# K41 Pinball – Speaker Lights

- What's in the box?

<span style="color:red">Note: All hardware that you will need is included. You can set aside any hardware that you remove.</span>

- Bag 1 – Hardware
    - (8) Standoffs for mounting light frames to speaker panel
    - (8) 6-32 flange bolts for mounting plates to frames – Deluxe Only
    - (8) 8-32 Nylon insert locknut for mounting speakers to plate. – Deluxe Only
    - (8) 6-32 Nylon insert locknut for mounting Stern Speaker Plates to frames – Base Only
    - (4) Velcro cable ties for routing cables - All
    - (2) Velcro pads for mounting LED controller – All (Non-Expression Options)
    - (4) Set screw for display - All
    - (1) Hex key for set screw - All
- Bag 2 – Wiring (Non-Expression Options)
    - LED Controller to LED strip splitters (3-Deluxe, 1-Base)
- Bag 3 – Controller (Non-Expression Options)
    - Controller
    - Remote (if applicable)
    - 12v Power Adapter
- Bag Harness (Expression Only)
    - Stern Expression to K41 Adapter
    - Splitter
    - 12v Power Adapter

# LED Panels

- ## What's in the box?
  - ### LED Frames and Speaker Adapters
    - (2) LED Frames
    - (2) LED lighted Speaker Plates (Deluxe only)
      - (2) LED light rings already installed

Remove the (4) grey shipping straps from the assembly, these can be thrown away along with the (4) cylindrical  (Deluxe Option) spacers that will fall out once you remove the straps.
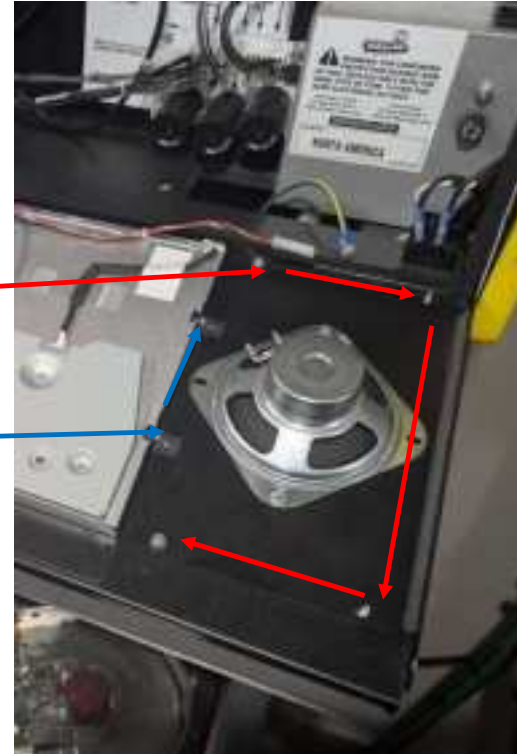
# Tools Needed

- 1/4" Nut Driver
- 5/16" Nut Driver
- 11/32" Nut Driver
- #3 Phillips screwdriver

Some variations in your Stern games are to be expected, this guide should work for 95% of the games out there.

# Installation – Remove Stern Speaker Plate

**Note:** Complete 1 side then move to the other side.

- Open Speaker Panel and remove old speaker plates
  - Remove (4) Nylon Stop Nut
    Holds the speaker plate to the speaker panel
  - Remove (2) Screw
    Holds LCD panel to speaker plate
  - If speakers are being reused in the Deluxe Kit, remove speakers from factory plates.
- Set speaker plates to the side.

# Install Set Screw into LCD

- Bottom the set screw into the threaded inserts of the LCD panel where you removed the Phillips headed screws in the previous step. Do not tighten, just bottom them out.

# Install LED Frame

- If you purchased a Silhouette Background, place this down first then the foam then the LED Frame.

