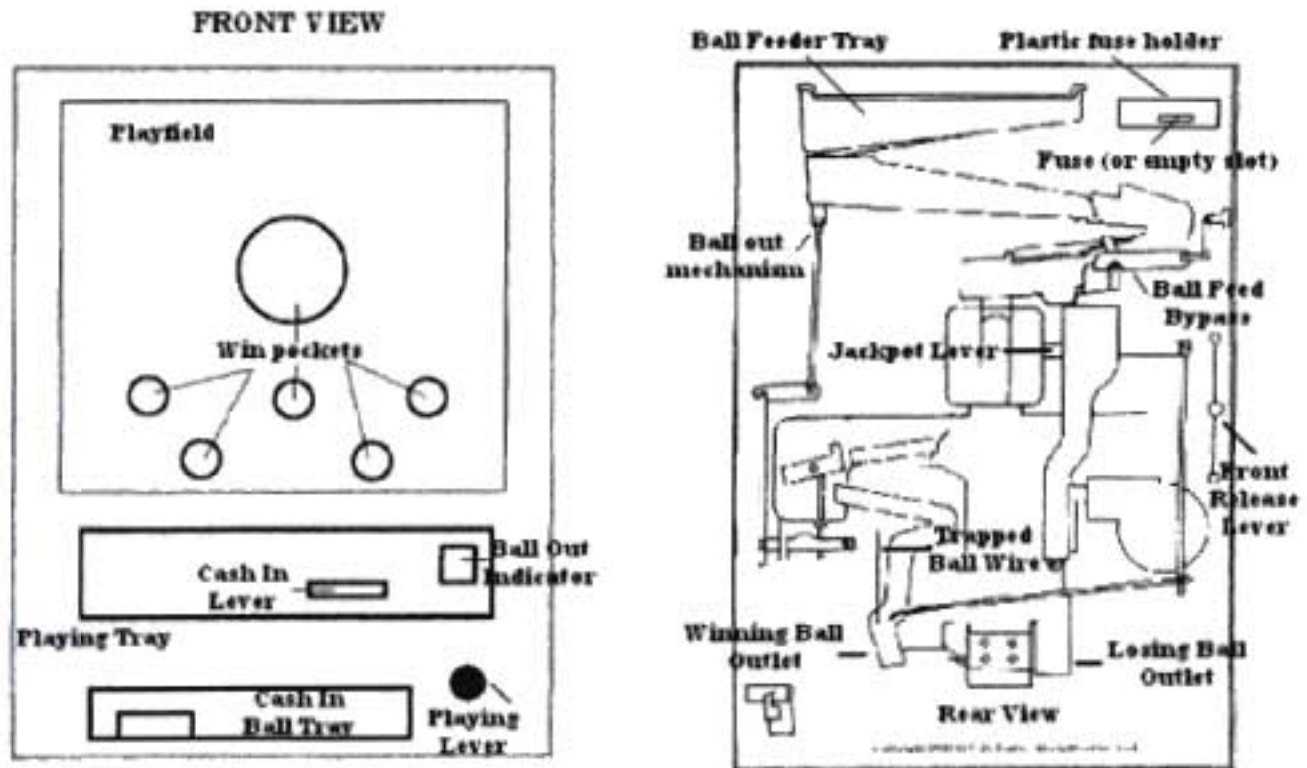


# Older Pachinko Repair and Restoration Guide (10Volt model)

## PARTS DESCRIPTION



**KEEP THIS PAGE HANDY!**  
You'll need it as reference as we go along.

### WARNING & DISCLAIMER

Although you will be using a low voltage power source, you must take adequate precaution against fire and/or machine damage. This guide will walk you through a safe and secure installation if it's followed precisely. I cannot see your machine nor check out frayed or broken wiring, so by using this guide, you agree to be fully responsible for any damage to your machine or other property caused by your machine repair or use of this guide, and waive all rights for any type damages from me. Common sense is the rule here. Although this guide should allow you to "do-it-yourself", should you have ANY doubt about the safety of your repair or confusion as to instructions herein, take your machine (and this guide) to an experienced electronics repair person in your area. In addition, should you steal my plans/instructions and attempt to resell, I'll hunt you down!

# OPERATING INSTRUCTIONS

## INITIAL

Visually check out the machine front and back for foreign obstacles or debris. You can open the Plexiglas front by pulling the front release lever (rear view).

Depress the playing lever while viewing from rear, making sure the spring is attached and working.

Check lighting wiring for breaks, or corrosion where soldered at individual light sockets. Light corrosion can be cleaned with some steel wool. If you have a fuse in the Plastic Fuse Holder, check it. It should be 2 amps, and the wire within the glass should not be broken. If it's broken, replace with a 2 amp fuse.

Check all rear levers to make sure they're connected.

Lastly, make sure Ball Feed Bypass (rear view) is in the locked position. The metal tab on the left will move right to lock into place. (You'll know if you did this correctly when you load the balls and they don't all come shooting down the Losing Ball Outlet!)

