

## CHASSIS PARTS MOUNTING

NOTE: When hardware is called for in a step, only the screw size will be given. For instance, if 3-48 x 1/4" hardware is called for, it means that a 3-48 x 1/4" screw, one or more #3 lockwashers, and a 3-48 nut should be used. The Detail referred to in the step will show the proper number of lockwashers to use.

Refer to Pictorial 5 for the following steps.

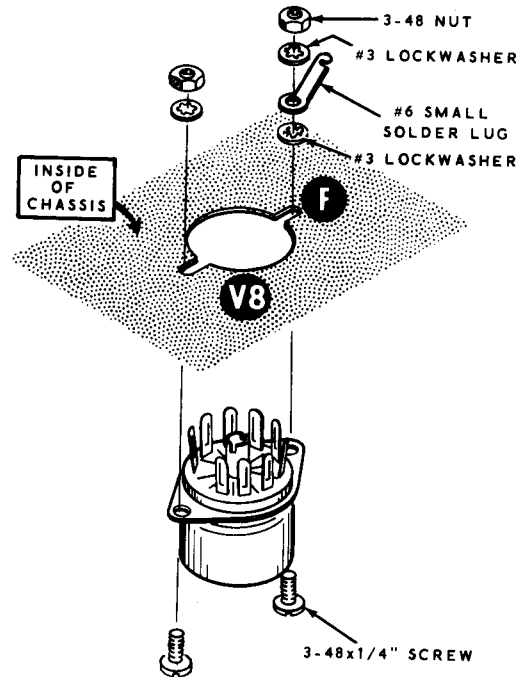
- ( 1 ) Place the chassis bottom side up, as shown in the Pictorial.
- ( ) Install a 3/8" grommet at A.
- ( 1 ) Install a 5/16" grommet at DC.

NOTE: When mounting the tube sockets, position the blank space of each socket as shown by the large arrows in the Pictorial.

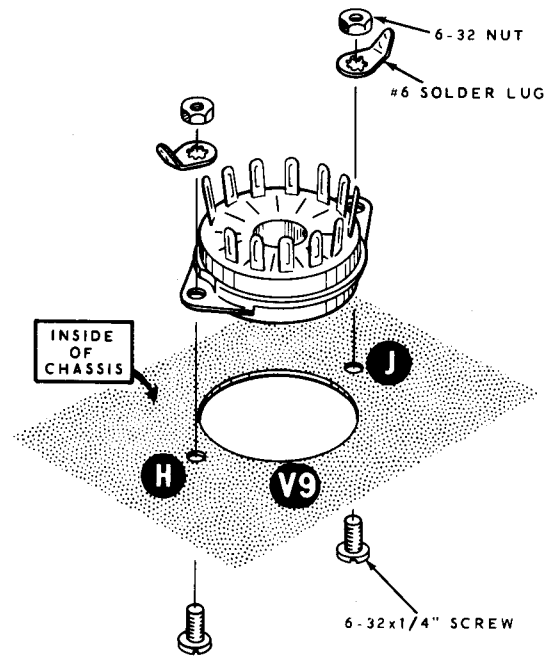
Refer to Detail 5A for the following steps.

NOTE: The Heath Company has provided a plastic nut starter with this kit. Use this nut starter to start 6-32 and 3-48 nuts on screws. Refer to Page 3 of the Kit Builders Guide for further information.

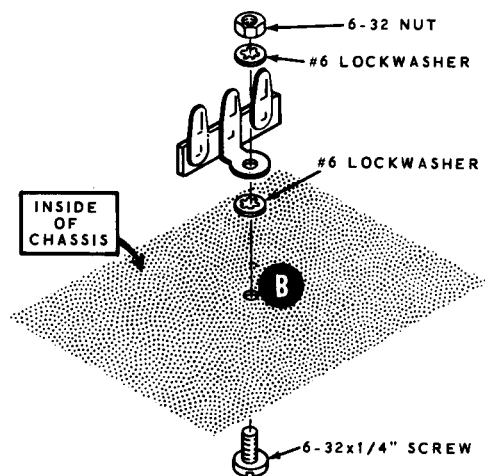
- ( 1 ) Mount a 9-pin tube socket at V8 with one #6 small solder lug at F. Use 3-48 x 1/4" hardware. Bend the solder lug up.
- ( ) Mount a 9-pin tube socket at V7 with two #6 small solder lugs. Locate one solder lug at D and one solder lug at E. Use 3-48 x 1/4" hardware. Bend the solder lugs up.
- ( ) Refer to Detail 5B and mount the 12-pin tube socket at V9 with two #6 solder lugs. Locate one solder lug at H and one solder lug at J. Use 6-32 x 1/4" hardware.



Detail 5A



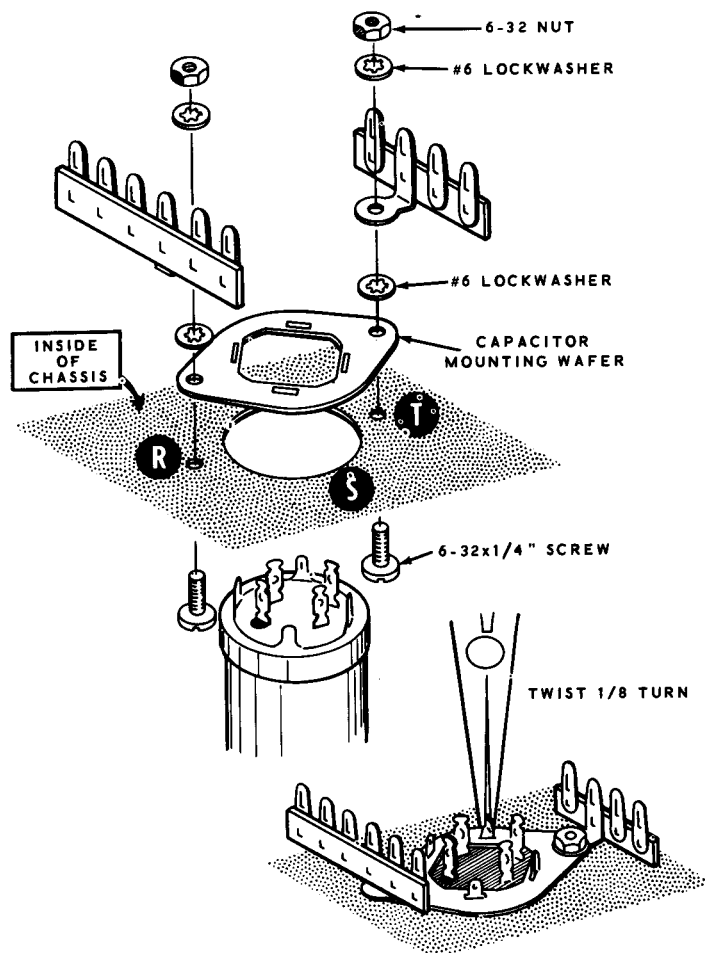
Detail 5B



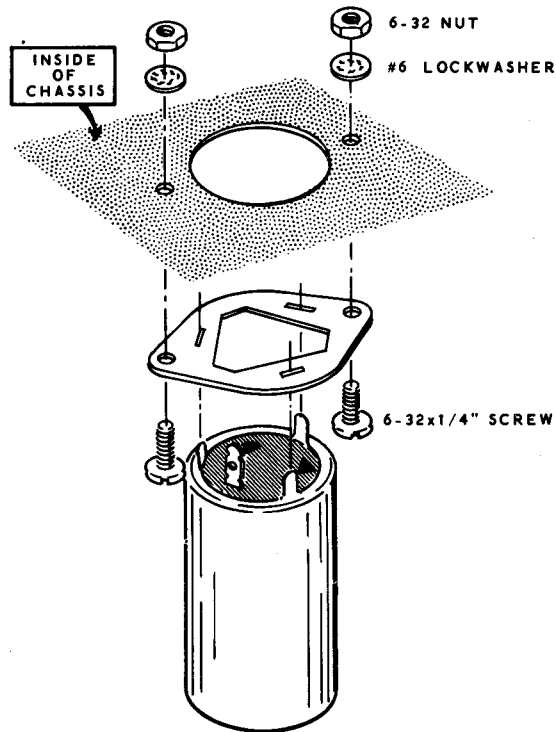
Detail 5C

NOTE: Refer to Detail 5C for mounting terminal strips. Position each terminal strip as shown in the Pictorial.

