

NWV EDUCATION SERIES



DCC Sound Installation
KATO HO GP-35

Step 1- Disassembly

- Remove Couplers
- Remove Shell
- Remove Drive Linkage
- Remove Trucks
- Remove Motor



Original Kato GP-35 Frame

Step 2 - Modify Frame

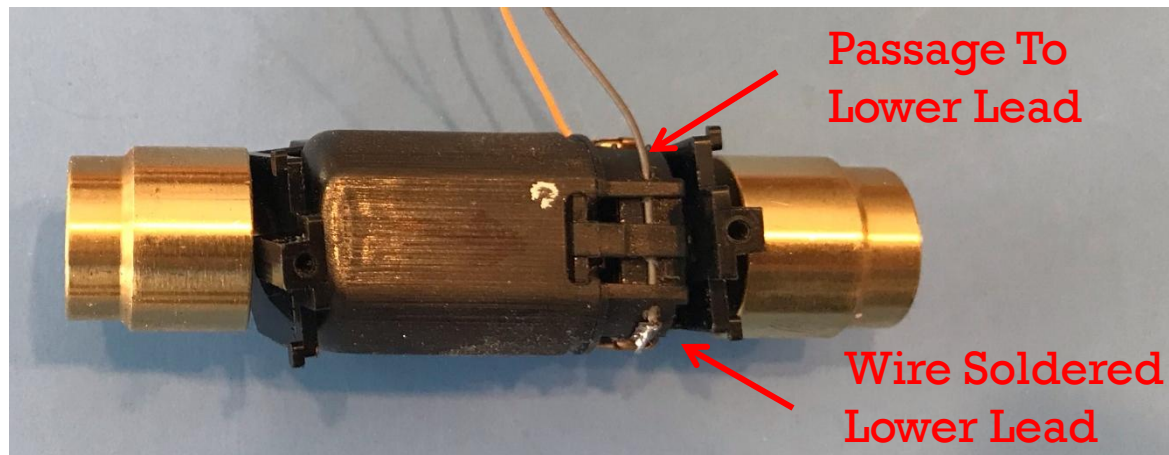
- Cut Rear Section of Frame
 - Hold Frame in a Vise
 - Cut Notch w/ a Hack Saw
 - Smooth Cut Edges w/ a File
 - Provides Platform for Speakers



Modified Kato GP-35 Frame

Step 3 - Wire Motor

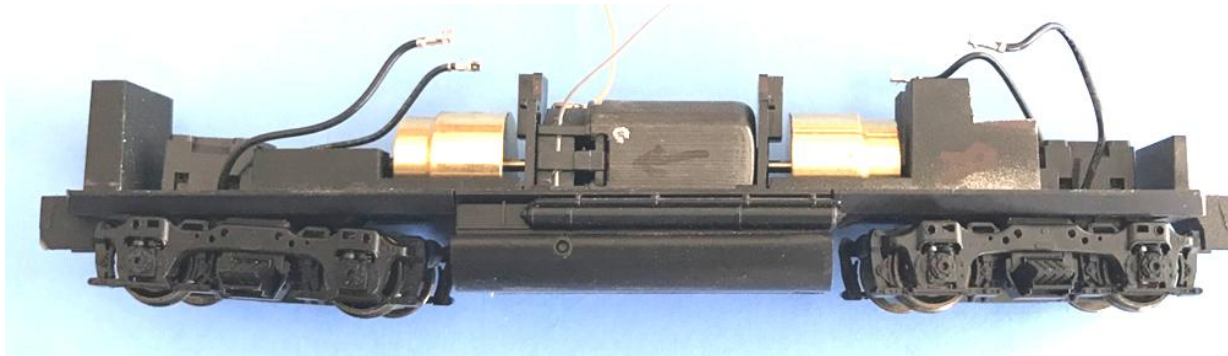
- Shorten Motor Leads
- Drill 0.020" Passage Along Side of Motor
- Feed Wire Thru Passage to Lower Lead
- Solder Wires to Each Lead



