

PINSHAKERS

Pinshakers Universal Shaker Motor Kit Installation

Shaker Motor Installation – Updated 11/29/2019

Tools Required:

- Drill
- 1/4" Drill Bit
- Hammer
- 1/2" Deep Socket
- Phillips Screwdriver
- 5/16" Deep Socket and Extension
- Large Flathead Screwdriver (Optional)

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.



Drill

1/4" Drill Bit

Hammer

Screwdriver

1/2" Socket

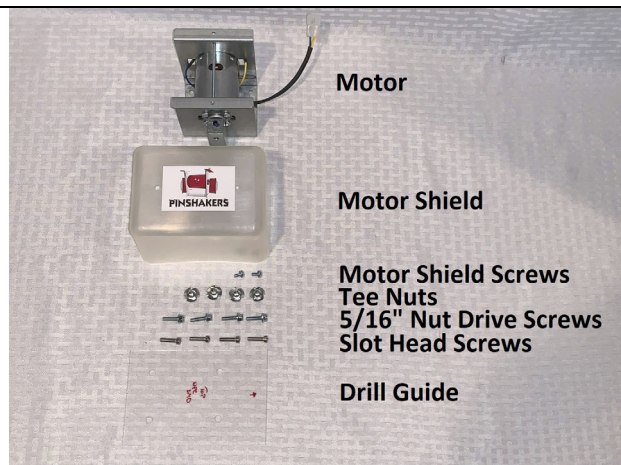
5/16" Socket

Large Flathead

Parts Required (included):

- ☐ Shaker Motor
- ☐ Shaker Motor Shield
- ☐ Shaker Motor Shield Screws
- ☐ 4 x Tee Nuts (4 x Lock Nuts for Sys 7 & 9)
- ☐ 4 x 5/16" Nut Drive Screws - (3/4" for normal cabinets, and 2" for cabinets with the raised transformer deck)
- ☐ 4 x 3/4" Slot Head Screws - (optional if you do not have a 5/16" socket and extension or prefer to install with a flathead screwdriver)
- ☐ Drill Guide
- ☐ Installation Manual

Unpack and inventory all the included components. Please let us know as soon as possible if you have any missing items.



Motor

Motor Shield

Motor Shield Screws

Tee Nuts

5/16" Nut Drive Screws

Slot Head Screws

Drill Guide

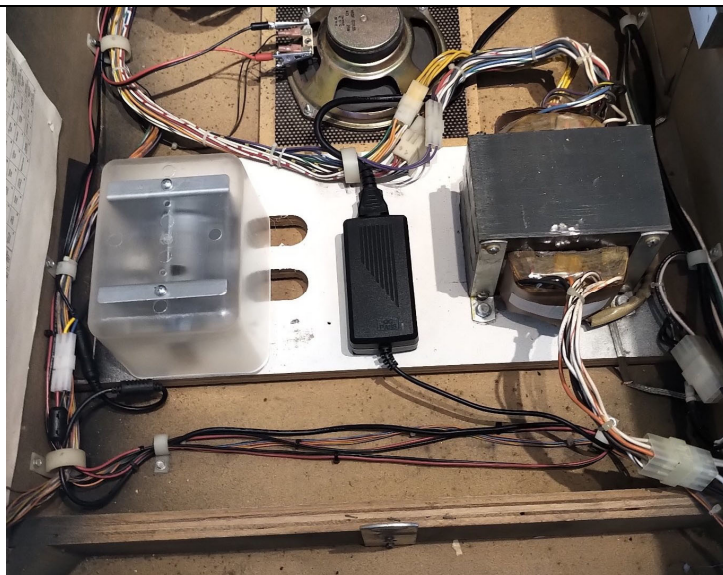
EXPECTATIONS OF USE

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.

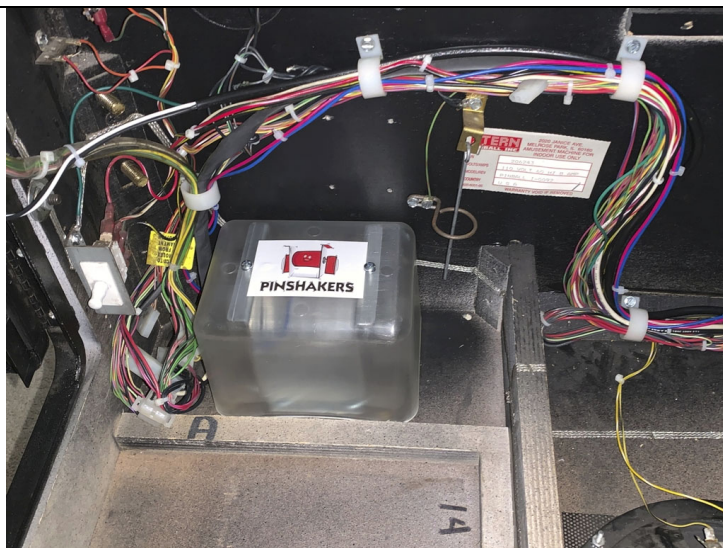
Step 1: Unpack and inventory all the included components. Please let us know as soon as possible if you have any missing items. Choose where you would like to install your shaker motor. We have discovered you get the best results by installing the motor as close to the side and front of the cabinet as possible. If you can't fit the motor in the front compartment, then place it on the other side of the divider into the middle section.

