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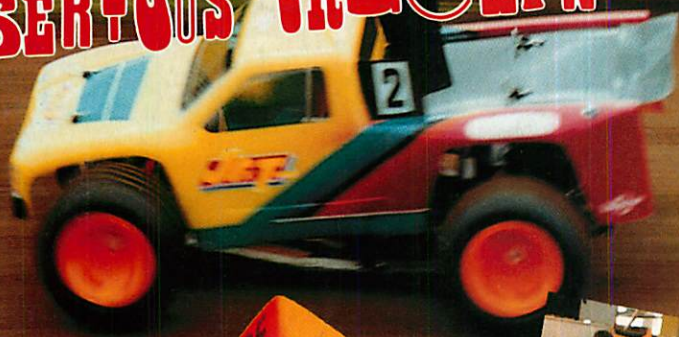
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JULY - AUG. 1990
AUSTRALIA \$3.20

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DIRT & TRACK

SERIOUS TRUCKIN'



JR-X2



03 Off Road
Champs



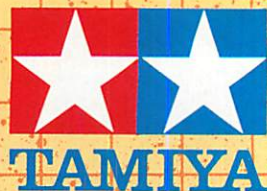
We Eyeball
the

JR-X2

KYOSHO's RS-200
Thruster Hovercraft

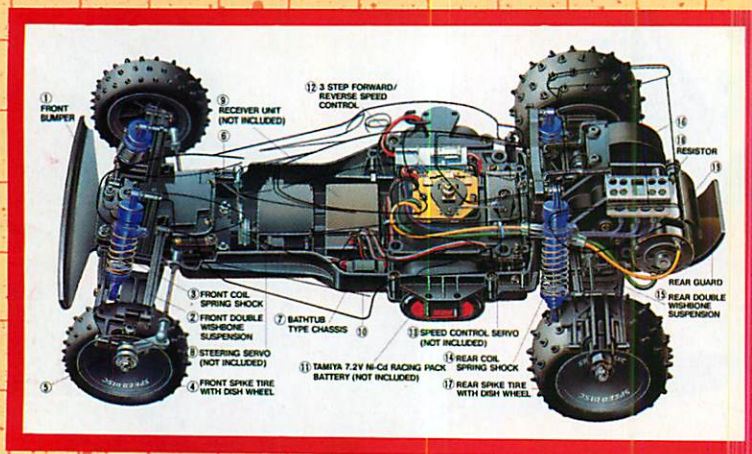
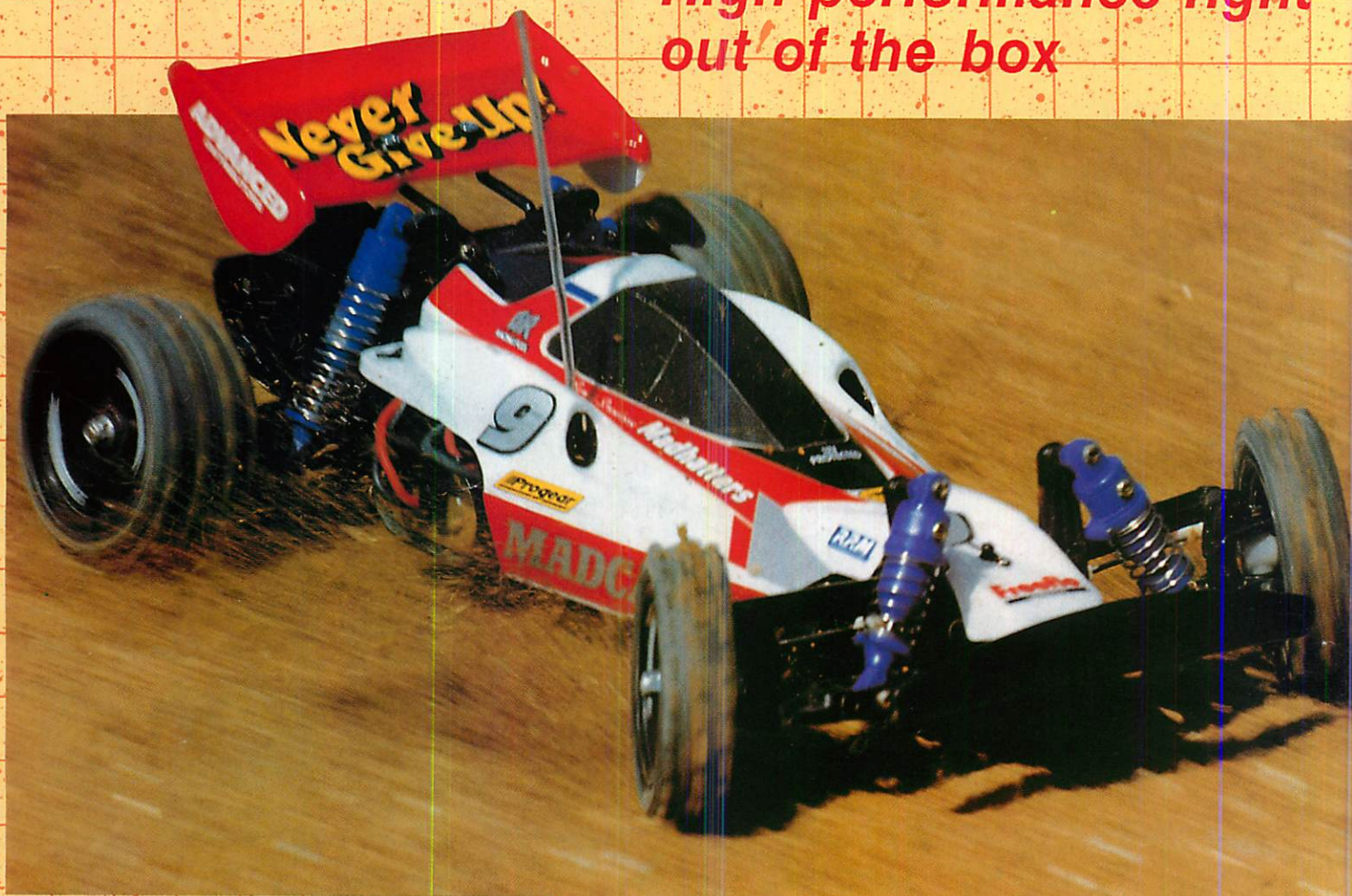
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DIRT & TRACK

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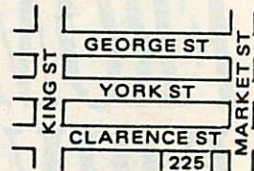
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FROM THE DRIVERS SEAT . . .



GRAB A BEGINNER DAY

No one would argue that new blood is essential for the survival of any sport. There is always someone dropping out so there must be at least one other to take their place or else back-pedal into oblivion. Radio controlled cars are no exception. It's easy to say that this is not my problem. We appoint volunteers to administer the sport so let them take care of newcomers. Not on dudes! Every individual is responsible for promoting the sport and encouraging the new guys. Unless you like racing alone, it's up to me and you. Try this. Next club day take a look around. Chances are that there will be a new fellow somewhere. He or she will probably be doing lots of things wrong but that's none of your business and anyway, you are flat out trying to keep your own machine going. Nice excuse — but it doesn't wear. Have you forgotten what it was like just starting out? Remember the days when enthusiasm and ignorance were both at an all time high? You were thirsty for knowledge but didn't want to bother the experts who always looked too busy. Unfortunately the "name" drivers are often the worst culprits. In particular, the sponsored drivers are the ones that have a responsibility to impart their expertise, but are usually found in select little cliques discussing ways of demoralising the opposition. Maybe I exaggerate but you know what I'm talking about. Do something selfless. Ask the new kid if he needs any help. Diplomatically point out what he/she is doing wrong and offer a better way. Most new racers

have the same problems which are instantly obvious to the regulars and usually easily fixed. Suspension too hard and too high; wrong tyres (give him your partly worn copycats and make his day); too short a battery charge; dirty motor; loose pins in Tamiya plugs; dirty mechanical speedos. Many readers have been there and done that so offer your wisdom. Better still, take them under your wing (chassis?). There are advantages that are not entirely selfless. You may find a new friend — maybe a lifelong companion. You may learn something yourself. Sponsored rivers can improve their corporate image and boost sales. You will have someone new to one day race against and perhaps have the satisfaction of helping a potential champion — even if he eventually beats you. So grab a beginner and do your bit for the sport. In the process, don't forget to tell them about Dirt and Track!

LETTER RIP

We get letters - lots of 'em. Far too many to publish and unfortunately too many for us to answer personally. Most letters are predictable. They are directed to the You Wanted to Know section, written by children and inevitably asking the same questions. Nothing wrong with that — inquisitive kids are a healthy sign for the sport. But what determines whether we or not we publish the letter? Listen carefully kids (of all ages) for some trade secrets. Firstly your letter should be readable, legible and decipherable. Don't write until you at least know what those three words mean! A letter that

looks as if it was written on the Dead Sea Scrolls using a blunt instrument dipped in tar is not going to win any popularity contest and will probably be filed in the waste paper basket. Even those that are legible, but badly composed with poor grammar and no salutations are not treated favourably. Don't they teach anything in schools nowadays? We do not ask for picture perfect compositions displaying fine examples of the calligraphers art — just a readable letter with sensible questions pleasantly stated will be dandy. Before asking questions please try and check the previous few issues of Dirt and Track first, looking at more than just the pictures. Chances are that your problem has already been solved. If this is the case and you still write then don't be disappointed if your letter goes unanswered. Then there is the note that appears at the start of every Y.W.T.K column. Please take heed. As a hobby and sport magazine we don't cover the toy type of RC car. There are far too many of them and they are mostly not designed to be modified or even repaired. Since they are not suitable for serious racing they are not taken seriously and therefore there are no experts we can call upon to answer your queries. Keep questions to 1/12th, 1/10th or 1/8th scale vehicles please. I said that many of the questions were predictable. In fact they are so predictable that I can answer most of them right now: Any motor of any brand will fit into your 1/10th buggy; We don't know how fast your car or any car will go because there are so many variables to consider.

These, and many other questions can best be answered by visiting your local club (details at back of magazine) or local hobby shop and politely asking. Don't get me wrong. We love receiving letters. We read them all, (including your club newsletters) and try and answer as many as we can. But for the reasons outlined above don't be disappointed if your name does not appear in print. If you have already written and received no response (allow at least two months for it to appear in the mag.) but are still desperate for information then please write again, this time noting the conditions mentioned above. Remember you do not have to be in primary school to send us a letter. We love them from older kids and adults too. Any subject, (it doesn't have to be technical) pertaining to RC cars, and any tone, complimentary, commentary, or criticism.

SOUTHERN CHAMPIONSHIPS

For the last two years the Illawarra club, based in Wollongong (about 70 km south of Sydney) has held their Buggy Spectacular. It's on again this year and the dates are August 11 and 12. The name has been changed to Southern 1/10th Off Road Champs, which more accurately reflects the nature of the event, but the format has not changed. There will still be a free competitors' raffle, so you don't necessarily have to be a top dog racer to win something. The States' best drivers will compete in their own 4WD Invitational on the Sunday and these guys will not be allowed to race in 4WD Unlimited.

Other classes are 2WD Unlimited and 4WD Stock on the Saturday and 2WD Stock plus 4WD Unlimited on Sunday. Trophies will be awarded for all finals (not like the Nationals!) plus a trophy for the top Junior in each class. This event has a reputation for being well organised and one not to miss. Like all good events, more details may be found by consulting D and T's RACING IN OZ Calendar.

CARBON CHASSIS CONUNDRUM

Just when you think you've mastered the game, along comes another puzzle. I guess that's what makes life interesting. Take today for instance. I had proudly fitted a carbon fibre chassis onto the Dogfighter (lose 1.5 ozs. without going to weightwatchers!), and thrown in an old saddle pack battery for a bomb up and down the street. But something didn't smell right, literally, so quickly, out with the battery to investigate. I hadn't yet plugged in the speed controller so it couldn't have been transistors frying. Strangely, the cells were still cool so I had not cooked the pack either. Weird! I picked up the Yoko and dropped it again quickly. Ouch! The actual chassis was hot! It took a few moments for the penny to drop so I recalled warnings from my model aircraft days. Never run a receiver antenna inside a fuselage with carbon fibre reinforcing. The CRP is mildly conductive and can interfere with reception. Yes, unlike most other man-made materials, carbon reinforced plastics will conduct electricity. If you have a multi meter it is easy to check the resistance yourself. The old battery pack had some cells with the insulating wrapper worn away — a result of pulling packs apart for re-matching, and a couple of cell cases must have touched the chassis. The whole chassis had been acting like a resistor, and we know what happens when a resistor is hooked up to a full battery — don't we? Yep, it gets bloody hot. It hadn't happened before because the old fibreglass chassis

does not conduct electricity. The cure is simple and the lesson obvious. Do not use cells unless their insulating jacket is intact and repair damaged jackets with insulating tape or preferably with shrink wrap. I also took the added precaution of coating the edges of the saddle pack slots with epoxy. Keep antennas well away from carbon fibre too. It might be a desirable space-age material but using CRP does have its drawbacks.

LOSI LEGEND

As yet Dirt and Track has not come out with a "theme" edition. That is, an issue that focuses on just one aspect of the sport. The American mags do it often, with specials devoted to, for example, Monster Trucks (or Monster Trucks as our Japanese friends would say). We're working on the concept and have had semi-specials for 1/8th Gas (#12) and Nascar (#10). You could say that this issue is a Losi special. This is not deliberate — it just turned out that way. In one month Losi has released its update "Performance Kit" for the famous JR-X2, a Monster Truck version of the JR-X2 called JR-XT, and four new motors. All are featured in this issue. To complete the theme concept it is interesting to know a little more about TEAM LOSI, the father and son business that strives for excellence in competition products. Apparently it all started when Gil Losi Sr, or "Pops" as he is now called, bought his first RC car to emulate the full sized machine he used to race. Soon

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after, sons Allen and Gil Jr had a car which they ran on Pops' skateboard park. This was in the late seventies. Allen lost interest but Junior was bitten and couldn't resist striving to make his car go better and faster. So far the story is little different to thousands of father/son stories the world over but soon Gil Jr showed initiative in starting a parts store and then using his talents to develop and market a souped-up version of the Cox Scorpion. With both ventures a success, they opened the Ranch Pit Stop, now a very famous shop and racing facility, in the early eighties.

Also in the last decade, Gil Jr worked for Gene Husting on the Associated Team that developed the RC10 and he also had a hand in the design of the new Yokomo Dogfighter. Eventually, all this talent and experience was concentrated in producing the Losi dream machine, now released as the JR-X2. Does it stand for "Junior's Experimental two wheel drive"? The rest, as they say, is history. Ironically, the JR and the RC10 are now in direct and fierce competition with each other. Along the way Team Losi has released other products that are still popular and competitive. They now have five ceramic magnet and seven wet magnet motors and a number of motor accessories. A full set of motor pinion in the three popular pitches, 13 different tyres and even t-shirts are on Losi's list. Others have contributed to the world wide success of Team Losi but it can all be traced back to Pops and Junior, and those early formative days on the skateboard park. I only have one question — what happened to Allen?



Jaguar XJR10 on-road body for the RC10L.

PURGING FORWARD

Slowly but surely we are seeing more Australasian products become available to the RC racer. This is good news for the consumer and shows confidence in the growth of the sport in Australia and New Zealand. The Purge speed control is the best example. Now accepted by most of the racing fraternity, it is proving all that it promised. Sure, it has had its problems and more than its share of knockers. Any innovative invention takes time to become fully sorted (look at the Sarich engine) and I'm sure that other speedos suffer similar teething problems that we don't get to hear about because they are further from home. We fully stand by our review on the Purge (see last issue) and can just about guarantee owner satisfaction. Intac Engineering now has another new ESC that looks identical to the Purge except for the label which reads "Fury". In fact the circuitry and features are the same as the Purge, the difference lies only in the output transistors or FETS. By choosing

a different grade of FET for the Fury, Intac have been able to reduce the price by around \$100. The trade-off is a lower current rating whilst still offering the ultimate in performance for the majority of racers. Most would not pick the difference. We hope to bring you a full report on the Fury soon. No we don't have shares in Intac Engineering or any other manufacturer but Dirt and Track will always promote good local products. We can now buy motors, ESC's, chargers, matched batteries, tyres and soon maybe a whole car that is manufactured on our continent. As proof we are currently putting together a feature article of home grown items and invite manufacturers to contact the editor immediately if they have something to offer. Meanwhile readers can watch out for our Buy Aussie/Help our Balance of Payments/Please Keating special!

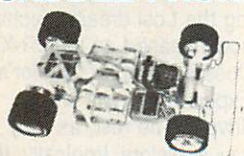
GOING OUT WITH A BANG

As the car racing year reaches a climax there are some significant events on

the calendar for most classes of racing. As usual we have them covered elsewhere in our OZ CALENDAR but here are a few more details. The off-road State Championships for ACT will be held on August 25 and 26 and a big turn out of interstate drivers is expected. This is always a big event but this year drivers will be keen to prepare for the 1991 Nationals on this track. As we go to press we here that the Nats may be held as soon as the January long weekend. On September the 8 and 9, the first NSW 1/10th scale electric circuit champs will be held on the Crossroads track. Some details were given last issue but we can now add that five rounds will be held Saturday plus graded heats and the finals Sunday. All races will be of five minutes duration, for enclosed cockpit type bodies and for the following classes: STOCK with 540 motors; OPEN; OPEN with independent rear suspension; OPEN for 2WD buggies. A lot of interest is being shown in this event and it promises to be the biggest of

its type in Australia. An entry form may be obtained from LECRCC, 20 Sturges Place, Eaglevale, 2558. Also coming up are the 1/8th gas nationals in Adelaide (how will PB fair this time?), the NZ North Island Buggy Nationals (quite a few Aussies are going over), and a special event for under 16-year-olds at Bankstown (good ideal). Ring the numbers given in our calendar for any more details. Racing — be in it!

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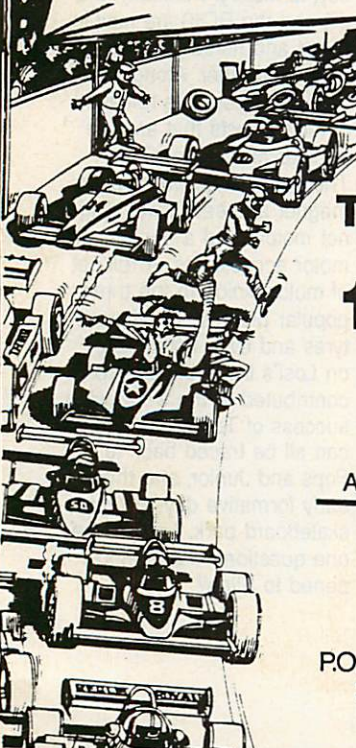


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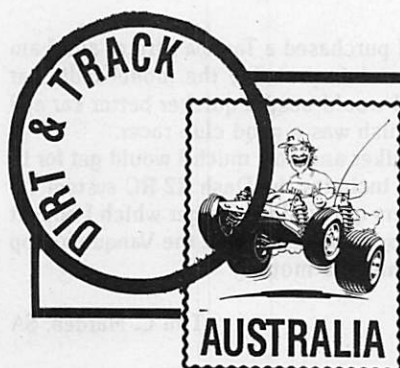
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YOU WANTED TO KNOW?

Letters for this segment are always welcome. Full name and address must be given plus a telephone number if possible. We will endeavour to answer all queries but only those of general interest pertaining to 1/12, 1/10 and 1/18 scale RC cars will be published. Please address mail direct to the editor at the address on page 4.

Q. Is the difference between 32, 48 and 64 pitch gears the size of the teeth?

Stuart W. Karratha, WA

A. Yes. The larger the D.P (Diametral Pitch) number, the smaller the teeth in the gear. Hence 64DP are finer than 48DP. Diametral Pitch is defined as the number of gear teeth to each inch of pitch diameter. You can check any gear's D.P easily by dividing the number of teeth by the pitch diameter (the PD is slightly less than the overall diameter of a gear). EG. 86 teeth (Losi Spur Gear) divided by 1.8 inches diameter equals 48DP.

Q. I am thinking of buying a new Purge Force speed control to run in a Turbo Ultima with a Reedy Blue Dot motor. One dealer at a hobby shop says that this speedy could handle a 12 turn motor while the other dealer believes the motor is too powerful for the speed control. Both dealers are reputable sources and race cars of their own, so I don't know who to believe.

David G. Sunshine, Victoria

A. There seems to be some confusion over Intac Engineering's impressive ESCs. They actually have two Purge models; the DSP 150 (reviewed in D&T#15) and the Force, which was reviewed last issue. The 150 has a lower capacity than the Force and in our review we said it would handle a 13 turn motor in a 2WD car only. The extra loads from a 4WD car might be too much for the DSP 150. However, the higher rated Purge Force should handle almost anything you can throw at it.

Q. I am going to purchase a Xenon 9 Speed control for my Associated RC12L. Will the connectors on the Xenon fit into a KO EX-5 radio receiver? Will SCE batteries overload the speed control? Which charger will charge SCE batteries better, the Max Trix Thermax or the DSE Mega Fast Charger? Finally, is water dipping recommended for a Trinity Stock Motor? Keep up the great work.

Graham W. St Agnes, SA

A. The kit built Xenon that we featured in D&T#10 is a good choice Graham. We do not market this speedo ourselves so all enquiries must go to Talking Electronics on (03) 584 2386. The universal 3 Pin RX Plug supplied should fit KO but talk to Talking first. Note that KO is wired with positive (Red) on one end and not in the centre of the plug. Any ESC is only affected by voltage. As long as you use no more than 7 cells then the type of cell is irrelevant. We recommend a peak voltage cut-off, linear current or soft pulse charger for SCEs. The Mega-Fast is fine. Water dipping was used to accelerate the running in process for stock motors. It also accelerates running out. Don't do it! Swish your stock motor around in a jar of metho to clean.

Q. I currently own a Tamiya Wild One and wish to really hot it up. Would Associated or Kyosho Gold shocks fit my car? I've seen an ad for Thorp ball diffs for the Wild One in an American magazine and was wondering whether they were available in Australia? Would my car be competitive with these items as well as a faster motor, or would I be better off buying a competition buggy?

Simon M. Glen Innes, NSW

A. Although the Wild One has been around a while it can still be competitive at entry level. Gold shocks can be made to fit, but we advise the Tamiya CV Shocks Sets since they fit easier. You could buy the up-market Thorp diff. (see last issue for details) but this would cost nearly as much as your whole buggy is worth. Fit 2in. wheels and tyres and maybe an electronic speedo. And have fun!

Q. Could you please tell me ALL the rules defining a stock or modified motor to allow it to be used in official races; e.g. dimensions, number of poles etc. Thank you very much.

Nikolai I. Mt Gambier, SA

A. All electric motors used in RC car racing in Australia must be 05 or 540 size (35mm Dia. x 4y.mm long) with ceramic (no cobalt or rare earth) magnets.

Stock motors must have plain bearings (no ball races), non removable end bells and 27 or more turns of armature wire. They must have the manufacturer's label affixed and must not be opened up. Modified motors are not subject to the restrictions noted in this paragraph. An approved stock motor list is usually produced by the association in your state. Please contact the Secretary of ORRCA SA Inc., Wayne Currie on (08) 382 0380 for any more information.

Q. I own a Tamiya Falcon and was wondering if it is possible to make a brake for it, Eg. make the first step in reverse a brake? In D&T#12 the article "A Matter of Attitude" said Peter owned a Falcon and made it competitive by making some modifications. What were those modifications?

David, SA

A. With careful consideration and some re-wiring it is often possible to change reverse to brake on any mechanical type controller. Disconnect battery, place controller in reverse position and carefully trace the electricity flow from battery plug to motor. You will probably find that positive flow (Red wire) goes straight through the controller to the motor while negative flow goes via the resistors (the white sticks that get hot). Braking is achieved by shorting out the motor so at the controller's reverse position we need to disconnect the flow from battery negative and connect a new wire from motor positive. On some controllers the track that the controller wipes may have to be cut so that first forward speed is maintained. Note that it is the motor that has to be shorted out for brakes. DO NOT SHORT THE BATTERY WIRES. Some mods to the Falcon were given in this section last issue.

Q. Congrats on an excellent magazine. It provides plenty of interesting and informative reading material - keep up the good work! I am very interested in taking up the sport of RC car racing and I recently read a review on the Tamiya Fox in D&T#7. The article

stated that the Fox is a good car for newcomers to the sport and generally gave it a fairly positive outlook. The Fox is in my price range and your article has inspired me to purchase one. I have only one worry — that being about the availability of replacement parts. Are Foxes still being made? If not, are there any other Tamiya vehicles that have similar or identical parts to the Fox?

Murray M. Canberra

A. Thanks for the encouragement Murray. Your questions are easy to answer — YES, YES and YES. The Fox is still being made. Parts are available and many parts are interchangeable with other cars in the Tamiya range, so go for it!

Q. A couple of issues back you talked about boiling nylon parts to harden them. Can this be done with glass reinforced nylon parts?

Matthew R. Wantirna, Victoria

A. This subject comes up regularly so we contacted an expert in the injection moulding industry for an official comment. All of the engineering plastics (including GRN) used in RC cars is Hydroscopic. Immediately after moulding, the component is quite brittle and has to be water conditioned. Later, any moulded component can become brittle again if left in a dry atmosphere such as an air conditioned room. Boiling in a saucepan of water will re-condition the part but it can still dry out again in very long dry conditions. Boiling is not required to relieve internal stresses — modern materials and processes have alleviated this problem. In summary, boiling of any nylon component may not be necessary but it doesn't do any harm.

Q. Being the owner of two monster trucks (the Tamiya Blackfoot and Monster Beetle), I have suffered a lot of headaches over the kind of problems the cars have developed.

For example, the counter gears in the trucks keep "self-destructing". I have to buy a new gear set and disassemble the gear box just to install the new gear, and to continue running my cars.

In addition, the stock dogbones seem to wear far too quickly (from one hour to 10 minutes). Altogether I have replaced six sets of dogbones for my trucks but there seems to be no end to my problems.

Furthermore, the stock steering blocks also snapped away under off-road stresses.

Last, but not least, the servo saver breaks into two segments every time I hit something hard.

I'm really worried about the problems I encounter. Are there any solutions at all to my problems?

Joseph K. Nunawading, Victoria

A. You seem to be having a demolishing good time, Joseph. But I suspect you won't have to look far to find the problem. Look at it this way. You wouldn't expect to be able to buy a new family car and then expect it to take a thrashing at Bathurst, would you? Your two trucks were designed pretty tough but indestructible they are not. Ramming from forwards to reverse, jumping cliffs and hitting immovable objects is not conducive to long life.

You could try boiling the new counter gears and also check for wear on the shaft, bearings and supports. Dogbones often wear because the suspension is allowed to droop too far down. This increases the angle between dogbone (drive shaft) and drivers, thereby causing the shafts to rub on the inside of the driver. The hexagonal drive cups should also be kept free of grit and well greased. An 'O' ring or short length of tubing fitted inside the shocks, on the stem, will prevent the suspension dropping too far. If anything, the steering blocks are a weak link on these models. That's why you sometimes see beefed up after market parts K1 and K8 advertised. But these will be hard to find here.

Any serious problems on today's RC vehicles are quickly corrected by the manufacturers so it all comes back to the nut behind the wheel. Please treat your cars with the respect they deserve and you should be rewarded with less problems and more pocket money.

Q. About two months ago I purchased a Tamiya Striker and I am now interested in joining a club, probably the model radio car club of Adelaide. I figured I would need a quicker better car and was wondering if the Vanquish was a good club racer.

Now getting back to my Striker and how much I would get for it. It is in good condition and includes the Dash R2 RC system 7.2 volt battery and a Toy Traders quick/slow charger which I bought new for about \$60. I was also wondering what the Vanquish's top speed would be with a Technigold motor.

Keep up the good mags.

Tim C. Marden, SA

A. The Vanquish is fine as an entry level club racer. Although they can be more difficult and expensive to maintain, any 4WD car is easier to drive (on dirt) than a 2WD car.

Selling is a case of supply and demand — the more the demand, the more you will get for the Striker. It's impossible to know the demand in your area. As a rough guide take the new price of your sale items, halve it, and then add a bit. Don't worry about top speed in novice racing — learn to drive the circuit first.

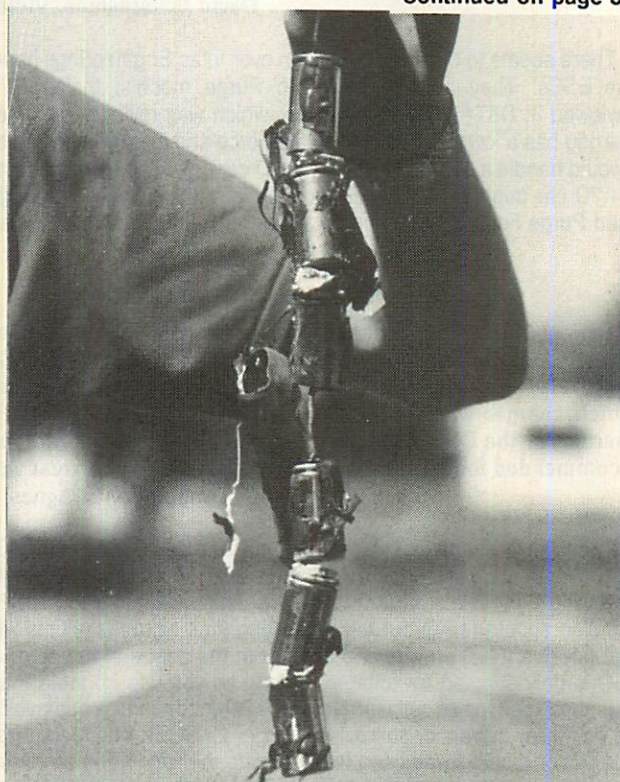
Before selling or buying it would be wise to get acquainted with local club members. Good luck Tim!

Q. I have recently purchased a Tamiya Thunder Shot. I've been taking it down to our local track, made of loose bauxite, and the tyres have been spinning when I go around corners. At the moment I've got pin spike tyres. Which would be better? The tyres I've got now or tyres like proper car tyres' zig-zag pattern? Also, which motor would be better? Tamiya Dyno Tec (\$105) or the Ready Stock (\$45).

