

Figure 1

GENERAL INFORMATION

The Garrard Model RC80 Record Changer is designed to automatically play a series of ten 10" or 12" records at the speed of 78 RPM or 33-1/3 RPM. A full stack of ten 7", 33-1/3 RPM records or ten 7", 45 RPM records (using the large spindle) will also play on this changer.

This changer has the velocity trip type mechanism and automatic shutoff.

Power line voltage to the changer may be 100-130 or 200-250 volts, 60 cycles AC. For proper line voltage connections, see Figure 9.

Manufactured By:
The Garrard Engineering & Mfg. Co., Ltd.
Swindon, Wilts - England

Distributor:
Garrard Sales Corporation
164 Duane Street
New York 13, New York

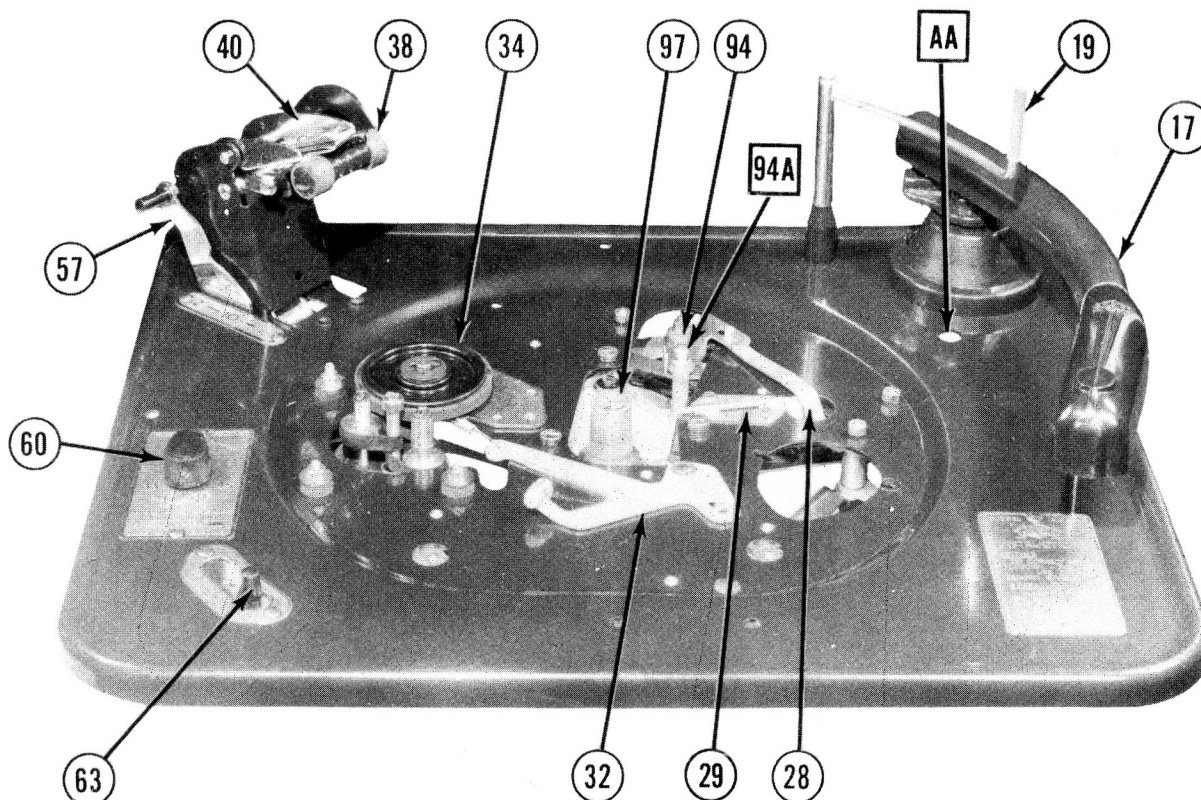


Figure 2

OPERATING INSTRUCTIONS

1. Insert the correct pickup head into position for type record to be played; i.e., one having a standard .002" to .003" radius needle for 78 RPM records, or .001" radius needle for 33-1/3 and 45 RPM records.

NOTE: Some Garrard Changers may come equipped with two plug-in heads (18), each having the correct weight and radius of needle for the type record to be played. To change pickup heads, loosen the set screw nearest the head and carefully pull on the head to remove it; then plug in the correct head. However, the changer may have the turnover type pickup in which the correct needle is obtained by turning over the pickup cartridge.

