

PINSHAKERS

Pinshakers Universal Shaker Motor Kit Installation

Please visit www.pinshakers.com for the latest installation guides and videos

For product support email us directly at pinshakers@gmail.com

Standard Driver Board Vers 3.xx Stern S.A.M. / Whitestar Installation – Updated 11/23/2020

Tools Required:	Parts Required (included):
<ul style="list-style-type: none">-Small Phillips Head Screwdriver-Pen – (For adjusting the dip switches)-1/4” Nut Driver	<ul style="list-style-type: none"><input type="checkbox"/> Motor Harness<input type="checkbox"/> 12vdc 5A Power Supply<input type="checkbox"/> Power Supply Cable<input type="checkbox"/> 12vdc Power Supply Extension Cable<input type="checkbox"/> Transformer Voltage Adapter<input type="checkbox"/> Wire Harness “A” and “B” Cable & Connector Adapters<input type="checkbox"/> Motor Driver Board V3.xx<input type="checkbox"/> Metal Board Mounting Backplate<input type="checkbox"/> 4 x 1/2” Hex Head Wood Screws<input type="checkbox"/> 4 x 1/2” Phillips Head Machine Screws (Installed on Backplate)<input type="checkbox"/> Installation Manual<input type="checkbox"/> Dip Switch Settings (download from www.pinshakers.com) <p>Unpack and inventory all the included components. Please let us know as soon as possible if you have any missing items.</p>

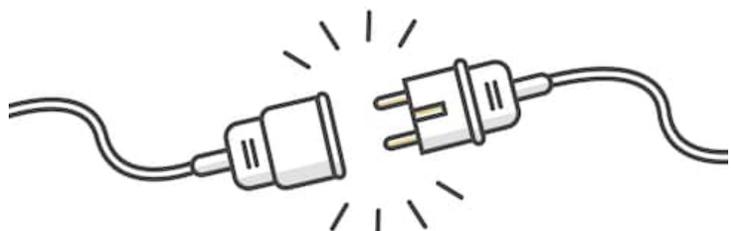
Note: Please hold onto this installation manual! In order to keep the price down on our kits we are only shipping one manual per household. You can still download our manuals from the website or watch the in-depth YouTube installation videos.

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!

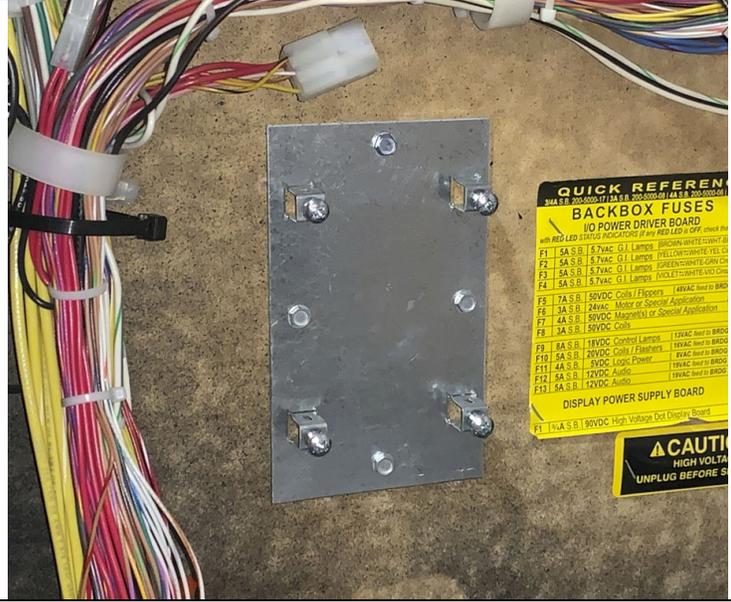


On/Off Switch Is NOT Enough!

