



# C&WC RAILROAD UPDATE

MECHANICAL AND ELECTRICAL CHALLENGES BETWEEN LEVELS

# TWO CHALLENGES

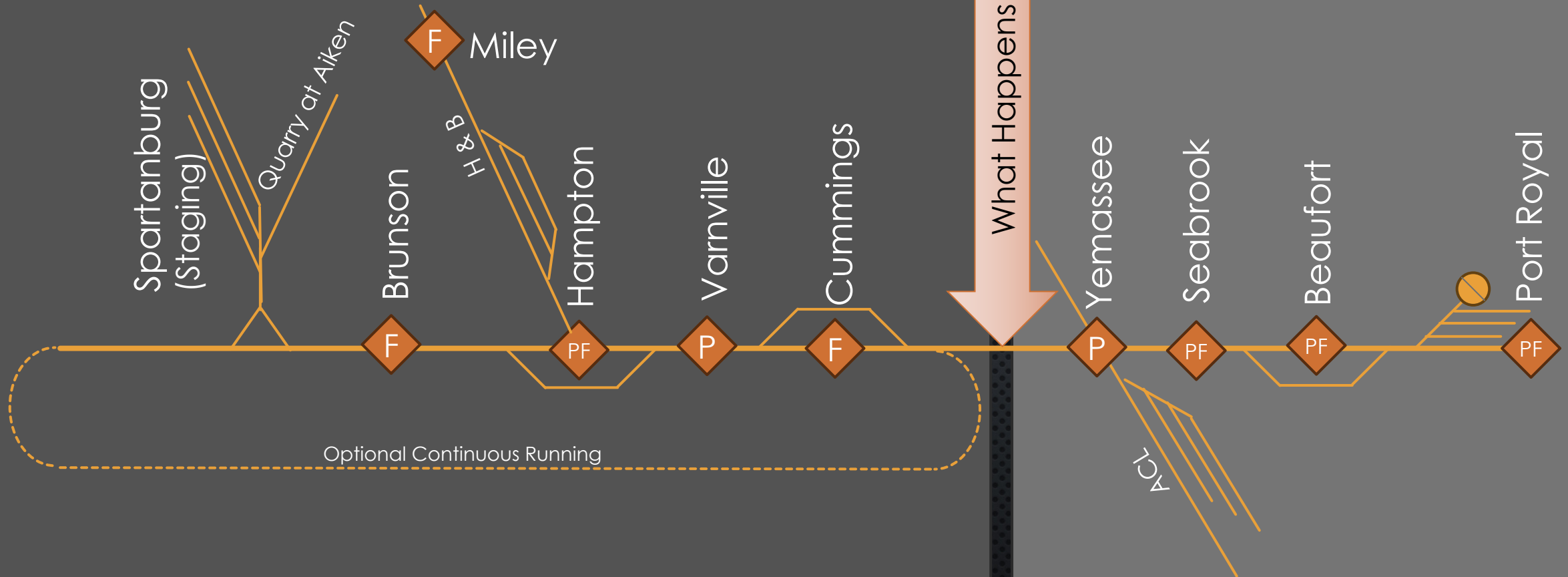
- LIFT OR LOWER TRAINS BETWEEN LEVELS
- BUILD MOVABLE / REMOVABLE MULTI-TRACK BRIDGE ACROSS ROOM ENTRY