- ( ) Mount a 3-lug terminal strip at B. Use 6-32 x 1/4" hardware.
- ( ) Mount a 5-lug terminal strip at G. Use 6-32 x 1/4" hardware.
- ( ) Mount two 4-lug terminal strips, one terminal strip at L and one terminal strip at M. Use 6-32 x 1/4" hardware.
- ( ) Mount a 2-lug terminal strip at C. Use 6-32 x 1/4" hardware.
- ( ) Refer to Detail 5D and mount the 4-prong metal capacitor mounting wafer at S with a 6-lug terminal strip at R and a 4-lug terminal strip at T. Use 6-32 x 1/4" hardware.
- ( ) Mount the 50-40-80-80  $\mu$ fd electrolytic capacitor to capacitor wafer S. Twist each mounting lug 1/8 turn. Be sure to position the capacitor lug markings as shown in the Pictorial.



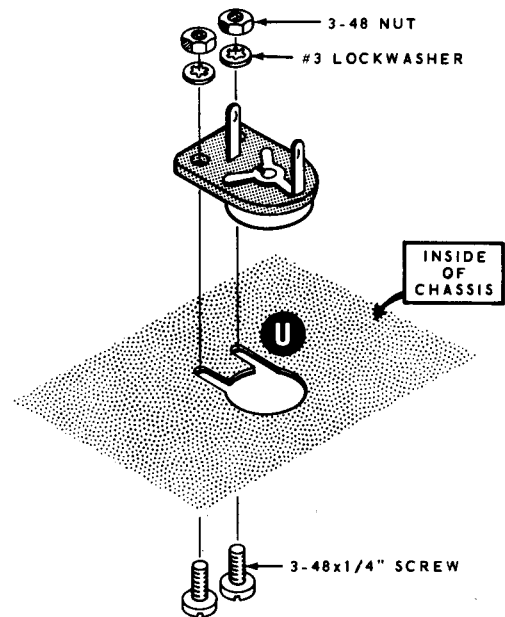
Detail 5D



Detail 5E

(1) Refer to Detail 5E and mount two 3-prong fiber capacitor mounting wafers, one at DA and the other at DB. Use 6-32 x 1/4" hardware. Be sure to position the wafers as shown in the Pictorial.

(2) Mount two 50  $\mu$ fd electrolytic capacitors; one mounts to capacitor wafer DA, and the other mounts to capacitor wafer DB. Twist the mounting lugs 1/8 turn each. Be sure to position the capacitor lug markings as shown in the Pictorial.

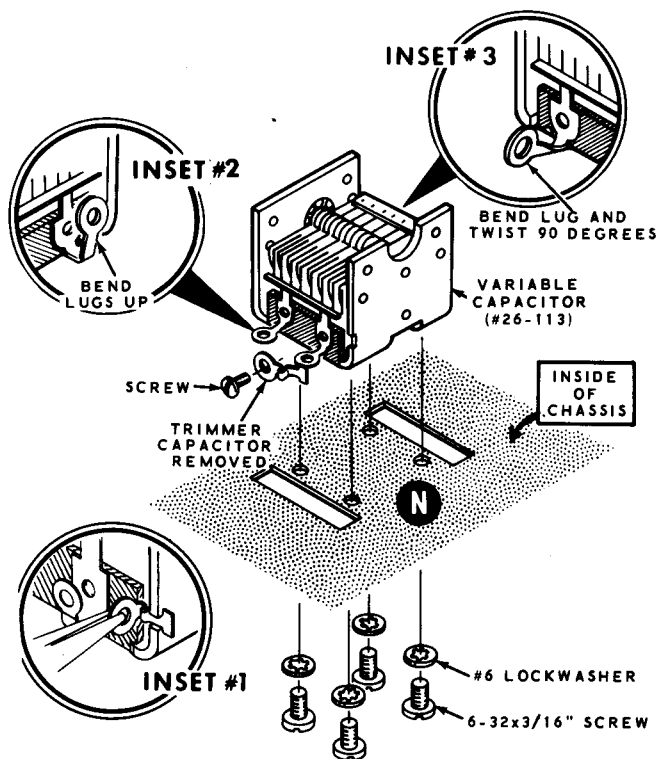


Detail 5F

(1) Refer to Detail 5F. Mount the ceramic trimmer capacitor at U. Use 3-48 x 1/4" hardware.

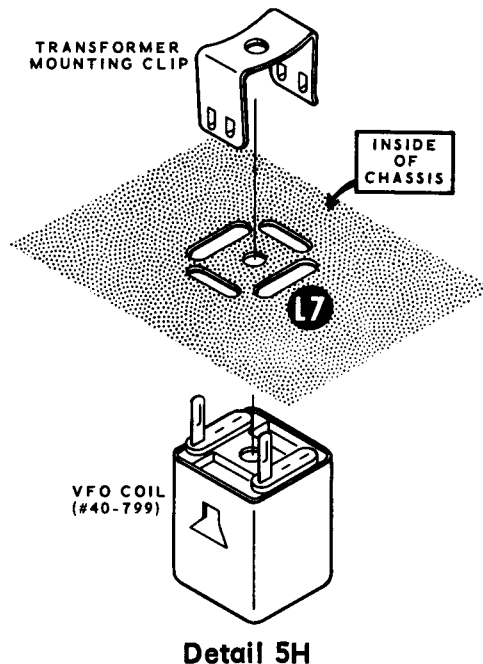
**CAUTION:** In the following steps, keep the plates of the variable capacitor completely meshed to avoid damaging them. Refer to Detail 5G for the following steps.

(1) Remove the screw from the trimmer capacitor on the side of a variable capacitor (#26-113). Grasp the trimmer capacitor with a pair of pliers and pull it off the frame of the variable capacitor as shown in inset drawing #1 of Detail 5G.



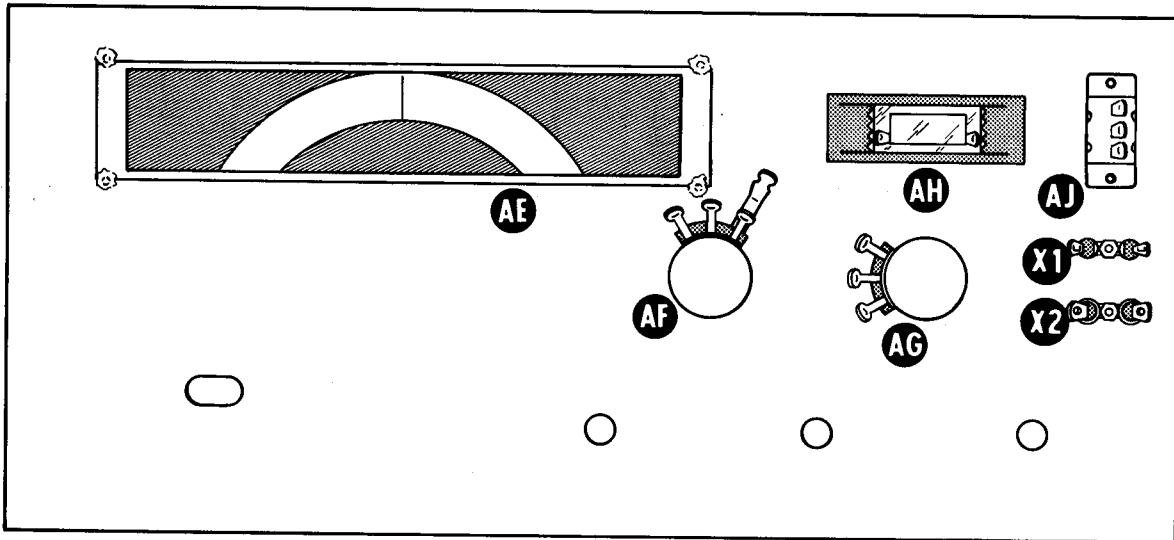
Detail 5G

- ( ) On this same side, bend the lugs up as far as possible as shown in inset drawing #2 of Detail 5G.
- ( ) Bend and twist the lugs on the other side of this variable capacitor as shown in inset drawing #3.
- ( ) Position and mount this variable capacitor at N as shown. Use four 6-32 x 3/16" screws and four #6 lockwashers.



