Trail Scout
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For Reference Only… Do not use to build a trailer.
Check on Teardrop and Tiny Travel Trailers for up to date building information;
http://www.mikenchell.com/forums
Part 1. You can stow your grub and gear in this land cruiser and start traveling in comfort

By DALE VINCENT
Craft Print Project No. 50

HERE is a hunting and fishing trailer that embodies features that have proved themselves over 10,000 miles of travel on every kind of road, and in all climatic conditions—spring fishing, fall hunting, or even a full winter spent in the South.

Wheels are spaced the same width apart as your car, enabling you to travel and explore far from the regular beaten track.

Weighing only 1,100 pounds, it is light enough to be taken into the mountains with ease. Its stream-lined shape utilizes waste space and lets you roll at your customary driving speed over the highways.

Built of waterproof, marine plywood, she is as water tight and sound as a boat. Trailer itself is 32½ feet long (overall), 6 feet 5 inches wide, and six feet in height.

The cost of material will run approximately $300.00, including running gear, and a full-size, inner spring mattress. Trailer wheels and axle purchased at a trailer parts house are best, but if expense has to be watched, purchase the front end of a late model car at some wrecking yard.

After checking the wheels for alignment, the spindle bolts should be welded solid, making wheels and axle one unit. When 2000 pound springs are U-boiled to the axle, they may have to be underslung—this you will have to check, as axles differ. Angle Iron or old automobile frames are cut and assembled, Fig. 1.

Acquire a good torque tube drive shaft housing at a wrecking yard. A hole is now cut with a cutting torch in the center of the front cross channel iron large enough for the torque tube to
slip through. Slide this torque tube through the hole until it butts against the next cross bar, and weld it solid (Fig. 1). Then weld the torque tube in the front channel iron cross bar. Weld the trailer hitch socket on the end of the torque tube. This hitch should be of malleable steel and not made of casting.

A screw type bumper jack is needed to raise and lower your trailer tongue. This jack can be any one of a number of bumper jacks that are sold at the parts houses. The body of jack is welded on the side of the torque tube tongue 29 inches out from the trailer frame.

The ½ inch marine plywood floor is laid on top this frame. Do not bolt it down until it has been cut to fit. A space will have to be cut out of the floor at each wheel for the wheel housings (Fig. 2). Now the floor is laid, and two-by-fours are cut to fit between the ends of the channel iron under the floor along both sides, except the space where the wheels are. Now insert these fillers between frame ends and clamp with C-clamps. Drill a ½ inch hole down through each end of filler strip. Be sure to catch the frame wherever possible. These are then bolted with ¼ x 3 inch carriage bolts all around both sides. Take light batten strips and screw underneath floor, crossways over the floor panel cracks, to keep out dust.

Wheel-housing boxes are made of 1 x 12 pine or spruce according to Figs. 2 and 3, and are covered by gluing and screwing a ¾ inch veneer panel on top. Be sure you have at least four inches for tires to work up and down.

The outside edges of wheel-housing, floor, and filler strips are all flush, as your sidewall goes flat against all these. Linoleum is now glued and laid over the floor, flush to the edges. The ¾ inch marine plywood sides are laid out in 6 inch squares according to Fig. 4. The curve is then marked with a pencil and sawed out with a keyhole or hand saw. Next, ½ inch holes are drilled
LIST OF MATERIALS

FRAME AND RUNNING GEAR

1. Set trailer wheels and axle—standard tread
2. Set 2000 lb. trailer springs
3. Trailer ball and socket hitch
4. Screw type bumper jack
5. 2-pcs. 4" x 23" light-weight channel iron
6. 2-pcs. 4" x 11" light-weight channel iron
7. 2-pcs. 4" x 6 1/2" light-weight channel iron
8. 2-pcs. 4" x 23" light-weight channel iron
9. 1-pc. 4" x 23" light-weight channel iron
10. 1-pc. 4" x 23" light-weight channel iron

FLOOR

1. 2" x 3/8" panels, 4' x 6 1/2", marine waterproof plywood
2. 3/4" panel, 1' x 6 1/2", marine waterproof plywood
3. 1-pc. 6 1/2" x 11", linoleum
4. 2-pcs. 1" x 4" x 8', fir filler strips (between ends of channel iron)
5. 1-pc. 1" x 12" x 14' fir or spruce for wheel housings