# LAYOUT AT A GLANCE

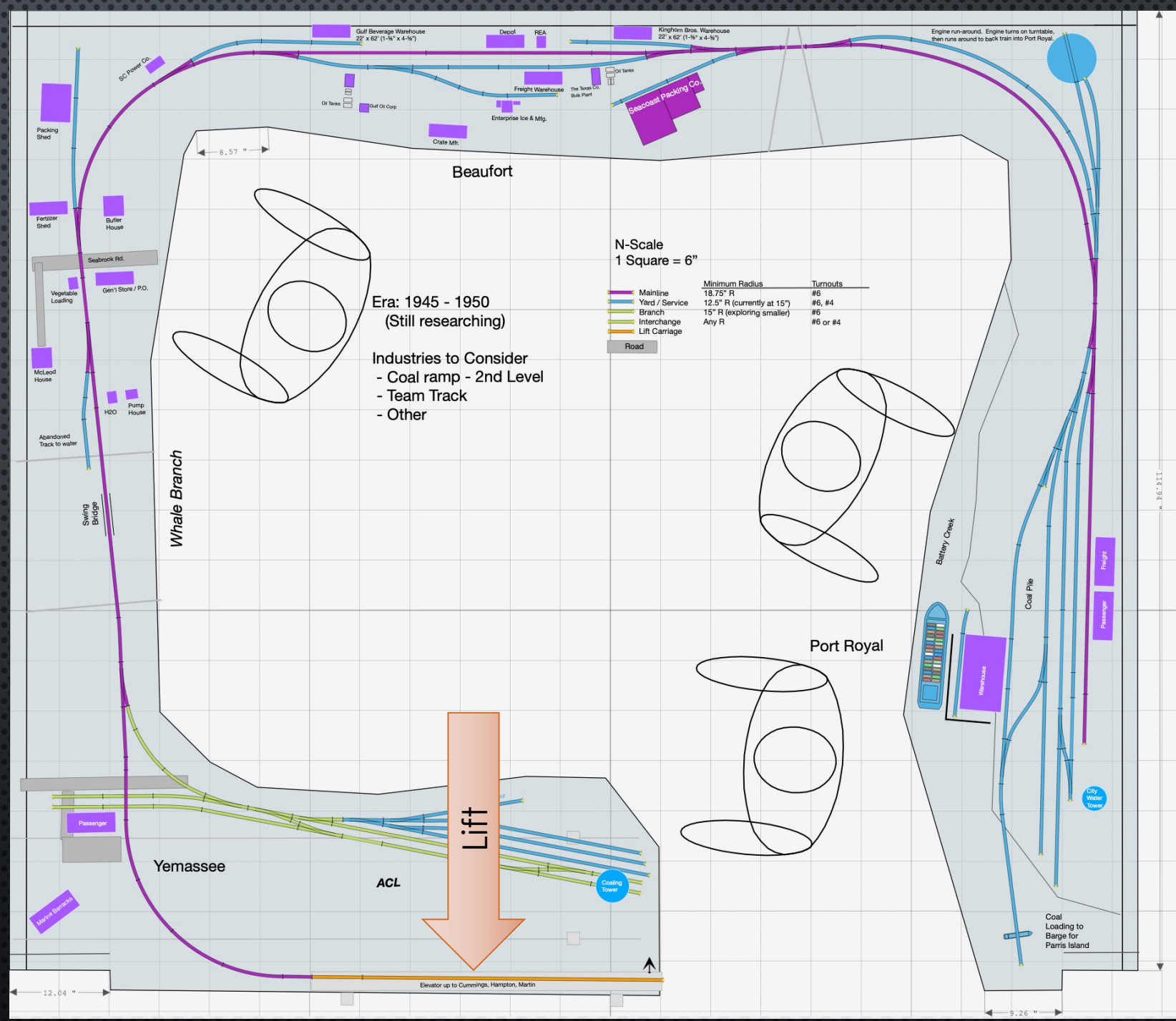


## Level 2 – in Early Stages

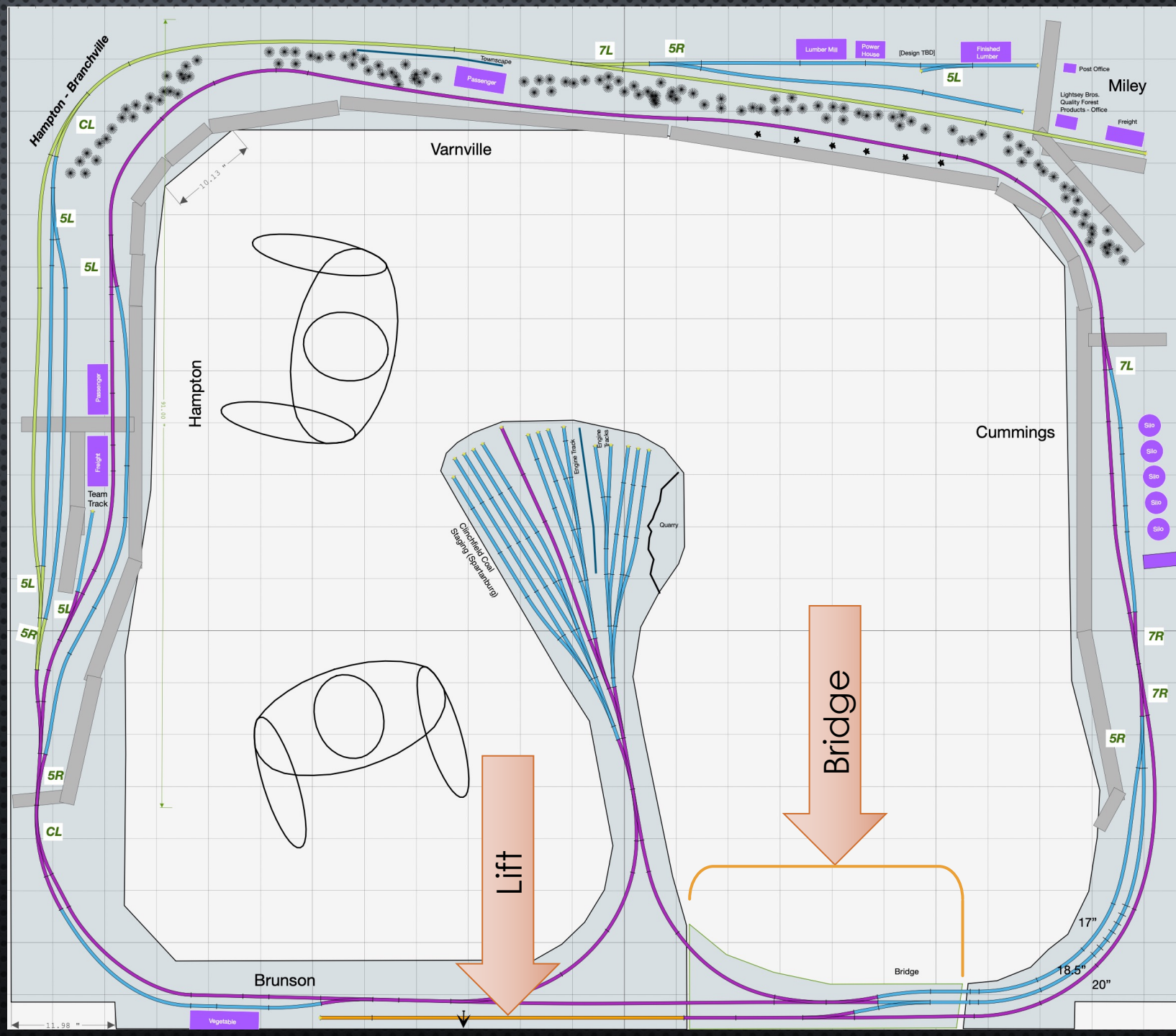
## Level 1 – Mostly Built Out



