

# AUTOMATIC RECORD CHANGERS

PART NOS. 35-1231, 35-1233, 35-1239, 35-1266, 35-1268, 35-1269,  
35-1276, 35-1279

## DESCRIPTION AUTOMATIC RECORD CHANGERS

The automatic changer mechanisms, the part numbers of which are listed above, are the same basically with the exception of the reproducers and motor drives.

There were two types of reproducers and motor driving mechanisms used on the changers, i. e. — crystal reproducer, light-beam reproducer, gear drive motor (115 volts, 60 cycle; 115 volts, 50 cycle) and rim drive motor (115 volts, 60 cycle; 115 volts, 50 cycle). The mechanical adjustments for the changers are covered in the following pages:

### Crystal Reproducer Changer

Changer Part No.	Motor and Reproducer	Changer Part No.	Motor and Reproducer
35-1231	115 Volt, 60 Cycle, Gear Drive Motor	35-1266	115 Volt, 60 Cycle, Rim Drive Motor
35-1241	115 Volt, 50 Cycle, Gear Drive Motor	35-1267	115 Volt, 50 Cycle, Rim Drive Motor

### Light-Beam Reproducer Changer

Changer Part No.	Motor and Reproducer	Changer Part No.	Motor and Reproducer
35-1233	115 Volt, 60 Cycle, Gear Drive Motor—Less Reproducer	35-1269	115 Volt, 50 Cycle, Rim Drive Motor, with L-B Reproducer 35-2175
35-1239	115 Volt, 50 Cycle, Gear Drive Motor—Less Reproducer	35-1276	115 Volt, 60 Cycle, Rim Drive Motor, with L-B Reproducer 35-2175
35-1268	115 Volt, 60 Cycle, Rim Drive Motor, with L-B Reproducer 35-2175	35-1279	115 Volt, 50 Cycle, Rim Drive Motor, with L-B Reproducer 35-2175

The Changer plays twelve 10" or ten 12" records . . . . . To reload, revolve the two posts slightly, grasping them underneath the Shelf Plates. Turn them back after the played records are removed; they will fall and lock when in proper position. Then place the new records on the Shelf Plates, and push "R" button to put Changer in operation . . . . . To play the other size records, turn the knob at top of each post until proper figure is opposite pointer, and press the "10" or "12" button, to agree with pointer setting . . . . . To reject a record (or to start a change cycle as for testing purposes) simply press the "R" (Release or Reject) button, at any time while needle is upon a record . . . . . To play manually, turn plates out of the way as for reloading, and press "M" button.

## OILING

The Changer should be lubricated once a year with about a dozen drops of a good light machine oil at each of the following 6 points. All points can be reached from above, through holes in the mounting plate as follows:

- Nos. 1, 2, 3: Three oil holes on motor gear housing. Reach all three through two holes AI.
- No. 4: Through hole marked AJ, drop the oil upon flat surface of cam. It will distribute itself to proper points.
- No. 5: Through hole marked AM, see felt wick, and drop the oil directly upon it.
- No. 6: Through hole marked AL, see felt wick, and drop the oil directly upon it.

## TO CHECK OILING

If squeaks are heard compare the squeak with and without a load of records; any stack of records in motion is likely to squeak a little against a pin through their center. See that all five wicks are in position, including three 1/4" round wicks in frame of Motor, one washer-shaped wick on Lift, and one on Cam Lever DI. See that each wick is thoroughly saturated (as it may not be if insufficient oil or too heavy oil has been used). Lift out all three motor wicks, with tweezers; see if old oil has become gummy (commonly due to use of low-grade oil or low-viscosity oil). If necessary, clean gummed-up wicks with kerosene. See that each is saturated with good oil; then, before replacing them, drop a little good oil into the holes. The gearbox of the Motor is packed with a semi-fluid grease at the factory, and it should never be necessary to take it apart for lubrication purposes.

## GENERAL DESCRIPTION OF THE CHANGE CYCLE

An automatic record player for records of two sizes has three principal duties to perform. These duties are here performed by three mechanisms, interconnected and built together but largely separate in their operation.

(1) The record-changing mechanism — brought into operation originally by the contact of Lifter Cam DG with Pawl DI — is the simplest of the three. It is driven by the cam groove (not visible) on under side (in Photo C-D) of Cam Gear DC. As

# AUTOMATIC RECORD CHANGERS (CONTINUED)

Cam Lever is forced, by the Pawl, out underneath Lift DJ (which is shown revolved to the right for visibility) the Lift rises and forces roller DE into the under groove in Cam Gear. The motion is transferred to Rear Changer Shaft (at ED) through Cam Connecting Rod EH, thence through Changer Connecting Rod FG to Front Changer Shaft at FJ.

(2) The pickup-operating mechanism — likewise brought into operation originally by the cam-and-pawl action upon Cam Lever — is driven in part by the groove in upper (visible) side of Cam Gear. As Cam Lever is forced out, at the beginning of the change cycle, against Link at FO, it causes the Link to push upward upon Pickup Plunger CA, thus lifting needle from record. The same pressure upon Link works, through Guide Arm at FO, to force Stud on Guide Arm down into the groove on the Cam Gear. This rotates the pickup arm, while Pickup Plunger holds it up off record. It is rotated first out beyond the turntable until Selector Plates BK have dropped the next record, then rotated back to proper position to start playing.

(3) The mechanism for bringing needle into correct starting position must operate accurately for both 10" and 12" records. Partly due to this requirement, the starting position is **not determined by the cam action**. The upper groove on Cam Gear is designed so that it, acting alone, would carry the needle farther back toward record pin than would ever be desirable as a starting adjustment. Travel of pickup arm toward Record Pin is then stopped, at proper point for lowering onto the record, by action of Lever Hub at CQ. The stopping takes place as lug (upon the Lever Hub) strikes the shoulder on Rod FP. This enables the entire mechanism rotated by cam action on Guide Arm to travel on past the proper point of rotation for record-starting, while the pickup arm itself, which is held rigid to Lever Hub, is accurately stopped at proper record-starting point.

