



# HO Scale Structure

## **FARMERS COOPERATIVE RURAL GRAIN ELEVATOR**

933-3036

Thanks for purchasing this Cornerstone Series® kit! Please read all instructions before starting. All parts are molded in styrene plastic, so use glues and paints which are compatible.

Many of the Americans heading west in the late 19th century were farmers drawn by the prospect of better land. As they settled on the frontier, wheat was one of their favorite crops. It grew well on newly cleared fields and could be sold for cash. Most of this grain was moved to market in winter months, when the ground froze enough to support heavy wagons. Over time, crop diseases, insects and other factors pushed the wheat growing regions further west, and farther away from the eastern markets.

Other cereal grains such as barley, flax and oats were also grown for a variety of uses. Differences in quality of the grain greatly influenced the market. This made it desirable to classify and store grain in the country, leading to the development of rural elevators and railroad lines to serve them.

The first elevators were essentially a series of large wooden bins (called cribs) protected by a layer of wood siding. Cedar was a favorite for the exterior, as it was resistant to both insects and moisture. Belt-driven lifting machinery, used to move the grain from the unloading area to the various bins, was located in the center of the building. Outside, a scale was installed to determine how much grain had been purchased, along with a small shed to house the mechanism. So customers had some protection from winter weather, the unloading area was often enclosed.

Early in the 20th century, kerosene powered engines were used to run the lifting machinery. This created a new hazard, since grain dust is potentially explosive. For this same reason, many elevators were the first building in town with electric lights. The engine and the light plant were typically installed a short distance from the elevator in a machine room/office.

Getting the crop to the cities in the east was a job for the railroads. Well into the 1970's box cars were the equipment of choice for grain loading, as they offered protection from dirt, insects and moisture. Wooden planks were nailed inside the door openings, but only to a certain height to prevent overloading the car. After World War II, disposable paper grain doors were developed and were chiefly used in cars with 6' door openings. Larger openings were fitted with combinations of wood and paper doors. In the late 50's, some elevators experimented with the new 100 ton capacity covered hoppers entering service. This proved successful, but the numerous circular roof hatches made them difficult to load. In 1964, Pullman Standard developed the PS2CD 4427, the first covered hopper with a full-length, through-style roof hatch and new center discharge unloading equipment. This combination proved ideal and the 4427 can still be seen alongside today's larger hoppers, which still use these design elements.

Over the years there were also noticeable improvements in the elevator itself. As trucks replaced horse-drawn wagons by the 1940's, larger scales and dumping-equipment were installed. Rural electrification made it possible to adequately light the structure and power the lifting machinery with electric motors. Corrugated metal siding was often applied to the exterior, for increased protection from the elements and the ever present danger of fire.