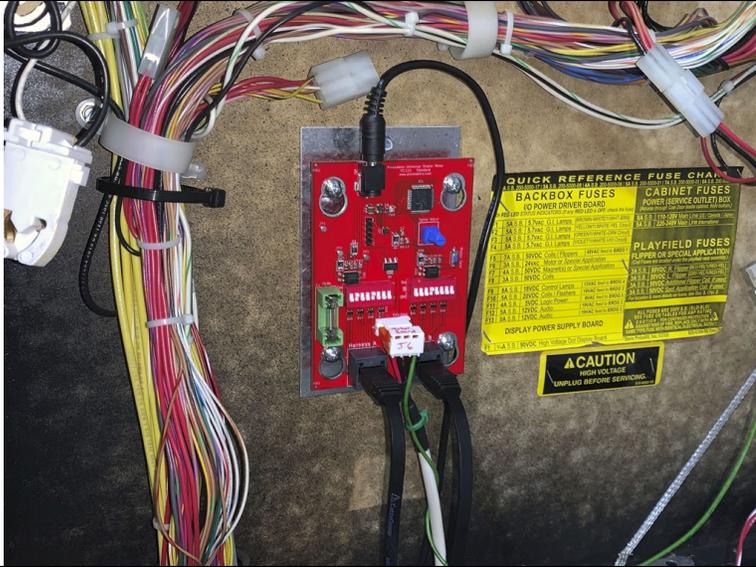
**Step 1: Motor Driver
Metal Backplate
Installation**



In this step you will be handling the metal backplate. Be careful as there might be some sharp edges on the sides or on the back of the plate.



You received a metal Backplate with your kit that is used to mount the motor driver board. Find an open spot in the upper right side of the backbox to secure it with the 4 hex head wood screws in the hardware bag. It is ok if the plate is mounted over a grounding strap or grill.

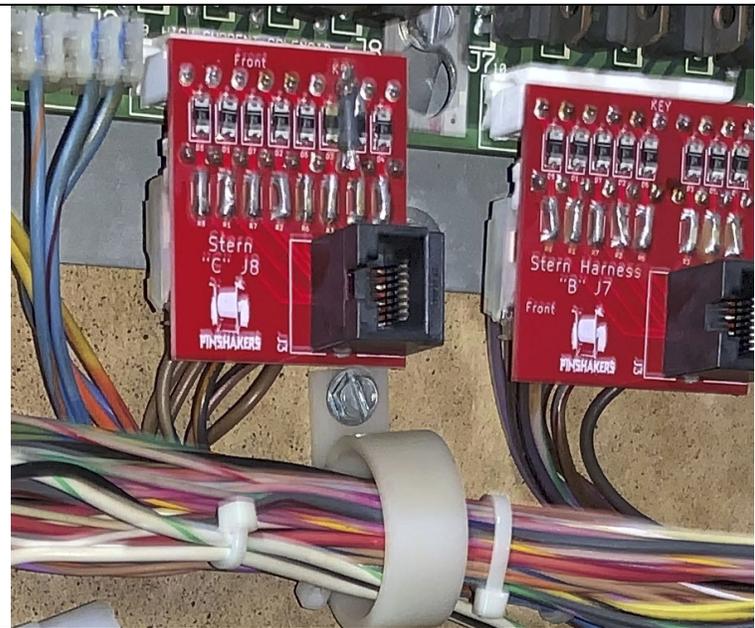


Step 2: Motor Driver Board Installation
Mount the motor board on the metal backplate. Be careful not to tighten the screws too tightly otherwise you will damage the threads. Connect the included Cat5 cables, motor harness, and 12vdc power supply extension cable to the board.

