

Pinshakers Universal Shaker Motor Kit Installation

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Premium Driver Board, Wire Harness, & Power Supply Installation – Updated 12/02/2019



EXPECTATIONS OF USE

You agree to use our products in the manner described in the documentation provided. Any deviation from the provided documentation, or any custom modifications to our products, will likely cause damage to persons or property. You agree to only install our products in fully working and operating pinball machines. Any prior issues with grounding, loose connections, game resets, cold solder joints, hacked up circuit boards and other components, or any other pre-existing problems with your pinball machine will likely result in the damage of our product and/or your pinball machine. Other risks of installing our product in a machine that is not fully working is that of fire or bodily harm. Pinshakers will in no way be held responsible or liable for any damage that results in the use of this kit; either to any person, your pinball machine, or structure in which the pinball machine is operated.



Remove All Power!



On/Off Switch Is NOT Enough!



Step 1: Choose the location for your power supply/motor board combo. Your motor board should have come already attached to the power supply as shown from the photo to the left. If you do not need to have a coin box in your machine, this would be the ideal location as you can easily access the board to make adjustments by simply opening the coin door.

The photo to the right shows another location for the board/power supply combo. You will have to raise the playfield in order to access the board if you place it in the middle of the cabinet like in this example.





Step 2: Service Port Connection

The included ATX power supply gets plugged directly into the service port connector. The power supply will not turn on when you plug it in, even though the service port is always live. This is because the motor driver board is designed to turn on the power supply when you turn on the machine.

The kit operates exactly like a desktop computer would, you plug it into a live outlet but it doesn't turn on unless you turn on the power button (in this case, the pinball machine's on/off switch).

Step 3: Remove the backglass to access your machine's circuit boards. In this step we will install the cat5 harness adapters you received with your kit. Simply disconnect the connector from the circuit board, attach it to the bottom of the adapter, and then connect the adapter back onto the circuit board. The premium kit includes 3 adapters, you can have 1, 2, or all 3 adapters connected to the machine at the same time. The photo to the right is an example of all 3 adapters connected to a WPC-95 machine. Connect the included Cat5 cables to the adapters and run them down into the cabinet. Remember which color cable you have chosen to use for each adapter as you will want to make sure they are connected to the right spot on the motor driver board.	
The photo to the right is an example of all 3 adapters connected to a Stern machine.	





Step 5: Next find your Motor Harness, it will be in a bag labeled "Motor Harness". One side of this harness gets connected to the shaker motor. The other side gets connected to J6 of the motor driver board. There is also a grounding lead coming off of the J6 connector. Find a place along the grounding braid to attach this grounding lead.

Please note, the board will not work properly if you fail to connect this grounding lead, or if you do not have proper grounding throughout your machine.

Step 6: Run the cat5 wires from the backbox, as well as the power supply J8 harness if applicable, down to the motor driver board. Connect the 3 cat5 wires to the motor driver board as well as the power supply J8 harness. If you have a 12vdc Aux cable harness (sold separately), you can connect it to J7 on the motor driver board. You are welcome to make your own Aux cable harness as well and connect it to J7, it will provide an interactive 12vdc output. The two wire connections coming out the side of the ATX power supply are both steady outputs and are not interactive. These two connectors have 5vdc (red), 12vdc (yellow), and ground (black) connections coming from them, and can be used for other mods or a ColorDMD.





Step 7: Select the triggers you want to have sent to the motor driver board. Do not mix up the dip switches on the motor driver board with the dip switches that may be on your MPU. Refer to the dip switch chart that you can download specifically for your machine from www.pinshakers.com.

Note: The board has "A", "B", & "C" labels for each of the harness connections. These are there to make it easy for you to remember which connection you are adjusting. There is no actual "requirement" to have a harness "A" adapter connected to the "A" input on the motor board. It will still function normally if you were to connect the harness "A" adapter into either the "B" or "C" inputs on the board. You will just have to keep track of which cat5 wire is connected to where and set the dip switches accordingly. **Step 8:** Select how you want the motor board to handle the 8 triggers that come into each of the 3 harness connections. Here you have a 3 position selector switch. You can choose to have those triggers drive either the shaker motor, the aux output, or both at the same time.

Feel free to experiment and play with the settings as well as adjust the intensity of the shaker motor with the blue thumb adjustment knob. This knob only affects the motor, it will not make any changes to the aux output.





Step 10: Feel free to change the dip switch settings with a pen or other like device on the motor driver board for the desired inputs that you want to drive the shaker motor. Do this while the machine is powered down. You may turn on any dip switch on the motor driver board that does not have the "Do Not Use" label on the dip switch chart. You can choose to have more than one switch turned on at a time. Have fun with it and try to make it so that it feels as if this kit was always meant to be installed from the factory.

Step 9: Power the machine on and look for the led on the motor driver board. It should flash 5 times during it's power-on routine. Once it is steady green, it is ready for action. Press the test button and the motor should shake. If it doesn't, then go back through the above steps to make sure you didn't miss a connection somewhere. You can also use this test button to fine tune the intensity of the shaker using the speed adjust knob as shown to the left. Move this adjustment knob by hand only, counterclockwise to reduce the shake and clockwise to increase the shake. Do not use a screwdriver as you might slip and accidentally short something out on the driver board. Continue to test the motor and adjust the shake to provide the perfect amount of shake you desire.



Congratulations, you have successfully installed the motor driver board, shaker motor, wiring harness, and power supply! If you have any questions or problems please do not hesitate to reach out to us for help.