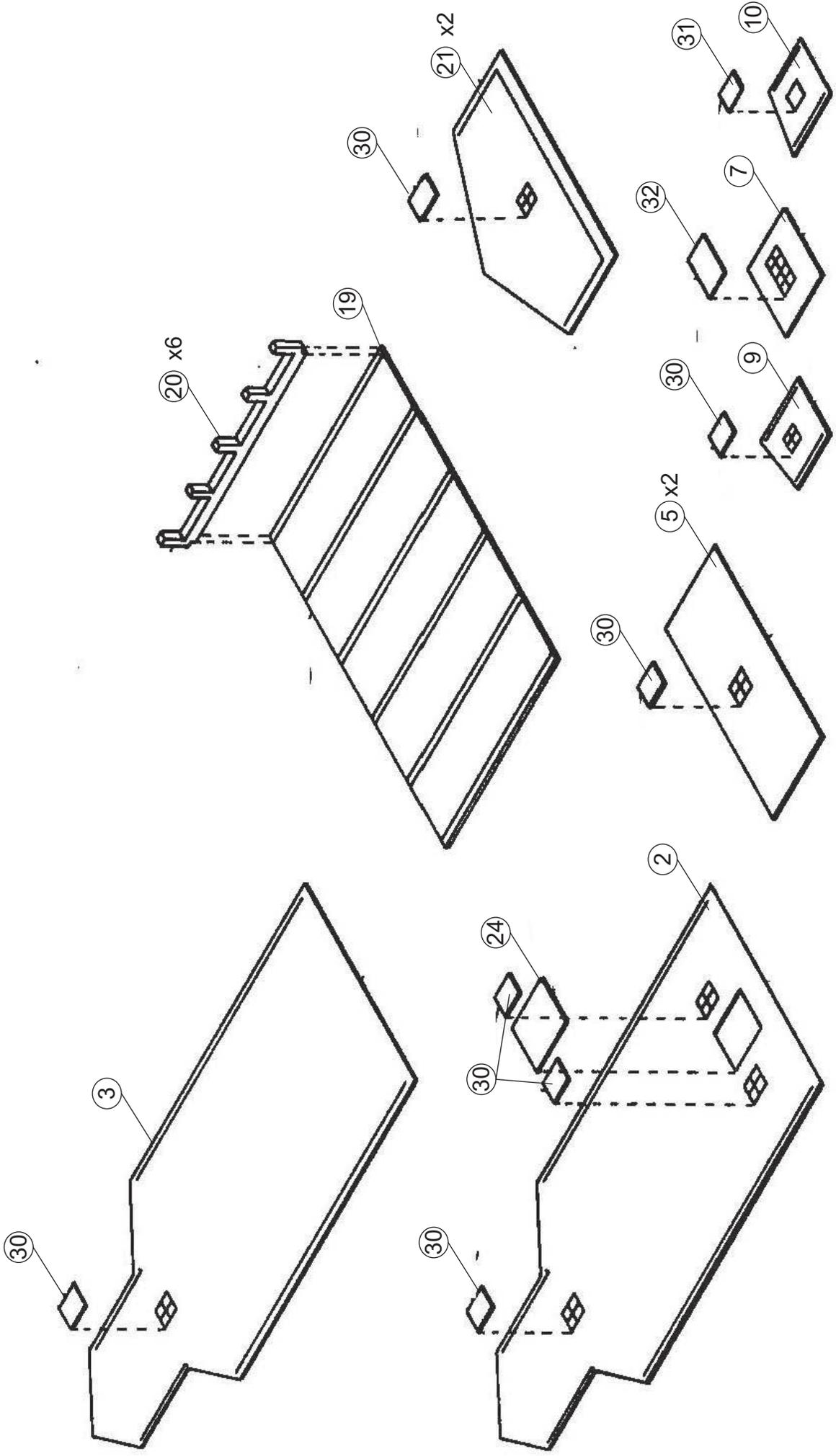
As better farming methods and technology created larger harvests, elevators often had to wait for freight cars. This meant that storage capacity had to be increased. Large steel grain bins became popular as a low cost option to expanding the elevator itself. These could be built alongside the elevator, where space allowed, and connected to the existing machinery. Before being placed in storage, grain must be thoroughly dried to prevent spoilage. Originally, this was done by cutting the crop and carefully stacking it to permit air circulation around the grain for several days or weeks. With the development of gas-fired grain dryers, elevators could purchase "wet" crops and dry them before storage.

Given the seasonal nature of the grain business, many elevator operators expanded their operations to provide other services. With easy access to rail transportation, many also ran farm supply stores, lumber yards, coal dealerships and ice houses. Others operated general stores where crops could be exchanged for merchandise. In later years, storage tanks for petroleum products such as kerosene (used as stove and tractor fuel) home heating oil, diesel fuel and gasoline were installed. Today, large cylindrical storage tanks for propane and anhydrous ammonia (used as a fertilizer) can be found at many of these elevators.

