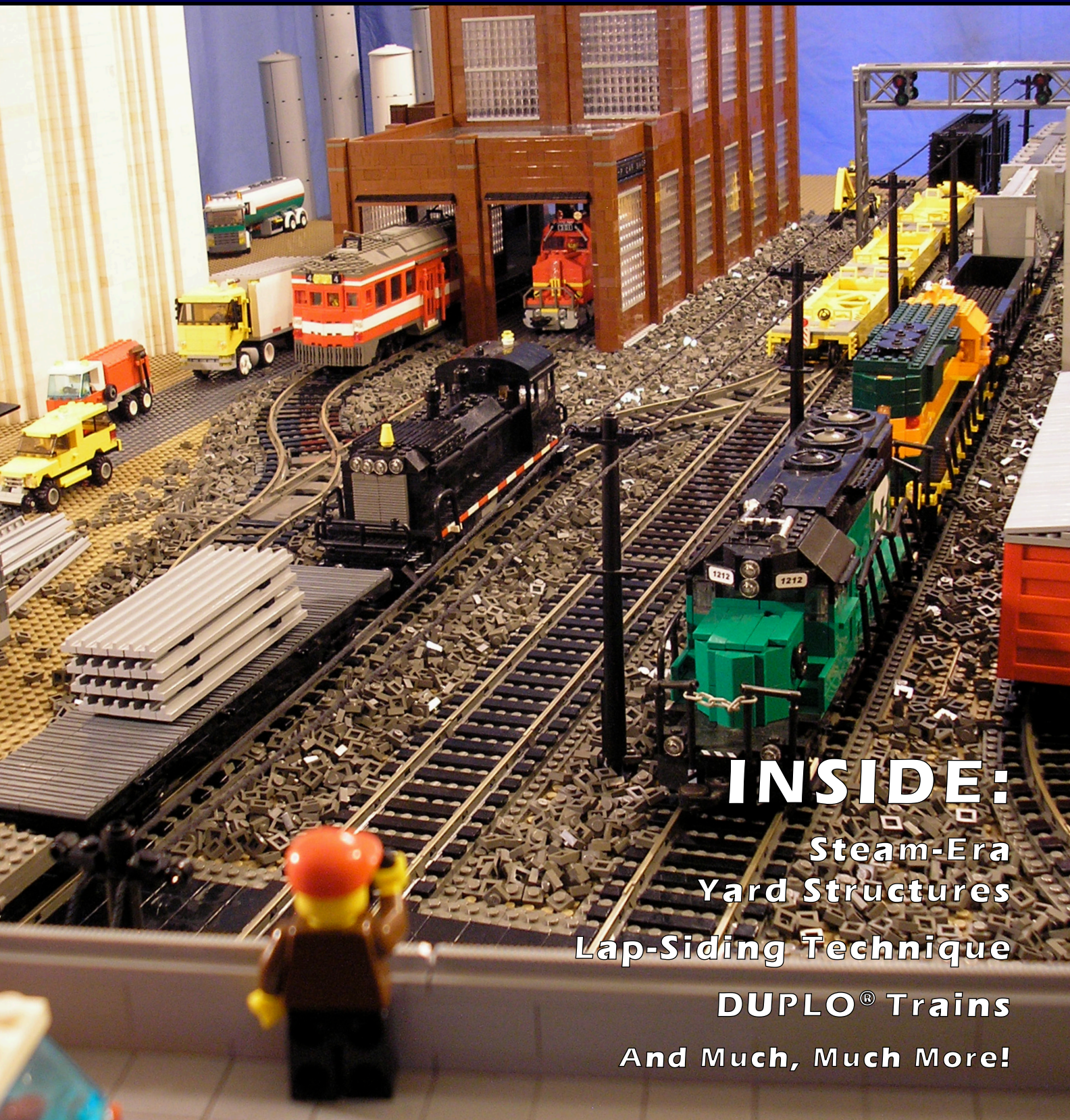


# RAILBRICKS™

BRICK RAILROADING MAGAZINE



## INSIDE:

Steam-Era  
Yard Structures

Lap-Siding Technique

DUPLO® Trains

And Much, Much More!



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# ALL ABOARD!

**The yearly get together for LEGO<sup>®</sup> train fans is coming back to the West Coast! The 2011 National Model Railroad Association's (NMRA) National Train Show (NTS) will be coming to Sacramento, CA. Mark your calendars!**

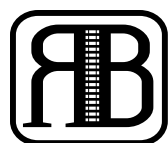
**July 8-10, 2011  
Sacramento Convention  
Center  
1400 J Street  
Sacramento, CA 95814**

More details about the LEGO<sup>®</sup> train display can be found  
on the planning wiki:

<http://www.facebook.com/l/22bd6aAFo6NWu6DXI5CRiWfqLKQ;nmra2011iltco.pbworks.com/w/page/5515272/FrontPage>

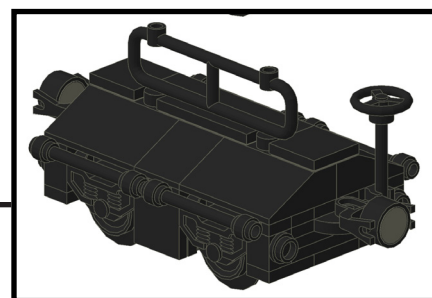
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## In This Issue

All Aboard!.....	4
From the Rail Blog.....	5
Feeding The Beast.....	7
DUPLO® Trains.....	11
Flashback: Train Engine Shed.....	16
Reverse Engineering Challenge.....	19
Lap-Siding.....	20
A Real LEGO® Loco .....	24
MÆRSK® and LEGO® .....	27
Wye Oh Why .....	32
Tipping the Scales .....	34
Trainspotting.....	48
F.R.E.D. ....	50





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On The Cover: A trainspotter catches a shot of big diesels entering the yard. Photo and MOCs by Mark Peterson.

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## ALL ABOARD!

Welcome to Issue 8 of  
**RAILBRICKS!**

In this issue, we focus on one of my favorite subjects: train yards. In particular, we are presenting information related to service-related items within yards. Yards are where a lot of the work of railroad-ing takes place. Cars get switched and sorted, train consists are made up or broken down, locomotives are serviced and cleaned, containers are loaded and unloaded, crews are changed, the list goes on and on. Small yards may be quiet, with only a single locomotive working the area. Larger yards can be extremely busy, with multiple switchers or automated tracks, yet there is an elegant systematic control that sits behind what may sometimes look to be chaos.

Yards are fascinating places, from the smallest one track industrial siding, to the largest classification facility in the world. The sheer amount of variety makes them excellent places for modeling inspiration.

In this issue, though we don't talk about actual yard design, we do present several yard related articles. First, there is a quick overview of some of the steam-era buildings that one might find in a train yard. We also offer an excellent overview of a small shunting locomotive that is intimately linked to our hobby. Also, as we try to do with every issue, there are building instructions, reviews of older sets, and some fun stuff in between.

All of these articles we present with the hopes that you, as builders and designers, will find inspiration for your own creative endeavors.



Photo By Kya Davis

Instructions, Challenges, and Tips & Tricks have been categorized into the following levels:



Beginner



Intermediate



Advanced




# FROM THE RAILBLOG

Tasty Dark Red Shunter

Written by Jeramy Spurgeon | Wednesday, 17 February 2010 16:07

LUGPOL member Robson recently posted a nice little Electric Shunter, an E69.

The wheel cowlings are a particularly interesting solution, using the armor pieces from the Knights Kingdom action figures. 



E69 05

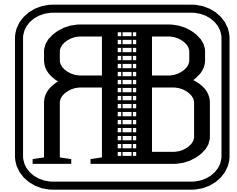


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*Have an idea for RAILBRICKS? Here are some guidelines for getting your article published in an upcoming issue.*

#### Who may submit an article?

Anyone may submit articles for consideration by the RAILBRICKS staff. Submitted articles are reviewed and, if suitable, used in future issues of RAILBRICKS magazine.

People submitting articles do not need to be professional level writers. RAILBRICKS is a magazine for fans, by fans. We welcome articles from enthusiasts who build, collect, and play with LEGO® trains. When we evaluate articles, we look for quality in the content and the basic writing style. We also evaluate any photos that accompany the submission. Every article to be published is edited by the RAILBRICKS staff to increase readability if needed, and while basic grammar and spelling are expected, perfection is not necessary.

#### What sort of articles may be submitted?

Any material related to the creation, display, or collecting of LEGO® trains is welcome. This includes articles about prototype trains or rail-roading locations that may spark inspiration, overviews of models that have been created, or step-by-step instructions for train models. While our focus is LEGO® trains, articles about related items, such as modifying track with non-LEGO® elements, are also welcome. We are also interested in the overall LEGO® train community, so articles about events, people, or clubs are also encouraged.

#### How long should articles be?

Submissions should be long enough to cover the article's topic, but short enough to hold the attention of the reader. In general articles should be between 750 to 3,000 words in length, and include any photographs or images that will accompany the text. In addition to images, any sort of source material that was used during the writing of the article, such as website URLs or book titles should be included in order to give readers additional resources should they decide to read more about the topic outside of RAILBRICKS.

#### What if an article is over 3,000 words?

3,000 words is a guideline. If you have an idea for an article that may be over 3,000 words, please send us an outline or summary. We may decide that the idea warrants the extra space, or the article may be a good candidate for being printed in installments across multiple issues.

#### How should articles be prepared?

Articles should be typed in either a text document or e-mail, and should use proper grammar, punctuation, and spelling. While the RAILBRICKS staff does edit submissions, they need to be in a readable form to begin with. Perfection is not necessary. We don't mind correcting a few spelling mistakes or punctuation errors.

#### How are articles submitted?

Completed articles may be e-mailed to [submissions@railbricks.com](mailto:submissions@railbricks.com). The text of the article may either be in the body of the e-mail, or

added as a file attachment (Microsoft Word, OpenOffice Writer, text file, etc). Images to be included with the article should be submitted as separate attachments, and clearly named. We can accept images in JPG, GIF, PNG, or TIFF formats. High resolution images, 300 DPI at least, are preferred as they will reproduce better than lower resolution images.

#### When will my article be printed?

Accepted articles will be included in future issues of RAILBRICKS. When the article is included depends on a number of factors including the amount of content already available to be printed, themes of specific articles, and article length. In short, there is no way to determine exactly when an article will be included.

#### Does everything that gets submitted get published?

Unfortunately, no. While we will make an effort to publish what we can, it is not always possible to include everything.

#### Are authors compensated for their printed articles?

No one is paid for RAILBRICKS, including the editorial and writing staff. RAILBRICKS is an all volunteer project, and as such, authors are not paid for the use of their material. Articles used by RAILBRICKS remain the property of their authors.







# Feeding the Beast

## Yard Structures & the Care of Steam Locomotives

*Like the animals they were often described as, the giant metal beasts known as steam locomotives had some basic needs to keep them in functional running order.*

Fuel, water, and shelter were as important to locomotives as food, drink and warmth are to most animals. In addition to these basic needs, locomotives needed a way to remove waste, be cleaned, and receive attention when damaged. All of these needs were met by some basic railroading structures, most of which could be found in one form or another within a steam-era rail yard. Though the age of steam locomotives has passed, the fascination with steam-era equipment continues. Fans of steam are often familiar with different types of locomotives, but may not be as familiar with some of the structures dedicated to the upkeep of those mighty machines.

One of the most iconic steam-era constructions was the coaling tower. Massive in size, the usual image brought to mind is of the multi-story wood or concrete buildings that dwarfed surrounding structures. The stereotypical coaling tower was basically a giant bin,

supported by thin legs above the tracks, with sluices on the side to feed waiting locomotive tenders. With this setup, coal could be brought in via rail in hoppers. The hoppers were then dumped into a bin that was at, or below, track level. Elevator or bucket conveyor systems then carried the coal from the loading bin to the top of the tower, where the fuel was fed into the main storage area. The coal sluices above the tracks were then gravity fed from this storage area, with the rate of flow controlled by gates that could be raised or lowered as tenders were filled.

Variations of this basic structure existed, including coaling facilities that were fed directly from rail cars by means of trestle-supported ramps. In small yards the coaling tower may have only serve a single track. In larger areas, the coaling tower and its delivery systems spanned multiple tracks, feeding a number of locomotives at the same time.

While coaling towers fed fuel to the locomotives, another iconic structure, the water tower, kept the big machines from going thirsty. Water, used by locomotive boilers to generate steam, was stored above track level in a cistern where it could be gravity fed into waiting

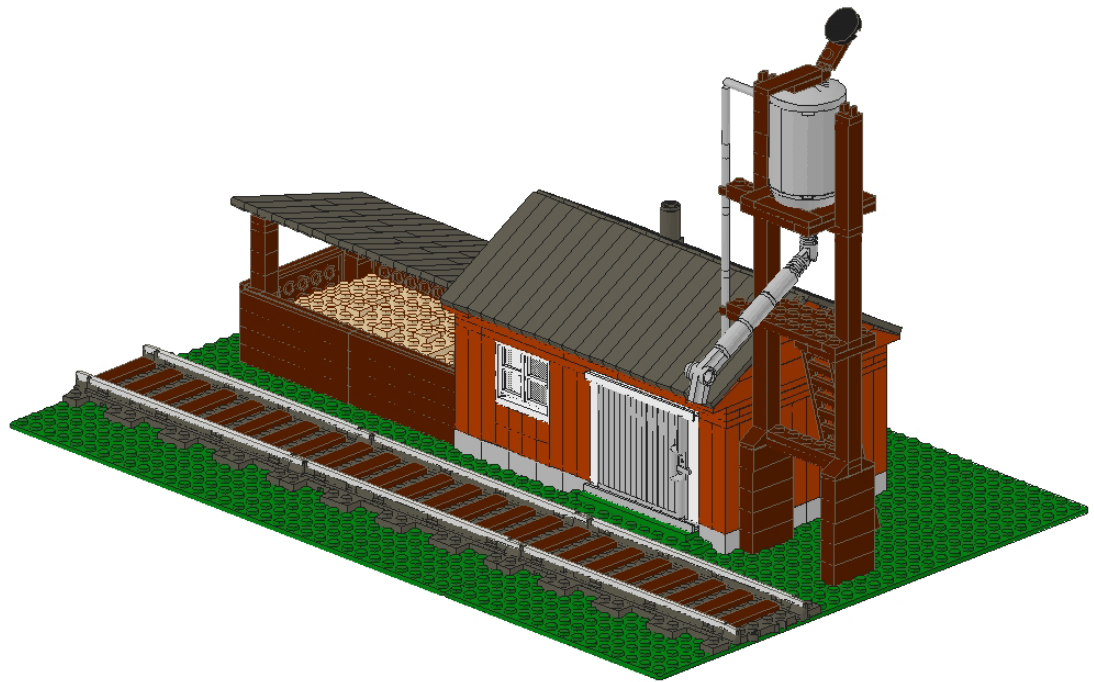
*Opposite Page: Transition-era locomotives pose near a coaling tower and locomotive shed on display at the Danbury Railway Museum in Danbury, Connecticut.*

*Right: The Museum's restored water pump, on display inside the pumphouse. The original water tower can be seen in a photo on the wall in the upper left.*



B

*MLCad drawing of a steam-era sanding house. Wet sand was unloaded into the covered bin on the left, then dried inside the building. Dry sand was then stored in the canister at the top of the tower on the right.*



locomotives. Water came from nearby sources, and was either pumped into the tower for storage by pumps at ground level, or fed into the structure via pipes and flumes from above. In the United States, water towers were generally built of wood, constructed in a similar manner as wooden barrels, with upright staves, 6 to 8 inches wide, bound by metal bands that were spaced closer together near the bottom in order to compensate for the weight of the water above. To keep debris from entering the water, and to insulate the liquid from the cold in northern climates, towers were covered by roofs, giving the top of the structures the conical silhouette that most people are familiar with.

Holding thousands of gallons of water, variations of the typical water tower also existed. Some were built like a conventional building, with four walls around the cistern, while others were built of steel depending on the needs and location of the railroad.

Standpipes, another means of supplying water to waiting locomotives, were another feature that might be found in a railway yard. Taking up less real estate than a water tower, standpipes were upright columns with movable spouts that stood along the track's right of way. Standpipes allowed water to be pumped into a locomotive from another location. Unlike a water tower, water for standpipes was stored away from the tracks, and could be fed to the standpipe via underground plumbing. While less noticeable than a large water tower, standpipes are a great detail to add when modeling a busy railway yard.

In addition to coal and water, steam locomotives were also fed sand. Sand was used by railroads to help gain traction on slippery rails. Sanding houses, used for the drying and storage of sand, were another structure that may be found in a steam-era yard. Wet, or "green" sand could be brought in by rail or truck. It was offloaded into a storage bin on one side of the building where it could be stored until needed for processing. When needed, wet sand from this bin was brought into the sanding house where it was spread on racks and dried by a furnace or oven. Once dried, the sand was blown up into a storage canister in a tower next to the tracks using compressed air. The source of the compressed air sometimes came from the locomotive that was being fed. Dried sand from the tower's storage canister could be loaded into the locomotive by means of a chute or pipe, similar to that used on a water tower. A counterweight system near the top of the tower was employed to help with the lowering or raising of this chute to keep it clear of passing trains when not in use.

Stand-alone sanding towers, like standpipes, were also employed by some railroads in an effort to conserve space. These towers not only took up less space, they were also able to service more than one track at a time. Sand was still dried in a sanding house, but the location of that building may have been farther from the tracks.

*Opposite: Rutland Railroad engine house & transfer table under construction. Photographer and date unknown.*



The placement of coal, water, and sand loading facilities was important. If designed well, a yard holding all of these structures could feed a locomotive from all three sources at the same time, cutting down on the time, and therefore cost, of turning a locomotive between jobs.

In addition to feeding a steam locomotive, the process of readying a train for use also involved some less than glamorous jobs. Removal of waste, cleaning, and periodic inspections all involved some other specialized yard facilities.

