Installation

XP-BLY2518-(18/49/100)

- **Installation Time:** About 20 minutes
- **Tools Required:** Pliers, wire strippers, wire cutters, multi-meter, Philips or Flat screwdriver.

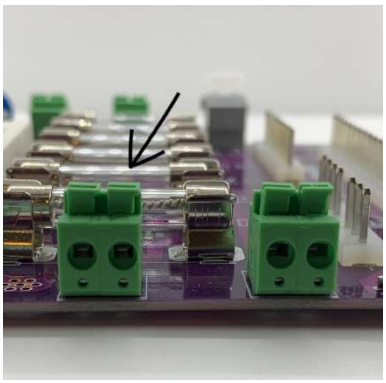
Congratulations! You have purchased the premier Classic Bally Rectifier board, the simplest to install in the pinball community! What makes it so simple is NO SOLDERING REQURIED!

1. Unplug the AC power from your pinball machine. Remove game backglass.
2. Using the pliers, pinch the end of the standoffs securing the OEM board to the metal mounting plate. These may be brittle with age and break, but don't worry, XPin is providing you new ones.
   NOTE: Depending on how many times this board has been repaired, there may be 3 screws through the bridge rectifiers that may need to be removed.
3. The OEM board will have wires leading from the transformer to the board. The OEM board will have silkscreen E1 through E12 located next to each wire. The table below associates the 'E' label with the wire color associated with them but should not be considered the final truth for your game. The colors shown are based on personal game collection. Considering that the assembly has been used in over 30 game titles, manufactured 30+ years ago, with total games manufactured over 200,000, there may be some differences. XPin suggests making a list as you remove the wires.

Xfrmr Terminal		Wire Color	Function
1*	E1	RED (heavy AWG)	AC In
9*	E2	YELLOW (heavy AWG)	AC Return
2	E3	RED (small AWG)	Solenoid AC IN
6	E4	White/Red Stripe	Solenoid AC Return
8	E5	GREEN (small AWG)	HV AC IN
10	E6	White/Green Stripe	HV AC Return
17	E7	BLUE (heavy AWG)	GI AC IN
18	E8	BLACK (heavy AWG)	GI AC Return
13	E9	ORANGE (heavy AWG)	SW Lamp AC IN
14	E10	GREEN (heavy AWG)	SW Lamp AC Return
15	E11	WHITE (small AWG)	LOGIC AC IN
16	E12	White/Black Stripe	LOGIC AC Return

***NOTE: Reference Power line Connection table on individual game transformer module schematic.**

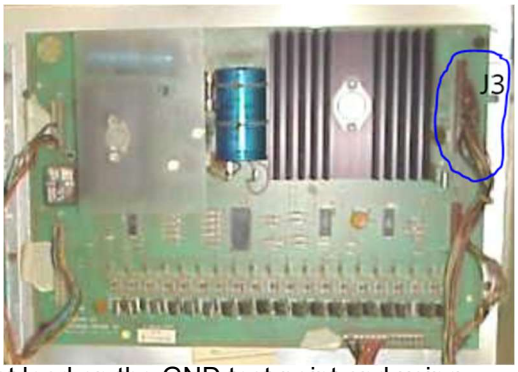
4. Cut each wire as close to the original circuit board as possible.
5. With wire strippers, strip ¼" insulation from each wire.
6. Each wire terminal on the XPin board has an associated 'E' number associated with it. To insert the wire into the terminal, PUSH down on the button of the terminal, then insert the wire.
   NOTE: Twisting the wire or tinning the wire ends will keep the individual wire strands together.
7. With wires attached to the terminals, mount the new standoffs provided to the mounting plate and mount the XPin board onto the plate.



ALMOST THERE!

Before turning power on let's make sure all of the connections are correct.

8. Plug in J2 (10 pin connection). **NOTE:** DO NOT plug inJ1 or J3.
9. Unplug J3 of the Solenoid Driver Board.
10. Turn on the game on.



What you should see is many of the General Illumination lights should be lit. Also, under each fuse of the XPin board (except F6) is an LED that should be lit. These LED's indicate that the fuse is good. If a fuse is not lit, then the fuse has blown and needs to be replaced. Only replace with the fuse size indicated below the fuse. **DO NOT OVERFUSE!**

With your multi-meter, set to DCV measurement. Place the black test lead on the GND test-point and using the red test lead check each one of the other test-points. Voltages measured should be +/- 2V, with the exception of the +230V which should be ~+165V. It will measure ~+230V when you plug J3 into the Solenoid Driver Board.

11. With everything verified, turn the game off and plug J1 and J3 into the XPin board. Plug J3 into the Solenoid Driver Board. **NOTE: This board is Universal in nature. The -18 version of the rectifier board had 8 pins, the -49 version had 9 pins. This is not an issue because the key slot remained the same.**
12. Turn the Game ON and Play!

Enjoy!