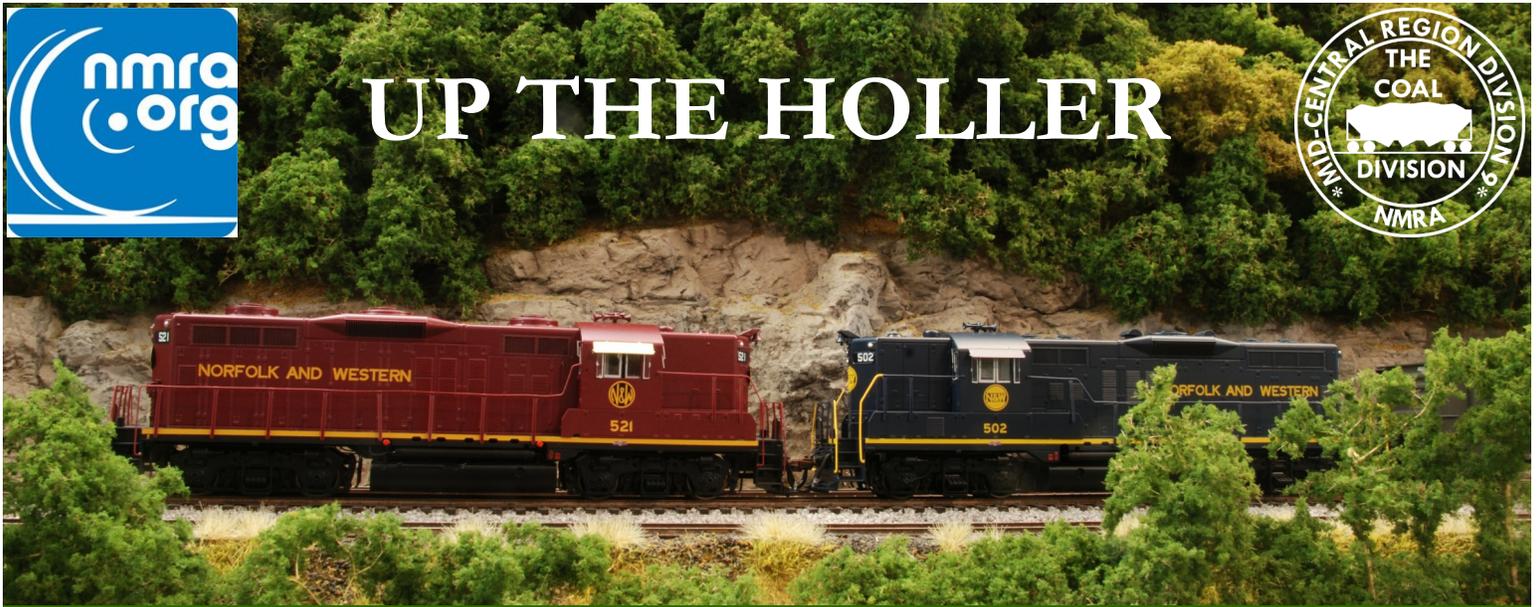




UP THE HOLLER



DIVISION 9, MID CENTRAL, REGION, NMRA

APRIL 2019

IN THIS ISSUE

From the Head of the Holler	1
From the Office Down the Hall	2
Contact List	2
Clinics	2
T-Trak	2
Meeting Details	3
Meeting Minutes	4
Contest	5
Membership Report	6
Editor's Comments	7
Signals Part 3	8
Pike Ads	31
Upcoming Meetings	32

FROM THE HEAD OF THE HOLLER

Dan Mulhearn, Superintendent

Amtrak and the State of Virginia have announced the extension of the current Washington DC to Roanoke service to serve Bluefield VA. Possible future extensions will see the Clinch Valley served including Tazewell, Richlands and beyond. This will be convenient travel from rural southwestern Virginia. Service is scheduled to commence April 1, 2020.

Dale Osburn had a meeting with a gentleman from St. Albans city government regarding our use of the depot. The City is very interested in the depot and supportive of our meeting there. They wish to formalize our relationship with a written agreement. There are some caveats: no food in the building and we can not rent out the building. The Officers of the Division will follow up on this. Meanwhile the City has repaired the rest rooms and has plans for other improvements, including a new roof.

The Regional Convention is fast approaching, I would like to see our members well represented in Boardman, OH. Regionals are a lot of fun and are much more affordable the National Convention. For those of us involved in T Track, modules will be a category in the Region Contest Room.

Bob Weinheimer, in addition to everything else he does, is doing a great job as our newsletter editor. But, he can only put out what comes in. Please consider submitting items to him. It could be anything from a picture to a brief article about your latest project. Anything model or prototype railroad related is grist for the mill. I remember Tony Puccini's article on painting fleas white and using them as N scale mountain goats on his layout. Seems like that was in an April issue of UTH also. So, going back to my opening paragraph, on the Clinch Valley sub in my basement there may well be Amtrak service. Your railroad, your rules.

I look forward to seeing you all at the Depot April 13. May means Steel is King and Elkins is the place to be in June.

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FROM THE OFFICE DOWN THE HALL

Bob Osburn, Assistant Superintendent

Webster defines: **hobby** *noun plural hobbies*: a pursuit outside one's regular occupation engaged in especially for relaxation. Why do I bring this definition to your attention? The key word here is **relaxation**. I find myself sometimes faced with the situation that the hobby of model railroading changes from relaxing to frustrating. Several months ago I wrote in one of my articles how I had begun work on a Walthers' N Scale modern coaling tower for my attic railroad. This is a very nice plastic kit but with so many small parts, intricate detail, and confusing instructions the project quickly became something I dreaded working on and especially not very relaxing! Now I have had some time to think about how to proceed on the project and it is time to bring it out on the workbench again. This "shelf" time has given me the opportunity to think about the problems I was having and coming up with some solutions. In this particular case, the basic shell of the building was not difficult but the assembly of all the detail parts really gave me problems. After looking over what was happening, I decided to research images of completed models on-line, noting placement of steps and platforms and detail parts hoping to clarify the instructions. It seemed that others had the same problems I was having; most of the modelers didn't even add those details. I really wanted to include all the details on my model so exclusion was not the answer. I decided to make sub-assemblies, checking their location on the model as I assembled each one; then on to the next sub-assembly. This required building some jigs to aid this process. Yes, the jigs required some time to build but in the end it cured a lot of problems and I can probably use these aids on later projects. I find myself doing this a lot. At any one time I may have several projects shelved, a few for a very long time. Reasons vary—more research is needed, materials need to be purchased, I really don't have enough experience to proceed, and yes, some are overwhelming. I really don't find this a bad way to model because I know I'll always have some sort of project that I can relax working on; that's the most important thing.

Recently I have been putting the finishing touches on my T-Trak modules getting them ready for the MCR Convention. Some lighting, animation, and sound plus a few extra details are now included on the modules. I have entered them in the T-Trak module judging category, it will be interesting to see how they score. Hope to see you at the convention!

CLINICS**Sam Delauter, Clinic Chair**

At the April meeting, the clinic will be given by Bob Weinheimer. He will talk about documenting our model railroad stuff for insurance purposes. There will be no clinic in May or June. In May, we will be in Parkersburg for the Steel is King event and in June we will be taking the railfan trip. We do have some openings for clinics. For those interested, we have openings for the following months: July, August, and October.

T-Trak Update

Sam Delauter

The NMRA MCR convention will be May 2-5, 2019 in Boardman, Ohio. I hope that everyone has made plans to include their module in the T-TRAK layout. If you need any help in preparation for the event please drop me a line.

Keep up the good work on your modules and I will see you at the April meeting.



Coal Division Monthly Railfun Event *“Cabooses”*

Saturday April 13, 2019

12:00 - Depot opens

Buy raffle tickets, etc.

Socialize

Contest: Cabooses

1:00 - Superintendent’s Briefing

1:30 - MADD Discussion of Cabooses

1:45 - Raffle results, contest results

2:00 - Clinic: Bob Weinheimer will talk about documenting our model railroad stuff for insurance purposes.

The goal of the newsletter team is to have this document reach you by email or snail mail at least one week prior to our meetings. We typically start the layout work the Monday 12 days before the meeting. This allows a day of review by the officers and a proofreader before the electronic version is issued, usually on Wednesday. The paper version is mailed Thursday or Friday. For this to happen reliably, we need all items for publication by that Monday 12 days prior to the meeting. If we don’t get it

on time we can’t print it. Please help us give you the most up to date information possible. Here are the deadlines for the next few issues

May	May 6
June	May 27
July	June 24
August	July 29
September	September 2
October	September 30

NMRA MCR DIVISION 9 *THE COAL DIVISION*

St .Albans Depot

St. Albans, WV

March 9 2019

Minutes

Meeting called to order by Superintendent Dan Mulhearn at 1:10 p.m.

Members introduced themselves.

Division Clerk Report

February Minutes approved
Treasury Balance is \$8,568.35.
Company Store \$12.
Raffle \$52, \$68 January.
Kanawha Valley Show Raffle net \$234.

Jerry Doyle updated everyone on the Division progress towards 501(c)(3) status. We have applied for incorporation as a not-for-profit organization in West Virginia. Jerry donated the cost of \$55 for this paperwork. Once approved we will then submit an application to the IRS for tax exempt status. There will be a one-time cost of \$275 to submit this application.

Superintendent Report

Dan mentioned the passing of Ed Keith's wife. Flowers have been sent on the Division's behalf. It was voted to reimburse Bob Osburn for this expense. Dan mentioned the Kanawha Valley show and his T Track experience.

Assistant Superintendent Report

Bob Osburn arrived late after attending Ed Keith's wife's viewing. He reported on the sale of the layout kit at the Kanawha Valley show. We sold 52 tickets at \$5 making the take \$260. The commission to the show at 10% or \$26 which netted the Division \$234.

Newsletter - Up the Holler

Bob Weinheimer mentioned upcoming features. The next issue will have a new look.

Librarian

Bill Wadsworth had the library available to checkout today.

Contest

Dale Osburn gave Bill Wadsworth his certificate for the Gary Burdette Square Foot Challenge.

Clinic

April – TBD

Membership

The June meeting will be in Elkins, WV. We will be riding the DGV. We have reserved the parlor car and the cost will be \$78. Checks should be made out to the DGV. Money will be collected in April and May meetings. Local lodging is available. Name badges are available for those who recently ordered them.

Raffle

Tom Harris thanked members for their generous contributions.

Old Business

None.

New Business

Larry Richards updated the group on the depot and the City of St Albans. The city has plans on depot renovations. Long-term plans are for renovation of the area. There was discussion about the future of the depot and involvement of Division 9. Dale Osburn is putting together a meeting with the city.

Announcements

The KYOWVA Mall Show
MCR Convention Boardman, Ohio

Future Meetings:

April 13 – St Albans Depot
May 18 – Steel is King Parkersburg, WV.

Meeting adjourned at 1:49.

Respectfully submitted,

Jerry Doyle, Division 9 Clerk

CONTEST Dale Osburn

First place at the March contest went to Larry Richards for his HOn30 Diesel switcher. Second place was Jerry Doyle for his Central Valley E-7. Third place was a tie between Tom Harris for his Tennessee Central C-420 and Sam Delauter for his Erie S2 #530.



HOn-30 Diesel Switcher by Larry Richards

The Diesel Switcher started with Minitrains HOn-30 four wheel switcher. To change from a European style cab was cut off and a new cab was made from .010 styrene. The body was sanded and filled also there was a brass mesh grille installed along with headlight, brass exhaust, handrails, bell and horn from scraped bodies.



Central Valley E-7 by Jerry Doyle

Lifelike Proto 2000 with extra details printed for freelanced road. Modeled as near the end of its service life in 1969 as the last passenger unit on the line.



Tennessee Central C-420 by Tom Harris

Tennessee Central 401 is an Atlas model. Because it was a gift from my brother-in-law I did not wish to repaint it into Lakeside Lines livery. As my railroad represents 1979, and the Tennessee Central shut down, selling everything off, in 1968, this locomotive obviously had to represent an old beater borrowed from the lease market. As such, I have extensively weathered the locomotive, otherwise there are no external changes. The DC locomotive now has a TCS Wow Sound decoder installed along with a speaker.



Erie S2 #530 by Sam Delauter

530 is a repainted Atlas S2. There were two major challenges to this locomotive. One, the side sills would not come off of the chassis. The chassis had to be masked so that the sills could be painted. The S2 is a fairly new model and is not built like other N scale locomotives and thus documentation on how to remove the side sills were not available. The other was to get the stripe even and to get them in the right shape around the headlight.