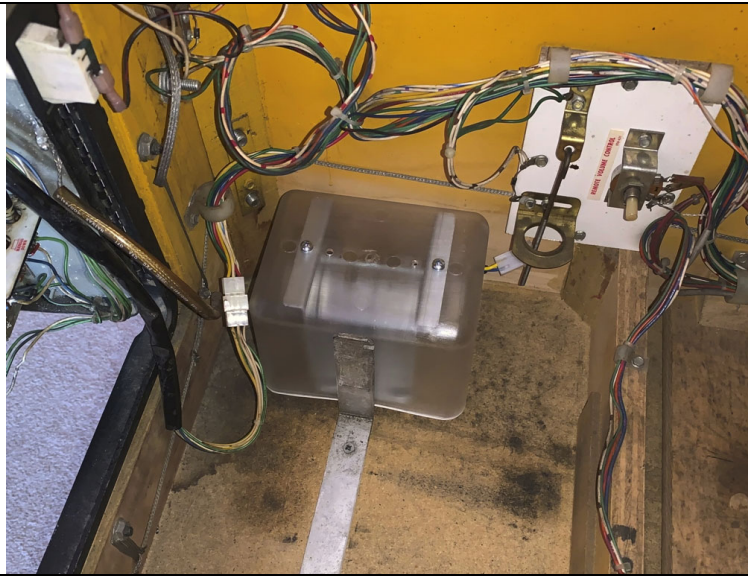


To the right is an example of the motor installed on the raised transformer deck. For this you will use the included 2" mounting screws.



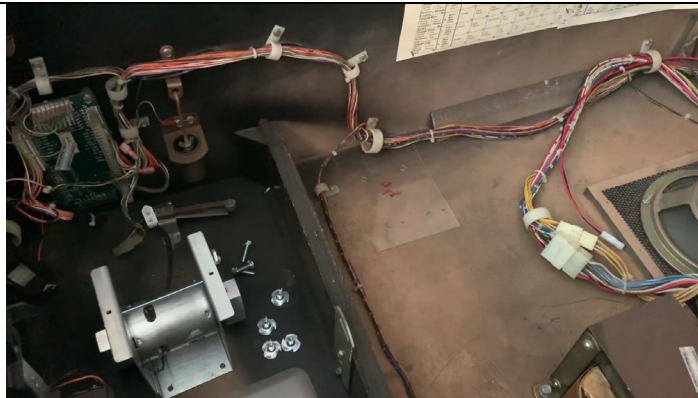
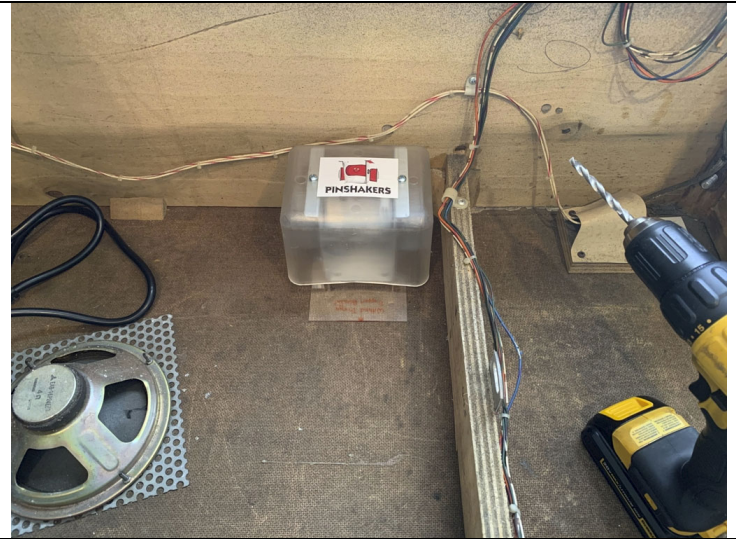
Here to the right is an example of where we recommend installing the motor in a Stern machine.





