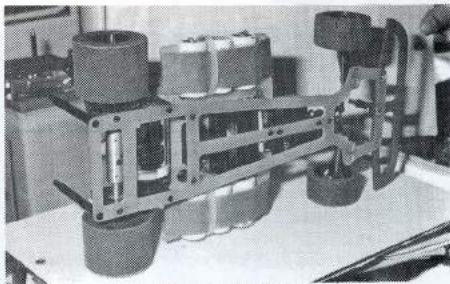
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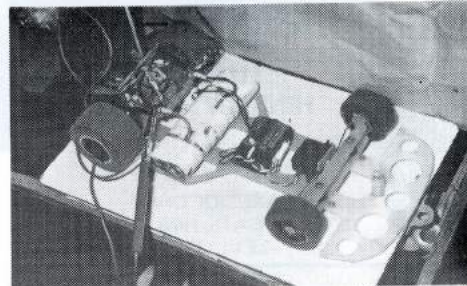
7. Underside of Alpha car.

from two pieces of fibre glass which sandwich the stub axle assemblies. The car is one of the few which does not have a shaker plate.

Moving on to the scratch builders and up to the top, Bill Maisey and Neal Francis both had revolutionary cars of very similar construction, but as Photograph 9 shows they would not allow any pictures of the cars and so we have had to be content with Neal actually smiling! Note the Radio Race Car open at the DIARY DATES PAGE, which suggests Neal is contemplating how soon or how long to become champion!

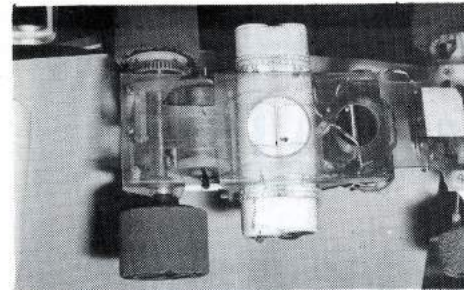
Without mentioning details of Neal's car, Photo 10 shows Fred Hatfields car which was similar. Steve Davis and Tom Morgan also had cars built to the same principles, but all differing in detail. Dealing with Fred's car . . . the chassis consists of lexan folded up at the sides to form a monocoque construction.

Fred's car is waisted in front of the rear blocks but with tie rods at the top of the car to prevent front to rear flex. Associated front, and differential are retained, but the other cars have been designed for centre diffs. The weight of all the cars is low, but Fred's car weighed in at under 11b 15oz without wing and had to have 61p added as ballast. The design of these cars is certainly striking although problems were certainly being experienced with rear end twist. The bending of the lexan must also be a problem to get it perfectly true. One can only wait and see if monocoque turns out to be a load of 'coque' or whether they really get it sorted.



8. Cecil Schumacher's unusual front beam steering layout.

\* \* \*



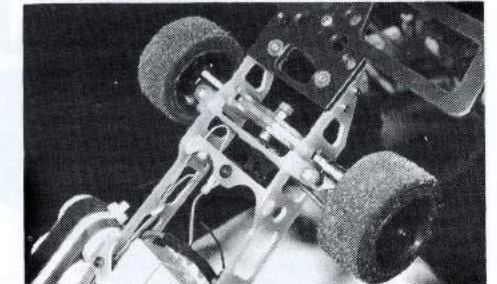
10. Fred utilizing a similar layout to Neal.

John Varley's car was also of monocoque construction, as shown in detail in Photo 11. The front beam had to be pivoted in the centre, with springs to control the movement, but one wonders how much time John spent to produce such a superb piece of work. I would be afraid to let it loose on the track with some of the heavyweights running out of control. The car weighed in at 21b 3oz without wing.

Other innovative features, or ones becoming more popular are the use of hollow rear tyres, although these do not appear to give any advantage over the standard soft armaflex or neoprenes. Everyone still agrees that the tyres

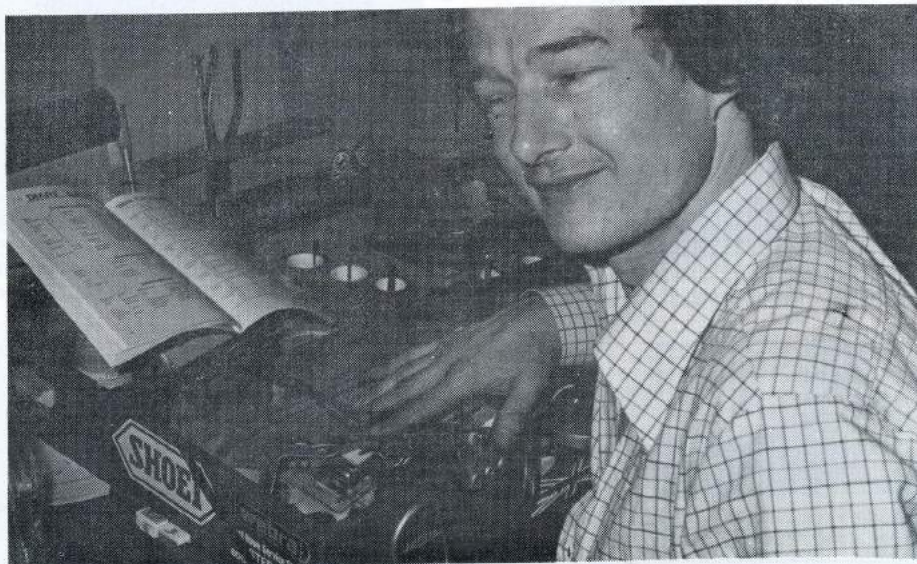
can affect the performance of the car more than anything else.

Well, how did they go? One cannot be conclusive from one meeting, but the A final certainly makes interesting reading. The new Gemini was 1st & 4th. Neal's secret lexan monocoque was 2nd. Dave's Lightning 3rd, Fred received 5th place but also had F.T.D. One cannot draw conclusions except to say that racing is certainly becoming very close.



11. Monocoque construction John Varley's car. Excellent bit of fret work, Jonn.

\* \* \*



9. The cagey Mr. Francis (note all the big names read Radio Race Car).



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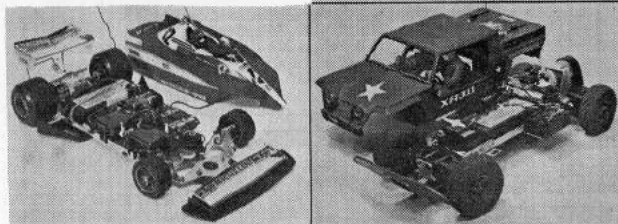
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## 1/12th SCALE HANDICAPS..... HOW DO THEY WORK?

DENNIS TROWBRIDGE.

Following the first National Points scoring meeting of Exeter, it became obvious that many 1/12th scale car drivers do not fully understand how the BRCA Handicap system works. So let me take this opportunity to explain.

All BRCA members who compete in national BRCA sanctioned meetings, begin with a SCRATCH (i.e. '0') handicap and are assessed for handicap rating every time they compete in a BRCA meeting. Up dated lists of handicaps are supplied to event organisers on request.

Handicaps are calculated as follows:—

1. An average of the top ten handicap times (how these are calculated will be explained in a moment) is taken, this then becomes the norm (N).
2. Each competitors best average lap qualifying time (T) is then compared against the norm (N) using the following formula:

$$\frac{N-T}{T} \times 100 = \% \text{ handicap}$$

The published handicap is assessed to the nearest lower multiple of 5%

i.e. Norm (N) = 24.42 secs per lap.  
Driver's best average lap time = 19.32 secs/lap  
Therefore handicap =  $\frac{24.42 - 19.32}{19.32} \times 100 = 26.40\%$

Published handicap = 25%

When handicaps are updated, the driver's previous three performances, using the actual handicap percentages (i.e. 26.40% in the example used) one added together and then divided by three to give an average. This then becomes the new handicap after it has been rounded down to the nearest 5%.

The job of working out association handicaps is being done by JEFF LINDSTROM using a new computer which is being leased to the association solely for this purpose. Unfortunately, the computer will not be fully operational for several weeks yet so at the moment the working out is being done manually by 'yours truly'.

Updating handicaps purely with the aid of a pocket calculator and brain power needs a simpler system of assessment, so for the next couple of meetings (until we have the

computer) the system will be as follows:—

If a driver's performance is more than 5% above his current rating, his handicap will be increased to the new rating, maximum 50%. If the performance is more than 10% below the current rating, the handicap will be reduced by 5%.

So how do handicaps work at open meetings?

It is first necessary to work out the best average lap time for every driver and then add on the current handicap rating, the results are then compared to give the handicap finalists.

e.g. Driver A Best time 26 laps 8 mins 12 secs  
Handicap 25%.

A.L.T. = 18.92 secs + 25% = 23.65 handicap time.

Driver B Best Time 25 laps 8 mins 1 sec,  
handicap 20%

A.L.T. = 19.24 secs + 20% = 23.09 handicap time.

So driver B would qualify before Driver A.

As Nick Adams (BRCA Sec) correctly says, the handicap system is complicated and time consuming to work out and unless it is right up to date for each meeting it is useless. I can see a time not far ahead, when we adopt the American system of A.B.C. finals.

Anyway, hope this sheds some light on the system.

Enjoy your racing, no matter what your handicap!

\* \* \*

### Next Issue

Dennis will write on how  
'Get those volts Up'

So if you want to sus out your  
Sanyo's, or soup up your Salt's —  
this could be the answer!

# A ROSTRUM VIEW

Gary Culver



This years Winternationals in Sunny Florida was certainly a welcome break from the notorious weather of our own country. One of the local drivers amazed me when he explained that racing is impossible in Florida during four summer months, it's too hot!

The circuit was situated in Orlando on a massive parking lot, the track being laid out with wooden boards. The surface was smooth, the shape was simple and the track was wide, which made the racing very fast.

Practice started on the MOnday before the event, most teams were there in force even at that early stage. When we, that is the A.M.P.S. team, started practising we found that the track was slippery. Our independant suspension cars had a distinct and most impressive advantage. To 'st-up' the cars we tried and tested every combination of engine, gear ratio, tyres, body shape and wing, keeping in mind that the car should be set for a sticky track. Although differentials were essential to begin with, as soon as the traction increased most drivers switched to sraight axes.

After several days the track did become 'sticky' and it was evident that the Americans' cars were suited to these conditions. The most popular engine with them was the K and B, but although being powerful, I did notice looking around the pits quite a few blown motors.

With Friday came the first four of eight qualifying heats. These are slightly different to our own in that after five minutes a buzzer sounds and you stop exactly where you are on the track. The officials then count the 'boards' from the start position, so you would record

say 15 laps 25 boards. Everyting ran very smoothly until the last round when there was a sudden downpour and the days racing was abandoned.

Saturday was the second and last day of qualifying and the sun was back again. The organizers managed to run all four rounds. We left the circuit that evening pleased we had both qualified through to the main 'A' Final. The finals were run in series starting with 'J' and ending with 'A' for the fastest drivers, your place being determined by your fastest heat.

We woke on Sunday morning to the sound of rain. This I must say was extremely disappointing especially after travelling so far. There was no question that the racing would continue and after heated discussion the organisers decided that the fastest single times would count for the results. Thus putting Dave Martin in 9th overall position and myself 7th.

This had been my first experience of racing in America, and it took a little getting used to. Although the circuit was wide, a distinct racing line appeared through the corners, to stray off this line risked losing grip and spinning off. I also found the racing very close, it was better to stay well out of your competitors way, preferably in front.

This was a successful and most enjoyable trip, I can even boast one hundred per cent reliability of my A.M.P.S. — I didn't break anything all week. I'd like to thank our hosts for a most enjoyable event, in particular the dinner given on Su. day night. I especially liked the Hawaii dancing girls. Oh, next year perhaps!!

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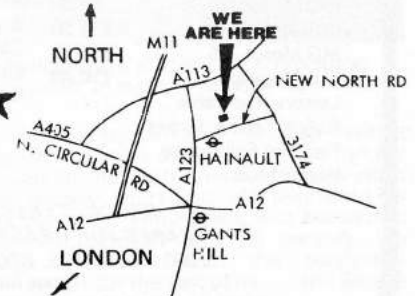
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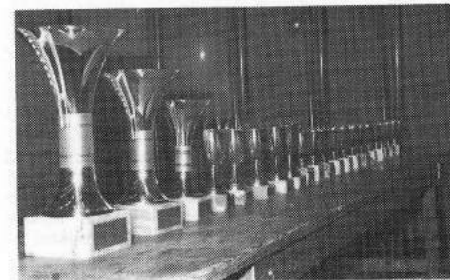
# Swiss Open - Brugg 81.

BY LES PIPE

"Go foreign was Ted Longshaw's recommendation in an old Model Cars Mag — and my own opinion, after racing on foreign soil after returning from Brugg with the highly successful British Team, echo that of Ted's completely.

Part of the British Team left Birmingham on a bleak frosty February morning. The plane climbed to 33,000 ft. and low and behold — the sun shone (smashing!). Our part of the British Team consisted of Myself, Bill Maisey, Neal Francis, George Land, Tony Wells, Jimmy and Wayne Davis and Steve Davis. The flight for myself, George, Bill and Neal turned out to be something of a milestone as none of us had actually flown before (except for Bill and Neal's excursion in a glider). To all end up flying abroad to compete in the Swiss Open gave us very many hours of entertaining conversation. The technical conversation flowed on and on, examining theory after theory as many car enthusiasts obviously do with time on their hands. As luck would have it, Bill and Neal both had their cars as hand luggage and so a close examination of these proved entertaining.

We arrived at Zurich 40 minutes late, owing to a couple of foreign gentlemen getting on the wrong plane. Meanwhile the other parts of the British team were busily speeding their way across Europe by road. Nick Adams driving his new XR3 Escort (very nice, Nick) accompanied



The incredible display of silverware. The winner's trophy weighed 30 kilos

grabbing a tasty smoked sausage whilst waiting for the train at Zurich, we set off for Brugg. Our journey by train was relatively short and an equally short taxi-ride deposited us outside the hotel Tony Wells had booked in advance for himself and his parents. An amusing discussion with the proprietor secured rooms for the rest of us... and what a marvellous hotel it proved to be.



Part of lap counting equipment.