- Place frame with LED wire upwards and towards the center of the machine. i.e... towards the top edge of the Speaker Panel, front of the machine

- The set screws installed in the previous step should fit into the cutouts on the side of the speaker plates.
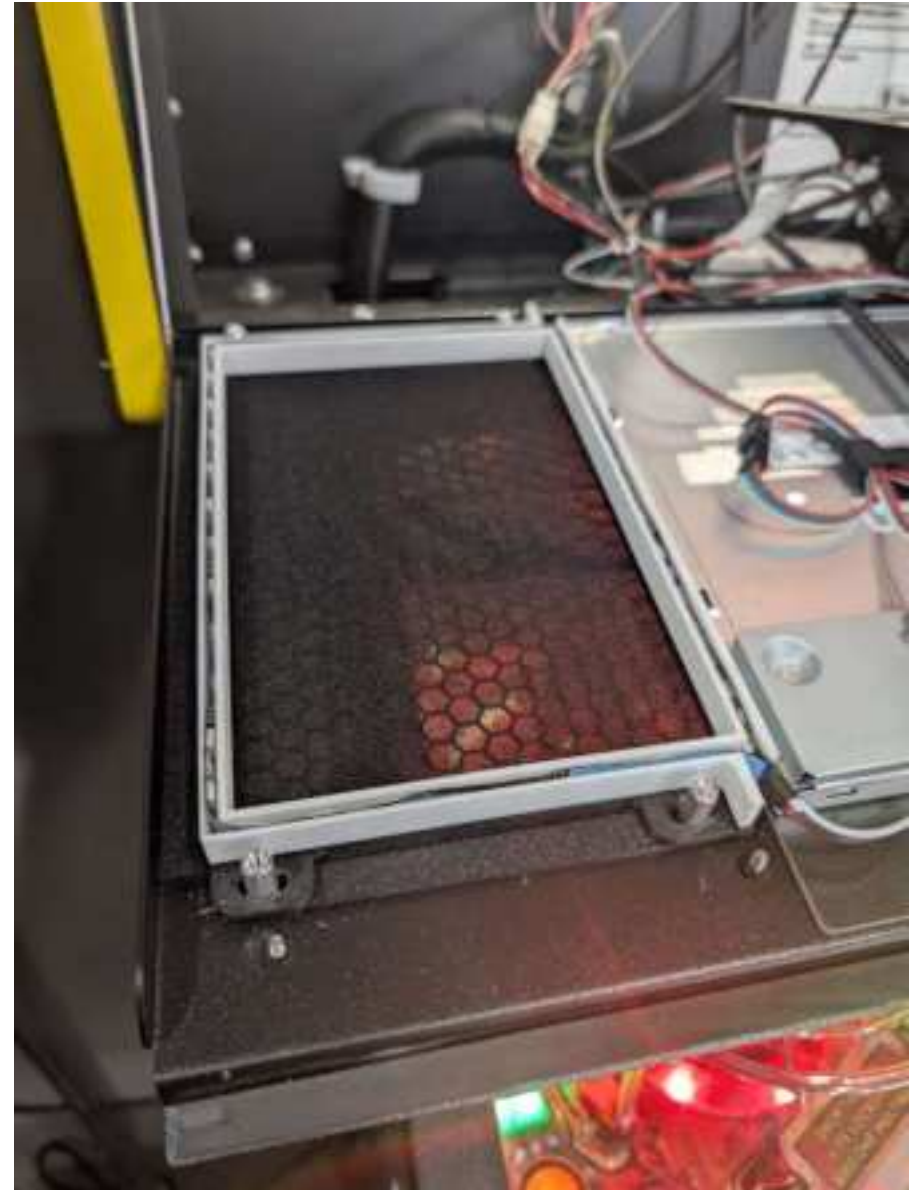
# LED Frame

- Slide LED Frame tight against the LCD Panel. This is why it is advised to only do one side at a time to ensure proper LCD alignment.

# LED Frame – Fasteners

- Install the stand offs.
  - Note: Shown here is the Deluxe option which uses female to female stand offs while the base frames use a female to male.

