



The

Main Line

January 2020



National Model Railroad Association

Mid-Continent Region

The Monthly publication of the **Western Kansas Division**



On the Cover:

In early December I took a trip to Great Bend from Dodge City, Kansas and noticed several interesting grain elevators along the way so I stopped in each town and took photos. Trainworx just released their N-scale tractors and we just got our shipment, their pictures and more are inside.....

Editor's Musings

2019 A Year Of Change

This past year was a year of change for me, in fact, just about everything changed mostly for the better. For the past three years my Wife Kathy, who is confined to a wheelchair, resided in a nursing home in Dodge City while I continued to reside in our home in Garden City. In 2019 we decided to construct a new home designed from the beginning as an ADA compliant home. We were able to purchase a couple of lots in a development just North of Dodge City for a 4-acre homestead. Construction began in March with excavation of the basement and concluded in September with an 1800-Square foot home plus a 36 x 72 metal building. In early September we sold our Garden City home of 27-years and by mid-September I was able to move Kathy into her new home where we reside together again.

2020 A Year Of Promise

The new shop building features a full concrete floor, with the first third of the building used as a garage for the Layout Transport Vehicle (ambulance) and our back-up handicap van. There is a divider wall with double doors which lead into the train room featuring a separate forced air furnace and air conditioning system and is the new home to the WKR N-scale layout. We moved our belongings (stuff / junk) from Garden City into the metal building and we are still sorting through it all. After I go through everything and move stuff around work can resume on the WKR.

The 1800-square foot unfinished basement will be divided into several rooms: a crew lounge area, bathroom, office and layout room. The construction company will be back to finish the basement in early 2020, then planning on a new, much larger, home layout.



Western Kansas Division

You Tube Page

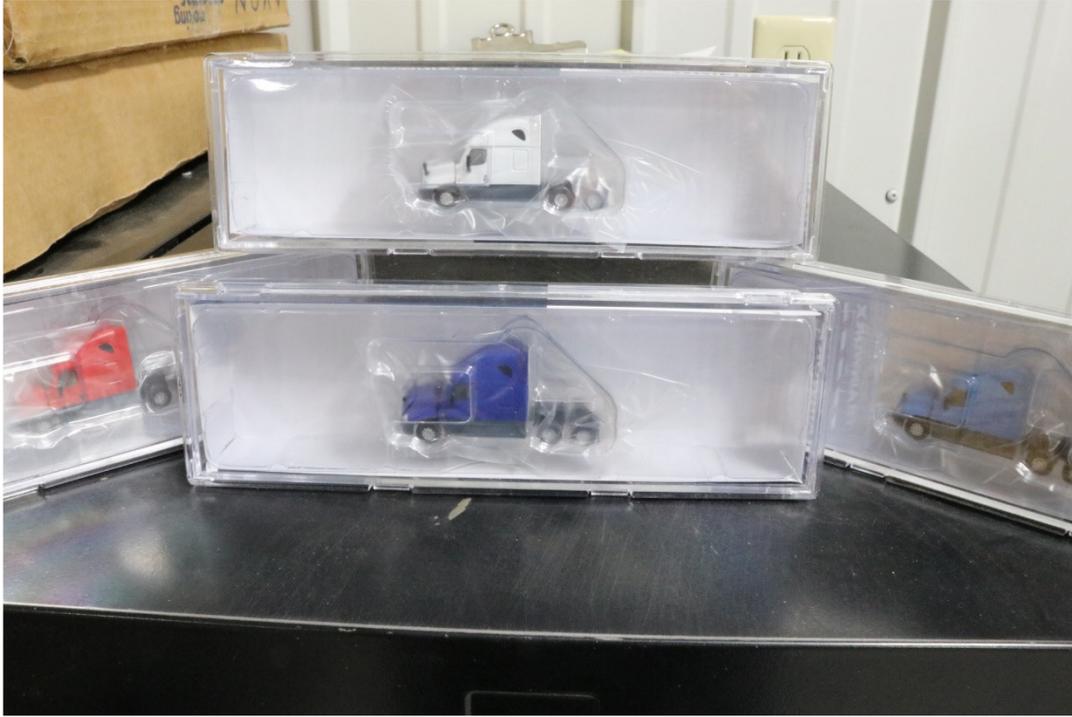
The activities of the Division are on my original YouTube page, located here:

<https://www.youtube.com/watch?v=l04aRrCwFG8>

Trainworx Tractors

Early in 2019, I noticed on N Scale Supply (www.nscaleupply.com) that Trainworx was offering modern over-the-road tractors, I ordered several, some for the WKR and the rest for the new home layout. One of the issues in modeling modern times in N-scale is a lack of vehicles of all types, but this is rapidly being addressed through manufacturers like Trainworx and 3-D printing.

