A Publication of the
BREMERTON NORTHERN MODEL RAILROAD, Inc.
Kitsap Mall, Silverdale, Washington

Form 19

# THE FLIMSY BOARD

Form 19

Train No. 10 Vol. 45 http://www.bnmrr.org Issue: October 2020

BNMR is a 100% NMRA Member Club

Watch your email and the website for news about meetings and clubhouse opening under Phase II.

*Photo submitted by Mike Bay*

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# THE FLIMSY BOARD

Official Publication of the Bremerton Northern Model Railroad, Inc

The club is incorporated in the State of Washington as a non-profit and is recognized by the IRS as a 501 (c)(7) social club. We are a 100% National Model Railroad Association (NMRA) membership club. We belong to the NMRA's Pacific Northwest Region (PNR), 4th Division.

FLIMSY BOARD STAFF:

Editor: Bert Cripe
Submit Contributions to: Bert Cripe, 2398 Jefferson Ave SE, Port Orchard, 98366.
Email: bert@wavecable.com

Submittal deadline is the 25th of the month. 

Unless otherwise noted photos are by the Editor.

MEETINGS NOTICE:

The regular Business meetings are held on the first Monday of the month at the clubhouse in the Kitsap Mall, Silverdale, beginning at 7:00 PM. If the first Monday is a holiday, the meeting will be rescheduled to the second Monday of the month. The January meeting is our annual dinner meeting held at a local restaurant.

Board meetings are held at a time and place set by the President. Refer to the Calendar below.

OFFICERS:

President:..... Bruce Himmerick
Vice President: ..... Bob Jensen
Secretary: ..... Bill Hupé
Treasurer : ..... Wes Stevens
Sergeant-at-Arms: ..... Ray Hagele
Directors:..... Bert Cripe, Mike Boyle, Dick Stivers, Russell West
Web Site:..... http://www.bnmrr.org
Facebook:..... https://www.facebook.com/groups/1988490354736510/

# OCTOBER CALENDAR

The Mall is opened with reduce hours. Access to the clubhouse is limited with caution to avoid the spread of the virus. Expect more news as the details are determined and announced.

For true and responsible virus information please visit the CDC website:

https://www.cdc.gov/coronavirus/2019-ncov/index.html

## FROM THE EDITOR'S DESK

I am happy to report the club has picked up four new members in September.

WELCOME to our new club members. Please feel free to contact an officer or board member if you have questions or need help.

Keeping our membership numbers at a level required to maintain our clubhouse in the mall is a prime consideration.

Therefore I want to point out that the house rules Section III, Paragraph 2 discusses mentors. Speaking from personal experience as both a new club member and a long-time member in several clubs over the last 50 years, I can attest to the fact that when a new member is ignored, not greeted, nor made to feel like a welcome addition to the group it often leads to loosing the member.

I will be mentoring new N Division members unless another N Division member wants to step forward to share in the experience of learning by helping someone else.

So lets make sure our new members are made to feel welcome! Be friendly and help them learn how to function within our club.

I will soon issue an update to the N Division handbook that reflects how to use the new NTRAK DCC equipment and cart along with the 'Quick Start' posted on the NTRAK layout.

…. *BC*


*Prototype Photo submitted by Peter Bieber*

## ON THIS DATE … OCTOBER

6th, 1866: The Reno Gang (also known as the Reno Brothers Gang and the Jackson Thieves) staged the first train robbery, in U.S. history, near Seymour, Indiana.

4th, 1883. The *Express d'Orient* began service from Paris to Constantinople (now Istanbul). Renamed the *Orient Express* in 1891.

10th, 1879. The Michigan Central Railroad's *Pacific Express* wrecked when it ran into a switch engine in heavy fog at Jackson, killing 18 passengers and injuring 26.

22nd, 1821. C.P. Huntington was born in Harwinton, Connecticut. Besides the Central Pacific railroad he was involved with the Southern Pacific and the Chesapeake & Ohio railroads.

27th, 1904. At 2:35 pm, New York City Mayor George McClellan took the controls on the inaugural run of the city's first subway.

29th, 1901. Henry Huntington (nephew of C.P. Huntington) incorporated the Pacific Electric Railway in Southern California.