Correct adjustment for starting position of needle requires therefore only correct adjustment of Rods FL and FP; the radial difference of 1 inch between correct starting position for 10" and 12" records is taken care of by exact dimensioning, at the factory, of surfaces at right end of Rod FP which stop against the "10" and "12" key stems. Due to this, when Adjusting Cam at FM is turned (as directed below under Adjustment A) the starting position of needle is simultaneously altered for both 10" and 12" records.

## ADJUSTMENTS

There are two adjustments that can be made, FROM ABOVE: CHANGER NEED NOT BE RE-

MOVED FROM CABINET. All adjustments are correctly made at the factory, and ordinarily need never be altered. Should it become necessary to readjust, due to accident or tampering, proceed as follows:

A. ADJUSTING LANDING POSITION OF NEEDLE ON THE RECORD. If needle comes down on the sound track, playing of records will not start at their beginning. Insert screw driver through hole AH. Turn screw head on Needle Landing Adjusting Cam FM very slightly counter-clockwise. If needle comes down too close to outer edge of record, or out beyond edge of record, turn Adjusting Cam clockwise.

The factory adjustment of needle landing is  $\frac{1}{8}$ " in from outer edge of record.

Compare also Paragraph 12 on page 140.

B. ADJUSTING HEIGHT TO WHICH PICKUP ARM RISES. The arm should rise, during the change cycle, high enough so that it clears by only  $\frac{1}{4}$ " the record above it, next to be played. (Be careful, before deciding that readjustment is necessary, to see that the record at bottom of stack is not a warped one. To make this adjustment, loosen Lock Nut CJ and turn Pickup Sleeve CI to lengthen or shorten Pickup Plunger CA. However, if Pickup is made to rise too close to bottom record, Stud on Guide Arm at FO may not clear the groove in Cam Gear. In making this adjustment, therefore, care must be taken to see that Pickup Arm does not keep moving back and forth continuously (due to Stud remaining in engagement with groove). When correct adjustment is found, tighten Lock Nut securely.

## REPLACING MOTOR

To adapt the Changer to a different power supply, or in case of any serious fault within Motor, remove entire Motor EA from the Changer, and replace it with a suitable new Motor. (In ordering a replacement Motor, specify the power supply and give Model Number.

In wiring up, use only Underwriters' Approved wire. See that Motor Frame is well grounded by wire soldered to lugs, as shown on bottom view photo.

## TROUBLE SHOOTING

Cases of failure to operate satisfactorily will generally be found due either to neglect of proper lubrication, or to tampering with the mechanism after it leaves the factory, or to injuries accidentally sustained as by external vibration or by impact of some heavy object. In addition, there is always the possi-

*Continued on page 138*

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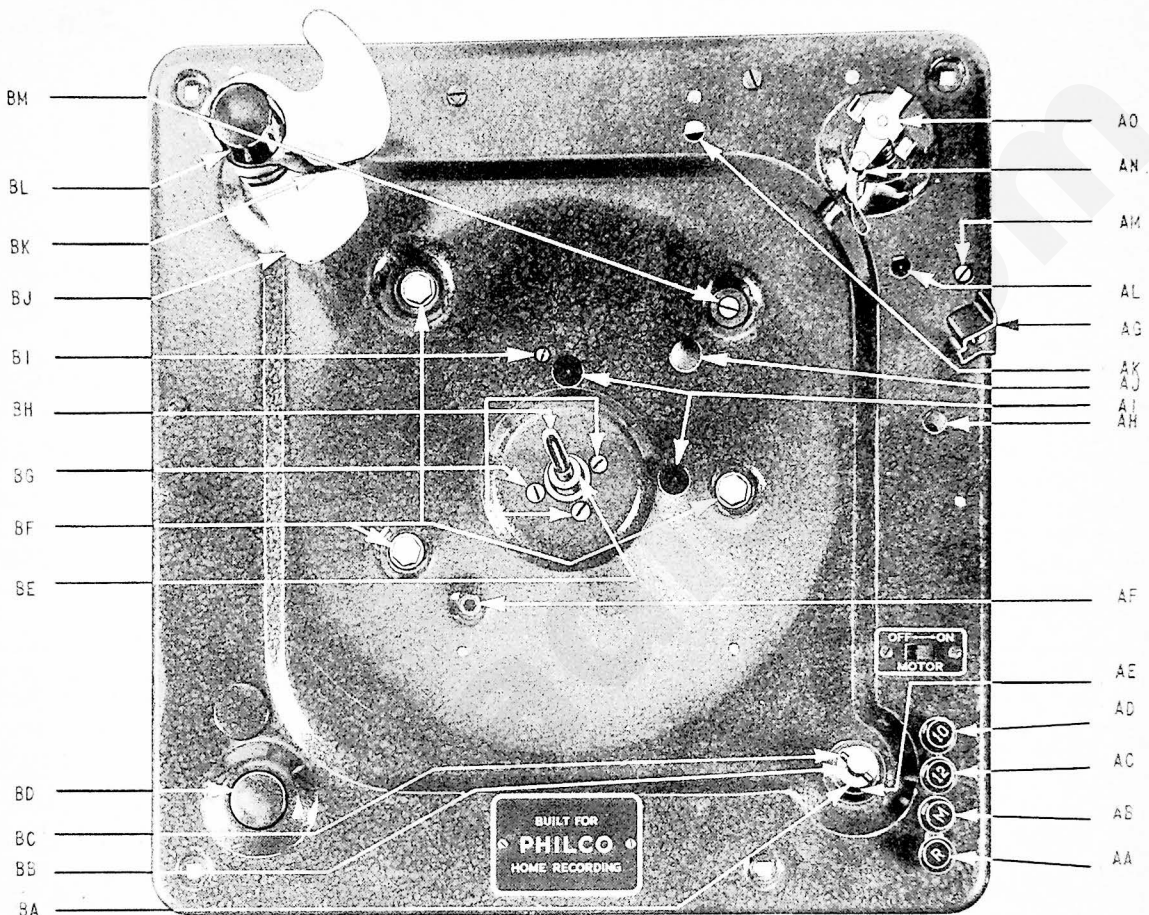


