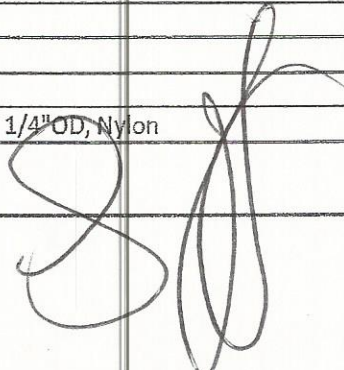


53-005003-00 WOZ 2.0 Lighting Upgrade Kit Packing Slip

Part Number	Description	Total Quantity	Check	Customer Check
10-000155-00	RGB LED Single Mtg Brkt, Rollover Switch	8	/	
10-005035-00	RGB LED Controller/BAG PCB Mtg Brkt	1	/	
15-000066-01	WOZ 5V, TLED, FTYBR RGB LED Bd, W1	1	/	
15-000066-02	WOZ 5V, TLED, Tin Man RGB LED Bd, W2	1	/	
15-000066-03	WOZ 5V, TLED, Lion RGB LED Bd, W3	1	/	
15-000066-04	WOZ 5V, TLED, Throne Room RGB LED Bd, W4	1	/	
15-000066-05	WOZ 5V, TLED, Haunted Forest RGB LED Bd, W5	1	/	
15-000066-06	WOZ 5V, TLED, Scarecrow RGB LED Bd, W6	1	/	
15-000066-07	WOZ 5V, TLED, Winged Monkey RGB LED Bd, W7	1	/	
15-000066-08	WOZ 5V, TLED, Witch Castle RGB LED Bd, W8	1	/	
15-000066-09	WOZ 5V, TLED, TNPLH RGB LED Bd, W9	1	/	
15-000066-10	WOZ 5V, TLED, Rainbow RGB LED Bd, W10	1	/	
15-004033-03	BAG Controller PCB Assy, 2.5mm, No Connectors	1	/	
15-004228-05	Single RGB LED PCB Assy, T LED FP, 5V, Straight Connector	14	/	
15-100000-01	5V RGB-GI TLED Straight Connector	24	/	
16-000014-00	WOZ 2.0 Lighting Upgrade Kit Power Supply, 4VDC LRS-350-4.2	1	/	
19-003111-01	Ethernet Cable, Cat5E, Shielded, 1ft	6	/	
19-003111-02	Ethernet Cable, Cat5E, Shielded, 2ft	5	/	
19-003111-03	Ethernet Cable, Cat5E, Shielded, 3ft	1	/	
19-003096-00	WOZ Lower Right RGB Cable	1	/	
19-003096-01	WOZ Upper Central RGB Cable	1	/	
19-003096-02	WOZ Upper Left RGB Cable	1	/	
19-003096-03	WOZ Upper Playfield RGB Cable	1	/	
19-003096-04	WOZ Center Left RGB Cable	1	/	
19-003096-05	WOZ Lower Left RGB Cable	1	/	
19-003096-06	WOZ Center Right RGB Cable	1	/	
19-003096-07	WOZ Upper Right RGB Cable	1	/	
19-003096-09	WOZ Single 7" RGB Cable	4	/	
19-003100-06	USB Cable, 2.0 A to Mini-B, M-M, 6ft	1	/	
19-009013-02	WOZ 2.0 Lighting Power Cable	1	/	
19-009013-03	WOZ 2.0 Lighting Upgrade Kit AC Adapter	1	/	
19-009013-04	WOZ 2.0 Lighting Upgrade Kit 4V Adapter	1	/	
19-009013-05	WOZ 2.0 Lighting Upgrade Kit 5V Splitter	1	/	
22-008005-10	RJ45 Inline Coupler, F-F	2	/	
30-000041-01	Push Rivet, Click-Lock, 0.118-0.158" BLK	4	/	
30-000051-04	4" Wire Tie, Natural	50	/	
70-009010-00	RGB LED Bd Insulator, Fish Paper	8	/	
80-002104-04	4-40 x 1/4" HWH MS, Black	16	/	
80-002104-06	4-40 x 3/8" HWH MS, Black	4	/	
82-000004-06	#4 x 3/8" PPH SMS	12	/	
82-000004-08	#4 x 1/2" PPH SMS	40	/	
82-000004-12	#4 x 3/4" PPH SMS	24	/	
94-005204-12	#4 x 3/8" Round Spacer, 1/4" OD, Nylon	24	/	

Packed by



# WOZ 2.0 Lighting Upgrade Kit

Installation Instructions (Rev. April 2019)

Tools needed: ¼" and 11/32" nutdrivers (magnetic, if possible), Phillips #1 and #2 screwdrivers (magnetic tip is best), flush-cut wire cutters, cordless drill & #52 (or 1/16") drill bit, Sharpie pen (or a label-making machine), masking tape.

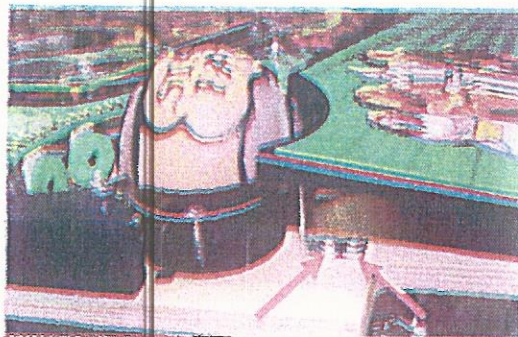
## 1) PREPARATIONS:

**IMPORTANT:** Pre-read each numbered instruction step **FULLY** before beginning the tasks outlined in that step! Sometimes there are tips and clarifications in the 2<sup>nd</sup>, 3<sup>rd</sup> and/or 4<sup>th</sup> paragraphs under each step number.

Ensure that you are running the latest version of the WOZ game software (version 6.61). Download the appropriate ISO and/or update files from the Support page of the IJP website and install them to provide WOZ 2.0 lighting support in your game software. Software update instructions can also be found on the website.

Power down the game. Remove the playfield glass and carefully set it aside, in a safe place. Take special care to protect its edges and corners, as these are the weakest, most vulnerable areas of a sheet of tempered glass. Rest the playfield glass on a cushioned surface (carpet, cardboard, etc.); avoid hard surfaces like concrete, hardwood and ceramic tile.

Remove the two sheet metal screws holding the State Fair Balloon mounting bracket, in the lower left corner of playfield. Set the State Fair Balloon sculpture aside; this will prevent it from being damaged during the lighting upgrade process.

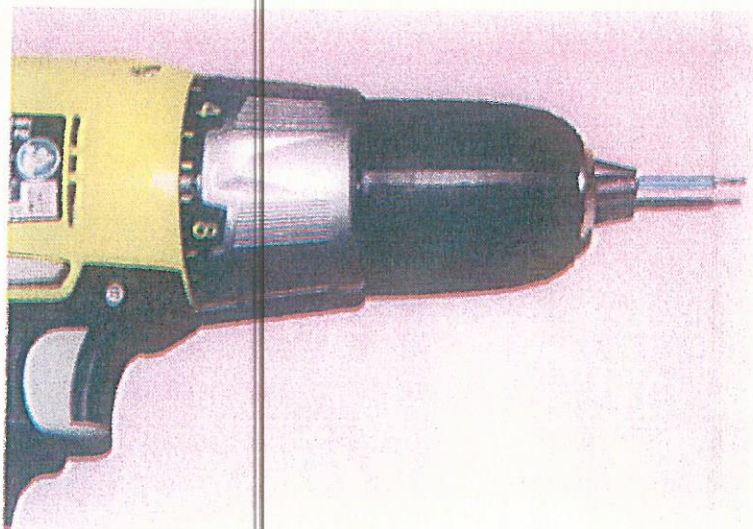


Place a folded towel or some other form of cushion across the front edge of the backbox top. This cushion will protect your backbox and your game's bottom arch while you work on the playfield underside. Raise the playfield up, out of the cabinet, stand it up and lean it against the padding/backbox.

Ensure that the lid is on the metal PCB Chassis, in the bottom of the cabinet, before beginning! It's a good time-saving, anti-frustration idea to spread a white sheet across the bottom of the cabinet to catch any small parts that are dropped during the lighting update task.

**NOTE:** You will need to purchase two M4 x 5mm metric machine screws and two simple L brackets to mount your power supply in the back/bottom of your WOZ cabinet. These are not included in the kit.

Prepare the cordless drill and bit for predrilling *shallow* pilot holes in the underside of the playfield. Chuck the #52 bit into the cordless drill. Wrap a short piece of masking tape around the shaft of the #52 (or 1/16") drill bit, leaving 5/16" of the "drill" end of the bit exposed (as shown in figure below). When drilling a pilot hole, only allow the drill bit to penetrate the playfield wood until the front edge of the masking tape contacts the playfield surface. Drill pilot holes with the drill held as perpendicular to the playfield as possible; this will help ensure that your screws go straight into the wood (and that your bds mount properly).



Check your [WOZ 2.0 Lighting Upgrade Kit Packing List PDF](#) to ensure that all parts arrived safely - and in the proper amount. You may want to print out the packing list, as it includes pictures and part number references ( ) that are used in the instructions that follow.