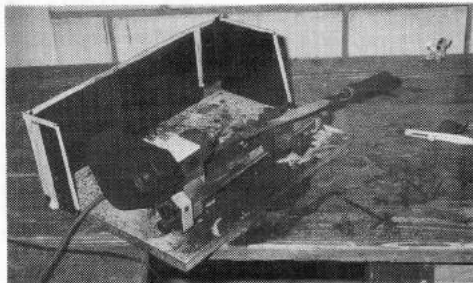
The highly successful British Team.

by his wife Jane, and grateful passengers, Dave Tongue and Graham Davis, was hotly pursued by John Chamberlain and his wife Trish, along with Phil Greeno (or Freeno as he now prefers!) Our paths were destined to cross prior to the race and they did so, rather unexpectedly, at the Hotel Zoll (which, although not the hotel found for us by the organizers, turned out to be quite an eye opener (as will be revealed anon.) After

As most of us were eager to get a closer look at the racing venue, (never mind the Swiss scenery!) some form of transport was required. The proprietors daughter came to our rescue by arranging a mini bus for our use over the next five days. Whilst all these arrangements were being made, Nick's party found us at our hotel. The British challenge was about to start!!!

Our first glimpse of the venue came later in the day as plans were made to meet the organizers at the sporthall in Brugg at 6 o'clock. In true British fashion we arrived at 8-30 p.m. This proved to be a lucky move as the organizers hadn't been there long themselves. The sporthall was a very large pre-fabricated type building, fairly modern and the home of a Swiss Army training division. The carpet we

were to run on was being LAID over, what was to us the perfect driving surface, (similar to any British sports Hall — perfect for silicon tyres). At first we had great difficulty conversing with our hosts till the multi-linguistical expertise of Wayne Davis retrieved us from our problems! I won't repeat what he said! The rather puzzled looks from the hosts faces assured us that they couldn't understand him any better than we could. But their nods of approval and laughter at least broke the ice. Wayne assured us that that was exactly what he was aiming at and that within the next couple of minutes he would have the Swiss Team members and other 'foreign bods' present completely physced out! After this splendid performance, we all left in our 2 litre mini-bus, content in the knowledge that the efforts of our fellow countryman had successfully demoralised at least half of the opposition!

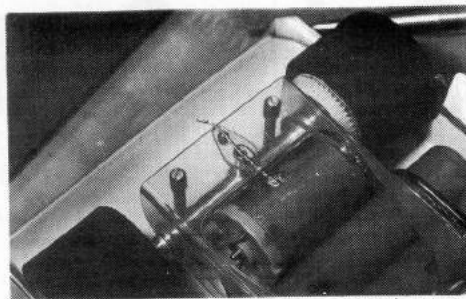


**Well prepared Belgians —brought along their Unimat lathe for tyre truing.**

The first evening in the hotel turned into a drinking binge — after seeing the venue everyone seemed reasonably confident. The locals in Wyndish used the Hotel Zoll's bar facilities and realising that the extremely buoyant party from Britannia weren't leaving, decided to join us. The communication barriers were soon broken down and an incredible scene developed. The arrival of two Dutch drivers heightened the party, especially after our diplomatic entrepreneur, Wayne, challenged them to a drinking contest. The sight of tee-totaller, Neal Francis, sinking lager at an alarming rate, fairly bemused all present. The following morning, the hangovers were clearly on display.

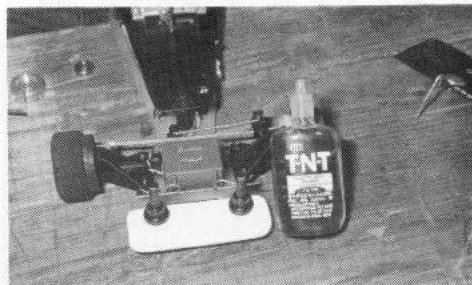


**Neal and Bill's saviour — he solved their interference problems.**



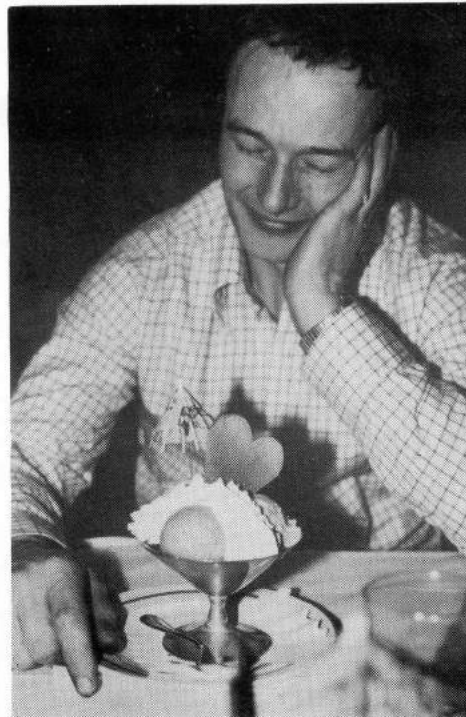
**Bill's demon earthing strap - solved all the problems.**

Friday... the first day of serious practice. The Swiss call it 'Training'. We all started our unofficial Training—not knowing quite what to expect from the coarse carpeted racing surface. Most of the team managed to find some grip at one end of the car, but it took some time to find an equal amount of grip at the other. This first session turned into a nightmare for Bill and Neal. Interference in incurable and mysterious amounts besieged our country's 'intrepid heros'. Everyone in the team rallied round to help, but to no avail. A solution couldn't be found in the multitude of receivers and servos bestowed upon them. The cars were stripped and rebuilt over and over with new or different components, but the problems persisted. After most of the day had been wasted trying to solve the seemingly incurable problem, a halt was called and the unfortunate duo sped (with the help of our



**Tyre additive T.N.T.**

splendid chauffeur George Land) back to the hotel where more mind—blowing theories were discussed. For the rest of us at the Sports hall, tyre changes were the order of the day until a suitable balance was found. The most difficult thing to accept seemed to be that the cars had so much grip at one end, that to drastically alter it often meant going to extremes. Another problem arose if you were unlucky enough to find the taped joints in the carpet actually on your driving line. There was a particularly bad tape joint in the middle of the chicane on the main straight. If the right line



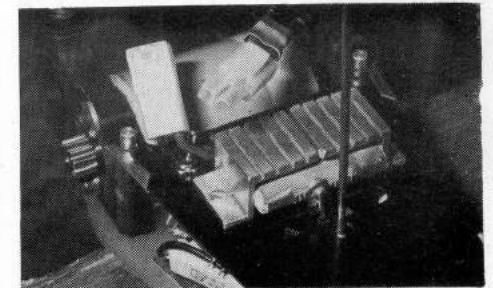
**This will never last eight minutes.**

wasn't followed (i.e. the one that would enable you to go through flat out), the correction to the car in the centre of the chicane caused the car to spin round (usually in my case 360°). Pretty hairy when you consider that we were using open class motors in the cars producing phenomenal speeds. The course markings were particularly severe. The bot dots we are familiar with, were employed to good effect and as always succeeded in launching many an unsuspecting driver while the 5ft long of 3 inch by 1 inch planks of nylon that had been cunningly stuck to the floor with double sided tape were not surprisingly very destructive, especially at the speeds we were doing. Overall the circuit was well designed rewarding the careful tidy driver but punishing the erratic ones. The organizers had done their groundwork exceptionally well, leaving very little to chance.

The timing was carried out by eight lap counters with a button each, making for efficient scoring and very little error. The lap times were quickly posted on a lap chart on the wall and a continuously changing 'top 20' ladder kept everyone informed of who the guys to beat were and more important what lap times they were posting.

Friday's unofficial training came to an end at 6 o'clock and everyone returned to their hotels

wiser and, hopefully, with a plan of attack. Our evening meal at the hotel turned into a very sombre affair as Bill and Neal had spent all afternoon on their cars to no avail. The persistent radio trouble refused to be solved. The party rallied round trying to boost their moral but it seemed that whatever was said didn't really make any difference. Everyone was eager to chip in with their little bit of information, but as idea after idea failed the party gradually dispersed into the bedrooms and later gathered again in the bar, swapping receivers and servos for pints and 2 frks worth of records on a surprisingly British juke box. Unfortunately the franks soon ran out, but our intrepid interpreter, Wayne, came again to the rescue, having discovered that 5 pence pieces were similar in size.



**New Swedish Mirage Kit Car —close up shot shows speed controller.**

Saturday... An early start was forecast as today was the first round of official "training". The organizers had decided to run through the heats during the day, so that everyone would be certain of getting a couple of practice sessions, as all the competitors could not be there on the Friday. This went off very smoothly. At 5 o'clock a halt was called and the President of E.F.R.A. (Ted Longshaw) gave his opening speech, welcoming all 12 nations to the event and hoping that this would start a successful European series similar to the one the 1/8 drivers had already enjoyed for many years. At 5-15 p.m. the Chairman of the Brugg Model Racing Club announced that the 'Banquet' was due to start and everyone laid siege to the fantastic cold buffet and beer. (The Swiss really know how to eat). After everyone was fed and watered, the first qualifying round to gain a time for the Sundays racing started. Nick Adams being in heat 1 posted a 29 lapper and looked a very good bet for the Series.

I nearly forgot... during the day a Dutch electronics dealer noticed the plight of Bill and Neal and suggested that they might try earth straps on the motor can and also on the chassis to the floor as he thought the problem could be caused by static electricity between the lexon chassis and the carpet, sure enough their problem was solved.

Back to the qualifying times. It was not long before Nick's time was equalled and then beaten by Neal, Bill and Dave Tongue who posted 31 lappers behind the 31 laps of Jorgen Anderson of Sweden. Myself, Wayne, Jimmy, Tony, John, Phil and George all posted 30 laps. The dark horse of Saturday's timed sessions turned out to be Graham Davies who scorched round the circuit to put in a 32 lapper and take F.T.D. A very optimistic start for the British Team after the first qualifying round. The British Team held 1, 3, 4, 6, 8, 9, 11, 13, 15, 16, 17 positions. Eleven drivers in the top 20... can't be bad.

After a day like that the evening binge was assured. Drinking went on till very late until all our consciences pricked us and a midnight oil burning session followed. Cars could be heard streaking up and down the corridors and motors were wound up in anticipation of the next day's racing. Bill did a hasty rebuild on a Mervyn Franklin motor — after finding a seized bearing in his and Neal, not being intimidated by this 'go-faster' motor, stuck his favourite Mabouchi in, after some fine tuning. The motor tuning session was brought about by the flying Swede, Jorgen Anderson, who earlier in the day had beaten everyone except Graham Davies. Apart from the fact that the Swede had obviously got exceptionally good motors (he had a guy with him tuning them up) his other secret weapon was a tyre substance cleaner labelled T.N.T! He very kindly gave Bill a bottle for the team to use (a sportsmanly gesture) but unfortunately, this created quite a dilemma as we couldn't agree amongst ourselves whether or not it was actually allowed. This problem was soon resolved when we asked the organizers, who after much deliberation, deemed it legal. Needless to say, half of the countries present were using it. Sunday... The final two practice sessions were to be run, starting at 9 o'clock. By late afternoon, Neal had clinched F.T.D. with 33 laps, not equalled or bettered all weekend close behind him were Dave Tongue on 32, Graham Davies on 32, Jorgen Anderson on 32. These four went straight through to the final. The next sixteen were divided into two semis and victory in them went to George Land (who drove a magnificent race) and Bill Maisey. They were joined by Phil Greeno and John



*the champion's banquet (courtesy of Zoll Hotel).*

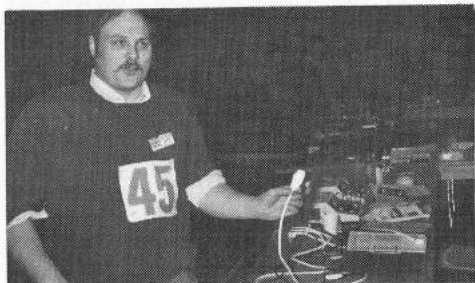
Chamberlain. So the final line up was nearly all British affair only being stemmed by the lone flying Swede, Jorgen Anderson who with his new Mirage kit car proved there are some good drivers in Europe. Look out for him at one of our Nationals, he's a very determined fellow.

The Final... As I've seen many times in the last 18 months Neal shot off into an early lead with the pack in hot pursuit, this lead at times looked threatened by Graham Davies and Dave Tongue who were having a battie royal just behind. Unfortunately in his enthusiasm Dave Tongue punted Graham Davies into a track marker, resulting in Graham's chassis being broken. Bad luck on Graham, I'm sure Dave wouldn't have risked contact internationally as there is no way of knowing who's going to come off worst. The rest of the pack (after that little incident) closed up slightly. Bill Maisey (as per his Nationals performance) again made a late charge and at one time it looked to me as though it might be a repeat performance. Alas for Bill, the challenge failed at the ninth hour and Neal ended up as the "Europamister Electro Brugg 81". The result chart, as always, shows the details of the finalists cars.

A big congratulations to Neal on a splendid performance and for spearheading the British challenge with such devastating effects. Many thanks to all the British Team members for such an enjoyable and memorable advent to European racing.



