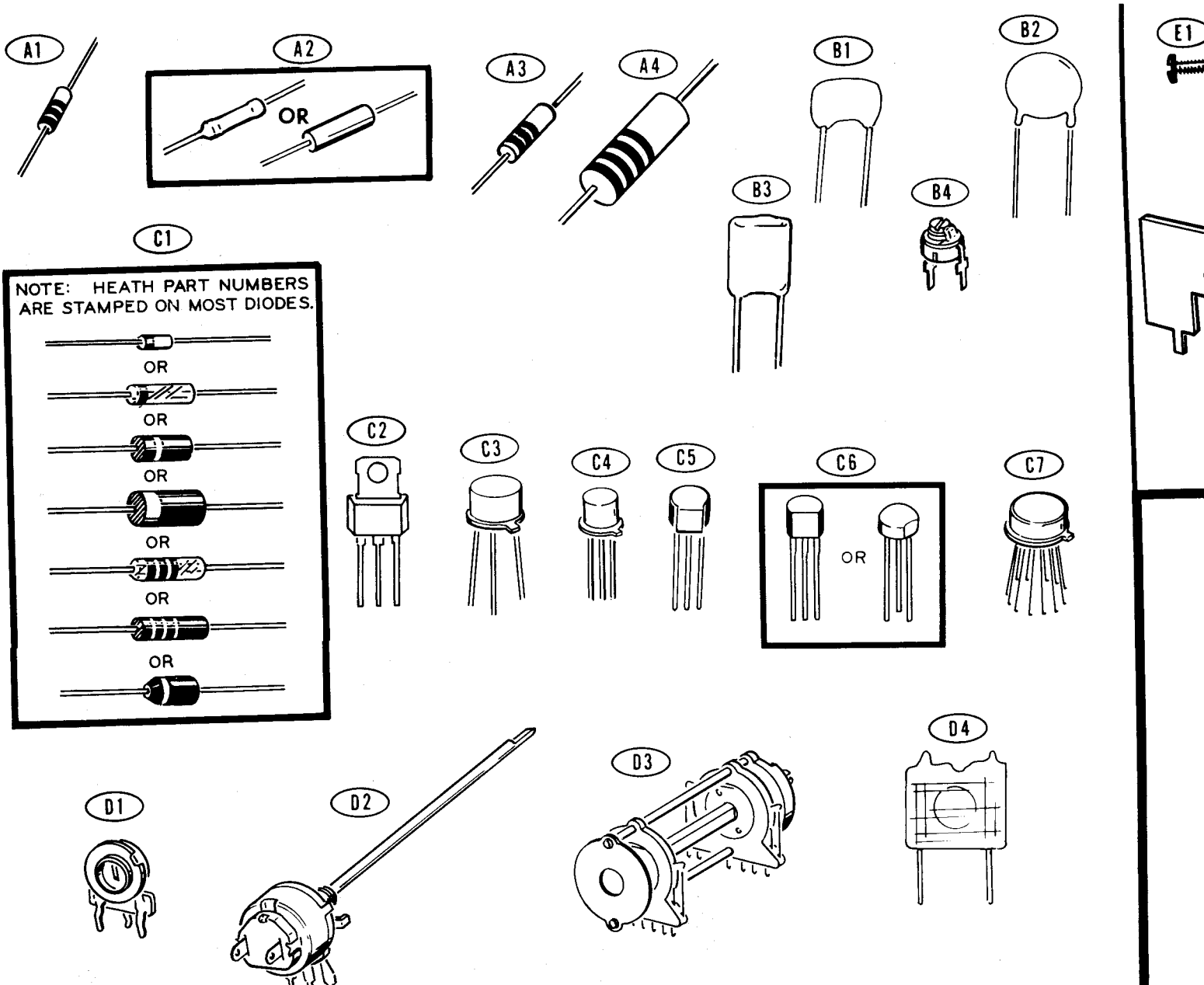
ILLUSTRATION

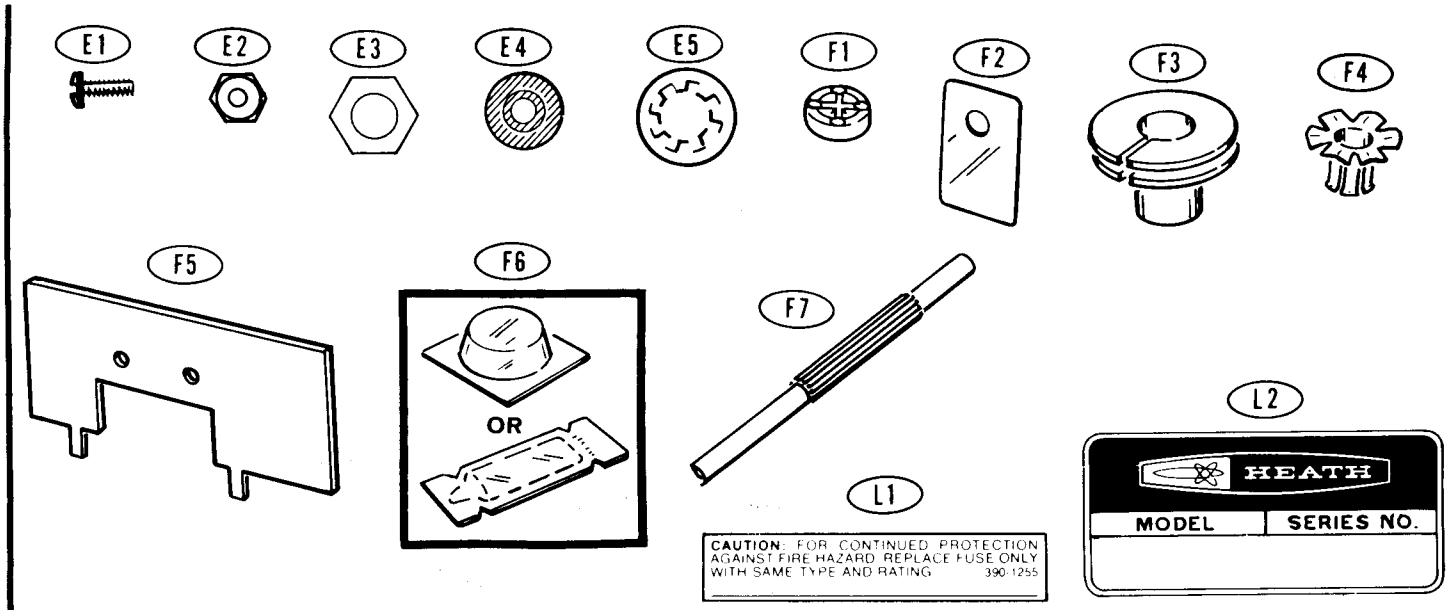
OUTPUT CIRCUIT BOARD PA

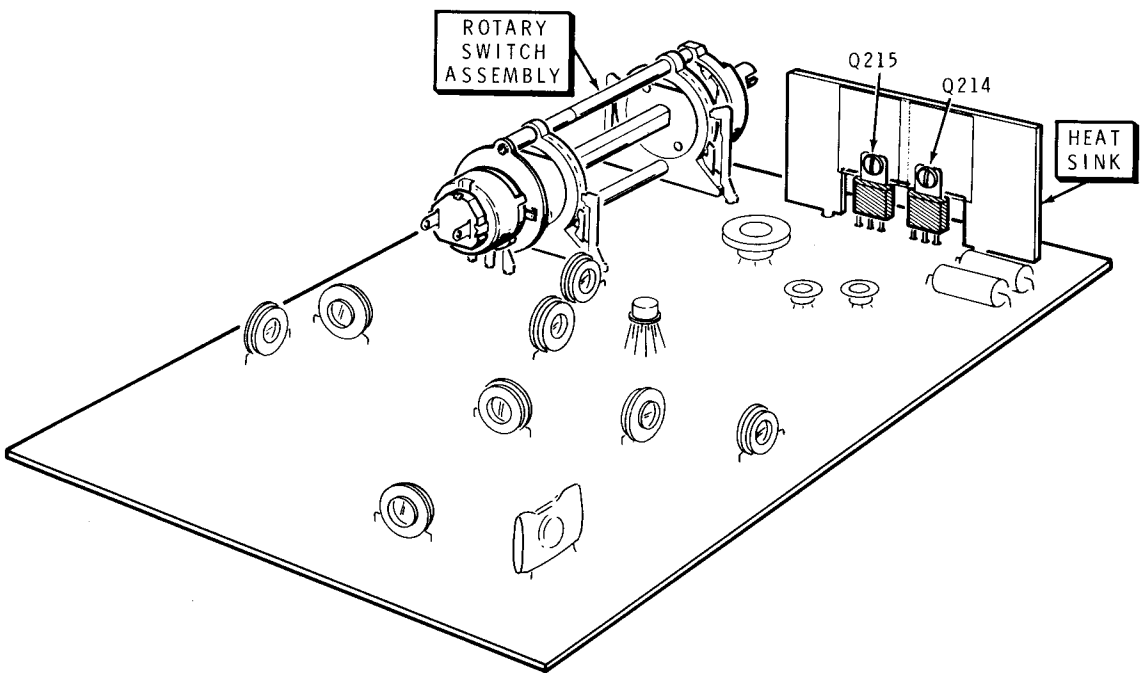


TION BOOKLET

Part of 595-1758-01

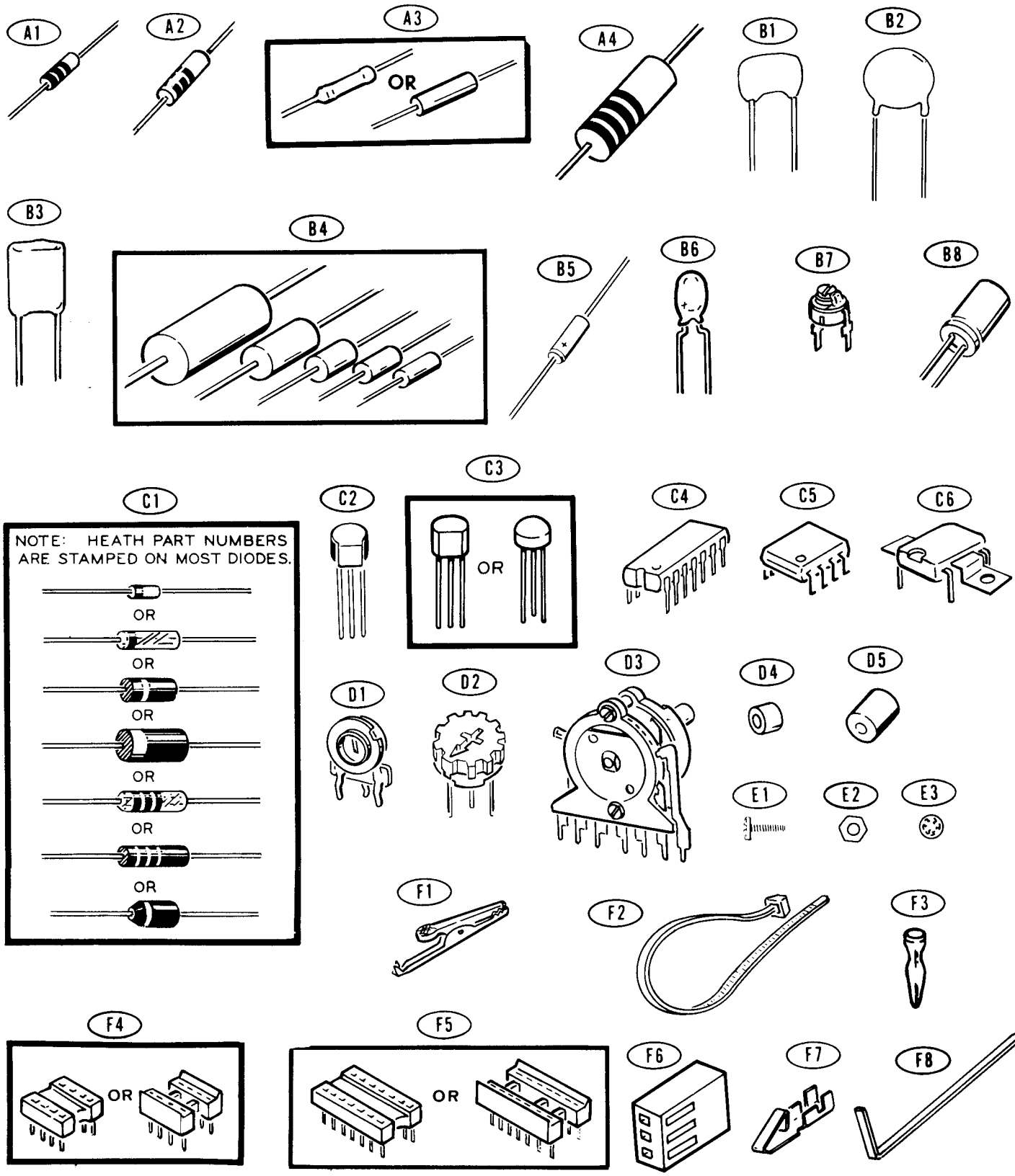
BOARD PARTS PICTORIAL

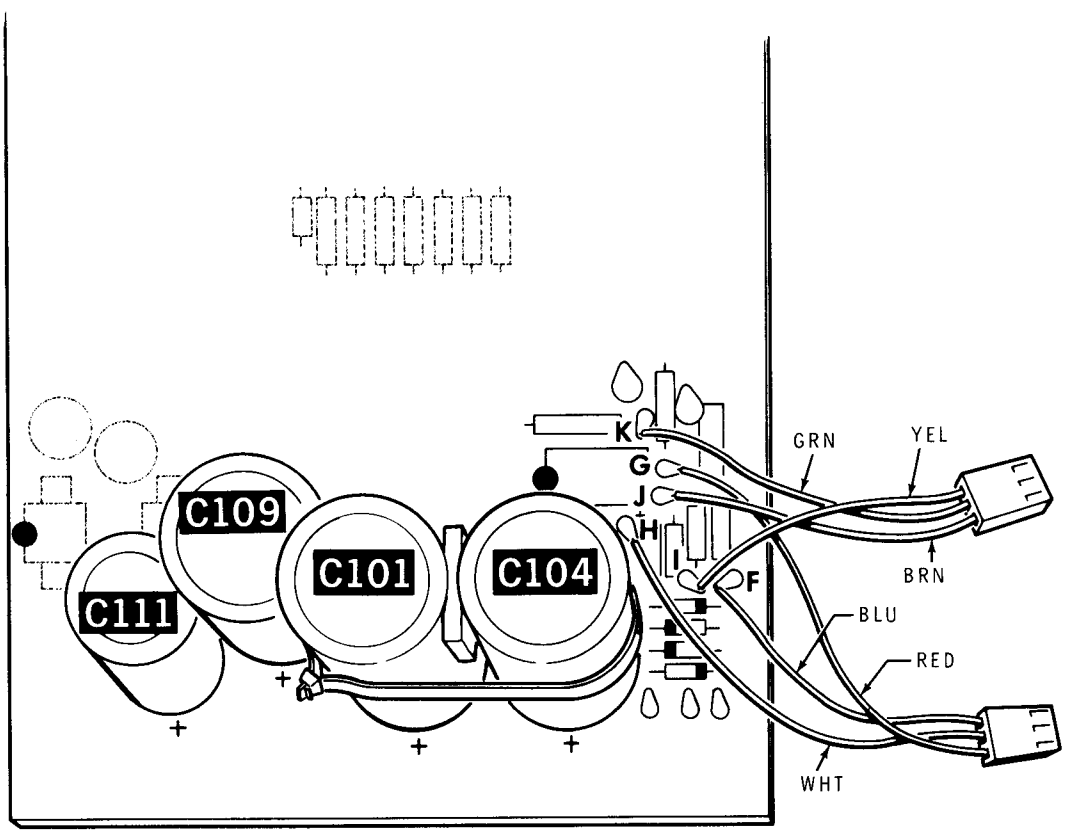




PICTORIAL 1-6

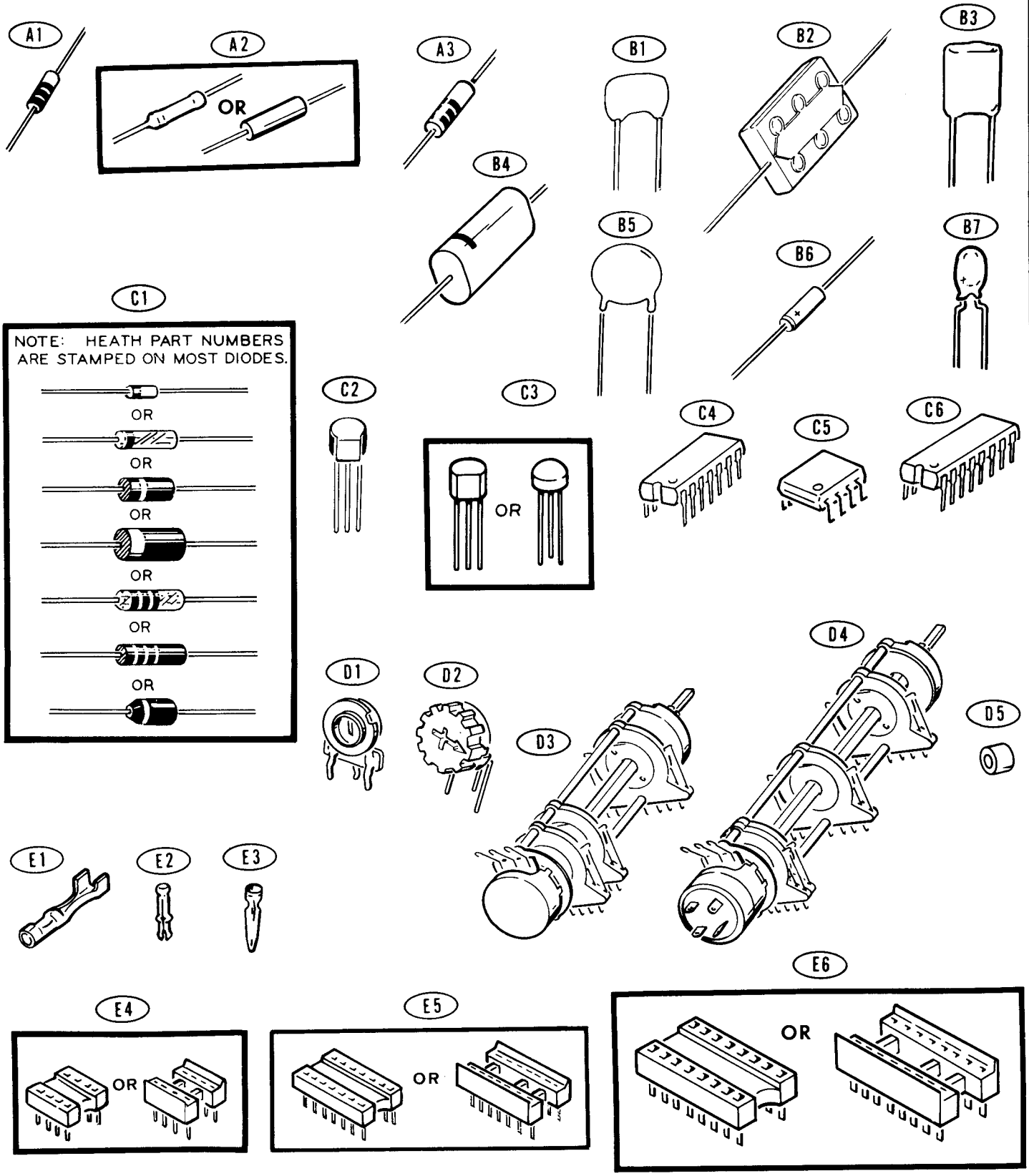
GENERATOR CIRCUIT BOARD PARTS PICTORIAL

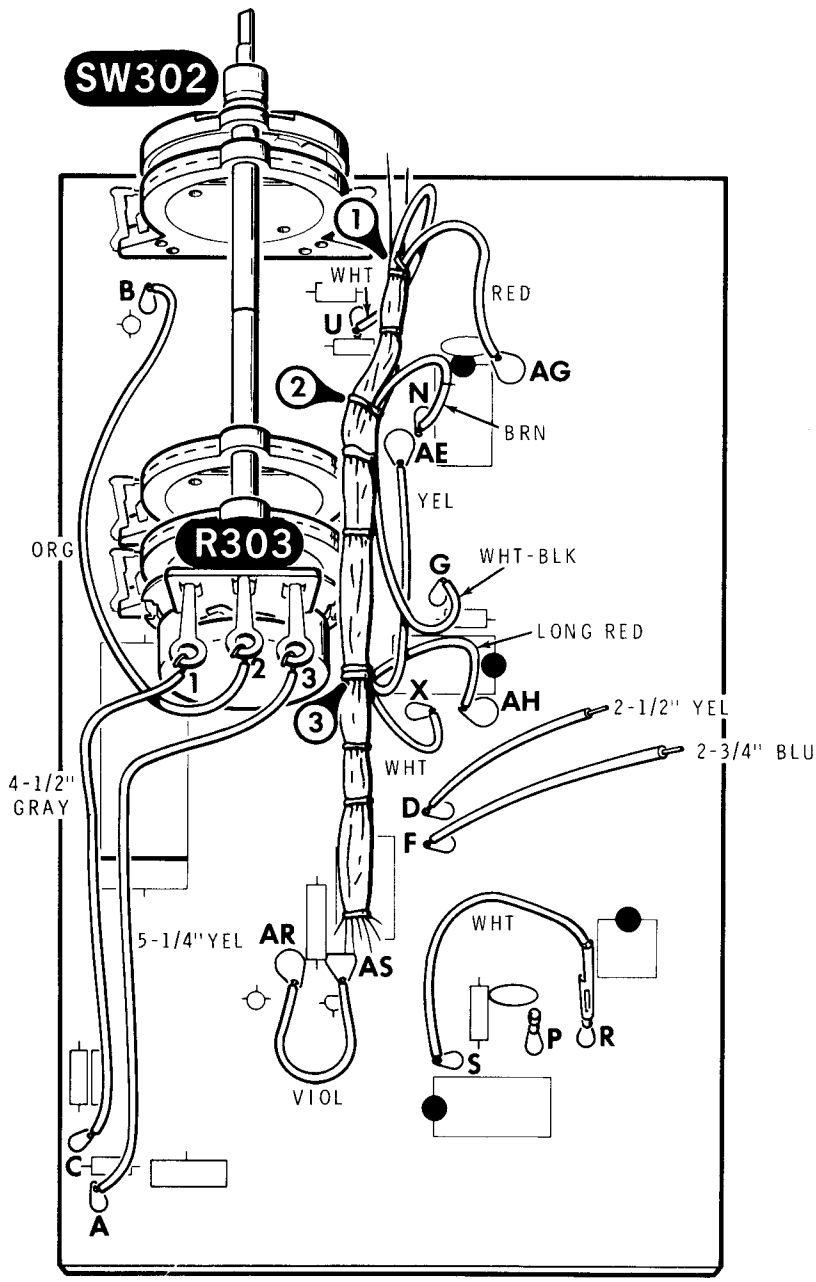




PICTORIAL 2-8

SWEEP CIRCUIT BOARD PARTS PICTORIAL





PICTORIAL 3-6

Figure B

NOTE: When you install ceramic capacitors, do not push the insulated portion of the leads into the circuit board holes. This could make it difficult to solder the leads to the foil.

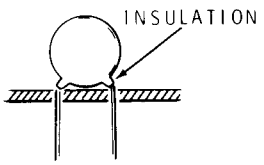


Figure C

NOTE: As you mount a control on the circuit board, solder its lugs to the foil and cut off the excess lug lengths.

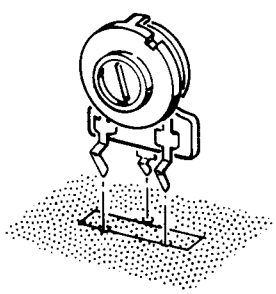


Figure D

NOTE: Press an SGC5282 transistor (#417-269) into a TO-5 style heat sink. Place a spacer on the transistor leads.

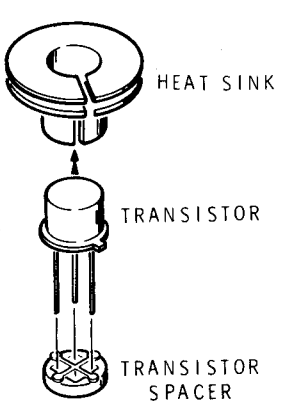


Figure F

NOTE: Press the trimmer leads into the circuit board up to the lead ridge. If there is no ridge, push the trimmer body against the circuit board.

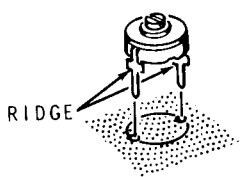


Figure G

NOTE: Before you mount an integrated circuit socket, make sure all the pins are straight. Then, as you mount the socket, make sure all its pins are through the foil before you solder them. Then solder the pins to the foil.

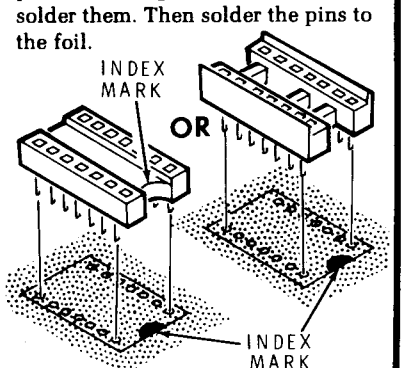
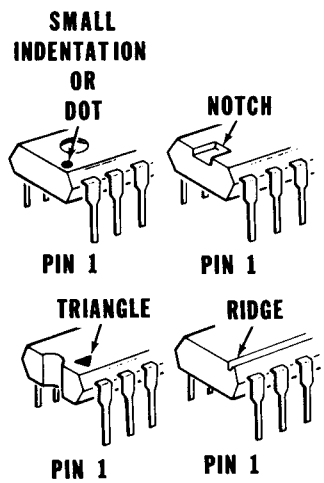


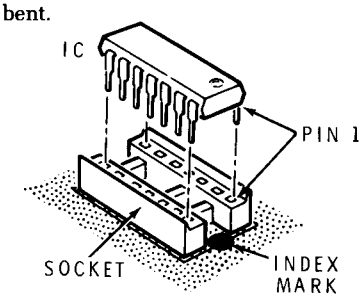
Figure H

NOTE: The indexed (pin 1) end of inline integrated circuits may be marked in a number of ways such as a notch, triangle, dot, the numeral 1, etc.