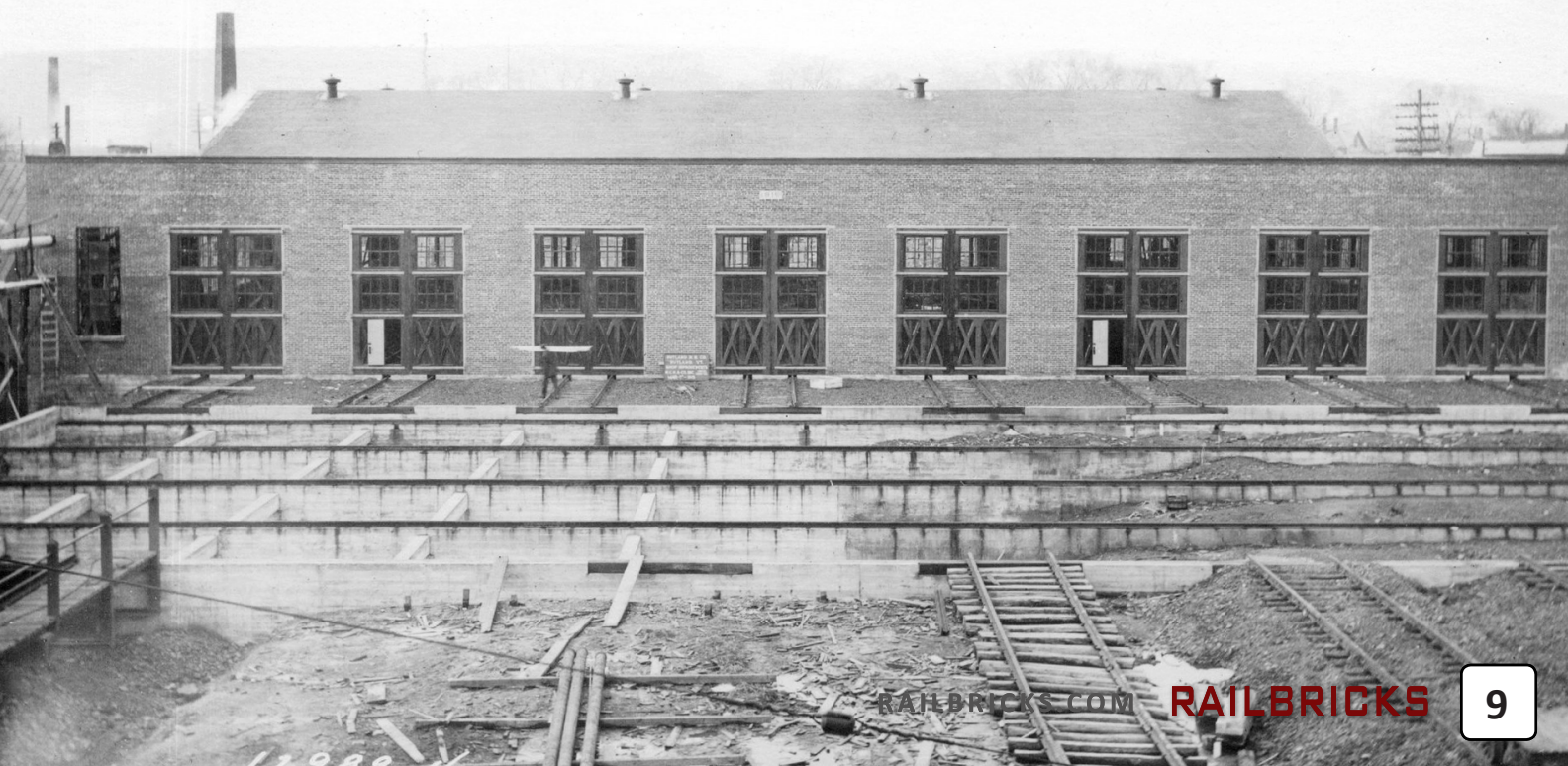
Coal and wood-fired steam locomotives all produced waste in the form of ash. Like a fireplace in a home, burnt fuel in a steam engine fell into an ash pan as the fire burned. The ash pan would need to be emptied periodically to keep the locomotive in good running order. In some rail yards a specialized area was built specifically for this purpose. One common way to clear the ash pan was to drive the locomotive over an open bin, or ash pit, where hot embers could be dumped from the locomotive to cool. The cooled remains could then be removed at a later time by truck or rail car. In some cases the ash pit was built into a hillside, with one side open, to allow for easy removal of the cooled ash. In other cases the ash pit was sunk into the ground, with ash being removed by means of a conveyor or hoist. A third version of an ash pit involved a sloped track running parallel and below the receiving track. An open gondola could be spotted on this track, and ash moved directly from the locomotive to the waiting car.

Cleaning of a locomotive, though often done manually with high-pressure washers, could also be accomplished with the use of another yard structure, the wash rack.


Similar to modern car-washes, wash racks were drive-through facilities that would spray water and steam over the machine's exterior to remove surface dirt and grease. While a wash rack may not thoroughly clean a locomotive, it was an efficient way of quickly removing grime that could wear down parts until a more extensive cleaning could take place.

While periodic cleanings of steam locomotives was important to prolonging their useful lifespans, regular inspections and maintenance were even more important. A very simple structure, the inspection pit, aided in these tasks. Inspection pits were simply sunken areas below track level, accessed by stairs or ladders, that allowed workers to view and work on the underside of cars and locomotives. While sometimes placed outside, inspection pits were often found inside locomotive sheds and roundhouses, where machines could be worked on out of the elements.

The sheds and roundhouses where these inspection pits were located were as varied as the railroads that owned them. Shelter for steam locomotives could be as simple as a single track, flat-roofed shed, or as complex as full circular roundhouses servicing multiple tracks and containing enough bays to hold an entire fleet of locomotives. Much like a garage for an automobile, locomotive sheds not only offered protection from the elements, but also a place where locomotives could be repainted, repaired, and cared after by railway workers. While small sheds may have contained only a small workshop, larger facilities included overhead gantry cranes for lifting boilers or other large parts, office space for workers, and storage areas for equipment. While roundhouses were an iconic structure in the steam-era, with their multiple bays and turntables, longer warehouse-like sheds serviced by transfer



tables were also widely used for the care and storage of steam locomotives. Both structures offer excellent modeling opportunities for today's builders.

The care and feeding of steam locomotives is an extensive subject. While this article provides a brief outline of the basic structures involved, other sources offer in-depth coverage that is highly recommended for any modeler tackling the task of building a steam-era yard facility. With the coming of the diesel locomotive came the destruction of many steam-specific buildings. With many of the buildings gone, and others disappearing as more years pass, their original use and function becomes more mysterious. Thankfully, though, fascination with the steam years continues, keeping these wonderfully practical and interesting pieces of functional architecture alive. 

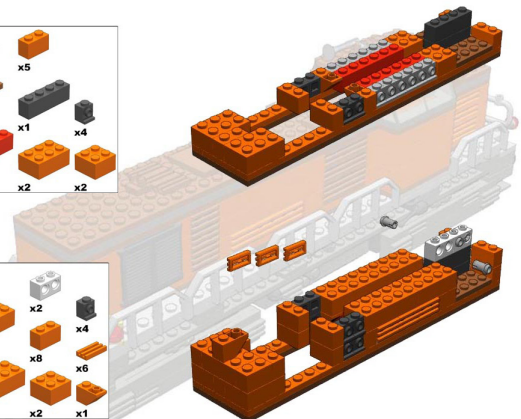
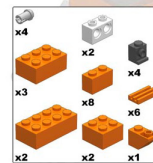
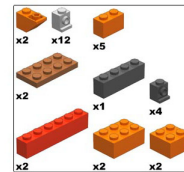
For further reading, see:

"The Model Railroader's Guide to Locomotive Servicing Terminals" by Marty McGuirk, published by Kalmbach Publishing, Co., 2001

"Railroad Structures and Estimates" by John Wilson Orrock, published by John Wiley & Sons, Inc., 1918

"Buildings and Structures of American Railroads" by Walter Gilman Berg, published by John Wiley & Sons, 1893

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# duplo trains

Article by Didier Enjary

Pictures of sets  
courtesy of BrickLink



Among adults fan of LEGO, some are parents - that's the case here at RailBricks. As adults, we are not, at first, fan of DUPLO but as our babies grew up, our interest for the DUPLO line increases. As we are also fan of trains, it is quite natural for us to play DUPLO Trains with our children.



The DUPLO line was born in 1969, more than 40 years ago. In 1976, the Duplo Car Base with hitch opened the possibility to create towed vehicles and trains but it did not come with tracks.



1991 - Express train 2459  
built on Duplo Car Base

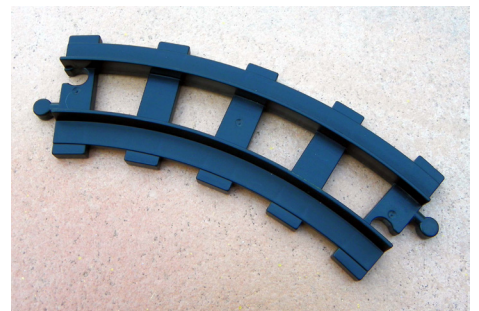
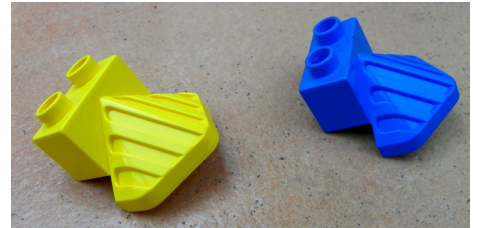
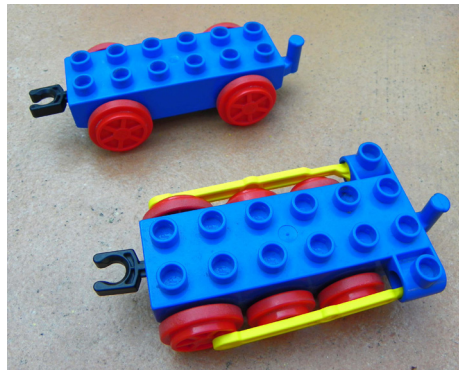
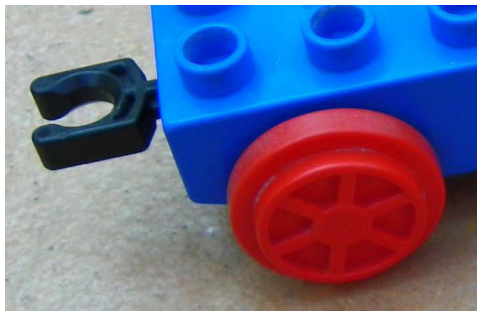


1993 - Choo choo train 2452  
built on Duplo Car Base

Then, the first train appeared 7 years later in 1983: a steam-looking engine with tip wagon and passenger car (2700,2705) on black straight and curved rails, (2711,2712) bridge, crossing and point (2713,2714, 2717). The specific parts are a steam train chassis with its drive rods, a cabin, a cow catcher and a funnel top which comes in basic red, yellow and blue color. The train chassis is different from the Car Base as it features an articulated hitch and train wheels.



Set 2731-1 Push-Along Play Train - 1996

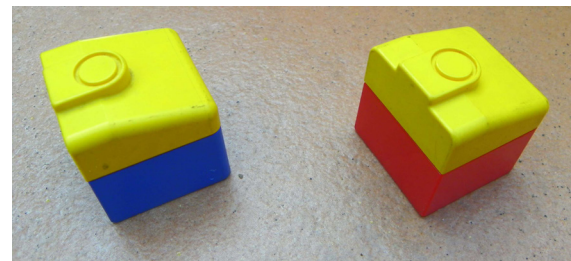
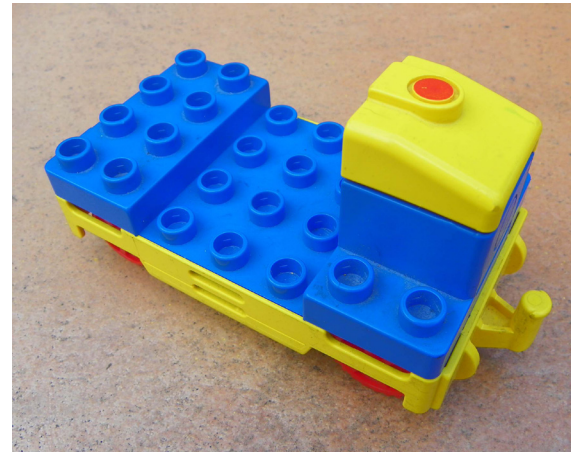
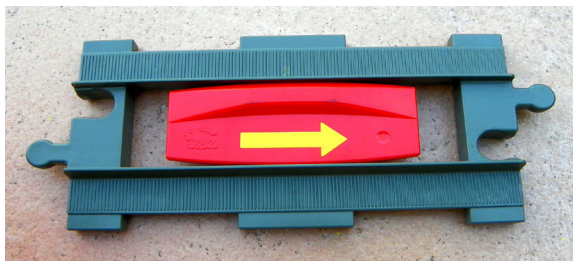


This system of push-along trains remained unchanged for 10 years from 1983 to 1993, a period that I call the black era, with only a few additions (boxcar, station).

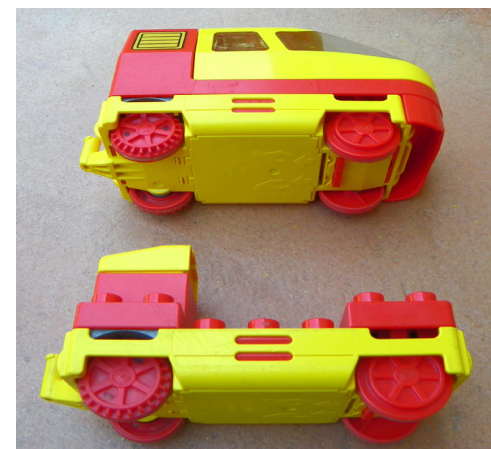
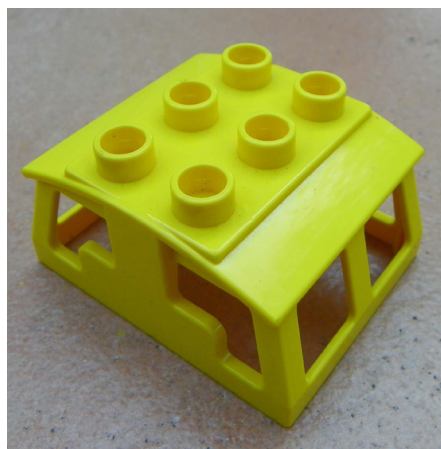




An electric version of the DUPLO train was released in 1993. It ran on batteries autonomously (no remote) but features an embryo of rail driven automatisisation (smart brick). It came with a completely brand new set of tracks (straight and curve, point and diamond crossing, level crossing and bridge). The rails are dark gray, shorter but still compatible. The engine looks like a heavy flat car which can be modded into diesel-like engine with cabin and hood. Another engine is produced, on the same base, to fit a train passenger canopy (yellow/red - set 2932) or train freight locomotive top (yellow/green - set 2933).



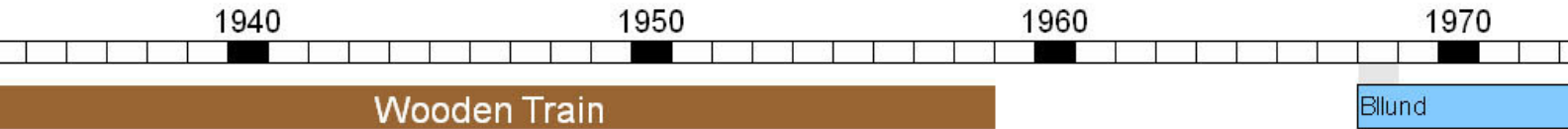
During this period, you could still purchase non-electric steam-looking trains, usually coming without tracks (2733,2731,2931). This period, which I call the Electric Era, found a new development in 2002.



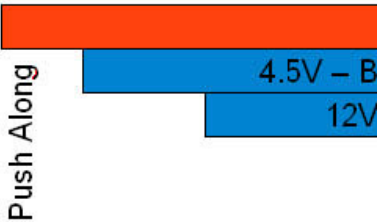
The IntelliTrain is the new 2002 electric train in the DUPLO line. This train, compatible with the former DUPLO train tracks, also includes an extended programming system.

IntelliBricks (Smart bricks), placed between tracks, allow the train to be programmed. The train, equipped with underside touch sensors, acts accordingly to the brick it runs across (toots, reverses, stops, makes a variety of sounds such bubbles or fueling, etc.) The engine also has sensors in the cab (identifying the engineer presence) and on the rear-top. The IntelliTrain system is expandable with an Intelligent Car.

More about this system can be read at <http://cave-fish.net/intelli-train/index.html>.