James L. Safety Bay, WA

A. I doubt if there are many tracks made of bauxite (a red rock from which aluminium is made) so your problem is quite unique. Usually a pin spike tyre is best to penetrate the loose surface so maybe yours are worn. Give Schumacher or Yokomo/Associated spikes a go. If your front tyres grip too well then the car will pivot around the front end. Try worn out front tyres. Lowering and softening the rear end might also help. On-road type tyres, either smooth or treaded, are not usually suitable for loose dirt surfaces. A more powerful motor will only promote wheel spin so I would stick to any of the stock motors. Also — go easy on that throttle finger!

Continued on page 31.



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LETTERS TO THE EDITOR

Dear D&T

I first wish to congratulate you on a fantastic magazine. Great work! I have discovered a way to get paint off Poly-carbonate; enamel thinners (100% liquid hydrocarbons) rubbed on the body shell with an old sock or other rough material does a great job, but be careful not to get any on the outside because it can make it rather messy.

I have a fully ball-raced Kyosho Turbo Raider and it flies! I have built myself a track at the side of my three quarter acre block. It's good but pretty slippery. I was wondering whether you have any tips on track maintenance as I always have grass trying to grow over it.

One last thing, could you please recommend a fairly cheap electronic speed control for my car as I'm on a bit of a tight budget. Any assistance would be great and once again thanks for a great mag!

Peter Harrison, Maddington, WA

There must be a lot of refurbished bodies out there. Everyone seems to have their favourite method of removing old paint. Here's another one. Try Pic Apart — it's a cleaner and debonder for superglue that doesn't harm lexan bodies. Not much can be done about mother nature, Peter. You could try jump oil on your track otherwise it's a spade job. Check out D&T No.14 and our E.S.C. shootout for the best buys in speed controllers. Ed.

Dear Mel

Congratulations on a great magazine. I have been reading Dirt & Track for a couple of years now and I am impressed with the quality. I have been involved in models all my life. I do all types including boats, gliders, helicopters, hover crafts, electric on-road and off-road



Greg Leigh's home constructed 1/4 Scale Gas Bike. Details next issue.

cars as well as gas on-road and off-road cars including electric and power bikes. The bikes are what I'm writing to you about.

A couple of years ago, I started by buying a Kyosho electric bike. It was not long until it had all the option parts. (Ball-raced motor, ally shocks, lighter fly wheel). They are a lot of fun, quite controllable and reasonably quick. After a while it started to seem slow so I started looking for a new challenge. I came across an advert for a DWA 1/4th scale bike. Rob Reade of PB Model Cars was selling them so I went down and bought one with a Nova Rossi engine. A couple of nights of work and it was ready to go. I quickly found out that it was nothing like the electric bike. After a couple of hours I became quite good at controlling it. The next project was a home made 1/4th scale gas bike.

Gregory Leigh, Rostrevor, SA

(Editors note. — We have asked Greg to provide full details of the home made bike for next issue.)

Dear Editor

After reading 'Bird Torque' (D&T No.15) I feel Paul Bird has not covered the topic fully and has printed some dreadful mistakes that require immediate correction.

Firstly, 1/10th scale off-rollers do come cheaper than \$450, especially if discounted. Mega-buck Modified motors aren't always the best either, something in the range of \$100-\$120 usually works just as well. A newcomer might even want to go Stock initially, with a \$40 motor. As for Ni-Cad packs, four is not enough — six would be a reasonable number. I believe that a pack shouldn't be charged more than once a day, and it should be fully discharged overnight. Anyway, \$60 SCR or Tamiya SC packs are more than sufficient for club racing. Chargers? Well, I use several \$20 resistor-type clockwork ones for initial charging, before using a Tekin or Kyosho Delta-Peak for a final charge. Again, just one is not enough, unless you charge all six packs the night before and peak them at the track. In the very near future, you'll also want digital volt-meters and other such gadgetry as well. One charger is not even enough for a hobbyist!

For the electric to gas off-road transition, I had a problem. The single mini-servo would not have lasted a tankful in a 1/8th car. A Futaba 'Brick' it had to be. A standard servo replaced the FET-controller for throttle. This left me with no power source for the receiver. I had to buy a 600mAh receiver Ni-Cad pack as well. I decided to buy a complete new radio system so as to keep my electric car running. I won't go into details, but there are lots of little bits one has to buy for the gas car (eg; filters, tubing) even before it has turned a wheel. It all adds up!

I have yet to find 1/10th scale on-road racing in Victoria (I'm ready for it if it comes), but an 'oval-racer' variant of the Kyosho Optima Mid LWB costs just as much as its off-road cousins (ie; \$400). All other equipment is identical to buggy racing, with the extra cost of foam tyres.

Now 1/8th on-road is where Mr. Bird has erred most. The Serpent Sprint car chassis does cost \$600, but it comes without tyres and body. A Can-am style body costs \$50, two cans of Tamiya PC paint is also needed. Kit tyres aren't always the best to use for all conditions — each extra pair of tyres and wheels costs \$50 easily. Again, mini or FET servos are not tough enough — the least you'll have to go for are the ones usually given with radio sets. There's the receiver power supply as well. Now I really wonder who would use a BUGGY motor for a circuit car — a car would be around \$250-\$300!

I might also like to add to your choice of fuel. Not many people use 10 per cent nitro-methane. For new motors (both buggy and circuit), I always run it in with five tanks of five per cent, the first few at a slow idle around the track. After rough tuning and shimming the head (usually not necessary these days), 25 per cent nitro goes in the tank for higher-speed driving. This will allow final tuning of both chassis and motor. Always use the same brand and nitro percentage if possible, as engine tuning might vary with the fuel quality.

It is hard to calculate the cost of racing. Beginners might well over-charge batteries and burn-out modified motors. Accidents do happen, and replacement parts aren't cheap. I suppose this is the real fun of it all!

R/C equipment does come cheaper overseas (especially in Asian countries), but never mail order. Savings is mainly due to less taxes, so only purchase things there personally if you happen to be there on holiday or business. And never buy your first few cars overseas — you'll need the support from your model shop owner to get you

started. The easiest way to get this help is to buy locally, from a store that deals mainly in radio-control and advertises regularly in a R/C magazine (like D&T).

Well, I hope in the future Paul Bird will do a bit more research into his factual articles. It annoys me greatly when people put guesstimates in black and white and call it fact. More so when coming from Australia's greatest R/C magazine!

William Chang, Vermont South, Vic

As you say, it is very hard to calculate the cost of racing. Paul was brave enough to have a stab and conclude that 1/8th gas was cheaper. A fact that you don't seem to deny William. Any more opinions? Ed.

Dear D&T

Your article on 1/4th scale sprint cars was very interesting and it has whetted my appetite for trying to find out more information. I realise 1/4th scale is big, but how big is it in measurements? Length, height, tyre size. Maybe a photo of an adult near one could indicate its large size. Are these cars available to the public in kit form or complete?

I myself would prefer kit form as it would give me a lot of satisfaction to construct such a beast. Who knows — it could start a craze for sprint cars here.

J. Szyzman, Claremont, Tas.

We asked Chris Dalby of CD Engineering (054 52 1928), manufacturer of the car featured in D&T No.16 to reply. Ed.

The car pictured is one of the first cars I built and is basically the same as the new ones except that it is powered by a 35cc Webra Bully model aircraft engine without a clutch whereas the current cars are supplied with a brush cutter engine and a centrifugal clutch.

The frames are constructed from cold drawn seamless tubing and all joints are welded in a jig. The wheel rims and other accessories are made from high grade aluminium and the body is fibreglass. The wings are made in the same manner as full size aircraft, with internal ribs which are fully skinned with aluminium sheet.

The cars were originally designed to replicate a full size sprint car, rather than a high performance machine bearing only a re-

semblance to the full size counterpart and this accounts for their apparent high weight in comparison to the American machine. But the 35cc engine used makes light work of pushing the thirty pound cars around.

The cars are 39 inches long, 22 inches wide and approximately 25 inches high and provide all of the excitement of full size racing including the smell of methanol but without the high cost and danger. Russell Ferguson of Ararat may disagree with the latter statement as he was hit in the hip by his own high flying car after it mounted the inner fence during practice at Stawell. I think he is still limping.

I supply all of my cars assembled as I have been unable to find the time required to write a comprehensive instruction booklet with photos, which would be a necessity if the cars were supplied in kit form.

Dear D&T

Re: 'Soap Box' on Stock Motors D&T No.14.

Let's be real here. If you want a motor that is fast and rebuildable and costs over \$70, buy a modified motor. Let's stop the madness before it stops the sport.

Let's go back to the days when R/C racing was affordable and everybody had a chance. Not the best motor, battery and car.

The 540 enclosed brush motors are the only way to go. They are the only real stock motor. Who can afford to buy the latest and greatest motor every time one comes on the market? The people with lots of money, not the everyday person.

If we don't make a 540 class the R/C sport is going to lose the little people — the schoolgoers, average workers and the people who love the sport but are finding it harder to meet the increasing cost of R/C racing.

Let the people who want the fastest car on the track — those who can afford it — race in Modified. Let's face it. Some of the super stock motors of today are as fast, if not faster, than some modified motors. Our club is going "540 only" this year in Budget, 2WD and 4WD Stock classes, with a Modified class for those who like Rockets on Wheels.

Darren Baker, Rockhampton, QLD.

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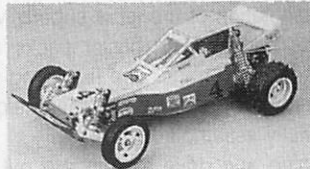
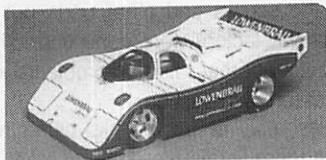
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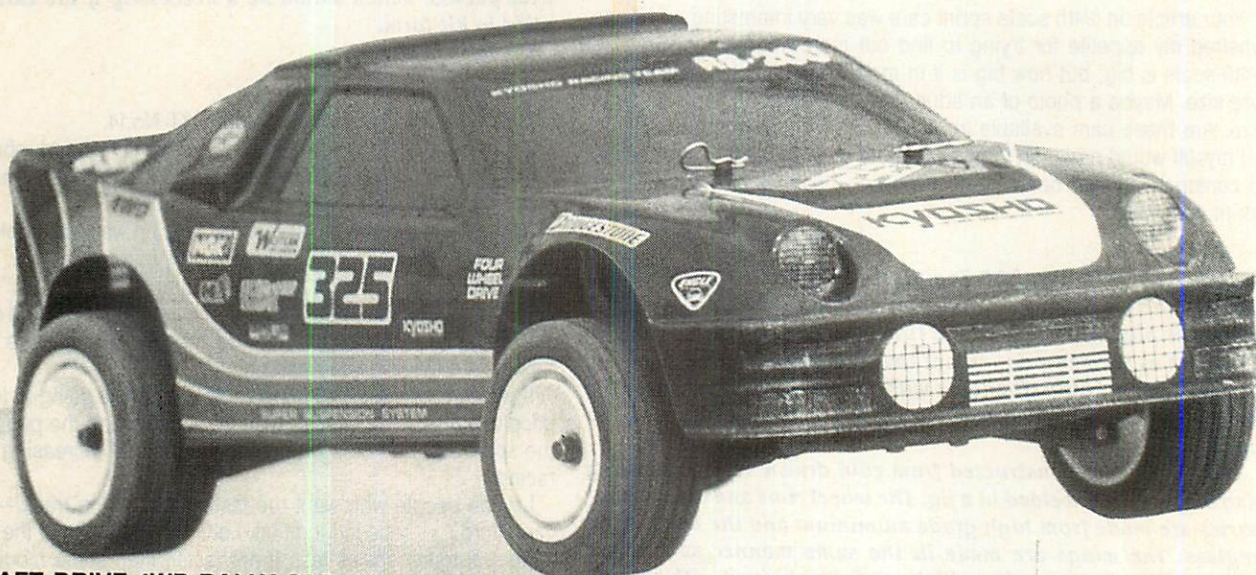
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Once again KYOSHO has come up with something not only new and exciting but a lot of fun as well. Its new range of 1/10th Gas Rally cars are just that.



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- EQUIPPED WITH O.S.10FP-BK ENGINE WITH RECOIL STARTER



The range consists of 4WD FORD RS 200, 4WD PEUGOT 405, 2WD ZR-1 CORVETTE and an off roader 2WD RAMAGE. All cars come equipped with an O.S. 10FP-BK engine fitted with a recoil starter as standard.

For this review I was lucky enough to have both the FORD RS-200 4WD and the 2WD RAMAGE, however in this review we will deal mainly with the construction of the FORD RS-200.

The presentation of the kit is superb, with some parts packaged in blister packs and some in numbered bags. The first thing you notice when you open the box is that the cars come partially assembled.

The engine and drive system are put together in the factory. All other parts in the kit are in clearly marked packages and the instruction manual is also very well set out and extremely easy to follow with small parts shown full size to make things easier to find.

The first and most important step in building any kit is to read the instructions. So I took the instruction manual out and put the kit away. After reading the manual and checking that all parts are in the kit, I then commenced construction.

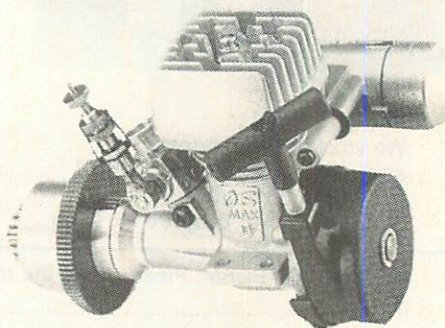
The first thing I did was to dismantle the drive section that came assembled. This was done for three main reasons. Firstly, to replace any bushes with bearings so as to ensure longer life and free running. Secondly, to check the differentials to ensure that they worked properly and to have a look at the configuration of them, and thirdly to check that all the screws and other parts put together at the factory were done correctly. I should point out that I find no problems with the pre-assembled section.

The assembly of the shocks came next and here there was a pleasant surprise. Kyosho have long been known for the quality of their Option House Gold and Platinum shocks and the new shocks that are in this kit are no exception. These new shocks have a plastic body and use spacers to adjust the spring tension. They were easy to assemble and work extremely well.

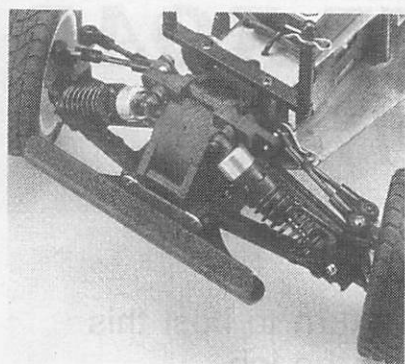
Next is the assembly of the front steering knuckles. Once again ball bearings were used instead of the steel bushes. You must read the instructions carefully or you could

The Ramage, while having the same O.S.10 power plant is 2 wheel drive – slightly faster in a straight line, but loses out to the RS-200 on the corners.

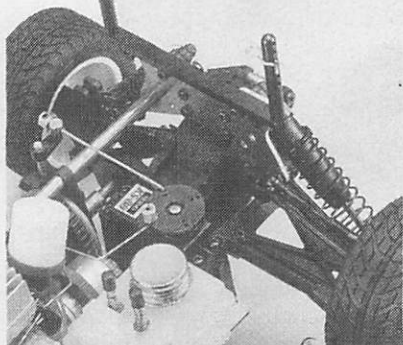
make a mistake as the left knuckle goes with the right hub. The installation of the front suspension arms, upper rods, drive shafts and shocks comes next. The rear end is then also completed. Both front and rear ends went together with no problems at all.



Heart of the vehicles is the O.S.10 FP-BK pull start engine. Simply fuel up your car and connect your 1.5 Volt battery supply and hit the pull starter

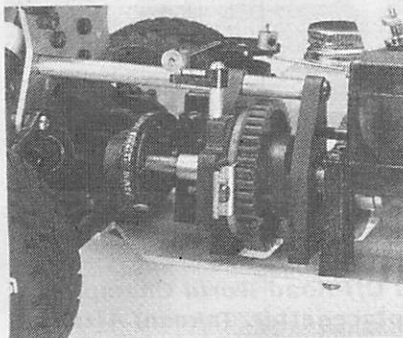


Front and rear views of the long-travel parallel wishbone/arm suspension with effective oil-filled shock absorbers.



The installation of the radio gear was next and here I found the mounting blocks supplied were too short for some of the more common servos. Luckily, I was installing a JR Beat 202 radio and this set comes with NES 507 servos which are 5mm shorter than most. If you follow the instructions then there should be no problems, as they tell you how to set and adjust the linkages for the throttle, brake and steering. Cutting and painting the body are next. The body is extremely well moulded with lots of detail. With such a nice body you should take your time and try to give it a good paint job. I painted the body with a similar design to the original but used different colors so that the car could be seen at night. The body was then fitted and I was ready for the first tests of the car.

The fuel tank was filled up and the battery connected and, after checking the instruction again to ensure that every thing was right, I gave a good pull on the pull start. SURPRISE, SURPRISE, the engine started on the first pull and ran quite smoothly. After some minor adjustments and a five minute running-in period I was ready to test the car on the road.



Power from the engine is transferred to the front and rear axles via toothed belts, and front and rear differentials.



Contents are neatly packed and chassis and engine are factory assembled.

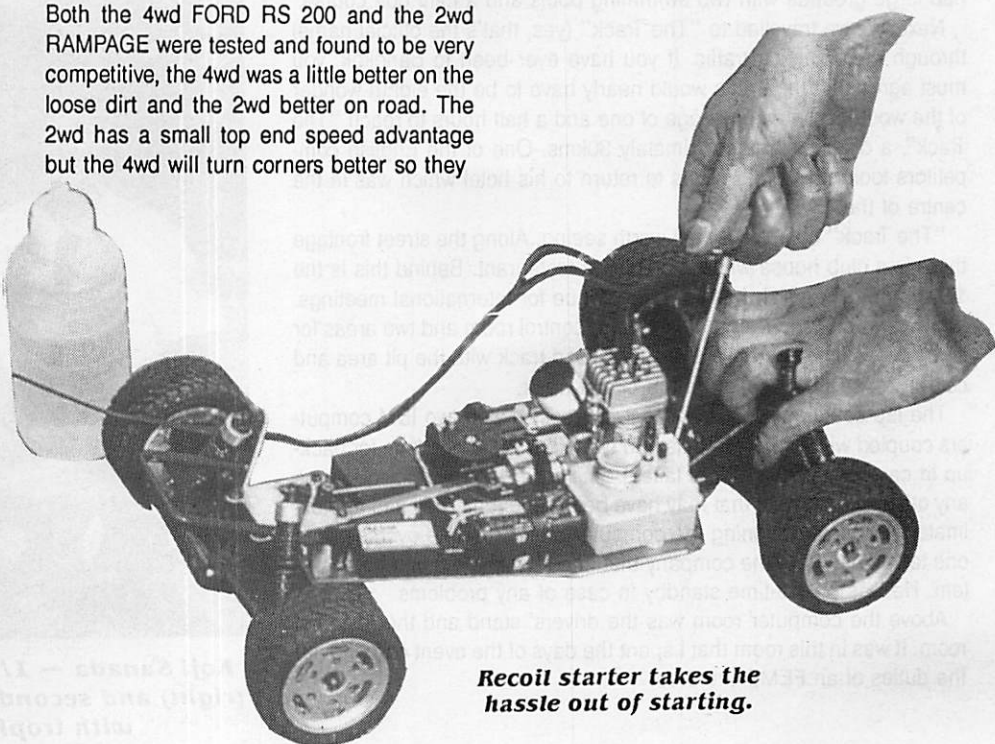
The first run was at a normal 1/12th race meeting and I have never seen one car create so much interest. Within 30 seconds of starting the car and putting it on the track every person attending was lining the track to get a better look. Performance was not the same as the 1/8th cars but for a 10FP-B motor, the performance was very good. On the track the car was able to stay with most of the 1/10th Group G cars (converted off roaders), and when taken into the dirt held its own against all comers. After some suggestions from some of the 1/8th gas car drivers I was able to tune the motor till it was screaming and with minor adjustments to the clutch the car showed good acceleration and top end.

Both the 4wd FORD RS 200 and the 2wd RAMPAGE were tested and found to be very competitive, the 4wd was a little better on the loose dirt and the 2wd better on road. The 2wd has a small top end speed advantage but the 4wd will turn corners better so they

are fairly even over all. The size of the fuel tank restricts the cars running time to about five minutes for the 4wd and six minutes for the 2wd.

If you like the idea of 1/8th gas but can't afford the expense or if you are just after something different and fun you will find these new Kyosho 1/10th gas cars are just what the doctor ordered.

The kits represent excellent value and as with all Kyosho products are available through your local ABC MODELS shop and other good retailers.



Recoil starter takes the hassle out of starting.

3RD IFMAR 1/8 OFF-ROAD WORLD CHAMPIONSHIP BANGKOK

This year it was the Far East Model Car Association's turn to host this event and Bangkok, Thailand had offered to do the job.



On arrival in Bangkok we went to Rama Gardens Hotel where most of the competitors were staying. The hotel was very comfortable and had large grounds with two swimming pools and a mini golf course.

Next day we travelled to "The Track" (yes, that's the official name) through the Bangkok traffic. If you have ever been to Bangkok, you must agree that the traffic would nearly have to be the eighth wonder of the world! It took an average of one and a half hours to reach "The Track", a distance of approximately 30kms. One of the English competitors took nearly four hours to return to his hotel which was in the centre of the city!

"The Track" complex is well worth seeing. Along the street frontage there is a club house with an adjoining restaurant. Behind this is the 1/8 circuit track which has been the venue for International meetings. It has its own fully covered pit area and control room and two areas for small shops. Next to this is the 1/8 off-road track with the pit area and control room a duplication of the circuit track.

The lap counting room was most impressive with two IBM computers coupled with two AMB units and two other IBM units (one for back-up in case one of the others failed). The other IBM was used to type any other relative data that may have been required. They had approximately six people running the computer room with one overseer and one technician from the company that had supplied the computer system. He was on full-time standby in case of any problems.

Above the computer room was the drivers' stand and the referees' room. It was in this room that I spent the days of the event carrying out the duties of an FEMCA referee.

The opening ceremony of the 1990 1/8 Off-Road World Championships.



Koji Sanada — 1/8 Off-Road World Champion (right) and second placegetter, Takashi Aizawa with trophies and Mugen cars.

The event was organised and sponsored by Team Maxima which is run by Chira Ratanarat and Preecha Pongrai whom some of you met at the 1989 1/8 circuit Nationals in Perth last October. The Race Director was Sander de Graf who also was the race director for the 1989 1/8 circuit World Championship in Holland.

On all race days the racing was never more than 10 minutes late finishing from the programmed time and this was with the staggered start system being used for the heats. There were 20 marshalls who worked in groups of 10, alternating through the day as well as changing marshalling points so they would not become bored with the same position.

The Opening Ceremony was very well organised with a marching band and the release of a huge bunch of balloons and World Championship banner following the opening speech by Thailand's Deputy Prime Minister.

A total of 108 drivers were entered. Kyosho was there in force with six semi and fully sponsored drivers including such names as Gary Kyes and Joel Johnson from the USA. Mugen had three team drivers plus seven other entrants. The other manufacturers represented were Cougar, Pirate, Probe, Serpent, Takekawa and Yankee. Most brands of engine were in use.

After the first day of unofficial practice, the Mugen cars looked very impressive and many people were commenting on how well they seemed to handle the track which was quite rough in parts.

It had several jumps, three being evenly spaced in the middle of the straight. The Kyosho car also looked impressive and the Yankee appeared reasonably good but most of the European and American drivers seemed to be having a lot of trouble setting up their engines.

The Australian contingent consisted of five drivers from Perth: Ken Isbister; Nic Klaver; Bradley Hutson; Paul Wyllie and Warren Turner plus two brothers, Tom and Nicki Drygalla, from Sydney, who had mixed results. Bradley Hutson showed the most promise.

The experience and knowledge gained by the Australian competitors should assist improvement in 1/8 off-road racing in this country. After

the first round of heats, the EMCA drivers appeared to be dominating the proceedings with the French driver, Frederic Veysyre (a former World Champion) looking very impressive except for engine tuning problems. He was very fast around the track but each time it appeared he was going to achieve a good lap time, his engine let him down.

After six rounds of 10 minute heats, the top 10 qualifiers were:

NAME	COUNTRY	CAR	LAPS	TIME
1. Koji Sanada	Japan	Mugen	19	10.15.25
2. Yuichi Kanai	Japan	Kyosho	19	10.18.44
3. Olivier Danlere	France	Kyosho	19	10.23.60
4. Takashi Alzawa	Japan	Mugen	19	10.24.73
5. Katsuyuki Kodama	Japan	Kyosho	19	10.27.19
6. Katsunori Kondo	Japan	Kyosho	19	10.30.37
7. Noriyuki Yagi	Japan	Kyosho	19	10.31.26
8. Kenichi Sakimoto	Japan	Mugen	18	10.00.39
9. Flovio Budelling	Germany	Kyosho	18	10.01.99
10. Frederic Veyseyrre	France	Yankee	18	10.02.98



1/8 Off-Road World Championships.
Finalists and mechanics line up before the one hour final at The Track, Bangkok, Thailand.

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Although a Christmas Tree finals system is used in 1/8 off-road, the top four qualifiers do not go straight into the final as is the case in 1/8 circuit. At this event, the top qualifier and eventual winner, Koji Sanada, nearly missed out on the final when he had a late start in his semi-final and only just made it into third place to qualify for the final. This seems a little unfair on the top qualifier who had perserved for three days to achieve the TQ position. However, that is how the buggy rules are set down.

The sub-finals were fairly predictable — the only competitors to come through more than two finals were Didier Boulmier of Switzerland and Chang A lu from Thailand who progressed from the 1/128 finals to the 1/6 finals. The most successful Australian was Bradley Hutson who progressed from the 1/8 even to the 1/4 even final but finished 10th after mechanical failure, leaving him in 34th position overall.

The one hour final was a Le Mans-type start and when the hooter went the Frenchman in No.1 car lead into the first corner, closely followed by the No.2 and No.3 cars. The No.1 car flipped over on the first jump letting the No.3 car into the lead followed by the No.2 car driven by Aizawa. Sanada, No.7, the eventual winner, made a late start from the pit lane as his engine had flamed out just prior to the start.

At about the 10 minute mark, the No.4 car of Sasai broke its front end and was eliminated. From the 12 minute mark the lead fluctuated between the two Mugins, Nos.2 and 7. The No.8 car went out of control at the end of pit straight and crashed into the fence thereby dropping him out of contention. At 30 minutes, Nos. 7 and 2 were pulling away from the rest of the field. The race, at this stage, was for the third place between Veyseyre in the No.1 car and the No.3 car of Kanai.

With 10 minutes to go it was car Nos. 7, 2 and 6 but No.3 took over third place and that was how they finished, No.7 Sanada, No.2 Aizawa, both driving Mugins, and No. 3 Kanai driving Kyosho. Chira Ratanaract presented the magnificent hand-beaten silver plated trophies to the top three and the champagne flowed.

The final results were:

NAME	COUNTRY	CAR	LAPS	TIME
1. Koji Sanada	Japan	Mugen	101	1.00.00.48
2. Takashi Aizawa	Japan	Mugen	101	1.00.14.54
3. Yulchi Kanai	Japan	Kyosho	97	1.00.08.87
4. Katsuyuki Kodama	Japan	Kyoso	97	1.00.27.39
5. Frederic Veyseyre	France	Yankee	95	1.00.33.12
6. Kazunari Yoshida	Japan	Kyosho	94	1.00.38.88
7. Kenichi Sakimoto	Japan	Mugen	75	1.00.35.81
8. Olivier Danlere	France	Kyosho	68	53.30.68
9. Pascal Gueye	France	Kyosho	52	39.53.60
10. Tsuyoshi Sasai	Japan	Kyosho	19	42.20.55

Amazingly after an hour's driving, the first and second car finished on the same lap which is no mean feat in 1/8 off-road racing. A great deal of patience seems to be required for this type of RC car racing and also a great deal of luck. A car can be running down a straight stretch of track and, for no apparent reason, flips over, having hit a dislodge rock or a crater which, on the 1:1 equivalent, could be about four feet deep!

The Mugen team achieved considerable acclaim as the team consisted of only three drivers, who all made the final, two mechanics and a manager. They thoroughly enjoyed their victory at the awards' banquet held that night at the Rama Garden Hotel. All competitors received smaller replicas of the winner's trophy.

The Australian drivers finished in the following positions:

Bradley Hutson 34; Paul Wyllie 65; Ken Isbister 66; Nic Klaver 88; Nicki Drygalla 101; Tom Drygalla 106; Warren Turner 107;

The Maxima Racing Club did a marvellous job and I was very grateful for their efforts in making the event so successful and continuing the high standard of World Champ. events in FEMCA, initiated by the 1/10 Off-Road World Championship held last year in Sydney. The next World Championship event to be held in FEMCA is the 1/12 Electric in Singapore between July 28 and August 4 at which six or seven Australians will compete (see Official News section this issue, and watch for coming report).

A few years ago, FEMCA only had three member countries — Japan, Hong Kong and Australia, but there are now 10 member countries and India and China are also showing interest in joining. This means that places for World Championship events are going to be limited and all classes of RC car racing in Australia should be planning to have a World Champ. selection system to ensure that our best drivers represent Australia.

World Championship Calendar:

1991 1/10 Off-Road USA

1992 1/8 Off-Road Germany

1991 1/8 Circuit USA

1992 1/12 Electric USA

FEMCA drivers now hold four of the five World Championship Titles and FEMCA countries are manufacturing several winning cars. The Far East Zone is becoming a force to be reckoned with!

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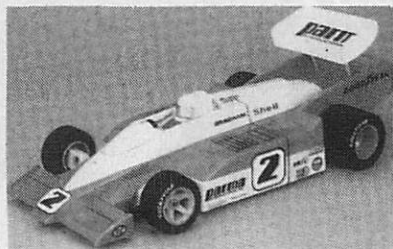
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THE RACER'S EDGE

by Andrew Bolton

Regular racers and readers will need no introduction to our new columnist. He has been at the top of the racing tree for many years, national 4wd champion last year and always accessible at the track or through his business, Bolt-On Performance. A more comprehensive profile can be found in "Speed Secrets of the Team" (D&T # 6).

Andrew will now be a regular contributor to Dirt and Track, and present the latest products and modifications from the Kyosho camp and endeavour to answer questions from club racers.

LAZER ZX SET-UP TIPS

So you have bought a Lazer ZX. It's going pretty well but you want just that bit more out of it. Here are some suggestions to do just that.