MONTHLY MODEL CONTEST 2019 SCHEDULE

January	Modeler's Choice	August	Freight Cars
February	Steam Locomotives	September	Photo, Model or Prototype
March	Locomotives Other Than Steam	October	Open Loads (flats, gondolas, hoppers)
April	Cabooses	November	Passenger Cars
May	Anything Steel Related	December	Third Annual Gary Burdette Memorial Modeling Challenge. Details and kick off in October
June	Non Revenue Except Cabooses		
July	Structures		

PASSENGER MANIFEST

John Harris, Membership Chair

In the past few months, we have been discussing the June trip to Elkins and the ride on the Durbin and Greenbrier's Tygart Valley Flyer. Well it is time to "Get on Board" and commit. At the April meeting, I will have the official sign up list and start collecting money for the trip. The cost remains \$78.00 per person and there is no discount for children in the Parlor Car. Children should be 12+ to ride in Parlor Car unless we fill it up with all 26 seats. The last day to make reservations and pay for the trip will be the May meeting in Parkersburg. Make Checks out to Durbin & Greenbrier Railroad.

The most convenient hotel accommodation is the Holiday Inn Express & Suites, at 50 Martin Street, just one block away from the Station. Cost appears to be in the \$110 per night range and breakfast is included.

Elkins is just about 2 hours north of Charleston depending on your driving style, perhaps closer to 2 hour 15 minutes if you strictly follow the posted limits. Follow I 79 north to Exit 99 at Weston. Head east on 33 (Corridor H) to US 250 South (N Randolph Ave) toward downtown Elkins. Head straight thru intersection past the GoMart. The hotel is on the right and the station is just beyond, also on the right on Railroad Ave.

The train departs at 11:30 so plan to be there by 11:00 at the latest. The station is an interesting piece of architecture so worthwhile to get there early and enjoy the artifacts and the building itself. The train returns around 4:00. For those who care to hang around after the trip, there are interesting taverns and restaurants in the downtown area and food is pretty good.



MY WORD**Bob Weinheimer, Editor**

Thanks to a suggestion from Tom Harris the front page of Up The Holler has a new look. I'm sure the C&O fans immediately noted the presence of N&W motive power on the cover. Thanks to Dan Mulhearn and Tom, that's what I had for this issue. I trust something in C&O (model, not prototype) will be made available so we can alternate between the two major coal hauling railroads that ran in the Coal Division territory. If any of those who read this publication have ideas for improvement, I am willing to consider them.

Who reads Up The Holler? More folks than you might imagine. One is Jim Zinser MMR®, the author of the Division Business Car column in the *NMRA Magazine*. Over the years Jim has noted items in this newsletter and the April issue saw another mention of UTH. Jim commented on Bob Osburn's column in the September 2018 issue where Bob mentioned the task of removing his father's model railroading items from the family home. In case you missed it, the item is right in the middle of page 44.

As you can see, I didn't find much space for this column. To the right is the ad for the upcoming MCR convention, I sure hope you can make it to the greater Youngstown, Ohio area. While the area in some ways epitomizes the Rust Belt, the heritage and history are well appreciated and there is lots to see in the area. The clinic schedule has filled up and, of course, many of us will show up with our T-Trak modules for what we expect to be a large display.

The MCR Board of Directors will meet at 9 Friday evening at the convention, you are most welcome to stop by and observe to see how things get done.

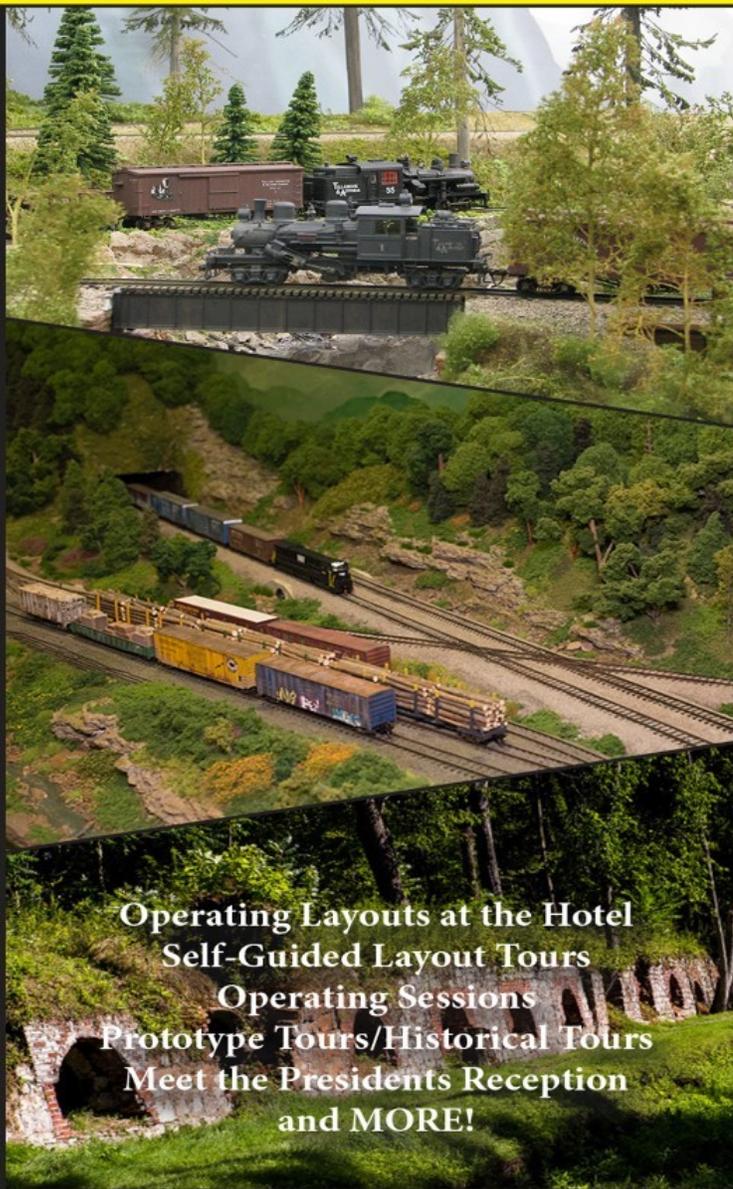
NMRA Mid Central Region May 2 - 5, 2019 Convention Boardman, Ohio

Layouts

Clinics

Contests

Vendors



Operating Layouts at the Hotel
Self-Guided Layout Tours
Operating Sessions
Prototype Tours/Historical Tours
Meet the Presidents Reception
and MORE!

<https://www.div1-mcr-nmra.org/the-acy-bullet-2019>



NMRA Division 1 MCR

MAKING THE SIGNALS OPERATE MORE LIKE THE PROTOTYPE

Tom Harris



Amtrak passengers look on in disbelief as the dispatcher uses the signal system to allow a long freight to overtake them. The dispatcher knows if he stops the underpowered drag on the long Hines Hill grade it will very likely not be able to get moving again.

If you have been following this series you know it doesn't present the only way to build out a signal system, but it does mirror the step by step process I followed in implementing my own. After a few years of enjoying my lighted signals I had come up with some ideas about how to make it more useful in simulating prototype operations. Just as importantly, I finally had the stomach to undertake another big wiring job. The project was carried out one control point at a time, so the railroad was never shut down through the process. In all, it took me about two months to totally transform my signal performance.

What I did was mount a set of controls on my fascia at each control point, which allowed me to mimic what a prototype railroad dispatcher does from a central location. This kept things simple enough for me to successfully complete the job. As soon as the job was completed, my operators and myself began operating the model railroad by signal indication. It worked, and added a lot of realism to operations. It also ran the poor tower operator, who does the dispatcher's job on the Lakeside Lines, to death. That particular shortcoming was addressed in a later upgrade. In order to keep things reasonably understandable here I will save my solution to the running problem for another month's writing. I personally can bear only so much wiring at one time, but if you find yourself hankering for the more finished version of signaling, I suppose you can read through my work on this stage of signal implementation by logic points, and after next month's look at remote signaling, move on to full on implementation of a CTC-like panel from the start.

My railroads fascia was well suited for mounting my signal controls. Yours may not be, but small, separate control panels, located at each signal control point, should work out just as well. This is what the signal controls for the control point pictured in action on the previous page look like:

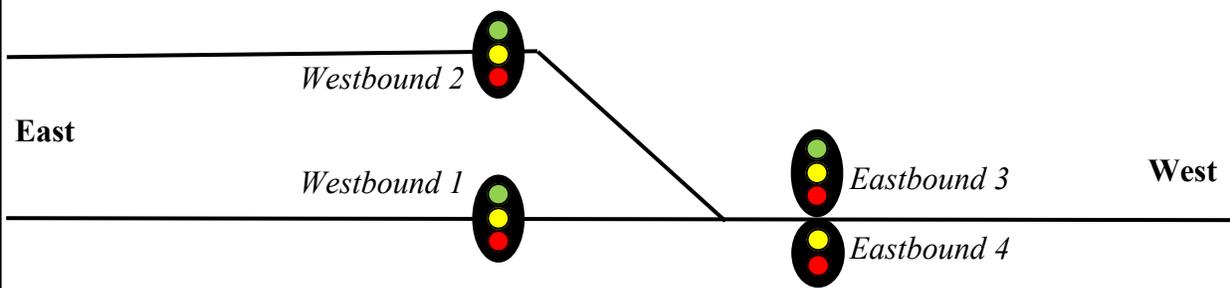


Let's explain how these controls are used to set signals. We will use, as an example, how the signal would have been set up to allow the passage of the freight in the photo on the previous page. The Tower operator would have done as follows to clear the train:

- 1) Lifted the **switch** toggle to open the turnout.
- 2) Thrown the **traffic** toggle to the left as the train is a westbound.
- 3) Lifted the **westbound** toggle to open the signal.
- 4) Left the Restrict toggle down so that the signal would indicate clear, not approach.

This procedure is not precisely the same used when a dispatcher sets a signal on a classic Union Switch and Signal CTC machine, but its pretty darned close. When the engineer of the freight enters the signal plant (the turnout in this case) he will OS (OS stands for On Sheet, and refers to letting the dispatcher know that a train has arrived at a certain point.) his train by closing the **westbound** signal toggle. This drops the signal to red and protects the rear of the train. Then later, when the tower operator determines the freight train is far enough down the line to be safe, he will release the Amtrak train by closing the **switch** and opening the **westbound** signal once again.

Let's examine how we can wire these toggles to make this happen. Each toggle is a yes/no logic control point. There are also extra contacts at each switch motor, these will also be used as yes/no logic points, as they can indicate if the turnout is open or closed. Look at the panel controls pictured, above and imagine the signal heads being controlled at the control point where the freight train is over-taking Amtrak. We should carefully examine the function of each toggle separately. To help us imagine, I will diagram the signal heads in question below, and name each head for reference.



Here is a rundown of the various control toggles used along with their functions.

Switch toggle: This toggle has been wired during the previous phase of work to throw the turnout, and it will continue to do so. Up is open and down is closed.

Traffic toggle: This toggle is set up to be thrown left and right. When thrown left (westward) it will route signal power to the red lights of the *Eastbound 3* and *Eastbound 4* signals heads. When thrown right (eastward) it will route signal power to the red lights of the *Westbound 1* and *Westbound 2* signal heads.

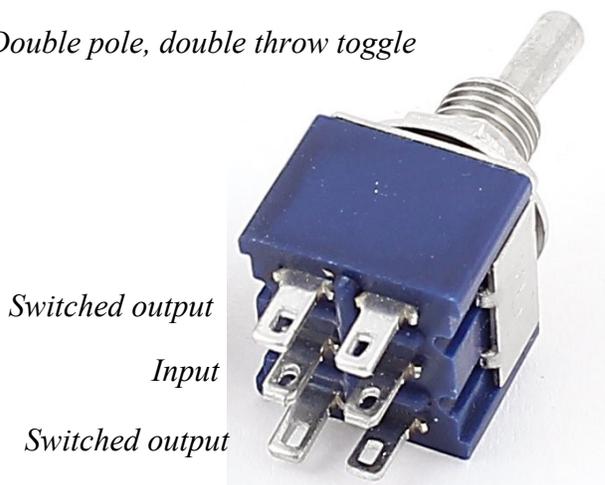
Westbound toggle: When thrown down it sends power to the red lights of the *Westbound 1* and *Westbound 2* signal heads. When thrown up it sends signal power to the spare turnout motor contacts. If the turnout is closed, power is routed to the green light of the *Westbound 1* signal head, and the red light of the *Westbound 2* head. If the turnout is open, power is routed to the green light of the *Westbound 2* signal head, and the red light of the *Westbound 1* head. Throwing this toggle up acts to open up the westbound signal.

Eastbound toggle: When thrown down it sends power to the red lights of the *Eastbound 3* and *Eastbound 4* signal heads. When thrown up it sends signal power to the spare turnout motor contacts. If the turnout is closed, power is routed to the green light of the *Eastbound 3* signal head, and the red light of the *Eastbound 4* head. If the turnout is open, power is routed to the yellow light of the *Eastbound 4* signal head, and the red light of the *Eastbound 3* head. Throwing this toggle up acts to open up the eastbound signal.

