HO Scale Kit

WET/DRY GRAIN BIN

933-2937

Thanks for purchasing this Cornerstone Series® kit. Please take a few minutes to read these instructions and study the drawings before starting construction. All parts are made of styrene, so use compatible paint and glue to finish your model. Like the prototype, your new model can be combined with other Walthers kits to model a larger grain handling facility. Please Note: This kit includes parts for two complete, identical bins.

Throughout the 20th century, advances in farming technology led to ever-larger grain harvests. But finding a place for all that grain — on the farm and at the local elevator — often presented problems. Ideally, grain was stored indoors to prevent spoilage, and to protect it from rats and other vermin. Although wooden bins were built, steel grain bins began appearing by the early 1900s.

By the 1960s, many elevator operators were looking for fast and affordable ways to update their facilities. And many older elevators were no longer efficient, requiring complete replacement. Early grain elevators housed all of the storage and handling machinery under one roof. But the new designs were modular, consisting of large capacity steel grain bins connected by handling systems that used motorized conveyors and gravity to move grain to any point in the operation. This allowed the facility to be customized, and made expansion and repairs much easier.

Today, operations still begin as each wagon or truck of grain arrives. A small sample is automatically taken from each inbound load and checked for moisture and contamination.

Next, the loaded vehicle moves onto a scale where it's weighed. The grain is then ready for unloading; it will likely have to be dried before going into storage, so this "wet grain" is unloaded at a lifting conveyor, known as the "wet leg." The grain is dumped into an underground pit, where a motorized screw drive known as a "u-trough conveyor" (named for the u-shaped outer housing) feeds it to an endless bucket conveyor in the leg, which lifts it to the top.

At the top, large pipes supported by guywires and trusses to prevent bending, lead to various bins. The operator may direct wet grain into a "surge bin," where gravity steadily feeds it into a dryer. Wet grain can also be moved to a "wet storage bin" if the incoming supply outpaces the capacity of the dryer; through a u-trough conveyor at the bottom of the bin, wet grain will eventually move back to the wet leg and into the surge bin.

Grain moves continuously through the dryer, ending its journey in a pit supplying the "dry leg." This much taller version of the wet leg performs the same functions and is topped with pipes and conveyors to feed dried grain into "dry storage bins" (at older operations, they also direct grain into elevator buildings or silos; some also have a pipe running to the wet bin so it can be used for dry storage once the local harvest is complete). Like the wet bin, u-trough conveyors at ground level move stored grain back to the dry leg, where it can then be fed to truck or rail car loading areas.

ON YOUR LAYOUT

Since no two operations are quite alike, Walthers offers a wide range of kits and accessories that can be mixed and matched to create a custom grain operation for your railroad.

Your new model is typical of the steel bins erected at both new and existing grain handling operations.

A complete wet leg can be modeled by combining this kit with the Conveyor "Leg" (#933-2936), Surge Bin (#933-2935) and Grain Dryer (#933-3128). Large operations often have two wet legs to handle incoming grain.

The dry leg can be modeled by using one or both bins from this kit with the Conveyor "Leg" (#933-2936).