Wired Motor

Step 4 - Reinstall Motor & Trucks

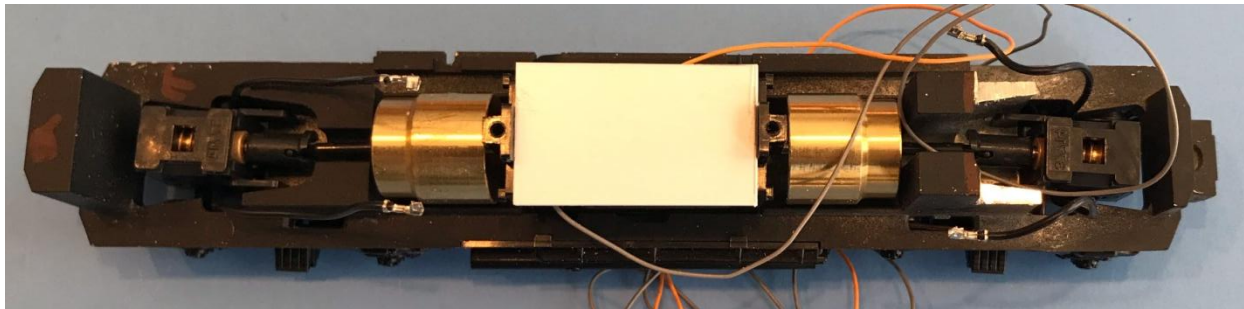
- Reinstall Motor
- Reinstall Trucks



Installed Motor & Trucks

Step 5 - Cut Back Motor Mount

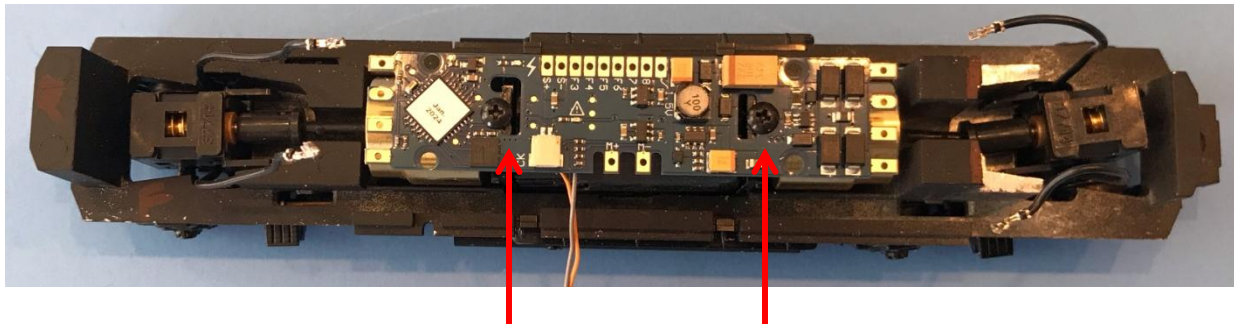
- Place 0.040 Plastic Across Motor
- Mark Motor Mounts at Top of Plastic
- Cut Off Mounts at Mark



Measure Mount Height

Step 6 - Mount Decoder

- Place Decoder on Shorten Mounts
 - Using SoundTraxx Tsunami2 EMD-2
- Secure with Original Kato Screws