Detail 5H

- ( ) Refer to Detail 5H and mount a VFO coil (#40-799) at L7. Use an IF transformer clip. Place the coil lugs in the position indicated in the Pictorial. Be sure the clip snaps firmly in place.
- ( ) Refer to Detail 5H and mount the 80-meter driver coil (#40-801) at L11. Use an IF transformer clip. Be sure to place each lug as shown in the Pictorial.
- ( ) In a like manner, mount the 40-meter driver coil (#40-802) at L10. Position the coil as shown in the Pictorial.
- ( ) In a like manner, mount the 15-meter coil (#40-803) at L9. Position the coil as shown in the Pictorial.



PICTORIAL 6

Refer to Pictorial 6 for the following steps.

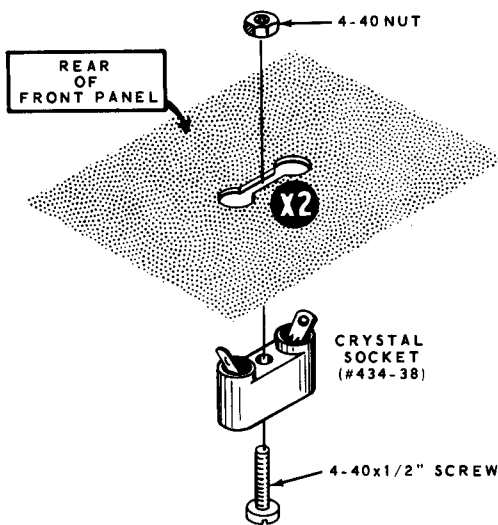
- ( ) Position the front panel as shown in the Pictorial.

NOTE: The 4-40 hardware for mounting the crystal sockets is packed in a separate envelope.

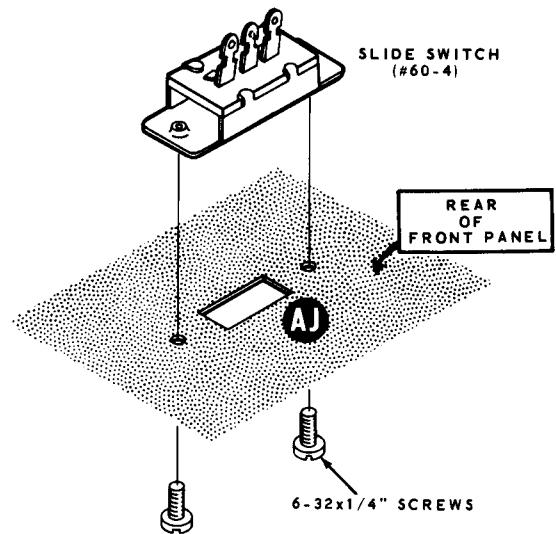
- ( ) Refer to Detail 6A and mount the large crystal socket (#434-38) from the front of the front panel at X2. Use a 4-40 x 1/2" screw and a 4-40 nut. Do not overtighten.

- ( ) Similarly, mount the small crystal socket (#434-74) at X1. Use a 4-40 x 1/2" screw and 4-40 nut.

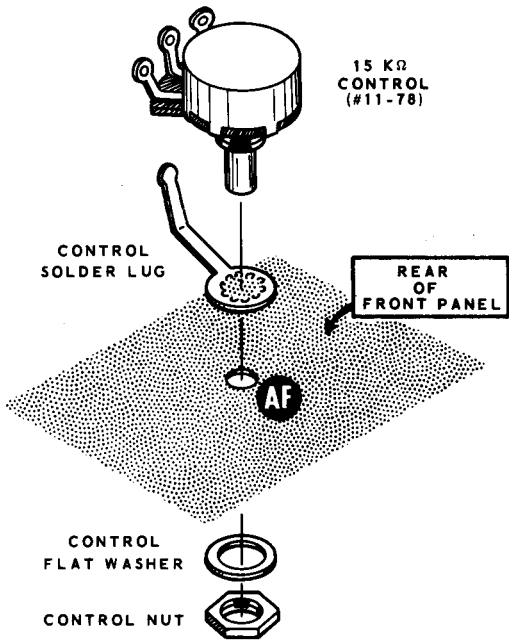
- ( ) Refer to Detail 6B and mount the slide switch (#60-4) at AJ. Use 6-32 x 1/4" screws. Position the lugs as shown in the Pictorial.



Detail 6A



Detail 6B



Detail 6C

NOTE: Scrape away any excess paint around hole AF on the rear of the front panel before you mount the control in the next step.

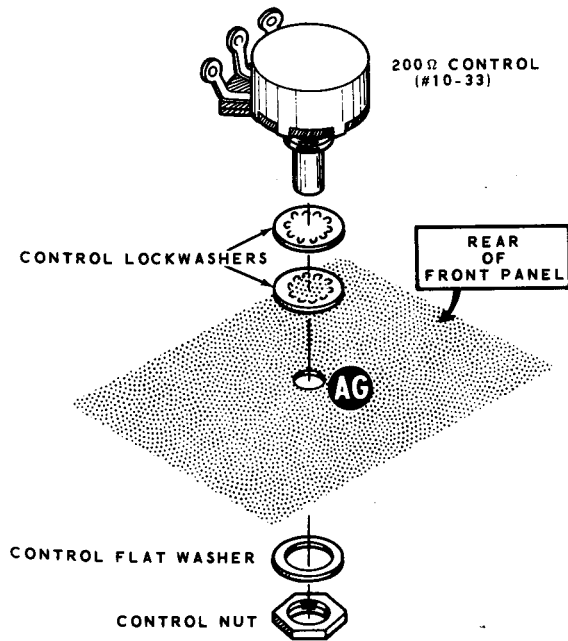
- (L) Refer to Detail 6C and mount the 15 KΩ control (#11-78) at AF. Use a control solder lug, a control flat washer, and a control nut. Position the control and the control solder lug as shown in the Pictorial.

NOTE: Do not use the thin control lockwasher until it is specifically called for in a step.

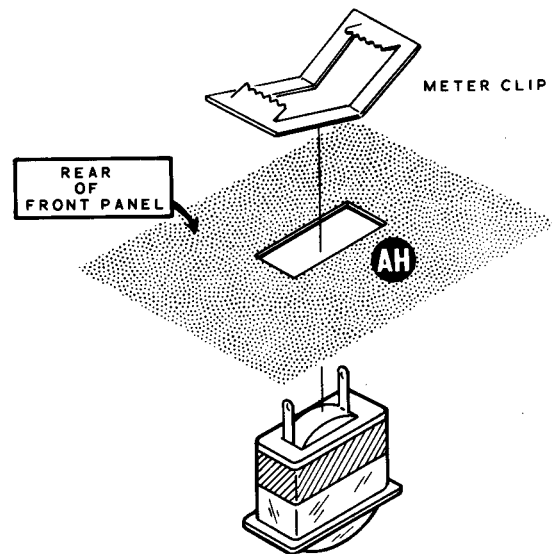
- (L) Refer to Detail 6D and mount the 200 Ω control (#10-33) at AG. Use two control lockwashers, one control flat washer, and one control nut. Position the control as shown.