*One of these days we'll catch him with his eyes open.*



*George Land holding an individual lap counting buttons.*

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Drivers Name	Kit or Scratch	Chassis Material	Nicads	Diff. Type	Motor	Front Tyres	Rear Tyres	Speed Control	Body Shell	Radio Gear	Gear Ratio	Weight
1 NEAL FRANCIS	Scratch	Lexan	Soft 120%	Associated Modified	Mabuchi Modified	Mardave Soft Rubber	Cambria Kit Rubber	Parma 1% ohm	Associated TOJ	Futaba T/S	11 - 48	Below 1lb 15oz
2 DAVE TONGUE	Lightning 2000	Glass Fibre	Sanyo	Kit Diff.	Parma Vette	Mardave Rubber	AMPS	Demon Mk II Turbo	MRP Schkee	Sanwa	11 - 48	
3 BILL MAISEY	Scratch	Lexan	Soft 120%	Associated Modified	Mervyn Franklin Special	Mardave Rubber	Cambria Kit Rubber	Parma 1% ohm	MRP Butch Hogan	Futaba T/S	12 - 46	Below 1lb 15oz
4 JORGEN ANDERSSON	Mirage/T	Glass Fibre 2.5mm	Varat	Kit Diff.	Igarashi 22T-29G	Twinnk No. 2	Twinnk Medium Rubber	Mirage 0.9 ohm	Mirage Brche 917	Kraft Steering Wheel	12 - 45	910grm
5 PHIL GREENO	Gemini S/L	Carbon Fibre	Sanyo	Greeno Schum'r Carbon axle	MRP 553 29T	Kit Rubber	AMPS Rubber	Demon Mk II Turbo	MRP Butch Hogan	McGregor J.R.	11 - 46	2lb 1oz
6 GEORGE LAND	Lightning 2000	Glass Fibre	Sanyo	Kit Diff.	MRP 553 29T	Kit Rubber	AMPS Rubber	Demon Mk II Turbo	MRP Butch Hogan	McGregor J.R.	11 - 46	
7 JOHN CHAMBERLIN	Gemini S/L	Carbon Fibre	Sanyo	Greeno Schum'r Carbon axle	MRP 553 29T	Kit Rubber	AMPS Rubber	Demon Mk II Turbo	MRP Butch Hogan	McGregor J.R.	11 - 46	2lb 1oz
8 GRAHAM DAVIES	Scratch	Glass Fibre	Sanyo	Associated Limited Slip	MRP 553 29T	Medium Hard Rubber	AMPS Rubber	Demon Mk II Turbo	MRP Schkee	McGregor J.R.	11 - 48	

# 1/8 FLORIDA WINTERNATIONALS

WEEK TWO



**1981 Florida Winternationals champion Bill Jianas with trophy & Peka Lotu one of the beautiful Hawaiian dancers at the banquet.**

Monday brought a distinct change to the Motel block. Gone were the futuristic changing devices with lines hanging out of car bonnets and the high pitched whine of tuned igrarishis. These were replaced by K & B motors being stripped and checked on dressing tables, piles of 1/8 bodies coming out of the boxes (you can get through a few bodies in the 1/8 heats), a definite aroma of castor oil and the occasional howl of a .21 glow motor as a test run made round the Motel car park!

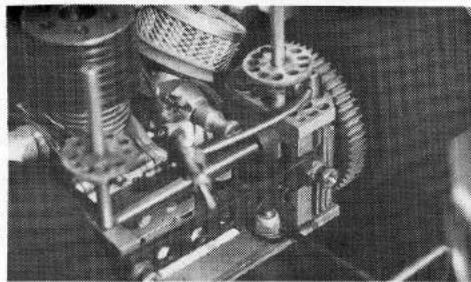
The 1/8 racing format (I.C. engines for those in U.K. or gas engines for those across the pond) was similar to the electric racing in so much as they commenced with controlled practice on Monday through to Thursday. Heats on Friday and Saturday (four each day with the best of the eight heats to count for the 'Mains' on the Sunday. There were two classes racing — the 'Super Stock', with saloon G.T. bodies, minimum weight of 5½lbs. and carb restriction of .200 inch and the main open Can Am class.

Again most of the top American drivers had entered this meeting plus the British A.M.P.S. team in the form of Dave Martin and Gary Cuiver ably supported by Ian Agnew, who spent his time 'thrashing' in the pits during the day and in the hotel room at night working on the team cars. Young Marley Parrant also entered from England as a privateer, running a Rapier and was able to join the A.M.P.S. team when it came to working out the best 'set up' for dialling into the track. In all there were 134 entries. Prior to the start of practice many of the host drivers were sceptical of the new Rapier cars and their independent suspension, also their O.S. motors which as yet are not seen to much in the U.S. racing scene.



**Gary Kyes team MRP winner "Super Stock" Class**

The first two days of practice saw the wide fast track fairly slippery and many drivers hurriedly reevaluating the Rapiers potential, which with its independent suspension, was going very well and turning in some very fast times. The car was well suited to the early difficult track conditions. Also the word was going around to avoid hitting the Rapier because 10 to 1 the other car would come off worse!



**Business end of Bill Jianas's associatee showing special lightweight magnesium parts.**

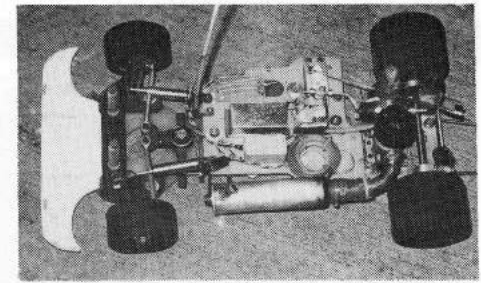
Again I felt that the driving was more 'physical' than we get in Britain but it was exciting to watch some of the good aggressive driving. N.B. Remember there's a big difference between that and bad aggressive driving!

Not driving myself allowed me time to peruse the pits and take in some of the very fast machinery.

Associated fielded a very strong team as usual and had to be a favourite with Chuck Phips car really winding on. Bill Jianas and Rick Davis were also now well on form and 'easing' a little bit more power out on their runs.

Bill's car was basically an Associated, powered by K & B with an O.P.S. slider carb. However there were a number of typical refinements in the shape of Magnesium plummer (Pillar) blocks, wheel hubs, radio tray stand offs, motor mounts, wing tube collars, brake bracket, all very strong but light — the car had an all up weight of about 5.1 lbs. The servo saver has been ball raced as a further refinement. It's hoped that these magnesium parts will be available in the near future. As soon as they are Bill has promised to let me know all the details and prices etc.

Team mate Rick Davis' car well prepared with neat layout, has been running a Picco by way of a change from his usual K and B. McCoy with an 11-61 gear ratio, note the use of front shock absorbers on Rick's car. Tyres on the car were moulded fronts and 2402 associated rear.



**Rick Davis's Associated car showing neat layout and front shocks.**

Ralph Birch Jr., who has only been racing 1½ years out of his 13 years, put away his Lightning 2000 he did so well with in the electric racing and joined the Association team to enter only his 5th I.C. car race, again with Dad in the pits. Watching this young man from Ditton, Texas, I reckon we will see a lot more of him driving as well as he does after only 1½ years experience.

'Box Standard' was on the way in which Hank Smith from Lincoln, Nebraska described his Picco powered Delta outfit. He did have some motor problems but managed to sort them out in time. The Delta team also had Art Carbonell in its ranks, driving with his usual panache and ease always enjoyable to watch.



**Hank Smith from Lincon Nebraska placed 2nd A main**



**Rick Davis placed 4th open Can Am**



# Westo

Weston/Saft Win AGAIN and AGAIN



NEAL FRANCIS



1st Team HOBBYSPOT

**BRITISH 1/12 NATIONAL CHAMPIONS**  
Weston selected Saft cells.

BILL MAISEY 1st, NEIL FRANCIS 2nd  
of the day.

1st Team HOBBYSPOT.

\* \* \*

8 out of 10 drivers in the National Final  
(1st, 2nd, 3rd, 4th, 5th, 6th and 7th).

7 out of 9 drivers in South of England  
used Saft cells.

1st eight drivers in Thameside Open Ch  
used Saft cells!!

FREE SUPPLEMENT  
with this issue Part 1

## WHICH ENGINE ?

by F. J. LIVESEY

This issue in part 1 we have dealt with basic measurements, port timing and construction etc.

In issue 4 we will give power / torque figures and general comments as to performance under controlled conditions of these engines.

For some time now the question passing through my mind, and I'm sure I'm not alone, has been — 'Which Engine'.

Individual engine tests have been carried out — but never a comparison between them all. The time therefore seemed right to fulfil this need and I decided to carry out a series of engine comparisons. Similar conditions applied for each engine test and all were made within a short space of time.

In order to reach satisfactory conclusions in the time allowed only practical conditions were considered. I decided the engines must be run in as near to model car conditions as possible. To these ends the tests were carried out with a silencer fitted. This was a P.B. adjustable tuned pipe with standard manifold and silicone tubes, P.B. slide carb. fitted for all tests. The same dynamometer was used — in weather conditions as similar as possible. The question of which fuel to use was given long thought, but as the majority of model car men are probably of the 'Clubman' variety — I made enquiries about the type of fuel they used. The majority use fuel with around 25% nitro content so this seemed to be the answer. All the tests were carried out over two days with readings taken at 5000 RPM intervals and the results tabulated. Only modern Schnurle ported engines were considered.

A brief description of each engine follows giving the basic details and to offer comparisons. My own comments on the engines include points gained from use in competitions in the past.

All the engines used in competition suffer from similar problems. The worst being the collapse of the bearing cages — it is essential to change the main bearing for the 'High Speed' type, and desirable for the front bearing — if you can get them.

If the main bearing disintegrates it invariably ruins the piston and liner — and may even break the rod — with dire consequences.

The front bearing cage, when breaking up, usually finds its way along the crankshaft and ruins the the shaft and crankcase.

Various methods have been tried to rectify the problem of Connecting Rod bushes working loose. Titanium rods have been used — but even these break. My own cure may be off interest but could be considered drastic. I have made a small press from two tubes and a nut and bolt. With a new rod, the bushes are pressed out, then after roughening the surfaces with fine emery paper, I wash the bush and rod thoroughly in carbon tetrachloride. The bush is pressed back using Loctite 648 Hot Retaining Compound. So far this seems to work well, but a good deal of care is needed if the con-rod is to be kept in alignment, fortunately I have a checking jig to test on re-assembly.

I have mentioned it before, but towards the end of last season what appeared to be metal fatigue in some pistons caused problems. The only cure for this is to change the piston/liner assembly more often.

Crankcases crack from time to time from the mounting lugs — this I think is caused by engine mountings out of level. The way to avoid this problem is to bolt the engine to its mountings and check carefully they are level, removing any offending sections with a file.

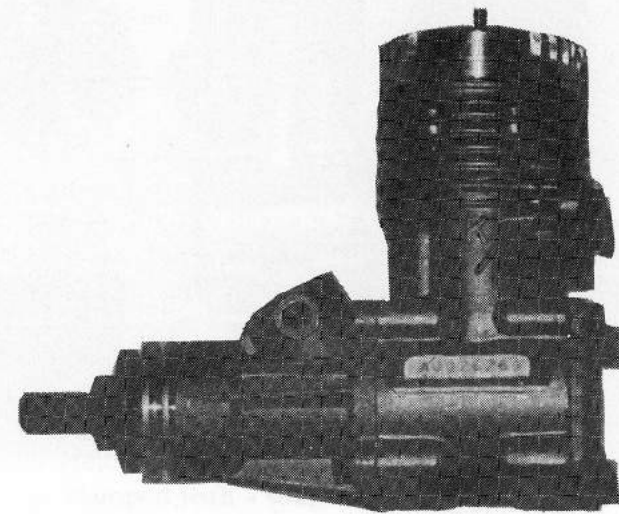
One problem particularly associated with the K & B engine is caused by the two piece crankcase construction (if only K & B had schnurle ported the veco 19).

Whether it is the vibration or the pressure from the flywheel/clutch assembly I'm not sure. The front housing works loose and/or the bearing housing cracks. The American cure is to drill the socket cap screw heads and wire them together.

As the piton/con-rod assembly can be removed or replaced with the front housing in position, the answer is to remove the front housing, discard the gasket, clean, and re-assemble using Loctite 648 between the housing and crankcase and on the screws.

Some engines are supplied without head gaskets and back plates have been known to come loose. To avoid leaks I always assemble engines using a small amount of silicone sealant on gaskets and cylinder head joints.

A similar leak problem may be found with the HGK having a separate cylinder casting. I know this was a problem with the Taipan in the days we used them. Some competitors have found that once a con-rod bush or piston have caused trouble, if the original crankshaft is re-used, it invariably breaks after a short period of time.



*K & B Motor Awaiting Carb.*

**K & B 3.5cc S1 CAR (Won in a raffle at USA Winter Nats.)**

Bore — 0.650" (16.51mm)

Stroke — 0.640" (16.256mm)

CC — 3.481

Timings — Exhaust — 152°

Transfer — 120°

Third Port — 118°

Inlet Opens 42° ABDC

Inlet Closes 57 ATDC

Crankcase — two piece construction — separate front housing — rear exhaust.

Crankshaft — Counter balanced HT steel with pressed in 3/16" diam. crank pin — 12mm x 24mm main bearings 1/4" x 5/8" front bearing.

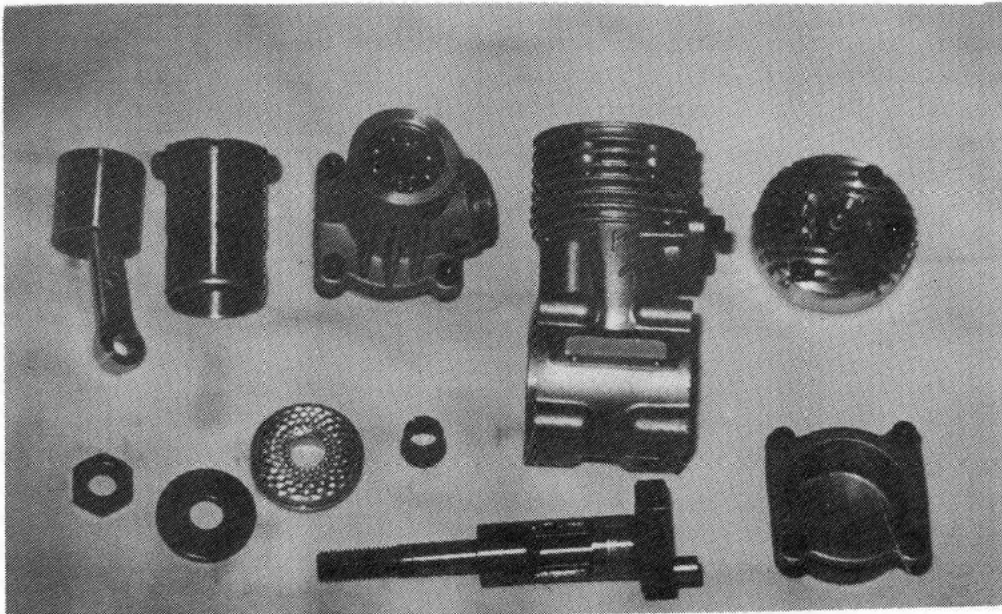
Conn. Rod — Forged HT aluminium alloy — bushed big end — with oil holes — 1 7/32" between centres.

Liner/Piston Ass. — Brass chromed liner — double third port — High Silicon — Aluminium alloy cast piston — 5/32" diam.

