THE MAKING OF A 1926 MODEL T FORD SPEEDSTER

Part II

By Ken Shebler
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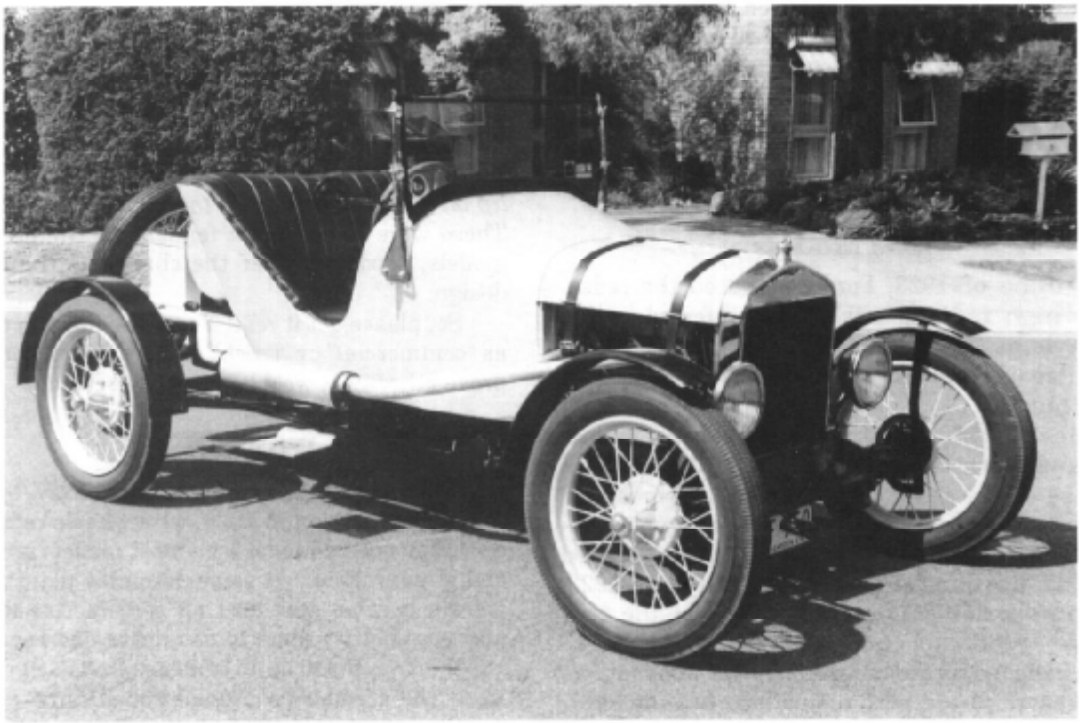
Australia



Ken Shebler s completed 1926 Model T Speedster.

In our last issue, we introduced you to Ken Shebler s project of building a 1926 Model T Speedster--built the Australian way. We covered many of the mechanical aspects of the project, including building/restoring/modifying the engine, transmission, driveshaft, differential, suspenison, and concluded with the brakes. In this issue, we pick up where we left off with the mechanicals and move on to the process Ken used in building the body.

THE MECHANICALS

7. STEERING

This is safety MUST You build a speedster to go, not stop-so the saying goes! Well my brakes stop-at least skid the rear wheels and make everybody s head turn. But if you can t steer the car out of danger by heading it into the bush, then you have a problem.

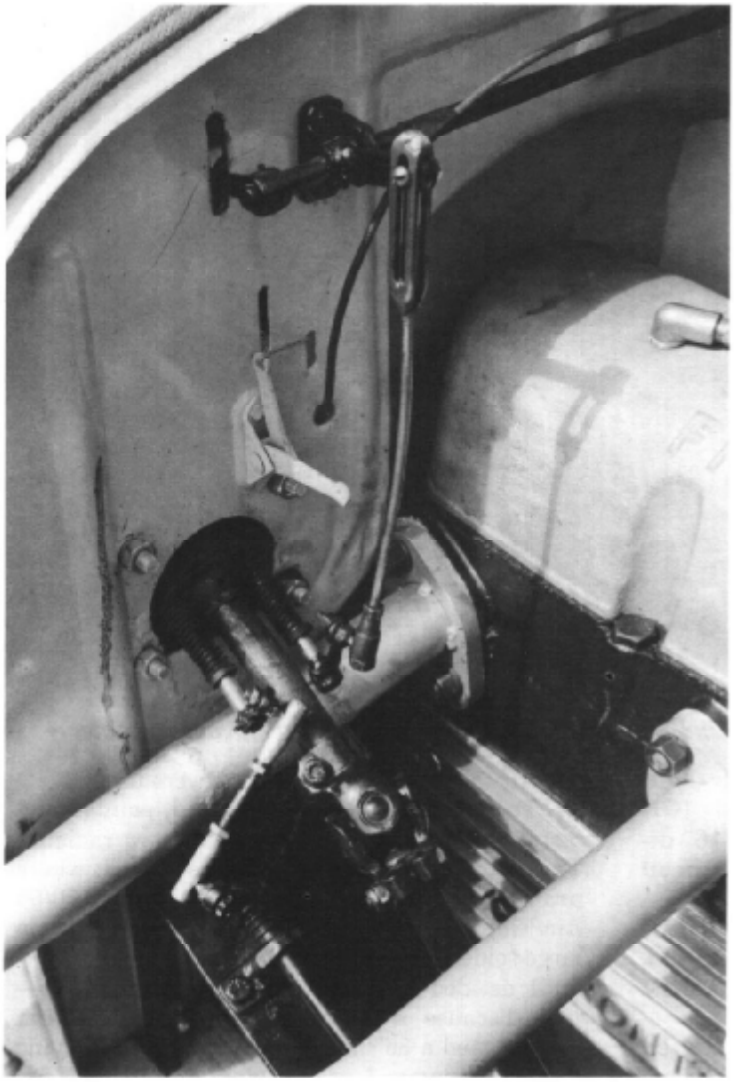
The steering system I used was comprised of Model T and modern Ford Lazer [Mazda 323] parts. The result is a super-sensitive direct and reliable system.