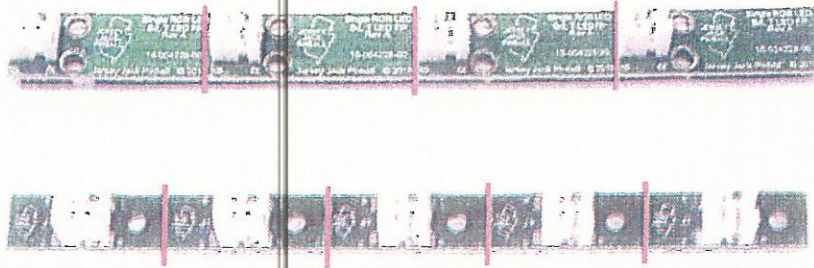
**Unpacking Information:**

The following printed circuit bds (PCBs) should come with short nylon spacers attached to the PCB mounting holes:

WOZ 5V, TLED, FTYBR RGB LED Bd, W1 (1)	6 spacers
WOZ 5V, TLED, Tin Man RGB LED Bd, W2 (2)	5 spacers
WOZ 5V, TLED, Lion RGB LED Bd, W3 (3)	5 spacers
WOZ 5V, TLED, Throne Room RGB LED Bd, W4 (4)	5 spacers
WOZ 5V, TLED, Haunted Forest RGB LED Bd, W5 (5)	4 spacers
WOZ 5V, TLED, Scarecrow RGB LED Bd, W6 (6)	4 spacers
WOZ 5V, TLED, Winged Monkey RGB LED Bd, W7 (7)	3 spacers
WOZ 5V, TLED, Witch Castle RGB LED Bd, W8 (8)	4 spacers
WOZ 5V, TLED, TNPLH RGB LED Bd, W9 (9)	4 spacers
BAG Controller PCB Assy, 2.5mm, No Connectors (10)	4 spacers

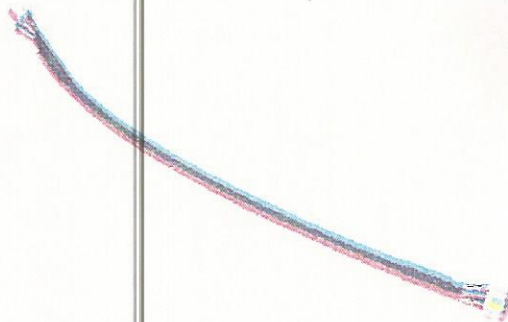
**NOTE:** the 15-000066-10, WOZ 5V, TLED, Rainbow RGB LED Bd, W10 (10), does **NOT** come with spacers – this bd will be attached to the RAINBOW plastic on the Munchkin land playfield – not screwed into playfield wood - so it does not require spacers.

Single RGB LED <sup>(11)</sup> and RGB GI <sup>(12)</sup> bds will need to be separated before use. Locate the perforated line separating adjacent PCBs (highlighted in red below). Using two hands, one on either side of the perforation, carefully bend the bds up and down until they snap apart.



Each of the new, multi-colored-wire RGB cables ( <sup>(13)</sup> through <sup>(16)</sup> ) has a label attached, typically near its largest connector, with the cable's part number printed on it.

2) Under your WOZ playfield, remove all of the data cables (black, insulated, with red and green markings on the tiny end connectors, shown in the photo below) running between the existing Single GI and large RGB LED bds. These data cables vary in length. **Depress the locking tab** and pull each end straight out. If the connector will not come out easily, try releasing the locking tab and pushing the connector back down against the bd; then depress the locking tab and pull again.



It's best to avoid cutting any of the cable ties that hold the old cables to the game's main harness. Instead, cut the connectors off of the cables and pull them back through the existing cable ties to remove them. You **will not** need these cables for the new lighting system.

The longest of these data cables runs all the way from the I/O bd (inside the PCB Chassis box, in the bottom of the cabinet) up to the large WOZLED6 bd (under the Scarecrow inserts). Remove this cable from the main wiring harness/bundle all the way back to where it exits the back of the PCB chassis box. We will unplug it from the I/O bd and remove it from the game later on. For now, just leave the loose end laying in the bottom of the cabinet.


3) Remove all of the satellite RGB LED data/power cables (black, insulated). Leave the ends attached to the undersides of the mini playfields for later. As in the previous step, cut one (or both) of the connectors off the cables and pull them back through any existing cable ties to remove. Satellite bds are numbered in three digits: numbers 155, 159, 160, 176, 178, 179 & 192.

NOTE: The opposite ends of two of these (#160 & #192) are under the mini playfields and will have to wait until we remove the playfields later on.

4) Disconnect (but **DO NOT remove or cut**) the Haunted Forest/OZ Lanes signs cable that is connected to WOZLED6 bd (4 pins, RED, BLU/WHT, GRN/WHT, YEL colored wires). This cable WILL be used with the new lighting system (it will connect to the new WOZLED7 bd <sup>(17)</sup> later on).

5) Cut the ends off of the existing BLK and VIO-BLK RGB LED power harness and pull the loose ends through cable ties along the main wiring harness (cut as few wire ties as possible in the process). This harness runs to every RGB LED bd under the playfields (except satellite bds), and terminates in a larger, 2-pin, white connector at each bd. Cut all of the wire ties that are on the BLK & VIO-BLK power harness alone, to facilitate removal (pulling the BLK & VIO-BLK wires back through main harness wire ties, as you go).

Continue removing the BLK & VIO-BLK power harness wires all the way back to the source: either a modular, switching power supply, in the back of the cabinet (early WOZ games) or the back of the metal PCB chassis box, in the bottom of the cabinet (later WOZ games).

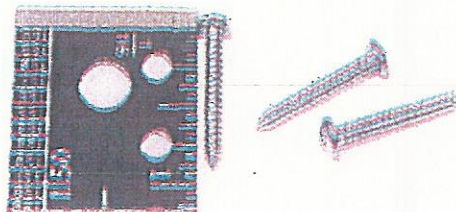
If your BLK & VIO-BLK wires lead to a modular, switching power supply (looks similar to the new one ), unplug the AC wires (BLK, WHT & GRN) running to the power supply (a 3-pin Molex plug) and completely remove the power supply from the cabinet; it will not be used with the new lighting system.





If your BLK & VIO-BLK wires lead to a large plug in the back of the metal PCB chassis box, pull the plug out of the PCB chassis back wall and discard the entire harness; it will not be used with the new lighting system.

*NOTE: There is no need to remove any of the existing BLK & VIO-BLK wiring running inside the PCB chassis.*

6) Using a #1 Phillips screwdriver, remove the large RGB LED bds, one at a time (and **NOT** all at the same time!), from the underside of the main playfield. As you remove the existing bds, set them **AND THEIR LONG SCREWS** somewhere away from the game. These original, 7/8" long, #4 SMSs (shown in the photo below) **MUST NOT** be used with the new bds – **THEY WILL GO ALL THE WAY THROUGH THE PLAYFIELD!!!**

**IMPORTANT: DO NOT  
REUSE THESE SCREWS!!!**



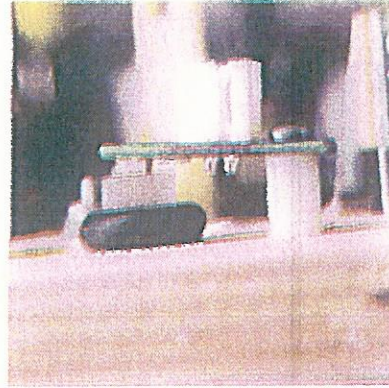
Again, DO NOT remove all of the large bds at once - if you do, it will be very difficult to determine which large replacement bd goes where (and in what orientation). As soon as you remove an existing large bd, install the replacement WOZ 2.0 bd ( through , and ) in its place. Use the new #4 x 1/2" SMSs () to hold the PCBs to the playfield. Line up the PCB mounting holes with the existing holes in the playfield; these holes will be reused when mounting the new bds. No predrilling is required for these large bds. Tighten screws down far enough to slightly compress the tops of the nylon spacers. You should **NOT** be able to wiggle the bd when they're properly tightened.

*NOTE: When a new large bd is properly installed under the playfield, the silkscreened labels on the bd will be upright and readable, with the playfield in the raised position, leaning against the backbox.*

7) Using a 1/4" magnetic nutdriver, remove the existing Single GI RGB LED bds from under the main playfield, one at a time (and **NOT** all at the same time!). The old bds are attached to a metal bracket that is screwed to the playfield surface. It's a good idea to remove them in numerical order, to ensure you get them all: 1-10, 12-21 and 26.

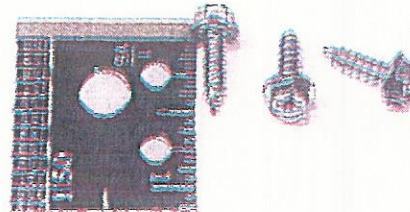
*Note: Bd 11 (behind the back panel) will be removed and replaced in a later step.*

As you remove an existing Single GI RGB LED bd, replace it with a new RGB GI bd (15). Use one 3/8" nylon spacer (14) and one #4 x 3/4" Phillips SMS (12) to secure each bd to the playfield (mark and predrill a pilot hole). Refer to the provided [WOZ 2\\_0 Lighting Upgrade Kit RGB LED Wiring Diagram PDF](#) for the correct bd orientation on the playfield underside. Position each bd at approximately the same angle around the perimeter of the protruding GI light rod as the corresponding bd in the playfield illustration, ensuring that the RGB LED is centered in the middle of the light rod end (see photos below). When oriented correctly, the mounting hole will roughly point in the direction of the large RGB LED bd that the smaller RGB GI bd will connect to. The proper orientation will be important when we connect wiring cables later on; some of the cables do not have much slack in them. Tighten screws down far enough to securely hold the bd in place. You should NOT be able to wiggle the bd - or the light rod - when the screw is properly tightened.