# **LEGO** **Train** **Chronological** **Table** **1935 – 2010**

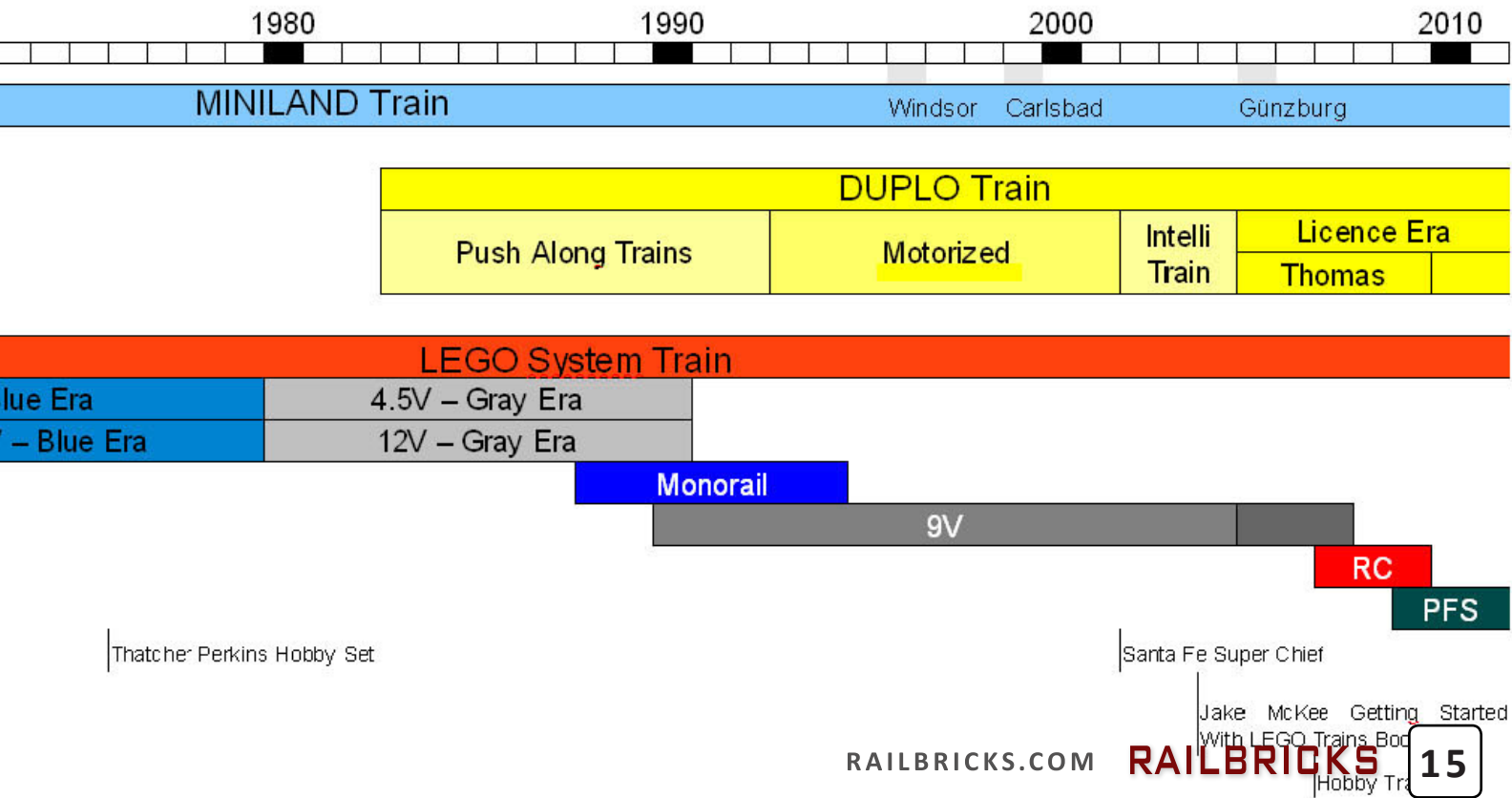


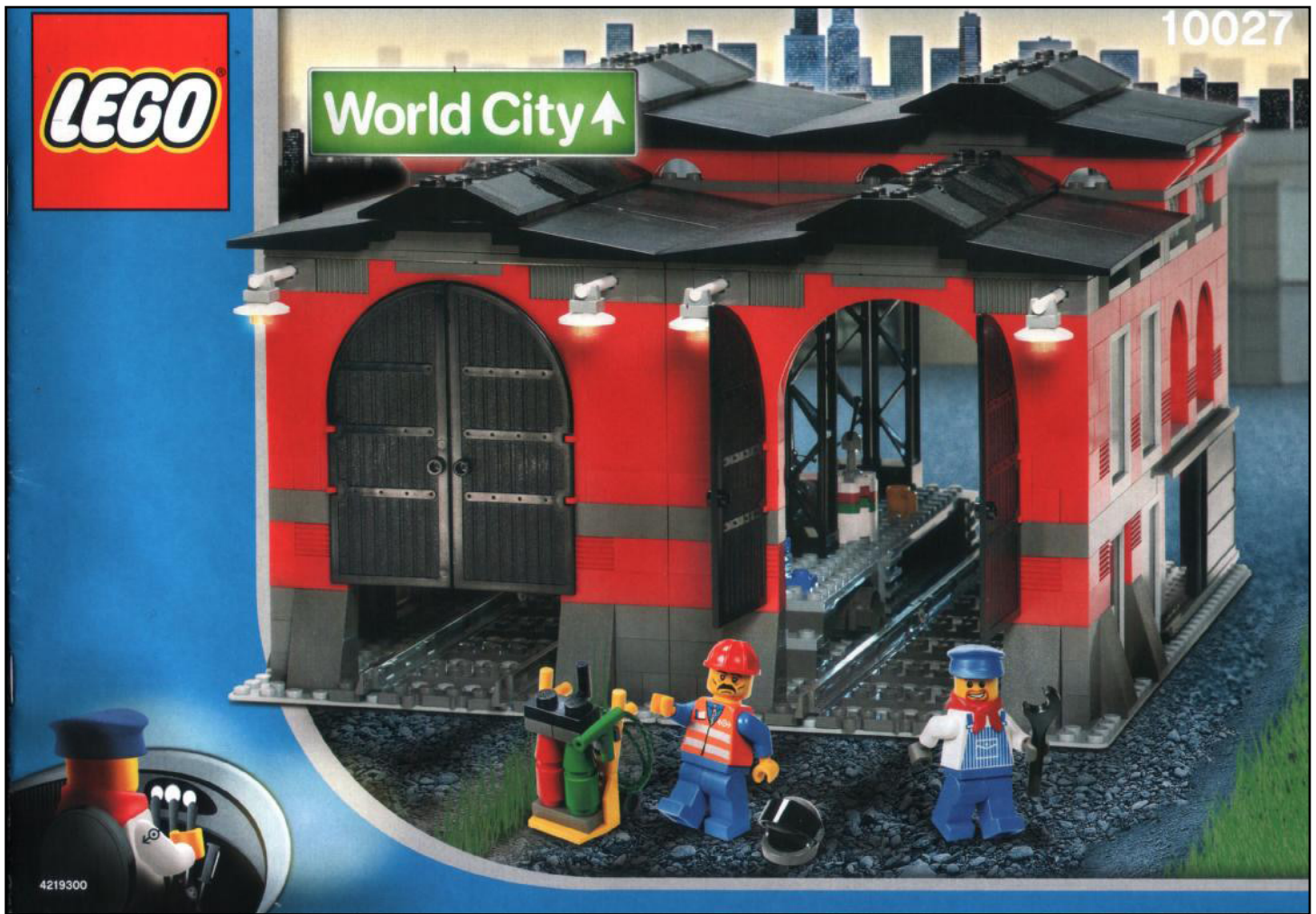


Since the very beginning in 1969, the DUPLO line never stopped innovating, from push-along train to the Intelli-train. But, since 2005, while the classical push-along and motorized trains are still present in the catalog, the main motivation (and this is not specific to DUPLO) is the growing amount of licenced products. Between 2005 and 2007, TLC produced about ten *Thomas The Engine* sets and has more recently relased the 2010 *Toys Story* train (5659 - The Great Train Chase).



So, what's next? It seems most unlikely that the LEGO company will decide to release a PFS-like DUPLO train. Because they would have do so already - because PFS does not fit the DUPLO target audience. However the Intelli Train has some interesting features but clearly lacks simplictly. My two year old son wants a train that toots when starting (switch on), that roars when climbing a bridge (level sensor), that screeches its brakes when the train stops (switch off) and a crash sound when it hits an obstacle (touch sensor). And the train should light up when it passes through a tunnel (light sensor). Well.... Maybe should I customize his DUPLO trains with my old RCX stuff? 





# Flashback: 10027 Train Engine Shed

By Jordan Schwarz

*The venerable 10027 Train Engine Shed will be remembered as one of the most impressive railroad structures ever released as a LEGO® set. At the time, its detailed design was heralded as something of an architectural revolution in the world of LEGO® toys - unmatched until the later release of the Café Corner set as the first in the modular building series.*



As part of the final wave of traditional 9V train sets, the Train Engine Shed was offered along with two other railroad structure sets from the “World City” theme, the 10128 Train Level Crossing and 4513 Grand Central Station. Originally the Train Engine Shed sold for \$70 USD, although it was possible to find copies at a discount toward the end of the 9V era.

The Train Engine Shed’s 2003 release date makes it a relatively recent “flashback”. In the five decades of LEGO® trains, this set stands as the only example of an engine shed, despite routine reissues of other structures like level crossing and train stations. However, a predecessor to the Train Engine Shed may be found in the classic 7777 Train Idea Book.

The Train Idea Book depicts a yellow and red engine shed that bears more than a superficial resemblance to the modern one. Specifically, the Idea Book engineshed is hinged in the middle to provide two short bays or a single long one, also a key design feature of the 10027 set. The designs share arched windows and stepped roof-lines with skylights. The two structures are also similar in size.

Although the roundhouse is perhaps the most recognizable of all railroad structures, the LEGO®

Group has never released one. Considering the limited market for LEGO® trains and their associated buildings, this is not surprising; a roundhouse would be astronomical in price and a difficult design to execute. However, as the pictures from the Train Idea Book hint, several engine sheds could be combined and angled appropriately to form a roundhouse-like shape. Additionally, multiple train sheds could be placed side-by-side to create a larger train shed.


Returning to the 10027 Train Engine Shed, the set was composed mainly of basic bricks but also included a decent supply of unique parts. The black sliding doors and large, castle-style bay doors were especially useful. The black slopes used for the roof were quite rare until recently, when these elements surfaced on Pick-a-Brick walls in LEGO® stores. The grey bricks included are “old” light and dark grey; this set was among the last made before the switch to “bley”.

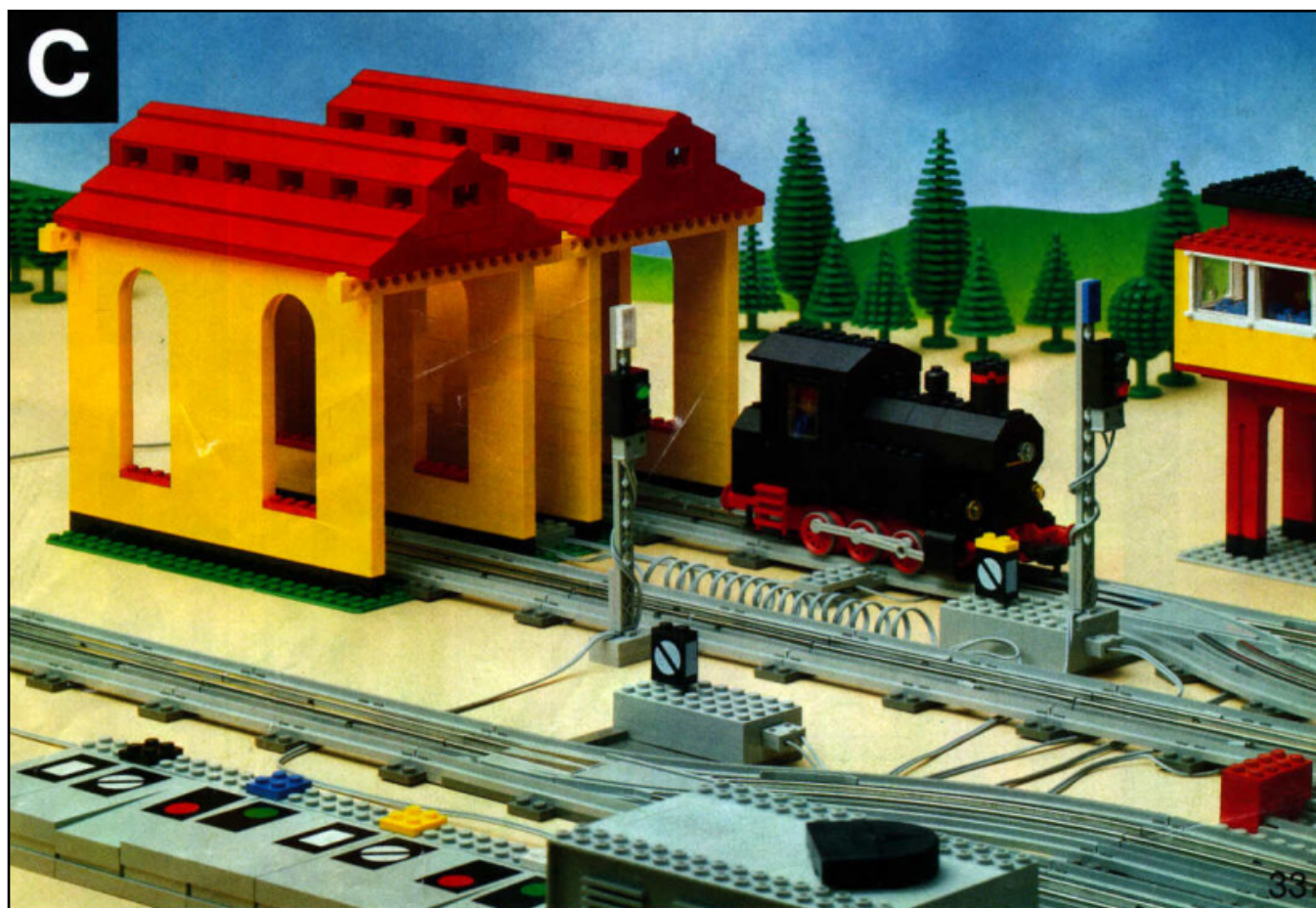
The Engine Shed included numerous accessories such as a full set of tools, welder’s yellow hand truck, drill press, and lathe with a chrome element being machined. These features and the flexible layout of the structure added greatly to the set’s play value. Note that, according to Peeron, the yellow hand truck appeared in this set alone!





While the Train Engine Set has received almost universally positive reviews, critics primarily note the set's restrictive dimensions. True 6-wide rolling stock can negotiate the narrow interior, while engines with protrusions such as handrails and smokestacks tend to encounter problems. Excess-height cars, extended-vision cabooses, and 8-wide cars are completely out of the question. In its short-bay configuration, the Engine Shed length is barely enough to accommodate many popular locomotives. Recall, however, that this set hails from an earlier era when LEGO® vehicles tended to be smaller, and the Train Engine Shed was suited to most of the official rolling stock available at the time.

Note: Images courtesy of Peeron.com and brick-set.com 





Benn Coifman's

# Reverse Engineering Challenge 7

*Editor's Note: There were no responses to the last REC, so we are running Challenge 7 again this issue, with a new date for submissions of April 15, 2011. Good luck to all who enter!*

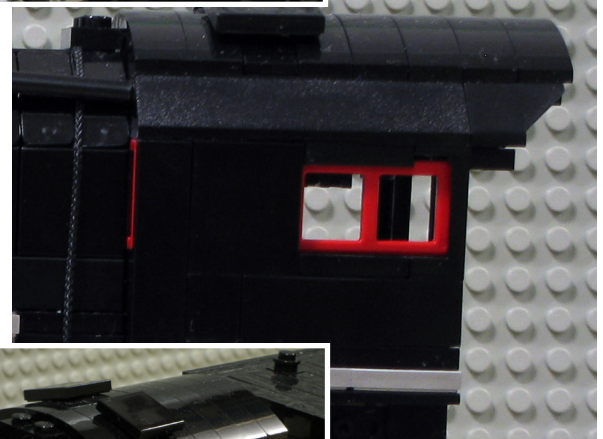
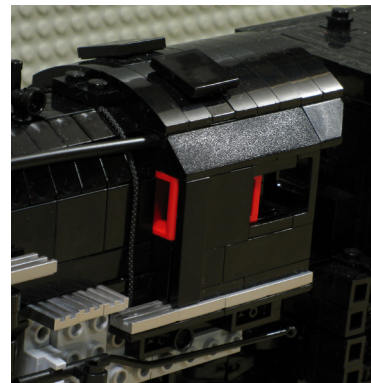
This column seeks to challenge readers to look around at other builders' work and tease out how they achieved a specific effect, an important skill as you wander off the instruction sheet and into your own creations. After the Emerald Night came out I decided to build my own Pacific. My chosen subject was the Southern Pacific Railroad, 4-6-2 'Pacific' type steam locomotive. Several of these locomotives survived into commuter service and were preserved at the twilight of steam in the U.S. Two were operational in the past decade (2467 and 2472) and a third is under restoration (2479). I had planned to use the banded drivers from the Emerald Night and finally power a steam engine via the drive wheels. But then I saw Cale Leiphart's PF Y at Brickworld 2009 and now I had better propulsion to pursue. Moving the motors to the tender gave me room to play in the cab. The front windows are borrowed directly from Gerrit, but the side windows are my own working. Look closely, they open and close.

Your challenge is to reproduce the opening windows within the confines of an 8 wide cab that is only 6 studs long. The primary challenge is the windows, but in the event of a tie, a submission that also includes the roof vent hatches will receive preference.

Submit your solution to [challenge@RAILBRICKS.com](mailto:challenge@RAILBRICKS.com) with the title "SEVENTH REVERSE ENGINEERING CHALLENGE" in either Idraw format or provide sufficient digital photos on how to construct the feature. Judging will begin on April 15, 2011, and will continue until we are ready to release the next issue. But be sure to get your submission in by opening date for full consideration. If you build a physical model, you can use more common colors. Be sure to include your name and contact information.

The editorial staff will select the best design from all of the buildable submissions that achieve this effect and winner will receive a "RAILBRICKS Challenge" engraved brick. If one of our readers is able to solve this challenge we will publish the solution in the next issue. Otherwise, in the event that none of the entries are able reproduce the feature by the deadline, this challenge will remain open until someone is able to solve it.

All submissions become the property of RAILBRICKS and by submitting an entry you will allow us to print your submission in whole or in part.



If you have ideas or suggestions for future challenges, contact us at [submissions@RAILBRICKS.com](mailto:submissions@RAILBRICKS.com). 



# Lap-Siding I

by Steve Barile

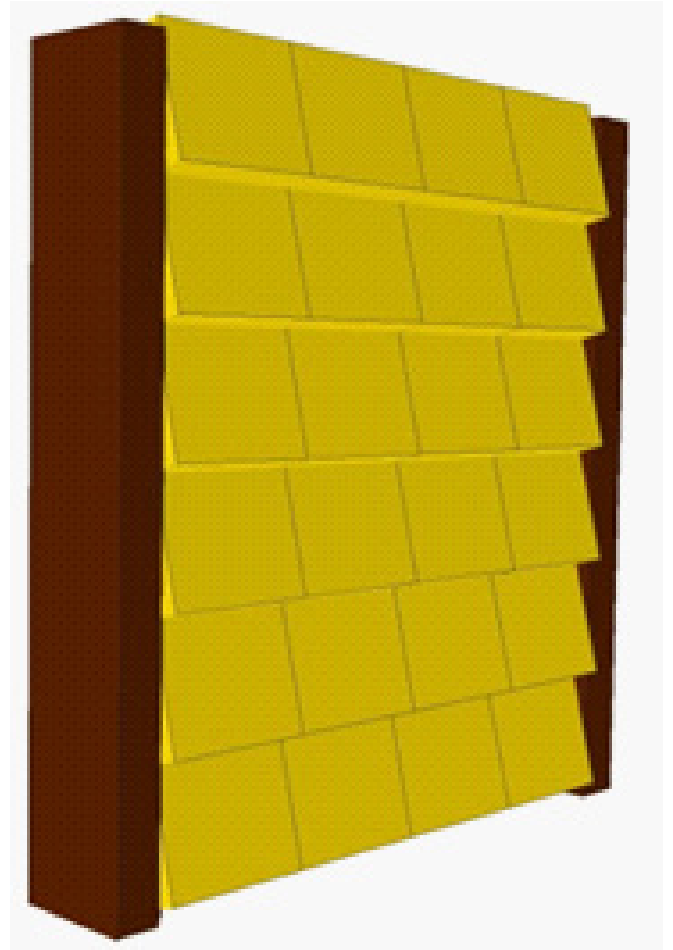
One of my favorite model railroading structures is the classic Switching Tower. Often it's pictured as a square two story yellow building with brown trim. The first story is windowless, but the top story is like an air traffic control tower with windows on all sides. One company sells it in a three building cluster that includes a speeder garage and a tool shed. I have always wanted to build this model out of LEGO but the lap-siding was the challenge. I unsuccessfully tried using corrugated bricks, so I searched for and tried my own variations of brick-built lap siding but they all seemed clumsy. It was late one night in bed when I was leafing through the Walters catalog and there she was, almost teasing me... alluding me for 8 years! So I started to puzzle over solutions in my head. Building in my imagination is

much faster than the trial-and-error iterations with real brick and even faster than CAD. Finally I came up with the idea of using the "slop" in the seams between the bricks. I got out of bed, stumbled down two flights of stairs to my basement LEGO room! I grabbed a brown 1x6 plate and a hand full of yellow 1x1 bricks. I put a row of brick on the plate and then rotated all of them as much as I could... and there before me was the lap-siding effect I was looking for! So I stacked each column four bricks high and topped it with a 1x6 brown tile, rotated the assembly 90 degrees and I had my first lap-siding wall. It was at that moment that I knew I had conquered her! But of course a good MOC challenge is riddled with second and third order problems to be solved.

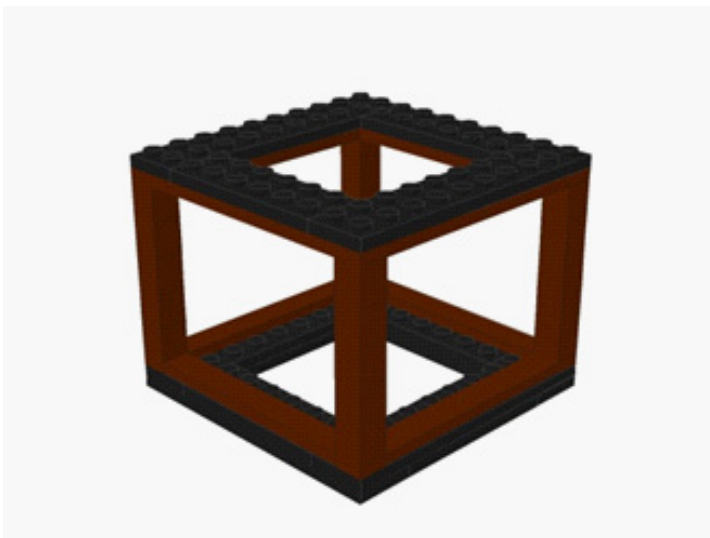


The next challenge was to figure out how to turn this technique into a viable solution for MOC building, in particular the switching tower. A good test for a new technique is to determine how many variations it can produce, this turned into a real mind bender. Because the lap-siding technique in the normal orientation is a vertical effect, it had to be SNOT'ed; rotated 90 degrees, to look correct. One approach to this problem is to build a skeleton structure where the lap panels fit perfectly into the voids. After a few attempts at a ground-up build I realized that the entire building needed to be pre-planned so that every void can be a particular size so that it can be precisely filled adhering to the SNOT 5:6 ratio. The voids should be an even number of studs wide, which will result in increments of 5 rotated plates, i.e. 2studs = 5plates, 4s = 10p, 6s = 15p, 8s = 20p...  $Xs = X/2 * 5p$ . For each panel there is a foot plate and a top tile, so two plates need to be subtracted,  $X/2 * 5 - 2p$ . For instance an 8 stud void requires 6 brick stack of 1x1s with a foot plate and a top tile. There are still a few difficulties to overcome for instance attaching the lap panels to the skeleton. It is also mandatory that the bottom and top most 1x1 brick stack not be rotated in order for the panel to fit into the voids.