PHOTO A-B. TOP VIEW

## REPLACEMENT PARTS — GEAR DRIVE MOTOR CHANGER

AUTOMATIC RECORD CHANGERS 35-1231, 35-1233, 35-1239, 35-1241, 35-1259, 35-1261

The following parts list indicates the part numbers of the parts in the photos A-B, C-D, and E-F. In addition all parts that were changed in the mechanism during production are also indicated. The major part changes were made in item B-E, C-Q, and E-L.

Photo Letters	DESCRIPTION	Part No.	Photo Letters	DESCRIPTION	Part No.	Photo Letters	DESCRIPTION	Part No.
AA	Push-Button Assembly "R"	35-2351	BA	Changer Post Washer	35-2276	BF	(3) Mounting Screws	35-2390
AB	Push-Button Assembly "M"	35-2352	BB	Changer Shaft—Front	35-2438	BG	(4) Spindle Housing Mounting Screws	35-2389
AC	Push-Button Assembly "12"	35-2349	BC	Changer Shaft—Rear	35-2439	BH	T.T. Spindle and Cone Assy.	35-2274
AD	Push-Button Assembly "10"	35-2350	BD	Plug Button (Large)	35-2289		Ball Bearings	35-2378
AE	Changer Post	35-2454		Plug Button (Small)	35-2293		Ball Bearing Washer	35-2379
AF	Recorder Mounting Hole		BE	T.T. Spindle, Cone and Gear Housing Assy. Complete	35-2463	BI	Motor Shipping Screw	W-1598
AH	Needle Landing Adj. Hole			Parts in Assembly 35-2463		BJ	Changer Shelf Plate	35-2217
AI	Motor Oiling Holes			Drive Pinion Gear	35-2336	BK	Changer Selector Plate	35-2216
AJ	Motor Oiling Holes			Gear Pin	35-2375		Changer Selector & Shelf Plate Assembly	35-2222
AK	Motor Oiling Holes			Spindle Housing Assembly	35-2357	BL	Changer Cap	35-2219
AL	Motor Oiling Holes			The parts shown for BH and FI are also included in this assembly.			Changer Plate Spring	35-2218
AM	(3) Sub-Plate Mtg. Screws	35-2458					Changer Plate Washer	35-2407
AN	Lifter Rod Nut	35-2411				BM	Cam Gear Screw	35-2457
AO	Swivel Post	35-2417						

# AUTOMATIC RECORD CHANGERS (CONTINUED)

bility that any kind of spring may "go dead" (cease to operate without any visible breakage) even though the utmost factory precautions are taken against it — or that set screws may work loose due to some external vibration. For tightening set screws, a No. 8 size Allen (hexagon) wrench is required: Be sure that set screws are properly seated on the holes or flats provided. Damage from tampering is likely to take the form of bent parts; never bend any part during examination.

Among the principal trouble symptoms to which such causes may arise, are the following:

## 1. MECHANISM IS SLOW IN STARTING, OR MOTOR GETS HOT.

May be caused by:

a. Failure to lubricate properly. Oil thoroughly. See oiling instructions.

b. Check voltage. Line voltage may be abnormally low or high.

c. Motor windings damaged. If windings are found damaged, replace motor.

## 2. MOTOR FAILS TO RUN, EVEN WHEN IT IS ENTIRELY DISCONNECTED FROM OTHER WIRING AND PROPER VOLTAGE IS APPLIED DIRECTLY TO THE TWO ENDS OF ITS WINDINGS.

This indicates trouble in Motor windings. Unless the damage is easily seen and repaired, replace motor.

## 3. MOTOR IS SLOW IN STARTING.

a. Check oiling, as directed on page 2. It may not have been properly done; old oil may have become gummy.

b. Changer may have been in a very cold place, and may not yet have reached room temperature. Give it a fair chance to get warmed up before concluding that Motor is defective.

## 4. SQUEAKS OR OTHER NOISES, DURING PLAYING OF RECORDS.

Check oiling, as directed on page 2. (If squeaks are heard, they will usually be found to come from the records — not from the mechanism.) See "To Check Oiling."

## 5. CHANGER IS NOISY WHEN IN CYCLE.

Check oiling. Also see if any part has become loose or bent and is rubbing against a moving part such as the Swivel Guide Arm against the Cam Gear.

## 6. MOTION OF PICKUP TOWARD RECORD PIN WILL NOT TRIP CHANGER MECHANISM.

Manual button down. See that shipping bolts are removed.

If trigger is being properly actuated, probably Cam Lever at EL is binding against Sub-plate. Look for dirt or obstructions; See that Pawl and Trigger DN are working freely on their rivets. If the Lever engages the Pawl so that Lift forces roller up into the under groove on Cam Gear, and if set screws are tight, the change cycle must operate as Cam Gear turns.