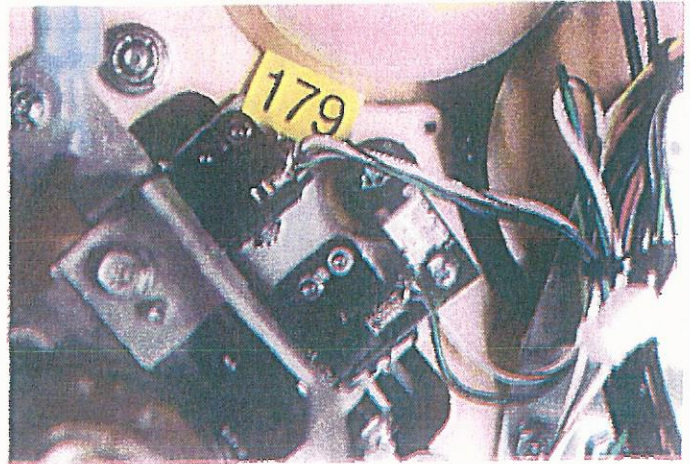
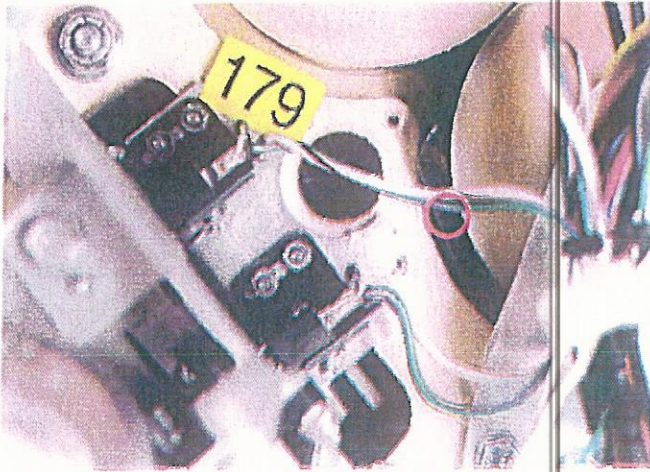
Save the #8 x 1/2" SMSs (shown in the photo below; we'll refer to these screws as (13) from now on) used to fasten the old brackets to the playfield; we will reuse them later. Your brackets may have a washer under them; the washers were used as a bracket spacer on very early WOZ builds. There is no need to keep the washers; they will NOT be used in the new bd installation process.

(13) 82-002008-08  
#8 x 1/2" HWH Phillips SMS

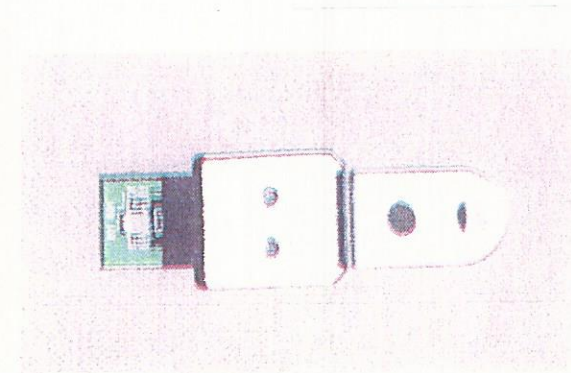
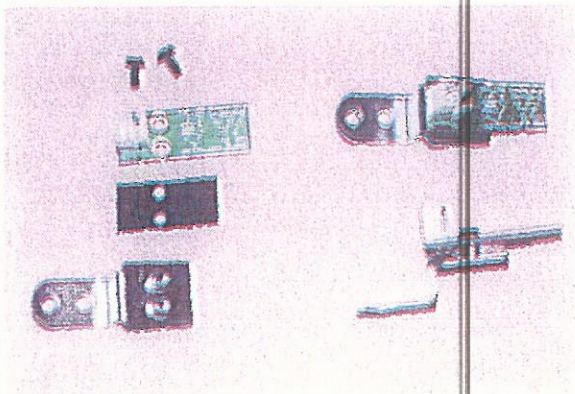


Using a Sharpie pen, write the number of the bd next to it on the underside of the playfield. Alternatively, you can print numbered, adhesive labels and stick them to the playfield underside next to each Single GI RGB LED location. These numbers will be used as reference to help attach cables later in the installation process.

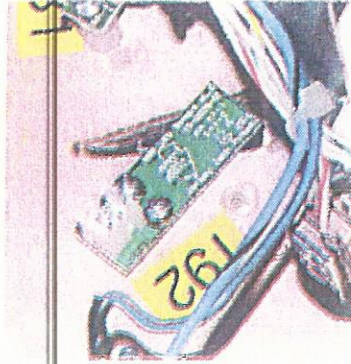
8) Using a #1 Phillips screwdriver, remove existing satellite RGB LED bd 179 (in front of the Wicked Witch). Set the satellite bd AND ITS LONG SCREWS aside. **DO NOT REUSE THESE SCREWS!** Mount an RGB GI bd <sup>(15)</sup> off to the side of the insert, through an unused witch bracket mounting hole (circled in red below). Center the RGB LED in the insert hole and attach the bd to the playfield, over the bracket, with one 3/8" nylon spacer <sup>(41)</sup> and one #4 x 1/4" Phillips SMS <sup>(42)</sup> (pre-drill a pilot hole if no spotting hole exists in your playfield). Be careful not to pinch any of the GRN or WHT microswitch wires as you tighten your screw and attach the bd. See the photos below.



9) Locate the eight RGB LED Single rolover brackets <sup>(1)</sup>, eight RGB LED Insulators (fish paper) <sup>(37)</sup> and 8 of the 14 Single RGB LED bds <sup>(41)</sup>. Using a #1 Phillips screwdriver and two black, 4-40 x 1/4" machine screws <sup>(38)</sup>, attach a Single RGB LED bd to one of the mounting brackets, with an insulator in-between the PCB and the bracket (as shown in the photos below). Keep the PCB, insulator and bracket aligned as you tighten the screws down (as shown in the photo on the right). Repeat this procedure for the other seven mounting brackets.



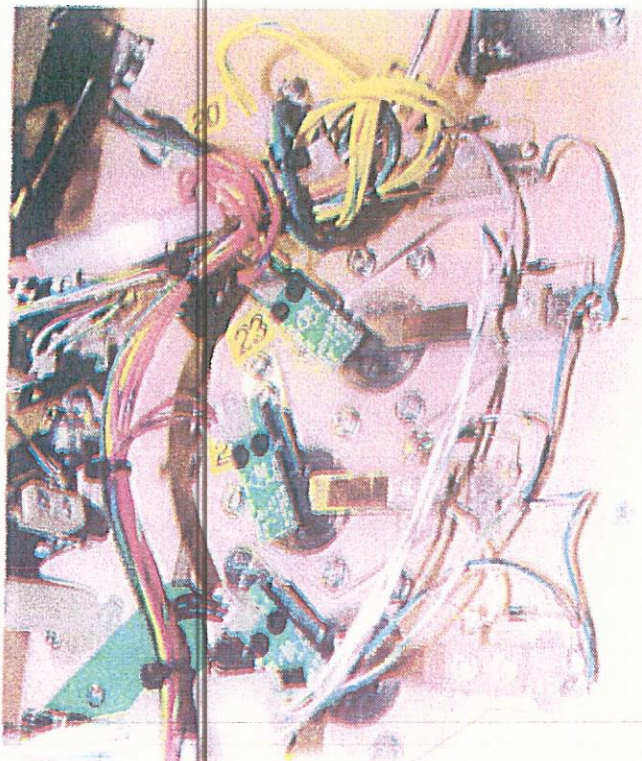
10) Using a #1 Phillips screwdriver, remove existing satellite RGB LED bds 155 (HOADC Collect, under the shooter lane) & 159 (Haunted Forest Collect, below the pop bumpers). Set the satellite bds **AND THEIR LONG SCREWS** aside. **DO NOT REUSE THESE SCREWS!** Install a Single RGB LED bd <sup>(13)</sup> next to each insert, directly to the playfield underside. Center each RGB LED in the insert hole and attach each bd to the playfield with two #4 x3/8" Phillips SMSs <sup>(20)</sup> (mark and predrill pilot holes). Refer to the provided [WOZ 2.0 Lighting Upgrade Kit RGB LED Wiring Diagram PDF](#) for proper bd orientation on the playfield underside. See the photo below.



11) Using a #1 Phillips screwdriver, remove existing satellite RGB LED bd 176 (It's A Twister!, under the ramp). Set the satellite bd **AND ITS LONG SCREWS** aside. **DO NOT REUSE THESE SCREWS!** Mount a Single RGB LED bd <sup>(13)</sup> next to the insert, directly to the playfield underside. As in step 10) above, center the RGB LED in the insert hole and attach the bd to the playfield with two #4 x3/8" Phillips SMSs <sup>(20)</sup> (mark and predrill pilot holes). Refer to the provided [WOZ 2.0 Lighting Upgrade Kit RGB LED Wiring Diagram PDF](#) for proper bd orientation on the playfield underside.



12) Using a 1/4" magnetic nutdriver, remove existing Single GI RGB LED bds 22-25 ((TOTO rollovers in the right outlane) & 27-29 (Scarecrow/Tin Man/Lion rollovers in the playfield center). Mount a Single RGB LED bd<sup>(13)</sup>/insulator<sup>(14)</sup>/rollover bracket<sup>(15)</sup> assembly next to each rollover button/switch. Position the rollover bracket so that the RGB LED is under the rollover button (where it will not be obscured by the metal switch blades) and attach the bracket to the playfield underside (mark and predrill pilot holes). Use two of the #8 x 1/2" HWH Phillips SMSs<sup>(14)</sup> that were used to hold the old Single GI RGB LED bd brackets in place. Refer to the provided [WOZ 2\\_0 Lighting Upgrade Kit RGB LED Wiring Diagram PDF](#) for proper bd orientation on the playfield underside. See the photo below.

