Richard Stephens built a 40 by 60-ft. shop using 14 and 26-ft. long sections of highway guardrails for the framework. “A guy stopped by offering used guardrails for sale when his local tractor dealer was being rebuilt. I bought a few, thinking I would use them for cattle feeder skids,” recalls Stephens. “After looking at them a while, I offered a whole load.” He welded them together back-to-back, which created a natural set of flanges. Stood on end, they created ideal surfaces to bolt cross members before putting on siding.

Putting in a matter of welding guardrails into girders, however, Stephens designed a truss system that he assembled on the ground. It consisted of guard rails, 10-in. dia. log rafters and 2 by 6’s for roof braces.

To create strength in the girders and in sidewall braces, splices were always overlaid. In the case of the girders, to get the 40-ft. span, Stephens used four 26-ft. guardrails, i.e. a 26-ft. rail was welded face to face with a 14-ft. rail. Then a second 26-ft. rail was butted to the 14-ft. rail with a second 14-ft. rail butted to the first 26-ft. rail. Once butts and seams were welded, Stephens had an extremely strong 40-ft. beam. Gusset plates made from 3/16-in. steel plates were welded over the seams. They extend up to act as anchor points for vertical supports.

Six trusses were assembled on the ground. Each truss consisted of two uprights, a span, a center post, two rafters and two mid point supports. Stephens then poured cement piers for each upright with steel rebar in it and extended to the surface, where a faceplate was welded in place.

When the first truss was lifted into place, he discovered the weight of the rafters was too great. It bent the gusset plates. He then reinforced each truss where the log rafters and their supports met the guardrail girders. As additional trusses were lifted into place, Stephens began attaching the 2 by 8-in. sidewall supports, bolting them to the facing flanges. The 2 by 8-in. boards were also spliced with a length of 2 by 8-in. board overlaid and spiked to both ends.

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When the unloading auger on my Deere 9650 STS combine got a kink in it, I repaired it with a reinforcing sleeve that fits over the damaged section,” says Roger Gutschmidt of Oswego, N.Y. It lets him thoroughly clean out rusted tanks.

“It rotates like a rock tumbler to scour the tank’s interior, thoroughly cleaning it out,” says inventor Scott Farley about his gas tank “tumbler.”

Anyone who needs to restore a gas tank for an antique tractor will be interested in this gas tank “tumbler” built by Scott Farley of Oswego, N.Y. It lets him thoroughly clean out rusted tanks.

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### Auger Sleeve Reinforces Deere Unloading Auger

“When the unloading auger on my Deere 9650 STS combine got a kink in it, I repaired it with a reinforcing sleeve that fits over the damaged section,” says Roger Gutschmidt of Gackle, N. Dak. “I’m also installing a transport cradle for extra support.”

He says he believes the area that kinked is a weak spot on Deere combines. His unit is a preventative measure or as an economical repair. “I wanted it to look like it came from the factory that way,” he says.

Gutschmidt says he can supply other farmers with this type of reinforcement kit, allowing them to install it as either a preventative measure or as an economical repair.

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