

Assembly Instructions - Schatten Design Coil Winding Machine Model B



Tools you'll need: small phillips head screw driver, small flat head screw driver, ruler, needle nose pliers, wire cutter/ wire stripper, rosin core (radio/tv) solder, small soldering iron 15 to 35 watts or soldering station set to approx. 750F.

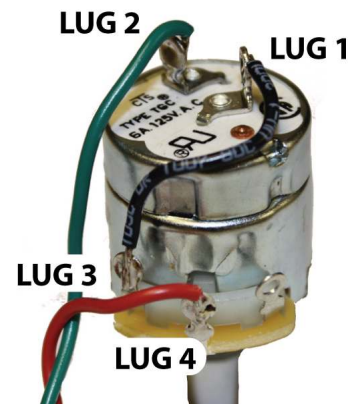
The front cover of the Model B machine comes with the switches, counter, counter wiring, and main circuit board installed.

The main box of the machine has the IR Sensor installed and partly pre-wired. The two bearings that support the main shaft have also been installed in the box walls. The bearings are lightly held in place with a friction fit. Should they come adrift during assembly, they can just be pushed back into place. When the machine is fully assembled, the bearings will be held securely.



Speed Control Pot Wiring

- 1) Tin Lugs 1 through 4 on the control pot.
- 2) Cut a 3 inch piece of black wire, strip 1/4" from each end and tin. Solder the wire from Lug 1 to Lug 3.
- 3) Cut a 9 inch piece of green wire, strip 1/4" from each end and tin. Solder one end to Lug 2.
- 4) Cut a 9 inch piece of red wire, strip 1/4" from each end and tin. Solder one end to Lug 4
- 5) Twist the green and red wires together along their length to keep them paired.
- 6) Set the unit aside.



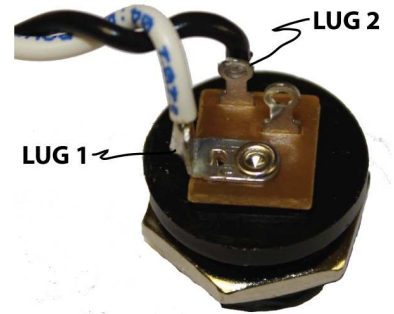
Motor Wiring

- 1) Tin the two lugs on the back of the motor.
- 2) Cut a 4 inch piece of white wire, strip 1/4" from each end and tin. Solder one end to the motor lug with the red dot next to it.
- 3) Cut a 4 inch piece of black wire, strip 1/4" from each end and tin. Solder one end to the other motor lug
- 4) Twist the white and black wires together along their length to keep them paired.
- 5) Set the motor aside.



Power Jack Wiring

- 1) Tin Lugs 1 and 2.
- 2) Cut a 4 inch piece of white wire, strip 1/4" from each end and tin. Solder one end to Lug 1
- 3) Cut a 4 inch piece of black wire, strip 1/4" from each end and tin. Solder one end to Lug 2
- 4) Twist the white and black wires together along their length to keep them paired.
- 5) Set the unit aside.



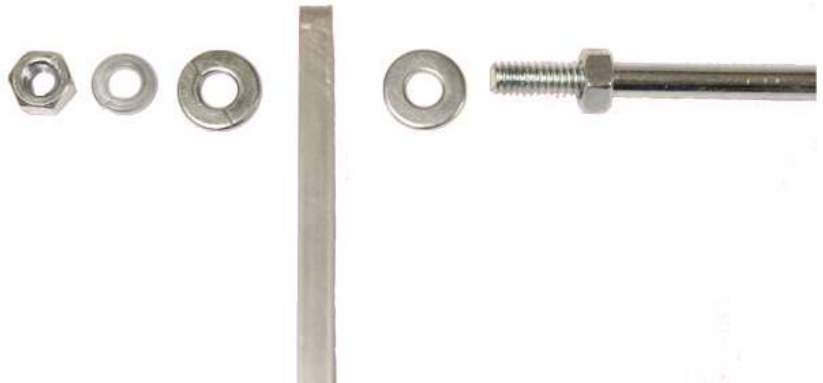
Mount The Motor

- 1) Insert the pulley end of the motor through the larger hole in the lower right wall of the box.
- 2) Slide the motor toward the rear of the box into the smaller opening
- 3) Rotate the motor until the two mounting holes in the box align with the two holes in the face of the motor.
- 4) Using two M3 x 5mm philips head screws, insert the screws and tighten the motor into place.