# Install Speakers in plates – Deluxe Option

- Install the speaker to the speaker plate.

- Use the (4) 8-32 nylon lock nuts to secure the speaker to the plate. Use a nut driver to not over torque the hex screws.

- Note: 5.25" Kenwood option shown. 4" OE Stern is similar.

# Install Speakers in plates – Deluxe Option

- Make sure the hex heads are sucked up into the speaker plate on the front side.
- The face of the hex should be at or just below the face of the plate.

# Install Speaker Plates-Deluxe Option

- Speaker plates can be used on either side but you need to install per the arrows on the plate.

- Loosely install the (4) 6-32 flange bolts to fasten the speaker plate to the stand offs.

- Once all 4 bolts are started, push the panel towards the center of the machine and tighten all 4 bolts. Use a ¼" nut driver to not over torque.

Left Forward

# Install Speaker Plates (Base Option)

- Factory speaker plates should be installed with the raised edge facing out from the Speaker Panel.

- Install the (4) nylon lock nuts

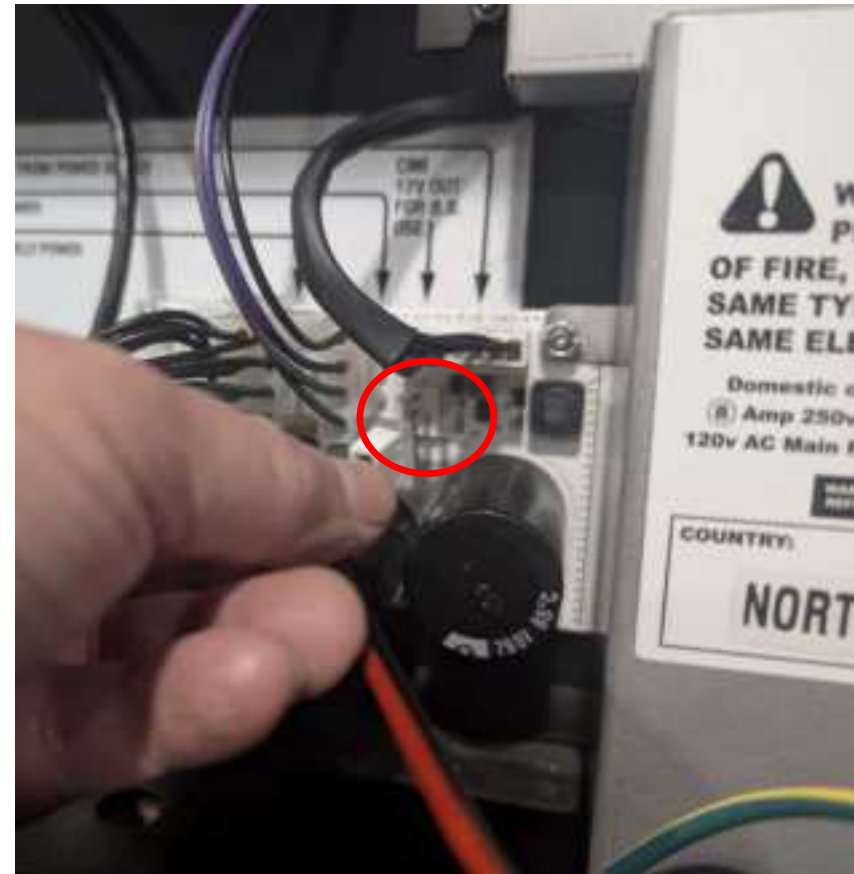- Repeat for the other side. Pages 4-12 of this document.

# Ground wire install

- Move the ground wire to here, alternatively you can mount the ground wire to one of the flange bolts holding the speaker plate on.