One of their newest offerings is the **Freightliner Cascadia Raised Roof** in several colors.



After opening the shipping box, the tractors are well-protected in their packing cases.



These are impressive right out of the box as all detail parts are factory applied, the hood tilts forward revealing the engine. The window gaskets are very fine, and the free-standing mirrors catch your eye. I can't find anything to complain about with these models.

Trainworx Tractors

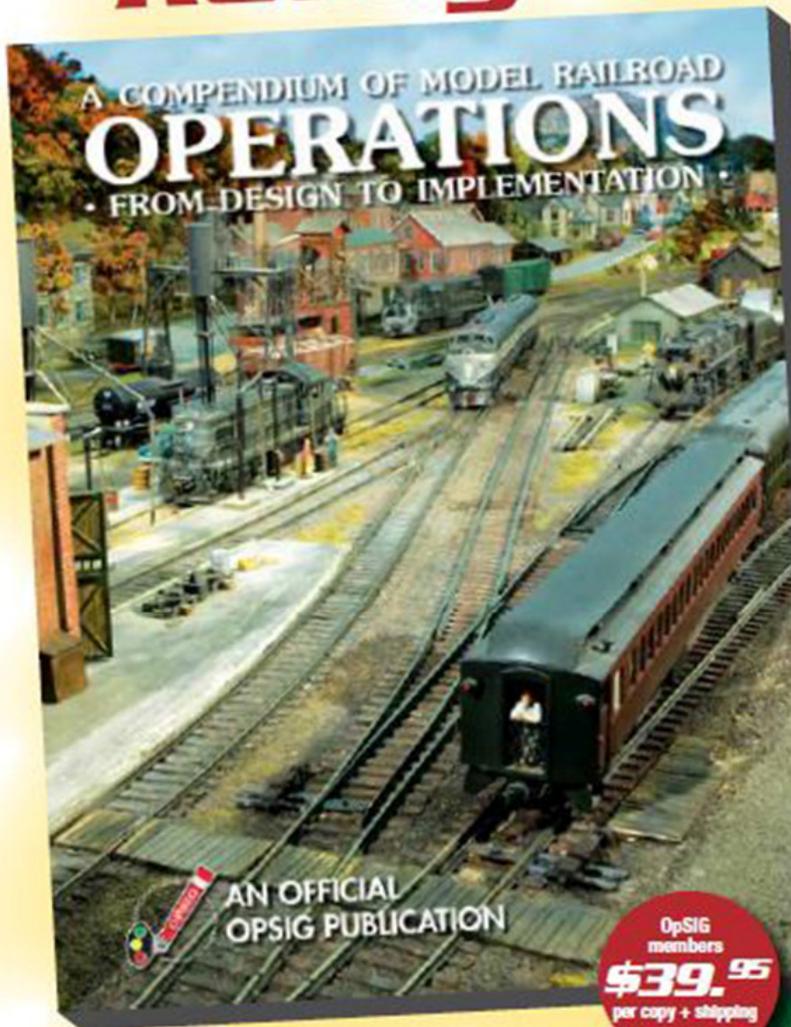


Trainworx Tractors



Dispatcher to OpSIG Publication No. 2, you're ...

Ready to Roll!



All model railroaders, whether expert or beginner, will find a wealth of useful information in the OpSIG's second publication, **A Compendium of Model Railroad Operations - From Design to Implementation**. A complete guide to all things operations, our latest offering covers every aspect of prototype operations and how to apply them to your model railroad—from design and staffing to yards and paperwork, from communications and signals to dispatching and car forwarding—in 310 full-color pages. Written by ten of your fellow modelers and professionals, **The Compendium** contains more than 350 photos, 120 illustrations, and countless tips, pointers, suggestions, and prototype information to help guide you on your journey. A must for any modeler interested in prototype operations, add it to your library today!

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Grain Elevators of Kansas

Early in December I made the trip between Dodge City and Great Bend in Western Kansas and noticed several interesting grain elevators along the way, so on the return trip I stopped in each town and took a few quick pictures. I then got to thinking that as modelers, it's easier to model a scene if you have a picture of a similar scene, as well as background information of how the industry operates.