…. *BC*

## NEW MEMBER REPORT

New members in September.

Chris Cox

Don Hamer

Jerry Enders

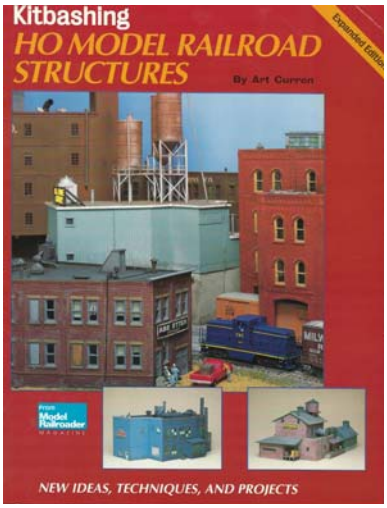
Norm Bruce

# BOOK REVIEW

*Kitbashing HO Model Railroad Structures*
*By Art Curren*

I really enjoy kitbashing structure kits. One of my goals is to make something that is unique, something that looks familiar to the viewer but can't be placed.

In the event you are not familiar with kitbashing or kitmingling as the author refers to it, it is simply the act of building a kit in a different way that the manufacturer's instructions say to do. When you look at the finished products in this book you may well think of it as an art not just the act of building a structure.

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First publish in 1988, the edition shown here is from 1994.

Granted many of the kits used in the book are long out of production, however some become available on Ebay, estate sales, and swap meets once those are held again.

But don't let the book's use of these old kits stop you from reading the book and learning the techniques featured within it. The photos and drawings will provide you with ideas and methods that can be applied to any kit if you will put the effort into developing a plan for a modified structure.

If you do a little research you will find that many kits from the 60s were later offered by other companies. My bascule bridge kit has been marketed by at least 3 different companies over the last 40 years! I have an old Walthers grain elevator kit that came with Heljan instructions.

In the back of the book is a cross-reference table showing which kits, used in the book, have been offered by other companies.

In addition to illustrating how to modify kit parts, the book has drawings detailing how to scratchbuild details to add to your new structure. Weathering tips are also included.

All in all, I say this is a great book if you desire to build a building that is not available as a kit or you need one for a specific shape or location or to provide a unique customer for your layout.

This book is out of print as is the book that followed it: "How to Kitbash Structures", however the club owns the copy shown here and you will find it in our library (once I return it). You may find used copies on Amazon but at inflated prices. Ebay is another source of both out of print books and discontinued kits. Another good book source is in the UK here: https://www.awesomebooks.com/

ISBN: 0-89024-245-3

…. *BC*

# USING LIGHT EMITTING DIODES TO PROVIDE TURNOUT POSITION INDICATION

A requirement to complete the Electrical AP certificate is to provide turnout position indication for four turnouts.

Diodes allow current to flow in only one direction. Light emitting diodes (LED) are polarity sensitive, solid state devices that emit light when voltage is applied in the 'forward' direction. LEDs are very sensitive to the applied voltage and resulting current. Most LEDs require a current limiting resistor to prevent failure from excessive current. Excessive voltage applied in either direction can result in complete failure of the LED. Shown in Figure 1 are the basic parts and symbols of the three LEDs addressed in this text.

LEDs are available in many sizes, colors, shapes, and ratings. Unlike incandescent lamps, LEDs emit light only when voltage is applied in the forward direction (Figure 2). If voltage is applied in the reverse direction, no current flows and no light is emitted. Be aware this article only touches on the basics; refer to technical resources for complete theory and application details since there is a wide variety of LEDs available.

This discussion will look at three common LED types and circuits we can use to indicate turnout position.