- ( ) Refer to Detail 6E and use the meter clip to mount the meter at AH. Be sure the meter is positioned right-side up on the front panel.

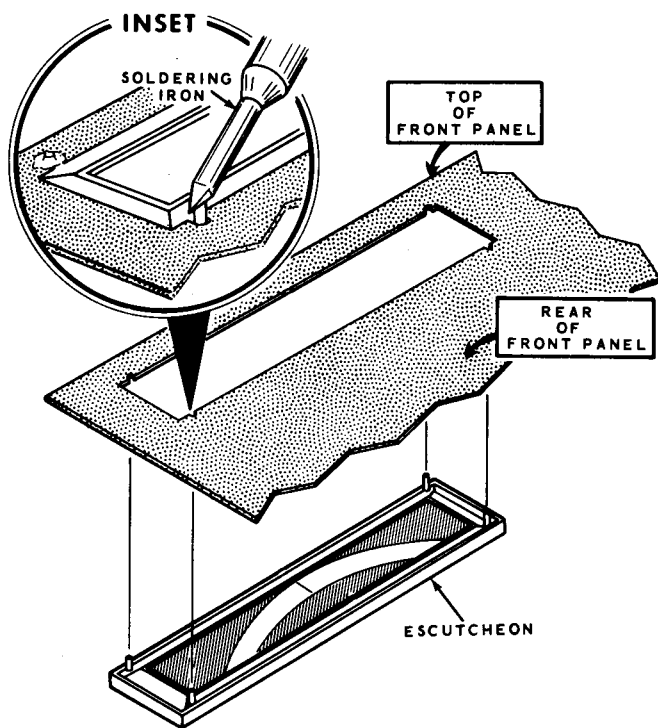
- ( ) Remove any wire between the meter terminals.



Detail 6D



Detail 6E

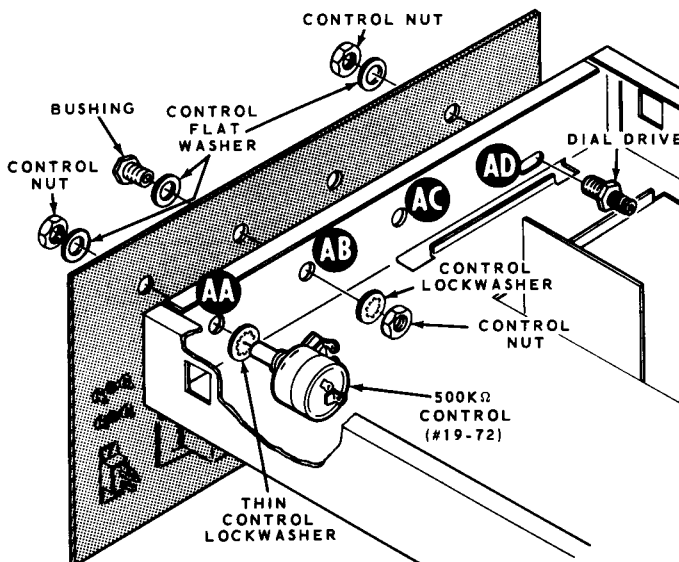


Detail 6F

- (1) Refer to Detail 6F and mount the escutcheon at AE. Be sure to position escutcheon as shown in the Pictorial.
- ( ) Heat the escutcheon studs with a soldering iron flattening each stud so that it holds the escutcheon securely on the front panel.

Refer to Pictorial 7 for the following steps.

- ( ) Mount the front panel to the chassis. Use a bushing, a control flat washer, a control lockwasher, and a control nut at AB. Do not tighten the control nut; it will be tightened later.



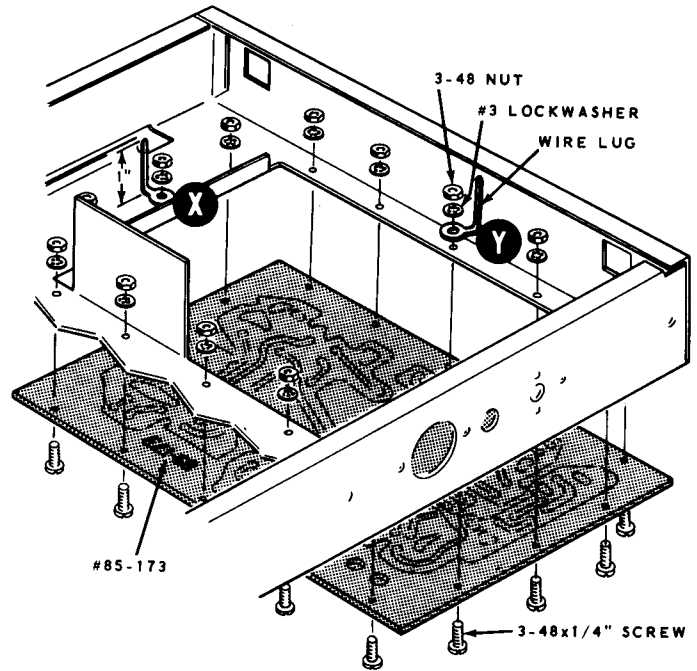
PICTORIAL 7

- ( ) Mount the dial drive at AD. Use a control flat washer and the control nut furnished with the dial drive. Do not tighten the control nut; it will be tightened later.
- ( ) Mount a 500 K $\Omega$  control with an On-Off switch (#19-72) at AA. Use a thin control lockwasher, a control flat washer, and a control nut. Position the control as shown.
- ( ) Locate circuit board (#85-173-1) and lightly sandpaper the foil around the circuit board mounting holes to remove any substance which may impede grounding the circuit board foil to the chassis.
- ( ) Position the circuit board on the chassis so that tube sockets V3 and V4 are closest to the front panel.

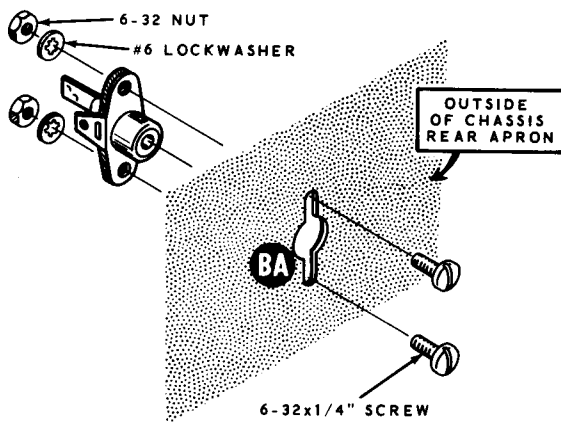
- ( ) Refer to Pictorial 8 and mount the circuit board (#85-173-1) on the chassis. Mount two wire lugs, one wire lug at X and the other wire lug at Y. Use 3-48 x 1/4" hardware. Bend both wire lugs 90 degrees at 1" from the end, as shown in the Pictorial.

Refer to Pictorial 9 (fold-out from Page 19) for the following steps.

- ( ) Refer to Detail 9A and mount a phono socket inside the chassis at BA. Use 6-32 x 1/4" hardware. Position the socket as shown in the Pictorial.