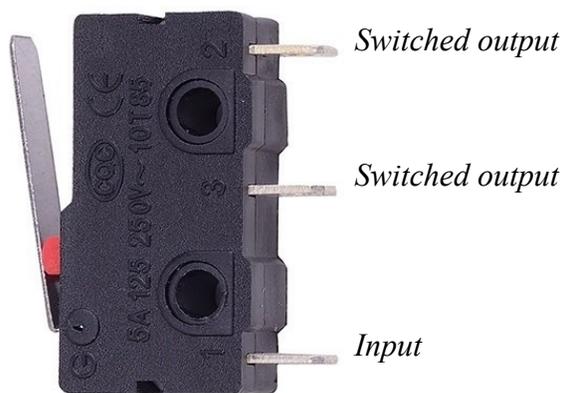
Restrict toggles: For signal heads where a green light exists, signal power routed to green from the spare turnout motor contacts, is routed through the appropriate Restrict toggle. When thrown down, the signal power continues on to its intended green light. When the Restrict toggle is lifted up, the power is diverted to the corresponding yellow light. Lifting this toggle means trains must reduce speed prepared to stop at the next signal.

Simple, right! Perhaps not on first reading, but if you re-read carefully, and compare things to the pictured panel toggles as well as the signal diagram, I just know it will make sense. This, in a nutshell, is how the yes/no logic system I employ works. Now on to the actual wiring. A lot of yes/no contact points will be required, so we will employ some additional electrical components to get the job done. These are pictured below.

Double pole, double throw toggle



Lever switch

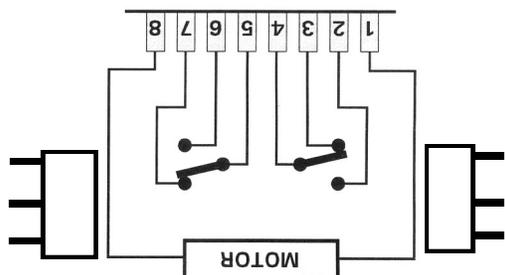




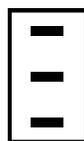
The double pole, double throw toggle switch wires up like two separate switches, but the toggle lever throws them both at the same time. Triple throw toggle switches are available as well, should you need them. The lever switches can be attached to the Tortoise switch motors to create two more sets of spare wiring contacts that throw with the turnout. We are going to occasionally need those. All of these items are available quite inexpensively on the internet.

I attach the lever switches to the switch motors as shown. I have had good luck using hot glue to attach them, just be careful not to get glue on the throw arm. The lever switches are positioned such that the bottom of the throw arm, where the screw is, presses the lever closed when the throw arm swings in its direction.

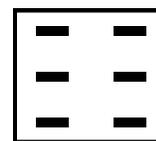
This is what the symbols for these items will look like on the wiring diagrams:



Tortoise motor with two lever switches



Single throw toggle



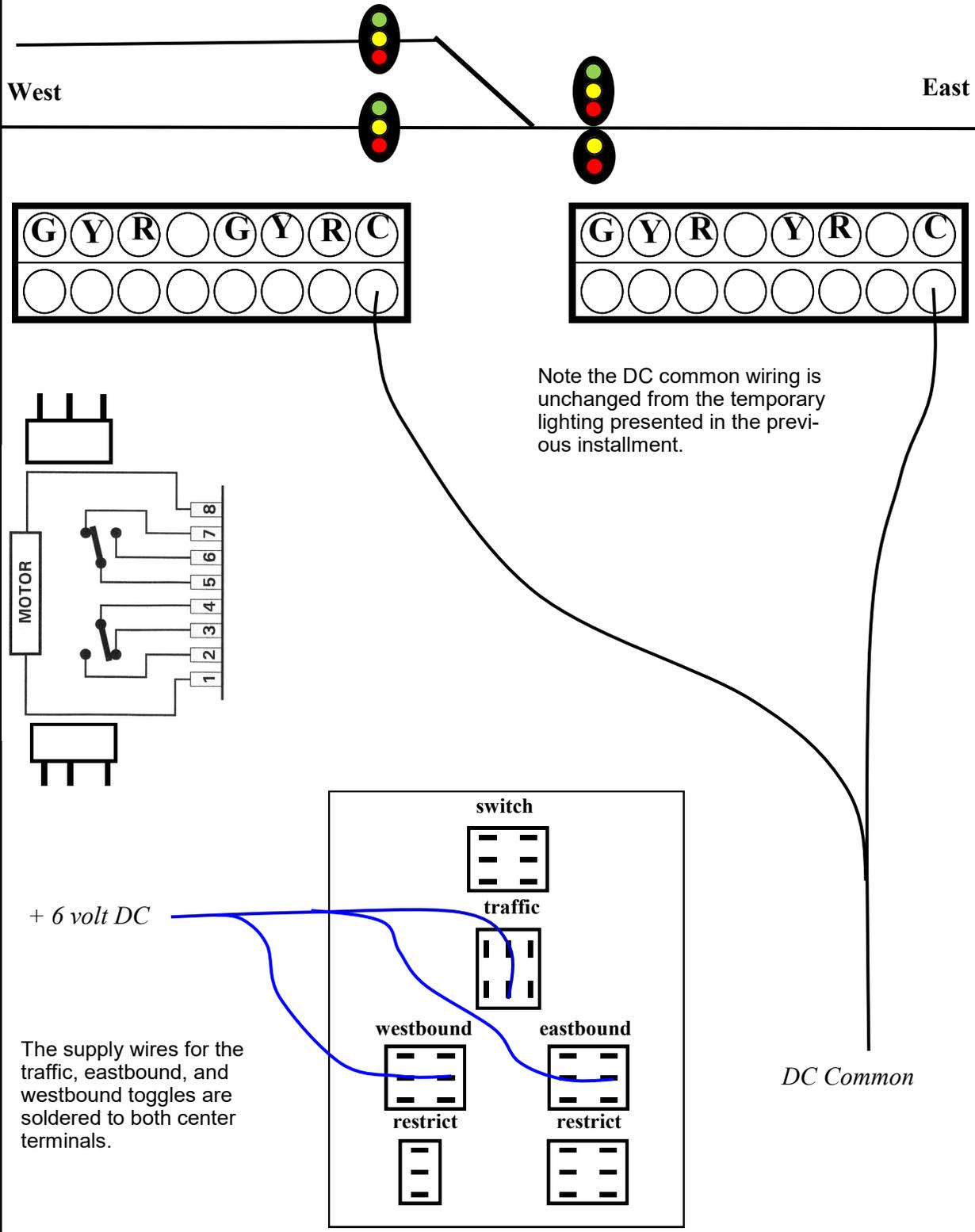
Double throw toggle

It's time then to begin looking at wiring diagrams. In drawing these I will entirely leave out the wiring that throws the turnouts and powers the frogs (terminals 1,2,3,4, and 8 on the Tortoise motors) since these will remain wired exactly as they have been in the previous work. However, the wiring we have been using to light the signals on a temporary basis (terminals 5, 6, and 7 on the Tortoise motors) should be removed entirely before beginning to wire for more prototypical signal operation. For each situation drawn, I will break the wiring into several diagrams to make the work easier to follow.

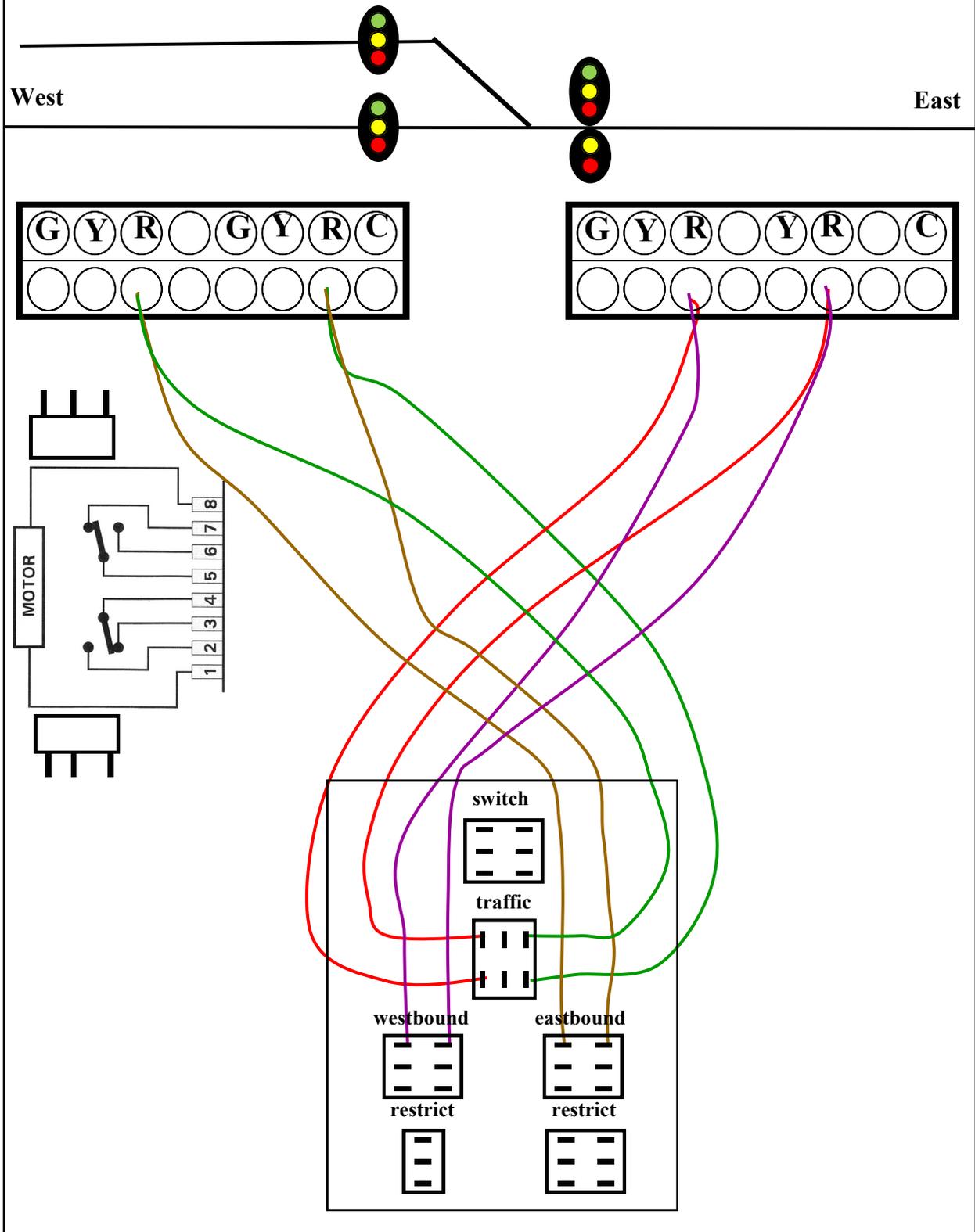
All of this wiring is fairly simple in concept, if you followed the logic on page 3 of this installment, you pretty much have it. Nevertheless, I know from my own experience, once you have a bunch of these wires run, should you lose your train of thought for even a second, everything can seem mighty confusing all of a sudden. This is why I am including the wiring diagrams, all broken down into systems for simplicity, to be referred to.

Keep in mind that as the switch motors, lever switches, and toggles become turned in all directions, the order of wiring terminals can get reversed. If you think about it you will realize a turnout position that opens one lever switch will close the switch on the opposite side. So do test as you go and don't be a slave to the diagram.

