HALF-SIZE 1901 PACKARD

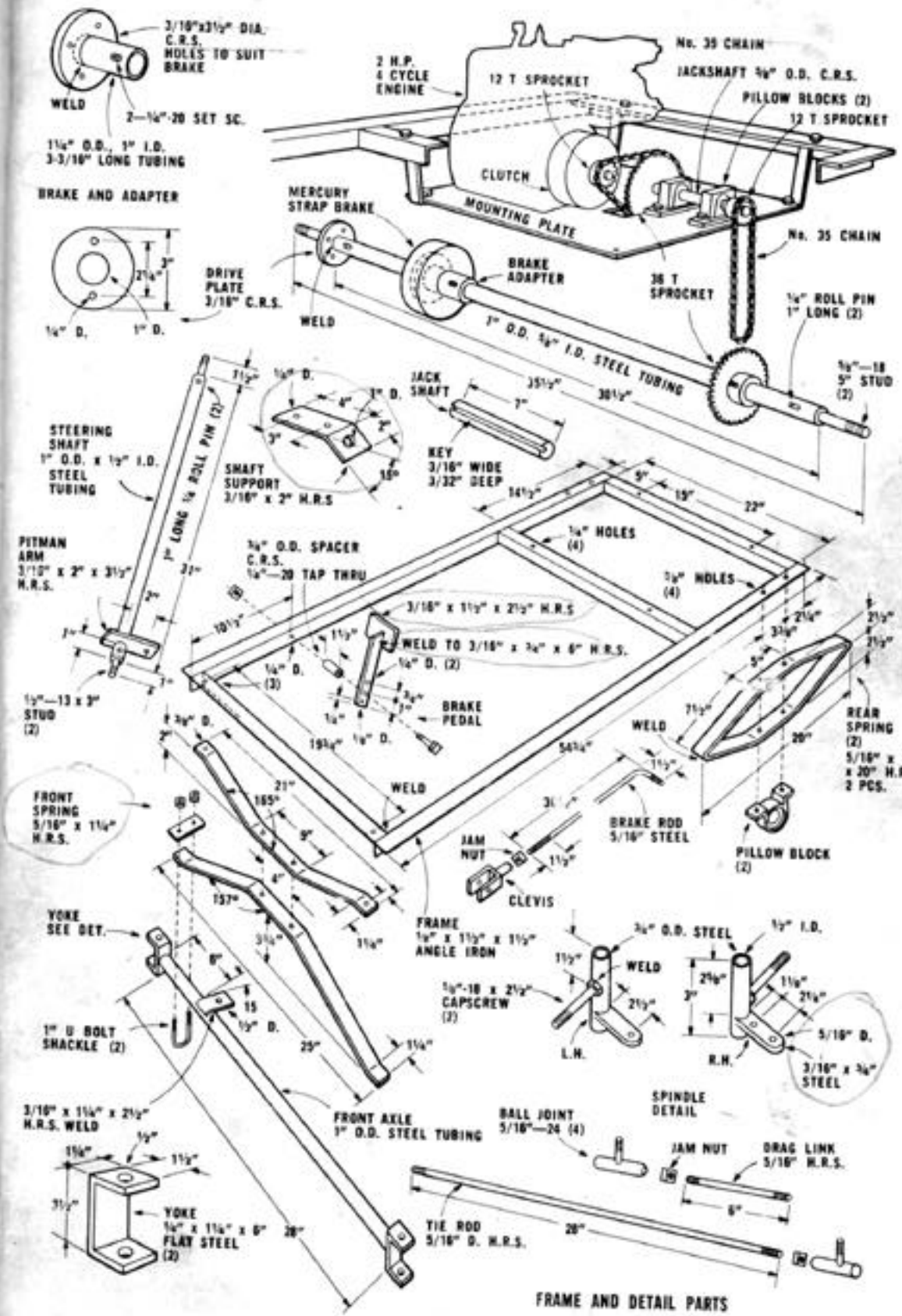
BY GEORGE JONES

Recapture the romance of the horseless carriage era! Be the man who owns one!

IT has been 63 years since the great-granddaddy of this bright-red 1901 Packard roadster purred its way down America's roadways. Our half-size version should bring a twinge of nostalgia to MI's senior readers—and delight the younger set.

Under the tonneau (that's the rear-deck lid, son) there's a modern two-hp gasoline engine with chain drive direct to the axle. Speeds up to 15 mph are possible. Designed to carry two youngsters in comfort, the car also is sturdy enough to haul two adults. Right-hand steering (as in the early days), an automatic centrifugal clutch, a foot brake and hand accelerator at your fingertips make operation of the vehicle a breeze.

