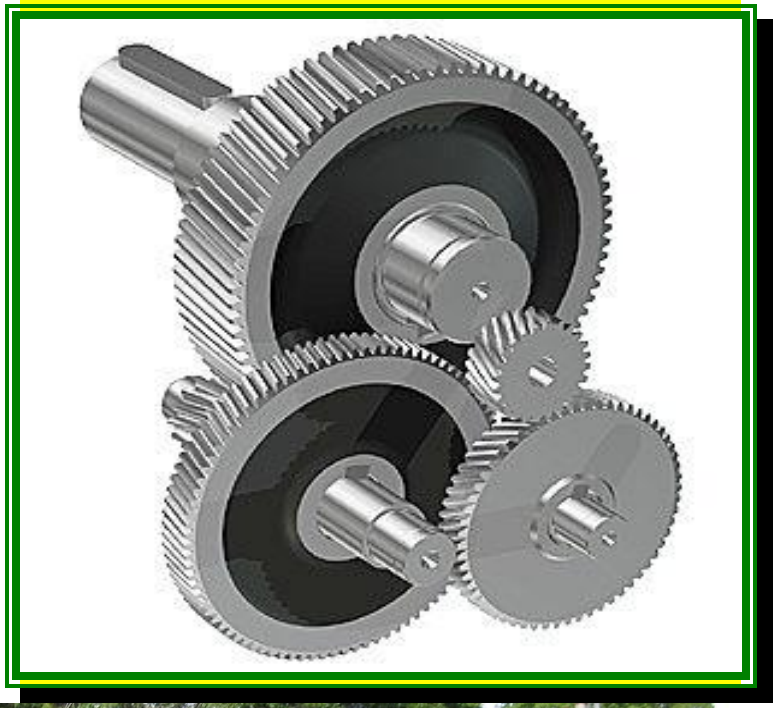
HUNTER MODEL AUTO CLUB INC

-SPECIAL EDITION GEARBOX-

NO. 3 for 2022

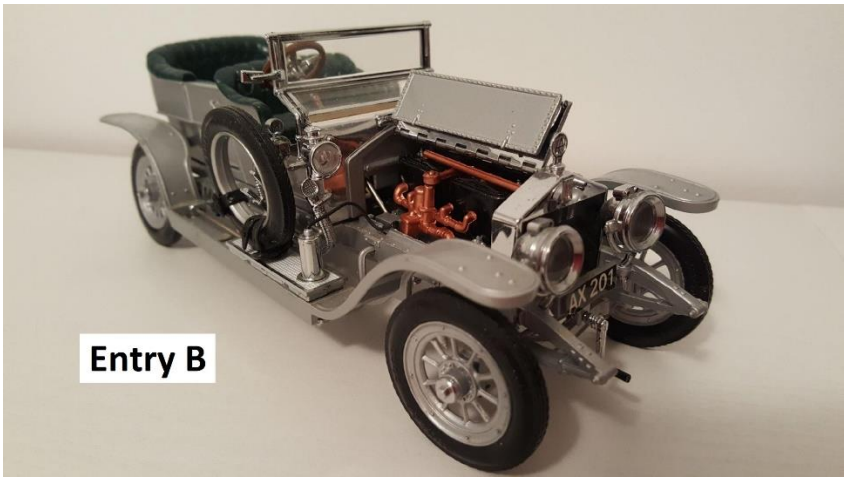
FEATURING HMAC `VIRTUAL' MODEL COMP PLACEGETTERS FOR SEPTEMBER, OCTOBER AND NOVEMBER AND THE KURRI KURRI COMMUNITY FESTIVAL DISPLAY.



