

Slot Cars MAGAZINE



Scratchbuilt Ferrari 250 GTO

January/February 2015 • Issue 1 • \$6.50/Higher in Canada

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**PREMIERE
ISSUE!**



Building
a current
Retro Chassis

**THE
FUTURE
IS HERE!**



**3-D
PRINTED
SLOT CAR
BODIES!**

Plus... The History of "Thingies" • First Look at the Mega G-Plus Chassis... *and more!*

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AO800713 1/24 Lamborghini Murcielago R-SV 2010 GT1 Spa #25 by Aoshima



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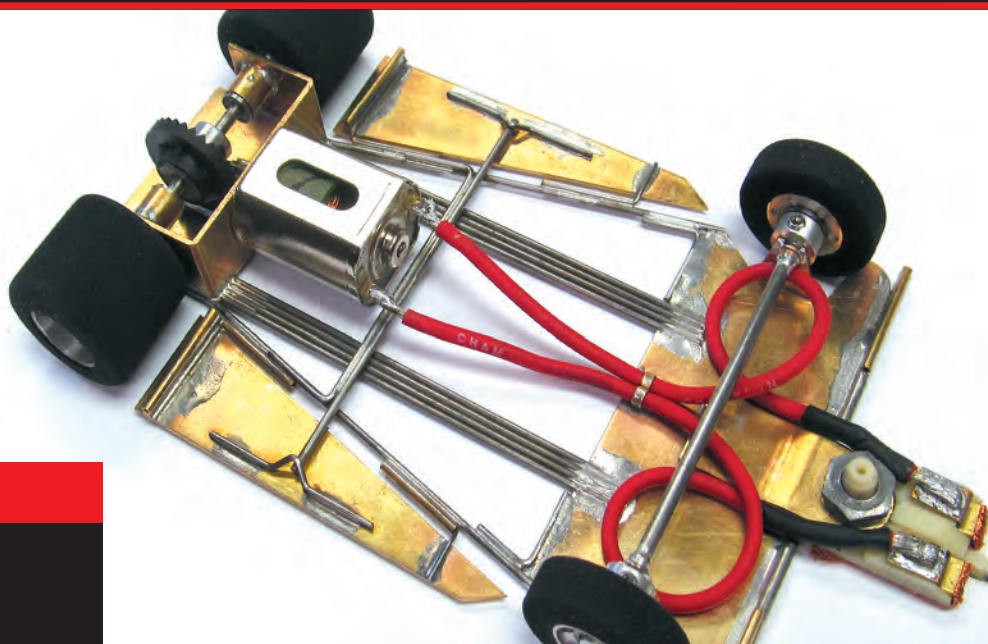


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STARTING LINE

If you are reading this, then you're holding the premier issue of *Slot Cars Magazine*! The slot car hobby has been around for more than 60 years and has thrived in Japan, Australia, most of free Europe, and the United States. While the hobby has gone through many changes over these many years, today we enjoy it in three distinct venues—HO scale, 1/32 scale, and 1/24 scale. While HO and 1/32 have traditionally remained a mostly scale hobby, 1/24 (especially the commercial cars) went through a huge split a little after 1967 resulting in the modern Wing racer which replicates nothing



on the road today other than a cruise missile. Whether this contributed to the death of the hobby in the '70s or not is still a matter for debate. But what is not in question is the success of private home tracks all

over the world, which still run scale model car based races weekly in all scales! Some of those tracks just happen to exist in my own backyard here in the Willamette Valley area of Oregon. A few of those tracks celebrate more than 30 years in existence. Cool, no?

Through the issues to come, I plan to ensure that we cover the entire hobby, showing a little bit about each venue and all aspects of the hobby, be it the history of the hobby or how to build the cars, how to paint them, track layouts and construction—maybe even how to successfully race a car! Above all, this magazine is to be a hands-on tool first and foremost. That means we will bring you articles about vacuum forming, airbrushing, resin casting, chassis assembly, track building, restoration, the full monty!

While my little brother and I had a Mattel slot car track when we were kids, I never got the bug until 1970, when while hitting the mall with the parents (I was 11 years-old) for pizza dinner at Pietros, I discovered the bowling alley next door had a HUGE slot car track! Kids my age were driving all sorts of cars around the track, and I took it upon myself to shag cars on one of the corners until our pizza was ready. I never forgot smell of burned ozone, tire goo, and the cool noises those little machines made, which were suddenly written on my heart with a steel chisel from that moment on. For the next 45 years I have juggled model cars and slot cars as a hobby until I realized.... It's really just *one* hobby. All the same skills can be utilized in both, and so now I find I'm editor of a magazine trying to connect with you, the reader.

But I can't do it all by myself. This mag is for you and so it should be *about* you, too. If you have any ideas for articles, or would like to contribute as a writer and/or photographer, please e-mail me at editor@slotcarsmag.com.

We look forward to hearing from you!

Respectfully submitted,

Jairus Watson



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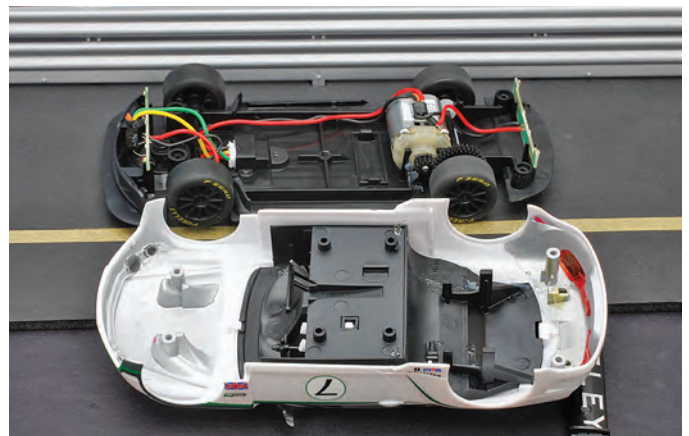
Scalextric Bentley Continental GT3 #7
 1/32 scale analog RTR slot car
 #C3514, List Price: \$54.99



Features:

- Digital Plug Ready
- Easy Change Pick-up
- Magnatraction
- Working Headlights
- Working Rear Lights
- Xenon Effect Headlights.
- Mabuchi SP 18k rpm motor;
- Gear ratio 11:36
- Sidewinder configuration.

We love the recessed area by the two magnets on the bottom of the chassis to allow extra 2mm thin magnets to be added without worrying about ground clearance problems. Great looking Bentley, with a Super Resistant version also available. Ran 10.6 volts on the track out of the box, and 11.7 with the rear tires sanded.



Scalextric Corvette C6R #17
 1/32 scale analog RTR slot car
 #C3381, List Price: \$44.99

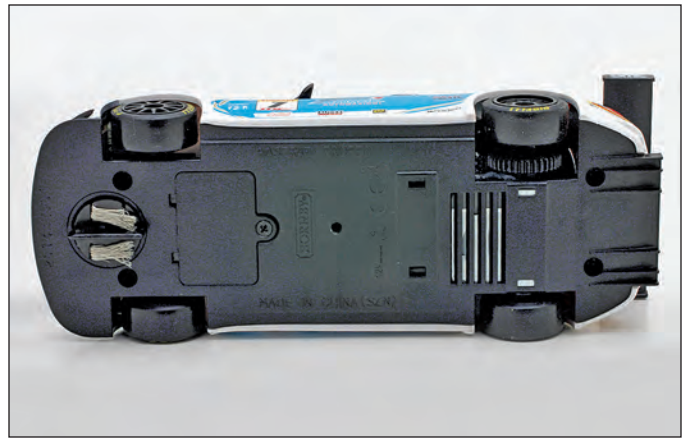
Digital Plug Ready, Vodafone Livery, Super Resistant, GT Open, Brands Hatch, 2012, Fifth Place, M. Ramos and R. Giammaria drivers.

Out of the box, the Vette had a major tendency to want to jump out of the slot at even the slowest speed/lowest voltage. Even after sanding the rear tires, we couldn't get the stock Vette up past 8 volts on the test track. This will need quite a bit of tuning, tires, and/or magnets to get it to handle better. Great looking car, just needs some work right out of the box.



Scalextric Maserati Trofeo Marsped #7 (#C3507, \$54.99)

Trofeo World Series 2013 Giuseppe Fascicolo. DPR (Digital Plug Ready)
With working headlights and taillights, this racing version of the Maserati Gran

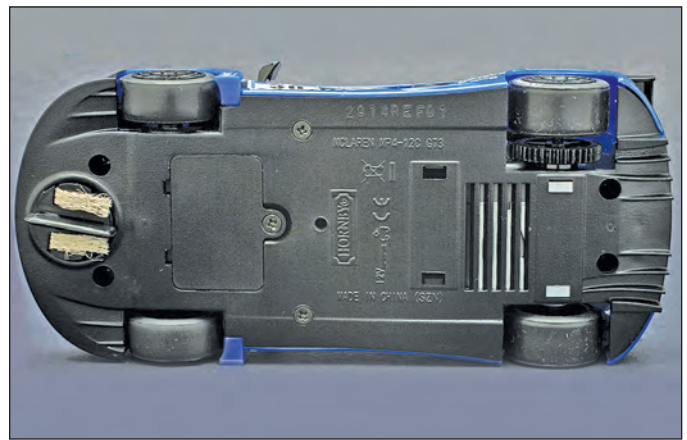


Turismo is not only a very good handling car, but it's very quiet as well. We haven't done anything to it, no magnets, tires, nothing, and it runs consistent lap times, and is very driveable. We will be getting the lighter Damage Resistant version/livery to work on soon.



Scalextric McLaren 12C GT3 (#C3505, \$44.99)

1/32 scale, Damage Resistant. With the wild blue and black paint scheme from the 24 Hour Nürburgring race, Scalextric's McLaren 12C was just crying out for



some upgrades. Out of the box it held some good lap speeds on the test track, but after swapping out the rear tires and rims, adding a stronger magnet, and oiling everything up, the McLaren almost doubled its lap time/speed! We can't wait to some more tuning on this one.



Scalextric Lamborghini Gallardo GT #99 (#C3283, \$42.99)

1/32 scale, Digital plug ready, quick change braids, Sidewinder motor. With the



Gulf livery and Super Resistant body, this new Scalextric Lamborghini Gallardo will make a great club slot car racer. Add a magnet, some new urethane or silicone tires, tune up the chassis, and this lightweight baby will fly!

Ninco Xlot Ferrari F40 Seven7

1/28 Scale analog slot car (available as a kit, or ready to run)

After spending about an hour or so putting together the Ninco Xlot Ferrari F40 Seven7, we thought it may have been better to have purchased the Ready To Run (RTR) version instead. There are a lot of small screws, nuts, and bolts that you have to deal with. And some of the screws just didn't fit right. But in the end, we got it put together (thanks, Mark!), and the first thing we noticed about this 1/28 scale slot car is that it is quiet—very quiet! There is still a lot of tuning and adjusting to do to the car, and the body side mount was broken on our sample, but it was easily fixed with some epoxy (heh, we are all still modelers, yes?). The scale is somewhat odd, not really halfway between 1/24 and 1/32, and it makes us wonder why? Diecasts maybe? There are some 1/28 scale diecasts out there. Or, maybe it was a matter of what they could actually fit in the configuration they wanted. Who knows. Is it worth it to get one, or two? It's a fun build, although we did get a bit frustrated at times, and we really do like the quietness of it. The handling is still being worked on, and we have to tighten up and put thread lock on some screws/nuts as they have come loose. There is a lot of adjustability with the car. We have seen them on sale at some stores or sites for about \$40, give or take, so it may be something you want to try, for different's sake.



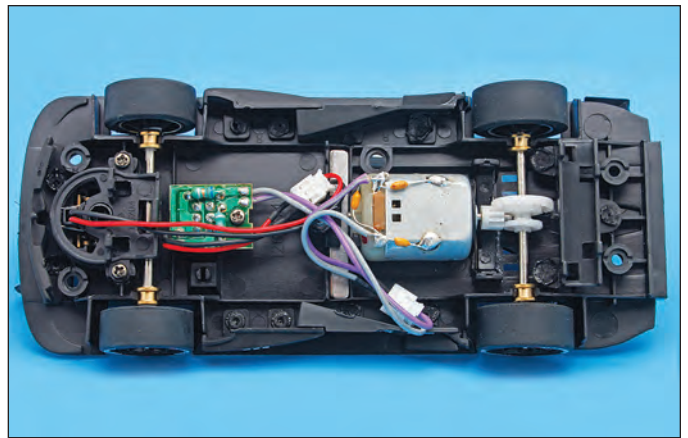
BRM Renault Megane 1/24 Scale White Kit

We picked up this BRM Renault Megane Trophy white kit (#BRM019, \$129.99), which is the first BRM kit we have laid our hands on, and it is amazing to say the least. The quality of kit, from the aluminum wheels, chassis, all the small parts and pieces, was superb. Right out of the box the chassis ran very well. We did nothing to it, and it is very driveable. We will be doing a full feature on the BRM cars in the next issue of Slot Cars. We had sent our Pacific Editor, Dale Carstensen, up to Washington to cover, and race, in the 24 Hour Race sponsored by BRM. The Renault Megane is a very good looking car, no matter how you look at it. We wanted to do something different, so we turned on our airbrush, mixed up some custom paint, and laid down a pretty cool metallic red paint job with some gold pearl added to the paint. It was topped off with automotive clear, and we will be putting the finishing touches on it soon. The chassis in the white kit is pre-assembled, which is nice. Some of the older BRM kits we have seen are complete kits, where you have to put everything together. BRM also has some pre-painted and assembled versions of the Renault Megane, and they run around \$40 more than the kit. It's up to you. We like being able to customize our builds, but some of the livery/versions they have are nice also. One thing to watch out for when you build the bigger 1/24 scale kits is to use a good flexible glue/epoxy on the body parts. You don't want a hard CA-type of glue on the parts that you know will get beat up and damaged during a race. The epoxy/softer glues will give the parts that just right amount of flex that will not only save the parts, but save you a headache or two.

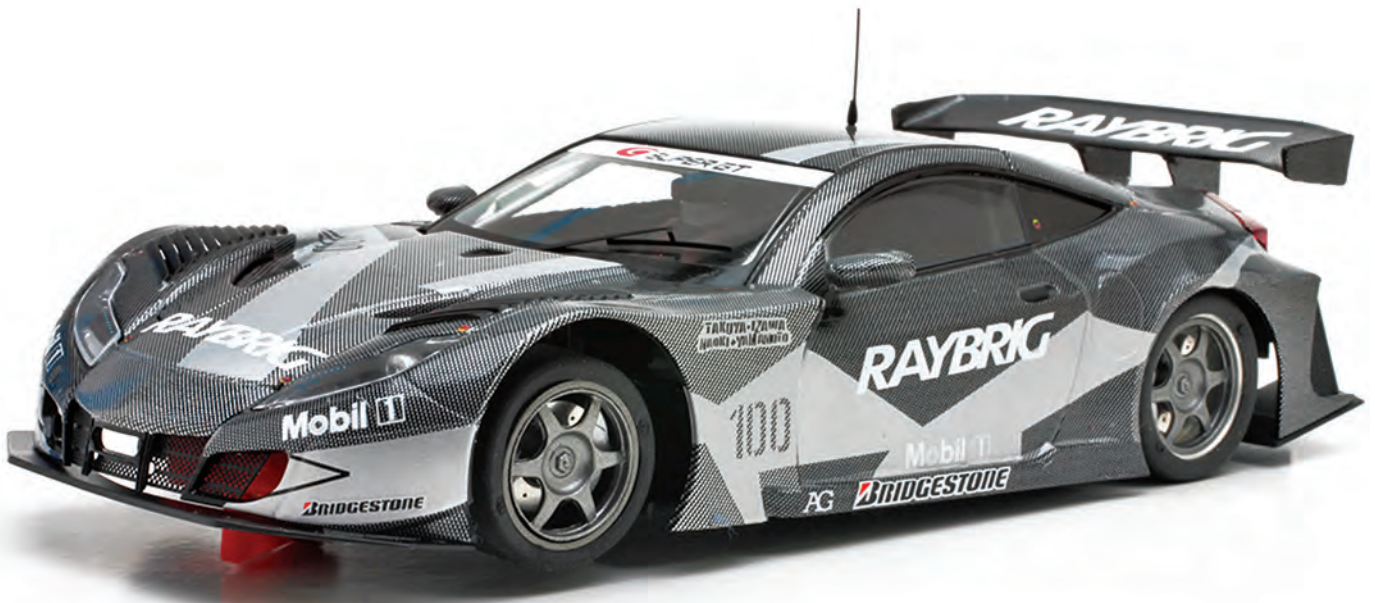




Carrera Digital132 RTR BMW M3, B. Spengler #7
 (#CAR30662, \$65.98)



Carrera's BMW M3 GT has become quite a popular 1/32 scale slot car. We have seen quite a few of them out there, and now Slot.it has even joined in the fun, offering 3D printed chassis pans to fit their Slot.it pods from Shapeways.com. The stock Carrera BMW M3 ran nice and smooth, although it seemed a bit heavy and pushy through most of the turns. On the test track, in stock form, it ran up to 9 volts, after a quick sanding of the rear tires.



Scaleauto SC-6012 Honda HSV-010
 1/32 scale Super GT Presentation Car
 Retail price: \$79.95



Scale Auto's new Raybrig Honda HSV-010 Super GT is one wild looking slot car. The lower body panels, spoilers, side skirts, and splitters are very fragile, and they broke off after a few runs (and crashes) on our local club track. When we first got this car, the rear mount for the Slot.it motor pod was broken, but we were able to get a replacement quickly online. With the stock setup, the car was very loose on the track, and since it takes the standard Slot.it sidewinder pods, we will be doing some tuning with lowered pods, different gears, new tires, and more magnets too see how she performs after. Maybe try the EVO6 pods, either sidewinder or as an anglewinder? This will be an interesting comparison/build up.

Slot.it Audi R18 TDI #1 Monza Test 2011
1/32 scale analog slot car.
(#CA24a, \$64.95)

- Flat-6 20.5k motor
- Offset angle winder motor mount
- Gear ratio: 11/28.
- 150mm long, 34mm high
- Wheelbase: 93mm
- Track: 64mm
- Weight: 79 grams

The chassis comes with a shifted up pickup location to improve cornering, and the EVO6 Slot.it pod. Everyone probably knows the trick/tune is to play with the pod and body mounting screws, either loosening up or tightening them, to see how the car will run. One neat trick that we have learned recently on the EVO6 Slot.it pods is to remove the two rear screws completely, allowing only the two front screws, and the two "new" outer pod screws to hold it in place. This may sound contradicting, but it worked! We noticed a full one volt increase in the test track laps with the two rear most screws removed. We also played around with the other pod mounting screws, and body mount screws to fine tune it. What a difference two screws make!

Upgrades Available:

- Sidewinder: No
- Inline: Yes, w/optional inline body kit
- Inline Boxer: Yes
- Magnetic Suspension: Yes
- Digital: Yes



NSR Aston Martin V12 Vantage GT3 Road Car
1/32 scale Analog RTR slot car
(#NSR1157AW, \$93.99)

Adjustable front axle ride height, drop arm-type guide flag with screw to allow fixed position, aluminum set screw wheels, anglewinder balanced King 21,400 RPM & 350 g-cm torque "Magnetic Effect" motor. Machined bronze self lubricating bushings, adjustable suspension motor pod. Clear coat finish for maximum durability and high gloss.

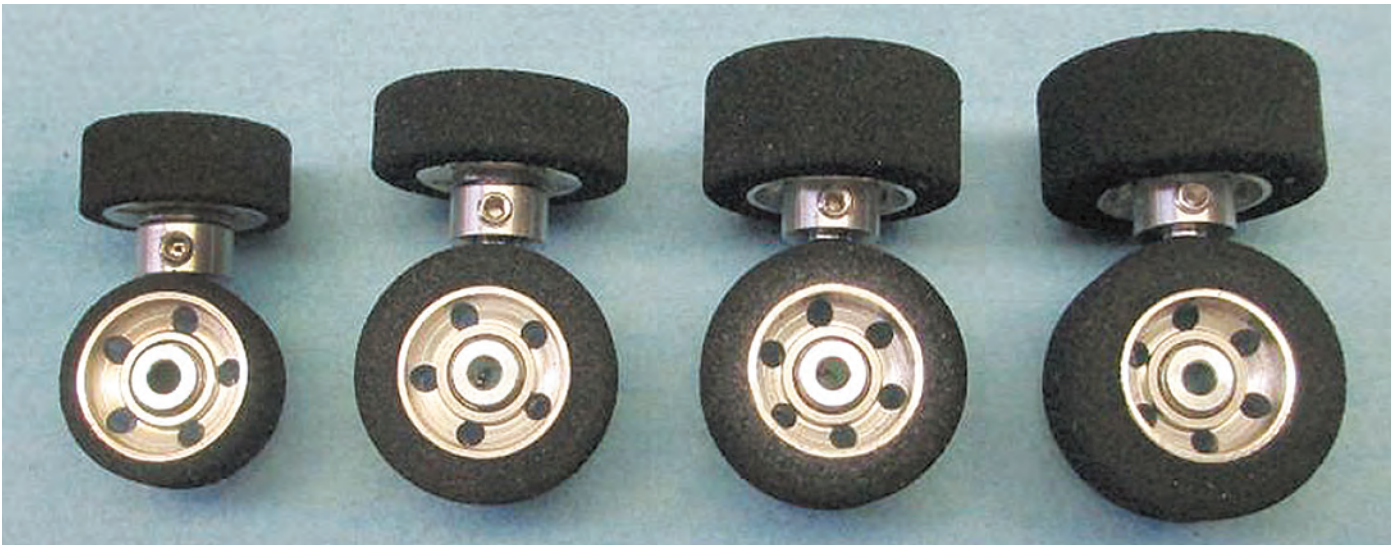
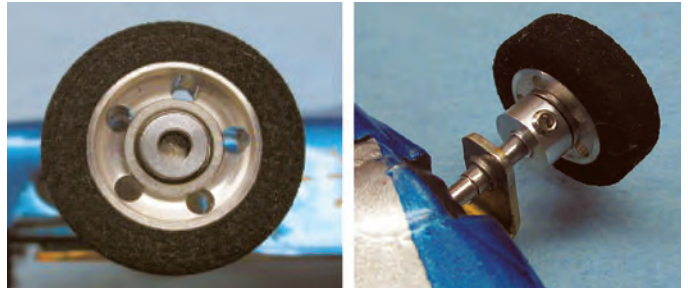
The NSR Aston Martin V12 GT3 did not run good right out of the box. We could barely keep in on the test track even at lower voltages/speeds. Some guys have told us that NSR cars have a love/hate relationship. We think it's probably a little of both. Some NSR cars that we have ran great right out of the box. Others, like this Aston Martin Vantage V12 GT3, will need a bit of fine tuning. There are different motor supports available, ranging from a hard material to a more lighter, softer, and flexible one. We will play around with the chassis, adjusting ride height, drop arm, and tires to get this gorgeous NSR car to run great, and will update you on the changes and mods to this car along the way.





Samson Classics Ball Bearing Retro Racing Front Wheels

By Paul Wolcott



Dennis Samson (samsonclassics.com) claims his wheels run more concentric than others, so I tried a pair on my latest IRRRA F1 build. The parts are all CNC machined to tight tolerances. The hubs are magnesium and use a pair of 1/8" ID ball bearings with a cleverly designed aluminum sleeve and collar assembly. The wheels simply tighten right onto your 3/32" front axle via a stainless steel setscrew in the collar—no retainers, no flux, no solder, no need to secure the BBs. The rubber Dennis uses is extra hard "Wonder Rubber." Retail price is \$29.99 per pair, including bearings and setscrews, tires fully mounted and trued. Without bearings they are \$24.99, still with glued and trued rubber. The special adapter that locks the wheel to your 3/32" Hudy mandrel for trimming and truing is \$5.99. There are some obvious advantages to this design compared to other BB front wheels I've tried:

Easy to install and remove. If you have several race cars to test you could use one pair of wheels and switch them from car to car quickly and painlessly.