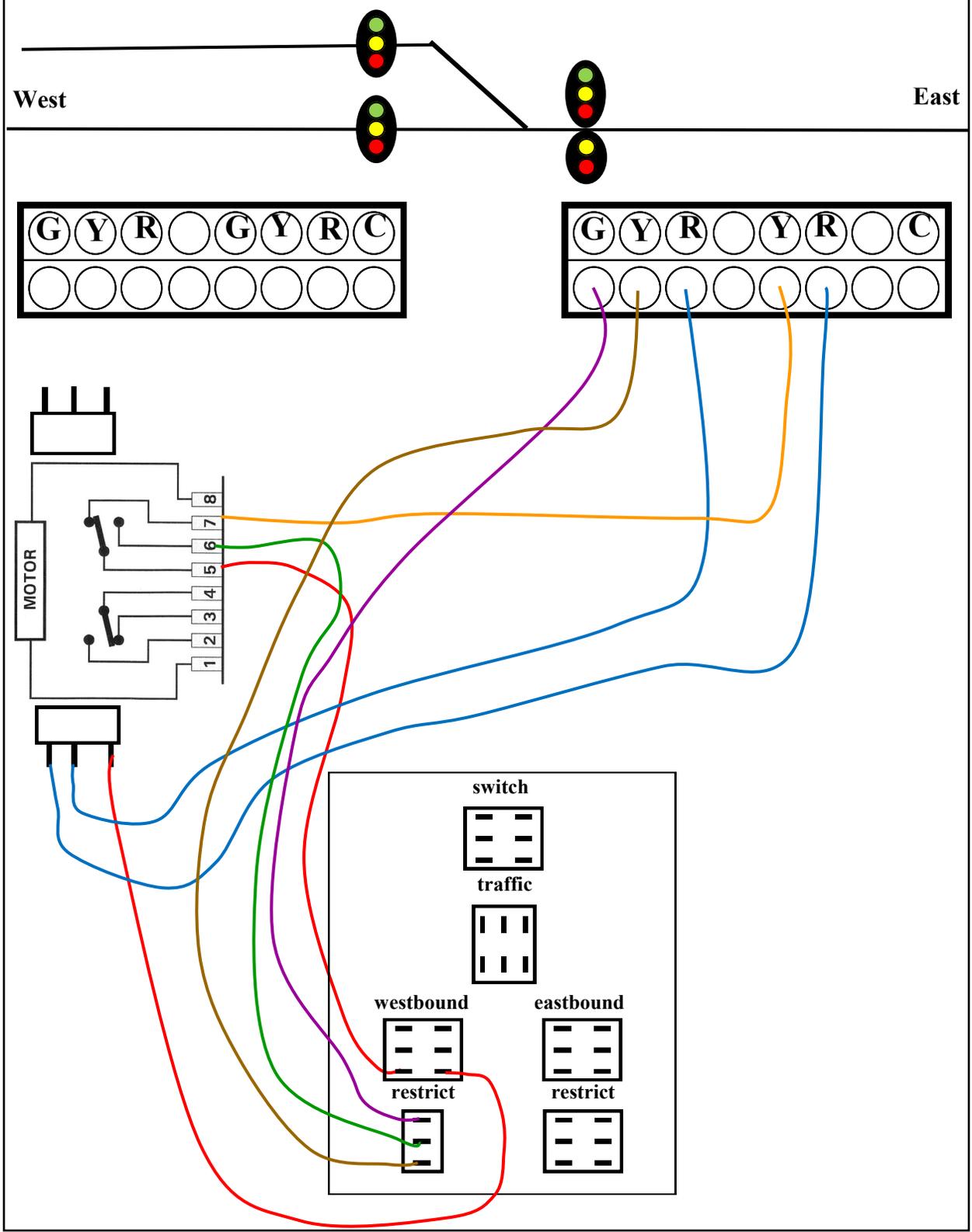
We can begin with the wiring for the end of passing siding situation featured at the beginning of this installment. This initial diagram shows only the supply wiring for the signals. Read signal heads top to bottom. Read terminal strips left to right.



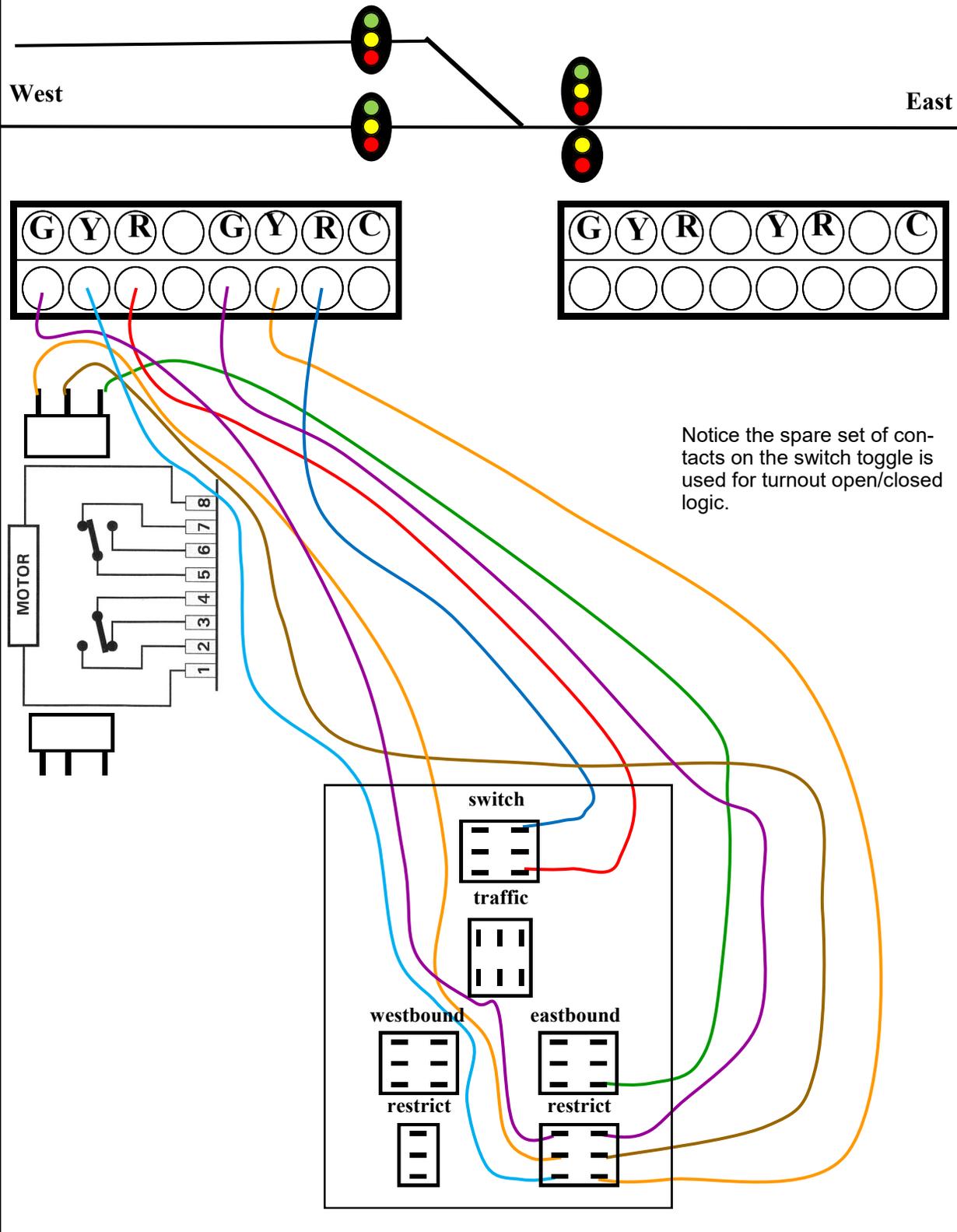
Next we can wire the traffic toggle. It is used to light the red signals of the heads opposed to the direction of traffic. Also shown is the wiring that sets the signals red in the direction of traffic flow when the eastbound and westbound toggles are not engaged.



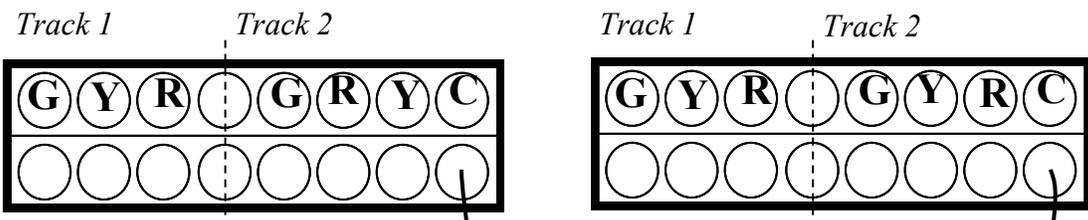
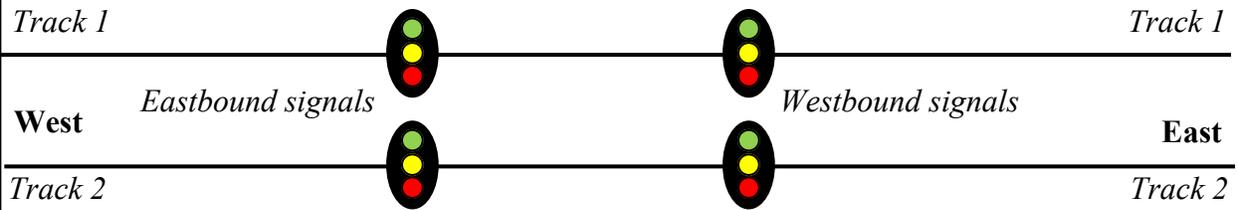
Now we wire the westbound connections that power the green and yellow lights when a signal is opened. This wiring checks the status of the turnout to determine which signal head to clear. The power to green lights checks with the restrict toggle to see if the dispatcher would like to restrict the clearance.



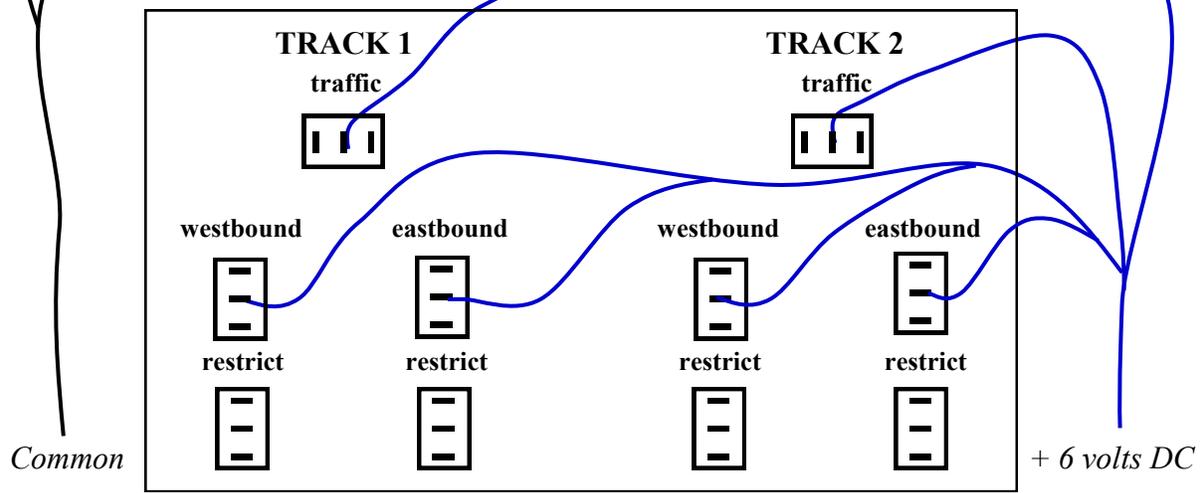
Finally we wire the eastbound connections that power the green and yellow lights when a signal is opened. This wiring checks the status of the turnout to determine which signal head to clear. The power to green lights checks with the restrict toggle to see if the dispatcher would like to restrict the clearance.



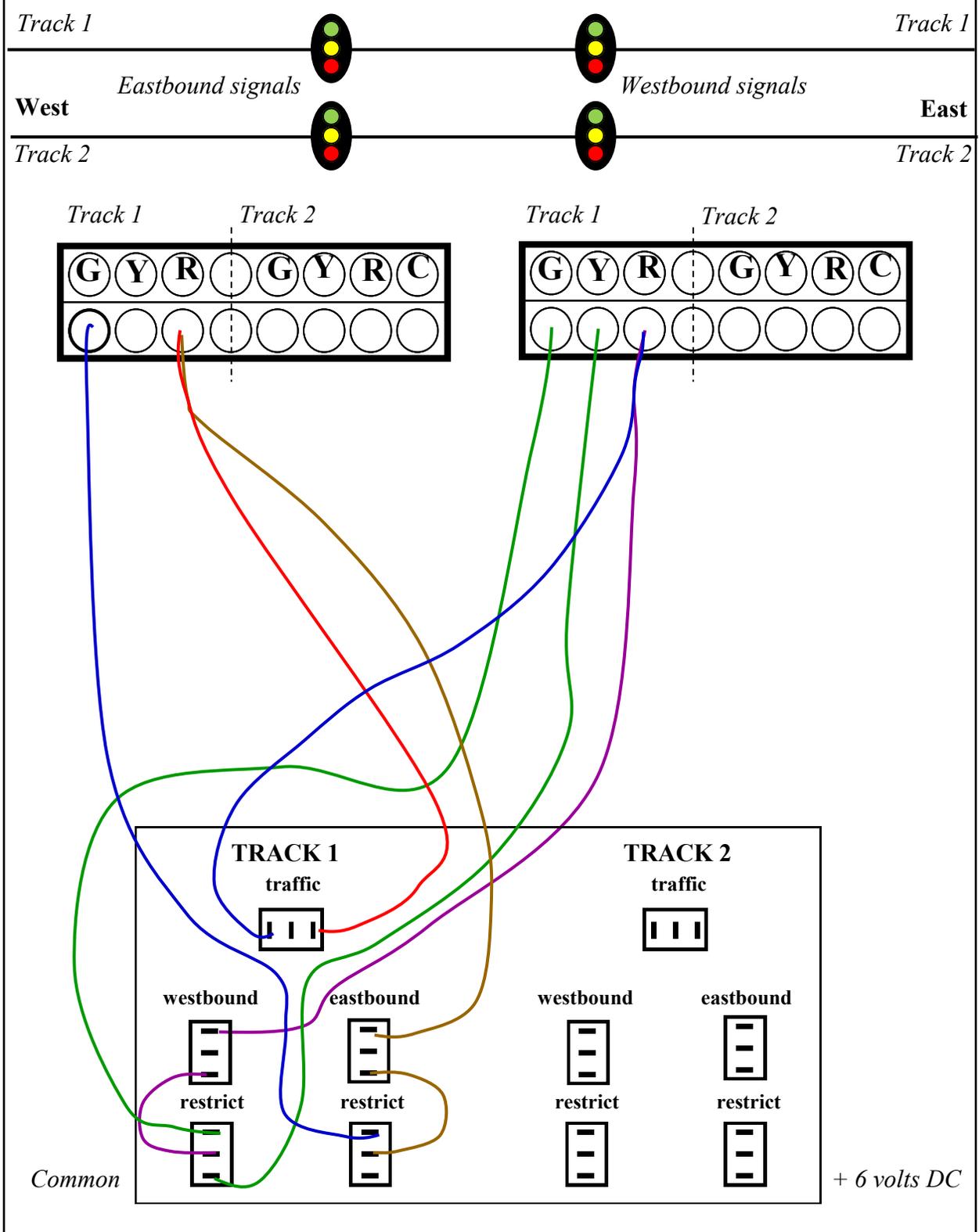
A situation involving a double tracked line requires Track 1 and Track 2 to be treated entirely separately. After all, trains may move independently on each of the two tracks without effecting each other. A set of single track midpoint signal heads would be wired by just duplicating half of the double track situation. Here is how a midpoint signal could be wired. For simplicity I will break this into multiple diagrams. First, the supply wiring.