I then did some research on the internet to find the history surrounding grain elevators in Western Kansas and came across a wonderful file from the Kansas Department of Revenue. I have pulled excerpts from the nearly 200-page report, and each is labeled **GEAG** as I do not claim authorship, all photos by Robert Simmons.

Kansas Department of Revenue GRAIN ELEVATOR APPRAISAL GUIDE FOR THE STATE OF KANSAS 2018

GEAG

What are Prairie Skyscrapers?

“Prairie Skyscrapers” are Kansas grain elevators. In most areas of Kansas, you can see at least one elevator off in the distance. Every town has at least one and, in some cases, the elevator is still standing (and may even still be used) even if the town has been abandoned. Grain elevators were built when very few Kansas farmers could build enough storage at their farms to store their entire wheat crop. In the early days of Kansas, each farmer hauled his wheat to town with a horse and wagon. Most Kansas towns, and grain elevators, were not very far apart. Grain elevators were built alongside railroad tracks, as were most Kansas towns. The wheat from area farms was collected at the grain elevator and then shipped by rail car to flour mills. In recent years, more and more Kansas wheat has been shipped by semi-trucks from the local grain elevators to larger elevators, flour mills, or to ports. Two-thirds of the wheat grown in Kansas is exported to other countries.

Simmons

Modeling

Grain elevators are not just about modeling Kansas, they can be found in numbers in states across the mid-west and across the country. Elevators can make a great scene on any model railroad that uses grain cars.

GEAG

BASIC GRAIN ELEVATOR OPERATIONS

Elevators were designed to serve as assembly points to load grain for shipment. The basic product flow for the elevators may be described briefly as: receiving; cleaning and distribution; drying, if required; storage; and shipping. In addition, necessary maintenance and office functions are included.

Grain Elevators of Kansas

GEAG

Receiving

Elevators receive grain by truck. Upon arrival, trucks are weighed on a platform scale, and the loads are sampled with a mechanical probe sampler. The sample is evaluated while the truck proceeds to the truck dump pit. Grain is conveyed from the receiving pit to a bucket elevator leg which is installed within the elevator or is a free-standing structure.



Simmons

Modeling

(Above) This is a picture of one of the scale houses at the Garden City Co-Op. The scene features a small metal building (sometimes they are attached to the office structure), the platform scale, a raised walkway, and (not shown) a sampling probe.

GEAG

Cleaning and Distribution

From the head of the bucket elevator the grain flows over a gravity cleaner to remove pieces of stalk, stones, and other foreign material. The grain then may move by gravity or conveyor to bin distribution, drying, or directly to load-out.

Grain Elevators of Kansas

GEAG

Storage

Storage bins accumulate grain for load-out. Aeration, fumigation, and temperature monitoring systems are incorporated for grain quality maintenance.

GEAG

Shipping

Grain exits from bin bottoms and moves by gravity or conveyor to the shipping leg(s) (bucket elevator(s)). The grain then flows from the elevator head(s) to a surge bin ahead of the shipping scale. After weighing, the grain is sampled with a diverter mechanical sampler before entering the truck, rail car, barge or ship. Elevators which handle corn and/or soybeans are equipped with a scalper that precedes the scaling surge bin. The scalper removes stalk or cob material that is disallowed in some markets to control certain insects. The shipping system may include a pit and receiving conveyor in the rail load-out system so that grain may be unloaded. This system is intended to be used as a rail receiving unit.

GEAG

Changes in Transportation

Kansas ranks third in the US in the total road mileage which allows for easy grain transport with trucks. However, as time has evolved, so has the method used to transport grain. Several decades ago, trucks were the mainstay for transporting grain. Today, the railroad is the main transport of grain due to its ability to haul several thousands of bushels at once. In amount of railroad mileage Kansas ranks in the top ten states in the US with over 2,400 miles of Class I track and 1,900 miles of Class III (short line) track.

The notion that size makes a difference is part of the grain shuttle program established in the late 1990's by the Burlington Northern Santa Fe (BNSF) railroad, one of the four major rail carriers in Kansas. Using shuttle trains, consisting of 100-110 cars, grain haulers get rate reductions. Shippers also need to commit to fixed numbers of trips over given periods of time, while both port elevators and country elevators must be able to load or unload the 110-car shuttle train in no more than 15 hours. Extensive trackage is also a requirement at the origins and destinations, i.e. one train of 112 ton covered hopper cars is 6,700 feet long (about 1.3 miles) and requires an open track of about 7,300 feet. Therefore, 25 car terminals are no longer competitive. The railways say they can't make a profit from short trains, and it's the rail rates that are driving this type of expansion.

