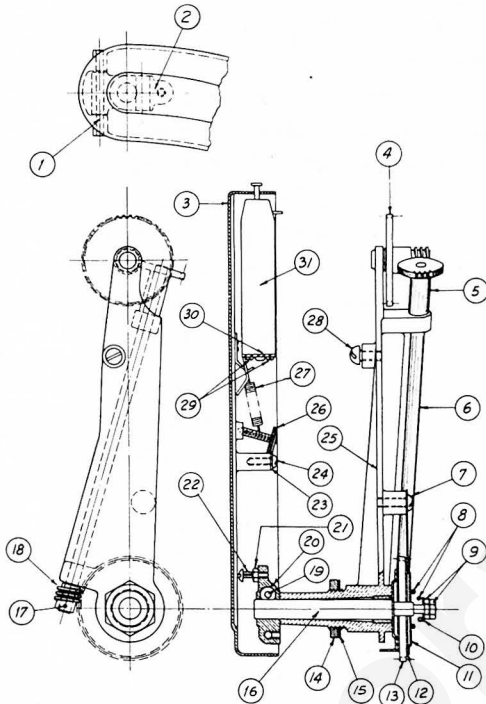
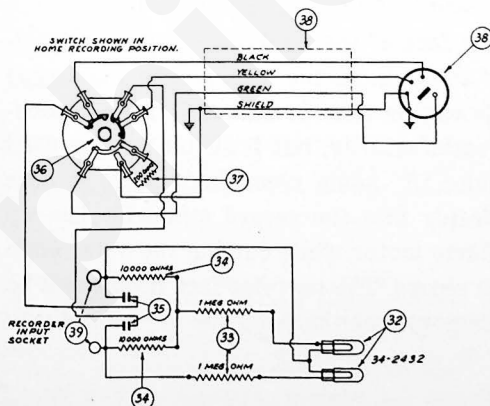


HOME RECORDING UNIT MODEL HR-1

Model HR-1 Home Recording Unit is designed for use on Philco Record Changers equipped for home recording. The instructions for installing the unit on these changers are supplied with each unit. The information listed in this bulletin covers the replacement parts and procedure for making better home recordings.



PART LOCATIONS — HR-1 UNIT



HR-1 CONTROL SCHEMATIC DIAGRAM

REPLACEMENT PARTS Model HR-1 — Recorder Assembly

SCHE. No.	DESCRIPTION	PART No.
1	Cutting Arm Hinge Pin	35-2246
	Spring Washer	35-2247
2	Cutting Arm Hinge	35-2248
3	Cutting Arm (less crystal)	35-2359
4	Worm and Vertical Shaft Gear Assembly	35-2242
5	Gear Shaft Spacer	35-2250
6	Shaft and Helix Gear Assembly	35-2244
7	Screw	W-91
8	Friction Clutch Spring	35-2235
9	Nut	W-617
10	Washer	
11	Stationary Friction Plate	35-2240
12	Friction Washer (large)	35-2239
	Friction Washer (small)	35-2238
13	Recorder Arm Post Gear	35-2237
14	Recorder Base Nut	35-2465
15	Recorder Base Washer	35-2466
16	Shaft and Friction Plate Assembly	35-2245
17	Gear Shaft Drive Pin	35-2236
18	Gear Shaft Worm	35-2243
19	Screw	W-147
20	Swivel Head Clamp Sleeve	35-2252
21	Nut	W-661
22	Screw	W-2158
23	Adjusting Screw Support	35-2253
24	Self Tapping Screw	97-0070
25	Recorder Base and Bush Assembly	35-2234
26	Adjusting Screw	35-2241
27	Cartridge Spring	35-2388
28	Screw	W-412
29	Screw	W-2222
30	Male Pivot	35-2249
31	Crystal	35-2232
32	Recording Lamps	34-2432
33	Resistors (1 megohm)	33-510339
34	Resistor (10,000 ohms, 2 watts)	33-310539
35	Condensers (.1 mfd., 400 volts)	30-4455
36	Switch	76-1141
37	Resistor (200 ohms)	33-120439
38	Cable and Plug	41-3589
39	Socket (two prong)	27-6154
	Clamp	56-1956

MISCELLANEOUS

Cutting Needle (Package of 5 Needles)	45-2824
Escutcheon (control)	R-2578
Screws	W-2054FA9
Grommet (cable)	2675
Insulator (lamps)	27-9760
Complete Drive Assembly (less Tone Arm & Crystal)	35-2254
Arm Rest	35-3052
Microphone	35-4077
Pick-up Cable and Plug Assembly	41-3565

MAKING BETTER HOME RECORDINGS

When making home recordings, it is essential that the speed at which the record is cut, be kept at or near 78 RPM. The load imposed on the motor when cutting a record is much greater than when playing back the recording and, when the difference in speed between recording and playing is in excess of four RPM, it becomes quite objectionable. Increased satisfaction with home recordings will result when the following conditions are observed and adjustments are made for the most suitable operation.

1— Allow the phonograph motor to become thoroughly warmed up before attempting to make a home recording. Play six records or more so that the grease in the gears becomes thoroughly loosened.

2— The fiber gear on the home recording gear train that engages the spindle should mesh loosely with the spindle gear in order to avoid binding. It may be necessary to enlarge the mounting hole in the record changer base in order to obtain this condition.

3— The cutting arm height adjusting screw should be set so that the cutting arm is just $\frac{1}{4}$ " above the record. Put the cutting needle in the crystal and place it on the record near the spindle. Check the cutting arm height — $\frac{1}{4}$ " above the record.

4— **The needle pressure is very critical.** Philco Scale, Part No. 45-2851, should be used, so that needle pressure can be adjusted accurately to $1\frac{1}{4}$ ounces with the cutting needle placed near the spindle. The needle pressure must be checked just as the needle is raised from the record.

5— The crystal "low level" stop should be adjusted, if necessary, to obtain $\frac{1}{2}$ " of free movement of the crystal in the cutting arm. With the needle resting on a record, raise the cutting arm slowly. There should be from $\frac{3}{16}$ " to $\frac{1}{4}$ " of motion of the cutting arm before the cutting needle lifts from the record. This will allow a free vertical movement of the crystal, compensating for any slight wobble in the turntable or record.

6— At the first sign of fuzzy or poor tone when making home recordings, change the cutting needle, replacing it with a new Philco cutting needle. A cutting needle should make between ten and twenty good clear recordings before it becomes necessary to replace it.

Two types of needles have been furnished in the past. The first recording needle was of the type normally known as a plow type needle. The cutting face of this needle is curved so that it actually digs into the surface of the record. This type has been replaced with a newer type which can be distinguished very readily from the plow type because the cutting face of the needle is flat and is parallel to the axis of the needle. The plow type needle can be used to make 6" home recordings satisfactorily, but it should not be used to make 10" home recordings, since it cuts too deeply into the record and will slow up the phono motor while cutting the outer edge of the record. The new flat face needle will be satisfactory when making the 10" recordings.