The steering column assembly is from a 1923-25 Model T. The mounting point at the firewall [I used a 1923-25 firewall] was lowered by 7 by using a steel wedge spacer.

The steering box was made into a direct drive by welding small steel pieces into and between the triple gears, then grinding off the outer teeth of the triple gears so they were clear of the steering box housing.

I used a 12 veteran (brass era) T steering wheel spider and a wooden steering wheel.

The supporting bracket at the dashboard was from a 1926-27 Model T. The metal components were nickel plated, and externally look and are



Steering linkage (right-hand drive), spa& control and throttle linkage for both foot and hand feed.

Model T, including throttle and spark levers.

The bottom end of the steering column was cut off 5 from the lower column support, including the steering shaft and the two control rods. The steering column lower support bearing was really only a point contact with the shaft. I built up the shaft and silver soldered in a thin bronze bushing into the lower support and drilled an oil hole. A neat fit and no rattles. The steering shaft was splined to accept a universal steering joint obtained at a swap meet.

The modern components consisted of a total Ford Laxer rack and pinion steering unit, universal shaft, rod knuckles and arms. I made a carrying frame for the unit which bolted to the underside of the chassis using the holes formerly used for the T steering bracket. These holes were on both chassis rails so no drilling was necessary. The carrying frame, made from 3 x 3/8 FL bar with brackets for attaching the rack and pinion steering unit, was very rigid and takes the twisting reaction forces caused by the steering mechanism without undue movement.

I also used the rear "stud of the front engine mount as an anchor point. I fabricated a short bar and welded it to the center of the carrying frame.

The spindle arms, normally bent upwards in a standard Model T, were exchanged left for right and are now pointing downwards. I machined small taper bushings of 11/16 diameter with a 14mm taper bore to adapt the rod knuckle to the spindle arm. The steering adjustment for toe-in was adjusted as for a modem car. In fact, this rack and pinion steering unit fit perfectly and did not require any cutting or welding whatsoever.

With both components of the steering now in place, all I had to do was to join the two halves together between the two universal joints on the steering shaft extension. I used 3/4 diameter rod and welded in the correct length.

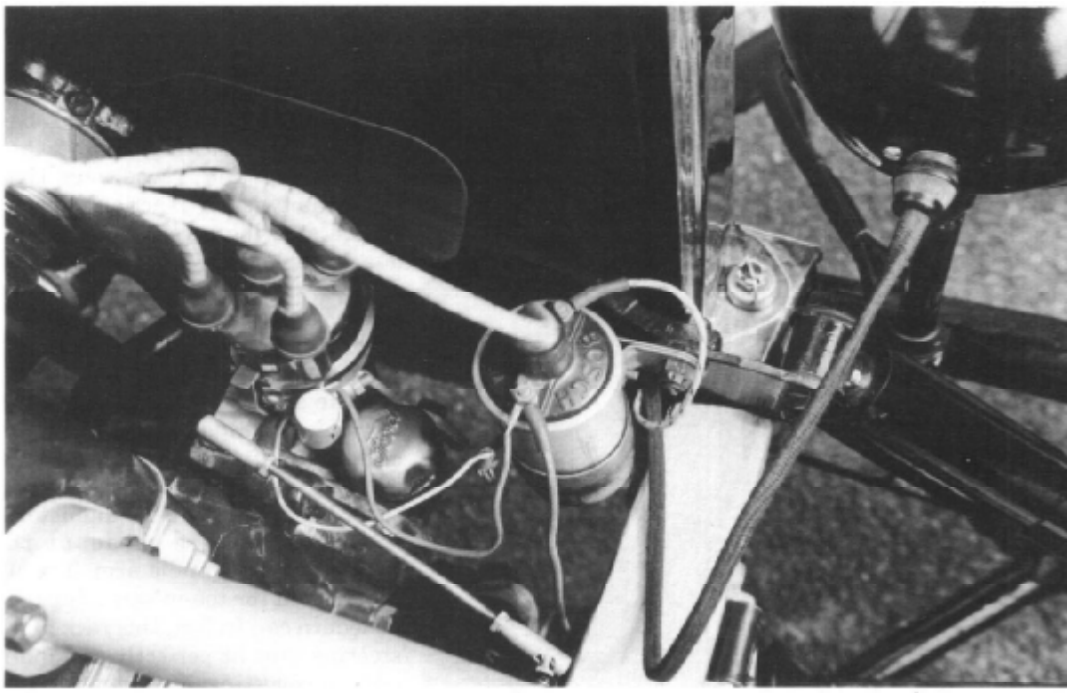
8. ELECTRICAL SYSTEM

For several reasons I decided upon a 12-volt (12V) total loss system (without a generator); charging up the battery with a trickle battery charger overnight as necessary.