A Nuffield `Universal' tractor spotted spruced up and ready to lead a street festival in the village of `St John's Town of Dalry,' in Scotland. It is possibly an early 1950's Model `M'

--PLACEGETTERS FOR THE *SEPTEMBER* `VIRTUAL' MODEL COMPETITION –

Corgi 97971 -- Foden 8 Wheel Rigid " Robson's of Carlisle"



FROM THE TOP:

First – *Matthew C's Foden Truck*

Second *– Equal second – Bill's British Jaguars and Terry's Austin Healy 3000.*

Third *– Mark's Rolls Royce Silver Ghost.*

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--PLACEGETTERS FOR THE *OCTOBER* `VIRTUAL' MODEL COMPETITION –

1957 Chevrolet 210 ***1958 Chevrolet Impala***
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FROM THE TOP:

First – *Ernie's Holdens*
Second – *Bill's Chevrolets*
Third – *Terry's American Haulers.*

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-PLACEGETTERS FOR THE *NOVEMBER* `VIRTUAL' MODEL COMPETITION-

ABOVE:

First – *Bill's FJ Holden hooked up to a caravan and titled `Ready for the Summer Holidays in the 50's'*

BELOW:

Second – *Peter R's Early Mercedes Benz*

And Equal Third – *Matthew C's Bachmann Shunter AND Paul C's Britain's Limited Farm Equipment.*
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Mercedes-Benz
Benz Patent Motor Car 1886
Entry J


Bachmann Shunter
Entry F


VOLVO BM
Entry E
Britains Ltd Farm Equipment

Kurri Kurri Community Festival Display - 29 October 2022

Our Club was invited to display at the Kurri Kurri Community Festival held at Kurri Kurri Public School on the 29th of October.

The school hall was made available for our display and 7 members took advantage of the great location. As usual our display looked amazing and attracted a steady flow of people over the day.

It was fantastic to have one of our members, who resides quite a distance away, come and display his larger scale buses and motorbikes.

During the day, many people took the opportunity to talk to our members about models that took their interest and this was quite good to see. To top it all off, we have already been invited to the 2023 event.

Thanks to our members who took the time to display their models. ***I have included a few photos from event.***
Paul Campbell.


HUNTER MODEL
AUTO CLUB
- MEETINGS -
2nd TUESDAY OF EACH MONTH
7.30PM AT
EDGEWORTH SPORT & REC CLUB

-- Progress through Technology – The NSU Ro80 –

Giles Chapman in his book *`Cars we loved in the 60's'* said that *`NSU staked everything on the success of the Ro80 with its ground-breaking twin-rotor Wankel engine delivering exceptional mechanical smoothness.'* In my research into this automobile, I found that the slogan, *`Progress through technology,'* though used by VW since the 1980's, was originally used in 1971 to promote the NSU flagship, the Ro80. The thing is, I actually knew very little about the NSU Ro80 having only seen the odd article about it in motor magazines or on-line auto sites. I do remember seeing the little NSU Prinz though. They were a late 1950's model assembled in Australia and at the time, were supposed to be Australia's cheapest car.

The little rear-engined NSU Prinz sedan arrived in 1957 powered by an air-cooled two cylinder 600cc NSU motorcycle engine that produced around 30kw in power. It was a nifty four seater that weighed in at only 10 cwt or 508 kilos and had a very rounded appearance. Manufactured in West Germany, kits were imported into Australia for assembly in the Melbourne suburb of Heidelberg where they also used a few locally produced parts in the process. A larger second series model was produced in 1961 and later, another model with a squarer body shell like a scaled down Chevrolet Corvair, but neither were released in Australia.

NSU itself started off as a knitting machine producer before starting to make bicycles in 1886. Their first car was a single cylinder engined three-wheeler they turned out in 1905. In WW1 they produced light trucks and between wars, continued to produce cars. They were also successful in motor car racing as well as becoming a leading motorcycle manufacturer. With the financial issues of the early 1930's and depression, NSU had to sell off their new car manufacturing plant to Fiat and it was the motorcycle division that kept them afloat. In late 1934, NSU started to develop a prototype small rear-engined car under the direction of Ferdinand Porsche. It never progressed beyond the experimental stage due to the financial position of NSU at the time.

During WW2, NSU continued to produce motorcycles as well as a half-track military version powered by an Opel engine. After the war, NSU commenced bicycle production again and continued to make motorcycles including the half-track versions as an all-terrain bike for civilian use. By the mid 1950's, NSU had become the largest motorcycle producer in the world and were successfully involved in competition again and the setting of world speed records. In 1957, NSU returned to motor car production with the Prinz.

Front and rear views of the Ro80. I think the body styling is still modern by today's standards.

The Ro80 came about because NSU decided to launch the company into the luxury car market. In designing a larger sedan for this market, NSU originally intended to compete against the Ford Taunus sedans but then decided to upscale the model further to compete against the smaller Mercedes models and the so-called *`new class'* BMW that had hit the market in 1962 and was now setting BMW up to be the giant automaker it was to become.