# THE LAYOUT LEVEL 1



# THE LAYOUT LEVEL 2



THE LIFT

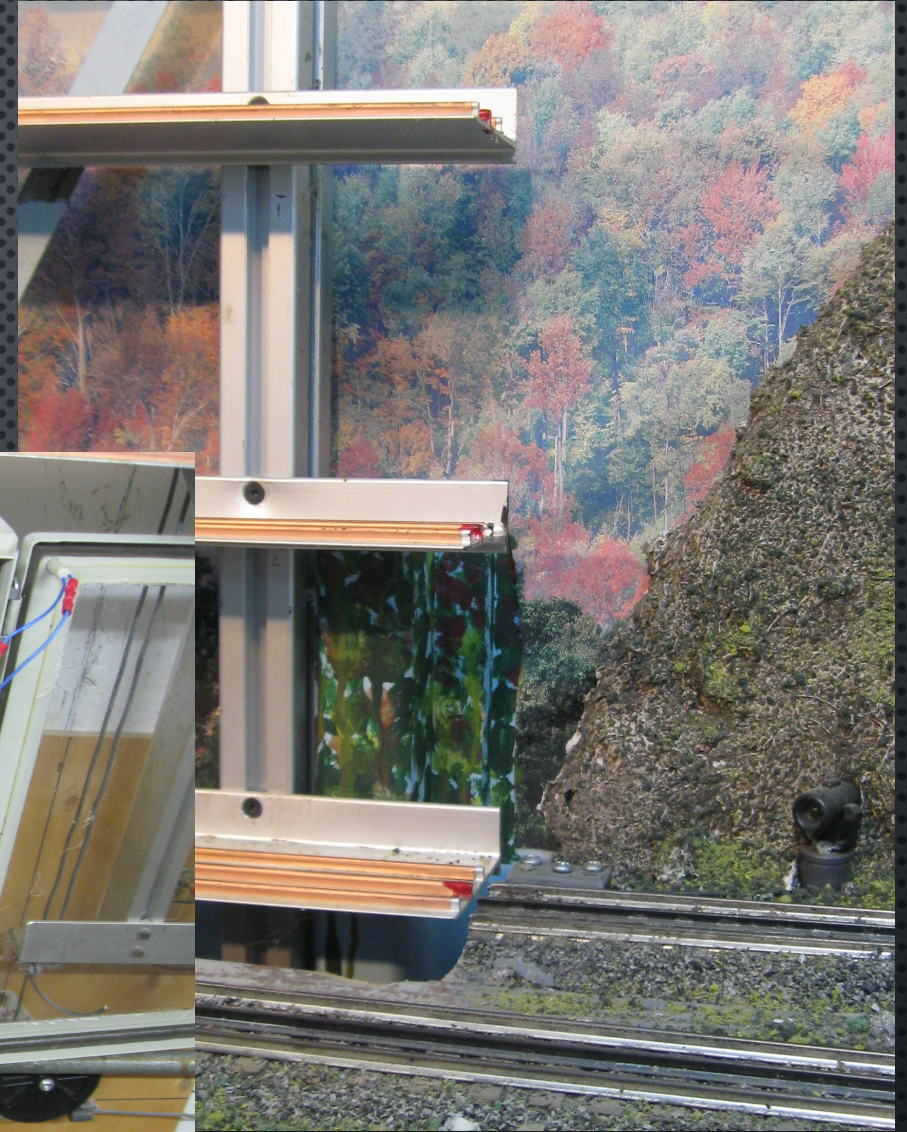
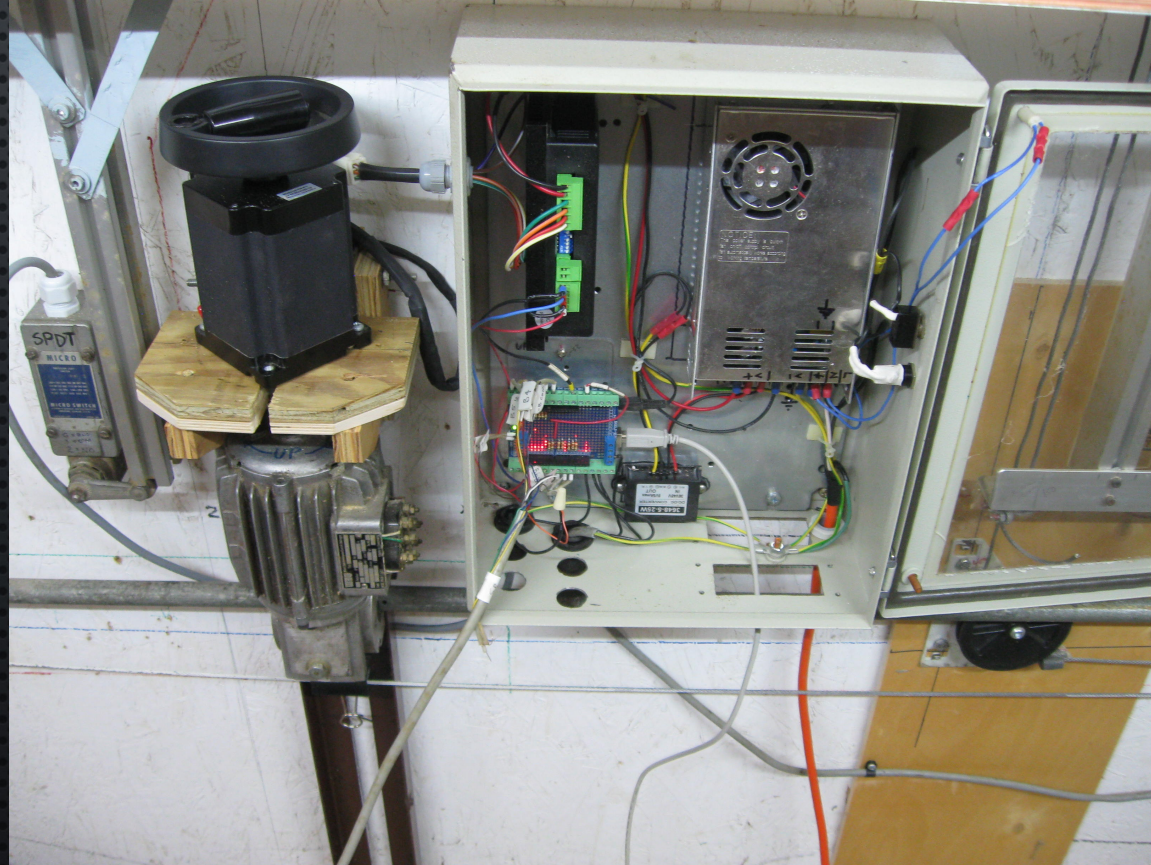
# CARL BLUM'S APPROACH