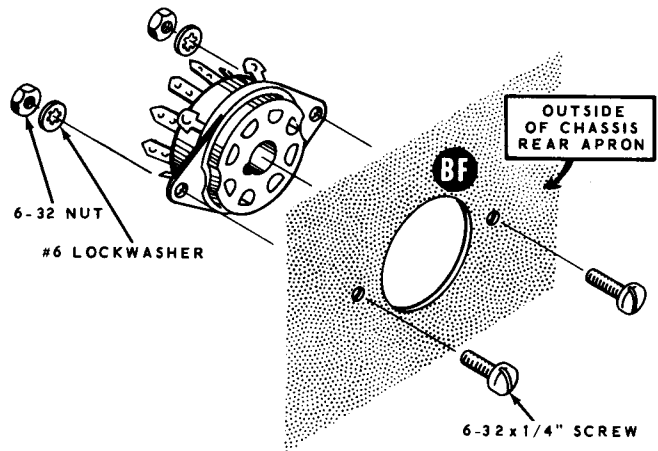
PICTORIAL 8



Detail 9A

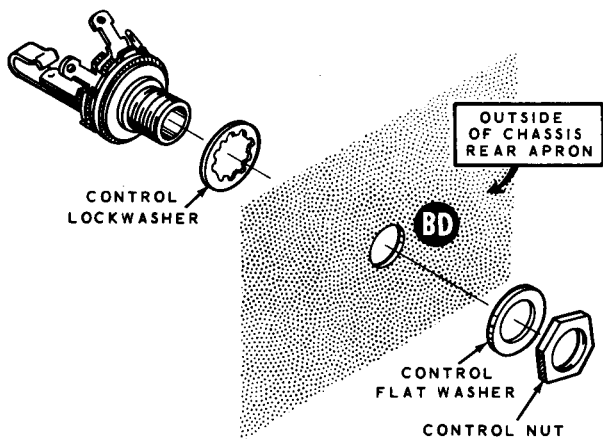
- ( ) Mount phono sockets at BC and BH. Use 6-32 x 1/4" hardware. Position as shown in the Pictorial.

- ( ) Refer to Detail 9B and mount an octal socket at BF. Position the keyway of the socket as shown by the large arrow in the Pictorial. Use 6-32 x 1/4" hardware.



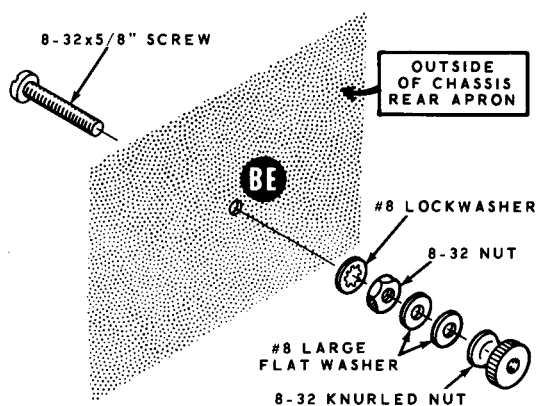
Detail 9B



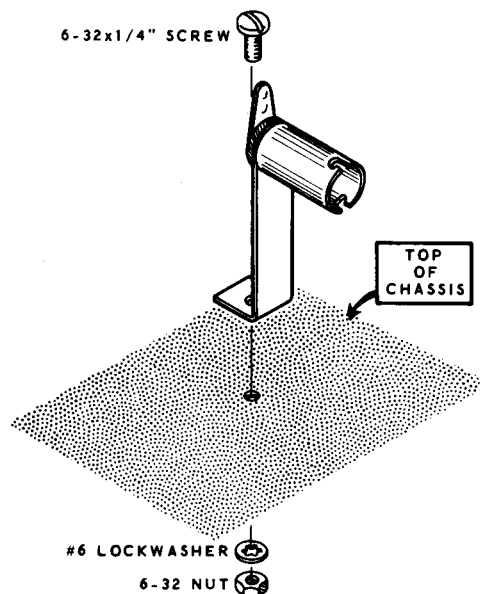


Detail 9C

- ( ) Refer to Detail 9C and mount a 3-lug phone jack at BD. Use a control lockwasher, a control flat washer, and a control nut. Position jack as shown in the Pictorial.
- ( ) In a like manner, mount a 3-lug phone jack at BG. Use a control lockwasher, a control flat washer, and a control nut.
- ( ) Refer to Detail 9D and insert an 8-32 x 5/8" screw through the back panel from the inside at BE. Install it with one #8 lockwasher, one 8-32 nut, two #8 large flat washers, and one 8-32 knurled nut.



Detail 9D

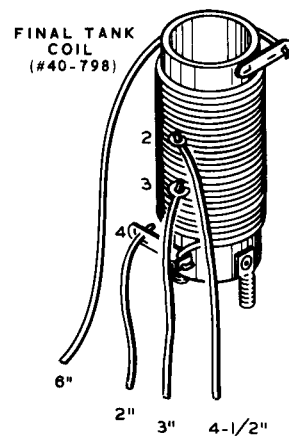


Detail 10A

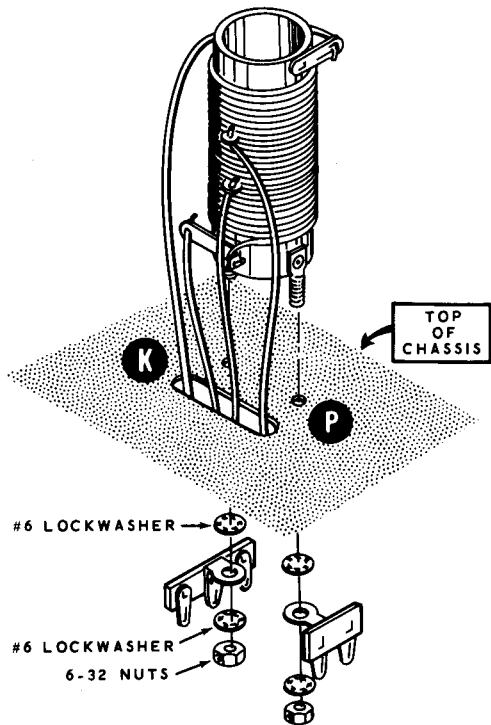
Refer to Pictorial 10 (fold-out from page 19) for the following steps.

- ( ) Refer to Detail 10A and mount two pilot lamp sockets with brackets (#434-90), one at CB and one at CC. Use 6-32 x 1/4" hardware.
- ( ) Locate final tank coil (#40-798). Prepare the following lengths of large bare wire and connect one end of each to the coil as shown in Detail 10B. Position the wires as shown.

WIRE LENGTH	COIL LUG
( ) 6"	1 (S-1)
( ) 4-1/2"	2 (S-1)
( ) 3"	3 (S-1)
( ) 2"	4 (S-1)

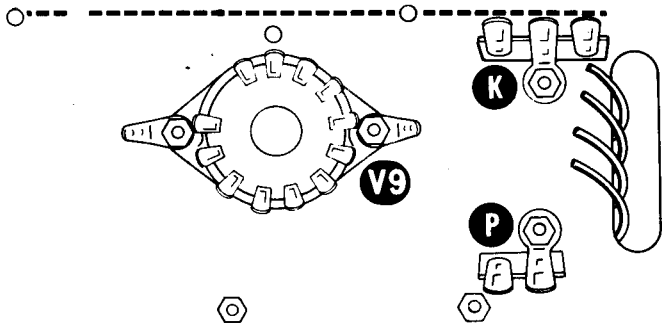


Detail 10B

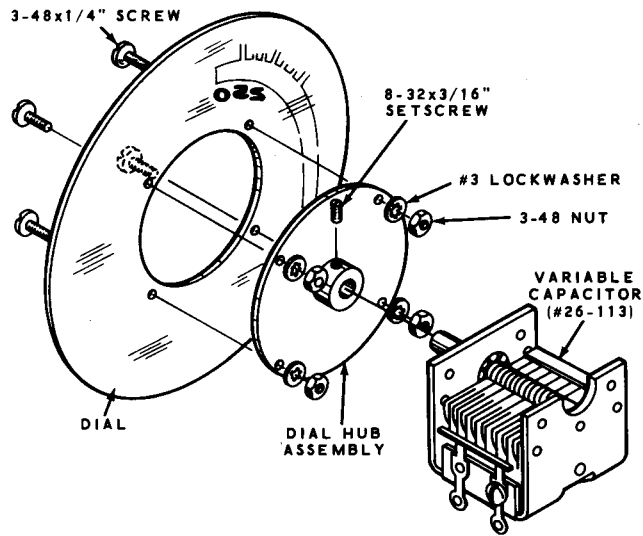


Detail 10C

- ( ) Refer to Detail 10C and mount the final tank coil to the chassis by inserting the spade bolts through the chassis holes at L12 and the four coil wires through the large oblong hole.
- ( ) From the bottom of the chassis, install a 3-lug terminal strip on coil spade bolt K and a 2-lug terminal strip on coil spade bolt P. Use four #6 lockwashers and two 6-32 nuts. Refer to Detail 10D to position the terminal strips.