The Ro80 body was created by the German auto designer Claus Luthe who had previously set up NSU's design studio. He conceived the second series of the Prinz as well as the rotary engined NSU Spider that was a pre-curser to the Ro80. He went on to design for Audi, VW and BMW.

What I can say about the NSU Ro80 is that when released, it was definitely seen as an impressive car – ***at first.*** So impressive, that it was crowned European Car of the Year. Praise for the new NSU was enormous and the following is a quote from the British ***Motor Magazine*** in 1968 when it wrote, *`At first you are aware of the engine only because it is a natural focal point for attention; later it is the car as a whole that you realise is so impressive and that the Wankel is but an unobtrusive part of it.'*

As Chapman wrote in his article, the NSU Ro80 seemed to make every other car make on the road outdated. Upon release, motoring journalists in general believed that the design of the Ro80 was very advanced and was an automobile with a ground-breaking twin-rotor Wankel engine that delivered exceptional mechanical smoothness and with aerodynamics totally resolved by NSU.

Unique Cars and Parts wrote, *`At the Frankfurt motor show… of 1967, the NSU R080 made its first public appearance. It had a twin-rotor Wankel engine in a superbly shaped and roomy saloon featuring front-wheel drive, power steering, a converter coupling and three-speed synchromesh gearbox with automatic clutch… every feature calculated to win and keep the regard of discerning and discriminating motorists. Its stability, roadholding, ride, steering, handling and braking were exceptional in its class and in its day; its smoothness and quietness were exceptional in any company.*

The second series in the Ro80 model had only slight changes to the body.

That sums up what many motoring journalists wrote about the Ro80 when it was released. The ***Honest John Car Company*** has since written a story on their top ten German Classic autos ever and said that the NSU Ro80 *`was an advance preview of the 1980s for discerning '60s executive car buyers. It redefined the levels of expectation for buyers in its market sector. It handled beautifully, was huge inside, looked amazing and rode as well as any luxury saloon.'*

Mechanically, the car itself weighed in at 1196 kg and was front wheel driven, rear engined, and of steel monocoque construction with a large luxury interior. It had independent suspension all round, power assisted rack and pinion steering and four-wheel disc brakes. The Wankel engine was an iron block twin rotor 995cc type with two twin-choke Solex Carbies that produced 113.5 bhp or 84.6 kw in power through a three-speed clutchless semi-automatic gearbox. It had an advertised top speed of 113 mph, [180 kph] yet on a long stretch of highway it was checked at 120 mph [192 kph] with a little more up its sleeve apparently. It was only average to around 50kph as far as acceleration off the mark was concerned, but it then had a huge surge of power similar to a sports car. However, one major issue that came out of initial road tests was fuel economy that ranged from 15 to 23 mpg [18 litres/100kms to 12 litres/100kms] depending on driving conditions.

With its *`car of the year'* award it seemed that NSU had the motoring world's luxury car market well and truly captured. ***Then the trouble started.*** The Wankel rotary engine was certainly refined, but it soon became unreliable and this would lead to massive warranty costs for NSU.

Going back in time, NSU had signed a contract with Wankel to co-develop the rotary engine as we know it today. Originally, Wankel's engine design had a rotating engine case but this concept was dropped. The new rotary engine first appeared in the NSU *`Spider,'* an attractive two door convertible produced from 1964 to 1967. The NSU Spider could be considered a test-bed for the new Wankel rotary engine and was limited to 2,300 odd models being produced in that period. Problems soon appeared in the engine with `apex seals' which are at the tips of the tri-angular rotor and are the only moving parts that come in direct contact with the rotor housing. NSU should have anticipated there would be similar problems with the engine in the Ro80, especially as it was to have twin rotors, so their rotary engine was probably slightly underdeveloped when the Ro80 was released.

There was another issue with the engine that led it to be unsuitable for a manual gearbox leading to the use of a gear lever activated automatic transmission where you went through the gears without a clutch. It was built by Fichtel and Sachs and would also be used in some Porsche models. Fichtel and Sachs would later be taken over by the leading transmission company ZF. I experienced a clutchless *`manual'* gearbox in England in a Citroen sedan and it worked the same as an auto but was actually a manual gearbox, believe it or not.

