



INSTALLATION INSTRUCTIONS

PART NUMBER	158-8619K
PART DESCRIPTION	KW MOTOR RESISTANCE WIRING KIT
REV DATE	10/21/2014
MACHINE MODELS	KW



Basic knowledge on ALL aspects of the lane machine, including mechanical, electrical and operating software.

TOOLS NEEDED:

Phillips Screwdriver

11/32" wrench

wire cutters



TECHNICAL NOTE

Please thoroughly read the instructions prior to performing the installation of this assembly.

To avoid any potential problems, if at any time during the process you have a question, stop and contact our Tech Support department at the numbers listed below.

Please visit our growing library of videos to see if these instructions are available!



www.youtube.com/user/KegelBowling81



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1. Set machine down in the operating position.
2. Make sure E-Stop is in the off (down) position before starting.
3. Unscrew the (4) screws securing the top of the existing resistance box in the machine on the PC Plate and remove.
4. Take the top off the resistance box supplied (w/ molex block & wires installed) & secure onto the bottom of the resistance box remaining on the PC Plate. In doing so, make sure the terminal block is on the side closest to the relays.
5. Cut all existing wire ties off the harness from in front of the relays at CR4 around to the back of the relays CR2.
6. Secure the new resistance box wires into the relay bases as follows:
 7. Red 11" – CR2 #8 location
 8. Red 18" – CR3 #12 location
 9. White 11" – CR2 #5 location
 10. White 18" – CR4 #12 location
11. Completely remove the wires from the harness that were in the relay locations that the new wires replaced. Using the wire ties supplied, neatly secure all wires to the harness.
12. Turn the power back on and verify proper operation. If machine does not walk straight, complete the following to balance the drive motors:

Adjusting the Drive Motors

*If you adjust the DECEL too much in the clockwise direction the machine may take too long to slow down properly when entering the pin deck. **Be certain that the machine is definitely slowing down before coming to a stop.***

Balancing the Two Drive Motors

The two drive motors are "balanced" with a long 22 AWG yellow wire. This wire is used on either the 7-pin or the 10-pin drive motor, depending on which motor needs more resistance.

The wire only receives current while the machine is traveling on the approach and it is only creating a small amount of resistance in the circuit to balance the two motors so they will run at the same speed. A longer length of wire will make the motor run slower.



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To balance the motors, first determine which motor is using the resistance wire.

- If the yellow resistance wire is used to control the **10-pin motor** it will be connected between terminals CR2-5 and CR4-12 (with a 14 AWG wire between terminals CR2-8 and CR3-12).
- If the yellow resistance wire is used to control the **7-pin motor** it will be connected to terminals CR2-8 and CR3-12 (with a 14 AWG wire between terminals CR2-5 and CR4-12).

Menu to the * **MOVE MACHINE** screen on the keypad and then press the **UP ARROW** and hold it so the machine will run continuously. Observe which motor is running slower, which in most cases it will be the motor with the yellow resistance wire. To make an adjustment, remove power to the machine and shorten the yellow wire in 6 inch increments (~15 cm) and then test the results. Continue until the motors are balanced and the machine travels straight for at least two lanes.

The length of wire used will vary from machine to machine and it may be necessary to move the resistance wire to the other motor to make both motors run at the same speed.

If the wire ends up too short it will be necessary to replace it with a longer 22 AWG wire. Adjust the new wire to the proper length to balance the motors.

Be certain to turn the power off when adjusting the wire length.



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