- LIONEL
- SUPPORTS NINE TRAINS



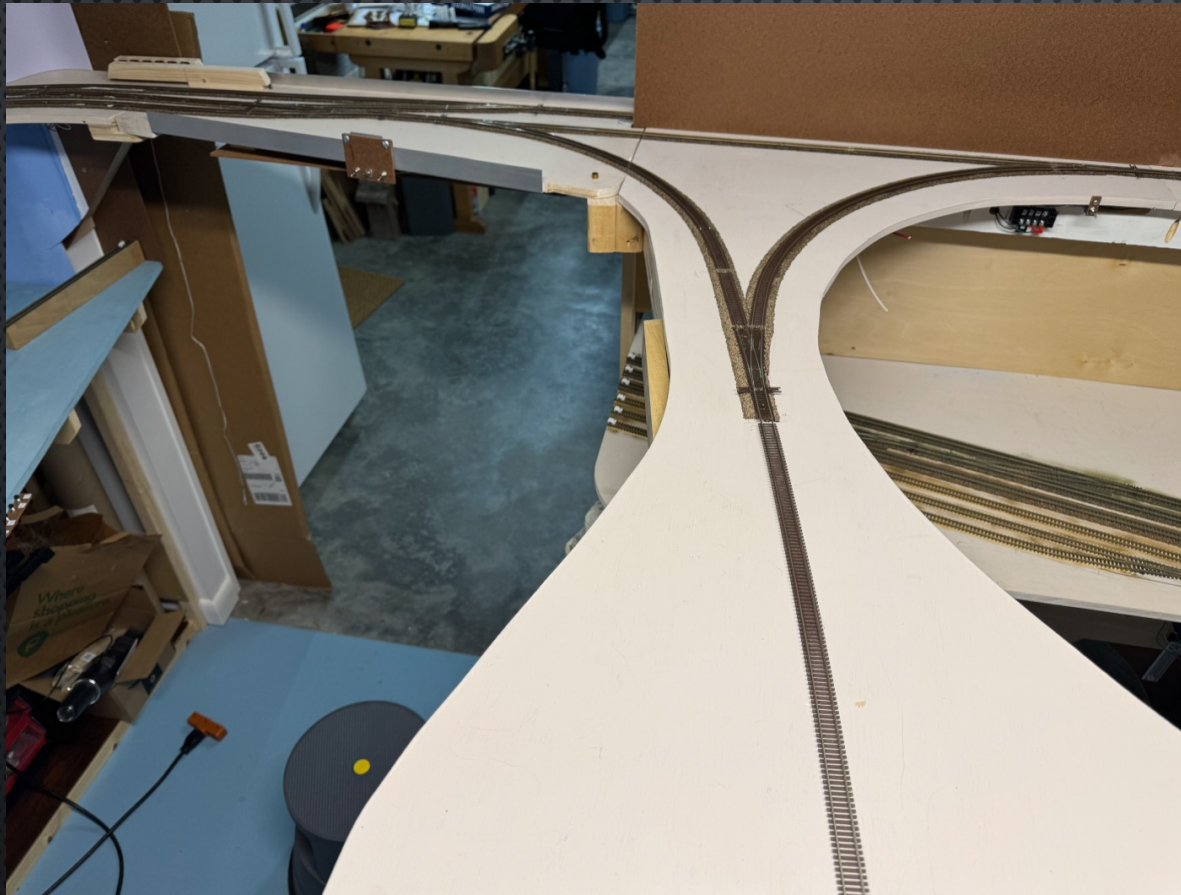
# CARL BLUM'S APPROACH

- FULL AUTOMATION
- STEPPING MOTOR
- INDEXED TRACK SELECTION
- NUDGE CONTROL
- CHAIN DRIVE



# MY APPROACH

Level 2



Level 1

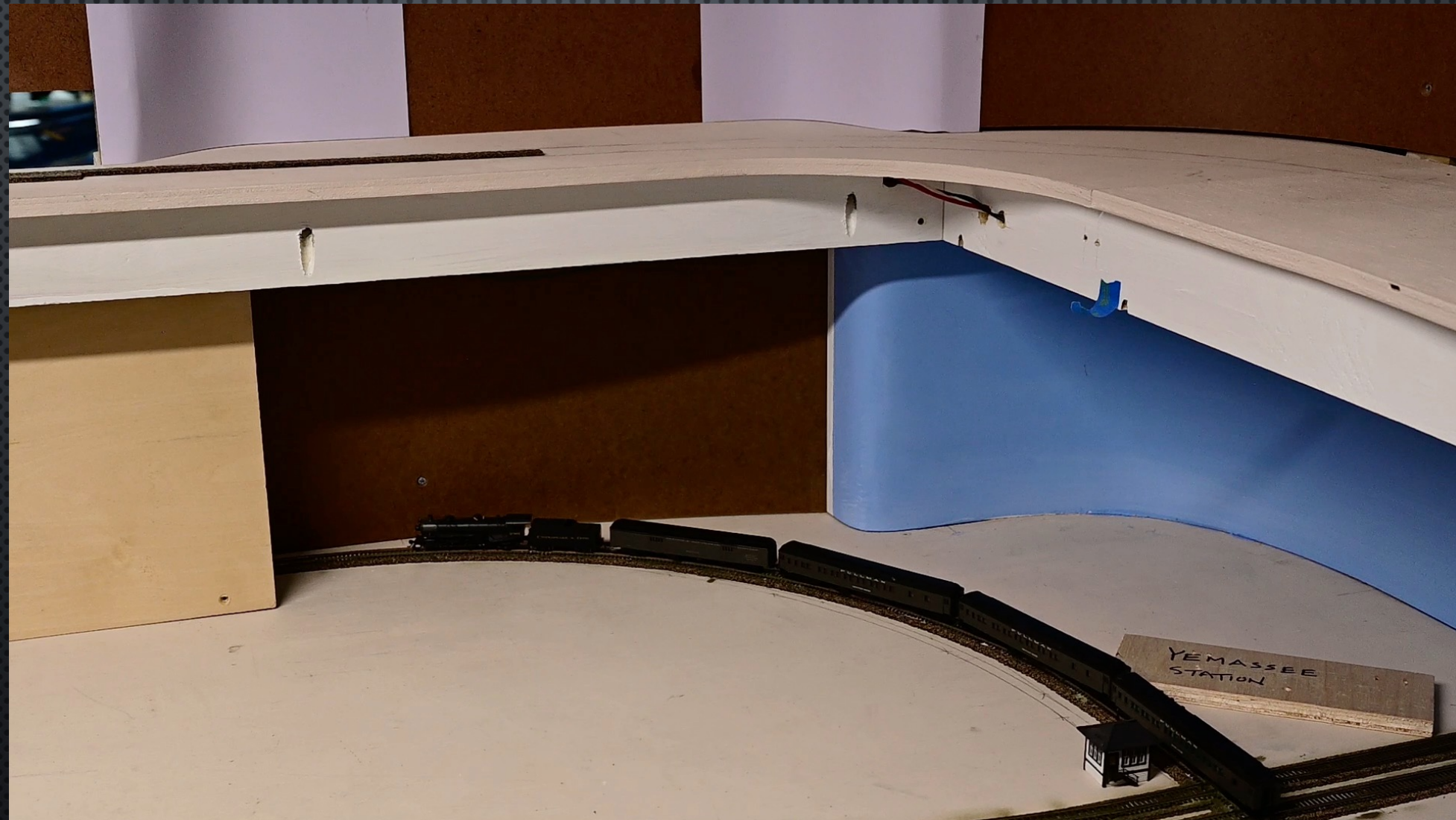
Slot for Lift

C&WC

ACL



# BASIC OPERATION – GOING UP



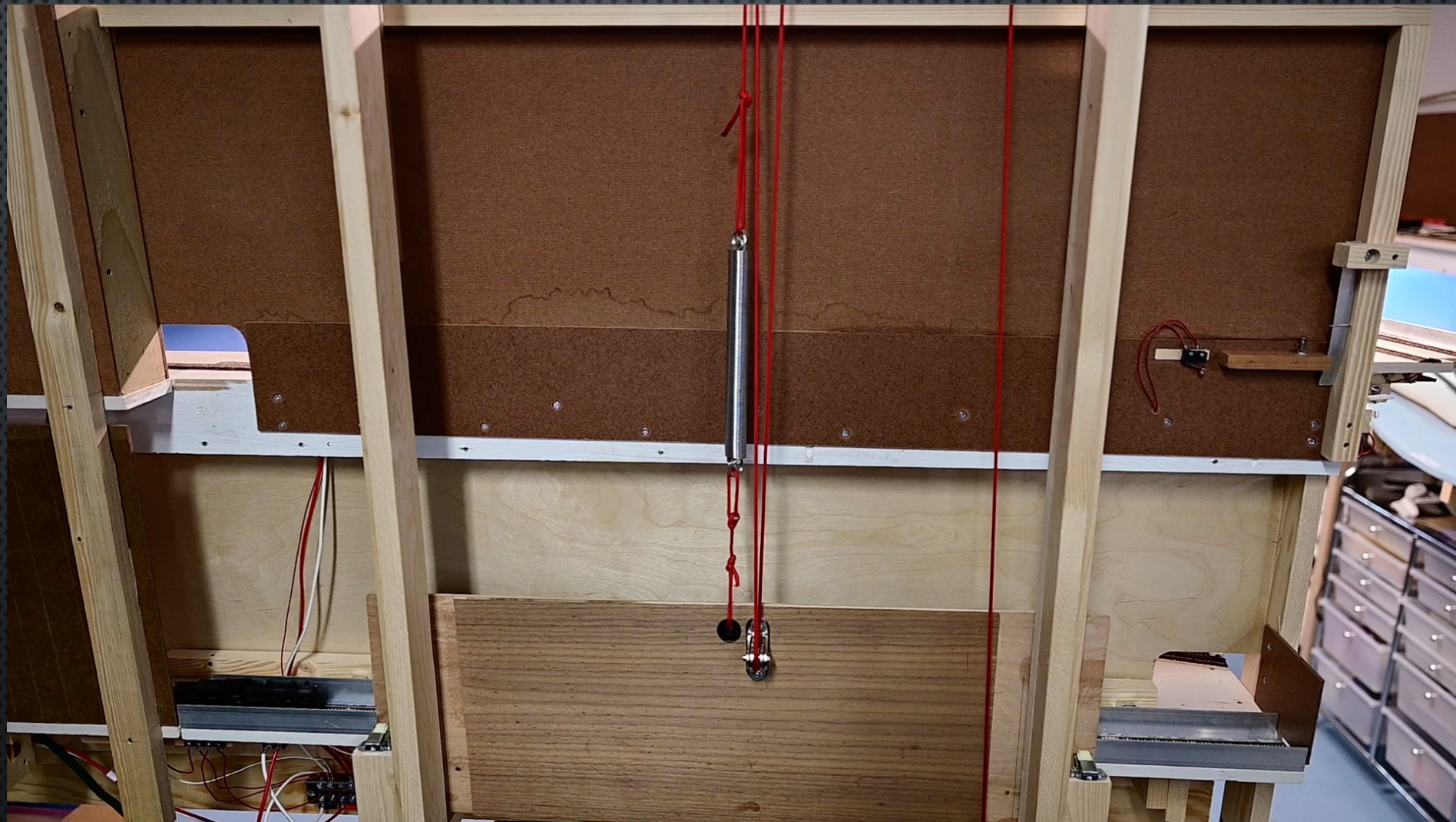
# BASIC OPERATION – ARRIVING UPSTAIRS



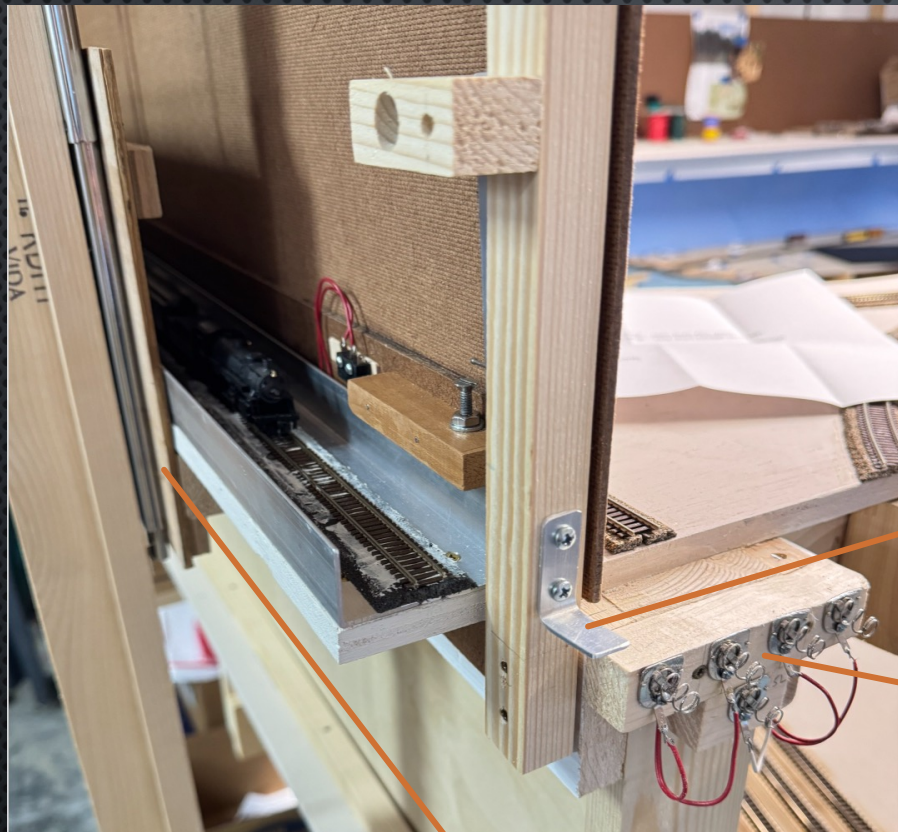
# BASIC OPERATION – THE MOTOR



# BASIC OPERATION – THE GUTS



# MORE GUTS



Drawer Glide (2)