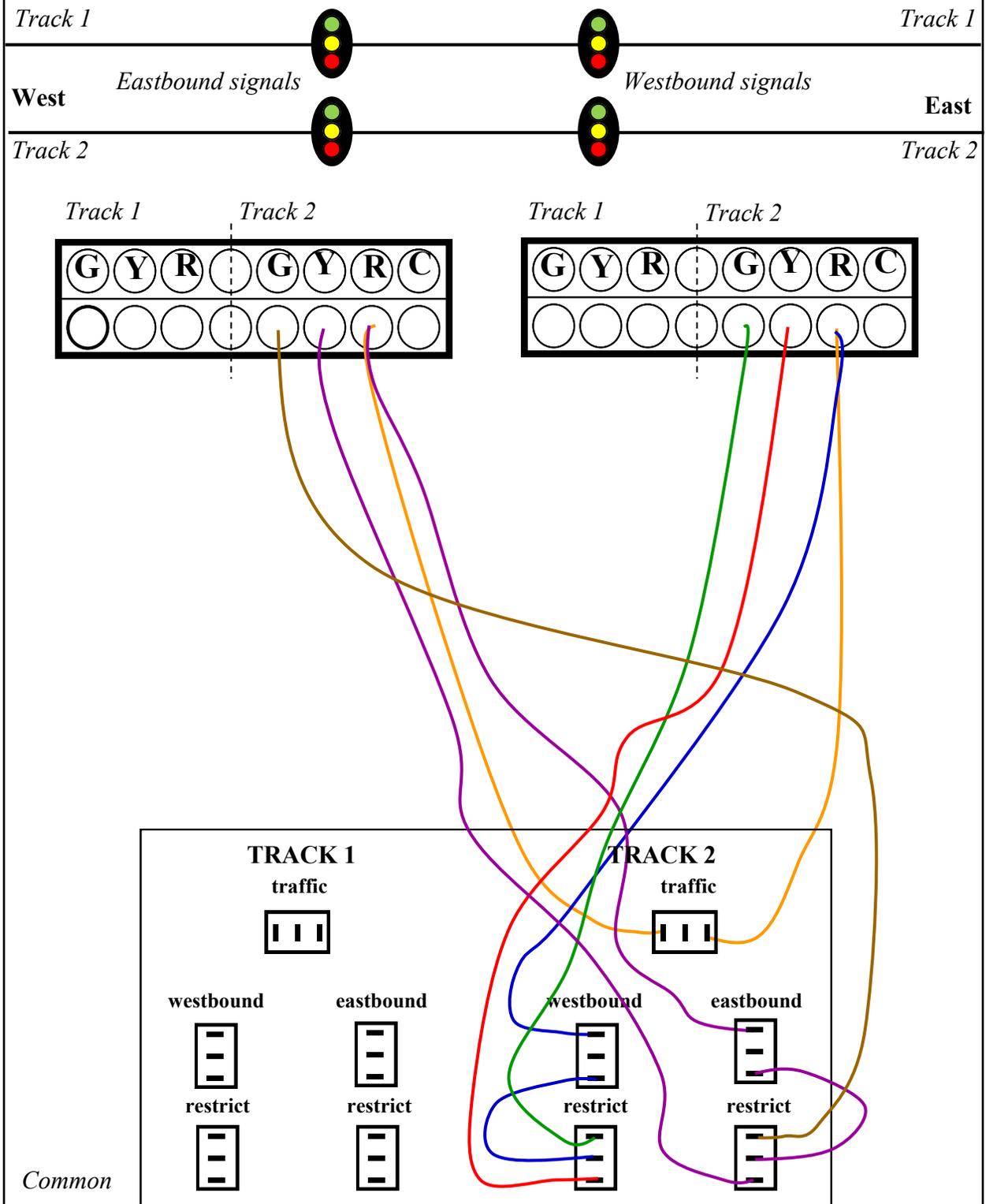
Note the DC common wiring is unchanged from the temporary lighting presented in the previous installment.



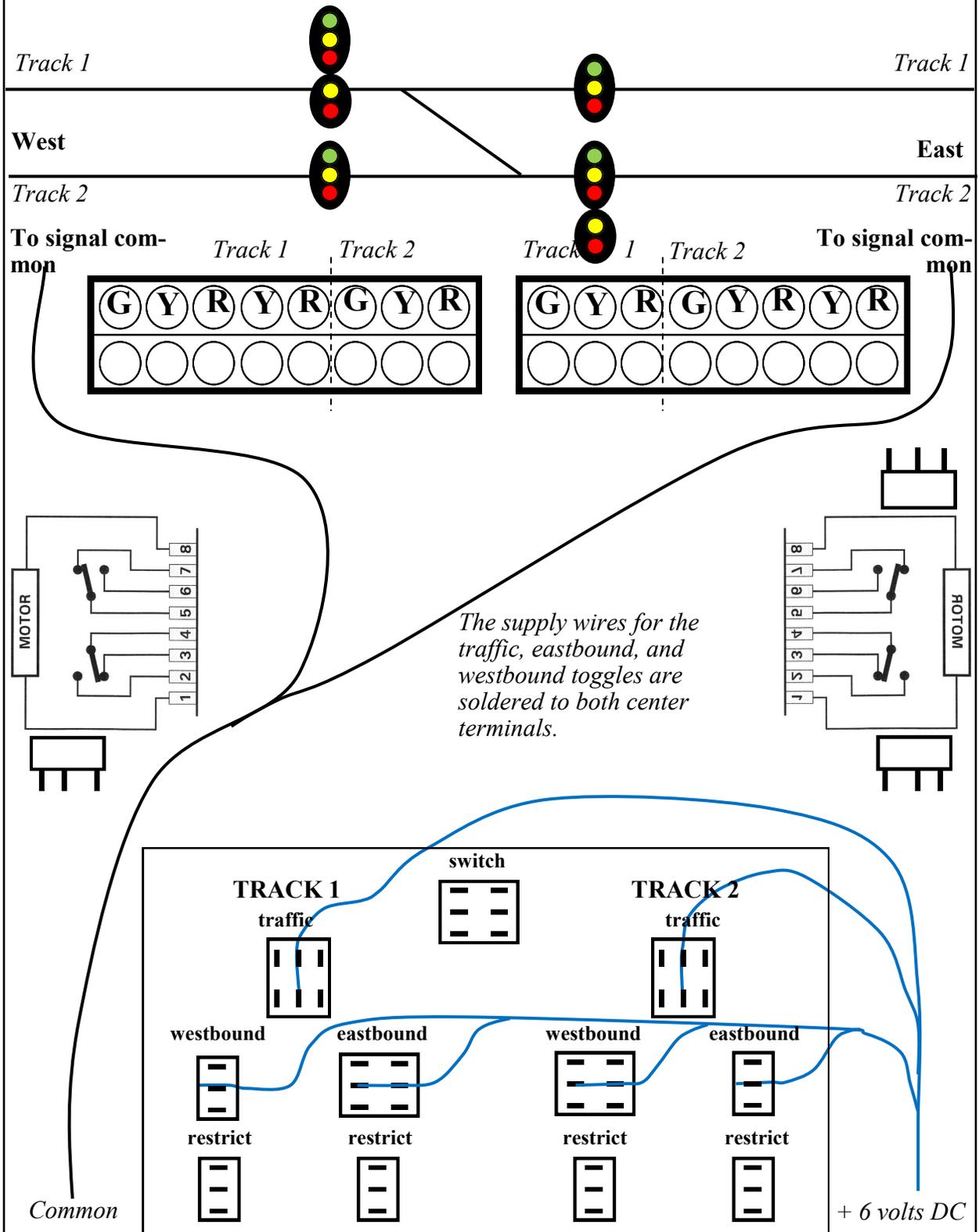
Second we will diagram the wires that will cause the individual signal lights to function. This drawing shows the wiring for Track 1.



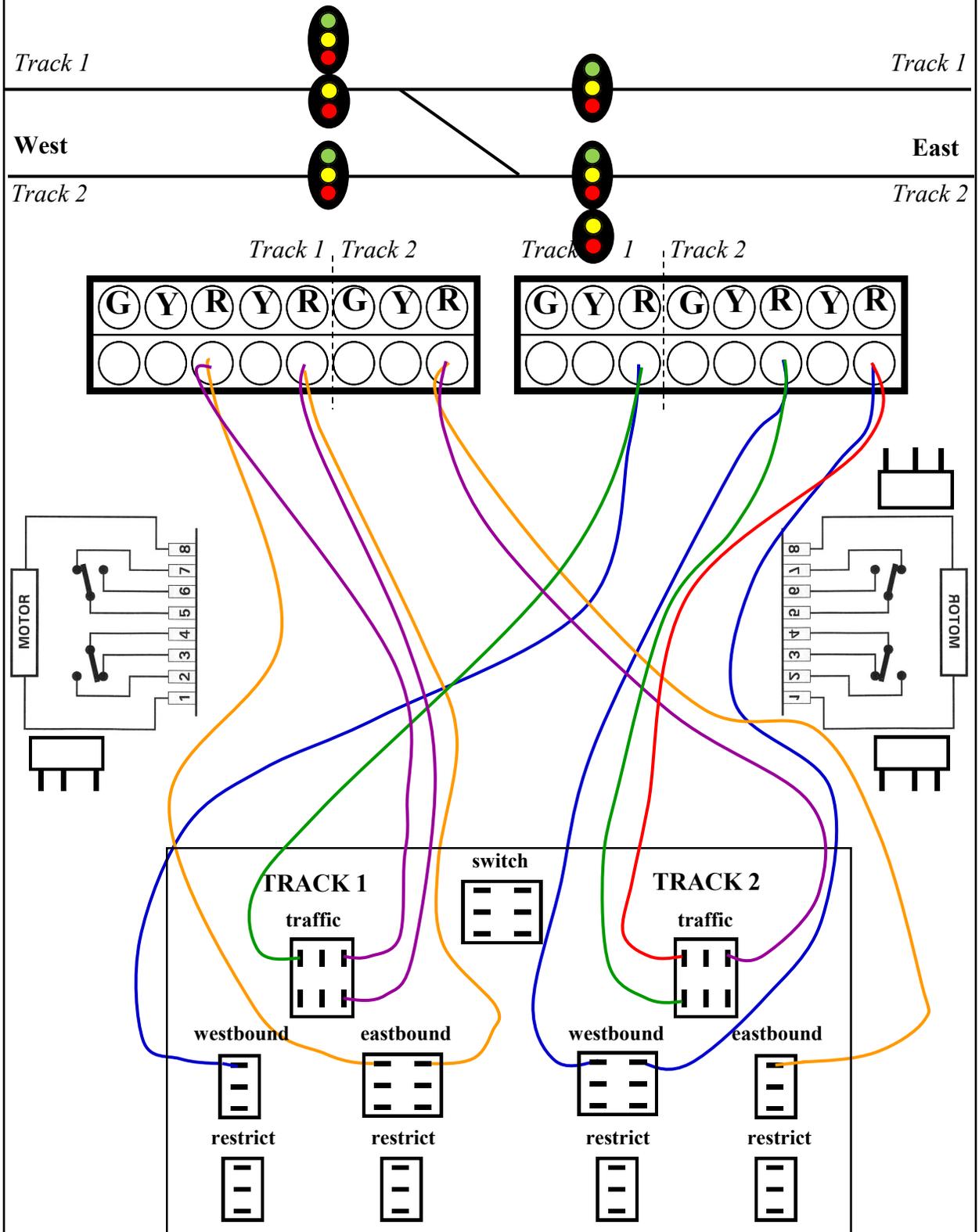
Finally, we show the wiring to light the signal heads for Track 2.