2. Place the correct spindle in position; i.e., the stepped sloping spindle for 78 or 33-1/3 RPM records, or the large spindle for 45 RPM records.

3. Set the change-over lever (57) to size record to be played- 7", 10", or 12". Also, turn the 7" record platform to the "Forward" position to play 7", 33-1/3 RPM records.

4. Turn the speed control knob (60) to the desired speed- 78, 45, or 33-1/3 RPM.

5. Place any number of records up to 10 (not mixed) on the record spindle.

6. Lower the record arm (38) to the records.

NOTE: The record arm (38) is not used when playing 7" records.

7. Move the "Stop-Start-Reject" knob (63) to the

"Reject" position and release. The changer will now automatically play the stack of records on the spindle; it will also automatically return the tone arm to the arm rest and shut off upon completing the last record.

CHANGE CYCLE

The change cycle is put into operation by moving the "Stop-Start-Reject" knob (63) to "Reject". This causes the switch lever (70) to be latched with the switch catch (68), closing the switch. The motor is thereby started and, in turn, the turntable revolves. At approximately the same time, the reject lever (67) is moved against the trip catch (79), releasing the impulse lever (98). The impulse lever, actuated by spring (119), moves against the cam gear pin (103A), moving the cam enough for the clutch pawl segment (103B) to engage the pinion (97), which is revolving with the turntable. This, in turn, starts the rotating of the cycling cam (103)

As the cycling gear revolves, the lifting lever (115) is pivoted, due to the cam roller on lever (115) following the contour of cam (103C), see Figure 7. This, in turn, through its connected levers, closes the muting switch contacts (82) and causes the lifting crank (84) to engage the lifting plate and spindle assembly (83), thus raising the tone arm from the record.

Cam (103E) now pivots the tone arm actuator (93), causing the roller (93A) to engage the swing lever of the assembly (76), which, in turn, moves the tone arm out clear of the records. As the assembly (76) swings outward, the index lever of the assembly (76) moves against the pin on the tone arm positioning lever assembly (31). The index step to which the pin of the selector link (31) engages is determined by the setting of the change over lever (57). This positions the tone arm for set down.