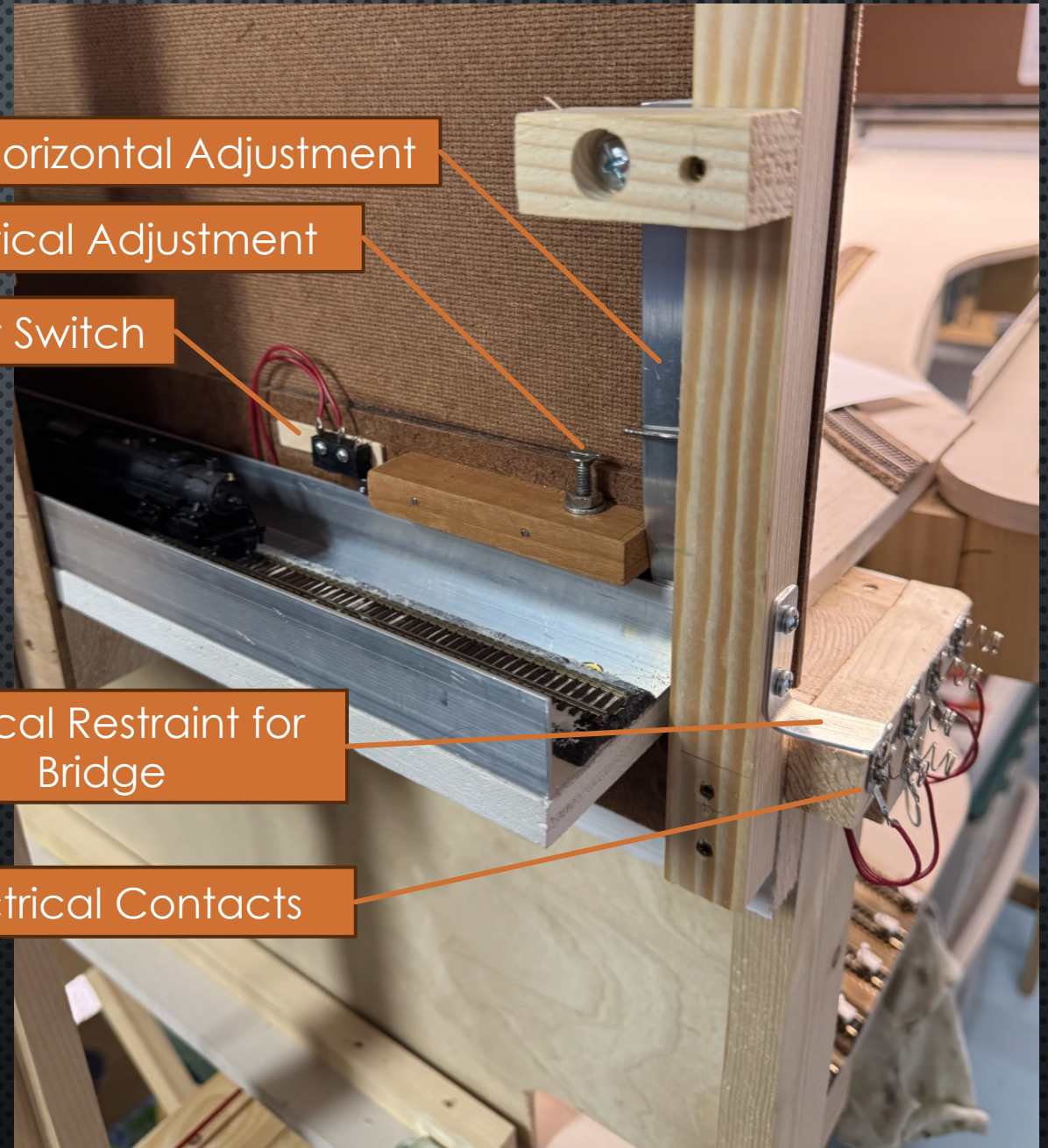
Horizontal Adjustment

Vertical Adjustment

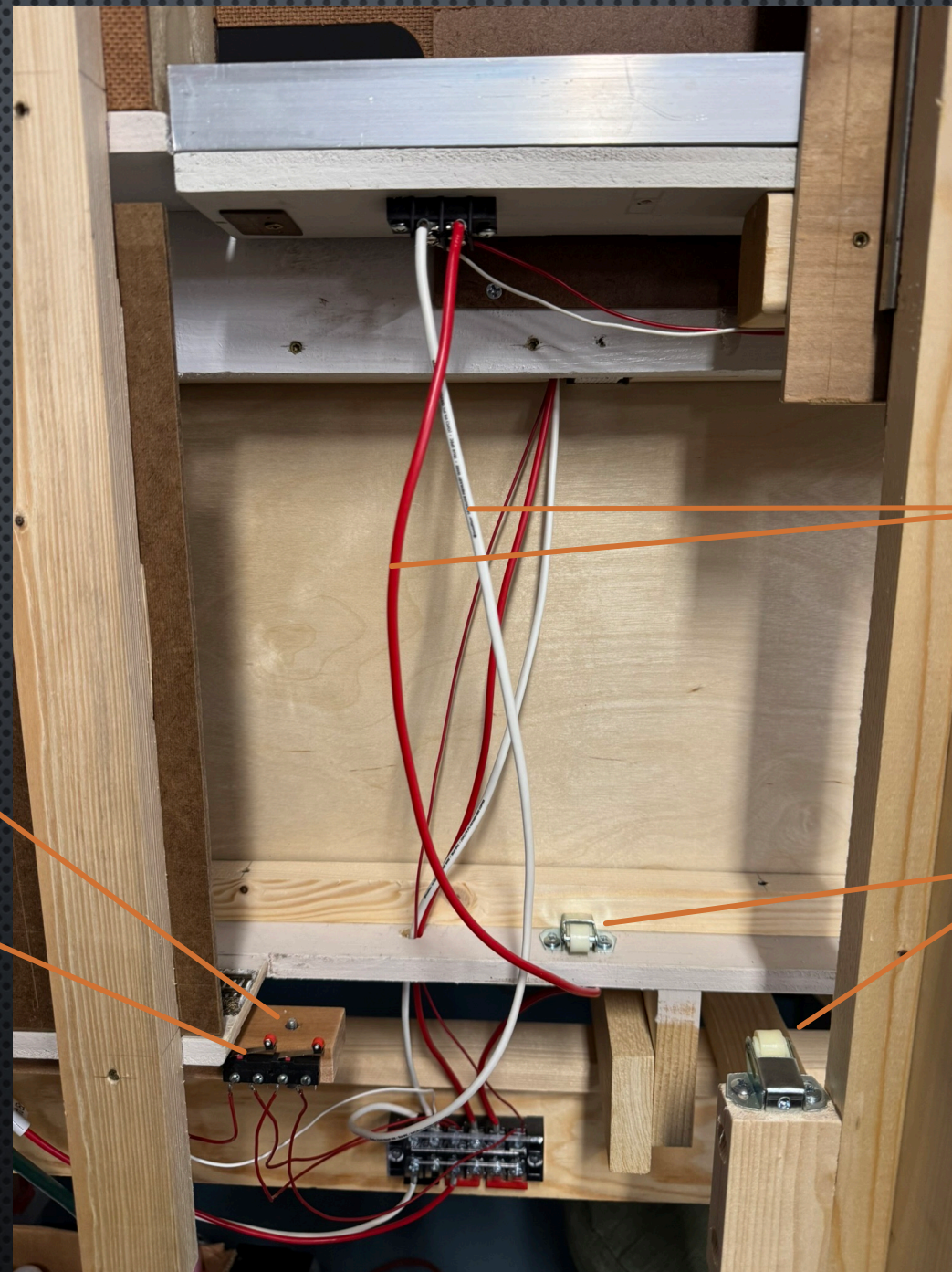
Limit Switch

Vertical Restraint for Bridge

Electrical Contacts



# MORE GUTS



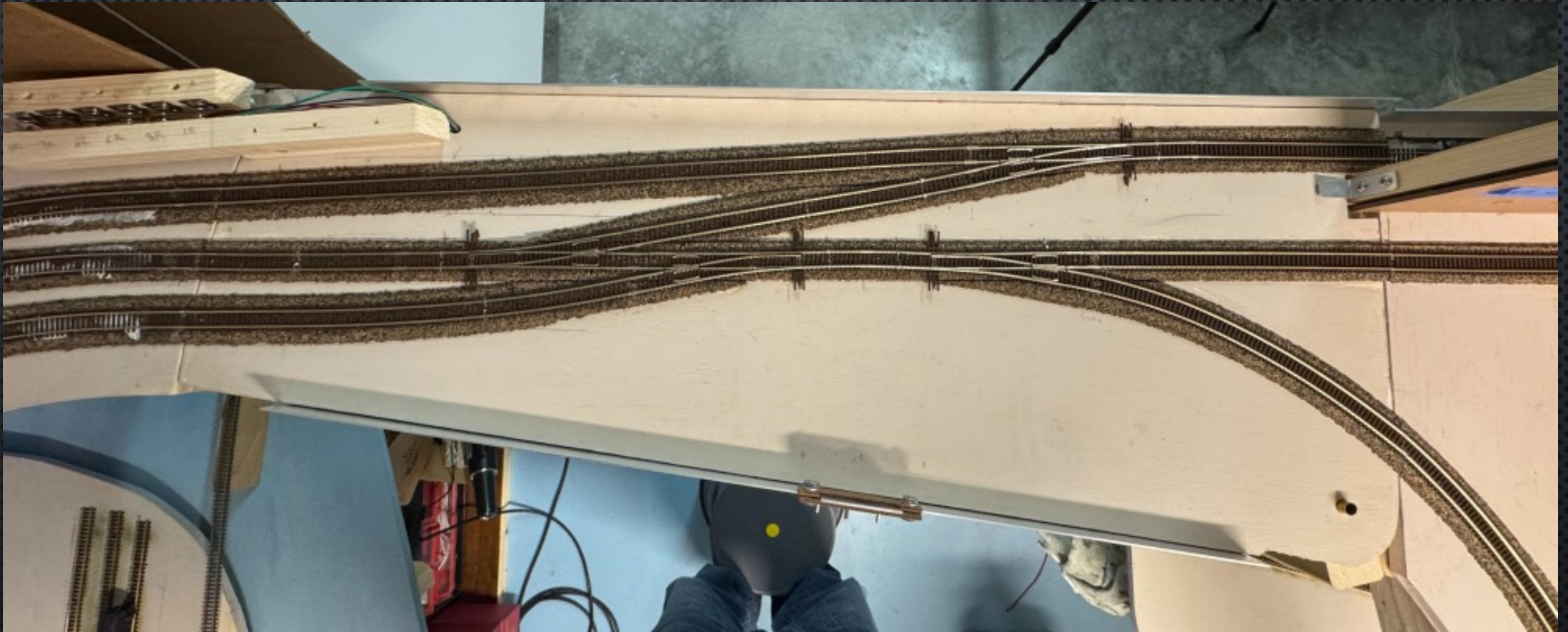
14 AWG Wire  
(Moves with Lift)