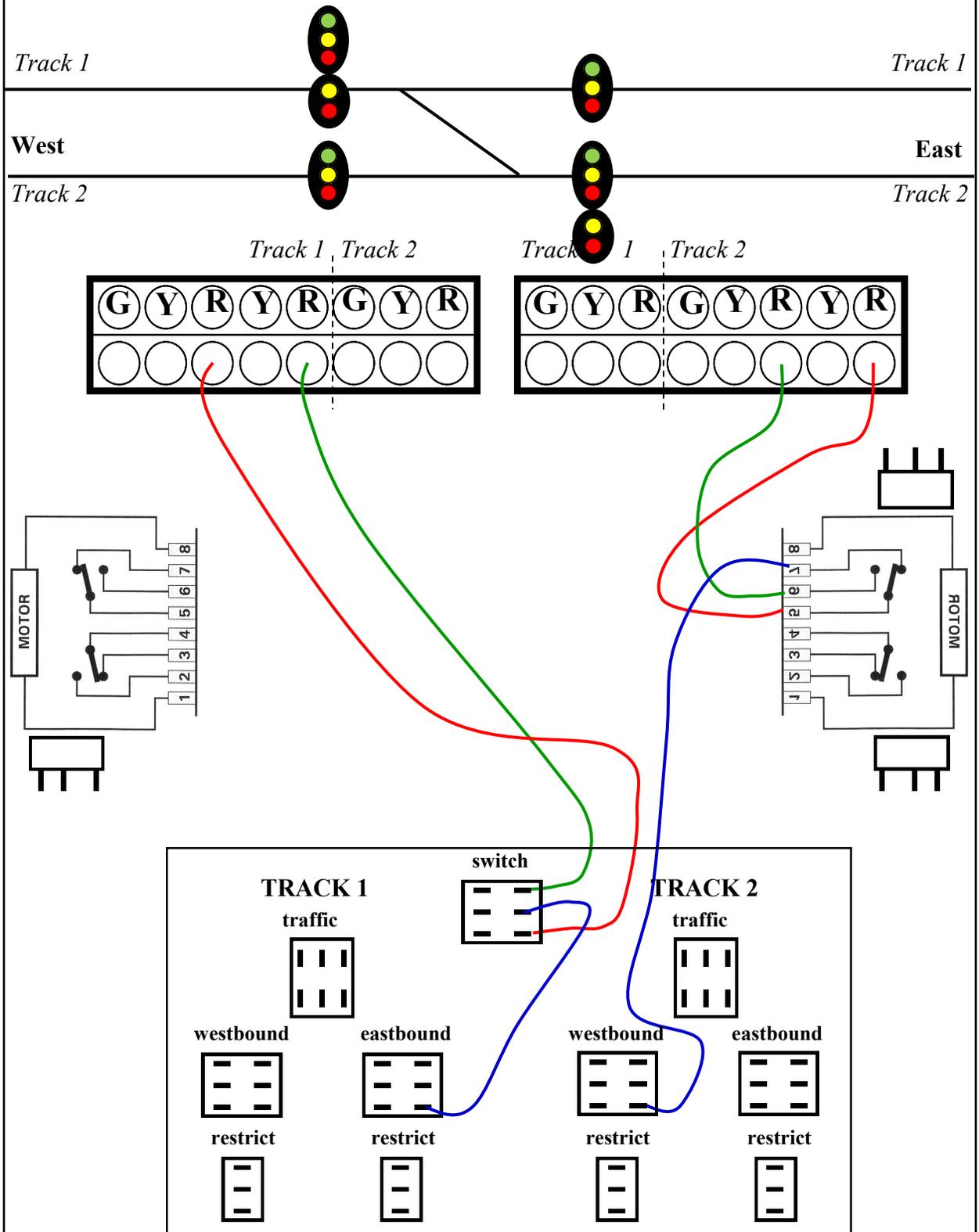
Time to try a crossover. Since this situation occurs on double track, and because each track can carry traffic in both directions, our panel must again be set up to treat the two tracks separately. However when the crossover is opened it effects traffic on both tracks. Simplicity again demands multiple wiring diagrams. This is the supply wiring:



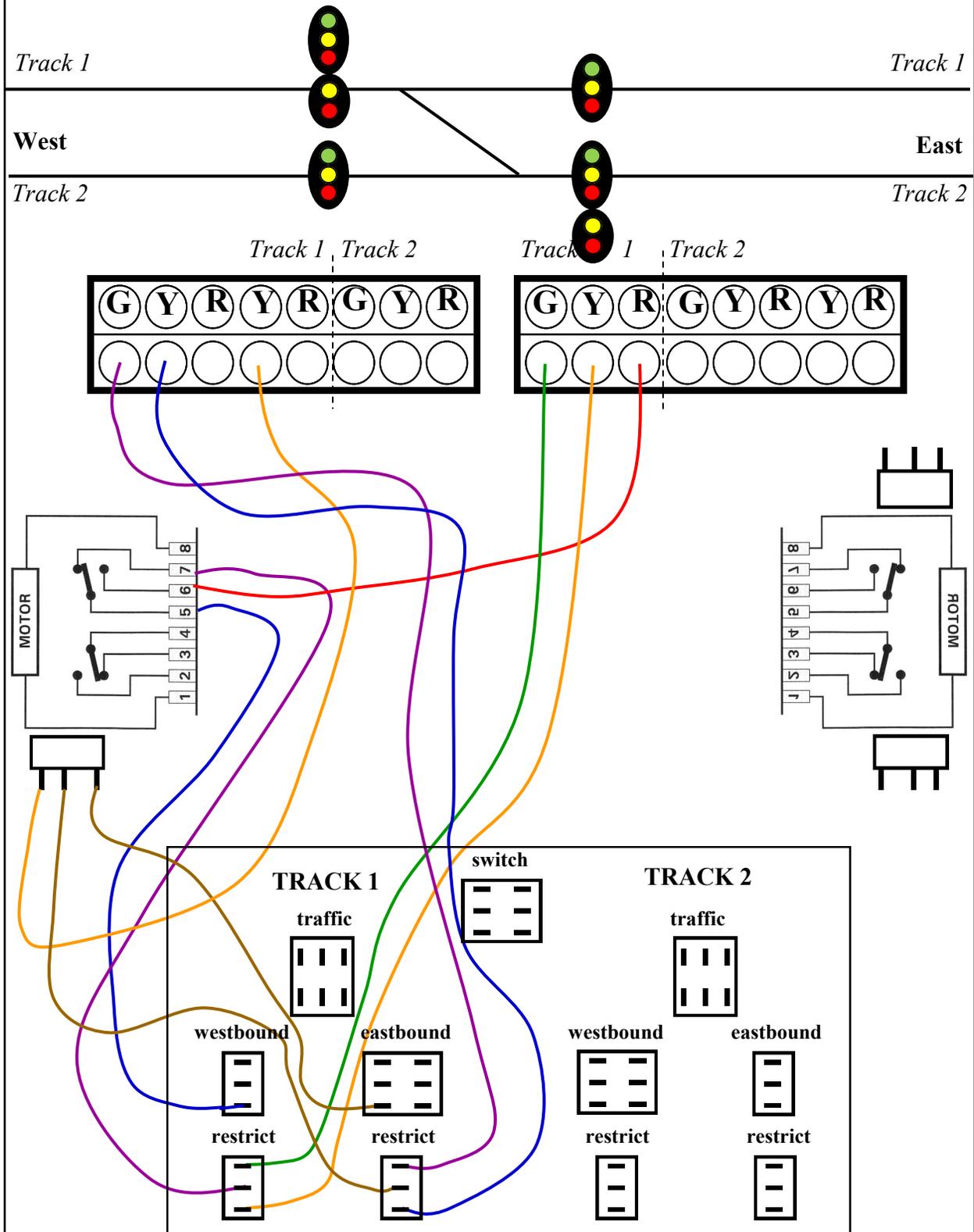
Now comes the wiring for the traffic, eastbound, and westbound terminals which throw red to those heads where the signals have not been opened by the dispatcher.



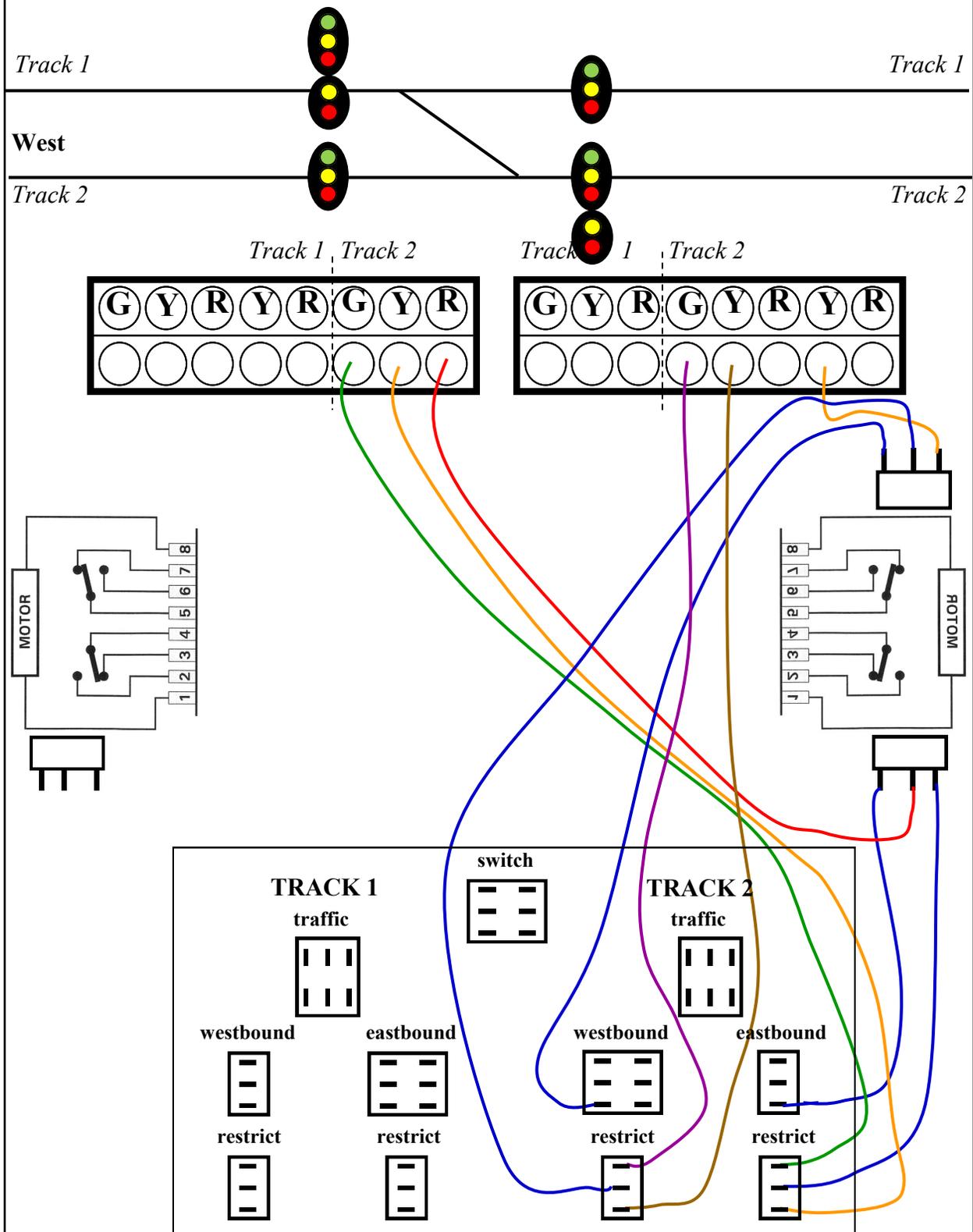
These wires activate the red lights for the non-followed route heads in the direction of travel. I have included wiring for both tracks in this diagram.