## LET'S PLAY

Load at least 200 balls in Ball Feeder Tray (rear view). I recommend 400 balls per machine, with 300 in the Ball Feeder Tray (rear view) and 100 in the Playing Tray (front view). They will work with less, but you'll have to keep feeding balls from behind. You need enough balls in the Ball Feeder Tray (rear view) to constantly depress the Ball Out Mechanism (rear view) and lower the jackpot lever contained within the chute (not pictured).

Most of these machines have a red light in the upper left front corner. When that light comes on, it's telling you to add balls to the Ball Feeder Tray (rear view). No jackpots can be paid out while that light is on. Also, the Ball Out Indicator (front view) will be displayed (a handy tool for those who don't have working lights).

Now load some balls in the Playing Tray (front view). If you have sufficient balls in the Ball Feeder Tray (rear view), the balls should automatically feed down to be played by using the Playing Lever (front view).

Depress the playing lever (clockwise) and release to shoot a ball onto the Playing Field (front view). If you do not enter a Win Pocket (front view), the ball will exit at the bottom of the Playing Field (front view) and end up coming out of the Losing Ball Outlet (rear view). Make sure you have some type of container to catch these balls.

If you enter a Win Pocket (front view), the machine should flash on the right front side, you should hear a bell type noise, and bonus balls will enter the Playing Tray (front view).

If your ball doesn't make it to the Playing Field (front view) at all, it will enter in the Cash In Ball Tray (front view).

When these older machines were used for gambling, a player would pay X amount per ball and play them via the Playing Tray (front view). If they were lucky, they would win more balls than they bought, and use the Cash In Lever (front view) to send their balls from the Playing Tray (front view) to the Cash In Ball Tray (front view). They could then redeem these balls at the same X amount per ball for various items (primarily chocolate), but not cash. A knowledgeable player would always find the shop around the corner that "bought" your chocolate for cash!

### ***Power Supply***

To convert your system to a US standard power supply, you have to decide whether you want it to run on battery or household AC current. Both are simple to implement, and involve merely hooking two wires up to the contact points located on the Plastic Fuse Holder (rear view).

First though, you must make sure you don't have broken or frayed wiring (check the rear), or corroded connections to the light sockets, or a blown fuse, or blown lamps (bulbs). If so, you must replace or it's simply not going to work.

Most of these machines have a ball out indicator light (upper left front) (upper right rear) and two jackpot lights (middle right front) (middle left rear). You can replace them with 12 volt or even 14.4 volt screw-base lamps from Radio Shack, understanding that the higher voltage (14.4 volt) lamps will burn less brightly using a 9 volt power source. I ship 12 Volt lamps because they work fine and don't burn out as quickly, but they're not available at Radio Shack. If you can't find 12 volt lamps at another electronics store in your area, e-mail me and I'll ship you three (\$2.95 + \$1.50 shipping = \$5.45 total). Again, the 14.4 volt from Radio Shack will work, just not burn as brightly.

**NOTE: If you have broken or missing wiring, I've added a Electrical Wiring Schematic to this guide. It may provide some assistance for you.**

## BATTERY POWERED

All parts listed refer to Radio Shack product numbers. Not that I own stock in Radio Shack, but they are well distributed throughout the U.S., carry all these parts, and assign part numbers to each (making it easier for me to help you). You may want to visit Radio Shack, identify the parts, and then go somewhere cheaper to purchase.

- Parts List**
- 3) 14.4 volt 100 mA lamps, screw-base type, Radio Shack # 272-1127, pack of 2 for \$1.19
  - 1) 2 amp fuse, Radio Shack # 270-1007, pack of 4 for \$1.29
  - 1) 9 Volt battery, Radio Shack # 23-875, \$2.39
  - 1) 9 Volt battery snap on connector, Radio Shack #270-325, pack of 5 for 1.29
  - Electrical tape, available almost anywhere
  - 1) Velcro strip large enough to hold battery securely to cabinet, Lowes, Home Depot, etc.

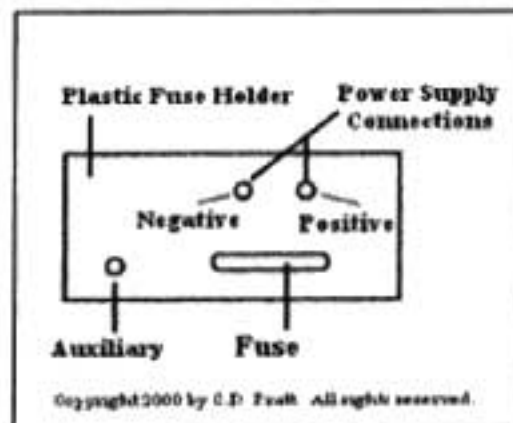
AGAIN, make sure you have good lamps (bulbs) in each socket, good wiring, and a good fuse. Take the 9 volt battery snap on connector (one end fits on the positive and negative end of the battery and the other end has one red and one black wire coming out). DO NOT connect the battery end yet!