The battery I purchased was a 12V 350 ampere hour unit and this fit in the original Model T battery carrier. Because I had lowered the chassis by 5 1/2 I didn t want the bum (bottom) of my battery dragging on the bitumen (asphalt), so I cut out 3 from the height of the carrier and made the top of the battery flush with the clamp set. I used a screw type master disconnection on the earth (ground) lead.

I used a distributor purchased from Bill Rader of Los Angeles. This is more or less a reproduction of the original Bosch unit, and mounted on the timer plate with a vertical drive to a modem Volkswagen distributor. The unit had to be controlled with a manual advance/retard mechanism which I arranged from the timer lever by a series of linkages and universal swivel connectors.

The starter motor was used as is-no electrical



Distributor and coil mounting with spark linkage. Note shock absorber mounting with equalizer bar.

changes; just a good clean-up and reassembly. I did take the opportunity of putting an oil seal [CR (Chicago Rawhide) 6720-1 diameter x 11/16 diameter x 3/16] into the outrigger bushing as an oil control measure.

The lights are standard Model T with 25/5 watt double contact 12V trailer globes (lamps). Fuel pump, as mentioned before, is a 12V Autopulse with built in-line pressure control.

The horn unit is a two bulb air horn, actuated by an original steering column mounted horn button. I used a standard 1926-27 Model T switch assembly with ammeter. A good friend of mine in the U.S. acquired it for me with a fused NOS switch assembly from Clum Manufacturing Co. and I was able to rivet into the 1926-27 switch plate.

9. COOLING SYSTEM

I decided to spend a bit of effort [and money1 on the radiator. Virtually all radiators found at swap meets are more or less shot. So I got a "swap meet radiator and with drawings and another sample, took them all to a local radiator rebuilder. I chose to use a Ford F100 radiator core section and this was produced in the appropriate size with extended top plate and bottom plate to suit the Model T. The old radiator was disassembled and only the top tank and lower tank were used.

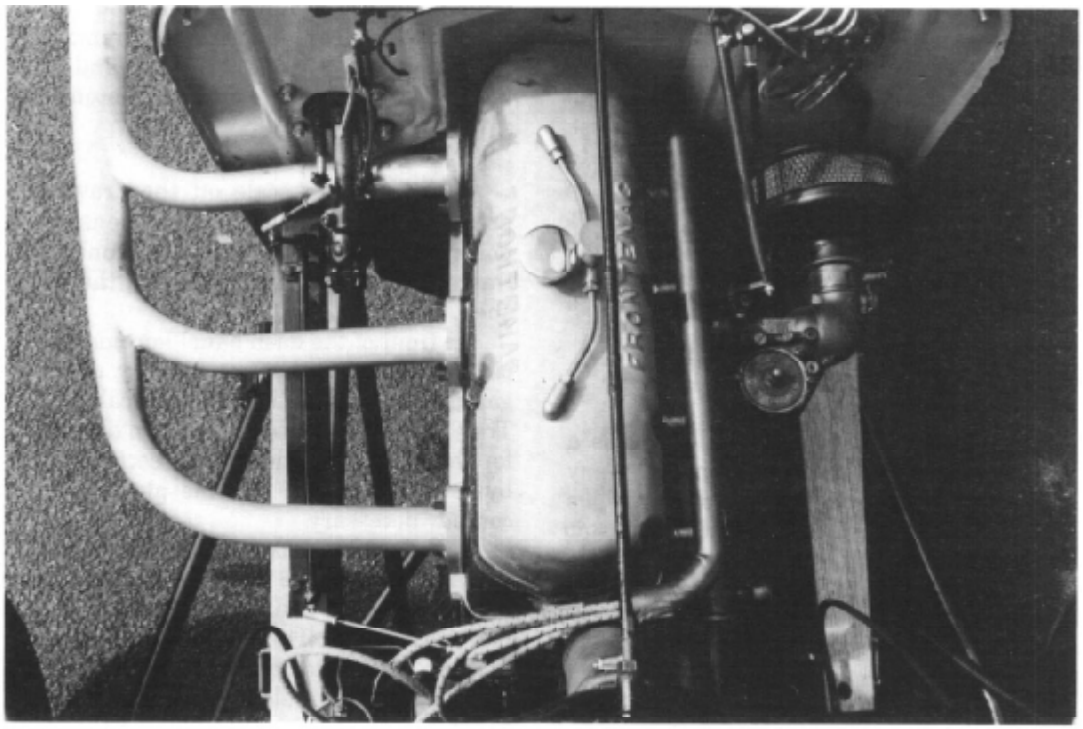
The whole lot was reassembled, painted and tested and I must say looks like a new radiator. The top tank seams were silver soldered, where practical, otherwise lots of soft solder 50/50 [tin/lead] was applied on clean surfaces using a large soldering iron and torch.

I decided to fit an accessory water pump-more because of looks than anything else. That necessitated a 36 fan belt being used for driving the water pump. I used a standard 1926-27 fan assembly with eccentric belt adjustment. The fan bearings were modified to fit two Torrington B 10120H needle bearings [13/16 diameter x 5/8 diameter x 1].