Figures 3 and 4, on the next page, illustrate how two of the common two-pin LEDs can be used with auxiliary contacts of a switch machine to indicate turnout position. Note that this requires one red and one green LED (or other colors of your choice). Only one current limiting resistor

*(Continued on page 6)*

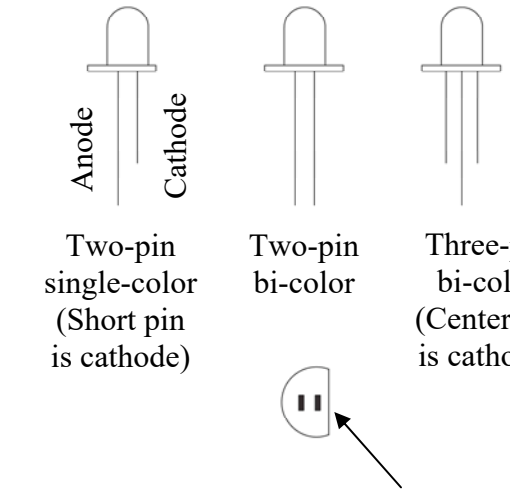
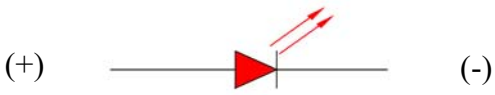
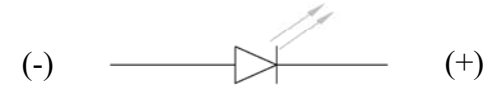



Figure 1

Typical LED symbols




'Forward' bias voltage - light is emitted




'Reverse' bias voltage - no light is emitted

Figure 2

## NEED HELP WITH ELECTRICAL AND ELECTRONIC THEORY AND FORMULAS?

Visit this website for a wealth of information and calculators:

https://www.digikey.com/en/resources/online-conversion-calculators

# USING LIGHT EMITTING DIODES TO PROVIDE TURNOUT POSITION INDICATION, CONTINUED

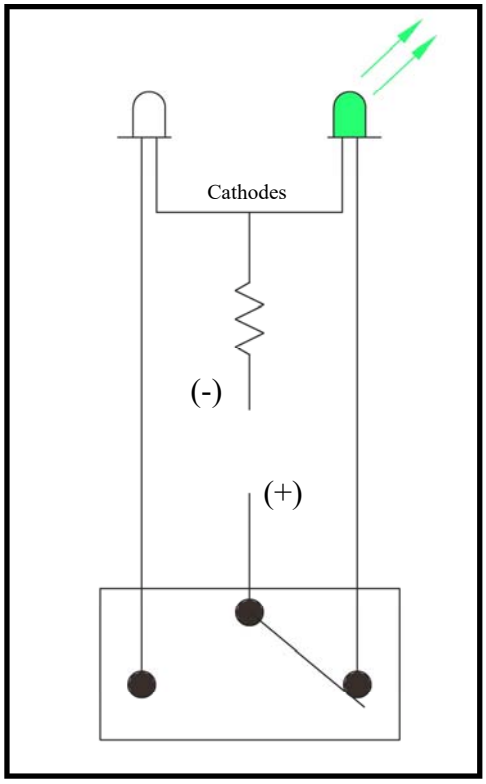



Figure 3

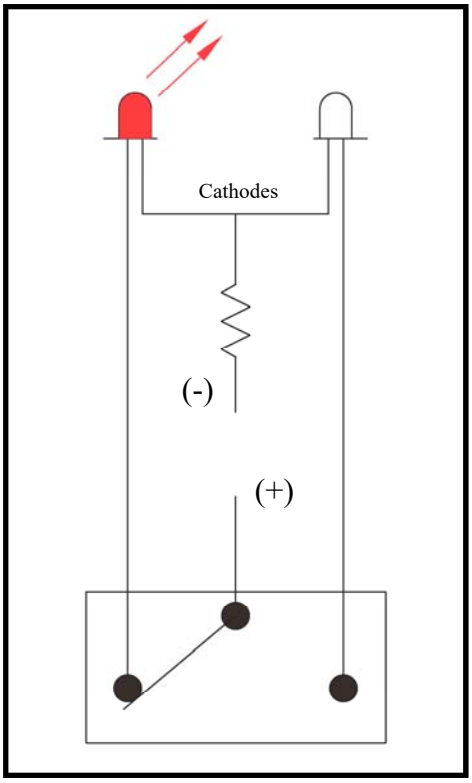



Figure 4

*(Continued from page 5)*

is needed when the components are configured in this arrangement.