Hollow gudgeon pin — with one PTFE pad.

Head — Wide squish band — Aircraft head — heat sink added for tests.

Carb — Perry carb fitted — 9.5mm bore — rather short stub — crankcase needed to be bored to fit this carb — bored to 12mm diam. no air cleaner supplied — grub screw clamp.



*The Stripped K & B Motor*

**OS 21F SRC ABC**

Bore — 16.6mm

Stroke — 16.0mm

Cubic Capacity — 3.463

Timings — Exhaust 172°

Transfer 124°

Third Port 124°

Inlet Opens 35° ABDC

Inlet Closes 60 ATDC

Crankcase — Diecast one piece construction — side exhaust.

Crankshaft — Counter balanced H.T. Steel with integral 5mm diam. crank pin — 12mm x 24mm main bearing — 9mm x 17mm front bearing.

Conn. Rod — Machined H.T. Aluminium Alloy — bushes both ends. Big end with oil holes — 29mm between centres.

Liner/Piston Ass. — Thick walled brass liner with hard all-over coating. Could be either Nickel/Aluminium Oxide or Nickel/Silicon carbide. Supposed to have a lower friction effect than chrome High Silicon Aluminium piston — 4mm diam. Hollow gudgeon pin with P.T.F.E. end pads.

Cyl. Head — Wide squish band — one piece heat sink/head with 6 clamping bolts.

Carb. — O.S. Barrel type carb — 7mm diam. bore — No air cleaner supplied — holes tapped thru. carb for clamping.

**HGK 21**

Bore — 16.28mm

Stroke — 16.7mm

CC — 3.477cc

Timings Exhaust — 152°

Transfer — 130°

Third Port — 130°

Inlet opens 43 ABDC

Inlet closes 52° ATDC

Crankcase — Diecast case — separate cylinder (see below) — side exhaust.

Crankshaft — Counter balanced H.T. Steel with intgral 4.5mm diameter crank pin — 12 x 24mm main bearing 10 x 17mm front bearing, — separate 1/4 UNF threaded section.

Conn. Rod — Machined H.T. Aluminium alloy — big end bushed with oil holes — 27mm between centres.

Liner/Piston ass. — Chromed H.T. Aluminium alloy cylinder assembly — cast aluminium alloy piston — hollow gudgeon pin 4mm diam. — held in with circlips — with piston at top dead centre exhaust port open to crankcase.

Cylinder Head — One piece cylinder head/heat sink — wide squish band — clamped with 4 long bolts through cylinder.

Carb. — 8mm bore with 11mm spigot — angled slot slow run metering — complete with air filter.

**O.P.S. 3.5 SPEED CAR**

Bore 16.6mm  
Stroke 16.0mm  
CC 3.463cc

Timings Exhaust 158°  
Transfer 122°  
Third Port 120°  
Inlet opens 35° ABDC  
Inlet closes 52° ATDC

- Crankcase — Diecast one piece construction — side exhaust.
- Crankshaft — Counter balanced High Tensile (HT) steel with integral 5mm diam. crank pin — 12mm x 24mm main bearing — 7mm x 19mm front bearing.
- Connecting Rod — Machined H.T. Aluminium alloy — Bushed big end with oil holes — 30mm between centres.
- Liner & Piston Ass. — Brass chromed liner — High Silicone H.T. Aluminium alloy cast piston — 4mm diam Hollow gudgeon pin held in with circlips.
- Head — Cylinder head with wide squish band — 4 clamping bolts pass through heat sink for good conduction.
- Carb — Perry carb. fitted 9.5mm bore — only short carb stub with small air cleaner — Cotter type clamp.



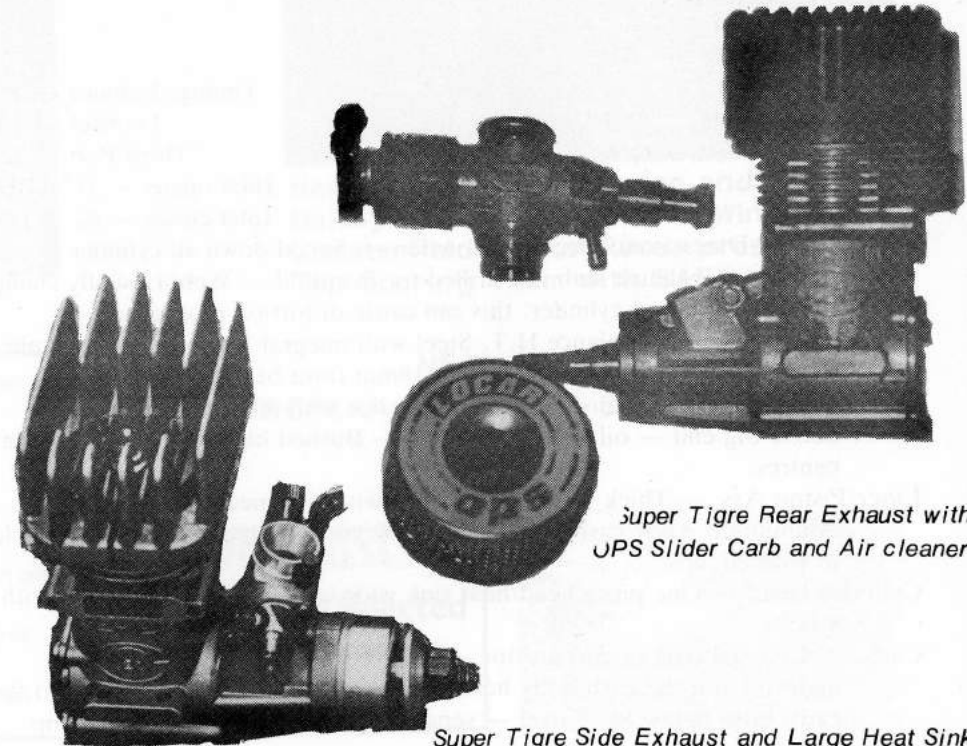
*Stripped OPS Motor Showing Std Small Bore Carb & Heat Sink Head.*

**SUPER TIGRE X21**

Bore — 16.6 mm  
Stroke — 16mm  
CC — 3.463

Timings Exhaust — 156°  
Transfer — 130°  
Third Port 120°  
inlet opens 45° ABDC  
Inlet closes 60° ATDC

- Crank case — Die cast one piece construction — side exhaust offset carburettor spigot bored 12mm.
- Crankshaft — Full circle counter balanced H.T. steel with integral 5mm diam. crank pin — 12 x 24mm main bearing — 7 x 19mm front bearing.
- Conn. Rod — Machined H.T. Aluminium alloy — big end bushed — with oil holes.
- Liner/Piston Ass. — Chromed brass liner — cast aluminium alloy piston — hollow gudgeon pin 4mm diam. held in with circlips.
- Cylinder Head — aircraft type cylinder head — wide squish band — separate clamp on heat sink — clamped with four bolts.
- Carb. — 7mm bore — Super Tigre.



*Super Tigre Rear Exhaust with OPS Slider Carb and Air cleaner*

*Super Tigre Side Exhaust and Large Heat Sink*

## WHICH ENGINE?

### SUPER TIGRE X21 RE

Bore — 16mm

Stroke — 17mm

CC — 3.4185

Timings Exhaust — 160

Transfer — 128°

Third Port — 128°

Inlet opens 45° ABDC

Inlet closes 60° ATDC

Crankcase — Die cast one piece construction — rear exhaust.

Crankshaft — Full circle counter balanced crankshaft — with integral 5mm diam. crankpin — 12mm x 24mm main bearing — 7mm x 19mm front bearing.

Conn. Rod — Machined H.T Aluminium alloy — big end bushed with oil holes — 30mm between centres.

Liner/Piston Ass. — Chromed brass liner with special Super Tigre transfer porting — cast aluminium alloy piston — hollow 4mm diam. gudgeon pin sealed one end — held in by circlips.

Cylinder Head — One piece cylinder head/heat sink — wide squish band — clamped with four screws.

No carb. supplied.

### WEBRA SPEED 20 CAR

Bore — 16.6mm

Stroke — 16.0mm

CC — 3.463

Timings Exhaust — 164°

Transfer — 132°

Third Port — 120°

Inlet opens — 35° ABDC

Inlet closes — 62 ATDC

Crankcase — Diecast one piece construction — finned down all cylinder — side exhaust — exhaust stub not drilled for manifold — Webra usually clamp manifolds around cylinder. this can cause distortion problems.

Crankshaft — Counter Balance H.T. Steel with integral 5mm diam. crank pin — 12 x 24mm main bearing — 7 x 19mm front bearing.

Conn. Rod — Superbly finished smooth exterior with oil holes drilled from above big end — oil slot in little end — Bushed big end 32mm between centres.

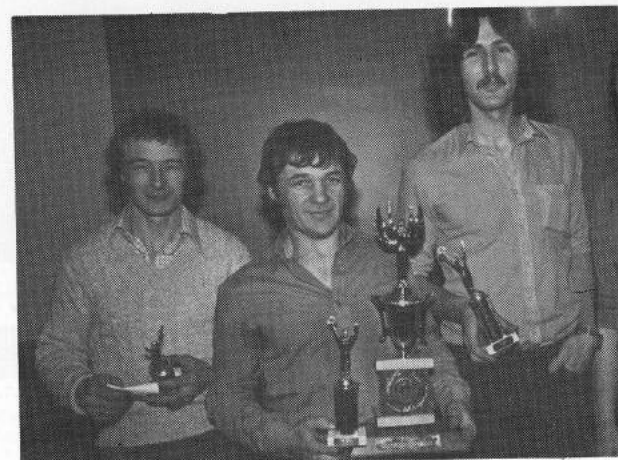
Liner/Piston Ass. — Thick walled brass liner with chromed bore — H.T. Aluminium Alloy cast piston — Hollow gudgeon pin 4mm diam. — held in with circlips.

Cylinder Head — One piece head/heat sink wide squish band — clamped with 4 bolts.

Carb. — Unusual type of carburettor — 8mm bore — Disc type slow run metering but the carb body has drillings which bring the mixture into the carb. bore below the barrel — separate main jet — cotter type clamp.

# n.u.k.

## Stay in the lead with Weston Saft Cells



Neal Francis, Tom Morgan and Bill Maisey. Team AMENDMENT Winners Chesterfield 3 hour Race, present Top Scoring Team with SAFT.

NEAL FRANCIS  
EUROPEAN CHAMPION, BRUGGE 1981

SHIP won on

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s used Saft cells

980 GP Final

ampionships

**STOP PRESS.**  
**Rough Rider Selected**  
**6 Cell Packs**  
**NOW AVAILABLE**



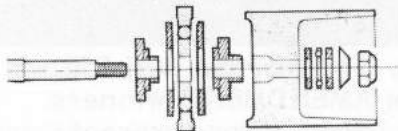
r Sittingbourne, Kent M.E9 9QM (0795) 522020

**ASSOCIATED**



An insider's look at the RC12E. The design is a perfect blend of speed, reliability, and power. The stock is a 4-cell battery. (Photo by Bud, 1/12 Electric Car)

## SPEED SECRETS OF THE TEAM

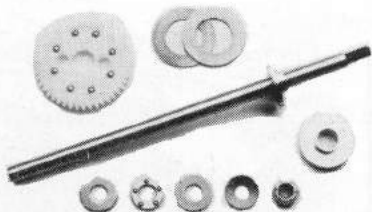


The VariLoc differential is a key to the performance of the RC12E. It is a modified design and a key to the RC12E's performance.

A full winter's testing and a spectacular debut in the Western Regionals. The Team's top-secret differential was a winner right from the start.

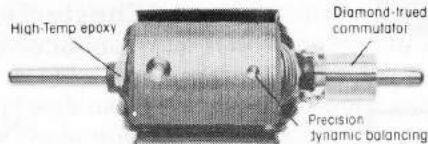
Our VariLoc is the proven racing differential for 1/12 scale electrics. Featuring adjustable limited slip action, light weight and easy maintenance.

Simply installed on any RC12E, the VariLoc puts all of your power to the ground, all of the time. And the increased efficiency of the VariLoc increases your run time significantly.



The power for the Team comes from the Reedy Modified 05, already twice the National champion.

More than just rewinds, the hand-built Reedy's are individually blueprinted to racing tolerances to provide Modified class drivers with coned dynamite. Each Reedy is also dyno-tuned, then bench run to perfectly seat the brushes and eliminate the need for "break-in".



The heart of the dust-free bearing Reedy, the coned dynamite power source.

High performance products like the VariLoc diff and Reedy motors can give your RC12E the competitive edge you need. That's why they are standard equipment on the Team's factory race cars.

RCAR Nationals Expert Class 1/12 Scale Electrics				
		Production	Stock	Modified
1978	4cell	No event	MRP	RC12E
	6cell	No event	RC12E	RC12E
1979	4cell	No event	RC12E	No event
	6cell	RC12E	RC12E	RC12E

**TEAM ASSOCIATED**



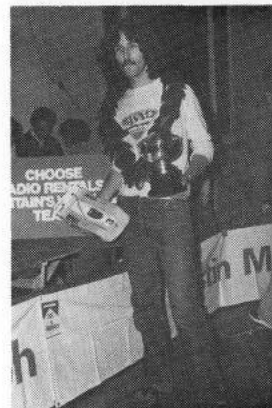
**ASSOCIATED ELECTRICS, INC.**

1928 E. EDINGER, SANTA ANA, CA. 92705 USA

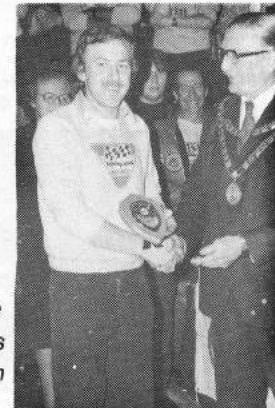


*THE VICTORIOUS TEAM ASSOCIATED 24 Hour Champions*

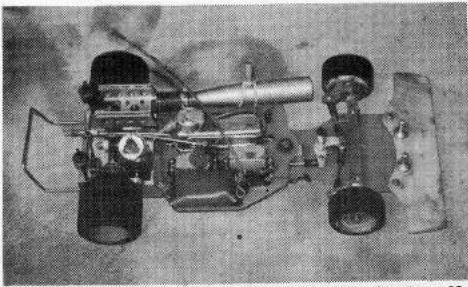
WALT BAILEY, PHIL BOOTH, DEBBIE PRESTON, PAUL PAGDIN, DAVE PRESTON AND BILL BURKINSHAW – DRIVERS, WITH TEAM MANAGER DEREK KIRSOPP AND MARSHALL DAVID HARDY, KNEELING IN AN INCREDIBLE DISPLAY OF DRIVING TALENTS, AND USING A CAR OF OBVIOUS SUPERIOR HANDLING AND RELIABILITY. THESE DRIVERS WON THE FIRST EVER 24 HOUR ELECTRIC CAR RACE IN BIRMINGHAM.