## 7. PRESSING "R" BUTTON DOESN'T TRIP CHANGER MECHANISM.

a. Due to shipping bolts not being removed, causing a bind on manual rod, or manual button is down.

b. Check Key Control Unit CE: See whether there is an obstruction or a bent part which prevents "R" button from going clear down to the end of its travel.

c. Examine Reject Rod CH. If it does not trip, even when properly revolved by complete depressing of "R" button, the rod has probably been bent, and must be restored in some way. Grasp the two ends and twist it slightly.

d. If Trigger DN is being properly actuated but without starting a change cycle, see directions, Paragraph 6.

## 8. PRESSING "M" BUTTON FAILS TO PUT CHANGER MECHANISM OUT OF ACTION SO AS TO ENABLE MANUAL OPERATION.

a. First see that button goes clear down; then follow its action through Manual Rod CH.

b. Also caused by the manual rod being bent and not projecting up through Sub-plate and stopping Cam Lever when it is released from the Trigger.

## 9. TRIPS TOO SOON OR BEFORE RECORD HAS FINISHED PLAYING.

This caused by too little clearance between the trigger and the clutch lever assembly. To get more clearance on this adjustment, turn the adjusting screw DO in a clockwise direction a half-turn or whatever is necessary to make tone arm trip on  $\frac{1}{4}$ " motion.

## 10. TONE ARM FALLS OFF RECORD.

Needle sits down too close to edge of records, not adjusted in far enough, or needle landing adjusting cam reversed. It should contact lug on adjusting rod



# AUTOMATIC RECORD CHANGERS (CONTINUED)

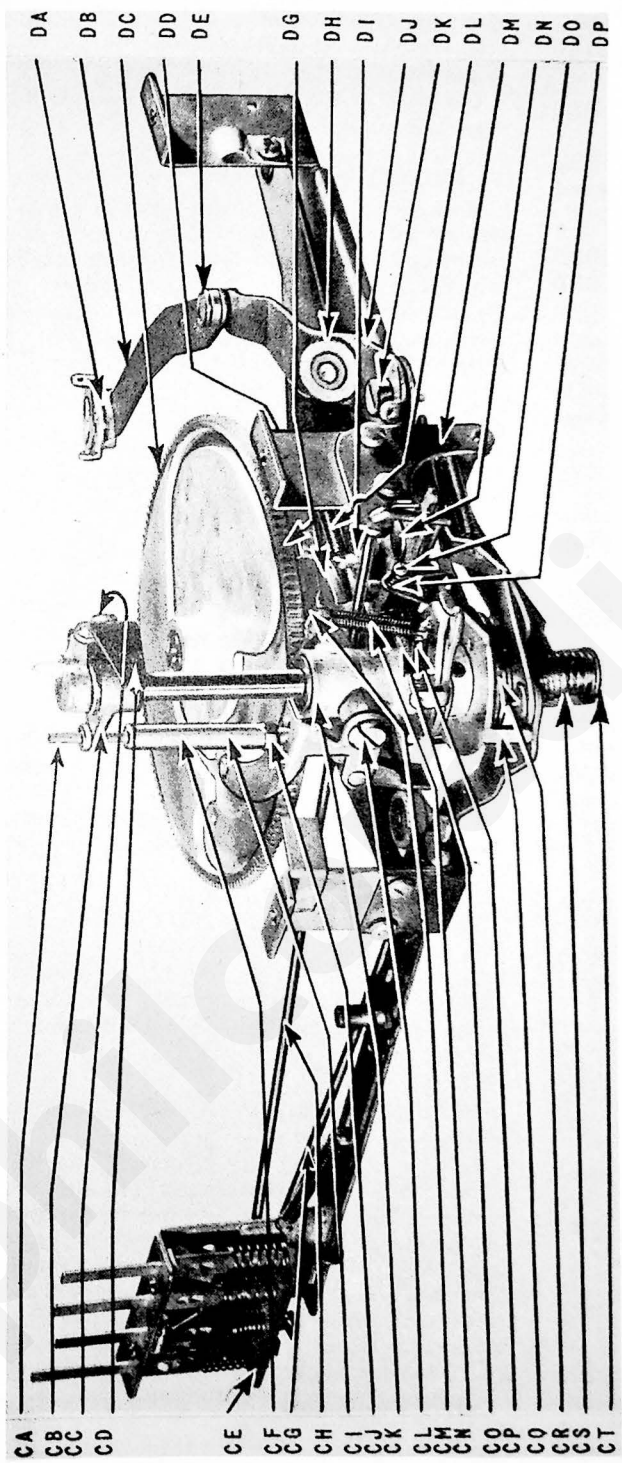


PHOTO C-D. VIEW OF SUB-PLATE ASSEMBLY, TOGETHER WITH CERTAIN OTHER ASSEMBLIES.