Be sure to install each IC so its pin 1 end is toward the index mark on the circuit board.

Before you apply downward pressure to an integrated circuit, make sure each IC pin is centered in its proper socket hole. Handle IC's with care, as their pins are very easily bent.



NOTE: An IC puller has beeen included with this kit so you do not bend the pins in case you should have to remove an IC from its socket. To use the puller, insert its foot beneath the IC; then gently rock the tool back and forth to lift the IC.

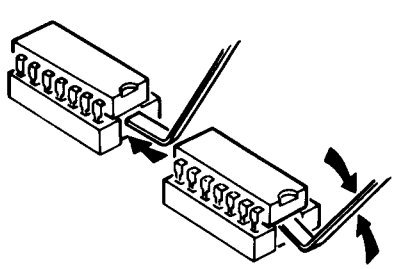


Figure J

NOTE: When you install the following integrated circuits, match the index mark on the IC with the mark on the board. Push the IC leads through the holes in the board. Then secure the IC's with 2-56 hardware as shown. Be careful not to twist the IC tabs. Then solder the IC leads to the foil.

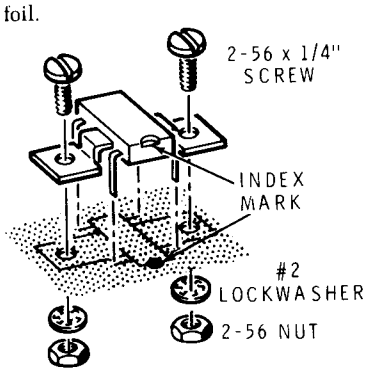


Figure K

NOTE: When you install electrolytic capacitors, be sure you match the positive (+) lead on the capacitor with the positive (+) marking on the circuit board. NOTE: The capacitor may be marked only with a negative (−) mark.

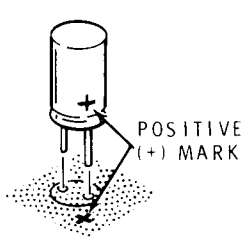


Figure L

NOTE: Tantalum capacitors may be marked two ways, as shown. When you install a tantalum capacitor, be sure to match the positive (+) sign, color dot, or red end with the positive (+) marking on the circuit board.

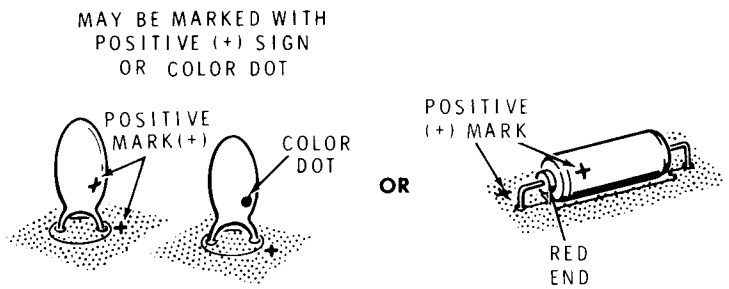


Figure P

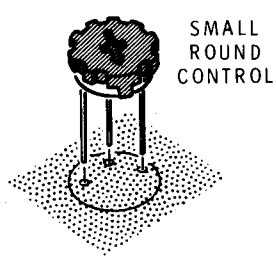


Figure R

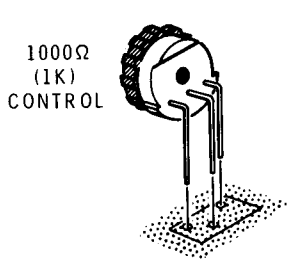


Figure S

NOTE: Push a terminal pin into the top of the circuit board until the stop ridge is flush with the board. Then solder the pin to the foil.

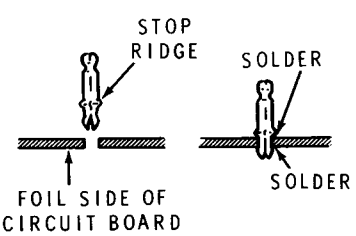


Figure T

NOTE: To install a socket pin, insert it until the ridge is against the board. Use a pencil eraser to press the pin into the hole. Make sure the pin is straight; then solder it to the foil.

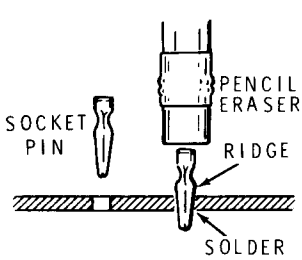
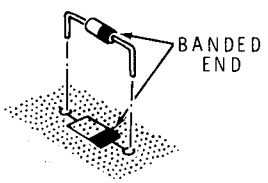
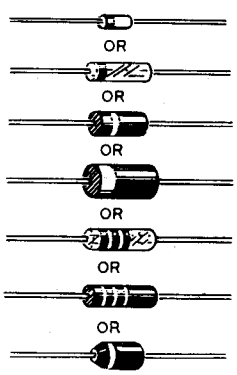


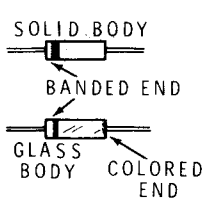
Figure A

NOTE: When you install a diode, always match the band on the diode with the band mark on the circuit board. A DIODE WILL NOT WORK IF IT IS INSTALLED BACKWARDS.



NOTE: HEATH PART NUMBERS ARE STAMPED ON MOST DIODES.



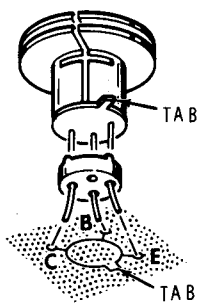


NOTE: If your diode has a solid body, the band is clearly defined. If your diode has a glass body, do not mistake the colored end **inside** the diode for the banded end. Look for a band painted on the **outside** of the glass.

Figure E

NOTE: When you install a transistor, **space or tab of the transistor as shown, wide space, or tab outline on the circu** correct transistor leads into the corre Unless otherwise stated, position the circuit board, solder the leads to the f lead lengths as you install each transi

1



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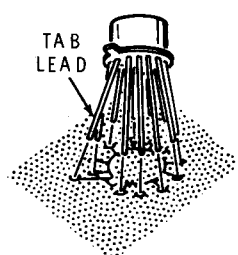

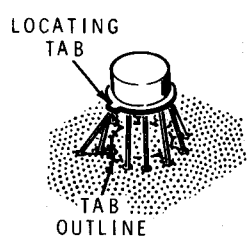

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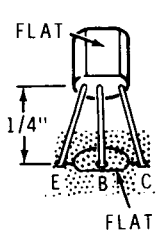

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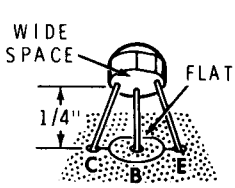
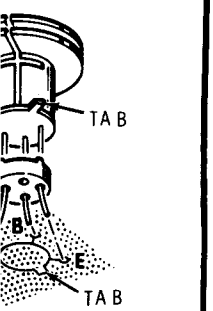
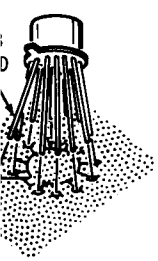


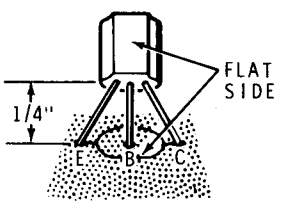
install a transistor, first **align the flat, wide transistor as shown, with reference to the flat, outline on the circuit board.** Then insert the leads into the corresponding marked holes. stated, position the transistor 1/4" above the er the leads to the foil, and cut off the excess u install each transistor.





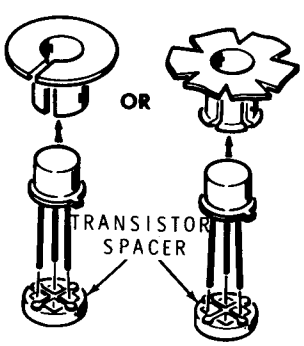
R

4



5

Press a 2N3251 tansistor (#417-879) into a small heat sink as shown. Then place a transistor spacer on the leads.



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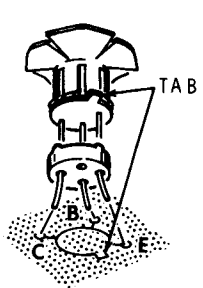
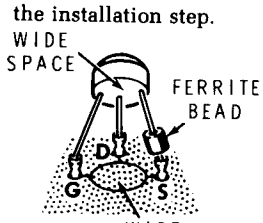


7

NOTE: The ferrite bead may not be installed on the source lead. Refer to the installation step.



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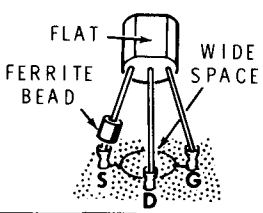
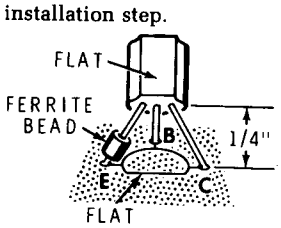


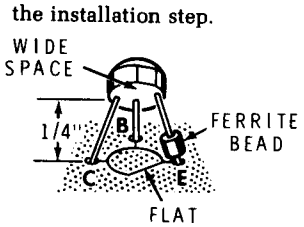
8

NOTE: The ferrite bead may not be installed on the emitter lead. Refer to the installation step.



9

NOTE: The ferrite bead may not be installed on the emitter lead. Refer to the installation step.



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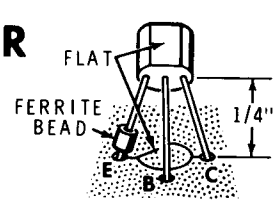
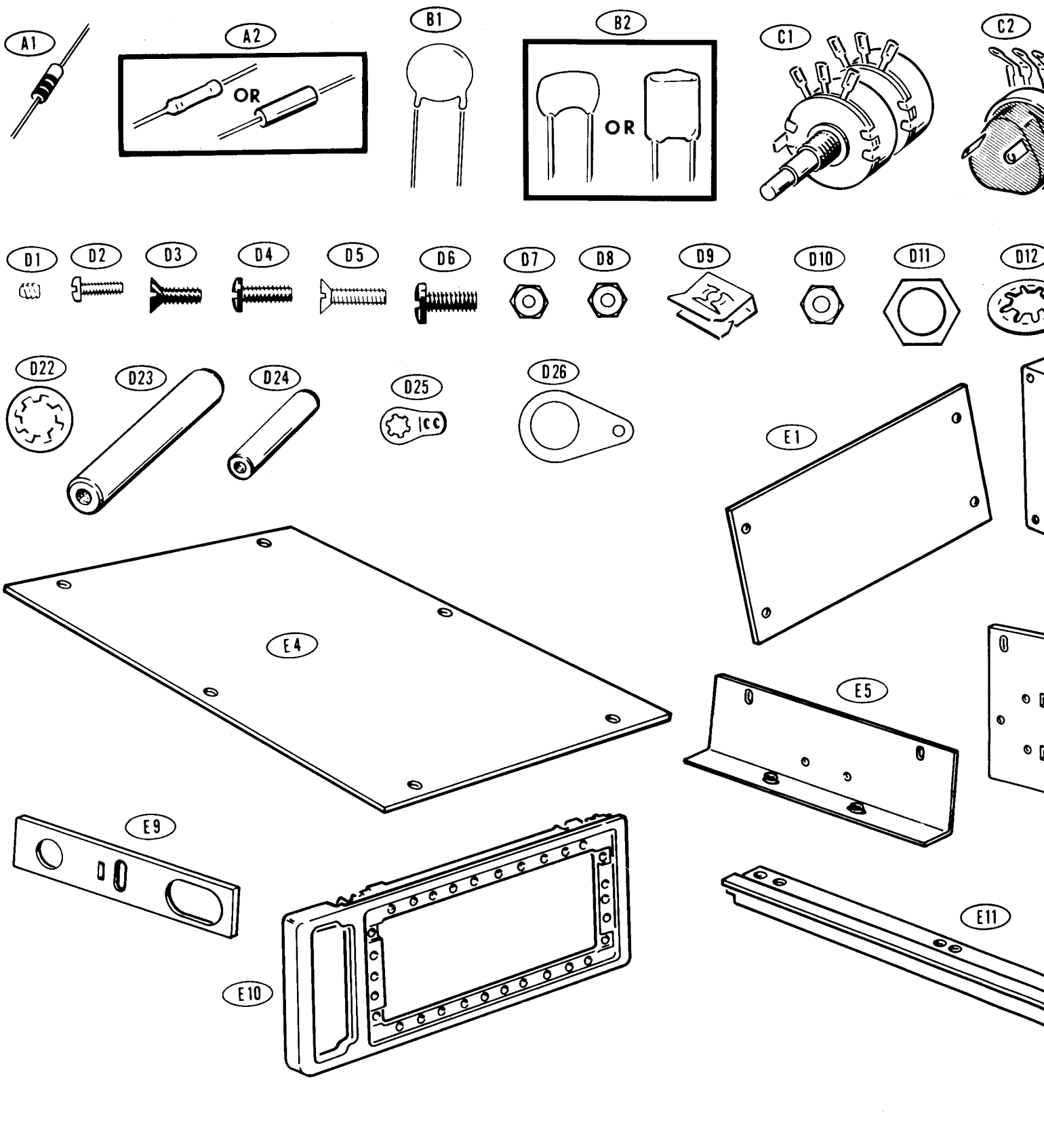
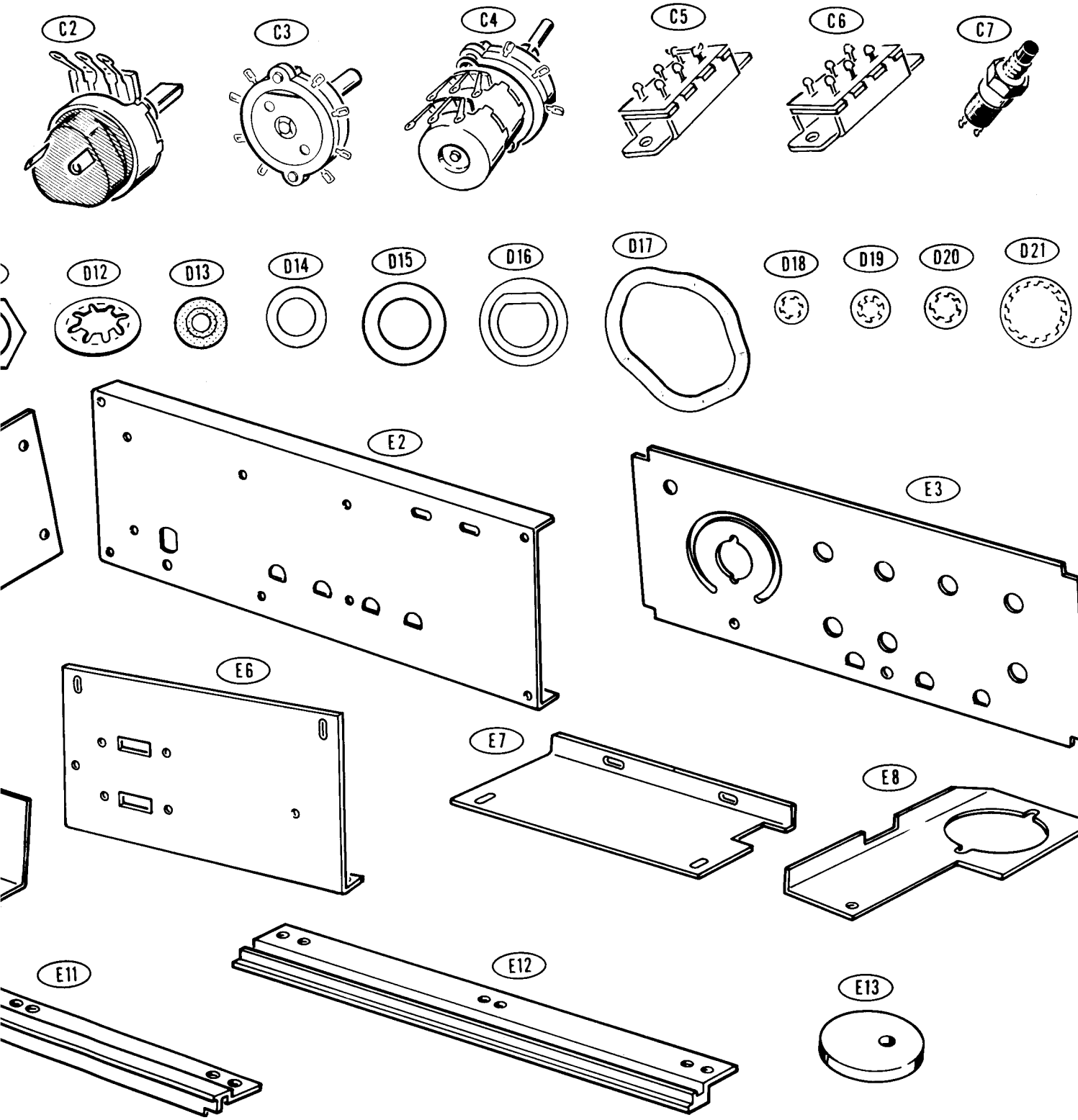