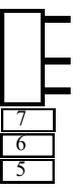
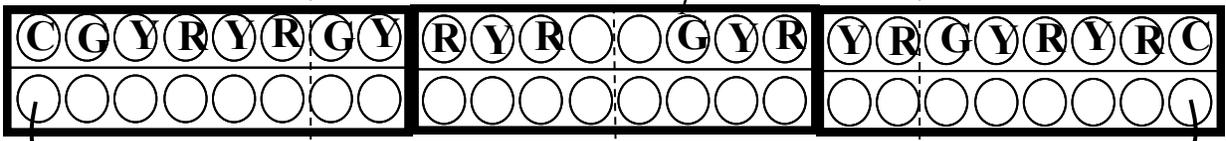
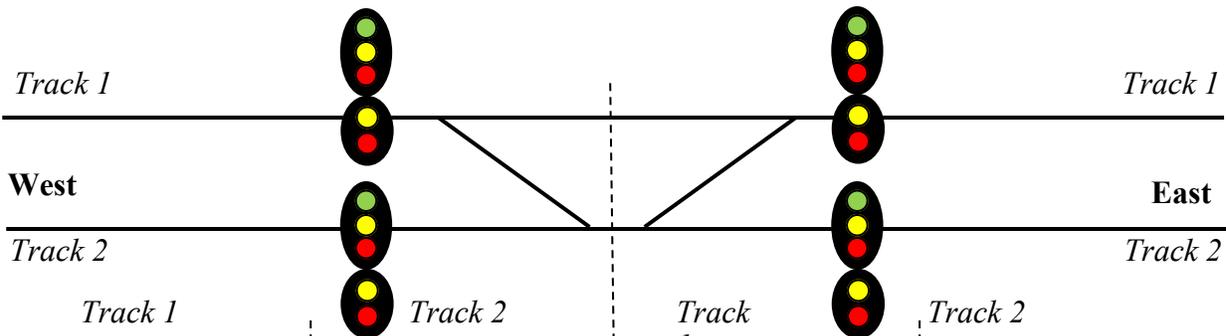
Next is the wiring to light the cleared routes, this diagram shown only the wiring for track 1.



Finally, this is the wiring to light the cleared routes for track 2.

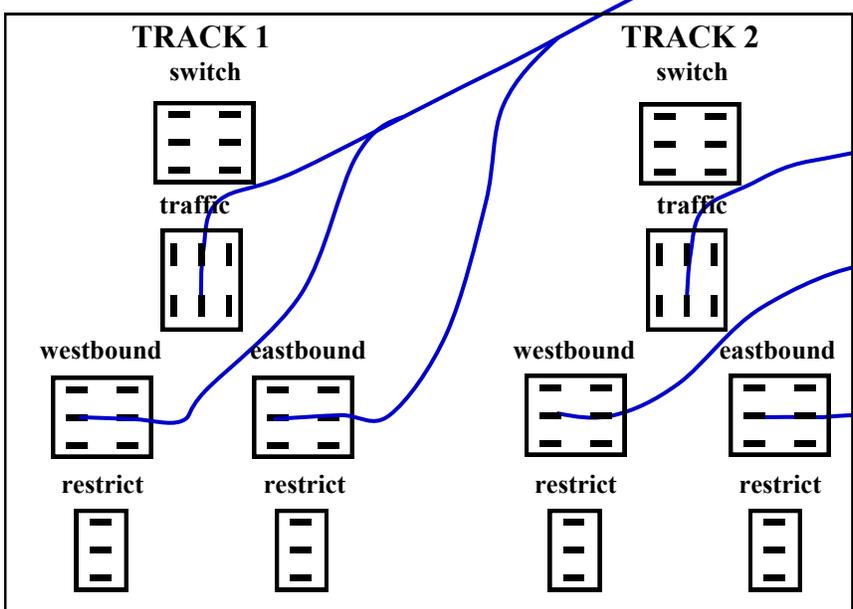
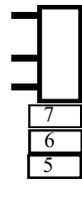


Now for some real fun, let's look at the wiring to operate the signals for a double crossover. As has been done previously, this first diagram only shows the supply wiring. To save space only the available terminal strips of the tortoise switch motors are shown, along with the attached lever switches.



Note the DC common wiring is unchanged from the temporary lighting presented in the previous installment.

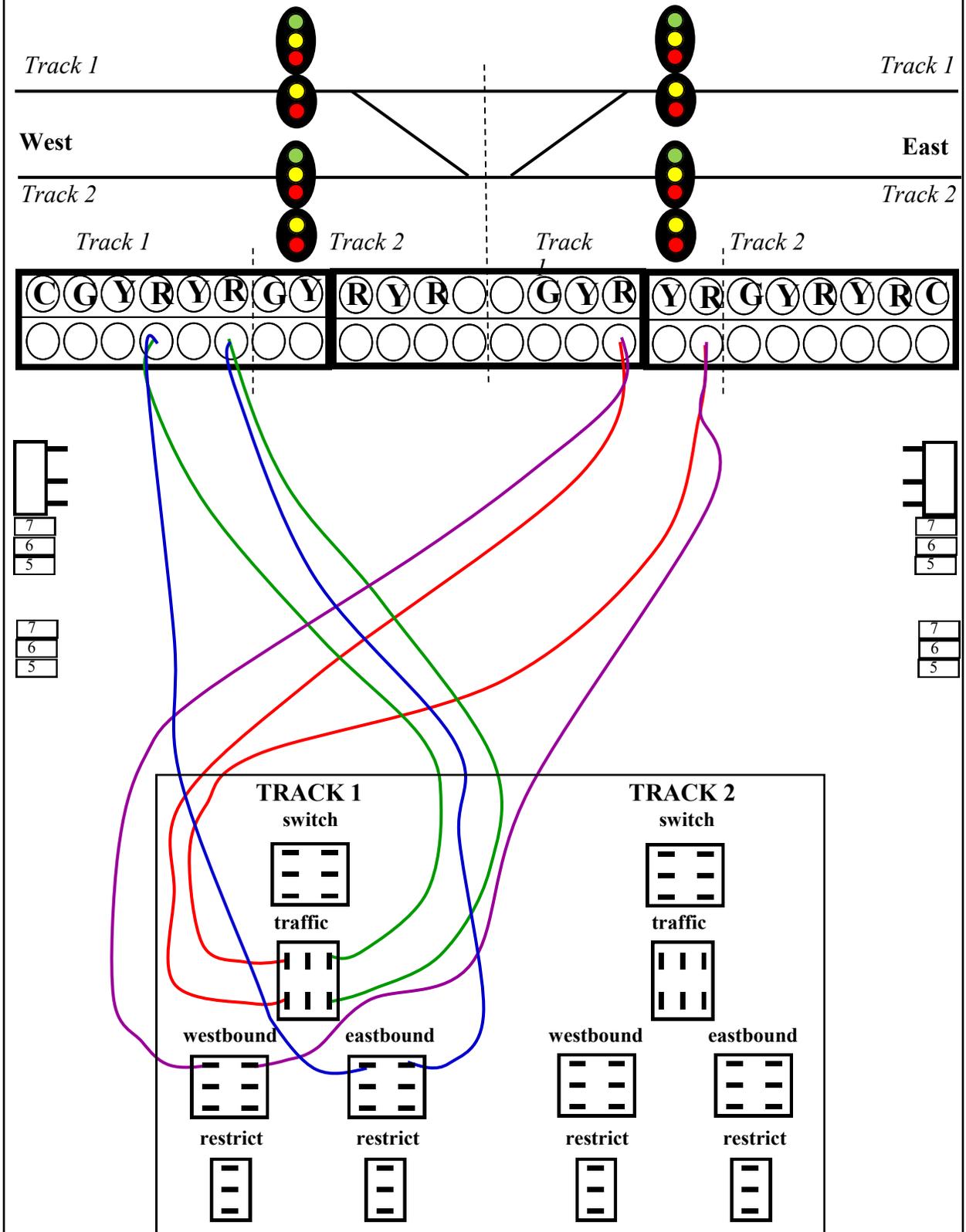
The supply wires for the traffic, eastbound, and westbound toggles are soldered to both center terminals.



