

EICO BATTERY ELIMINATOR AND CHARGER MODEL 1040

CONSTRUCTION BOOK

GENERAL: The construction of the EICO Model 1040 Battery Eliminator and Charger is a simple and straightforward series of steps. The construction should not take more than an hour or so. Before starting the actual construction, study the schematic and pictorial wiring thoroughly getting all of the steps clear in your mind. Do not rush the assembly. Care will pay dividends. It is suggested, because of heat dissipation, etc., that you place your wiring exactly as shown on diagrams.

Note: Use a Good grade of rosin core Solder. Under No Circumstances Use Acid Core Solder or Acid Flux inasmuch as this can cause serious corrosion. Before soldering, make certain there is a good mechanical connection. The solder must flow before you remove the soldering iron; this will prevent rosin joints which are poor electrical conductors. If you are soldering close to a part, hold the ends of a pair of longnose pliers between the part and the solder joint. The pliers will conduct the heat away and prevent the component from being unduly overheated.

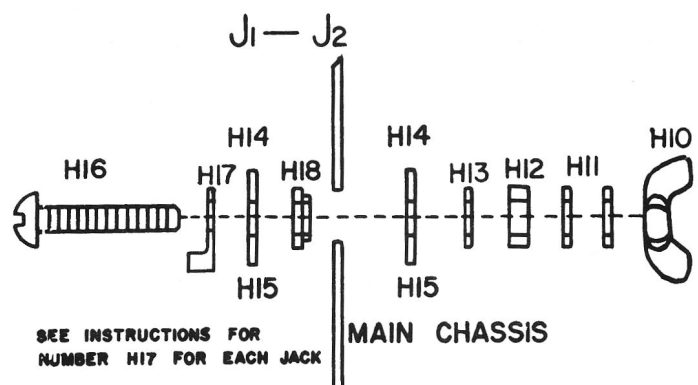
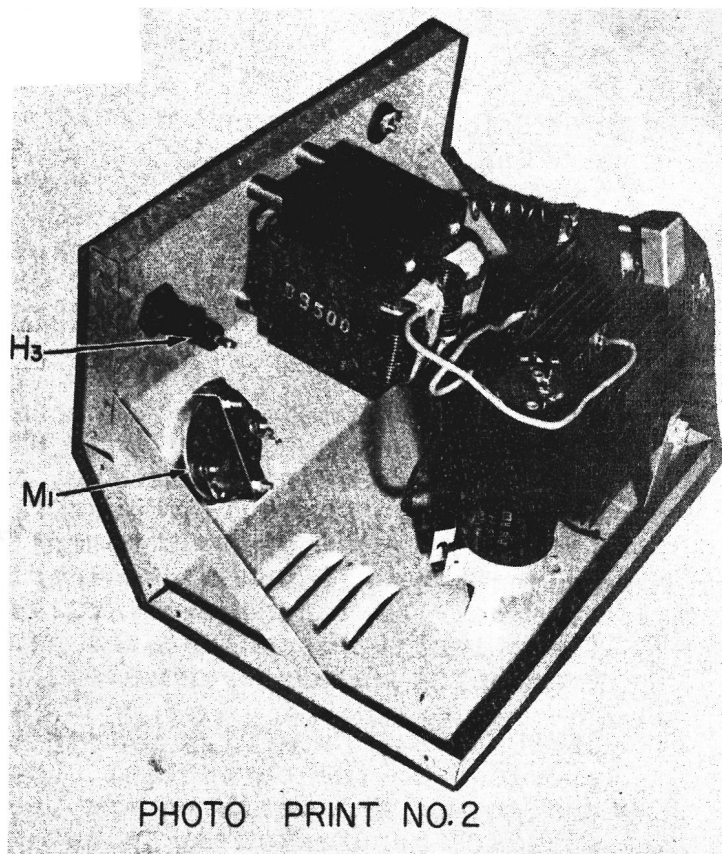
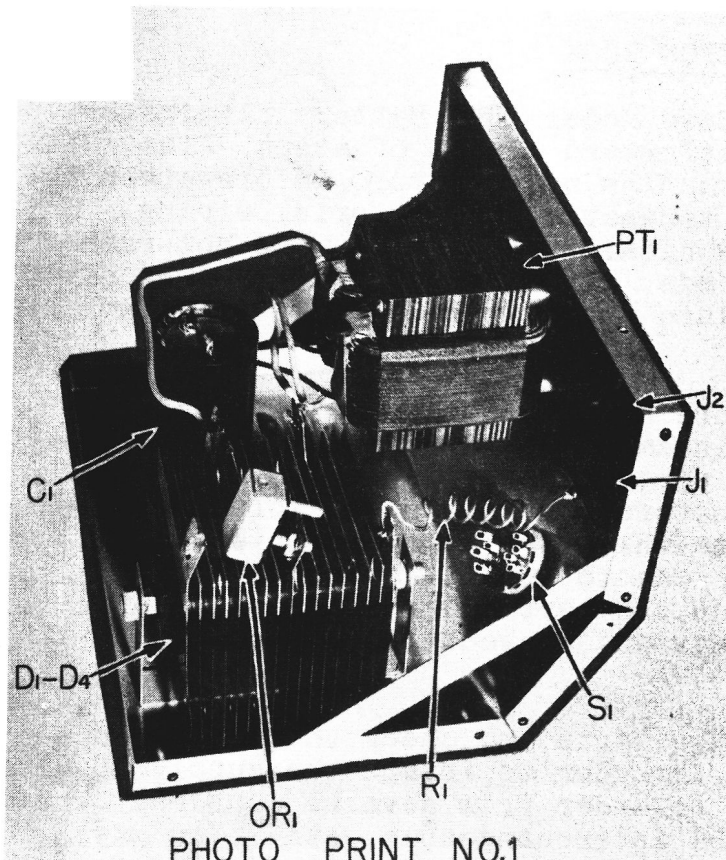
COMPONENTS: Carefully unwrap all the parts and check them in the space provided on the parts list. Note: In order to insure the supply of kits and prompt delivery, we are forced to order from several sources. The standard manufacturers values may be interchangeable, etc. You may therefore find that a value may vary within the permissible circuit tolerance, e.g., a resistance of 470,000 ohms may be substituted for, or may measure 510,000 ohms, etc. All parts supplied will work just as well as the part for which it is substituted. Most parts have a tolerance rating of 20% and the circuit is designed to take these variations into account.