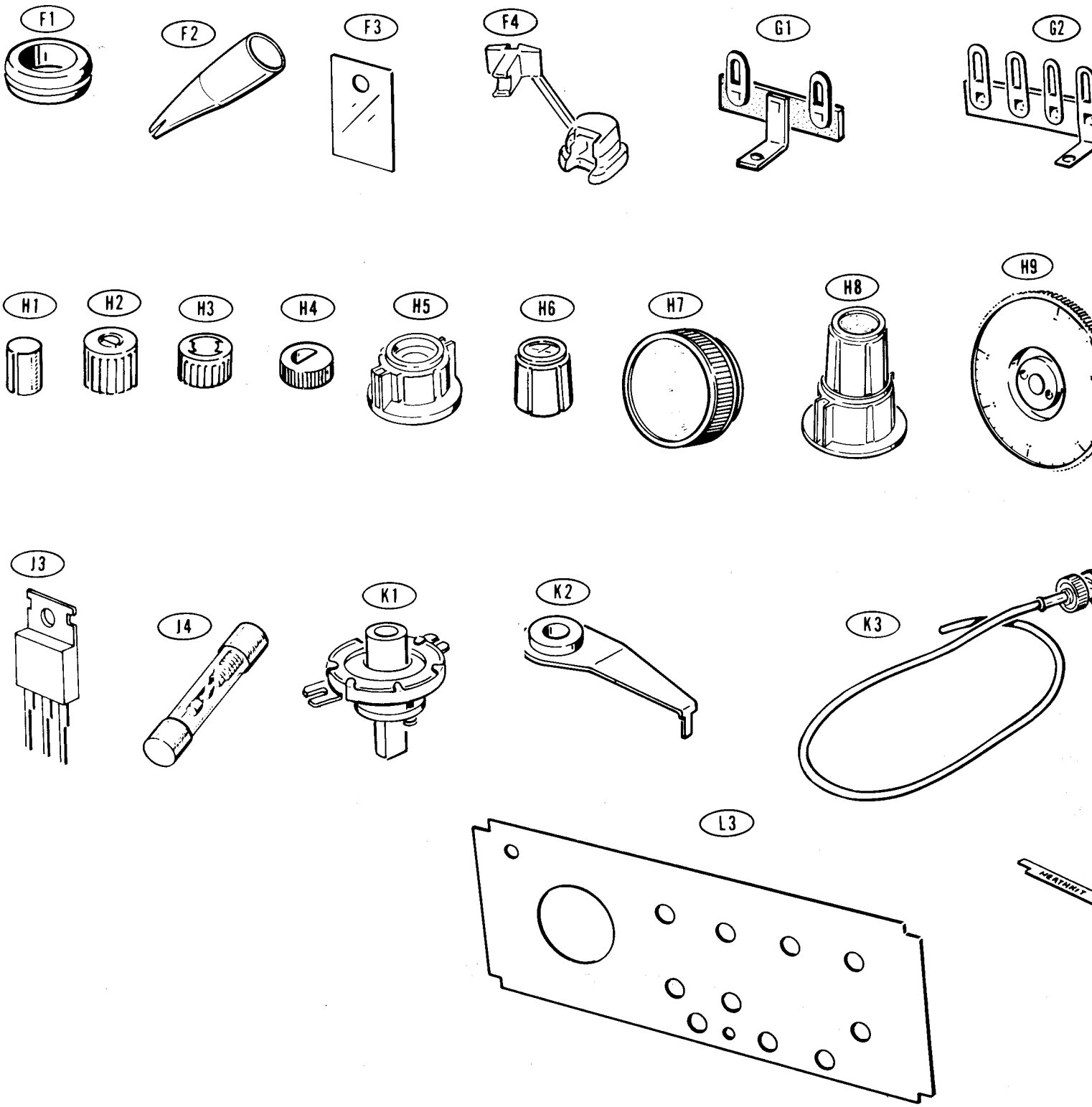
CHASSIS PARTS PI



ARTS PICTORIAL



Chassis Parts Pictori



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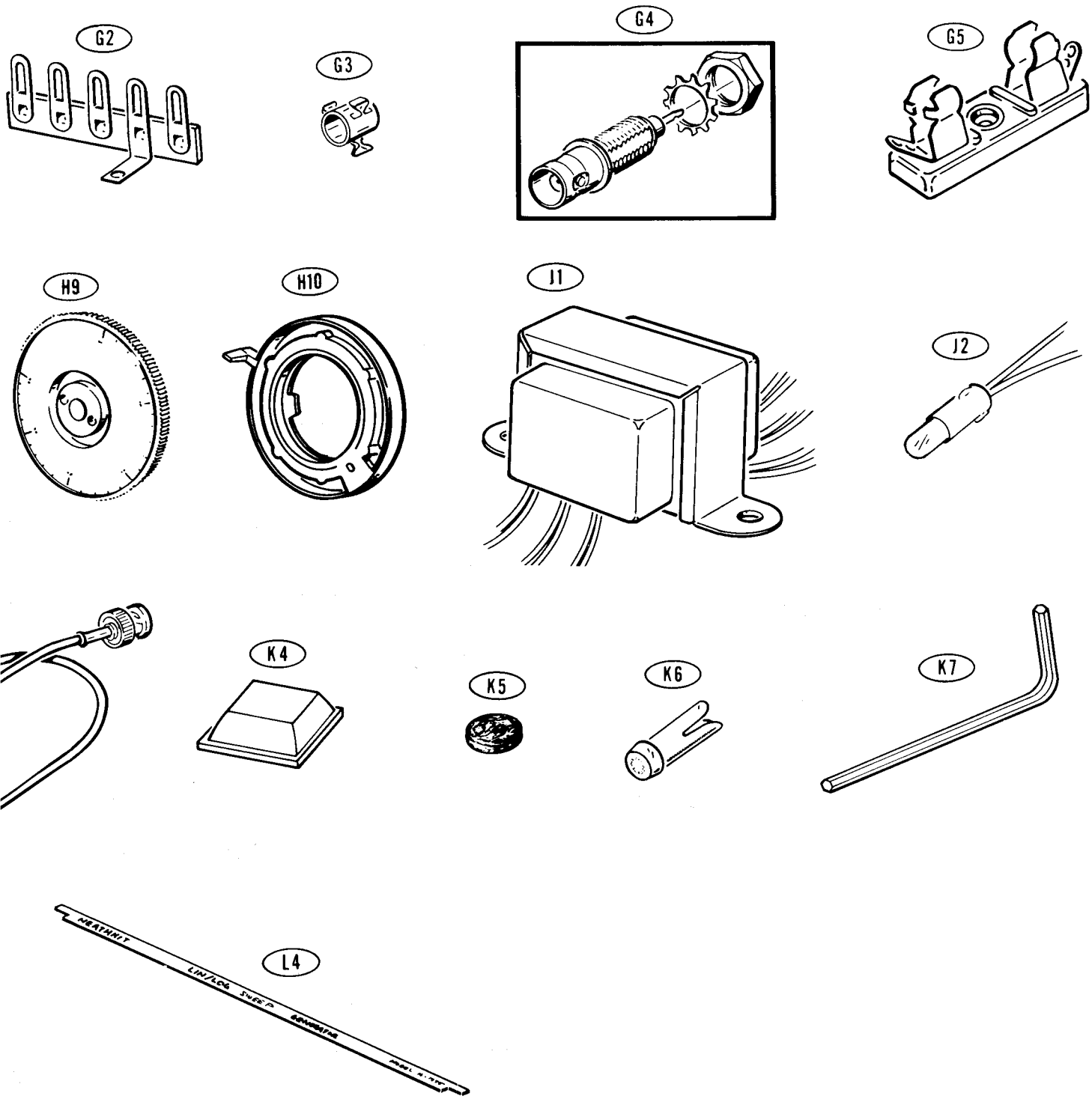
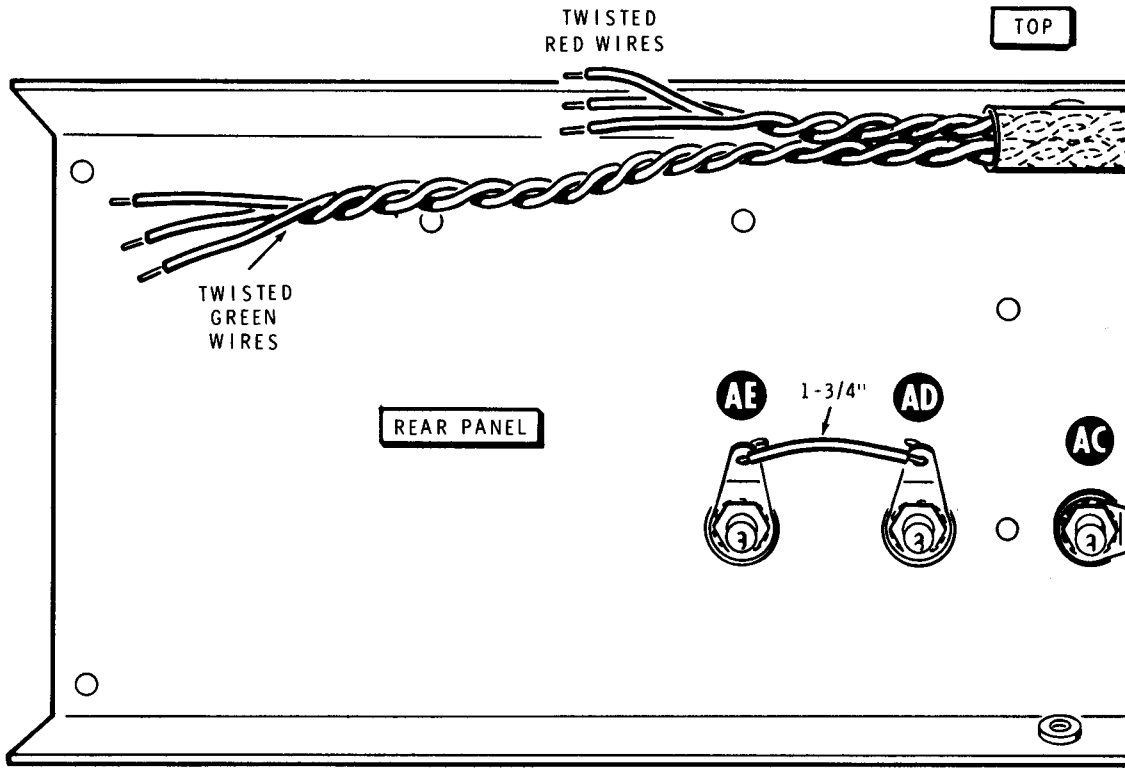
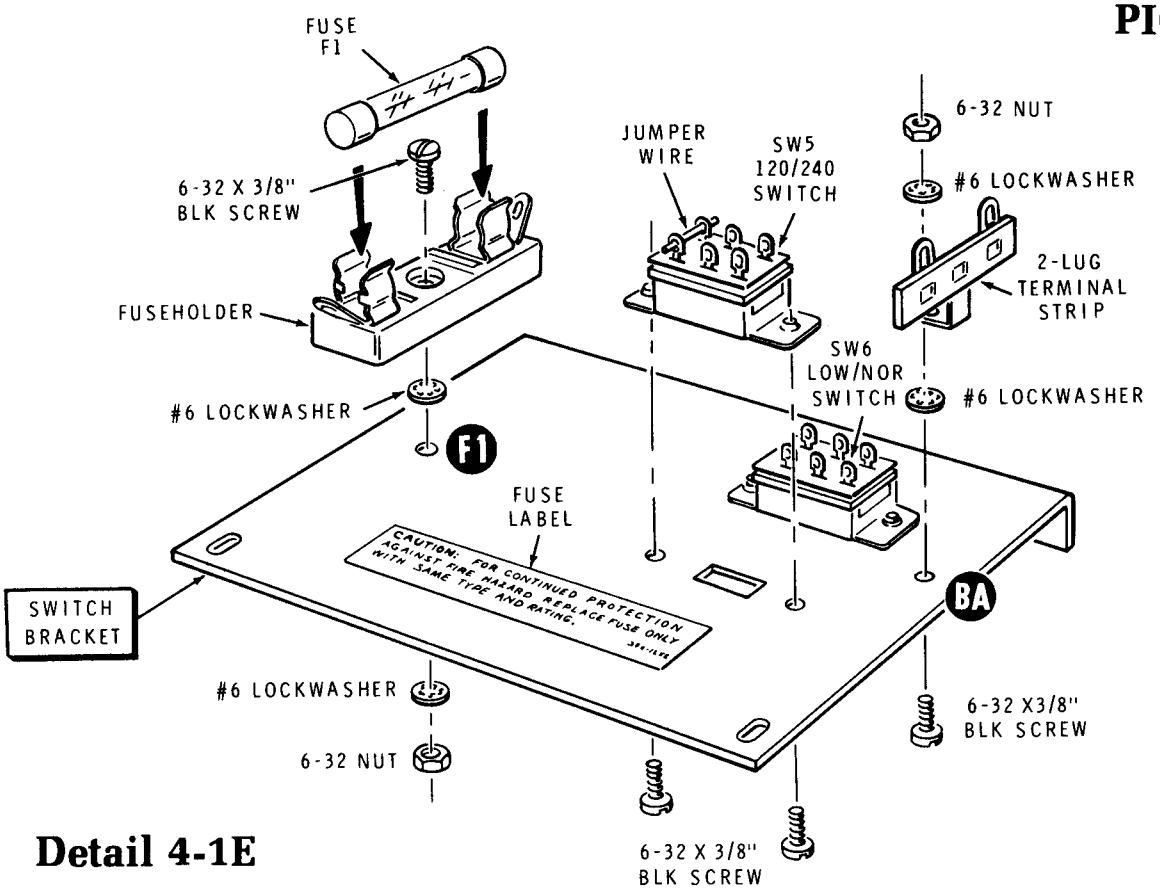
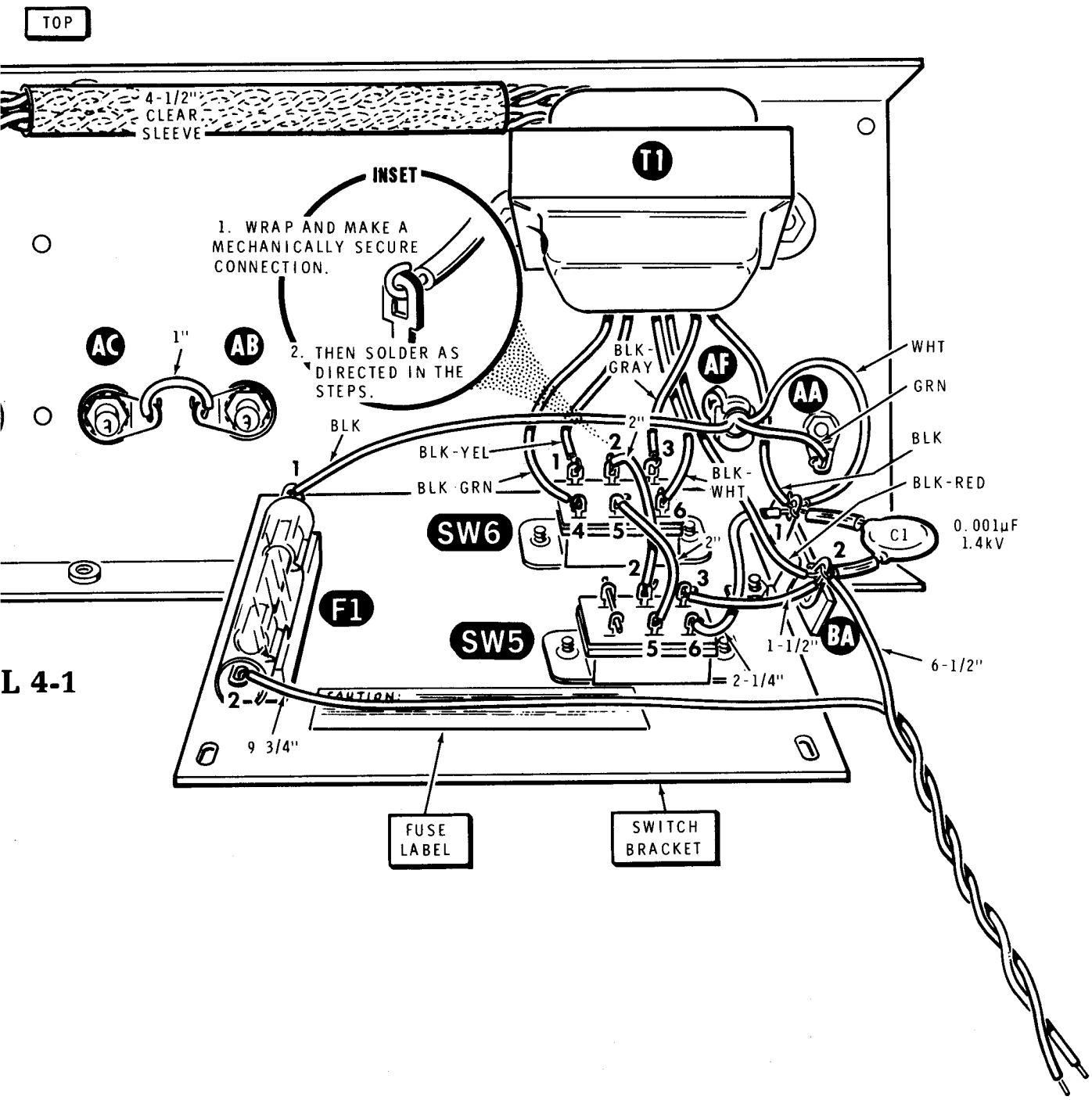




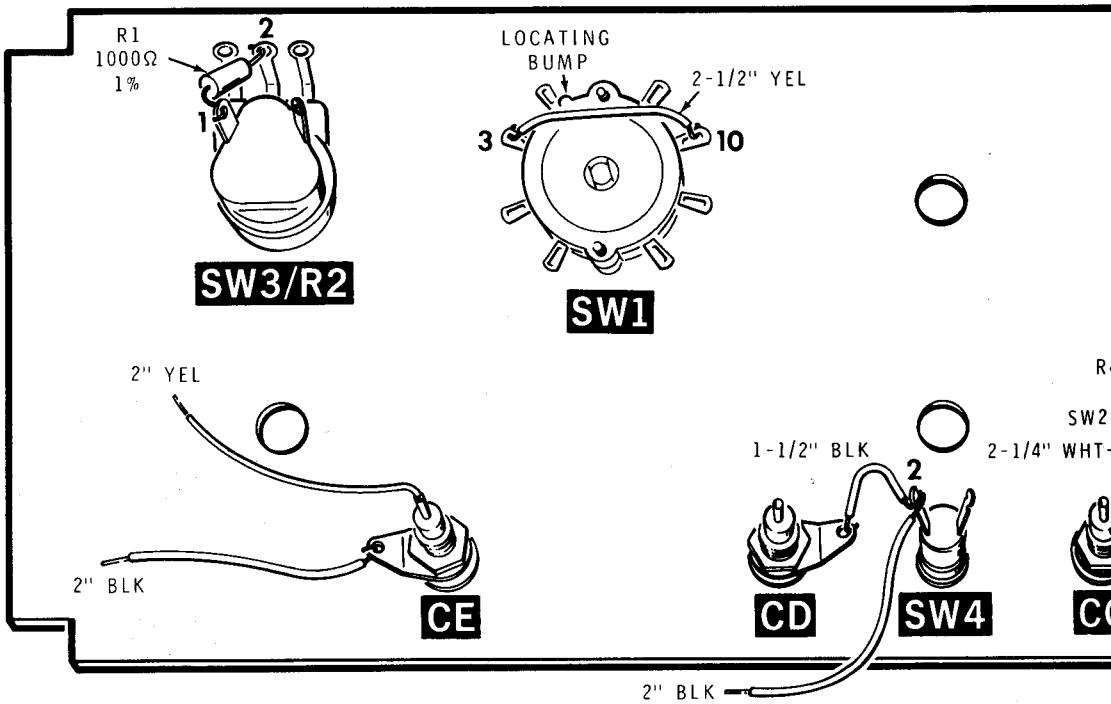
PICTORIAL 4-1



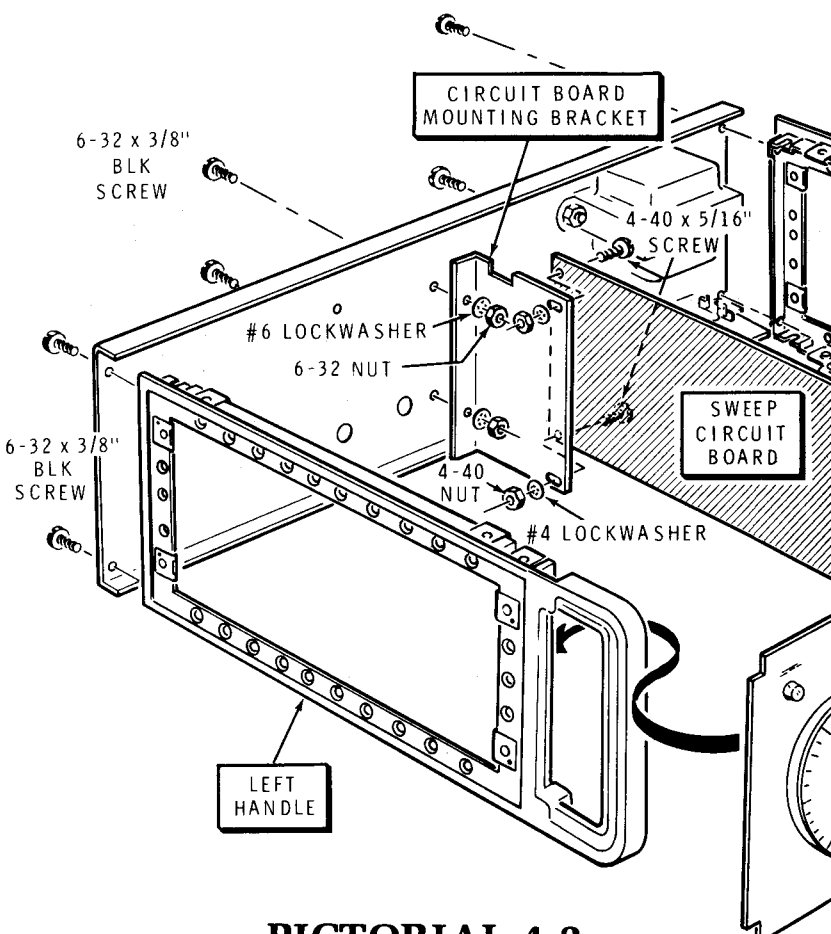
Detail 4-1E


TOP
4-1/2" CLEAR SLEEVE
INSET
1. WRAP AND MAKE A MECHANICALLY SECURE CONNECTION.
2. THEN SOLDER AS DIRECTED IN THE STEPS.
T1
AC
1"
AB
BLK
BLK-YEL
BLK-GRN
BLK-GRAY
AF
AA
WHT
GRN
BLK
BLK-RED
BLK-WHT
2"
SW6
SW5
F1
C1
0.001µF 1.4kV
1-1/2"
BA
6-1/2"
2-1/4"
9 3/4"
CAUTION:
FUSE LABEL
SWITCH BRACKET

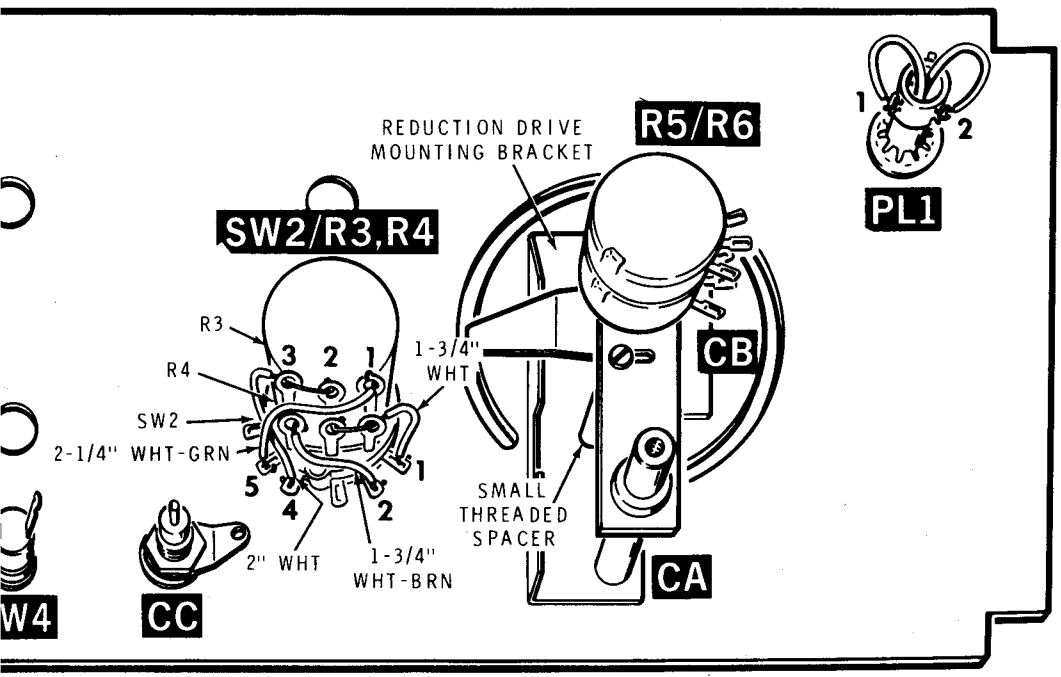
L 4-1



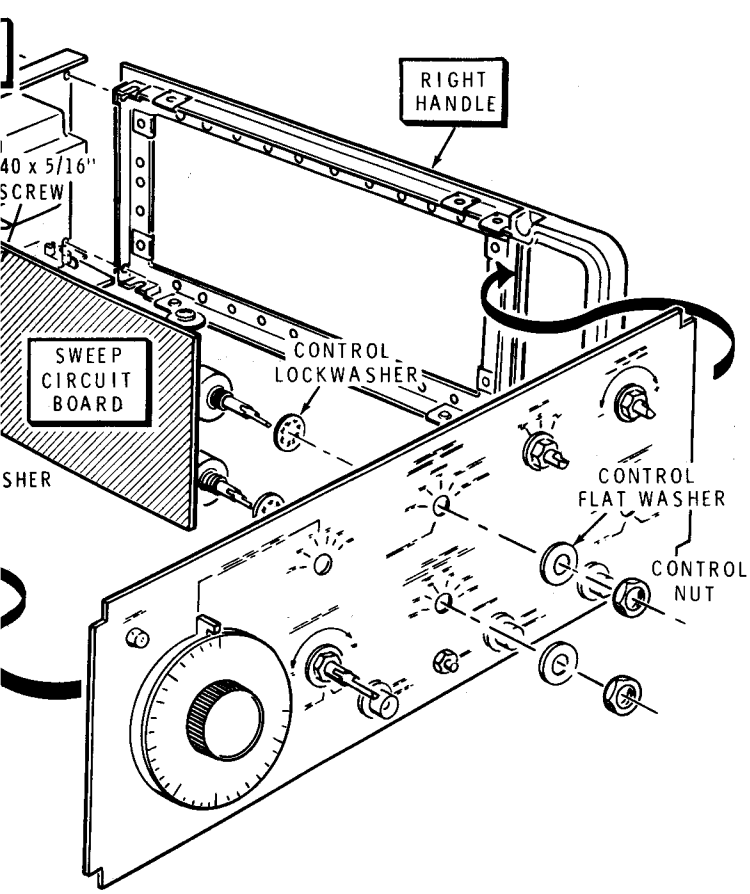
PICTORIAL 4

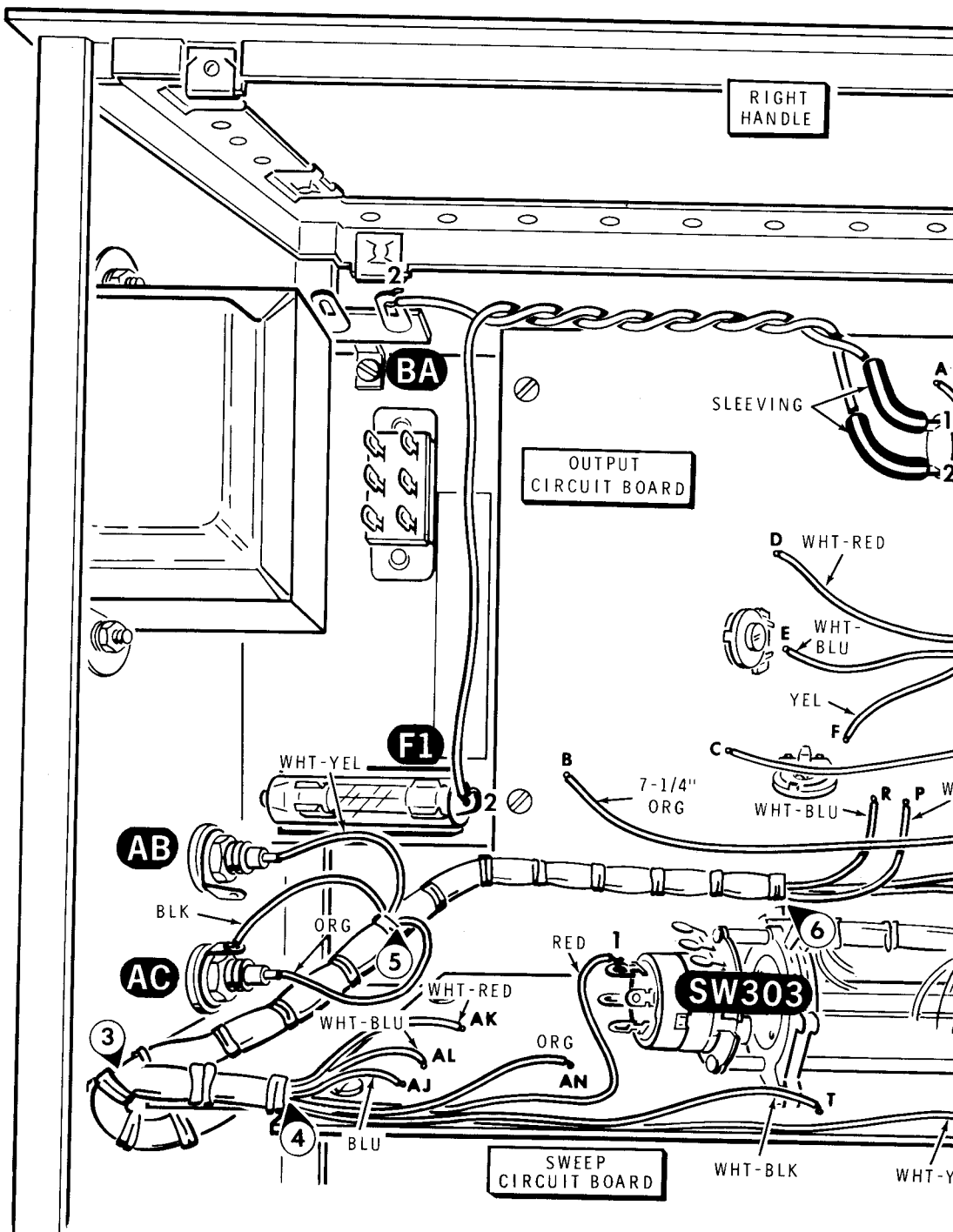


PICTORIAL 4-3

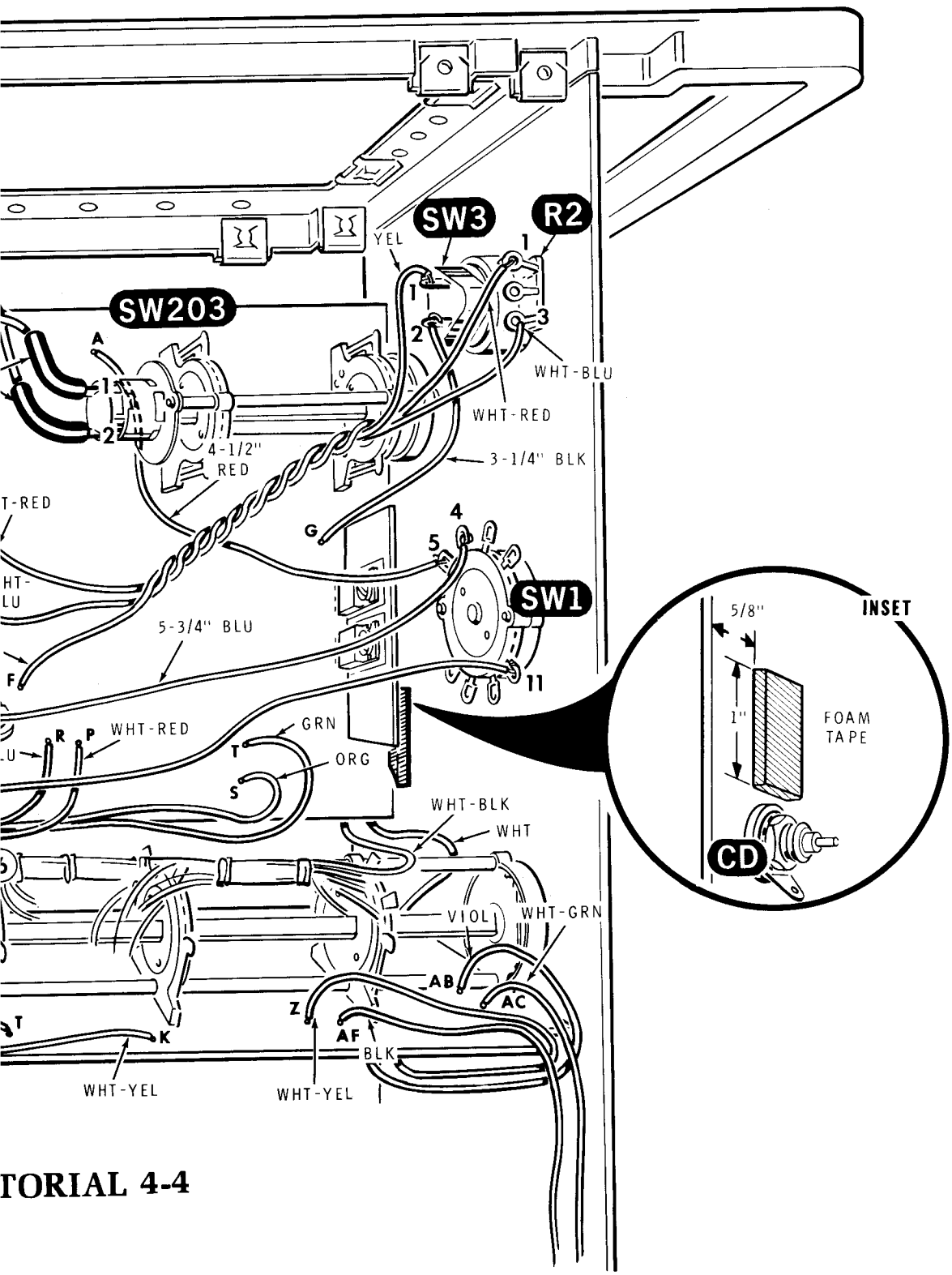

REDUCTION DRIVE
MOUNTING BRACKET
R5/R6
SW2/R3,R4
R3
R4
SW2
2-1/4" WHT-GRN
3 2 1
5 4 2 1
1-3/4"
WHT
CB
SMALL
THREADED
SPACER
CA
2" WHT
1-3/4"
WHT-BRN
CC
W4
1 2
PL1