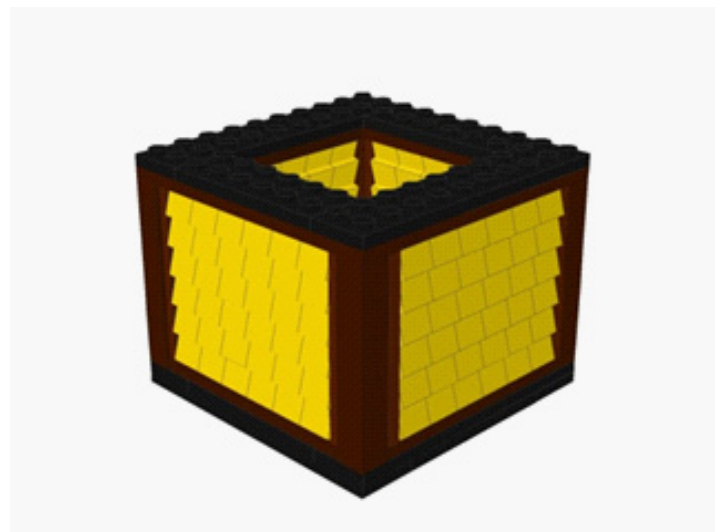
As it turns out this new technique has many variations. It is possible to have panels within panels so that windows and doors can be embedded, like on the tool shed. Also variations on the skeleton/void technique can provide for




*6x4.2 lap-siding wall unit*

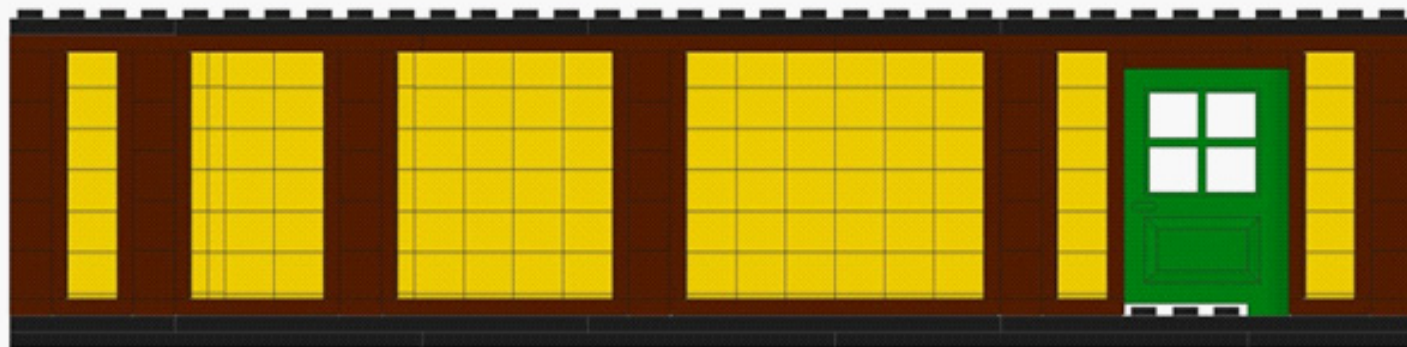


*10x10 skeleton box*



endless facades similar to half timber designs. As an example there are two voids on the side of Switching Tower (the side facing the train track), one on the top and the other below separated by a double stack of brown plates. The vertical brown stripes are brown plates built into the lap walls, this adds strength to the long run of 1x1 bricks and creates visual variation. The window on the other side has a void on either side and a void all along the bottom.

This is only the beginning for this new technique and as more buildings and structures get built, such as the classic white church, western town store fronts, and “Sears” catalog houses from the 40’s, more innovations will be invented taking this technique to the next level. Happy building! 



*Lap-Siding Sampler Wall; two, four, six, eight, and eight (w/Door) stud wide voids, note the SNOT brick + plate counts.*







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1994 Hohenwestedt : Copyright Olaf Reese/Kiel, Germany

# A Real LEGO® Loco

*By Tim David*

## Hohenwestedt

On the 12th January 1956 the LEGO® company made it's initial expansion outside Denmark by opening their first foreign sales wing, LEGO® Spielwaren GmbH. Spielwaren was run by Axel Thomsen, who was already a toy manufacturer. The new company was based in an old railway hotel in Hohenwestedt, Schleswig-Holstein, Germany. The company's aim was to expand the sales of LEGO® in Germany.

From 1956 until 1963 LEGO®'s series of H0 scale cars, trees and signs were produced in a small factory in Hohenwestedt. Over the years the Hohenwestedt site also grew to become a major distribution centre.

The factory and warehouses were situated just east of the railway station on the line between Heide and Neumünster so it was logical that it was rail served and in December 1987 a small shunting (switching) locomotive was purchased to work the factory sidings.

## Kleinlokomotivs

From the 1930s the Deutsche Reichsbahn introduced small locomotives for use at stations and goods depots. They were specifically designed to be driven by shunting staff rather than higher paid fully qualified drivers and were also small enough to be loaded onto a flat truck for movement around the rail network. After some experimentation two diesel designs were



standardised upon, with differing power ratings. The class letter K was used to identify them, followed by a letter indicating the type of engine, ö for diesel (Öl, i.e. oil). The next letter was the type of transmission: f for hydraulic transmission (Flüssigkeitsgetriebe) The four digit numbers signified the power range, those up to 40 HP (29 kW) were numbered in the range 0-3999 and while those in above 40 HP were 4000 and higher.

The locos were originally restricted to 30km/h because they were only braked by the driver's weight on the foot pedal. Many were later fitted with air brakes and the top speed raised to 45km/h.

### **LEGO®'s Köf II**

LEGO®'s Köf was built by Deutz in 1950 for the West German railways; Deutsche Bundesbahn (DB) and became their number 6140, signifying that it was in the higher power range and was thus a Köf II.

It was painted in the standard scheme of black under-frame and dark red cab and hood. In 1968 it was renumbered to 321151-3 in line with DB's new computerised numbering scheme. In 1973 it was fitted with air brakes and renumbered again to 324057-9. It was used mainly in the Köln area.

In 1987 it became surplus to requirements and was withdrawn. It was purchased by LEGO® Gmbh, repainted yellow and black and moved to Hohenwestedt. A LEGO® logo was applied to each cab and a smaller one on each side of the nose.

It stayed in Hohenwestedt for the next 15 years, shunting the vans of LEGO® products around the site to the various loading bays.

### **After LEGO®**

In 2002 the need for a locomotive diminished and it was sold to the railway equipment dealer Mathias Bootz of Bad Nauheim. The Hohenwestedt site closed entirely at the end of




*1994 Hohenwestedt : Copyright Olaf Reese/Kiel, Germany*



2005 and the operation was transferred to the Czech Republic.

After a couple of months at Bootz's the Köf was purchased by the railfreight vehicle hire company VTG Lehnkering AG who sent it to their wagon workshop in Syke-Barrien. For a while it kept its yellow colours with the LEGO® logos removed, however by 2004 it had acquired a bright red hood with black detailing and by 2006 the whole loco was bright red with a black under-frame. In 2004 the loco reverted to its DB number of 324057-9.

Many thanks got to Olaf Reese for kindly allowing the use of his excellent photographs. 

### Further reading

More pictures of LEGO®'s Köf can be seen at flickr.com (<http://www.flickr.com/photos/26541693@N03/tags/LEGO/>) and at deutsche-kleinloks.de (<http://www.deutsche-kleinloks.de/index.php?nav=1001324&lang=1&id=1821&action=portrait>).

For more information on Kleinlokomotivs see deutsche-kleinloks.de (<http://www.deutsche-kleinloks.de/>) and Wikipedia (<http://en.wikipedia.org/wiki/Kleinlokomotive>) and this drehscheibe-foren.de forum post (<http://www.drehscheibe-foren.de/foren/read.php?17,4161893>).

Pictures of Hohenwestedt can be seen at die-d-zug-seite.de (<http://www.die-d-zug-seite.de/html/h4.html>) and in this bahnhof-forum.de forum post (<http://www.bahnhof-forum.de/read.php?27,244231>).

A great video from a train passing the factory in 1992 can be seen on eisenbahn-sh.de (<http://www.eisenbahn-sh.de/Video/Hohenwestedt-1992-03-23-003.wmv>)

## BR23 Original Design by Reinhard "Ben" Beneke featuring BBB train wheels



*Quality train wheels*

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# MÆRSK and LEGO®

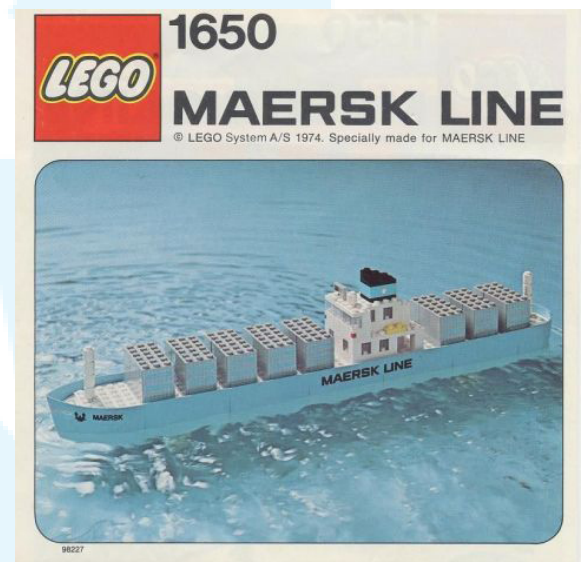
## A common history of bricks and containers

Article by Didier Enjary

Pictures courtesy of BrickLink

The A.P. Moller - Mærsk Group has various activities in the transportation and energy sectors. It manufactures containers and operates container terminals all around the world. But its main revenue, with a fleet of more than 500 vessels, comes from the business unit "Mærsk Line", the world largest container shipping company.

Mærsk, just like the LEGO® Group, was born in Denmark in the first half of the 20th century and is nowadays internationally renowned as a succesful Danish company. Their common history-in-bricks started in 1974 with the first Mærsk Line Container Ship (#1650). It is built on seven large boat hull parts (big set for that time) and offers 8 containers in the 3x6 studs format.



**Mærsk Line, Limited (MLL)** is a subsidiary of the Mærsk Group based in Norfolk, Virginia. Created in 1947, it provides transportation to US agencies. It should not be confused with the Mærsk Line business unit of the APM - Mærsk Group.

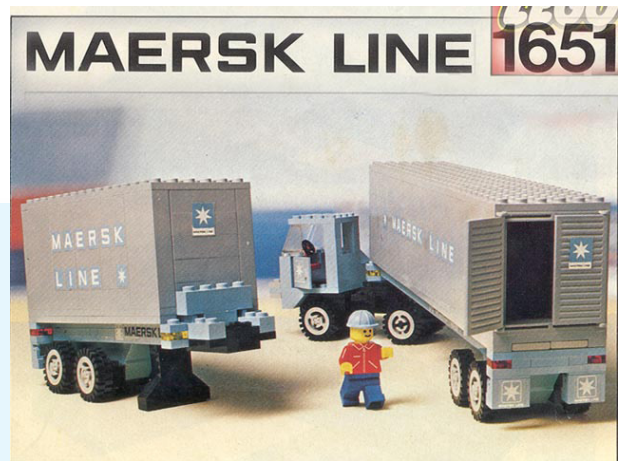
In 1980, the Mærsk Line Container Truck (#1651) brings us a true minifig size container. It does not take place on a ship but on a truck trailer. The truck is of European style with a flat nose and the driver has a Mærsk blue hard hat on.

In 1985, the set 1552 is also a Container Truck but of American style. It's not surprising that the construction helmet disappears - Everyone knows that drivers in North America wear cowboy hats.

The containers were an incredible width of 6 at that time!

In 1995, a brand new truck is released (#1831) - I should say two. Actually, Sea-Land Corp. and Mærsk Line entered an operating alliance, and naturally, the SEALAND brand took place just below the MÆRSK brand. It happened that Mærsk later acquired the international container business of Sea-Land Service Inc.

And the containers suddenly shrink to the width of 4.





In 2004, thirty years after the first Container Ship has been released, TLC releases a new version, the Mærsk Sealand Container Ship (#10152) with a brick built body. Just like the first one, the scale is smaller than the minifig scale but still the model is a large one - almost 1000 parts. The set is reissued in 2006 as the Mærsk Line Container Ship (#10155).



### The Mærsk blue by LEGO®.

LEGO® produces parts in a specific blue to match the Mærsk colors. These parts are used exclusively for the Mærsk sets. As a consequence, the variety and availability of these parts are reduced. The medium blue color almost match the Mærsk blue and is more widely available.

This new change in the set name reflects the fact that following the acquisition by APM - Mærsk Group of the Royal P&O Nedlloyd N.V., Mærsk Sealand had changed its name to Mærsk Line in February 2006.

The future.

It appears that the Mærsk Group is involved in intermodal freight transport and it is known that trains have been and are operated in the US painted with the seven-pointed star firm colors. Here at RAILBRICKS, we are happy that the LEGO® Company is bringing to us the large grey containers on tracks.



Mærsk Train Set #10219

# An older MÆRSK set

Pictures courtesy of Gary Istok

To celebrate the Mærsk Train set to come, we have featured the Mærsk sets that have been released along the years since 1974. But an older Mærsk Set exists and Brick-Historian Gary Istok gives us an insight about it.

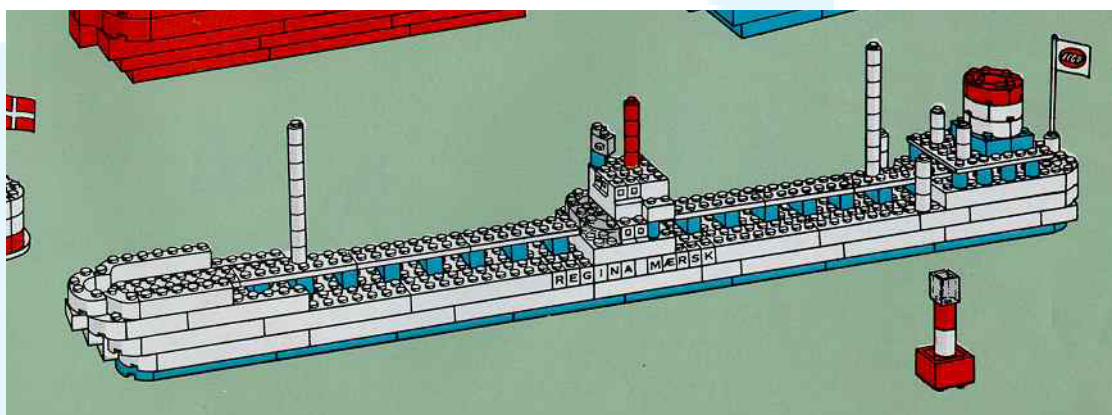
The most famous Mærsk LEGO® models are the 2 Maersk LEGO® ships. The first was the extremely expensive 1974 released #1650 Mærsk Line Container Ship that has sold on EBAY recently for up to \$2700 in MISB (YIKES!!)

The 2nd famous Mærsk LEGO® model was 10152 Mærsk Sealand Container Ship of 2004-2006.

There was a much earlier 3rd Mærsk ship that TLG made... the Regina Mærsk (LEGO® model #0751). Unfortunately there were 3 stikes against this model....

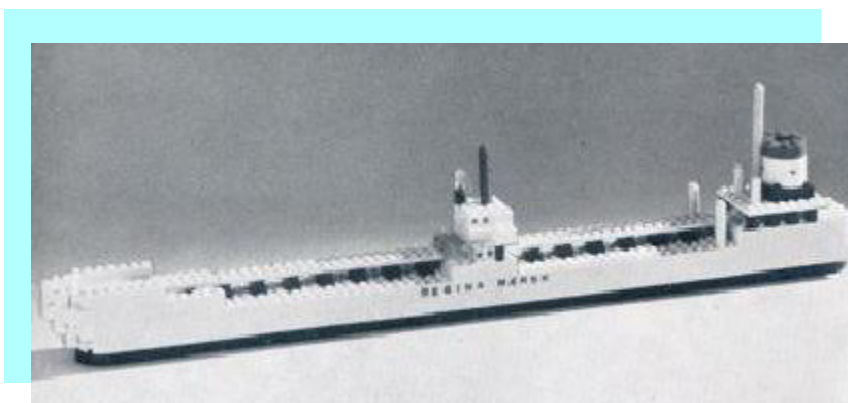
1) it was only made for LEGO® retailers from 1959-61,

2) it was made of Cellulose Acetate, so surviving models would have a lot of warped LEGO® elements,  
3) there are no known survivors of this LEGO® model... in nearly 9 years of searching on EBAY (USA and Europe), I have never seen this one come up for sale.



The original real (non-LEGO®) ship was built in the shipyards of Odense Denmark in 1954, and launched in 1955. It was the first ever Mærsk Line ship that had a Mærsk blue hull, a trademark of all Mærsk ships today.

The 1959-61 LEGO® Regina Mærsk Ship #0751 was built with regular blue bricks, and virtually no specialty LEGO® elements (they didn't exist in 1959)."







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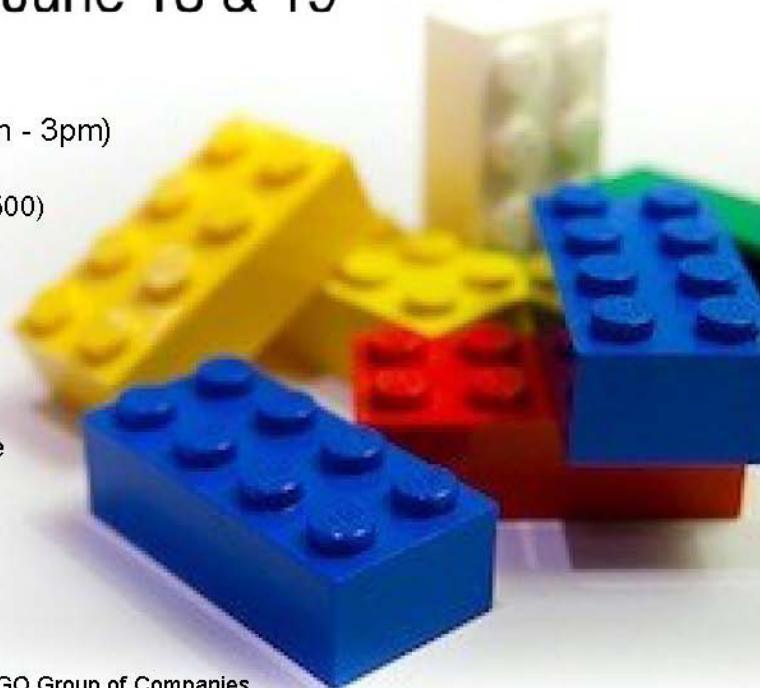
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## LEGO SHOP WATCH

New items of interest to LEGO train fans have been spotted in LEGO's Online Shop. Not all regions have yet offered these new elements for sale, but the likelihood of them being available soon to all regions is high.