Figure 3 shows the turnout positioned to the desired route for a green indication. Figure 4 shows the turnout in the alternate position with a red indication. This type of installation can be powered by either a Direct Current (DC) or DCC voltage source. However, most people discourage the use of the DCC track buss to power auxiliary equipment since a fault in the auxiliary circuits can shutdown the trains. The use of an auxiliary buss is considered a 'Best Practice'.

Figures 5 and 6, on the next page, illustrate how I have used a two-pin, bi-color LED on one of my Free-mo N modules. The example uses a double-pole double-throw (DPDT) toggle

*(Continued on page 7)*

## RESISTORS FOR LIMITING CURRENT

A resistor is a passive component that resists the flow of current in an electrical circuit. The unit of resistance is the ohm, named in honor of Georg Ohm the German physicist who formulated the relationship between voltage, current, and resistance which is expressed as Ohn's Law

$$E = (I) \times (R)$$

The type of resistor we commonly use in our hobby is the carbon resistor. They are identified by various color bands around the body.

For a detailed discussion, visit:

https://en.wikipedia.org/wiki/Resistor

Resistor symbol: 

*(Continued on page 8)*

# USING LIGHT EMITTING DIODES TO PROVIDE TURNOUT POSITION INDICATION, CONTINUED

*(Continued from page 6)*

switch to control both a slow motion switch machine such as the Tortoise and power the LED. The Tortoise brand switch machine requires a DC supply with the polarity changed by a switch to move the machine's throw arm from one position to the other position.

The wiring of the DPDT switch is a very common method to reverse the polarity for DC applications. Note that the current limiting resistor can be attached to either leg of this LED.

Figure 7, below, illustrates how to wire a DPDT toggle switch to allow a DC polarity to be reversed. This can be used to control a Tortoise switch machine or the direction of a DC motor, for example to rotate a turntable.