TORIAL 4-2

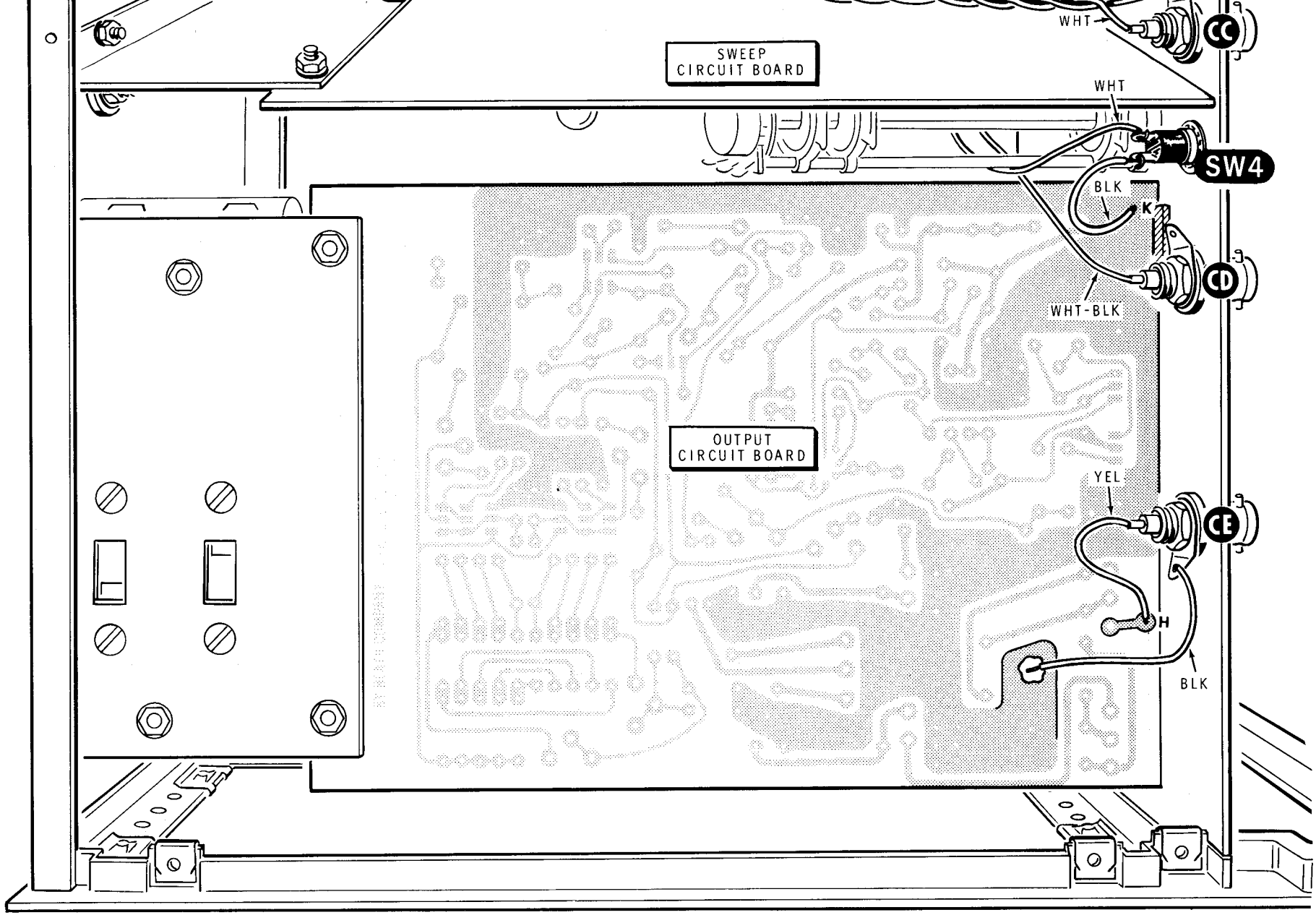

40 x 5/16"
SCREW
RIGHT
HANDLE
SWEEP
CIRCUIT
BOARD
CONTROL
LOCKWASHER
SHER
CONTROL
FLAT WASHER
CONTROL
NUT


RIGHT HANDLE
BA
SLEEVING
OUTPUT CIRCUIT BOARD
D WHT-RED
E WHT-BLU
YEL
F
F1
WHT-YEL
B
7-1/4" ORG
C
WHT-BLU
R
P
AB
BLK
ORG
AC
RED
1
6
5
SW303
WHT-RED
AK
WHT-BLU
AL
AJ
3
ORG
AN
T
4
BLU
SWEEP CIRCUIT BOARD
WHT-BLK
WHT-Y

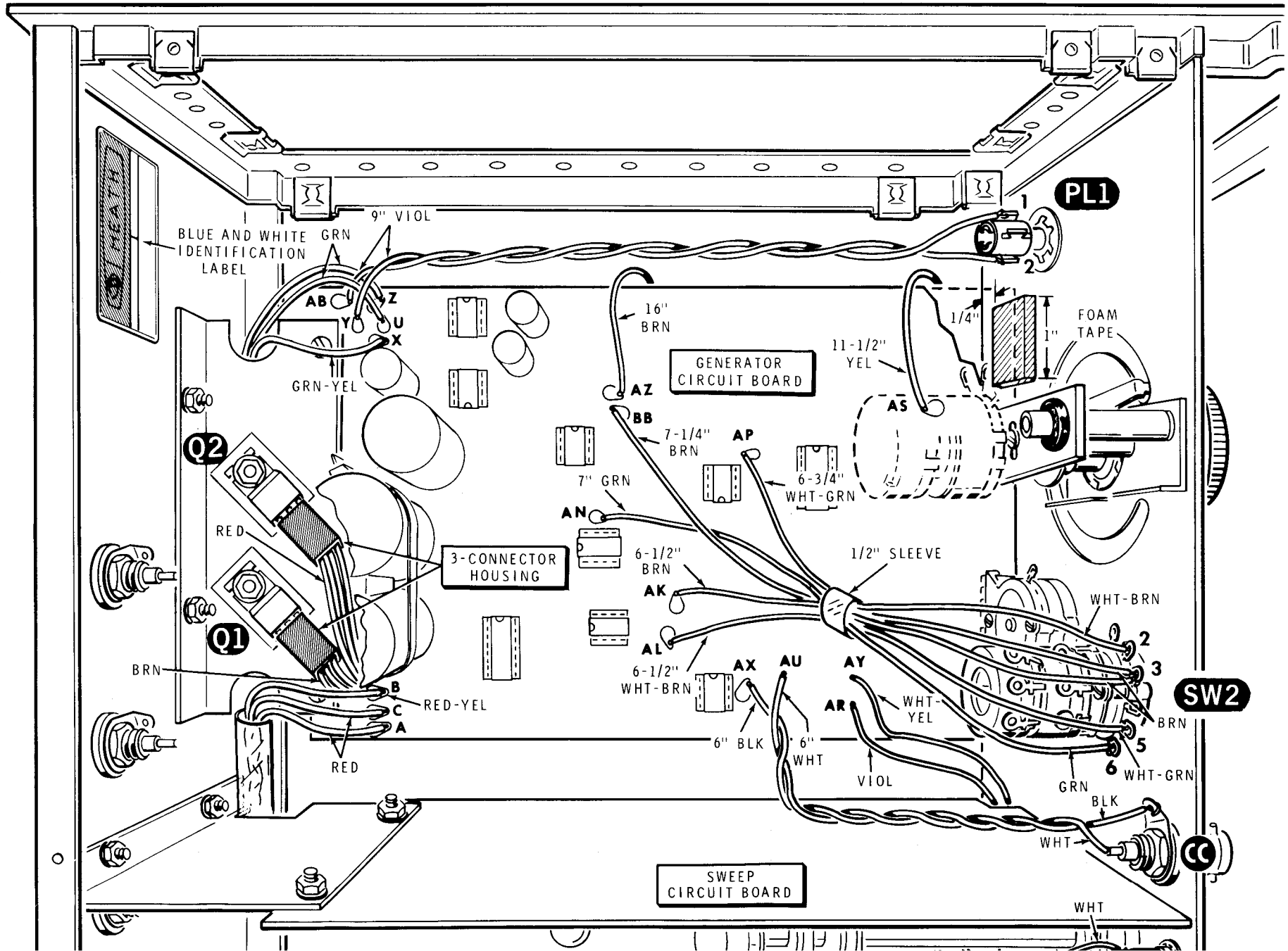
PICTORIAL

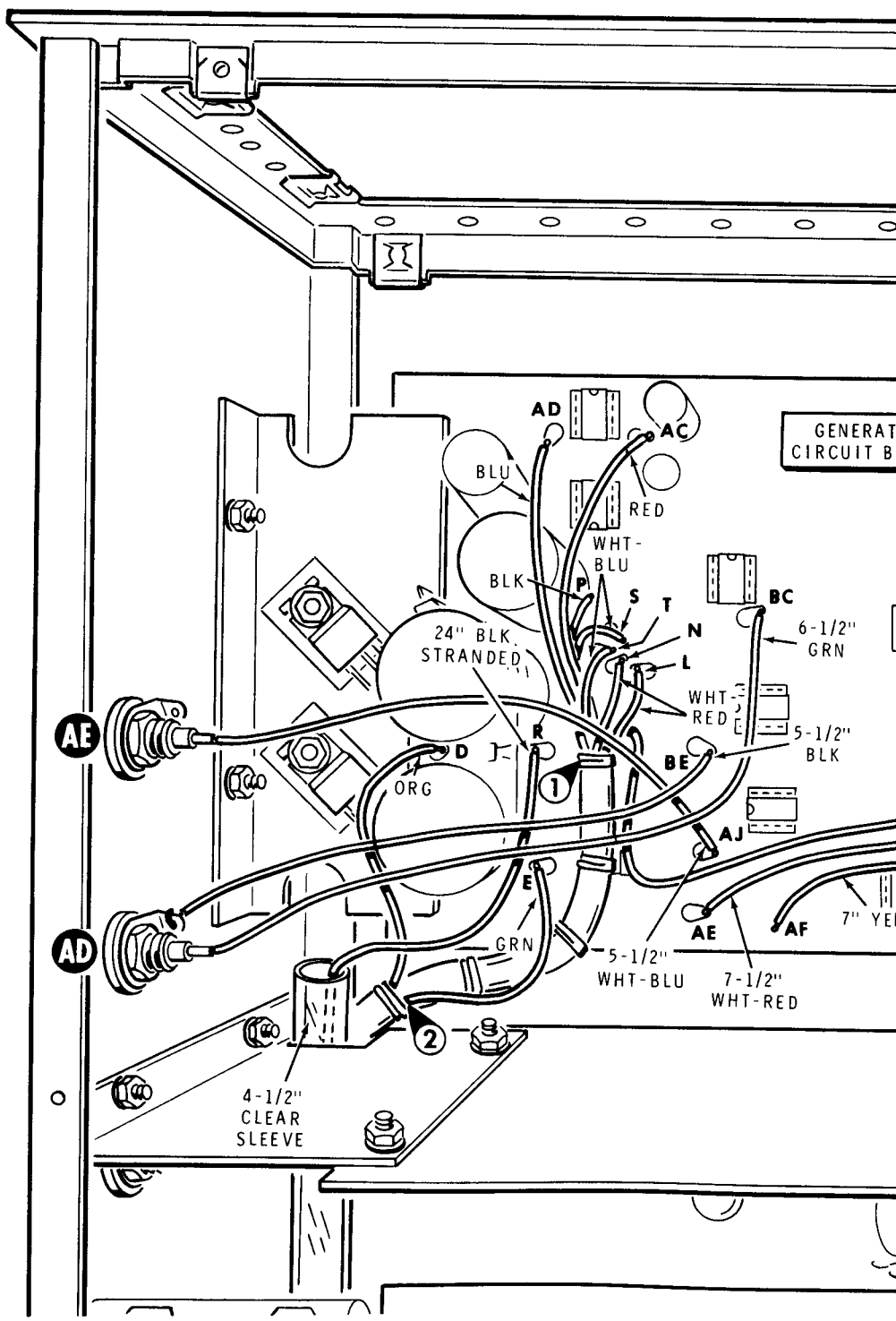

SW3
R2
YEL
SW203
A
1
2
3
WHT-BLU
WHT-RED
4-1/2"
RED
3-1/4" BLK
G
4
5
SW1
5-3/4" BLU
F
11
R
P
WHT-RED
GRN
T
ORG
S
WHT-BLK
WHT
VIOL
WHT-GRN
AB
AC
Z
AF
BLK
K
WHT-YEL
WHT-YEL
INSET
5/8"
1"
FOAM
TAPE
CD

TORIAL 4-4

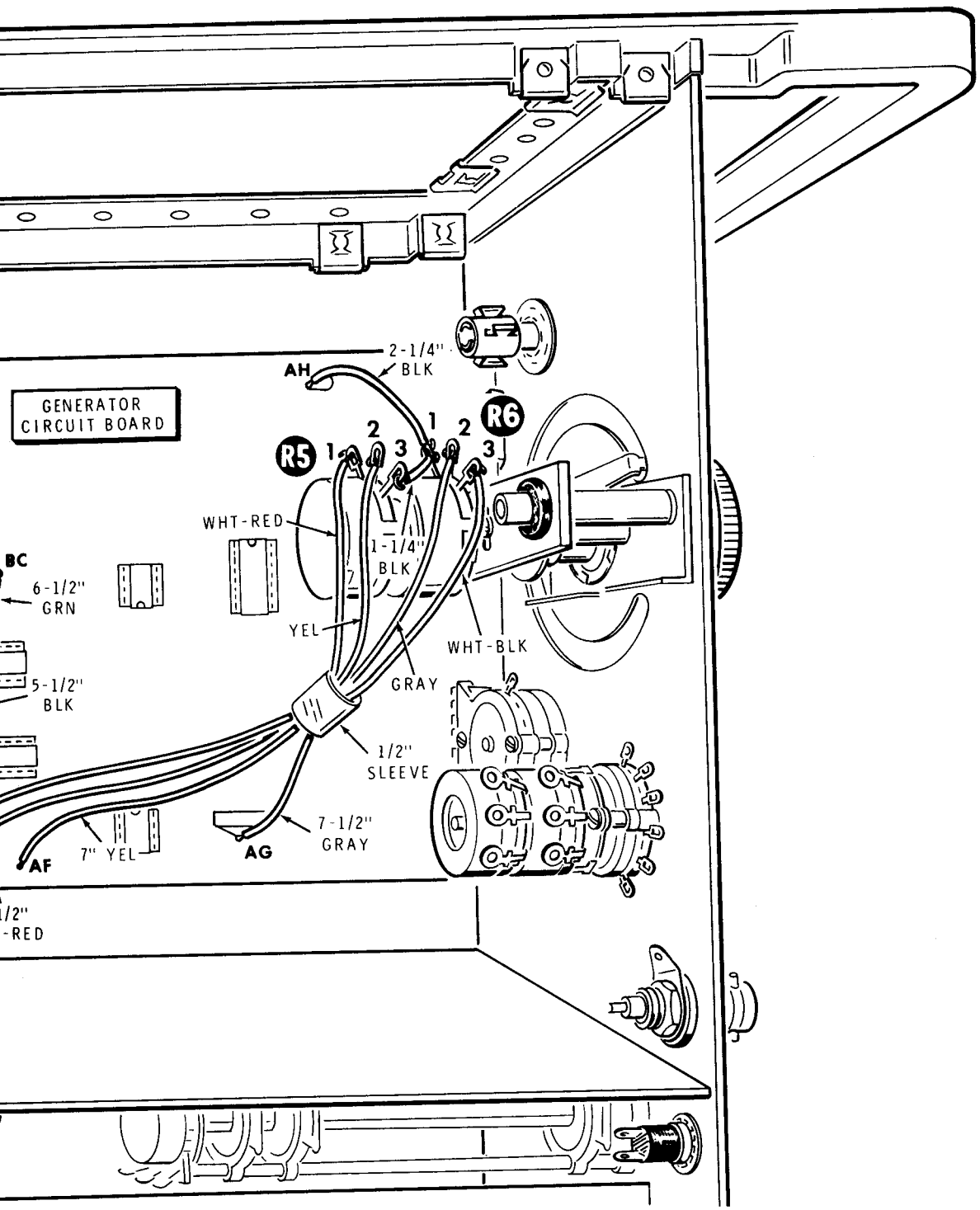


PICTORIAL 4-5

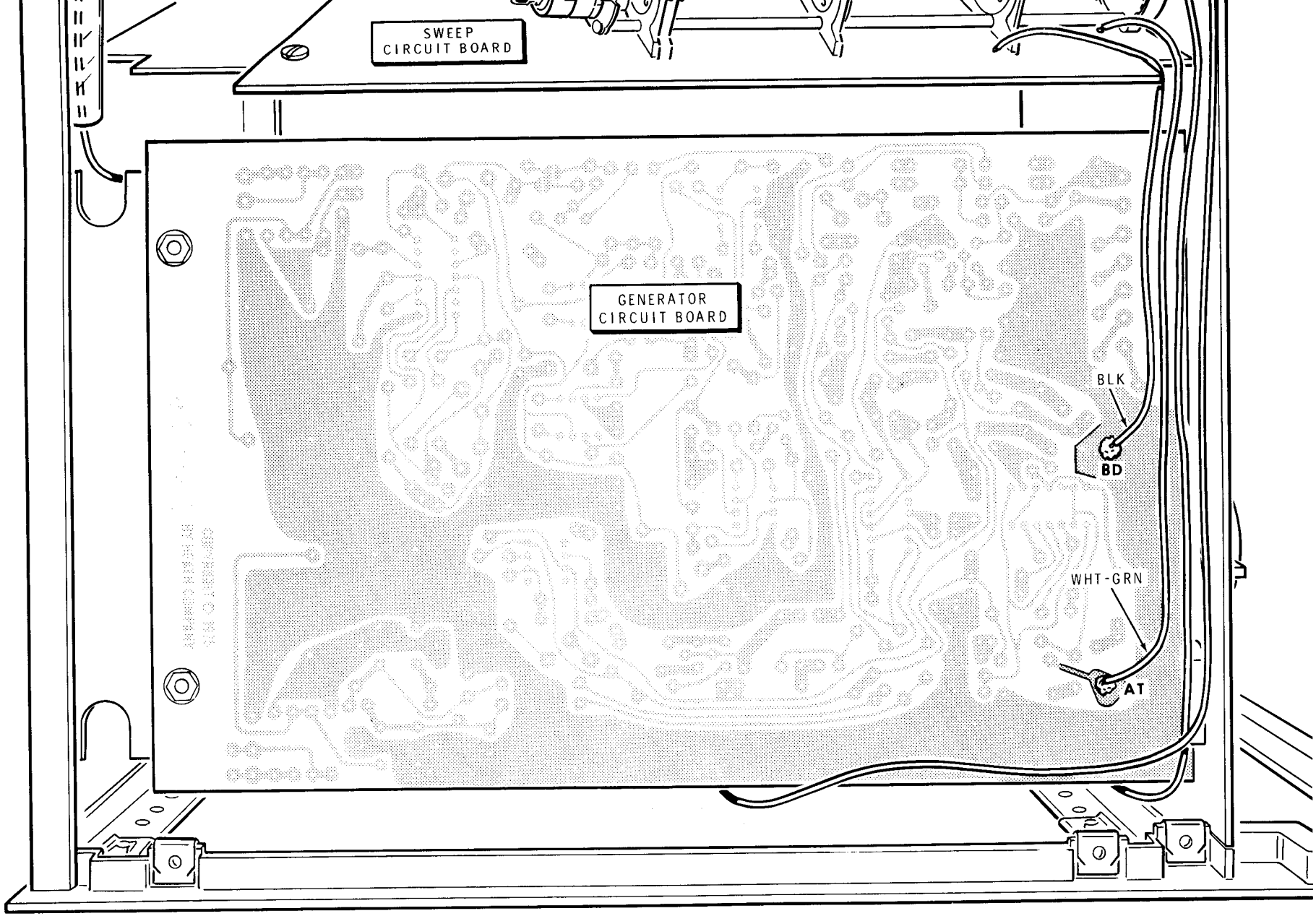

PL1
1
2
9" VIOL
BLUE AND WHITE GRN
IDENTIFICATION
LABEL
AB
Z
Y
U
X
GRN-YEL
16"
BRN
AZ
BB
GENERATOR
CIRCUIT BOARD
11-1/2"
YEL
AS
1/4"
1"
FOAM
TAPE
7-1/4"
BRN
AP
6-3/4"
WHT-GRN
7" GRN
AN
Q2
Q1
RED
3-CONNECTOR
HOUSING
6-1/2"
BRN
AK
1/2" SLEEVE
WHT-BRN
AL
6-1/2"
WHT-BRN
AX
AU
AY
AR
WHT-
YEL
BRN
RED-YEL
B
C
A
RED
6" BLK
6"
WHT
VIOL
SW2
2
3
5
6
WHT-GRN
GRN
BLK
WHT
CC
SWEEP
CIRCUIT BOARD
WHT


AD
AC
BLU
RED
WHT-
BLU
BLK
P
S
T
N
L
BC
6-1/2"
GRN
24" BLK.
STRANDED
WHT-
RED
5-1/2"
BLK
AE
D
R
BE
ORG
1
AJ
E
AD
GRN
AE
AF
5-1/2"
WHT-BLU
7-1/2"
WHT-RED
2
4-1/2"
CLEAR
SLEEVE

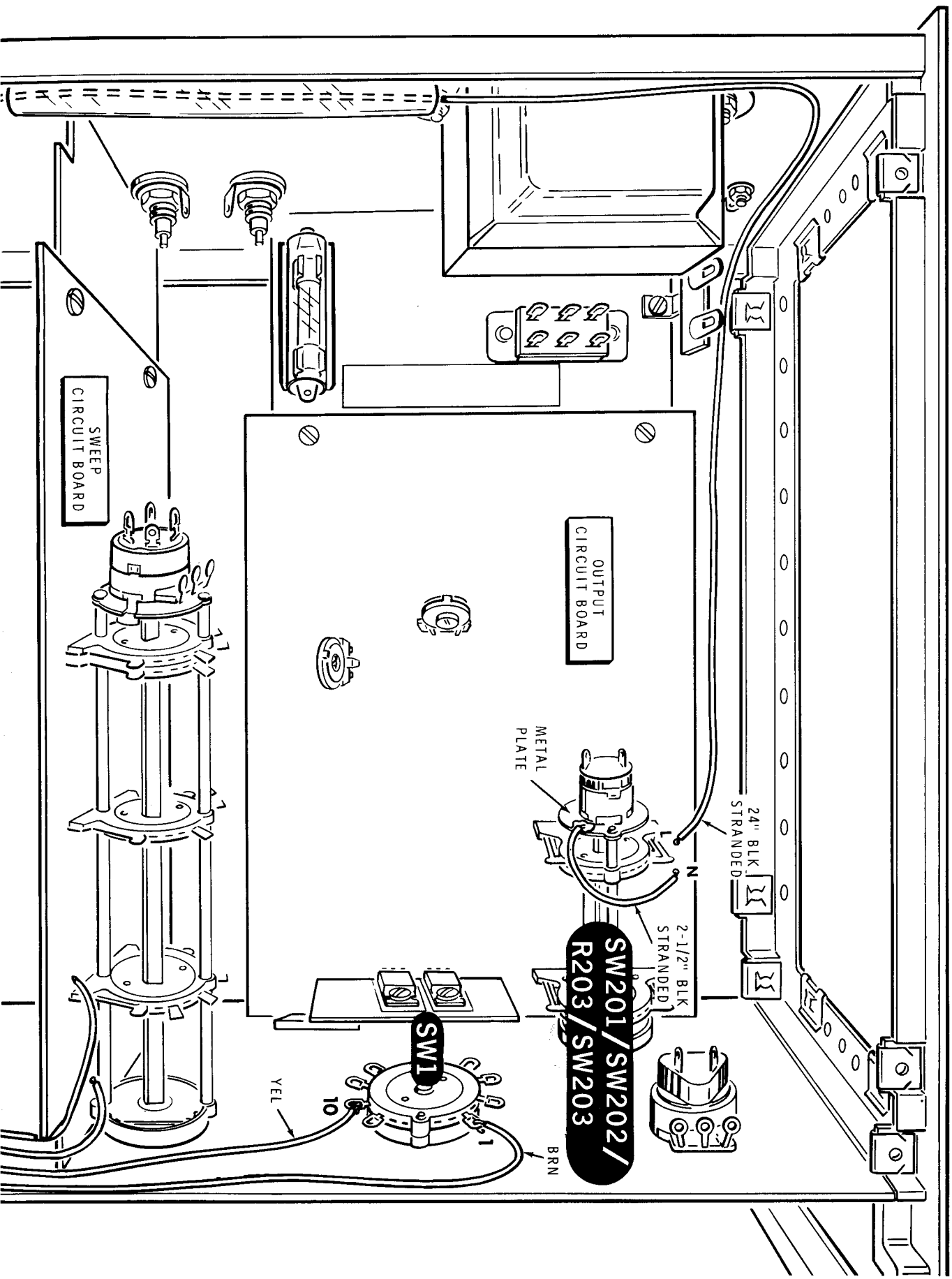
PICTORIAL

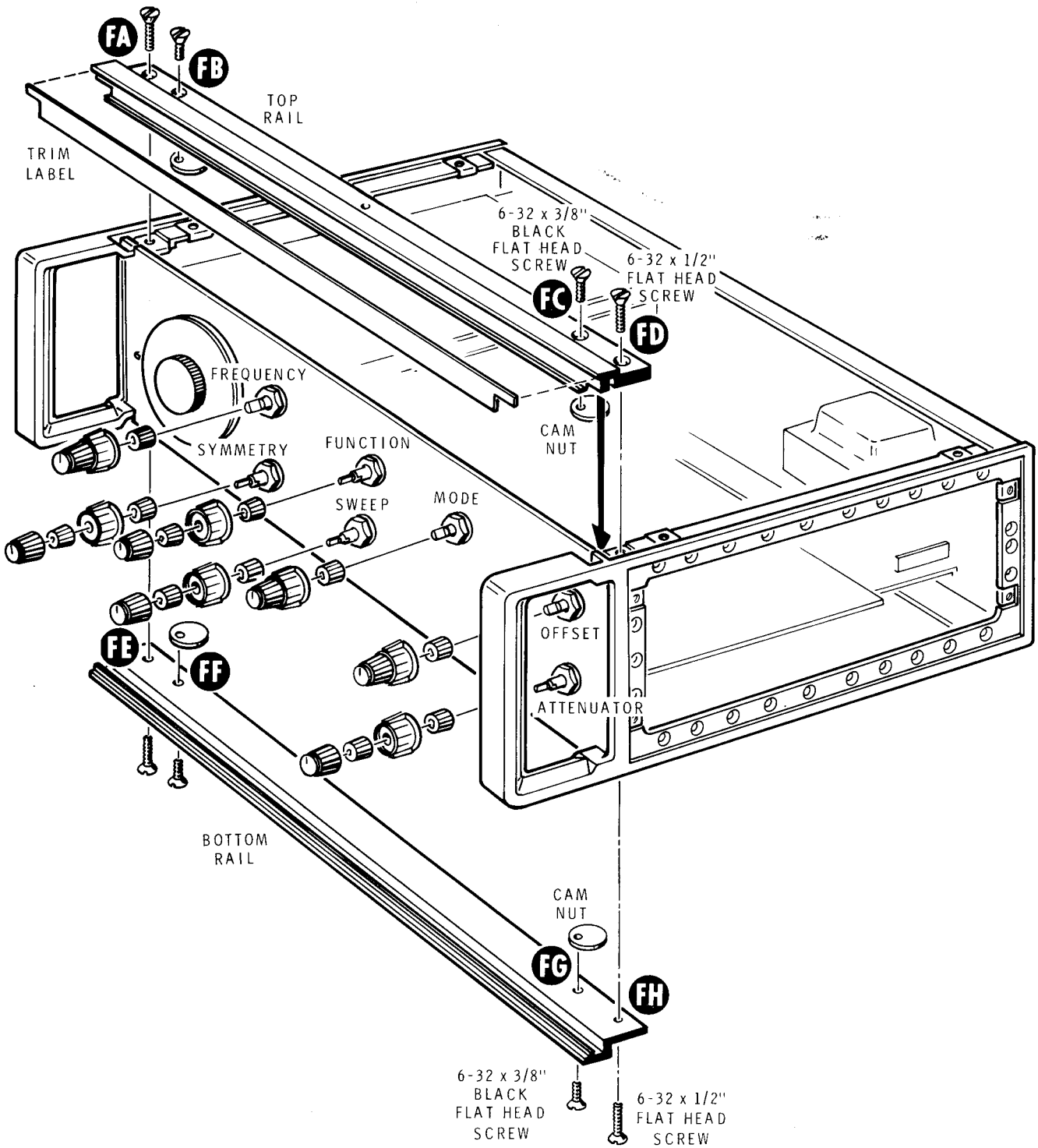

GENERATOR
CIRCUIT BOARD
2-1/4"
BLK
AH
R6
R5
1
2
3
1
2
3
WHT-RED
1-1/4"
BLK
YEL
WHT-BLK
GRAY
1/2"
SLEEVE
7-1/2"
GRAY
AG
7" YEL
AF
6-1/2"
GRN
5-1/2"
BLK