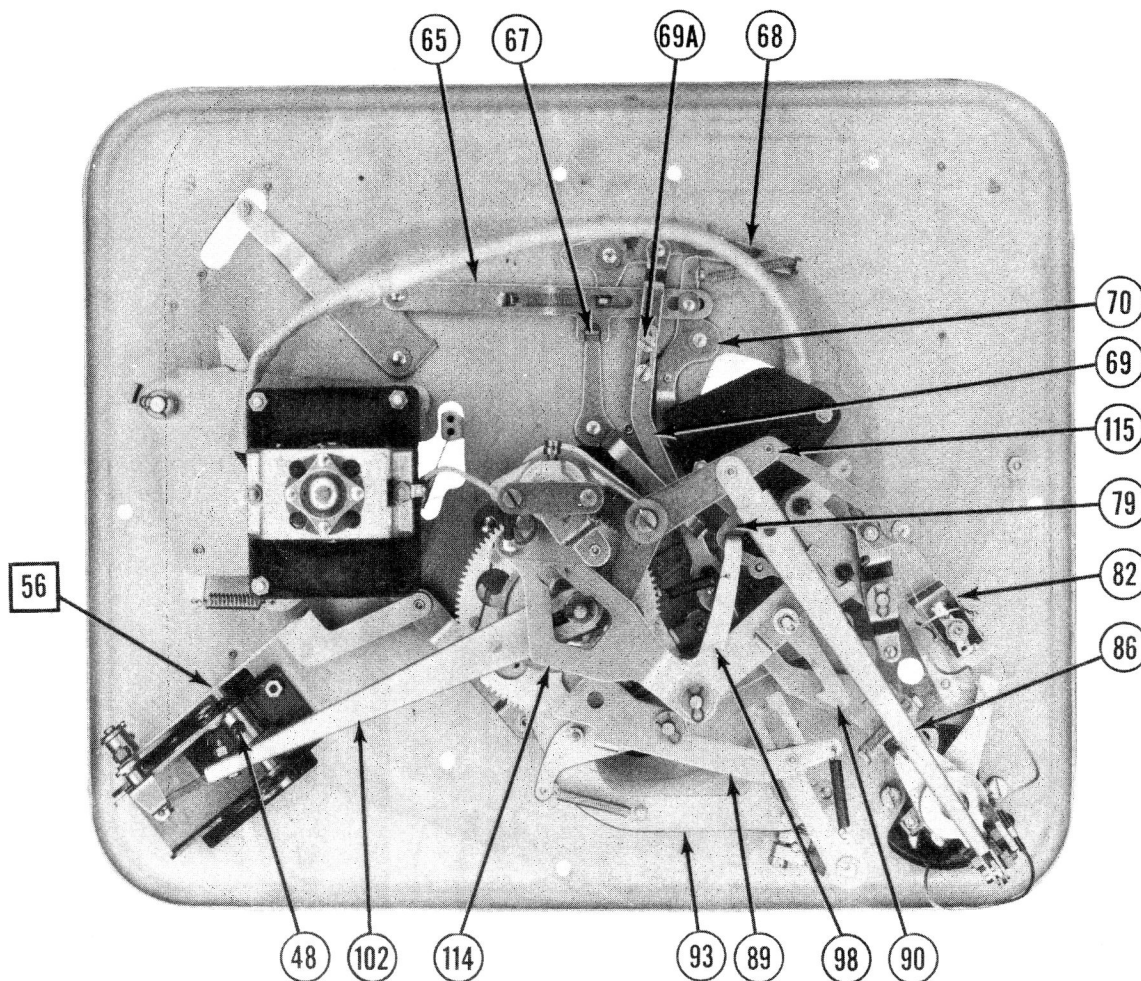


Figure 3

At approximately the same time, pin (103D) moves against the shut-off cam lever (89), allowing the discriminating lever (19) to be pulled inward; however, with records on the spindle, the discriminating lever (19) is blocked from making its full inward travel, thereby preventing the shut-off operation.

At this position of cam rotation, pin (103F), see Figure 7, has reached the end of the slot in the coupling link (102), and with continued cam rotation, the coupling link (102) is pushed back. This, in turn, actuates the link (46) and pawl (44), thus selecting the bottom record and dropping it to the turntable. At the same time, the 45 RPM spindle actuating lever assembly (114) is pivoted by the same pin (103F). This operates the 45 RPM spindle when used.

Pin (103F) now moves away from the end of the slot in the coupling link (102). This allows spring (47) to return the coupling link (102), link (46), and pawl (44) to their normal positions.

Lever (93) moves away from the swing lever of assembly (76), allowing spring (78) to pull the swing lever and, in turn, the tone arm inward until the eccentric set-down adjustment stud engages the index lever of assembly (76). This positions the tone arm for set-down.

Lever (115) now returns to its normal position; and, through the connected parts, the tone arm is lowered to the record and the muting switch is opened.

At approximately the same time, cam impulse lever (98) is reset with the trip catch (79) by cam pin (103A). The open section of the cam gear (103) is now facing the pinion (97), thereby completing the change cycle.

As the tone arm moves across the record, the trip arm (74), which is secured to the lift rod by a set screw, engages and moves the velocity trip link (28). This, in turn, pivots the velocity friction plate and trip lever (94) toward the pinion (97). While a record is playing, the small inward movement of the trip lever (94) is not sufficient to trip the mechanism, because, on each revolution of the pinion (97), the wiping contact by the pinion striker moves the trip lever (94) back.

In the first revolution of the turntable, during which the tone arm advances rapidly, the trip lever (94) is moved far enough to definitely engage the striker on the spindle (96). The trip lever is then raised by the striker which, in turn, pushes upon the trip crank rod (29). This moves the trip lever (79), releasing the impulse lever (98), which causes the cam to engage the pinion and thus start a new change cycle.

AUTOMATIC SHUTOFF:

When the last record has been played, the change cycle starts again. Since there are no records on the spindle, the switch-off arm is allowed to move in far enough for link (89A) to pivot the shut-off lever (90) so