No need to secure the BBs, they remain in place by design via the sleeve and collar, yet are very easy to remove for cleaning or replacement. No more fumbling for alignment; these BBs always stay perfectly aligned. They do not stay on the wheels when mounting donuts or trimming and truing, therefore they stay clean.

Axle trimming is made much simpler because there is no need for a retainer to end up in exactly the right spot—cut the axle ends so a little bit will hang outside the collars.

Precise positioning of "retainers" is eliminated—simply center the wheels at the legal width and tighten the setscrews. I don't know about you, but I could probably buy a Waffle House breakfast with the amount of money I have in retainers living under my slot car desk! LOL!

The trimming/truing adapter has double opposing setscrews for precise tightening and secures the Samson hub in perfect alignment on your Hudy. No more headaches from truing a wheel, then having it wobble on the axle. These wheels will be as true on the axle as they are on the Hudy.

Lessons Learned:

- Dennis admits there have been issues in the past with rubber shrinking during shipment. My theory is that varying extremes in temperatures and humidities in the mailing process cause this. This problem has since been resolved and you may find your Samson wheels come with slightly oversized rubber to compensate. I highly recommend getting the adapter; matter of fact, I'd consider it mandatory for a race car.

- The adapter works perfectly and secures with a nut, but not all flag nuts will work. A Koford won't. I found an old brass one with kind of a raised surface on one side that worked for me. In hindsight I wish I had ordered a "Harry's Nut" which works perfectly. Dennis says a nylon nut will work fine also. I trued my wheels and was pretty happy to find they spin true on the car also, something other wheels with adapters have not always done for me.

- Out of the bag, my wheels did not spin free like I'm used to seeing BBs do, so I soaked in acetone for 30 minutes to remove factory grease, rinsed in lighter fluid, then bathed in Mobil One synthetic oil. Still not spinning free. I thought maybe I had a problem. After consulting with both Dennis and Tim Neja to make sure I wasn't doing anything wrong, I installed the hardware (without the wheels) on the chassis and tumbled it for four hours in my usual Buffalo Arms soap and ceramic media. Then a lighter fluid bath and another oil bath. Now they spin free. Oh yeah, baby! Bottom line is, the factory grease is hard to get out. If you don't have a tumbler, I'd soak them in lighter fluid for a long time. I saw a YouTube video where an R/C guy soaks his BBs in lighter fluid for 30 days! That's probably overkill, but you have to get the grease out. Now my wheels spin real nice!

- Mounting donuts on these wheels is a piece of cake. The BBs stay off and stay clean. If you have a JK donut mounting tool,

you will find a single Slick 7 adapter bushing (1/8" to 3/32") on one side of the hub only, will secure it to the shaft. Place about .080" worth of spacers on the JK tool shaft against the handle, then the Slick 7 bushing, then the hub. One of the JK cones is a perfect fit. By cutting a whole donut exactly in half, I got a pair that had about .050" overhang on both sides of both hubs.

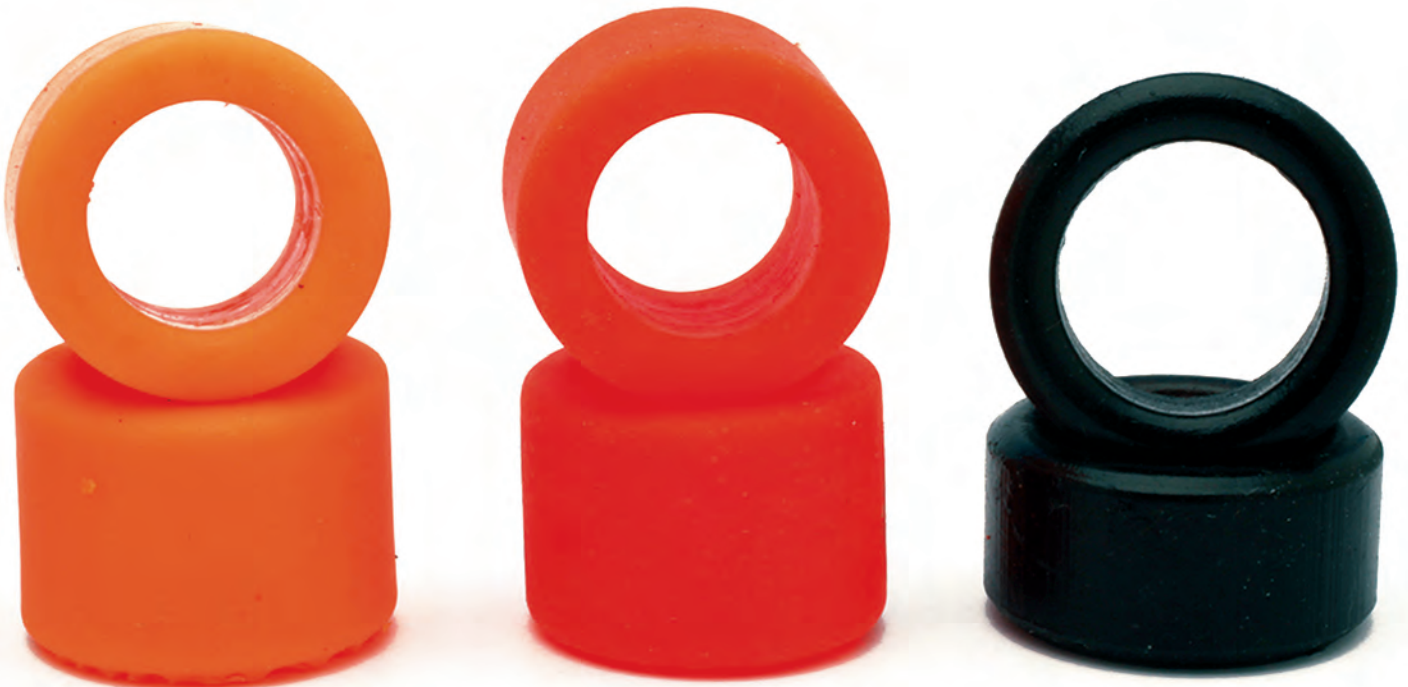
- Trimming this hard rubber takes a lot of patience. Get some good emery boards from the girly section at WalMart, because this rubber is hard. 400 grit wet/dry sandpaper works well also, but when the rubber starts to smoke, let it cool. Go slow. Perfect time for an adult beverage and a movie.

Summary: Flush the grease out of the BB's real well, check for true, and mount 'em up. You will love these wheels, they are well worth the cost. I give them three thumbs up!

Paul Gage Tires

If you have ever looked for replacement tires for some of your older slot cars, you more likely than not have come across eBay seller, Paul Gage. Paul sells urethane tires for slot cars that no one makes anymore. We recently were looking for some replacement tires for an older Carrera 1/32 Dekon Monza, and lo-and-behold, we found a set on Paul's eBay page for about \$7 a pair. We sent an email after we purchased a set, and Paul sent some other tires that he makes as well. He virtually has urethane tires for almost any slot car you can think of, from cars like the Monza, to the new Scalextric Camaro TransAm, some 1/24 replacement AMT tires, even some Womp Womp tires. So, how do they work? As good as any tires we have ever tried before. He even has some in that wild orange color!

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THINGIES

Slot Cars



La Cucaracha

By David Siller

In the beginning, God created Man. In the 1960s, man created commercial slot car tracks! In 1964 Sam Bergman created Classic Industries—and then the first “thingie,” the “Manta Ray,” designed by automotive stylist John Power! Up to that time commercial slot car facilities featured cars based on actual vehicles, both street cars and racing cars like those at Le Mans. The Manta Ray ushered in a greater tool to appeal to the younger mass market. The success of the Manta Ray led to new competition from other early slot car companies that also wanted a piece of this action. Soon, BZ would offer up their spiritual competitor, also designed by John Power, called the “Banshee.” More thingies began to appear from companies such as Gar Vic, Testors, AMT, Dynamic, Monogram and others.

So, what actually is a “thingie?” This new segment of the commercial slot car market was created to broaden the spectrum of potential customers beyond the hobbyist and early fanatics that insisted that slot cars looked like the real ones on the road. In order to broaden the appeal of slot car facilities that were springing up around the country, there became a need to attract younger customers, therefore the invention of these futuristic and fantasy type cars that were unlike anything that existed on the road. Essentially, this was not your daddy’s Oldsmobile, but something colorful and futuristic—and above all, exciting!

Slot car purists hated these new thingies and were ashamed to be on the track at the same time as these new cars, most often driven by those who were maybe not so serious about slot cars. Some even suggest that these thingies contributed to the eventual demise of commercial slot car facilities, but nothing could be further from the truth. The fact is that thingies energized the market and spurred growth. Maybe it was too much growth too soon, as facilities sprouted up everywhere and around every corner at one time in the mid-’60s.

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NO. 6 NO. 6

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The next thingie success story came in the form of an ingenious little device from Cox Industries in Southern California called the “La Cucaracha!” The year was 1966, and this low slung little slot car was a true sensation! Designed by Fredrica Millie Naef, this new slot car introduced the “Iso-fulcrum” chassis design that has revolutionized slot cars since, especially racing slot cars henceforth, and remains a classic forevermore! This bright orange little slot car with an injection molded body was immediately as quick as the more serious racers used throughout the country. Slot cars were never be same after that. Like the earlier Manta Ray, this slot car thingie achieved sales in excess of one million units!

Soon, as racing programs became the staple of slot car facilities around the country, the thingies would once again fight back.



Bullet



Shrike

In California both north and south, as well as in Detroit and later everywhere, thingies now wide and low began to dominate the racing scene using scratchbuilt chassis made from brass rod and piano wire and powered by "rebound" motors.

In 1968 in Northern California, especially Marin County, John Chotia created a line of wedge shaped thingie bodies known as the "Choti" and designated by a number instead of a specific name. These Choti bodies were fantastic, and soon racers needed them to be competitive. The Choti "5" became the one to have, and even the motor builder rewinders such as Mura, French and Lenz were sporting Choti bodied cars in those slot car racing wars!

Meanwhile, down in South California, Lancer Corporation was introducing their own line of racing thingies to complement their realistic offerings. Designed by legendary mold maker Lloyd Asbury, these new bodies were very different than their

Shinoda Bus





Classic Serpent



Shinoda Point

earlier offerings such as the "Bat Ray" and the "Hornet." Soon, the "Spoiler," the "Whisper," and the "Drifter" were competing at venues far and wide.

In Detroit, the epicenter of the American automobile industry, a different form of low-slung and wide thingie racers were dominating the local scene. Led by the legendary automobile designer Larry Shinoda, these locally produced thingies were incred-

ibly fast and could take on entries from the large commercial makers such as Russkit—and beat them at their own game. Master Shinoda was designing an entire evolving line of thingies such as the "Mongoose" and the "Shrike" and later the "Point," among others. To make his bodies he would utilize a vacu-form machine at GM Styling Center normally used to prototype small parts, and these offerings were highly sought after. The different slot car venues such as the Groove and the Stapleton Slot

**THINGS
ABOUT
THINGIES**
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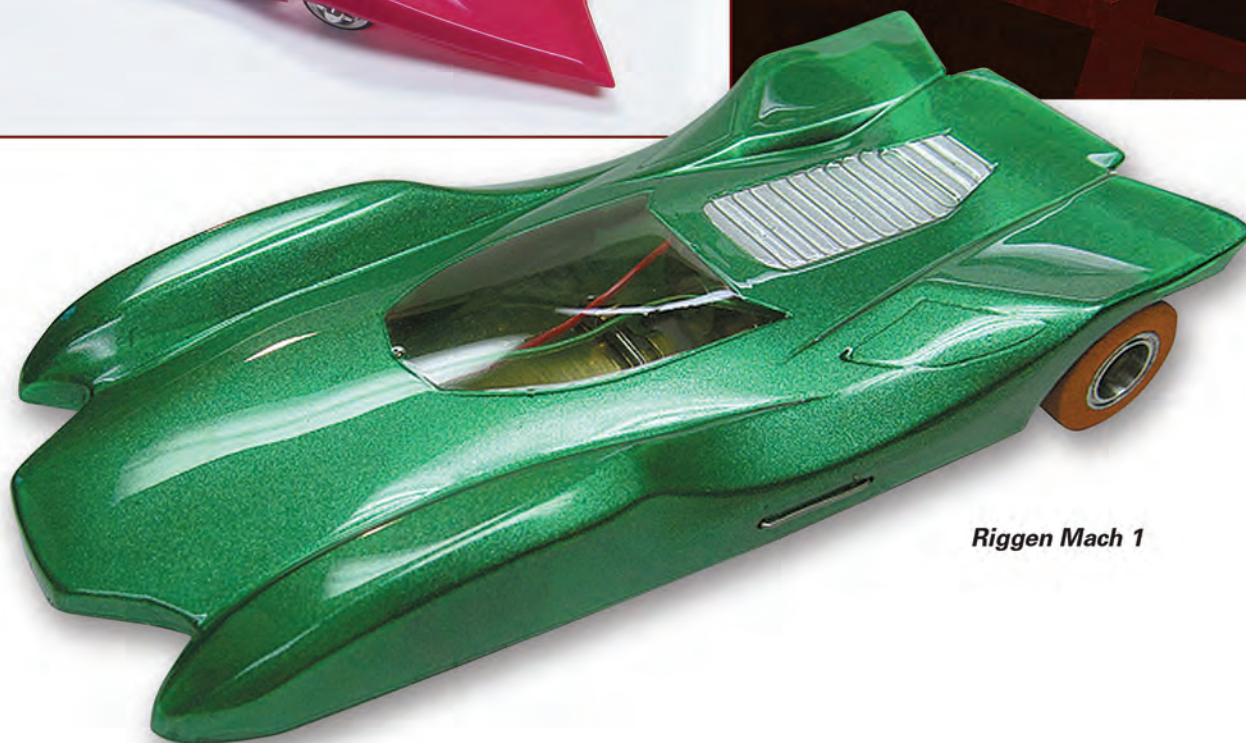
Bay Area Choti



Classic Gamma Ray



**THINGS
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Riggen Mach 1

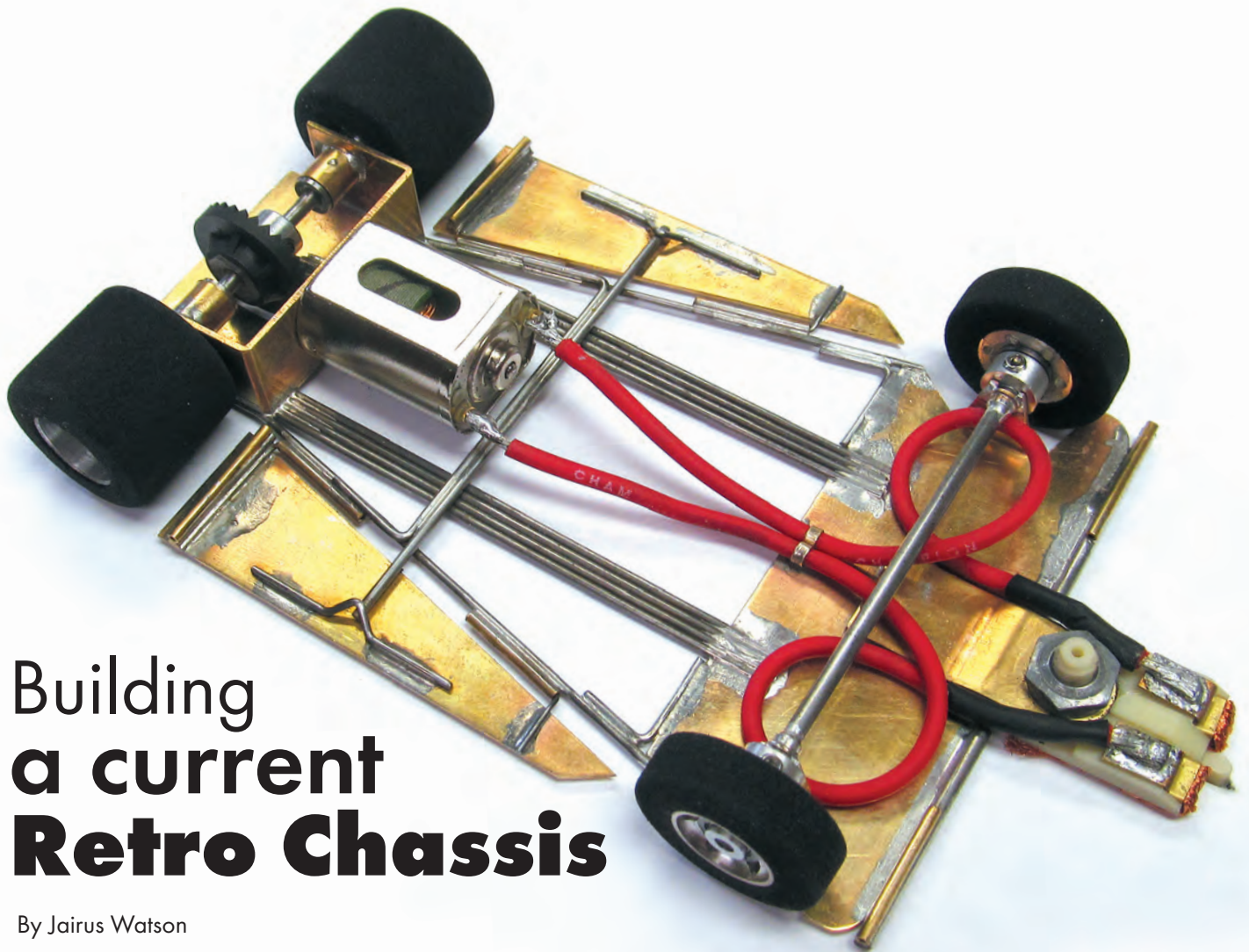
Car Center and the Pontiac Model Car Raceways would all have their own vacu-form machines, and each venue would design and produce their own unique slot car thingie bodies!

Today, thingies are still popular among a cult group of enthusiasts that remain passionate about these non-realistic but very cool slot cars! Vintage hard to find bodies or reproductions are used to replicate these racers of the past. Even all-new thingies

are being designed and created continuously by mold masters like Gene Adams, John Dilworth, Mike Zimmerman, and Alex Bond, among others.

Yes, thingies are here to stay and will be enjoyed by a future generation of slot car fans!





Building a current Retro Chassis

By Jairus Watson

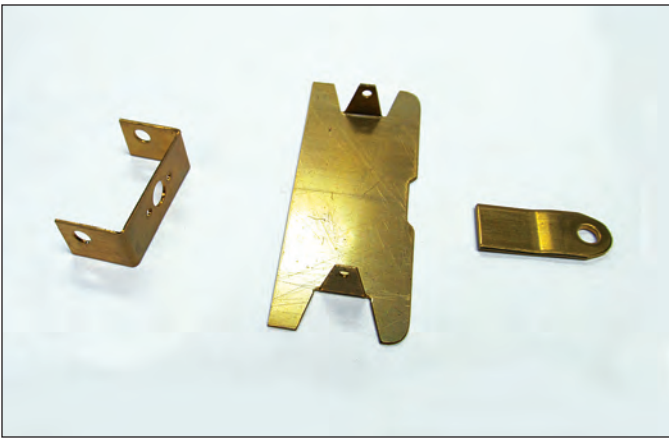
Slot car chassis design has changed a lot since the early 1960s. What started as simple electric-powered scale model cars to run on a track grew into super fast “Door-stops” that look nothing like the real automobiles they were suppose to represent.

Along about 2006 or so “Retro Racing” was discovered and promoted as a “back to the egg” counterpoint to the manufacturer type racing where the one with the deepest pockets ruled the track. Retro Racing revolves primarily around handmade chassis, powered by sealed identical \$10 motors, and a sanctioned body list made up of mostly Can-Am, Sports GT, or Grand Prix-type bodies that date right around 1967-'70. Retro racing quickly became one of the few hands-on scratchbuilding chassis classes and quickly spread to Australia, Japan, England, and Spain.

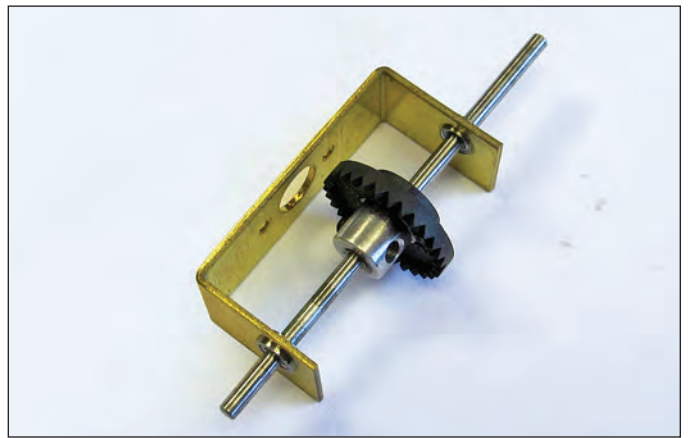
While most tracks follow strict International Retro Racing Association published rule structures, each organization can (and usually will) enforce some sort of individual rule changes to suit their local racers. Here in the beautiful Pacific Northwest we like our “scale aspects” rules, so my local track has decided to enforce a minimum tire diameter rule that encourages scale wheel/tire diameters as well as realistically painted bodies.

While the track I am building this car for allows vacuum formed bodies, most up here in Oregon run only scale resin or injection molded model car bodies. So this race is unique to the region but standard in most of the rest of the retro world where tire diameters are more open and vacuum formed squashed bodies are allowed.

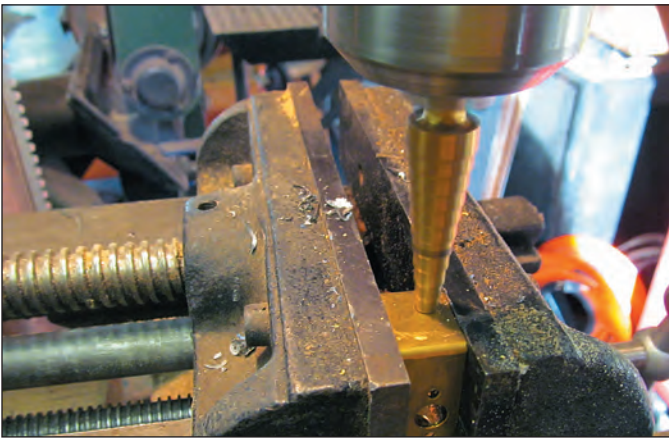
The Chassis: The hot trend in all of retro racing today is *multi-rail*. The idea started in 1972 by the pros of the period, utilizing one rail of .047” and one rail of .055” on each side, in order to receive the advantage of a bit of chassis flex. This is known as the common two-rail chassis. Lots of experimentation during the last 40 years resulted in one constant: flatter tracks benefit from stiffer, heavier chassis designs, and lighter, more flexible chassis designs work better on curvy fast tracks. Many innovations have been tried during the last ten years; the one I am implementing with this build is a 4 oz. plate chassis of five rails of .047” wire, with the front pan, tongue, and motor bracket purchased from Brian Warmack. The front wheels are Dennis Samson items and the motor a JK Hawk 7. The body will eventually be a True Scale McLaren M8B. Time to fire up the iron!



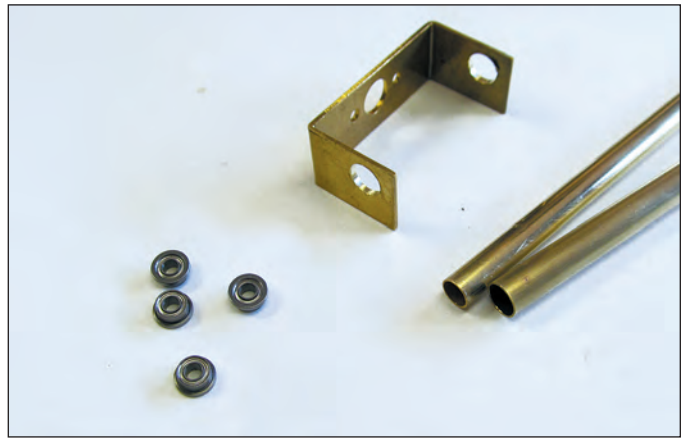
These are the three pieces provided by Brian Warmack. They are smartly made, square, and allow lots of leeway for any chassis built using them.