The apex seal issues are reported to have arisen anywhere after 20,000 kms and they were often completely worn out by the 50,000 kms mark. NSU spent a fortune replacing engines under warranty to the point where they were in serious financial trouble and their reputation was severely shot to pieces. As well, NSU's financial issues ended up ending their motorcycle production with their last motorcycle leaving the factory in 1968.

Interestingly, before production was shut down, the Wankel rotary engine problems had been pretty much solved and it was found that their little rotary had the advantage of being an engine that was easy to match the ever increasing changes to pollution laws. But it was too late as NSU was closed down by VW Audi in 1977 with around 37,400 Ro80s leaving the assembly line.

Some writers have stated that the Ro80 engine's issues had actually been completely solved by around 1972, but I suppose that was too late in the view of the parent company. In any case, another issue hit NSU with the world-wide fuel crisis in 1973 where an oil embargo was commenced by Saudi Arabia and other Arab OPEC members in reprisal for the United States support of Israel at the time. This was not a welcome issue for NSU with the modest fuel economy specs attributed to the Ro80. I read that some owners fitted a small Ford V4 engine into their Ro80, yet those engines were nowhere as smooth running as the Wankel rotary. As we know, Mazda would have better success with the rotary engine and the company continues turn out rotary engined autos today.

Looking at the body styling of today's new sedans and comparing them to the pics on page one, I think the Ro80 is just as good, if not better in body design than some of the sedans we see on Aussie roads today.

The ***above two models*** show play worn examples, but in reasonable condition, and sold on Ebay. At ***left*** is an example of a Husky brand NSU Ro 80 in 1:100 scale and they can be bought for virtually peanuts. By the way, Husky models were made in England back then. At ***right*** is a Dinky [Meccano] brand Ro 80 in 1:43 scale but they can command prices close to A$ 200 on Ebay. *Terry.*

Top left is Minichamps excellent version in 1:18 scale and at right Maxichamps in 1:43 scale.

-- LOOKING BACK AT OLD GEARBOX ARTICLES – *JAGUAR 2.4 LITRE* –

Looking for another story in **Giles Chapman's** book, **`Cars we loved in the '50s'** I came across his story on the 1955 Jaguar 2.4 litre. Like many, I have always called this particular model Jaguar a ***Mark 1.*** After reading Chapman's rather short story, I decided to dig out a previous article from an old Gearbox on the Jaguar 2.4 Litre and throw it in again.

Released in 1955, everyone knows it as the ***Mark 1 Jaguar***. However, that tag only came into use after Jaguar released one of their best, the ***`Mark 2'*** model in 1959. Upon release, the new `compact' sized Mark 1 was called the ***2.4 Litre Jaguar*** Saloon. Earlier Jaguar model designations were written in Roman numeral form, such as with the large `Mark VIII' Jaguar Saloon. The Mark IX model would subsequently have a `MK IX' badge placed on the boot lid and later, the new Mark 2 would have `MK 2' badging on the boot lid, yet the new *Mark 1 Jaguar* models were designated by engine size, 2.4 Litre and later 3.4 Litre, till the much-revised *Mark 2* model was released.

When checking out our old ***WHEELS*** Magazines, the first time a price for the 2.4 litre Jaguar is shown, was in July 1956 and at 2,017 Aussie Pounds. The advertised price for the larger 3.4 Litre engined Mark VII (shown as a *`Mark 7 Automatic'*) was 2,595 Aussie Pounds. Introduced in 1951, this model was, by now, an updated version known in Britain as the Mark VII `M' which ran from 1954 till 1956. All exported Mark VII Jaguars had automatic gearboxes as an option since 1952, however, the auto became an option in Britain, only with the release of the `M' version.

The later Jaguar *Mark 2* became a very successful product that overshadowed the *Mark 1*, yet the *Mark 1* was a very important vehicle for Jaguar as it led the Company into what was becoming the very profitable, smaller luxury car market. It was an excellent handling and powerful motor car with its unitary construction, a first for Jaguar and **Concept Cars** described this idea as *`the outer shell of the body also doubled as the chassis… meant the car design would save a lot of weight but would be just as strong.'* They went on to write that even though it meant a stronger vehicle construction, it also meant it would be lighter than similar autos.