Detail 10D



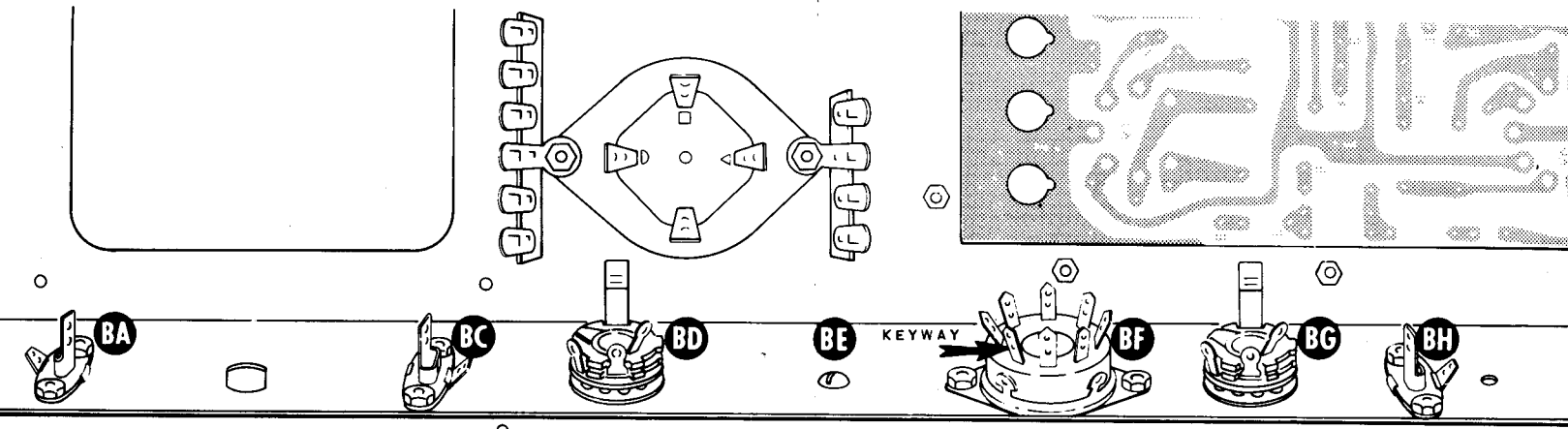
Detail 10E

- ( ) Refer to Detail 10E and mount dial hub assembly (#100-43) to the dial (#464-29-5). Align the dial number 250 with the dial hub setscrew as shown. Use 3-48 x 1/4" hardware. Install the 8-32 x 3/16" setscrew into the dial drive hub, but do not allow it to extend into the shaft mounting hole.

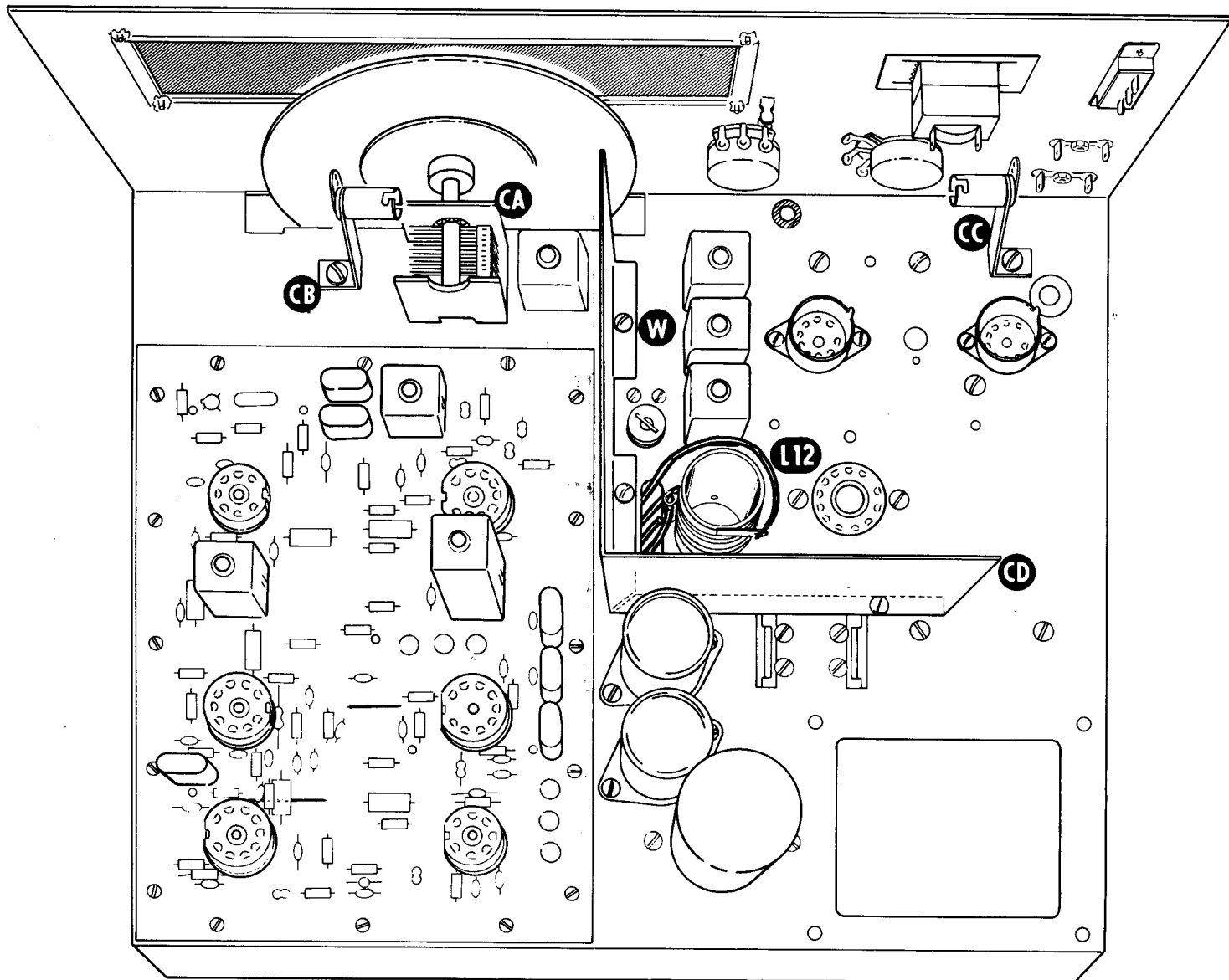
**CAUTION** Be sure the variable capacitor plates are completely meshed before proceeding with the following steps.

- ( ) Insert the shaft of a variable capacitor (#26-113) into the dial drive hub. Do not tighten the setscrew.

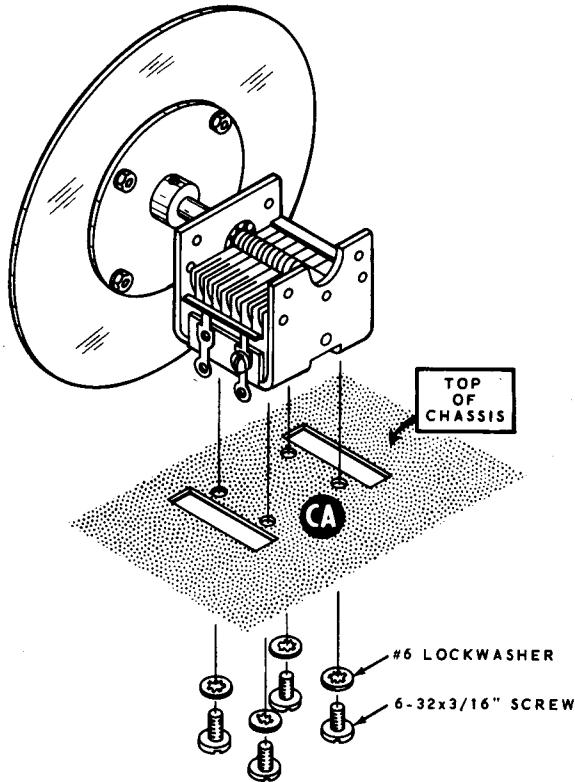
**NOTE:** Be sure the dial drive assembly at AD is at the end of the slot away from the center of the chassis. Refer back to Pictorial 7.