The red and black wires should be partially stripped of insulation at the end, but you may need to strip a little more off to ensure adequate attachment. Do not cut or break the wire (guess it's a good thing Radio Shack only sells these in a 5 pack, just in case).

Referring to the power supply diagram below, attach the red wire from a 9 Volt Battery Connector to the Power Supply Connection on the right (metal pin). Attach the black wire to the Power Supply Connection on the left (metal pin). Make sure enough of the stripped wiring is making contact with each pin. Tighten down the plastic screw in holders for each, or if they're missing, carefully wrap each Power Supply Connection Pin with electrical tape, ensuring that the two wires are not touching.

Use a Velcro strip to mount the unattached battery to the machine case close enough to be easily attached to the 9 volt battery snap on connector.

Fuse in, wires attached, bulbs good, battery mounted. Good job. Attach the battery to the snap on connector and you should have lights. Test by removing the balls from the feeder tray. If your Ball Out Mechanism (rear view) is working, the red light on the upper left front should come on. When you win a jackpot, the front right side lights should come on.





## AC Powered with Adapter

Already gotten tired of replacing batteries? It's a simple conversion process to an AC Adapter that you can plug into a standard wall socket in your home.

**Parts List**

- 3) 14.4 volt 100 mA lamps, screw-base type, Radio Shack # 272-1127, pack of 2 for \$1.19
- 1) 2 amp fuse, Radio Shack # 270-1007, pack of 4 for \$1.29
- 1) 9 Volt 300 mA Power Adapter, Radio Shack # 273-1767, \$8.99
- Electrical tape, available almost anywhere
- 1) 6" Power Leads, Radio Shack #273-1742, \$1.99

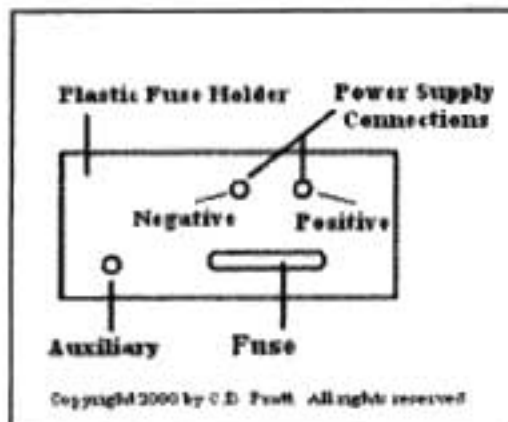
**DO NOT** plug adapter into a wall socket yet!

First, attach the Power Leads to the Power Adapter following the instructions on the rear of the Power Leads container. I'll repeat them here in case you threw the case away! Plug the 2 pronged end of the Power Leads into the 2 holed end of the adapter. Notice the + symbol on one side of the Power Lead connector, and the Tip side of the Power Adapter connector. The + symbol and Tip side should be side by side after connecting.

The wires of the Power Leads should be partially stripped of insulation at the end, but you may need to strip a little more off to ensure adequate attachment. Do not cut or break the wire.

Referring to the power supply diagram below, attach the STRIPED BLACK wire from Power Leads to the Power Supply Connection on the right. Attach the SOLID BLACK wire to the Power Supply Connection on the left. Make sure enough of the wiring is making contact with each pin. Tighten down the screw in holders for each, or if they're missing, carefully wrap each Power Supply Connection with electrical tape, ensuring that the two wires are not touching.

Fuse in, wires attached, bulbs good. Good job. Plug the Adapter into a wall socket and you should have lights. Test by removing the balls from the feeder tray. If your Ball Out Mechanism (rear view) is working, the red light on the upper left front should come on. When you win a jackpot, the front right side lights should come on.



## CARE AND RESTORATION

Please do not play the game using rusted balls. You'll mar the playing field and possibly create gouges. Use a metal cleaner/polish to clean the balls, or if you're cheap, try some play sand mixed with oil just to the point where the mix becomes slushy. Place rusted balls in and gently shake. Try one or two balls as a demo first. Another method is to place them in an old sock and shake (outdoors would be smart). You may need to go the metal cleaner route. Regardless, clean and dry the balls thoroughly before placing them back in the machine.

Clean the playing field and front laminate with 409 or another all purpose cleaner/degreaser and a nonabrasive cloth. Spray the cleaner ON the cloth, not on the surface. That way you don't get cleaning solution running down in the machine. Use Q-tips or old tooth brushes for those hard to reach crevices and ramps.

If your win pockets are not opening well, or playing lever spring is rusted, or any rear levers are not moving smoothly, sparingly apply some 3 in 1 oil, or sewing machine oil. SPARINGLY is the key word here. One small drop per connection should do it. Thoroughly clean off any excess.

Should your nails or ramps on the playing field need attention, you can again go the metal cleaner or brass cleaner route, but it'll be a chore. Make sure you need this before you start the project.

One common problem is a missing or broken plastic top which should be located directly above the rear chute of the Ball Feed Bypass. They're almost impossible to find at a Pachinko graveyard, so just cut a piece of thin wood or heavy cardboard to size and use an oversized clip (like for potato chip bags or the kind they sell in office supply stores) to affix to the chute. Or I'll build you something that works.