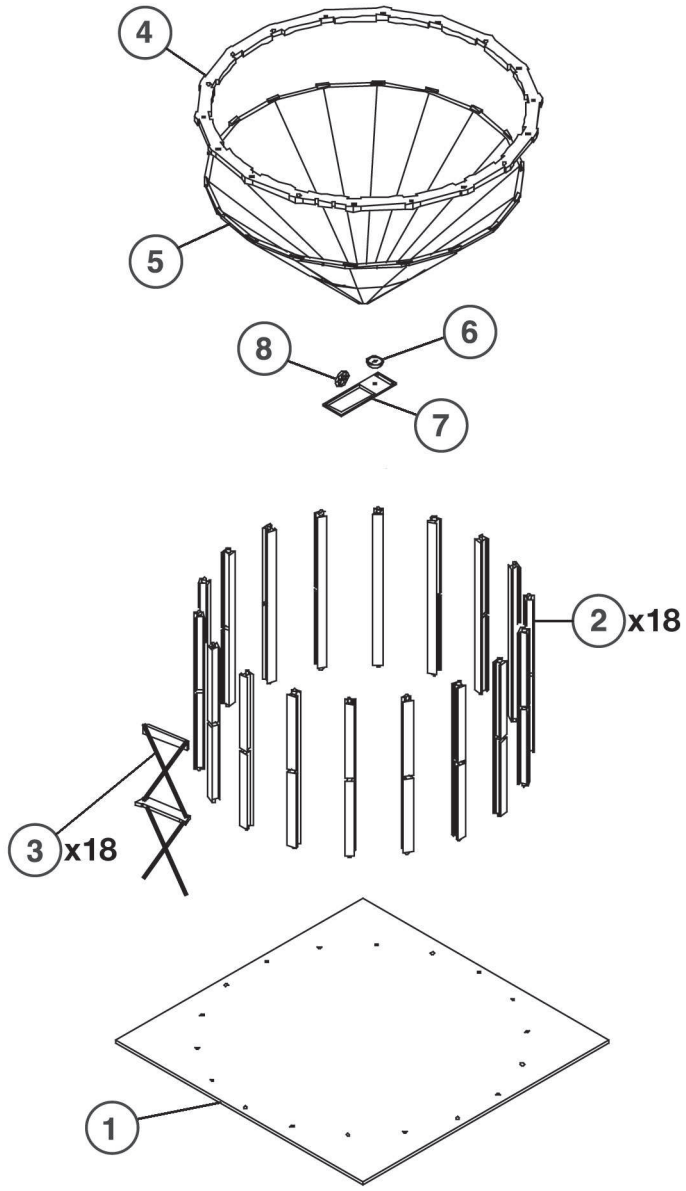
Photo-etched brass add-on details are available separately for your modern grain handling equipment. Included are the Conveyor Bridge & Support Tower (#933-2940), Platforms & Stairways (#933-2939) with parts for both the Leg and Storage Bin kits.The Ladders & Safety Cages (#933-2956) are suitable for many modern industries.Finally the Support Trusses for Guywires & Piping (#933-2955) that simplify adding this neat detail to the overhead pipes found throughout a typical modern installation.

Today, both wet and dry legs can be found serving older elevators, which can be modeled with the Head House with Silos (#933-2942), the ADM® Grain Elevator (#933-3022), Prairie Star Elevator (#933-2927), Farmer's Cooperative Wooden Elevator (#933-3036) or the Valley Grower's Association Steel Elevator (#933-3096).

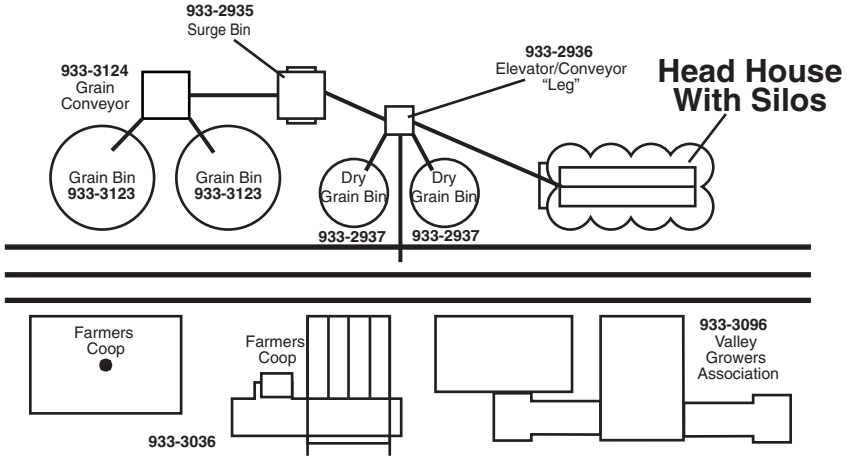
Grain is shipped long distances by rail in covered hoppers, which can be modeled using Walthers Gold Line™ PS-2 3-Bay (#932-7950 series) or PROTO 2000 PS-2 CD 4427 High Side Covered Hoppers (#920-54675 series).