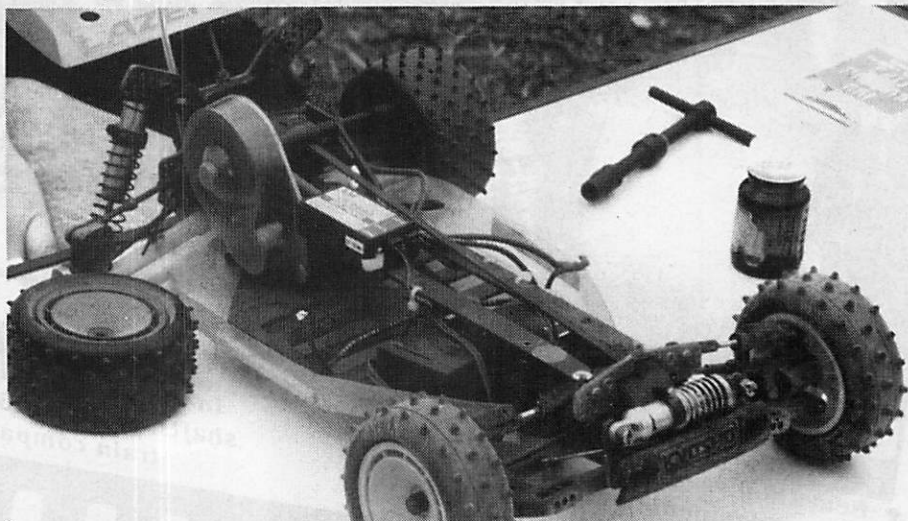
Firstly, you might have one of the kits with tight belts, so contact either me or any Kyosho Dealer and you will be put on the right track.

Secondly, if you're ace on a low traction track then reverse the rear arms around, this shortens the wheel base and also puts more weight over the rear wheels which will give you more traction. This could give a bit of understeer, so just let off the front springs by two mm, that should give you about the right balance front to rear.

Here's another trick.

If you think the belt might be rubbing inside then the next time you have the car apart lightly spray paint the inside of the gear boxes. Put your Lazer back together, run it at your next club meeting, then take the lazer apart. If the paint has rubbed off relieve the part with a dremel tool or file.

If you haven't already taken out the balls of the centre diff, I would suggest you do so and lock it up, this just gives you direct drive to the rear. Running it standard you would need a very strange track condition for it to work properly and to explain how it works would take up a couple of pages. I do not think you need an insomnia cure so boring it would put you in a coma before it put you to sleep!



Judy Mason's Lazer sports a number of changes.

STOCK RACING

I think the standard shock oil is nimble through the corners and a bit more stable. If the track is quite rough then it's probably best to go back to standard configuration.

MODIFIED

A heavier oil is better. I find the Associated 30W Silicone oil works very well, check your local Hobby Shop for its availability.

I suggest running Ball Diffs in modified, the parts are available to do so. Part no. for the diff gear is LA-1, in this you get one ball cage for the ball diff and a gear diff housing. Normal RRP is about \$6.50, so if you owned a Mid Optima before the Lazer it is a very cheap mod. to do, and a worthwhile one.

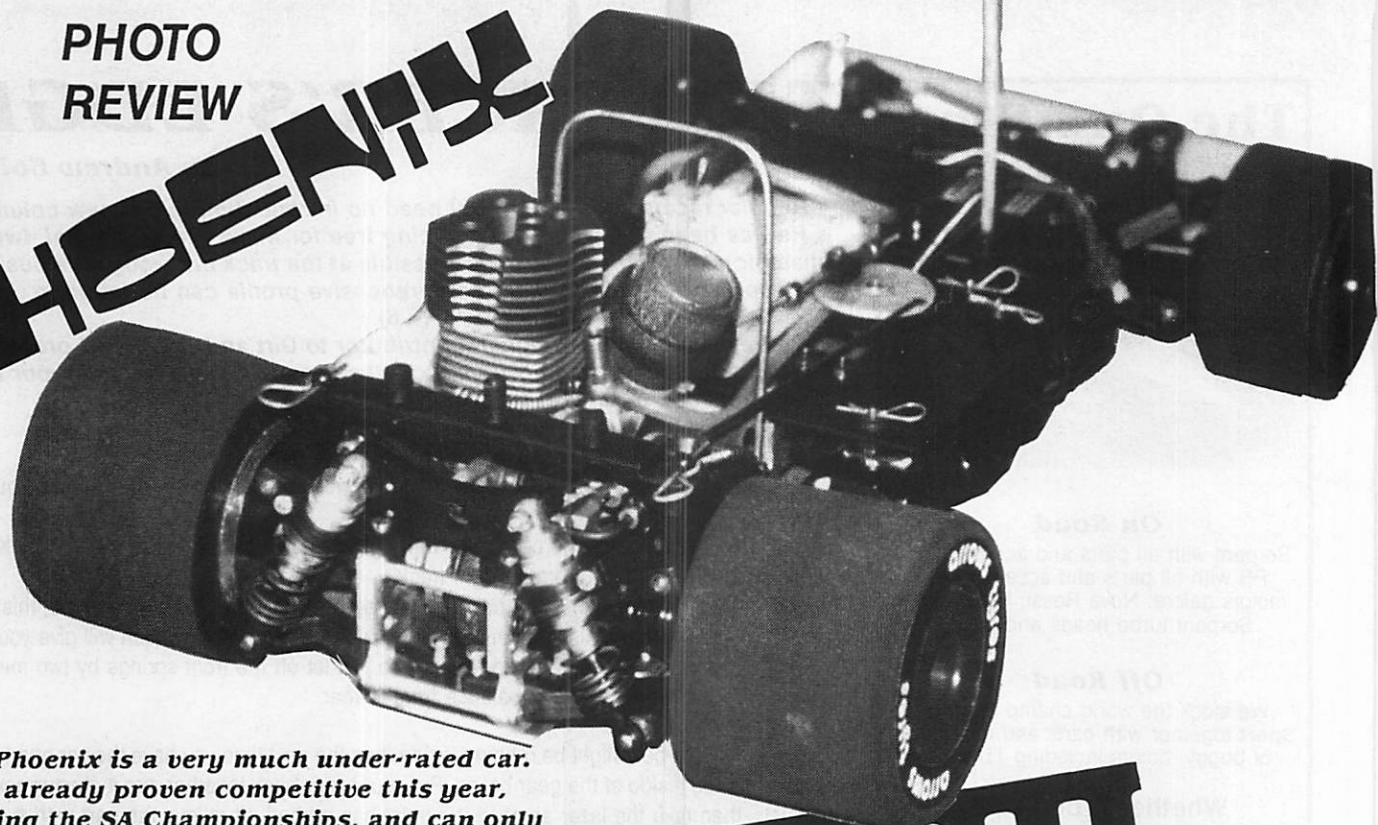
That is about all for my first article, if you have any questions, problems or anything else that may arise don't hesitate to write to me at Bolt-On and I will answer to the best of my ability, or see your local hobby shop.

Next issue we'll have a look at the Ultima Pro 2, after that some updates and other Kyosho cars.

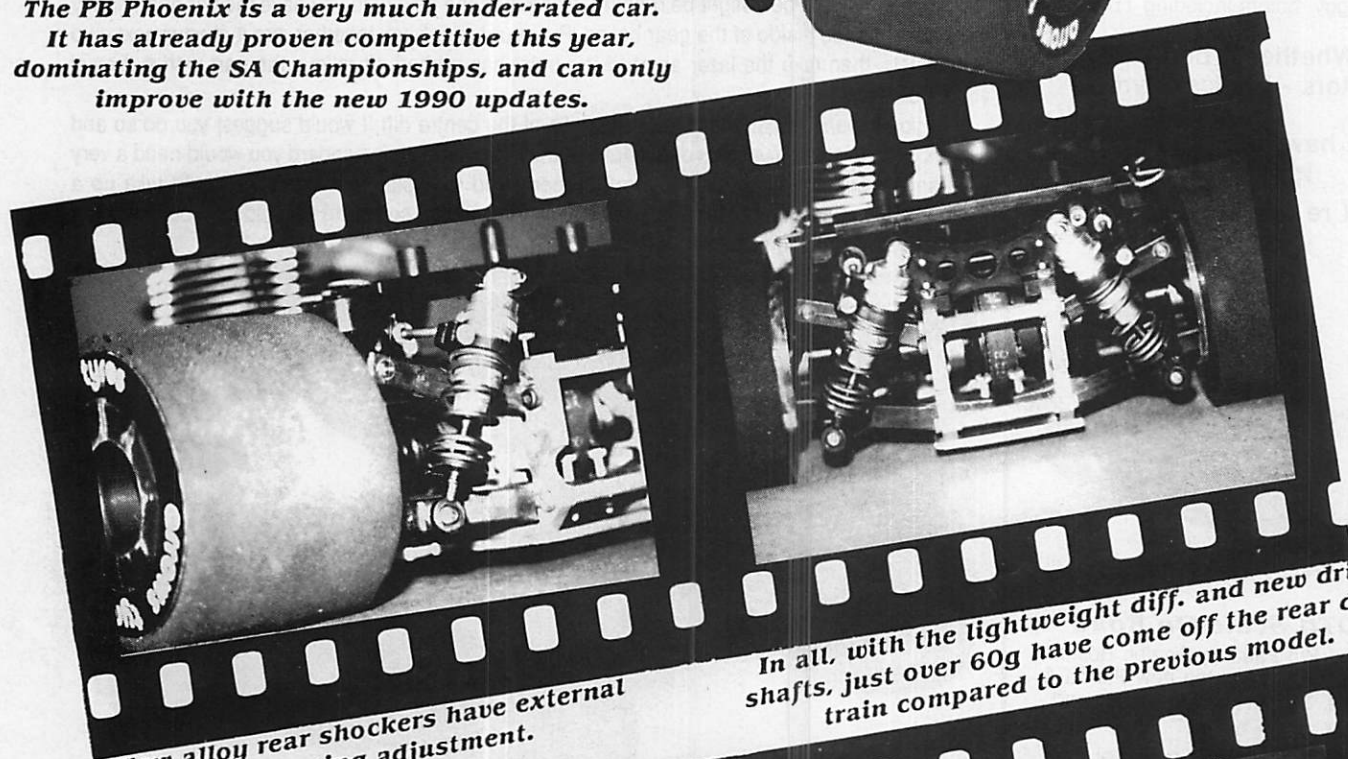
Only the best for this column! Hope to get a couple of give-aways for the next article, so keep watching this space and you may win something.

B PHOENIX

PHOTO
REVIEW



The PB Phoenix is a very much under-rated car. It has already proven competitive this year, dominating the SA Championships, and can only improve with the new 1990 updates.



New alloy rear shockers have external dampening adjustment.

In all, with the lightweight diff. and new drive shafts, just over 60g have come off the rear drive train compared to the previous model.



20

Blitz style rear body mount puts the down force from the body straight to the rear wheels via the axle blocks.

All new constant-velocity joint rear drive shaft fitted with protective rubber boots. The new lightweight diff. can also be seen; apart from the weight advantage, it can now be set looser without slipping.



NEWS & VIEWS

by Rob Reade

Firstly, this issue I want to give 1/8 circuit racing a plug. This exciting form of R/C model car racing is going through a boom overseas with all of the manufacturers we deal with reporting increased demand.

If you want to experience the thrill of driving an R/C racing car that can accelerate to 100 kmh in 3 to 4 seconds (4WD), can stop even quicker, makes a noise like a real racing car (magnificent at full speed) and smells like one with the aroma of racing fuel, talk to us now.

We have been competing at the top in this hobby for many years. We have the knowledge and experience to help you and we sell equipment which is equal to anything you can buy in the world.

PB PHOENIX 1/8 CIRCUIT RACER

If race winning performance creates sales for a product then I have to give the PB Phoenix a plug. Here in Australia this year, the PB Phoenix has turned in some impressive results with almost every Phoenix entered in 4WD class making the finals at the 1990 Victorian, South Australian and New South Wales Champs. In South Australia, with most of Australia's top racers present, the PB Phoenix was the class car of the event and absolutely dominated, qualifying 1st, 2nd, 3rd and 4th, setting a new outright lap record, a new 5 minute qualifying record and placing 1st and 2nd in the 1/2 hour final! Now, significantly the results in all three of those 1990 state titles were achieved with near kit standard late '89 spec. Phoenix cars. All indications are that the new 1990 model Phoenix is faster! Considering the outstanding technical spec. of the new kit I can believe it, and I can tell you that many of the top racers in Australia share my view. Elsewhere in this issue you will find a preview pictorial of the new 1990 Phoenix and it is available now from us direct or all PB stockists.

NOVA ROSSI/REX 3.5cc RACING ENGINES

Nova Rossi are one of our suppliers who are working flat out to keep up with demand. The Rex 3.5cc motor produced by Nova Rossi is by far the choice of winning drivers world wide and such is their on-track success both here and overseas that the list is just too long to document! Nova Rossi was established in 1985 (we have been the exclusive Australian import agent since the beginning) and quickly became the trend-setter. Perhaps I should mention that with 1/8 circuit world champs held every two years Nova Rossi won in 1987 and again in 1989 with Rex. The 1/8 buggy world champs are held in alternate years and Nova Rossi claimed victory this year. The superb engines and products from this specialist Italian manufacturer seem to be even further in front in 1990.

Our first shipment of the new turbo headed version of the Rex 3.5cc car and buggy motors has arrived. Now if you want to experience some really 'awesome' world champs winning performance, talk to us now.

The latest series of 'awesome' turbo motors are relatively expensive but Nova Rossi/Rex cater for all budgets, the hobby racers and the serious racer. The current range of Rex motors consists of Rex Normal, Rex Super Competition and Rex Ultra Competition (turbo). There are different performance and pricing levels through the range but all parts are interchangeable. You can 'mix and match' if you wish, i.e. it is possible to start with a standard Rex motor and update to the performance level required in planned stages by using components either from the super competition or turbo models. Thus you do not have to go to the expense of a new engine when more power is required. We also have the ability through the 'mix and match' system to tailor the power delivery of the engine to your requirements i.e. if you are a 2WD class racer and require less torque at low revs but with the real power delivery higher up the rev range then we can do it for you.

Nova Rossi make other quality world champs winning products. They have a full range of glo plugs in both normal and turbo versions, air filters, fuel filters, manifolds and tuned exhaust pipes. The full Nova Rossi/Rex product range is listed in our latest 1990 price list together with 3.5cc engines in marine and aero versions as well.

1/10 BUGGY ELECTRIC PB AND LOSI

The PB MINI MUSTANG just continues to perform. We have a few left at \$199.00 and it is possibly the best value for money kit available in a 4WD fully ballraced buggy today. It is competitive (winner 4WD stock '89 nats and placed in the 'A' final 4WD stock 1990 nats) and spare parts and service backup is readily available.

Moving up the price scale, PB's latest contender the 'Ace' is available in rear engine 2WD, and 4WD form at \$299.00 and \$349.00 respectively. For those who absolutely insist on a mid engine 4WD we have been experimenting with such a motor location in a 4WD 'Ace' with some interesting results. The basic components to do this are available to order. Phone us for details.

What can I say about Losi? The products from this American company are superb. We are distributors for the full Losi range including JRX2 buggy, JRX2 monster truck, Performance kit, electric motors (new releases), accessories (new releases), tyres (new releases), spare parts and promotional gear. SHOPKEEPERS, full trade terms are

available together with product listings and prices.

1/10 ELECTRIC CIRCUIT RACERS PRO10 AND SERPENT

There is a big choice of brands in this class but the PB SIZZLER stands out as an innovative and very competitive design in the solid rear axle class. (Priced very competitively too!) I can tell you that there are some very exciting developments yet to come from PB for the SIZZLER.

We also have a new contender, the SERPENT TENFORCE 2WD electric circuit car. It is different as it is a full suspension car with mid engine location rather like a scaled down 1/8 circuit car. Super quality, packaging and presentation with excellent instructions. Available now.

MIXING YOUR OWN MODEL FUEL

We are Australian import agents for EDL, a very special oil for use in model engine fuel. EDL (Extreme Duty Lubrication) was developed over a three year period by Model Technics UK in conjunction with laboratories specialising in oil and fuel research. It represents the combined efforts of some of the World's leading authorities on lubrication and combustion technology — plus thousands of hours of practical engine testing. EDL is not just a lubricant, it is a complete basis for a fuel. When mixed with methanol and nitromethane, it not only lubricates and protects against corrosion, it takes part in and controls combustion, producing a response engineered to the requirements of model engines. A must for those who mix their own fuel, who want the best protection and are performance oriented. Available in 1 litre container and After Run engine oil in 250ml container.

GENERAL

We are Australian import agents for the Sarik Vactorm (UK) quality range of lexan bodysells. Included in this are Ford Sierra, Benetton F1, Group C Porsche, Nissan and Sauber Mercedes.

We are Australian import agents for the ARROWS company of Italy. They are world leaders in 1/8 circuit tyre technology but not only are they expanding into 1/10 tyres but also into car kits. A range is planned in 2WD and 4WD 1/10 electric buggies and 2WD PRO 10 suspension cars in both electric and engine powered forms. Interesting!

Last issue our sister company, Model Imports International listed a whole range of super quality race parts for 1/10 buggy from RW RACING UK. Please refer to D&T #16 page 10 for this listing or check with us. Price list available on request.

Happy racing
Rob Reade



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NOVAROSS

REEDY INTERNATIONAL RACE — JAPAN

by Andrew Bolton

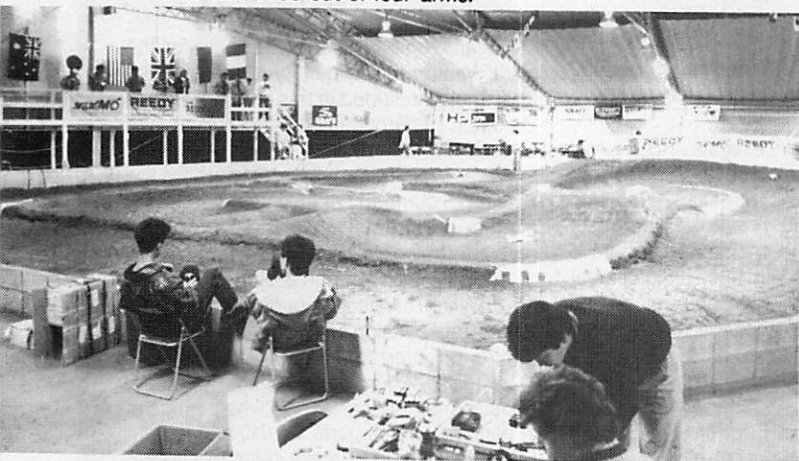
Reece Birtles and Andrew Bolton were recently honoured with an invitation to compete in the prestigious Reedy invitational event in Japan. Reece couldn't make the trip but Andrew did and sent us this report. Ed.

We arrived in Japan five days before the race meeting started. Landing there early in the morning and having had no sleep we expected to have a relaxed day but this was not to be. After having breakfast we were taken to the Tokyo Motor Show (opening day). It really is something to see the sea of black hair as 80,000 Japanese try to get the best vantage points for photos. The Motor Show is an awesome display of what the Japanese can do with their technology.

Back to the race meeting. We got there on Wednesday and started practice in the afternoon. At first look, the track seemed to be very loose but as practice went on it packed down very well, lending itself to some very close racing as everyone got their cars sorted out. The crowd gathered to see Masami have his first run. As usual it looked like he had had several hundred practice packs through his cars.

On Friday racing started — first with a practice run to make sure there were no frequency clashes. Racing format was six races in each of 2WD and 4WD, getting between one and eight points for every race. One point is given for first place and so on, then the results for 2WD and 4WD are added together and the driver with the lowest number of points is the winner.

The racing was the hardest I have ever seen, every heat being rearranged so you drove against different drivers every race. Some of the drivers I drove against were Cliff Lett, Jay Halsey, Butch Kloeber, Rick Vehlou, Christian Keil, Masami, his brother — yes he has a brother and a lot of the Japanese think he is a better driver but he does not practice as much. The track was very tight and I think it was the hardest track I have driven with one huge jump and a set of double jumps. If you took it too fast you messed up the line for the corner which was about three foot from the second of the doubles and if you took it too slow you nose dived straight into the second double and stopped dead. I have never seen more fatalities in races. My brother and I watched a couple of the unrestricted entry races and in a few of them — out of eight cars two or three finished. Many of the cars were Yokomo's breaking bulkheads and arms. It is the only time I have seen one car break three out of four arms.



Check out those jumps! Yokomo's track in Japan.

The normal club racer would be at the same level as us, and use mostly the same equipment — just a little more of it. I was racing the Kyosho Ultima Pro 2, and Lazer ZX which were supplied for me along with a mechanic who was also the designer of the Lazer and new Ultima. This designer, who is also a good friend, is only 24-years-old. KO. supplied all the radio gear I needed.

I would like to thank Jeff Foster of Kyosho Australia for all his assistance, Kyosho Japan who supplied all the equipment, KO and, last but

not least, Peak Performance for batteries and motors.

One of the lighter sides of the Race Meeting was a Celebrity Race with Mike Reedy, Tommy — the owner of Yokomo, Bunzo — the manager, Asami's father and mother and a few others whom I did not know. Bunzo told me before the race started that he had never driven before. The race started with Bunzo pulling away from the others with Mike Reedy in hot pursuit after him but Bunzo kept pulling further away.



Jay Halsey's car going for the long distance record at Reedy's Japan International.

Mike kept losing time (being well known for his air time over the jumps), by doing some of the biggest jumps of the weekend. A quick look around the track (the spectators were about five thick) and I spotted a silver aerial sticking out of the crowd and Jay Halsey on the end of it driving Bunzo's car. I thought something was amiss when at times I saw Bunzo waving his arms around and holding the transmitter above his head. Bunzo won the race and the look of astonishment on Mike Reedy's face was something to see.

The presentation was held in the arena and this was quite interesting. Trophies were presented to placegetters and to about 15 people for just being there, including my brother. Mike Reedy presented the trophies to what must have been at least 150 people.

Anyway, the placings were: Masami, first (who else); Jay Halsey, second and Cliff Lett, third. I will not go on any further as I cannot remember all results and have been unable to track them down. I got 15th which was okay. The trip was really great and I enjoyed every minute of it.

*** Not long after the Japan Reedy race, the first of the 1990 Reedy Race of Champions was held in the USA.**

The results were:

4WD: 1st. Masami Hirosaka, Yokomo and Reedy; 2nd. Cliff Lett, Yokomo and Reedy; 3rd. Rick Howart, Lazer and P.P.

2WD: 1st. Cliff Lett, RC 10GX and Reedy; 2nd. Rory Cull, RC 10GX and Reedy; 3rd. Jack Johnson, JR-X2 and Losi. Masami was 11th in 2WD and Gil Losi Jr. was last (25th). The other item of interest in the results was Britain's blue eyed boy, Jamie Booth, finishing 19th and 20th respectively and driving Tamiya cars.

WIMPY MOTORS —

The Force to be reckoned with

Wimpy motors have swept all before them since their release (see review in D&T#11). Available in 17 turn triple wind for 2WD and 15 & 14 turn double winds for 4WD.



IN STOCK

WIMPY DINK

ORRCCA APPROVED STOCK MOTOR



GONZO NI-CADS

From the USA, these two packs are (left) the SC1200 race pack computer matched and top of the line super high quality cells. The economy pack (right) is slightly below the computer matched pack in performance, but is still above most other SC packs and some SCR's.

NEW
RELEASE

ELIMINATOR *Sport*

BY

BOLINK



TAKE A LOOK INTO THE FUTURE OF ELECTRIC R/C CAR RACING

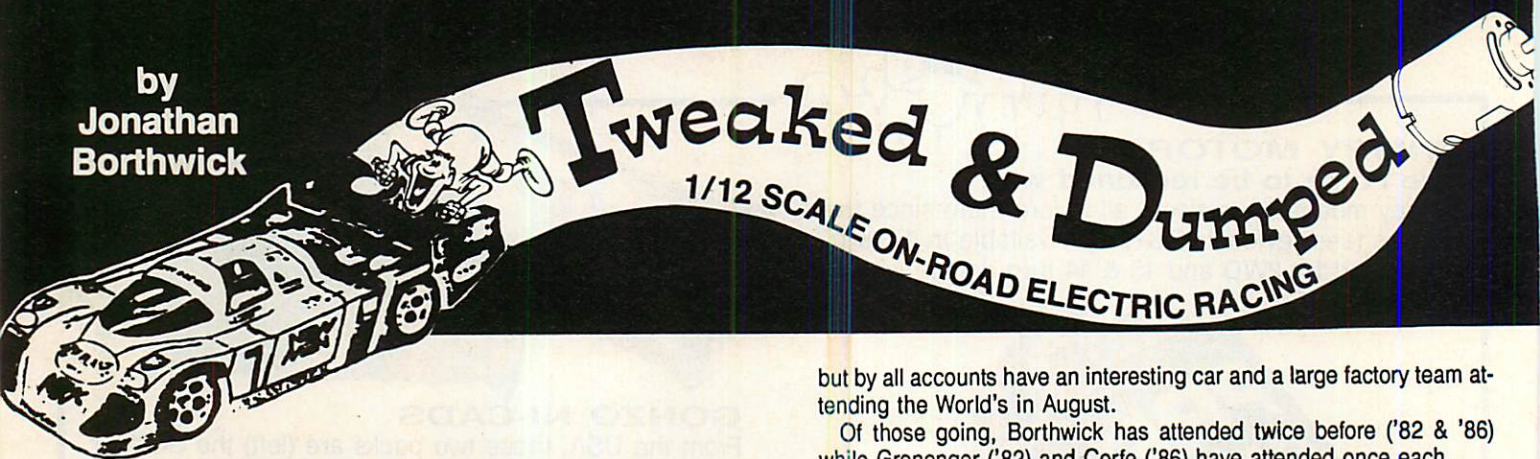
The **ELIMINATOR SPORT** is Bolink's lowest price version of our Eliminator 10 that has won two ROAR National Championships and many other races across the country.

It uses the same chassis and front suspension as the Eliminator 10, but with strong nylon motor mounts and a controlled flex fiberglass T-Plate. Like the Eliminator 10, it comes with Bolinks nylon battery holders, a stainless steel rear axle with ball type differential, hardened steel kingpins and front axles and fasttrack racing tyres.

The Eliminator 10 parts and racing accessories can be added to the sport to make it into a seriously competitive racing machine.

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by
**Jonathan
Borthwick**



A lot is happening at present which makes it harder and harder to meet deadlines as Mel and John will testify. The problem is worse than usual as I have been very involved with the establishment of a new 1/12th - 1/10th track in Brisbane and getting things organised to go away for the 1/12th World Titles.

NEW BRISBANE TRACK

Once again 1/12th racers on Brisbane's South side have a first class facility and it is one their bigger 1/10th relations can enjoy as well. Previous tracks on that side of town had closed due to lack of interest or building foundations taking priority!

I approached the Department of Transport regarding one of their dual "Park & Ride" facilities which was seldom parked on. With the greatly appreciated co-operation of the department and a responsible and professional approach by the organisers, approval was granted.

but by all accounts have an interesting car and a large factory team attending the World's in August.

Of those going, Borthwick has attended twice before ('82 & '86) while Grenenger ('82) and Corfe ('86) have attended once each.

I guess the question everyone is asking is whether Masami can make it two in a row with his Associated RC12L and maintain his present record of dual 1/10th and 1/12th World Champion.

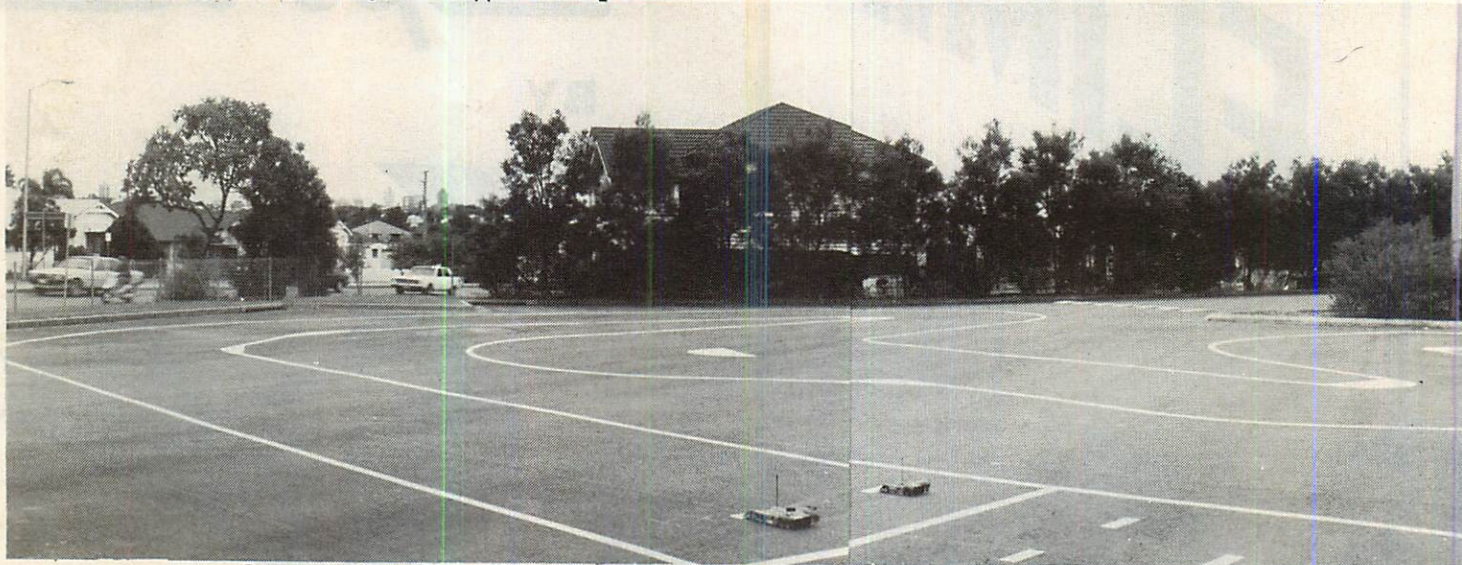
Tony Neisinger will be attempting to reclaim his title as a Trinity driver, having made the break with Associated last year.

With nine Australians going, and given the experience, particularly of the Sydney drivers on carpet, we are looking at our best ever result at a 1/12th World Titles.

All will be known after the last final is run on August 4 at the Trinity sponsored Fifth IFMAR 1/12 World Championship.

PRODUCTS IN USE

When Mike Lavacot and Kent Clausen, two of the best drivers in the world, get together you know they're up to something special. The result is LAVco USA and some of the best assembled products I have



Somewhat wonky composite photo of the new Brisbane layout.