## FAQ'S

*I have balls in the Playing Tray, but when I use the Playing Lever it doesn't shoot any balls up the ramp.*

You don't have enough balls in the Ball Feeder Tray (rear view) to depress the Ball Out Mechanism (rear view). Must have at least 200 balls back there, and I use 300 - 350.

*When I enter a Win Pocket, I don't get extra balls and my winning ball is stuck somewhere in the machine.*

You kept on playing balls when the Ball Feeder Tray was empty. First load at least 200 balls in the Ball Feeder Tray (rear view). Second, carefully examine your Winning Ball Outlet (rear view). You probably will see some balls trapped there. If so, gently lift the Trapped Ball Wire (rear view) entering this outlet to release these balls. Next, you'll need to trip the Jackpot Lever (rear view) to release all the "won" balls that didn't come out. Gently push it down (sometimes up works) and balls should start pouring out into the Playing Tray. Once the Winning Ball Outlet (rear view) is clear, and there are sufficient balls in the Playing Tray, you're back in business.

## ACCESSORIES

I've built some accessories you may find useful. First, I don't like having the machine table mounted. So I've created a wall mounted frame and floor model frame. Both of these **MUST** be mounted to the studs in your wall for safety reasons, as your Pachinko machine is mounted on hinges to swing forward allowing you easily accessible rear access. My frames are constructed of 2"x 6" lumber (heavy) with 3/4" plywood backing. You can't suspend this much weight safely with press board crap or discount type lumber. I also include bracing features, because when the unit is swung forward, you're looking at 30 to 35 pounds suspended.

My units are hand built depending upon your exact machine and case measurements. If you don't mind spending a weekend and are handy with a saw, a drill and measurements, you can order just the plans from me and build it yourself. Just modify my measurements to adjust to your actual case size. You can save from \$120 to \$170 this way, plus shipping costs. **BUT DO NOT CUT CORNERS ON MATERIALS OR DESIGN.** That's a lot of weight being suspended, and would do a lot of damage to the human it lands on.

I also sell a plastic, easily cleanable ball tray which Velcro mounts to your case. It's wide enough to catch both lost balls and winning balls. Not heavy duty, but it doesn't really need to be. \$2.00 plus minor shipping. I make wooden trays too. They sell for \$10.00 with around \$7.50 shipping

I do have a stockpile of rust free, engraved balls. They sell for \$12.50 per 100 with shipping running between \$3 - \$5 depending on quantity ordered. Occasionally I'll have parts to sell, but I usually hold onto these for restorations.

## WALL UNIT

You mount the frame directly to your wall on two separate wall studs (usually 16" apart). Your Pachinko machine rests inside the unit, but swings out on two 4" heavy duty satin brass finish hinges so you can get in the back easily. These are hand built, depending on your exact machine and case measurements. They are stained based on your request with most folks opting for Walnut, Light Oak, or Mahogany. A stain request that results in higher expense for me will be added to the pricing, or we can ship unfinished and you can do it yourself. Prices quoted are for a standard Pachinko machine measuring approximately 20 1/2" wide, 32" high, and 6" maximum depth as measured from actual case to rear of central interlocking mechanism. If the sides of your unit's case are split or unable to safely hold the weight of the machine, we can (for a slightly higher fee) attempt to provide a modification. All units come pre-drilled with all necessary hardware and instructions. You will need to be able to locate your studs, drill 3/16" holes, use a Phillips head screwdriver, and follow instructions.

**PLANS ONLY:** \$8.95, no shipping if e-mailed. Approximate cost to build \$60.00, time 6 to 12 hours depending on expertise.

**OUR UNIT:** Standard price (nothing weird) \$179.95 plus shipping of approximately \$35.00

**SEE ABOVE DESCRIPTION FOR WHAT YOU'LL NEED TO DO WHEN DELIVERED**

## **FLOOR UNIT**

Same description and disclaimers as above, except the unit rests on the floor with two adjustable shelves located underneath the unit (giving you 3 total shelves to place books, knickknacks, etc.) It still has to be mounted to wall studs however. All units come pre-drilled with all necessary hardware and instructions. You will need to be able to locate your studs, drill 3/16" holes, use a Phillips head screwdriver, and follow instructions.

**PLANS ONLY:** \$8.95, no shipping if e-mailed. Approximate cost to build \$90.00, time 8 to 14 hours depending on expertise.

**OUR UNIT:** Standard price (nothing weird) \$269.95 plus shipping of approximately \$65.00  
**SEE ABOVE DESCRIPTION FOR WHAT YOU'LL NEED TO DO WHEN DELIVERED**

**\*\*\*NOTE\*\*\*** Plans will show a unit 6' high, which places your machine approximately 36" from the floor (my preferred playing height). Our pre-built unit is shorter and designed differently so we can ship via UPS (approx. \$65.00) as opposed to FedEx (up to \$200). Our height will be approximately 5' 8" high, but you'll only lower your machine one inch in height due to the modified design.