*(Continued on page 8)*

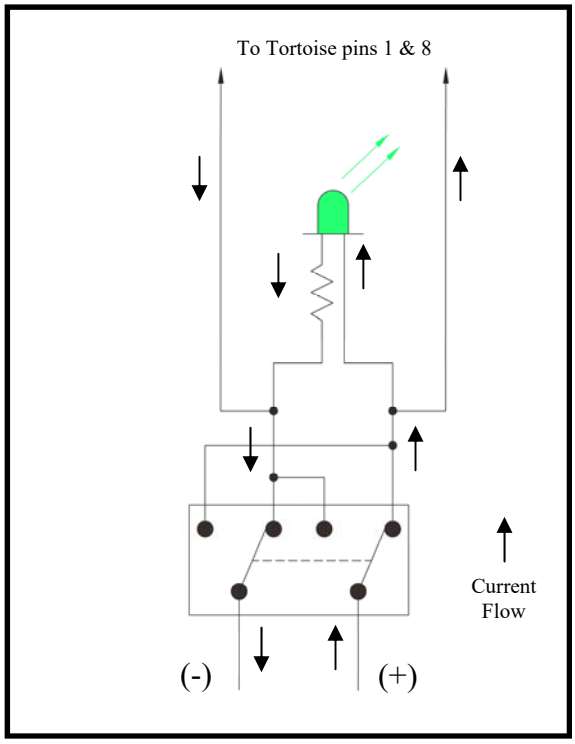



Figure 5

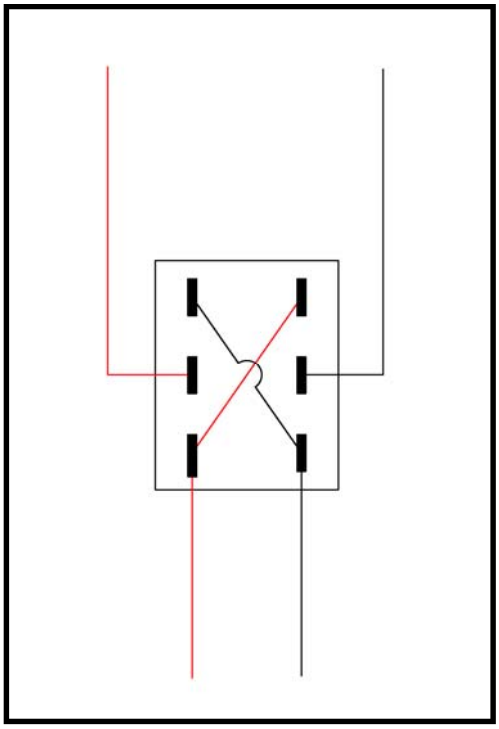


Figure 7

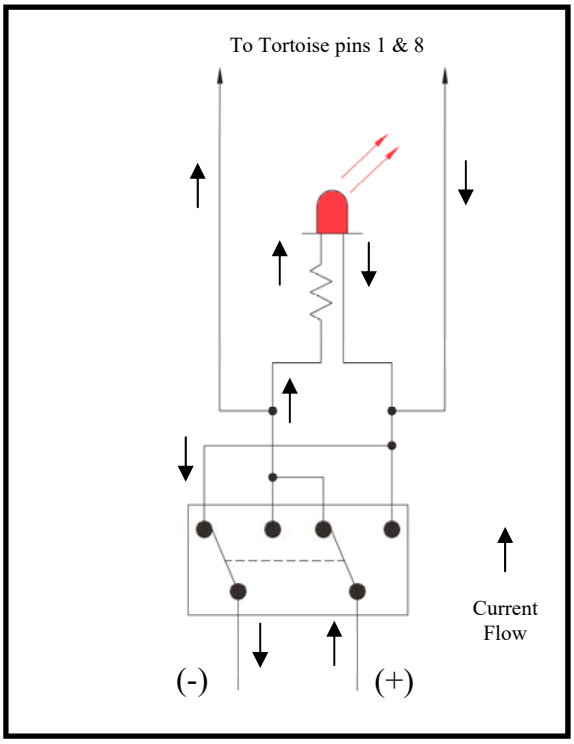



Figure 6

# USING LIGHT EMITTING DIODES TO PROVIDE TURNOUT POSITION INDICATION, CONTINUED

*(Continued from page 7)*

Figures 8 and 9, at right, illustrate how a three-pin, bi-color LED can be connected to a turnout to indicate turnout position. Note the current limiting resistor is connected to the LED's center pin, the cathode. This method uses the DCC buss to power the LED. In practice, the wire connections would be made to the switch contacts that route power to the turnout's frog and not to the rails as this image implies.

The LEDs I have of this type are rated at 2 volts for the red color and 3 volts for the green color. This results in the green being slightly brighter than the red. If this is an issue, the solution would be to install resistors on each anode pin with the green resistor having a larger resistance. Refer to the discussion below for info about determining resistor values to use.

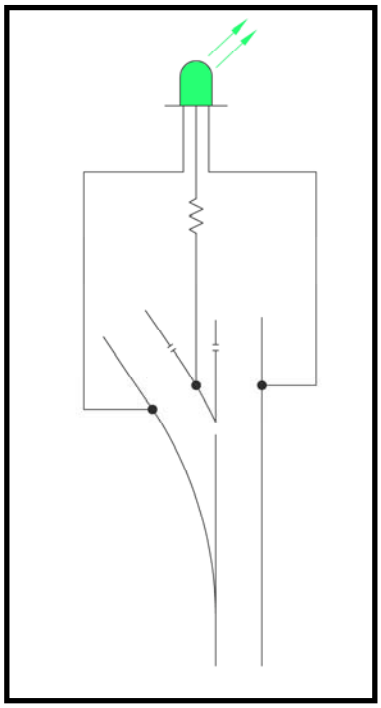


Figure 8

*(Continued from page 6)*

## CURRENT LIMITING RESISTORS

LEDs can be operated on almost any voltage as long as they are used with the proper current limiting resistor. Most LEDs require a forward bias voltage of around 2 Volts and consume a current of about 20 mA. Using LEDs on voltages above 3 Volts without an appropriate current limiting resistor will probably cause them to burn out quickly, if not immediately.

