

# Micro Trailer Plans

By

**Bernie Wolfard of Common Sense Designs**

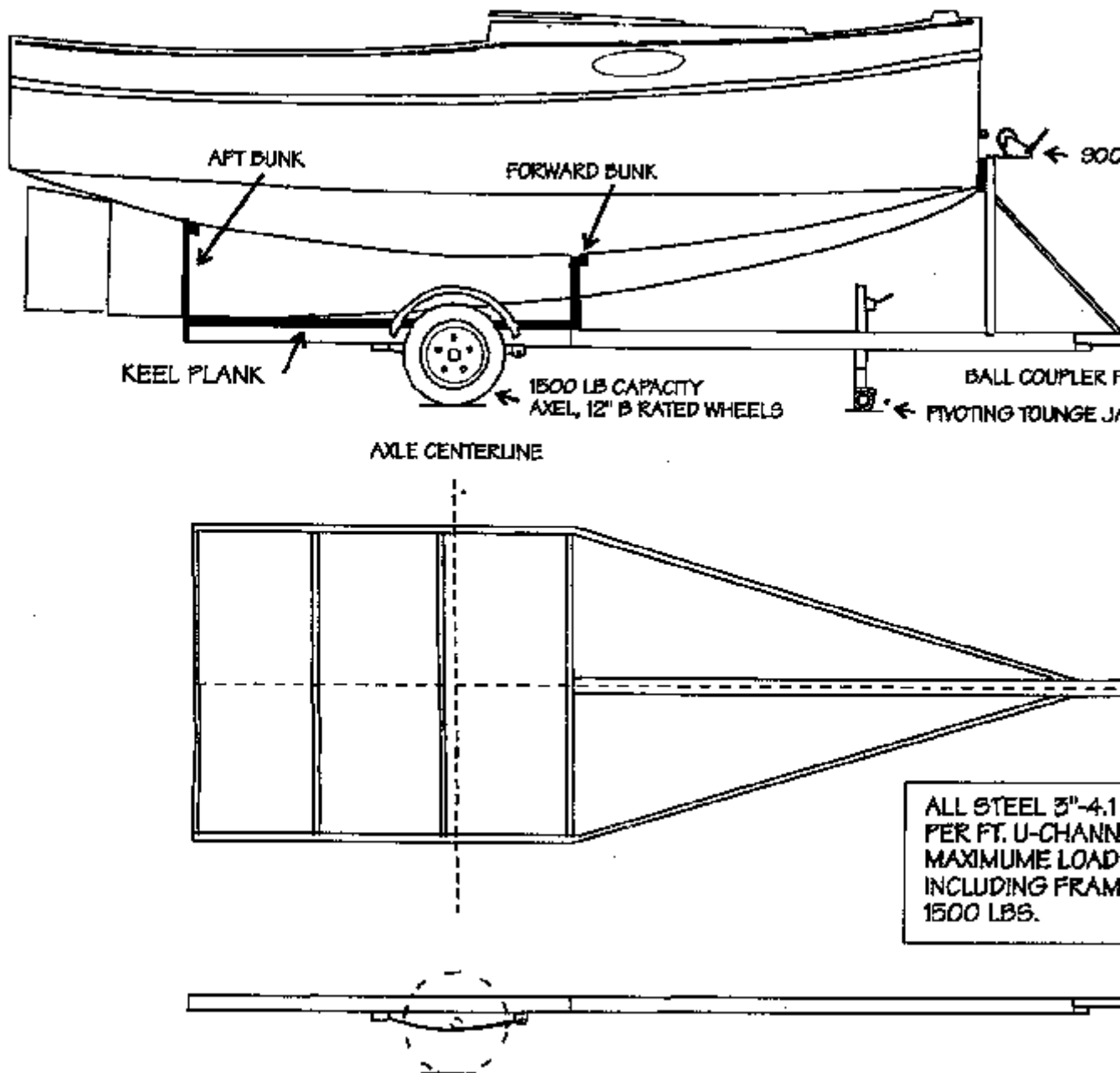
I receive many calls for trailer plans for CSD boats, the vast majority for MICRO. Some of you may remember Tony Gondola, MICRO builder from NM, who sent in copies of his wooden MICRO trailer plans a few years ago, and that I decided not to make available because I was concerned about liability. A trailer is potentially a much bigger hazard on the road than a boat on the water. Tony has sent in a copy of his new steel trailer plans and I am reprinting them here. It is not that steel is inherently safer than wood, but because I am giving these away I feel I am avoiding any liability issues. Here is, in Tony's words, how to do it:

*"As you may remember the wooden trailer plans never really got off the ground because of nagging legal questions on my part. I still don't know the final answer on this, however the trailer has given me good service up to this year and I think the design is sound. The only major shortcoming was that it floats. This presents a major headache, as it requires 2 people standing on the trailer just to hold it down for retrieval. Because of this and because of changes in the local registration laws this spring I decided to replace it— with a steel unit.*

*This project worked out very well and was really quite easy to do. The frame was constructed entirely of 3-inch, 4.1 Lb. per Ft. steel U-Channel. This is a very common size and available locally at a cost of \$2.70 per foot. My project consumed about 60 feet purchased in three sections 20 feet long. After delivery the sections were cut to length using a steel cutoff saw. This tool can be rented for low cost from any tool rental dealer and cuts the steel like butter. As an alternative you can ask the yard to cut the sections to length for you. After cutting the sections were laid out and a local welder was found to do all the welds and extra cutting as needed. I used the cutoff saw for all the straight cuts and left the miter and joint cuts up to the welder. It was important to leave these extra cuts alone and not try them myself because the welder was able to accomplish in a few minutes with a cutting torch what would have taken me hours with a hacksaw. After welding the frame was cleaned up and then painted with 3 coats of Trailercoat. This paint made by Petit is wonderful stuff for steel. It needs no priming, paints right over rust and leaves a nice silver finish that can be left as is or painted over with any topside enamel. After adding the Axle, lights etc. from the old trailer, the project was done, and at a fraction of the cost of a commercial unit.*

*I have enclosed a small-scale plan for the trailer frame and preliminary instruction sheet. The frame is designed for MICRO but I am sure could accommodate some of the other designs as well."*

I think this trailer will work for most CSD boats with suitable modifications. I plan to use a much longer version, made of heavier steel and left as a flat bed, for IDAHO. I will cover the bed with cheap 3/4" plywood and rug salvaged from the Dumpster behind a rug store. For the smaller CSD boats like the skiff and JINNI I still recommend using one of those cheap utility trailers available at hardware and car parts stores. To use these you extend the tongue with a suitable piece of square steel tube and fix the bed to suit. For most boats, a flat bed is all that is needed.



## **CONSTRUCTION SEQUENCE FOR STEEL TRAILER FRAME**

- 1.) Using a steel cutoff saw cut the u-channel per the plan. While cutting keep in mind that the cross members must fit inside the u-section of the side rails and that the side rails are one continuous piece.
- 2.) At the point where the side rails bend inward make a wedge shaped cut on the top and bottom flanges of the u-channel the angle of this cut corresponds to the bend angle of the side rails.
- 3.) Bend both side rails to the proper angle.
- 4.) Using a u-channel cut-off as a guide, mark the ends of the cross members for a good fit into the side rails.
- 5.) Mark the forward miter cut on both side rails.
- 6.) If you have access to a drill press now is a good time to drill any holes needed in the frame. You can use a hand drill after construction is completed if a drill press is not available.
- 7) Have your welder use a cutting torch to make all cuts marked in steps four and five.
- 8) On a flat surface pre-assemble the frame and double-check all measurements. Be sure to check that the axle fits the side rail spacing and mark the proper positions for the axle hangers.
- 9) Weld the frame making sure that as you process that the frame remains flat and square.
- 10) Prepare the frame for painting by following the paint manufacturers instructions exactly.
- 11) Paint the frame.
- 12.) Fit the support bunks. I have found that the best way to do this is to raise the boat on temporary supports and then roll the trailer in position underneath. Once the boat is in the correct fore and aft position shown on the plans support the boat with jack stands resting on the frame itself and remove the first set of supports. At this point test the balance of the trailer by lifting up on the front end. The proper tongue weight here is about 50 to 75 pounds so it should lift but not easily. If you have not mounted the tongue jack and winch stand yet, do not forget to take them into account as you test the tongue weight Adjust the location of the boat if the weight is not correct.

13.) As there are many possible arrangements for the bunks that this is left to the ingenuity of the builder, however keep the following points in mind. Most of the weight of the boat is transmitted through the keel thus it needs to be well supported. A two-inch plank bolted to the cross members. The beveled blocks mounted at the cross member positions works well. As an alternative you could use commercial brackets and rollers at each cross member. The bunks themselves can be much lighter as they simply support the boat from tipping. The 3/4" plywood shown on the plans with a beveled stringer at the top works very well and is easy to install. Don't forget to place at least one layer of carpeting at all contact points.