10. EXHAUST SYSTEM

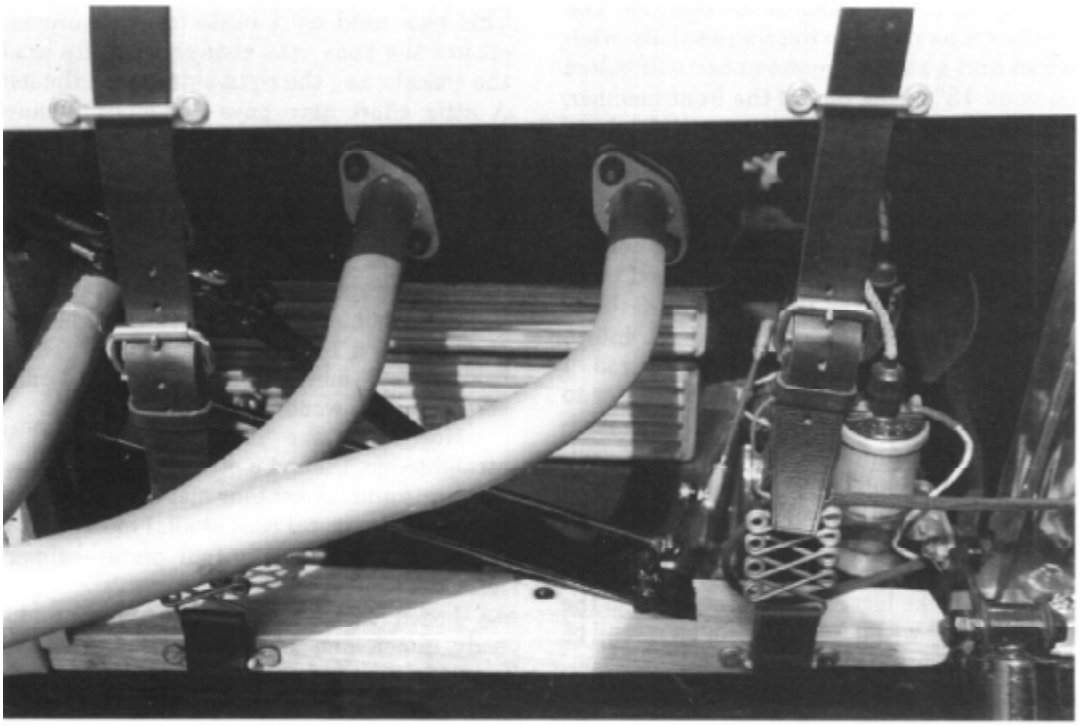
I fabricated an extractor exhaust manifold and pipe system, closely following the shape of the Fronty system used in the old days. The three exhaust ports had flanged 1 1/2 exhaust pipes sweeping into a transition piece, 1 1/2 diameter to 2 1/2 diameter, outside the body.

I used a 24 long x 6 diameter light truck resonator mounted on cradles as outriggers from the chassis. These outriggers were designed strong enough for load bearing, but light for lateral strength, thus enabling thermal expansion forces



Above: *Top view of engine compartment.*

Below: *Right hand side view showing extractor exhaust, steering drive, bonnet straps, and shock absorber mounting.*



to be dissipated without stress onto the cylinder head mountings.

I then used a 2 diameter exhaust pipe to the rear of the body, supported on a saddle at the chassis rear crossmember extension. I used a close coil spring over the exhaust pipe to the saddle to hold the exhaust pipe in place. It is interesting to note that the exhaust pipe expands about 1/2 at this saddle point between cold and hot running, thus demonstrating the wisdom for flexible supports.

THE BODY

As I mentioned earlier, the body shape is a matter for personal taste. After looking at many photos of speedsters and seeing several on various rallies, I decided to design a shape and size to suit me. I made scale drawings which I used as a basis for the manufacture of the body, both woodwork and shell shape.

1. CHASSIS

I used a 1921-25 chassis as a basis for my speedster. The rear frame was split and lowered 5-1/2. I de-riveted the running board cross members and cut the outriggers off so that all I had was two members 23 wide [the width of the chassis]. The front member was bolted to the chassis in its original location and a second crossmember was bolted to the chassis 13 to the rear of the front member, but inside the main chassis rails to provide clearance for the steering gearbox assembly and the radius rods.

The battery carrier was relocated 4-1/2 in front of the rear member. The cross shaft operating the clutch and hand brake was retained in its original position, however the hand brake lever was cut off 3 above the shaft and made into a lever arm with drilled hole for a clevis rod. I mounted the hand brake lever as an outrigger to the chassis and 12-1/2 behind its original position. I used a clevis and 3/8 diameter rod to connect with the original hand brake [now just a lever] so that the hand brake system would work. I had to dogleg the hand brake lever to clear the seat swab [when in the "on position]. Although the new hand brake lever was an outrigger to the chassis it was still within the body shell and can be operated in the normal way for a Model T.

2. FIREWALL

I obtained a 1923-25 steel firewall [high bonnet] and modified it by raising the "engine room relief so as the Frontenac head and valve rocker cover would clear and be easily removable. The relief size was 9 wide x 9 high and 1-1/2 deep which proved adequate for the Frontenac head.

3. BODY

I was able to scale off the drawings I had prepared to obtain sectional dimensions at any point of the body. I decided to make a timber framework onto which I mounted the metal body shell.