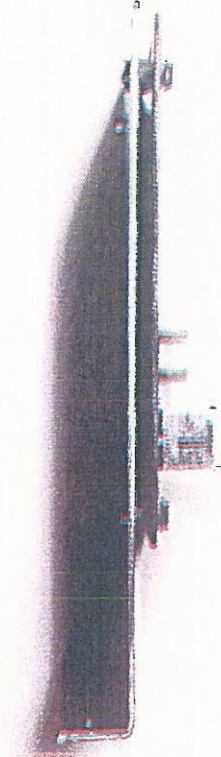
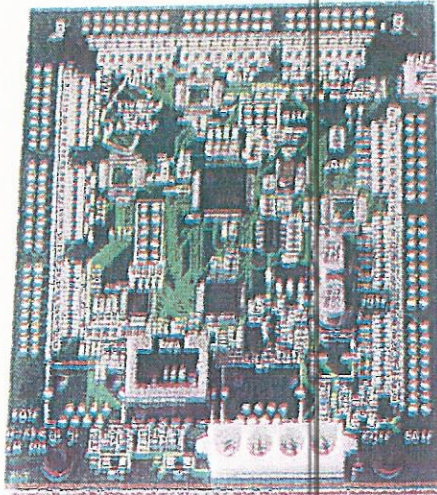


13) Using a #1 Phillips screwdriver, remove existing satellite RGB LED bd 178 (Winkie Guard, in front of the drop target). Set the satellite bd **AND ITS LONG SCREWS** aside. **DO NOT REUSE THESE SCREWS!** Mount a Single RGB LED bd<sup>(13)</sup>/insulator<sup>(14)</sup>/rollover bracket<sup>(15)</sup> assembly to the side of the Winkie Guard drop target assembly. Position the rollover bracket so that the RGB LED is under the Winkie Guard insert (over the "window" in the drop target bracket) and attach the bracket to the playfield underside (mark and predrill pilot holes). Use two of the #8 x 1/2" HWH Phillips SMSs<sup>(14)</sup> that were used to hold the old Single GI RGB LED bd brackets in place. See the photo below.

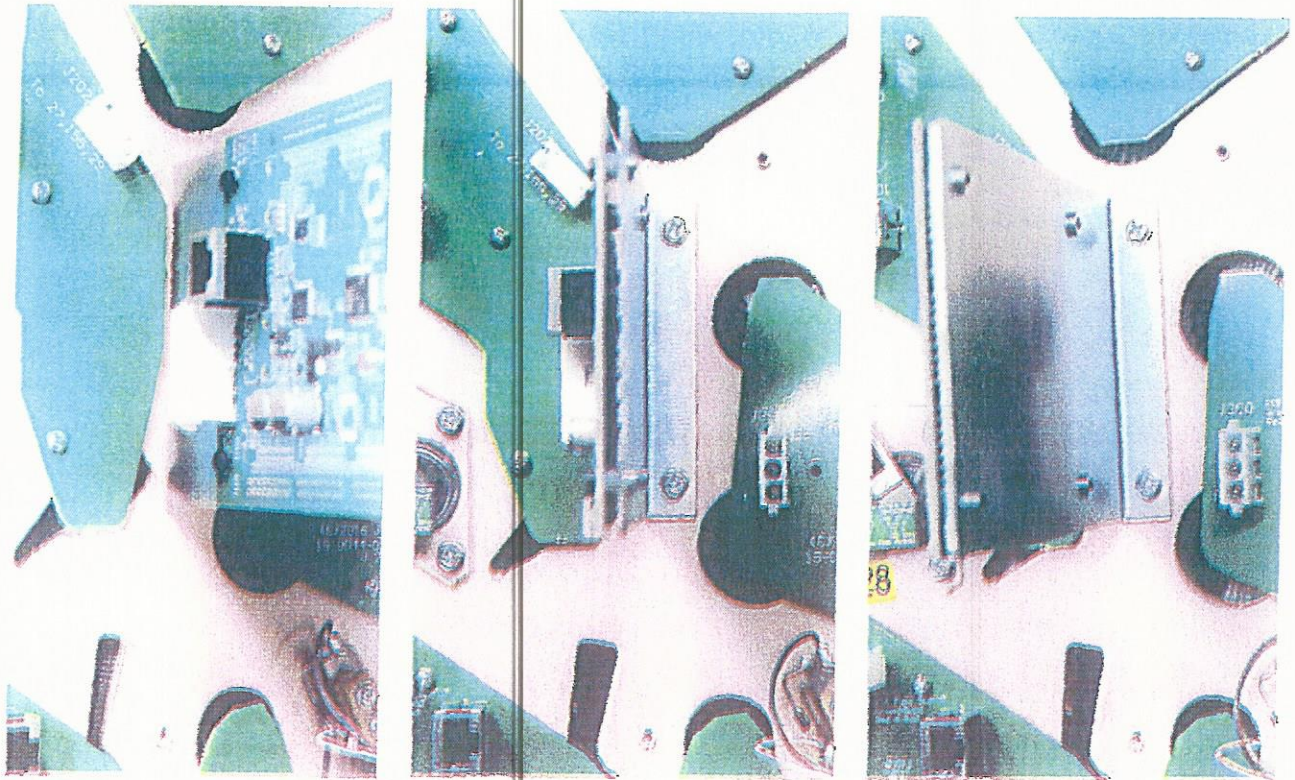


14) Lower the playfield and rest it on the support rails, with the second set of rubber feet centered in the lockdown bar receiver channel, at the front of the cabinet. Using a 1/4" magnetic nutdriver, remove existing Single GI RGB LED bd 11 (Capture Dorothy, behind the back panel). Mount a Single RGB LED bd (13) next to the insert, directly to the back panel backside. Center the RGB LED in the insert hole and attach the bd to the back panel with two #4 x 3/8" Phillips SMSs (14) (mark and predrill pilot holes). Have an assistant press down on the apron and counterbalance the playfield across the lockdown bar receiver channel while you perform this task. When finished, lean the playfield up against the backbox again.

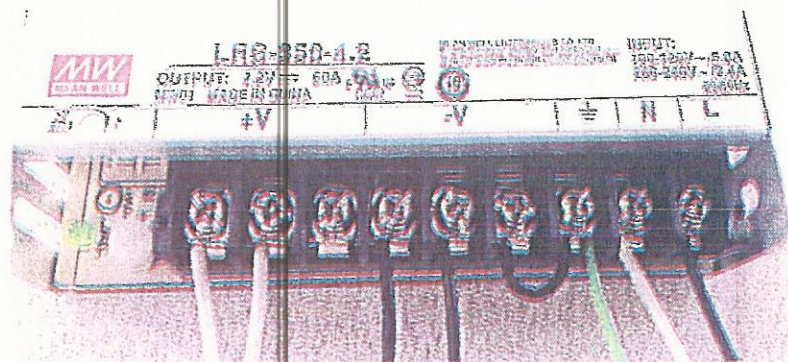
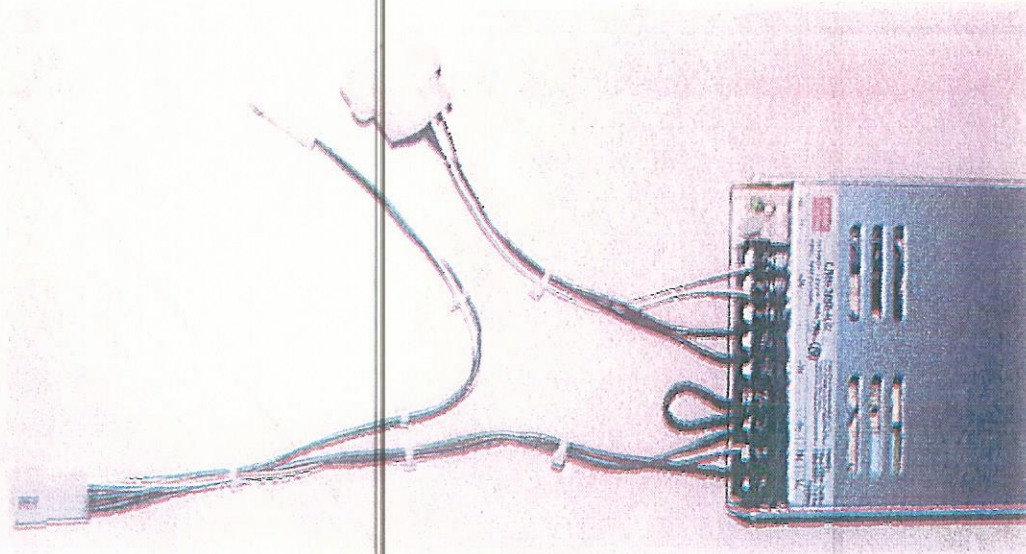
15) Using a #1 Phillips screwdriver and four black 4-40 x 3/8" machine screws (15) for each assembly, attach the PCB mounting bracket (12) to the BAG Controller PCB (13) (as shown in the photos below). Firmly tighten all four screws.



16) Using a 1/4" nutdriver and two #8 x 1/2" SMSs, attach the BAG bd/mounting bracket assembly to the underside, center of the playfield. Orient the bd and bracket as shown in the photos below (mark and predrill pilot holes).



17) Using a #2 Phillips screwdriver, attach the two adapter cables (BLK, WHT & GRN wires and BLK & WHT wires) to the new modular, switching power supply as shown in the two photos below. Ensure that the -V output DC voltage reference is bonded (connected) to the AC GND terminal, as shown. If it is not, add a short, 18 AWG wire between the leftmost -V terminal and the GND terminal (see below).

