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TWO - HORSE TRAILER

**COOPERATIVE
FARM BUILDING**
Plan No. 5943
(2-SHEETS)
PLAN EXCHANGE



..four wheel, tandem axle

Skilled mechanics with good metal-cutting and welding equipment can construct this four-wheel, tandem-axle horse trailer, but it is not a job that should be attempted by an occasional shop worker. Mechanics may wish to substitute commercial drop axles for the axles shown and make other changes to suit the parts and materials they have available.

Stability, the primary concern in transporting horses, is achieved with the use of tandem axles, and the use of a padded chest bar and dividing bar secured with a padded tail chain. The dividing bar is removable to permit using the trailer for hauling wider loads. Space in front of the chest bar is for saddles and gear; and, when the trailer is parked it can be used for feeding and watering.

A narrow door is provided at the front of the trailer so a man can go out after he leads a horse up the in-

clined gate that also serves as a loading ramp. Easy loading makes this 2-ton capacity trailer a valuable working tool for the working ranchman.

Complete working drawings may be obtained through your county agent or from the Extension agricultural engineer at most State agricultural colleges. There is usually a small charge.

ORDER PLAN NO. 5943, TWO-HORSE TRAILER

If the working drawings are not available in your State, write to the U.S. Department of Agriculture, Agricultural Engineering Research Division, Plant Industry Station, Beltsville, Md. The U.S. Department of Agriculture does not distribute drawings but will direct you to a State that does distribute them.

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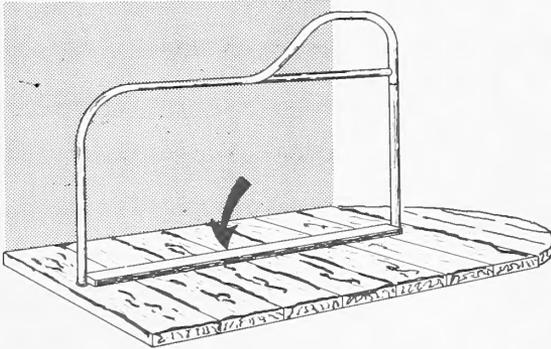
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BUILD SAFETY INTO YOUR TRAILER

The usual precautions for any trailer must be strictly followed in constructing a horse trailer. The trailer must be equipped with brakes, with brake light and taillight, and with a safety chain on the hitch. Both electric and hydraulic brakes are available for trailers. The tailgate pins should be drilled for safety rings or pins.

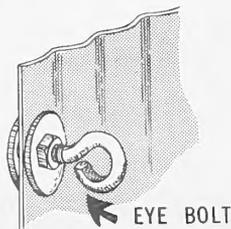
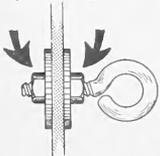
Care should be taken to protect the horses. The chest bar must be padded to prevent localized injury or galling. Burlap sacking wrapped and tied around the bar makes good padding. An uneven floor surface is very important to keep the horses' feet from sliding. Rough-sawn oak boards usually vary in thickness and provide the desirable uneven surface. If a smooth floor is installed, it should be covered with some kind of heavy matting that will not become slick. Matting with interwoven wire should be avoided. To prevent the horses from slipping to the side, a 2 x 4 should be fastened beneath the center separator bar as shown.



Horses should be protected against drafts, especially when they are hot and sweaty. The front of the trailer should be high enough to cut direct wind from the animals. A height of 72 inches is enough for quarter horses, but thoroughbreds and hunters may require as much as 85 inches. The canopy frame should have a well-fitted canvas cover. Eyebolts should be installed in the front covering of the trailer to hold the lashing for the canopy. Ordinary double-nutted eyebolts with large washers as shown below will serve.

Other safety features depend somewhat on the horses carried. For nervous or frightened animals, you may wish to make the center separator of solid boards. Sometimes the sides and the separator bars are padded to prevent bruising or abrasion of the horses.

WASHER, NUT, EACH SIDE

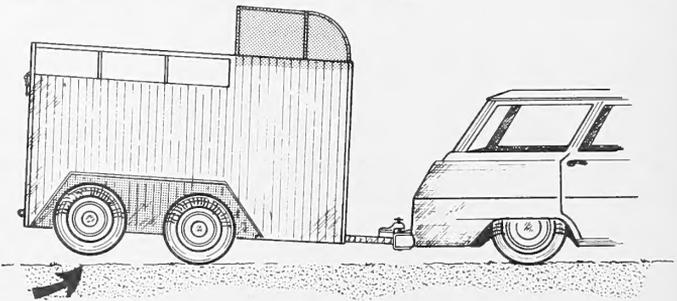
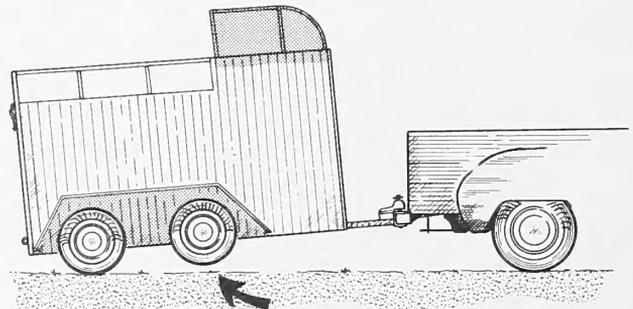


TANDEM AXLES HAVE ADVANTAGES AND DISADVANTAGES

After considerable experience, most horse men agree that the advantages of tandem axles outweigh the disadvantages. Tandem-axle trailers are safer, have less sway, and put smaller loads on the towing vehicle than do single axle trailers.

A disadvantage of the tandem axle is that the hitch can seldom be at the proper height for maximum stability of the trailer. To get the hitch as nearly right as possible, the height should be built for the towing vehicle when it is set on a level site. As shown in the schematic sketch, when the towing point is too high, the front tires of the trailer tend to leave the ground; and when the towing point is too low, the rear tires of the trailer tend to leave the ground.

Proper hitch height is more important for a trailer without springs than it is for trailers with spring action that permits the axles to ride at different heights.



ANTIRATTLE CONSTRUCTION

This trailer is prone to rattle unless precautions are taken in fastening it together. Neoprene washers should be inserted between the covering and the frame whenever a self-tapping screw is used to fasten the cover. Corrugated gasket strips installed between covering metal and frame helps prevent rattles. Some covering materials are inherently less noisy than is sheet steel.



