

## INSTALLATION INSTRUCTIONS

Kit 87            Part No. 51423  
Crystal Pick-up and Adaptor

1. Open back door of phonograph. Unplug tone arm cable from volume control box and remove tone arm assembly from phonograph. Remove polarized plug from end of cable assembly. Remove two machine screws from opposite sides of tone arm head, saving the two lead weights. Remove magnetic pick-up assembly from tone arm shell and discard pick-up assembly and cable.
2. Crystal pick-up is supplied mounted on a bracket which can be installed in the tone arm shell. Install bracket and pick-up assembly with needle screw in same position as was the needle screw of the magnetic pick-up. Reinstall lead weights in their original position and insert the special screws supplied with kit through the holes in the tone arm shell, through the holes in the lead weights and through the holes in the crystal pick-up bracket. Install lockwashers and nuts, taking care to have needle screw centered in slot before tightening.
3. Install new tone arm cable supplied with kit, routing it into same position as old cable. Slip the two clips at the end of the cable into position on the pins on the crystal pick-up. The clip connected to the outside shield braid of the tone arm cable must be connected to that pin on the pick-up which is connected to the shell of the pick-up by means of a small metal strap.
4. Reinstall tone arm in phonograph. Adjust needle pressure, using a Post-a-lette scale Part No. 28246, as described on Page 26, Adjustments Section III, Model 1015 service manual, deviating from the instructions to obtain a needle pressure of 2 ounces with the crystal pick-up, in place of the 3 ounces which should be maintained for magnetic pick-ups.
5. Mount crystal pick-up adaptor box on inside wall of cabinet. The bottom plate supplied with the kit must be installed to shield against hum being introduced from outside sources and from other electrical components in the phonograph. Two wood screws are supplied for mounting. In locating the box, it may be placed in any convenient position, but care should be taken to insure that the two cables can be routed to their respective receptacles, as in step 6, below, and also that the box is not in the path of any of the moving parts of the changer.
6. Remove one of the 6L6 tubes from the phonograph amplifier. The octal adaptor plug on the end of the larger cable from the crystal pick-up adaptor box is plugged into the 6L6 socket and the 6L6 tube installed in the octal adaptor receptacle. Plug the two connector plug on the shielded cable from the crystal pick-up adaptor box, into the receptacle in the phonograph volume control box from which the magnetic pick-up cable was removed. Route the new tone arm cable in the same relative position as the magnetic pick-up cable, plugging the single pin plug into the single connector receptacle on the crystal pick-up adaptor box.  
(over)

7. Check phonograph by playing selections. If no reproduction is obtained, check:
  - a. to be sure there is a 6J5 tube in the crystal pick-up adapter box and that this tube is in good condition.
  - b. by reversing the two connector plug which is plugged into the receptacle on the phonograph volume control box.

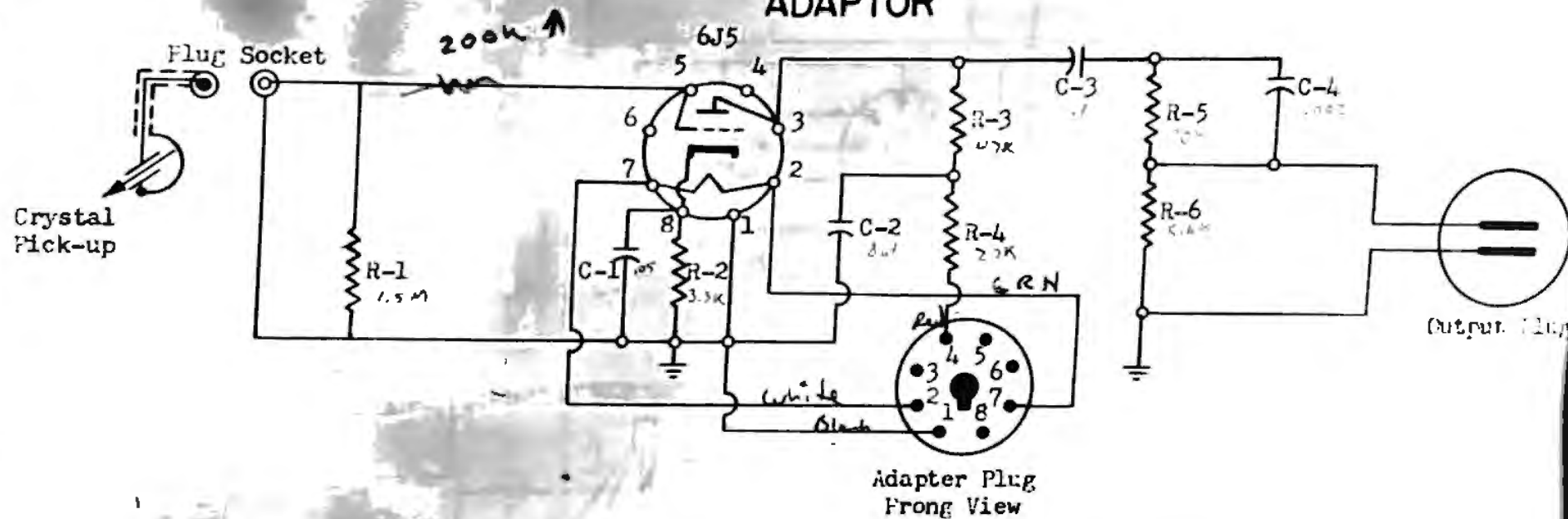
If hum is noted in the output from the speaker, check:

- a. bottom plate is in place under the adaptor box, step 5.
- b. connecting of the shielded tone arm cable are properly polarized, step 3.

Instruction Sheet Part No. 51709

15M8747

# KIT 87 CRYSTAL PICK-UP ADAPTOR



CAPACITORS				RESISTORS			
ITEM	PART NO.	VALUE	REMARKS	ITEM	PART NO.	VALUE	REMARKS
C-1	73020-32	.05 Mfd. $\pm 15$	200 W. V.	R-1	72124-12	1.5Meg. Ohms $\pm 10$	1/3 Watt
C-2	73289-480	8 Mfd. $\pm 50-10$	400 W. V.	R-2	72060-12	3300 Ohms $\pm 10$	1/3 Watt
C-3	73093-640	.1 Mfd. $\pm 30-10$	400 W. V.	R-3	72088-12	47000 Ohms $\pm 10$	1/3 Watt
C-4	73006-36	.002 $\pm 15$	600 W. V.	R-4	72082-12	27000 Ohms $\pm 10$	1/3 Watt
				R-5	72086-12	30000 Ohms $\pm 10$	1/3 Watt
				R-6	72066-12	5600 Ohms $\pm 10$	1/3 Watt

ALL VOLTAGES MEASURED WITH 1000 OHMS PER VOLT VOLTMETER

ALL MEASUREMENTS MADE WITH LINE AT 117 VOLTS (25 OR 60 C)

## AVERAGE VOLTAGES ACROSS CONDENSER

C-2 255 VOLTS D. C.  
C-1 6 VOLTS D. C.

AVERAGE FILAMENT VOLTAGE 6.3 VOLTS A. C.

AVERAGE VOLTAGE MEASURED TO CHASSIS  
6J5 PLATE 152 VOLTS D. C.