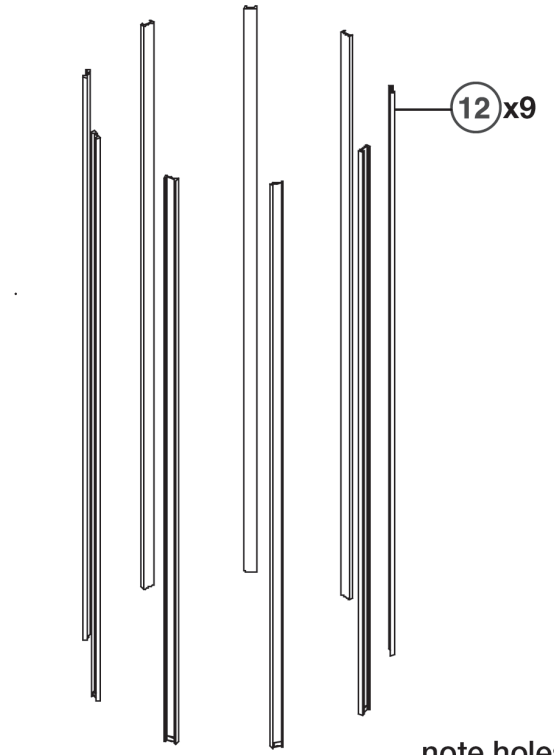
For additional figures, vehicle and accessories to set the scene, see your dealer, check out the lastest Walthers HO Scale Model Railroad Reference book or visit our Web site at walthersscornerstone.com for more ideas.

1. Start by dry fitting the support legs (2) – with the notch facing out – to the base (1). Add the lattice supports (3) between the legs, gluing at the top and center sections only. Next, with the rivet detail on the support ring (4) facing up, glue the funnel (5) underneath into the recessed notches. Assemble the discharge gate by gluing the flange (6) to the top and the hand wheel (8) to the side of part #7. Note: Your grain facility layout determines the discharge gate position. Make sure that the hand wheel doesn't interfere with the connecting ground conveyors in Grain Conveyor kit 933-3124 (sold separately).