SIDE WALLS

1. 2-3/8" panels, 4' x 12 1/2", marine waterproof plywood
2. 2-3/8" panels, 2' x 8', marine waterproof plywood

TOP

1. 6-1/2" panel, 4' x 8 3/4", marine waterproof plywood
2. 200 sq. ft. 1/4" plywood for inside cupboards, closets, and shelves
3. 250 lbs. #1 1/2" and 2 1/2" pine or spruce to be used around edges of sides, joining panels together, studying, partitions, and fillers
4. 1-pc. 2" x 4" x 14', fir ripped on angle for side scuff rails
5. 1-pc. 2" x 4" x 7', fir ripped on angle for end scuff rails
6. 2-pcs. 2" x 4" x 7', fir ripped in center for door and door frames

EQUIPMENT AND PARTS (can be purchased from trailer parts house)

1. Trailer outside locking door handle, with keys
2. 5'-5" piano hinge (for main door)
3. "Buddy" heating stove (coal and wood)
4. 4-3/4" stovepipe joints
5. 4-3/4" stovepipe metal roof jack
6. 4-3/4" stovepipe cap
7. 4-3/4" damper
8. 1-1/2" barus gasoline cook stove
9. Coleman galvanized cooking kit
10. Aluminum trailer kitchen sink
11. Trailer water pump—with 5' of copper tubing and fittings
12. Screened venting trailer windows 18" x 24"
13. Screened trailer roof ventilator, 14" x 14"
14. Amber clearance lights
15. Red clearance lights
16. Red reflectors for rear
17. Red tail light, and license bracket
18. 100 lbs. 6, of 6 volt wiring
19. Screw type trailer jacks
20. Stud jointing jacks

FASTENERS REQUIRED

4. Goss 8" No. 6 sheet metal screws (round or oval head)
5. Gross 1" No. 12 flat head screws
6. Gross 1 1/4" No. 12 flat head screws
7. Gross 1" No. 10 flat head screws
8. Box 1/4" x 2" flat head carriage bolts
9. Box 1/4" x 3" round head carriage bolts
10. Box galvanized shingle nails
11. Gal. liquid marine glue

FINISHING MATERIAL

1. Gal. baled linseed oil
2. Qt. aluminum paint for top
3. Qt. ivory or white enamel for interior

MISCELLANEOUS

1. 7' of standard size steel bed springs
2. Standard inner spring mattress
3. Water tank (made to order out of heavy galvanized or stainless steel, size as shown is 24, 2 and 3)
4. Sheets of corrugated aluminum (stripes cut from this for outside trim)

Craft prints in enlarged size for building land cruisers are available for 50c each. Address: Craft Print Dept., SCIENCE AND MECHANICS, 89 East Superior St., Chicago 11, Ill.
blanket strip. This pine batten makes a solid side, after gluing and screwing the top and bottom halves together.

These blanket strips are laid between all splices and joints throughout the trailer. Saturated with liquid marine glue and screwed up tight, they make a permanent, flexible, waterproof joint. Filler strip segments are sawed out of pine or spruce and screwed to curved edge of side as per photos No. 1 and 2 (do not forget the marine glue-soaked blanket strips).

Marine glued blanket strips are now run full length of both outside edges of floor and around wheel-housing box. Sides are lifted up and clamped in position with C-clamps. Sides are now screwed to the filler strips at floor line and around wheel-housing the full length of the trailer. So much for the first steps in constructing the Trail Scout. We'll complete the job in the next issue of SCIENCE AND MECHANICS.

Part 2, appearing in the December issue, will complete this project with an explanation of how roof panels, floor, leveling jacks, scaffold rails, and wiring system are installed in the trailer, how to complete the interior decorating, and how the finishing work is done.

To be sure you get the complete story, reserve a copy of the December issue at your favorite newstand.
BUILDING THE TRAIL SCOUT

In part 1 the building of the shell of the Trail Scout was described. In this issue we will tell you how to complete the interior and finish the exterior.

The 1/4-inch marine plywood roof panels are now drilled and counter-sunk for 1-inch No. 12 flathead screws around all four edges, 3 inches apart and 3/8 inch back from edge. Starting at the bottom front, these roof panels are screwed tight. With the grain running crosswise, the roof panels automatically take the curve of the sides. A splice is made between each roof panel as per "A" Fig. 3. (Detail of this roof-splice joint can be studied.)