TORIAL 4-6



PICTORIAL 4-7


SWEEP CIRCUIT BOARD
OUTPUT CIRCUIT BOARD
METAL PLATE
24" BLK STRANDED
2-1/2" BLK STRANDED
L
N
SW201/SW202/
R203/SW203
SW1
YEL
BRN
10
1



PICTORIAL 4-8

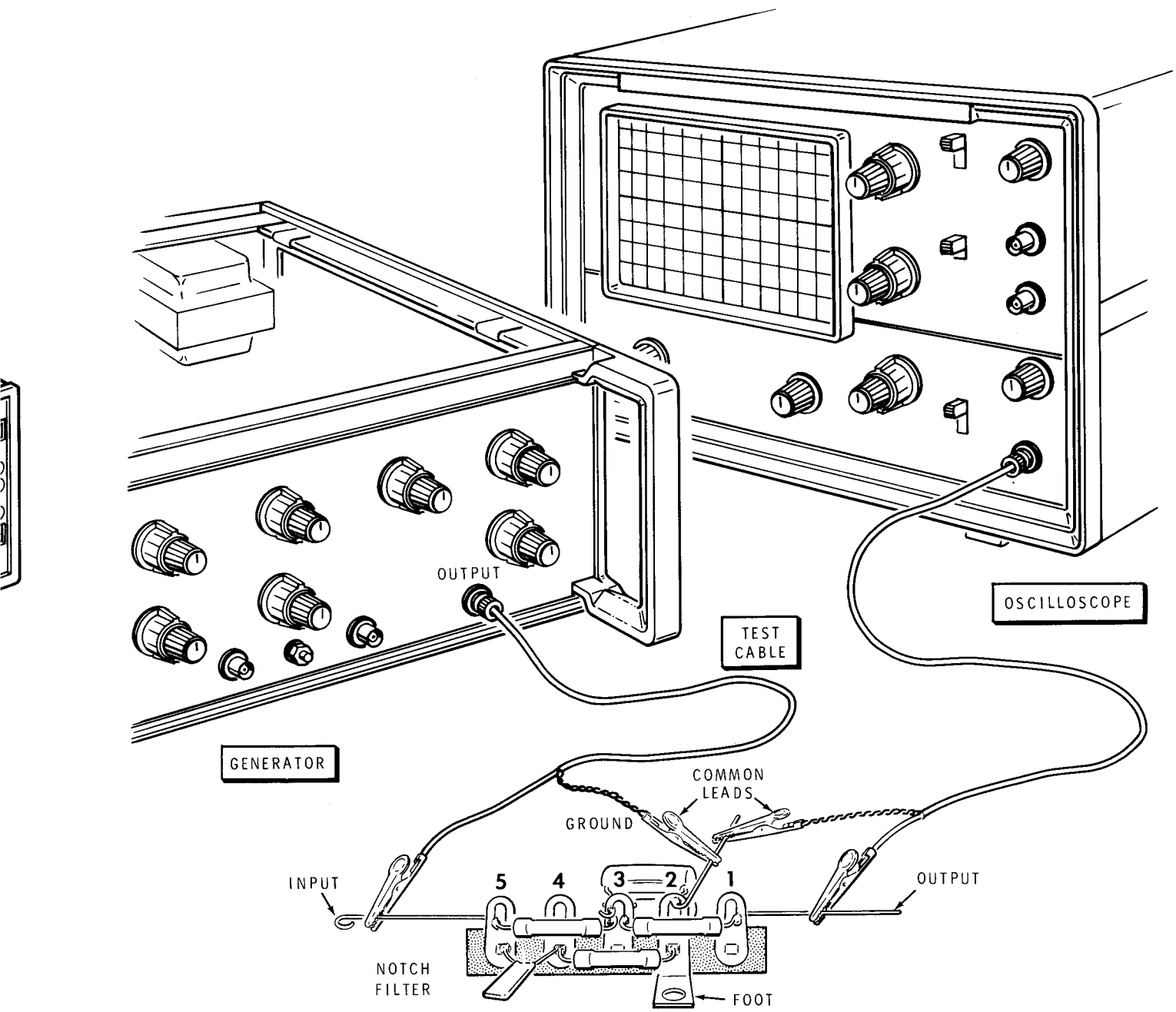

OUTPUT
OSCILLOSCOPE
TEST
CABLE
GENERATOR
COMMON
LEADS
GROUND
INPUT
5
4
3
2
1
OUTPUT
NOTCH
FILTER
FOOT

Figure 4

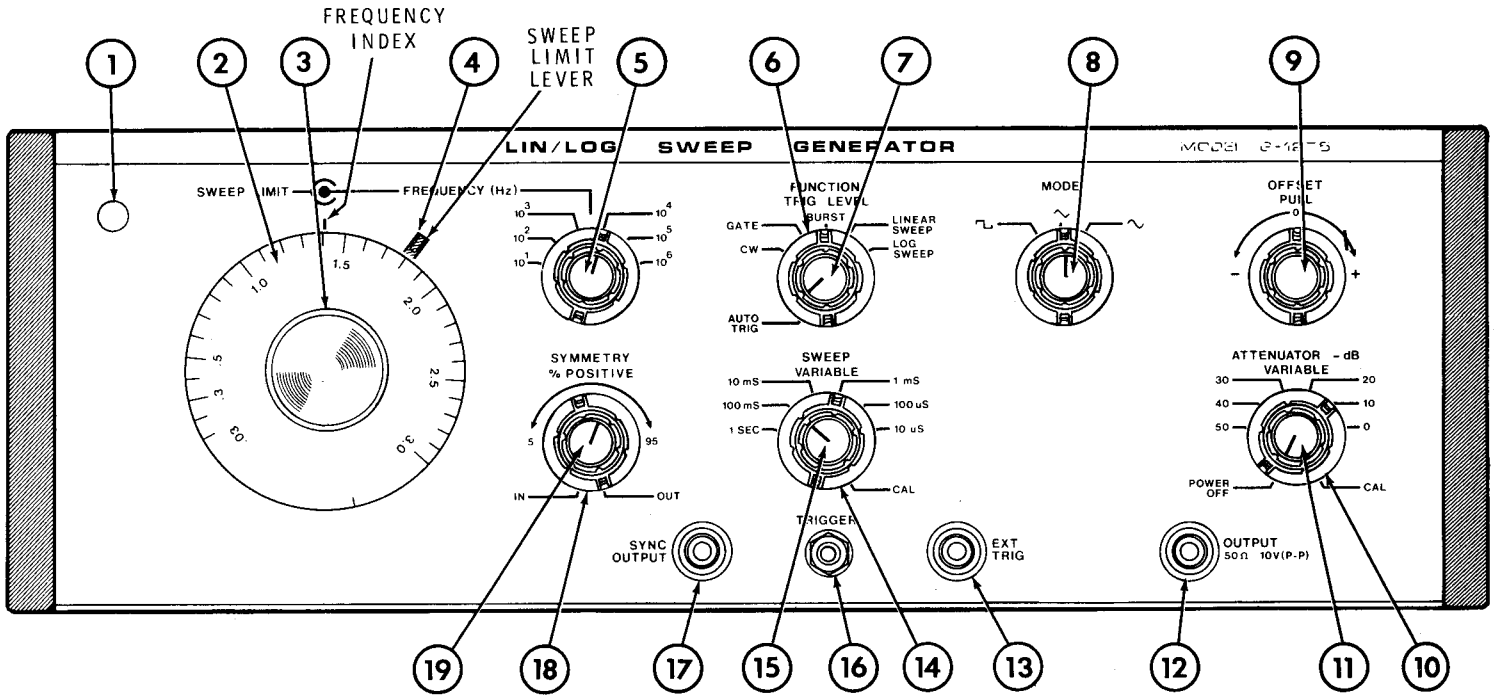
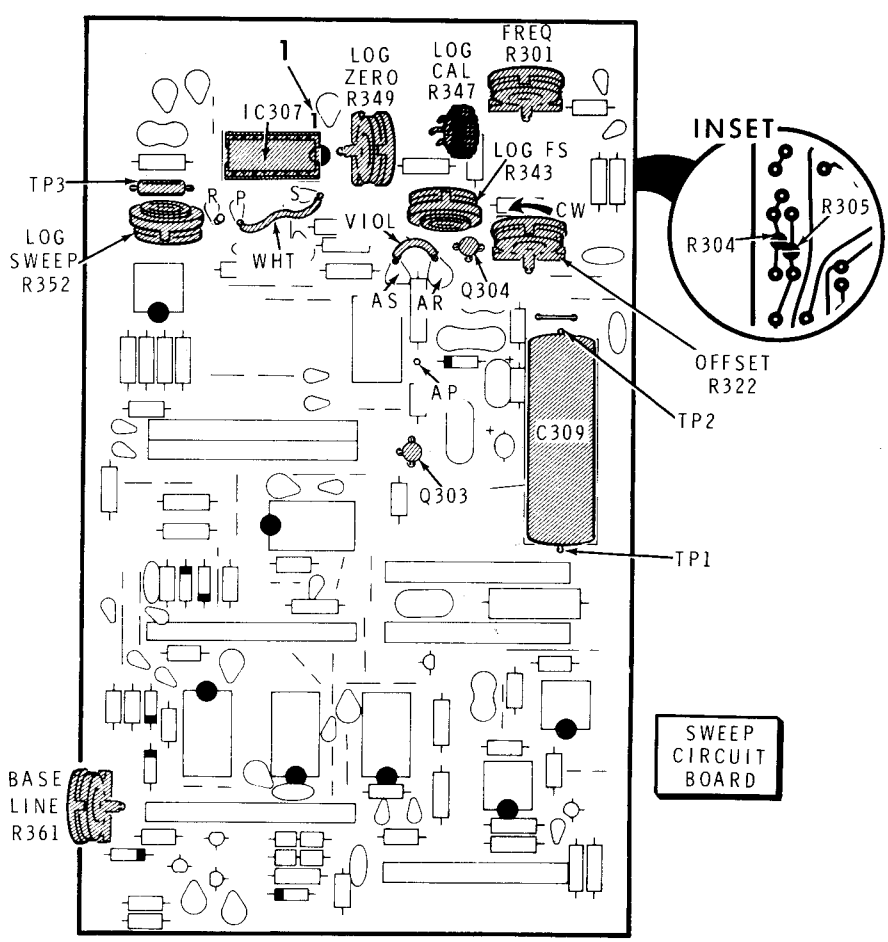


Figure 1



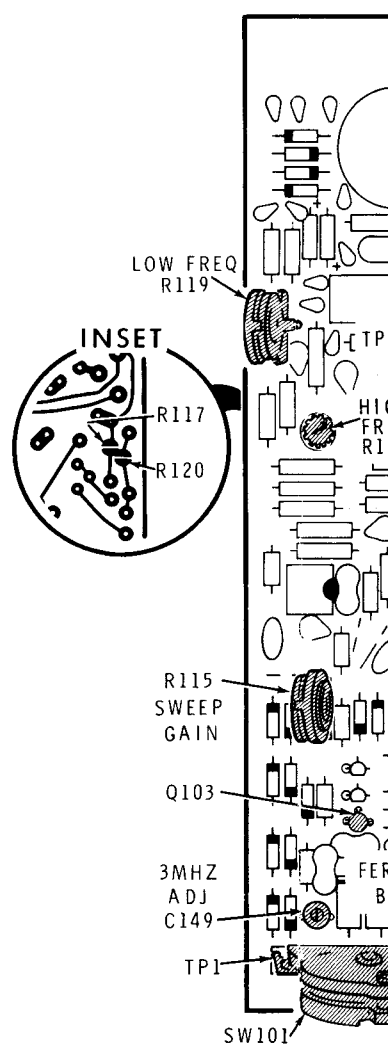
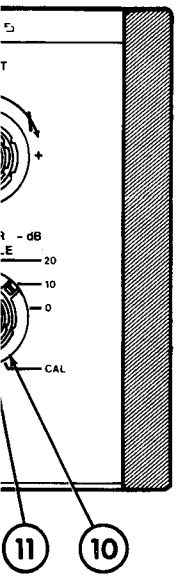


Figure 5



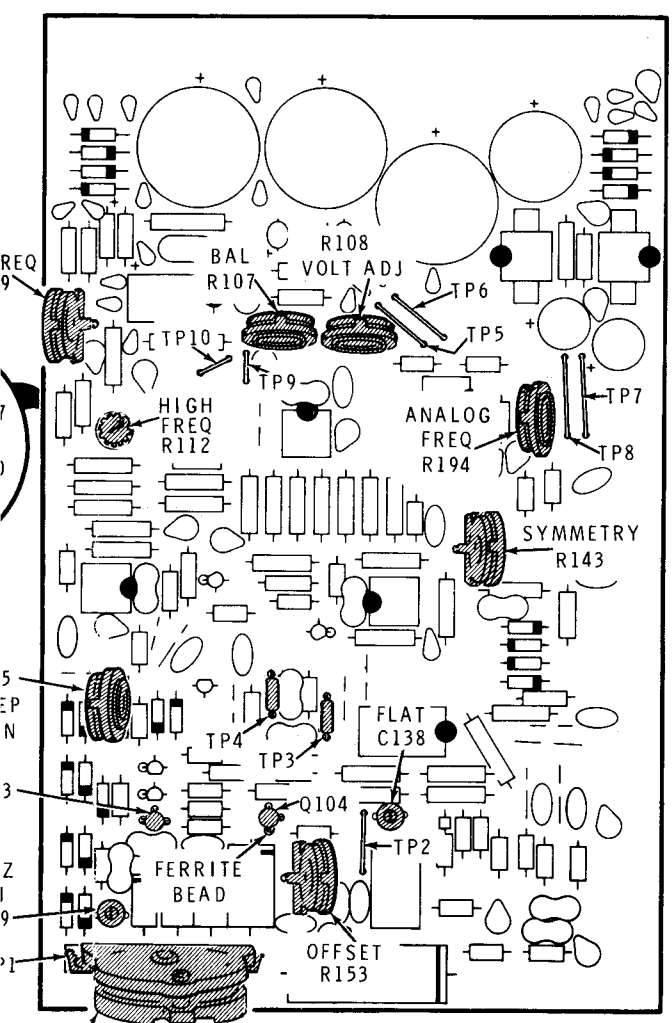


Figure 3

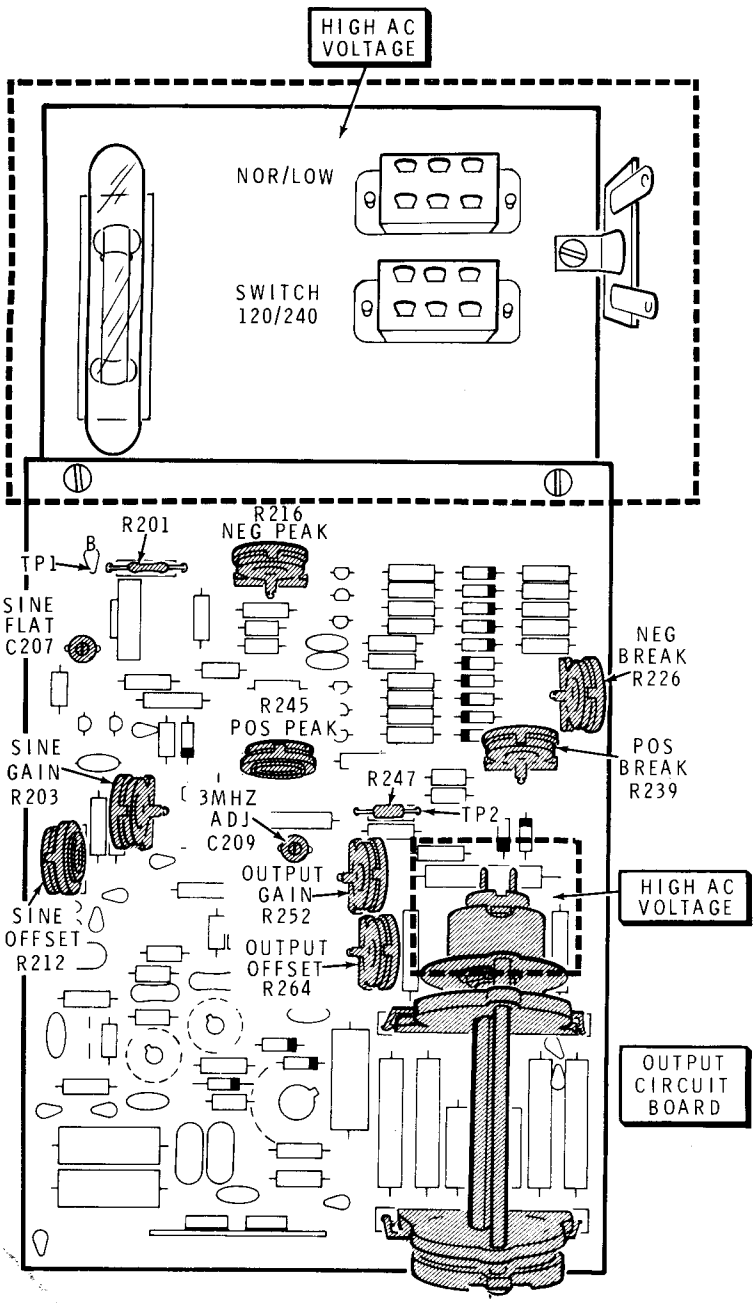
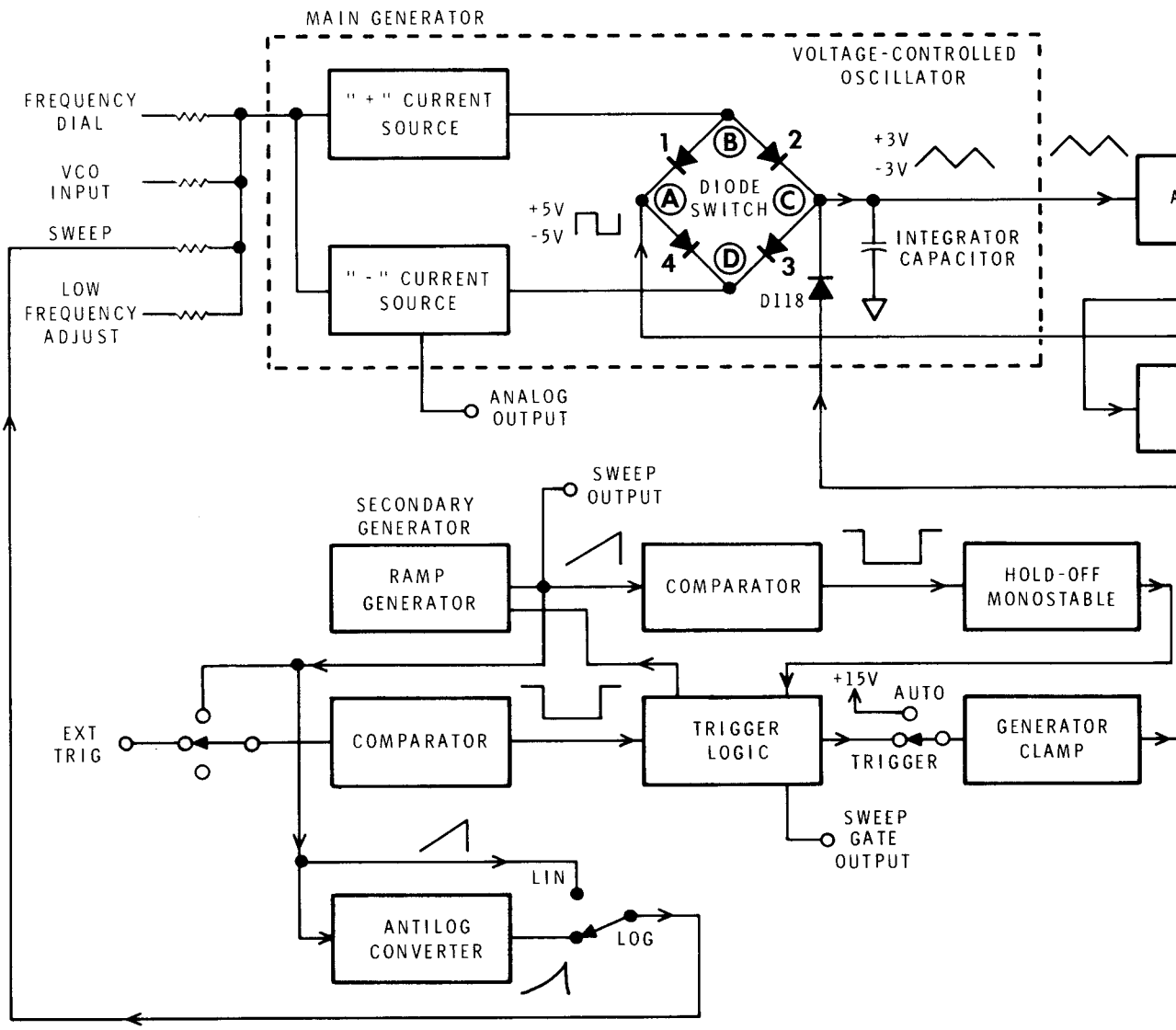
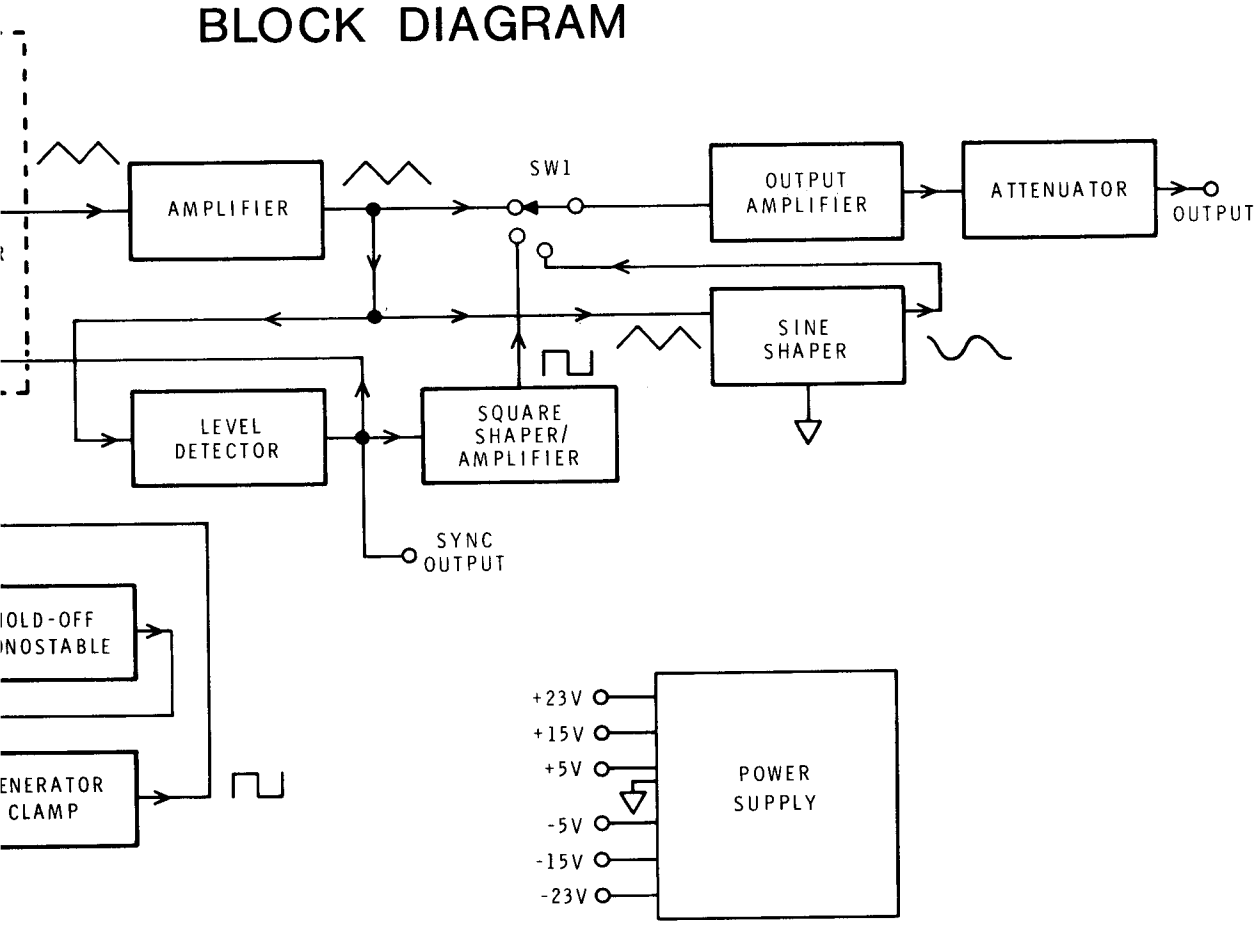