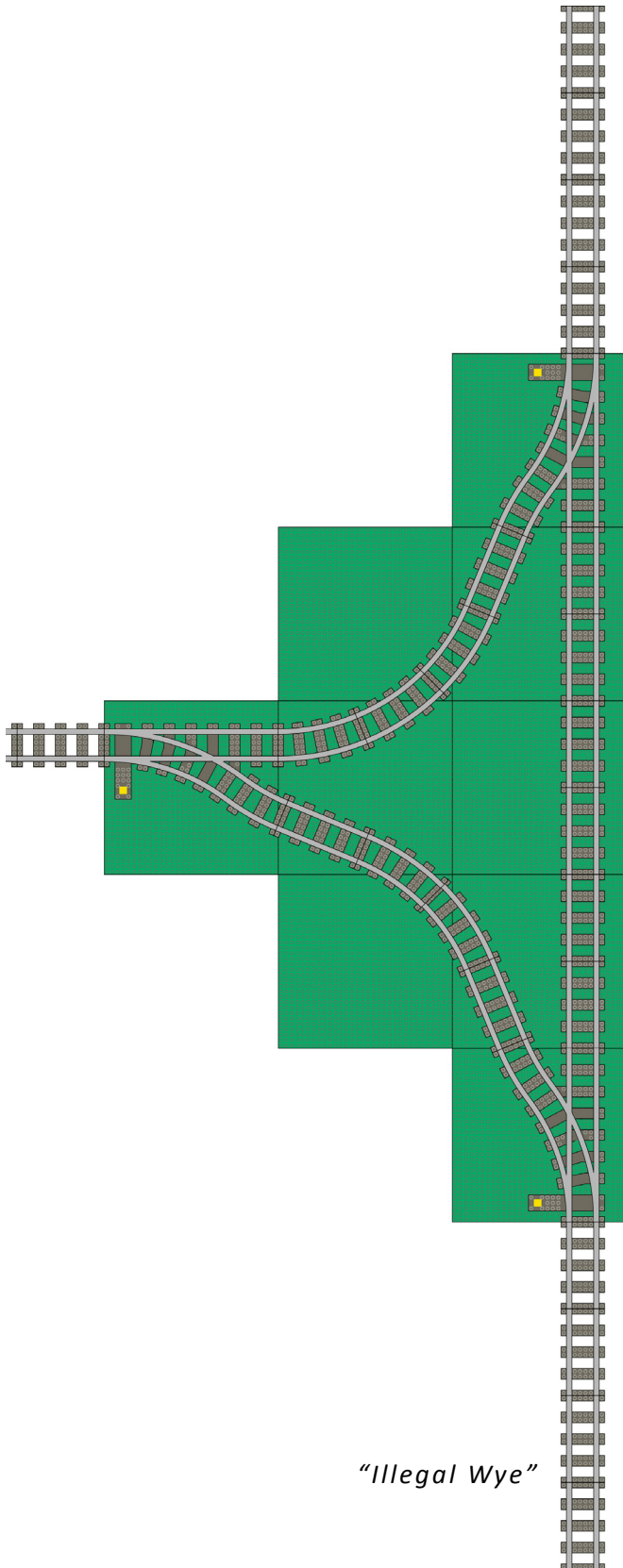
Item # 88002  
LEGO® Power Functions Train Motor

Item # 88000  
LEGO® Power Functions AAA Battery Box



B

# WYE O



*"Illegal Wye"*

While most electric and diesel-electric locomotives don't care whether they're coming or going, there comes a time when it is necessary to turn your train around. Whether it be a steam engine moving from one end of a line of cars to the other, a streamlined or directional passenger train, or even a specialized piece of rolling stock, railroad companies in the real world do not have the luxury of the Hand of God to pick up and turn their equipment 180 degrees.

One way of turning equipment is the railroad "wye", or triangular junction. A wye is a triangular arrangement of tracks with points or switches at each corner, which allows a locomotive or whole train the ability to perform a three point turn. Wyes are also used as, and probably originate from, an intersection of three different rail lines. Wyes offer the benefits of being simpler to construct and having a larger capacity than a turntable, with potentially less land needed than a balloon loop.

My first exposure to a railroad wye was at the Texas State Railroad's Palestine depot, where they have made maximum use of space and function.




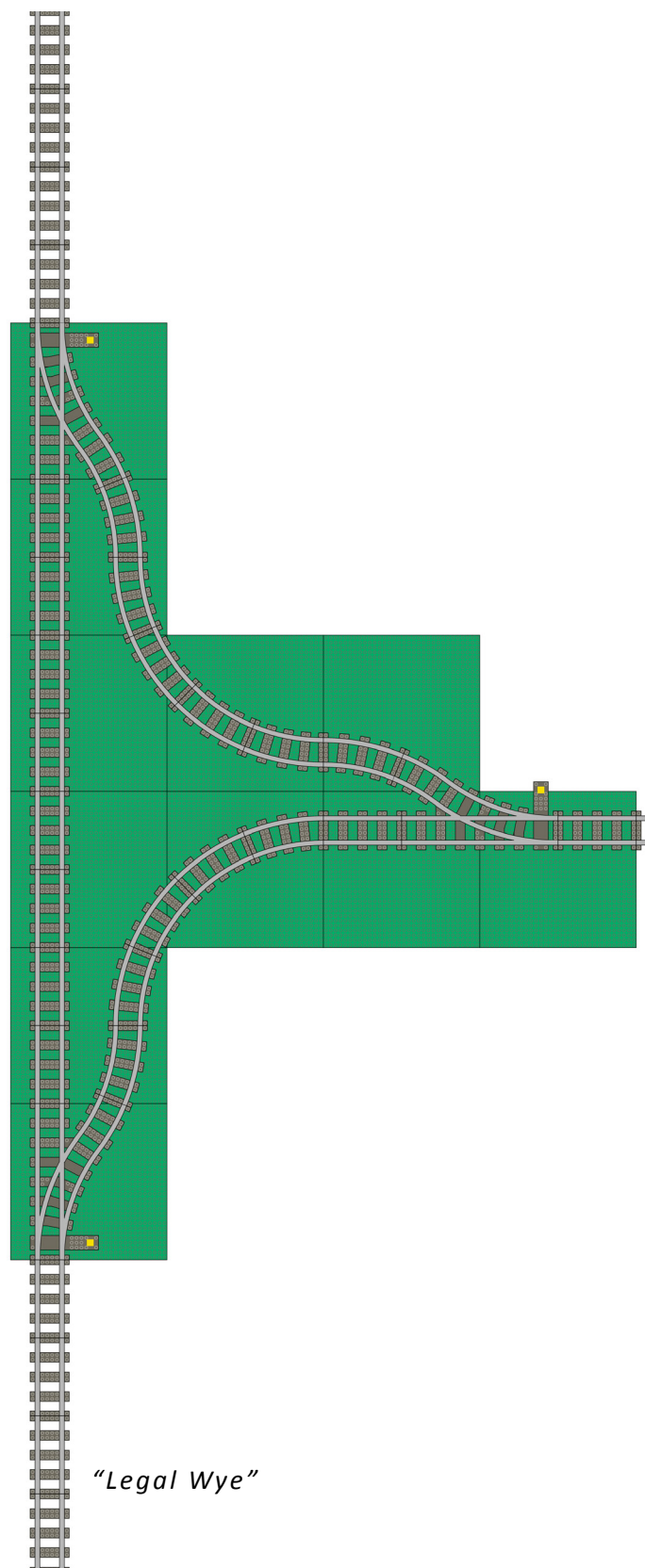
# H W H Y

By Anthony Sava

The depot itself sits in the middle of the wye, and the engine shed is at the terminus of the perpendicular corner of the triangle. This allows their steam engines to move from either side of their passenger coaches, as well as back into the shed, no matter in which direction they finished their work.

In LEGO, wyes can be a little tricky to construct, depending on how much real estate you have available and what system of power you're using. For plastic rails a wye offers no issue, but for electrified rails a break in the current is necessary to prevent a short. This can easily be accomplished by replacing one of the sections of rails in the wye with a plastic one, segregating the lines.

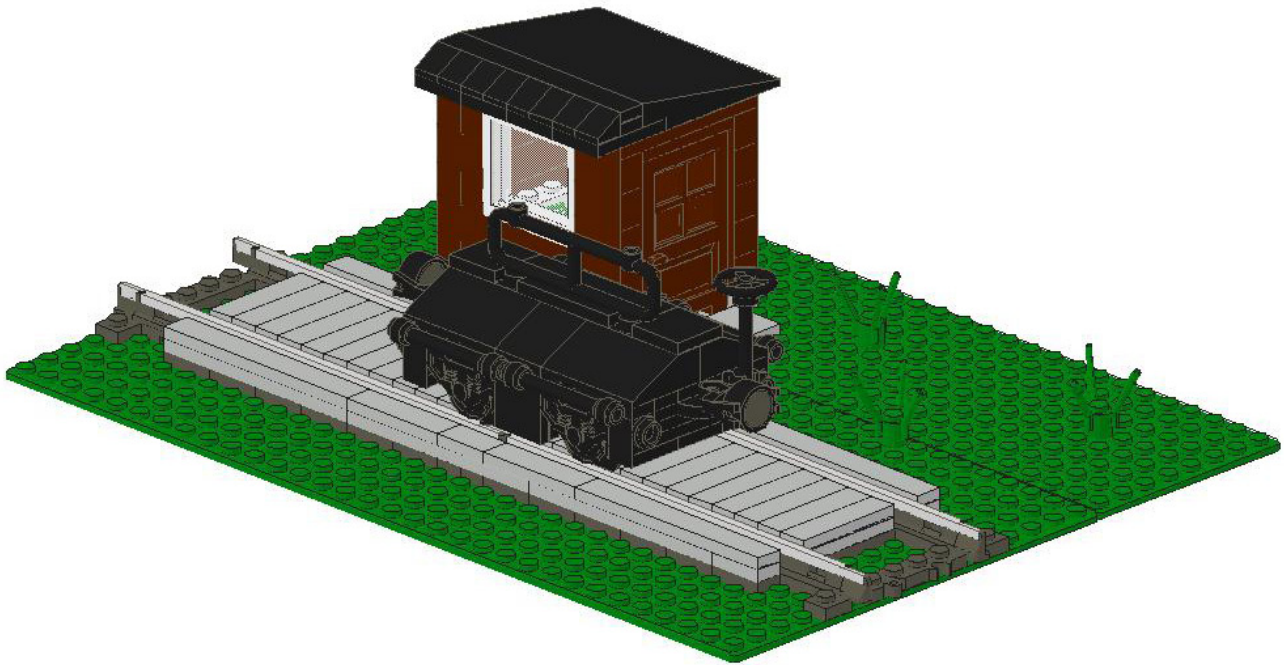
I've been experimenting with wye designs, as I want to build the TSRR Palestine Station and my fellow TexLUGgers want to build a wye around it. For this article I have provided two designs - one "legal" and one not. The difference between the two is that the "illegal" design requires a smaller footprint, but at the cost of slightly stressing the track as it doesn't line up perfectly. Don't worry, there's no cutting involved, but you could certainly make an even smaller design if there was. 



# Tipping the Scales

By Elroy Davis


I



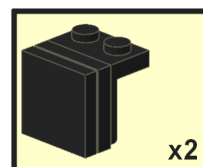
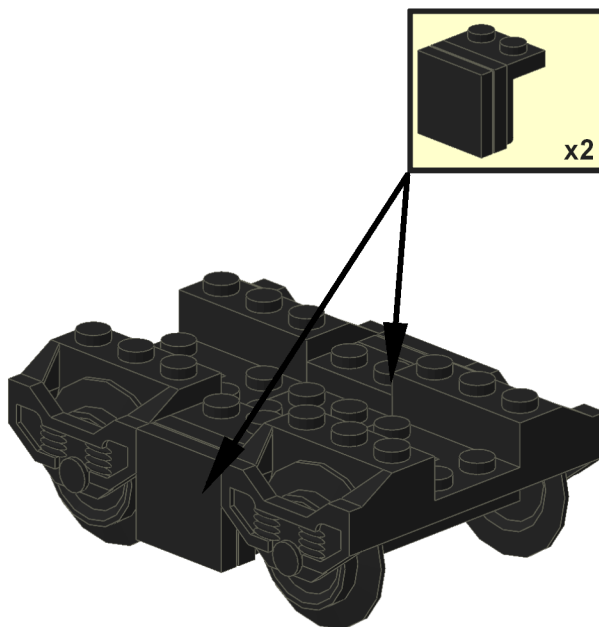
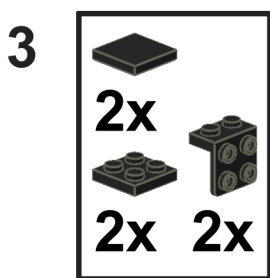
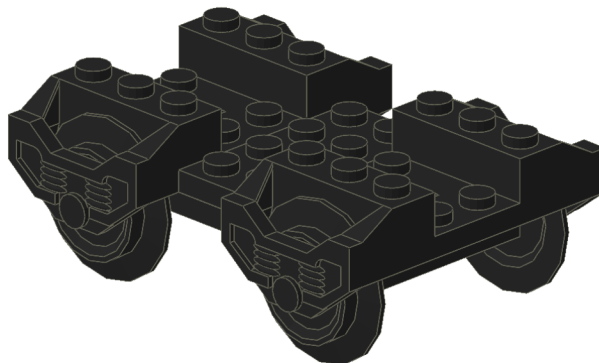
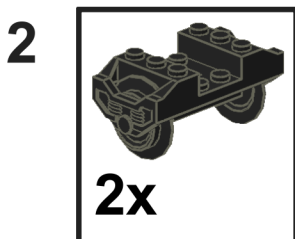
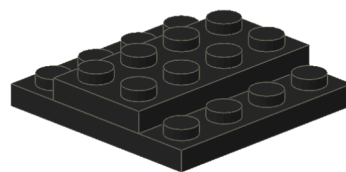
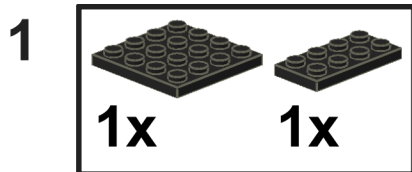
*Track scales are one of the most important pieces of equipment that may be found in a rail-yard. These scales are capable of weighing cars and, more importantly, their contents, as they pass over the specially built track section.*

*Scales are important to any railroad that uses weight as a means of billing. More freight means more weight, and more weight means more money. However, too much weight can also be problematic in some areas, so scales are used to make sure that cars don't weigh more than what the line can handle.*

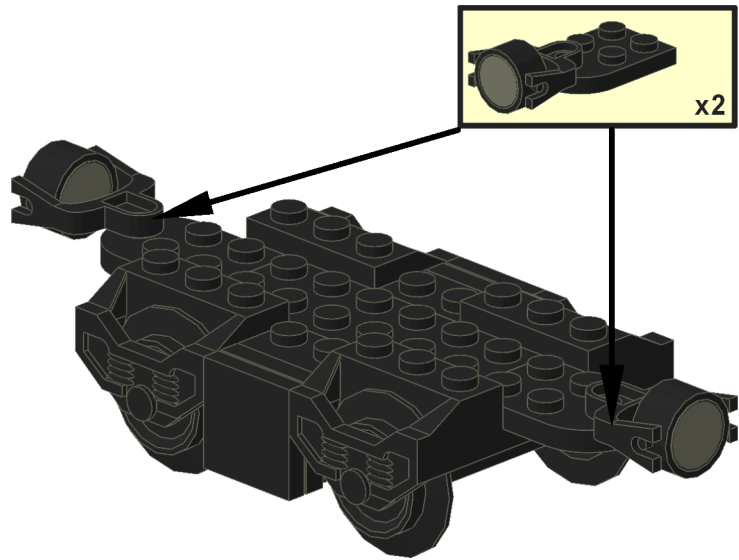
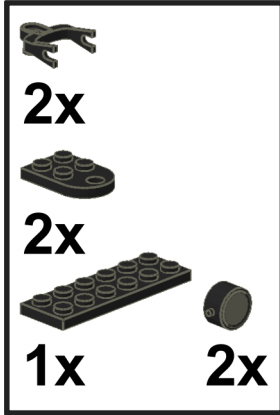
*To keep their scales accurate, railroads use a special weight test car to calibrate each scale that they own. This car has a known weight, and is usually handled very carefully so that the weight of the car does not change for any reason. Since the weight of the car is known, each scale that it crosses can be carefully tuned so that each is measuring within the same tolerances.*

*The following pages show building instructions for a typical weight test car and scale house as they may be found in various parts of the United States. *

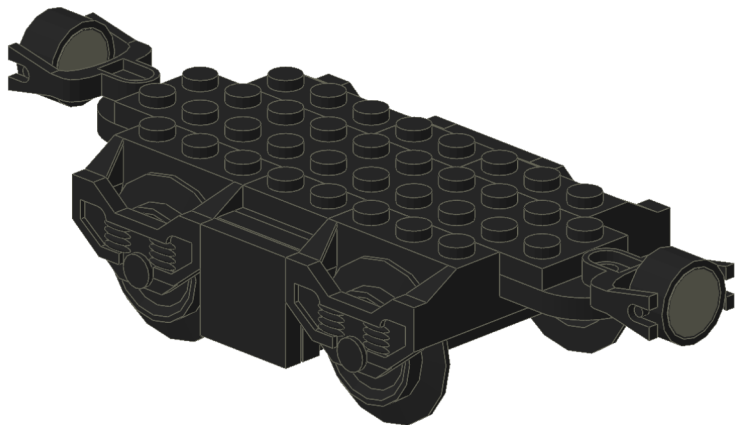
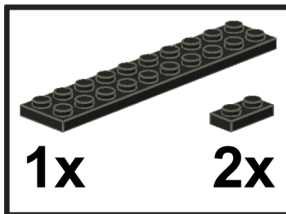




