

Build a Warehouse roll-up door (Fine Scale Animation for Operation) By Bill Day

The description of this clinic said “following a slide presentation on a variety of animated structures, participants will build the “key mechanism” of a warehouse roll-up door, using two Design Preservation Module panels, Evergreen styrene sheet, rod and H beams. Participants will need to complete the model at home and provide a Tortoise switch machine to make it work.”

The clinic’s objective was to introduce modelers to fine- scale animation in support of operation. Thus, the clinic presented an overview of those elements one would find on a railroad right-of-way: tipples that lower chutes, water tanks that lower chutes and raise counterweights; engine house doors that open, bascule bridges that rise, water plugs that turn; exhaust fans that rotate; coal elevators that load; and warehouse doors that go up and down.

Fine-scale animation implies movement that is realistic. Virtually all of the above animation is accomplished with Tortoise switches and turntable motors using black thread or music wire. In this sense the clinic was about “Easy Animation.” For more sophisticated animation, see works by the legendary experts at animation—Rick Spano and Kermit Paul (references at end).

Because the clinic limited itself to fine-scale animation for operation, it didn’t discuss Ferris wheels, skaters, carousels, figures making angels in the snow, walking beam oil pumps, roller-coasters, and animated devices usually found in Lionel Lines equipment or similar settings.

Warehouse Roll-up Door

This model was selected for construction in the clinic because the principle can be used in other applications.

The basis for the key mechanism of the warehouse is a Design Preservation Module (301-35) with a roll-up door and a loading platform. Discard the roll-up door that comes with the DPM module and fashion a new one, slightly larger,

from styrene sheet. Weight the inside bottom of the door with a lead weight. Drill a hole in the top of the door to accept a black thread for raising and lowering the door. Now cement another DPM module (DPM 301-13) on top of the first. Cement two H beams on either side of the door to serve as tracks for the door, then cement a styrene rod to the top of the tracks to serve as a bearing. Attach a black thread to the top of the door and you have the key mechanism for a roll-up door.

Construct the rest of the warehouse, using DPM modules, cementing another styrene rod as a bearing at the rear of the warehouse. Thread the black thread over the two rods, tie the end to the actuating wire of the Tortoise switch machine and your door will move up and down. To add detail, use half of a wood dowel to simulate the roll-up door housing. Wire a light in the building and decorate with suitable posters and industrial figures to be seen when the door opens.



References

Paul, Kermit
The Lone Pine & Tonopah RR
Model Railroader, November, 1993

Spano, Rick
Go Fly a Kite (or an Airplane)
Realistic Animation, Lighting & Sound
Kalmbach Publishing, 2000