The 2.4 litre twin-cam short-stroke version of the XK Jaguar six-cylinder engine produced 112 bhp (83.5 kw) and had a top speed of 160 Kph with sporting performance to match. I think the body design was more modern and less `square' than the larger Mark VII which, at the time, was considered `streamlined' in design even though the front was very upright. Yet, when looking at advertising brochures of the *Mark 1*, I think that the glass area appears a little too small in comparison to overall body size, though that may be the artist's fault. ***See next pic.***

Also, the full rear wheel arch spats seems to add to its `bulky' appearance, yet the large chromed front bumper bar give it a more balanced look. Again, this may come down to the artist as it looks better in an actual photograph.

The *Mark 1* inherited a live rear axle though the front suspension was all independent with double wishbones, coil springs and an anti-roll bar. It was renowned for excellent stability under hard cornering and good braking, though only fitted with drum brakes initially. One drawback was the optional automatic gearbox which did not receive good press. The Manual gearbox had overdrive and was the preferred option.

Concept Cars said that it also had a narrower track than similar sized cars noting that it was *`designed to balance out when operated at higher speeds, which was certainly an area of the car's ability people like Mike Hawthorn and Stirling Moss would like to operate it.'*

In 1957, Jaguar introduced the 3.4 model. It was fitted with a 3.4 litre engine that produced 210 bhp, (156.5 kw) as used in the Mark VIII, with a top speed of 190 kph. Wire wheels were available on the new model so it had a cut-away in the rear wheel arch spats to allow room for the wire-wheel `knock-offs' if used. ***The 3.4 version next pic.***

Four-wheel disc brakes now became standard on both models. The 3.4 litre model had a slightly wider grille for cooling improvements and this was soon carried over to the 2.4 litre model.

The 3.4 Litre Jaguar became a renowned performer to the point where it could out-handle and out-perform some sports cars of that era with Autocar magazine reporting a 0 to 60 mph time of 9 seconds. It soon became regarded in a class of its own and categorised as a `luxury sports sedan.' ***Of note, the Mark 1 won the first two Australian Touring Car Championship in 1960 and 1961.***

Many motoring historians believe that it was the *Mark 1*, and its successor, the *Mark 2*, that kept Jaguar alive in this difficult period post WW2. They say that Jaguar would have folded by the late 50's if not for these two sedans. The Jaguar also sold well in America. With a total of 36,740 *Mark 1* sedans produced, this model become the biggest selling Jaguar ever to that point in time.

I often searched scale model seller sites to find a *Mark 1* Jag without success, but I always hoped for the best. Then one day I found one. It was a 2.4 litre version in 1:43 scale resin with a tin base and made by Eligor in France. To top it off, it was all white and in Police livery. ***See next pics.*** For those of us who loved the British TV series *`Endeavour'* that went back to the first years of *`Inspector Morse,'* a nice looking black Jaguar Mark 1 was the featured vehicle.

To finish off, in his book Giles Chapman wrote, *`It wasn't obvious at the time but this was the first compact and luxurious sports saloon – a car that established the template and ground rules for all such BMWs, Mercs and of course Jaguars to come. Even in the lowliest of editions , it was so much cooler and more capable than a contemporary Rover or Daimler.' Terry.*

1948 HUDSON – Why was it called a `step-down' and why did this work for Hudson.

I have posted articles in Gearbox before on the Hudson Hornet of the early 50's and more recently, the *`Tales of an American Independent Automaker, Part I - Hudson.'* There was a story I read not long ago that explained why a new Hudson introduced in 1948 became known as the ***`Step-Down'*** model. The article pressed the point that it was considered a radical idea at the time and would be followed by other automakers in due course.