With Barry Corfe we designed a near perfect layout which appeals to novices, experts, 1/12th racers and 1/10th racers alike. This was trialled for a couple of weeks and then the Department of Transport assisted us in painting the track layout.

The surface and traction are both ideal and, as the photographs show, the track itself looks great. The address for any visitors is Fairfield Rd, Yeronga, and club racing is on a Friday night.

There is more to come. It appears that a carpet track in Brisbane may not be too far off. Stay tuned!

1990 WORLD TITLES

A record nine Australians are set to jet off to Singapore the last week of July to contest the 5th IFMAR 1/12th World Titles. The roll call (alphabetic order) is as follows: Rick Bartolozzi (NSW) Associated RC12L; Jonathan Borthwick (QLD) Associated RC12L; Ben Carruthers (NSW) TRC or Corrally; Barry Corfe (QLD) Associated RC12L; Rod Denning (NSW) Associated RC12L; Colin Grenenger (NSW) TRC or Nikko; Phillip Kennedy (NSW) TRC; Tommy Lee (NSW) Associated RC12L; Jason Wicks (QLD) Associated RC12L or Bolink.

Of most interest is the possibility that Colin Grenenger may be running a prototype Nikko car. Nikko is not well known for its racing cars,

ever seen. For years I have had problems finding a reliable power supply and after talking to Kent Clausen at the 1/10th Off Roads last year, I ordered a LAVco Power Mate.

This menacing looking burnished aluminium box houses up to 10 amps of DC power which will happily power up most any peak detection charger with ease. In tandem with a Novak charger you have the ideal means to getting that extra bit into your packs that may be the difference between winning or not.

Either way it is a far more civilised method than lifting the bonnet and leaving your car with a flat battery after a day's racing. Providing you have access to mains power of course.

Operation is simple, although care must be taken to ensure that the plug into the 240 volt main power socket is electrically safe. For the international racers amongst us, the Power Mate can easily be converted back and forth for 110 or 220/240 volt usage. LAVco can provide details here which should be detailed in the instructions or better still, an external switching system should be used to discourage unqualified fingers.

The unit is fully fused, but always ensure polarity is correct before switching anything on, especially if Deans and other non-polarised plugs are employed.

A green light set within the switch lets you know the LAVco Power Mate is pumping out its 10 amps of "Pure Power".
The instructions cover it all, so as always read very carefully.



LAVco Power Mate and Novak Peak Detect Charger
"looking after" a set of Sanyos. See text for full review of LAVco power supply.

CONCLUSION

While the LAVco Power Mate at first glance would mainly appeal to the "Pro" racer, there are a lot of club racers who would enjoy the sport a lot more if they could have a consistent charge.

While the cost would seem to make the LAVco something of a luxury, (how much is it Jon? - Ed) especially when matched up with a top line peak detection charger, the quality of componentry, the resultant

lack of reliance upon a car battery and the superior charge and run time it affords are a positive boon. The fact that it provides a very stable source to charge from reduces the possibility of your charger switching off as it might were it to encounter false peaks from a sub-standard power supply.

Now if only all tracks had plenty of 240 volt wall sockets!
Nice one Mike and Kent!

UPDATE — COMPOSITE CRAFT/TRC LYNX II

In Issue No.16 I provided a brief run down on this new entry in the rapidly growing and competitive 1/10th on-road class. Although a lot of time has passed since I first saw the Lynx II, it has been a fight against my main enemy (time) to complete this review.

This issue I will examine the features this car has to offer, a few hints which may aid construction and reliability, a rundown on the track performance and a few constructive comments which the manufacturers may use as they please.

Firstly to the building, and as always, the instructions must be read very carefully. A degree of care must be taken when building the front end as the one instruction manual serves both the Lynx Elite and its base model brother which uses a different front end. Once you have worked out which car you are building, things go quite smoothly. As this is the first car from Composite Craft, I will excuse the fact that, as with Associated's earlier efforts, two booklets are required. One has the words and the other the pictures. Otherwise the instructions are very good and leave little to doubt. Anything that is not clarified will be addressed in this review.

I mentioned last issue that I wished all manufacturers that supplied saddle pack layout chassis would pre-file the battery slots as this is always the first (and worst) stage of construction. Composite Craft joins Yokomo and Associated in this "crime". The quality of the carbon fibre components is testimony to Composite Craft's expertise in this area and the molded nylon parts are on a par with just a little molding flash to remove.

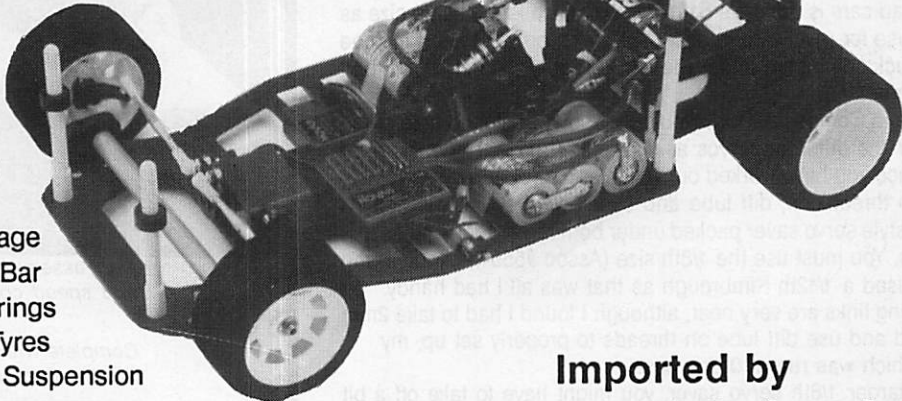
The first "handy hint" I can offer is Step #4 and while it is a simple one, I am sure it will catch out many owners of the car. Quite simply, ensure that the front beam axle is pushed through the two mounting



LYNXII ELITE

LYNX II ELITE

- FEATURES:**
- Adjustable Roll Rate Sway Bar
 - 5 Position Rear Axle Height • Graphite Pro-Diff Axle
 - Adjustable for Oval or Road Course Racing
 - Aluminium Motor Block
 - Graphite Chassis
 - Aluminium Diff Hub
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 - Aluminium Wheel Hub
 - Aluminium Steering Linkage
 - Magnesium Front Cross Bar
 - Front and Rear Ball Bearings
 - Front and Rear Racing Tyres
 - Rear T-bar Mono Shock Suspension



The LYNX II by TRC/Composite Craft is a totally new design in 1/10th scale electric cars. It gives superior performance on both oval and road course tracks along with easy setup and low maintenance. And it's fully equipped, not stripped! All the national winning parts used by TEAM TRIAD drivers Joel Johnson, Tony Neisinger, Andy Dobson and Bob Light are included.



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blocks prior to locating the king pins. That's it!

While on this area of the car, the beam axle is tapered at the ends and care must be taken to avoid stripping out the axle when locating the two grub screws which locate the king pins. There is not a lot of "meat" here so go easy! On the positive side of the beam axle, the design means that a change in castor does not affect the front ride height as it does with say the Associated RC10L with its castor shim arrangement. It should also prove relatively tweak free in the event of a shunt. It does, however, affect the toe in/toe out.

The next handy hint is to use threadlock everywhere. I use and recommend the Tamiya product as it is formulated for our use and will not affect nylons or plastics as others may.

Assembly proceeds easily from this point, although the rear end assembly warrants particularly close scrutiny of the instructions and requires juggling the bits and pieces while you turn pages. This is the critical part of the car and it must operate smoothly if you want the car to stick on our low traction surfaces.

The shock absorber leaves a lot to be desired and reminds me of those used on the Mugen car the Bielby's drove to second place at the Nationals a few years back. It gives the impression that if you changed oil weight, it would make little difference. For the record, Associated 20 weight silicon oil was used. I understand that a number of top racers are using a Kyosho shock to replace the unit supplied in the kit and I would have to recommend it as it is such a vital area in the race for traction.

Which brings me to another point. Why not supply in a car of this quality and cost a pot of differential lube and some shock oil to save the builder that extra trip to his/her hobby shop?

The differential is of the ball type and was assembled with the diff rings super glued as recommended and a couple of "glops" of Associated diff lube. The differential action was superb and the five ball bearings employed ensure it stays that way.

Interestingly, a 64 pitch spur gear is supplied, but a pinion isn't. I think out here 32 or 48 pitch are a better bet as they are easier to set up, cheaper and easier to obtain. Nevertheless I used the supplied gear and complemented it with a 64 pitch Losi pinion from my tool box.

As always, the worst part (chassis filing excepted) is mounting the electrics. I used a Purge Force speed control with a standard Futaba receiver and S148 servo as this is typical of the arrangement many first up 1/10th racers would employ. The instructions show use of a Novak road pack including a NES-1A servo which on first thought (the servo that is) would seem a little small for a 1/10th car, especially one supplied without a bumper. However, after a phone call to Bob Novak during which I put the question to him, he advised that the most recent NES-1A servos now have 30 per cent more output and work fine as long as a large Kimbrough Servo Saver is used (see below).

Other good news is that Novak will shortly have a new servo out which will be just perfect for 1/10th on road. My decision was to change the servo to a larger Futaba unit just in case.

So far so good!

Two sets of holes are supplied but you have to go back to step #9 to work out which ones should be employed. Now we're cooking except that of the four holes supplied, only one will accept my bigger servo. I should note also that the servo I recommend for steering on 1/10th on road cars is Futaba's S131SH unit which is the same size as the S148 I use for review purposes. As a compromise, I used my one hole and stuck servo tape under the servo so it is still not all that bad an arrangement.

My advice to Composite Craft would be to offer a slotted hole or extra holes for the different servos as Associated do with the RC10 off road car. Once you have worked out which servo you are going to use, note next to threadlock, diff lube and shock oil that you will need a Kimbrough style servo saver packed under both Kimbrough and Associated names. You must use the 1/8th size (Assoc #5551), although the review car used a 1/12th Kimbrough as that was all I had handy.

The steering links are very neat, although I found I had to take 2mm off each end and use diff lube on threads to properly set up, my toe in/out which was run at 0 degrees.

With the larger 1/8th servo saver, you might have to take off a bit more.

The turnbuckles have opposite threads so use of a bar through the middle hole will allow adjustment without removal. Just make sure you go the right way. A handy hint here is to scratch on an arrow indicating the direction required to tighten the linkage.

The radio gear is easily swallowed up, so much so that the budget

racer without an electronic speed control could successfully mount a resistor type unit.

A nice touch is the supply of a fibreglass antenna which saves a few dollars.

Short of mounting up the body, it is time to run but ask yourself one question. Do I need a bumper? As none is supplied and I believe one is required, you might want to start measuring up. The Associated RC10L unit (Part #8177 or #8187 which is wider) will fit the hole spacing but will need to have the nylon ridge shaved off.

In 1/12th I believe you can get away without a bumper however the extra weight and, hence, the mass of a 1/10th car driving itself into an immovable barrier is potentially more destructive and expansive. Your choice!

ON THE TRACK

Some time ago Associated sent me one of their Esprit Clubman Motors which was designed for 2WD off-road use. This was installed in the Lynx and proved a great combination, affording respectable acceleration out of corners, good speed on the straight and outstanding run time on our new track.

The two things which most impressed with the Composite Craft/TRC Lynx were the quiet of the gear train, courtesy of 64 pitch gears and an ultra smooth differential, and the high level of grip the chassis and tyres generated.

TRC's input into the car is evident in the superbly trued tyres mounted on very realistic rims.

While the rear end felt a little stiff on the bench, on the track it sticks like the proverbial. With an Associated Chevy Baretta body it understeered just enough to feel very solid. In fact, I was very impressed with the whole package and reckon with a sports Car body and less rear wing it would be quite a neutral handler.

Adjusting the shock oil weight seemed to make no difference, but tightening/loosening the shock collar to adjust spring tension did influence rear traction. After each run the car was carefully checked for any binding, especially the rear end, but if anything it works better each run as parts "bed in" a little.

CONCLUSION

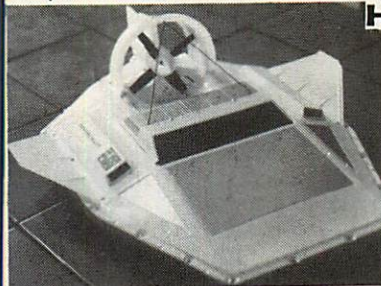
TRC and Composite Craft have produced a nice handling package which is just that bit different to others on the market.

Assembly is a little more difficult than some and price may be a little more than competition, but the quality of parts make this money well spent.

I can see a lot of Lynx cars hitting the track in 1990 and doing well, especially if care is taken in the building stage and maintenance is kept up. Some work on the instructions is required, but like Associated's product, the Composite Craft/TRC Lynx is a car which should remain competitive for many years with only small add on modifications from the manufacturer as development progresses.

The car is being distributed by Greneger Enterprises and was supplied for this review by Composite Craft Inc. in Australia.

THRUSTER HOVERCRAFT



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— Great Performance!

☆ See review on
page 57.

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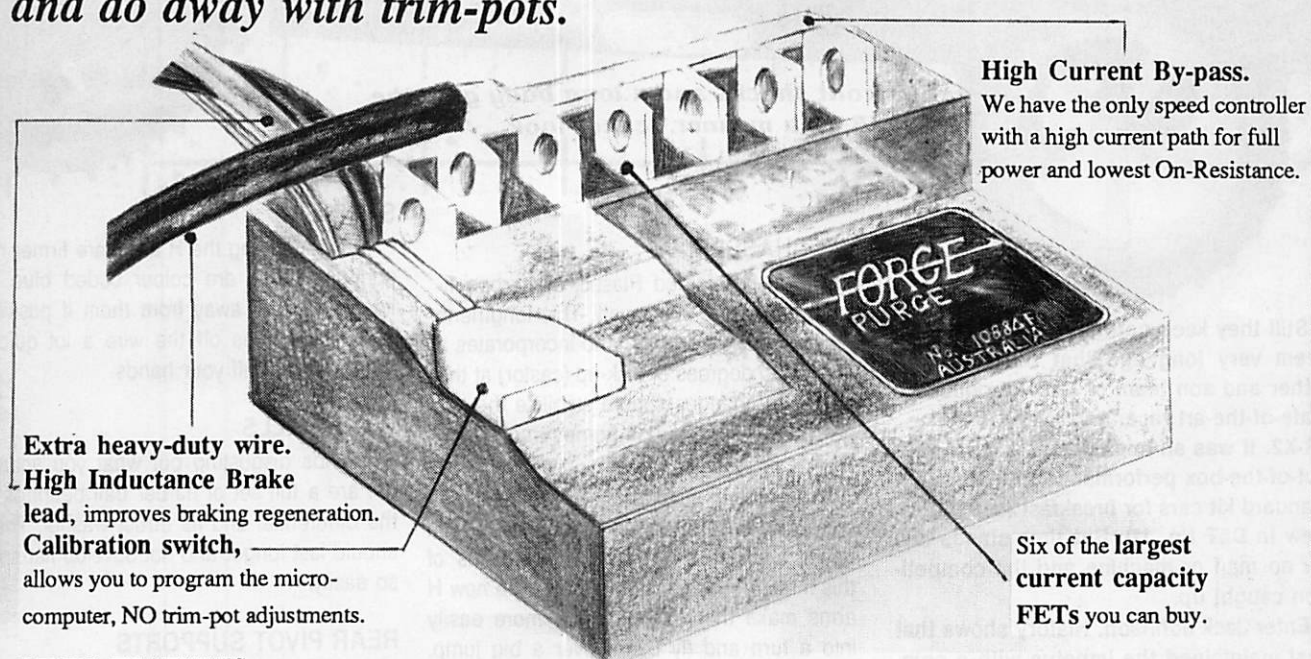
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TEAM LOSI

JR-X2

Big front shocks and a long body give the JR-X2 a meaner, leaner look.

Still they keep getting better! It doesn't seem very long ago that the American father and son team of Losi introduced a state-of-the-art racer and called it the JR-X2. It was an immediate success, with out-of-the-box performance that ate other standard kit cars for breakfast (see our review in D&T No. 11). But time stands still for no man or machine and the competition caught up.

Enter Jack Johnson. History shows that Losi maintained the impetus with a complete domination of last year's US Nationals, headed by a two wheel drive win to Jack Johnson and his new look Losi. Now Johnson's modifications can be added to the standard kit car by means of the PRO-FORMANCE kit. The many Losi owners don't have to buy a new car or hunt around for ideas to stay in front — it's all in this one box.

RECIPE FOR PERFORMANCE

None of the hot-ups in this kit are frivolous. They are all proven and make for a better performing car under most conditions. Look at all the goodies you get, then I will tell you the best news of all.

FRONT BUMPER

It's not very big but it's preferable to what you got before, ie. nothing.

FRONT SHOCKS

A new tall front shock tower plus enough bits to convert the old front shock absorbers to big shocks same as the rear. The big new shocks up front wouldn't win any beauty contest and certainly don't do anything for the drag co-efficient but they do tame the beast somewhat.

The front end now contacts the ground more often at speed.

CRP CHASSIS

(Carbon Reinforced Plastic, or carbon fibre or graphite if you must). This lengthens the wheel base by 12mm and incorporates a massive 30 degrees of kick-up (caster) at the front. Both changes should stabilise the car even more, especially on bumpy tracks.

REAR H ARMS

The five link suspension is replaced with more conventional lower shaped arms with upper adjustable tie rods. The benefits of this mod. are less easy to define. The new H arms make the rear end slide more easily into a turn and fly better over a big jump. They are better suited to smoother faster tracks with high bite. On the other hand the original Losi 5 links excel on rough rutty tracks with slow corners. Of course all the top drivers have converted to H arms because they are new.

And newer is better — right!

SPRINGS

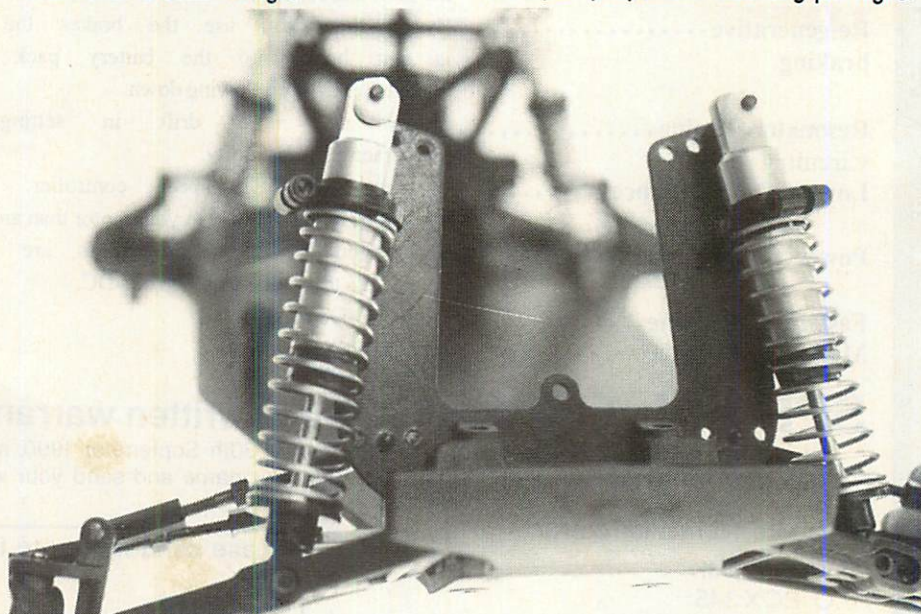
Complimenting the H arms are firmer rear springs. These are colour coded blue but keep shock oil away from them if possible. The blue comes off the wire a lot quicker than it comes off your hands.

HARD BALLS

Sounds disgusting but what you actually get are a full set of harder ball bearings for the differential and its thrust washer. These should last longer and not develop flat spots so easily.

REAR PIVOT SUPPORTS

This is a real neat Ninja Turtle mod. Supplied are four different plastic mouldings that carry the inboard pin for the rear suspension arms (see sketch). By changing this moulding the amount of rear toe-in (wheels point together when viewed from above), or rear anti-squat (suspension mounting pin higher



Massive front shocks and new bumper are part of the Proformance Kit.

at the front than back) can be varied. Rear toe-in helps with straight line stability.

NEW BODY

A sleek new body is supplied to fit the lengthened car. This appears to be moulded better than my original body which was brittle and couldn't hack more than a few races without splitting. You will have to make do with your original wing and I was a little disappointed that Losi's famous window masking templates were omitted.

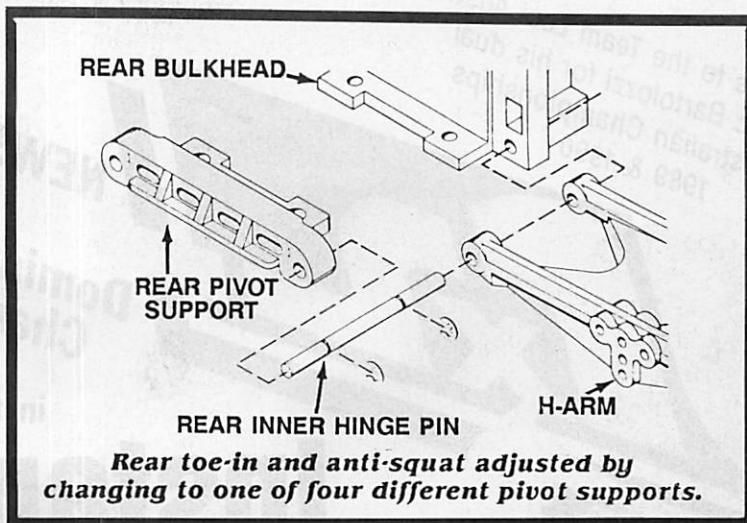
BONUS BITS

The best news is Losi's contribution to keeping down the cost of staying competitive. Normally the cost of all the above would justify the asking price of around \$225 for this kit — the CRP chassis alone is worth well into three figures but also thrown in is the Losi JUNIORS CHOICE motor. This is an open style motor and not a stock motor, of good quality, with 17 turns of wire on the armature and it is ideal for top level club racing at most tracks. See full report elsewhere this issue.

You also get a free spelling mistake with this kit. At least I think it's a mistake. Scattered all over the kit box and the instruction guide, in big print, is the name JR-X2

The Losi Instructions that accompany this kit are excellent. Every step required to dismantle and then install the Proformance hot-ups is covered. It's easily and quickly done.

Only a few small points are worthy of mention during re-assembly. Firstly, it is advisable to fit a washer under the head of the lower rear shock securing bolt to prevent the ball popping off. Secondly, if the rear top suspension link is positioned as recommended then the inboard end will foul the lexan spur/pinion cover.



buggy, in the latest idiom, for about half the price. Let's go get our nice clean car dirty again!

Once on the dirty stuff the changes to the Losi are subtle but obvious. The original Losi tended towards under-steer and one would expect the longer car to make matters worse. This is not the case. It is probably easier to drive, especially on loose slippery tracks (aren't they all!) but no less responsive. It still handles like the thoroughbred it has always been. There is no increase in weight so the excellent Losi low rotating mass gear box and ball differential still give the best speed and acceleration in the business.

There's nothing wrong with the original Losi which is still very competitive. Keep the shorter chassis and 5-link rear handy since it could still be superior on some tracks. It's worth experimenting with the long chassis allied to the 5-link rear, something that the new Losi purchasers can do by opting for the Monster Truck kit (see review elsewhere this issue) instead of buying the original JR-X2. However the hot-ups found in this kit should maintain the edge over the competition for X2. Maybe that's what they mean by Pro-Formance.



New Losi Hot-up Kit comes complete with free motor and spelling mistake on box lid!

PRO-FORMANCE KIT. Maybe it's a new word — hopefully one that will replace the word "awesome" as the fetish of the month. However, no corruption of the English language is enough so we will stick to Proformance.

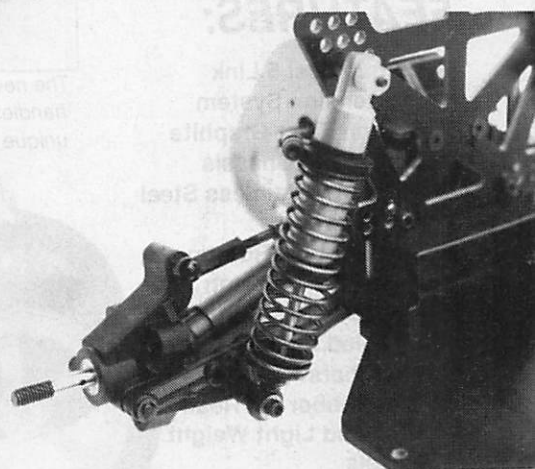
MANUAL DEXTERITY BIT

You virtually have to completely strip the car to install the new parts but the car dismantles easily so this is no big chore. It gives one a good opportunity for wear inspection and remedial work. A toothbrush and some CRC will have all the old plastic parts looking like new again.

The only solution to this problem is to notch the cover. Finally the small clips that retain the suspension hinge pins have a habit of falling off. I speak from experience. A dab of Loctite 42 during assembly will secure them.

The extra length and the deletion of suspension link side posts give you more space than a politician's brain and makes the installation of the electrics a breeze.

We got carried away (or maybe we should be!) with the new body and sprayed it with D&T's copyrighted Fluoro Chaos Art colour scheme. When finished we had a near new



Multi position shock mount and rear lower suspension arms are new Losi features.

Congratulations to the Team Losi Australia driver, Ric Bartolozzi for his dual 2WD Australian Championships 1989 & 1990

NEWS FLASH!

Dominates 1990 Australian Championships

1st, 2WD Stock
1st, 2WD Jnr Stock
1st, 2WD Modified
1st, 2WD Jnr Modified

6 out of 8 finalists chose JR-X2 in the prestigious 2WD Mod. category.

Instant Winner!

*... just add driver**

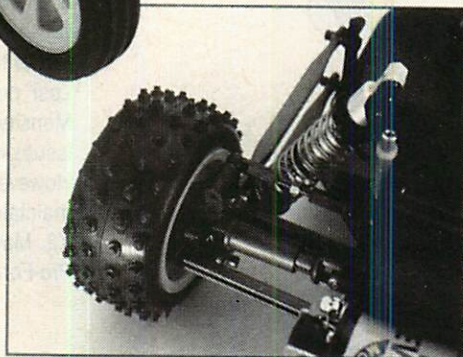
WHY JR-X2?

The JR-X2 is the product of my many years of R/C car racing experience. It incorporates the many little things that helped me win 4 World Championships and numerous major titles around the world. The highly tested and developed design will help you be successful against the toughest competition.

GIL LOSI JR.

JR-X2 FEATURES:

- Unique Losi 5 Link Suspension System
- Carbon Fiber Graphite Composite Chassis
- Precision Stainless Steel Ball Bearings
- Efficient Low Rotating Mass Transmission
- Internally Pressurized, Oil Filled Shock Absorbers
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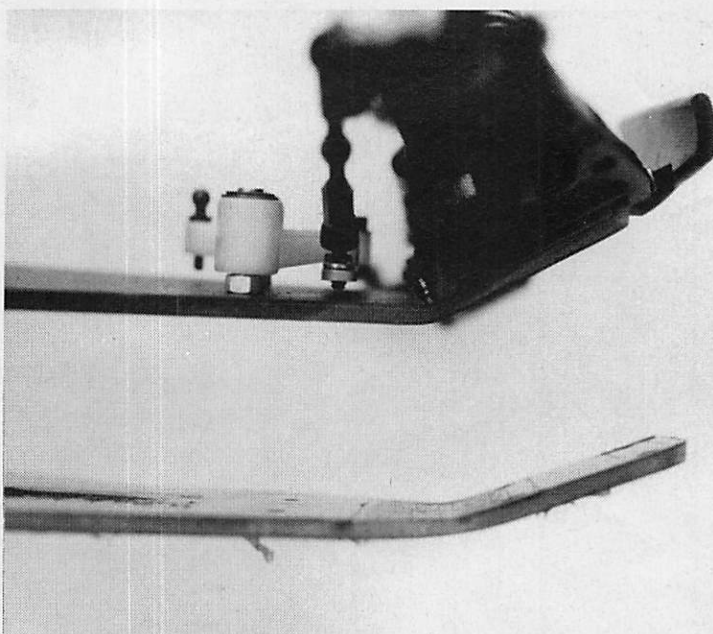
LATE NEWS
ALSO WINS 1990 NSW CHAMPIONSHIPS

TRADE ENQUIRIES WELCOME

PRO-FORMANCE WITH A CAPITAL "P"!

One of the best things about the original Losi kit was the set-up guide. It was almost worth the price of the kit to learn about Gil Losi's tuning tips for two wheel drive.

This high standard flows on to the Pro-Formance kit with a comprehensive guide, this time written by the US champion, Jack Johnson. By studying Jack's Tips you will learn how to identify and correct any problems with suspension, handling and steering in addition to a special section on rear toe-in, anti-squat and H arm selection. All the settings used on the ROAR Nats winning car are detailed. About the only thing missing is advice on correct tyre selection. We would say that the standard kit ribbed fronts allied with in-spike rears is a good place to start. These guides ought to be compulsory with all RC cars. They allow the purchaser to get the most out of his/her investment.



Front 30° kick-up compared with old chassis.

Continued from page 10.

Dear D&T

While reading through D&T No.9 I found a letter from Bob Beniston about a Canberra oval racing club. Does this club still run and what are the classes? I've read about the American 1/10th scale oval racing in an American magazine and think it's awesome! A bit of complaining now. In Jonathan Borthwick's article about the RC10L, he mentioned how he dislikes the Sedan body he had to fit. I think Sedan bodies are a good way for the sport to go. They may be hard to drive, but there's all the fun of trying to make them work. The Americans got them to work, so can we. Anyway, Kent Clausen hit 70.1 mph with his Chevy Lumina bodied RC10L.

Your mag is really top, but I wish more 1/10th scale oval clubs would appear. How about some colour in the mag?

Matt Padula, Fisher, ACT.

Canberra Off-Road MCC now run oval and indoor circuit for all electric classes. Please contact the number given in our club directory. We like the tricked-out Sedan bodies too. Their inferior road holding is not so critical with oval racing, compared to flat circuits - especially at 100 k. We do have colour! Unfortunately it's mostly three colour - black, white and grey. Be patient! Ed.