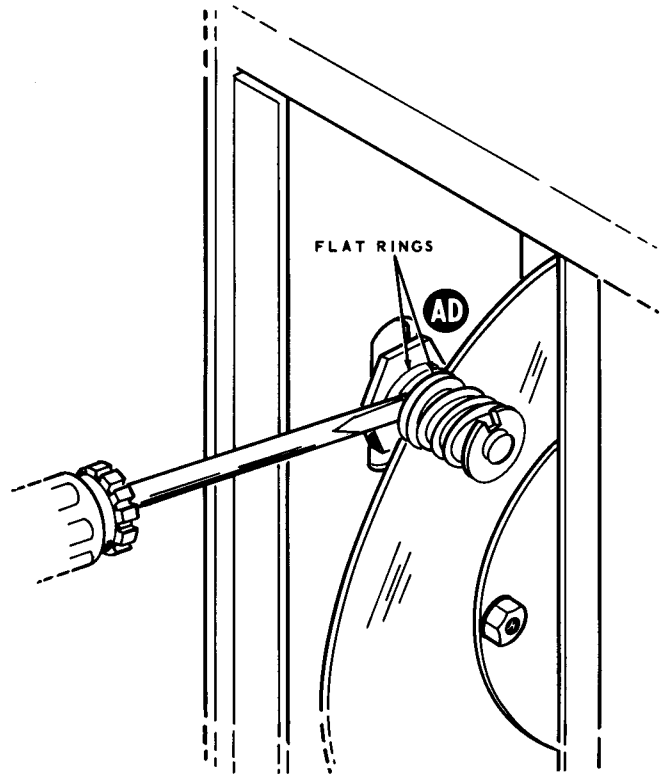
**PICTORIAL 9**



**PICTORIAL 10**



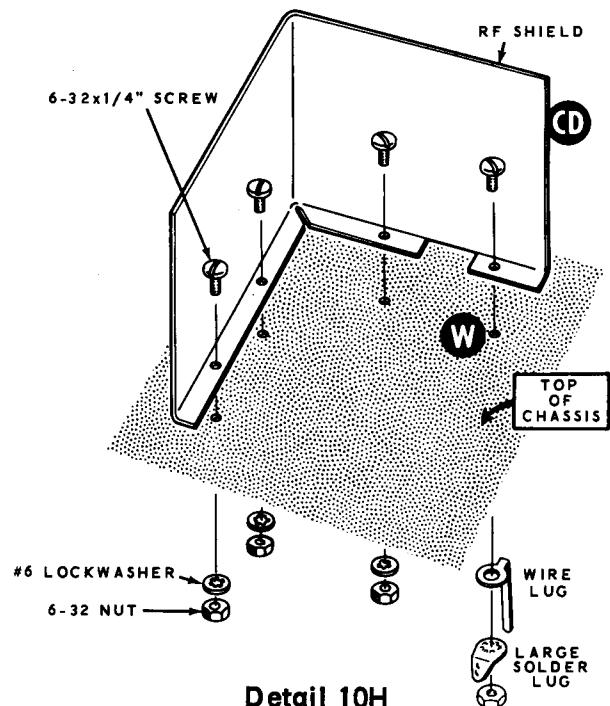
Detail 10F



Detail 10G

- ( ) Refer to Detail 10F and mount the dial and variable capacitor assembly to the chassis at CA. Use four #6 lockwashers and four 6-32 x  $\frac{3}{16}$ " screws.
- ( ) Refer to Detail 10G and perform the following operations to engage the dial into the dial drive.
  - A. Use the blade of a screwdriver to separate the two flat rings of the dial drive.
  - B. Move the dial drive closer to the dial and guide the edge of the dial into the separation made by the screwdriver.
  - C. Hold the dial drive in place and remove the screwdriver.
  - D. Tighten the control nut on the dial drive.
- ( ) Tighten the control nuts at AA and AB. Refer to Pictorial 7 (Page 16).

- ( ) Refer to Detail 10H and Pictorial 12. Then mount RF shield (#206-336) on top of the chassis at CD with a wire lug and large solder lug at W on the bottom of the chassis. Use 6-32 x  $\frac{1}{4}$ " hardware.



Detail 10H



## WIRING CHASSIS TOP

Refer to Pictorial 11 (fold-out from this page) for the following steps. Route wires as indicated. Review the Kit Builders Guide, Pages 9 and 10, before proceeding.

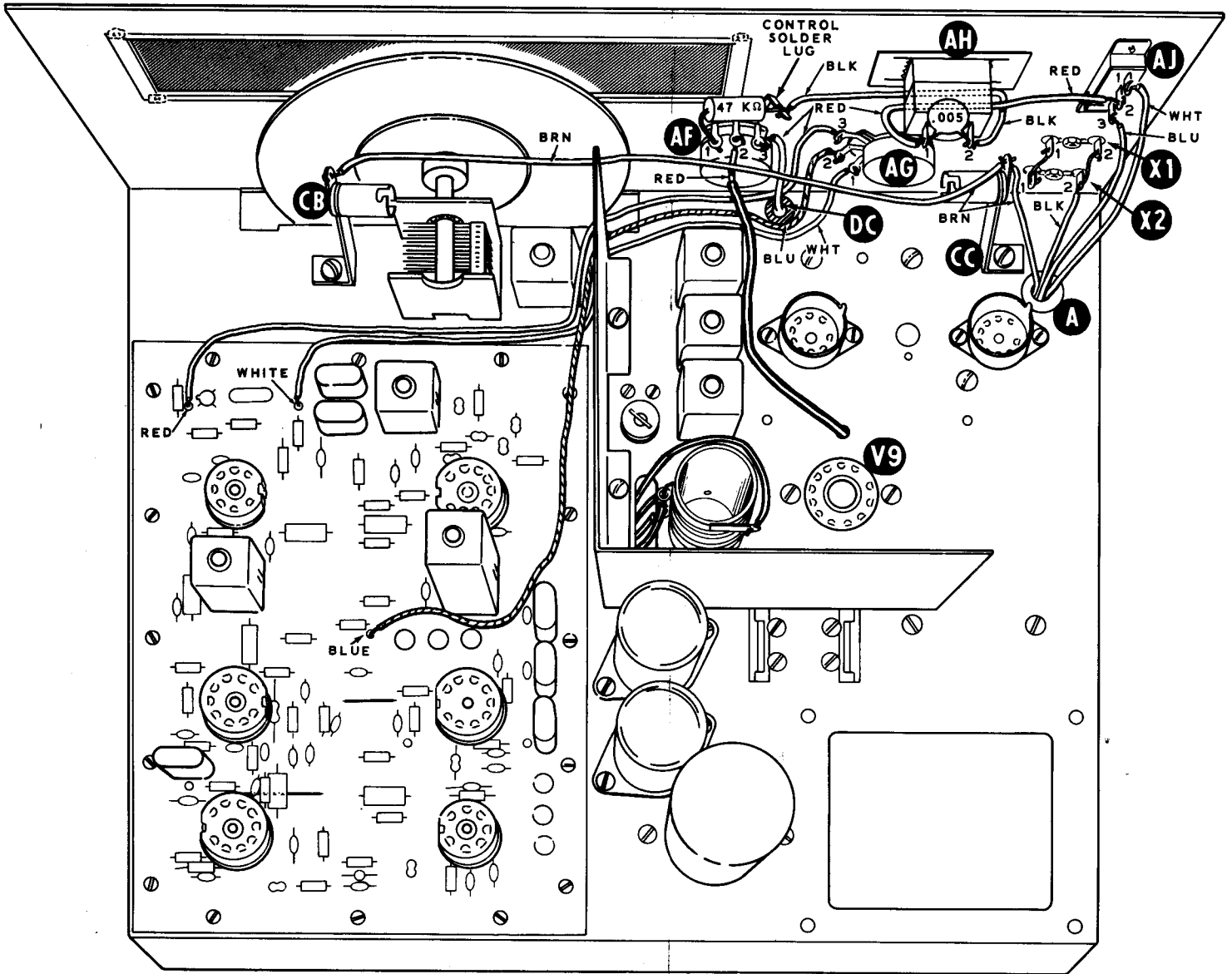
NOTE: When wiring this kit you may find it easier to prepare the lengths of hookup wire ahead of time as in the following step. To prepare a wire, cut it to the indicated length and strip 1/4" of insulation from each end. The wires are listed in the order in which they will be used. Use hookup wire of the color specified.