**CONTACT INFORMATION FOR ME: E-mail [dougpratt@nc.rr.com](mailto:dougpratt@nc.rr.com)**

I don't mind helping out folks who have purchased this guide, so don't hesitate to contact me with questions. However, I can't work for free (just like you). I've tried to cover all the major bases with this guide, but if you have problems or are confused, I'll do my best to help you through it. If I think your demands are becoming problematic for me, I'll give you a rate quote and let you decide whether to pursue or not. I've had people who have been given "do-it-yourself" free advice who still want me to build or repair parts. That's fine, but I'll need to collect some money.

**PARTS & JUST FOR FUN LINKS:**

- <http://home.att.net/~ra-carbines/pachinkospecials.htm>
- <http://members.aol.com/simm8mb/PACHNKO.HTM>
- <http://village.infoweb.ne.jp/~fwgd4578/pachi/pachie.htm>
- <http://www.japaneselessons.com/culture/cc-Pachinko.shtml>



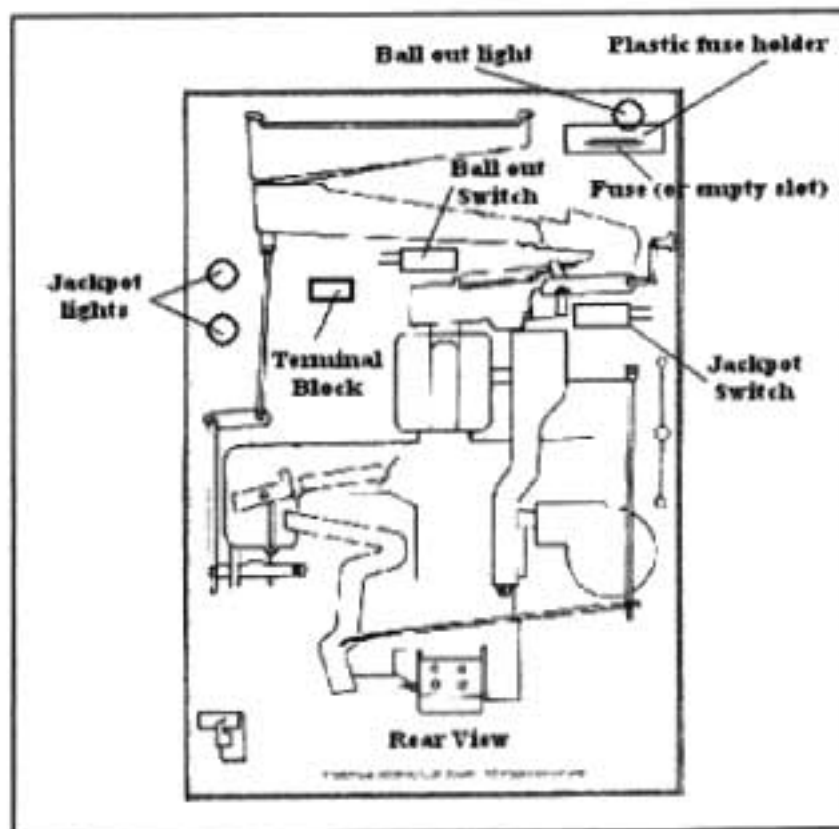
## ADDENDUM ELECTRICAL SCHEMATICS

Given some e-mail I've received, many of you are missing electrical wiring. So at no additional charge I've created this schematic to try to help you out. I'll be as elementary as I feel I need to be, so apologies if this bores some of you. Just trying to help. But I'm not going to teach you how to solder. Go to a local Radio Shack and they'll be happy to teach you and sell you what you need. (I've really got to buy some of their stock!)

The older 10 volt Pachinko machines are extremely simple in terms of their electrical needs. All you're doing is powering 3 bulbs. Many of these machines have reddish or orange wires for the positive, with white & yellow for the negative. Even though you may have different colors, they should pretty much follow the diagrammed paths I'll show you.

**EXAMPLE:** Look at your two jackpot light sockets. You probably have one wire on the left connecting the two sockets, and one on the right connecting the two sockets. One wire is carrying a positive current and the other a negative. Yeah, I know, you have more wires than that connected. Just bear with me.

**LESSON 1:** Each bulb needs to receive both positive AND negative electrical current to light up.



**FIRST,** locate the labeled items on YOUR machine. Can you find them, and are they in approximately the same position as I've shown. If so, proceed. If not, e-mail me.