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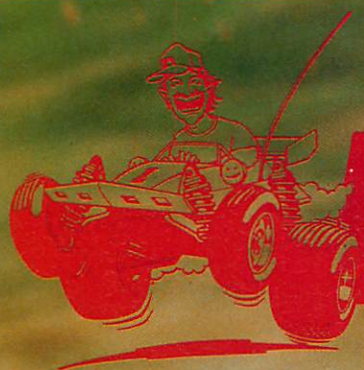
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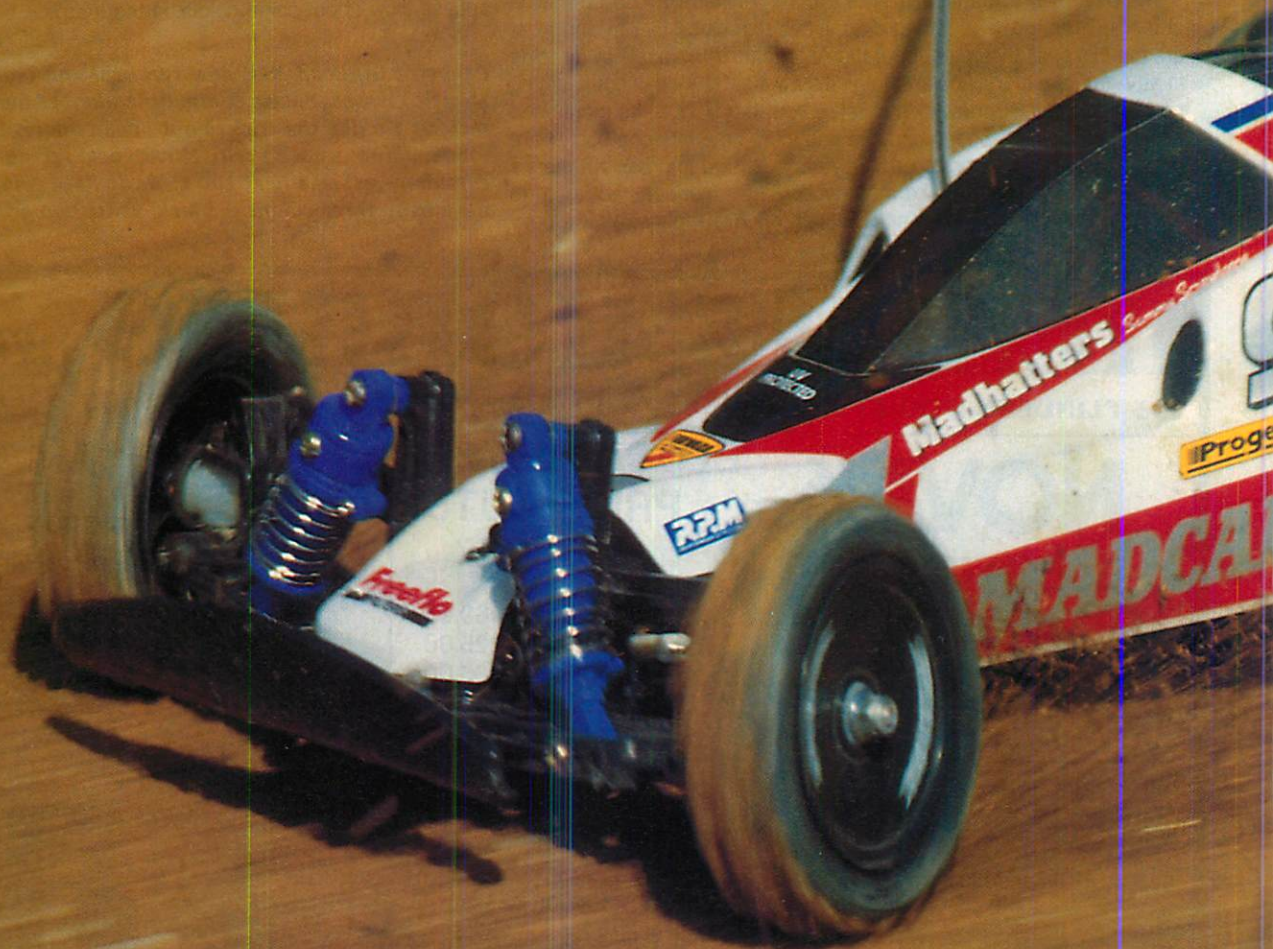
**STOP
PRESS**

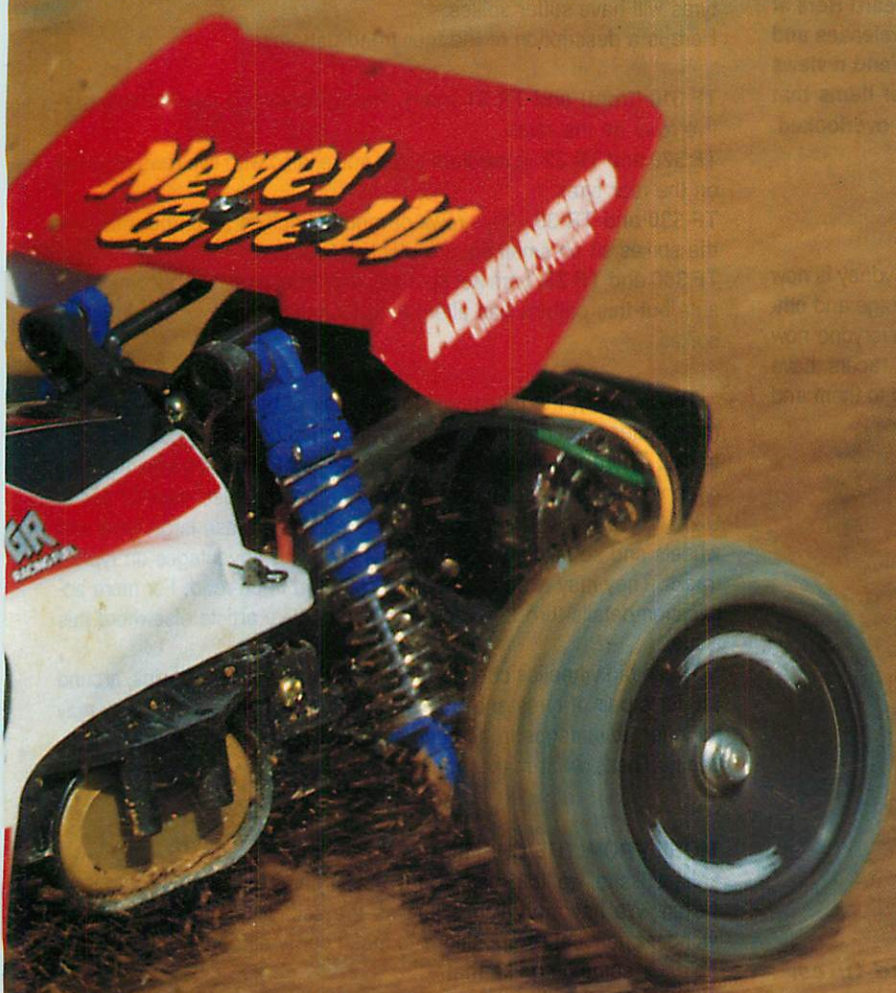
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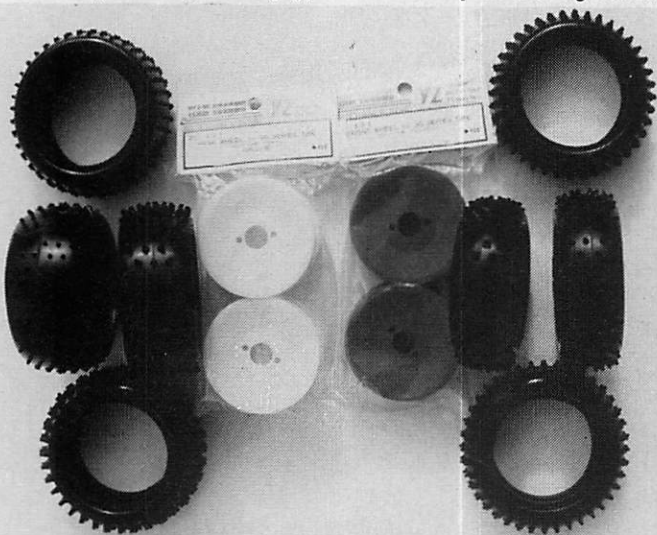
MADCAP

WHAT'S NEW & WHAT'S DUE

Radio controlled cars are a today activity. High tech, radical and always something new. Definitely not for the faint of heart! Here at Dirt and Track we are lucky enough to see most new releases and try many of them. That's where the big product tests and reviews come in. But there are many accessories and smaller items that do not warrant a full review — neither should they be overlooked. Here's where we look them over.

BIG WHEELIES

The sensation of last year's Buggy World Champs in Sydney is now readily available. Some say Yokomo had an unfair advantage and others say it was just a big con but whatever our opinion everyone now has the opportunity to test for themselves. Most top racers have already done so, on many types of cars. They are sticking to them and



Some of the new 30 series big wheels and tyres.

the cars are sticking to the track better. Available now from Yokomo are the large, 2.2 in. diameter wheels and a range of ultra low profile tyres to suit. Naturally the wheels are to suit Dogfighter axles (large square locators) but adaptors are available for RC10, Schumacher and Kyo-sho Ultima and Optima type axles. No doubt other adaptors may be produced to suit demand. Not ones to do things in halves, Yokomo now has a big range of 2.2 in. rims and tyres and sorting them out can become confusing. Pay attention and we'll have a go.

WHEELS

As far as the fronts are concerned you only have to decide what colour you fancy — white or pink.

Things get a little more complicated at the rear since in addition to the two colours you can also have the rims with a 6mm offset. This will make your buggy 12mm wider at the back which brings the standard Dogfighter nearly up to the maximum permitted width of 250mm, but will most likely make other cars too wide.

TYRES

There should be one here for all possible scenarios. At present there are four tread patterns and all are available in rear tyres, front tyres (narrower), and either medium or soft compounds. This makes a total of 16 tyres in the new range. You can always tell the hardness of

the compound by bending the spikes with your fingers. The harder tyres will have stiffer spikes.

Here is a description of the four tread patterns:

TF 310 (front) and TR 31 (rear). Recognisable by the fine spikes — five rows on the rears.

TF 320 and TR 32. A medium sized spike, also with five rows of spikes on the rear tyres.

TF 330 and TR 33. Five rows of medium spikes again but this time the spikes sit on small square blocks of rubber.

TF 380 and TR 38. I am not sure whether front tyres will become available but this pattern has alternating four then five rows of big heavy spikes.

Theoretically, the minimum sidewall flex of the low profiles will promote better cornering but with the trade-off of bottoming out on bumpy tracks. There is still Yokomo's large range of standard size (two in.) tyres which were adequately covered in Geoff Birtles' Hot-Up tips in D&T#11. We are working our way through using these large tyres and wheels and so far they seem to offer handling advantages on typical tracks. They may even become the standard in off-road. For more application details turn to Birtles' very informative article elsewhere this issue.

These big wheelies cost no more than their smaller cousins, around \$16 for a pair of tyres and \$12 for rims, but like any hot-ups they may not offer advantages in all circumstances and should be used intelligently. That's what makes racing so interesting.

MORE FROM THE CHEMICAL FACTORY

Last issue we told you about the super-glue that works well on Lexan. We have more this time as the scientists keep churning out wonder chemical compositions to make our wretched lives more bearable. Or something like that.

PIC APART is the radical name and softening is its aim. Cynicism aside, this stuff really works well. Its main aim in life is the softening and removal of cured cyanoacrylates (super-glues) but it also does a stirring job on polycarbonatend Lexan paints. A few issues ago a reader asked what was the best way to remove cured paint from car bodies. Other readers responded with their bright ideas but having tried all of them they don't hold candle to Pic Apart. If your vehicle is painted with the usual polycarbonate or auto touch-up paint then just pour Pic Apart onto the paint (or should that be Pour Pic Apart onto a Piece of Peter Piper's Pickled Pepper!), wait a few seconds then rub off. A few goes may be required on very thick coats but otherwise the paint will come off easily and won't even dull the lexan underneath. You will need to exert some elbow grease if cleaning up a whole body but smaller areas are a breeze. It also claims to remove decals, textas, scuff marks and more. Wonder what it will do for a hangover?

PIC (Penn International Chemicals, if you're interested) also has Pic Plastic Stic cyano. for Lexan and plastic kit construction. I could say it's my Pic Of The Month — but had better not in case they take me away!

The distributor is Model Engines in Melbourne which thrusts these wonder chemicals under my nose at the recent Toy and Hobby Fair.

WHAT'S NEW & WHAT'S DUE

FUN OF THE FAIR

Speaking of the Toy and Hobby Fair reminds me of a few little goodies worth mentioning. This annual fair is a monster event for the trade where toys are big business. Serious business too — children are not allowed! Last year the setting was Sydney's Darling Harbour in the grand halls of the Exhibition Centre. Toys make up by far the majority of displays but some of the big hobby names were present.

DAWN TRADING handles the world champion lines from Yokomo, Associated and Reedy. We've already talked about the big wheels but that's not all that was new. Associated has some ripper new bodies.

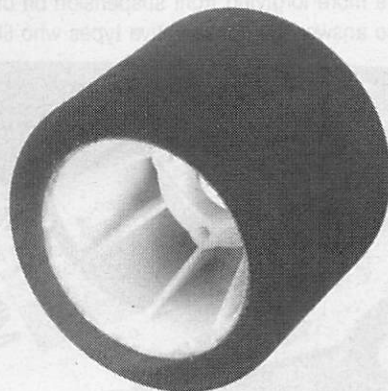


Associated Electrics' 1/10th Ford T-Bird 1989 stock car body. For the RC10L and other on-road cars.

There's the 1989 Ford T-Bird that looks as though it might handle quite well for a Sedan; a Jaguar XJR10 (GTP or Group C style) for the English purists and if it's pure handling you are after (as opposed to modern appearance), the TOJ Can Am looks better than some.

All are 1/10th scale and nicely moulded in polycarbonate. Also available is the Associated 100 per cent Silicone Shock Oil which is claimed not to change viscosity between early morning qualifying and late day finals. You can get it in 10, 20, 30, 40 and 80 weight. They also have hard carbide diff. balls in 1/8 in diameter and green grade rear

donuts (tyres) and wheel/tyre combinations for the RC 10L. They would most likely fit other 1/10th on-roaders too. The Jaguar body and new rubbers are just what you need for the big titles coming up at Sydney's Crossroads track in September (refer Oz calendar).



Associated Electrics' RC10L Rear Rim/Tyre. Mounted and trued. Coded green for maximum traction.

RADIO CONTROL SUPPLIES showed the Bolink range including the Eliminator Sports (reviewed last issue), which has been a runaway success. They should now have all the parts to make the Sports into a top level racer. RCS also handles Panda cars, Wimpy motors (including the new Wimpy Dink Stock — how about that for a name!), Gonzo batteries and Thunder Tiger accessories. Two other items are



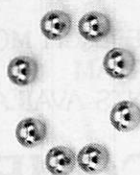
Acutrak is a desirable accessory for the well dressed racer.

worthy of special note. The Acutrak Speed Cronometer is usually found in all the best speed circles, both full size and RC size. I noticed quite a few at the World Champs at St. Ives. This special purpose stop watch also counts laps, stores and recalls lap times and can be programmed to read average speed. At an RRP of \$92 it is a quality accessory for the well dressed and well heeled enthusiast. The best looking item on this stand, apart from the saleslady of course, was a gas powered 1/10th car wrapped in a very attractive Celica body. This is a new release from RCS and with an RRP of \$330 should really set the market on fire.

For this you get an almost ready to run 2WD car with buggy style independent suspension complete with Magnum 10 engine and recoil starter. Radio gear must be added but for less than any battery buggies you get real smell and sound and enough power to blow most electrics to the weeds. Watch out for D&T review soon.

Apart from the Minicron racers (see later) Jack and Col Greneger were found surrounded by the famous Schumacher cars as well as the elite LRP motors and batteries from Germany and any items that they

TEAM ASSOCIATED



Racing Silicone Shock Oil 10wt, 20wt, 30wt, 40wt, 80wt. 2oz. bottle from Team Associated.

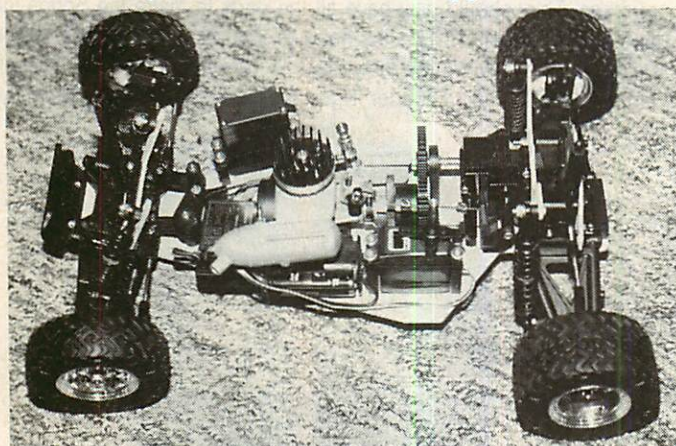
Associated Electrics' RC10 1/8 in. diff balls.

WHAT'S NEW & WHAT'S DUE

import — like Nikko cars and accessories and Novak speedos. The new Schumacher Cougar was seen for the first time. This is a new version of the Top Cat with more conventional vertical front shocks. This is said to give a more forgiving front suspension on uneven surfaces and should also answer the conservative types who like mega shock

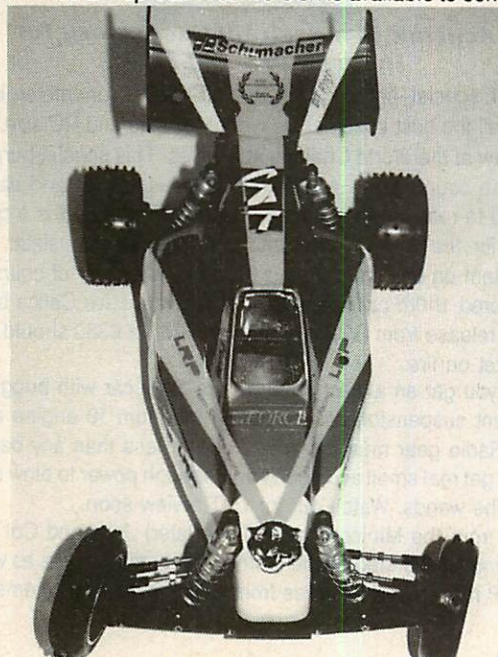


New Celica 1/10th Gas Buggy available from Radio Control Supplies.



Under the Celica body is a buggy without a battery.

movement and ugly front ends although as I speak Andrew Nelson is slaying them all in Sydney with a very standard looking Top Cat. But now you have the choice. The Cougar comes with a new style body but is otherwise all Top Cat. A conversion is available to convert the TC



Schumacher's new 2WD Cougar.

(where's Sergeant Dribble!) to the conventional but aerodynamically dirty type front end. Greneger Enterprises and Pit Stop are also the sole distributors for the TRC range of fast on-road electrics, allied to which are the Composite Craft carbon fibre chassis and other parts. As mentioned in Jon Borthwick's column last issue, Composite Craft has released an important new car, and although the agent is Paul Newton (Qld), the Composite Craft range is only available from Grenegers.

TABLE TOP RACERS

I like the power that comes with being Editor. For example I can invoke the Do As I Say Not As I Do rule. After laying down the law as to what constitutes RC cars in Dirt and Track (ie; no toys and nothing smaller than 1/12th Scale), I hereby claim editor's privilege and make an exception. I saw these little critters at the Toy and Hobby Fair. We've seen tiny RC cars before but these are different. Minicon cars are 1/32 scale, with two channel full function (independent) control. This is not proportional but otherwise they have most things every RC car should have — but shrunk. The cars run on three pencils and everything else is included in the ridiculously low retail price of under \$34. They zip around like overgrown blowflies and are just the thing to keep junior amused until he's big enough to have a real RC car. Greneger Enterprises are the distributors and we hear that Col Greneger hones his driving skills by practising with them on the shop floor.

And that's it. No more dinkies in D&T. From now on we stick strictly to the serious stuff. Excuse me while I go watch Teenage Mutant Ninja Turtles!

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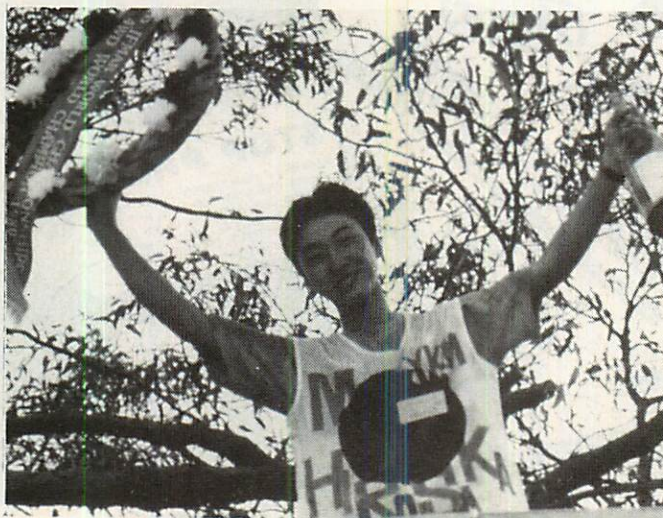
Modifieds

YOKOMO TQ & FIRST

Associated have captured more World Titles than all other car manufacturers combined. And now they've done it again. Top Qualifier and Two Wheel Drive Champions of the World! Sydney, Australia, Sept '89. **Yokomo** continued its international domination of the Four Wheel Drive event to TQ and win its second World Title, which makes it 2 out of 3! Masami Hirotsaki, Team **Yokomo** and Team **Associated** driver and winner of both events powered to victory with **Reedy Motors**, **Reedy Batteries** and **Yokomo Tyres**. A World Championship combination!



'89 WORLDS 1/10 OFF-ROAD



Masami Hirotsaki, winner of both 2WD and 4WD events is certainly a World Champion.

But it was no 'one horse' race. **Associated Cars** TQ'd and placed 1, 2, 3, 5 & 7 in the A Final. **Yokomo Cars** TQ'd and placed 1, 2, 4, 8 & 10 in the A Main. **Yokomo Tyres** and **Reedy Motors** were used by more than half of all A & B finalists. A stunning and decisive victory for **Associated**, **Yokomo** and **Reedy**, manufacturers of the worlds best buggies, tyres and motors.

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TEAM LOSI

SERIOUS TRUCKI'N

JR-X

Forget about your Brute's, Clods and Crushers it's time for some serious trucking. I'm talking racing trucks. It had to happen of course. Monster trucks climbing out of the gravel pits and sand dunes and on to the race track. Maybe crushing a few cars on the way. It started in America and now it's happening here.

The new breed of racing truck is big and mean on the outside but under the body is a fine tuned racing machine. It doesn't just crush cars it goes straight through them! Up until now you could buy all the bits necessary to convert most popular buggies to racing trucks but you could not buy a thoroughbred racing truck kit. Enter the Losi JR-X.

Team Losi have a single purpose in life — to race and to win. This philosophy has paid dividends in the form of the immensely popular JR-X2 two wheel drive car, and this proven winner forms the basis of the new Losi Monster Truck.

All the racing car features can be found on the JR-X :

- * A strong and light carbon fibre chassis, long type
- * Ball races throughout
- * Radical five link rear suspension
- * Four monster size shocks
- * Turnbuckle adjusters
- * Fine pitch type, 48 dp gears
- * Uni. joint, sliding splined driveshafts
- * Ball diff. with latest large size thrust bearing
- * One of the best gearboxes in the business

Add to this a polycarbonate racing truck body and outrageous wheels and tyres and you have the RC equivalent of the world record holding jet truck, Waltzing Matilda.

BUILDING A MONSTER

Instructions are to the usual high standard found in American RC kits. Like the JR-X2 the JR-XT (hope you're keeping up with all these abbreviations — whatever they mean) comes with a comprehensive manual that contains many step-by-step instructions and large clear diagrams. You also get a full size hardware identification guide and a parts list. Most importantly the manual concludes with a very comprehensive section on truck set-up and tuning tips.

With such excellent instructions there is not much more we can add. The Losi is simple by design and a smart kid could build all but the gearbox and ball differential. The latter items are critical to a top performing truck so follow the instructions to the letter. When it says to only apply a minute (as in miniscule, not a fraction of an hour) amount of the Losi grease (supplied) to each diff ball it means just that. Any more and the diff will be stiff. See last issue for all you ever wanted to know about differentials.

The directions say to install the progressive rate springs on the rear shock absorbers, which is fine if you know what progressive rate springs look like. They are the ones with the coils closer together at one end of the spring — and the close coils go towards the top of the shock. They are also coloured black. Upon setting-up as instructed we found that the rear end sat nicely but the front was a little stiff and high even with silver springs adjusted to full length. This is the way we ran the truck but some experimentation with front spring rates would help fine tune the machine.

The large, three piece wheels are a little tricky to assemble but no major drama if the instructions are followed carefully. This is the way rims used to be in the old days before one piece wheels and the method is essential if the big tyres are to stay put, without resorting to super-glue. The tyres are trapped into the wheels and cannot roll off.

The rolling chassis is completed with large front and rear body mounts. This takes the place of a bumper at the front and slots into the top of the gearbox at the rear of the truck. Now you know what that mysterious and apparently useless mount is for on a JR-X2. Both mounts may be cut down to alter the body height and rake. We kept ours full height.

BODY AND ELECTRICS

The large lexan body more easily accomodates big hairy hands and is therefore easier to cut out and mask. Losi provide ready shaped masks for the window areas which is very thoughtful of them. We fixed the supplied spoiler to the end of the trucks tray (not shown in the instructions) and the dust shields to the chassis — both with double sided tape supplied in the kit. Don't forget the dust shields, the body-offers little protection against dirt since it is mounted so high.

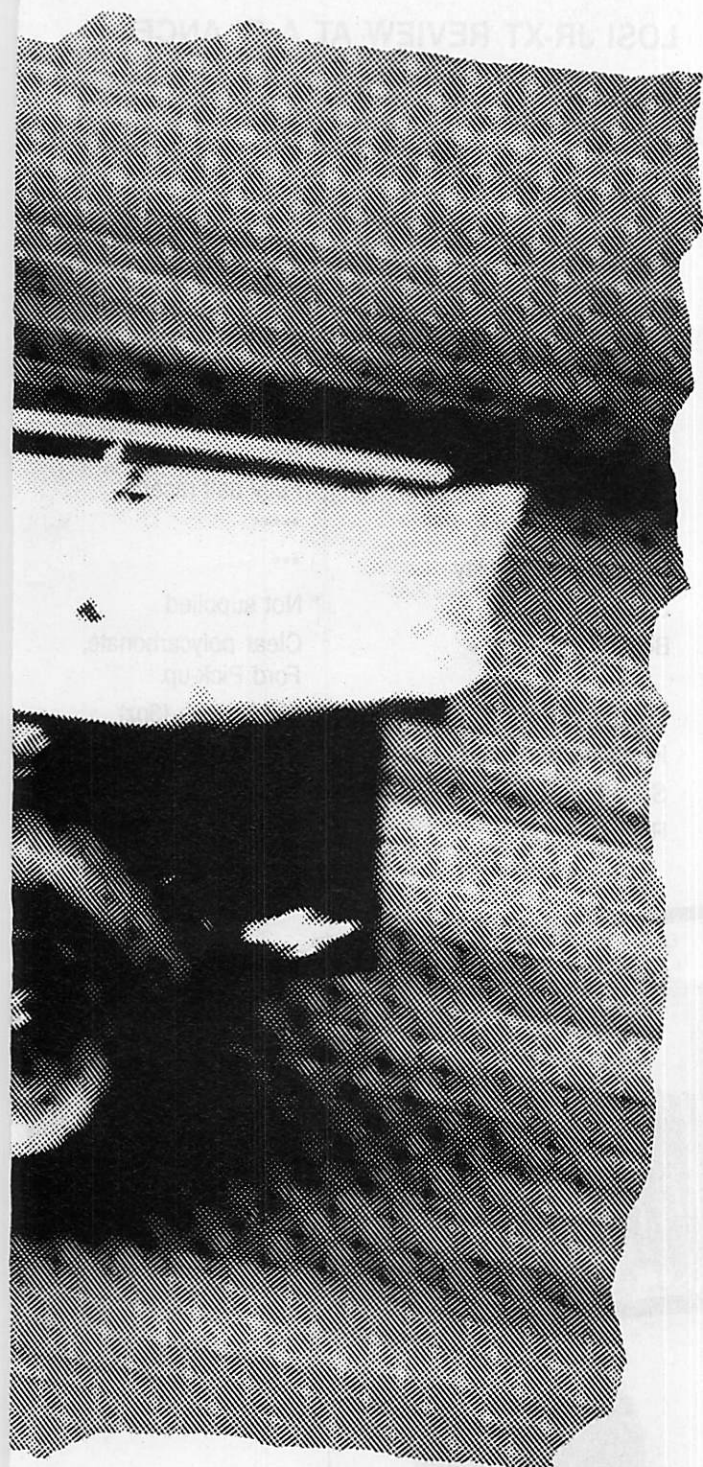
Radio installation is no problem on the clean flat chassis. A mechanical speed controller and second servo could be accomodated if required.

Remember to keep the sensitive receiver as far from the motor as possible and to route the aerial wire straight to the vertical antenna tube (supplied) and to loosely coil any excess wire on top of the receiver case, not on the CRP chassis. Although the flexible steering bellcranks (parts 66 and 68) are designed to absorb some steering shock loads we recommend a Kimbro servo saver also be fitted. Those mighty wheels and tyres place a lot of strain on the servo.

TRUCK TRACK TIME

It's amazing how those big wheels and high body transform the appearance of the 2wd Losi. Compared to the car, the wheel track is extended 50mm to a whopping 300mm wide. The length is still the same so the truck looks very square. Tyres are 100mm diameter and the truck height is a max of 190mm. It looks more like eighth scale than one tenth — it might be a racer but it's still a monster.

We stuck in a well worn Kyosho 240 SPA motor (18 x 2 turn) and did a few bombing runs up and down the road. With the gearing optimised at 86/19 (or 82/18 which gives an overall ratio about 9.9) we were quite surprised at the speed. Maybe it was the size that gave more of an impression of speed but it sure was eerie to see such an agile monster. This baby was just asking to be raced — so we did. Bankstown Club in Sydney now runs a regular truck class so we had to have a go.



Losi truck could easily be converted back to a racing buggy.