Grain Elevators of Kansas

GEAG Shuttle Train Facility Requirements

BNSF has a number of requirements for shuttle train-loading locations:

- The facility must have sufficient trackage to allow the entire 110-car train plus three locomotives to arrive and depart without decoupling any railcars.
- The facility must be able to load or unload the train in a maximum of 15 hours.
- The facility must be able to generate origin weights and grades.
- The facility must have a minimum of 440,000 bushels of upright storage in order to fill a BNSF shuttle train.

GEAG The Shuttle Train Elevators (Kansas), effective 2017, on the BNSF

Abilene Gavilon Grain, LLC Concordia, AgMark, LLC Coolidge, The Scoular Company
Dodge City ADM Grain

Ensign Dodge City Coop Exchange

Garden City WindRiver Grain, L.L.C.

Hugoton United Prairie AgLLC

Hutchinson ADM Grain Co. (Elev I), ADM Grain Co. (Elev J)

New Cambria ADM Grain Co.

Salina Cargill, Inc

Simmons

Modeling

Grain cars not only serve elevators, but also the relatively new industry of ethanol production. On the list above, Wind River Grain in Garden City is not an elevator but a storage facility for the ethanol plant next to it. In this case, Wind River Grain receives loaded cars of grain instead of shipping the grain out, another possible layout industry which would also include a fleet of ethanol tank cars as well.

GEAG

Grain Crops Grown in Kansas

-Wheat

-Corn

-Oats

-Barley

-Sorghum &

-Soybeans

Grain Elevators of Kansas

GEAG TYPES OF GRAIN STORAGE (ELEVATOR) CONSTRUCTION

Crib Elevators

Crib elevators are a North American invention which first originated about 100 years ago. Cribbed wood elevators are still common in the grain producing areas on the plains of Canada and the United States. Grain elevators have evolved and have been modified through the years, but the basic function of grain elevators remains the same – to receive, collect, blend and store grain between the time of harvest on the farm and when grain is marketed, shipped, processed or fed.



Simmons

Modeling

The crib elevator would be at home on most model layouts, either as an active elevator if the layout is set in an earlier time period, or with various stages of weathering would look at home on a more modern layout as a reminder of times past. I believe Walther's has a kit for a crib elevator.

Grain Elevators of Kansas

Crib Elevators



Grain Elevators of Kansas

GEAG TYPES OF GRAIN STORAGE (ELEVATOR) CONSTRUCTION

Steel bins

Steel bins were first introduced over fifty years ago as an alternative to wood crib elevators. The first steel bins had plate metal bolted or riveted together. These bins have been replaced by galvanized corrugated steel bins. Typically, these bins do not have a built-in elevator leg. Grain is loaded into these type bins by an external (free standing) elevator leg or is transferred from an adjoining elevator.



Simmons

Modeling

(Above) Some of the grain storage facilities of Wind River Grain, LLC in Garden City, KS. The locomotive is an ex-Canadian Pacific SD40-2. Wind River uses the steel bins for temporary grain storage as they serve the ethanol plant in front of them (far left of photo), while on the far right of the photo you can just see the lead track and storage yard for the grain and ethanol cars. Rix Products has several kits for bins like these.

Grain Elevators of Kansas

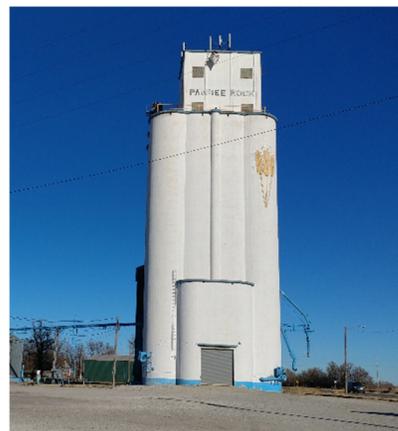
GEAG

Concrete elevators

Concrete elevators were constructed as a safe alternative to the wood crib elevators that were subject to fire and/or explosion. Concrete elevators are the most expensive to construct but have the longest physical life. Concrete elevators come in many designs and configurations. Older concrete elevators consist of a head house, galley, tunnel, numerous bins, interstices, work areas, elevator shafts, etc.



The grain elevator in Larned, KS.



The grain elevator in Pawnee Rock, KS.

Grain Elevators of Kansas

Newer concrete bins are being designed as free-standing structures with external elevator legs.