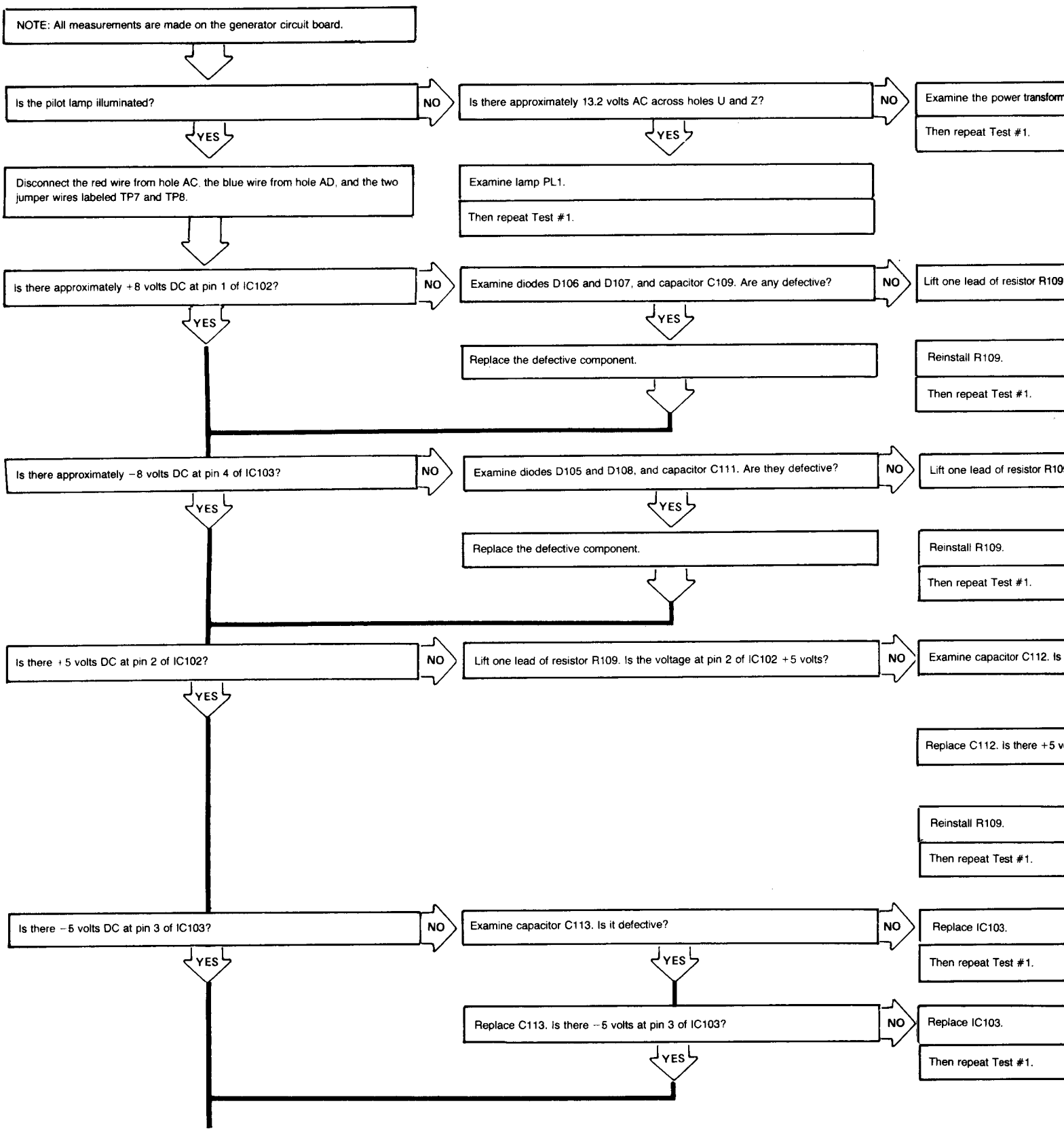
Figure 2


MAIN GENERATOR
VOLTAGE-CONTROLLED OSCILLATOR
FREQUENCY DIAL
VCO INPUT
SWEEP
LOW FREQUENCY ADJUST
" + " CURRENT SOURCE
" - " CURRENT SOURCE
DIODE SWITCH
+5V
-5V
+3V
-3V
INTEGRATOR CAPACITOR
D118
ANALOG OUTPUT
SWEEP OUTPUT
SECONDARY GENERATOR
RAMP GENERATOR
COMPARATOR
HOLD-OFF MONOSTABLE
EXT TRIG
COMPARATOR
TRIGGER LOGIC
+15V
AUTO
TRIGGER
GENERATOR CLAMP
SWEEP GATE OUTPUT
LIN
ANTILOG CONVERTER
LOG

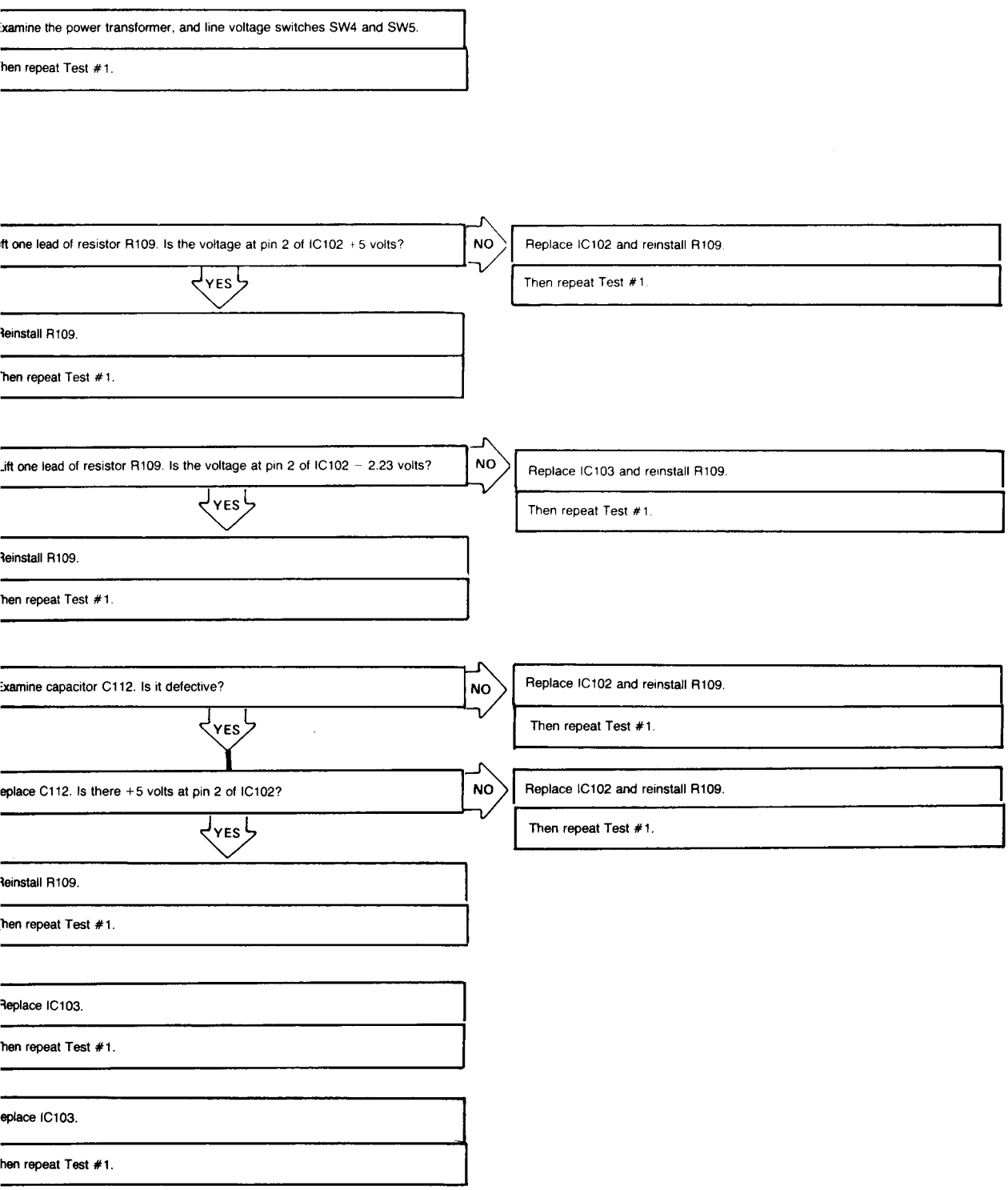
BLOCK DIAGRAM



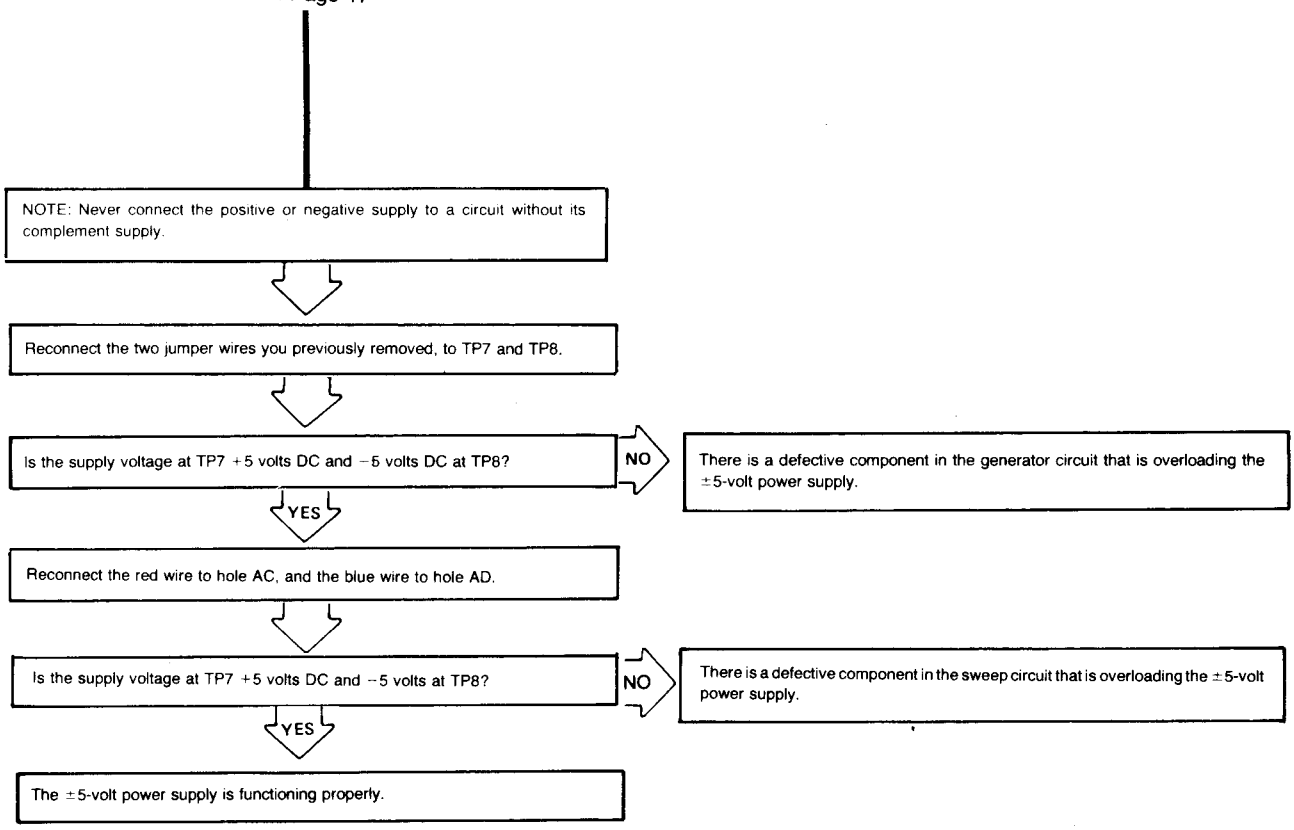
TEST CHART #1 ±5-VOLT POWER SUPPLY



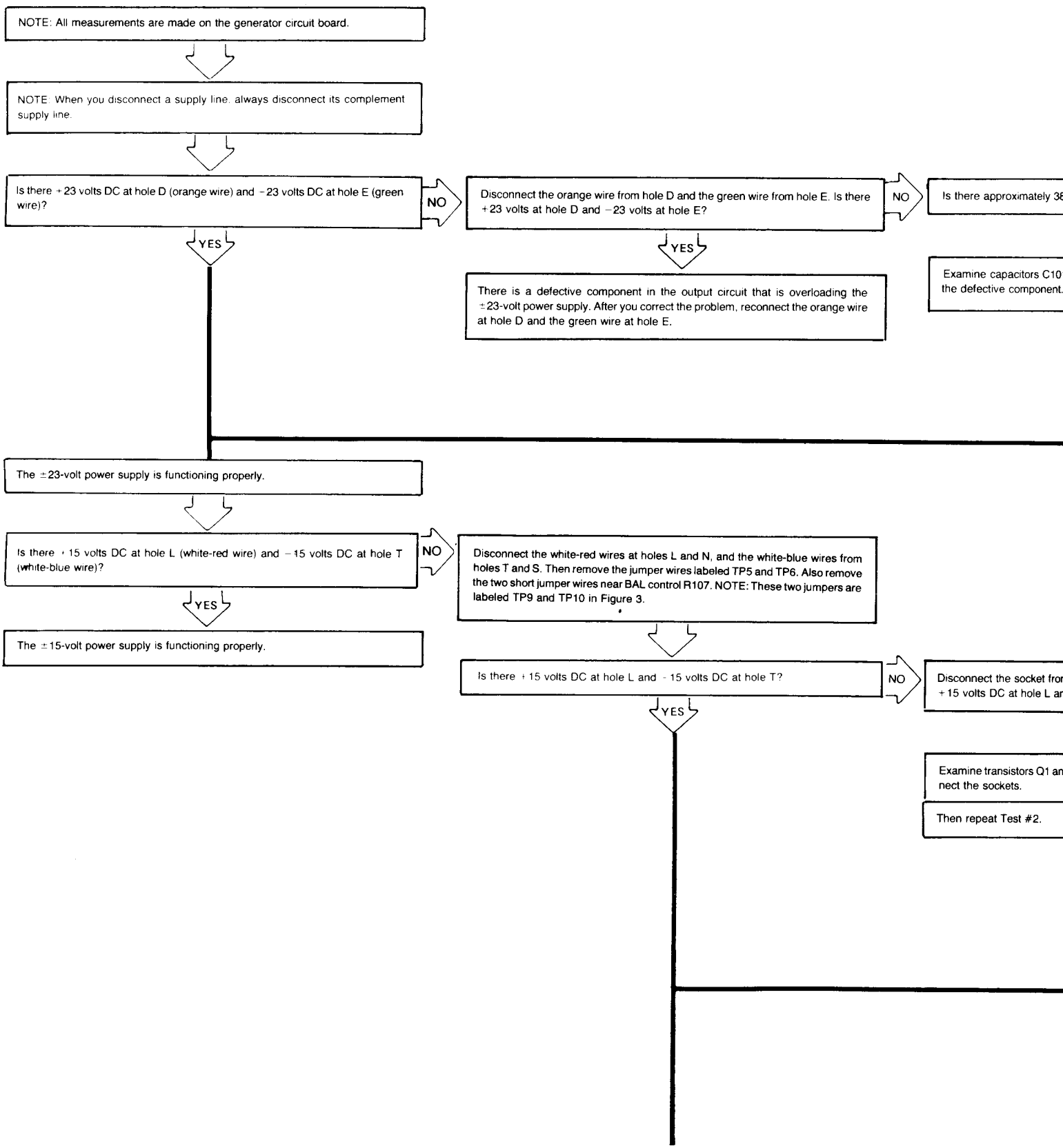
To Page 18


xamine the power transformer, and line voltage switches SW4 and SW5.
hen repeat Test #1.
ft one lead of resistor R109. Is the voltage at pin 2 of IC102 +5 volts?
NO
Replace IC102 and reinstall R109.
Then repeat Test #1.
YES
einstall R109.
hen repeat Test #1.
ift one lead of resistor R109. Is the voltage at pin 2 of IC102 – 2.23 volts?
NO
Replace IC103 and reinstall R109.
Then repeat Test #1.
YES
einstall R109.
hen repeat Test #1.
xamine capacitor C112. Is it defective?
NO
Replace IC102 and reinstall R109.
Then repeat Test #1.
YES
eplace C112. Is there +5 volts at pin 2 of IC102?
NO
Replace IC102 and reinstall R109.
Then repeat Test #1.
YES
einstall R109.
hen repeat Test #1.
eplace IC103.
hen repeat Test #1.
eplace IC103.
hen repeat Test #1.

From Page 17

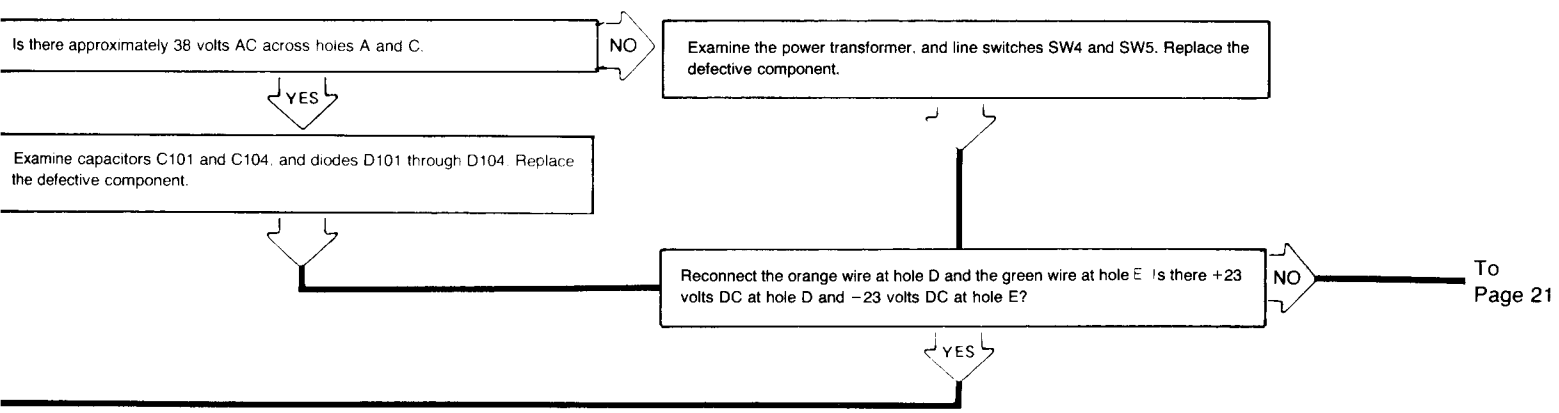

NOTE: Never connect the positive or negative supply to a circuit without its complement supply.
Reconnect the two jumper wires you previously removed, to TP7 and TP8.
Is the supply voltage at TP7 +5 volts DC and −5 volts DC at TP8?
NO
There is a defective component in the generator circuit that is overloading the ±5-volt power supply.
YES
Reconnect the red wire to hole AC, and the blue wire to hole AD.
Is the supply voltage at TP7 +5 volts DC and −5 volts at TP8?
NO
There is a defective component in the sweep circuit that is overloading the ±5-volt power supply.
YES
The ±5-volt power supply is functioning properly.

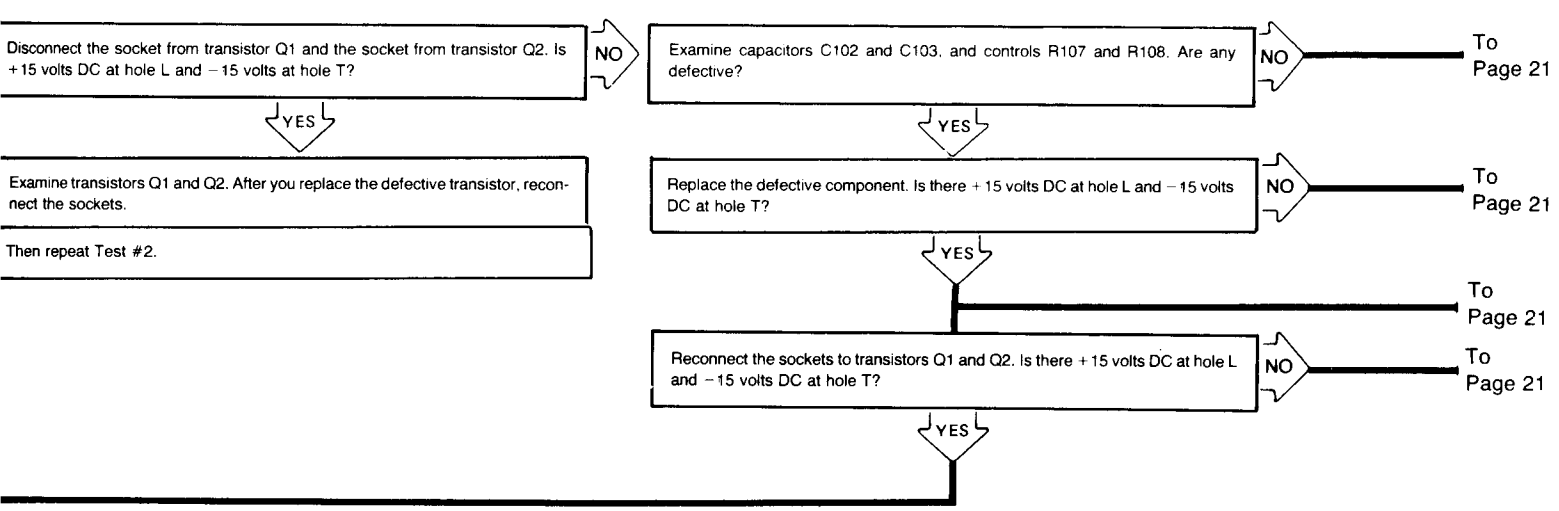
TEST CHART #2 ±23 AND ±15-VOLT POW



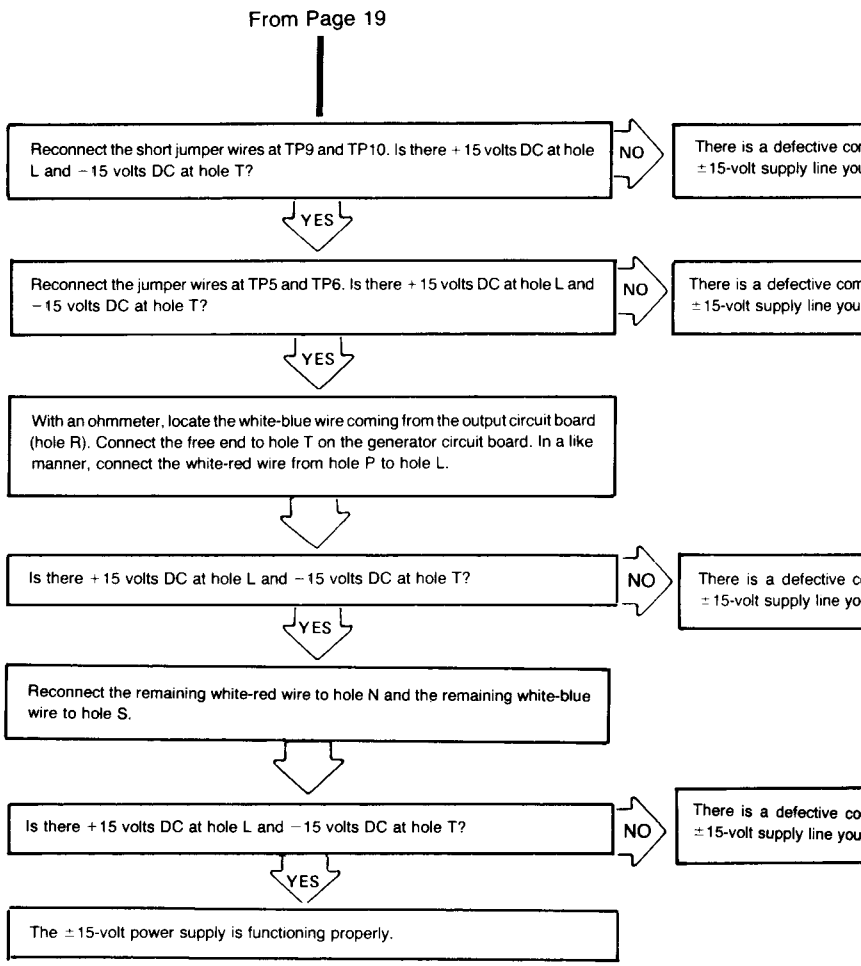
To Page 20

POWER SUPPLIES





From Page 19


Reconnect the short jumper wires at TP9 and TP10. Is there +15 volts DC at hole L and −15 volts DC at hole T?
NO
There is a defective co
±15-volt supply line yo
YES
Reconnect the jumper wires at TP5 and TP6. Is there +15 volts DC at hole L and −15 volts DC at hole T?
NO
There is a defective com
±15-volt supply line you
YES
With an ohmmeter, locate the white-blue wire coming from the output circuit board (hole R). Connect the free end to hole T on the generator circuit board. In a like manner, connect the white-red wire from hole P to hole L.
Is there +15 volts DC at hole L and −15 volts DC at hole T?
NO
There is a defective c
±15-volt supply line yo
YES
Reconnect the remaining white-red wire to hole N and the remaining white-blue wire to hole S.
Is there +15 volts DC at hole L and −15 volts DC at hole T?
NO
There is a defective co
±15-volt supply line you
YES
The ±15-volt power supply is functioning properly.

There is a defective component in the generator circuit that is overloading the ±15-volt supply line you connected.