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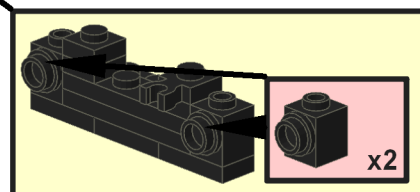
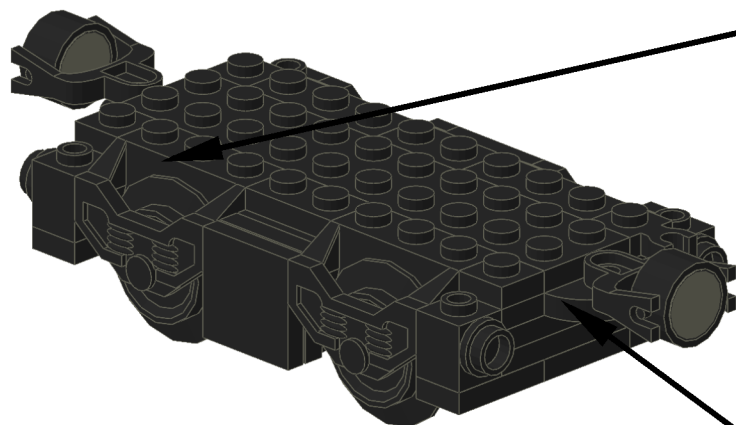
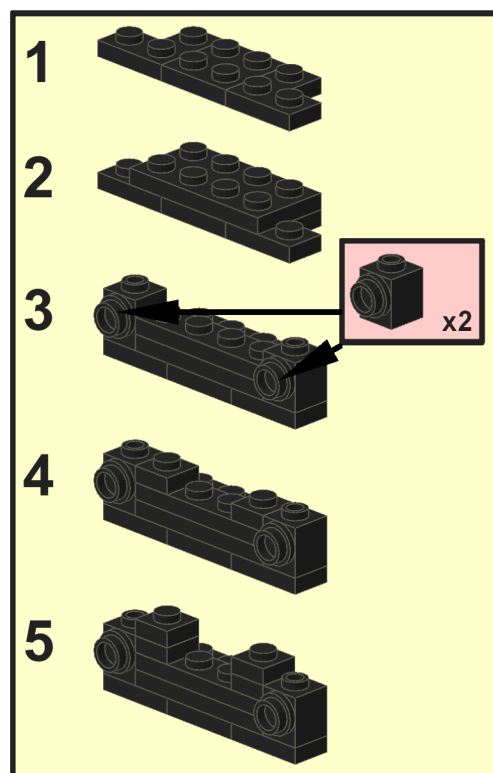
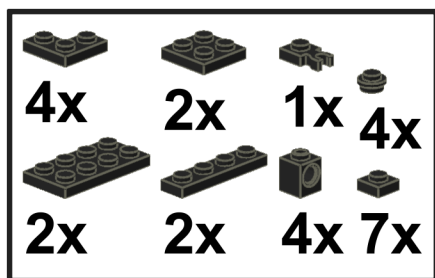


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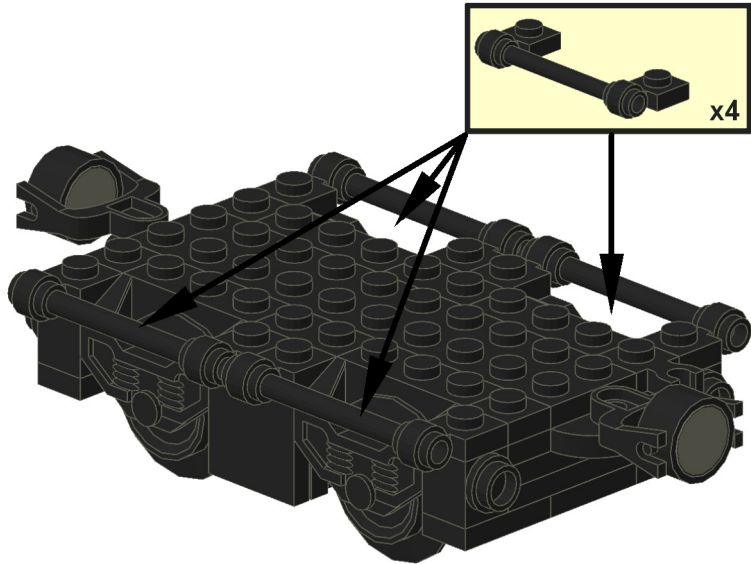




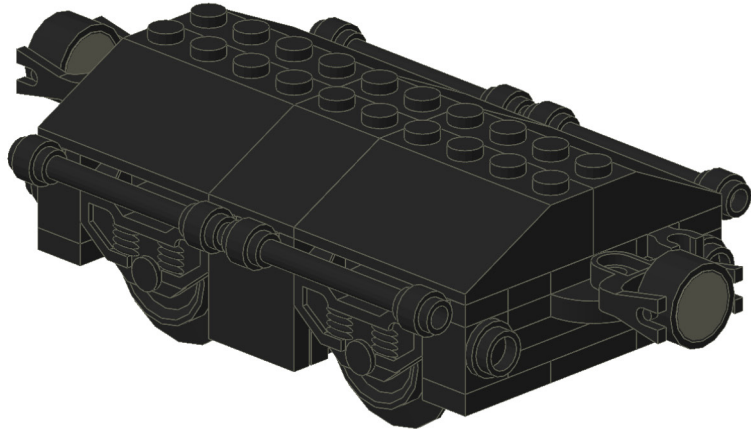
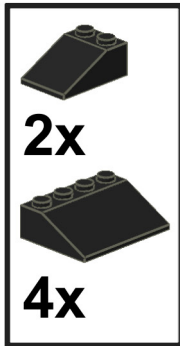
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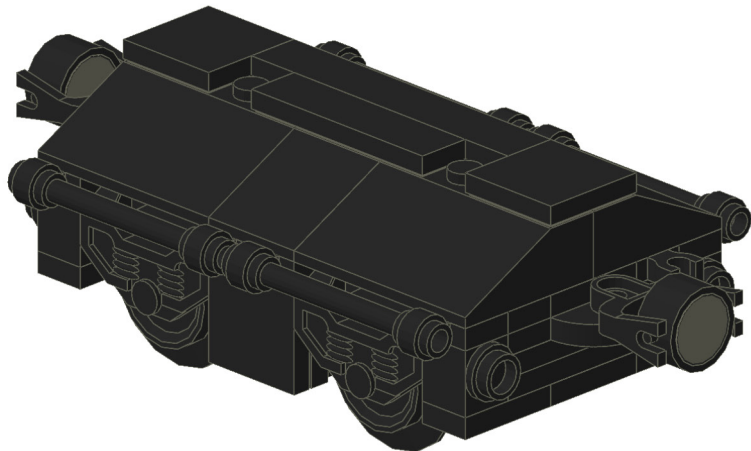
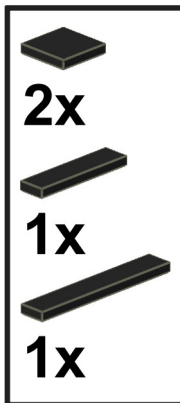
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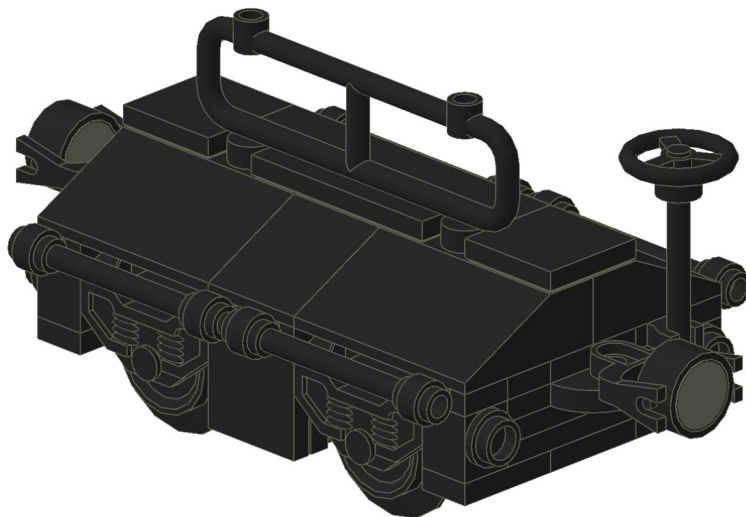
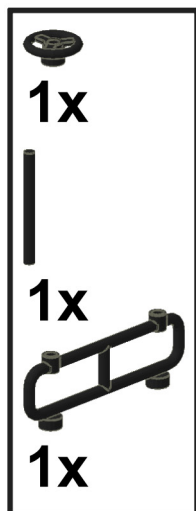


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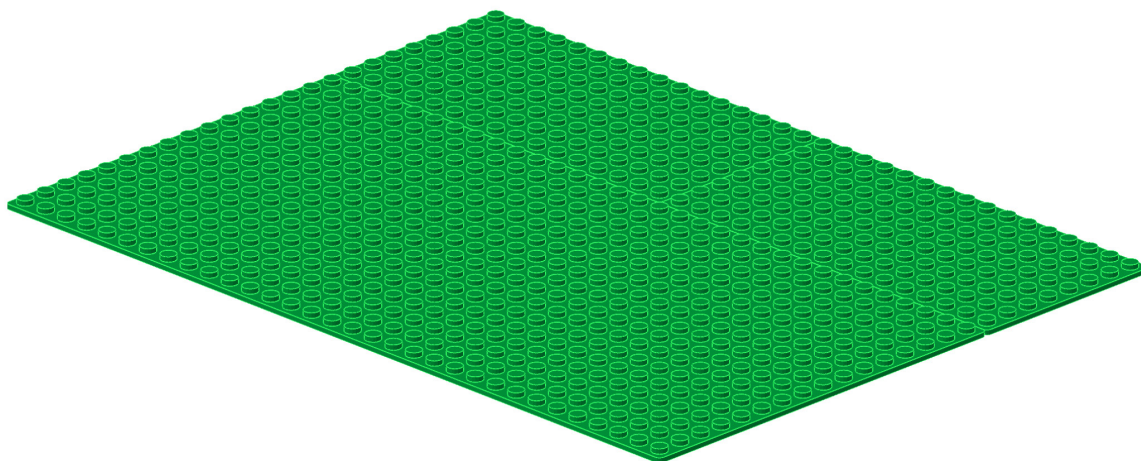
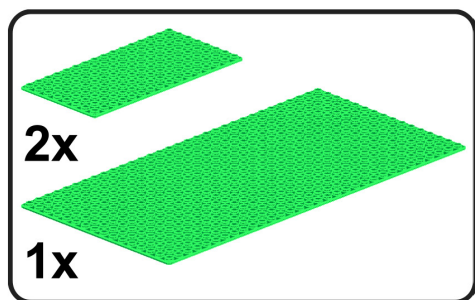




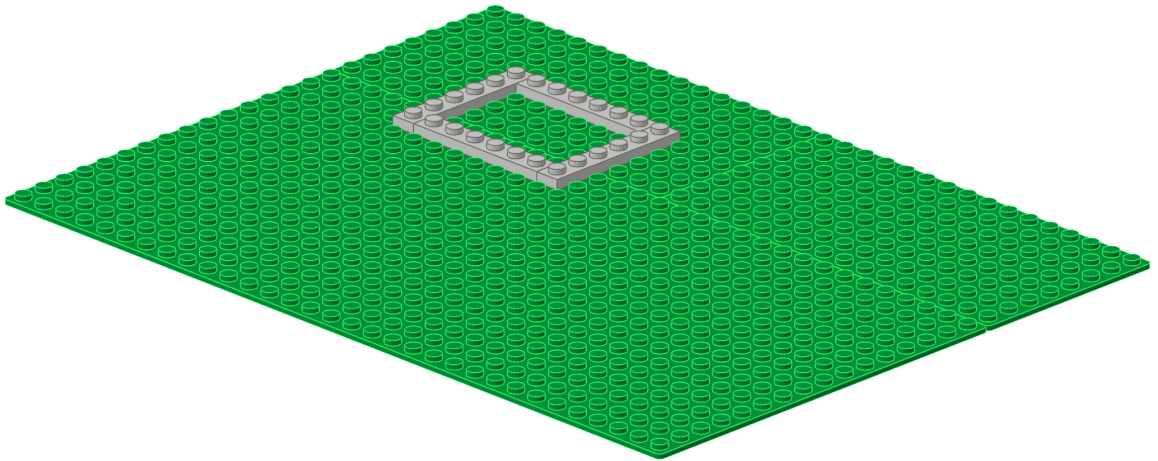
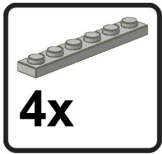
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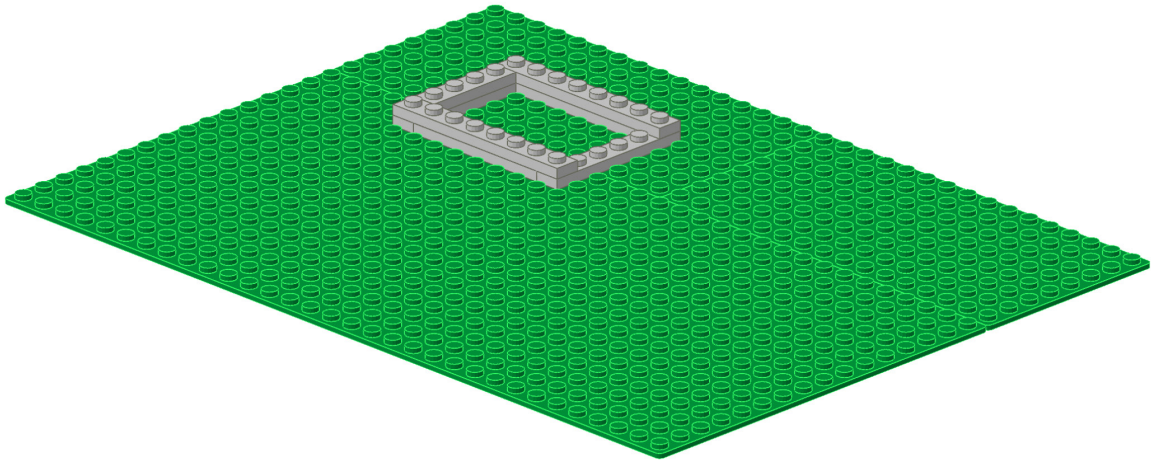
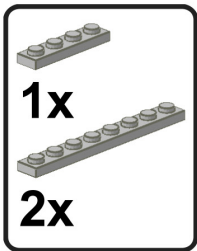
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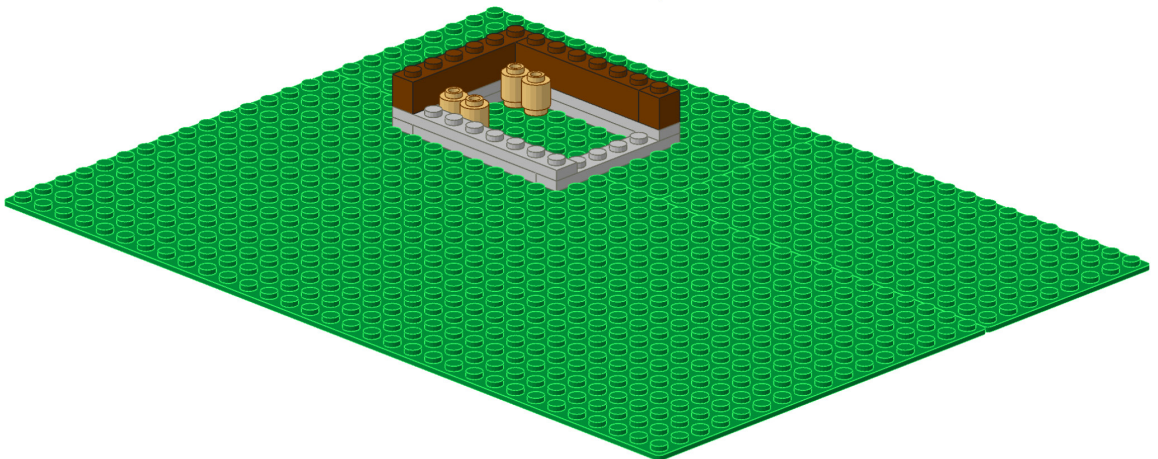
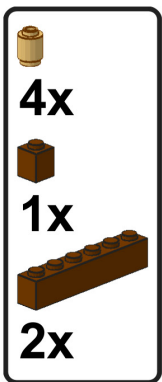
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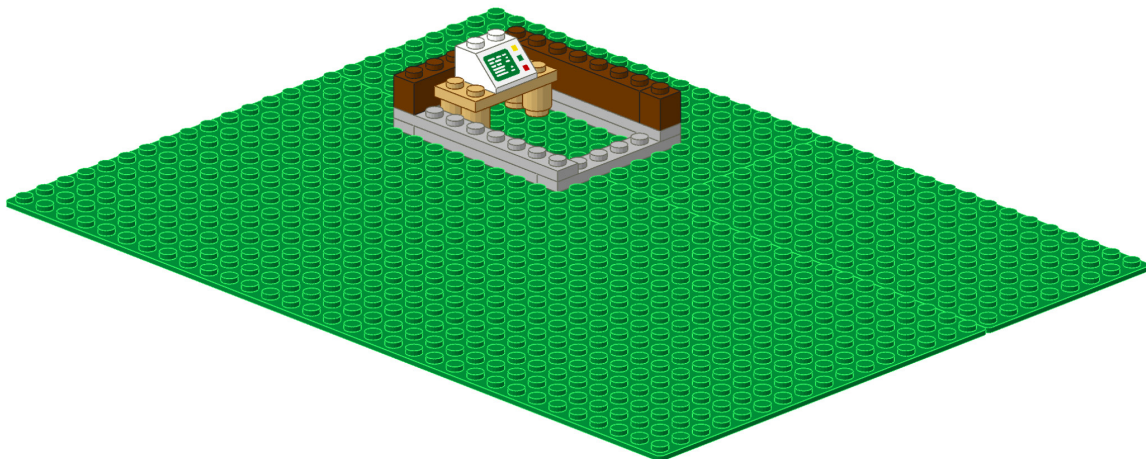
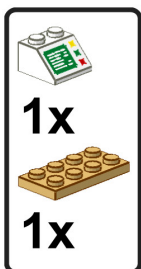


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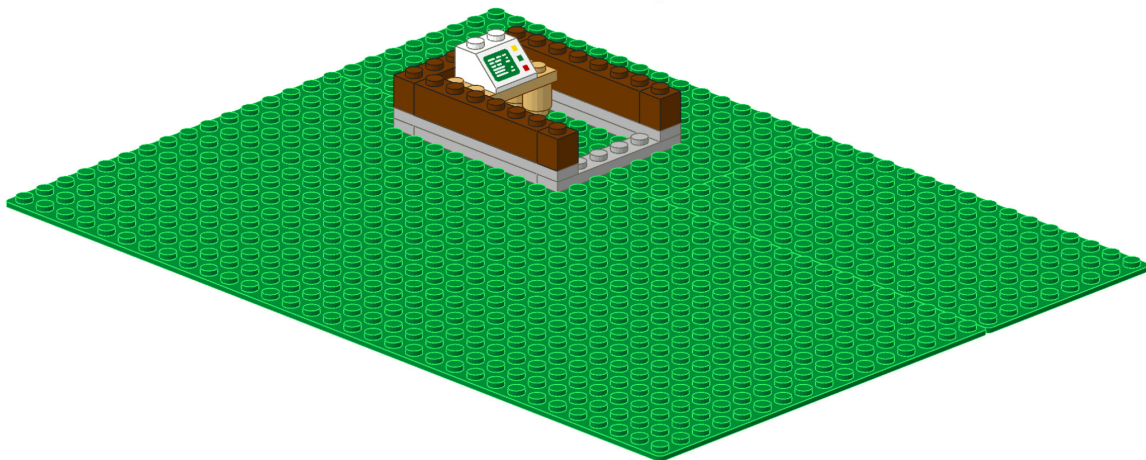
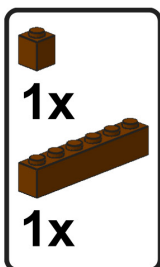




