

PTC Model III
Programmable
Turntable Controller



Shaft Brake Adapter Kit
P/N 09-850 rev B

Installation Instructions

New York Railway Supply

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Installation Instructions

OVERVIEW

The Shaft Brake Adapter Kit provides a method for installing the PTC Model III turntable motor to your turntable, with a shaft brake mechanism that helps prevent bridge movement due to gear backlash in the motor. It should be stressed that the brake will not make up for poor turntable performance due to mechanical issues.

The Shaft Brake is a **power off** brake. That means that when no power is applied to it, it is in its brake mode. When power is applied, the brake is released and free to rotate.

Shaft Brake Adapter Kit is designed to be mounted on top of the standard motor mount bracket. Refer to the motor mount kit manual for details on mounting the bracket.

ADAPTER KIT - PARTS LIST

The Shaft Brake Adapter Kit includes the following parts:

- Shaft brake
- Motor Shaft Extender
- Motor Spacer Block
- Shaft brake hardware kit, including:
 - 4 8-32 x 1/2" 100degree countersunk screws
 - 2 8-32 x 3/8" 100degree countersunk screws
 - 2 8-32 x 3/8" socket head cap screws
 - 2 8-32 small pattern nuts

TOOLS YOU WILL NEED

To complete the installation, you will need to have the following tools on hand:

- Allen wrench, 3/32" (for brake mounting & motor coupler)
- Allen wrench, 1/16" (for brake hub)

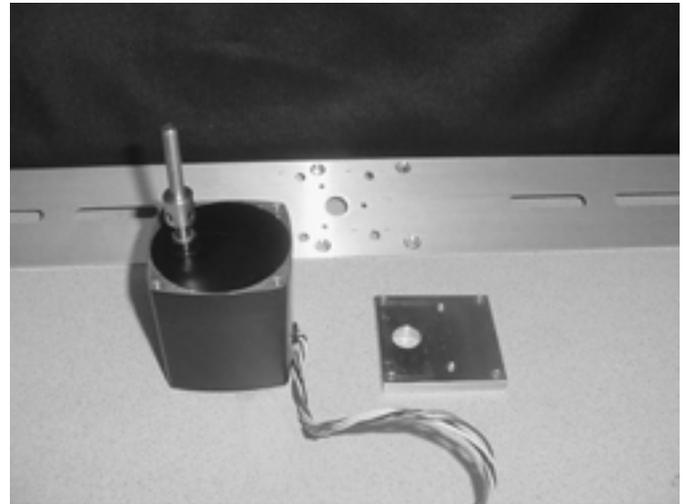
INSTALLATION

1. INSTALL SHAFT EXTENDER & MOTOR ASSEMBLY

Remove set screws from the shaft extender and place the shaft extender onto motor shaft. Use Lock-Tite™ or Thread-Lok™ and insert into extender and tighten very tightly, making sure that the set screw is contacting the flat of the motor shaft. This connection is very important to be secure. Any play in this location will cause indexing problems later. It is difficult to access after assembly and it will be difficult to ascertain that an indexing problem is caused by a loose connection between extension and motor shaft.