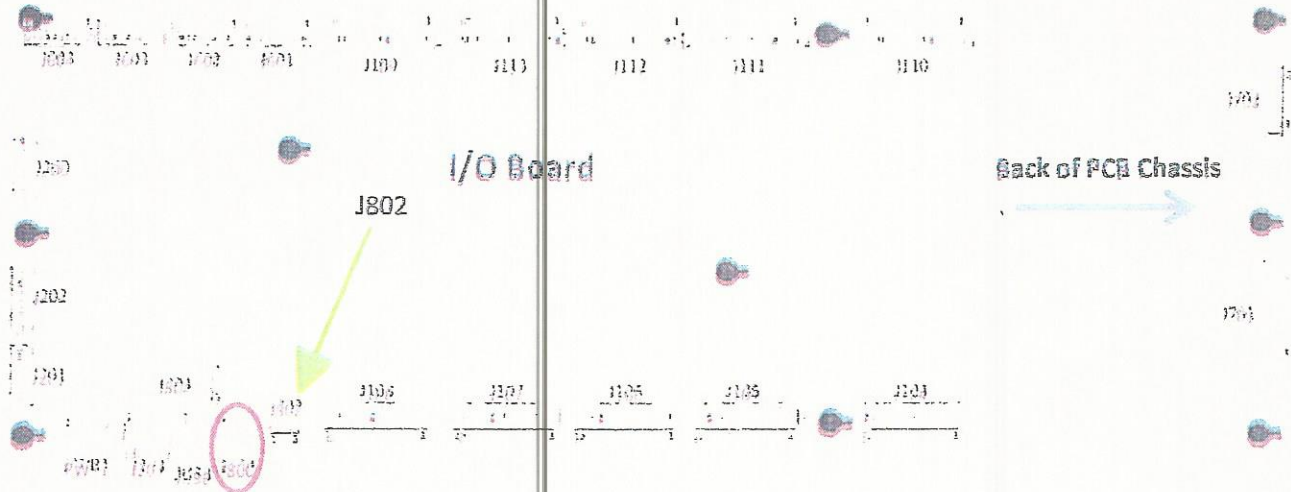


**IMPORTANT:** Check the red voltage select switch on the side of the power supply. Ensure that it is in the correct position for your location: 115V for the USA and Canada; 230V for Europe, Australia, etc (see below). If your voltage is not shown in the power supply voltage select window, use a key or a slot screwdriver to slide the switch to the correct setting. Ensure that the switch fully clicks into position.



Using two M4 x 5mm machine screws, attach mounting brackets (simple L brackets will suffice) to the side(s) of the new modular power supply, through two of its four threaded mounting holes. You will be attaching the power supply to the back wall of the lower cabinet, sitting on the cabinet floor.

18) Loosen the two thumbscrews and remove the lid of the PCB Chassis box (slide the lid slightly to the right, then lift it up and off of the box). Locate the data cable that connects to J802 on the I/O bd (you disconnected this cable from one of the old large RGB PCBs earlier). Disconnect this cable from J802 (see the green arrow in the illustration below). Lower the playfield, placing the second set of rubber feet inside the lockdown bar receiver channel. This playfield position will give you the best access to work in the back portion of the PCB Chassis. Remove the cable you just disconnected from J802 from the PCB chassis, pull it through the hole in the back of the PCB chassis and discard it. Carefully cut cable ties, as necessary, to free the cable from the PCB chassis wiring bundle(s).




Locate the USB cable connected to J800 (circled in red above) on the I/O bd. Follow one of the two steps below:

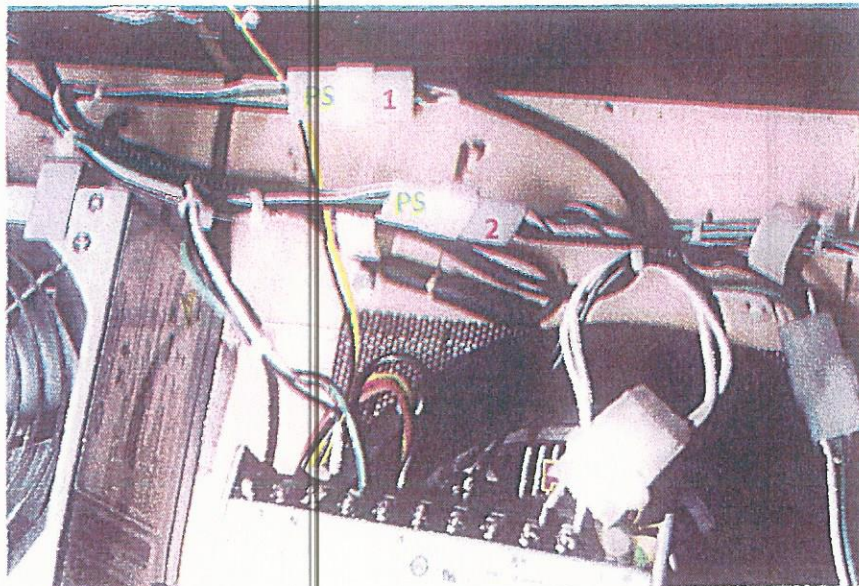
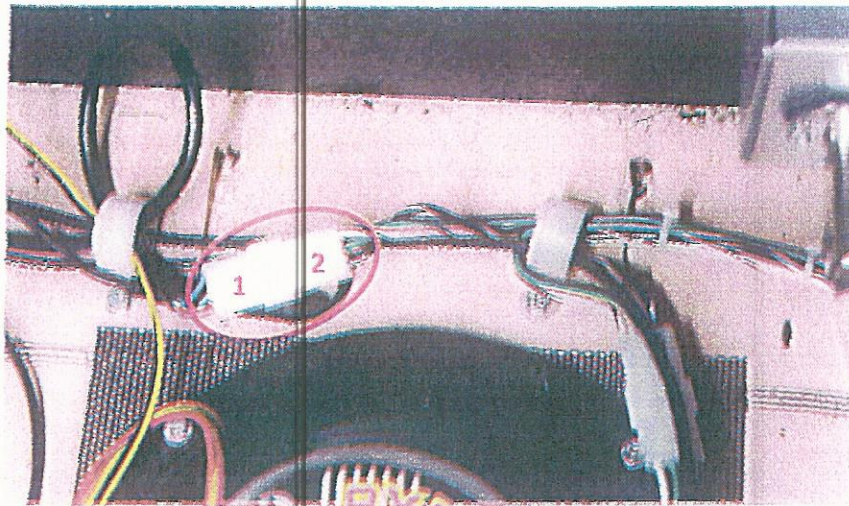
- If the USB cable running to J800 goes out the back of the PCB Chassis and plugs into one of the rectangular USB ports on the back of the CPU bd, pull both ends of the cable loose (at the CPU bd and the I/O bd), remove the cable from the PCB chassis harness and discard it. Carefully cut cable ties, as necessary, to free the cable from the PCB chassis wiring bundle.
- If the USB cable running to J800 is a "Y" cable, that also connects to JUSB (the other end of this Y cable connects to a connector on one edge of the CPU bd, *INSIDE* the PCB Chassis), Simply disconnect the portion of the cable that connects to J800 – **LEAVE BOTH THE JUSB CONNECTOR AND THE CONNECTOR AT THE CPU BD PLUGGED IN** – and tuck and/or tie the loose connector back, out of the way. It will **NOT** be used in the new lighting system (but it **MUST** be unplugged).

Replace any cable ties that were cut inside the PCB chassis and carefully trim the loose ends.

19) Connect the shielded, 6 ft USB 2.0A to Mini-B cable to an open USB port on the back of the CPU bd. Run the Mini-B end of the cable through a hole in the back of the PCB chassis box (if necessary; the CPU bd in later WOZ games is mounted up against the back wall of the PCB chassis, with its USB ports accessible from the outside of the box). The Mini-B end of this cable will be connected to one of the PCBs mounted under the playfield later on.

Raise the playfield again and lean it against the front of the backbox. Replace the lid on the PCB chassis and tighten the two thumbscrews.

20) Disconnect an existing 3-pin (BLK, WHT & GRN), Molex AC power connection in the back of the lower cabinet (see photos below). Plug the two AC connectors attached to the new, modular, switching power supply  in between the two existing power connectors you just separated. If you removed an old power supply with your old RGB power harness (the BLK & VIO-BLK wires) earlier, you can simply plug the new power supply into the same power connector the old supply used.