Photo Letters	DESCRIPTION	Part No.	Photo Letters	DESCRIPTION	Part No.
CA	Pickup Plunger	35-2384	DC	Cam Gear	35-2428
CB	Lifter Guide	35-2408	DD	Fibre Washer	35-2494
CC	Hinge Spring (Crystal Pickup)	35-2408	DE	Spring Washer	35-2495
CD	Hinge Spring (Crystal Pickup)	35-2408	DD	Cam Lever Spring	35-2260
	Shoulder and Head Assem. (Crystal Pickup)	35-2444	DE	Roller (Part of DJ)	
	Fibre Washer	35-2444	DG	Lifter Cam (Part of Cam Gear Assembly DC)	
	Swivel Shaft & Head Assem. (Light-Beam Pickup)	35-2373	DH	Felt Wick	27-9861
	Ball Bearing	35-2378	DJ	Cam Lever and Pawl Assembly	35-2447
	Ball Race	35-2379	DJ	Cam Connecting Rod Lift Assembly	35-2268
	Washer	35-2280	DK	Shoulder Screw	35-2434
	Light Beam Reproducer	35-2175	DL	Pin	35-2271
	Crystal Reproducer (Complete)	35-2462	DM	Clutch Release Bracket	35-2429
	Crystal	35-2204	DN	Release Trigger	35-2282
CE	Key Control Assembly	35-2273	DN	Trigger Pivot Stud	35-2470
CF	Pickup Plunger Spring (Inside Sleeve)	35-2255	DO	Trigger Spacer	35-2472
CG	Manual Key, Rod	35-2413	DP	Clutch Lever Stop Bracket	35-2473
CH	Relaction Key, Rod	35-2412		Spring (Release Trigger)	35-2285
CI	Pickup Plunger Sleeve	35-2410		Clutch Screw	35-2457
CJ	Lifter Rod Nut (AN)	35-2411		Clutch Lever Spring	35-2261
CK	Swivel Tube and Tension Assembly	35-2446			
CL	Transition Shoulder Screw (2 required)	35-2415			
CM	Clutch Release Spring	35-2256			
CN	Guiding Spring	35-2257			
CO	Swivel Spreader Spring	35-2258			
CP	Spring Assembly (1st production)	35-2269			
CQ	Clutch Assembly (2nd production)	35-2371			
CR	Clutch Lever and Sleeve Assembly	35-2537			
CS	Clutch Lever & Sleeve Assem. (Later production)	35-2277			
CT	Clutch Lever and Sleeve Spring	35-2538			
	(Light-Beam Pickup)				
	(Light-Beam Pickup)	35-2452			
	Clutch Spring Retainer	35-2259			
	(Crystal Pickup)				
	(Light-Beam Pickup)	35-2295			
	* These parts use Cork Disc	35-2453			
DA	Spreader Hub Assembly (Part of DJ)	35-2539			
DB	Cam Connecting Rod (Part of DJ)				

# AUTOMATIC RECORD CHANGERS (CONTINUED)

on the long side of cam. Check pick-up leader spring EU. It may have become loose; more tension can be given it by bending down lug.

## 11. TONE ARM SITS DOWN TOO FAR IN.

Due to adjusting rod bending and not measuring properly. If found to be bent, should be straightened to correct shape so that it will operate freely.

## 12. NEEDLE LANDS PROPERLY ON RECORD BUT FAILS TO MOVE OVER INTO RECORD GROOVE.

Pickup arm is normally impelled toward center of records by Lead Spring EU. Should a slight increase in its tension be found necessary, this can be easily obtained by slightly bending the lug, to which it is attached, down against Main Plate.

## 13. WOW IN RECORD REPRODUCTION.

a. Record is warped or otherwise defective or instrument is not being operated at normal room temperature, 70 F°.

b. Motor mounting plate being bent will cause "wow." Straighten it if possible or replace with new plate if too badly bent to warrant straightening. This is only found where rough handling is evident.

c. Motor shaft out of alignment with the turntable shaft (also due to rough handling). To correct, move the motor on its mounting until motor shaft is parallel to the turntable shaft and the Universal coupling is exactly at right angles to motor and turntable shafts, then tighten motor mounting screws securely.

## 14. LAST RECORD DROPS ON ONE SIDE ONLY.

This suggests a Changer Post bent out of perpendicular to Main Plate. If Post must be straightened, be careful not to bend other parts.

## 15. CHANGER CONTINUES CYCLING.

a. Probably due to failure of Lift at DJ to be drawn back out of engagement with Cam Gear. Check the various rivets at which motion occurs, to find the point where friction or binding is interfering with freedom of motion.

b. Make sure that trigger spring is not disconnected. Also that clearance between trigger and clutch lever is sufficient. A sticking pawl will also cause this condition.

## 16. RECORD IS DRIVEN, BUT NOT HEARD, OR NOT HEARD WITH PROPER VOLUME.

See that Pickup cord is plugged in. Check amplifier and speaker and connections to them, thoroughly. If then trouble is still suspected in pickup, test its output with a vacuum-tube voltmeter. Playing an average record, output should test 1 to 2.5 volts

if pickup cartridge is of crystal type. If pickup cartridge is found not to deliver proper output, remove it and install another.

See Model 41-608 for Philco Photo-electric Reproducer adjustments.

## 17. RECORD JAMS.

Most slicing trouble (record jams) is due to off-size or defective records, and is no fault of the record changer or record changer adjustment. Properly manufactured records have a uniform semi-circular edge and can be successfully handled by record changers, even though the records vary considerably in thickness.



Cross section of record edge showing a perfect and three imperfect edges.

Records that prove troublesome in the selecting or slicing process can usually be corrected by using a piece of fine sand paper or emery cloth to touch up the edge.

## 18. AUDIO HOWL.

Record changer not floating on cushions or spring mounting. See that shipping bolts are removed. If unit still does not float, loosen the nuts or mounting assembly allowing unit to rise and float.

## 19. TURNTABLE IS TIGHT.

This turntable is assembled to the turntable shaft with a taper lock fit in the center. To remove, grasp turntable with both hands, turn slightly forward and backward at the same time pulling upward, or run motor and grasp the turntable while it is revolving, and pull up.

## 20. THUMP HEARD IN RECORD REPRODUCTION.

This is caused by the motion of the friction clutch when it is momentarily released by the motion of the release lever, which in turn is actuated by the hump on the cam gear. If thump is objectionable, it can be reduced by adjusting the clutch lever at EO to allow only a slight amount of motion of the clutch assembly; also if the clutch spring is too strong, replace with a new spring or cut one-quarter of the length of the old spring or whatever is necessary to assure satisfactory operation. Be sure that clutch assembly parts are free from dirt and burrs and work freely without binding.