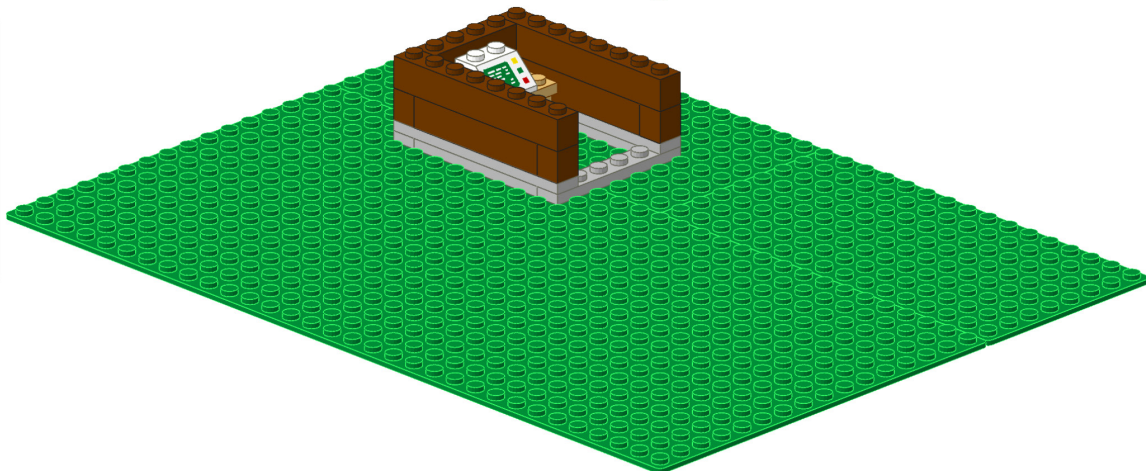
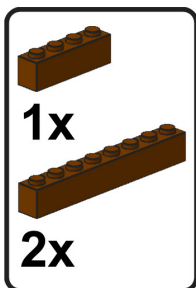
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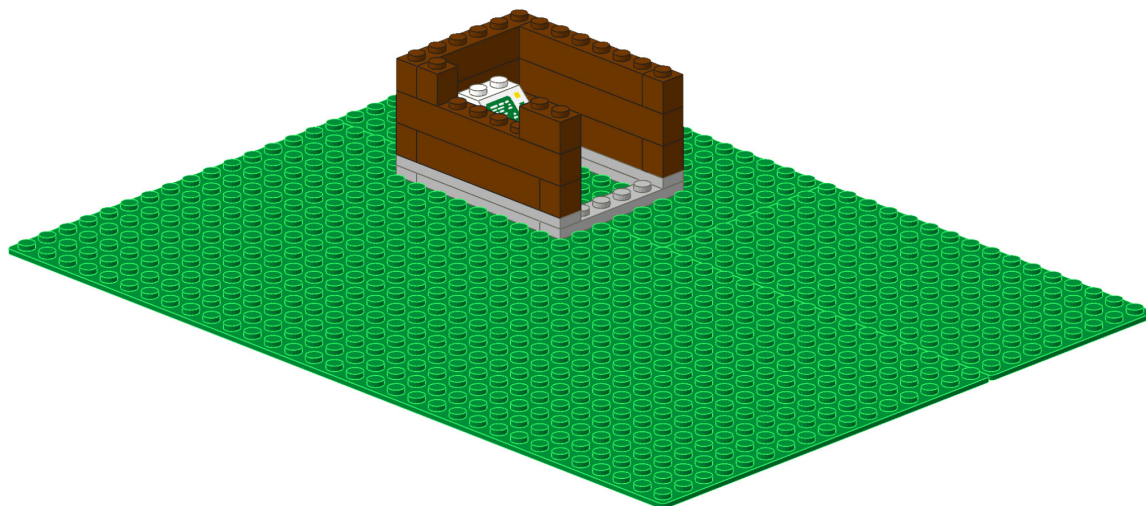
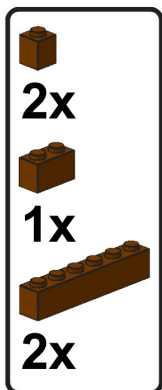
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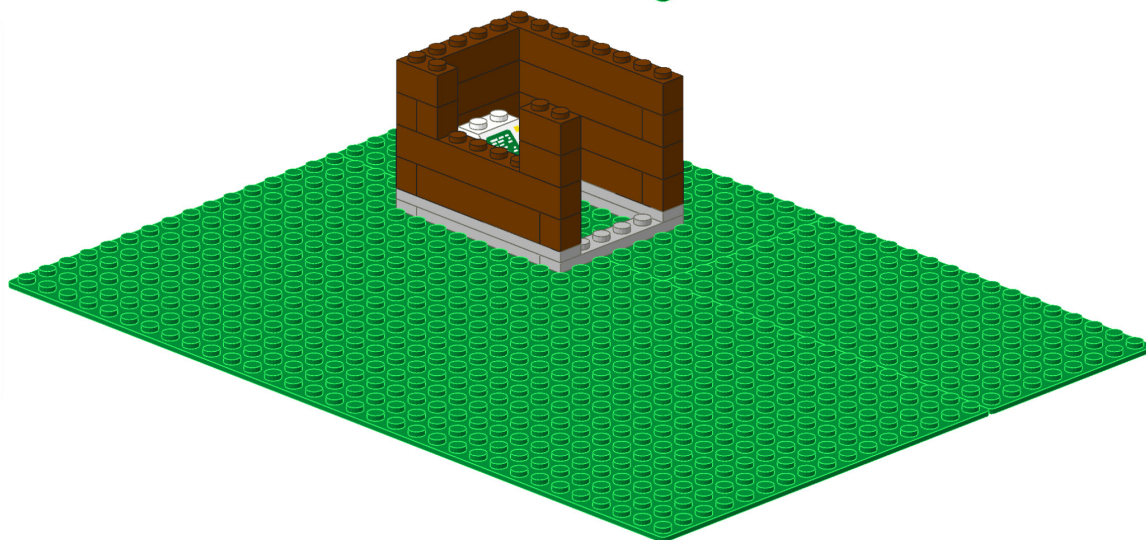
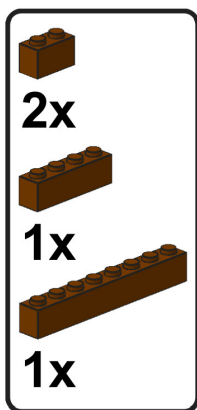
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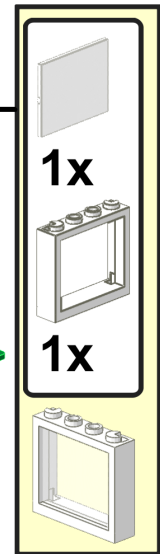
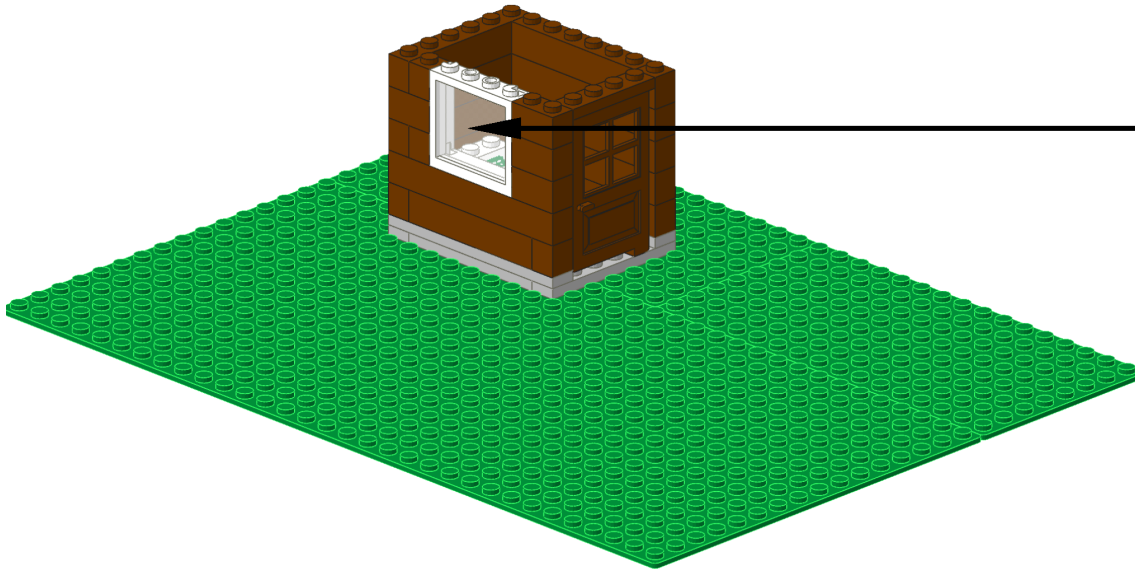
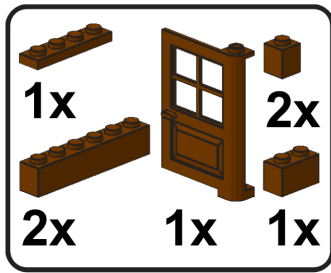


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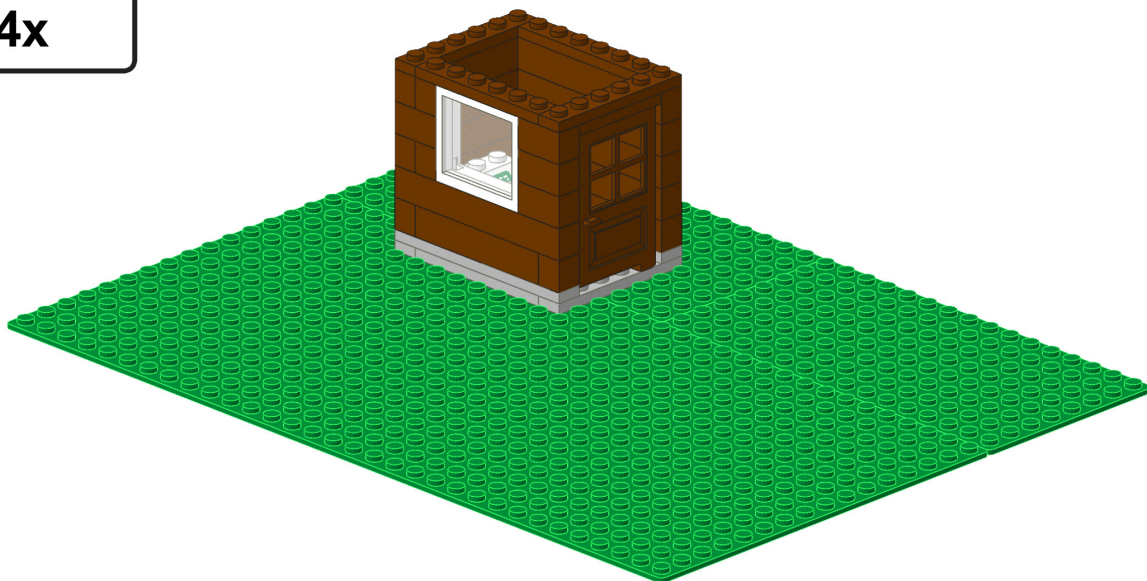
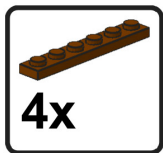


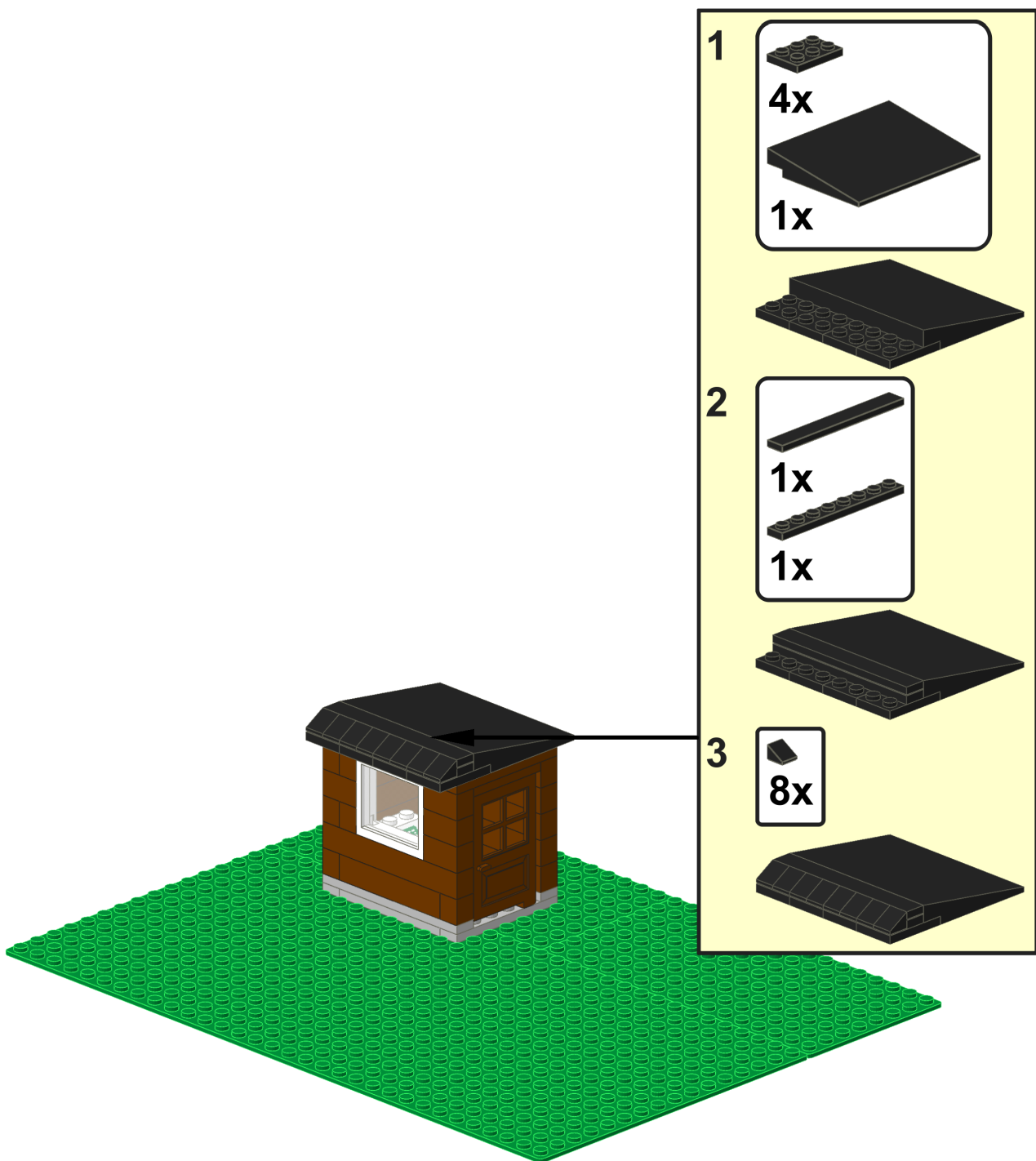


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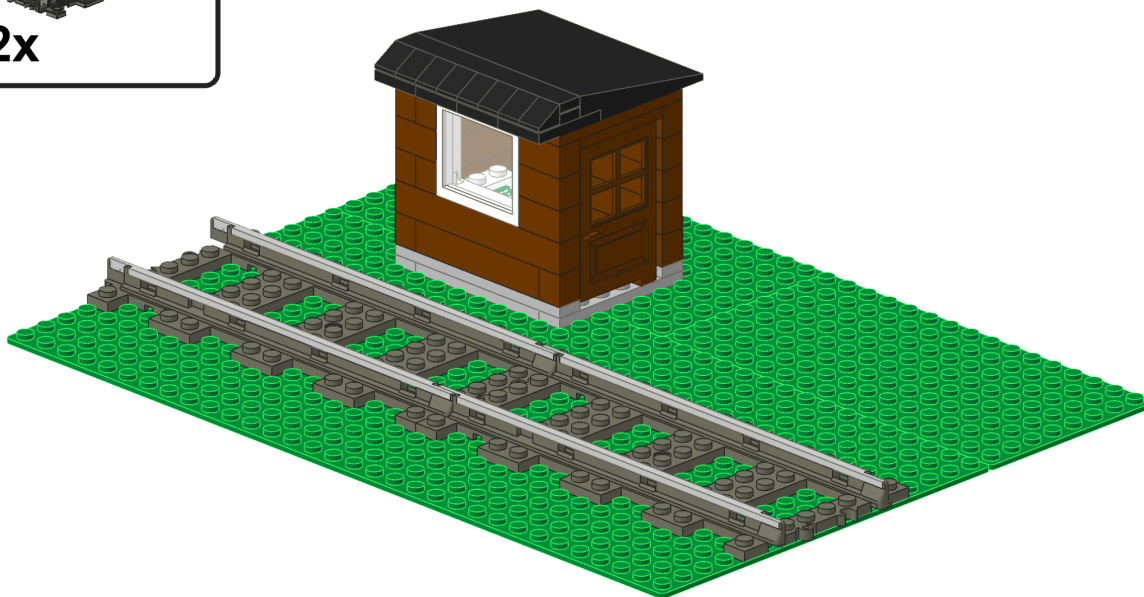
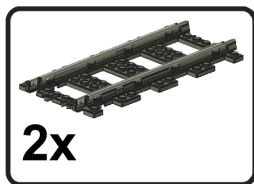
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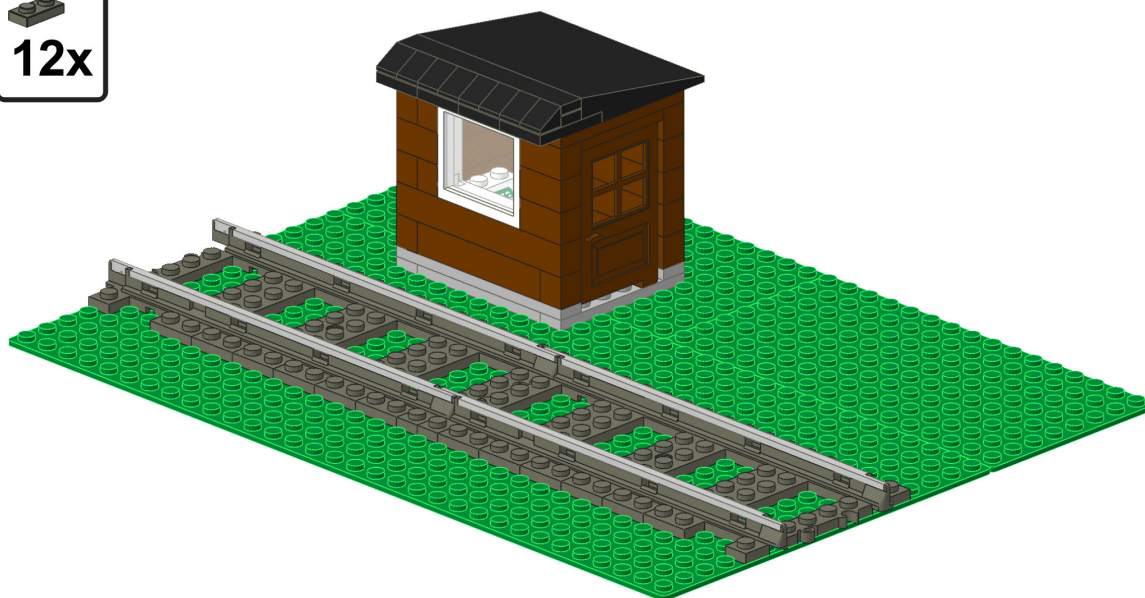