Here are websites that will provide details and calculators you can use to determine the resistor value to use:

https://rb.gy/dmp1zn

https://rb.gy/lukkhn

Resistor color code calculator:

https://rb.gy/y8uvqk

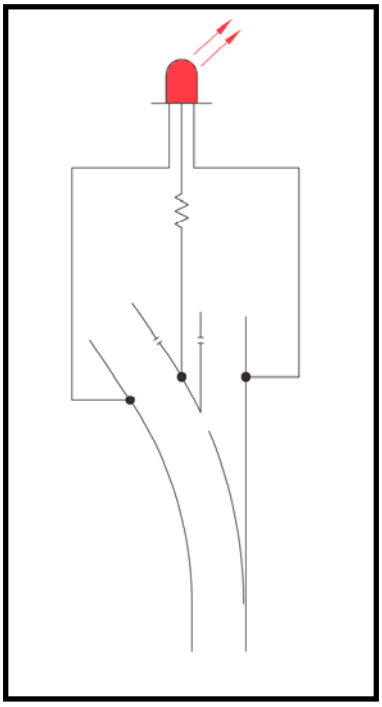


Figure 9

# TRACK PLAN OF THE MONTH

This is the third in a series of articles using track plans taken from switching puzzles that appeared in Model Railroader over twenty years ago.

This puzzle appeared in the April 1987 issue: https://mrr.trains.com/issues/1987/april-1987 (currently not in my collection).

Below is my rendering of the track plan made from the original image.

While the article described a puzzle requiring the reader to figure out how to switch cars at Adrian following a set of rules, I offer the track arrangement here as inspiration for a track arrangement on an NTRAK module.

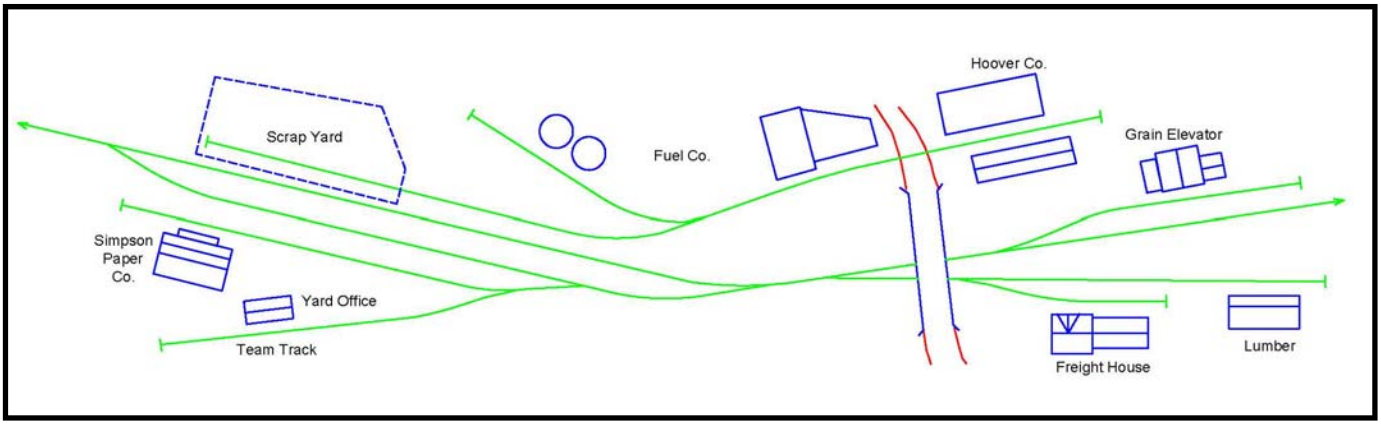
Note that this image is not drawn to a scale since the original magazine image lacked a scale.

This then becomes a puzzle for the builder to figure out how to adapt the track plan to a standard size NTRAK module (normally 4, 6, or 8 feet long).

I hope this series of articles will inspire someone to add some switching opportunities to a module for the benefit of all our enjoyment.

This track arrangement offers a switching opportunity with a set out siding and several customers to serve. This might be a little tight for a standard 4-foot module but would be a very interesting addition to our layout, perhaps in a 6-foot version.

…. *BC*




*Adrian Track Plan*


*Two prototype photos from a series taken at Tehachapi Loop July 2016, with the idea of making a model of the car.*

…. *BC*