# AUTOMATIC RECORD CHANGERS (CONTINUED)

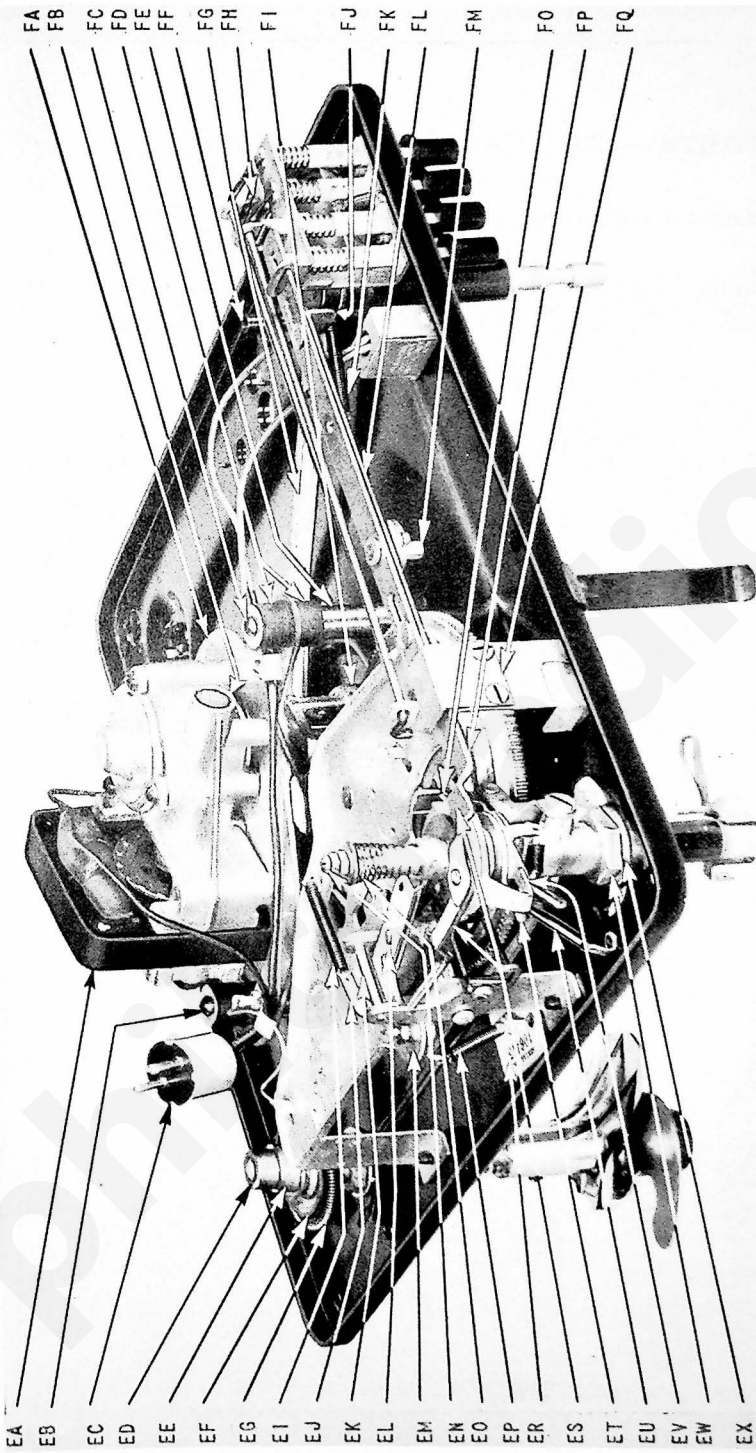


PHOTO E-F. BOTTOM VIEW.

EA  
EB  
EC  
ED  
EE  
EF  
EG  
EI  
EJ  
EK  
EL  
EM  
EN  
EO  
EP  
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EX

FA  
FB  
FC  
FD  
FE  
FF  
FG  
FH  
FI  
FJ  
FK  
FL  
FM  
FO  
FP  
FQ

Photo Letters	DESCRIPTION	Part No.
EA	Motor (110 volts, 60 cycle)	35-1752
	Motor (110 volts, 50 cycle)	35-1751
	Turntable	35-3048
	Home Recording Pin (TT)	35-2724
	Motor Switch	42-1628
EB	Main Mounting Plate	46-6104
EC	Plug and Shell	35-2420
ED	Changer Shaft Collar	35-2420
EE	Spreader and Hub Assembly (Part of DJ)	35-2401
EF	Spring Roller	35-2742
EG	Changer Spreader Spring	35-2743
EI	Return Spring Catch	35-2422
EJ	Lever Pin	35-2448
EK	Clutch Release Assembly	35-2449
EL	Set Screw	W-1641
	On later production changers, a clutch lock Part No. 35-3272, was added to the clutch release assembly.	

Photo Letters	DESCRIPTION	Part No.
EM	Connecting Rod Nut	35-2423
EN	Clutch Retainer Screw	35-2288
EO	Clutch Release Adjusting Screw	W-1303
EP	Cam Connecting Rod Lift Spring	35-2264
ER	Changer Serial Number	35-2286
ES	Adjusting Rod Assembly	35-2424
	Spring	35-2424
ET	Lower Swivel Spreader	35-2285
EU	Pickup Leader Spring	35-2370
EV	Upper Swivel Spreader	35-2426
EW	Post Nut (3 required)	W-371
EX	Lock Washer (3 required)	35-2227
FA	Motor Mounting Plate	35-2220
FB	Coupling Assembly	35-2220
FC	Motor Mounting Screw (3 required)	W-150
FD	Motor Mounting Grommet (3 required)	35-2283
FE	Motor Mounting Stud (3 required)	35-2460