Limiter Assembly

- 1) Install a 1/4" nut onto the limiter shaft and tighten.
- 2) Install a 1/4" flat washer onto the shaft.
- 3) Insert the shaft through the aluminum stand-off.
- 4) Install a 1/4" washer,
- 5) Install a 1/4" lock washer.
- 6) Install a 1/4" nut and tighten.



Mounting The Speed Control Pot

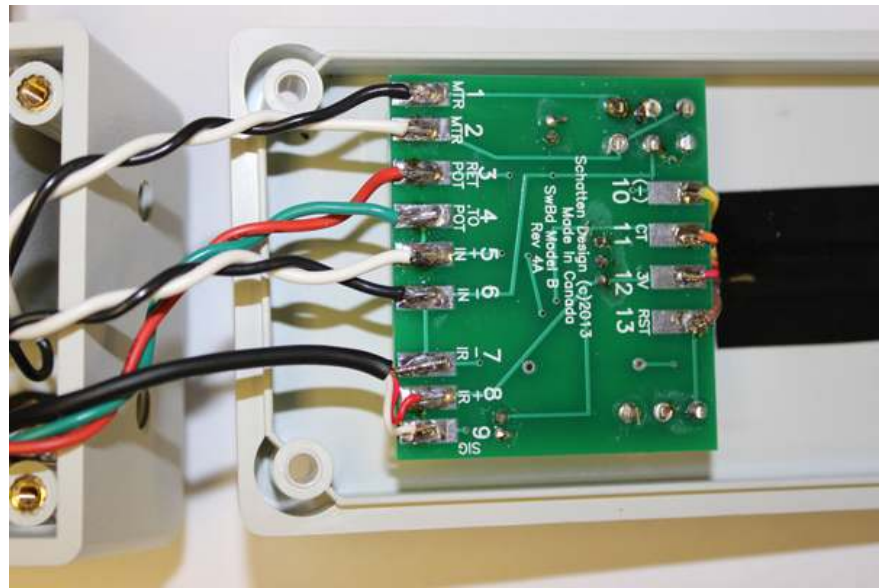
- 1) Place a lock washer onto the pot shaft.
- 2) Note the alignment of the pot in the photo at right.
- 3) There is a small vertical tab on the upper surface of the pot. This tab will protrude through small hole next to the pot shaft hole in the upper surface of the box.
- 4) Install the nut and tighten.



Main Circuit Board Wiring

As shown in the photo, align the winder cover to the right and the winder box to the left.