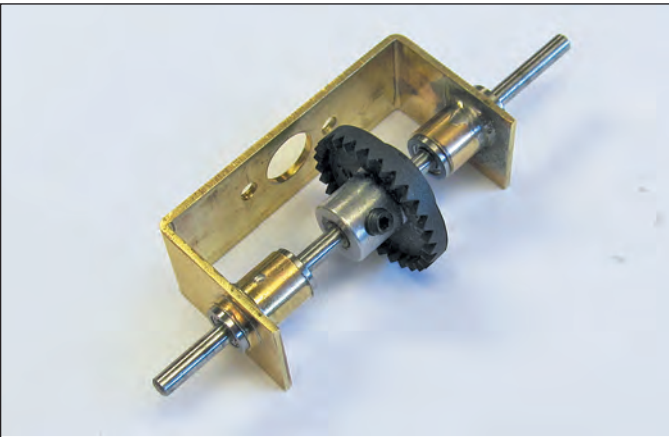
The rear bracket is already set up wide so no axle tubes are usually needed. 3/32" bearings pop in and are ready to go! But I have broken these bearings with one wall shot. I feel the need for better bulletproofing!



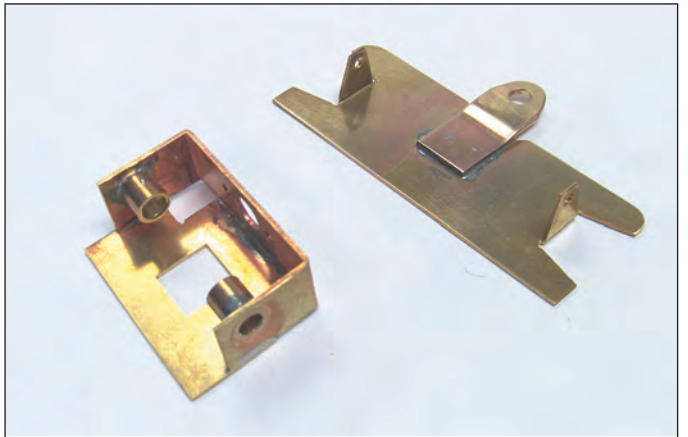
For anyone wanting to run 1/8" axle bearings or wanting to install an axle tube, there is plenty of meat on the bracket for milling. For me, I wanted to run more than one bearing per side, so installing an axle tube was necessary. A step drill made quick work of opening up the hole to fit 1/4" tubing.



Two tubes (1/4" and 7/32") were inserted into the holes, soldered together and to the bracket, before cutting. This provides lots of support for any wall hit and reduces the chance of a bent axle or broken bearing down to nil.



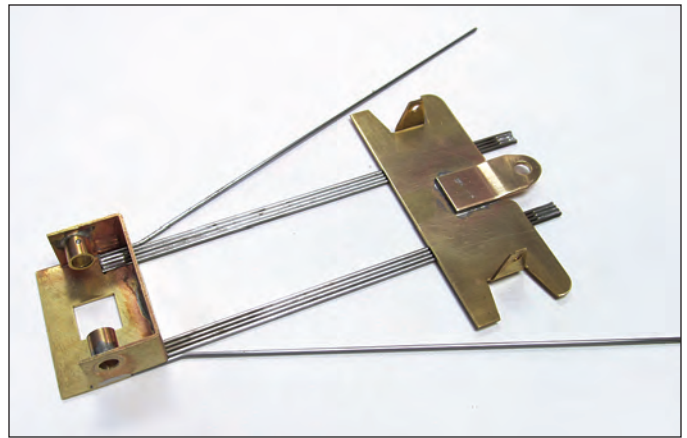
Now we have something solid enough to withstand the rigors of racing! The crown gear is a 48 pitch, 28 tooth Parma product. It was supplied through PCH Parts express. While it comes molded in pink, PCH sleeves them for the 3/32" axle. This is a popular Retro item used by nearly all the pros because they are straight and can be found in 29 and 30 tooth for tuning. The reason it's black here is because I dye them in Rit dye.



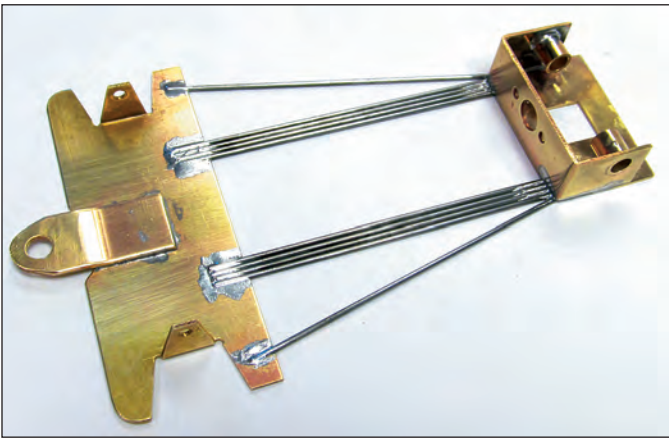
A piece of .040" brass plate is added to the bottom of the bracket, which was originally set up for .78" diameter rear wheels. This car will use .87" Protrack rears, necessitating raising the axle centerline. The plate also adds needed weight and strengthens the bracket. It also provides a nice flat area to place lead handling weight, if need be.



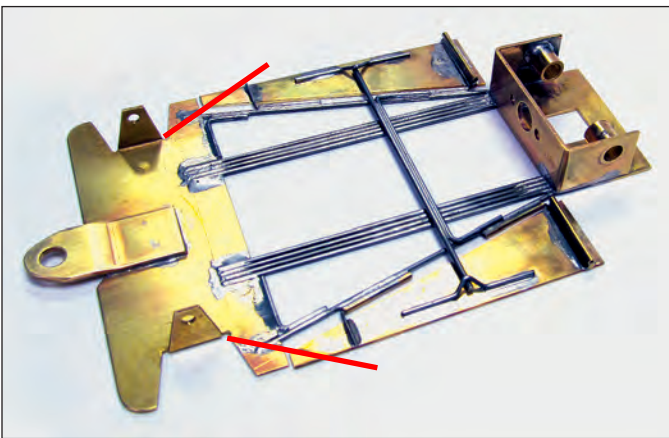
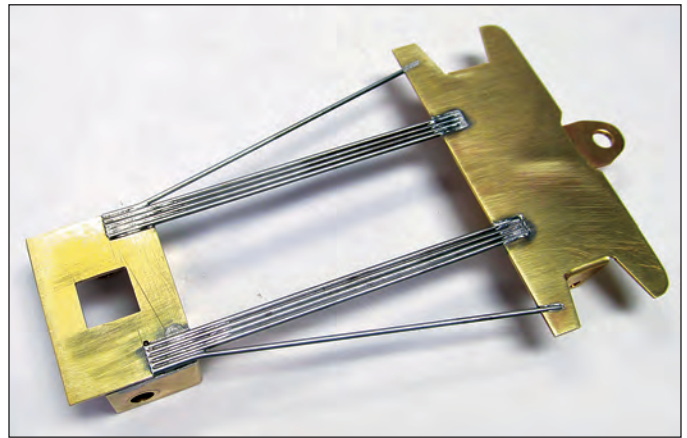
Two sets of .047" rail clusters are soldered together. The outside fifth rail will taper out, forming a triangular shape to hang the pans from. This triangle will also keep the chassis from flexing side to side.



A quick mockup to see how it all goes together before putting the parts on the jig. Here one can see the recesses I cut into the rear pan in order to give maximum soldering area. The same recesses will be cut into the forward pan both inside and outside. Once done, this rear bracket will provide plenty of strength and keep the rear axle from any binding—regardless of wall hits.



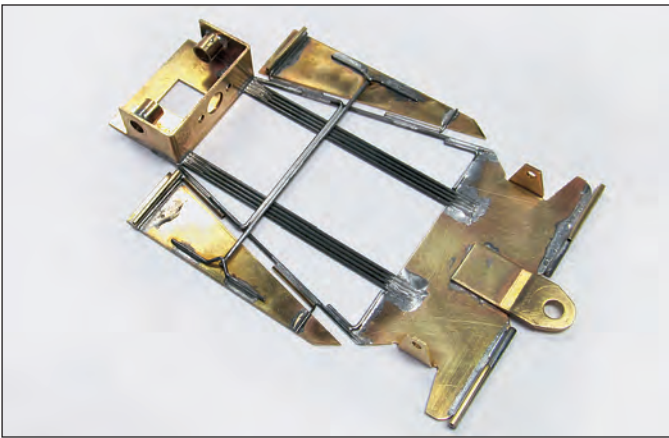
Here is the completed center section right off the jig, top and bottom. At this point the flex is good enough for most any track. However, if the chassis proves to be too flexible, adding solder to the rails will stiffen them considerably, so some tuning is possible. Likewise, adding weight is very easy since I have kept lots of flat areas free to stick the lead sheet to. At this point we have a chassis strong enough to drive nails into the wall.



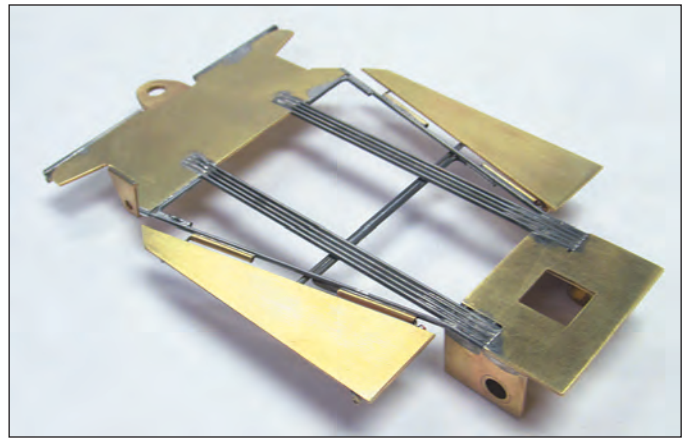
The angled pan pivots will allow body movement. If someone were to work out an effective rear end differential, this movement would be unnecessary. Until then, a slight bit of movement is required to cancel out vibrations caused by wheel hop. Research has shown that placing the "bite bar" midway between the front and rear axle is the most effective location for dampening vibrations. The chassis will need to be cut along the red lines to accommodate the M8B body's distinctive front wheel openings.



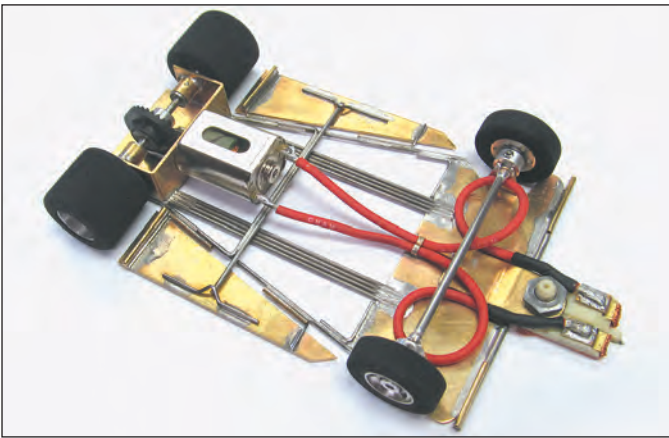
Here you can see the McLaren's distinctive large front wheel openings, which is why we have to cut off the chassis corners on an angle as seen by the red lines in the previous photo.



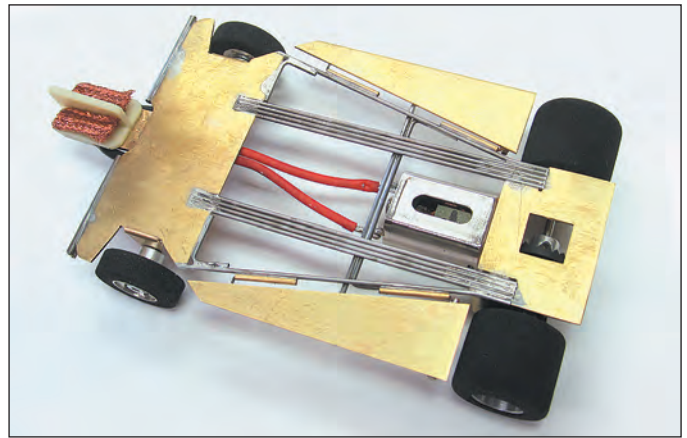
Here the chassis has been cut away for the front wheelwells. Also installed is a set of .078" steel front bumpers in order to keep the forward pan from bending. Above that I installed a 1/16" brass tube for the forward body mount.



Underneath remains smooth and flat. Time to start assembling this puppy with the running gear.



After careful assembly of the running bits, we have a roller! Motor is a JK Hawk 7. This is the latest version of the FK style sealed can motor made in China. This one has NEO magnets and a balanced arm, making it the most advanced of all the little FK motors. Lead wires are fairly stiff Champion pieces which I might have to replace, but I wanted to make sure that the guide centers, and we get no broken wires at the guide. That also explains the reason shrink wrap was used in order to beef up strength there. Rear wheels are Pro-Slot natural rubber, while the fronts are ball bearing equipped free-wheeling items from Samson Classics. Half of making a good running car is building a solid, totally flat chassis with a moderate amount of flex. The other half is correct assembly! Very important to get all the parts on the chassis in good order and running smoothly, with no clearance issues.



Close up of the front wheel. There are two sets of 1/8" axle bearings trapped between an aluminum tube sleeve with a flange on the outside, and an aluminum set screw collar. This allows free wheeling and quick removal. The front axle is 3/32" with two brass keepers soldered solid to the uprights.



That's it for this issue. Next time we will tackle body cutting, mounting, and painting, as we get our McLaren closer to race ready... so stay tuned!





STOW IT IN A SLOT BOX

KEEPING
YOUR GEAR
ORGANIZED,
SAFE, AND
HANDY

If you're like most of us Sloters, you have more than a few slot cars that you bring to the track. You can go the Cadillac route and get one of the super cool pit boxes (yes, we did that too!), or just head on over to your local hardware store and pick up a few tackle or utility boxes from Plano. You have a few options and styles to choose from. One of our favorites is their model 23730. You can fit eight 1/32 scale slot cars in it perfectly. We even fit the big Carrera Dodge Charger with no problem! We have seen them for about \$9-12 each, and they are definitely worth it! We found a bigger tackle box, 7271, that we turned

into a pit box. We made three wooden shelves that slide in place of the utility boxes, with grooves that we cut into the wood for the guides, four wide. Go to your local fishing/sporting goods store and bring a slot car with you to check out all the tackle/field boxes they have to offer. They run from about \$30, and they are a great investment. Or, if you have some extra money saved up, go all out and get our favorite—a custom wooden pit box, like the one we got from Bernard Dengler on ebay (seller name: bdengler, email: bdengler@msn.com). Get your gear organized... you'll be glad you did!



Plano makes a bunch of utility boxes. Their #23730 is one of our favorites.



The Plano #23730 will hold eight 1/32 scale slot cars, with no modifications whatsoever.



This tackle/tool box from Plano (#7271) can be converted into a 13+ slot car carrier by making three wooden shelves to replace the slide-out compartments.



We made the shelves to slide right into the rails in the box. We drilled out four grooves to accommodate the slot car guides. We should have used a router to create more even grooves.



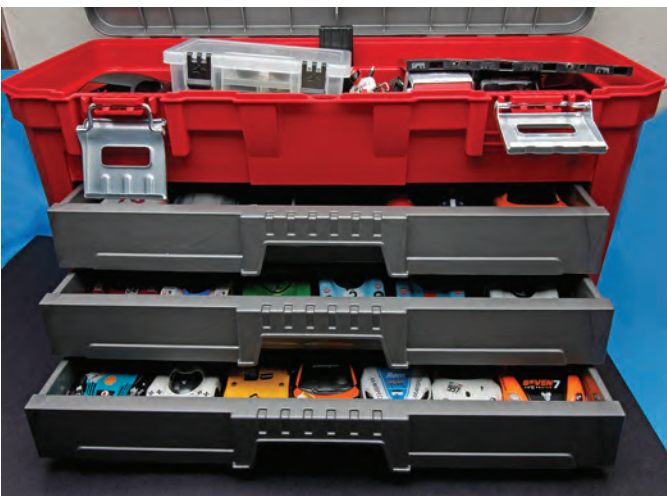
The pit box we picked up was for our smaller 1/32 scale cars. It holds ten 1/32 scale slot cars on slotted pull out trays. There are four tool box trays, and the upper storage area is big enough for your controller and spare parts boxes. There are also areas on the sides for extra parts, tools, or maybe even a slot car or two.

Our favorite pit box is this one from Bernard Dengler (bdengler@msn.com). He sells them on eBay under the user name bdengler. They are available in a variety of styles and sizes. They come unfinished. We added this dark mahogany stain and clear coat to ours, and it was fun to do!



Carrera cases comes in a couple of different sizes. Local club member Myron, of Mad Myron's Raceway, showed us a simple way of turning the large Carrera case into a huge case for 30 1/32 scale slot cars. The handle on a Carrera case is usually on the front of the case, under the red Carrera name tag, but we had moved the handle to the top lid to create a case for carrying static model cars, and was featured in an article in *Model Cars Magazine*.

Right: By stacking them on top of each other, you can carry about 30 1/32 scale slot cars. You can see the stock Carrera dividers at the top of the case—the grey pieces with the slots/grooves in it. Too bad we don't have more of them. They would help to protect the cars on the bottom more.



We found this tool box (Keter #17186722 three-drawer tool box) on Amazon, and we got it shipped here to the house in Hawai'i for only \$52, and that was with free Amazon Prime shipping. You can fit about 25 cars in the trays, and there's a big storage area on the top of the box. It's a pretty heavy duty unit, and will last a long, long time.





First Look at the NEW G-Plus!

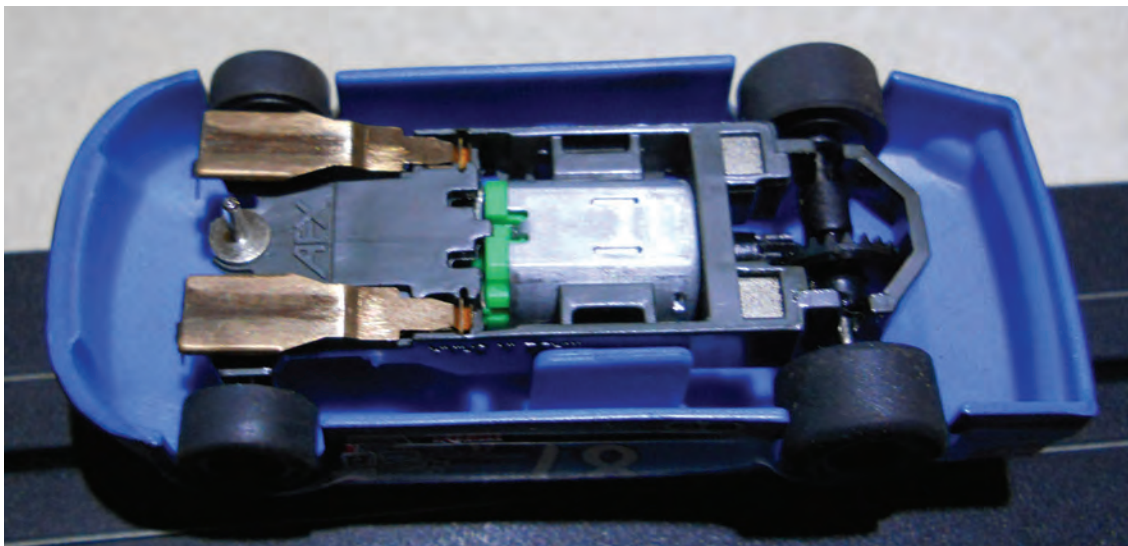
By John Cukras

Model Car Journal to Slot Cars Magazine-what a trip! To the people who know me from the 1/24 pro racing days then, and the retro racing now, I have been immersed in HO scale cars since the early 1970s, when I took a job in the toy business at Aurora Products Corp. Later as president of Southern California HO Racers, (S.C.H.O.R.), a racing club that I served for more than 15 years, to designing HO cars for the hobby/toy industry including Tyco, Rokar, Aurora, Ideal Loisirs, and Tomy, it has been a long involvement. I will bring to this magazine a look into the back rooms right to the front lines of the hobby. What cars are being run, who is running them, and how are they being hopped up—all legitimate topics that will be discussed and reported.

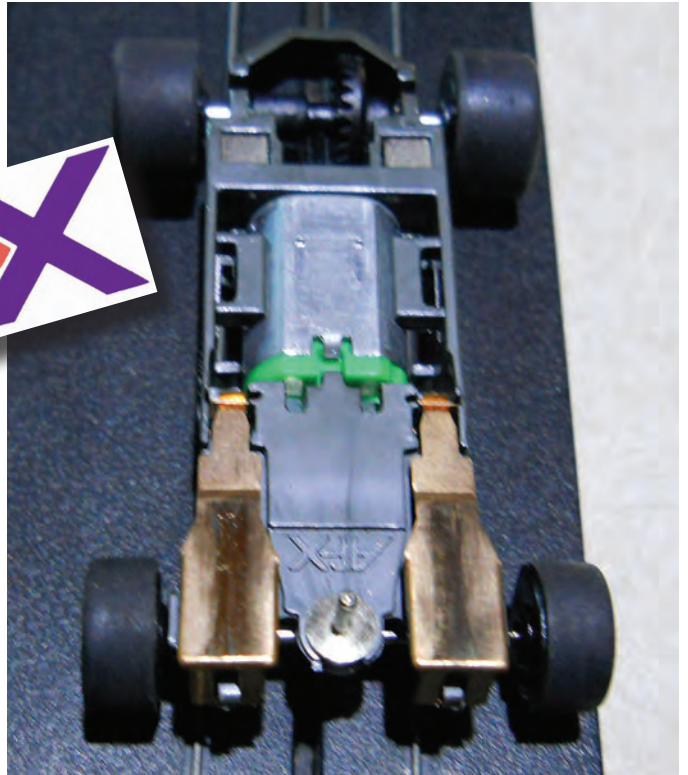
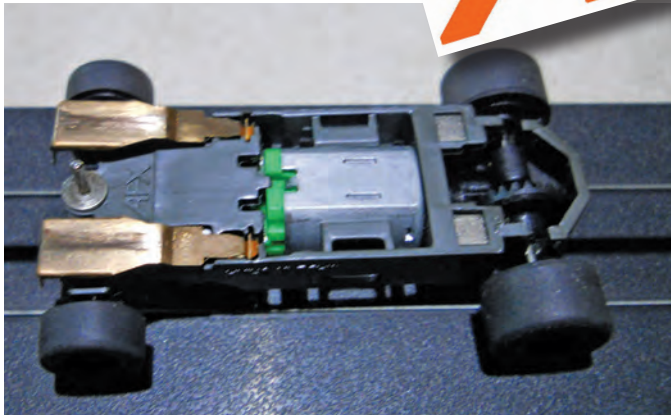
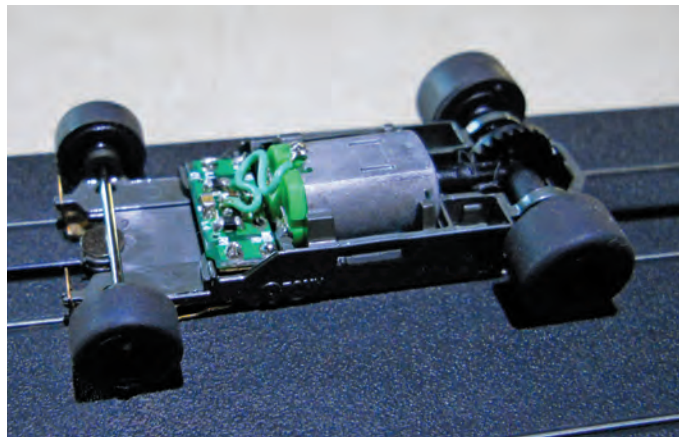
Organized activity in Southern California is expanding. The S.C.H.O.R. Group (see photos) that races every month has now been joined by a H.O.P.R.A. group that is being started up in the San Diego area. Specialty races for HO cars have been run at Buena Park Raceway, the premier 1/24 track in Orange County for the past several years, and a permanent HO track is now in place. From hard body classes to neo magnet rewind classes, all continue to be run.