There is a defective component in the generator circuit that is overloading the ±15-volt supply line you connected.

There is a defective component in the output circuit that is overloading the ±15-volt supply line you connected.

There is a defective component in the sweep circuit that is overloading the ±15-volt supply line you connected.

From Page 19

There is a defective component in the output circuit that is overloading the ±23-volt power supply.

From Page 19

From Page 19

Replace integrated circuit IC101.

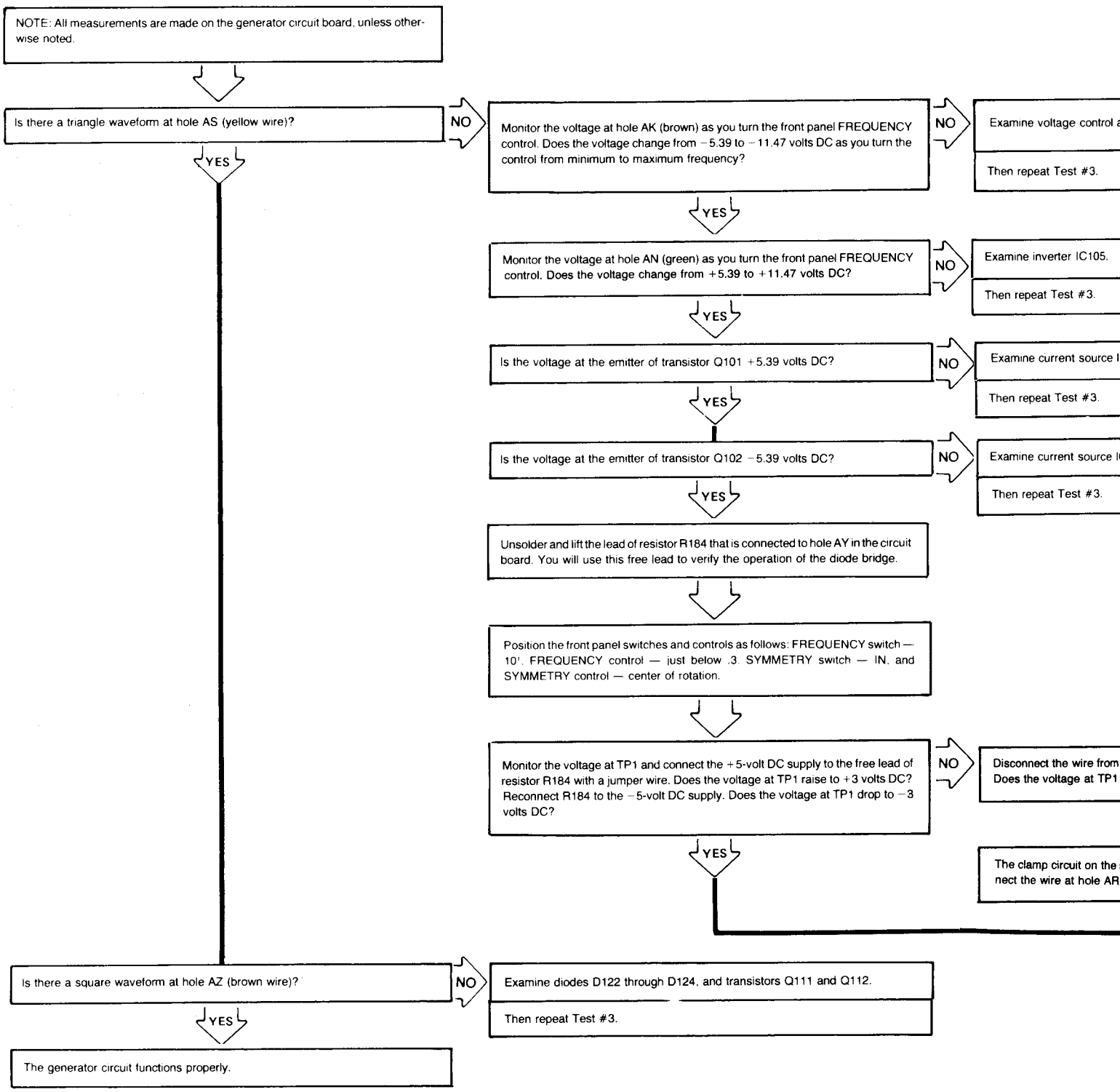
From Page 19

From Page 19

Examine transistors Q1 and Q2. After you replace the defective transistor, reconnect the sockets.

Then repeat Test #2.

TEST CHART #3 GENERATOR



Examine voltage control amplifier IC104.

Then repeat Test #3.

Examine inverter IC105.

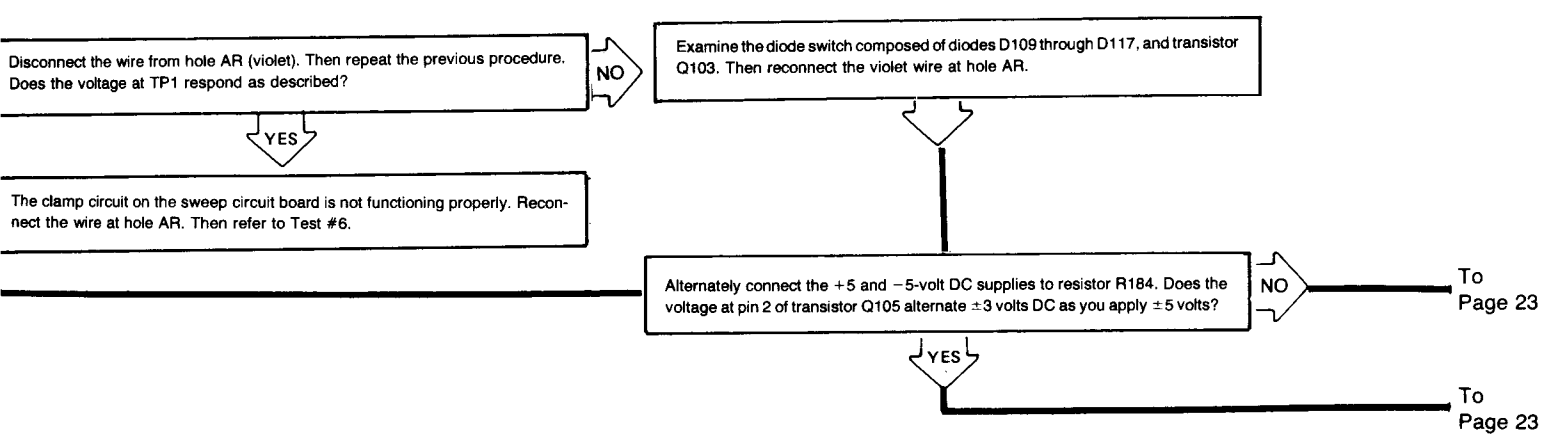
Then repeat Test #3.

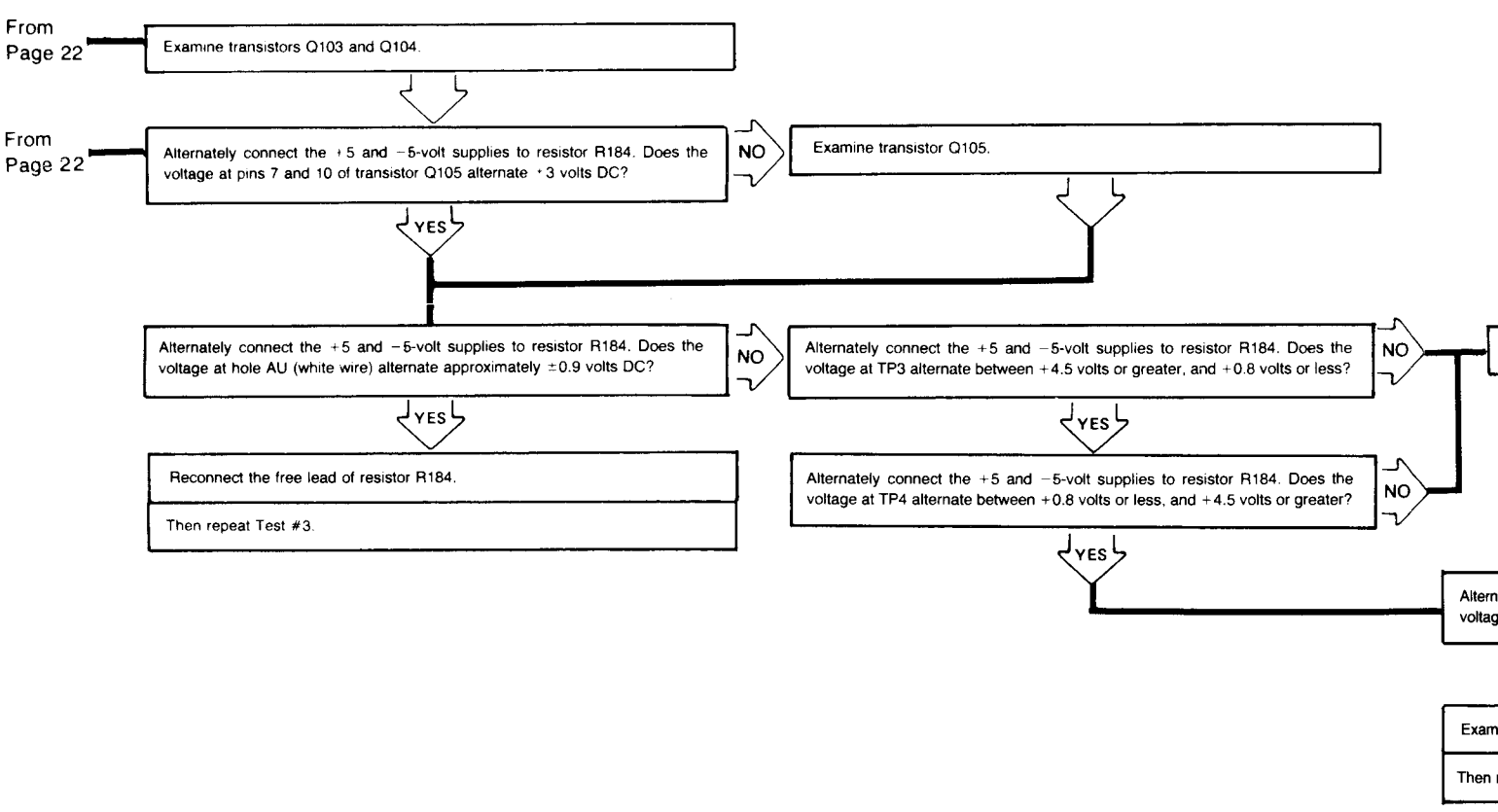
Examine current source IC106 and Q101.

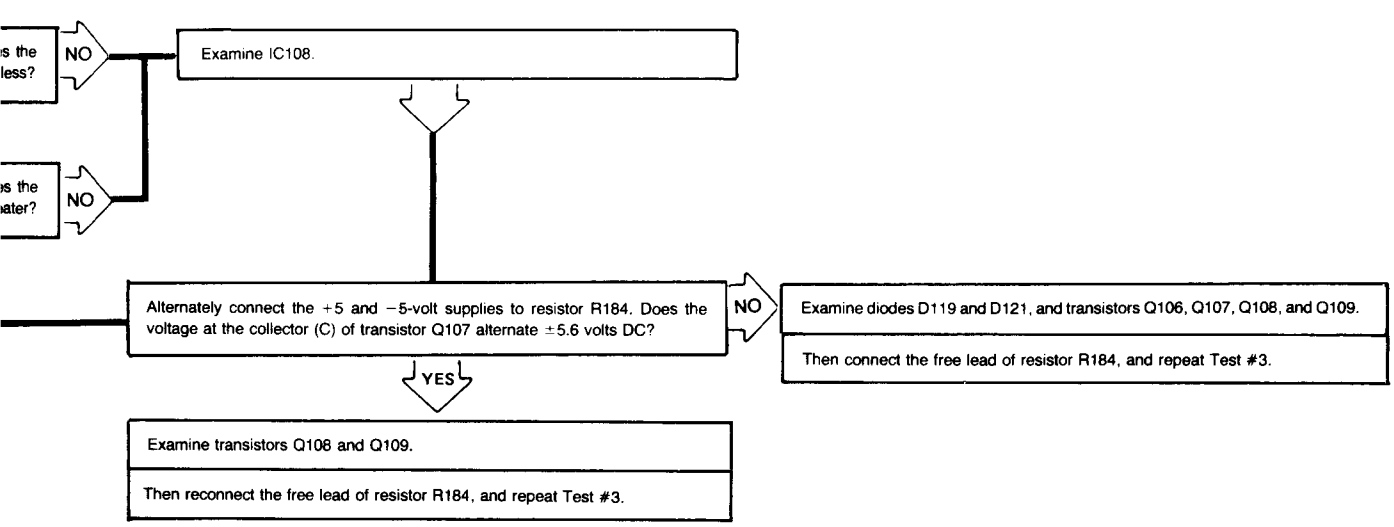
Then repeat Test #3.

Examine current source IC107 and Q102.

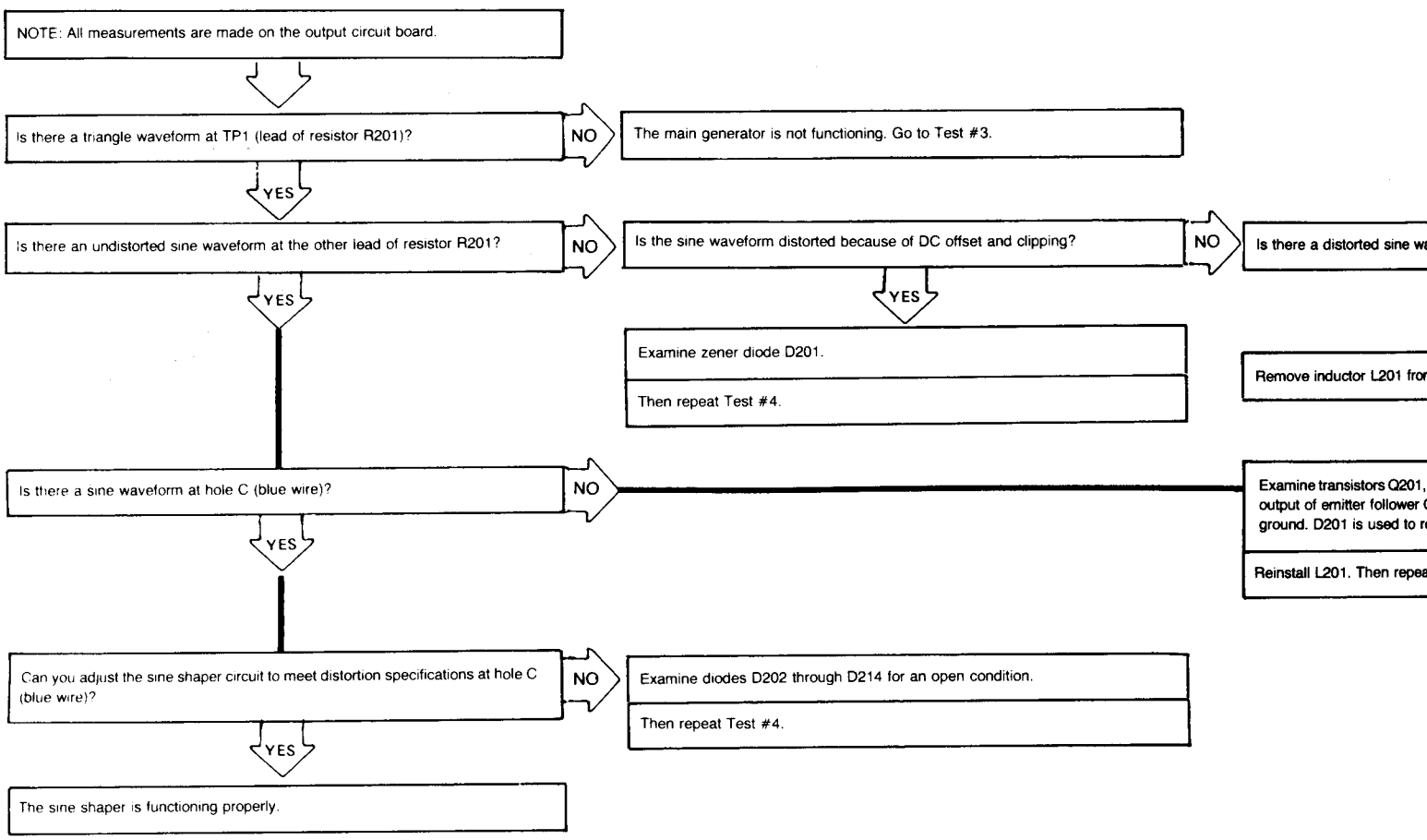
Then repeat Test #3.

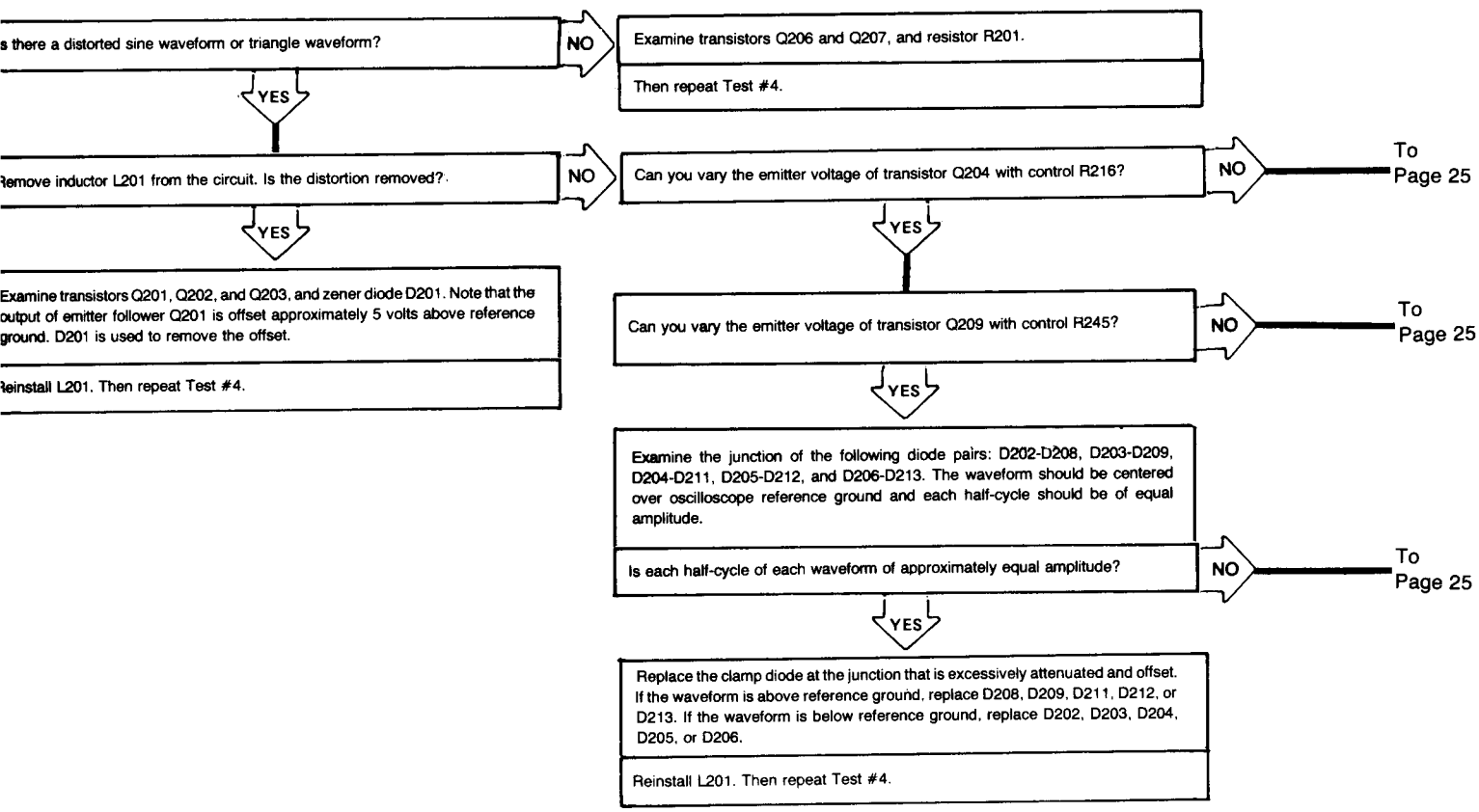



From Page 22
Examine transistors Q103 and Q104.
From Page 22
Alternately connect the +5 and −5-volt supplies to resistor R184. Does the voltage at pins 7 and 10 of transistor Q105 alternate +3 volts DC?
NO
Examine transistor Q105.
YES
Alternately connect the +5 and −5-volt supplies to resistor R184. Does the voltage at hole AU (white wire) alternate approximately ±0.9 volts DC?
NO
Alternately connect the +5 and −5-volt supplies to resistor R184. Does the voltage at TP3 alternate between +4.5 volts or greater, and +0.8 volts or less?
NO
YES
YES
Reconnect the free lead of resistor R184.
Then repeat Test #3.
Alternately connect the +5 and −5-volt supplies to resistor R184. Does the voltage at TP4 alternate between +0.8 volts or less, and +4.5 volts or greater?
NO
YES
Altern
voltag
Exam
Then


s the less?
NO
Examine IC108.
s the ater?
NO
Alternately connect the +5 and −5-volt supplies to resistor R184. Does the voltage at the collector (C) of transistor Q107 alternate ±5.6 volts DC?
NO
Examine diodes D119 and D121, and transistors Q106, Q107, Q108, and Q109.
Then connect the free lead of resistor R184, and repeat Test #3.
YES
Examine transistors Q108 and Q109.
Then reconnect the free lead of resistor R184, and repeat Test #3.

TEST CHART #4 SINE SHAPER




s there a distorted sine waveform or triangle waveform?
NO
Examine transistors Q206 and Q207, and resistor R201.
Then repeat Test #4.
YES
Remove inductor L201 from the circuit. Is the distortion removed?
NO
Can you vary the emitter voltage of transistor Q204 with control R216?
NO
To Page 25
YES
YES
Examine transistors Q201, Q202, and Q203, and zener diode D201. Note that the output of emitter follower Q201 is offset approximately 5 volts above reference ground. D201 is used to remove the offset.
Reinstall L201. Then repeat Test #4.
Can you vary the emitter voltage of transistor Q209 with control R245?
NO
To Page 25
YES
Examine the junction of the following diode pairs: D202-D208, D203-D209, D204-D211, D205-D212, and D206-D213. The waveform should be centered over oscilloscope reference ground and each half-cycle should be of equal amplitude.
Is each half-cycle of each waveform of approximately equal amplitude?
NO
To Page 25
YES
Replace the clamp diode at the junction that is excessively attenuated and offset. If the waveform is above reference ground, replace D208, D209, D211, D212, or D213. If the waveform is below reference ground, replace D202, D203, D204, D205, or D206.
Reinstall L201. Then repeat Test #4.

From Page 24

Examine transistors Q204 and Q205.

Reinstall L201. Then repeat Test #4.

From Page 24

Examine transistors Q208 and Q209.

Reinstall L201. Then repeat Test #4.

From Page 24

When you turn control R245 (POS PEAK), is the waveform amplitude appreciably affected?

NO

When you turn control R216 (NEG PEAK), is the waveform amplitude appreciably affected?

NO

YES

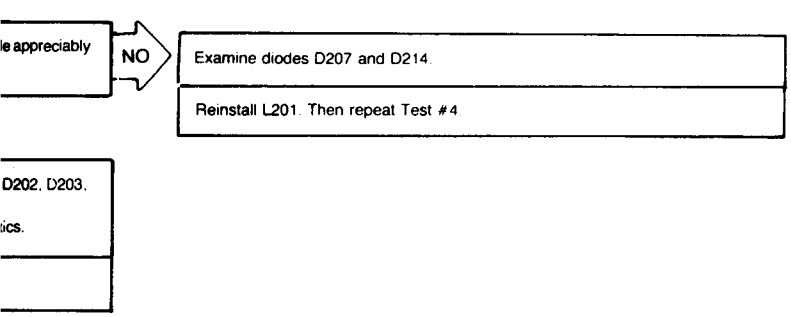
Replace the positive clamp diode at the junction that is defective: D208, D209, D211, D212, or D213. NOTE: Diodes D207 and D214 can also show similar characteristics.

Reinstall L201. Then repeat Test #4.

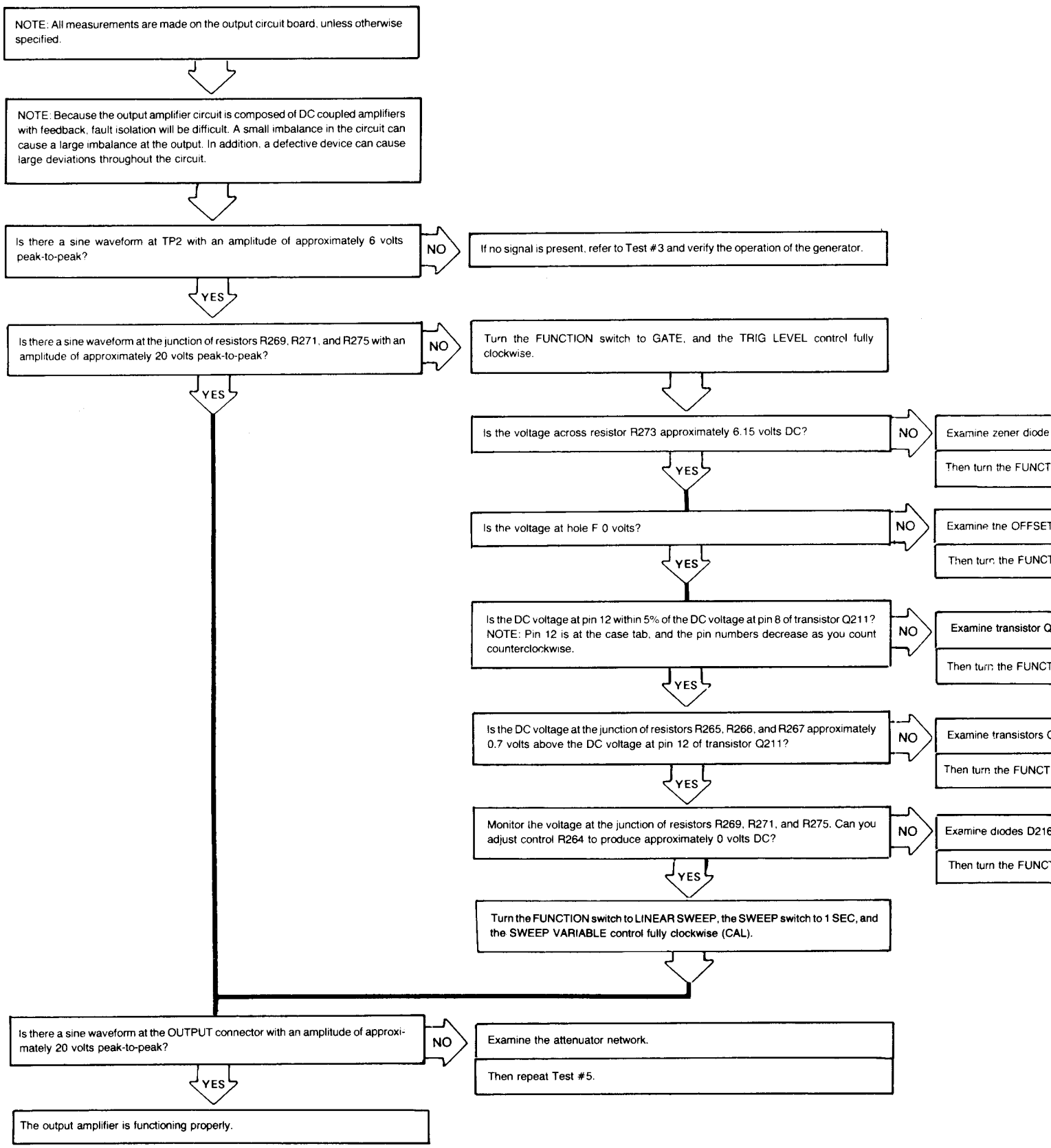
YES

Replace the negative clamp diode at the junction that is defective: D202, D203, D204, D205, or D206.
NOTE: Diodes D207 and D214 can also show similar characteristics.