Photo Letters	DESCRIPTION	Part No.
FF	Tee Nut	35-2451
FG	Changer Connecting Rod Assembly	35-2516
	Eccentric Screw	35-2746
FH	Manual and Rejecting Rod Spring	35-2784
FI	Idler Gear	35-2377
	Idler Gear Shaft	35-2380
	Thrust Washer	35-2376
	Upper Spacer	35-2374
	Lower Spacer	35-2374
FJ	Changer Lever & Hub Assy. (Front) Part of EG	35-2263
FK	Adjusting Rod Spring	35-2286
FL	Adjusting Rod Extension	35-2286
FM	Needle Landing Adjusting Cam (Part of ES)	35-2387
FO	Swivel Guide Arm Assembly	35-2377
FP	Adjusting Rod (Part of ES)	35-2377
FQ	Adjusting Rod Bracket	35-2374

# AUTOMATIC RECORD CHANGERS (CONTINUED)

## REPLACEMENT PARTS — RIM DRIVE MOTOR CHANGER

AUTOMATIC RECORD CHANGERS 35-1266, 35-1268, 35-1269, 35-1276, 35-1279

The replacement parts listed below cover the turntable motor drive parts and selector plate assembly used in the rim drive record changers. All other parts used in this type changer are the same as those listed for the gear type motor changers on pages 137-141. The same mechanical adjustments listed on pages 135, 136, 138 are also used for the rim drive motor changers.

Photo Letters	DESCRIPTION	Part No.	Photo Letters	DESCRIPTION	Part No.	Photo Letters	DESCRIPTION	Part No.
1	Selector and Shelf Plate Assy.	35-2222	10	Selector and Shelf Plate	35-2222	14	Turntable Spindle and Cone Assembly	35-2437
	Rear Shelf Post	35-2454		Front Shelf Post	35-2454		Ball Bearings	35-2378
	Knob (Selector Plate)	35-2219		Knob (Selector Plate)	35-2219		Ball Bearing Washer	35-2379
	Spring (Knob)	35-2218		Spring (Knob)	35-2218		Turntable Spindle, Cone and Gear Housing Assembly	35-2437
	Selector Plate	35-2216		Selector Plate	35-2216		Mounting Screws	35-2389
	Shelf Plate	35-2217		Shelf Plate	35-2217	15	Motor (115 volts, 60 cycle)	35-1275
	Shaft (Rear)	35-2442		Shaft	35-2405		Motor (115 volts, 50 cycle)	35-1280
	Pin (Shaft)	35-2440		Shaft Pin	35-2440	16	Motor Mounting Stud	35-2527
	Washer (Post)	35-2404		Washer	35-2404	17	Motor Mounting Strap (Removed)	
2	Plug Button		11	Push-Buttons			Rubber Grommets	35-2430
3	Turntable Pulley (Rear)	35-2398		"R" Button	35-2351	18	Intermediate Drive Gear	35-2284
	Pulley Link Assembly	35-2395		"M" Button	35-2352		Shaft	35-2377
	Spring Clip	35-2393		"12" Button	35-2349		Thrust Washer	35-2380
	Washer	35-2394		"10" Button	35-2350		Upper Spacer	35-2374
4	Spring (Rear Pulley)	35-2397	12	Off-On Switch	42-1628		Lower Spacer	35-2376
5	Motor Shaft Pulley (115 volt, 60 cycle Motor)	35-2396	13	Light-Beam Reproducer (Complete)	35-2175	19	Spindle Drive Gear	35-2336
	(115 volt, 50 cycle Motor)	35-2433		Crystal Reproducer (Complete)	35-2462		Gear Pin	35-2375
6	Turntable Pulley (Front)	35-2398		Crystal Reproducer Bracket	35-2204	20	Spindle Housing Assembly	35-2357
	Pulley Link Assembly	35-2399		Reproducer Bracket (Light-Beam Reproducer)	35-2406		Name Plate (41-608)	R-2577
7	Spring (Front Pulley)	35-2400		(Crystal Reproducer)	35-2369		Name Plate (41-625)	R-2579
8	Plug Button (Small)	35-2293					Off-On Plate	56-1958
9	Plug Button (Large)	35-2289						

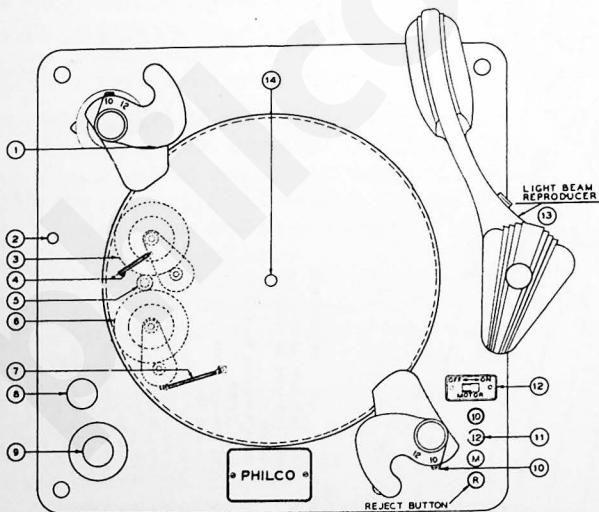


FIG. 1. PART LOCATIONS — TOP OF CHANGERS RIM DRIVE TYPE

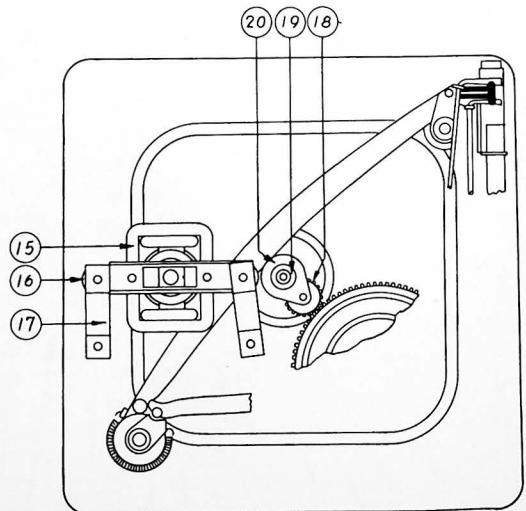
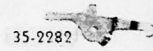
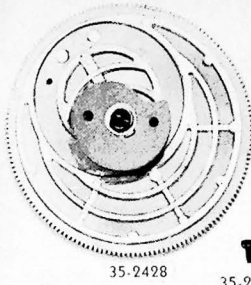