Racemasters, Inc. has released the new Mega G-Plus car (see photos) with its state of the art FCC noise reduction circuitry in place. The new car's electronics with the latest design can motor installed is still in a small enough package to fit those beautiful bodies.

I am looking forward to the task of bringing HO activity to this medium.



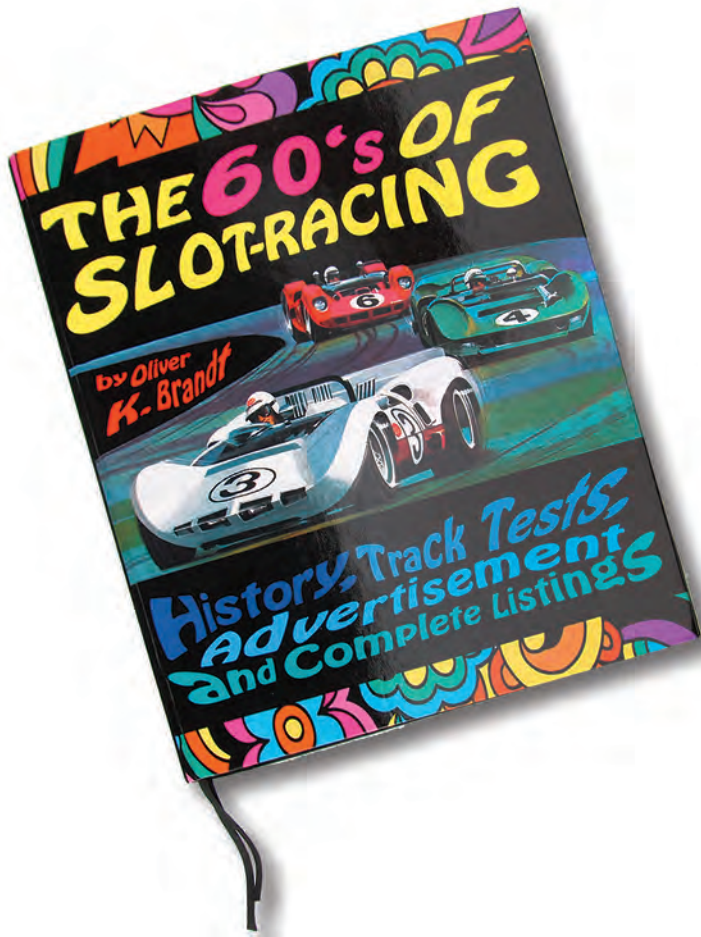
This is the new and improved Mega G-Plus chassis with a Ford Fusion body. The new in-line mounted "can-motor" also is equipped with an FCC approved noise reduction circuit board. Note that there is plenty of room for traction magnets just behind.



The members of the Southern California H.O. Racing Organization (S.C.H.O.R.) in action, and at rest. Names withheld pending approval. (But John is the dude in the middle wearing the brimmed hat.)



By Jairus Watson



The 60's of Slot Racing

- 798 pages, all in color
- English text
- Size is 300 mm x 245 mm x 70 mm
- Weight is 3.5 kilogram (about 14 pounds)
- Printed in Germany
- Price: € 289,90 + shipping

www.slotcarbooks.com



I didn't get started with slot cars until 1970. The sad part is, I didn't realize until way later that I had only been exposed to merely the bare "rubble" left behind of what was once a huge and booming hobby. Ignorance is bliss, it's said, but today I look back and wish I could have been born five or six years earlier in the era that once boasted there was a "commercial slot car track on every corner."

Truly the '60s were a wonderful time to be a young pre-teen. The contentment of rock music on every radio station while the Detroit Big Three cranked out stylish and powerful dream cars. Plus there were lots of entertaining hobbies such as baseball, skateboarding, surfing, dirt bikes, and great model cars (sigh)... those were indeed heady times!

Oliver K. Brandt, like me, came along late, being only two years older. But he discovered the wonder and beauty of the sport/hobby earlier in life than I. He also developed a penchant for saving and restoring bits of this wonderful hobby, resulting in a book providing us a look at that period of history. Thus *The 60's of Slot-Racing* was born. This book is as much a catalog of his collection as it is an excellent reference manual for anyone in the hobby wanting to identify his or her latest eBay acquisition.

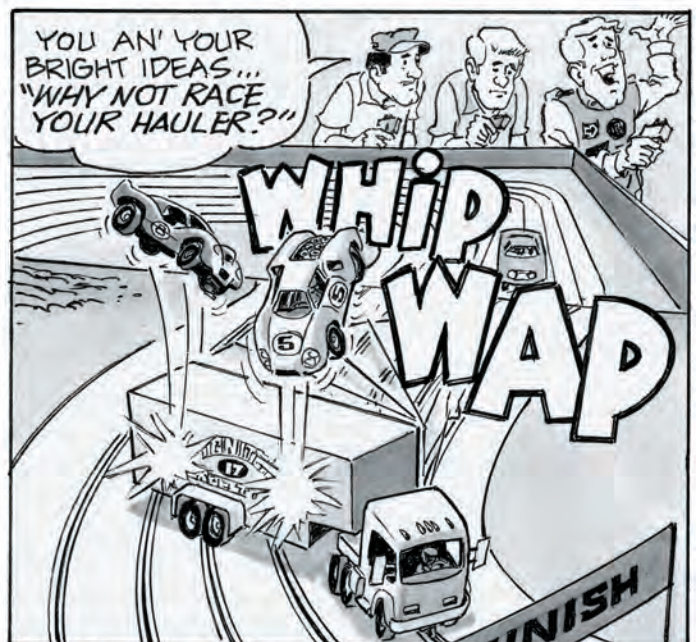
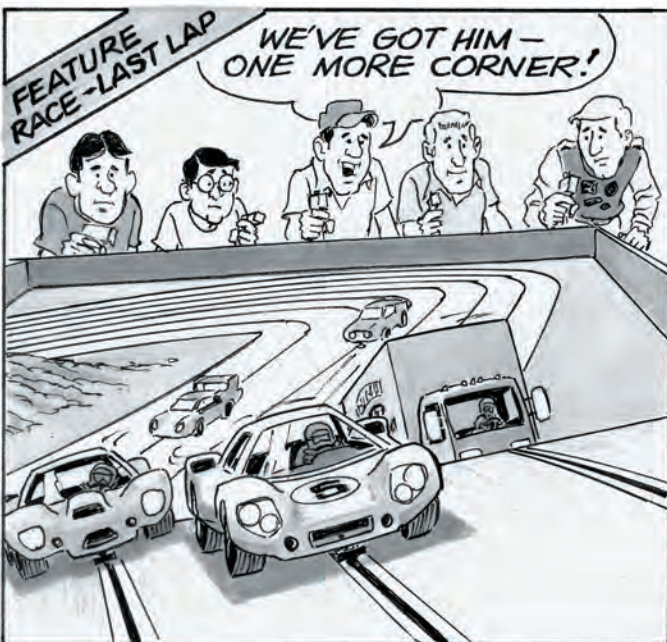
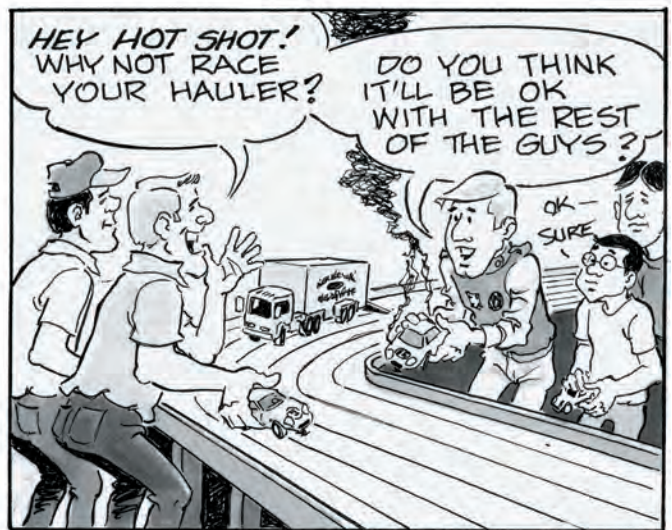
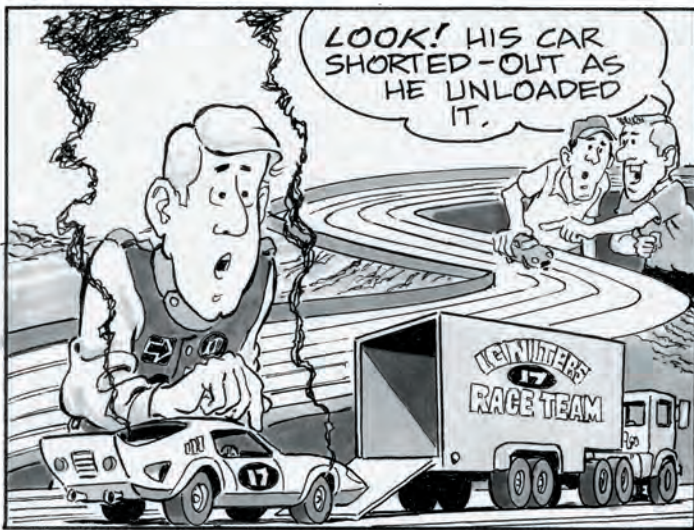
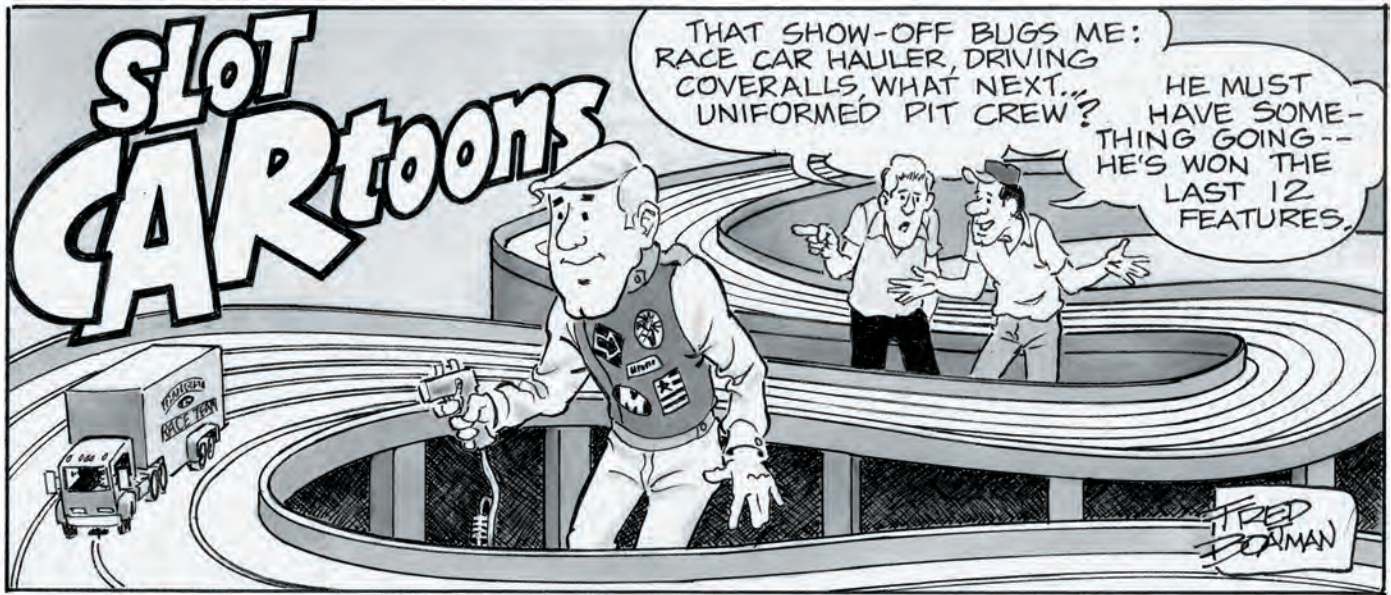
Now, I have to admit that it is not actually a price guide, nor does it provide more than a foretaste of historical information. But prices tend to change with the weather, and history is rewritten based on the viewpoint of the writer.

What this book *does* provide to the enthusiast and collector is priceless, in that the cars are beautifully original and the period advertising a testament of the times.

Within these pages slathered with luxurious detail is a deliciously thick exposition of what was available to every young kid struggling along with a paper route back during the golden age of slot cars!

All the manufacturers' cars and parts of the time period from the heyday of 1963 to 1969 are presented in full color, along with advertisements from the various hobby magazines expounding things like "newer," "better," "faster," and the like. And during those times, they probably were telling the truth!

If you are into everything that makes up vintage slots of the golden years then this is your new bible, and a must have for every coffee table!



A Scratchbuilt Ferrari 250 GTO

By Ajwans Suitor

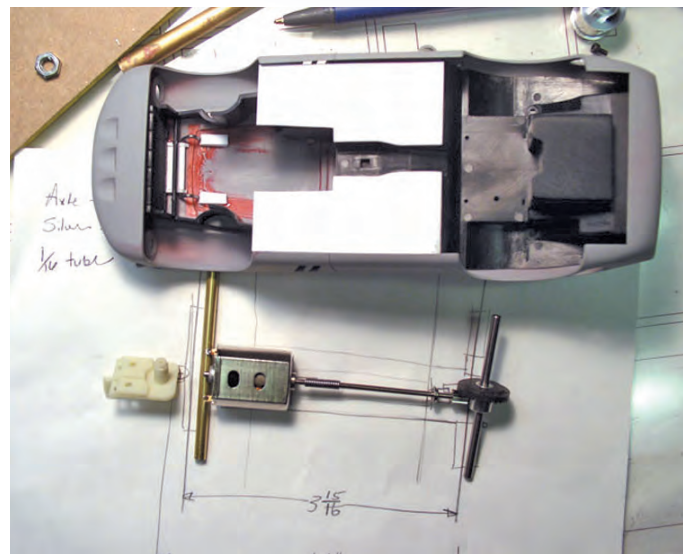
The team of Jairus Watson and Chris Clark began around 2009 and many, many projects were completed during the following years, but none of them were more beautiful than this 1962 Ferrari 250 GTO constructed in 2011.

What began as just another project struck chassis builder Jairus with the idea of how much actual modeling details can we get into a car that can really be driven on the track? Not just a shelf queen, but a car that handles and performs well scooting around the braids.

As with most of their projects, they started out with a nice model kit of the subject, produced by Testors/Italeri. The hood is molded open and comes with a fully detailed Colombo V12, which inspired from the beginning an opening hood and fully detailed interior with driver figure (supplied separately.) Construction began during the spring and the very first modifications were to hinge the hood and modify the interior to provide room for the chassis below. But I digress...



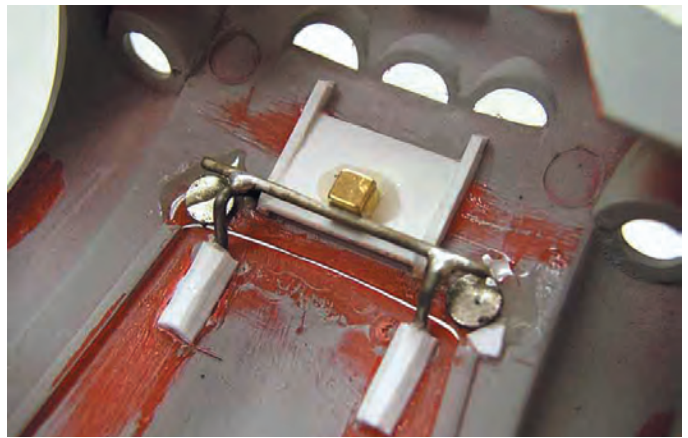
The entire floor was removed and raised slightly, the drive shaft tunnel raised even more, and the kit motor assembled prior to cutting that piece in half to make room for the slot car motor. When the hood is opened, very little of the slot car chassis can be seen. The car looks like a well-detailed model kit with wiring, plumbing and fuel lines correctly placed—until it's turned over, of course.



Here we can see the new floor created from thin styrene sheet providing plenty of clearance for the chassis, drive line, and motor. The rest of the model kit, from the new floor up, was retained and utilized after detailing. The idea was that the interior panels, floor and fender wells provide strength and support to the final product.



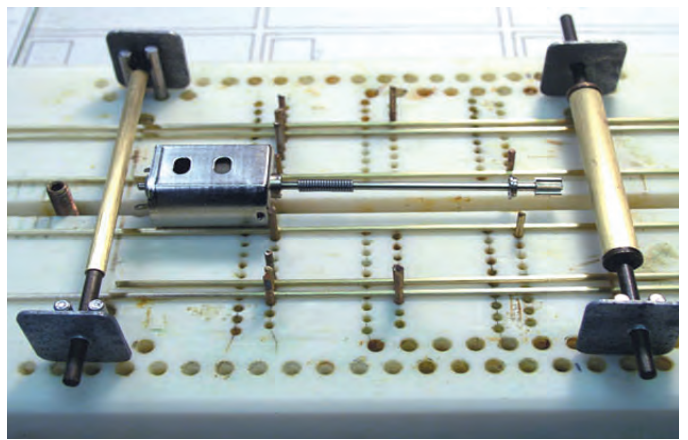
Hood is molded separately in the Testors kit and only needed the addition of a bent wire hinge. A cross rod of steel wire was soldered to the hinge wire to provide stops for the up and down movement of the hood. Neo magnets epoxied in place provide the force to keep the hood either open or closed.



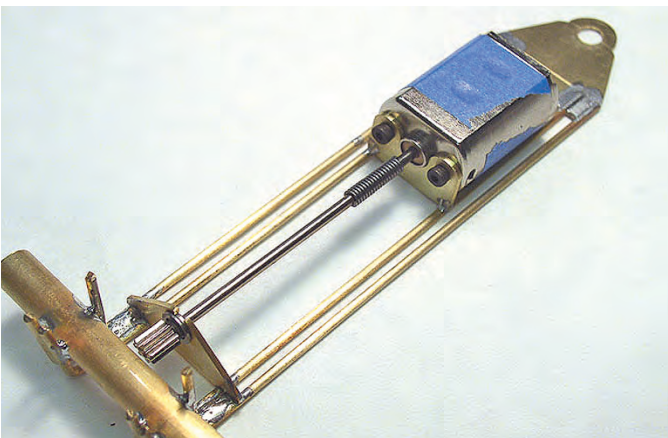
Clearly one can see the single magnet in the middle is plenty strong enough to keep the hood closed, even while navigating the track. This eliminates the need for a hood latch when closed, or a prop rod to hold the hood in the open position.



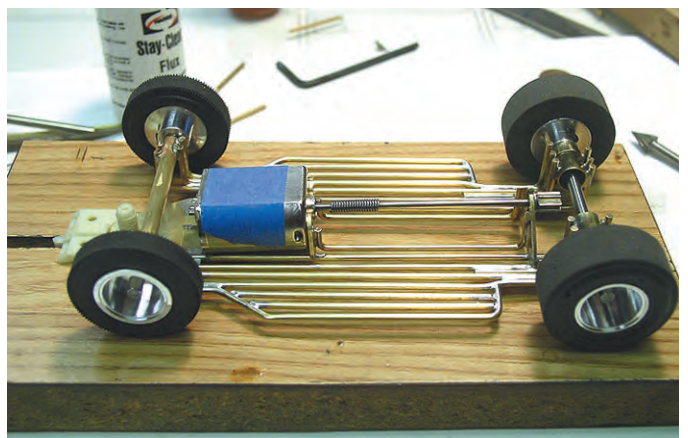
Opening the hood only requires the use of one fingernail.



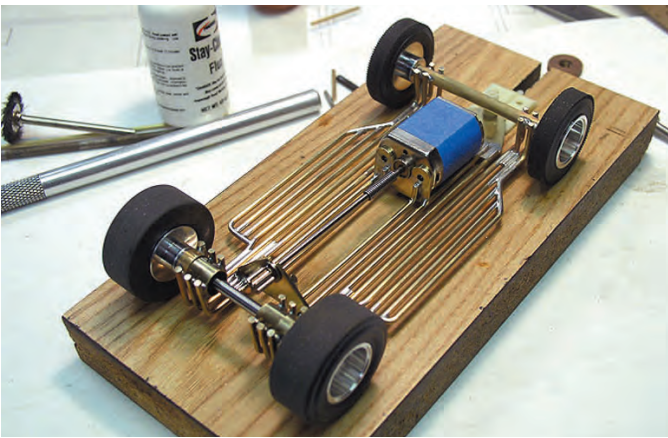
Mocked up bits added to a building jig using pins to insure the front and rear axles are parallel, as are all frame rails. Pins inserted in the holes provide the alignment for all brass rods and axle tubes throughout construction. The jig wheels are vintage Ferret items.



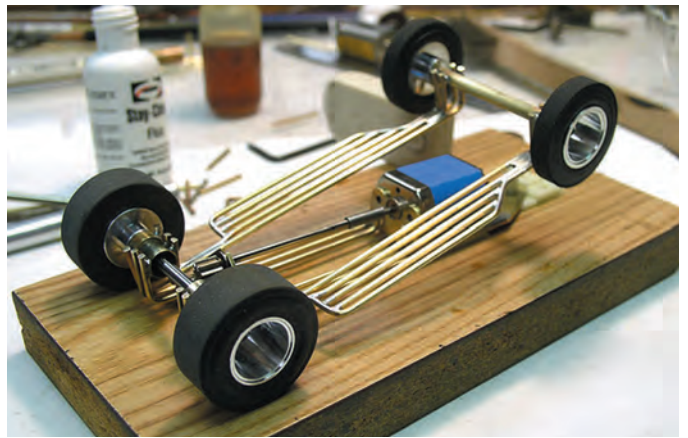
Completed center section. Final motor will be a TSRF FK type mini motor with Neo magnets. This motor was the most popular Retro power item in use at the time of construction. The motor shown is just a used up Jig motor.



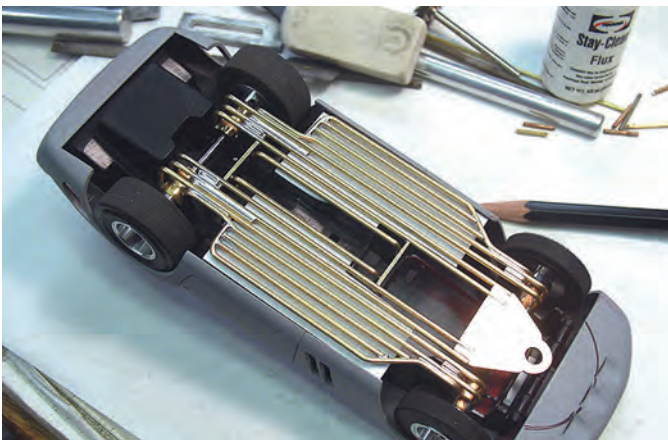
Drive shaft connector is a Pro-Slot item and the pinion ball bearing a standard motor-can bearing used by Wing Car and Euro-Sport racers. Main rails and side pan rails are all brass rod approx. 1/16" diameter, or better known as .062 rod.



Front and rear rims are Ruskit style reproductions. Front tires are model car items glued and trued up so they are perfectly round. The rear tires are silicone.