It was on Aug. 13, 1898, that James Ward Packard purchased the 12th car built by Alexander Winton. On his trip home to Warren, Ohio, some 50 miles from the Winton factory in Cleveland, the car broke down. The incensed purchaser returned to the factory to complain about his lemon and Alexander Winton told him, "If you're so smart, Mr. Packard, why don't you build a



FRAME AND DETAIL PARTS

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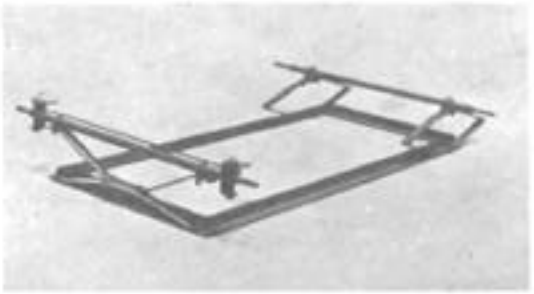
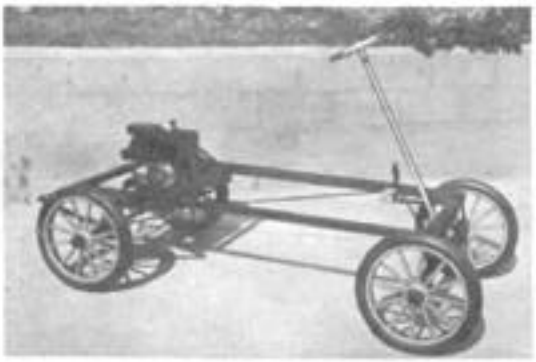
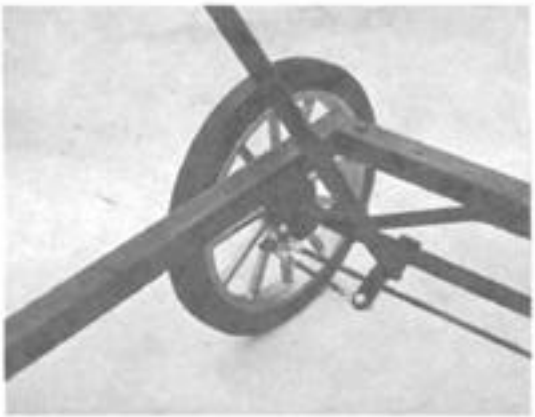


FRAME is cut from angle iron and welded together upside down. Front and rear axle and spring assemblies are bolted in place.



COMPLETED chassis and running gear with the brake pedal, brake rod, pedal-return spring, engine and drive assembly in place.



RIGHT front wheel detail shows steering assembly—shaft, pitman arm, perch welded to axle, drag link, tie rod and ball joints.

car yourself?" History has recorded the results.

The first Packard was sold in January 1900. Almost immediately the reputation of Packard was secure. "Ask the man who owns one" became a household phrase.