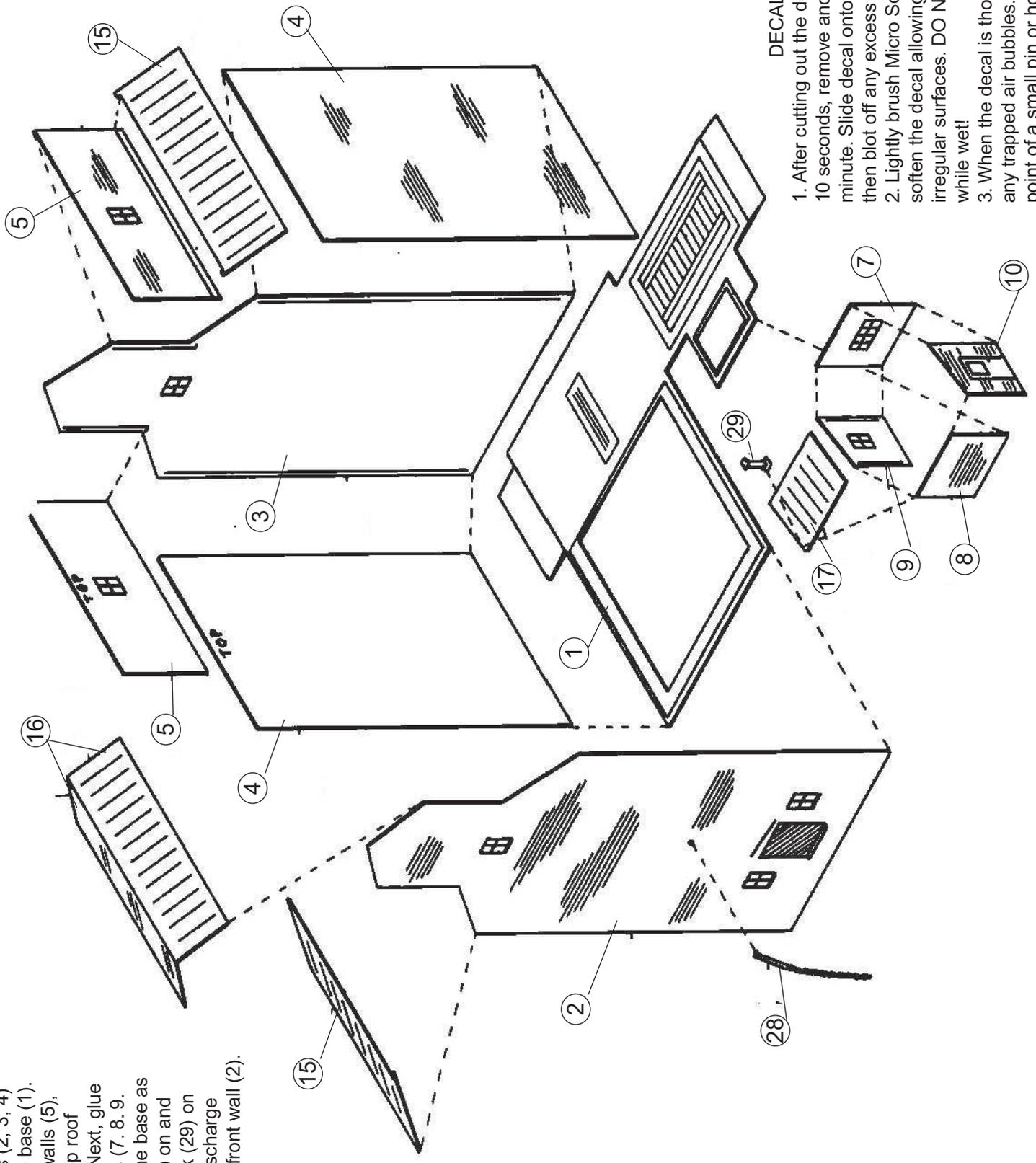
The small elevator is still common at trackside. While many serve farm communities, others are now on the edges of suburbs and offer such items as pet foods, bird seed, lawn & garden supplies and more, to serve both rural and urban populations. With the rapid turn-over of many different types of freight cars on a year-round basis, they make ideal industries for any model railroad.

For more ideas and information on this kit please see your Dealer, visit our Web-site at [waltherscornerstone.com](http://waltherscornerstone.com) or refer to our current HO Scale Reference Book.

1. To start, glue door (24) into opening on back wall (2). Then, glue all window glass (30, 31, 32) behind appropriate window openings on the inside of the walls (2, 3, 5, 7, 9, 10, 21). Next, glue the floor supports (20) to the bottom of the floor (19), using the ridges to locate.