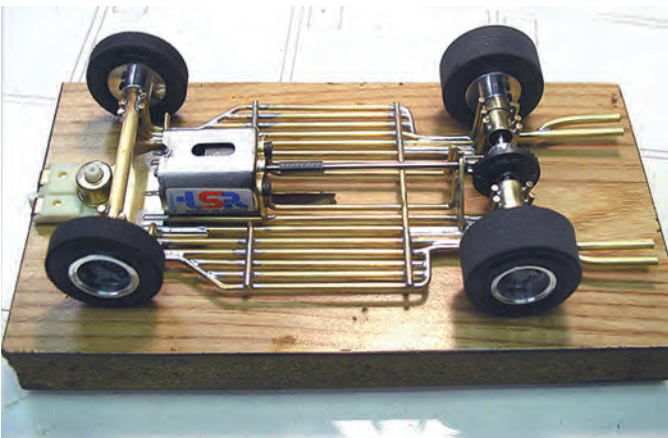
Demonstration of the ISO pivot. After the limiter is in place the movement will only be 1/16" up or down. The pivot is the axle tube itself.



Chassis test fit into the body shows that clearance will need to be cut into the front valance to provide room for the guide and lead wires to swing back and forth.

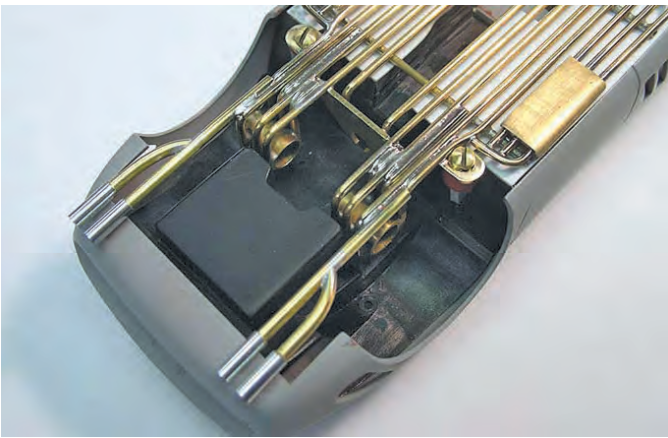


Even without proper body mounting yet installed, the stance looks pretty spot on!

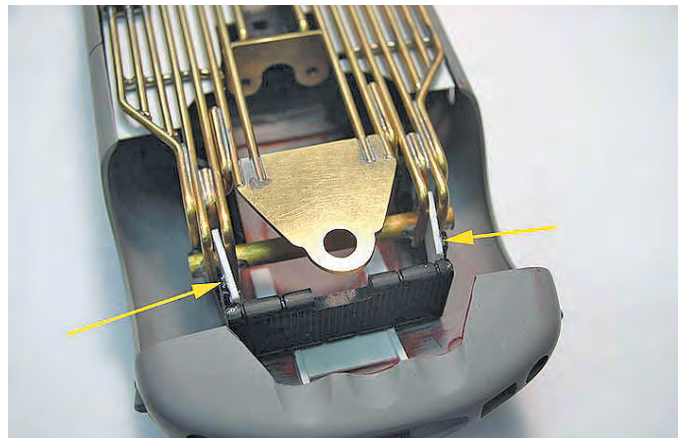


The nice thing about slot chassis is that they are usually built tough! However, when plastic is used for stuff that sticks out, it can be knocked off way too easily. For things like exhaust pipes it's best to use brass or steel. So a set of brass exhaust pipes shaped just like the kit parts were the originals stick out on the real 250 GTO.

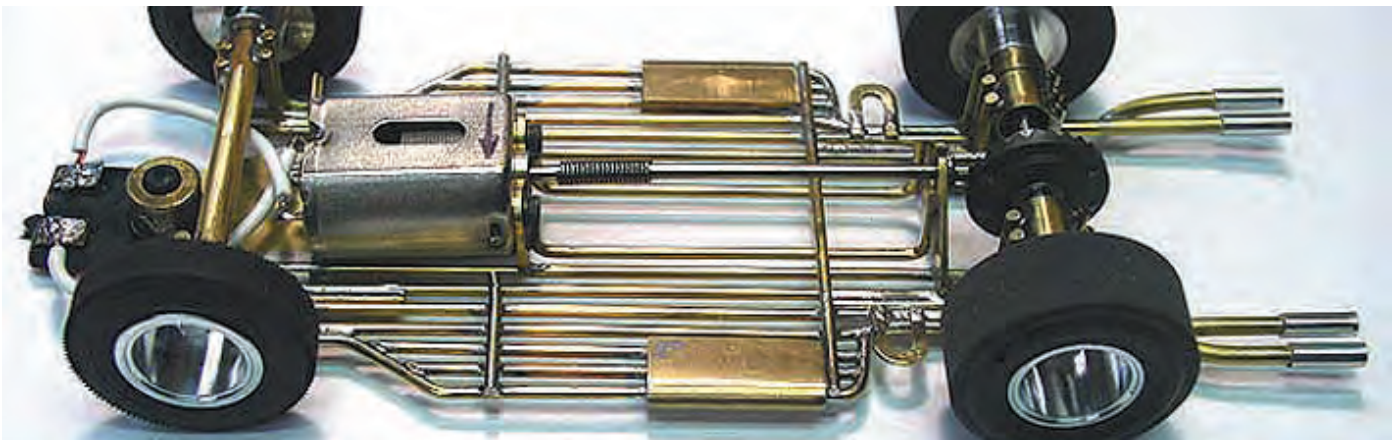




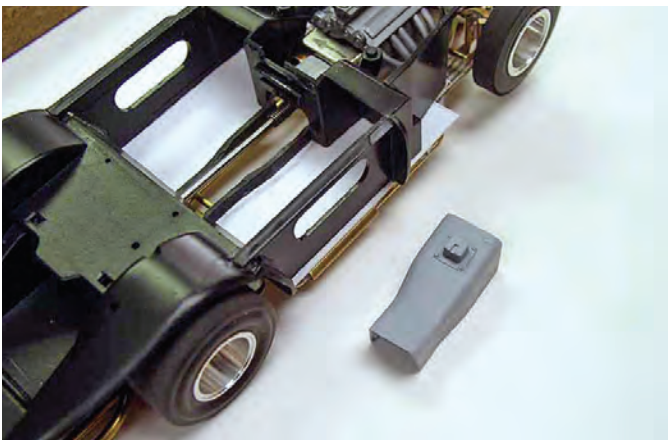
Brass tabs were soldered to the rear of the chassis just ahead of the front wheels, for body mounting. Plastic tubes were added to the inner fenderwell and a brass threaded ferrule provides the threads to seat the screw tightly.



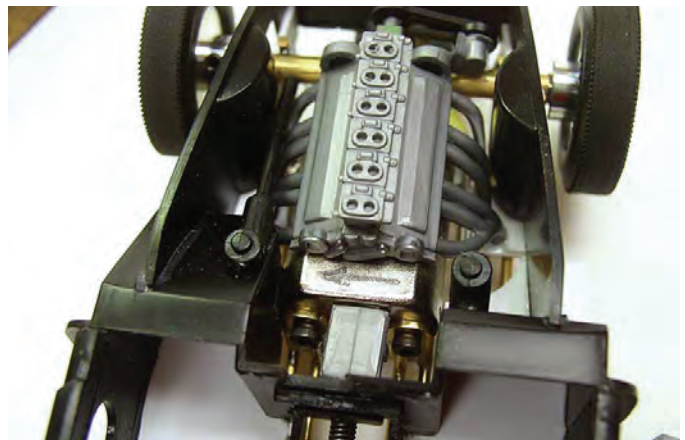
A set of styrene fingers glued to the inner front fender panels trap the front axle tube in place on the body both fore and aft, and also provide side to side location. While they look thin, if the car hits a wall, the rest of the body structure supports them.



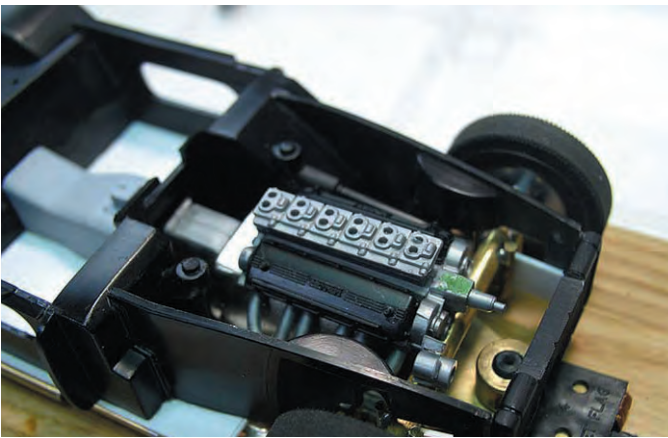
On the real Ferrari GTO, a set of dual flow mufflers are clearly visible hanging below the frame rails. Must be an Italian thing, but at any rate, a piece of .032" sheet brass was folded over the rails and soldered to the outer pans to replicate this distinctive item. Also added were polished aluminum exhaust tips slid over and glued to the brass pipes.



With the body on the complete chassis, the motor plate almost totally covers the TSR Falcon motor. Just a bit shows sticking out behind. Once the bundle of wires dual distributors are installed, it will be nearly invisible. The top of the kit transmission was cut off and glued to the firewall to cover the drive shaft.



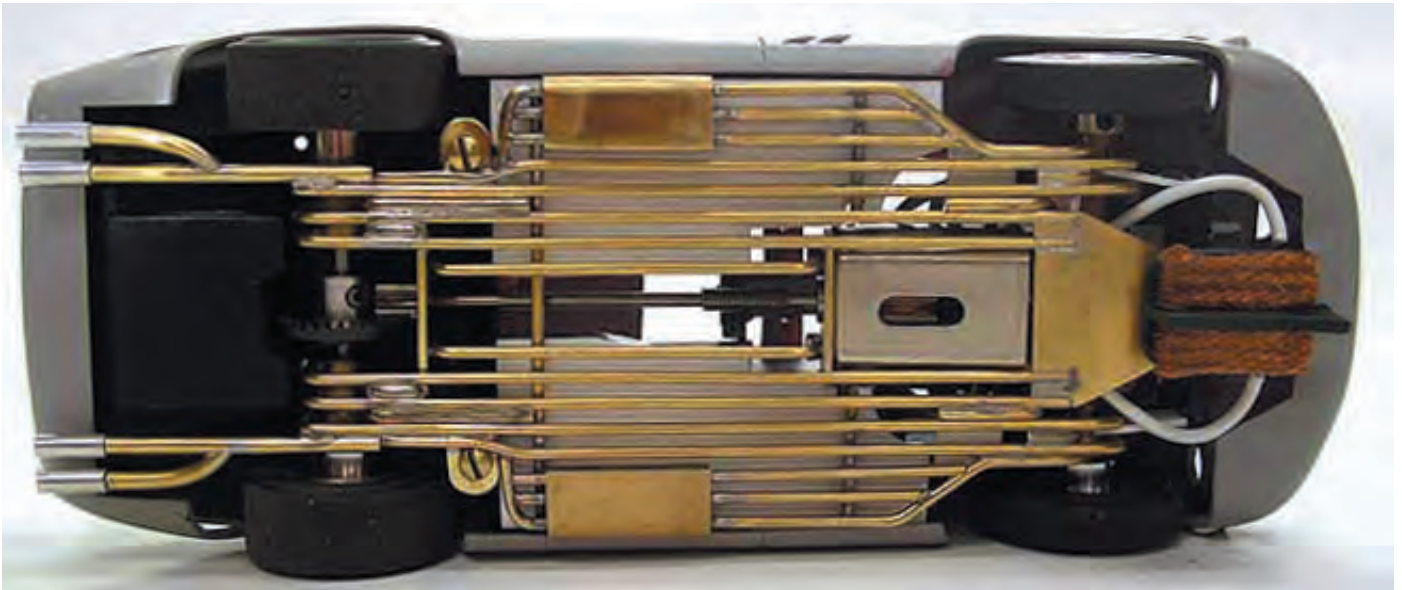
The transmission tunnel had to be cut from the interior tub and raised up 1/8" to clear the drive shaft. This will be left off so that it can be detailed prior to final assembly.



Yet another angle of the engine compartment. Not much more details left to put in and almost time to ship off to the painter.



Engine compartment details will be clearly visible with the hood opened. Magnets allow the hood to stay open with no prop rods required.

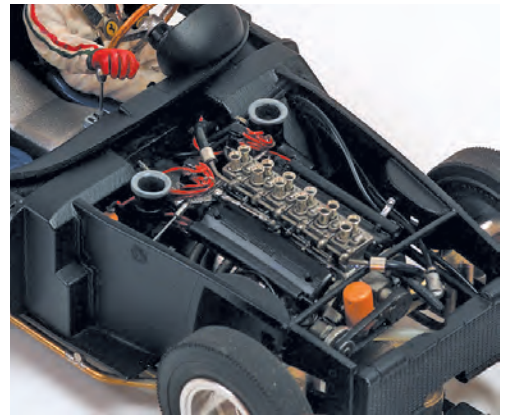
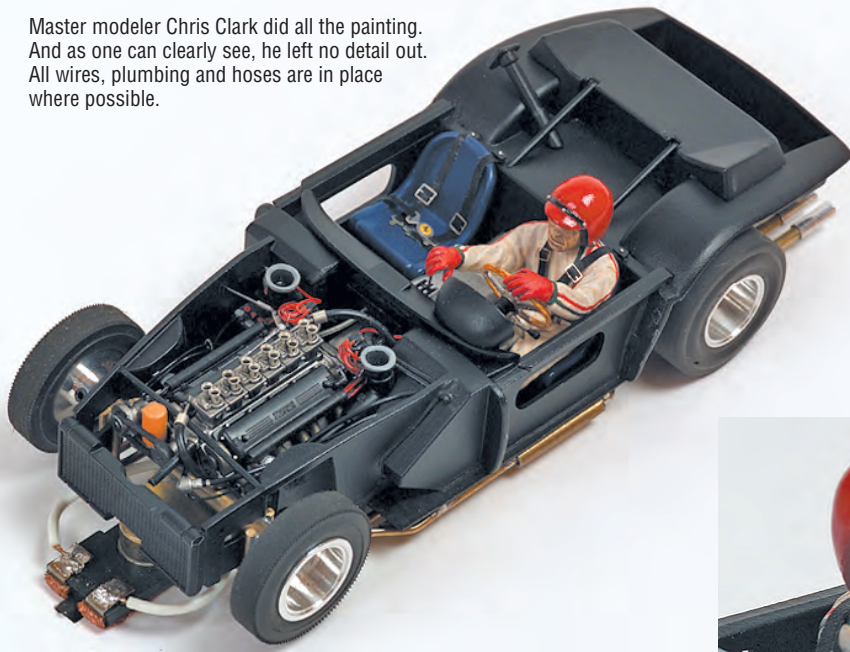


Yet another angle of the engine compartment. Not much more details left to put in and almost time to ship off to the painter.

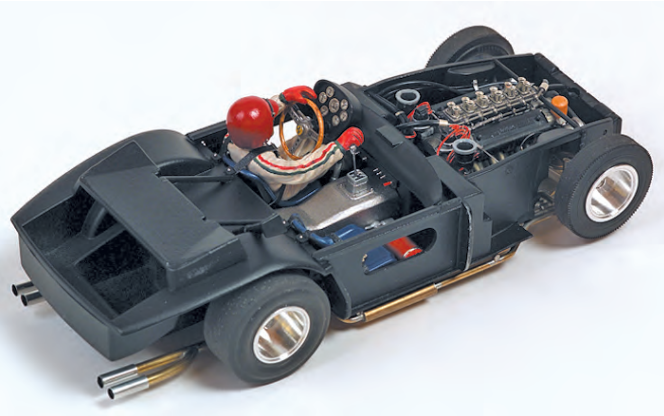


The car's stance from front and rear looks pretty realistic. The wheel wells inside the body were thinned considerably in order to provide clearance for the tires to roll smoothly but not touch. Clearances are very tight.

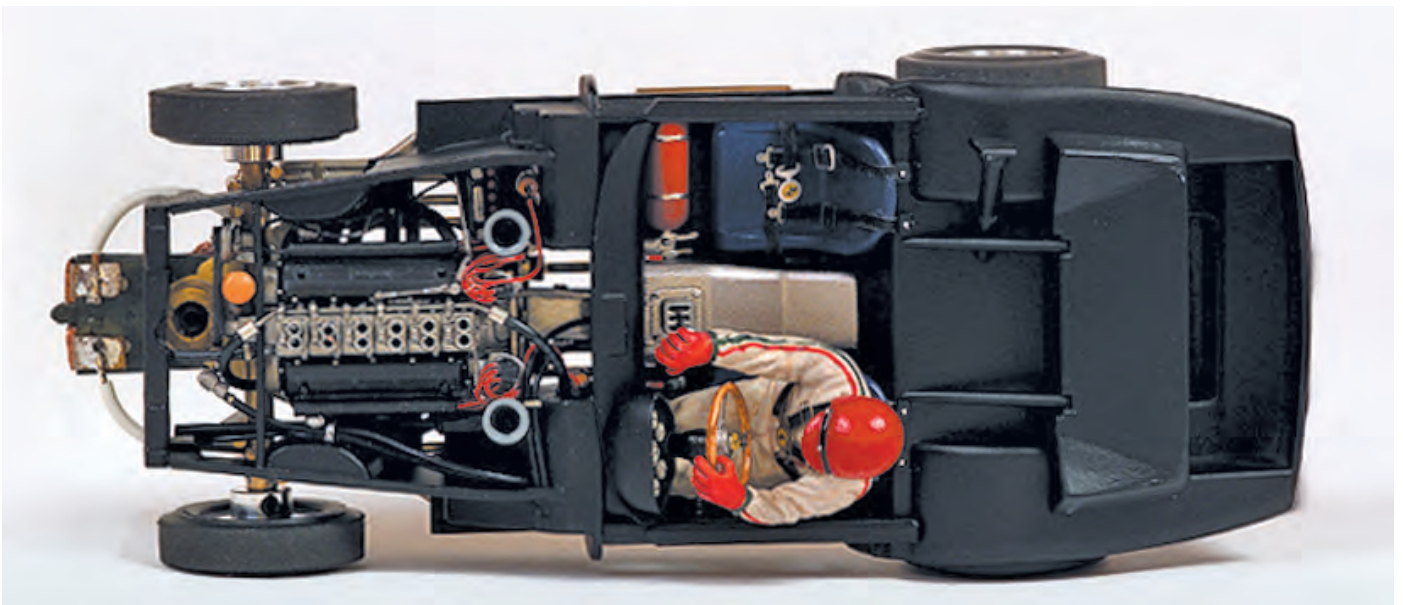
Master modeler Chris Clark did all the painting. And as one can clearly see, he left no detail out. All wires, plumbing and hoses are in place where possible.



Drivers head is vintage Cox while the driver's body is vintage Monogram from the Chaparral 2D kit. Gauges are decals with photoetched bezels and epoxy lenses.

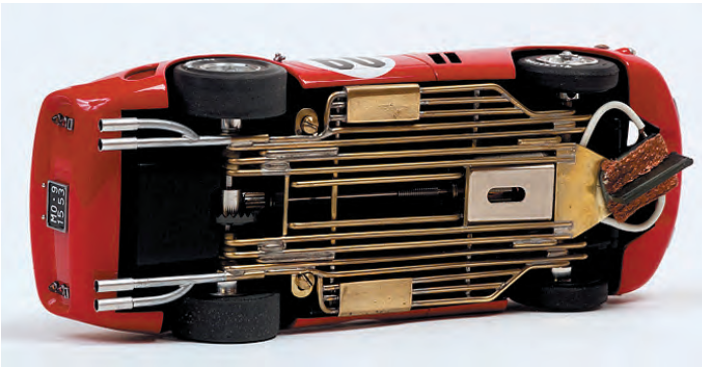


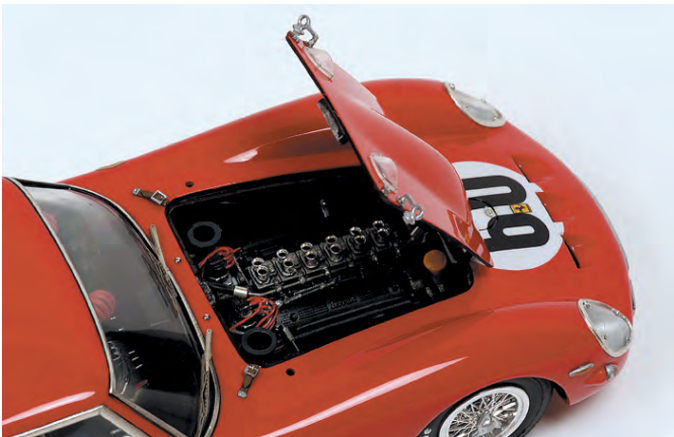
Seat belts are black ribbon with photoetched buckles, adjusters and anchors. Other details added are plug wires, intake stacks, switches, fire extinguisher and miscellaneous hoses, all correctly placed.





Chris never said what paint he used for a base coat, but the clear coat of choice back then was the now discontinued Tamiya TS-13. This he would spray over the decals and paint in five plus coats before wet sanding. Then more clear and more sanding, reducing the grit until the paint was polished to the beautiful shine you see here. Each of his projects took a minimum of two full fresh cans of clear! I think the results speak for themselves.





Red Line Tech Block



By Gregg Hutchings

If you are a hard-core slot car racer, either at a home track, club track, or at one of the big commercial tracks, then you probably have wished for something like this Tech Block for a long time. Or maybe you tried to make one yourself, and it just didn't come out right. Well, the gang over at Red Line made this cool Tech Block that will meet and/or exceed any of your needs, and then some! The digital tachometer has been recently upgraded to a newer model, and it works even better.

Highlights:

- Works with all slot cars: HO, 1/32, 1/24-25
- Constructed of durable Urethane Plastic
- Digital Laser Tachometer
- Volt and Amp gauges built into Tech Block
- Easy plug in pickup guide to power Tech Block from your track
- External power posts also provided.