Vertical Adjustment

Limit Switches

Horizontal Adjustment  
(Roller Catches)

# THE BRIDGE



# BRIDGE

Electrical Contacts  
(West Approaches & Turnout Power)

Main

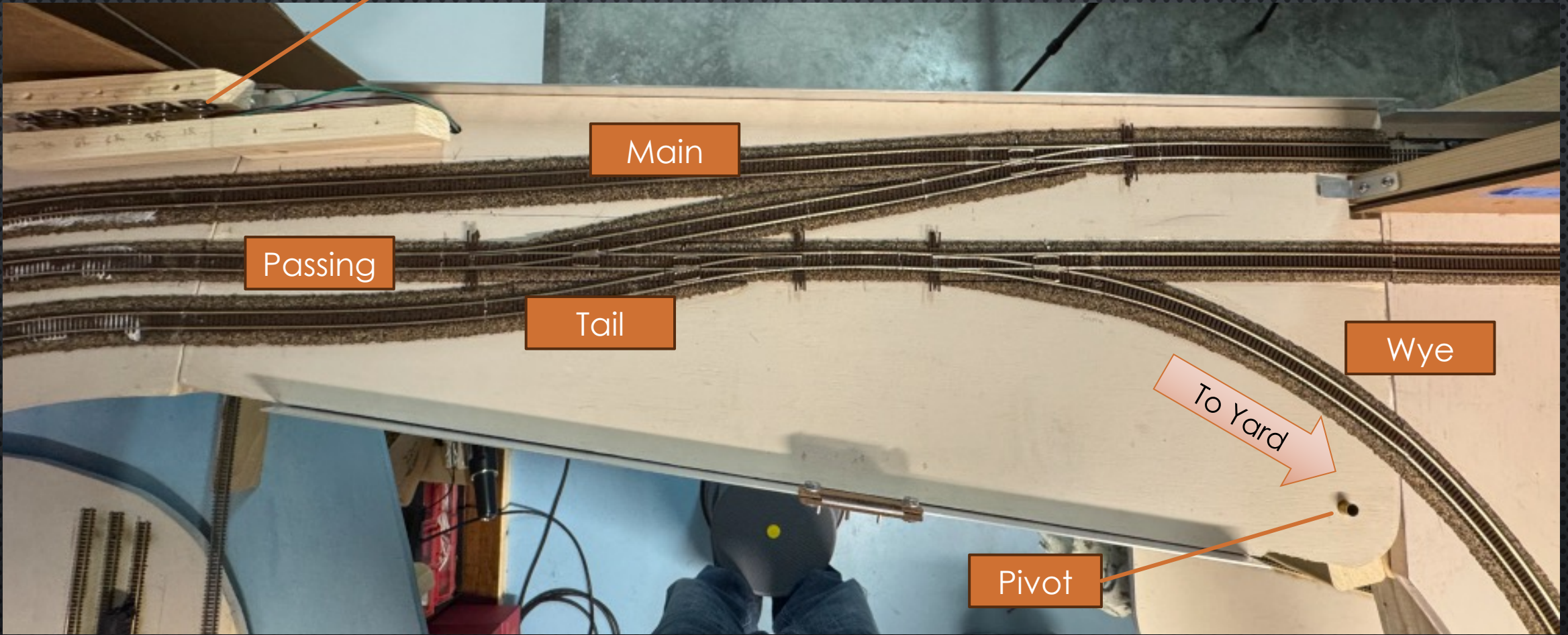
Passing

Tail

Wye

To Yard

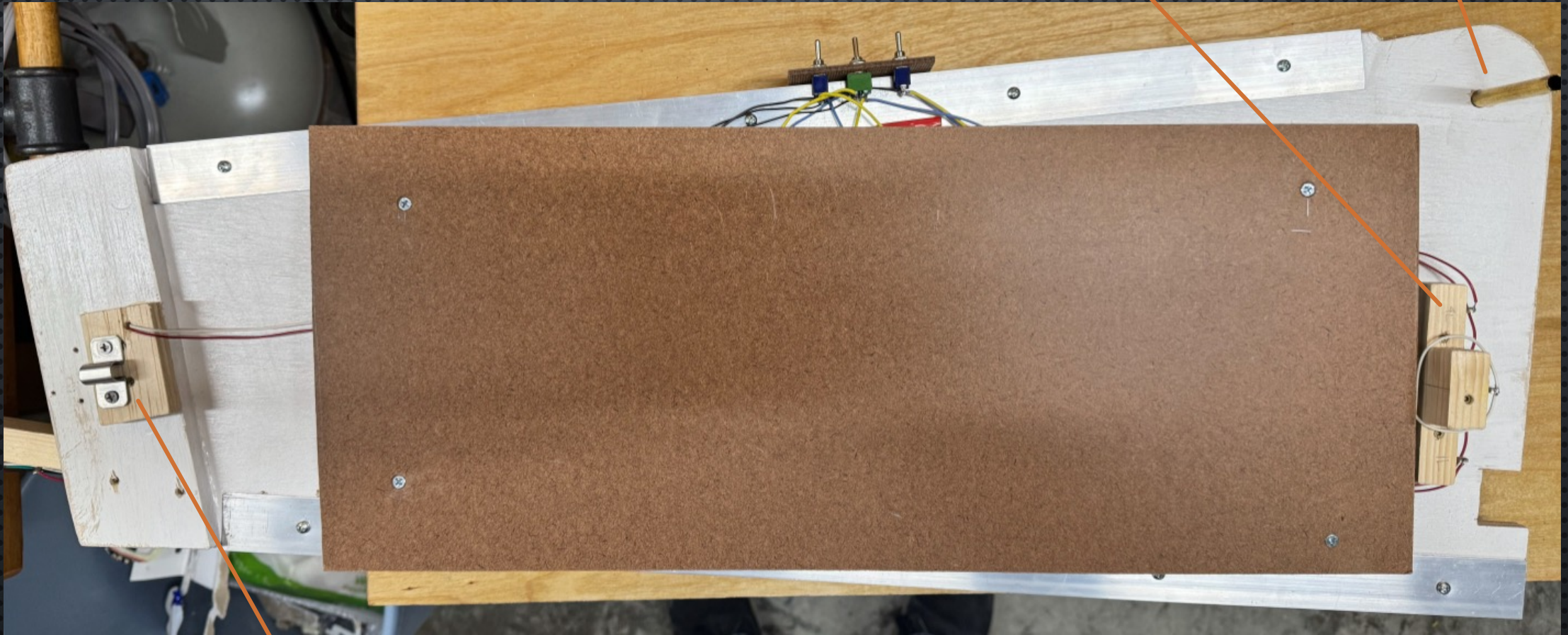
Pivot



# BRIDGE

Electrical Contacts  
(Bridge Track & East Approaches)