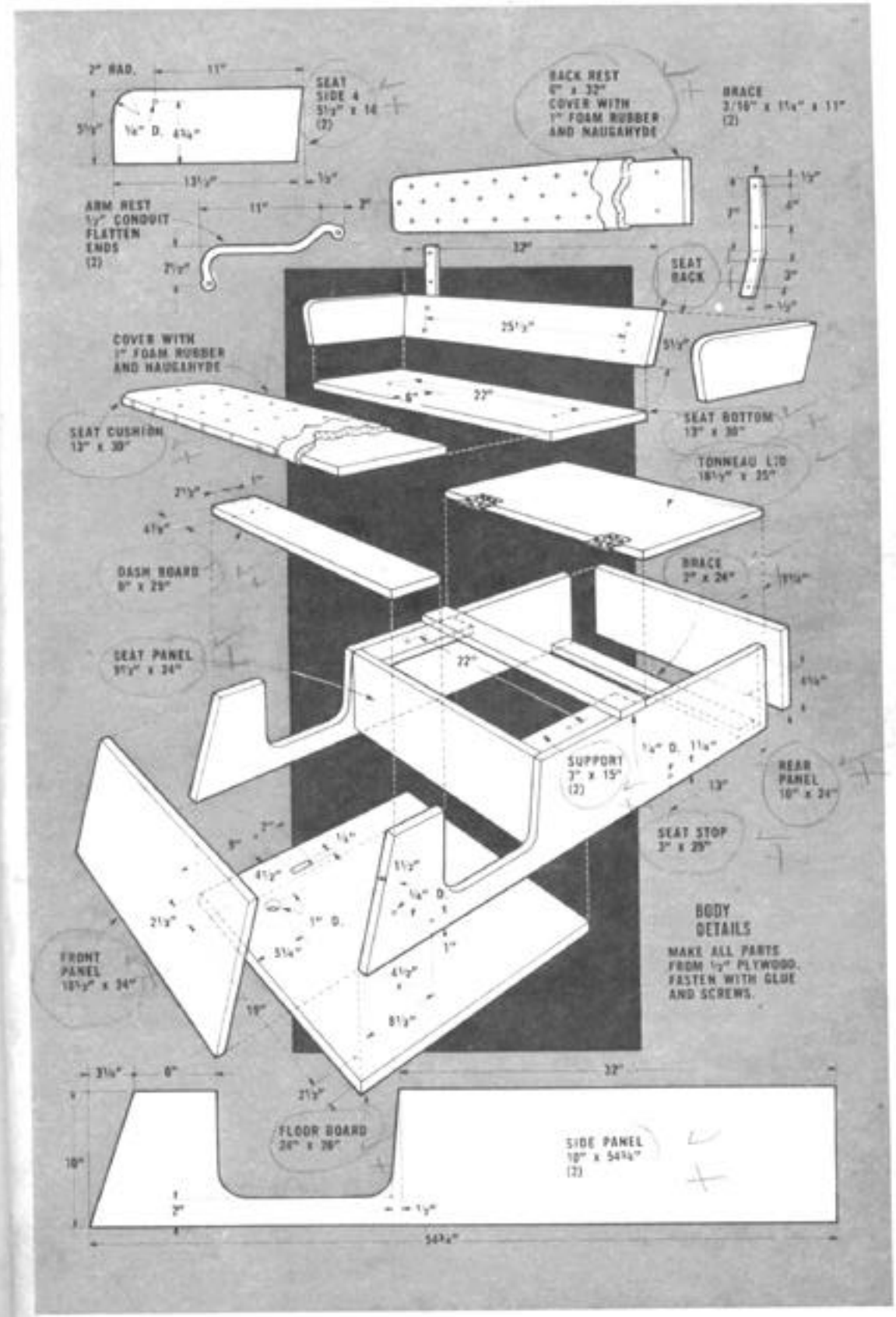
We hope the building of this replica 1901 Packard roadster will recapture for you some of the romance and excitement of the horseless-carriage era.

The body is made of plywood, the frame of angle iron, with a minimum of welding. You can purchase such hard-to-make parts as wheels (aluminum cast—16x1.75 with semi-pneumatic tires) and hub caps, steering wheel, pillow blocks (one-inch Fafnir), ball joints and brake (Mercury strap). The other parts, for the running gear, require but a small amount of machining. Most of the construction can be accomplished in the home workshop. [*For a price list of parts and information as to where they are available, send a stamped, self-addressed envelope to George E. Jones, Box 1243, Magnolia Park Station, Burbank, Calif.*]

Construction begins with the frame. Have your steel supplier cut the two side rails and three cross members to length from ⅛x1½x1½-in. angle iron. If you have a home welding outfit, you can, of course, do all the welding yourself. Otherwise, have a welding shop do the job for you. Lay the side rails upside down on a flat concrete surface or welding bench and butt the cross members against them. With all corners square, tack-weld the joints and check the line-up, then finish the welding.

Make the front axle and appendages next. The yokes for the spindles are made from flat, hot-rolled steel. Cut them to length and bend to shape in a metal vise. Drill the half-inch king-bolt holes in the yoke ends. Weld the yokes to the axle tubing, centering the yokes on the axle ends and parallel to each other. Weld the perch detail (3/16x1½x2½-in. h.r.s.) to the axle.

In making the spindle assemblies, note that the right-hand spindle arm has two 5/16-in. holes drilled in it and the left only one. Weld the wheel spindles (⅝x2½-in. cap screws) to the spindle bodies at


2" RAD.
11"
SEAT SIDE 4 5½" x 14" (2)
5½"
¼" D. 4¾"
13½"
½"
BACK REST 6" x 32" COVER WITH 1" FOAM RUBBER AND NAUGAHYDE
BRACE 3/16" x 1¼" x 11" (2)
ARM REST ½" CONDUIT FLATTEN ENDS (2)
11"
3"
2½"
32"
SEAT BACK
½"
6"
3"
25½"
COVER WITH 1" FOAM RUBBER AND NAUGAHYDE
5½"
8"
22"
SEAT CUSHION 13" x 30"
SEAT BOTTOM 13" x 30"
TONNEAU LID 18½" x 35"
2½"
1"
4½"
DASH BOARD 8" x 29"
BRACE 3" x 24"
19¼"
SEAT PANEL 9½" x 34"
22"
6¼"
SUPPORT 3" x 15" (2)
¼" D. 11¼"
13"
REAR PANEL 10" x 34"
SEAT STOP 3" x 29"
2"
3"
½"
4½"
5½"
¼" D.
1" D.
2½"
1"
5¼"
4½"
8½"
FRONT PANEL 18½" x 34"
19"
BODY DETAILS
MAKE ALL PARTS FROM ½" PLYWOOD. FASTEN WITH GLUE AND SCREWS.
3½"
6"
32"
2½"
FLOOR BOARD 26" x 28"
SIDE PANEL 10" x 54¾" (2)
10"
2"
½"
54¾"