Pitting the thoroughbred JR-XT against ordinary sit-up-and-beg trucks is unfair. There is no competition. In America they are having to create a bunch of extra categories to separate the likes of the Losi from the heavy metal, wheelie, all show and no go car crushers. Here, we are not yet so advanced so the Losi dominates. In fact, I was only beaten on the day by another Losi JR-XT, and I think he was using a 15 turn motor — I wouldn't recommend anything hotter than that.

The rigours of competition soon show up any inadequacies in a design and we found one in the Losi. The steering arrangement may be good for the JR-X2 but it's not up to trucking standards. It is too flimsy and there is too much lost movement. When brand spanking new it's not bad but the wimpy (by truck standards) steering components don't handle the heavy wheels for long. They do not break — just flex and wear quickly. This inadequacy may not appear during normal running but it materialises in the form of steering judder during high speed cornering under racing conditions. Shouldn't be too difficult or expensive to fix when heavier duty components become available.

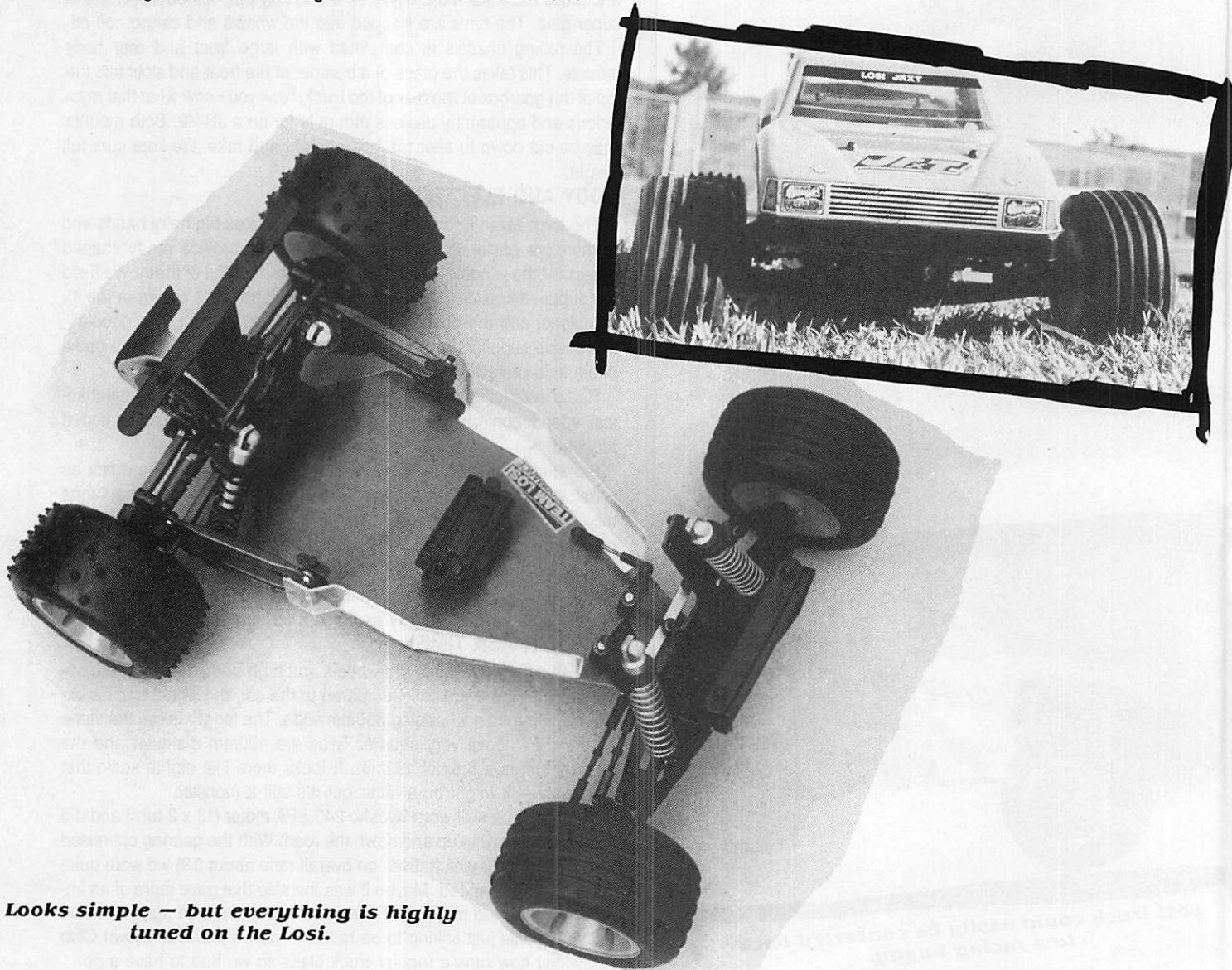
DE-BRIEFING

Whether truck racing catches on in Oz is open to debate. Many are sceptical, but I ask you to form no opinions until you've seen these monsters race. They may just be buggies fitted with oversize wheels and under size bodies but on the track they are a whole new barrel of monkeys. The Losi JR-XT looks (and is) fast, it's easier to drive than a buggy and you should see the body roll on fast corners! If trucking does not appeal then a quick wheel and body change gives you a racing car. In fact the JR-XT is being bought for conversion to a buggy because of its longer chassis and big front shocks.

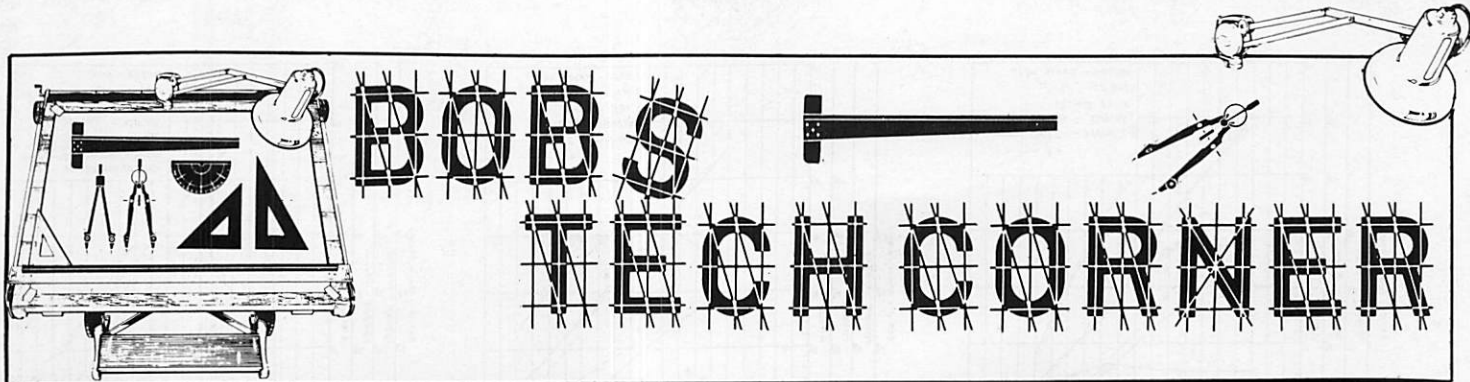
But if trucking's the game it's time for all good buddies to put on their blue singlets and start honking with the JR-XT. And that's no bull.

LOSI JR-XT REVIEW AT A GLANCE

Quality of instructions	****
Ease of construction	****
Quality of materials	*****
Motor supplied	No
Chassis type	CRP plate
Suspension type	Lower A arms with upper adjustable links. Additional trailing links at rear.
Shock type	Oil filled, coil over.
Sway bars	Nil
Bearings	Fully ball raced
Motor accessibility	*****
Battery accessibility	***
Speed controller	Not supplied
Body shell	Clear polycarbonate, Ford Pick-up.
Weight as tested	1.74kg (3lb-13oz)
Handling as tested	*****
Speed as tested	****
Rec. retail price	\$460



Looks simple — but everything is highly tuned on the Losi.



I have some more motor tests for you.

This time four motors from TEAM LOSI including two very high revving motors of 11 and 12 turns.

They are an interesting batch.

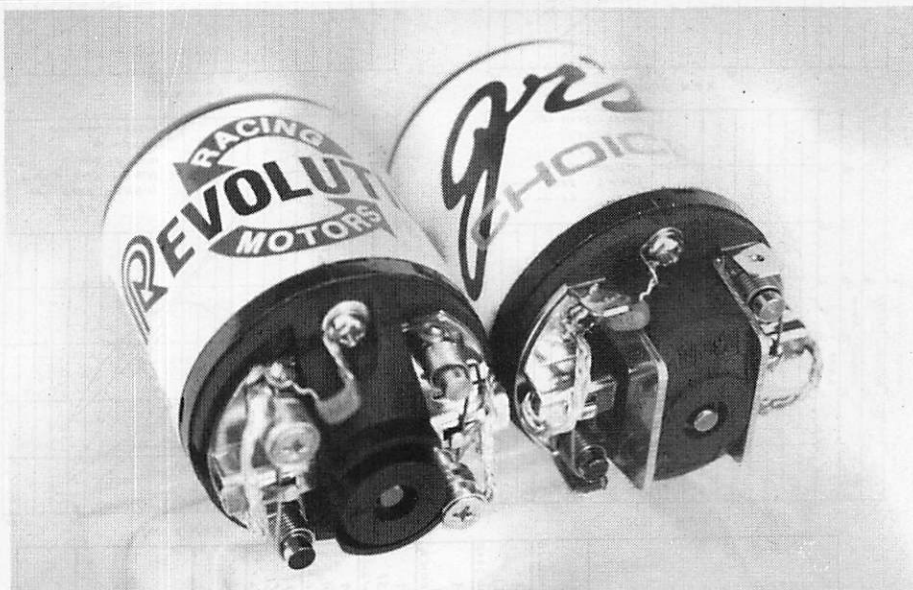
The "JUNIOR'S CHOICE", a 17 turn double, is today a medium modified motor and compares with among others the Twister 402 and Yokomo Esprit. The 14 turn quad "ON ROAD SPECIAL" is faster but by examining the power curves on the graphs you can see slightly more power over a wider rev range.

The 11 turn triple "LIGHTNING DRAG", when you look at the 6mm (20 degrees) advanced curve (most motors prefer about this advancement), produces over 100 watts of power over a wide rev range of 14 - 28,000 RPM.

The "MOTOWN MISSILE", a 12 turn single, produces even more power at 125 watts, but over a tighter rev band. This power is all very well but apart from the 17 turn they use lots of amps which one must be aware of. It is obvious that the battery will not last too long if this power plant is used and 1700 mAh cells would be a must. It is also essential to use a good quality high capacity speed controller. You can see on my tests that nearly 60 amps were needed and this is with the motor at about 10,000 RPM. At the start of a race the current (amps) could be a lot higher. This may only be for an instant, but enough to blow the MOSFETS in your controller if their peak rating is not high enough.

When travelling, most cars would not absorb this amount of power, but during initial acceleration from a standing start high power surges are required so go easy on the throttle.

Two of the motors have very strong "wet" magnets which measured 32 and 35 on my



JUNIOR'S CHOICE (right) has a different end bell to other LOSI motors.

scale — the most powerful magnets I have yet listed. It is interesting to note that LOSI have not used these strong magnets on all their motors. Look at the 12 turn single. It has a strong 35 magnet but the 11 turn triple has only an 18 magnet. As an experiment I exchanged the armatures and put the 11 turn triple in the 35 Magnet body and the 12 turn single in the 18 Magnet body. Now look at the two lower graphs. Notice how, with the 12 turn using the weaker magnet, the power has dropped off from a peak of about 130 watts to 85 watts, yet the amp curve has increased. Now look at the 11 turn, with the stronger magnet. The power has **REDUCED**, not much, but it has dropped.

I have no explanation for this but it does mean that there is more to motor design than just winding an armature with so many turns and expecting similar performance.

There are many reasons why motors of similar construction have varying performances and testing under constant condition is the only way to compare apples with apples.

Bye for now
Bob

READING THE RESULTS

The charts and graphs on the following pages provide much valuable information — providing you know how to read them. Below are some meanings of the terms used and a guide to interpreting the results.

TORQUE: Newton-millimetres (Nmm) is the correct unit for torque (actually it should be N-metres, but this is too small a figure, so I have multiplied the result by 1000 to give Nmm). A Newton is close to 100gm, so a result of 50 Nmm is 100gm at 50mm radius or arm. The figure doesn't matter, as long as readings are relative to one another.

AMPS: This is important as it is an indication of battery drain. The figures are high, and care must be taken on the current flow path (more on this later).

POWER: This curve shows you where on the rev band the best power is obtained. It helps you choose the correct gear ratio.

RATIO of TORQUE to AMPS: This is an indication of the efficiency of the motor; i.e. how the motor can turn Amps into Torque at various rpm. You will see that although 'hot' motors put out more torque, they also draw a lot of current (Amps). An efficient motor has a ratio of about 3.0 — like the Mabuchi 540.

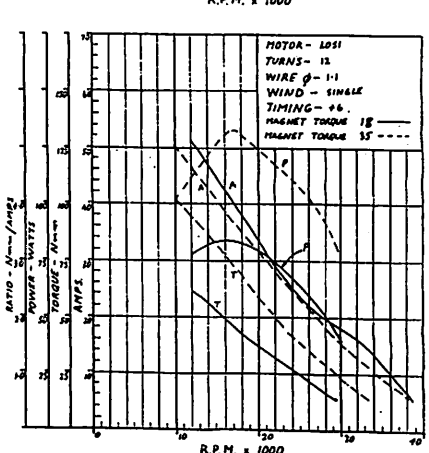
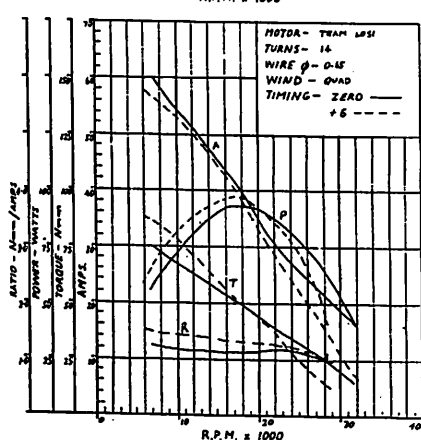
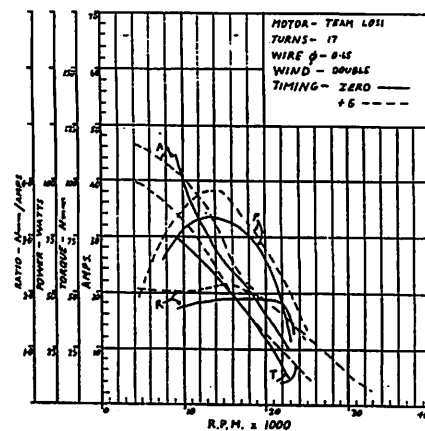
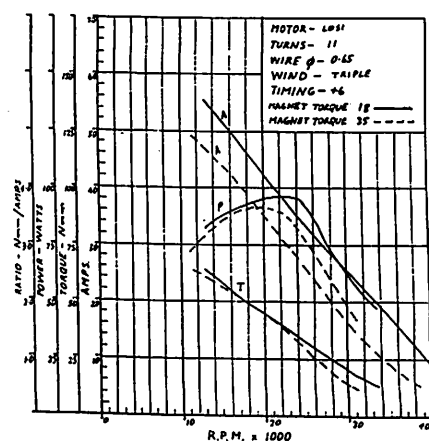
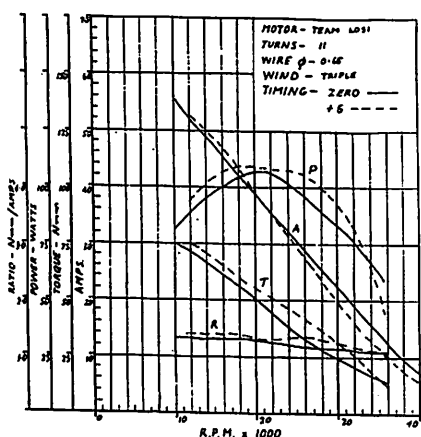
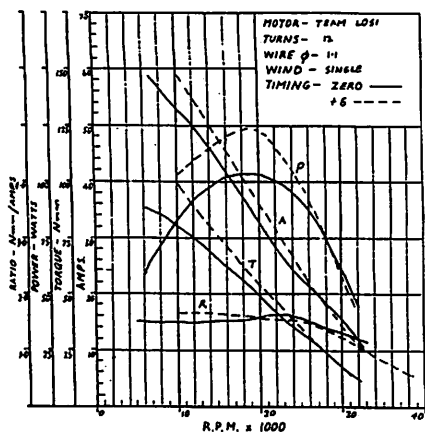
WIND: This is shown as S-single, D-double, T-treble and Q-quadr.

AIRGAP: This is the gap between the armature and the magnet. Normally a small gap gives a stronger magnetic flux.

MAGNET TORQUE: This is expressed in Nmm, the same as the motor torque. It is the amount of torque needed to turn the armature against the magnet. When you turn over a motor, it feels lumpy and this is a measurement of this "lumpiness". Some motors are quite strong, whereas the 540 is weak.

I have tabulated the graph results for torque and Amps as these are the most important factors and it is easier to select a rev band and read across the various motor performances. Each rev band has two readings, one for Zero timing; i.e. with the brushes midway to the magnets and plus 6mm of advance (20 degrees). This is the normal amount the motor manufacturers recommend.

You need to look at the power curves and study their shape, but I have listed the peak power and revs for easy reference.



MOTOR	TEAM LOSI DOWNHILL	TEAM LOSI LIGHTNING DRAG	TEAM LOSI SHELL CHOICE	TEAM LOSI DOWNHILL SPECIAL	TEAM LOSI (SEE TEXT)	TEAM LOSI (SEE TEXT)
COST \$ max.	150	150	150	150		
TURNS	12	11	17	14	12	11
WIRE DIAMETER mm	1-1	0-65	0-65	0-65	1-1	0-65
WIND	S	T	D	Q	S	T
AIR GAP mm	0-35	0-45	0-55	0-3	0-45	0-35
MAGNET TORQUE Nmm	35	18	20	32	18*	35*
BEARING	BALL	BALL	BALL	BALL	BALL	BALL
FREE RPM x1000	ZERO +6	39 45	45 33	29 38	40 39	39
FREE AMPS	ZERO +6	5.4 4.3	4.2 4.1	2.6 2.9	3.2 4.3	5.2 5.8
PEAK POWER WATTS	ZERO +6	105 125	110 106	85 96	89 95	84 89
PEAK POWER RPM x1000	ZERO +6	20 19	21 27	13 15	17 18	16 17
AVERAGE RATIO	ZERO +6	1-6 1-6	1-2 1-3	1-9 2-0	1-2 1-3	
TORQUE @ 5k Nmm	ZERO +6			80 90		
10k	ZERO +6	82 100	75 80	70 83	67 79	65 65
15k	ZERO +6	65 75	63 67	55 55	55 60	55 55
20k	ZERO +6	50 55	50 56	30 33	42 42	37 42
25k	ZERO +6	32 35	35 44	12 12	32 25	25 30
30k	ZERO +6	16 17	25 32		20 10	13 13
35k	ZERO +6		15 15			
40k	ZERO +6					
AMPS @ 5k	ZERO +6			45 58		
10k	ZERO +6	54 59	56 56	40 40	54 53	57 50
15k	ZERO +6	44 47	47 48	25 30	45 44	44
20k	ZERO +6	32 36	38 38	16 18	35 33	33 34
25k	ZERO +6	23 24	30 29	6 12	26 22	24 26
30k	ZERO +6	16 15	23 20	6 6	11 18	16
35k	ZERO +6	8 8	14 12			12 8
40k	ZERO +6		8 6			

LOSI'S ON THE LOOSE!

We were fortunate enough to be able to race some of the motors Bob has tested this issue.

Here are our findings:

The Losi seventeen turn double is the motor with the most wide appeal and should prove very popular. This is a motor specially commissioned by Gil Losi Junior for top level two wheel drive club racing. Hence the name "Juniors Choice". It has different construction to other Losi motors, coming with a Yokomo can and heat sink type endbell. Also, it was the only motor of the four that had the brush leads ready soldered to the endbell. Compared to bolting-on this is worth a few hundred extra revs. We found this motor performed surprisingly well and was very easy on the batteries. It is very tractable with smooth bottom-end and good top speed. Responds well to advancing and performs like a 15 turn when twisted a few degrees. We ran 19/82 (9.41 overall ratio) gearing in a JRX2 on a tightish track and 20/82 (8.94) on more open track layouts.

Usually a bigger multiple of commutator turns is more suited to faster tracks and the Losi 14 quad is no exception. Surprisingly, when geared low (18/81 or 11.8 ratio in a Yokomo) we found the Losi had exceptional acceleration as well as top speed. Just ask anyone who saw it go at the St. Ives Cup! It was okay on tighter tracks too but didn't have the edge. Don't be put off by the name, this "On-Road Special" works just as well in a 4wd on dirt. However, current draw is high and it therefore needs good SCE batteries. We hear this motor is also being used in circuit racing were, as the name suggests, it should be more efficient on battery use.

We didn't really have time to give the Lightning Drag and Motown Missile a good workout. Without optimising the gearing we found the "Drag" fast and very competitive on the open St. Ives track but both these motors are hard on batteries. The 12 turn shows much promise according to the graphs and both should be real beasts for Velodrome racing or when all-out performance is required. Of course you must have a speed controller and car drive train that can handle over 100 watts of power without self destruction so please do not put them in Grasshoppers and other entry level cars.

AERO RHINO

A Ready-to-Rave 1/10th Scale Buggy At a bargain basement price

by Laurie St. John

When asked to give a report on NIKKO'S Aero Rhino Roader I expected, like most other RC Cars, that it would entail the art of building and track testing. Imagine my surprise then, when on opening the carton, I found a ready-to-run unit.

It is a large unit beautifully finished in bright red gloss with plenty of decals. By large, I mean it has excellent ground clearance using rear wheel and tyre that by world standards would be unacceptable for racing. The Aero Rhino comes in a very pleasing box complete with radio, 7.2 volt racing Ni-Cad and even a charger.

So, with no building to be done it was a case of putting eight AA batteries in the transmitter and charging the 7.2 Ni-Cad. The car is powered by a Mabuchi RS540SH motor and according to the instructions, gets along at 35kph. The transmitter is 27mhz and has six frequencies available. The buggy has proportional steering and to quote the manufacturer, two channel superheterodene digital proportional system and FET amplifier system.

By virtue of the ground clearance and rear wheels and tyres, this buggy will go anywhere, and what is more, will give the lucky owner 20 minutes or more running time. I feel the manufacturer wasn't telling untruths about the speed for after four or five batteries the Aero Rhino proved to be quite fast. Perhaps not as fast as a Hornet in a straight line but in track times much faster as it handled jumps and corners much better.

One striking feature is its robustness. It was certainly made to take knocks as during testing a young fellow using 27mhz turned on his transmitter at the same as mine and at full speed

we hit a pole at the end of the straight. I expected to find the unit badly damaged, but off it went as good as ever.

Some clubs, I believe (I know our club does), let the owners of these units run in the novice and stock class and quite a few are starting to appear on club days.

Priced at \$275 complete it is a steal, and Dad has none of those headaches trying to build a kit. When you consider a two channel radio costs upwards of \$120, your kit car will cost much more.

Every system comes with a 30 day warranty and the importers have ample stock of spares. Pit Stop, which supplied the car and are sole importers, have set up authorised service centres in all states. For more information I suggest you contact your local hobby shop.



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1/10TH OFF ROAD AUSTRALIAN CHAMPIONSHIPS

Adelaide hosted another Grand Prix event when the Commonwealth Bank Australian Championships for 1/10th electric radio control cars was held at the Wayville Park Showgrounds, Adelaide

by Nathan Hodder and Tim Vickridge

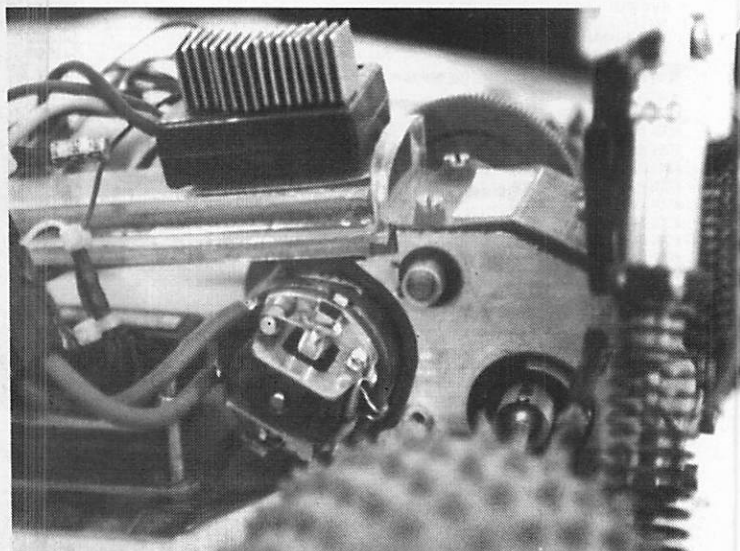
Some of the more interesting modifications seen were a PB Ace run by PB importer, Rob Reade which had a mid mounted motor and Maxima front end (a very quick car in a straight line), Andrew Nelson's mono shocked Dogfighter and a JRX-2 front end on Darrin Campbell's Schumacher Topcat.



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Spotted at the Nationals was Rob Reade's mid engine conversion of PB Ace.

4WD MODIFIED CLASS

Once the dust had settled in qualifying, Ric Bartolozzi had TQ'd (and was the only driver to record 15 laps) from Reece Birtles' Team Yokoma Dogfighter and Brett Willoughby's Schumacher Procat. In Fourth was 1989 National Champion Andrew Bolton driving a Kyosho Lazer from Greg Brook's Optima Mid, Darrin Campbell's Procat, SA's Garry White's Dogfighter (who did a fantastic job in running the computer system, at one point staying up all night to fix it and then went out and qualified extremely competitively!) and Andrew Nelson's Dogfighter. Finally I saw Ric off the line cleanly with Greg Brooks giving chase, some 5-6 metres in arrears. Reece Birtles drove very hard, overcoming an early delay to get third spot with the front placings unchanged, Ric running out an easy winner. His car was quick down the straight but more importantly he kept very tight lines throughout the in-field and made very few errors, proof of saying that neat driving is fast driving. Darrin Campbell drove a steady race to fourth with Andrew Nelson, Brett Willoughby and Gary White following. Andrew Bolton had a strangely quiet race with a car that did not appear to be handling well. In the second final, Reece and Ric tussled for the lead, at one stage getting tangled up just before the straight. Reece was giving nothing away on the in-field but again Ric seemed to have the edge and again won. Garry White drove brilliantly to third place with Andrew Nelson right behind.

With the title all but sewn up Ric again got away to a clean start with Darrin and Reece colliding, putting Reece a fair way back in the field. Darrin recovered well, eventually getting second from the consistent Brett Willoughby, Andrew Nelson, Reece Birtles (fighting his way through the field), Andrew Bolton, Greg Brooks and Gary White. Overall results (best) were Ric, Reece and Darrin.

The B Finals 4WD was a single race and was a fight between the Performance Hobby Supplies (PHS) drivers of David Crowe (Dogfighter) and Greg Collins (Dogfighter), Dallas Gardiner's Lazer and female racer Judy Mason (Optima Mid). Greg had TQ'd but received unexpected competition from his young team mate David, who after pushing Greg most of the way, went past in the later part of the race. Dallas Gardiner placed a well earned second with SA driver Simon Camilleri waving the flag for the most state with a steady third, with Greg Collins

Following the enormous success of the World Championships held in Sydney last September the South Australian organizers (ORRCA SA) provided competitors with another excellent race meeting and by combining this event with the 1990 International Motor Show allowed a vast number of the public to view the spectacular action. The promotional side of the Championship was outstanding, with Celebrity Races (won convincingly by former Australian Touring Car Champion Jim Richards), Jump Competition, Concourse Events (both won by Martin Dykers from Victoria with superb handpainted artwork), Monster Truck pulling and numerous other highlights to keep the crowd (and competitors!) amused between races.

There were several potential champions among the 180 entries. Their skills honed against the world's best at St. Ives last year, but in the end NSW driver Ric Bartolozzi dominated both qualifying and the finals to win both Modified divisions comfortably, driving his Performance Hobby Supplies Yokoma Super Dogfighter and Losi JRX-2.

Thursday's untimed practice allowed the large entry of 178 cars to get used to the very slippery surface which was an indoor track made of clay, surrounded by the spectator area, pits and driver's rostrum. While the early complaints about the lack of traction soon died away. The surface certainly closed the field up as none of the top drivers could use their battery and motor power to great effect. Most drivers liked the layout with the long straight (which contained a fair size jump) and very twisty infield section.

Qualifying on the Friday and Saturday allowed drivers to fine tune their cars further, most experimenting with different tyres, motors and gear ratios once they knew they were going to be competitive. Unfortunately there were problems with computer malfunctions but these were addressed by the organizers as the event continued.



Some of the National's entertainment included truck pulling.

fourth leading home Judy, Vail Riches, a strangely off form Ross Kramer and Peter Bartolo.

The C Finals 4WD Modified was also won by a PHS driver, Michael Chard, using a Dogfighter, from Colin Greneger's Procat, SA driver Ben Dawkins, Luis Sola, Andy Edwards, Rob Lewis, Queenslander Peter Scott and Peter McLean.

2WD MODIFIED CLASS

The 2WD Modified class was well patronized with 40 cars entered. Unfortunately quite a few of the front runners fell out with Col Greneger, Ross Kramer and Andrew Bolton not qualifying well. Ric and Reece qualified for the front row (very handy to avoid the accidents over the jump) with Ric over three seconds faster than Reece. In the first two races Ric drove off into the distance (only faulting in race three when there was no pressure) with Reece picking up two third placings and a second. Vail Riches drove well to third in race one with David Crowe proving to be a future champion in this class with a fourth, second and third respectively to finish third overall. Garry White continued his high standard of driving picking up fourth overall including winning the third race, much to the delight of the SA crowd. Vail got fifth overall followed by National 1/8th on road champion, Stewart Grant (JRX-2), Greg Brooks and Greg Collings.

In the B Finals Brett Wittoughby was in a class of his own as he won comfortably from Ian McPherson's RC-10 (which also won the jump competition easily with some incredible jumps), Dallas Gardiner, Rick Nelson's JRX-2, Peter McLean's similar car, Darrin Campbell's Topcat, Clifton Young and Greg Soerono's JRX-2.