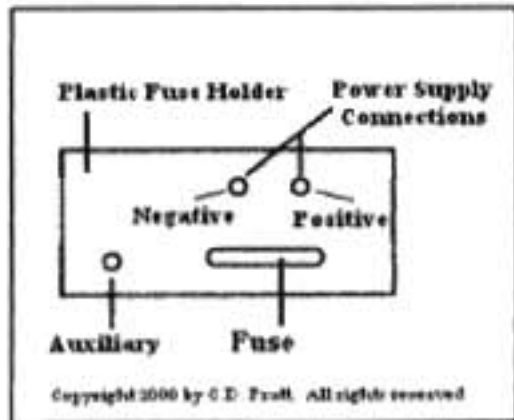
Take a look at the Ball Out Switch and Jackpot Switch on your machine. Each of these should have two metal prongs sticking out, with a metal wire that pushes down or up which causes the prongs to connect. The Jackpot Switch is tough to find. Look to the right of the vertical ball chute behind a plastic cover.

The Ball Out Switch has 2 negative wires hooked to it (usually). When the prongs touch, a complete connection is being made. Think of a single wire, broken in half. When you touch the 2 pieces together, you've made a connection. That's what the prongs do.

The Jackpot Switch has 2 positive wires attached (usually) and the prongs perform the same function as the Ball Out Switch.

Now locate the Terminal Block on your machine. This is simply a way to run one wire to a connection and come out with one or more wires heading in a different direction.

OK. It's time to take something off your machine. **DO NOT HAVE YOUR POWER SUPPLY HOOKED UP!** Carefully remove the Fuse Box Holder from the case. It should have staples (maybe screws) attaching it to the case. If you gently use pliers or a flat edge screwdriver so that you don't disfigure the staples, you can replace the Fuse Box Holder with the same staples that held it originally, and even use the same holes.



Looking at the back of the Fuse Box Holder you'll be able to tell what color wires are connected to the positive pin and which to the negative pin. Now you know what color carries positive current for your machine, and which color carries negative current. **REMEMBER THIS** when I'm discussing positive or negative current and wires.

Don't let the Auxiliary Pin fool you. It may carry a negative wire directly to the Ball Out Light, and I can only assume this was used for an early version of a "come-on" to attract customers or a way for employees to detect a power supply problem. It shouldn't concern you.

**BIG NOTE:** I'm basing this text (and diagrams) on the most common electrical design I've seen. You could have some reverse wiring and still get results. **BOTTOM LINE IS THIS THOUGH.** Your positive wire from your power source (battery or AC Adapter) **MUST** connect into a properly sized fuse before it travels anywhere else. This is to prevent fire, and to prevent damage to your sockets, switches, etc. If in doubt, e-mail me **FIRST** or find a qualified electronics person to help you.

I'll walk you through the basic electrical layout now. For some of you, this is all you'll need. For others, just remember the concept (Lesson 1) that in order to light up, a lamp needs both a negative and positive current. Don't worry if the following text gets you dizzy. I have pictures following these segments.

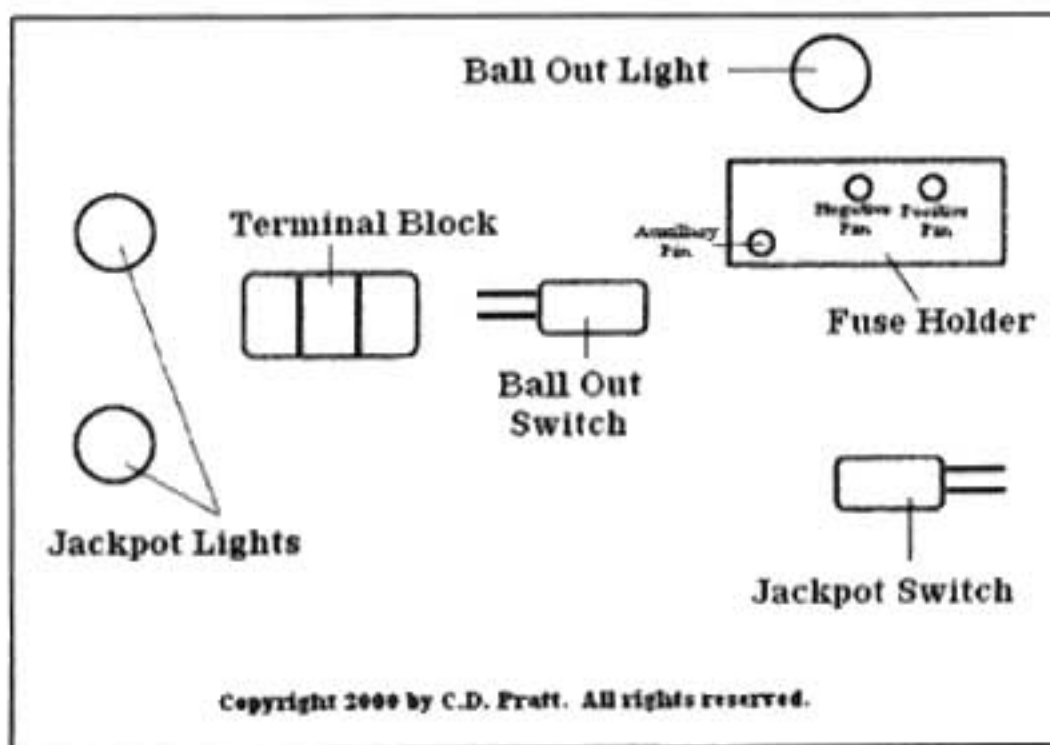
Let's begin with the Jackpot Lights. One of the positive wires from the Fuse Box Holder will run down to your Jackpot Switch. Another positive wire leaves the Jackpot Switch and runs over to one of your Jackpot Lights. A short positive wire connects the two Jackpot Lights. Remember what the switch does? Those two metal prongs are disconnected (meaning no connection) until the metal wire from below pushes them together (good connection). Thus, while the prongs are apart, you're not sending a positive current to your Jackpot Lights, so they will not light up.