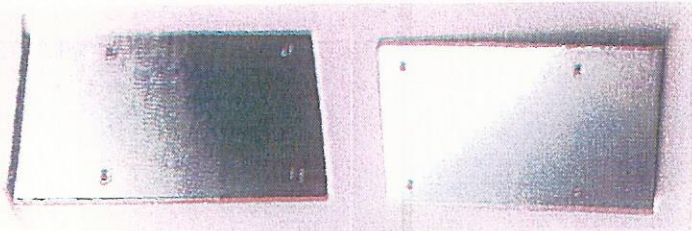


WOZ 2.0 Lighting Upgrade Kit  
Packing Checklist (Apr 2019)

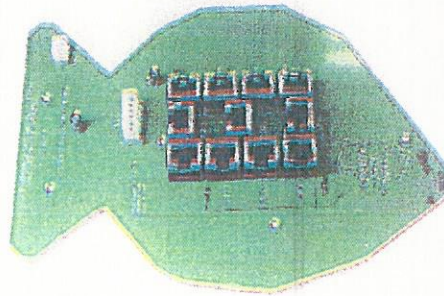
- 10-000155-00  
① RGB LED Single Mtg Brkt, Rollover Switch  
8 ea



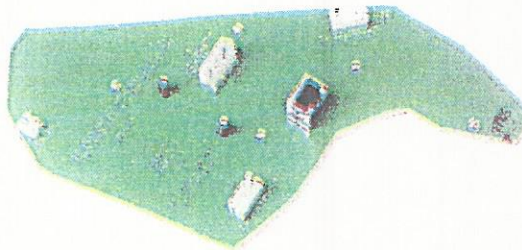
- 10-005035-00  
② RGB LED Controller/BAG PCB Mtg Brkt  
1 ea



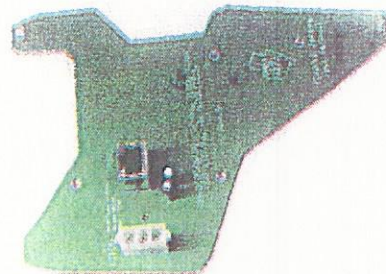
- 15-000066-01  
③ WOZ 5V, TLED, FTYBR RGB LED Bd, W1  
1 ea



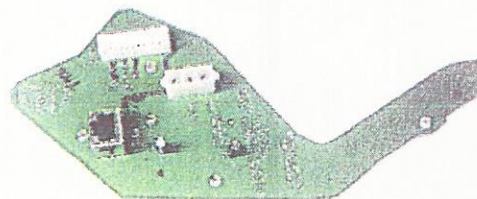
- 15-000066-02  
④ WOZ 5V, TLED, Tin Man RGB LED Bd, W2  
1 ea



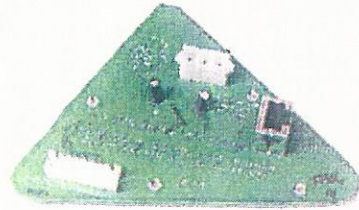
- 15-000066-03  
⑤ WOZ 5V, TLED, Lion RGB LED Bd, W3  
1 ea



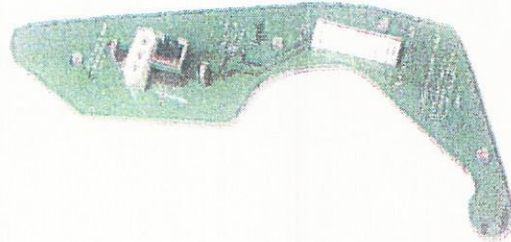
- 15-000066-04  
⑥ WOZ 5V, TLED, Throne Room RGB LED Bd, W4  
1 ea



- 15-000066-05  
7 WOZ 5V, TLED, Haunted Forest RGB LED Bd, W5  
1 ea



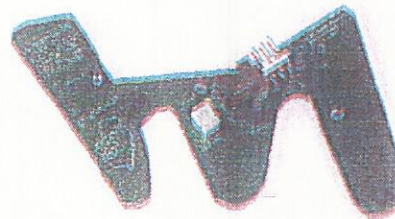
- 15-000066-06  
8 WOZ 5V, TLED, Scarecrow RGB LED Bd, W6  
1 ea



- 15-000066-07  
9 WOZ 5V, TLED, Winged Monkey RGB LED Bd, W7  
1 ea



- 15-000066-08  
10 WOZ 5V, TLED, Witch Castle RGB LED Bd, W8  
1 ea



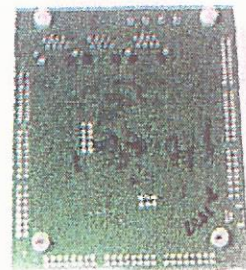
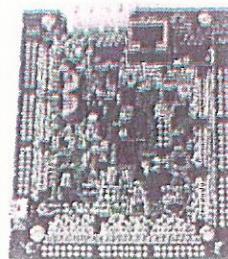
- 15-000066-09  
11 WOZ 5V, TLED, TNPLH RGB LED Bd, W9  
1 ea



- 15-000066-10  
12 WOZ 5V, TLED, Rainbow RGB LED Bd, W10  
1 ea

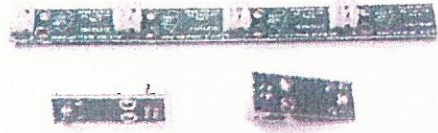


- 15-004033-03  
13 BAG Controller PCB Assy, 2.5mm, No Connectors  
1 ea





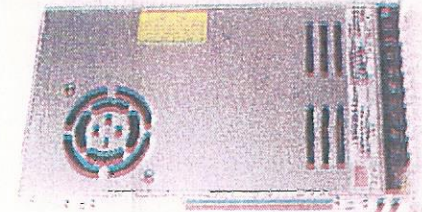
15-004228-05  
14 Single RGB LED PCB Assy, TLED FP, 5V, Straight Connector  
14 ea



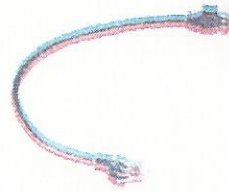
15-100000-01  
15 5V RGB GI TLED Straight Connector  
24 ea



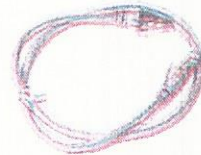
16-000014-00  
16 WOZ 2.0 Lighting Upgrade Kit Power Supply, 4VDC, LRS-350-4.2  
1 ea



19-003111-01 or 19-003042-01  
17 Ethernet Cable, Cat5E, 1ft  
6 ea



19-003111-02 or 19-003042-02  
18 Ethernet Cable, Cat5E, 2ft  
5 ea



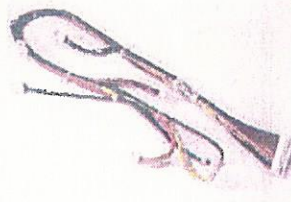
19-003111-03 or 19-003042-03  
19 Ethernet Cable, Cat5E, 3ft  
1 ea



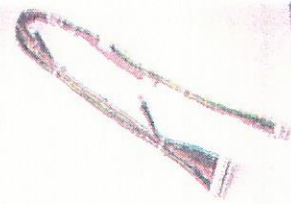
19-003096-00  
20 WOZ Upper Right RGB Cable  
1 ea



19-003096-01  
21 WOZ Upper Central RGB Cable  
1 ea



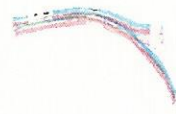
19-003096-02  
22 WOZ Upper Left RGB Cable  
1 ea



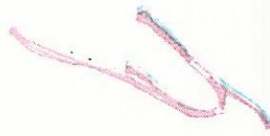
19-003096-03  
23 WOZ Upper Playfield RGB Cable  
1 ea



19-003096-04  
24 WOZ Center Left RGB Cable  
1 ea



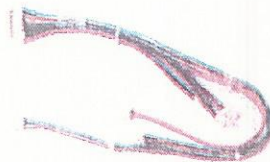
19-003096-05  
25 WOZ Lower Left RGB Cable  
1 ea



19-003096-06  
26 WOZ Center Right RGB Cable  
1 ea



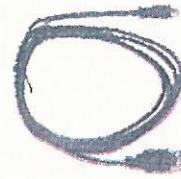
19-003096-07  
27 WOZ Upper Right RGB Cable  
1 ea



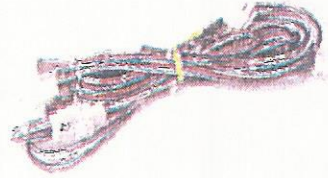
19-003096-09  
28 WOZ Single 7" RGB Cable  
4 ea



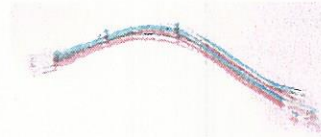
19-003100-06  
(29) USB Cable, 2.0A to Mini-B, M-M, 6ft  
1 ea



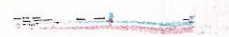
19-009013-02  
(30) WOZ 2.0 Lighting Power Cable (Harness)  
1 ea



19-009013-03  
(31) WOZ 2.0 Lighting Upgrade Kit AC Adapter  
1 ea



19-009013-04  
(32) WOZ 2.0 Lighting Upgrade Kit 4V Adapter  
1 ea



19-009013-05  
(33) WOZ 2.0 Lighting Upgrade Kit 5V Splitter  
1 ea



22-008005-10  
(34) RJ45 Inline Coupler, F-F  
2 ea



30-000041-01  
(35) Push Rivet, Click-Lock, 0.118-0.158", Black  
4 ea

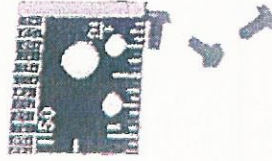


30-000051-04  
(36) 4" Wire Tie, Natural  
50 ea

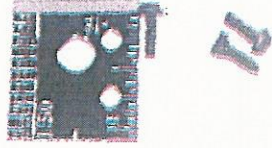
70-009010-00  
(37) RGB LED Bd Insulator, Fish Paper  
4 ea



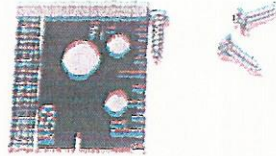
38 80-002104-04  
4-40 x 1/4" HWH MS, Black  
16 ea



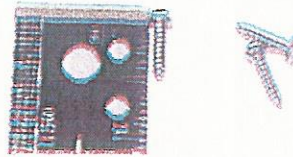
39 80-002104-06  
4-40 x 3/8" HWH MS, Black  
4 ea



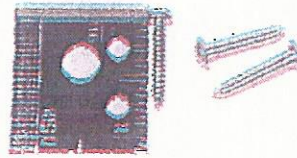
40 82-000004-06  
#4 x 3/8" PPH SMS  
12 ea