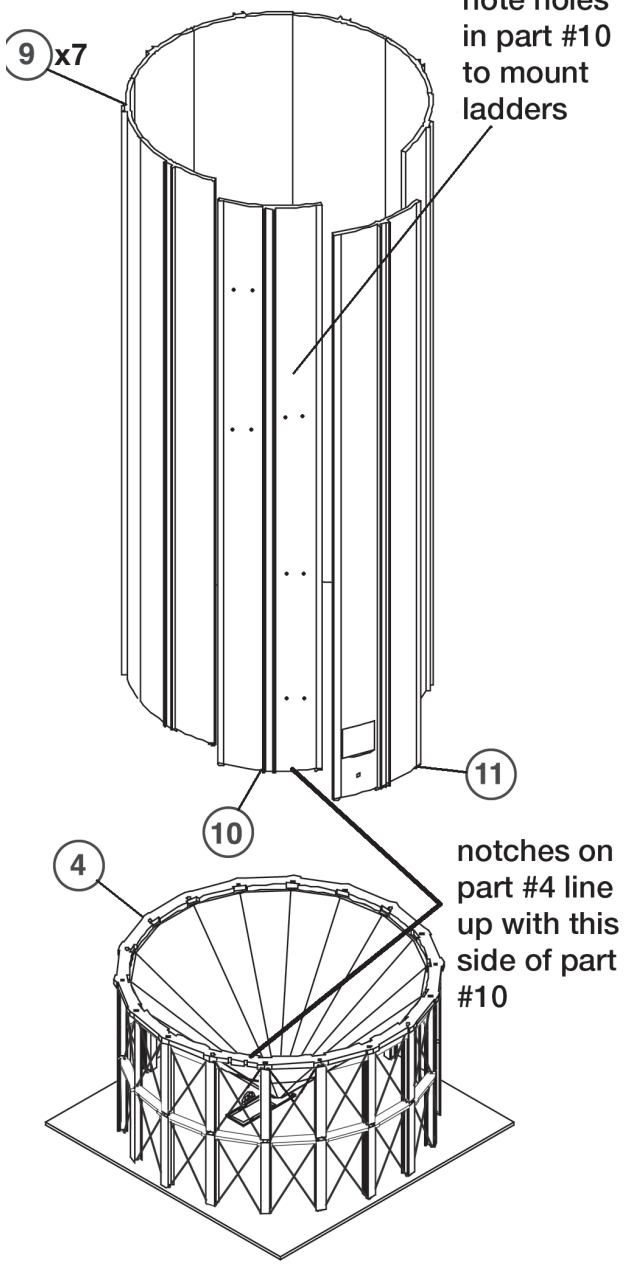
POSSIBLE LAYOUT ARRANGEMENT UTILIZING OTHER WALTHERS STRUCTURES

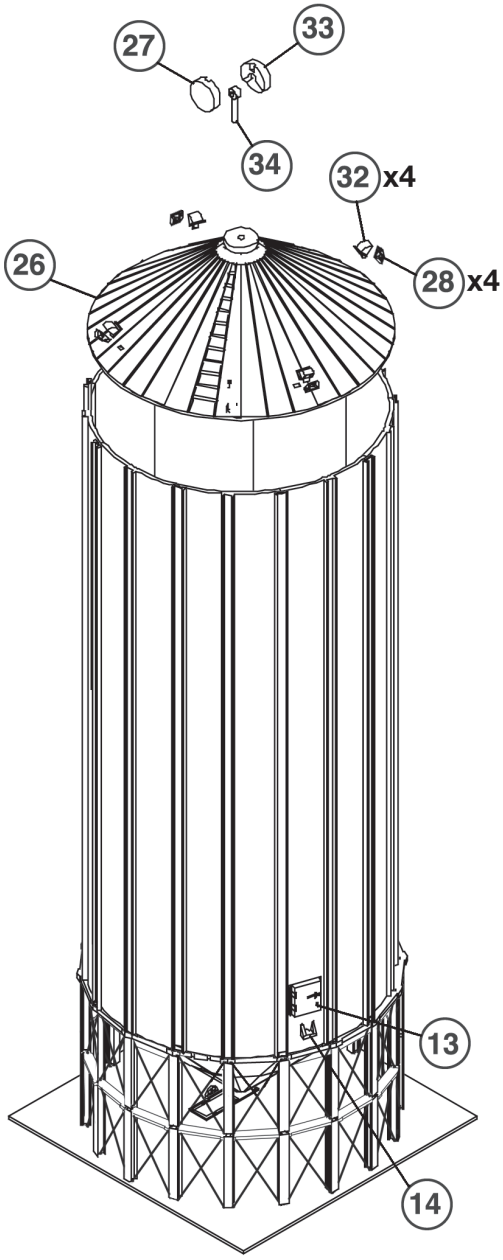




2. Identify the side sheets (9, 10, 11) and locate the "bottom" of those parts indicated by the tabs. Start by gluing side #10 to the support ring (4), noting that the holes in #10 **MUST** align with the ladder notches on #4. Then glue on the remaining sheets (9, 11) as illustrated.

3. Glue on the vertical columns (12), covering the seams between the side sheets, making sure that the riveted plate on the column is at the bottom.