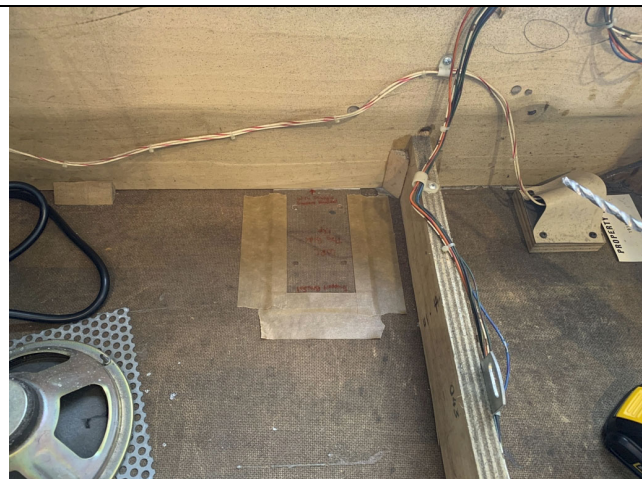
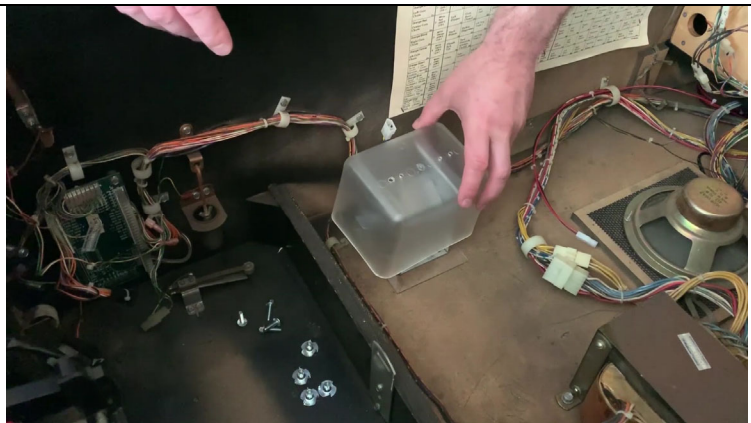
Here is an example of the motor installed in a Sys 11 machine.

To the right is where we suggest you install the motor in Sys 7 & 9 machines. Note that for these generations the cabinet bottom is too thin for the use of tee nuts. So for these machines we have included washers and locknuts to secure the motor to the bottom of the cabinet.



Step 2: Use the included drill hole guide to position the motor. Place the arrow against the side of the cabinet and place the plastic cover on top of the motor to make sure there is plenty of clearance. If your machine has the triangle reinforcement block that goes all the way to the front divider, then place the arrow up to the bottom edge of the reinforcement block.

Step 3: Place the motor on top of the drill guide and line up the mounting holes for the motor with the pre-drilled holes on the drill guide. Place the motor shield on top of the motor to make sure you have plenty of clearance from any wires, switches, solenoids etc.



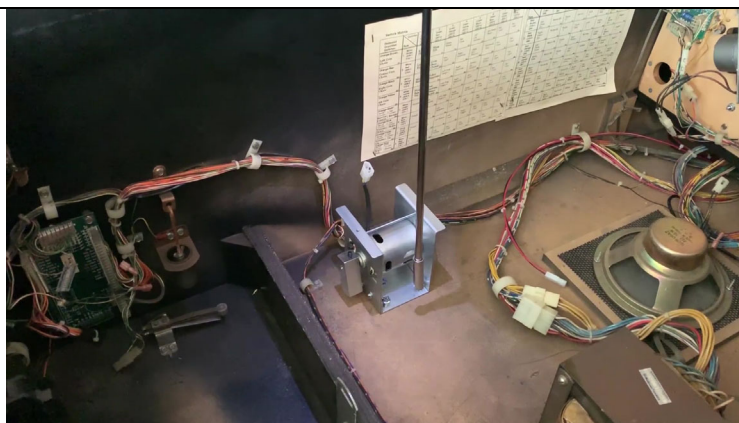
Step 4: Tape the drill guide in place so that it will not move.

Step 5: Drill your 4 holes. It is VERY important to keep your drill completely perpendicular to the bottom of the cabinet. If you make your drill holes at any kind of an angle, then the tee nuts will not fit properly and your motor will not install securely. Take your time and be patient, you only get one shot at this!



Step 6: Once you get all 4 screws drilled, go underneath and hammer in the 4 tee nuts. Sys 7 & 9 installations will use the included washers and locknuts instead. Use the 1/2" deep socket to help so you don't smash your fingers. You do not need to hammer them all the way in as they will finish flush with the bottom of the cabinet as you tighten the screws from above. Hammer them enough so that they stay in place without you having to hold them there.

Step 7: Use your drill, the 5/16" socket, and extension (unless you are installing with the slot head screws) to drill in the screws and compress the tee nuts the rest of the way flush with the cabinet. Reach under with one hand and hold the tee nuts from falling out during this step.



Here is an example of properly installed tee nuts. See how they rest flush with the wood. If your tee nut falls out while you are trying to screw them in, that means you probably did not hammer them in far enough. Make sure you take a pair of pliers and straighten out the prongs before you try to re-install it.

Step 8: Install the shaker motor plastic shield with the two small shield screws and plug in the motor to the wiring harness.



Congratulations, you are done installing the shaker motor! If you have any questions about this process, please do not hesitate to reach out to us and we will be happy to help in any way we can.