*Congratulations to new British Champion Bill Maisey*



*Les Pipe Standard Class Champion Rotheram*



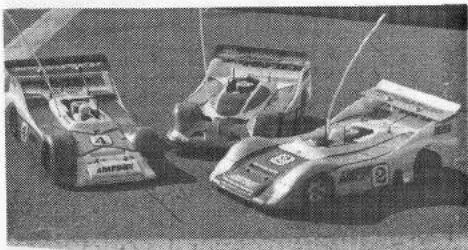
Hank Smith's Delta car with the body off described as 'box standard'.

After four days of controlled practice, the track had now changed dramatically and the racing line could be easily be seen. Deviation from this could find the car in a 'zero grip' area. I was looking forward to the final because the pit refuelling area was definitely in the zero category. On the racing line the track was 'sticky' underfoot with lots of grip. It now became decision time — 'a diff or not a diff, that was the question'. All the Associated drivers with the fastest time discarded them. The Delta drivers kept them, the A.M.P. team pulled their hair out Dave wasn't sure, Gary kept his diff in and Ian looked harassed! This type of track was no doubt where many of the American cars developed and as the grip improved so did their speed. On the other hand the suspension cars had started off very fast and were finding it harder to pull out that extra all the time.

The 'Super Stock' class had their heats slotted in so that they ran between the open class practice and heats, although there were only 28 entries in their class.

Halfway through the heats on Saturday time was taken off for the concours judging of both classes. The judges — Mike Reedy, Frank Pupello (winner of the 1/2 scale concours) and myself were presented with a formidable task, the standard was incredible. At last we managed to select three from each class. It was a pity that only one car in the G.T. class had a driver, the other Corvette and the Porsche cried out for one.

It was much the same with the Cam Am concours great attention to details, DUTZ fasteners, drivers with life support system connections and antennae etc.



The suspension cars of the amps team between heats.

With the heats completed Saturday, the cars checked and rechecked ready for the finals on Sunday and guess what?! The heavens opened, there was no question that the race could be run — the track was half an inch under water. So it remained for the race Director, Ray Hepner and his colleagues to work out the results based on the fastest heat times. What an anti climax!



Art Carbonell working on his Delta Car during the heats placed 3rd open Class

It was as I thought a closely fought event and it was necessary to work on four heats to decide the winner — in those four heats only 6 boards divided Bill Jianas and Hank Smith.

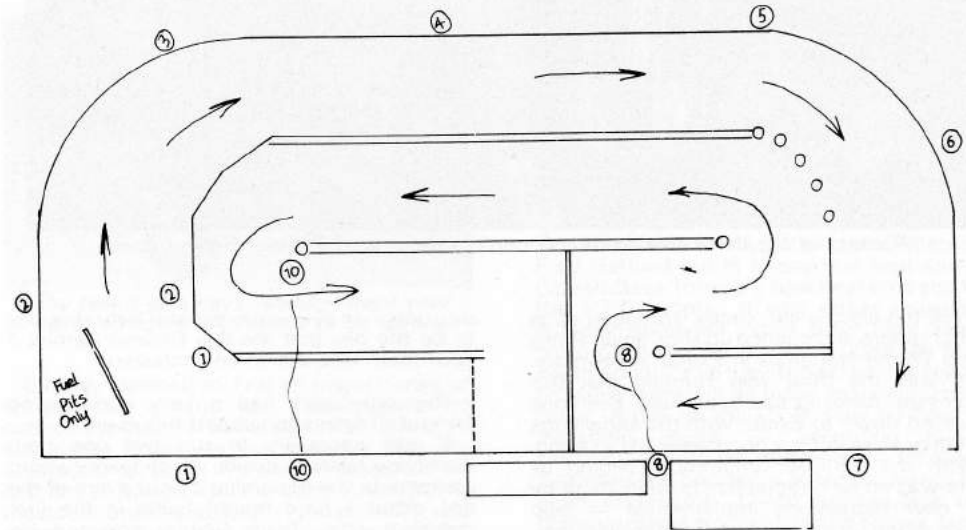
The Hawaiian banquet at Sea World when the trophies were presented was terrific with good food and beautiful dancing girls to add to the general enjoyment — see yo'all next year!



Interesting Scratch built dragster built by Dick Eben of Fort Myres Florida.

### 1/8 "A" MAIN G.T. SUPER STOCK

Posn.	Name	Laps	Car	Motor
1.	GARY KYES T.Q.	18:19	MRP	K+B
2.	GENE HUSTINGS	18:13	ASSOCIATED	K+B
3.	ROGER CURTIS	17:63	ASSOCIATED	K+B
4.	MIKE REEDY	17:37	ASSOCIATED	K+B
5.	CARL KANER	17:32	DELTA	
6.	F. RAPRANA	17:24	DELTA	
7.	RAY HEPNER	17:23	DELTA	OPS
8.	DALE SMITH	17:17		K+B with OPS piston and sleeve
9.	MARK JOHNSON	17:14	MRP	



Drivers Name	Car	Engine	Carb.	Diff.	Radio	Mods.	Front Tyres	Rear Tyres	From
1 BILL JIANAS	Associated	K+B McCoy Rich Leg	OPS Slider	None	Futaba	Magnesium Parts	Associated Compound	2402	Carden Grove California
2 HANK SMITH	Delta	Picco	Delta	Delta	Delta Kraft	'Box' Stock	Delta 318	Delta 9 B+C	Lincoln Nebraska
3 ARTURO CARBONELL	Delta	Picco	Delta	Delta	Delta Kraft		Associated Moulded	Delta B	Lorimor Iowa
4 HICK DAVIS	Associated	Picco	OPS Slider	None	Futaba	Front Shocks	Associated Moulded	2402	Gross Point Woods Michigan
5 CHUCK PHELPS	Associated	K+B McCoy	Ferry	None	Futaba		Associated Compound	2402	Phoenix Arizona
6 FELIX GALAVIS	Delta	Picco	Delta	Delta			Delta	Delta 9B	Venezuela
7 CAHY CULVER	AMPS Rapier	OS Max 21	OS Large Bore	AMPS	Futaba	Graphite Chassis	Associated Moulded D32	Delta 2402	Dorchester England
8 JOE TASILLO	Delta			Delta	Futaba		Delta	Delta 9B	Fort Myers Florida
9 DAVE MARTIN	AMPS Rapier	OS Max 21	OS Large Bore	None	Futaba	Graphite Chassis	Associated Moulded	Delta 2402	Peterborough England
10 HALPH BIRCH JR	Associated	K+B McCoy Rich Lee	OPS	None	Futaba		Associated Moulded	2402	Dixon Texas

# 1981 Winternationals at Exeter

BY LES PIPE



Winners of the three hour team endurance - the elated Greeno/ Gemini team.

Well the electric car 'circus' shrugged of its winter gloom and opened up shop again at this years Winter Nationals at Exeter in February. This was the third year running that this successful meeting has been held. Everyone travelled down to Exeter with the knowledge that they were in for a good weekend's racing.

With the B.R.C.A. conferences behind us there was an air of optimism brough about by the new regulations implemented to help things along (or at least that was the intention), Whether this will be a successful move or not, will, no doubt, be seen as the season progresses. Taken on face value, the new rule of opening motors (or at least the first three finalists) does look as though it may discourage people from trying to "pull a fast one". The fact that an offending driver will undoubtedly suffer the humiliation of being found out, along with being suspended from entering national race meetings for a period of time, will make drivers think before even fitting a motor. The consequences of the 'motor-opening' rule have already given rise to concern amongst top drivers in so much that it is known that factory motors from time to time do have differential of winds on the armature stacks. It has been decided that the tolerable acceptance will be one wind more or less on one pole . . . so now you know!

A very early start on Saturday morning (5.30 am approx.) ensured us of a leisurely drive down the M5 to Exeter. We arrived at 9.30 am to find (as always) the track neatly laid out and the track surface very efficiently mopped. It was quickly established that the grip was going to

be good — to everyones delight! Saturday was to be the day that the Phil Greeno/Gemini 3 hour team race would be contested.

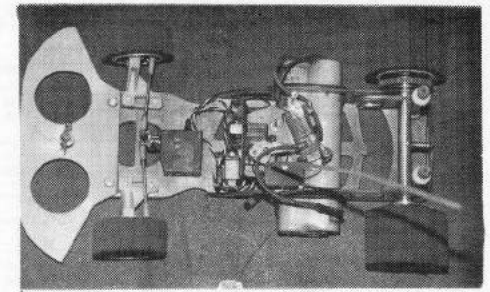
The organisers had a very encouraging turnout of teams to support this event.

It was necessary to run two one hour qualifying heats to decide which teams would compete in the remaining 2 hour event of the day. After a hard fought battle in the first one-hour race, Team Gemini emerged (as expected) on top.

In the second one-hour race, the newly formed Team Amendments (consisting of Neal Francis, Tom Morgan, Bill Maisey and fourth man for this event, Steve Davis) romped away from the rest to win comfortably. A big showdown in the main 2 hour race was a promising prospect. As expected, the two top teams of the day (Gemini and Amendments) got off to a good start, running neck and neck with never more than a few laps between them. Behind these two teams was our own Radio Race Car Team (consisting myself (Les Pipe), Steve Tilley, Russel Giles and Neil Dolby) — We had to work hard to keep pace. Scratching at our heels were Team Remnants from Derby and next was the South Birmingham Model Car Club Team.

Team Gemini started to pull out a lead when disaster struck Team Amendments — Neal Francis broke a throttle servo, stranding his car out on the circuit. That drama was no sooner over when Steve Davis's car coasted to a halt with a broken motor connector. The deficit in laps proved to be too big a margin for Team

Amendments to make up. Whilst the drama was taking place in Amendments camp, the members of the Gemini Team were extending their lead to provide them with a comfortable cushion — should the same problems besiege themselves. Fortunately, they did not need to use this "cushion" and they proved to be the worthy winners. The large trophy donated by Phil Greeno for this event found itself back in the boot from whenst it came. Rumour had it that Phil had purchased it on a "Sale or Return" basis, so he was no doubt well pleased with the efforts of his team (John Chamberlain, Russel Buckner and Bob Errington) for saving his money — (only joking, Phil!).



TOP SECRET Neal's new creation. (note to Nick — being editor has its privileges!)



The result of a days labour — have your motor stripped! All found to be legal.

Sunday dawned to find an eager crowd of enthusiastic electric car racers gathering outside the doors of St George's Hall, Exeter . . . somewhat frozen, as the caretaker was late arriving to let us in. The scene resembled the first day of Harrod's Sale and the initial rush as the doors opened was equally matched! It was rumoured that scrutineering would be drastically tightened up for Sunday's big race. The new weight limit of 1lb 15ozs, being the concern. The newly appointed B.R.C.A. Secretary, Nick Adams, came to the rescue with what appeared to be a reasonably accurate pair of scales, and scrutineering began in earnest. It was established very early on that most people had made a concious effort to relieve their cars of surplus weight — but fortunately no-one had gone overboard . . . is this an indication of better things to come this season? As far as motors were concerned this meeting was dominated, as expected, by a variety of American motors. The death of the Mabouchi motor at National meetings seems imminent. The speculation about motors that persistently raised its ugly head at last season's meetings did not materialize — so an excellent day's racing was definitely on the cards.

Early lap times did not appear too slow despite feelings that the 35 wind motors may not provide the power we had come to expect last season. Thirty laps from the expected blistering first heats line-up (including John

Chamberlain, Phil Greeno, Neal Francis, Dennis Trowbridge, Fred Hatfield, Bill Maisey and Myself) seemed reasonable. By the fourth heat, things had really warmed up. Dave Tongue (quite inconspicuously) drove his car to the start line, waited for the lights and tore off round the circuit. Over the next eight minutes he proceeded to set the whole hall buzzing with a blistering 34 lapper, which took the best part of the day to be equalled — let alone beaten. Finally, during the afternoon, Fred Hatfield put in a very fast heat and just pipped Dave Tongue's best heat time and took the F.T.D. trophy. It was rather unusual to witness someone other than Neal Francis picking up the F.T.D. trophy. Still, all things being equal (or so they should be this season), I'm sure there will be many more surprises to come. Although the F.T.D. time by Fred was incredibly quick — according to my calculations with the stop watch — for most of Saturday and Sunday, a 36 lap would not have been impossible. 12—02 second laps were common place amongst the top drivers, but the 12 second lap that was necessary for that magical score just didn't appear on the watch consistently enough.



Left — Phil Greeno — the victor on Sunday. Right — A very welcome visitor to a 1/12 National - Bob Errington.





Ken McDowell (centre) with his two new Parma team recruits - Ken Johnson & J Varley (right) - he doesn't know what he is letting himself in for!

The Winter Nationals was the first time we have run for eight minutes in accordance with the newly laid down rulings by the B.R.C.A. for National point scoring meetings. It was with much speculation that my own club (the Midland Electric Radio Car Club) for one, viewed the eight minute heat ruling. After trying to run for eight minutes, I think most people agree that it is far more enjoyable — assuming that your car happens to be going well — if not, its absolute agony! The problem most people fear seems to be lasting duration but as knowledge of gear ratios and motor types increase, so does their confidence for setting up their cars to run for any given length of time. At this weekend meeting very few people were seen to be struggling to last — so I suppose lots of "winter testing" has contributed to the results witnessed there.