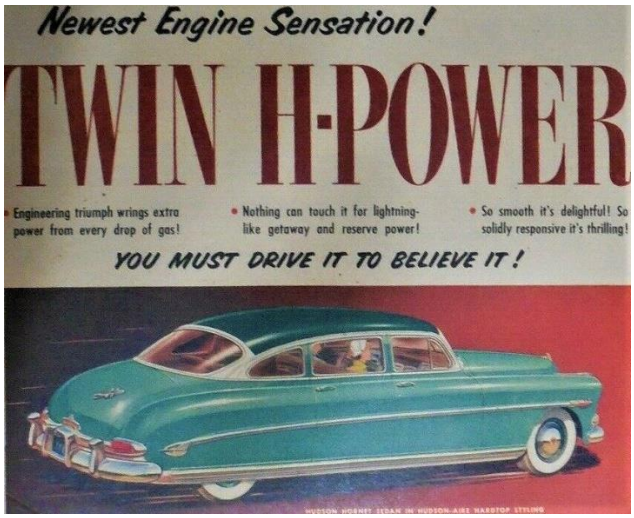
Basically, they welded the car's floor panel to the underside of the chassis rails rather than over the top of the rails. As far as styling went, it allowed for a lower roofline that made the overall appearance sleeker and closer to the major automakers products styling, yet interestingly, you did not lose headroom with this new design feature. So now, you stepped down inside the vehicle when entering which led to the *`Step-down'* label being applied to these models. Upon release, motoring journalists who took part in road tests, were full of praise for the new models.

Interestingly, these Hudson models were actually expensive models aimed at the upper medium priced competition, nonetheless, sales were excellent for the first two years. Around 160,000 models were produced in 1949 and this was almost a 50% increase over the number of 1947 models that left the assembly line. However, in 1950 the increasingly strong competition by the big three, saw Hudsons production numbers decline.

It was around this time in America, that stock car racing was growing in popularity and the automakers whose vehicles took part in the **NASCAR** [National Association for Car Auto Racing] competition, strived to have their brand at the head of the field. Enter the new ***Hudson Hornet*** models in 1951, and with a high-performance model being made available in this range, it would be Hudson's answer to winning on Sunday and selling on Monday.

Bill's 1952 Hudson Hornet Club Coupe in 1:18 scale diecast by Highway 61.

Possessing impressive engine performance was one factor required for top-line racing, and the Hornet had a new 308 cubic inch [5.040 litres] straight six engine pumping out 145 hp or 108 kw available. This engine outperformed Hudson's own straight eight engine as well as, initially, their main competitor, Oldsmobile's V8. The new engine had the cylinder head water passages improved as well as stiffening ribs added to the lower area of the block. To top it off, Hudson's hot *`Twin-H'* version of the engine was added to the 1952 Hornet models.



The *Twin-H* engine had a special cast iron intake, twin Carter single barrel carbies with a separate air cleaner for each carbie, a high performance camshaft and a special exhaust manifold. The *Twin-H* added 10 hp or 7 kw to the standard 308 engine and could be ordered direct from the factory or as a dealer fitment. An aluminium head was also an option which gave a slight increase in power but could lead to head gasket issues.

During 1952, the engine was developed further for competition by a leading stock car enthusiast, Marshall Teague, together with Hudson engineers at the Hudson Race Shop and became known as the *`7X.'* ***The next pic is of Teague's Hornet that was very successful in the NASCAR competition.*** The *`7X'* had larger valves, modified and polished combustion chambers, a high compression head, a high performance camshaft, dual exhausts, and the *Twin-H* carbies. Power was increased massively over the *Twin-H* to 230 hp or 171kws. It was released in limited numbers for racing, or for those involved in *`arduous'* driving circumstances. These hand-built engines were not available off the factory assembly line and had to be either installed at the dealers, or purchased as a crate engine for those involved in competition. From its release till 1954, the Hudson Hornet was definitely the car to beat in motor vehicle racing competitions such as NASCAR and it had gained an unintentional advantage with vehicle handling in this arena.

Besides the *7X* engine, Hudson had unearthed a top handling set-up for racing with their *`step-down'* design. Though off to a late start for 1951, Hudson managed third place overall, but for the 1952 and 1953 seasons, Hudson was close to being undefeated and took out first place in 27 of 34 NASCAR Grand National races. Though their engines were not quite as competitive as Oldsmobile's V8 4-barrel carbie update for 1952, one driver said that the Hudson ***"could take the corners and hang onto them better than other cars."*** So, it was Hudson's radical *`Step Down'* design that ended up making such a big difference in competition and gave it a winning advantage in that era. ***Next pics are of Bill's 1:43 scale model of the 1952 NASCAR Champion winning Hudson Hornet coupe of Tim Flock.*** *Terry.*