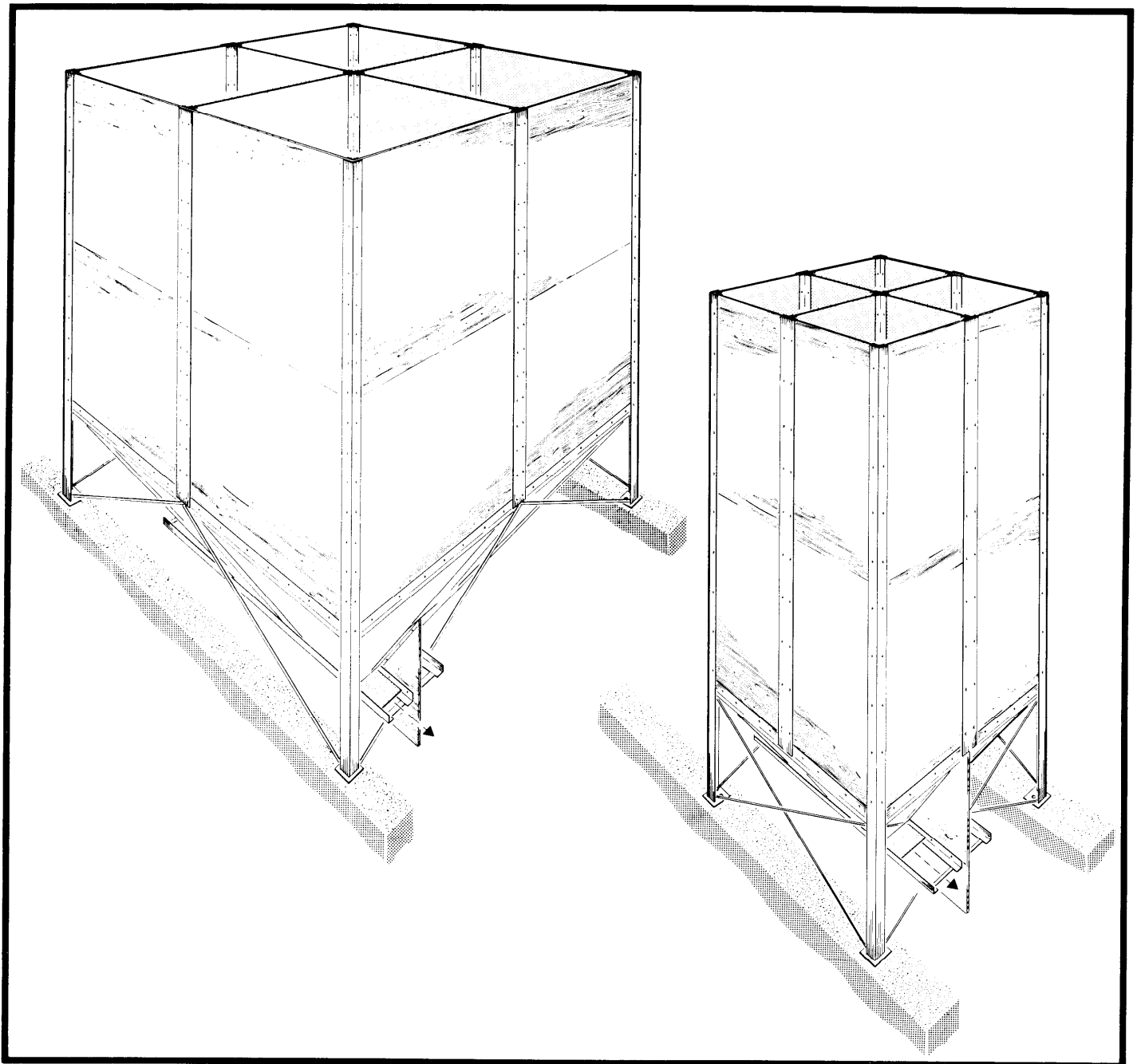


MULTIPLE FEED BINS



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PLAN M-7824 NEW 87:06

This plan gives details for making single or multiple bulk feed bins. The principle use is for holding a variety of ration ingredients above a feed-processing center. The individual bins are made square, in multiples of 610 or 1220 mm (2 or 4 ft) for economical cutting from standard plywood sheets. The bins may be clustered together in various arrangements as long as the two basic square sizes are used.

Make the waif and hopper bottoms from 'exterior sheathing' grade plywood, either Douglas fir or spruce, but be careful 'to adhere to the maximum bin depths specified for each thickness and type of plywood. Use plywood with tongue-and-groove edges to solve the problem of making the horizontal joints dust-tight.

The corner joints are connected by steel straps and angles bolted together through the plywood. The outside corner angles extend below the vertical bin walls to make support legs; these must be cross-tied with steel rods, welded in place to keep the legs from buckling.

STORAGE CAPACITY Each 1220 mm square bin, including the two-sloped 60° hopper, holds 4.25 m³ (150 ft³). For example a four-bin 2.4 m (8 ft) square unit holds up to 17 m³ (600 ft³), equivalent to 14.3 t (31400 lb) of wheat. Where the four corner legs bear on the beams and columns of a floor system, make very sure the floor is made safe for this full load.

Storage capacity of each 610 mm (2 ft) square bin, including hopper, is 0.98 m³ (34 ft³).

SUGGESTIONS FOR BUILDING A typical four-bin group totaling 2.4 m square requires over 800 stove bolts and over 1600 drilled holes to fasten the corners. To do this work efficiently requires careful preplanning.

Predrill the bolt holes through half of the steel angles on a shop drill-press. Then clamp the plywood and both steel angles together before drilling the plywood and the other half of the angles. This is the surest way to make bolt holes in perfect alignment. Use a two person team; one outside to drill the holes, start the nuts and hold them, another inside to insert the bolts and turn them tight with a power screwdriver.

First assemble the vertical wall panels, the steel corner angles and the vertical plywood hopper dividers. Then measure and double-check the in-place dimensions of the sloping hopper panels before cutting them from plywood stock. Install the sloping hopper panels last up to this point the inside worker can work from a stepladder standing on the floor.

Note that all plywood panels must run with the face grains horizontal.

BOTTOM SLIDE-VALVES In many cases a shut-off valve is required to control feed flow from an overhead bin hopper to a feedmill or truck below. With a full head of grain or ground feed in the bin, extra leverage may be required to operate the valve. The plan shows one design for a slide valve, complete with either rope-and pulley or lever-type remote controls.