Phil Greeno must have felt that he had landed on "cloud nine", after romping home first in the open final with his new Gemini S.L., complete with a turbo powered Demon speed control. As always, the car (even in prototype form) looked immaculate. I'm sure this car will appear for sale in the shops very soon. It certainly couldn't have been a better debut for the new car. In fact, this time last year I feel the story ran very much along the same lines. The Exeter meeting certainly seems to have the knack of bringing the best out of Phil Greeno. Hopefully Phil will not keep us waiting too long before he supplies the magazine with a car for review (hint, hint!!). Congratulations must also be extended to Nick Adams. Not only has he taken over the demanding role of 1/12 scale B.R.C.A. Secretary, but he has also found the time to improve the already very reliable and popular Demon speed control. I'm sure if we talk to Nick nicely, he'll give us all the lowdown on how he achieved the significantly improved version we all witnessed being exploited the full by Messrs Greeno and Co. Anyway, enough about developments — we'll save that for another article.

A great weekend's racing was had by all — especially the guys who entered the Saturday night race for the Southern qualifiers. Ian

Davies (the race director) reserved twelve places for the Sundays Ripmax race to be filled by South Western drivers, after qualifying on the Saturday night. This really made a very hectic weekend for the organizers who were on "duty" until very late Saturday night and back on form again first thing on Sunday morning. A lot of hard work had obviously gone on prior to the weekend, — not least of all the phone calls by people enquiring about the chances of a race! It's a certain fact that any organizers of National meetings this season will have a very exhausting task before them! It is a good job that the same organizers (like Ian Davies and Giles Jackson of Exeter) are keen to continue their hardwork and dedication to the sport. Many thanks.

The final, as I mentioned previously, was won by Phil Greeno, who didn't quite have it all his own way. On this occasion, however, Phil did seem to get the "rub of the green" (no pun intended!) while poor old Neal Francis despite many gallant attempts to get on level terms got so close only to find the rear quarters of a back marker despatching him into the hoses. The result of the final (as always) are clearly outlined in the accompanying chart.



George Land picks up Concours. (team bodies painted by Pete Donohue)

Well, a great weekend! Hopefully there will be a fourth Winter Nationals Meeting at Exeter next year. Some of us will have to start saving up for the occasion — owing to the fact that the venue was situated in the centre of Exeters shopping centre. Need I say more — only that Trish Chamberlain was heard to say "There will never be room for all this shopping in the car!" Many of us had the same problem, John!



The new team amendments who just clinched the team prize on Sunday.

## CHART FOR EXETER WINTERNATIONALS

Drivers Name	H/ Cap	Yrs. Exp.	Kit or Scratch	Chassis Material	Nicads	Diff. Type	Motor	Front Tyres	Rear Tyres	Speed Control	Body Shell	Radio Gear	Gear Ratio
1 PHIL GREENO	50%	3	Gemini S/L	Carbon Fibre	Sanyo	Greeno Schmaker Carbon ax.	MRP 550	Greeno Med Rubber	Greeno Soft Neop.	Demon Mk. II Turbo	MRP Butch Hogan	McGregor JR. FM.	12-48
2 NEAL FRANCIS	50%	2	Scratch	2mm Lexan	Soft 120°	Associated Modified	MRP 550	Armaflex	Armaflex	Parma 1% ohm	MRP Frizzby	Futaba T/Stick	12-46
3 DAVE TONGUE	45%	2	Lightning 2000	Fibre Glass	Sanyo	Carbon ax. Scratch Schmaker	Jerobee	Med Rubber	Armaflex	Demon Mk. II Turbo	MRP Schae	Sanwa	12-48
4 JOHN CHAMBERLIN	50%	3	Gemini S/L	Carbon Fibre	Sanyo	Green Schum'r Carbon ax.	MRP 550	Med Rubber Greeno	Greeno Soft Neop	Demon Mk. II Turbo	MRP Butch Hogan	McGregor JR. FM.	12-48
5 FRED HATFIELD	50%	2	Scratch	Lexan	Soft 120°	Associated Diff	MRP 550	Armaflex	Armaflex	Parma 1% ohm	Lola	Futaba T/Stick	11-46
6 BILL MAISEY	50%	3	Scratch	Lexan	Soft 120°	Associated Modified	Associated 05	Armaflex	Armaflex	Parma 1% ohm	MRP Frizzby	Futaba T/Stick	12-46
7 LES PIPE	50%	3	Associated Lightweight	Carbon Fibre	Soft 120°	Associated Diff	Parma Renault	Radio Med Rubber	Armaflex	Associated 1% ohm	MRP Prophet	Omega UHF	12-46
8 PHIL STONES	45%	2	Associated Lightweight	Fibre Glass	Soft 120°	Associated Diff	Associated 05	Mardave Med Rubber	Armaflex	Associated 1% ohm	MRP BMW TOJ	Futaba T/Stick	12-44
9 STEVEN DAVIES	40%	1	Scratch	Lexan	Soft 120°	Associated Diff	MRP 550	Armaflex	Armaflex	Parma 1% ohm	MRP Frizzby	Futaba T/Stick	12-46
10 JOHN GLEN	40%		Scratch	Carbon Fibre	Sanyo	Greeno Carbon ax. Associated	Jerobee	Greeno Med Rubber	Armaflex	Demon Mk. II Turbo	Schae	Futaba T/Stick	12-48

## RESULTS OF EXETER 1981 - RIPMAX TROPHY

### Main A Final

Posn.	Name	Laps + Secs.
1.	P. GREENO	34 - 7
2.	N. FRANCIS	34 - 11
3.	D. TONGUE	32 - 3
4.	J. CHAMBERLAIN	32 - 6
5.	F. HATFIELD	32 - 5
6.	B. MAISEY	31 - 5
7.	L. PIPE	30 - 5
8.	P. STONE	29 - 2
9.	S. DAVIS	27 - 14
10.	J. GLEN	26 - 10

### B Final

Posn.	Name	Laps + Secs.
1.	R. BUCKNER	33 - 13
2.	B. ERRINGTON	32 - 2
3.	G. DAVIS	32 - 11
4.	J. BAKER	31 - 1
5.	G. LAND	31 - 5
6.	A. BEAL	30 - 3
7.	W. DAVIS	32 - 11
8.	M. PAYNE	29 - 24
9.	T. MORGAN	28 - 7
10.	J. VARLEY	18 -

### 0 - 15% Handicap

Posn.	Name	Laps + Secs.
1.	C. DARKES	31 - 16
2.	H. STOCKFORD	30 - 9
3.	P. VAN DER HEYDEN	30 - 14
4.	D. TOWELL	29 - 2
5.	S. STOCKFORD	29 - 4
6.	D. BARKER	28 - 11
7.	I. NASH	28 - 15
8.	N. HATFIELD	27 - 5
9.	P. TEMPLAR	27 - 19
10.	R. POLLARD	23 -

### 20 plus % Handicap

Posn.	Name	Laps + Secs.
1.	S. TILLEY	32 - 13
2.	M. BAKER	31 - 15
3.	D. HAMBLEY	29 - 6
4.	A. KING	29 - 9
5.	G. CRISP	29 - 10
6.	K. JOHNSON	29 - 14
7.	J. ROBSON	29 - 16
8.	G. CATTERICK	28 - 17
9.	T. GREY	26 - 8
10.	D. TAYLOR	25 - 13

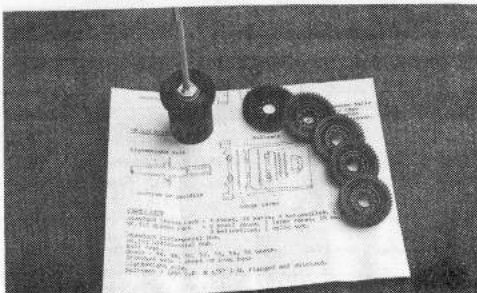
### Team Results For Sunday

Posn.	Name	Laps + Secs
1.	TEAM AMENDMENTS	100 - 22
2.	GREENO/GEMINI	100 - 24
3.	TEAM REMNANTS	97 - 23
4.	PETRAH	96 - 12
5.	RADIO RACE CAR	95 - 20
6.	ALLY PALLY DEMONS	95 - 29

### Greeno Trophy For 3 Hour Team Endurance Race

Posn.	Name
1.	GREENO/GEMINI
2.	TEAM AMENDMENTS
3.	TEAM REMNANTS
4.	RADIO RACE CAR
5.	SOUTH BIRMINGHAM CAR CLUB

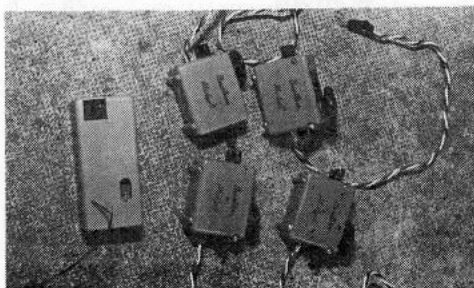
# Market Place



**New Schumacher diff.**

SCHUMACHER DIFF. (COMPLETELY NEW MODEL).

The latest offering from Cecil Schumacher is his new lightweight diff. The diff has been substantially revamped to bring it up to the specifications now required by serious racers. The new lightweight glass fibre axle has alloy strengthened sections to minimise damage around the bearing contact points. The ball races and ball cages in the gear have also had the treatment. The bearings now are held captive, so no more grovelling on the deck looking for ball bearings after a clumsy spill. This diff must be the freest limited slip diff. on sale. I couldn't believe that it would actually drive after setting it up . . . but it did! Cecil seems to have certainly achieved an even higher standard than normal. The diff now fits more kits than ever. See the Schumacher advertisement for availability.



**Novak bantam midget Servos & Receiver**  
NOVAK ELECTRONICS.

These little 'orange wonder devices' will, I'm sure, soon find their way into many cars this season. The servos are comparable in size to the mini Futaba.

For size I think the Futaba mini just wins, but for transit time, boy oh boy, do these things

move most impressively. The current they can stand is slightly higher too. The receiver again is orange and is a very small oblong shape. It weighs in at only 1oz and so for the weight conscious, there is no need to remove the case.

It is already rigged to accept Futaba servos and it will run of the nicad pack with only one diode in circuit.

### Bantam servo Specifications

Torque 21 inch ounces  
Transit time; 0.27 sec/90 degrees.  
Size: \*1.125" x 0.7" x 1.43"  
Weight: 24 grams. or 0.846 ozs.  
Output: Rotary wheel, long arm, adjustable arm.  
Compatibility: all modern 3 wire systems.

### Novak IC receiver Specifications.

Size: 2.45" x 1.08" x 0.7".  
Volume: 1.852 cubic inches.  
Weight: 1.0 to 1.2oz. (Depending on number of channels).  
Power consumption: 4.5MA at 4.8 volts.  
Sensitivity: 1.0 to 2.0 microvolts.  
Compatibility: All modern AM transmitters.



**AJ'S twinn K tyres lettering on sides has been screened.**

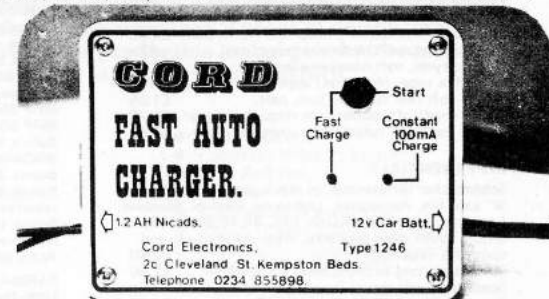
### TWIN K TYRES.

Anyone contemplating out door racing, must give Twin K tyres careful consideration as they offer an excellent range of tyres for all conditions. As you can see from the photograph, the screened side walls also add that final touch, especially if you are contemplating a Concours competition.

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The Cord Auto Charger automatically fast charges 1.2Ah Ni-Cads to the optimum point just before the battery reaches an overcharge situation. The unit is precision aligned and is sensitive to within 10mV. As soon as full charge is achieved the Auto Charger changes to 100mA trickle charge.  
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Raydio tyres, med/soft rubber rear, pair.	£1.43
Raydio tyres, med/soft neoprene front, pair.	£1.42
Raydio tyres, med/soft neoprene rear, pair.	97p
Raydio tyres, soft neoprene front, pair.	£1.57
Raydio tyres, soft neoprene rear, pair.	70p
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F/R/C soft rear tyres no join, pair.	£1.29
AMPS med/soft rubber tyre rings, front pair.	£1.81
AMPS med/soft rubber tyre rings, rear pair.	£1.81

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Schbmacher differential, in black glass filled nylon, 1/4" axle fits, Associated, Lightning, Gemini, Mardave, Lactricar, Spectron, Bolink, etc., 46,48,50,52,53,54,55, tooth gears available, state make of car and tooth no. required.	£6.90
Spare axle long or short boss, state which.	£1.60
Spare diff' wheel.	80p
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Spare kit (washers,balls,nuts,etc.)	£1.80
Rear wheel (black) for other side,with grub screws	80p
Front wheel (black) for Mardave.	45p
Front wheel (black) for Associated	45p
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AMPS micro bevel gear differential for Associated cars.	£11.44

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Epoxy glass for chassis etc., 1/16"x3"x14".	£2.30
Epoxy glass for chassis etc., 2mmx7"x14".	£4.22
Propylex 1/8" x1sq.ft. approx., for bumpers and shaker plates.	£1.20
Cable ties, for Ni-cads etc. 10 1/2" long pkt.10	50p
Cable ties, small, pkt.20.	35p
Servo tape (thin) 1"x6" pkt 10.	80p
Rx battery eliminator with instructions.	£1.65
Extra flex wire, red, black, green.	10p a ft.
Micro switch (miniature) with lever and mtg screws.	£1.70
Micro Mold servo saver.	87p
AYK servo saver, adjustable tension.	£1.50
Kavan ball link w/nut and bolt, very strong.	41p
Threaded push rod pkt 4.	36p
BBA steel studing, for track rods etc., 1ft long.	£1.29
Du-Bro allen head screw balldriver 4-40 and 6-32	£2.76
fits Associated motor/wheel screws.	80p
Aerial pillar with mount.	80p

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## ELECTRIC MOTORS

Mabuchi RS54 BRCA legal.	£3.95
Mabuchi RS54 trued and balanced.	£7.50
Mabuchi RS54 Red spot.	£5.50
Mabuchi RS54 Tamiya black end bell.	£6.50
Mabuchi RS54SD Tamiya black motor, red endbell, one ballrace.	£10.99
Sagami CAM, ballraced with cooling fan TO CLEAR.	£9.99
AYK GZ1200 ballraced with cooling fan	£17.50
Jerobee/Jo-Mac 520 .05 motor, BRCA legal.	£4.86
MRP 550 .05 motor, BRCA legal.	£6.50
MRP 551 .05 motor, modified.	£9.50
Bolink BL4000 The Stinger .05 motor, BRCA legal.	£6.60
Bolink BL4001 The Bee .05 motor, blueptd.	£10.50
Bolink BL4011 Team Checkpoint .05 motor, reworked.	£8.97
Bolink BL4012 Team Checkpoint .05 motor, reworked.	£11.97
Astro special racing motor, modified.	£6.44