PARTS LIST - MODEL 1040

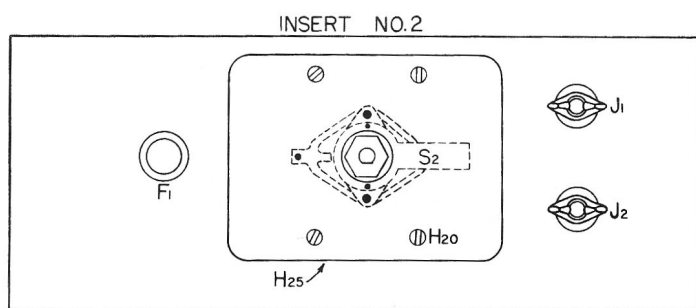
Chk. No.	Part Symbol	Description	Am't.	Chk. No.	Part Symbol	Description	Am't.
1	C1	10,000 mfd, 10V cond...	1	21	H18	#10 fibre shoulder washer.....	2
2	D1-D4	Dry disc bridge rect...	1	22	H19	#6 meter lugs.....	2
3	F1	Fuse 5A.....	1	23	H20	#6 flat head screw.....	4
4	H1	Main chassis.....	1	24	H21	3/8 lockwashers.....	4
5	H2	Bottom plate.....	1	25	H22	3/8 nuts.....	2
6	H3	Fuse mount.....	1	26	H23	3/8 flat washers.....	2
7	H4	#6 self tapping screw...	16	27	H24	Large 1/2" nut.....	2
8	H5	#6 x 1/2 machine screw...	4	28	H25	Large identification panel.....	1
9	H6	#6 lockwasher.....	5	29	H26	Small switch panel.....	1
10	H7	#6 hex nut.....	5	30	H27	Line cord.....	1
11	H8	Handle.....	1	31	H28	3/8 grommet.....	1
12	H9	Bar knobs.....	2	32	H29	#6 x 1/2 machine screw...	1
13	H10	#10 wing nuts.....	2	33	H30	Wire.....	Roll
14	H11	#10 flat washer.....	4	34	M1	50 ma. meter movement...	1
15	H12	#10 hex nut.....	6	35	OR1	Overload relay.....	1
16	H13	#10 lockwasher.....	4	36	PT1	Power transformer.....	1
17	H14	1/2" black fibre washer...	2	37	R1	.06 ohm resistor.....	1
18	H15	1/2" red fibre washer....	2	38	R2	276 ohm resistor.....	1
19	H16	#10 x 1 round head screw.....	2	39	S1	3 pole 3 pos. switch...	1
20	H17	#10 lugs.....	6	40	S2	Variator switch.....	1
		Instruction book.....	1				
		Construction.....	1				