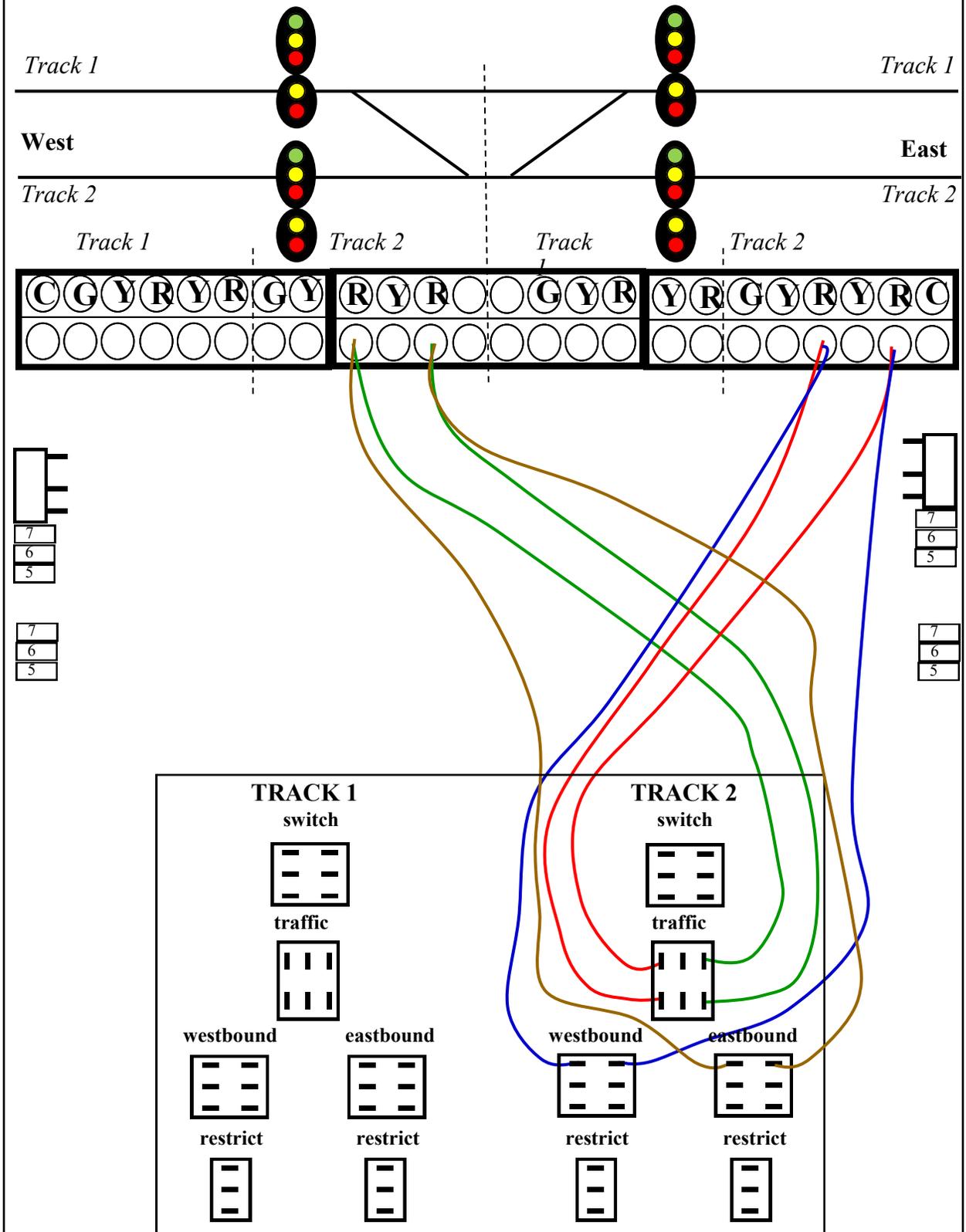
Common

+ 6 volts DC

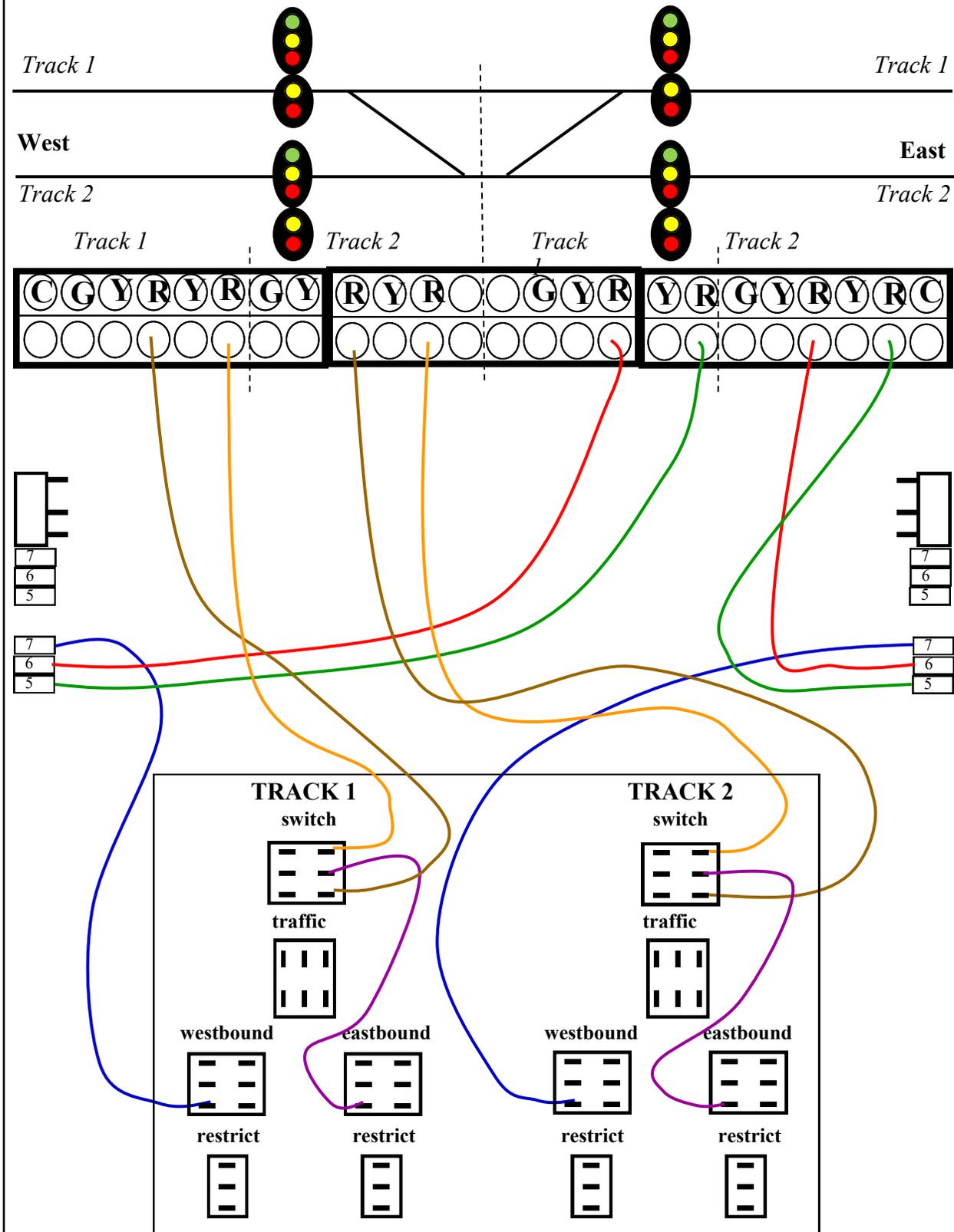
Shown next is the traffic toggle wiring which lights the red signals opposite of the direction of travel. Also shown is the eastbound and westbound wiring designed to light the red signals in the direction of travel when these toggles are closed. First for Track 1.



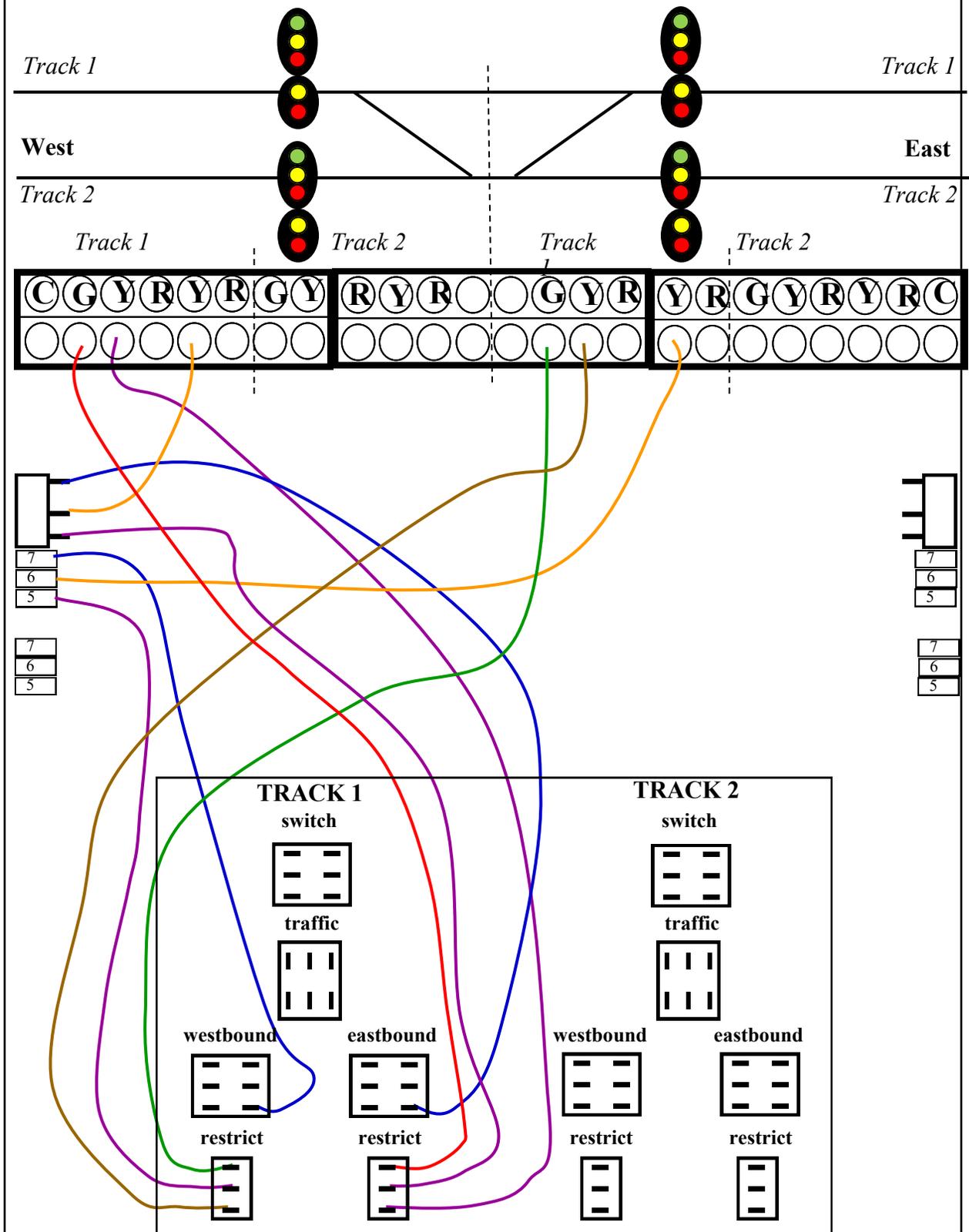
Shown next is the traffic toggle wiring which lights the red signals opposite of the direction of travel. Also shown is the eastbound and westbound wiring designed to light the red signals in the direction of travel when these toggles are closed. This time for track 2.



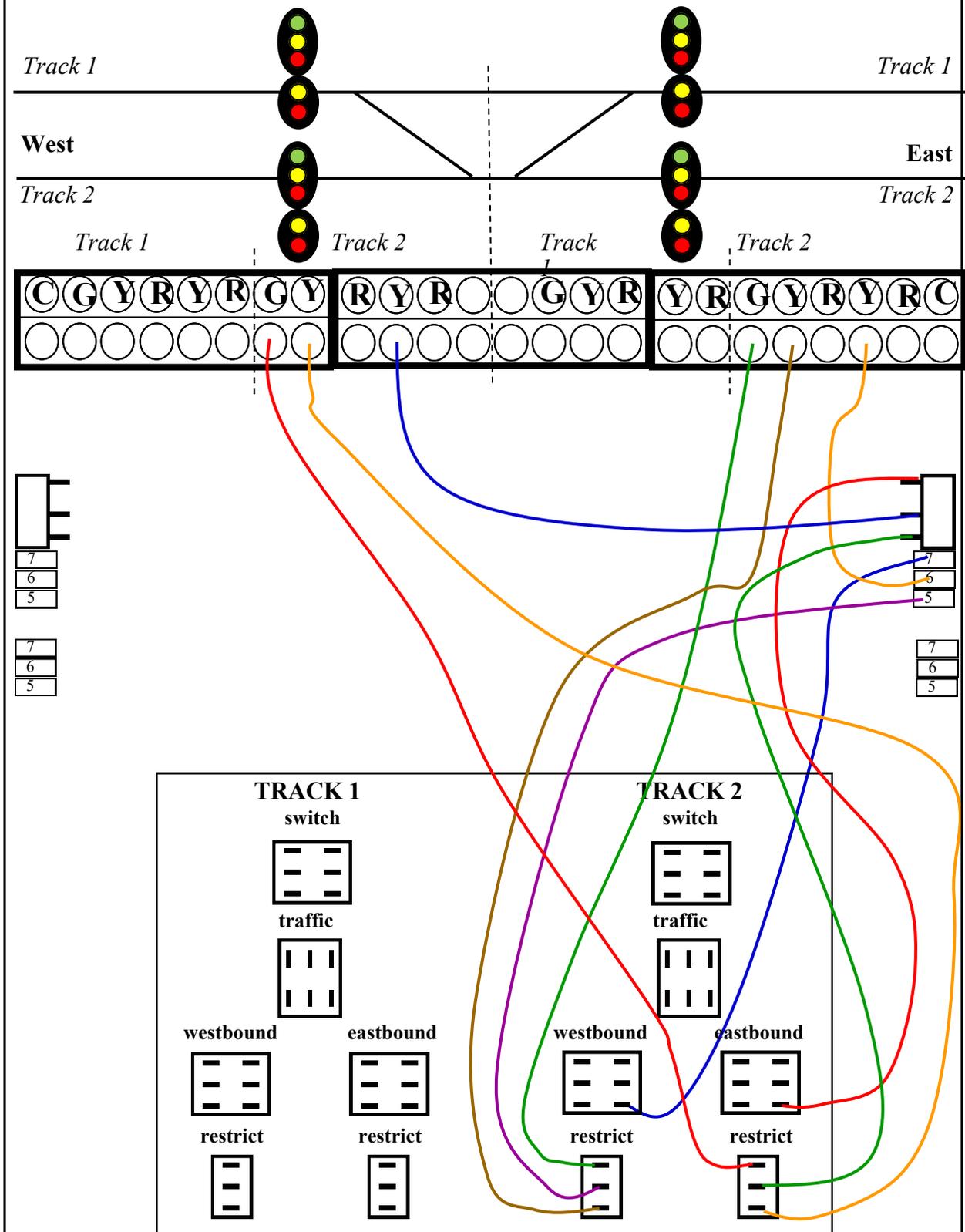
The next set of wires originate from the eastbound and westbound toggles, and will power the red lights in the signal heads that correspond to non-selected routes.



Next is the wiring to light the cleared routes, this diagram shown only the wiring for track 1.



Next is the wiring to light the cleared routes, this diagram shown only the wiring for track 2.



If you have studied these wiring diagrams, you might think there are opportunities to use less switch terminals, and thereby, simplify things left on the table. For example, when wiring a two headed signal mast, it will be the case that when one head is showing clear, the other head must always be red. Why not just run both of those lights from the same terminal? The reason is that if you connect a red and green light to the same terminal there will be times when the same red light is powered from another source, such as when the traffic toggle is set against it. On such occasions the power to the red light will back up into the green through your double connection, and a bad signal will be generated as a result.

As previously mentioned, should you begin wiring signals using these diagrams, you must test things as you go. Although I have tried mightily to double check everything in an effort to be exactly correct, all this wiring can occasionally be confusing both for the drawer of the diagrams and the interpreter. When working a control panel from behind, up and down, and east and west, will always stay the same, but left and right become reversed. More than that, with turnout motors mounted in every direction, turnouts facing each other will cause contacts to be reversed, and lever switches will have oppositely oriented wiring on each side of the throw bar. It is inevitable that not everything will go as planned. You should definitely determine the effect each wire is supposed to produce, and test to see that it did, as you go along. Most problems will probably occur where wires are used to check turnout status, and such problems will usually be resolved by reversing the two output wires.

Upon completion of this work you will have a mostly interlocked system that can be used to simulate prototype operations. Mostly interlocked. Having used this system for years I know that it is possible for the dispatcher to accidentally generate a bad signal by making a mistake in setting the routes. The usual source of a bad signal involves opening a signal toggle and failing to properly set the direction of traffic. Your dispatchers should learn to start at the top and work the levers to the bottom, so as not to miss anything.

Final words here: if you begin implementing this signal system and run into difficulty interpreting the many wiring diagrams, or getting any of it to behave as you expect, I am here to help. Email me at tharris@va.net, call or text at 276-620-3493. I will be happy to help, I know very well signaling is not easy to implement. I will even be glad to arrange a visit and aid you getting it all straight. The next installment will cover creating a central CTC-style panel for the dispatcher. Fear not, doing this does not involve substantially changing all of this wiring. It will, however, involve moving a good bit of it to the other end of long cables. A central location will permit a few pretty neat upgrades as well. But go ahead and use it this way a while, recharge your wiring batteries a bit!





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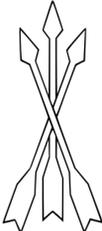
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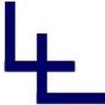


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Allegheny & New River Road
 An Appalachian Coal Hauling Railroad set in the 50's

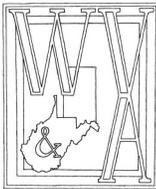


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April 13
St. Albans Depot

May 18
Steel is King
Parkersburg, WV

June 8
Railfan Trip?

July 13
St. Albans Depot