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right angles to the spindle arms.

Cut and thread the drag link, tie rod, brake rod and brake support. Weld the pitman arm to the steering shaft. Insert the studs in each end of the steering shaft and lock them in place with roll pins. Bolt the ball joints to the spindle arms and assemble the spindles to the yokes with ½x4-in. hex-head bolts and lock nuts.

Bend the parts for the spring assemblies in a metal vise. This work can be facilitated by clamping a steel bar or a 2x4 to the end of each piece for more leverage. Drill the necessary mounting holes in the front spring assembly and bolt the two front spring sections together with ⅜-in. bolts. The rear springs are made in two pieces and welded together at the ends. Drill mounting holes in the top sections where the springs will mount to the frame. Drill two more holes in the bottom halves of the springs for mounting the pillow blocks later.

Drill mounting holes in the frame and attach the front and rear springs. Mount the front axle to the front spring with one-inch U bolts and shackles. These can be purchased at most hardware stores. Make sure the spindle arms are lined up parallel to the frame before you tighten the U bolts. Install the tie rod and one end of the drag link.

Cut the rear axle from one-inch steel tubing and pin the ⅝-in. threaded stub axles in the ends of the tube with ¼-in. roll pins. Weld the drive plate to the right-hand end of the axle to drive the right rear wheel.

Now would be a good time to paint the running gear—a flat black finish. Paint the wheels at this time, too—either gold or bronze.

Assemble the brake adapter and slip it onto the rear axle. Slip a 36-tooth sprocket onto the axle; also the two one-inch Fafnir pillow blocks. Mount the rear springs to the pillow blocks and lock them in place.

BODY for half-size 1901 Packard is made from half-inch plywood, glued and screwed at all joints and then clamped overnight.

SEATS are plywood upholstered with one-inch foam-rubber covered with black Naugahyde and trimmed with half-inch edging.

1901 PLATE, taillights and headlights are optional with builder. Note steering-shaft support, which is mounted to the dashboard.

STRIPING of the body and fenders can be done neatly by masking off ⅛-in. stripes with tape and then brushing in white enamel.

Mount the front wheels, cinching them on the spindles with lock nuts. Back the nuts off one-quarter turn from the snug position so the wheels revolve freely. Adjust the ball joints on the tie rod to give about $\frac{1}{16}$-in. toe-in to the front wheels. The left rear wheel, which is the free wheel, is put on next. The right rear wheel is the drive wheel and will require two ¼x20 tapped holes in it to correspond to the hole pattern in the drive plate. Bolt the wheel to the drive plate. Snug the wheel with a jam nut as described. Tap on the hub caps.

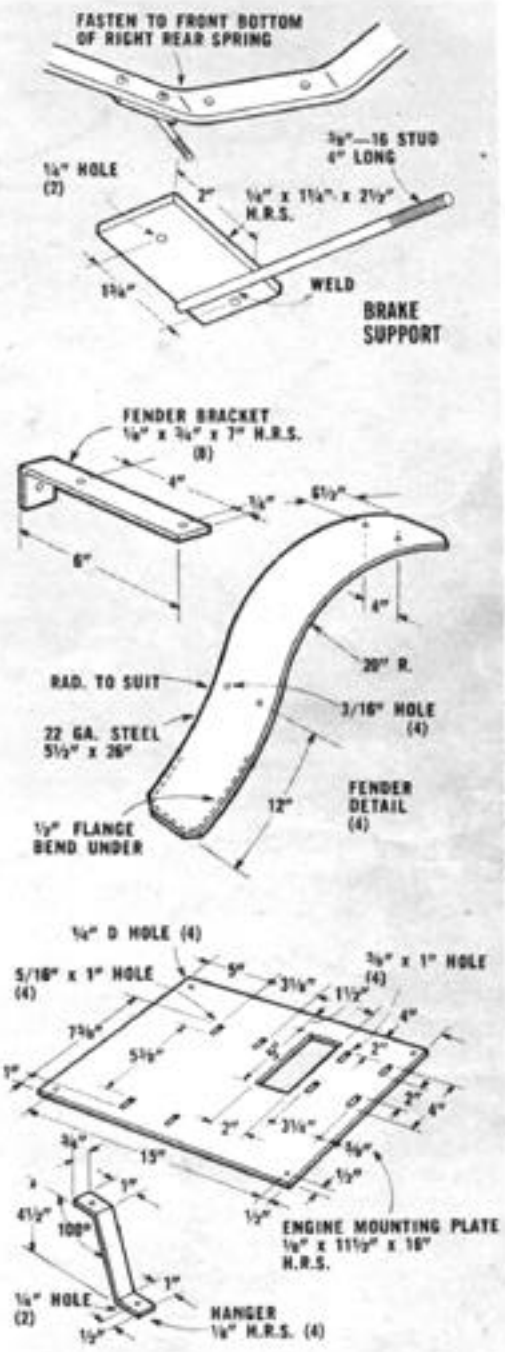
The engine mounting plate is made from ⅛-in. hot-rolled steel. Make the cutouts and elongated bolt holes and drill the corner hanger holes. The four hangers can be formed in a vise and then bolted to the frame and the plate.