EXPLODED VIEW OF OUTPUT JACKS

INSERT NO.1

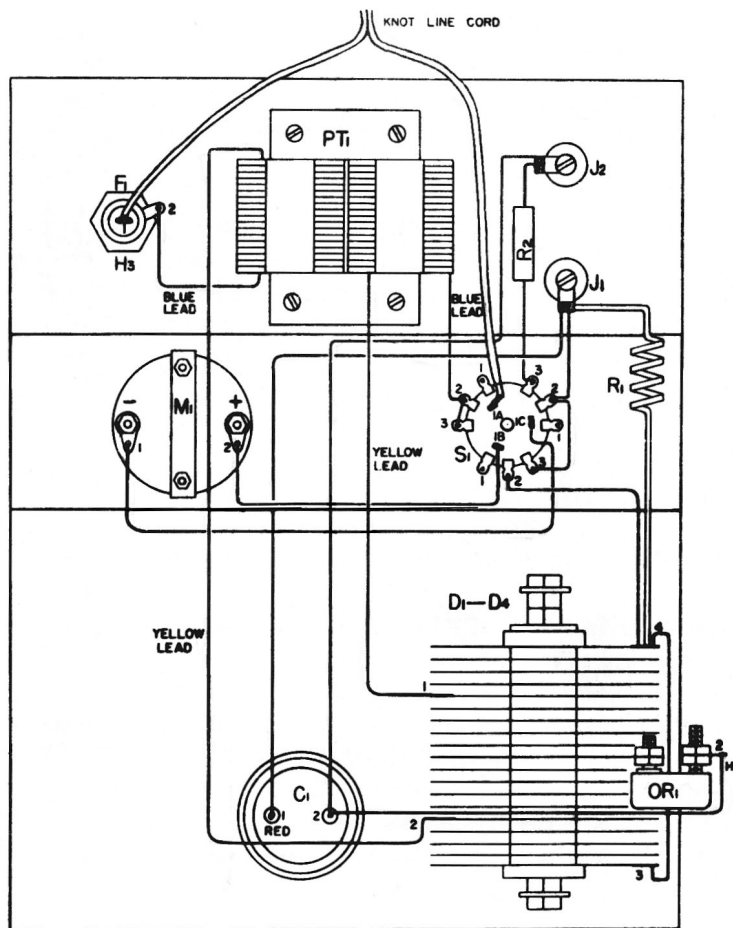


BATTERY ELIMINATOR

MOUNTING INSTRUCTIONS

Chk	Symbol	Description	Mounted With	Remarks
H8		Handle	4#H5, 4#H6, 4#H7	See photo for location
H3		Fuse mount	Associated hardware attached	
M1		Meter movement	H19 and enclosed hardware	Remove "U" bracket. Insert meter and secure with "U" bracket. Bend out slightly if necessary.
J1		+ D.C. output Jack	1#H10, 2#H11, 1#H12, 1#H13, 2#H15, 1#H16, 3#H17, 1#H18	See insert 1.
J2		-D.C. output Jack	1#H10, 2#H11, 1#H12, 1#H13, 2#H14, 1#H16, 2#H17, 1#H18	See insert 1.
S1		3 pole, 3 position	1#H21, 1#H22, 1#H23, 1#H26	Orient as shown in Assembly Print #1. Note: Small switch plate, H26, mounts on front. See photo print No. 1 for mounting on "U" bracket. Orient lugs as shown. Make certain nuts, H24, are very tight.
D1-D4		Bridge rectifier	2#H21, 2#H24	Insert lockwasher on Variator switch, S2, and place through center hole on chassis. Hold temporarily with 3/8" nut.
S2		Variator control	1#H21, 1#H22, 1#H23	Place power transformer, held in position shown in photo print No. 1, over Variator Switch, S2. Secure with 4 #6/32 flat head screws, H20. Note: Orient Variator switch arm so that it faces output jacks (Insert 2). Remove 3/8" nut temporarily placed on Variator switch in preceding step. Place large panel, H25, and panel washer H23 over shaft of Variator switch and secure tight with 3/8" nut.
PT1		Power transformer	4#H20, 1#H25	
C1		10,000 mfd. 10V condenser	1#H29, 1#H6, 1#H7	Push in bracket and tighten with hardware. Photo print No. 2.
OR1		Overload relay	4#H12, 2#H13, 1#H17	See photo and Assembly Print No. 1.