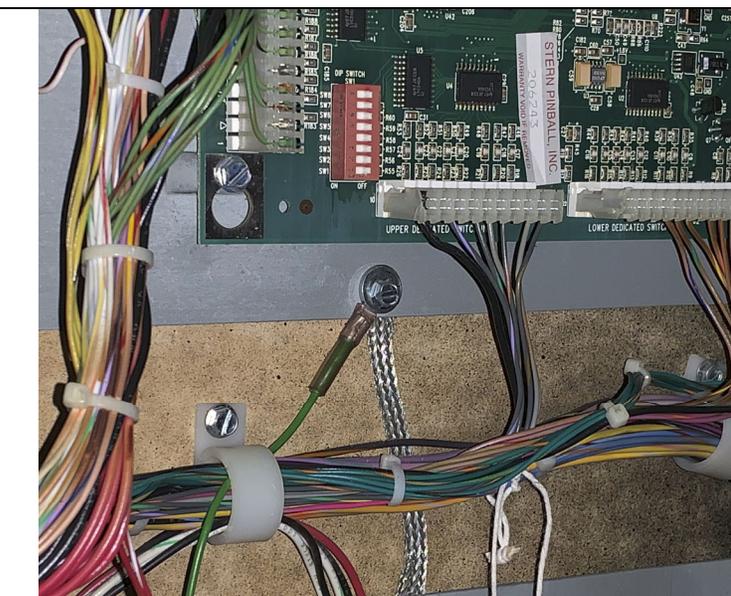
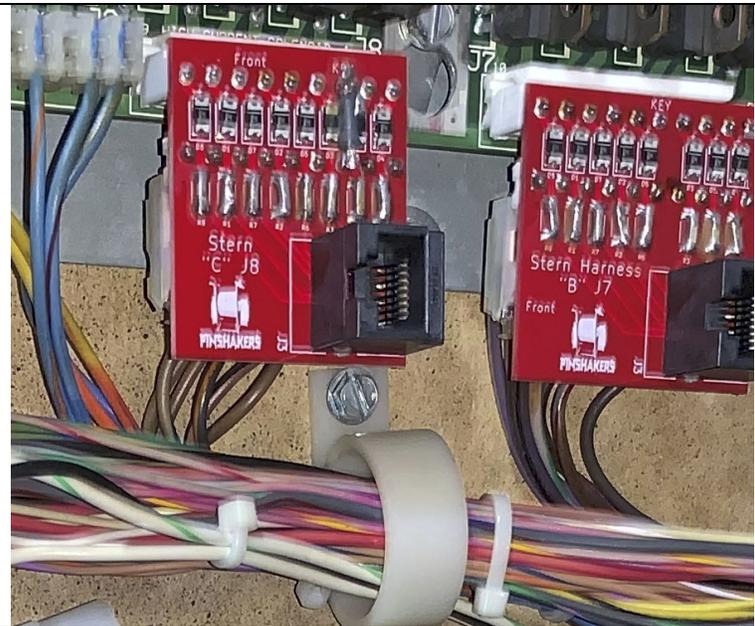
Step 3: Harness Adapter Installation

Locate the power driver board connector for the type of machine you have. Unplug it and connect it to the connection on the bottom of the Cat5 adapter. Then connect the adapter back into the power driver board. Last, connect the Cat5 cable to the adapter. A photo to the right is a side view of the adapter.

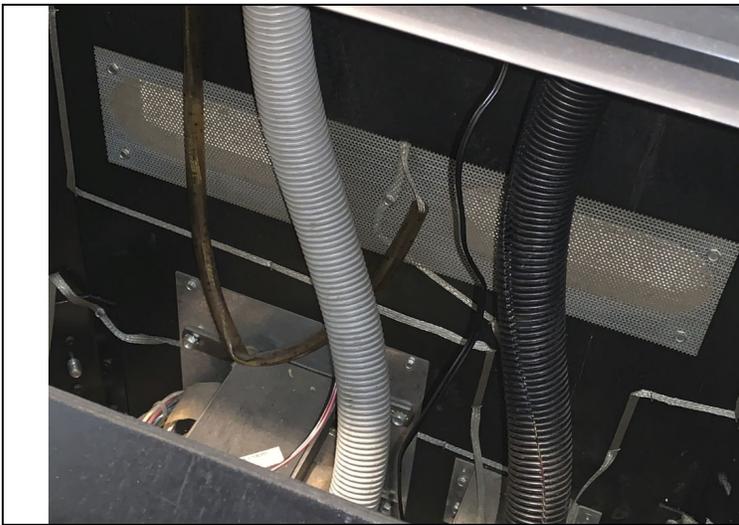
The Cat5 adapter will have the connection printed on it for which harness you are installing as well as what connector to use on the power driver board.