FIG. 2. PART LOCATIONS — BOTTOM OF CHANGERS RIM DRIVE TYPE



# AUTOMATIC RECORD CHANGERS (CONTINUED)



35-2262

35-2471

35-2470

35-2422

35-2263

35-2271

35-2473

35-2472



35-2420

35-2457

35-2423

35-2268

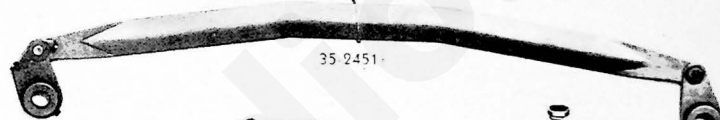
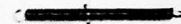


35-2440



35-2436

35-2264

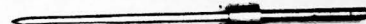


35-2389

35-2516



35-2276



35-2378

35-2379



35-2375

35-2336



35-2376

35-2374

35-2380

35-2377

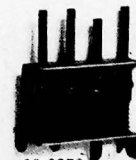


35-2424



35-2352

35-2350



35-2266

35-2288

35-2429



35-2407

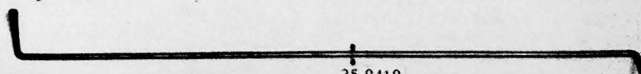
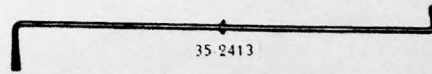
35-2349

35-2351

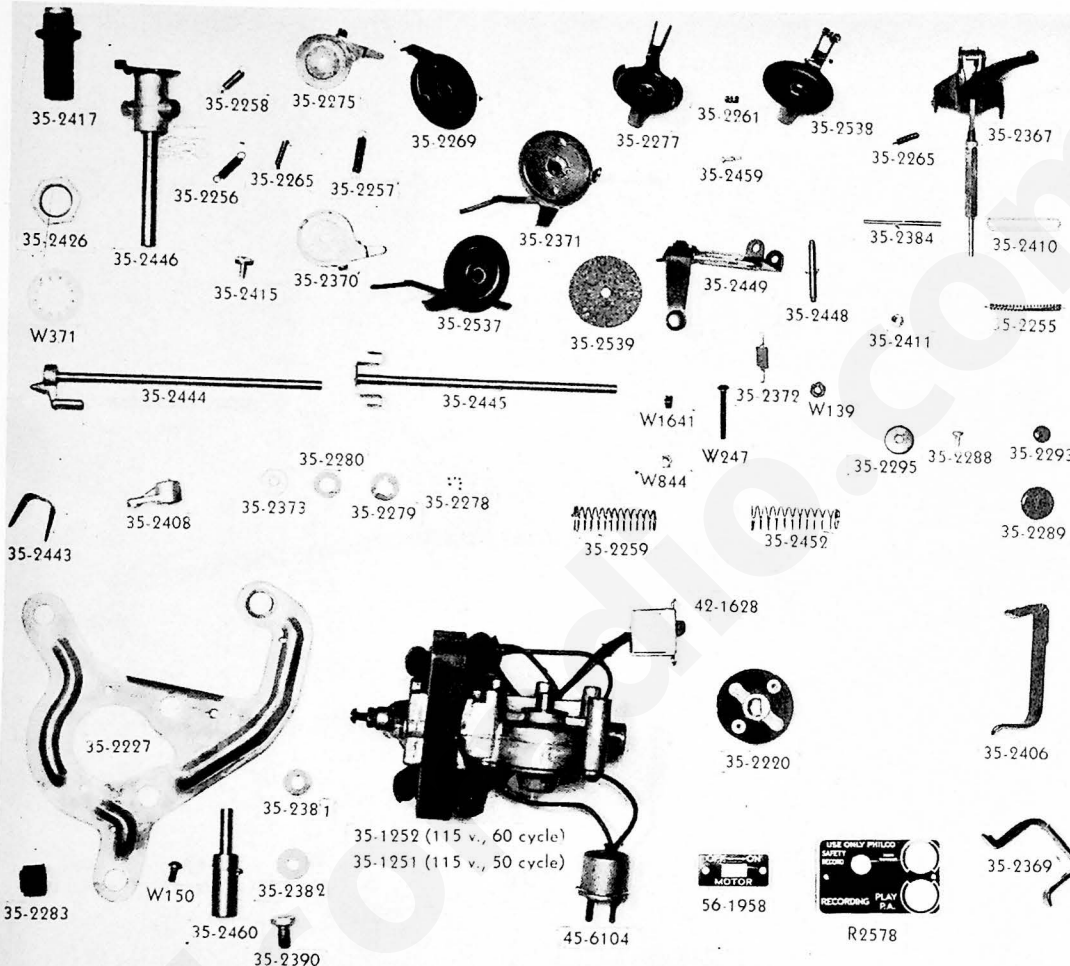
W-164



W-496



# AUTOMATIC RECORD CHANGERS (CONTINUED)



## PARTS SHOWN BELOW USED ON RIM DRIVE CHANGERS ONLY