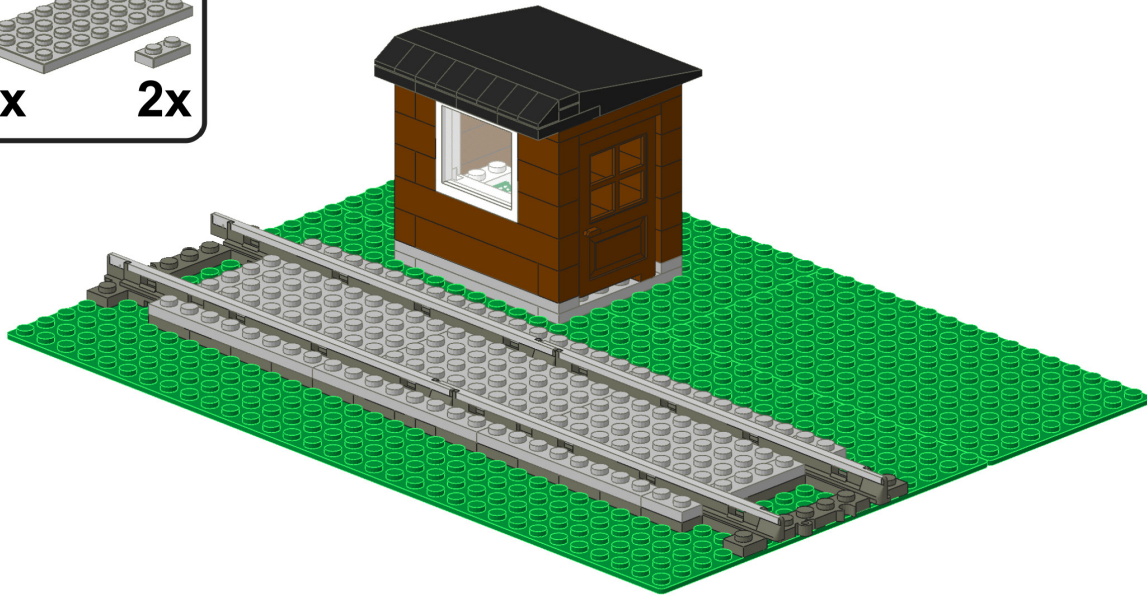
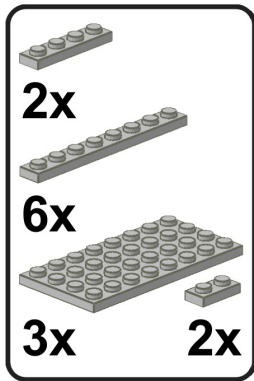
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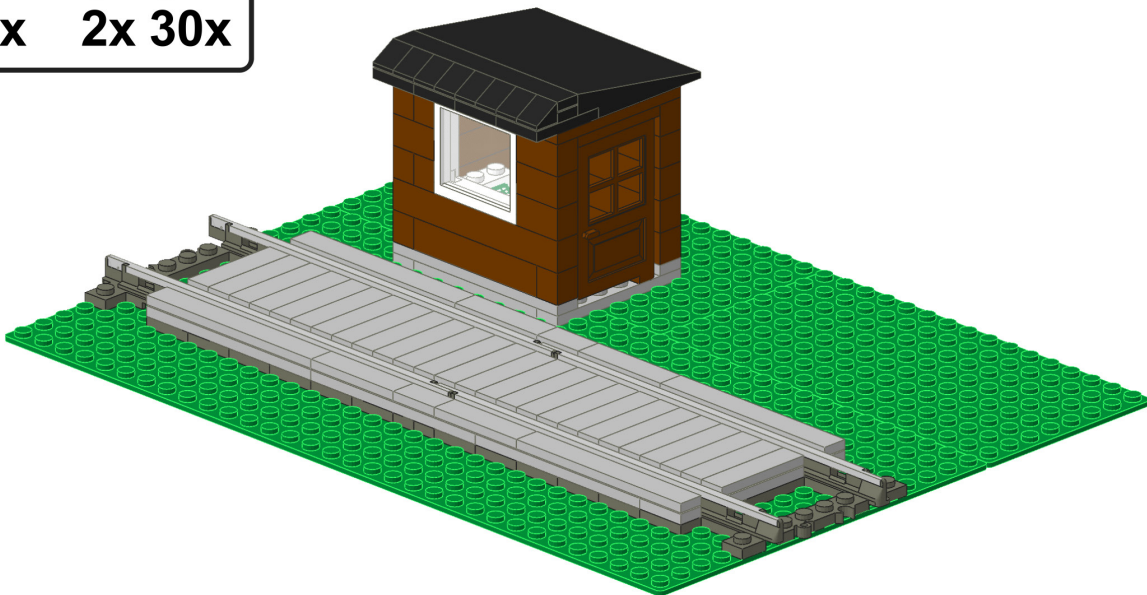
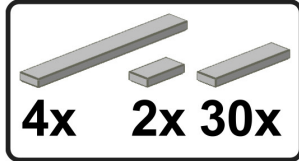
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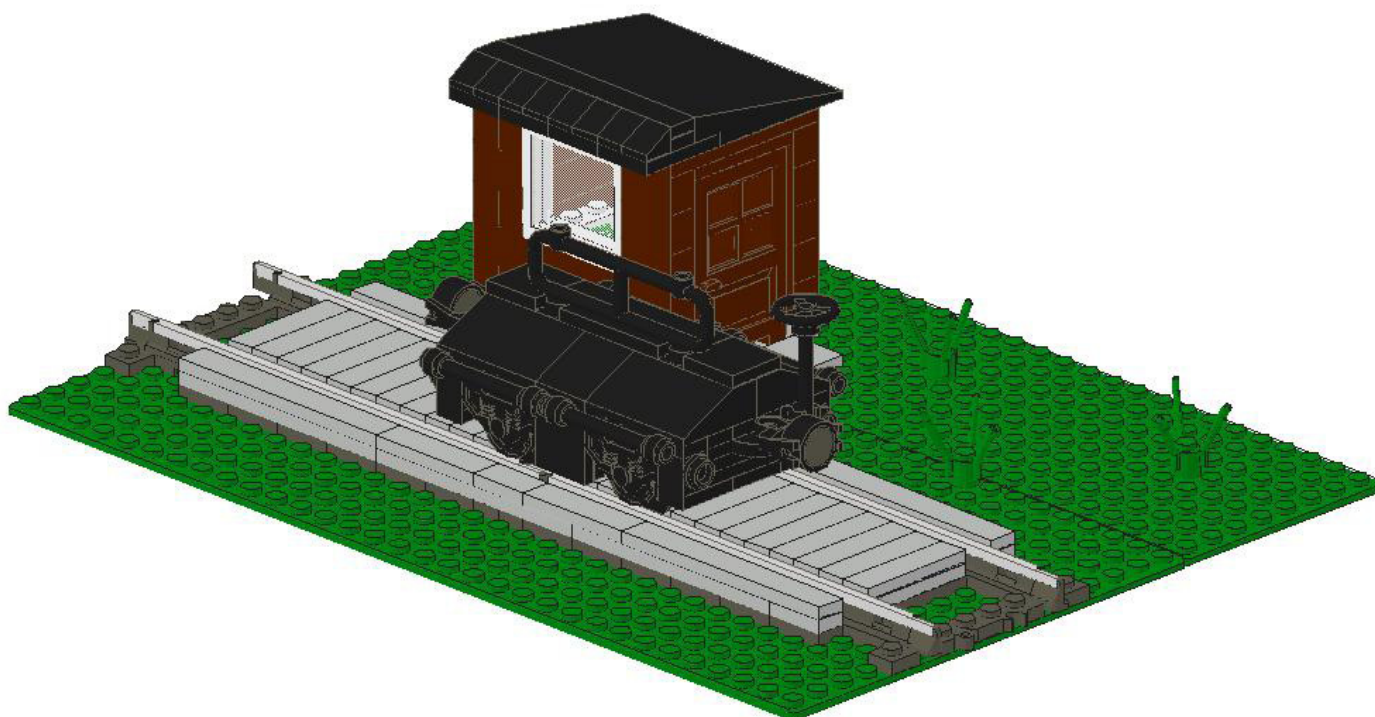
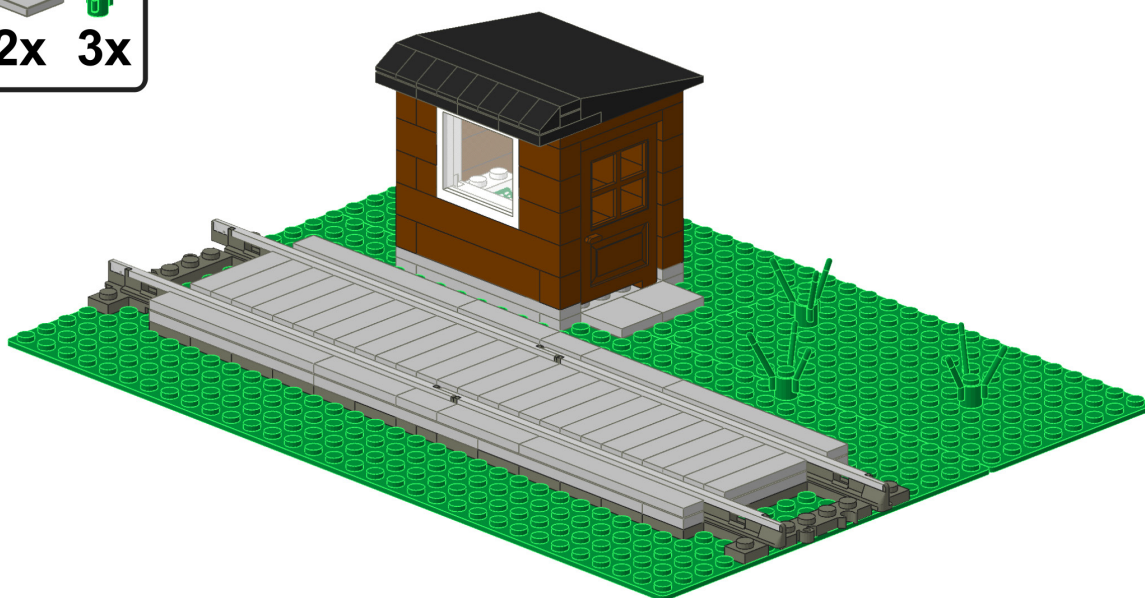
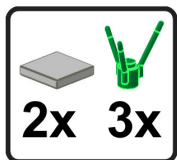


16





17



# TRAINS POTTING



<http://www.brickshelf.com/cgi-bin/gallery.cgi?f=460415> by legorobo



<http://www.mocpages.com/moc.php/241596> by Mondo Diek



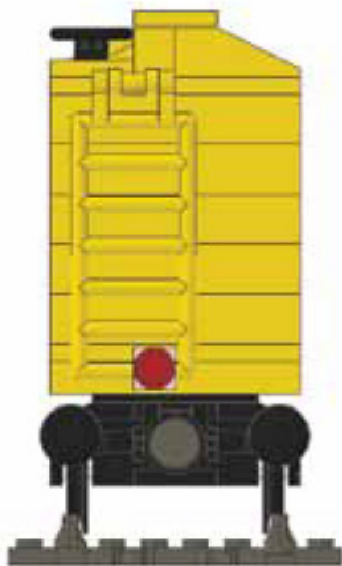
<http://www.flickr.com/photos/36059767@N08/sets/72157625543362821/> by Johan van den Heuvel



<http://www.brickshelf.com/cgi-bin/gallery.cgi?f=461289> by Masai



# F.R.E.D.



Thanks for reading the latest issue of RAILBRICKS magazine. We hope that the articles presented in these pages will help to inspire, teach, and inform, and that you enjoy reading them as much as we enjoy researching and writing them.

We all love this hobby, and we really like hearing from other modelers about their techniques and experiences. If you have an idea for an article that you think others would be interested in reading in RAILBRICKS, please drop us a line at [submissions@railbricks.com](mailto:submissions@railbricks.com).

Building instructions, too, are always welcome. The quickest way to learn a modeling technique is to study the work of others, and those who are willing to share their work help further the hobby by allowing that study.

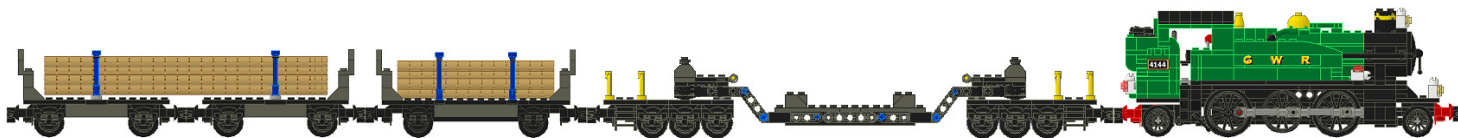
Finally, I'd like to once again thank the entire RAILBRICKS team. The experience and views of this team really span a multitude of areas, which help to make the production of each issue a pleasure. I can only hope that our readers enjoy seeing what this group comes up with as much as I do.

-Elroy



Help support RAILBRICKS, the brick railroading magazine, with this gorgeous 13 month calendar. Each month features photos from Anthony Sava's Sava Railways Scenic Tours photo series, showcasing trains and scenery built entirely of LEGO® bricks. As a bonus, the 13th month features a guest photo of LEGO® trains by Larry Pieniazek and Jim Garrett. This is not an official LEGO Product, and is not sponsored, authorized or endorsed by The LEGO® Group.

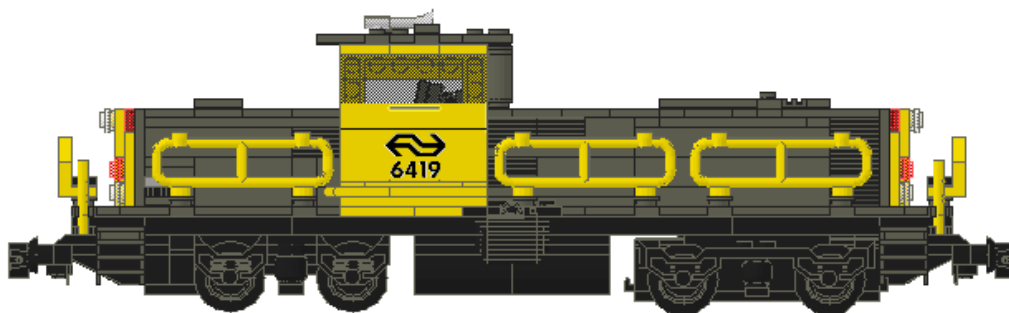
<http://www.lulu.com/product/calendar/sava-railways-2011-calendar/14013972>



# Custom Technic and Train sets

Over 30 models

All wagons and carriages for 9V, 12V or RC



Engines for 9V/12V and some for RC

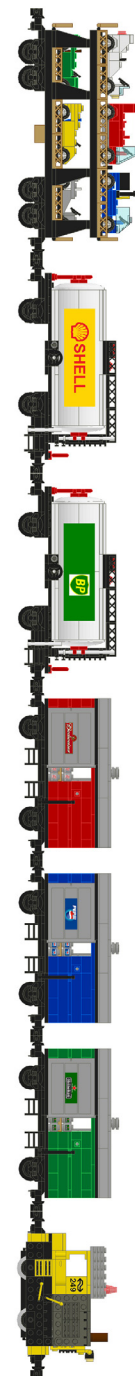
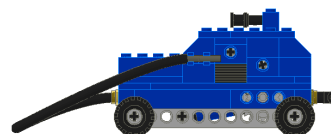
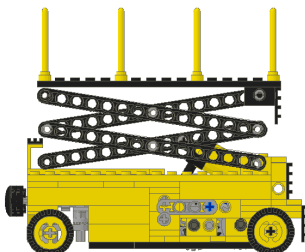
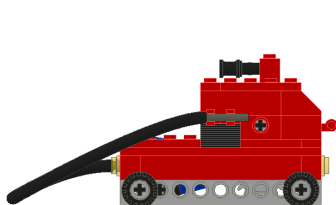
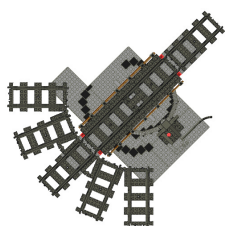
RC turntable and 9V/RC pneumatic switchpoints.

Sets complete with all parts, stickered box, colourfull building instruction (mostly printed, some on CD), list of parts and stickers/decals. All models also available without parts.

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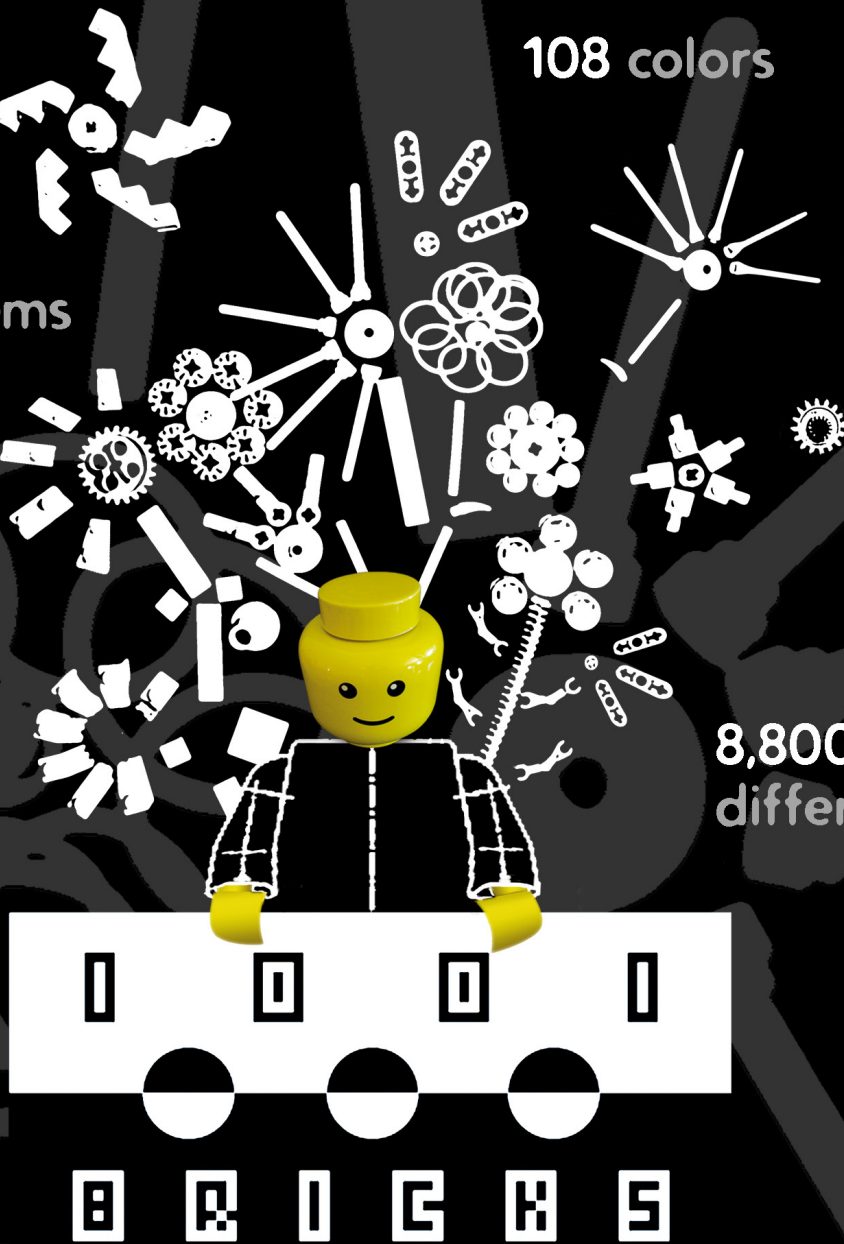
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