In front of the dash panel I decided upon three ribs. Each of these were initially drawn on the garage floor full size [from the scaled drawings]. Then the ribs were cut out of kiln dried hardwood for the horizontal and upright sections and joined by screws with 3/4 marine plywood cut to the contour necessary.

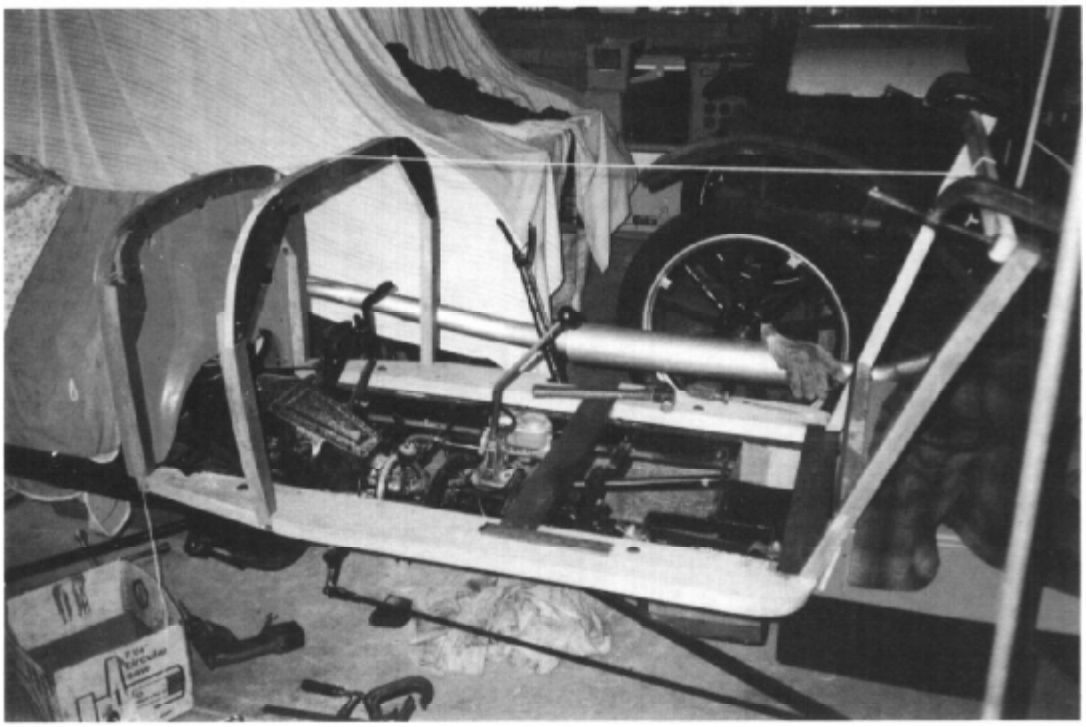
The back of the body was made in pretty much the same way. The side strengthening sections [the step over in lieu of doors] being cut from 3/4 marine plywood. The mainframe was made from 6 x 1-1/2 kiln dried and dressed hardwood. I used light section marine plywood as well as kiln dried hardwood to join the rib members together longitudinally.

Before I assembled the timber frame, I strung a centerline string from the bonnet hinge of the firewall to the back of the body timber member. This was used as a basis for measurements to ensure the body was always centrally located to the chassis, i.e., the right side equals the left side. A little effort here pays dividends because you need only to draw half the body full size on the garage floor, make one timber section to fit and then make the other section opposite hand, and only one half paper pattern for the body shell.

After assembling the timber framework, I used a sureform (plane) and rounded up the shape. Final dressing was done using an electric belt sander with a 1-1/4 -wide endless belt. That whole exercise took me two weekends. I used only wood screws for the woodwork-no glue.

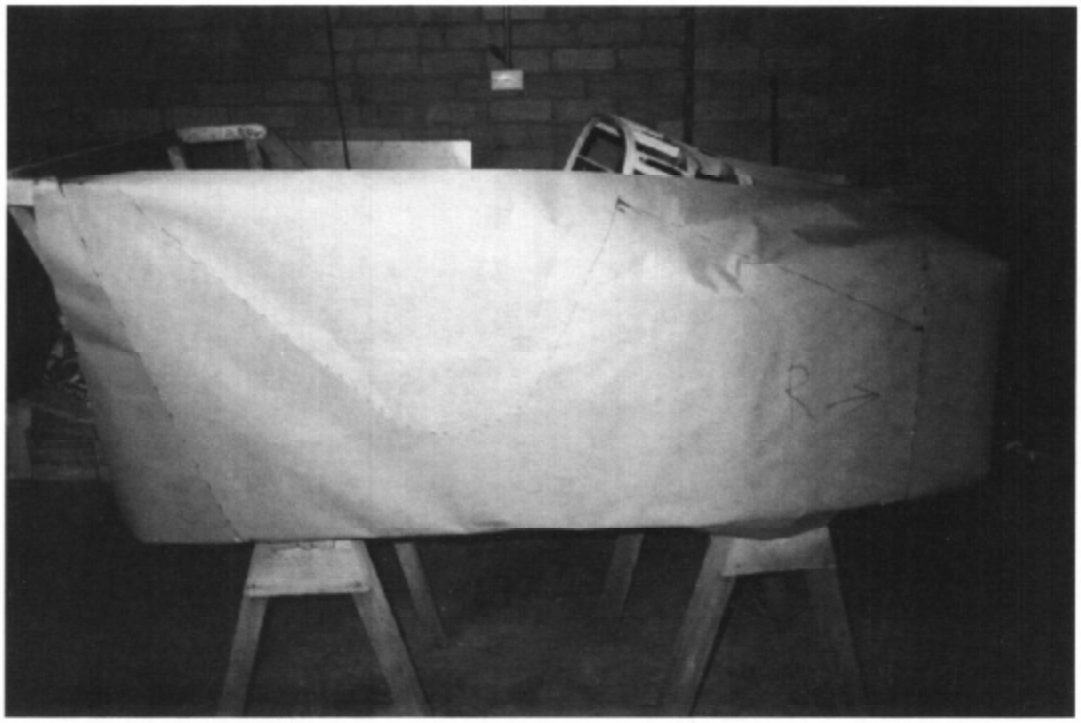
Now comes the "men s dressmaking. With a straightedge, I found a straight surface where the body side and top contour meet. That was my "join point for the metal body shell. I found that I could make the body shell in four pieces-upper body, left side, right side, and rear.