Meanwhile, a negative wire is running from the Fuse Box Holder to your Terminal Block. Another goes from there to one of your Jackpot Lights. Another short negative wire connects the two Jackpot Lights. Which means your Jackpot Lights always carry a negative current, but only have a positive current when the switch is connected (Your ball entered a Win Pocket, the Jackpot lever moves, and connects the prongs).

Now let's move to the Ball Out Light. A positive wire leaves the Fuse Box Holder and goes directly to the Ball Out Light. Hmmmm. The Ball Out Light ALWAYS has a positive current. Now we need to find a negative current to make it shine.

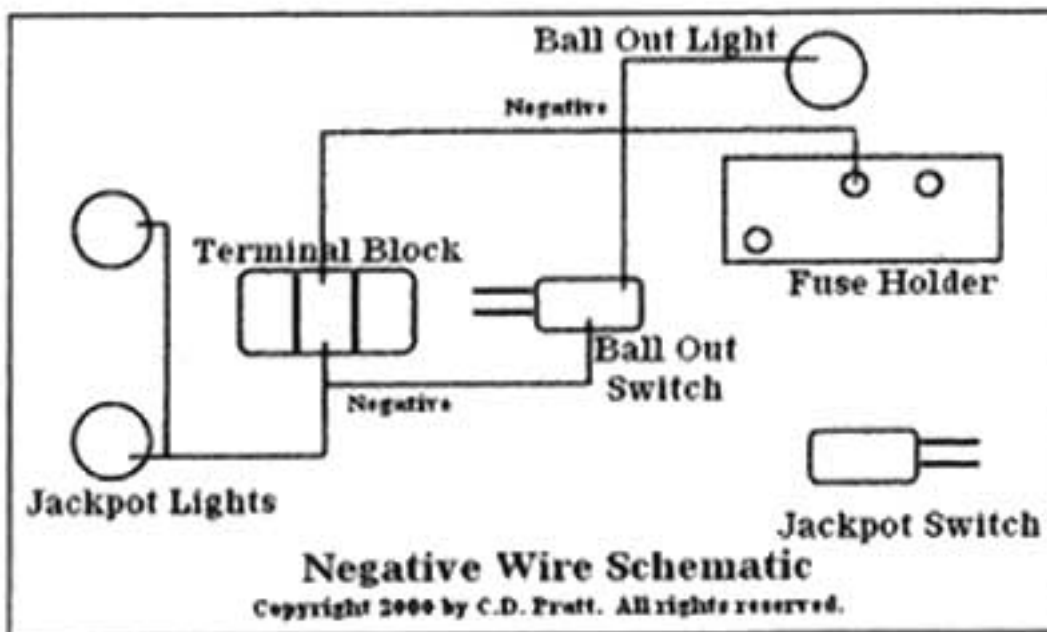
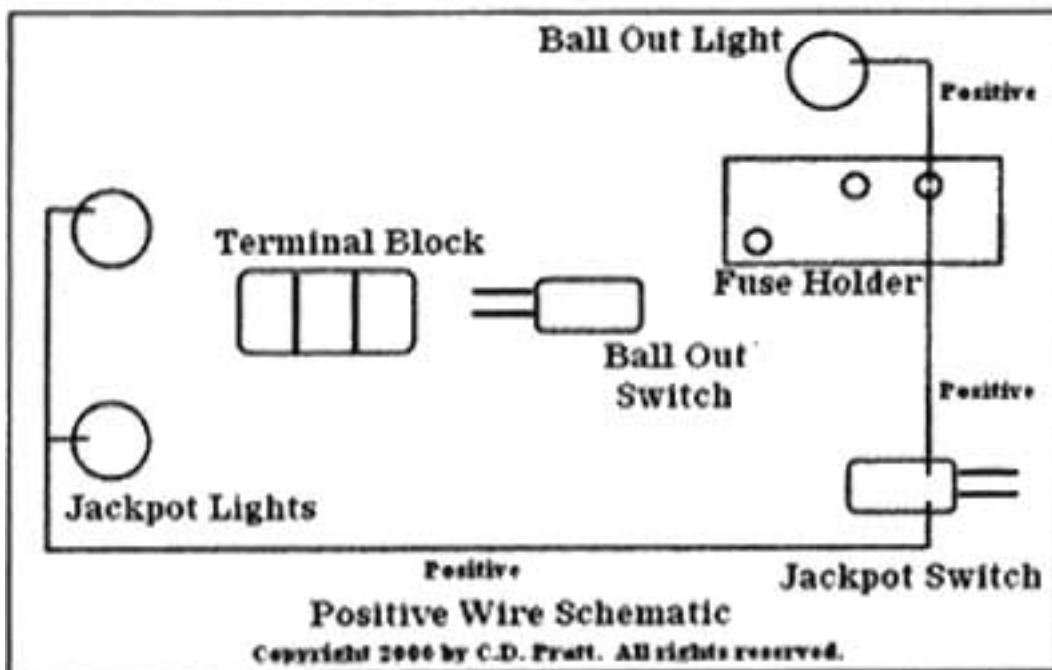
Now the Terminal Block comes into play. The negative wire we discussed in the Jackpot Light section that runs from the Fuse Box Holder to the Terminal Block splits, with one negative wire going to the Ball Out Switch. Another negative wire leaves that switch and goes to the Ball Out Light. Thus, when the prongs are apart, we have no negative current (you have balls in the Ball Feeder Tray, and no Ball Out Light). But when the prongs are pressed together, oops, you forgot to add balls to the Ball Feeder Tray, and the Ball Out Light will shine on.