The jack shaft is a length of ⅝-in.-diameter cold-rolled steel keyed for a $\frac{3}{16}$-in. square key. Mount the pillow blocks (these can be purchased from Sears, Roebuck) onto the engine mounting plate, then insert the jack shaft through the bores and install the sprocket on the end of the shaft. Mount the clutch on the engine shaft and position the engine (two-hp, four-cycle) on the mounting plate but don't tighten the bolts yet. Fit the drive chains so there is about half an inch of slack, then tighten the engine-mounting bolts and the pillow-block bolts.

Mount the brake support on the underside of the right rear spring and secure it through the eye of the brake strap. Next, mount the brake rod itself to the strap of the brake. The other end of the brake rod will be hooked to the brake pedal after the body has been installed.

The fenders can be molded from fiberglass or rolled from 22-gauge cold-rolled steel. The eight fender brackets are bent in a metal vise. Paint the fenders glossy black. Mask them with tape and stripe them with white enamel paint.

Cut all panels for the body from half-inch plywood. All joints are held fast by wood screws and waterproof glue. Cut the foot-pedal slot and drill the steering-shaft clearance hole in the floorboard. Attach the [*Continued on page* 143]



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seat top and hinge the tonneau lid to it with brass hinges. Add trunk-type latches to secure the lid when shut.

Upholster the seat and backrest with one-inch foam rubber and cover with black Naugahyde. The seat cushion is removable, but the backrest is attached permanently by the two back braces and the arm rests. Paint the back braces and the arm rests with glossy black enamel and set them

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aside to be attached after the body is painted.

Go over the entire body, filling the countersunk screw holes with plastic wood. Sand all surfaces smooth and coat with a filler. Then paint the body with an undercoat and finally with bright red enamel—two coats, sanding and dusting between coats.

Attach the body to the frame with quarter-inch carriage bolts. Insert the foot pedal through the slot in the floorboard and mount it to the brake spacer attached to the frame. Attach a return spring to the pedal and the other end of the frame cross-member. Attach the brake clevis to the brake rod and then to the brake pedal, adjusting the tension to get a positive return action. Next, attach the tube-and-wire throttle control (purchased from your engine dealer), attaching the wire to the carburetor, according to the instructions packed with each engine. The other end is attached to the throttle-control handle (similar to lawn-mower control handles) mounted on the seat side near the driver. Secure the conduit to the underside of the body with conduit clips.

Bend the steering shaft support to shape and drill the one-inch clearance hole. Paint the piece, let it dry, then mount it to the dashboard panel. The steering shaft, which is painted gold, is slipped from the underside of the floorboard through the clearance hole and secured to the perch with a lock nut, allowing the shaft to turn freely. Attach the free end of the drag link to the pitman arm. Install the steering wheel and secure it with a half-inch acorn nut. Drill through the slot in the cast aluminum steering wheel to allow for insertion of a roll pin to secure it to the steering shaft and prevent it from slipping.

Attach the fender brackets and the fenders, allowing about a four-inch clearance above the wheels. Headlamps and other accessories may be attached as you desire.

Now for the official trial run of your 1901 Packard. Make sure all nuts and bolts are tight. Fill the engine crankcase to the proper oil level, gas up and start the engine. Adjust for idling speed so it will de-clutch when you release the hand throttle. And away you go!

You and the kids will have years of enjoyment with your 1901 Packard. Be the man who owns one! •