41 82-000004-08  
#4 x 1/2" PPH SMS  
40 ea

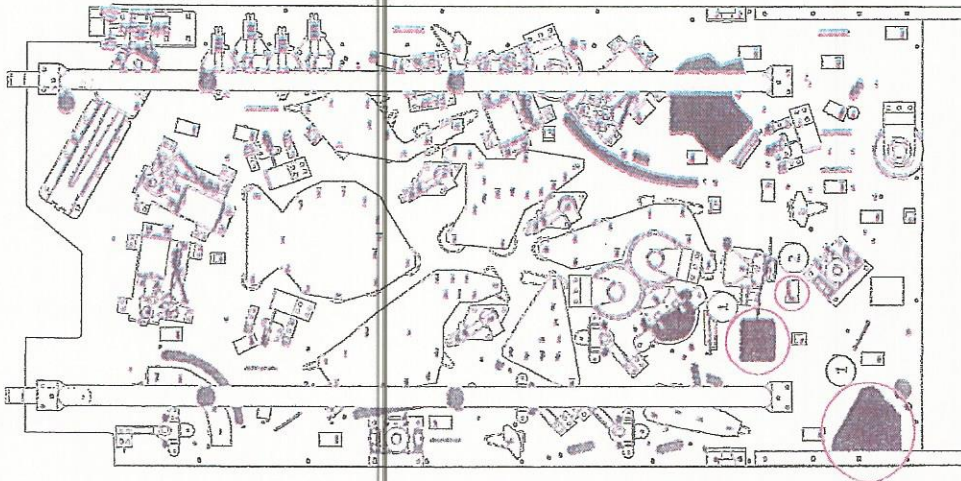


42 82-000004-12  
#4 x 3/4" PPH SMS  
2 ea



43 94-005204-12  
#4 x 3/8" Round Spacer, 1/4" OD, Nylon  
24 ea





## E.1 Removing the Castle Playfield

**Preparations:** Ensure that all 5 pinballs are in the trough or completely removed from the game (not held in any of the playfield ball locks). Go into the *Winged Monkey Device Test* and move the winged monkey downward, away from the castle mini playfield. Power down the game. If power cannot be applied to the game, manually turn the shaft on the winged monkey motor (in a CCW direction) until the monkey is approximately 3 inches away from the edge of the castle playfield.

### Tools Required:

Wire cutters

Magnetic pickup tool (optional)

1/4" nutdriver or #2 Phillips screwdriver

11/32" nutdriver

11/32" open-end wrench

1) Raise the playfield and lean it against the backbox as shown in figure E1; locate the two holes circled in the illustration. Unplug the inline connectors for the mechanisms on or under the castle playfield, 6 connectors through the larger hole, 2 through the smaller hole:

#### Larger Hole

12-pin, WHT/GRN/BLU wires

9-pin, BLU/VIO wires

4-pin, RED/BLK/GRN/WHT wires

3-pin, VIO wires

2-pin BLU/BLK wires

2-pin, VIO/BLK wires

#### Smaller Hole

3-pin, PNK wires

2-pin, BLK wires

Use wire cutters to carefully cut any nylon ties holding cables/wires still attached to the castle playfield.

2) Unplug the data cable from the red connector on single RGB LED board number 12 (circled in figure E1); this cable will remain connected to the castle playfield as it is removed (pulled through the larger playfield hole). Cut any wire ties holding this cable underneath the playfield. Push all unplugged connectors and cables up through the holes in the main playfield.

Lower the main playfield, resting the back set of support rail rubber feet in the lockdown bar channel.

Figure E1. Castle playfield removal, illustration 1.

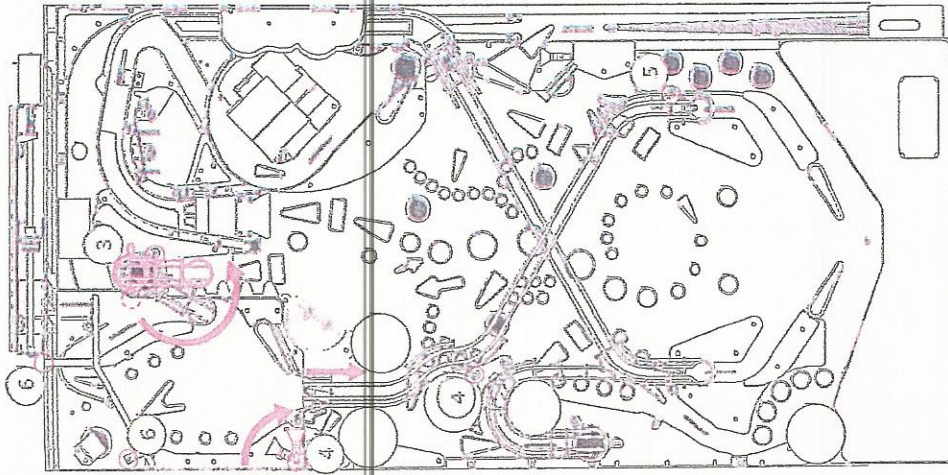


Figure E2. Castle playfield removal, illustration 2.

3) Using an 11/32" nutdriver, loosen the left-side locknut on the wrinkle guard VUK wire guide until it is near the top of its threaded post (see figure E2). Completely remove the right-side locknut and the flat washer underneath it (a magnetic pickup tool can be used to avoid dropping the loose pieces as they are removed).

Tilt the wire guide to the left until the right-side attachment point clears the top of its threaded post, then rotate it CCW until it clears the side of the castle playfield (as shown in the illustration, left).

4) With the same nutdriver, remove the locknut and flat washer holding the castle exit wire ramp, near the crystal ball (circled in figure E2). Loosen the locknut holding the spotlight in the lower left hand corner of the castle playfield. Twist the spotlight CW to gain access to one of the screws holding the playfield in place.

5) Using an 11/32" open-end wrench, remove the locknut and flat washer holding the end of the castle exit wire ramp next to the right outlane (circled in figure E2). Once loosened with the wrench, a nutdriver may be used to completely remove the locknut (by gently flexing the wire ramp).

Lift the castle exit wire ramp up over its attachment posts and carefully slide it straight out the end of the castle playfield. Carefully lay the ramp onto the main playfield; do not put excessive tension on the wires running to the ramp opto switch.

6) Using a 1/4" nutdriver or #2 Phillips screwdriver, remove the 2 screws holding the upper castle wall brackets in place (one of the screws is on the outside of the back panel). Remove the upper castle wall assembly and set it safely aside.

7) Using a 1/4" nutdriver or #2 Phillips screwdriver, remove the 4 screws holding the castle playfield down (see figure E3).

Carefully - and slowly - lift the castle playfield straight up, away from the main playfield, ensuring that all cables, connectors and wiring remain free during the process.

8) While lifting the castle playfield, reach under its front left corner and unplug the cable from the red connector on single RGB LED board number 30 (circled in figure E4). This cable will remain connected to the main playfield.

To reinstall the castle playfield, repeat the steps above, in reverse order.

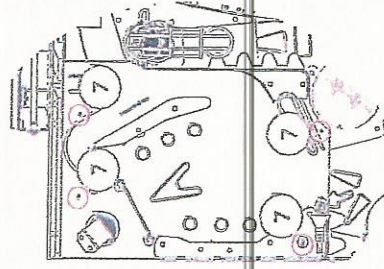


Figure E3. Castle playfield removal, illustration 3.

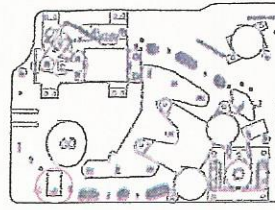


Figure E4. Castle playfield removal, illustration 4.

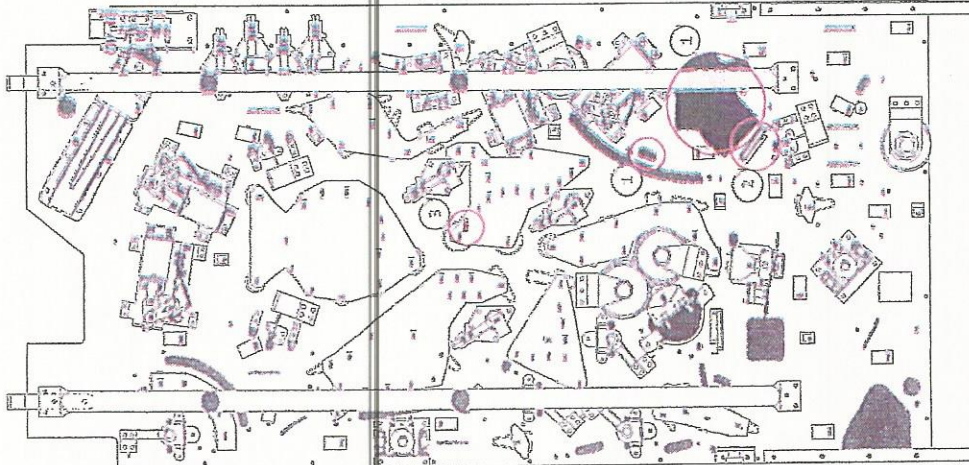


## E.2 Removing the Munchkinland Playfield

**Preparations:** Ensure that all 5 pinballs are in the trough or completely removed from the game (not held in any of the playfield ball locks). Power down the game.

### Tools Required:

- Wire cutters
- Magnetic pickup tool (optional)
- 1/4" nutdriver or #2 Phillips screwdriver
- 11/32" nutdriver



1) Raise the playfield and lean it against the backbox as shown in figure E5; locate the two holes circled in the illustration. Unplug the inline connectors for the mechanisms on or under the Munchkinland playfield, 2 connectors through the larger hole, 1 through the smaller hole:

#### Larger Hole

- 4-pin, VIO/YEL/BLK/RED wires
- 4-pin, GRN/WHT wires

#### Smaller Hole

- 2-pin, BLK/VIO wires

2) Unplug the orange (4) and yellow (15) color-coded connectors from the right-side opto I/O board, circled in the illustration. Use wire cutters to carefully cut any nylon ties holding cables/wires still attached to the Munchkinland playfield.