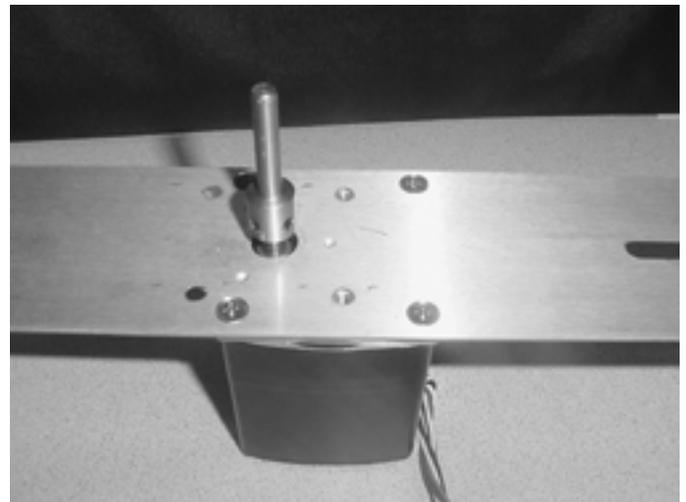
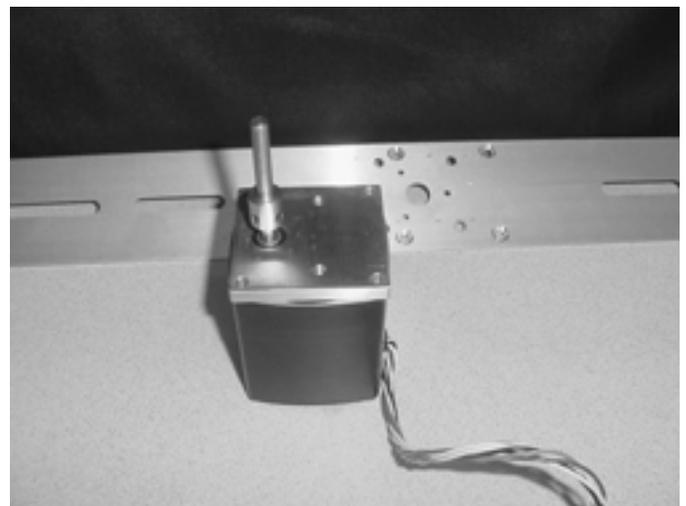
2. PREPARE BRACKET

A pre-drilled bracket is available from New York Railway Supply

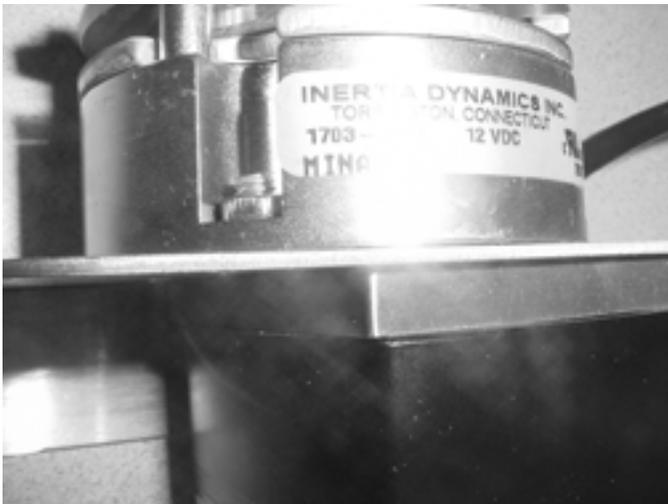
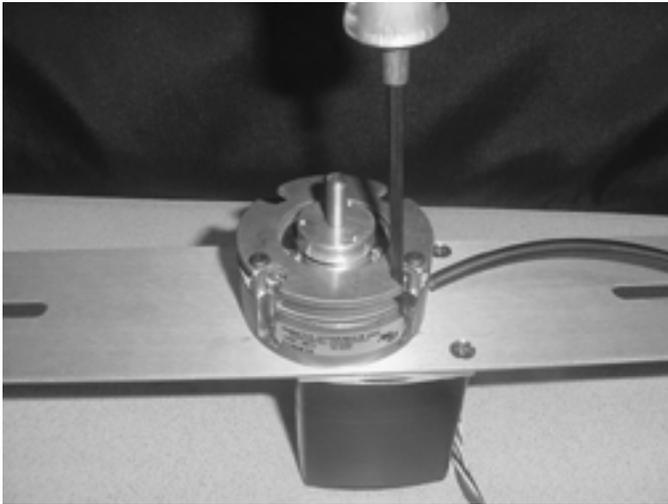


2. INSTALL MOTOR

Mount motor. Place the motor spacer on top of the motor. Insert the 4 8-32 x 1/2" screws down through the bracket and the spacer and tighten securely into the motor.