So let's look at some schematics:



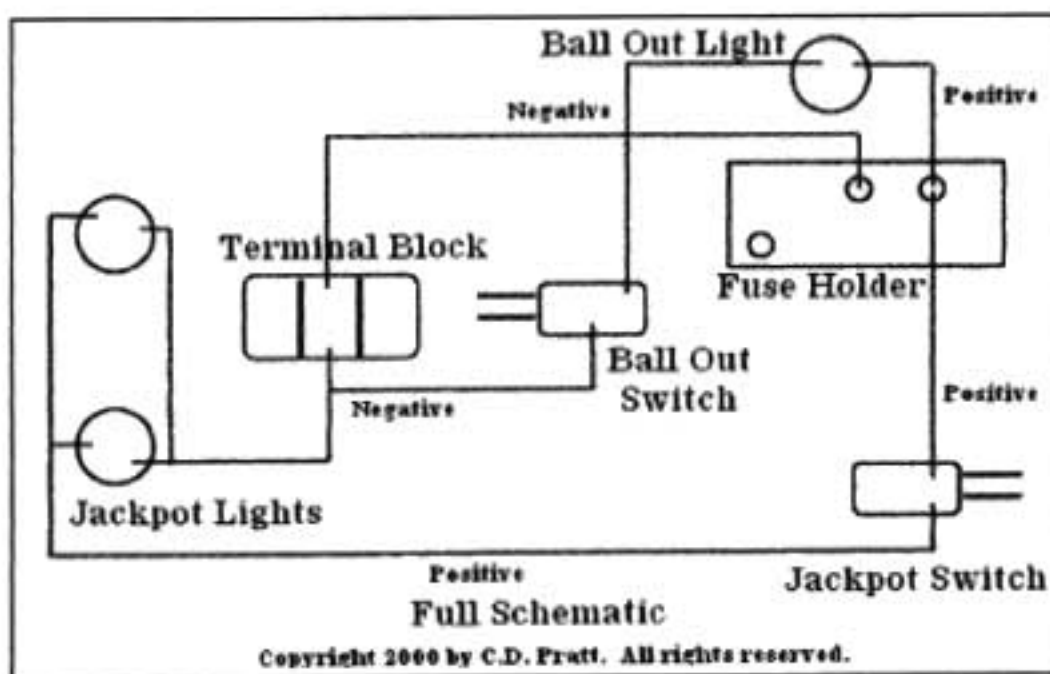
**This schematic is not to size, and will not approximate your machine's layout. Hopefully, you'll refer to diagrams above (page 9) to be able to identify parts for your machine (if you can't do so already). If you can't identify parts by now, I probably can't help you to do it yourself.**

The actual path of your wires will be different than what I depict below. I'm creating schematics to help you understand connection routes. I figure that you can track your own wiring paths as they wind through your machine.





Here's a full schematic for the machine.



Don't forget. A lamp must have both a positive and negative current to light up.

The Ball Out Light should only light up when the Ball Outlet Switch prongs are NOT connecting.

The Jackpot Lights should only light up when you enter a Win Pocket, and the levers on the back cause the Jackpot Switch prongs to touch.

**NOW FOR THOSE EXTRA WIRES.** Some of you will see more wires on your machine than what we've discussed above. Track them to see where they go, and e-mail me with a description if they appear to go anywhere except to a dead end on the Terminal Block, or in the case of the Auxiliary Pin, directly to the Ball Out Light.

Should you need wire, grab some 22 gauge Hookup Wire rated 300 volts at Radio Shack. You can also buy replacement lamp sockets there should yours be so badly corroded that they need to be replaced.

If your lights don't work, check each soldered point for a broken weld, broken or frayed wiring, blown lamps or fuse. Also make sure the metal prongs on each of the two switches are actually connecting when their respective lever wires move them.