I then used brown paper to make a template of body upper, one side and the rear, allowing 1 extra for turning over and nailing to the body or for trimming at weld points. The templates were placed over 0.9mm [20GA] mild steel sheeting and the shapes traced. With electric metal nibblers, I cut the shapes required.



Above: *Start of body woodwork.*

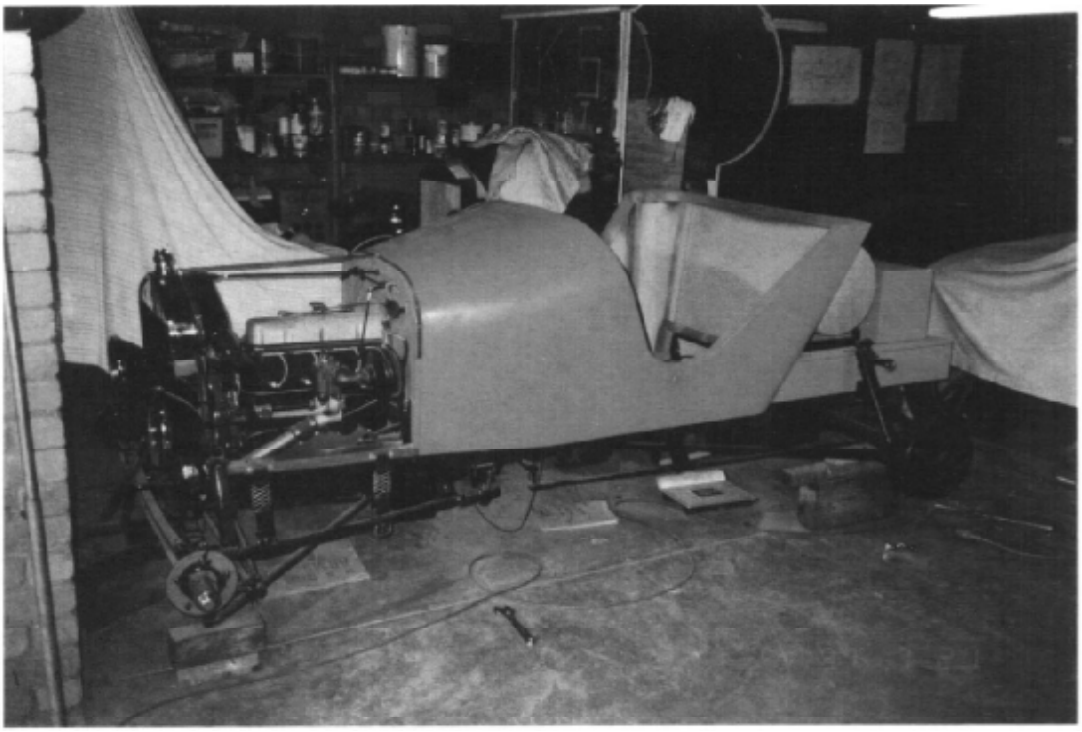
Below: *Body woodwork is completed and ready for "skinning.*



Above: *Making paper patterns for body skin.*

Below *: Final patterns are laid out on floor, ready for attaching to sheet metal and cutting to fit.*

Above: *Body skin being applied.*
Below: *Body skin completed.*



Assembly begins.

Each metal body sheet was put on the timber framework, one at a time, nailing under the mainframe with 1 turnover and over the upper sections with about 1/2 turnover after trimming. The metal body sheets were held in place with about 10 'C clamps using soft timber feet (pads) so as not to bruise the metal.

At the points of the metal joining, I overlapped the sheets, and scribed a line from overlap to underlap. The unlapping sheet was removed, then the surplus metal nibbled off. The sheet was then re-assembled, tack welded at the resulting butt joint, hammered with dolly, then fully welded using oxy-acetylene with metal filler rod. After welding, the whole joint was lightly hammered over a dolly to stress relieve and to remove light heat buckles.

The exposed metal turnover joints not to be hidden by upholstery or "lost under the body mainframe were then covered with a 3/4 wide aluminum domed coverstrip screwed through the metal onto the wood frame. This gave a particularly neat joint around the dash panel area. The pattern making, metal cutting, cladding and welding of the body sheeting took me a full weekend to complete.