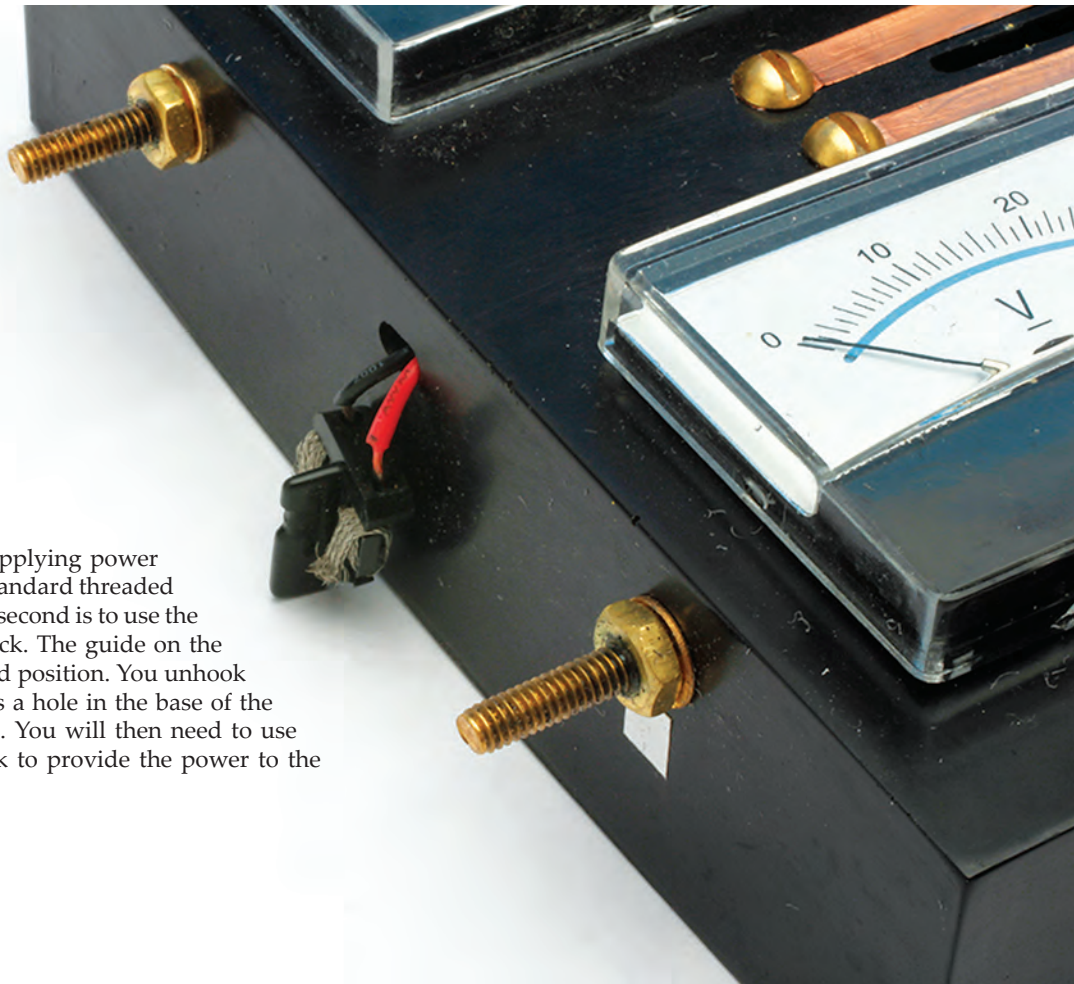
Mark over at Red Line sent in the latest tech block, and I am amazed! I can't get over the engineering, the fit, the finish—every little detail of this thing is first class. I hate to say it, but when I was doing my searches on the Internet, and I came across this unit, I wasn't expecting something of this quality. I am impressed, amazed, and I can't tell you how ashamed I am for even thinking this would not be as good as it is.

It fits all slot cars, from HO to 1/24, with the main focus of course being the 1/32 scale beasts we run at our local club track. The instructions for the digital tachometer are probably the hardest part to get through, but once you read them, and then try out all

the settings, you'll be having no problems at all. It takes four AA batteries, not included, of course.

Included with the Tech Block is a strip of reflective tape that you can cut to small strips (1/32") and affix to the rear tire of your car, or you can use the black tape round dots (there are six provided in the kit). You can even make your own, using the high grade Super 88 Scotch Vinyl Electrical Tape. I have used the same one circle/dot for about three months now, so it should not be a problem running out of them. I have even cheated a bit, adding that super thin double stick tape to the back of the tape after the glue started to get less sticky.

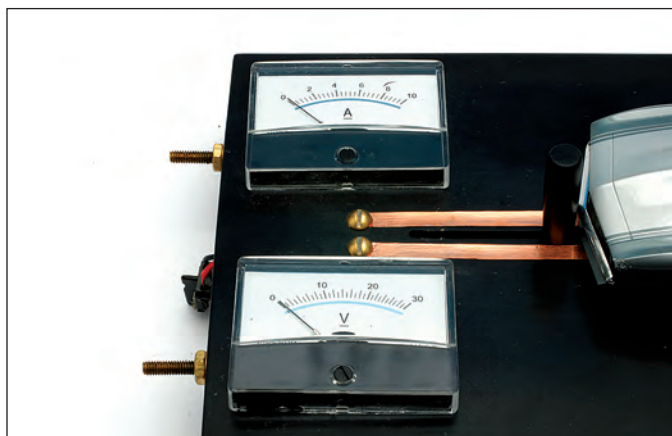
The Tech Block can be powered by placing it on your own slot car track, and powering it with the track's controller, or you can hook it up to an external power supply, and adjust the voltage to your needs.



You have two options for supplying power to the Red Line Tech Block. Standard threaded poles are one option, and the second is to use the power from your slot car track. The guide on the side of the unit is in the stored position. You unhook it from the side, and there is a hole in the base of the block that the guide fits into. You will then need to use your controller on your track to provide the power to the unit.



The new digital tachometer is an improvement over the earlier version. The tach gives out a more direct and precise laser beam, which gives a quicker and more accurate reading compared to the earlier digital tachometer that we had before. The digital tachometer has a recall function to show you the fastest speed you had with the memory button on the top of the tach.



There are two electrical meters on the top of the unit—one for volts and one for amps. They are very accurate. I tested them with my voltage/test meter, and they were spot on.

So, what's this beauty going to cost you?

Well, you can order it online from Red Line for \$129.99, plus \$14.95 s/h

Visit their website at www.PureFidos.com

For more information, you can email Mark at info@purefidos.com



THE
FUTURE
IS HERE

3D Printed Slot Cars

By Gregg Hutchings

Unless you have been living off the grid and not paying much attention to what's going on out there, by now you have probably heard all the hype about 3D printing, 3D modeling, CAD, and other acronyms that sound like a bunch of alphabet soup. My first taste of the future was a 1/12 scale Mustang (Ms. E), that was a complete 3D printed model from TDR Innovations. At that time, 3D printing was basically in its infant stage—to the public, at least. The scientific, industrial, architectural, and mechanical design fields have had their hands on \$200,000+ 3D printers for a long time now. The rest of us had to wait, of course. The Mustang body was very rough, and it was taking a long time to sand it down to remove all the ridges left from the layered printing process. Now, only a few short years later, the quality of readily available 3D printed bodies has reached the point where we can say that *the future is here*.

The nature of 3D printing, or “stepping”

First, a quick explanation of the nature of 3D printing. A 3D printer creates an object by laying down the printing material in extremely thin layers—layer by layer—until the entire object has been rendered. Depending on the shape of the object, you may see the individual layers, or a “stepping” of the material on the surface of the object, which is a natural artifact of 3D printing. This layering can be thought of as the “resolution” of the printer, and is being improved as technology advances.

We went through Shapeways.com to order a 1/32 scale Aston Martin DBR1 by TDR Innovations (TDRinnovations.com). The Frosted Ultra-Detail printing material they use sands smooth easily, and requires only a couple of coats of primer surfacer/filler. There is also a new material being used called White Strong & Flexible (WSF). WSF is a bit harder for us to work with. Generally speaking, you do not sand the WSF material.

WSF is a nylon based material, and will never sand well. Rather, you should only sand what is placed *on* the WSF material, ie: high build primer or super glue. With smaller parts done in the WSF material, the recommend filler to create a smooth and paintable finish is super glue. The super glue fills in all the tiny holes and “steps” in the material, and gives you an easier surface to sand. The material itself is very hard to sand, and would take a lot of primer surfacer/filler to level things out. Using super glue acts like a glazing putty that seems to work fine, especially on smaller parts. Some bodies are available in the better Frosted Detail or Frosted Ultra-Detail material in addition to WSF. Not all of them can be offered in the Frosted Detail because of size limits, but most can be. If the customer does not see it in the better material, they can write to TDR at TDR.innovations@gmail.com, and they will see if they can set up a special file just for them.

Check out some of the newest 3D printed parts, bodies, chassis, and other goodies from TDR Innovations, printed by Shapeways.



Here is the Aston Martin DBR1 as it came from Shapeways. At this point it looks very unassuming.



After taking it out of the bag, this is what we have. The Frosted Ultra Detail printing material is pretty see through in some areas. There is very little stepping on the printed body. The first thing you have to do is to degrease it. Acetone is recommended, as it will cut through all the leftover oils and what nots that were used in the printing process.



After cleanup, making sure there were no oils or anything left on the body, it was lightly sanded with #400 grit sandpaper. It only took a few light passes of sandpaper to get it ready for paint. That's what we like about the Frosted Ultra-Detail material. The detail is so much better, and the printing "steps" on the body are a lot finer. A quick primer coat showed we had a few more areas to sand and clean up. We like to use a lacquer primer filler for this stage.



After the primer was smooth and the body not showing any imperfections, it was time to lay down a base coat of silver. We like to use silver, as it gives you a very good bottom color for your top coats. This is Tamiya Bare Metal Silver.



This Aston Martin Green is from ScaleFinishes.com. The two oz. bottles sell for about \$12 each, and with the smaller 1/32 scale, you will be able to do a couple of cars easily. The #5 decals are from Patts Place. There is a light clear coat over everything, done with Tamiya Semi Gloss Clear. The wire wheels are from Racer, and they are just gorgeous! We haven't figured out an interior yet. We are still searching for an early '60s style cockpit online.



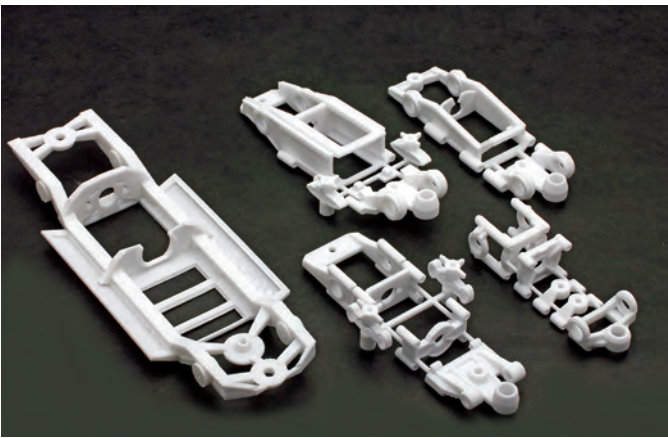
For the body mounts, we used the Slot Car Corner body mounting kit, the shortest one. The styrene tubing was measured for length by running a toothpick through the screw hole opening up to the underside of the body, and marking the toothpick, allowing for the thickness of the chassis. It was a hit-and-miss kind of thing, but we can't think of a more accurate way of doing it.



The body mounts at the rear were sanded to the shape/contour of the rear of the body. They need to slope down some, and it only took a couple of passes with the sanding block to get the right shape and fit. We used J-B Kwik Weld to attach the posts to the body. The posts were mounted to the chassis first, with the Slot Car Corner screws tightened up and snug.



After letting the J-B Kwik Weld dry for about 15 minutes, the mounting screws were removed. It looks kind of sloppy, but it gets the job done. Maybe next time we will get better with the gluing of the body mounts.



There are a few other 3D slot car parts being made. Do a quick search on Shapeways and you can find some stuff like these 1/32 scale chassis above. They are done in the White Strong & Flexible (WSF) material.



We also found these 3D printed Slot.it motor pods from Devis 3D Designs (devis3ddesigns.com). They are available in a few different variations, ranging from stock axle height, all the way up, or down, to a 1.0mm offset. They are also available with or without the magnet holes, and with snap-in bearing holes, or open for push-in style bearings/bushings. They also make a cool motor pod for scratchbuilders, and various other chassis parts for the slim can motors. They run about \$7 and up a pod, depending on the configuration. They fit the Slot.it motors nice and snug. Other motors are a bit too tight. Check out their 1/24 Carrera motor adapters, which are very cool!

Sources: Aston Martin DBR1 3D Body,
Printed in Frosted Ultra-Detail, \$39
www.Shapeways.com
Body Mount Kits
SlotCarCorner.com

Racer 1/32 Scale Wire Wheels, \$29.95
eBay (LakotaCollectibles)

Decals (#5), \$8, Pattos Place
www.PattosPlace.com



All we need to finish the Aston Martin DBR1 are the headlight covers, some spears for the side vents, and a clear bent windshield frame. Oh yeah, and an interior...



Hard Bodies

So what's a hard body? Well, besides the obvious, hard bodies, for the purpose of this series of articles, are non-flexible 1/24-25 scale slot car drag cars. The bodies usually come from styrene model kits like AMT, Revell, Monogram, etc., and resin bodies from numerous makers and companies. The chassis are usually scratchbuilt stainless steel or piano/music wire frames, with the motor determined by the track the car will run at, or the rules of the class the car will be in. There are a few pre-built chassis out there, the most popular ones are from Parma, like the Edge chassis.

What makes a good hard body slot car? Well, like with the regular model cars, it's the realism that counts. Attention to not only the paint, but decals, fit, and proportions all are as important in slot cars as they are in the static world. Some classes/rules require interiors, and there are also regulations on chassis lengths, wheelbase, and wheelie bar lengths. We have also found some classes/rules that dictate the position of the guide. Some want the guide to be behind the front end, not visible when the car is set on the track. Also, we have some tracks that are going glue-less, using only magnets for traction. See what your local slot car drag strip has for classes/divisions and build from there.

Let's start with the chassis...



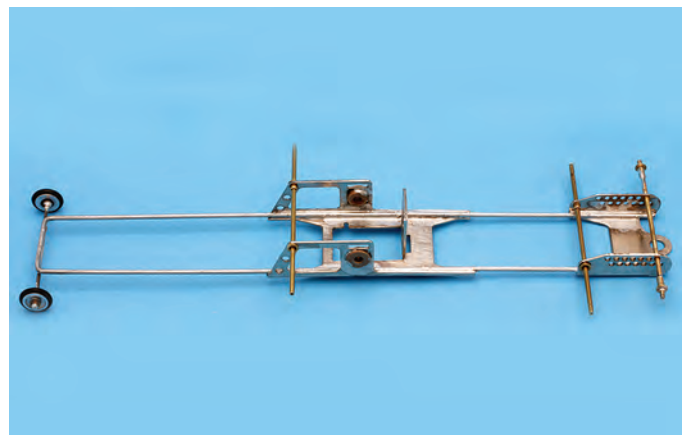
Pro-Track makes a CNC aluminum drag chassis, which is pretty cool. It retails for about \$30, and the adjustable wheelbase fits a lot of the modern Revell kit bodies.



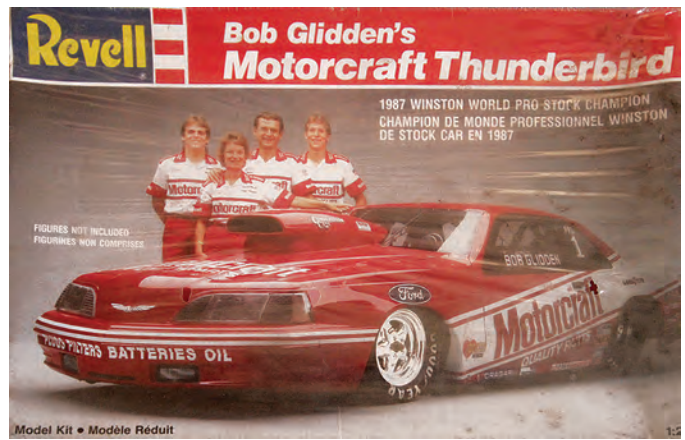
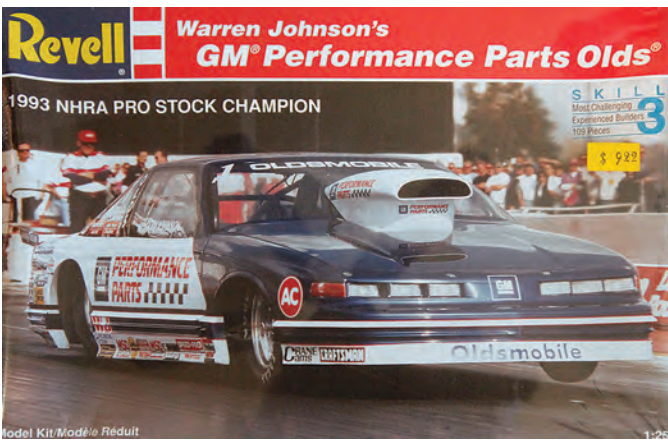
Parma's "The Edge" 1/24 Steel Drag Chassis is a good simple starter chassis if you are just getting into drag racing Hard Bodies. It's relatively cheap, about \$19 or so, and is adjustable for just about any length of drag car. It uses the square bushings for the rear axle, for either 1/8" or 3/32" axles. You can also solder in round bushings, or epoxy/glue in sealed bearings.



Parma's 1/24 Hole Shot drag chassis (\$19.95, P597) is a build it yourself chassis. The Hole Shot chassis is based on The EDGE steel chassis. The wheelbase and ride height are adjustable. Soldering is required to assemble the chassis. There are three rear body mount positions for Lexan or Hard Plastic bodies.



The Hole Shot chassis was easy to solder put together. We soldered in some 3/32 rear axle bushings, and the wheelie bars are DRS kit/set.



What makes for a good hard body? The older Pro Stock releases from Revell are very good choices. The bodies are fairly light, go together well, and you can build a very consistent hard body drag car for a little bit of money. There are a lot of decals available that you can adapt or modify. Slix is one of our favorite place to buy decals from.



This Revell pre-painted new Camaro is sitting on the Pro-Track aluminum drag chassis. It is running JDS Racing rims, but the front tires are from a Revell drag racing kit. Since the front tires don't really touch the track, you can run any tire you want up front.



This Camaro Pro Mod started life as a Flashpoint Motorsports resin body. The paint is ScaleFinishes.com Dodge Lime Green, and the decals are from a Slix decal sheet. The rims and tires are from JDS Racing.



Don't be afraid to use those old and rare finds for Hard Bodies. Brandon Skeen found this on eBay, but it was missing a hood. He snatched the hood from a Boss Nova Wagon kit, and it fits perfect.



Myron Hirashiki's Camaro is a simple and clean Hard Body. Nothing fancy, but consistent runs down the drag track.



This AMT Nova was built by Don Paishon, from our local club.



Jason Takayesu's VW Bug is a resin body with a very clean paint job.



You can find these pre-painted interior tubs on eBay for about \$10 each. They are vacu-formed, and will fit almost any Hard Body with a little bit of trimming.



The AMT Rat Packer Nova benefited from one of the pre-painted interiors. You can add a lot of small details to the Hard Bodies; it doesn't take that much time.



Mark Guerrero's JEGS Pro Stock is a Competition Resins resin kit. Mark will be doing an article on soldering a drag chassis in the next issue of *Slot Cars Magazine*. His work on model cars is incredible; his slot cars are just as good.



Another one of Mark's Hard Bodies is this Revell Mustang. Check out the painted Aloha Shirt on the driver!

We have a big drag racing chassis soldering article coming up in the next issue of *Slot Cars Magazine*. We will cover not only the basics of soldering the stainless steel tubing and rods used in

the making of scratchbuilt chassis, but setting up jigs, prepping bodies, and so much more. Don't miss it!



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Scalextric 1969 CAMARO

BUILD UP

by Gregg Hutchings

I have always loved the iconic 1969 Camaro. It's been my dream car for as long as I can remember, next to the Cobra Daytona Coupe, of course. I had picked up a few of the Scalextric '69 Camaros a while ago, and converted one into a nice custom street version, with CB Design wheels, Super Tires, and extra magnets.

Then, Scalextric came out with a plain white version (C3580) of the Roger Penske 1969 Chevrolet Camaro Z-28 Trans Am, so you can build your own custom version as well. The car is a sidewinder set up, and there is room for two more neodymium magnets (it comes with one stock one, so there are three magnet slots in total). The first step, after taking it apart, was to prep the

body for paint. One thing good about having this plain white version, instead of stripping down a painted one, is that all of the parts, interior, bumpers, grilles, etc., come off easily. I used a hobby panel scriber to make the door panel lines slightly deeper (a *Model Cars* magazine trick), but you can use the back of a hobby/X-acto knife also), with just a couple of light passes. This creates a nice panel line that in the end gives a more realistic look to the painted body. With our 1/24-25 scale cars, we sometimes add a black wash into the door panel lines, to create picture perfect door lines. Try this trick on your next build/rebuild, you will love the difference it makes. Follow along as I build up the Scalextric 1969 Camaro into a lean mean street machine that tears up the track!



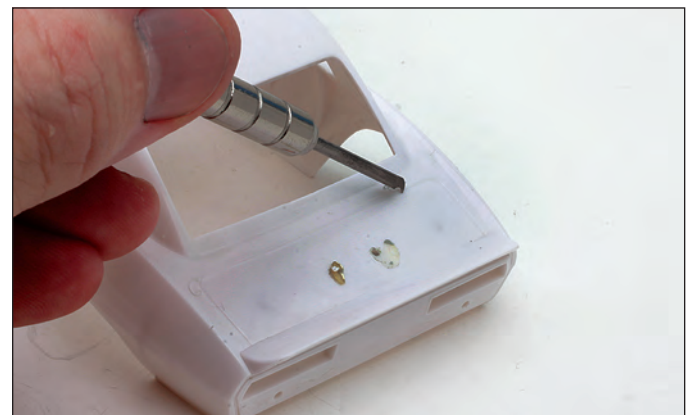
The Scalextric '69 Camaro White Kit (C3580) retails for about \$45.99, and is the perfect starting point for a custom street machine.



The stock sidewinder configuration is a perfect base for hop ups, tuning, and other mods. The chassis plate has one stock magnet (25mm x 8mm x 2mm), and two open magnet slots.



With the plain white version, all the interior pieces, bumpers, grilles, etc. come apart easily, unlike the factory painted versions.



A trick from *Model Cars* magazine I like to use is to scribe the door panel lines with a very fine panel line scriber. This one is one of the best I have ever used. I got it on eBay for about \$25. Look for "STEEL PANELLINER / Type D."



I shot a base coat of Tamiya Bare Metal Silver, and then sprayed on a few light coats of a custom orange pearl that a friend of mine had mixed up (thanks, Pete!). Notice the blue spacers on the front of the car, where the grille/bumper normally sits. It's a trick from the model car guys, so you can get all the body panels in about the same position as they will be when the car is put together, and you get an even spray/coat over the entire car. The rear panel was also put in place so that the color coat would be even.



JDS Racing is the place for all your drag slot needs. From stainless steel tubing, chassis kits, machined fuel tanks and velocity stacks, to our famous turned aluminum wheels and tires, JDS Racing has it all!

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Vacu-Forming

or how to make a cool tool that sucks!

By Jairus Watson

Once upon a time I was browsing through the periodicals section of my local high school library. I was 17 at the time and strangely enough I was flipping through, of all things, a model airplane magazine. I came across a really cool how-to article, the basis of which I have applied time and time again through the years. The article was about vacuum forming your own parts! YES! It really is that easy!

Let's start at the beginning with the construction of the most critical piece, the vacuum box. The only size limit here is the size of ... your oven! (What were YOU thinking?) The article suggested that the "plastic frame" be at least one inch larger all around than the vacuum box, however, I have had great luck with all sizes of plastic frames, as you can easily see in the photos.

The vacuum box is made out of 1" x 2" pine for the frame and 1/4" plywood for the top and the bottom. Use white glue before nailing the pieces together, as you want to get as tight a seal as possible. Once dry, a hole is drilled on the edge, approximately 1 1/4" in diameter, to allow a snug fit for the vacuum cleaner hose.

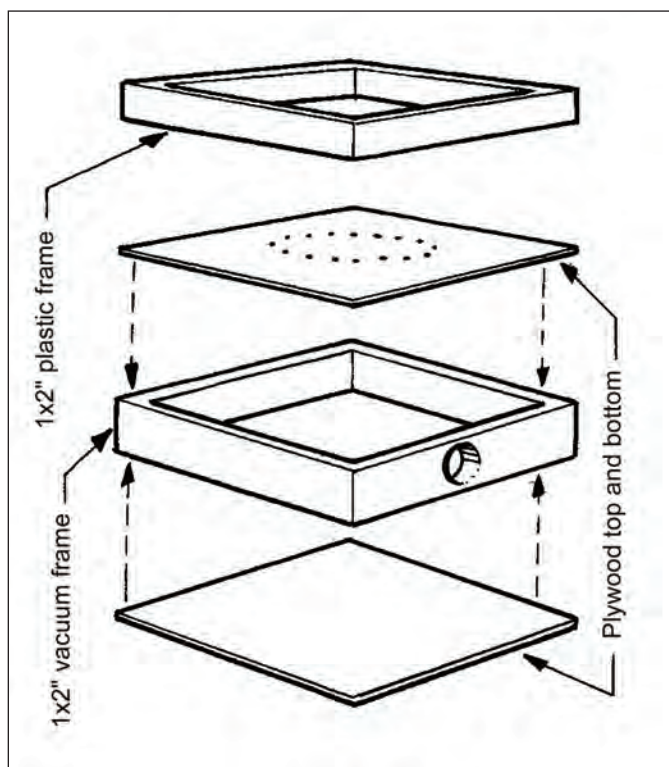
Now that wasn't real hard was it? You can even make other size vacuum boxes for smaller parts, but I have found that this one box is enough for me. The plastic frames are made with the same 1" x 2" pine in a variety of sizes. I usually have to create them whenever I find the need for a particular project. I also used a piece of 1/4" plywood and cut a hole in it for smaller parts. Anyway, now comes the hardest part of this project, the making of the mold!