## PARMA

3005 Renault motor, BRCA legal, 35T of 23G	£6.60
3010 Porsche motor, modified, 32T of 22GA.	£9.00
3015 Lotus motor, modified, 29T of 23GA.	£15.00
3016 Lotus motor, modified, 32T of 23GA.	£15.00
3040 Ferrari motor, modified, 29T of 22 1/2 GA.	£30.00
Ballraced.	£30.00
3042 Ferrari motor, modified, 29T of 25/26GA.	£30.00
Ballraced.	£30.00
3044 Ferrari motor, modified, 30T of 24/26GA.	£30.00
Ballraced.	£30.00
3046 Ferrari motor, modified, 6 minute special	£30.00
Ballraced.	£30.00
3560 Stock can and endbell set.	£3.60

## ASSOCIATED

3500 .05 motor, BRCA legal, lacquerad and balanced, with connector.	£6.90
3501 .05 motor, BRCA legal, as above, but selected, broken in and tested in Reedy's motor lab.	£8.40
3505 Motor connector, pair.	51p
3510 Rewound .05 motor (33T of 22G), lacquerad and balanced, with connector.	£9.00
3511 REEDY-ASSOCIATED Modified .05 motor, rewound, epoxied, balanced, commutator trued, broken in, and tested. Double ball bearings. Connector installed.	£28.20
3512 REEDY-ASSOCIATED Modified .05 motor, as above, but designed for indoor tracks.	£28.20
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500 mA HP7 size ni-cads. each.	90p
1.2Ah SAFT ni-cads, each.	£1.50
SAFT 6 cell 7.2v ni-cad pack, (state shape).	£11.50
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SANYO 6 cell 7.2v ni-cad pack, (state shape)	£16.95
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NEW PARMA Glass filled nylon chassis screws for Associated etc., 15 for	£2.70
Back in stock, Jo-mac Schkee, Bolink Porsche 917K clear bodies, each.	£5.50
1/12 Car catalogue 30p plus large S.A.E.	
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Spare gears, 46,48,50,52,53,54,55 tooth, each	£1.06
Epoxy glass for chassis etc., 2mm x7"x14".	£4.22

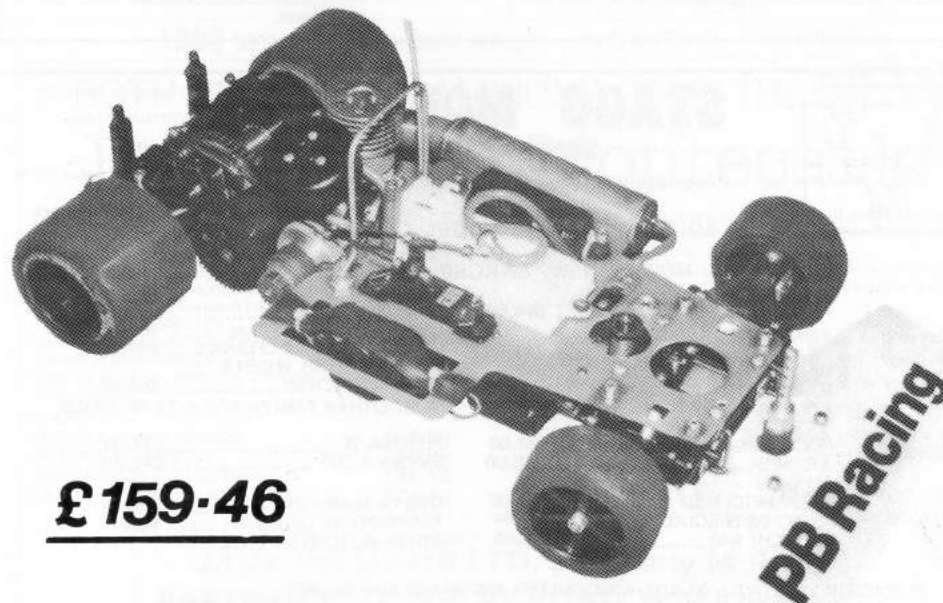
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(S.A.E. for lists of charges and holders)

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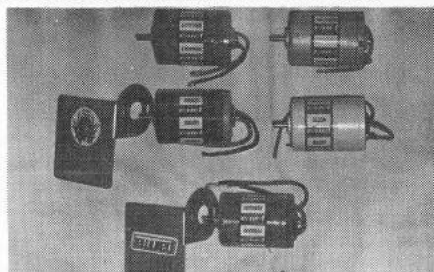
## KIMBRO PRODUCTS.

Not a name that springs to mind easily, but I've a feeling that their servo saver will soon be a popular topic of conversation. A very neat little component that works well too. They come in a range of fittings for Futaba mini and large. The saver is moulded in black or white nylon and looks to be very tough, but not too hard to risk the servo gears.

## PARMA MOTORS.

Ken MacDowell of Parma kindly sent us the full range of 1/12 motors that are available from Parma.

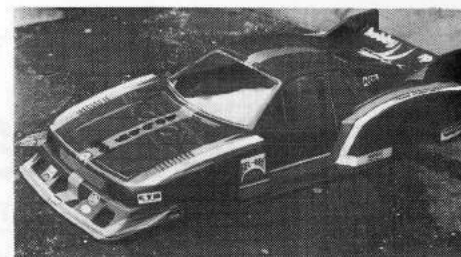
First the 'Renault', this stock igarishi motor (35 turns of 23 gauge wire) needs no introduction. Already a very popular motor with considerable race success under its 'can', is being seen in increasing numbers. This motor is B.R.C.A. Legal standard class.



New range of Parma Motors & heat sinks.

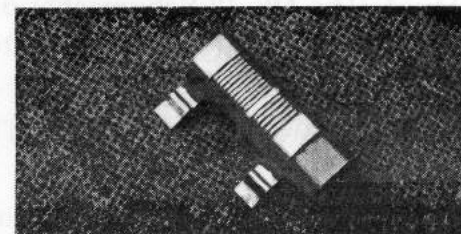
Next in line is the 'Porsche' motor. This is rewound .32 turn of 22 gauge wire, balanced and varnished. Retailed around £9.00.

The Lotus has a special wind, comm. trued, balanced, shunted brushes and has silicone lead wires. This motor offers either 29 or 32 turns of 23 gauge wire and has rezapped magnets - retails around £15.00.



New Parma Lancia Saloon

The 'Vette' motor is one that I had not seen before and has adjustable timing as well as rezapped magnets, trued comm., balanced. This motor should give the user a wide range of uses in modified racing at around £21.00.



New parma short-travel resistor.



The new parma Honcho Jeep body on Tamiya Rough Rider

The 'Ferrari' is the top of the pile and the best that Parma offers with its double ball bearings, adjustable timing, balanced trued comm., rezapped magnets, easily recognised by its bright red can - is available in many different winds. With the increase of modified racing, I think that we will see many more of these competing against the better known Reedy. It is also possible to obtain spare armatures with various windings etc., so as to adjust the motor to track conditions and race duration. The Ferrari costs in the region of 30.

A new body from Parma is the 1/10 'Honcho Jeep' designed to fit the Tamiya Rough Rider chassis, made in lexan and moulded to the usual high standard. Picture to follow in next issue with special paint job.

# Schumacher

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MATCHING FIXED WHEEL	80p
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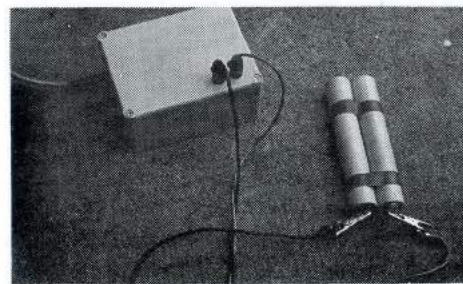
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'RUDGE'  
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The ill fated Parmatiger car is not to be, at least as yet but the front and rear wheels for this car have made their way into the model shops via Ted Longshaw and A.M.P.S., the U.K. Parma distributors. These wheels are nicely moulded in yellow plastic and are light. Only the fronts are available as yet and fit Associated front ends. Ken MacDowell tells me the rears and adaptors will be available soon. The front wheels cost 1.50 a pair. It certainly would seem that Parma are becoming much more active in sales in the U.K. Keep the goodies coming Ken.



Beta battery cycler 'Babysitter'

### THE BETA BABYSITTER

Prior to charging any new pack of nicads, some sort of cycling should take place if the cells are to achieve a long successful life. There are many ways to do this. The simplest method is to charge the cells with a 100 mille amp charger, and then run them down with a 12 volt bulb. This process must be completed over quite a few days and requires constant supervision. By far the simplest method I have found is a little device from the Beta people. They call it the 'Babysitter', and in effect that's exactly what it is! It utilizes the process outlined above, but does it all automatically, trickle charging, then discharging repeatedly until you switch it off. Your cells should then be ready to accept a quick charge.



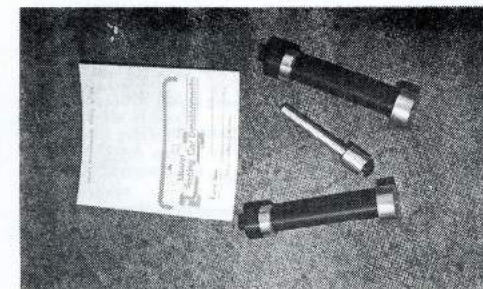
Beta Motor Conditioning Unit.

### THE BETA MOTOR CONDITIONING UNIT.

The third unit in, what has been for me, a very interesting trio is the Motor Conditioning Unit. This unit really takes the hard work out of constantly supervising a motor which you are trying to run in properly. The ideal way to run a motor in is on a low voltage (i.e. 2 volts or thereabouts) running the motor for a couple of minutes then switching it off to cool for a few minutes and then constantly repeating the process. To do the job thoroughly takes days, especially if like me you can always find something more interesting to do.

Well, again Beta come to the rescue. This unit has been designed (as with all the others in the range) with labour saving in mind. The Motor Conditioner just requires you to clip it to your motor, connect it to a 12 volt car battery and, hey presto! The motor starts instantly, runs for approximately 2 minutes then switches off for two minutes. Then, as if by magic, it comes on again. The only help it requires from you is to put a spot of oil on the motor spindle to help lubricate the brushes. This unit, as all the others, is highly recommended.

For all Beta's prices . . . consult their advert.



Model Racing Car Developments adjustable rear body posts.

### MODEL RACING CAR DEVELOPMENTS.

If you have ever been stuck for body posts of the right size on your 1/8 scale 'whizz box', perhaps Model Racing Car Developments can help. The very neat colourful set of adjustable height (back only) body mounting posts could solve your problem.

Their main construction is nylon with alloy collar reinforcements and base.

To adjust them only requires an allen key. The nylon on the sample set I had, had been coloured green, but I am reliably informed that there is a wide range of colours available. (Perhaps you might like to match some to your newly painted shell).

P.O.A. to Model Racing Car Developments, Hornsea, North Humberside.

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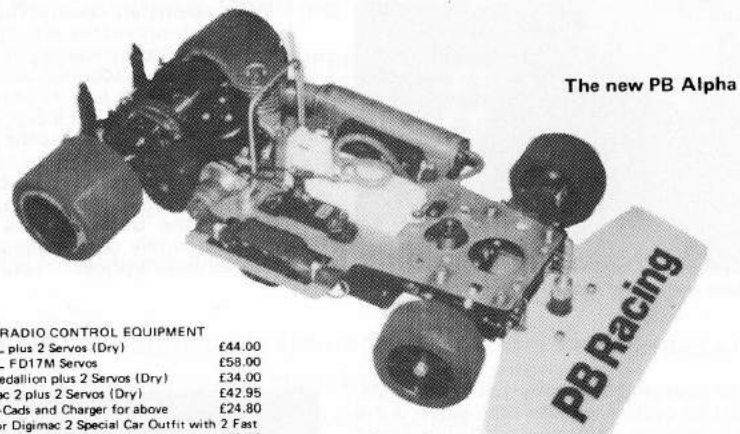
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S.H.C. Ni-Cads and Charger for above	£24.80
MacGregor Digimac 2 Special Car Outfit with 2 Fast Servos, Ni-Cads and Charger	£99.50
MacGregor JR Series FM-2, all Ni-Cad with 2-High Torque Servos	£115.00
MacGregor JR Jeep AM 2 and 2 Servos	£45.00

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NEW P.B. Alpha 1.5 (P.B.12)	£159.40
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PB Differential	£36.21
AMPS Mini-Diff. for PB Serpent Etc.	£35.59
AMPS Monaco Diff. for PB Int.	£57.50
AMPS Mini-Pipe (OPS or K and B)	£13.90
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In the first issue I wrote about the change in basic design thinking which is taking place in 1/8th scale I.C. racing. Independent 1/8th scale cars from leading Manufacturers will be available in 1981, and by the end of the season we will all know the effect on lap times, race records etc., that this new technology has brought us. An improvement in performance is certain but by how much, and at what cost?

By comparison 1/12th scale electric car racing has also advanced in the last 3 years. Both in interest and technical design. Serious 1/12th electric club racing started in 1977 mainly in the Leicester Area (prompted by Lectricar and Mardave) and in London at "ALLY PALLY". As a founder member of Ally Pally electric car club I can remember those early days at the Pally with amusement. The cars we drove didn't handle at all (mainly MK.1 Lectricars and scratch builds) with no differentials, no silicone tyres and very crude speed controllers, its a wonder we all kept going. At the time I was racing 1/8th I.C. cars with some success and electric racing was fun but not to be taken seriously. However, things improved and with the American Bolink cars and Mardaves new 1/12 electric car becoming available the standard of racing improved, still with no differentials or silicone tyres remember. During 1978 the pioneer work was being carried out on differentials fitted to 1/8th scale I.C. cars. The improvement and ease of handling which differentials brought was amazing and it wasn't long before scratch built diffs were fitted to 1/12th electric cars. Early development of electronic speed controllers (Nick Adams Demon and I.D. Smoothtronic) together with silicone coated soft neoprene tyres transformed 1/12th electric cars in terms of handling and ease of driving, outright speed and duration wasn't so important as most races were only for 3 or 4 minutes and getting a car to handle well was still the most important thing. In fact few drivers paid much attention to the method of charging nicads or selecting motors.