As I used new mild steel sheeting, there was no need to sandblast the metal before paint preparation. I used Dulon (DuPont-Australia) Prepsol on a lint free rag to clear away all oil film and grit. Undercoat was Dulon grey primer in two double coats, filer as necessary, Dulon spray putty, more Dulon undercoats with black witness for marker prior to each sanding down using "wet and dry paper, starting at 180 grit-finishing at 800 grit.

After I was satisfied with the body undercoating preparation I gave it several double coats of Dulon acrylic lacquer.

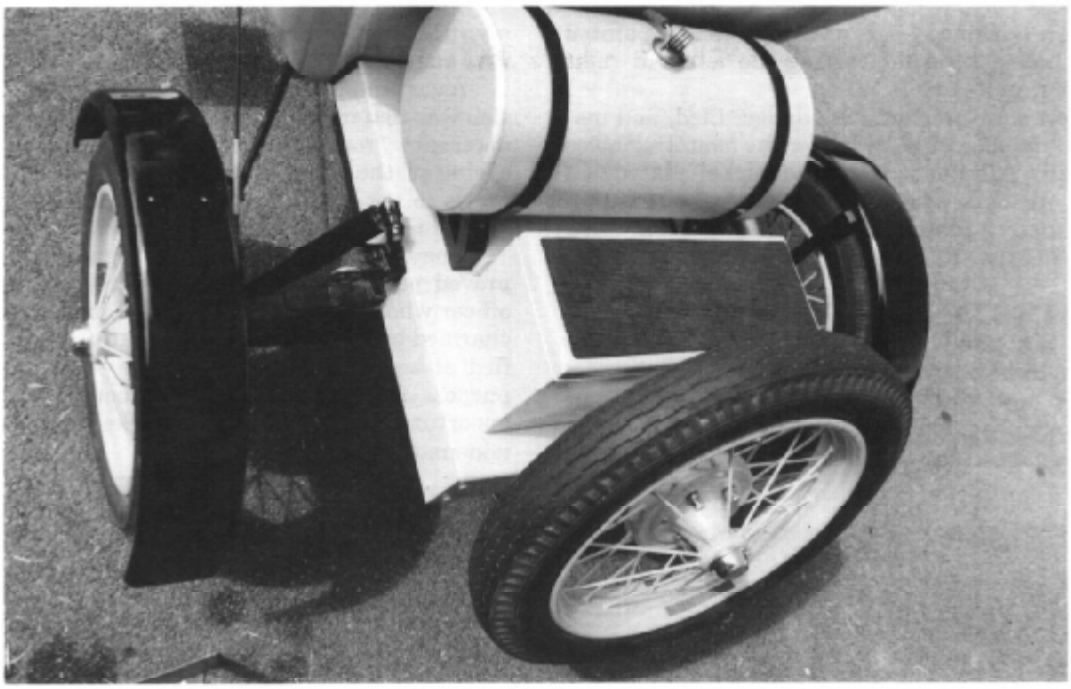
4. REAR DECK

I used an elevated rear deck, 25 wide and 34 long, for supporting the fuel tank, a "bits and pieces metal box, and the spare tire carrier. The rear deck overhung the rear chassis member by 15 and also hid from sight the rear chassis lowering brackets.

The rear deck was made from 5-1/2 channel, folded from 2mm mild steel sheeting. The deck is covered with 3/4 thick marine plywood with edges covered with the same 3/4 thick aluminum domed coverstrip used on the body. The channel sections were bolted together and onto the chassis and the top deck was bolted onto the upper flange of the channel. This decking got the same paint treatment as the body.

5. BONNET [HOOD]

I wanted to "show-off the engine compartment as much as possible, so I only used a bonnet



Rear deck-showing the mounting of the fuel rank, fool box, and spare fire. Note shock absorber mounting.

upper. This made it very easy for the three extractor exhaust pipes to pass to the side of the body. All the bonnets I found had the impression of cattle feet coupled with rust holes, so I decided to make my own bonnet.

I carefully "opened out one of the old bonnets and hammered it flat. This was used as a pattern for a new 0.9mm [20 gauge] mild steel sheeting, and the shape was then scribed onto the new metal. The sheeting was then cut using an electric nibbler and tin snips. The hinge area was carefully filed to the exact shape of the old bonnet which was, for this purpose, clamped tightly together to the new sheeting. I used a 1 turnunder for the sides which strengthened the bonnet side - in lieu of the side hinge.

The front and rear "billy can rolls were a little more difficult, but I achieved them by carefully hand drawing them around coat hanger wires. The results were quite satisfactory considering that I did not have any of the old fashioned machinery to do that job. Paint work then followed as per the body.

For bonnet straps, I went to the local saddlery and found buckles and other components as well as the 1-1/2 leather belting. I supplied the zigzag springs I got from Dave Wheeler of Atascadero, California and drawings of what I wanted made. The leather straps were stained black.

6. WINDSCREEN [Windshield]

I used a windscreen support from a 1920 s era Model T and shortened it to accommodate a windscreen height of 13 . The windscreen frame came from negotiations at a swap meet. It was rather poxy after sandblasting off the rust but I nevertheless used this as a base. The lower half was shaped to suit the body contour and then the height was made by joining-in part of the upper frame. To accommodate the installation of new laminated safety glass the top of the frame had to be made removable.