Part 2. We can't let our work trail behind, so let's put the finishing touches on the Scout

By DALE VINCENT

Photo 4 shows the door being sawed out of the sidewall. The door is then lifted out and the edges trimmed. Be sure to leave plenty of play for the metal edge strip, hinges and locks as shown on Photo 5.

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tensioned underneath the two rear corners. Two adjustable stabilizing jacks are carried for the two front corners.

Rub or scuff rails are now bolted full length on each side as per Fig. 5A. End rub or scuff rails are now clamped and bolted to front and rear as per Fig. 5. The 3-inch aluminum strips are now cut from corrugated sheets, bent, clamped, and screwed into place with sheet metal screws over all outside joints and splices, as shown in Fig. 6. For the next step in construction waterproof cement or dum-dum is putty-knifed over all edges before the 3-inch aluminum strips are screwed into place.

Fig. 7 shows detail construction of hinges and metal weather stripping around door and door casings. Openings for windows, roof ventilator and stovepipe jack are reinforced on the inside by gluing and screwing ¾ x 2½-inch pine strips around the openings. Dum-dum or waterproof cement is then placed under edges of windows, ventilator, and stovepipe jack and then screwed into place.

If your wife helps you on this job, be careful that the marine glue, and the waterproof cement do not drip into her hair. If they do, build yourself a doghouse instead of a trailer.

Next the wiring system is put in. All states do not have the same regulations, so inquiry should be made from the state police, and clearance lights, tail lights, and reflectors installed according to your local laws. A simple electric light wiring diagram is installed as shown in Fig. 4.

You are now ready for your interior furnishings. Bedsprings are installed first as per Figs. 2 and 3. Notice that you can lift front of bed to get at storage space underneath. Figs. 2 and 3 also show detailed construction of full-length clothes closets. Both these closets have a hat shelf at the top and a broom-slick rod underneath the shelf for coathangers. These closets are made from ¼-inch veneer, or the scraps left from top and sides.

A butane cookstove and heater may be used

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Photo 6. — Aluminum strips are screwed around all raw edges of door, frame, and body. Drip molding is bent and fastened above as shown.
we use in our lamp and the outboard motor. One five gallon can of white gas supplies fuel for all.

A large-size water tank, as shown in Fig. 3, is absolutely essential for off-the-highway travel. It guarantees pure drinking water for at least a week. If an icebox is wanted it can be placed in the space marked "dish cupboard" on Figs. 2 and 3. But experience has proved an icebox useless in hunting and fishing camps because of the lack of ice. The
Photo 10 above shows the bull type hitch mounted on the rear of the car.

Photo 11 above shows the car being unhitched from the trailer.

chest of three drawers was purchased unpainted at a local furniture house.

Cupboards may be made as suggested in sketches—or according to your wife's specifications. The interior is painted with two coats

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of white or ivory fast-drying enamel. Curtains are hung and mirror installed. Fire extinguisher is optional. (Photo No. 9.)

With mattress installed, and the bed made, she is now starting to look like home. The outside should be painted with two coats of boiled oil. A little stain may be added to this, if wanted. The roof is now painted silver to reflect the heat, and the outside is given at least three coats of the best marine spar varnish. The trailer may also be painted with enamel to match the paint job on your car.

You will need a ball type hitch mounted on the rear of your car. You hook your trailer to this ball. Next have a garage mechanic hook a plug on to the tail light wiring that matches outlet plug to your trailer cord. This lets your clearance lights on the trailer work on and off from your own light switch on the dash.

You are now ready to roll to your favorite hunting or camping spot. Or this little trailer will leave you independent of hotels on business trips—or will serve as a guest bedroom at home—and if you happen to have a flat tire, remember you have chosen your wheels to match the ones on your private car, and the spare in your trunk is also a spare for the trailer.

If a flat does happen on the trailer, don't worry because it looks like the wheel is boarded up solid, just take your bumper jack, hook it under the scuff rail, and lift the body of the trailer. The springs force the wheel down as the body goes up, and as the tire clears the ground you will find it easy to remove.

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Emergency Gasket

Gaskets can be made from soft or half hard aluminum wire and can be used safely, in a majority of cases, to hold vacuum and pressure.

The wire must be placed to the inside of the bolt area and the ends should be flattened slightly and lapped over as shown in sketch.

This will insure against any possible leakage when gasket is in use. This type gasket should stand considerable wear and may outlast regular type gaskets if you follow these instructions.

P.L.J.