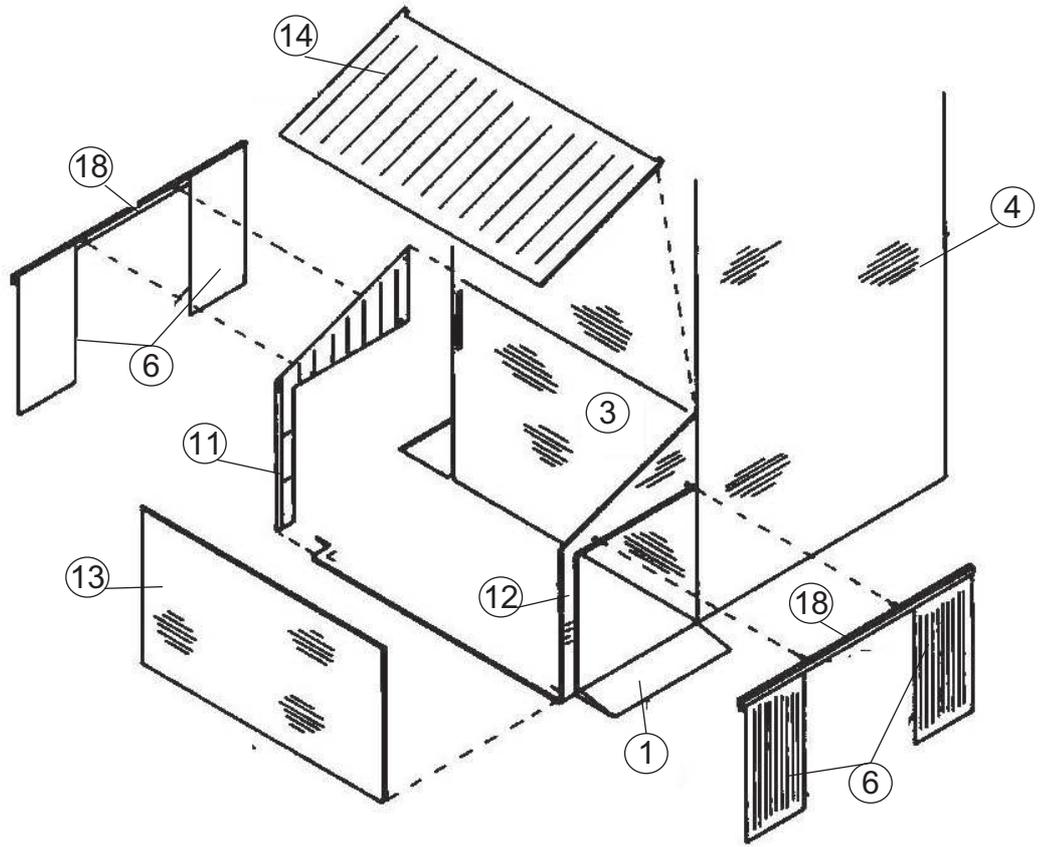
2. First, glue the walls (2, 3, 4) to each other and the base (1). Glue the upper side walls (5), side roofs (15) and top roof halves (16) in place. Next, glue the scale house walls (7, 8, 9, 10) together and to the base as shown. Glue roof (17) on and then, glue smoke jack (29) on the roof. Now, glue discharge pipe (28) into hole on front wall (2).



**DECALING**

1. After cutting out the decal, dip in water for 10 seconds, remove and let stand for 1 minute. Slide decal onto surface, position and then blot off any excess water.
2. Lightly brush Micro Sol® on top. This will soften the decal allowing it to conform to irregular surfaces. **DO NOT TOUCH DECAL while wet!**
3. When the decal is thoroughly dry, check for any trapped air bubbles. Prick them with the point of a small pin or hobby knife blade and apply more Micro Sol®.

3. Glue onloading shed side walls (11,12) to the back wall (3) and base (1), using raised ridges to locate. Next, glue rear wall (13) and roof (14) in position. Then, place sliding doors (6) in door track (18) and, without getting adhesive on the doors, glue the door tracks in the holes on the side walls.



4. Glue the doors (23), in either open or closed position, on the door guides on the side walls (22). Next, glue the walls (21,22) to the floor (19) and each other. Now, glue roof halves (25) in place, glue vent (26,27) together and then to the pad on the roof.