I used lots of Dulon undercoat and spray putty to fill in the windscreen rust imperfections before finally spraying it with Dulon black acrylic lacquer.

The support brackets to the body were first made out of wood, as left-hand and right-hand patterns, to enable bronze castings to be poured. In order that the wood pattern would neatly fit the contour of the body I placed a piece of Gladwrap plastic over the body area, then mixed up adequate fast-setting body filler with which I then coated the mating surface of the wood patterns. The wood patterns were then firmly held against the body in the correct locations required until the body filler hardened [about 6 minutes]. This gave an accurate contour on the pattern inside surface. The pattern

was then trimmed up, sanded smooth and painted before being used for casting the left and right support brackets.

Each cast bracket was sanded, filed, and machined smooth, then drilled for the mounting holes required. All parts were the nickel plated. Of course, all this work was first carried out with a trial fit before plating the parts and spray painting the frame and body.

7. MUDGUARDS [FENDERS]

An old friend in the U.S. told me to always keep my elbows in when driving on a country road or in a cow paddock (pasture). I decided to fit mudguards as "cycle guards to protect me from the spray, but that was to be after I road registered my racer for normal everyday use. You see I was very eager to try out my new racer.

Avery co-operative club member whose profession was tied into the motor industry, provided the necessary "roadworthy certificate with cursory eyeing of the racer on a trailer and raised eyebrows to not seeing mudguards-I think a necessity for making a speedster truly roadworthy!

The lack of mudguards at registration time proved not to be a problem as the young female officer who had to make the visual inspection was charmed by the canary yellow racer and was satisfied at seeing an engine number. But the main purpose for visual inspection appeared to be an opportunity for her to have a smoke outside of the non-smoking office.

I have subsequently made and fitted mudguards both front and rear. Mudguards were made from 2mm [14 gauge] mild steel sheeting with rolled sides and stiffened edges using 3/8 diameter rods, MIG welded to the rolled sides.

All mudguards were made 6 wide by 18 radius. The rear mudguards were 180 degrees and front mudguards 105 degrees, each finishing at about 15 from the ground when fitted. I used three supporting brackets per mudguard made from 1 1/4 by 5/16 FL mild steel bar. This gave about 3 clearance to the 4.25 x 21 tires on the 1926-27 wire wheels.

Windshield and details of its mounting to the body.

8. DASH

The dashboard was made from dressed kiln dried hardwood, shaped to suit and sealed with clear gloss lacquer. Cutouts were made for a Stewart speedometer, Stewart rev-counter (tachometer), 1926-27 switch assembly, steering column bracket and starter button [used in conjunction with a solenoid for the starter motor].

I adapted the rev-counter from an original Stewart unit, having the same dial diameter as the speedometer.

I purchased a modern electronic rev-counter taking electrical pulses from the coil. This was ingeniously fitted it into the original case. The dial graduation numbers were painted over with satin black [leaving the original Stewart name to be seen] and I used 'letterpress numbers to graduate the dial to the electronic scale.

9. ANCILLARIES

The upholstery was made by a good friend from the bush. The seat was fully

Front view shows mudguards (fenders) and the car s low profile.

made but the back and side was made to a pattern with plenty of overhang so I could install them after completion of all painting to the body.

The steps were outrigger-type from cast aluminum "Ford treads acquired at the "wet Hershey Swap Meet of 1990. I used 2 x 1 channel members bolted to the chassis and underside of the body and doglegged out and down to within 13 of the ground.

I have perhaps skimmed over several areas of this restoration and labored on others, however, I hope I have given enough comment and detail to the components that the majority of restorers are interested in reading about.

I have to acknowledge the advice and assistance of many friends in the Model T clubs in which I am a member. Ted Aschman and Bill Barth have given invaluable information which I have integrated within my restoration work.

When restoring or building a Model T Ford speedster, one can use a lot of "poetic license, modern parts and new ideas. I have tried to do this with as much disguise as possible in order to retain the originality of the vehicle to the era by using original parts where possible.

I have brought my ideas to reality; you can do as I have done or do your own thing. It doesn t matter so long as you enjoy what you are doing.

I have obtained many of the components for this restoration from swap meets and club members. Where special components are mentioned, I have identified the source of my supply. The majority of reproduction new Model T components used have been obtained from Snyders Antique Auto Parts. I purposely have not described the restoration of standard Model T components because I consider this to be outside the interests of this article, and covered by many articles produced by numerous authors over the years of the Model T restoration. Cl

Ed. Note: Because of health-related reasons, Ken is now forced to sell his Speedster. This development occurred after we received his article and his ad is inconspicuously listed on page 50 in the Trading Post. I have chosen to print it again, here.

FOR SALE - 1926 Model T Speedster. Totally rebuilt vehicle, painted yellow, mad (highway) registered, Fronty head, Model A balanced crank, performance camshaft, fully worked and balanced engine and transmission. Driveshaft gearbox, high speed (3:1) differential. hydraulic rear brakes, body lowerred 6 1/2 with hydraulic shockers and pram mudguards. Much, much more. US$12,750. Ken Shebler, 6 Bracknell Court, Vermont South 3133, AUSTRALIA. Phone (3) 802-1971.

We *wish Ken a speedy and complete recovery and thank him for sharing with us the building of his Speedster.*