- ( ) Prepare the following lengths of hookup wire:

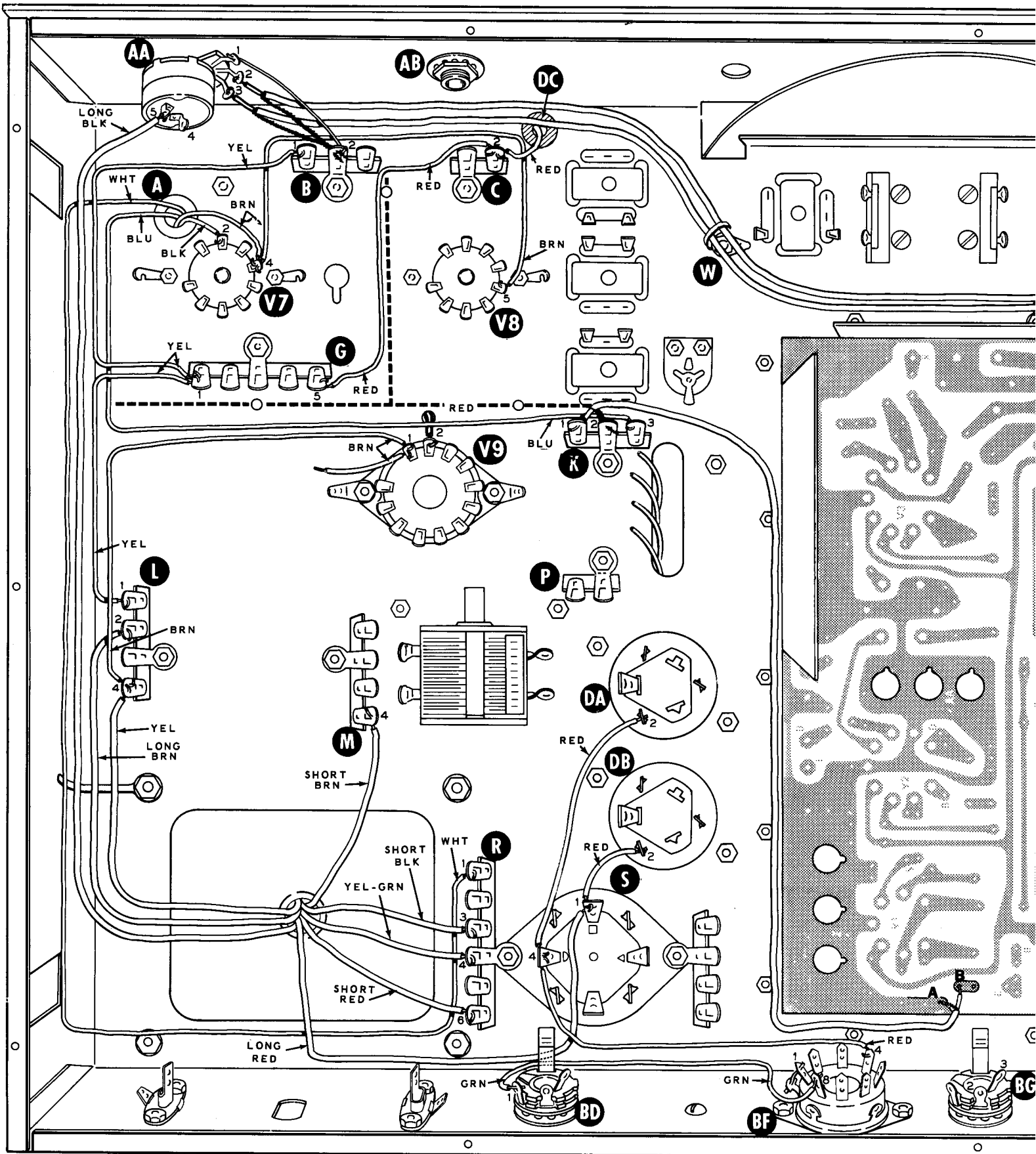
10" white	4" red
12" blue	4" black
12" red	12" blue
3-1/2" red	20" white
6" red	4-1/2" brown
5" black	10" brown

NOTE: Identification Photographs of the assembled chassis are provided at the rear of the Manual. Refer to these photos from time to time as you wire the Kit. They show actual positions of wires and components.

- ( ) Connect a 10" white wire from lug 1 of control AG (S-1) to the circuit board hole marked WHITE (S-1).
- ( ) Connect a 12" blue wire from lug 2 of control AG (S-1) to the circuit board hole marked BLUE (S-1).
- ( ) Connect a 12" red wire from lug 3 of control AG (S-1) to the circuit board hole marked RED (S-1).
- ( ) Connect one end of a 3-1/2" red wire to lug 3 of control AF (S-1). Insert the free end of the wire through grommet DC to be connected later.
- ( ) Connect one end of a 6" red wire to lug 2 of control AF (S-1). Cut a 5" length of sleeving, place it over the red wire and insert the free end of this wire and its sleeving through the hole closest to tube socket V9 (to be connected later).
- ( ) Connect a 5" black wire from the control solder lug of control AF (NS) to lug 2 of meter AH (NS).
- ( ) Connect a 4" red wire from lug 1 of meter AH (NS) to lug 2 of slide switch AJ (S-1).
- NOTE: Where a wire passes through a terminal and then goes to another point, as in the next step, it will count as two wires in the solder instructions (S-2), one entering and one leaving the connection.
- ( ) Remove an additional 3/4" of insulation from one end of a 4" black wire. Feed the 1" bared end of this black wire through lug 2 of large crystal socket X2 (S-2) and connect it to lug 2 of small crystal socket X1 (S-1). Insert the free end of this wire through grommet A to be connected later.
- ( ) Connect a 1" small bare wire from lug 1 of small crystal socket X1 (S-1) to lug 1 of large crystal socket X2 (NS).
- ( ) Connect one end of a 12" blue wire to lug 3 of slide switch AJ (S-1). Insert the free end through grommet A to be connected later.
- ( ) Connect one end of a 20" white wire to lug 1 of slide switch AJ (S-1). Insert the free end through grommet A to be connected later.
- ( ) Connect one end of a 4-1/2" brown wire to the lug of pilot lamp socket CC (NS). Insert the free end through grommet A to be connected later.
- ( ) Connect a 10" brown wire from the lug of pilot lamp CC (S-2) to the lug of pilot lamp CB (S-1).
- ( ) Connect a 47 K $\Omega$  (yellow-violet-orange) 2 watt resistor between lug 1 (S-1) and control solder lug (S-2) of control AF.
- ( ) Connect a .005  $\mu$ fd disc capacitor between lug 1 (S-2) and lug 2 (S-2) of meter AH.



**PICTORIAL 11**



PICTORIAL 12