The master can be made out of mostly anything including: balsa wood, plaster, and of course, other plastic parts. The key here is the preparation. This is because the vacuum wants to suck all the air from the space between the master and the plastic you are trying to form. Therefore, the plastic conforms to the shape of the master completely. However, if there is a place where the air doesn't get evacuated completely, the plastic bridges the gap and you lose detail! If the plastic is sucked into a void where it shouldn't then that void needs to be filled.

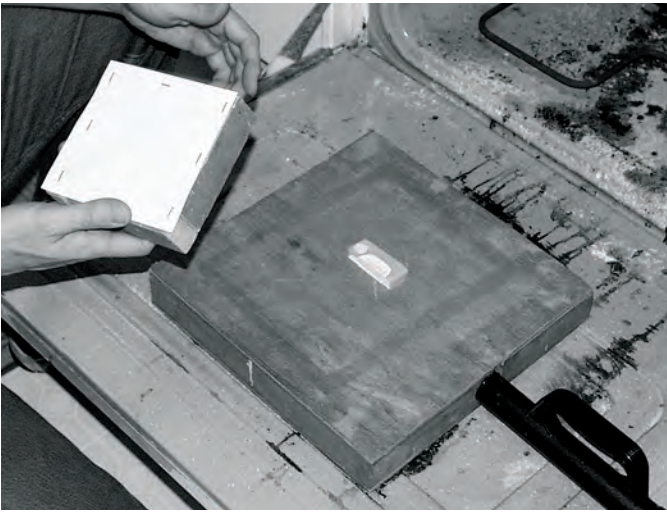
Let's say you wanted to cast from a plastic kit part. Check out the photos on the next page and you will see what I had to do to a 1955 Chevrolet rear pickup fender. The wheel opening was filled, but I also drilled some holes in the recess so the plastic would drop and create the correct lip for the fender. Likewise, if you are wanting to form scale model car win-

dows, some sort of material will be needed to fill the back side of the window glass in order to keep the plastic from wrapping around and trapping the master inside the new window. I would suggest modeling clay, as it allows easy removal and cleanup. The kit piece can even be cleaned, polished, and replaced if the kit is valuable. Another good reason for using modeling clay is that the clay absorbs the heat from the plastic, which could otherwise ruin a master if the plastic your casting with is pretty thick

Vacuum-formed window glass is great as it assumes a more scale appearance. Care must be taken however as one must not use acetate for window glass. Acetate clouds with use of most cyanoacrylates, plus it's hard to vacuum form. I would suggest using Butyrate because it forms easier and is less prone to cracking and breaking. However, the down side is that it is much harder to glue.



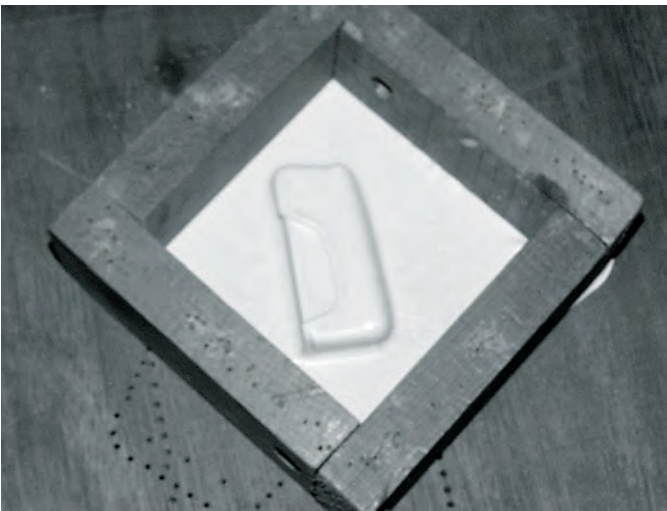
Follow the plans for constructing your own vacuum box and good luck!



Cut the plastic sheet down to the size of the plastic frame and staple it to the frame, stapling about 3/4" apart. Place the vacuum box on the door of an open oven (please pay no attention to the dirty oven), and set up the vacuum cleaner immediately to the right with the hose attached to the box. Pre-heat the oven on broiler, not bake! You want the top heating element to heat up. Set up your master in the middle of the vacuum box (did you remember to drill holes in the box first?).



Place the plastic frame with your sheet plastic attached to it on the top oven rack between 3" to 6" from the heating element. The plastic will go through a few stages before it is ready. First it will get several large wavy wrinkles in it, then it will slowly flatten out and stretch tight again. Next, it will start to sag down in the center and perhaps give off a little vapor. When it sags about a half inch for the piece we are doing here (varies with the size of the plastic sheet) it will be ready.



Start the vacuum cleaner, and using a pair of gloves, grab the plastic frame, flip it over, center it over the master, and place it down onto the vacuum box. Before you can say Kim Kardashian you have just formed your first part! Allow it to cool a bit before turning off the vacuum and removing the master; it should just pop right out. Trim the part and get set up for the next piece.



Here's our master, and the freshly-made vacu-formed copy. Notice the preparation work used here on the master, where the wheel well has been filled with sheet plastic. Modeling clay would not work well here as I wanted the plastic to be sucked down into the wheel opening and create a correct lip.



Left: An example of clear Butyrate used for casting a set of window glass.

15

Top Soldering Tips and Tricks of the Pros

By Jairus Watson

Soldering parts together is a time-honored technique of slot car building. The solder bond, if done well, provides the strongest way to hold the bits together for the scratchbuilder. Plus, a soldered joint conducts electricity. So learning how to solder correctly is Building 101 for anyone wanting to get started in the hobby. Everybody can accomplish a nice solder job with a little experience and learning these few tips and tricks. Of course, experience is mankind's best friend in every field, from nuclear science to sword fighting—soldering brass not being an exception. The more you build, the better you will get. We have gathered some of the best tips we've found over the years to share them with you.

As for soldering irons, there is no single best iron. But if you find yourself in the market, then look for an Inland or Weller or Ungar 40 watt to 100 watt. Nobody uses just one particular make today, because unfortunately there are none that stand out, unless it was made back in the '60s! Personally I have had the best luck with my current Weller 80 watt. I like it because the tips can be replaced after they burn up—and they **will** eventually burn up. So, what follows is our top fifteen tips in reverse order, ending with the most important words of wisdom anyone can impart on another builder.



Keep the tip of the iron clean at all times. The soldering iron sits in the stand hot for longer than it is actually used. If it sits too long, brown gunk tends to form on the tip. I use a steel

wire brush to clean it and a little rosin core electrical solder to keep the tip tinned. Wet sponges or shooting flux on the tip will shock the material, so avoid that.

12



Here is a neat trick a few of the pros use. A small fan is utilized to keep the iron tip clean. A small (less than one amp) computer cooling fan wired to a transformer will provide a constant flow of air over the tip when sitting at idle. This maintains the iron in constant hot mode and won't allow any brown gunk to form. Wire the fan transformer to the same power strip the iron plugs into and then you'll have a single switch power source.



11

You can control the flow of solder over large areas with a permanent marking pen. The solder won't flow past the marks, even if the flux spreads there, and this provides a clean line. The marks can be cleaned off later with 99% isopropyl alcohol.



10

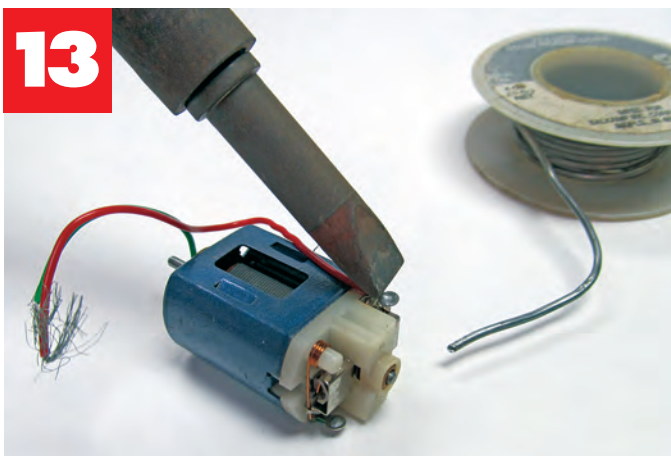
Melted solder flows toward the heat, utilizing a capillary action. So where you move the iron is where the solder will follow.

14

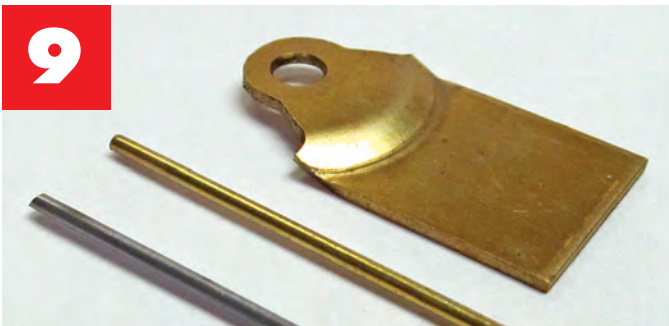


Always use Stay-Brite solder for building chassis or where strength is necessary. Stay-Brite is a lead free solder engineered to provide a strong, ductile connection on copper, brass, steel, and stainless steel. The silver color is also a good color match to stainless steel. Stay-Brite's low temperature characteristic promotes capillary flow and less base metal distortion and oxidation. Stay-Brite melts at 221°C (430°F) and polishes up nicely.

13



Use rosin core solder *only* for electrical connections (wires to motor or guide flag). Never use acid flux when attaching wires because the splatter of the flux will leave residue on the end bell and guide flag. Even if you clean up right away, the plastic is so soft that the acid flux will eat into the material immediately.



Material to be soldered must be *clean!* Brass and steel will age and corrode just sitting and exposed to air, so all brass or steel areas to be soldered must be cleaned with emery paper or coarse steel wool before soldering. Roughing up the surface also provides more surface area for the solder to adhere to.



A butane mini torch can be used instead as an iron in all but a few applications. A few really good builders manage to build complete chassis with only a torch in hand. However, knowing the best use for the widest range of tools is probably better. For sweat soldering large pieces of brass together, for instance, there is nothing better than a torch! This one is some off-brand model that came with a bunch of replaceable tips, has an adjustable flame, and is refillable using a butane canister. Keep one in your slot box for those quick unexpected repairs between heats. When using a torch, the tips heat up *very* quickly!



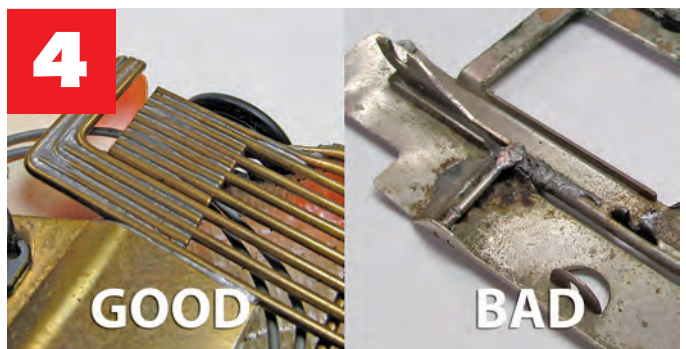
Excess solder can be wicked away with an old pick-up brush. I use a set of forceps to hold an old braid, liberally doused in acid flux, in order to wick away excess solder from a hot joint until it looks just right. Then I clean and sand with steel wool. Filing and sanding a joint later stresses the joint, which can weaken the bond.



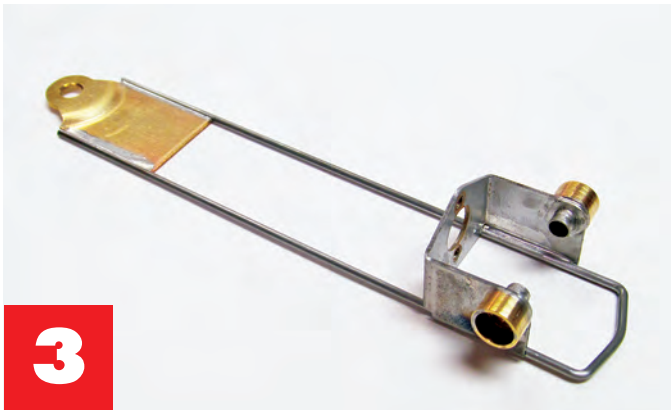
When applying acid flux, the rule of thumb is “less is more.” Using flux sparingly and washing up later are the keys to a good joint. The tip shown here is from Testors, made for applying model car glue from the tube. Its use here means that it will provide the smallest amount of flux to a tiny area in a controlled manner.



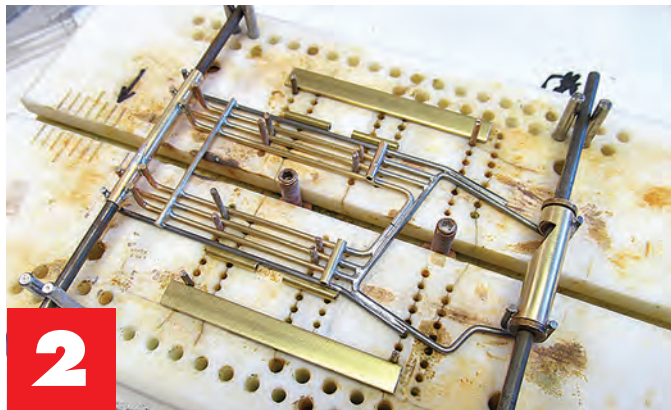
Cleaning and polishing of a chassis can be done with a rock polisher/tumbler later. But the quickest way to polish your work is with one of these steel wire wheels. It takes about an hour to do a full chassis and it gets into most of the crevices and does a beautiful job prior to the tumbler. Steel wool is good too, but this works better—and faster.



If the solder blobs up, has wrinkles in its surface, or any other blemishes, it's a bad joint—not enough heat was applied to the material. Add more flux and more heat to smooth out the joint. A good joint is where the solder has smoothed out and filled all the spaces where the two parts touch.



Less is also more when it comes to solder as well. Solder by itself is soft and not very structurally strong over any great span. Its bond is microscopic, so all materials to be soldered should touch with the largest area possible. Flooding solder all over the place doesn't increase the strength of the joint at all. The strength is in the contact points of the pieces being soldered together.



A building jig is a necessary appliance for anyone setting out to build a chassis from scratch. Jigs are generally made of a material that is impervious to heat. Find one that is drilled for pins that locate axles and frame rails at perfect right angles. A jig also allows a chassis to be built as flat as possible, keeping the center of gravity as low as possible.



Nothing is more important than cleaning up right after soldering. I mean *right after!* What? You didn't see that coming? Don't go to bed before cleaning because the acid in the flux will affect the brass surface in a very short time! Even the fumes from the burning flux will leave a trace on all parts, especially anything aluminum, so clean right away when soldering close

to aluminum wheels or any plastic parts. Ajax or Comet cleanser used with an old toothbrush are your friends. Run hot water over the entire chassis, apply a bit of kitchen cleanser to the chassis parts, and scrub everything thoroughly and rinse completely. Blow-dry with an air compressor or hair dryer before moving on to the next step. You're welcome!

Club Racing

By Gregg Hutchings

I didn't grow up racing slot cars as a kid. I only got into this hobby a few years ago. Jairus Watson has been an avid slot car guy since way back when, and I always just smiled and nodded my head when he would talk about them. Back in 2006 or so, he dragged me down to Buena Park, California, for a big race that was going to be held there. He had built this wild two motor wing-style car, and it blew everyone away. He didn't cheat... the rules didn't *specifically* say he couldn't use two motors, so he did what every racer would do, real or scale—push the rules to the limit!

Needless to say, our long road trip from Oregon to the LA area was a blast, and the time we spent at the track opened my eyes, and the idea for a slot car magazine was born. It wasn't until a couple of years ago that my good friend, Mark Guerrero, turned me on to slot car club racing here in Hawai'i. There was a big commercial track/store set up here many, many years ago, but it closed and I thought that was the end of slot cars in the islands. Mark had a friend who had set up a club track, a long 1/24 scale Carrera track, at his workplace near the airport. The track was about 28' feet long, four feet wide, and set up against the wall in a back room in the shop. It was a simple four-lane track, with a TrackMate timing system, run by an ancient Windows laptop. When Mark first took me to a race at the track, called Mad Myron's Raceway, Myron, the owner, let me borrow one of his resistent-style slot cars, entered a race, and I was hooked! I went on a buying/spending spree that could have easily spurred a divorce. I bought everything I could find, grabbing a collection or two along the way. I tried to get to the track as often as I could.

It wasn't enough. I ended up putting together two Carrera Evolution 1/24 scale tracks together, with some additional track pieces, and built my own home track on a 9' x 5' table, complete with scenic dioramas! It's all Mark's fault! The club racing was more fun than running the cars at home, and I ultimately ended up taking apart the track I had built. Myron's track fit the needs of about six to eight racers who show up once a month to race 1/32 scale slot cars. There are usually classes set before hand for the monthly races. These will be cars like stock Slot.it cars, Scalextric TransAm cars with stock motors, or a specific car, like the Renault 5 Turbo. We use magnets—as many as you want—and either silicone or urethane tires. It's a blast, and I'm pretty sure there are hundreds of club tracks around the country just like what we have here. Unfortunately, the road track was recently taken apart. We will be featuring clubs, tracks, and shops in upcoming issues, with the stories behind the tracks and racers. There are a lot of commercial tracks we will cover, and we will start doing coverage of the national races once we get our feet on the ground.

Club racing is the heart of the slot car hobby. There are probably so many clubs, racers, and tracks out there that we will never hear about. And that's a good thing, in a way.

This magazine will be a learning experience for me, and I hope that everyone will learn something from it as well. I have to honestly say, every time I go over to Myron's, or talk to someone about slot cars, I learn something new. I hope I have enough brain cells left to fit all this information in...



Here is the Carrera 1/24 scale track that I had up at home for a short time. It was a lot of fun to build it, and there is a lot I learned during the two weeks it took to put it all together. I had used the software from Racer 3.0.org to plan

out the track. I like this software, and since the older Carrera track planner software is no longer available, it seems to be the only one available now.



Mad Myron's Raceway is a four-lane Carrera 1/24 scale track. There is a TrackMate timing system, run by an old Windows laptop. Four driver's stations let the drivers see everywhere, with no problems seeing the cars anywhere on the track. Hopefully, we will find a new home for the track soon, as it was taken apart very recently.



At the most recent race, the class was Slot.it cars. Usually there's a limit on the motors, but since this was a last minute put together race (we had a racer from Canada who was visiting), the most common cars everyone had was the Slot.it cars.

ID	Racers	Lane 1	Lane 2	Lane 3	Lane 4	T-Laps	Avg
2	Rick	32	35	31	31	129	32.25
1	Greg	34	31	30	30	125	31.25
5	Don	29	31	33	27	120	30
3	Myron	23	32	31	24	110	27.5
6	Kevin	27	27	27	24	105	26.25
4	Mark	25	24	29	25	103	25.75

Racer	Laps	Avg	Time Left
Rick	31	3.67	00:00
Mark	29	3.78	00:00
Kevin	27	3.99	00:00
Myron	23	4.83	00:00

The TrackMate timing system displays the race on an older 15" computer monitor against the wall, in the center of the track. Nothing fancy, and it works fine.



The winners of the Slot.it race: Yours truly (Gregg) on the far left, second place, middle, Coach Rick, and on the right, our Canadian visitor, Don Del Var, who got third with his Slot.it Toyota 88C.



The Fly Renault 5 Turbo race was one of the funnest ones last year. These cars, I hate to say this, they FLY! They are so light, and if you remove the interior, they are even lighter, and they are so much fun!



Another race that was a blast was the Fly Semi Truck race. These things are beasts to drive. The winner, Alex, ran away from the rest with his wing-chassis truck that handled like it shouldn't!





Photo Interiors

By Gregg Hutchings

They always say great minds think alike. When I first got started in this hobby a couple of years ago, I started wondering how I make my slot cars handle better and go faster. Coming from an automotive background, with cars and racing in my blood, the old rule of the best way to go faster is to lose weight. Make it lighter, and it will go faster, handle better, and even get better fuel mileage.

Well, fuel mileage isn't an issue with the slots, but everything else still applies. So, with that in mind, I thought what would be the fastest and easiest way to save some weight on the slot cars?

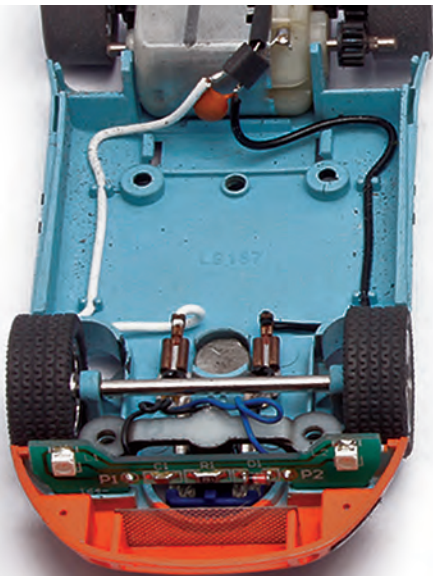


The stock Scalextric GT40 had a good looking interior to begin with. The car was fast out of the box, but of course, I wanted to go faster! The car came apart easily, as do most 1/32 scale slot cars. If you are just beginning to work on slot cars, it may be a good idea to lay out the position and size of the screws that you remove. Some are longer than others in different places.

Well, do the old illusion trick. Take a photo of the interior, print it out, and swap out the stock interior with a photograph of it. With today's high resolution digital cameras and superb photo-quality inkjet printers, it's easier than ever to create a realistic and very lightweight interior for your slot cars. I ended up taking photographs of nearly every slot car that I had at the time. It was so easy to do. The only thing that the great minds and yours truly didn't match up on was me using a painted up drivers head/upper body to create and finalize the illusion. I didn't do that in this article, but I will do it on future interiors.



I took a bunch of high resolution photographs of the GT40's interior tub. I shot them under studio lighting, which helps to eliminate shadows. I took photos of the tub/interior at different angles from above, to see how the final one would look after it's printed and put in the car.



Here is the interior photo printed, and cut out, ready to be glued in place.



With the interior photo glued in place, the illusion is pretty good. I learned later from the Internet that other brilliant minds such as myself were cutting off the stock driver's top half/head and gluing that to the photo interior. It makes sense now that I see the finished photo in the car. The driver's head/upper body adds that 3D realism to the printed interior. Live and learn!

Stock interior tubs weigh anywhere from 5 grams up to 20 grams or so. Does this weight savings, and shift of the center of gravity help? Of course! You do have to retune everything afterwards, since you have changed a major characteristic of the car.



The Scalextric Cadillac LMP really would benefit from adding the stock driver's head. It just doesn't look right with the flat 2D printed interior. The driver's head would add that 3D look to it, which would really make a big difference.





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Practice				
00:55		Pause		
Lap	Lap Time	Best Lap	MPH	
Gregg	1	0.26		
	17	2.64	2.636	464.2

Slot Car Lap Timer

By Gregg Hutchings

I picked up the TrackMate Racing (TrackMateRacing.com) slot car lap counter timing system a while ago, and had it in use on my bigger Carrera track, but I took that track apart and had forgot about the system. When I put together the test track for our reviews, it was brought to my attention that I should set up the timing system again, to get a good baseline of how the car performed, speed wise, not only out of the box, but after any tuning or modifications.