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ASSEMBLY PRINT NO.1 MODEL 1040

WIRING INSTRUCTIONS

(C) Means Connect

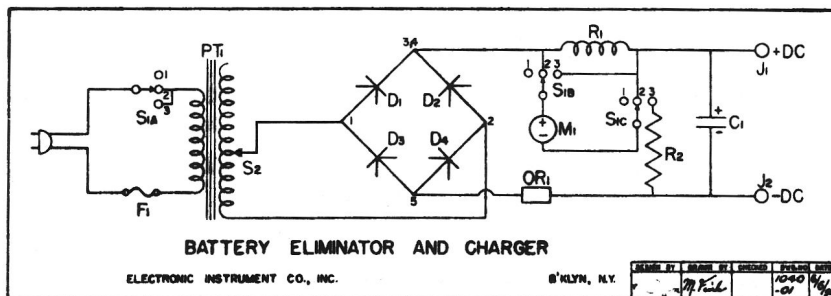
(S) Means Solder

Chk.	Symbol	Description	From	To	Remarks
	PT1	Power transformer	Yellow lead	D1-D4#2(S)	Top yellow lead
	PT1	Power transformer	Blue lead	H3#2(S)	Left side
	PT1	Power transformer	Yellow lead	D1-D4#1(S)	Bottom- left side, blue
	PT1	Power transformer	Blue lead	S1A#2(S)	Bottom right, yellow lead
	H30	Wire	(S) C1#1	J1(S)	Blue lead, through S1A#2 & S1A#3
	H30	Wire	(C) C1#2	J2(S)	Use 1#H17
	H30	Wire	(S) C1#2	OR1#2(S)	Use 1#H17
	H30	Wire	(S) D1-D4#3	D1-D4#4(C)	Use 1#H17
	H30	Wire	(C) D1-D4#4	S1B#2(S)	
	R1	.06 ohm	(S) D1-D4#4	J1(S)	Coil resistance wire- use 1#H17
	H30	Wire	(S) S1B#3	S1C#2(C)	
	H30	Wire	(S) S1C#2	J1(S)	Use 1#H17
	R2	276 ohms	(S) S1C#3	J2(S)	Use 1#H17
	H30	Wire	(S) M1#1	S1C Rotor(S)	
	H30	Wire	(S) M1#2	S1B Rotor(S)	
	H28	Grommet			Insert grommet into round hole on cabinet
	H27	Line cord	1 lead	S1A Rotor(S)	Place through grommet on cabinet. Knot 1 ft. from stripped end.
	H27	Line cord	other lead	H3#1(S)	

FINAL STEPS

You have now completed the electrical assembly of your instrument. A few more simple operations and the unit will be ready for many years of service.

- (1) **Resistance checks:** Measure the resistance from the plus output jack (Red) to the negative jack (Black). This should be in the neighborhood of 25-100 ohms. If less, recheck wiring paying special attention to possible shorts in output jacks (Fibre washer not placed properly). Measure the resistance from the chassis to each end of the AC line cord. Make certain Fuse is in holder. This should be infinite. If not, recheck line cord wiring.
- (2) **Voltage check:** Insert line cord into AC receptacle. Turn meter switch to the **VOLTAGE** position. Meter should read from zero to approximately 15 volts as **VOLTAGE VARIAT** is turned from minimum to maximum.
- (3) **Assembly of Cabinet:** Place chassis into cabinet and secure with 16 #6/32 self tapping screws, H4.
- (4) In the event of difficulty, recheck wiring carefully. Nearly all cases of trouble in the past have improper wiring as their source. If you cannot readily locate the trouble, write to our Engineering Dept, Dept. B, c/o Electronic Instrument Co., Inc., 276 Newport Street, Brooklyn 12, New York, listing all voltages and whatever other indications which might be of help.
- (5) If desired, you may return the instrument to the factory where it will be placed in operating condition for a service charge of \$3.00. There will be an additional charge for replacement of any parts or alterations as required due to misuse, violation of instructions, or damage in construction. It is suggested that extreme care be exercised in packing and original carton and fillers be used wherever possible. Ship unit prepaid Railway Express. The instrument will be returned, as soon as possible, Express collect.



SYMBOL	PART #	DESCRIPTION
C1	1	10,000 mfd- 10V cond.
D1-D4	2	Dry disc bridge rectifier
F1	3	Fuse
J1-J2		Output jacks
M1	34	50 ma. meter movement
OR1	35	Overload relay
PT1	36	Power transformer
R1	37	.06 ohm resistor
R2	38	276 ohm resistor
S1	39	3 pole, 3 position
S2	40	Variator control



ADDENDA MODEL 1040

MODEL 1040 POWER TRANSFORMER PT1

An extra heavy transformer is being supplied with the Model 1040, and a special paint and extra heavy leads will add to its long life and durability.

When wiring in, please use the two heavy leads in each pair as one lead. Be sure to solder both leads in each pair.

NOTE: Please straighten bracket before mounting rectifier.