4. Glue the access hatch (13) and step (14) to side #11 as shown.

5. Glue the vent halves (28, 32) together and then to the roof (26).

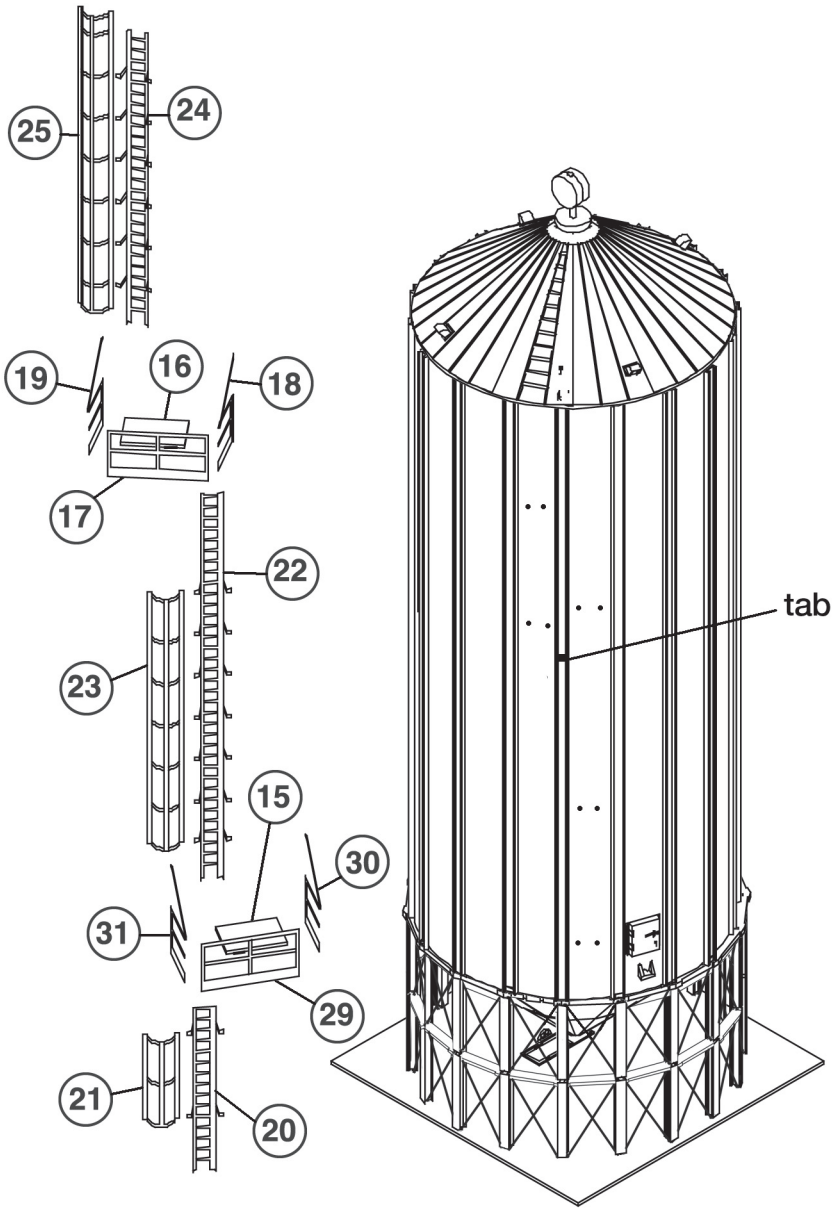
6. Glue the inlet manifold (27, 33, 34) together; making sure that no glue gets on part #34. Press, do not glue, into the hole on the top of the roof. This will allow adjusting to fit piping added from Grain Conveyor 933-2936 (sold separately).

7. Glue the roof (26) to the bin assembly making sure that the notches align with the holes for the ladder.

8. Glue the ladders (20, 22, 24) to the cages (21, 23, 25) respectively and then into the holes in side #10.

9. Glue the upper platform (16, 17, 18, 19) together and then above the tab on side #10.

10. Glue the bottom platform (15, 29, 30, 31) together and then in place on side #11 as shown.



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®.