Here is another angle of the original connector installed to the bottom of the adapter.

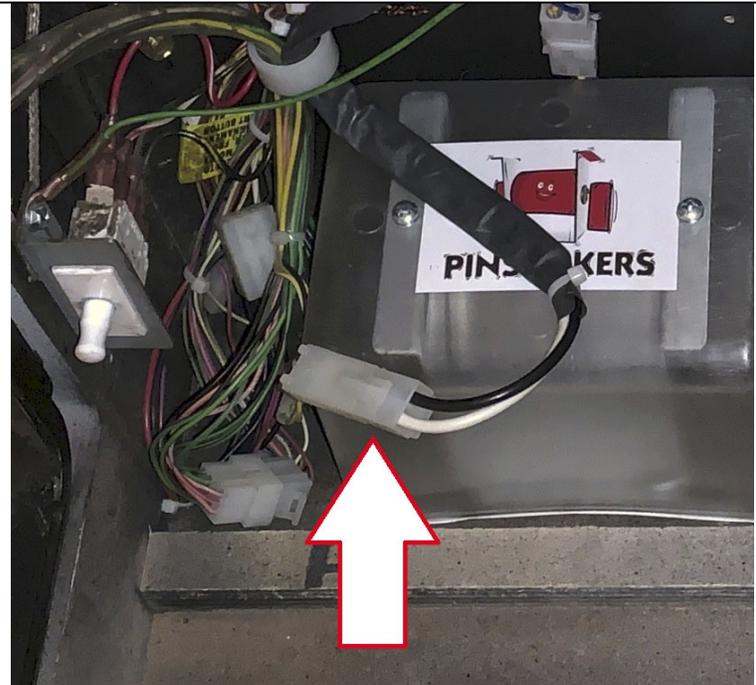


Step 4: Grounding Strap Find a reliable grounding strap and connect the grounding cable that is on the motor harness. Do a visual check to make sure the grounding braid goes from this junction to the circuit boards and down into the cabinet. To be completely sure, I recommend you use a DMM in the continuity test mode and check for proper grounding between the circuit boards, this junction, and all the way to the front of the cabinet. If you notice any breaks in your grounding strap you must repair them prior to applying power to this motor driver board. Installing this kit in a machine where something is not properly grounded will result in the damage to your shaker motor driver board, the shaker motor, and possibly even your pinball machine circuit boards. **DO NOT SKIP THIS STEP!**



Step 5: Motor Harness Installation Now run the motor harness and the 12vdc power cord extension down into the cabinet. Use the wire wraps like the ones shown to the left to neatly secure the wires. Connect the motor harness to the shaker motor, and leave all slack in the lines in the back of the cabinet at the base of these wire wraps. That way when you go to fold the backbox down, the slack will be used and nothing will get caught and ripped out.

Step 6: Find the 2 position molex connection leading to the bill validator. It is usually on the left side of the machine along the harness in the vicinity of the tilt switch or next to where you installed the shaker motor. Disconnect the molex connection and connect the included power supply cable into it. There is only one way to connect the power supply cable into this connection. Once you do this, you will not have power going to a bill validator unit. If you require the use of a bill validator, let us know and we can supply you with a 3 way adapter.