3) Unplug the data cable from the red connector on main RGB LED board WOZLED03 (circled in figure E5); this cable will remain connected to the Munchkinland playfield as it is removed (pulled through the smaller playfield hole). Cut any wire ties holding this cable underneath the playfield. Push all unplugged connectors and cables up through the holes in the main playfield.

Lower the main playfield, resting the back set of support rail rubber feet in the lockdown bar channel.

Figure E5. Munchkinland playfield removal, illustration 1.

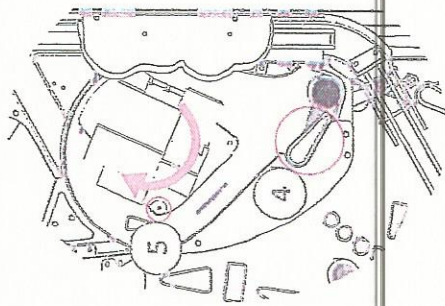


Figure E6. Munchkinland playfield removal, illustration 2.

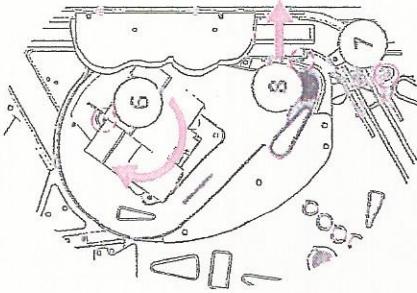


Figure E7. Munchkinland playfield removal, illustration 3.

4) Remove the mini rubber ring from the Munchkinland flipper (circled in figure E6).

5) Grasp the roof of the Munchkinland playfield's spinning house and manually rotate it (CW) until the large, open corner is aligned with the first of three screws holding the playfield down (as shown in figure E6). Using a 1/4" nutdriver or Phillips screwdriver with a long shaft, remove this screw. A magnetic pickup tool can be used to help pull the screw out of its hole.

6) Continue to manually rotate the house (CW) until the same open corner is aligned with the second of three screws holding the Munchkinland playfield down (as shown in figure E7). Using the same 1/4" nutdriver or Phillips screwdriver as in step 5 above, remove this screw. Again, a magnetic pickup tool can be used to help pull the screw out of its hole.

7) Using an 11/32" nutdriver, loosen the locknut holding the top end of the Emerald City exit wire ramp (circled in figure E7). Do not remove the locknut.

8) Flex the Emerald City plastic ramp (in the ball lock/Munchkin hits area) outward while removing the third of three screws holding the Munchkinland playfield down (circled in figure E7). Use the same 1/4" nutdriver or Phillips screwdriver as in steps 5 & 6 above.

Carefully - and slowly - tilt the Munchkinland playfield toward the ball lock assembly until it clears the Munchkinland mini flipper bat. When the flipper bat is completely through the hole in the Munchkinland playfield, flex the Emerald City plastic ramp outward again, until the outer edge of the Munchkinland playfield clears the metal optical shield on the edge of the ramp. Carefully lift the Munchkinland playfield up and away from the main playfield, ensuring that all cables, connectors and wiring remain free during the process.

9) While lifting the Munchkinland playfield, reach under its left front edge and unplug the cable from RGB LED satellite board number 160 (circled in figure E8). This cable will remain connected to the main playfield.

To reinstall the Munchkinland playfield, repeat the steps above, in reverse order.

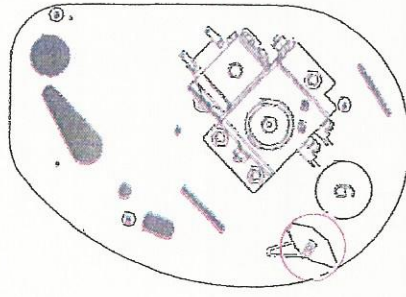
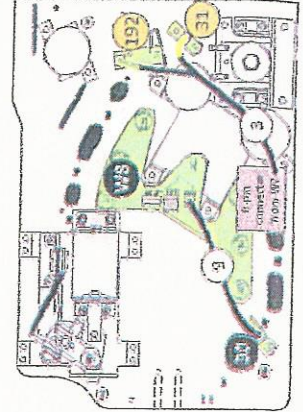
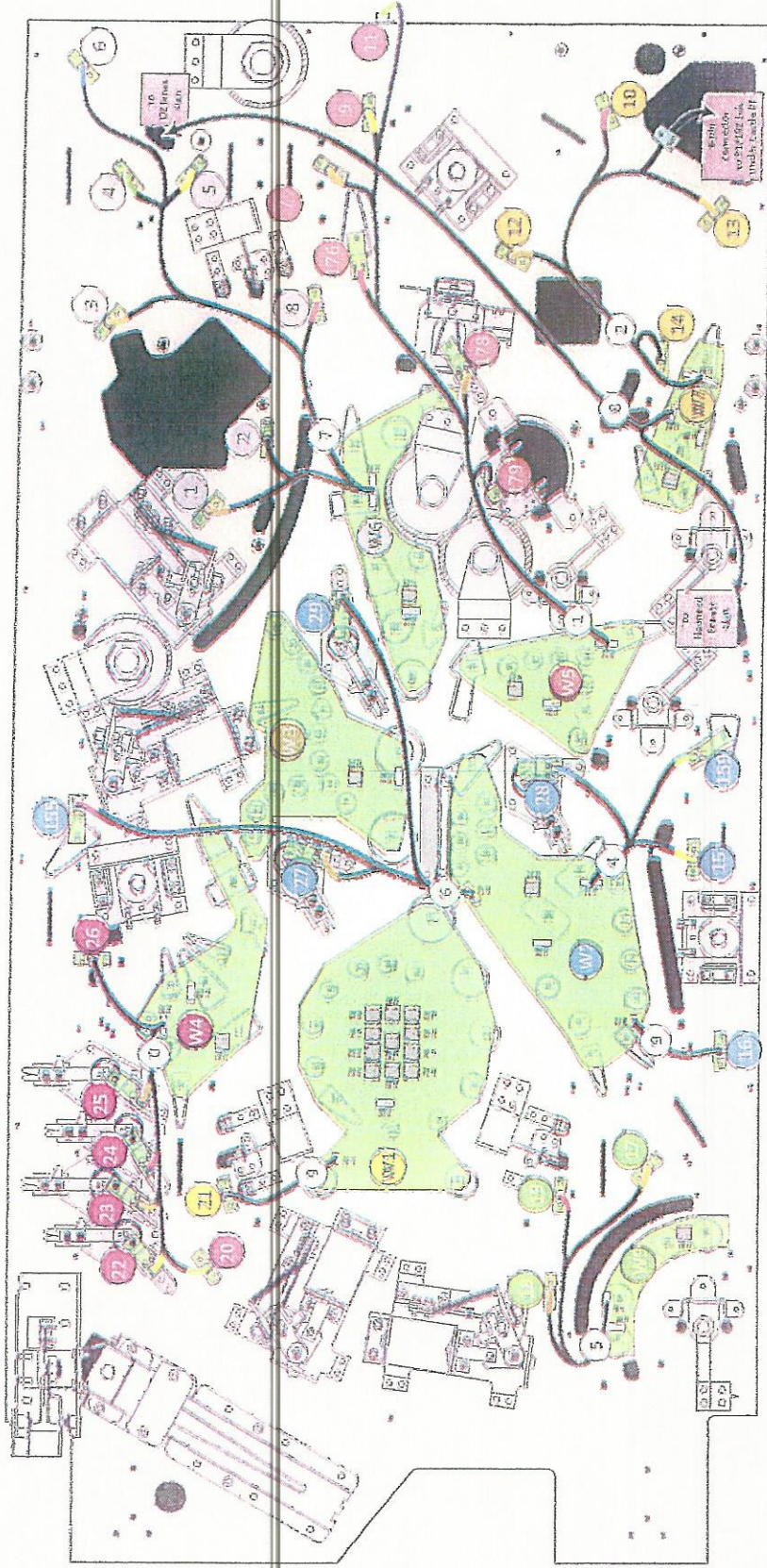
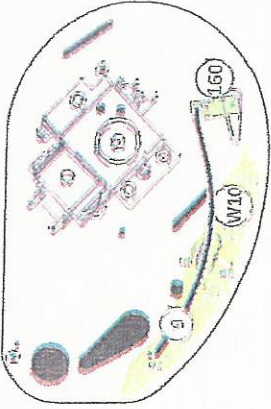


Figure E8. Munchkinland playfield removal, illustration 4.





**WOZ 2.0 Lighting Upgrade Kit**  
**RGB LED Wiring Diagram (April 2019)**



- 19-003096-00 0 WOZ 2.0 Lower Right RGB Cable
- 19-003096-01 1 WOZ 2.0 Upper Middle RGB Cable
- 19-003096-02 2 WOZ 2.0 Upper Left RGB Cable
- 19-003096-03 3 WOZ 2.0 Castle Playfield RGB Cable
- 19-003096-04 4 WOZ 2.0 Left Middle RGB Cable
- 19-003096-05 5 WOZ 2.0 Lower Left RGB Cable
- 19-003096-06 6 WOZ 2.0 Right Middle RGB Cable
- 19-003096-07 7 WOZ 2.0 Upper Right RGB Cable
- 19-003049-00 8 OZ Lanes & Haunted Forest Signs Cable
- 19-003096-09 9 WOZ 2.0 Single RGB Cable (4 used)