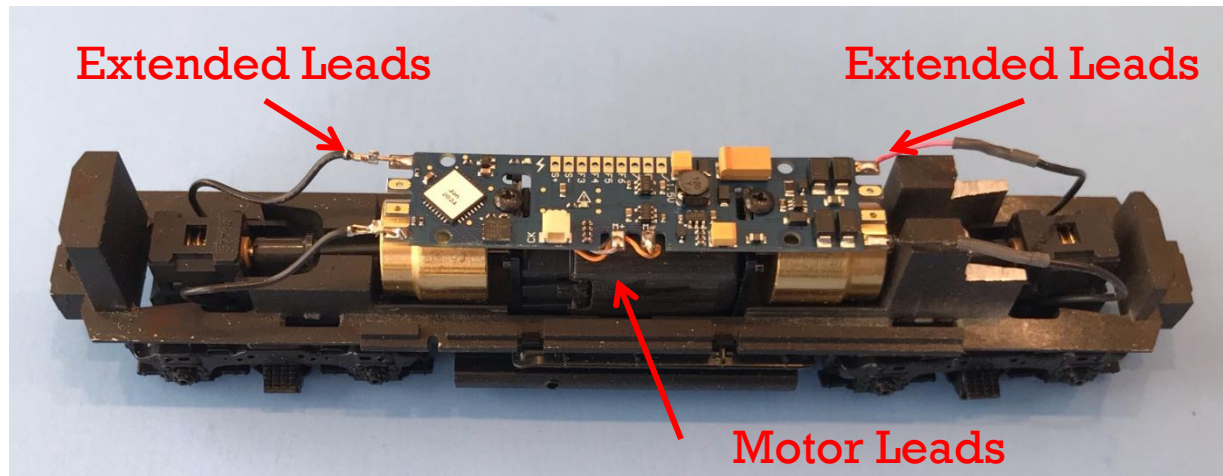


Mounting Screws

Decoder Mounted

Step 7 - Connect Motor & Trucks

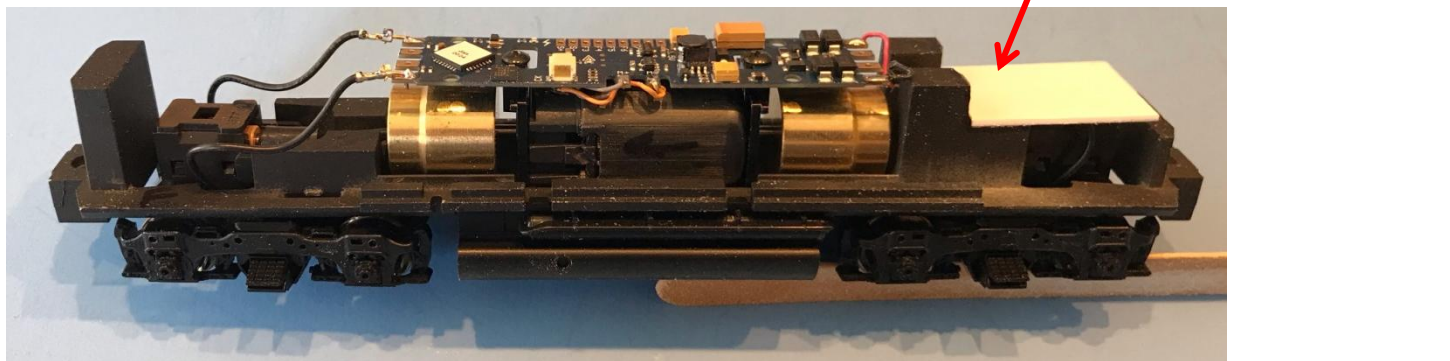
- Cut Motor Wires to Length
- Solder to Motor Terminals
- Wire Truck Leads To Decoder Board
 - Extend Leads to Board



Test Model Foreword & Backward

Step 8 – Add Speaker Platform

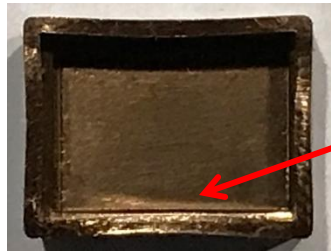
- Super Glue 0.040 Plastic Piece
 - Set into Frame Notch Cut in Step #2



Speaker Platform

Step 9 – Prepare Speaker Enclosures

- Components: Tony's Train Xchange
 - TDS Super Sonic Mini Speaker
 - TDS Mini Speaker Enclosure
- Drag Hobby Knife Along Enclosure Inside Edge
 - Bevel Inside Edge To Allow Speaker to Snap into Place
 - Do Not Force Speaker into Enclosure