Pivot

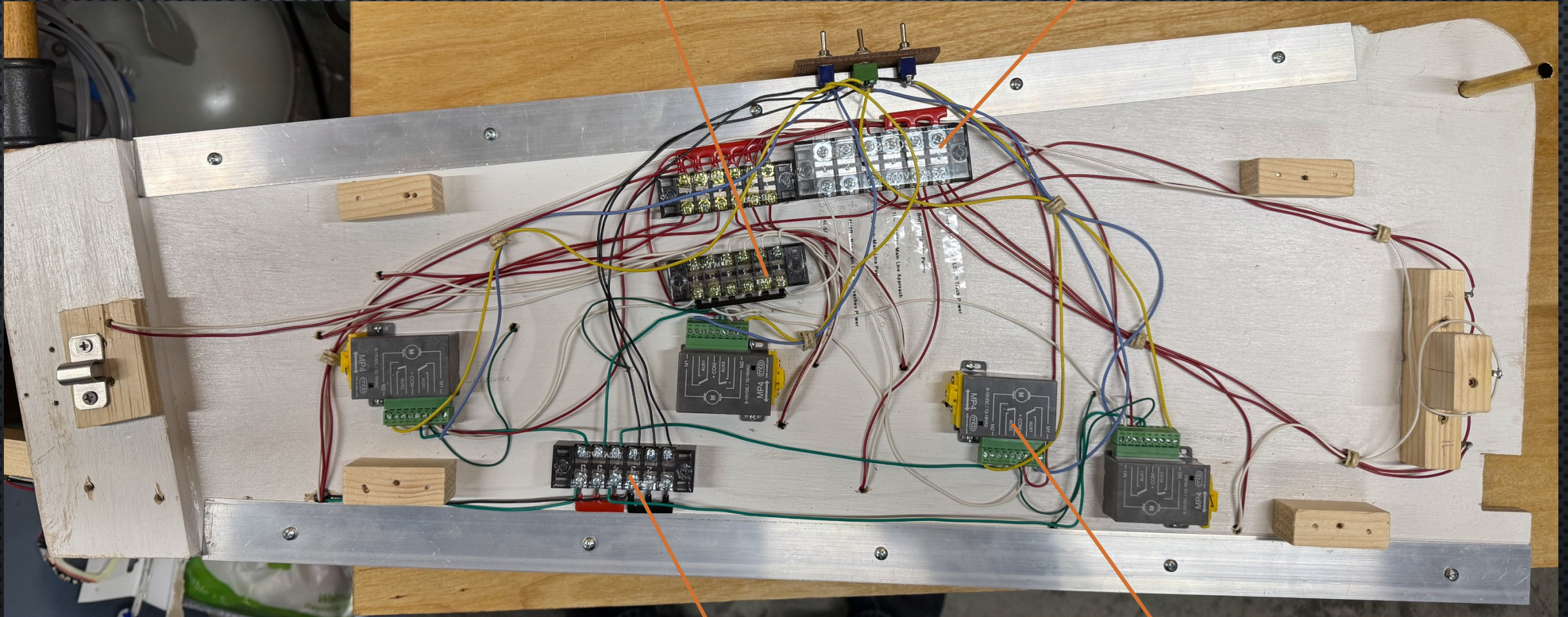


West Alignment Latch

# BRIDGE

Power Distribution to  
Bridge Track and Frogs

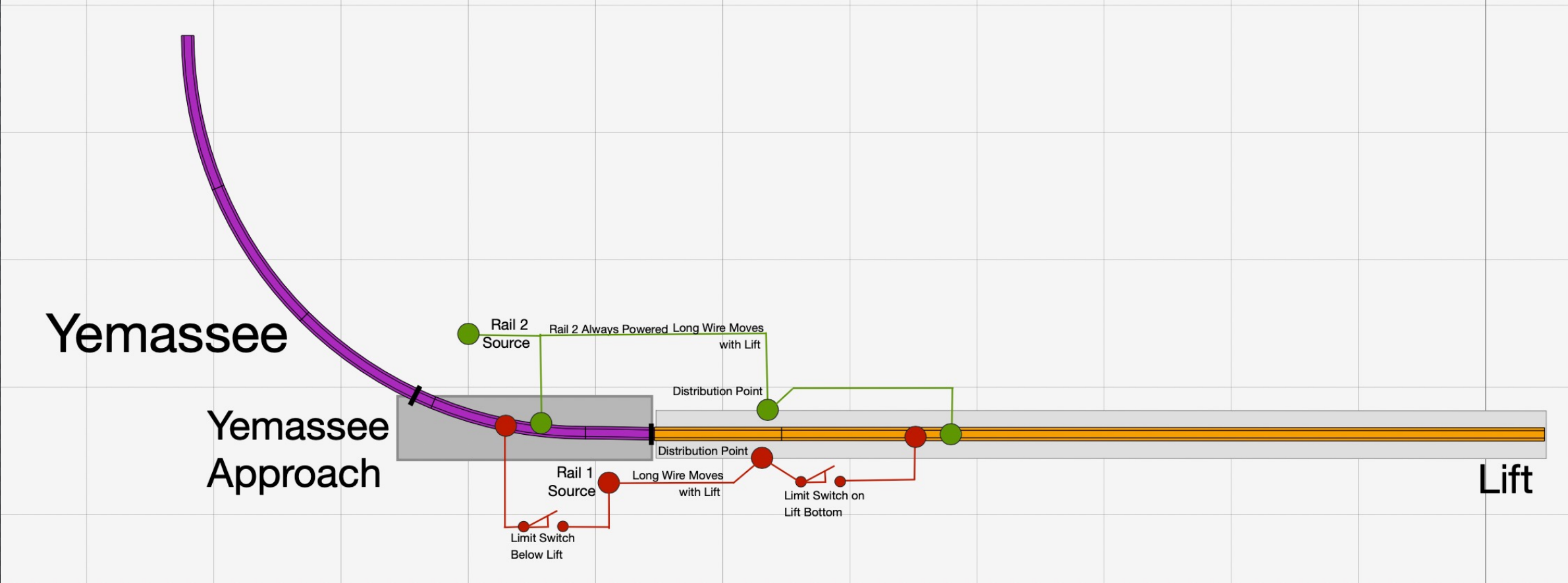
Power Routing to Bridge  
and West Approaches