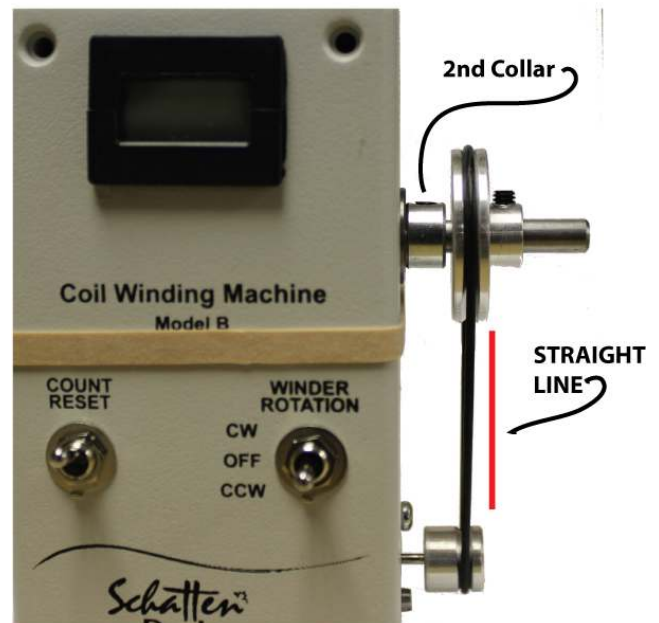
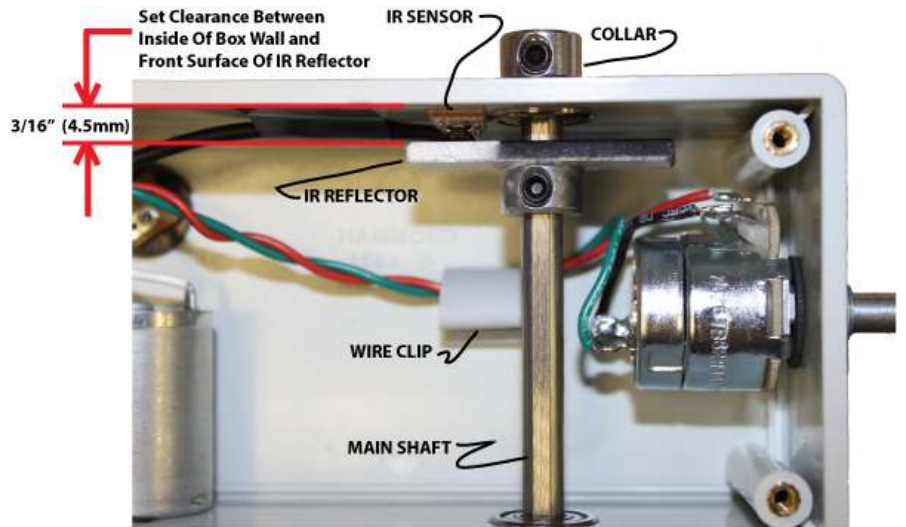
- 1) Solder the black wire from the motor to pad 1
- 2) Solder the white wire from the motor to pad 2
- 3) Solder the red wire from the pot to pad 3
- 4) Solder the green wire from the pot to pad 4
- 5) Solder the white wire from the power jack to pad 5
- 6) Solder the black wire from the power jack to pad 6
- 7) Solder the white wire from the IR sensor to pad 9
- 8) Solder the red wire from the IR sensor to pad 8
- 9) Solder the bare wire from the IR sensor to pad 7



Installing The Main Shaft

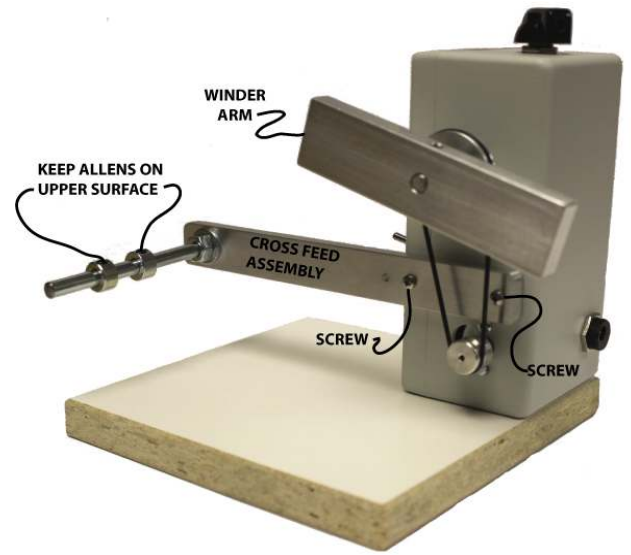
Note: The main shaft has a flat surface on one 'side'. When securing collars, IR reflector, and pulley, make sure that all of the allen screws are tightened down onto this flat surface.

- 1) Install a wire clip on the inside of the main box as shown in the photo. Make sure that it is placed so that it will not interfere with the IR sensor.
- 2) Slide the red and green wires from the control pot into the wire clip.
- 3) Install one collar even with the end of the main shaft. Line up the allen with the flat of the shaft and tighten the collar.
- 4) Insert the main shaft through the bearing on the IR wall side of the box.
- 5) Slide the IR reflector onto the main shaft.
- 6) Holding the IR reflector so that it doesn't jam against the control pot, slide the main shaft through the bearing on the opposite wall of the box.
- 7) Fold the wires to the circuit board so that you can put the cover on the box. Take a rubber band and place it around the box and cover.
- 8) Install the 2nd collar onto the main shaft and slide it down flush with the bearing. Do not exert any real pressure or squeeze the box as this collar is installed. Tighten the allen on the collar. The main shaft should turn freely with no side to side slop.
- 9) Remove the rubber band and open the cover. The IR reflector now must be distanced properly from the IR sensor.
- 10) As per upper photo, the face of the IR reflector should be set so that it is 3/16" (4.5mm) from the inner box wall. Position the IR reflector at the proper place, make sure the allen will contact the flat of the main shaft and tighten the allen.
- 11) Slide the main shaft pulley onto the main shaft. Install the drive belt around both pulleys. Position the main shaft pulley so that the drive belt is in a straight line with the motor pulley. Make sure that the allen on the main shaft pulley is aligned on the flat of the main shaft. Tighten the allen.
- 12) Install the winder arm flush at the end of the main shaft.