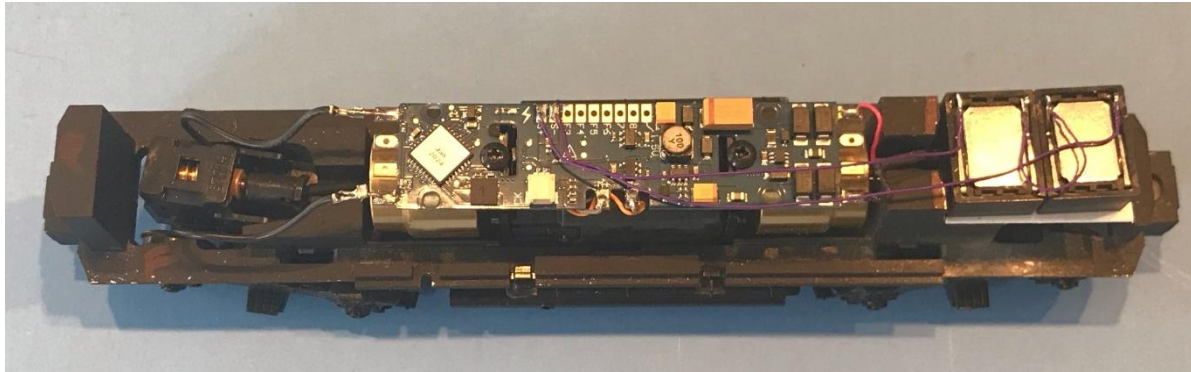


Bevel Inside
Edge On All
4 Sides

Speaker Enclosure

Step 10 – Install 2 Speakers

- Super Glue 2 Speakers to Plastic Platform
 - TDS Super Sonic Mini Speakers & Enclosures
- Wire Speaker in Series
 - Follow Polarities Shown on Speaker Package
 - Connect to + & - Decoder Speaker Terminals



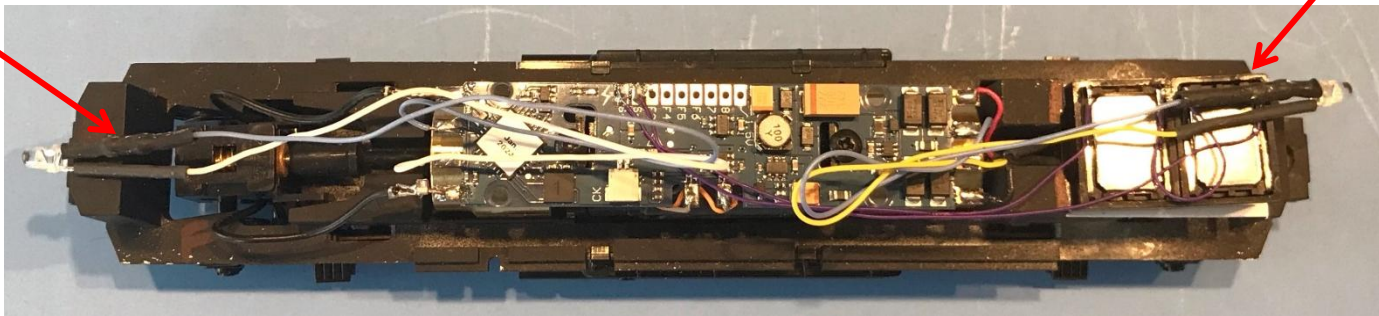
Test Decoder Sound

Step 11 – Install Lights

- Install 3 mm LED's w/ a 1K Resistor
 - Head Lights - Blue / White Wires
 - Rear Lights – Blue / Yellow Wires