(Above) In Pierceville, KS. they added several new silos to expand storage, and this picture shows the construction of the third silo with the concrete forms in place. Pelle Soeborg recently did several Facebook posts on how he scratch-built some modern concrete silos just like the ones above.

Simmons

Modeling

The Walther's Grain Elevator kit is the basis for most model railroads, however the kit is based on a grain mill, where grain is milled into flour products, it is not a grain elevator which stores grain for extended periods, but it could be easily modified or used as a grain mill which receives car loads of grain and ships out processed flour.

If you choose to scratch-build your elevator, there come in all shapes and sizes from the small elevator found in Pawnee Rock to the mega-sized elevators found in Hutchinson, and all sizes in-between.

Grain Elevators of Kansas

Simmons

Modeling (Cont.)

For the grain elevator on the Western Kansas Rails N-scale layout, I chose to model the Pride Ag Co-Op elevator located in downtown Dodge City, KS. This is one of four elevators in Dodge and would be a medium sized facility and would consume an entire module by itself.



(Left) Standing between silo segments, looking up



(Right) Just one of the many detail photos taken To aid in the modeling.

Grain Elevators of Kansas

Simmons

Modeling (Cont.)



(Above) The basic construction completed on the N-scale model, waiting on details to be added. The model itself is nearly 6-feet in length and is transported separately from the layout.

Once I had decided on the particular elevator to model, I went to the elevator and visited with the Manager who was a wealth of information such as the silos are 128-feet tall and 24-foot outside diameter, and most important, he gave me permission to be on the property and take all the photos I wished.

Armed with the actual dimensions I discovered 1-1/4" PVC pipe was nearly the exact scale diameter for the silos and only needed to be cut to length on a miter saw to make sure I got true 90-degree cuts. The silos sections were then glued together using straight edges for alignment and PVC pipe glue.

The rest of the model was completed using Evergreen sheet styrene. One trick I learned on the Texas houses (on top) was to make them in three pieces starting with the bottom strip, then the height of the window sections, topped with the upper strip. Using a flat surface, it was easier to glue the pieces together to form the long wall and then fill and gaps with body putty rather than trying to cut windows out with a nibbler.



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The Mid-Continent Region Facebook Page

The Mid-Continent Region has its own Facebook page, open to all members to post everything model train related. You are encouraged to post any activities such as train shows, clinics, and upgrades to your home or club layouts. This is your page, so feel free to use it, just take this link to your page:

<https://www.facebook.com/groups/1851848998468077/?ref=bookmarks>



(Above) One scene on Dave Salamon's "Deep River Southern" N-scale layout

Date Book

January 2020

11th **Mid-Continent Region BOD Meeting** Kansas City, KS.
Saturday Antioch Branch of Johnson Co. Library – 8700 Shawnee Mission Parkway

February 2020

1st & 2nd **Wichita Train Show (NMRA)** Wichita, KS.
Sat & Sun Cessna Activity Center – 2744 George Washington Blvd. <https://besttrainshow.com/>

8th & 9th **19th Annual Train Show & Swap Meet** Lawrence, KS.
Sat & Sun Crown Toyota Used Car Kingdom, 3400 Iowa, <http://lawrencemodelrailroadclub.org/TrainShow.html>

March 2020

7th & 8th **Rocky Mountain Train Show** Denver, CO.
Sat & Sun Denver Mart – 451 E. 58th Ave. <https://rockymountaintrainshow.com/Default.aspx>

14th & 15th **Boot Hill Model Railroad Club Show** Garden City, KS.
Sat & Sun Finney County fairgrounds

20th – 22nd **Layout Design & Operations Weekend** Tulsa, OK.
Fri - Sun <http://ldopsigmeet.tulsanmra.org/>

April 2020

18th & 19th **26th Annual Train Show (Nebraska West-Central Division, NMRA)** North Platte, NE.
Sat & Sun D & N Event Center – 501 E. Walker Road



If you are interested in operations, you can check out the group Operations Special Interest group on Facebook:

<https://www.facebook.com/OperationsSIG/>



On the back cover:

One last detail photo for the Grain Elevators of Kansas, this photo shows one version of the mechanical sampling probe used by grain elevators to dip into the grain trucks and take several samples. This device is controlled remotely from the booth (extended out from the building) where the samples are collected for analysis. These samples will help determine the value of the grain coming in and any necessary treatments.

The **Main Line**

Publisher & Editor: Robert A. Simmons

The newsletter of the Western Kansas Division is published monthly for no charge by Robert A. Simmons, Division Superintendent / Director

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