# Install 12v Power Feed

- Install the included 12v Power Feed to the Stern Power Supply board (CN6) located at the bottom right side of the backbox. Ground (black) wire is on the top side.
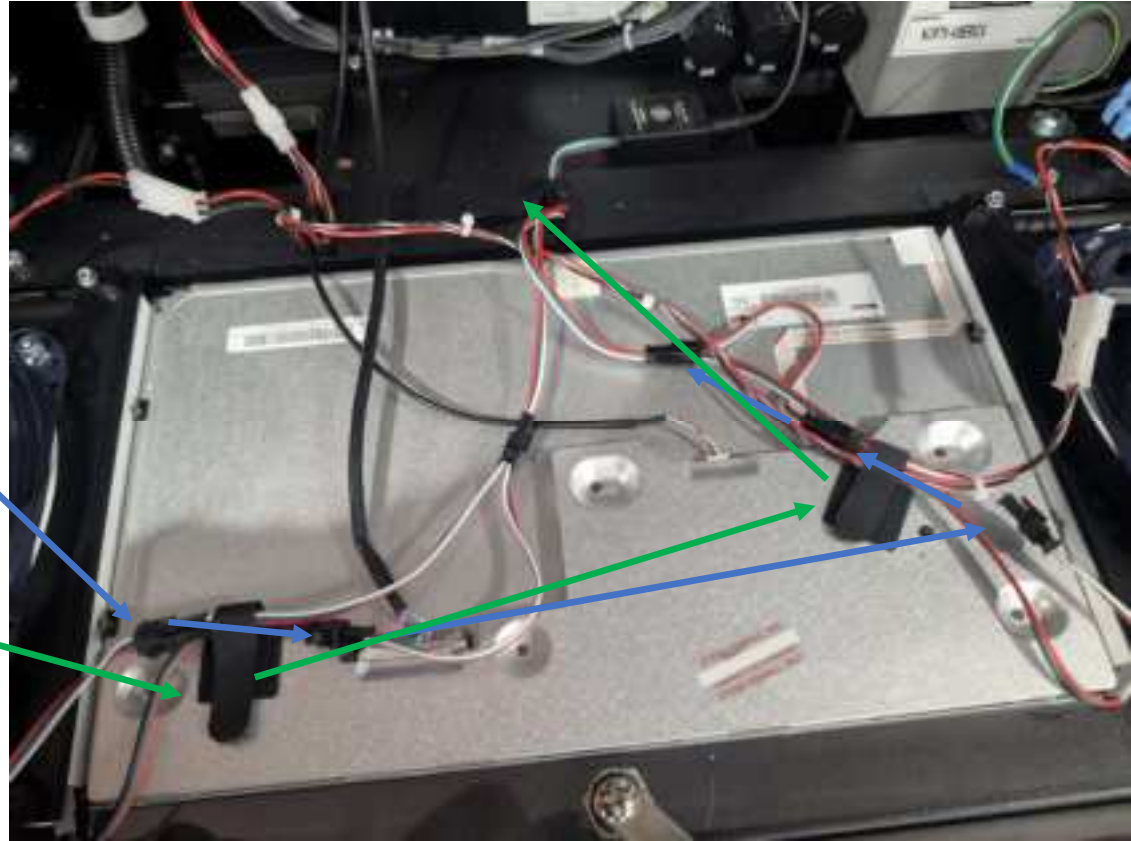
# Install LED Controller – Non-Expression Options

- Plug the 12v DC jack into the LED controller.

- Use the Velcro dots to secure the controller to the backbox, as shown.

# Connect LED strips

- Connect all your LED strips with the supplied wiring.

- Use the Velcro cable ties to fasten wires out of the way.

# Installation Complete

- Close backbox and lock it.
- Power up the pinball machine.
- If you have the non-Expression Option,
  - Install the included CR2025 battery into the remote and set your desired lighting effect.
  - SP106E – has the option of music activation

Note: If you have the Expression Option, your controller is the Node board that is part of the Stern Expression Speaker kit. While K41Pinball lights react similar to Stern Expression Lights, they don't necessarily produce the exact same color by design.