1K Resistor
Connected to
LED Long Lead /
Blue Wire

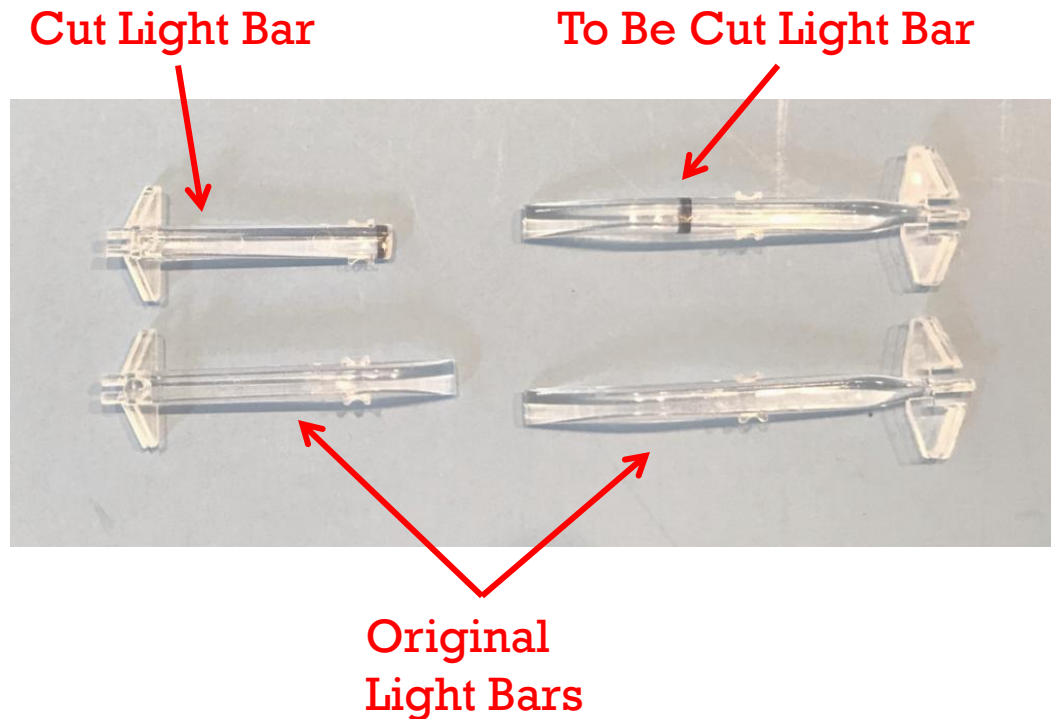
Heat Shrink
All LED
Connections



Test Lights – Front & Back

Step 12 – Reduce Light Bar Lengths

- Shorten Light Bars

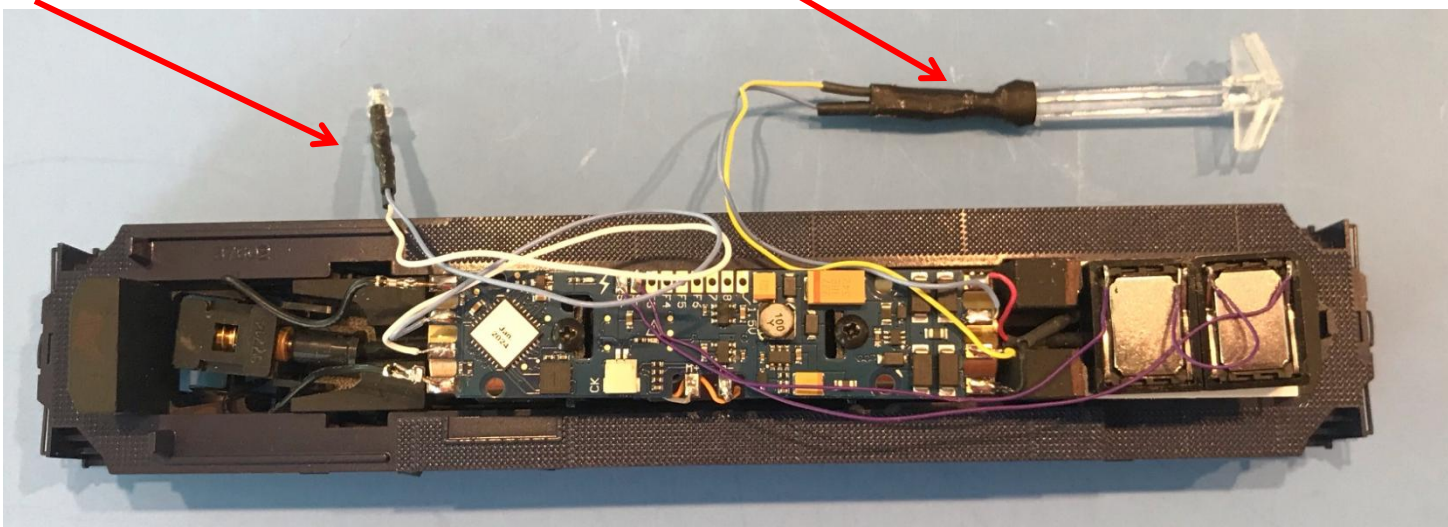


Step 13 – Lights / Number Boards

- Connect LED's To Light Bar w/ Heat Shrink

LED w/ Resistor
Covered w/ Heat Shrink

LED & Light Bar
w/ Heat Shrink Cover



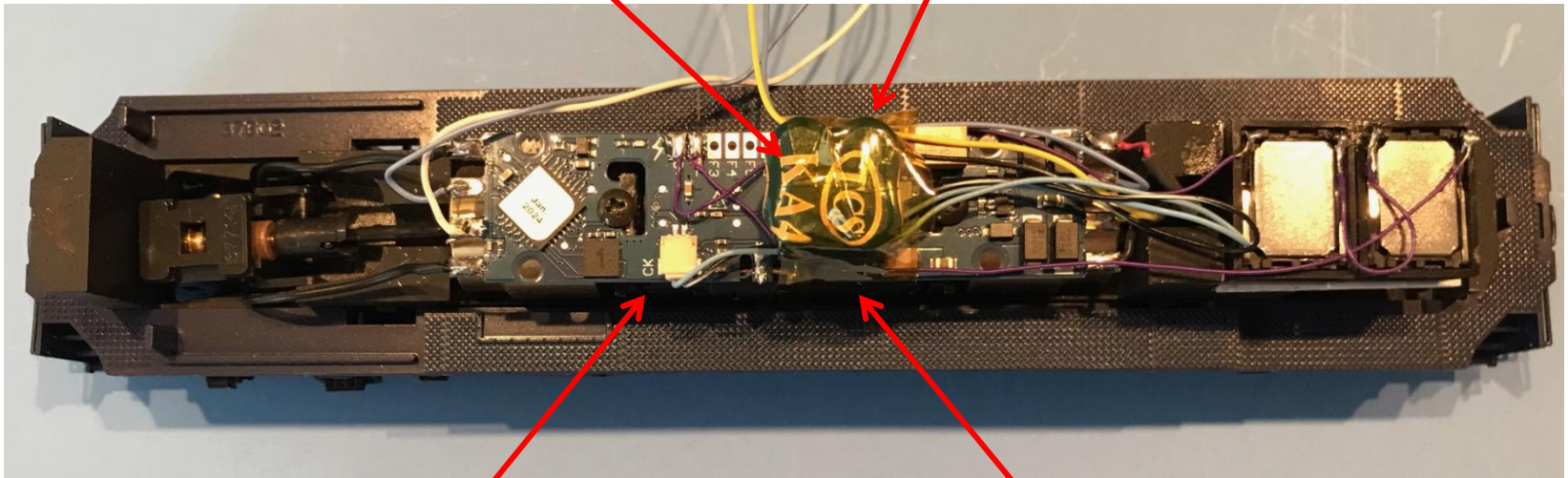
Rear LED's Tied To Number Boards

Step 14 – Install Keep Alive

- Plug KA4-P in & Secure w/ Kapton Tape

TCS KA 4-P
Keep Alive

Place Keep Alive
To Align w/ Open
Space Between
Cut Light Bars



Keep Alive Plug In

Kapton Tape Over KA4-P

Step 15 Crew

- Place Crew Figures
 - On Seats in Cab Interior



Step 16 Reassemble

- Reassemble Shell
 - Place Running Boards on Frame
 - Add Battery Boxes
 - Insert Cab Glass into Cab
 - Insert Number Boards / Lights
 - Front & Rear
 - Insert Crew / Cab Interior
 - Slide Cab onto Shell
 - Snap Shell Onto Frame

Step 17 Finished Models



Northern Vermont Bicentennials GP-35's 1976 & 1776

END

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