During 1979 the first series of National 1/12 Electric Racing started with the outcome of National Events, standards of driving and car preparation rose steadily. National Competition also produced 'Ace Drivers' and new ideas. Neal Francis was the man to beat. His own scratch built cars were well engineered and very fast. All of a sudden drivers were talking about "selecting nicads" and "running in electric motors". Outright speed now became important.

The average club driver who wanted to compete nationally also now had a good selection of competition kit cars to choose from. You needed a 'GEMINI' or an 'ASSOCIATED' to be in with a chance at

National level. Scratch builders could now buy "the Schumacher Differential" which also fitted many kit cars. Standards in fact leapt forward from 1979 to 1980. An example of which was the qualifying times recorded at the Exeter Open Meeting in 1979 and 1980. An improvement from 16 laps to 23 laps in a five minute heat on the same track shows a 50% improvement in only 12 months racing. In fact during 1980 racing became very competitive indeed, speeds rose steadily and so did the arguments and disagreements over legality of motors. The fast guys were now too fast and motors so everyone said were to blame. A few feeble attempts by some organising clubs to scrutinise motors properly were seen in 1980, but generally scrutineering was poor. In most cases if your motor looked standard or unopened it was passed. One club in the south of England tried using some elaborate equipment to check motor windings but this only caused more arguments and threats to disqualify some finalists, the threat was not carried out. On reflection during 1980 you could have got away with anything as long as it appeared standard, to my knowledge not one motor was stripped and checked by a race organiser.

Well its now 1981 and with the 1980 BRCA 1/12th Annual Conference behind us things have changed. The majority voted for tighter scrutineering especially with motors. At all open meetings the first three finalists will now have their motors opened and dewound. The maximum permitted retail price (7.50) will be refunded to the competitor. Two other rule changes for 1981 include:

1. Minimum heat time 8 mins.
2. Minimum all up weight 11lb 15 oz.

The new rules (brought into line with American ROAR Rules) will obviously cause new problems. Organisers will have to be very efficient in running their race programme in order to get 3 heats in with over 100 Competitors and 8 minute races, I can see more than one competitor not finishing his heat. The new low weight rule together with the need for good duration might result in very light fragile cars or light cars built from exotic expensive materials.

High Traction indoor circuits with lots of tight curves will mean plenty of braking and acceleration to be competitive and good nicads will certainly be absolutely essential. In America nearly all competitors at National Level use Sanyo Nicads, gearing their cars to run exactly for 8 minutes 20 secs or so. Very few British drivers use 'Sanyo' Cells because they haven't been readily available but with 8 minute heats the norm we might see a change if they prove to be superior.

Certainly 1981 presents new challenges for both car designer and driver.

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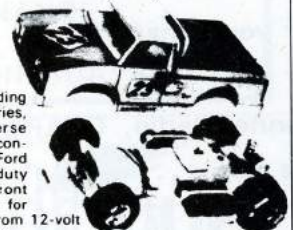
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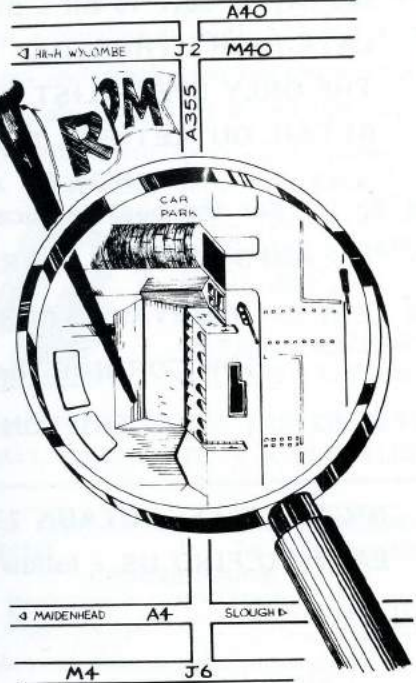
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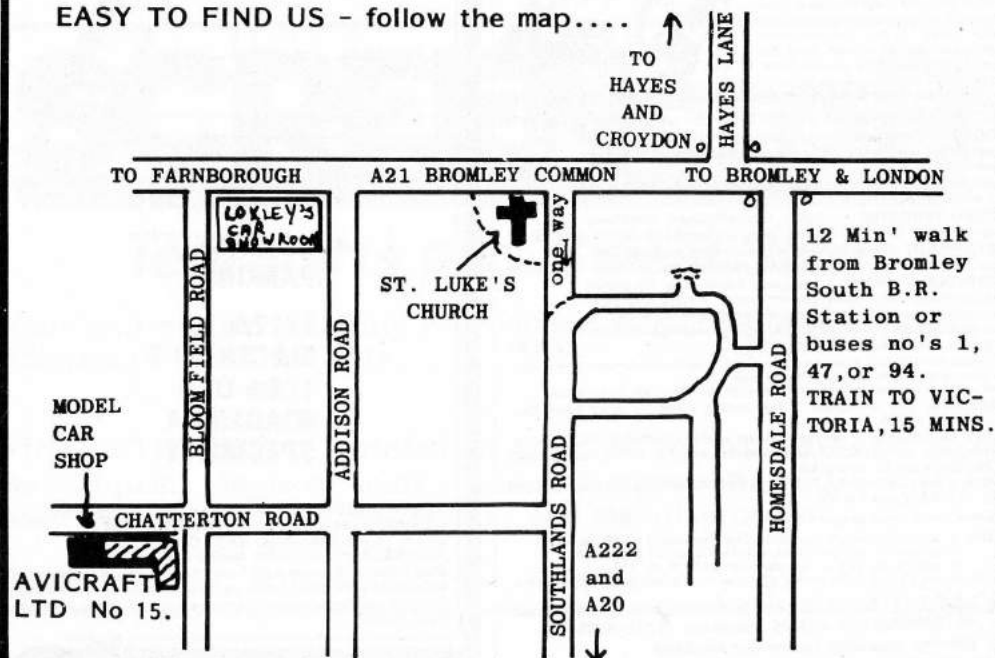
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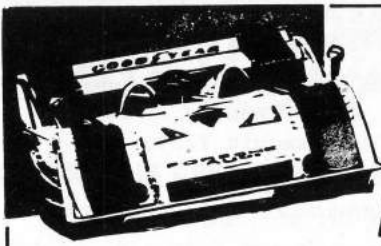
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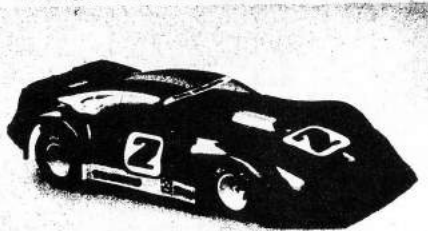


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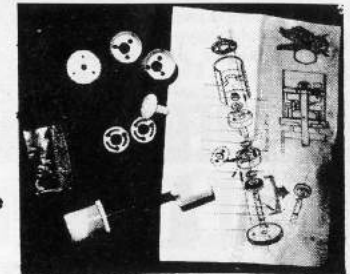
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# RIPMAX FUTABA

## L SERIES

# DRYCELL or NICAD COMBOS

## 2, 3, 4 or 5 channel

NEW THROUGHOUT with new-style Tx styling and new VOLTAGE STABILISED CIRCUITRY to work off Drycells OR rechargeable Nicads.

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- ✓ **COMBOS OR COMPLETE OUTFITS.** Combo prices are quoted separately for a very good reason. All 'L' Series Combos work with ANY 'M' series SERVOS - AND you need only buy the number of Servos you actually need. So your model shop can make up COMPLETE OUTFITS that exactly fit your requirements.
- ✓ **NICAD CONVERSION** is dead easy. Complete conversion pack includes Tx and Rx Nicad Batteries and prewired Tx battery charging socket. **£24.00.**

### DRYCELL COMBO PRICES

2-ch £22.00    4-ch £44.50  
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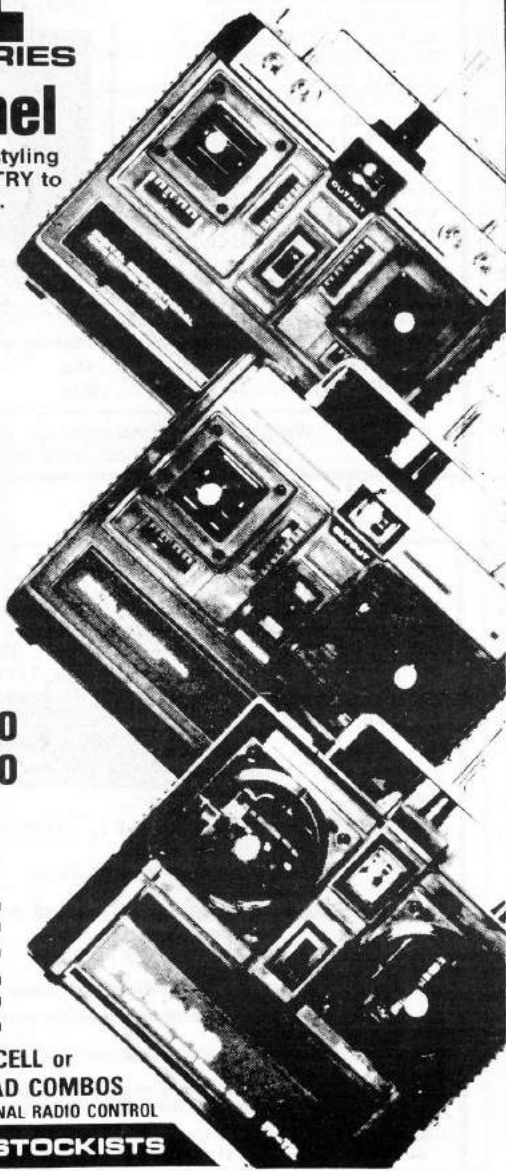
*DRYCELL COMBO prices include Transmitter, Receiver, wiring harness with switch, 1 pr crystals, frequency pennant. Batteries and Servos are extra.*

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## SERIES AT ALL RIPMAX STOCKISTS



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# Ahead of the Pack



*Built for Contact*

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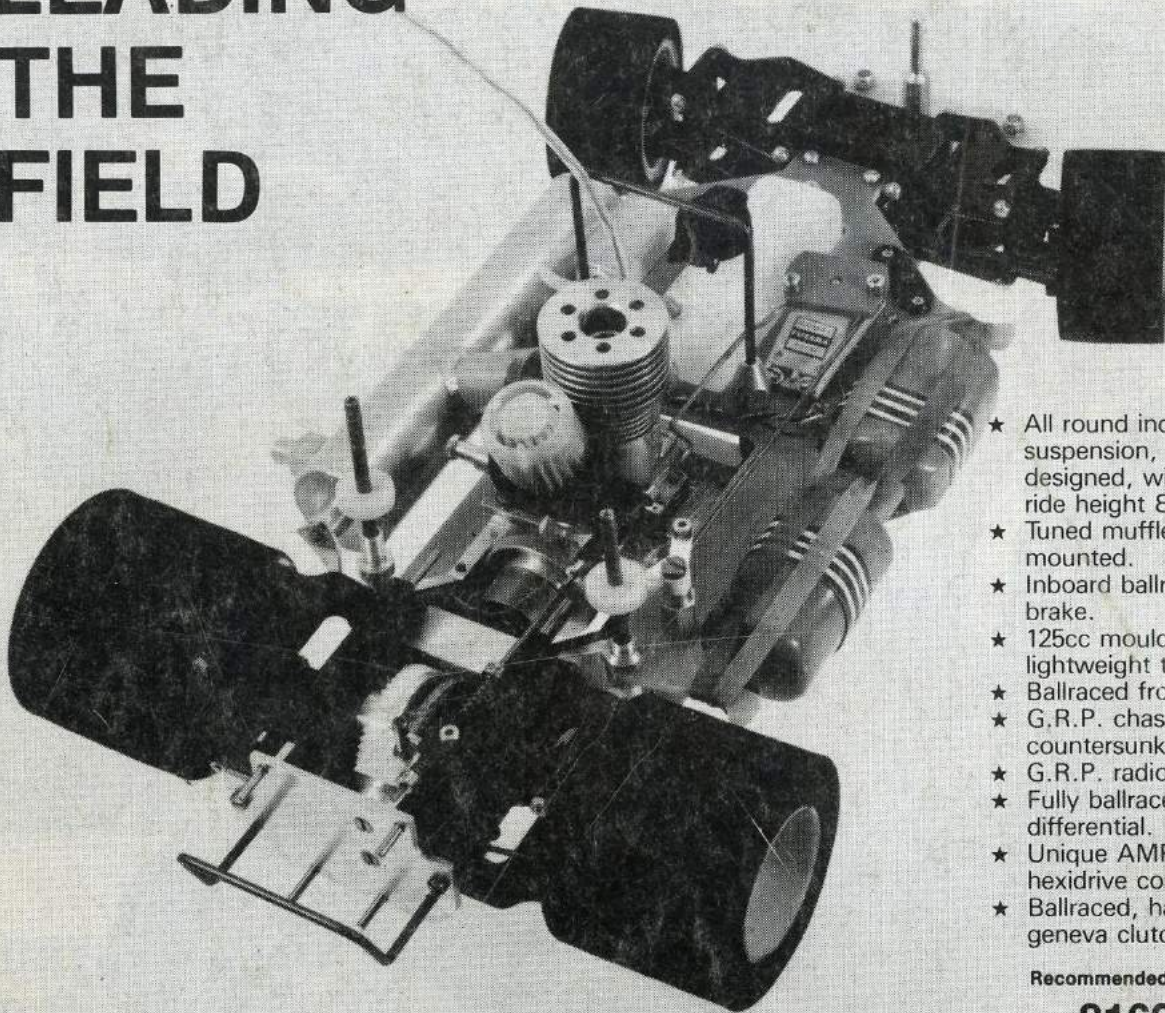
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