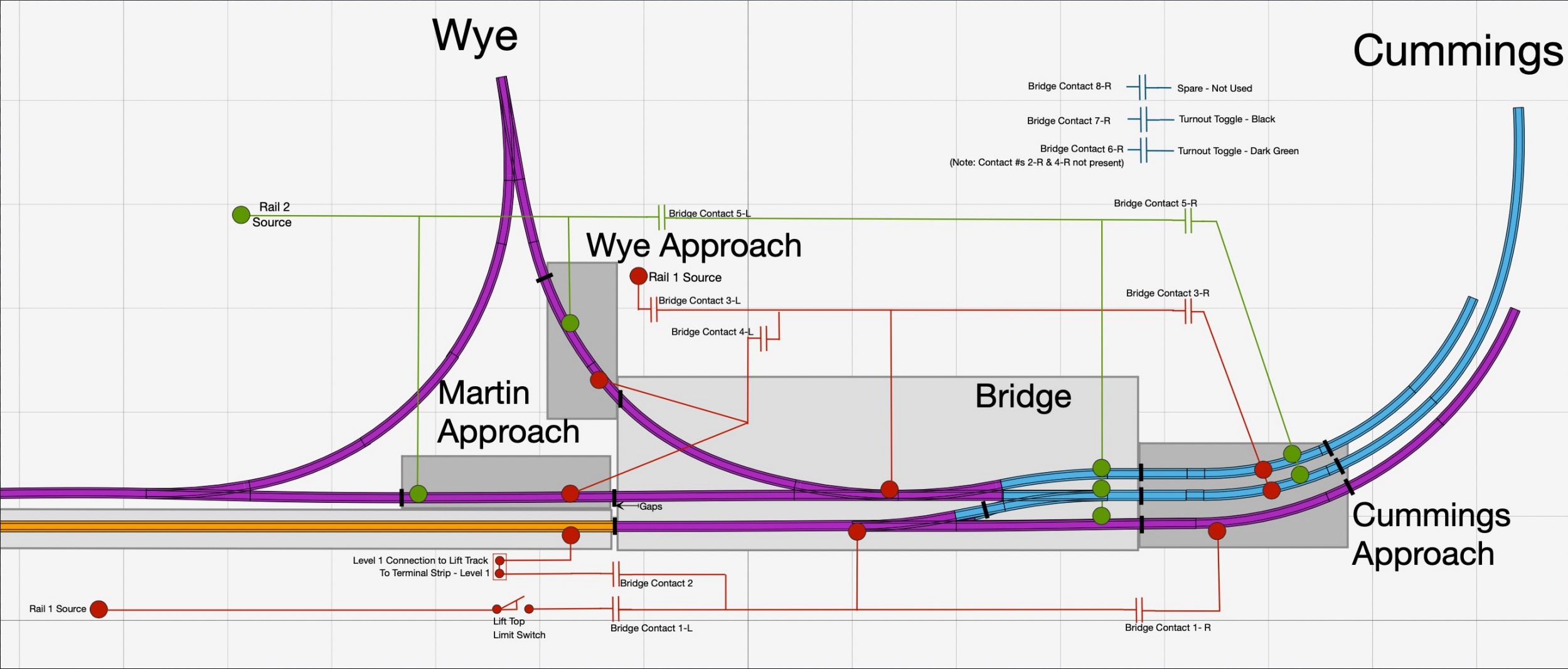
Turnout Power

MP4 Switch Machines

# LOWER-LEVEL APPROACH TO LIFT



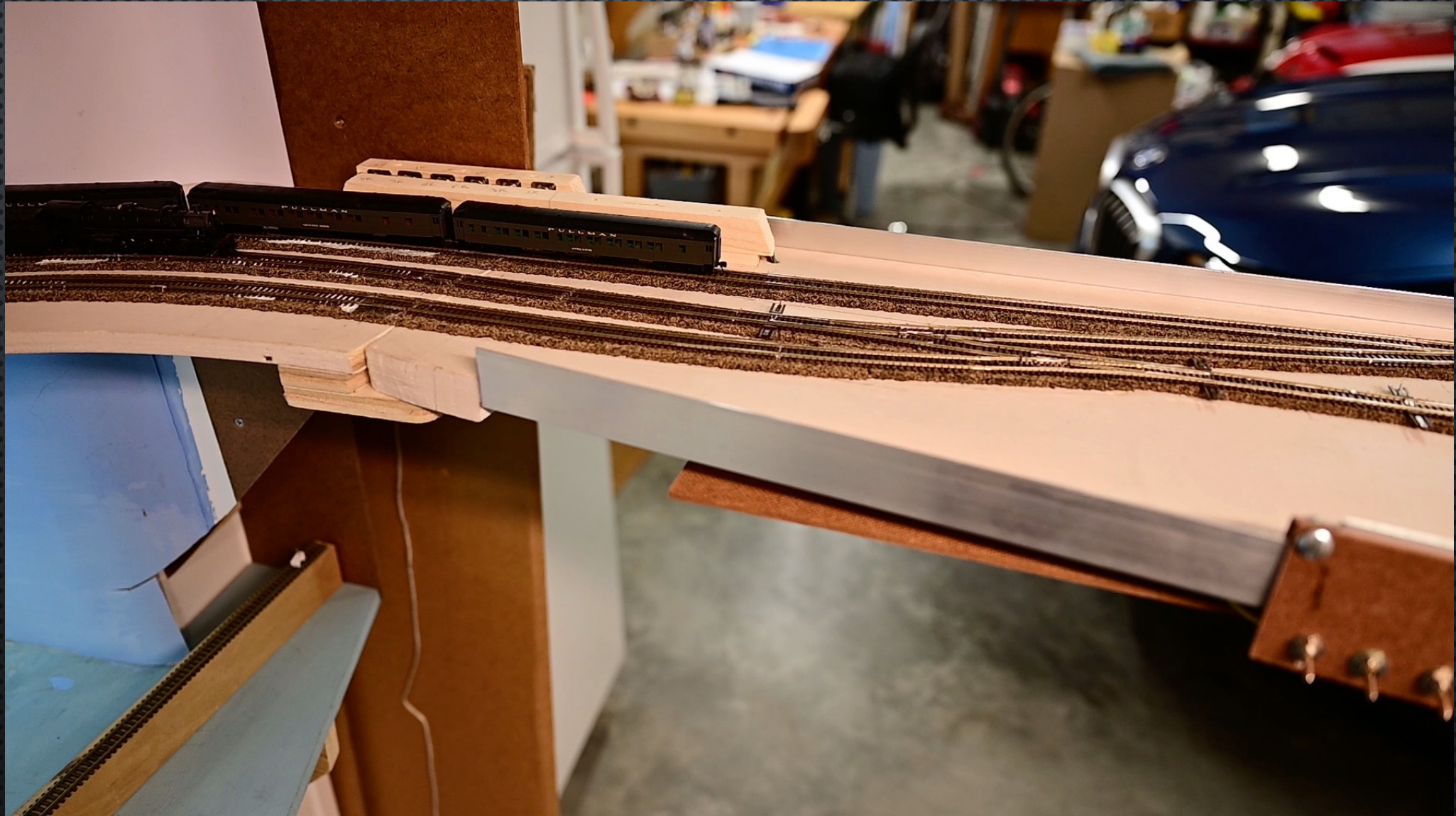
# UPPER-LEVEL LIFT & BRIDGE



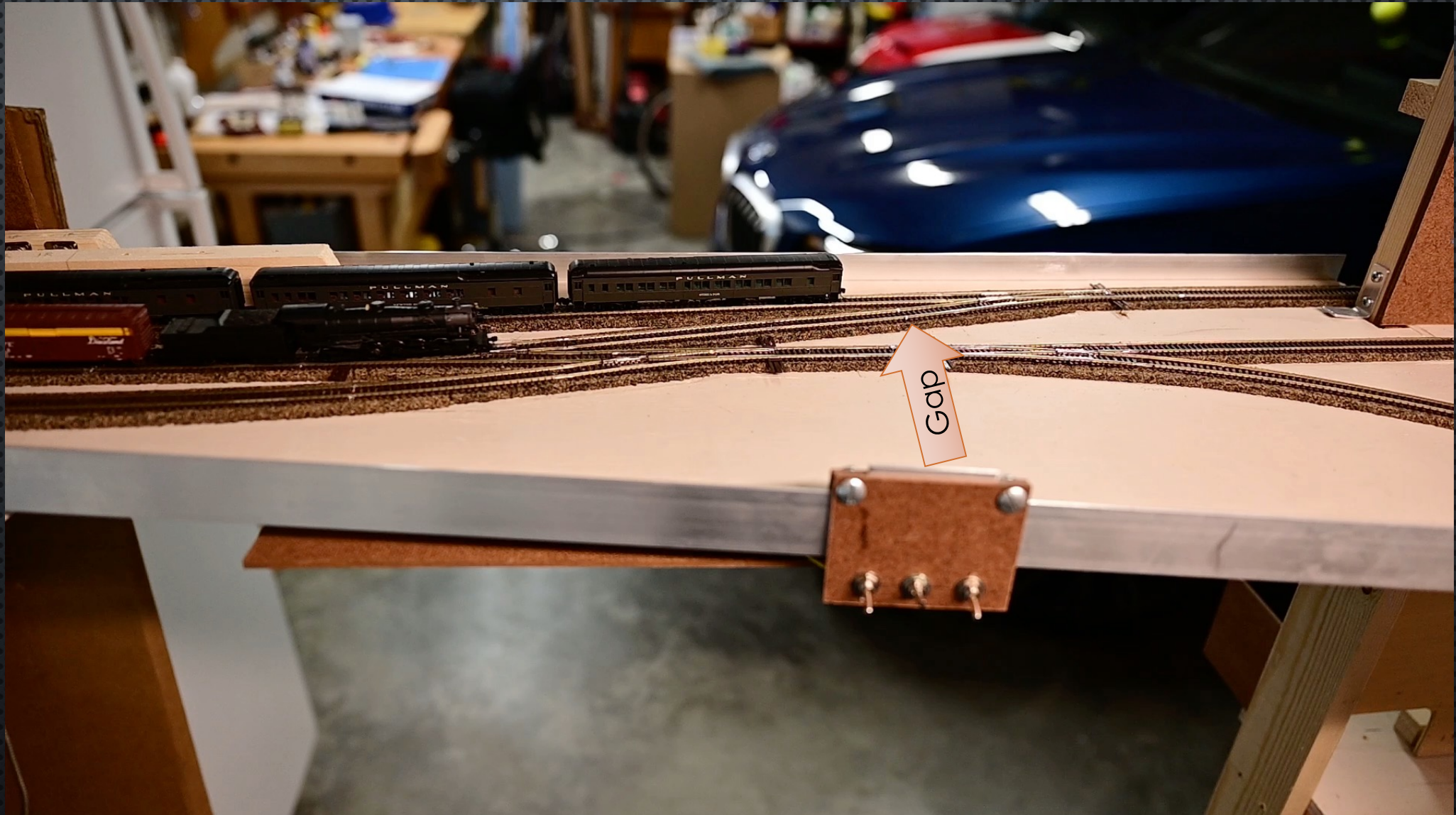
# SAFETY FIRST – BRIDGE IS OPEN



# SAFETY SECOND – LIFT IS DOWN



# SAFETY THIRD – LIFT IS DOWN



# SAFETY ??? – LIFT IS DOWN



# HAPPY RAILROADING