South Australian driver Brook Alexander, Andrew Nelson and the event's most travelled entrant, Gavin Reynolds from Perth, fought a tough battle in the C Finals, with Brook winning thanks to steady drivers (and a lot of crowd support). Gavin was unfortunate to get tangled



The finger points to Bartolozzi's all conquering Yokomo.

in other people's accidents and placed fifth behind SA drivers Kim Griffiths and Simon Camilleri. Kyosho driver Geoff Lewis came sixth with Mark Short and Rob Lewis behind.

4WD INTERNATIONAL STOCK

Local South Australian drivers Andy Toner and Shaun Summerill (both in Procats) headed the competitive 4WD International Stock class with two wins to Andy and some very consistent driving from Shaun. Kevin Seckold claimed a win in Heat 3 to get fourth overall from Victoria Topcat driver Lyle Harbour (who took full advantage of the almighty prang in the first and second corners, however Andy pegged him back slowly). Because of the lack of grip some of the International Stock cars were going as quickly as some modifieds. Prominent NSW and 1989 4WD Stock National champion driver Mark Mason (Judy's husband) ran an interesting PB Maxima but appeared to have to have problems and finished eighth overall. Dean Fisk (Dogfighter) won a close run B Finals from SA's Mark Potter and Victorian Mark Adler. Less than five seconds covered all three cars.

2WD INTERNATIONAL STOCK

Victorian JRX-2 punter Chris Marshall completely dominated with fellow Victorian Brendan Coleman placing second behind Chris in all three heats. Matthew Roberts from NSW in an RC-10 drove consistently for third overall. Some of the marshalling in this race was a little poor, with one car having its body ripped off and another car sitting upside down between two marshalls who were having a chat for a minute! There was a boil over in the B Finals when eight-year-old Brendan Santalab from NSW came from behind to win from Tony Bovard (RC-10) and Michael Bruce. Brendon is a real little character and I am sure it won't be too long before the A finalists will have to look over their shoulders.



The Nationals saw just as much action in the pits as on the track.

4WD MABUCHI STOCK

This was a new class which received popular support with many entrants. In the A Finals Steve Brown, Rod Choy, Darren Slape and Tim Frost all ran from the front with Steve Brown driving superbly in race two to come from nowhere to win narrowly from Rod Choy. Overall it was Steve Brown (Procat), Rod Choy and Darren Slape. The B Final was won by Greg Simes (Dogfighter) from Glenn Wright with Andrew Pile about 15 seconds behind in third spot.

2WD MABUCHI STOCK

Like its slightly quicker brothers, the 2WD class was reasonably well supported for a new class. Chris Brown again took home the spoils in the A Finals with two wins with Michael Bodner coming in second after having won Heat 3. Another SA driver, Jason Brand peddled his Losi into third overall with very consistent driving. In Final 1 there was a



TOTALLY DOMINATES AUSTRALIAN 1990 NATIONAL TITLES



MOTORS WIN 7 NATIONAL TITLES



• Ric Bartolozzi



• Chris Marshall



• David Crowe

Ric Bartolozzi TQ'd 2 Wheel Drive Modified easily and won the first two 'A' Finals convincingly, giving him his **second 2WD MODIFIED AUSTRALIAN NATIONALS TITLES** back to back.

Ric Bartolozzi also TQ'd 4 Wheel Drive, with an amazing qualifying time of 15 laps in 5:21.31, almost a whole lap better than the second qualifier (who only managed a 14/5:13.13) and then went on to demolish all seven finalists and win all three 'A' finals. This gives Ric the **4WD MODIFIED AUSTRALIAN NATIONAL TITLES**.

Congratulations to Team LOSI who produced a 2 Wheel Drive JR-X2 that dominated this year's Nationals by putting seven Losis into the 'A' Finals.

David Crowe finished third in 2 Wheel Drive with the same points total as second place, and won the **NATIONAL 2WD JUNIOR TITLE**. He also won the 'B' Final of 4 Wheel Drive, giving him the **NATIONAL 4WD JUNIOR TITLE**.

Chris Marshall TQ'd 2 Wheel Drive International Stock using a **TWISTER 804 STOCK MOTOR** by more than a whole lap ahead of Brendan Coleman who qualified and finished second (also using an 804 TWISTER), giving him the **2WD INTERNATIONAL STOCK JUNIOR NATIONAL TITLE**.

Chris went on to win all three 'A' Finals by more than a lap, giving him the **2WD INTERNATIONAL STOCK NATIONAL TITLE**.

Shaun Sumerhill TQ'd 4 Wheel Drive Stock with a **TWISTER 3000 POCKET ROCKET**.

Andy Tonero won two of the three 'A' Finals to take the **4WD INTERNATIONAL STOCK NATIONAL TITLE** with Shaun finishing second. Both drivers used **TWISTER 804 STOCK MOTORS TO WIN**.

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PERFORMANCE HOBBIES DRIVERS use the **JRX-2 LOSI** in 2WD and the **YOKOMO DOGFIGHTER** in 4WD.

All of the above seven **NATIONAL TITLES** used **TWISTER MOTORS** for an **UNFAIR ADVANTAGE** and **BULLET COMPUTER MATCHED BATTERIES** for their extra power and duration.

Michael Chard won most consistent Junior and actually won the 'C' 4WD Modified Final with a time of 14/5:08.63, this would have put him second highest qualifier in the 'A' Final behind Ric, and five seconds clear of third qualifier.

Congratulations to all of the **PERFORMANCE HOBBY SUPPLIES** drivers for a result that will never be achieved again and keep up the good work!

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huge pile up over the jump for the first time but they quickly settled down. The B Final also proved to be a South Australian success with Darren Cornwall's JRX-2 winning comfortably from Daniel Barker and David Maloney.

Overall a great event, which had a very relaxed atmosphere, and the fellowship between drivers was terrific (except the used tyre started by somebody at the rear of the pits!). The driving standards were very good, with most of the slower cars making sure they cleared out of the paths of quicker drivers during qualifying. The event was very well organised and was a credit to Wayne Currie and his hard working crew. It certainly will be a tough act to follow for Canberra next year, and then Perth in 1992.

RESULTS 1990 1/10TH OFF-ROAD NATIONALS

4WD MODIFIED (40 entries)

1st. Ric Bartolozzi (NSW) Yokomo; 2nd. Reece Birtles (VIC) Yokomo; 3rd. Darrin Campbell (NSW) Schumacher.

2WD MODIFIED (40 entries)

1st. Ric Bartolozzi (NSW) Losi; 2nd. Reece Birtles (VIC) Associated; 3rd. David Crowe (VIC) Losi.

4WD STOCK (22 entries)

1st. Andy Tonero (SA) Schumacher; 2nd. Shaun Summerill (SA) Schumacher; 3rd. Lyle Harbour (VIC) Schumacher.

2WD STOCK (19 entries)

1st. Chris Marshall (VIC) Losi; 2nd. Brendan Coleman (VIC) Losi; 3rd. Matthew Roberts (NSW) Associated.

4WD MABUCHI STOCK (32 entries)

1st. Stephen Brown (SA) Schumacher; 2nd. Rod Choy (SA) Kyosho; 3rd. Darren Sape (SA) Kyosho.

2WD Mabuchi stock (25 entries)

1st. Chris Brown (SA) Losi; 2nd. Michael Bodner (VIC) Kyosho; 3rd. Jason Brand (SA) Losi.

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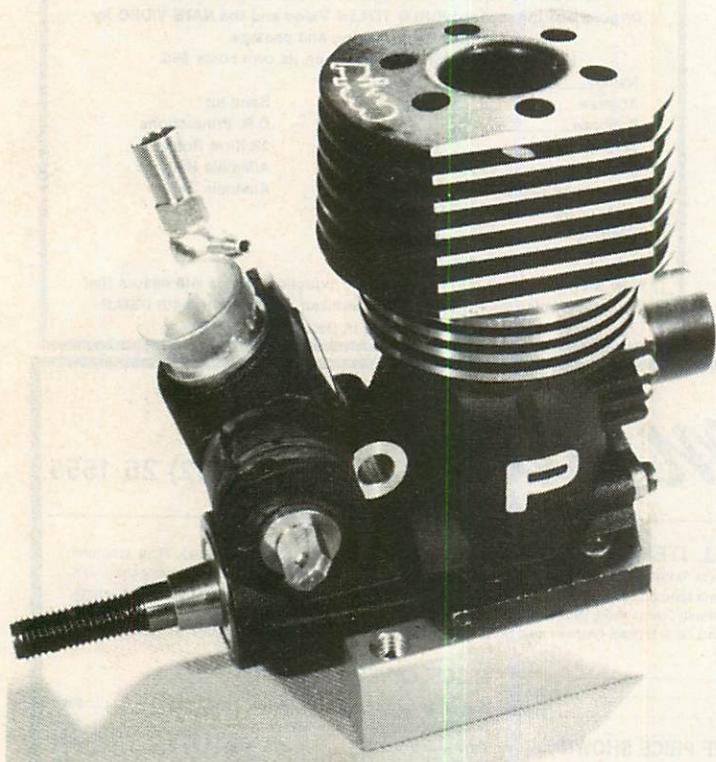
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PICCO P5 F1-7 PORT POWERHOUSE

Two editions ago, I wrote about the Picco P5 motor for 1/8 scale radio control circuit cars. Now there's a new version of the P5 on the market. According to informed sources, it's the production version of the motor Picco used in the recent World Championships in Holland.

The first thing you'll notice is that the new P5 comes in a bright red box, rather than the royal blue we've been used to, and the motor itself is all black. There have been a number of changes made to the previous P5, other than of course the additional two ports.



Picco's new P5 motor. The engine mounts shown in the photo are not supplied with the motor.

THE CARBURETTOR

The key to the previous P5's success seemed to be the carburettor. The new model has a different carburettor again. It has a 9mm venturi, and the body still appears to be made of a plastic type material. While the casing itself is not metal, all the internal components, like the slide, jet and needles, are all metal. Plastic is a good choice for casting material, because it's light, robust and also serves to hold the adjusting screws in place very firmly; ending the days of mixture screws vibrating loose. I should add that the slow running stop adjustments screw is fitted with a spring, so it's not just a case of allowing the plastic housing to do the work.

As on the previous model, the carburettor slide end has now been machined square at the end, instead of being rounded, and this change alone permits you to ensure that you do have the latest model carburettor. In addition, the jet has been relocated. Earlier, it projected well into the venturi area, but has now been moved to the side. The needle has also been lengthened in comparison to previous models, which were unusually short and cleared the jet before the throttle was one third open. Now, to clear the jet, you must open the throttle well

past half way. The end piece of the carby, which holds the bottom end mixture adjustment screw, has been made of metal this time, and screws on to the end of the carby body. A fine idea, as it makes the carburettor so much easier to dismantle and service. However, I do have one minor complaint about the new carby. When fitted into a 4WD RC500, it's almost impossible to adjust the idle screw, and even the bottom end mixture adjustment is a little difficult.

With any two stroke motor, a good crankcase seal is critical, and the Picco carburettor is sealed, like most, with an O ring. But rather than placing the ring on top of the crankcase carby hole, it's located in such a way that it will seal well down the carburettor shaft. The seal is so good that it's not necessary to use any silicone.



The carburettor casing is plastic, which is both light and durable, but all the internals are metal.

Another impressive component is the carby pinch bolt. This has been so well designed that it's almost impossible to over tighten. The bolt comprises two hollow steel sections; one is threaded and the other holds the bolt. The two sections are shaped to fit around the carburettor stub, holding it securely.

THE CRANKCASE

As the P5 is a high performance engine, you'd expect good crankshaft bearings, and you won't be disappointed. The crank runs in a very substantial 13mm bearing. To reduce crankcase turbulence, the back of the counter balance weight is formed to a thin full circle web. The central hole which carries the mixture into the crankcase is unworked, unlike other brands of motor which sport flutes and swirls designed to boost performance. Of course, being a seven port motor, there's been a rather radical change inside the crankcase. Four transfer ports cut in the crankcase wall carry the fuel mixture to the seven port in the sleeve. As far as I can tell, the piston remains unchanged from the previous P5.

The P5 performed brilliantly on the track, breathing well and pulling exceptionally well at high revs. Given that, I wonder if some of the flutes and swirls are just gimmickry. Big end lubrication is through a hole drilled in such a way that it passes from crank throat to one of the crank pin bearing surfaces. The big end bearing is in reality a pressed bronze insert with two lubrication holes. The crankcase itself has conventional mounting lugs and the heavily finned exhaust stub is an integral part of the casting. Of course, this means using a slip-on type manifold rather than a bolt down one. The security of the manifold is really a matter of personal taste, I know people who don't like the

BOLT-ON *performance*

PEAK PERFORMANCE

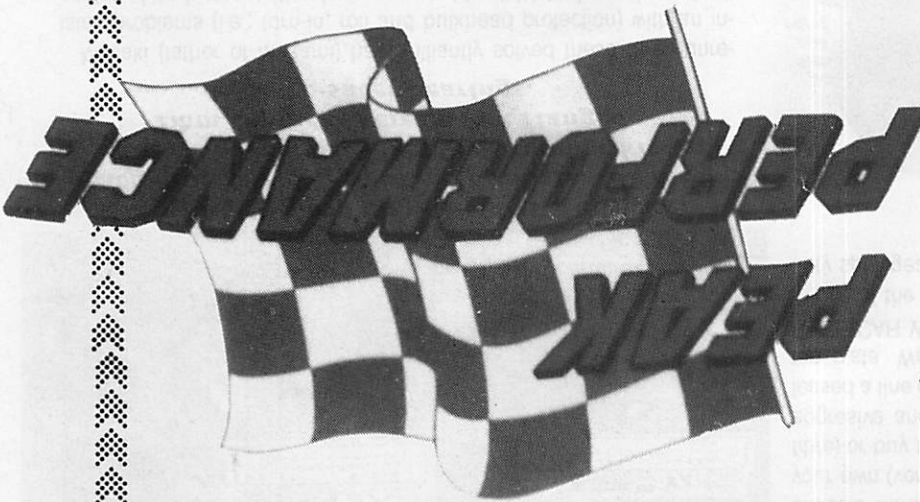
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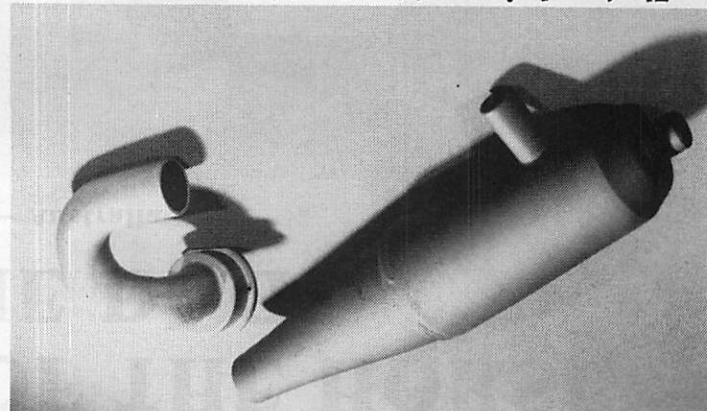
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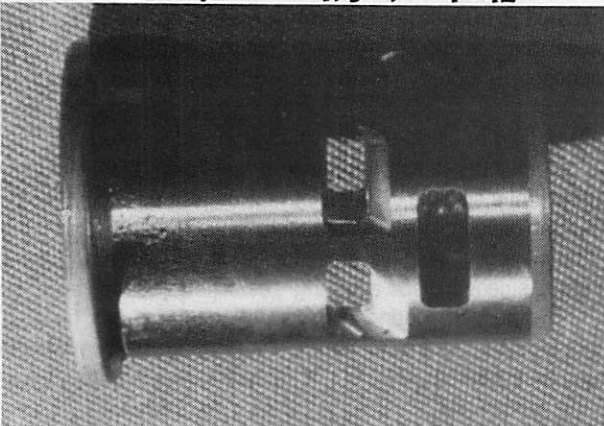
THE HEAD
The heat sink head appears to be larger than the five port P5, and includes as an integral part, the combustion chamber, which ensures adequate cooling no matter what the ambient temperature, and you, a good airflow is still important when using sedan type brands, in that dies. The piston and liner are in keeping with other brands, in that Pico has chosen an aluminium piston running in a chrome plated brass liner, thus it's an ABC motor.

springs retained manifolds, although I've never experienced any problems with them. The crankcase backplate is made from very light alloy, and is chrome plated, which reduces both friction and large end engine wear.

The tuned pipe and header. Pico are moving towards the larger pipe, which runs a shorter length and produces less noise.



The heart of the new Pico P5, the seven port brass liner.



THE TEST DRIVE
The P5 was fitted into my RC500 4WD and run-in in the normal way. Even while running in, it showed that it's a gutsy motor with plenty of power. Once run-in, I put the P5 through its paces at the Chirnside circuit in Melbourne, and the engine lived up to expectations. It revs and breathes well, not even appearing to peak at full throttle on the long main straight. Out of the corners, it's very responsive, with the power coming on quite early.

SPECIFICATIONS
According to Pico, the new seven port P5 F1, while designated as .12 cu engine, is actually 3.44cc, putting out 1.6 horsepower at 5000 rpm. Frankly, I don't believe the horsepower figure. The Pico representatives here haven't been able to get any information from the factory about actual performance specs, and wonder what Pico are trying to hide. Put in a car on the track, the seven port motor is unbelievably fast, with almost too much power!

* The Pico P5 supplied courtesy of T.E.S. Wholesale, (Melb.)

1990 — YEAR OF THE HORSE OR YEAR OF THE DOG?

by Geoff & Reece Birtles

TEAM YOKOMO — Australia

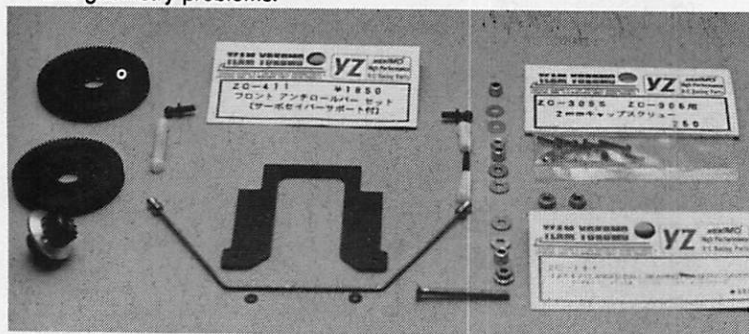
Our Asian friends celebrated 1989 as the "Year of the Snake". But it seems no one told Yokomo, which turned it into the "Year of the Dog" with a World 1/10 Off-Road Title for their Super Dogfighter.

1990 is the "Year of the Horse". But once again it seems Yokomo is in the dark. Already, with prestigious international victories in the US Reedy Race of Champions and Florida Winter Nationals, quickly followed by a "one and two" in the Australian Nationals and a decisive victory in Australia's very first invitational Race of Champions (4WD Section), Yokomo's Super Dogfighter is once again turning 1990 into the "Year of the Dog".

Why? Quite simply, Yokomo has an R&D program (codenamed "Masami") unparalleled by any other racing team. This research quickly finds its way to our retail suppliers in the form of compatible Team Yokomo goodies that can turn your cub racer into a champion too. Let's have a look at how to put them to good use.

As a neophyte Dog pilot you will almost certainly experience lack of turn-in and excessive roll in grippy conditions. If racing in rough company, you may also be unfortunate enough to snap a front (magnesium) bulkhead.

The bulkhead problem can be easily solved by substituting a Yokomo aluminium bulkhead (PNZC300AF). Alternatively, some nylon after-market bulkheads are available. Both alternatives are needlessly expensive given that they do not improve the performance characteristics of your car. Aluminium is heavy and nylon is subject to flexing and geometry problems.



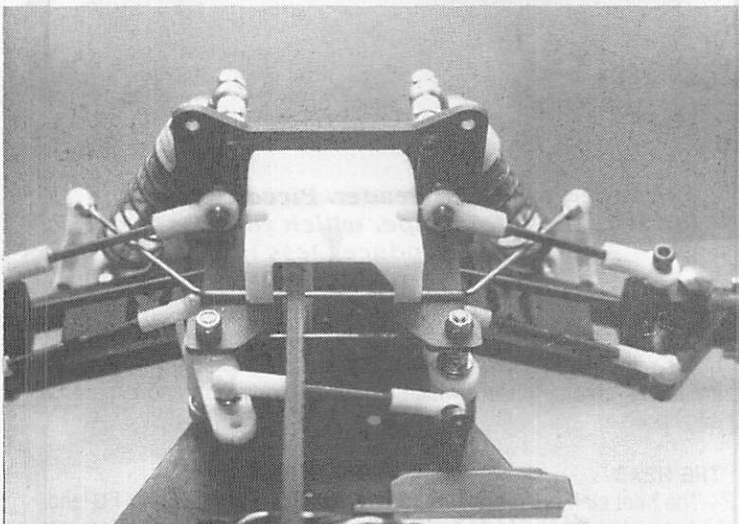
Yokomo high-speed dog biscuits! Clockwise: Heavy-duty one-way spur gear adapter, 81 & 86 tooth 48 DP spur gears, anti-roll bar kit, 2mm cap-head screws and Flanged servo-saver bearings.

Masaki (father of Masami) has brilliantly solved these three unrelated problems (i.e., turn-in, roll and bulkhead protection) with an ingenious kit which only the Japanese could call "A high quality anti-roll bar kit" (PN ZC411).

This kit (see picture) does three things:

1. It supports the rear of the front shock tower so that it cannot flex back and snap the bulkhead;
2. It "ties" the right and left steering posts to the bulkhead for more positive steering, and
3. It provides a front anti-roll bar which works extremely well.

Improved turn-in is possibly the single most important feature of this kit because it will, when used in conjunction with the long suspension arm kit (PNZC405) dramatically increase the cornering speed and predictability of your Dog. But a word of warning. Do not negate the centre-point steering geometry of the "wide end" kit by using wide track wheel hubs, as five out of 10 racers seem to do to their cost! (i.e., Do not use six or 8mm offset hubs.) A top-plate is essential to predictable handling of your dog. Carbon-fibre flexes (end to end) and

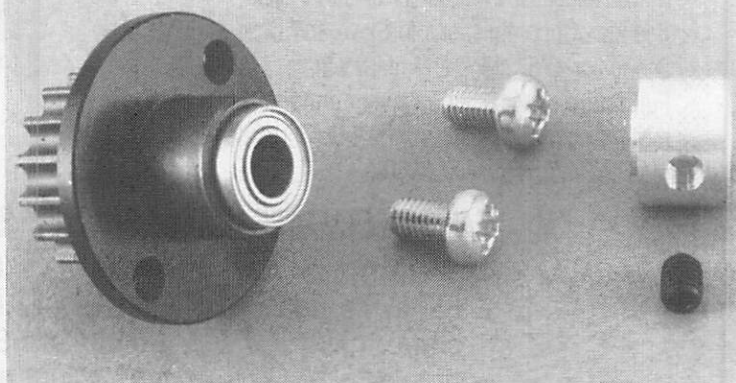


Close up of the "High quality front anti-roll bar kit" fitted to Ian ("Staircase") Bannister's Dog. Affectionately known by all as "The Moving Chicanni". Note other mods in photo.

twists (horizontally). You can live with some twist (in fact, it can be desirable on super slippery tracks such as that used for the Australian 1990 Nationals) but you can't tolerate any longitudinal flex.

For some inexplicable reason Yokomo still do not offer a top plate. Many currently available are heavy, but worse, they "tweak" your chassis without extensive alteration. You can do what we do. Make your own (very cheap and easy — you can use fibre-glass or carbon fibre) or buy the best. "Jammin' Jay Halsey", one of the world's most aggressive and best racers (and a US Team Yokomo driver) has released a line of "pro" hot up goodies for the Dog including a first class top plate. We understand this top plate is available from MODEL RACE CAR WORLD (NSW) and other selected hobby retailers.

One of the most important recent releases by Yokomo is a "heavy-duty spur gear adapter" (PNZC641G). This has a "double" one-way



Yokomo YZ10 spur gear adapter with double one-way bearings.

clutch to eliminate front to back belt lash and minimise lay-shaft wear. (Who needs 2WD in the A final?!) Importantly, it also permits you to run "Associated" type spur gears, both in the interests of more drive train efficiency and more gearing flexibility.

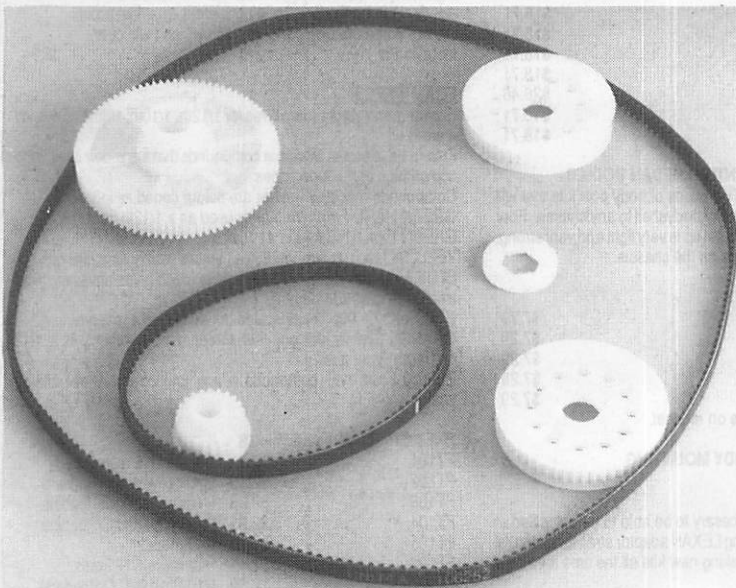
Yokomo has recently released its very own spur gear which is the best we have ever used. (We use them on our RC10 too!) P/N is DM 81/86 which includes one 81 tooth and one 86 tooth gear (48DP).

These gears match perfectly with Associated's superb new "machined" pinions and neither gear ever seems to wear!

An 81 or 86 tooth spur gears allows you to gear right up or right down depending on your favoured motor wind. If you're a "petrol head" like Reece, use an 86 tooth gear (17T pinion) and run a Reedy Green Dot (13 double) for awesome acceleration and top end.

Still want more speed? Try Yokomo's new fine pitch belt and pulley kit (PNZC6505). It consists of a new lay shaft sprocket, front and rear drive pulleys, front and rear belts and an 86T (molded) spur gear.

Fine pitch will give you a little more top end and smoother power under acceleration. But, be warned. It is very prone to stone damage and rear belt wear. Adjustment is critical (you must use top plate) and overall drive ratios change (2.26:1 compared to Stock 2.33:1). We run coarse pitch at Club level and fine pitch at State level and doubt if the opposition has noticed the difference.



Yokomo YZ10 Fine-pitch belt and pulley kit.

Winning races is all about cornering force and tractive power on entry and exit. Yokomo's new range of large diameter wheels and low profile tyres address this problem so very well that they've been branded "the unfair advantage" by competitive suppliers.

Certainly they are not unfair. They're "race legal" and available to you from any serious retail stockist. But they are a competitive advantage because they put more rubber to the ground.

Choose your power (or rubber!) —

TF 310 & TR 31: (currently called the "World's" tyre). A mini-spike tyre good for smooth hard compacted surfaces such as St. Ives. Much favoured by "The Legend" — Andrew ("Go Fast") Bolton.

TF 320 & TR 32: A medium spike tyre that is very versatile on a variety of surfaces. Reece used them to TQ both classes at the 1990 Nationals which had no grip. They also helped a certain "Mutant Ninja

Turtle" put a full lap onto Bankstown's 4WD track record at the Race of Champions which had medium grip, so they can't be too bad! The problem seems to be obtaining supplies (help us put pressure on the importer to carry more stocks!)

TF 330 & TR 33: A block/pin tyre similar to the TR 9 & TR 10. We are inclined to think that this is the "secret pearl" of the new Yokomo range. Lots of grip with very little lateral slide. We have raced them with success at Knox and Keilor (Vic) and trialled them successfully at Bankstown (NSW). Some of the top US racers used them successfully at the World Cup (St. Ives).

The 330 range of tyres have more runs than the 320 range and are an excellent front tyre. We certainly intend to try and use them more extensively. All tyres are available in Soft and Medium compounds. One secret "go-fast" trick is to use "softs" with foam inserts.

Two excellent after-market items for the serious racers are Cliff Letts' (RC PRODUCTS) titanium hinge-pins and turn-buckles. Bulkheads and A frames require reaming with a #30 drill to use the larger O/D hinge pin but this is supplied with the kit and is a simple operation. These pins save weight, eliminate slop and prevent binding at the front end.



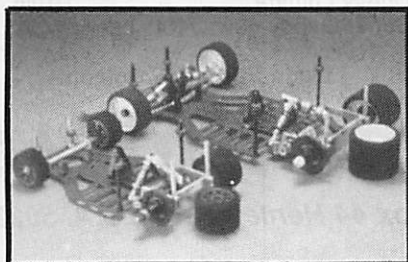
Yokomo high speed paws and joint lubricant. Large OD rims and low profile tyres. Left to right: TF320 (on rim), TR32, TF340, TF330 and TR31. The good oil is Associated (ain't it Sol!)

The turn-buckles also save considerable unsprung weight and make adjustment very easy. We got ours from **HOBBY PLACE** in Melbourne but we understand **HEARNS HOBBIES** (Melbourne) and **BOLT-ON PERFORMANCE** (Sydney) are also stockists.

Finally — a note to the serious petrol heads. **REEDY** Gold Batteries are now coming into the country in very limited numbers and there is no doubt that these are the best over-the-counter, matched SCE's, money can buy. (The "Silvers" are also very good and more widely available.) Couple these with Reedy's new (until now a well kept secret) #6517 brushes and you've got awesome power.