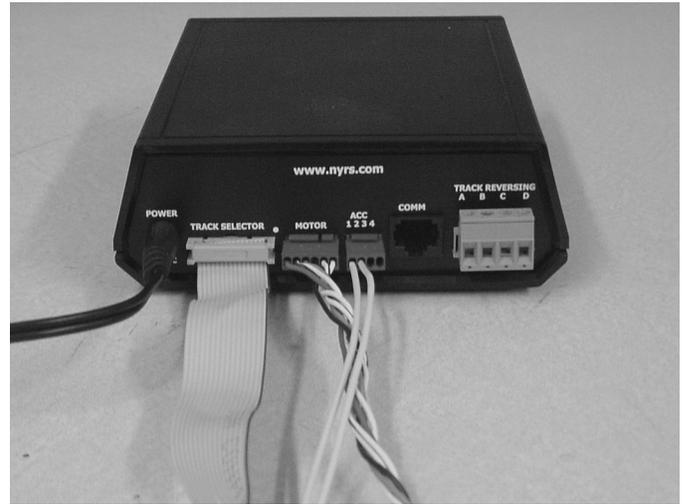
Install brake Place brake over shaft. Do not tighten the set screws yet. The spacer block is threaded to allow the 8-32 x 3/8" socket head cap screws to be screwed down to the spacer block. Do not tighten fully at this time. From the underside insert the two 8-32 x 3/8" flat head screws and use the small pattern nuts to secure them through the brake. Now tighten all four of these screws. Now tighten the shaft brake set screws.



Install Shaft Coupler. Use shaft coupler that was supplied with your PTC III kit. Tighten set screw securely. You might want to use Use Lock- Tite™, or Thread-Lok on this set screw as well.

4. TEST UNIT

Connections. Using your PTC controller, track selector and newly assembled motor mount, connect them as shown below.



The brake harness plugs into the ACC location and the wires should be connected to terminals 1 and 2.

Connect Track Selector Cable (make sure it is oriented properly) and motor cables to their respective locations.

Power unit. Turn the system 'On' in Index Mode. If you have a keypad track selector, hold down the "*" key while turning on the power. If you have a pushbutton or rotary selector, hold down the Run/Stop switch as the power is turned on. Refer to the proper track selector manual for more information on operation and programing of your track selector. You should hear an audible click and the motor should start advancing. Press your run/stop switch again and the motor should stop, you will not hear a click in advance and learn mode when the motor stops. The brake remains free during these operations. The sound of the brake being engaged should be about the same as when it is released. This is important but a hard concept to define in print. If the click is muffled or not as loud as when it is released, there is something binding such as might be caused if the brake is not setting flat on the mounting bracket. The same thing could be caused by the motor not sitting flat. If this is the case, the brake will not be effective.

Program tracks. Program four test locations, one location every 90°. During programming (DIP Switch 8 OFF) the brake will release upon power up and not engage until power is restored in the run mode. (DIP Switch 8 ON). After programming, test the stored locations. Each time the bridge starts to move to a new location the brake should release and when the bridge stops the brake should engage.

6. INSTALL BRACKET & MOTOR ASSEMBLY

Install the completed assembly onto your turntable as detailed in your mounting instructions. **It is critical that your mounting be exactly in line with the turntable shaft - any binding on the shaft will not allow the brake to work properly!**

6. FINAL ADJUSTMENTS

Adjustment checks Carefully observe the orientation of the bracket from the side and along its length. Double check that:

- The bracket is level length-wise, relative to the layout surface. This can be checked by measuring from each end of the bracket to the underside of the layout.
- That the bracket (and thereby, the motor) is level edge-to-edge relative to the turntable bottom: measure from each edge of the bracket to the underside of the turntable (or underside of the layout).

- ❑ **It is vitally important that your mounting be exactly in line with the turntable shaft. Any binding on the shaft will prevent the brake from working properly.**

Testing. After having made these checks, the installation should be tested for smoothness. Connect the PTC controller to the motor and bring up the controller in "Index Mode" (refer to controller documentation for information on initializing the controller in Index Mode). While in Index Mode, the motor will simply drive the turntable bridge round and round-- carefully observe the bridge's movement for any signs of binding. Assuming the bridge's original movement is smooth, binding or uneven movement is almost always the result of misalignment between the motor and the turntable shaft. If necessary, re-adjust the motor bracket to achieve correct alignment. Repeat the checks on the brake. **If the brake is not holding the bridge firmly, check your alignment. Any binding will reduce the brake's effectiveness. The best signal of improper alignment is the sound of the brake when it engages. If the noise it makes is more of a thud than a click, it probably is not engaging properly. You may have to experiment with the alignment using the thumb screws on the bracket. Also check in all four positions that were programmed earlier. It may be right in one direction and not in another.**

FOR MORE INFORMATION

This document and others are available in downloadable format at our web site, noted below. Feel welcome to call or write us at:

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