Final Assembly

- 1) Line up two holes in the Cross Feed Assembly with the two pre-drilled holes on the side of the box and cover. Install the assembly using the two 1/2" self tapping screws provided.
- 2) Attach the machine to the white base using the two large 1/4 x 20 screws provided. Insert the screws from the counter-sunk side of the board and tighten into the pre-tapped holes in the bottom of the machine.
- 3) Install the speed control knob.



QTY	PARTS	PART NUMBER	QTY	PARTS	PART NUMBER
	ASSEMBLED			KITTED PARTS	
	ENCLOSURE			ELECTRICS-1 BAGGED TOGETHER	
1	ENCLOSURE, PRE-DRILLED	1594DSBK	1	100K WIRE WOUND SW POT w/lock washer, nut	CT3020-ND
			1	MOTOR w/ PULLEY	TS840
	CIRCUIT BOARD ASSEMBLY & FRONT COVER			ELECTRICS-2 BAGGED TOGETHER	
1	SWITCH CIRCUIT BOARD	SW BD MODEL B - REV 4A	1	IR REFLECTOR Rotary Part	IR REFLECTOR
1	DIR SWITCH DPDT ON/OFF/ON	EG2414-ND	2	O-RING DRIVE BELTS 2 1/8 x 2 1/4 x 1/16	OR-034N
1	CT RESET SWITCH SP MOMENT.	432-1170-ND	1	WIRE CLIP GREY	WIRE CLIP
1	3.3 VOLT REGULATOR	296-21633-5-ND	1	2.1 mm POWER JACK	27931-134-0
1	22uf CAPACITOR -C1	P5162-ND	1	POINTER KNOB	POINTER KNOB
1	1uf CAPACITOR -C2	P5174-ND		MECHANICALS BAGGED TOGETHER	
1	HEAT SINK	HS198-ND	1	WINDER ARM w/ 10-24x3/8 soc set screw	ARM
1	COUNTER w/ 4 " ribbon wire	MINI CAL 1	2	BEARINGS	FR4ZZ
1	IR REFLECTIVE SENSOR w/ 12" 3 conductor wire	958	1	MAIN SHAFT PULLEY w/8-32x3/16 soc set screw	MAIN SHAFT PULLEY
	MOUNTING BASE		2	3/4" COLLARS	3/4" COLLAR
1	BOARD WHITE 6" x 6" x 5/8" PRE-DRILLED	BASE	2	3/4 x 20 x 1" FLAT HD PAN PHIL	MACHINE TO BASE MTG SCREWS
	KITTED PARTS		1	MAIN SHAFT 4 1/2"	MAIN SHAFT 4 1/2"
	LIMITER ASSEMBLY BAGGED TOGETHER		2	M3 x 5	MOTOR MOUNTING SCREWS
1	LIMIT SHAFT	1/4" STAINLESS	2	#4 x 1/2" PAN PHIL STAINLESS	SCREWS, STANDOFF MOUNTING
1	ALUM FLAT, STAND OFF	1/4 X3/4 X 6"	1	ALLEN KEY 5/64"	ALLEN KEY 5/64"
2	3/4" FLAT WASHER	3/4" FLAT WASHER	1	ALLEN KEY 3/32"	ALLEN KEY 3/32"
1	3/4" LOCK WASHER	3/4" LOCK WASHER		WIRE BAGGED TOGETHER	
2	3/4" NUTS	3/4" NUT	1	WIRE BLACK 22 GA - 18"	BLACK
2	3/4" COLLARS	3/4" COLLAR	1	WIRE WHITE 22 GA - 12"	WHITE
			1	WIRE RED 22 GA - 12"	RED
			1	WIRE GREEN 22 GA - 12"	GREEN