TOP GEAR(S) AND PINIONS

★NOW AVAILABLE: NEW DELTA 1/10th VILLIAN on road chassis



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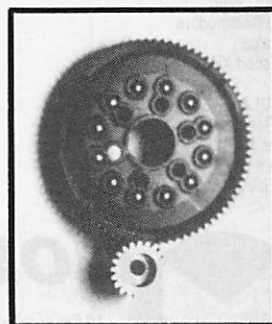
- ★ FREWER bodysells
- ★ FREWER foam tyres (on-road)
- ★ DELTA 1/8th, 1/10th & 1/12th Spares & Accessories, including new 48 pitch & 32 pitch pinions
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Peugeot 205 & Aerofoil	\$31.22
Metro 6 R4 & Aerofoil	\$26.46
Holden Commodore	\$31.22
Escort XR3	\$26.46
Ford RS200	\$31.22
Camaro Z28 Iroc	\$31.22
VW Baja	\$22.28

RACING BODIES

Midi (SWB Mid Optima)	\$22.28
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Dog (Schumacher Cat)	\$22.28
Protech (RC10)	\$22.28
Grub (Mini Mustang)	\$22.28
Progress	\$22.28
Dart & Wing (Hot/Super Shot)	\$22.28
Hornet	\$22.28
Mid LWB (LWB Mid Optima)	\$22.28
Underdog (Schumacher Top Cat)	\$31.22
Funco (RC10)	\$22.28
Meteor	\$22.28
Superstar (Bommerang)	\$22.28

LEXAN UNDERTRAYS

Midi (SWB Mid Optima)	\$12.15
Gull (LWB Mid Optima)	\$12.15
Dog (Schumacher Cat)	\$12.15
Meteor	\$12.15

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SPORTSCARS

Jaguar XJR 6 (Pro 10)	\$31.22
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SPRINT CAR (Speedway)

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Mazda RX7	\$34.70
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Ford Escort XR3	\$34.70

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BODY POST KITS FOR MOUNTING SEDAN BODIES

Frewer have four different configurations of body post kits that will mount virtually any Sedan or similar bodyshell to any chassis. Four posts are used and the complete set up is very light and very strong. The bodyshell will be very stable on the chassis.

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Vertical Post Base	\$7.29
Horizontal Post Base	\$7.29
Angle/Horizontal Post Base	\$7.29
Flat Mounting Post Base	\$7.29
Bodyposts Only	\$7.29

Illustrated information available on request.

COMPLETE FOUR POST BODY MOUNTING KITS FOR SPECIFIC CARS

These kits have every item necessary to be able to mount a Sedan body to a given chassis including LEXAN adaptor straps, hardware, instructions etc. Frewer are making new kits all the time for all the new popular cars.

Tamiya Thundershot	\$14.58
Tamiya Boomerang	\$14.58
Tamiya Big Wig	\$14.58
Tamiya Falcon	\$14.58
Tamiya Striker	\$14.58
Kyosho Ultima	\$14.58
Kyosho Optima/Salute	\$14.58
Associated RC10	\$14.58
PB Mini Mustang	\$14.58
Meteor	\$14.58
Kyosho Mid Optima	\$14.58

WINGS / WING KITS

10"x3" Approx	\$7.67
9 1/2"x3"	\$7.67
8 1/2"x3" (sidedams)	\$7.67
7"x3"	\$5.83
6"x3"	\$5.83
6 1/2"x2"	\$4.86
5 1/4"x2" (sidedams)	\$5.83
3 1/2"x2" (sidedams)	\$5.83
4"x2 1/4"	\$4.86

UNIVERSAL WING KITS FOR 1/10th SCALE OFF ROAD

Available with either 6x3 or 7x3 wing, wing buttons, chassis mounting wign wire blocks, sidedams, sidedam retainer mouldings, all hardware and instructions.

6x3 Wing Kit	\$16.76
7x3 Wing Kit	\$16.76

SPRINT CAR WING KIT

Contains moulded main wing approx. 6" square, die cut main wing side dams, 4 wing buttons and hardware to mount dams to main wing (no gluing needed) A108 front wing and instructions.

SMALL WING FITTINGS

WING BUTTONS 2 wing buttons, 2 screws	\$4.37
WING WIRE BLOCKS 2 chassis mounting blocks and hardware to accept wing wire	\$5.58
SIDEDAMS 2 die cut polycarbonate	\$2.43
SIDEDAM & RETAINER MOULDINGS As above plus 2 glass nylon (L/H & R/H) mouldings that allow the sidedams to be fixed to the wing without glue. Foolproof. Cannot come off. Complete with screws and washers, instructions.	\$5.34

FOAM TYRES

Frewer manufacture foam tyres for 1/12th, 1/10th, 1/8th and even 1/4 scale.

Frewer have seven available compounds that are widely used in top competition in most countries.

Compounds made by Frewer are colour coded as follows:

GREEN HARD Firm tyre mainly used as a 1/12th front tyre.

GREEN Firm tyre used in all scales

YELLOW Medium tyre used in all scales mainly as a rear tyre.

BLUE Medium tyre used in all scales which gives unusually good traction in dust and damp.

RED Soft tyre used in all scales but mainly as a rear tyre.

ORANGE Slightly less grip than Green used commonly as a 1/12 or 1/10th front tyre.

BLACK Front tyre compound giving understeer — suitable all scales.

FREWER FOAM TYRE RINGS

FT101	\$2.91	1/8 — 1/10 rears
FT102	\$2.55	1/10 converted O/Roaders
FT103	\$2.55	1/10 converted O/Roaders
FT104	\$2.91	1/10 converted O/Roaders
FT105	\$1.70	1/12 rears
FT106	\$1.45	1/12 rears 1/12 fronts
FT107	\$2.30	1/10 Pro 10 (C.O.Roaders)
FT108	\$2.30	1/10 Pro 10 (C.O. Roaders)
FT109	\$2.30	1/10 Front Tyres
1/2 Rings (FT107 & FT109)	\$1.70	

NOTE

Above tyre rings cover 1/8th, 1/10th, & 1/12th in all compounds.

ON ROAD 1/10th (for converted buggies)

Semi Pneumatic slick tyres. (Complete set)	\$24.30
Slicks Rears Only	\$12.15
Slicks Front Only	\$12.15

Frewer slick pneumatic tyres are an easy alternative to foam tyres, giving good tyre grip generally.

They are most suitable for converted off roaders four use on tarmac and other surfaces apart from off road situations. However they can be suitable for some hard off road surfaces, especially the fronts where less steering is desirable.

On some surfaces other than tarmac, grip can be superior to foam.

Most FREWER INTERNATIONAL products are listed here but not all. Complete catalogue available upon request.

COMING SOON

Nissan King Cab	1/10th
Sierra Cosworth	1/12th
Mercedes 190 e	1/10th
Peugeot 405	1/10th
Chevy Lumina	1/10th
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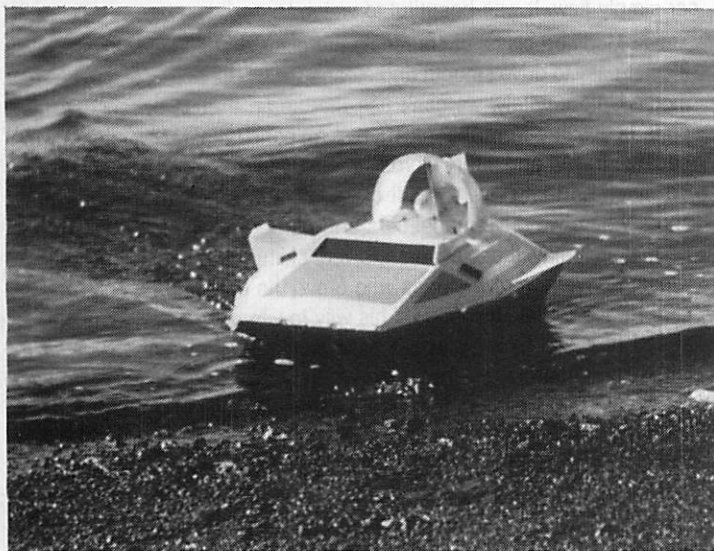
THRUSTER HOVERCRAFT

by Phil Stevenson Updated by Peter Keogh

This is something which is new, very innovative and a lot of fun. Also, it is Australian designed and manufactured.

Developed on the idle flats of Westernport Bay, Victoria and attractively constructed from light vacuum formed plastic, this small model is equally at home over water, and on any flat paved surfaced, carpet or finely cropped lawn (not rough mown grass).

Measuring 520 mm long by 380 mm wide it is powered by a Mabuchi 540 motor swinging a 5" diameter plastic prop. Approximately 30 per cent of the airflow is used for lift, with the remainder for thrust and directional control via a large rubber.



Equally at home on water or land, the Thruster is great fun when the techniques of control are learned.

The model is supplied fully assembled including motor and speed control, but is available in kit form on request. Radio installation is straight forward and is sealed in a separate compartment for water tightness. All up weight including 7.2 volt sub C battery is 34oz. I tried it also with a 7 cell 900 SCR pack, and a 5 cell 450 AR pack, and in all cases it lifted easily onto hover and shot off at such a pace that I had to throttle back before it ran into something. The point is that it's plenty powerful enough and in the end I stayed with the standard 6 cell sub C pack.

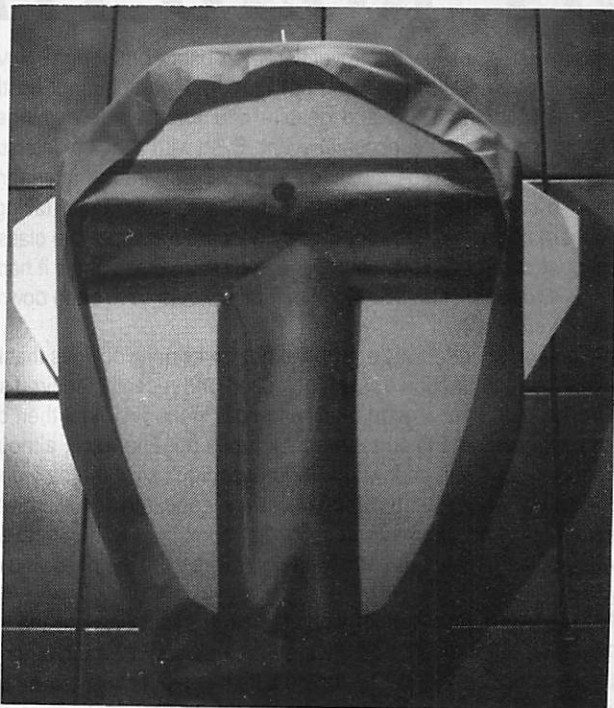
The model features a clever design which separates the under belly into three chambers, providing good stability with minimum drag, which also results in minimal wear.

The Thruster is too fast for inside your house!

I had a lot of fun on the local bowling club carpark which has a rough bitumen seal. I also tried it over water which requires a slightly different driving technique. It will handle a small surface chop to about 50 mm, but any more and progress is greatly impaired, with the prop throwing up plumes of spray. A small wave deflector can be fitted to the front for improved rough water handling if needed, but smooth water is best as hovercraft are really designed for speed.

For water use, the positive buoyancy necessary comes from a hose plate of 12mm rigid foam, so even with power off it will not sink. The base plate has vent holes plus a peripheral slot to distribute the lifting air.

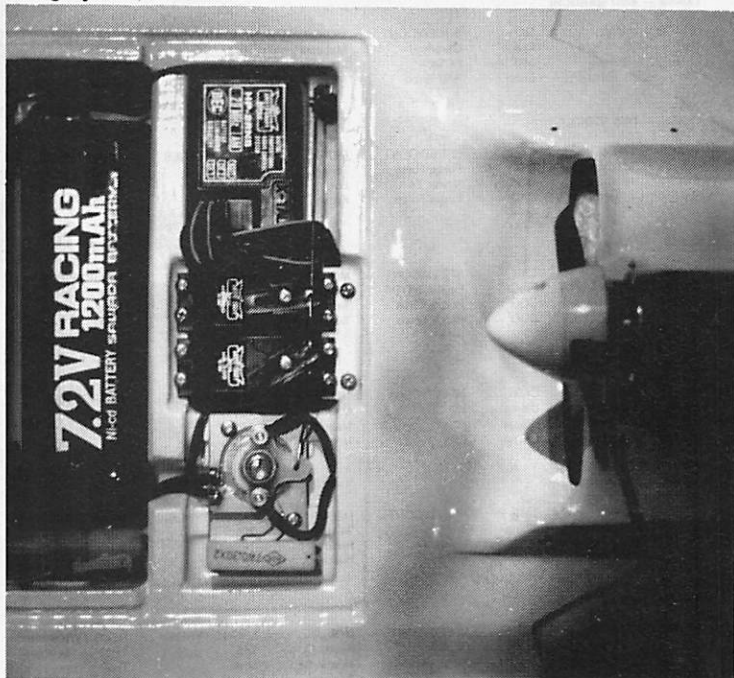
The third surface I tried was a solid wooden floor of an auditorium. This proved to be the most exciting as not only did it provide the best seal for the air cushion, but it also was the most slippery when it came to the "Stop it before it hits something" power off slide!



Like all true hovercraft, lift is via an air cushion under the hovercraft.

As you might have gathered, I really enjoyed trying out this model. So did everyone else who had a go. The challenge is in learning to steer it. Except on water where there is some grip, all turns are merely controlled slides, and if they are not controlled they can easily develop into uncontrolled spins. Basically, the rudder determines only where the craft is pointing, not by any means, necessarily, where it is going! The throttle can be eased back to provide some resistance to sliding by reducing the lift, but the driving technique depends mainly on the type of surface you are operating over.

So there you go. Something different for anyone with a bit of flat space and a yearning for a different, racy model. Highly recommended.



Any 2 channel, 2 servo radio plus a 7.2 volt battery pack with BEC will fit inside the Thruster's radio compartment.

VICTORIAN 1/10TH OFF-ROAD TITLES 1990

by Les Bone

Contentious — maybe, controversial — probably, but boring? Never! The Goulbourn Valley (Shepparton) Club had the honour of hosting this year's Victorian Titles and despite attempts by a few whingers, managed to run a very successful event. Even with a lack of interstate drivers, due to other race meetings at their home tracks, attendance was still a creditable 132. The Mabuchi Class, once again taking a large share of drivers, has very quickly become a competitive class to enter. It has taken a big slice out of the 2WD stock class and if it hadn't been for 12 double entries in Modified, it too would have been down to A and B Finals only.

The racing got under way at 8.30 am but it was quite obvious that because of the high traction track, high speed and recently repaired surface, if one didn't get a good qualifying time in the first heat then one would have problems later as the track broke up. The track, although tight, narrow and well endowed with jumps, didn't slow the cars down too much so when bumps appeared they appeared for all drivers. Therefore, high ride and soft suspension, combined with careful and accurate driving, meant that the winning drivers were the ones who deserved to win.

The staggered start system worked well in cancelling out the first corner crash but it didn't stop drivers "racing" against each other instead of against the clock. The top qualifiers in each class proved that aggressive driving is not necessary during heats. The other interesting thing I noticed through the results were the lap times of the Stock and Mabuchi drivers. M. Bodnar and D. Barker (Mabuchi) were circulating at 20.5 seconds/lap. Almost exactly the same times as the Stock class drivers. Even more impressive is that their times would have qualified them fifth and sixth in the Modified B Final. Who needs powerful motors to qualify?

In the 4WD Stock class, competition remained tough. All the regulars were there. Dettmann (with his cheer squad), Polistena, Harbour and Dykers (who after years of trying finally made Victorian Champ). We also noted the return of Kevin Seckold. Out of racing for a year, he decided to enter the Victorian Titles one week prior and still made it to the A Final.

Our 2WD Stock and Mabuchi Victorian Champions, the Feruggi Brothers didn't turn up to contest their titles but that didn't stop Coleman from top qualifying with an 18 lap round (only two of the 4WD Stock drivers managed 18 laps).

On to Modified classes and it was obvious to all that apart from V. Riches, all A Finalists had double entries. One noticeable point was that V. Riches (2WD) set the record for the fastest single lap (17.95 sec), even beating Birtles in 4WD. The other point is that the Schumacher Top Cat can be set up to ride rough tracks. Brett Willoughby's car simply flew. It was beautiful to watch.

The Modified class, of course, is the class that all spectators enjoy. It's not easy to drive smooth and clean with all the power of a modified motor. Unfortunately, we can't use that as an excuse because it was quite noticeable from the spectators' responses that drivers' tempers became frayed and angry words were said in the heat of the moment. So much so that drivers of all classes were reminded that this is a sport, where we drive model cars and do not play for sheep stations. Be that as it may, these drivers are very skilful at what they do and the winning drivers were the ones who drove the best — with one exception! Reece Birtles, who fought his way to win the 2WD Modified (just ahead of David Crowe), would have won 4WD too if his car hadn't failed scrutineering. He had unfortunately put wide rear rims on his Dogfighter and therefore lost on a technicality.

However, let's not let that take away the glory from Brett Willoughby who managed to get his Pro Cat to blitz six Dogfighters and finally make him Victorian Champ.

All in all a good event. The trophies were presented in semi-darkness but that didn't matter. Everyone cheered and laughed, even when Club President, Alan McDonald, picked his own winning ticket out of the raffle draw. Big thank-yous were said to all, especially Peter Chaimberlain and Chris Young who kept the microphone going all day. (I even heard it said that Chris was going to take over Murray Walker's job of calling the Adelaide Grand Prix!)

Until the next Victorian Titles.....Practice! Practice! Practice!

VIC. CHAMPS TECH CHARTS

CLASS — 4WD MABUCHI

PLACE	NAME	CAR	SPEED/CONT	MOTOR	FRONT TYRES	REAR TYRES
1st.	G. Wright	Mid	Corally	Mabuchi	TF8	TR5
2nd.	S. Pace	Mid	Hi Tec	Mabuchi	TF8	TR9
3rd.	C. Gibson	Lazer	K80 Turbo	Mabuchi	C.Cat	C.Cat

CLASS — 4WD STOCK

PLACE	NAME	CAR	SPEED/CONT	MOTOR	FRONT TYRES	REAR TYRES
1st.	M. Dykers	DOG	Purge Force	Twister	FT300	TR33
2nd.	R. Wyatt	DOG	Novak T4	Loxi	TF8	TR8
3rd.	L. Harbour	CAT	Purge Force	Kyosho 34	TF8	TR10

CLASS — 4WD MODIFIED

PLACE	NAME	CAR	SPEED/CONT	MOTOR	FRONT TYRES	REAR TYRES
1st.	B. Willoughby	ProCAT	Futaba MC116	Twister (16x2)	TF5	TR9
2nd.	G. Collings	DOG	Purge Force	Twister (13x3)	TF32	TF32
3rd.	R. Bartolozzi	DOG	Purge Force	Twister (14x3)	TF32	TR32

CLASS — 2WD MABUCHI

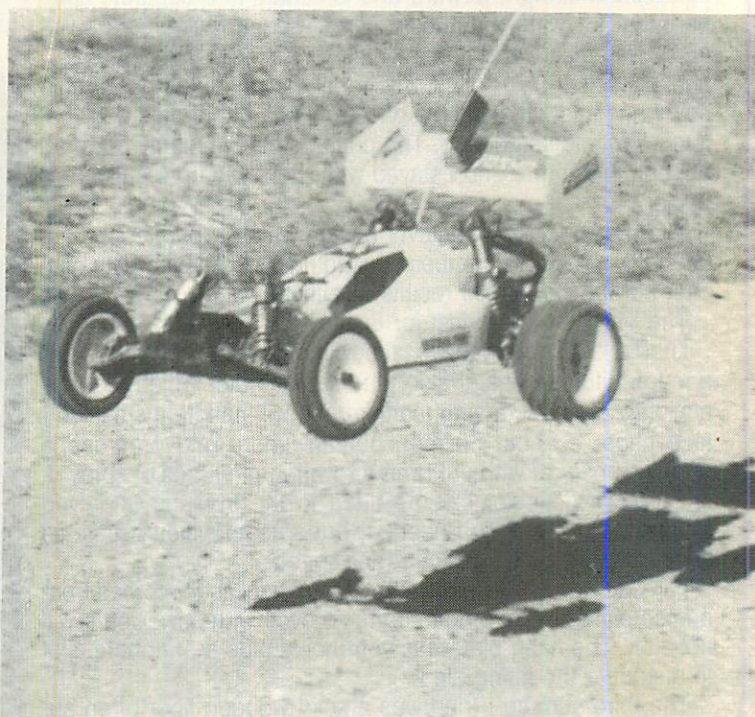
PLACE	NAME	CAR	SPEED/CONT	MOTOR	FRONT TYRES	REAR TYRES
1st.	M. Bodnar	Ultima	KO CD1	Mabuchi	TQ71	TR32
2nd.	D. Barker	Ultima	CX1	Mabuchi	TF5	TR9
3rd.	F. Lamanna	Ultima	CX1	Mabuchi	TF5	TR9

CLASS — 2WD STOCK

PLACE	NAME	CAR	SPEED/CONT	MOTOR	FRONT TYRES	REAR TYRES
1st.	B. Coleman	Ultima	Tekin	Twister	TF5	TR9
2nd.	G. Grinier	RC10	Novak T4	Roody	TF5	TR10
3rd.	T. Worme	RC10	Novak T4	Roody	TF5	TR10

CLASS — 2WD MODIFIED

PLACE	NAME	CAR	SPEED/CONT	MOTOR	FRONT TYRES	REAR TYRES
1st.	R. Birtles	RC10	CX3	Roody Gold	TF5	TR32
2nd.	D. Crowe	Loxi	Purge Force	Twister 1001	Loxi	TR9
3rd.	V. Riches	Loxi	Purge Force	Twister	Loxi Stag	TR9



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BANKCARD AND MASTERCARD WELCOME

SOUTH AUSTRALIAN 1/8 CHAMPIONSHIPS REPORT

A good entry of 41 drivers fronted for the South Australian Championships this year. No doubt many were there for a look at the track which will host the Australian Championships in late October. Open class was contested by 24 drivers, all of whom were from interstate. Restricted (2WD) class had 17 entries all from SA.

Saturday's qualifying saw defending Open class champion Andrew Reade set the time that was to claim TQ; in the second round Andrew scored a new track record of 21 laps in 308.57 seconds. Three seconds behind was an ever improving Richard Beaumont, also on 21 laps. Stewart Grant and Tony Warren both missed out on a 21 by a fraction of a second to fill third and fourth spots at the end of Saturday.

Sunday saw no improvement from the top two but Stewart and Tony were forced back to fifth and sixth behind Ashley Cox and Chris Reade, both scoring 21s in the last round. So at the end of a very competitive session, the top four to go straight through to the final were:

Andrew Reade PB Phoenix 21 308.57
Richard Beaumont PB Phoenix 21 311.61
Ashley Cox PB Phoenix 21 311.75
Chris Reade PB Phoenix 21 314.17.

Qualifying in 2WD was a repeat of the Victorian Champs, for the first two placings at least. Kym Griffiths set TQ in the first round and then sat out the rest of Saturday's racing, competing again only in the last round on Sunday in which he scored the second best time. Former double Australian Champion David Hyde qualified second. Bob Dare also made a comeback, claiming third. The top four were:

Kym Griffiths PB Phoenix 19 313.91
David Hyde PB Phoenix 18 304.29
Bob Dare PB Nova 18 310.89
Andrew Magnussen Associated RC500 18 310.89.

The final for 2WD was a race between Kym and David. The attrition rate was fairly high, with only five of the 10 starters surviving the half hour. David Hyde eventually claimed first round, six seconds clear of Kym Griffiths after 30 minutes.

With memories of the start in Victoria in their minds it appears the Open Class drivers were a little more cautious this time, with all 10 cars making the first lap unscathed. Richard Beaumont made the best of the start, off position two he jumped into the lead ahead of a fast starting Stewart Grant. Positions remained unchanged for the first few minutes, then Grant made his move for the lead, which ended with Beaumont off the track in the grass, rejoining in fifth. Grant held the lead for a while before a couple of quick off-track excursions saw him drop back. By the 15 minute mark things had settled a bit, with Andrew Reade in first, already having a lap on the field, and his brother Chris holding second just ahead of Cox.

Richard Beaumont was the first to strike tyre wear problems, saving a front tyre change at his 15 minute fuel stop. Richard also had a rear tyre change at his next stop, putting him out of contention. Ashley Cox also needed a front tyre change, this time at the 20 minute mark, dropping him out of contention, although a crash shortly after rejoining forced Ashley to retire, the only non-finisher.

In the end Andrew Reade held on to win from Chris Reade, and Tony Warren moved up to third, only four seconds ahead of Stewart Grant.

4WD

1. A.Reade (SA) PB Phoenix 116 1805.77
2. C.Reade (SA) PB Phoenix 114 1803.43
3. T.Warren (Tas) Blitz 112 1800.85
4. S.Grant (NSW) Serpent Sprint 112 1804.23
5. R.McArthur (ACT) Serpent Sprint 111 1827.89
6. R.Beaumont (SA) PB Phoenix 109 1805.51

2WD

1. D.Hyde (SA) PB Phoenix 103 1812.09
2. K.Griffiths (SA) PB Phoenix 102 1803.99
3. A.Magnussen (SA) Assoc. RC500 100 1804.17
4. R.Dare (SA) PB Nova 80 1802.01
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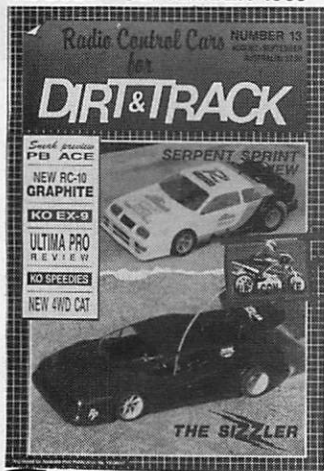
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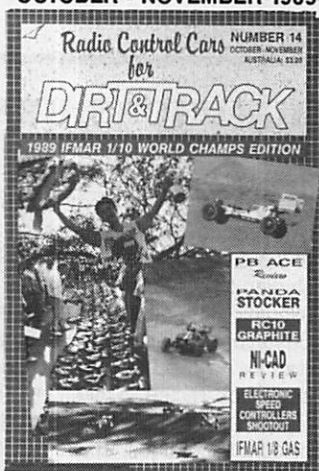
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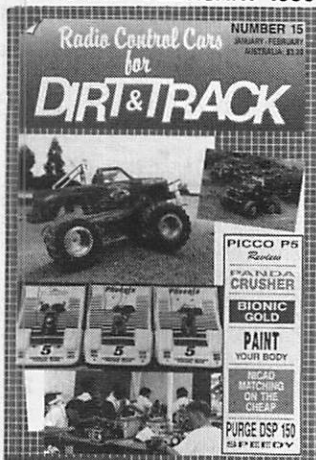
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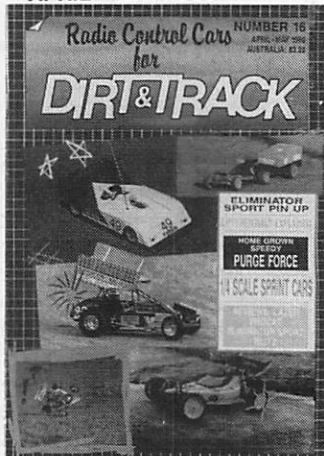
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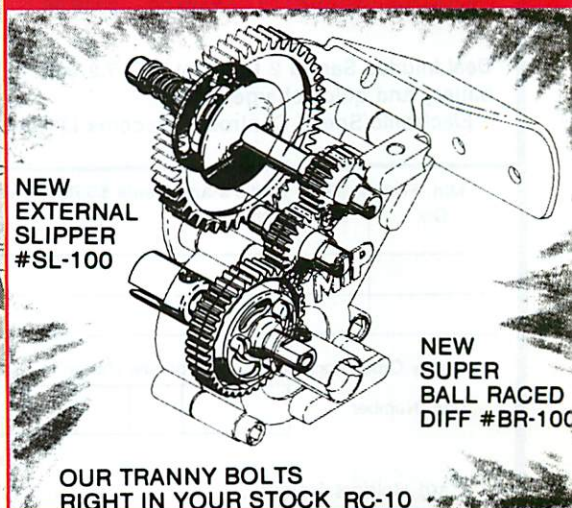
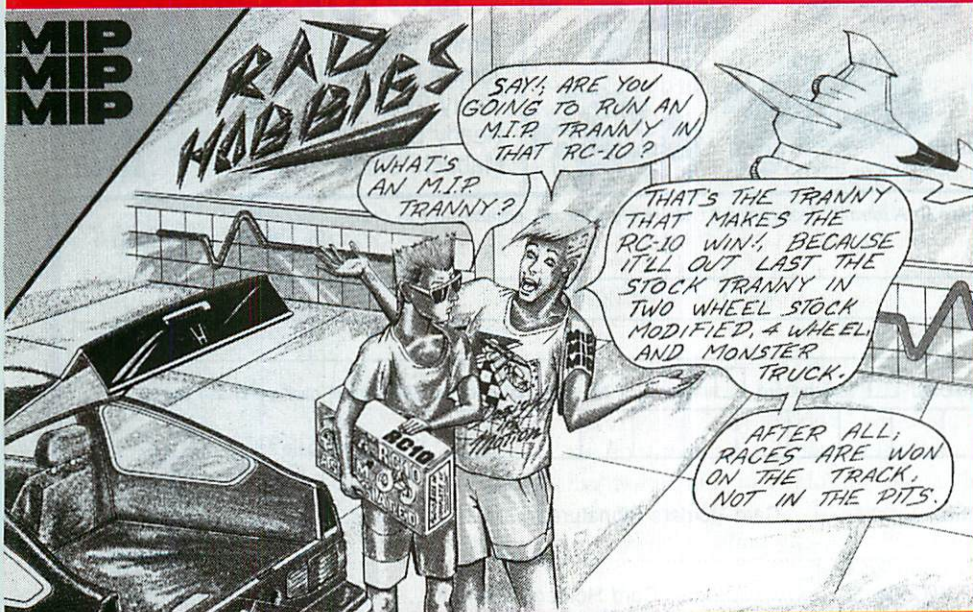
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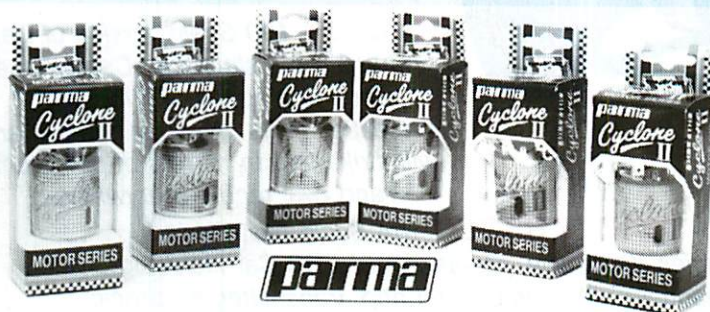
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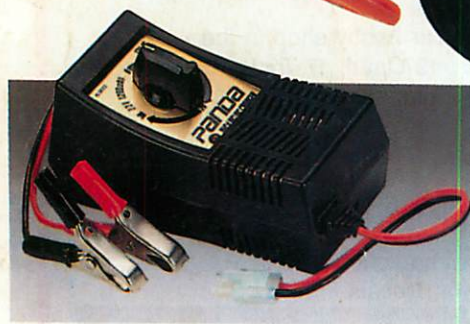
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