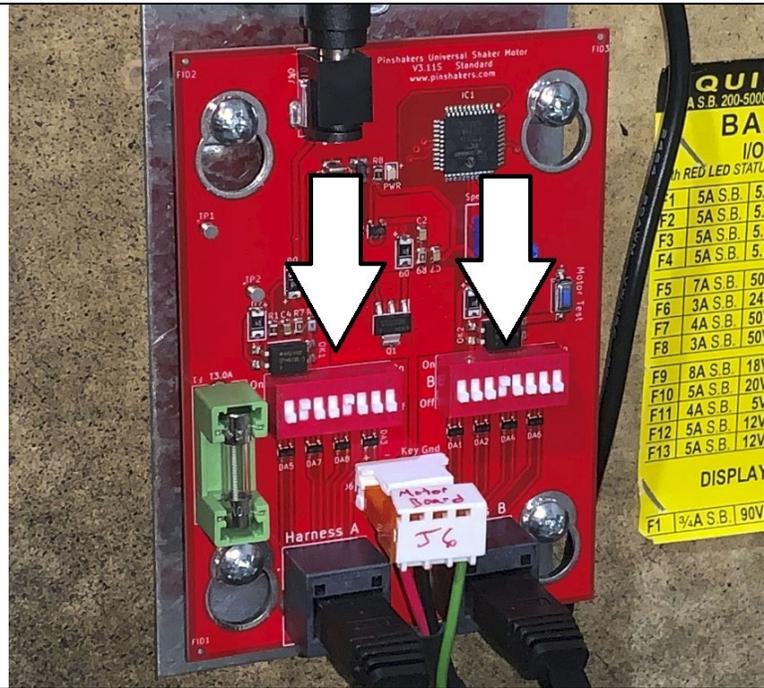
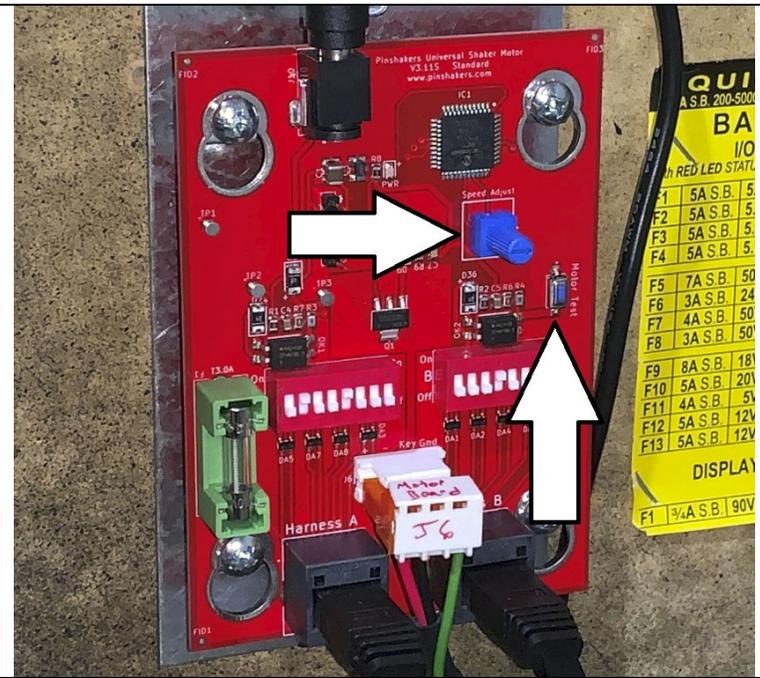


Step 7: Connect the power supply cable to the power supply. Make sure you connect is securely and that it isn't loose when you wiggle it. Connect the 12vdc line from the power supply to the included 12vdc extension cord that you ran down from the backbox.

Step 8: Power On & Test

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 right to provide the perfect amount of shake you desire.



Step 9: Trigger Selections 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. Do not mix up the dip switches on the motor driver board with the dip switches that may be on your MPU. The one on your MPU is used for setting the country settings only. You may turn on any dip switch on the motor driver board that does not have the "Not Used" or "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.

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.