In the course of taking the timing system apart, I had broken off one of the infrared sensors, and a new one is on the way. It

was an easy system to set up. You do need your own computer or laptop for the software to work, but nowadays, who doesn't have an old Windows 95, 98, XP, Vista, Windows 7, or Windows 8 computer or laptop laying around? I set it up on one of those old eNotebooks, and it worked fine. It's running Windows XP, and there was no problems setting the software up. As a side note, I did get the software installed on my MacBook Pro, running the Windows Parallel emulation/virtual software, with Windows 7, but I haven't been able to test the sensors/running program yet. Follow along as I install the TrackMate Racing slot car timing system, again.

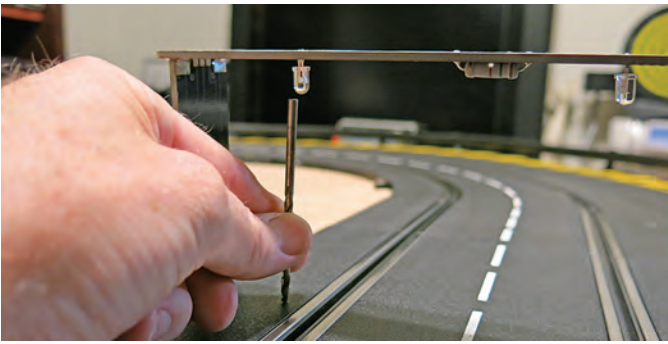


Here is the *Slot Cars Magazine* test track. A simple oval, 3' x 4', with a single crossover, so that the car will run both the inside and outside lane. It's about a ten foot length of Carrera track. The power supply on the right side has adjust-

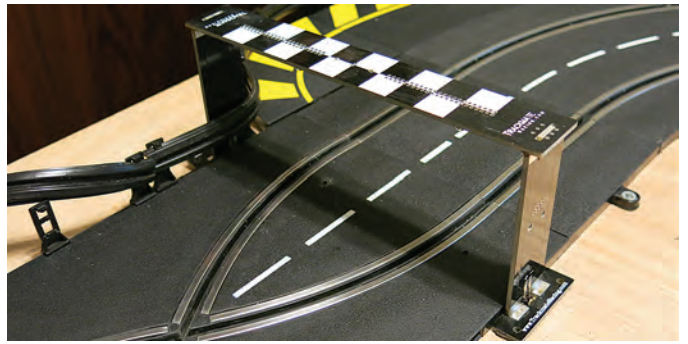
able power outputs, up to 18 volts, and it has a great feature where you can slowly increase the voltage in very small, fine increments.



Here is everything that I had from the original TrackMate Racing timing system. From what I have seen on the TrackMate Racing web site, the interface (the red panel) is now an updated one, and the serial adapter to USB cable is no longer needed, since the interface is now fully USB, and does not use a serial port. Also, the infrared sensors are attached via an ethernet-style of cable, instead of the big printer-style cable shown here.



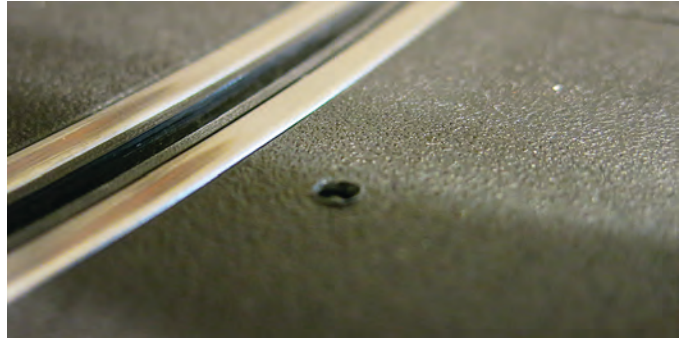
The first thing you need to do is to drill the 1/8" hole in the track and base for the infrared sensors. Use the drill bit to give you an idea of where to drill the hole through the track.



I decided, after drilling that first hole, that the overhead LED bridge should be on the other side of the track. The cord/cable for the LEDs has a big connector, and a 1/2" hole had to be drilled in the table to bring the cable through.



It doesn't look pretty right now under the table. You can see the damaged infrared sensor here. Don't button everything up until you know for sure that the whole system works. The infrared sensor will be pushed up through the 1/8" drilled hole, and the tip of the sensor will be just below the track surface.

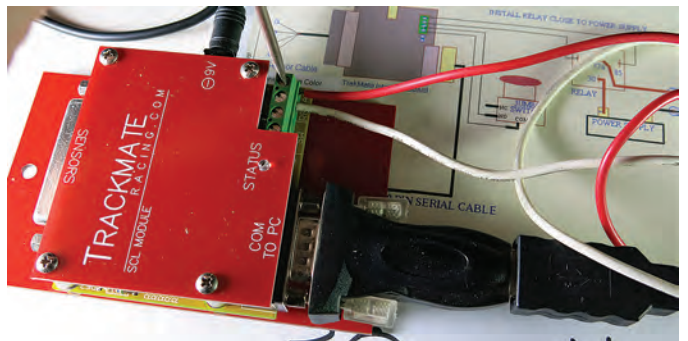


You can barely see the tip or head of the infrared sensor. The instruction manual says to chamfer the top of the hole you drilled (the 1/8" one), with a drill bit a couple of sizes bigger, to give the sensor a better and wider field of view.

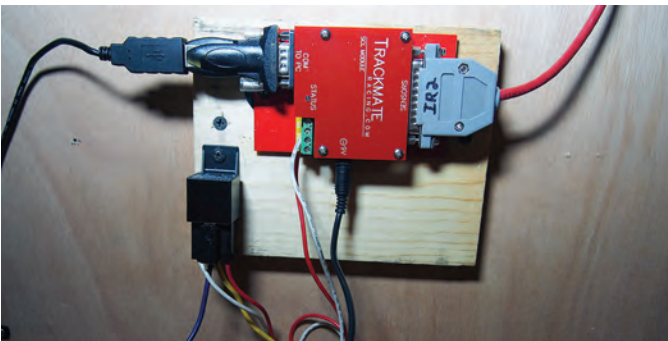


30 = yellow
86 = white
87a = Purple
85 = Red

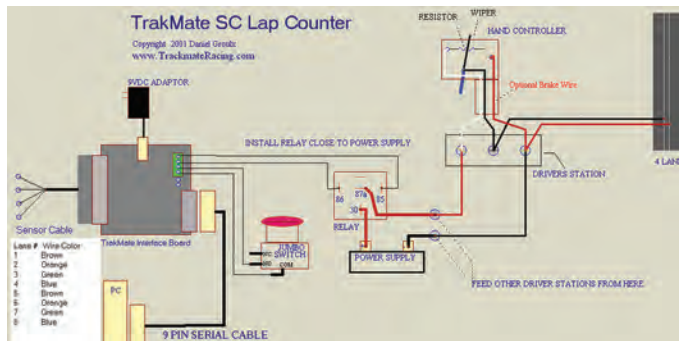
The 12 volt, 30 amp relay is what switches the power to the track on and off. Note the numbering of the terminals on the relay, and the pre-wired relay harness. It will make wiring the system up a lot easier.



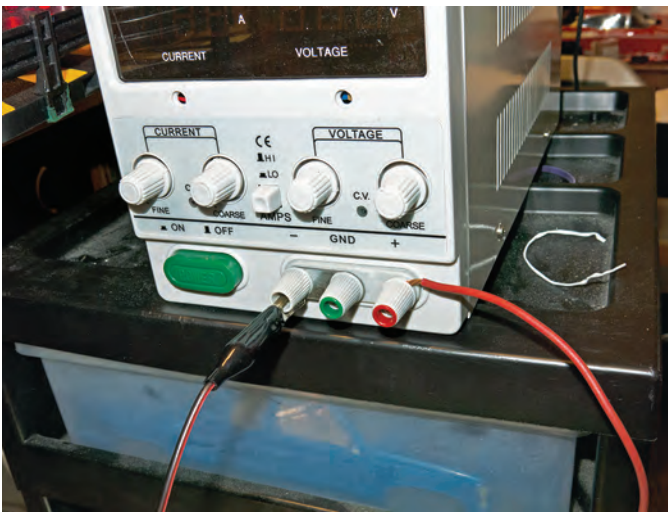
The red and white wires from the relay attach to the TrackMate Interface board. The black cable on the bottom right is the cable to the computer, via the serial to USB adapter. Remember, the new interface is now fully USB.



The interface board gets one of the two a/c power adapters. The power cable is about five feet long, so plan accordingly. I made a small wood mounting block for the interface board and relay. Nothing fancy, just something to keep all the wiring together and in one place.



The wiring diagram is straightforward. It's a good idea to print it out and keep a copy of it near you while you install the system. One thing I didn't wire up or install was the call/cut off button. Since I will be running this mainly by myself, I didn't see the need for the power shut off switch/button.



The yellow lead from terminal #30 on the relay (oops, it's red here, only because I had to extend the wire, and this is only the temporary hook up). I wanted to make sure everything worked first. You can see the two dials for adjusting the voltage, one fine, one coarse. The amperage, on the left side, is also adjustable.



After everything was wired up, a quick test was run. Since I was only going to be running one lane for the tests, a quick change was made to the preferences setting. The TrackMate system will give you lap speeds, time, and in one of the menus, there are lap summaries and a breakdown of each lap you have run. You can add up to 60 racers in the round robin format. There are also practice settings, and optional setups to offer buying lap/race time for commercial settings.

Lane	Name	Color	Total Laps	Total Time	Best MPH	Best Lap	Avg Time	Med	Crash	Crh %
1	Gregg	Red		Insufficient Data						
2		White	104	3:53.489	810.8	1.509	2.24	1.60	33	0

Paused		Lap	Lap Time
Gregg		1	0.26

The summary of the lap times is shown here. It's a good way to see how your car did. One thing I noticed in the driver set up area, I could just name the car I was testing, and it would keep that data, or even print it out. Interesting feature,

once I get used to using it that way. The "Insufficient Data" on the first line, by driver Gregg, is due to the one infrared sensor not being hooked up. With the new sensor in, this will go away.



Collector's Showcase will focus on the slot cars that we find from around the world. We will give you a quick look at the car, highlighting the good, and not covering up the bad. There will be a five point rating for each new car, and this, of course, is purely objective on our part. For "Build Quality," this will be how the slot car is not only finished, but the quality of the finish, such as excessive flash, quality of paint and finish, etc. For the handling rating, in volts, the test track is a simple Carrera oval track, 3' x 4', with a crossover so that the car can run on the inside or outside lane. It's about 20' total in length.

We set up a TrackMate Racing timing system, and we will record each lap time at it's highest voltage before the car derails. We checked the cars running both ways, and the first cars we tested ran between .2 volts in each direction. Each car is run at full speed, starting from around five volts, gradually increasing the voltage until the car derails. This is a simple test, unscientific to say the least, but it will give us a basic idea of how the car handles in simple terms. We hope to have a better and dedicated test track set up in the very near future. See page 61 for more on the test track.



Under The Hood: Scalextric Sand & Surf VW Set

- 3** Realism/Scale
- 4** Build Quality
- 5** Collectability
- 5.4** Handling (volts to derail)

NOTES: Very top heavy. Van would not take a lap around the track without tipping over.

Scalextric VW Sand and Surf Set Two Car Set

Scale: 1/32 • Price: \$139.99 • Part No: C3371A

Scalextric has released their new 1/32 Sand & Surf Volkswagen Limited Edition (2,500 made worldwide) two car set. Each set comes with a very nice display box, and a numbered collector card. The Van has a cool roof rack and a surfboard on top, and the Bug has a very nice two-tone paint job, complete with a white rag top. Scalextric is putting the year of the bug at 1963, while the Van looks like a typical 1960s version. It would have been cool if the Van was the more sought after 21 or 23 window style, but heh, it's a great looking VW Van, and we aren't complaining (much). The chassis bottom plate for the Van sits really low under the body, it's visible from the side, not like the real Vans. Both slot cars have working rear lights, bright Xenon-style headlights, and Scalextric's typical Magnatraction system, easy change braids, and are Scalextric digital ready. These are probably getting to the point where they are either going to be sold out soon, if not already, and they may start fetching higher collector's prices soon. We have seen some different variations released already: a plain white van, different color vans, and even a panel van. The Bug, well, we know there will be a lot of color options with this classic beach cruiser.

A must-have for any VW collector, and just a fun set to play with, if you bought two!

SOURCES

Professor Motors
www.ProfessorMotors.com

Hornby/Scalextric
www.Hornby-US.com

Scaleracing LLC
www.132Slotcar.us

Electric Dreams
www.ElectricDreams.com

Cloverleaf Hobbies
www.CloverleafRacing.com

Studio 65
www.studio-65.com

Fantasy World Hobbies
www.fantasyworldhobbies.com

Slot.it Matra-Simca MS670B 1974 24-Hour LeMans
Scale: 1/32 • Price: \$74.99 • Part No: SICW18

The Matra-Simca MS 670 was a Prototype race car that won the LeMans 24 Hours three times in a row (from 1972 to 1974) as well as the World Manufacturers Championship twice (1973 and 1974). The car was designed by Bernard Boyer and Jean-Louis Caussin. The long tail version, designed specifically for Le Mans, was still called '670 B,' 'B' being the distinctive letter of all Matras fitted with the Porsche five-speed gearbox. The chassis was an aluminium monocoque, with a fiberglass body. The engine was a 60° 3-liter V12, with an aluminum block and heads. Car Number 7 was driven by Henri Pescarolo and Gérard Larrousse who lead the race from start to finish, winning Le Mans for the third time in a row.

Features:

- EVO 6 type Chassis with adjustable front axle ride height
- Scalextric SSD Digital compatible with installation of the Scalextric C7005 Digital Chip (Sold separately)
- Sidewinder Drivetrain 21,500 RPM

Under The Hood: Slot.it SICW18 Matra-Simca MS670B

- 4-** Realism/Scale
- 4-** Build Quality
- 1** Collectability
- 10.0** Handling (volts to derail)

NOTES: With some minor tuning, this car flies! Very quiet running.



Racer Maserati 450S No.19 Sebring 1957 Winner
Scale: 1/32 • Price: \$199.95 • Part No: SL21

Racer has released one of the best looking cars of the 1950s to have raced the world circuits. Racer's Maserati 450S features Slot.it sidewinder running gear (end can drive), aluminum wire wheels (those gorgeous Racer wires you can buy separately), and a well-done resin body with photoetched details. We like the photoetched wiper blade, rear view mirror, front and rear hood/trunk hold downs, and the shift gate. The windscreen is nice and thin, with a photoetched center strip and ends on the windscreen. This is one of those slots that you wish had the money to buy two. One to keep in the nice and thick clear cover/case, and one to hop up and race. After a couple of laps around the track, and getting off track a few times, we knocked the sidepipes loose on one side. If you are going to run this, we seriously recommend tuning the daylight's out of it. It's too pretty to wreck.

96 Grams
 Drivers: J.M. Fangio/J.Behra

Under The Hood: Racer Maserati 450S

- 4+** Realism/Scale
- 4** Build Quality
- 1** Collectability
- 5.9** Handling (volts to derail)

NOTES: Try some of the new 3D printed Slot.it pods to get some better handling!





Studio 65 1951 Ferrari 340

Scale: 1/32 • Price: \$175

Studio 65 started out as a project for a father to teach his third-grade daughter the practical applications of mathematics, sculpting, casting, soldering, and now, running a business. John Kit and his daughter Emma worked together to produce the first car in Studio 65's line up, a Jaguar XK120, that was released in 2013. This Ferrari 340, offered in yellow and red, is their second release. The resin body is well done, with a hand-painted driver figure, and features a scratchbuilt brass chassis, front motor with drive shaft, and urethane tires on resin wire wheels. What we really like about this car is how thin the resin body is. You normally don't see resin bodies this thin, and the fact that this is their second release, well, that's impressive.

Oh yeah, Emma's now 15, and she is running Studio 65 herself! We can't wait to see what she and Studio 65 will be doing next.

www.studio-65.com



Under The Hood: Studio 65 Ferrari 340

- 4** Realism/Scale
- 4** Build Quality
- 5** Collectability
- 6.2** Handling (volts to derail)

NOTES: Very thin resin body.

Scalextric Maserati 250F

Scale: 1/32 • Price: \$69.95 • Part No: C2929A

The Ferrari 375 F1 and Maserati 250F were the first Scalextric cars ever to be released to an unsuspecting public in 1957. In celebration of the remarkable Scalextric heritage, this special car has again been attentively reproduced by Scalextric; featuring a unique tinplate body to represent the original production methods of the 1950's. The Maserati 250F was driven by Juan Manuel Fangio. Born in Argentina 1911, Fangio is regarded as the greatest Grand Prix driver of his era. With a record of five Formula One World Championship victories, and known simply as the "Maestro," he set the standard for excellence and domination. His record of wins against starts will probably never be matched.

With a little bit of sanding on the rear tires, the Maserati 250F handled so much better. This is definitely one of those slots we will want to buy more than one of. One of the best looking F1 cars of all times, and a really cool look back into the early days of Scalextric. Buy at least two of these, before they are not only out of stock, but start to demand collector's prices.



Under The Hood: Scalextric Maserati 250F Limited Edition

- 4+** Realism/Scale
- 4** Build Quality
- 3** Collectability
- 5.8** Handling (volts to derail)

NOTES: Have to buy two... one to keep in the case, and one to race!



Capri Zakspeed Gr.5 Nigrin / Liqui Moly
DRM 1981 - Division 1 Champion
M. Winkelhock

Racer Sideways Capri #55

Scale: 1/32 • Price: \$59.99 • Part No: SW21

Manfred Winkelhock drove this car in the 1981 DRM series. Anglewinder Slot.It Flat6 motor in Racers own motor pod. Gearing is 11x28 using Slot.It SIPS11 pinion and SIGA1628-PL crown. Wheels are Slot.It SIPA17-PI front and SIPA38-al rear. Stock rear axle carrier is zero offset. Supplied with the car are .5mm and 1.0mm offset axle carriers. Stock guide is Slot.It SIC66. Chassis is designed to accept EVO6 motor pods from Slot.It. However, the Racer-Sideways set up provides a lot of adjustability right out of the box. With the included .5mm and 1.0mm offset axle carriers, you can raise or lower the rear suspension.

Also, as with the EVO6 pods, you can loosen or tighten the mounting screws to fine-tune the chassis. As we found out recently, removing the two rear-most screws of the pod mounts greatly increases the handling of the car on our test track, and we noticed a one volt increase in lap speed.



Under The Hood: Racer Sideways Capri #55

- 5** Realism/Scale
- 5** Build Quality
- 3** Collectability
- 7.6** Handling (volts to derail)

NOTES: We like the EVO6 Slot.it-style motor pod and adjustable front and rear suspension.



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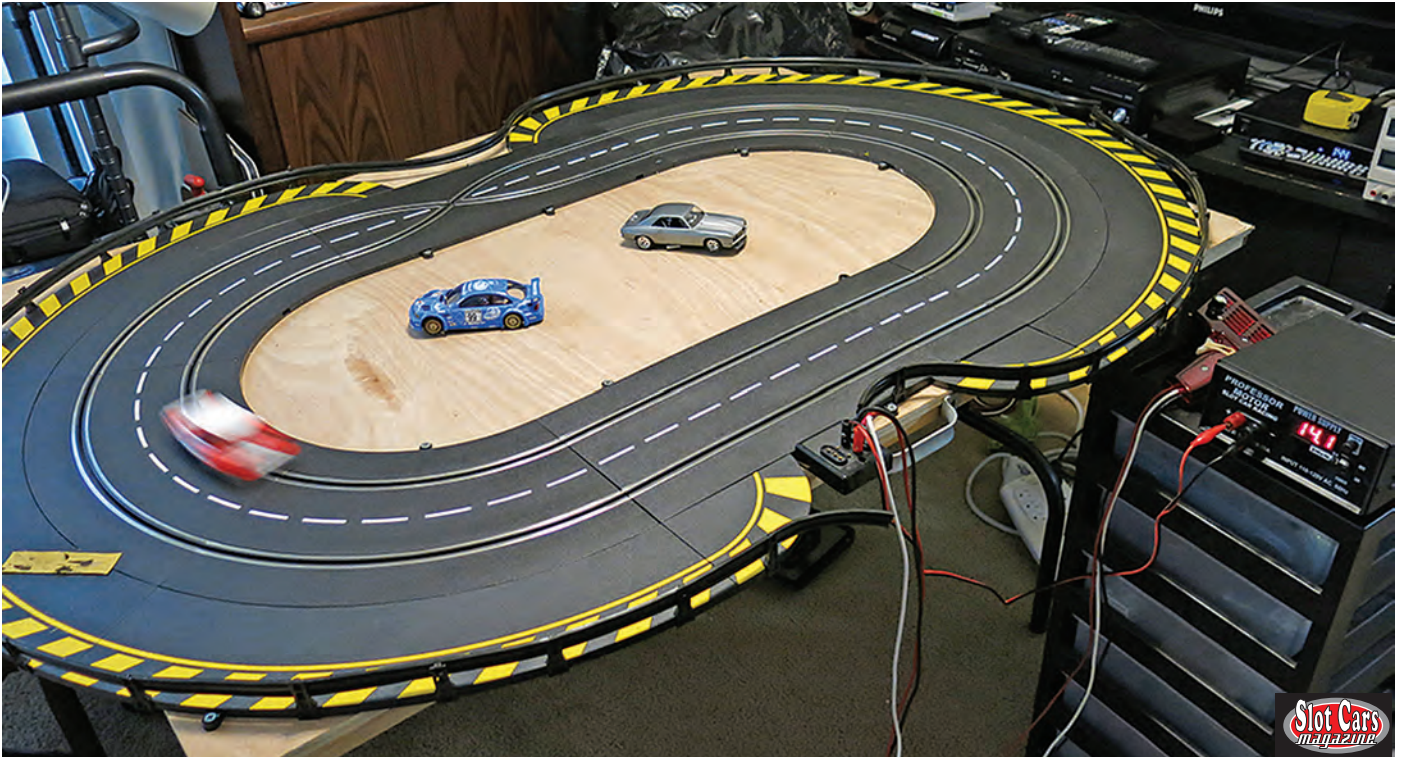
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About the *Slot Cars Magazine* test track...

The first test track we set up was real simple. It fits on a 3' x 4' piece of plywood, with folding legs. There is a crossover track opposite the power track section, so that the car will run on both the inside and outside lane. The power supply is the 15 amp unit from Professor Motors (PMTR1400), which is a great unit to have for any track. It runs about \$120 plus shipping, and well worth it. The test ratings are done with the Professor Motor Carrera home controller held on full throttle, with a high-tech rubber band. The voltage is started from zero, and slowly increased

in .1 volt increments until the car derails. Simple, I know, but it gives a base line. We will try and add a figure eight to the track, so we can test left and right turns (Thanks, Myron!).

We then switched over to a different power supply, an 18 volt/3 amp unit we got from Amazon. The new power supply has a fine adjustable power output dial, so we can turn up the voltage in very small amounts, and get pretty accurate voltage readings as to when the cars will derail.



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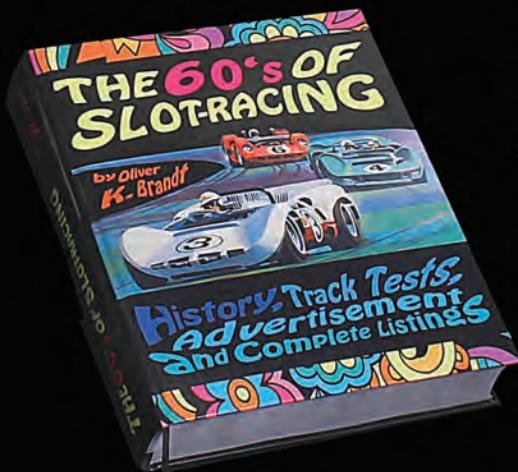
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