Reinstall L201. Then repeat Test #4.


le appreciably
NO
Examine diodes D207 and D214.
Reinstall L201. Then repeat Test #4.
D202, D203,
ics.

TEST CHART #5 OUTPUT AMPLIFIER



Examine zener diode D215 and transistor Q216.

Then turn the FUNCTION switch to CW and repeat Test #5.

Examine the OFFSET switch.

Then turn the FUNCTION switch to CW and repeat Test #5.

Examine transistor Q211.

Then turn the FUNCTION switch to CW and repeat Test #5.

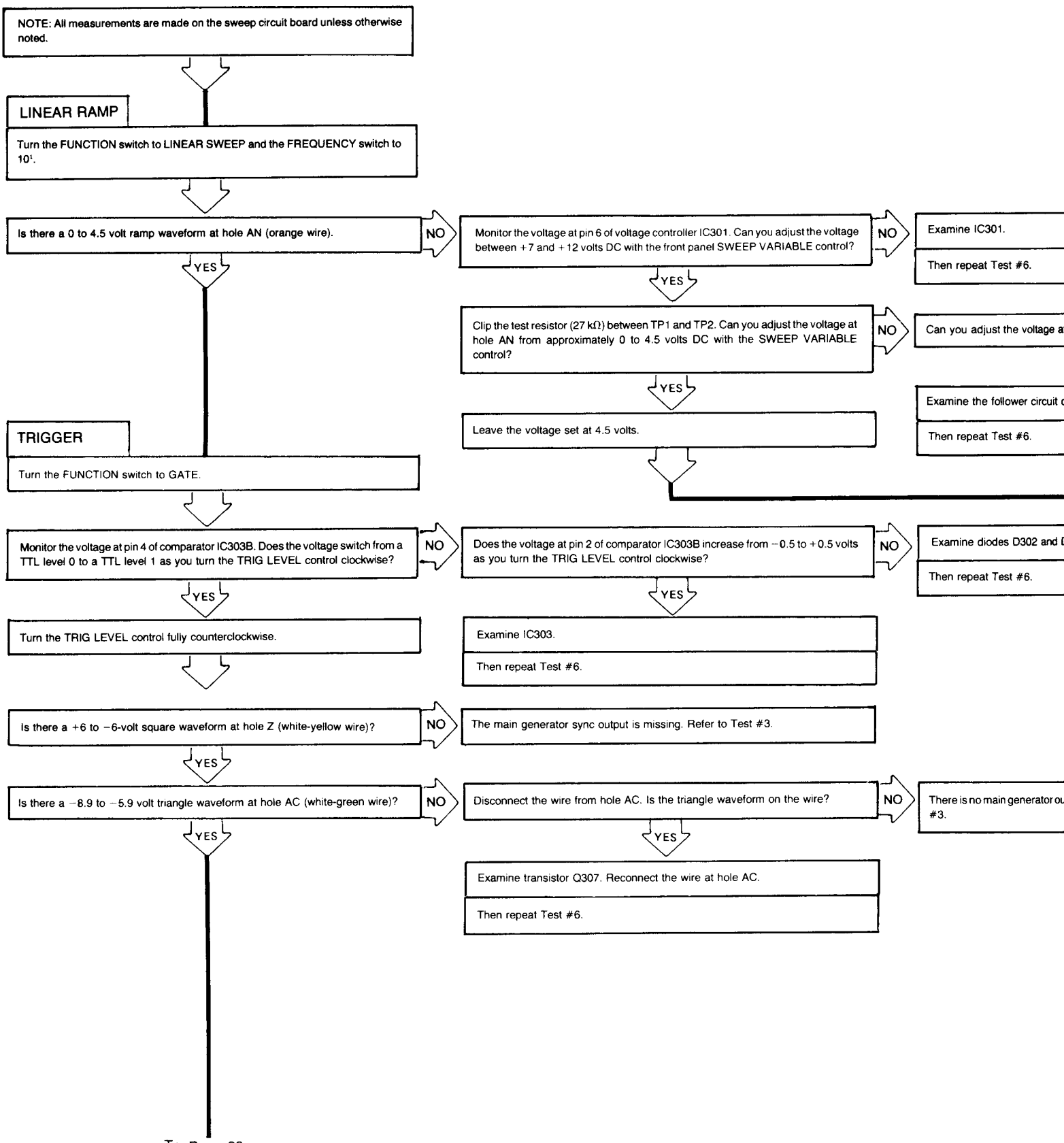
Examine transistors Q212 and Q213.

Then turn the FUNCTION switch to CW and repeat Test #5.

Examine diodes D216 and D217, and transistors Q214 and Q215.

Then turn the FUNCTION switch to CW and repeat Test #5.

TEST CHART #6 SWEEP GENERATOR AND CONT



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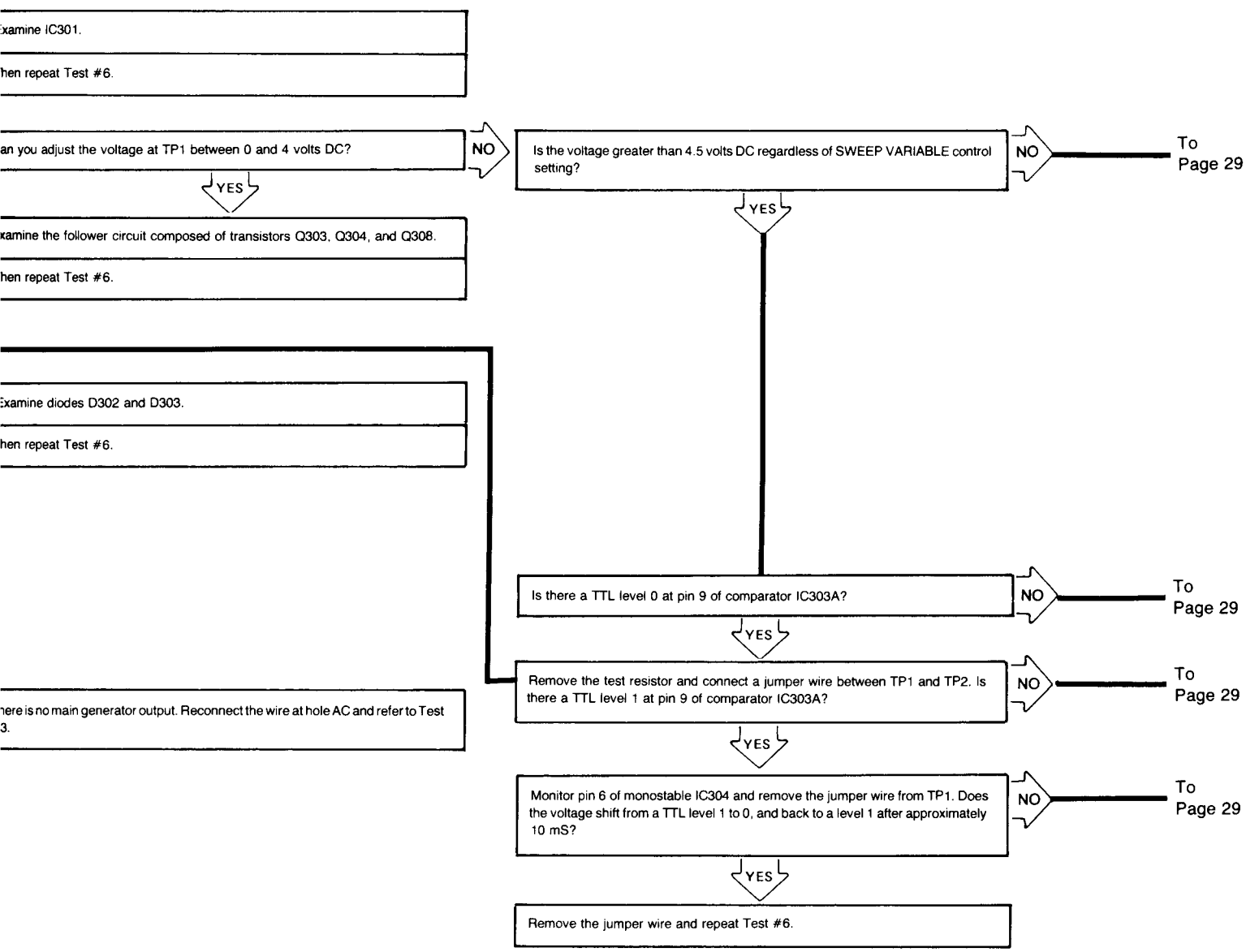
CONTROL


Examine IC301.
Then repeat Test #6.
an you adjust the voltage at TP1 between 0 and 4 volts DC?
NO
YES
Is the voltage greater than 4.5 volts DC regardless of SWEEP VARIABLE control setting?
NO
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YES
xamine the follower circuit composed of transistors Q303, Q304, and Q308.
Then repeat Test #6.
Examine diodes D302 and D303.
Then repeat Test #6.
Is there a TTL level 0 at pin 9 of comparator IC303A?
NO
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YES
Remove the test resistor and connect a jumper wire between TP1 and TP2. Is there a TTL level 1 at pin 9 of comparator IC303A?
NO
To Page 29
here is no main generator output. Reconnect the wire at hole AC and refer to Test 3.
YES
Monitor pin 6 of monostable IC304 and remove the jumper wire from TP1. Does the voltage shift from a TTL level 1 to 0, and back to a level 1 after approximately 10 mS?
NO
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YES
Remove the jumper wire and repeat Test #6.

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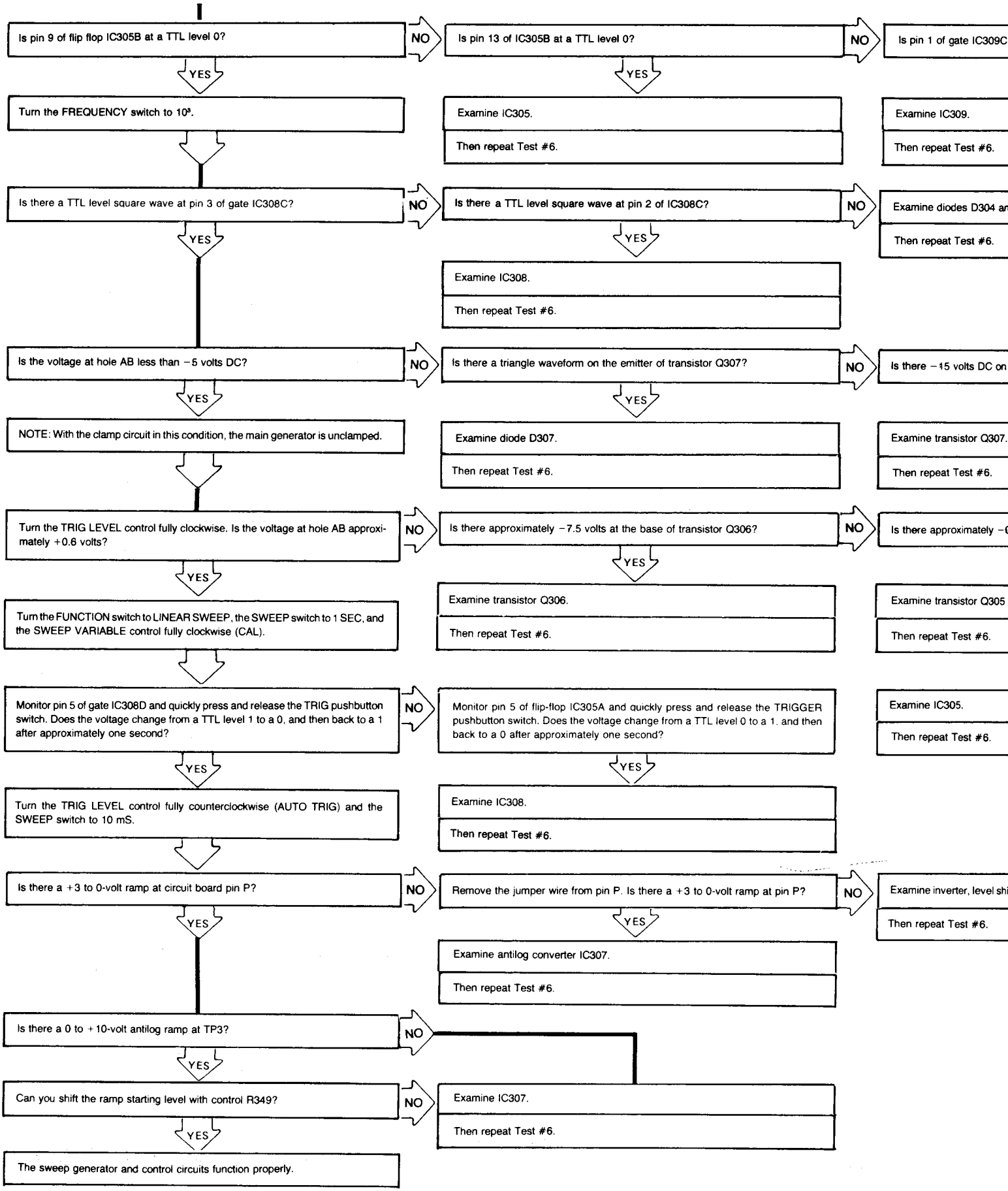
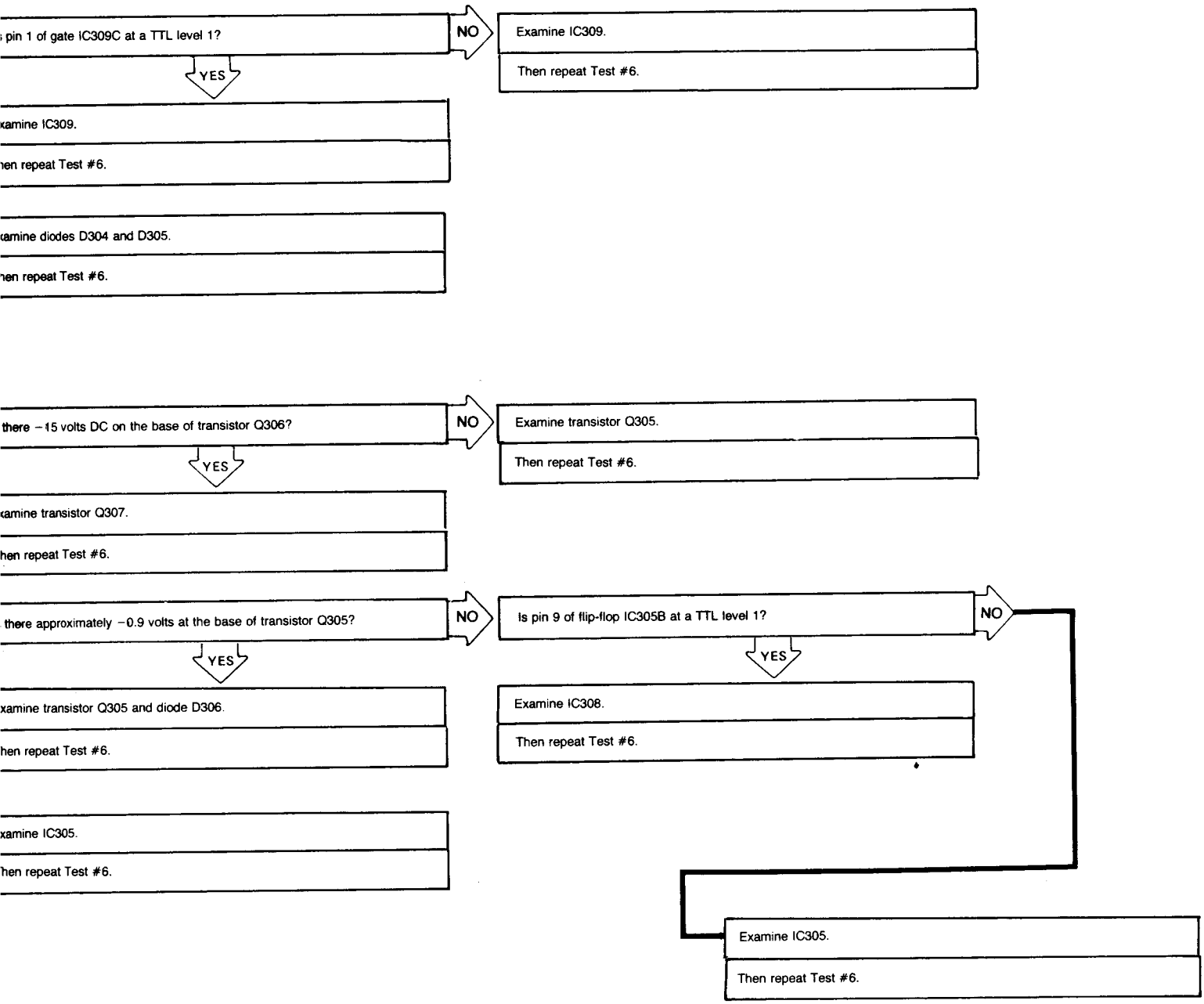
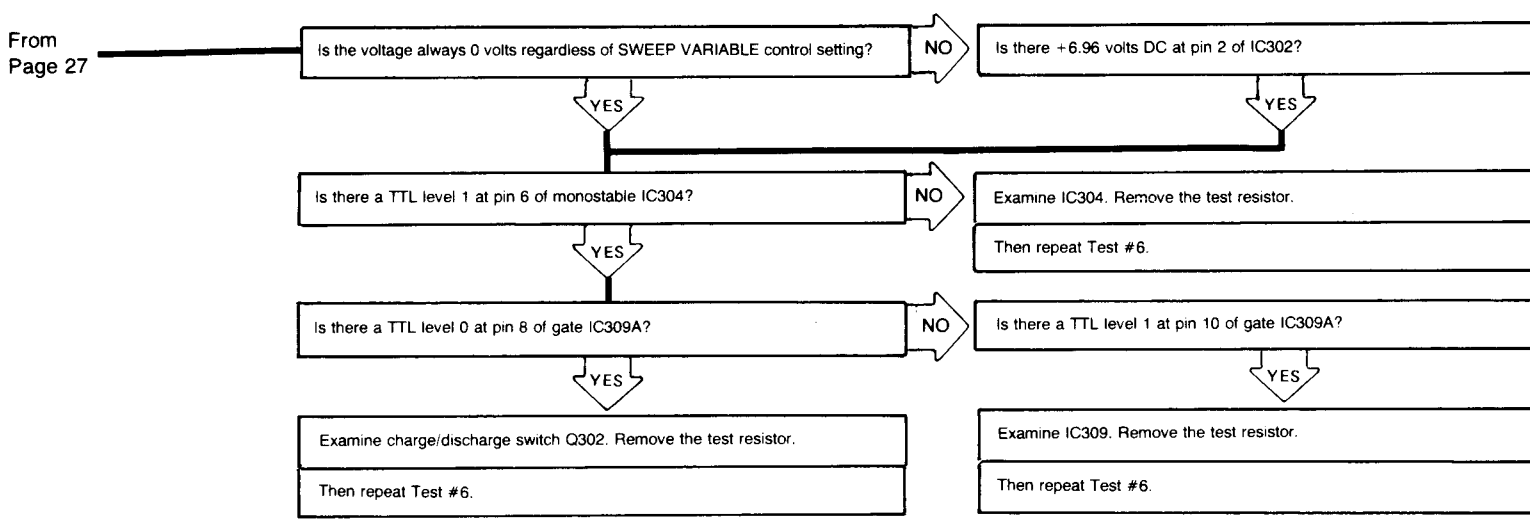

Is pin 9 of flip flop IC305B at a TTL level 0?
NO
Is pin 13 of IC305B at a TTL level 0?
NO
Is pin 1 of gate IC309C
YES
YES
Turn the FREQUENCY switch to 10³.
Examine IC305.
Then repeat Test #6.
Examine IC309.
Then repeat Test #6.
Is there a TTL level square wave at pin 3 of gate IC308C?
NO
Is there a TTL level square wave at pin 2 of IC308C?
NO
Examine diodes D304 ar
Then repeat Test #6.
YES
YES
Examine IC308.
Then repeat Test #6.
Is the voltage at hole AB less than −5 volts DC?
NO
Is there a triangle waveform on the emitter of transistor Q307?
NO
Is there −15 volts DC on
YES
YES
NOTE: With the clamp circuit in this condition, the main generator is unclamped.
Examine diode D307.
Then repeat Test #6.
Examine transistor Q307.
Then repeat Test #6.
Turn the TRIG LEVEL control fully clockwise. Is the voltage at hole AB approximately +0.6 volts?
NO
Is there approximately −7.5 volts at the base of transistor Q306?
NO
Is there approximately −
YES
YES
Turn the FUNCTION switch to LINEAR SWEEP, the SWEEP switch to 1 SEC, and the SWEEP VARIABLE control fully clockwise (CAL).
Examine transistor Q306.
Then repeat Test #6.
Examine transistor Q305
Then repeat Test #6.
Monitor pin 5 of gate IC308D and quickly press and release the TRIG pushbutton switch. Does the voltage change from a TTL level 1 to a 0, and then back to a 1 after approximately one second?
NO
Monitor pin 5 of flip-flop IC305A and quickly press and release the TRIGGER pushbutton switch. Does the voltage change from a TTL level 0 to a 1, and then back to a 0 after approximately one second?
Examine IC305.
Then repeat Test #6.
YES
YES
Turn the TRIG LEVEL control fully counterclockwise (AUTO TRIG) and the SWEEP switch to 10 mS.
Examine IC308.
Then repeat Test #6.
Is there a +3 to 0-volt ramp at circuit board pin P?
NO
Remove the jumper wire from pin P. Is there a +3 to 0-volt ramp at pin P?
NO
Examine inverter, level shi
Then repeat Test #6.
YES
YES
Examine antilog converter IC307.
Then repeat Test #6.
Is there a 0 to +10-volt antilog ramp at TP3?
NO
YES
Can you shift the ramp starting level with control R349?
NO
Examine IC307.
Then repeat Test #6.
YES
The sweep generator and control circuits function properly.


pin 1 of gate IC309C at a TTL level 1?
NO
Examine IC309.
Then repeat Test #6.
YES
xamine IC309.
ien repeat Test #6.
xamine diodes D304 and D305.
ien repeat Test #6.
there −15 volts DC on the base of transistor Q306?
NO
Examine transistor Q305.
Then repeat Test #6.
YES
xamine transistor Q307.
hen repeat Test #6.
there approximately −0.9 volts at the base of transistor Q305?
NO
Is pin 9 of flip-flop IC305B at a TTL level 1?
NO
YES
YES
xamine transistor Q305 and diode D306.
hen repeat Test #6.
Examine IC308.
Then repeat Test #6.
xamine IC305.
hen repeat Test #6.
Examine IC305.
Then repeat Test #6.
Examine inverter, level shift amplifier IC306. Reconnect the jumper wire to pin P.
hen repeat Test #6.



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Examine IC303. Remove the jumper wire.

Then repeat Test #6.

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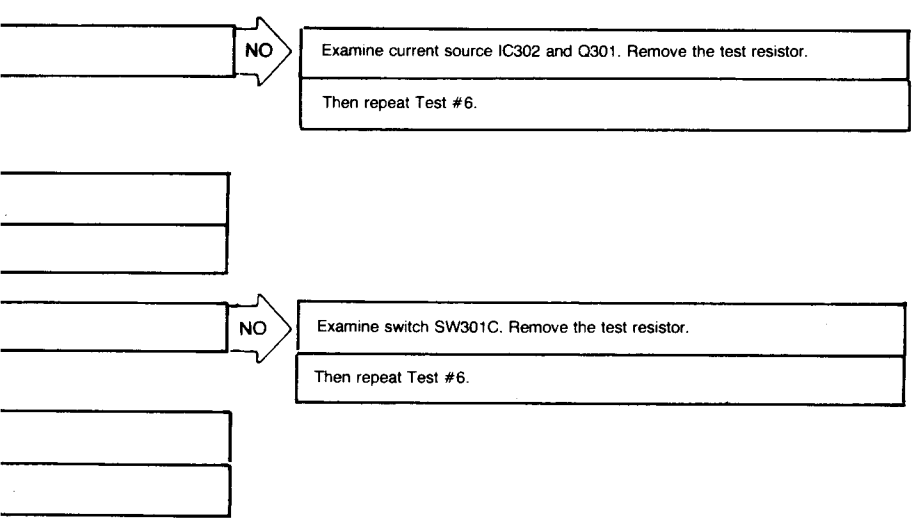
Examine IC304. Remove the jumper wire.

Then repeat Test #6.


NO
Examine current source IC302 and Q301. Remove the test resistor.
Then repeat Test #6.
NO
Examine switch SW301C. Remove the test resistor.
Then repeat Test #6.