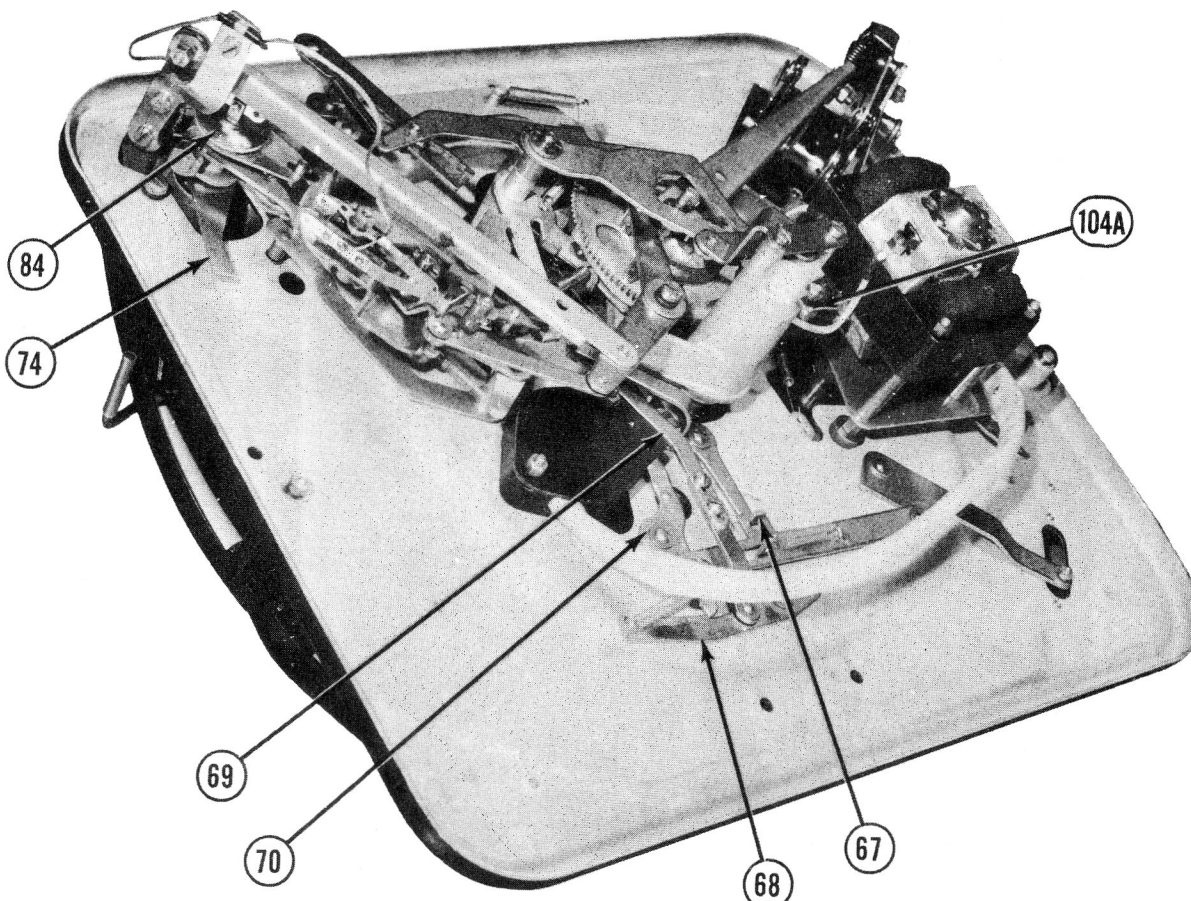


Figure 4

as to engage a pin on the lever (93). This prevents the swing lever (93) from following the contour of cam (103A), but holds it in a position so as to engage cam (103G). Cam (103G), now actuating lever (93), causes the lever (93) to move against the trip link (69). This releases the switch lever (70), shutting off the changer. The shut-off lever (90) is reset by the cam impulse lever (98) as it is being latched with the trip catch (79). Also, the tone arm is held in a locked position over the tone arm rest by the engagement of the lever roller (93A) and the muting switch lever (118) with the swing lever of assembly (78). This completes the shutoff cycle.

ADJUSTMENTS

Tone Arm Height -(See Figure 8) -

If the tone arm fails to clear the top record of a stack of ten records on the turntable, it may be adjusted as follows:

1. Loosen the hex nut holding the eccentric adjustment screw [84A].
2. Adjust the eccentric screw [84A] and tighten the hex nut.
3. Place ten records on the turntable, trip the changer, and hold the switch-off arm (19) so that it will not move all the way in; at the same time, observe the movement of the tone arm to see if it clears the records. Readjust the eccentric [84A] if necessary, to obtain the proper height.

Tone Arm Set-Down Point -

If, for any reason, the tone arm lever assembly (76) has been removed, the tone arm set-down point may be readjusted as follows:

1. Place a 10" record on the turntable.
2. Move the platform lever (57) to the 10" position.
3. Loosen the tone arm lever (76) clamp screw. See Figure 8.
4. Push up on the lever assembly (76) so that it does not bind on any parts; then move it counterclockwise so that the index lever will just touch the pin on the end of the positioning lever (31).
5. While holding the lever assembly (76) in this position, move the tone arm in so that the needle will rest in the starting groove of the record; then tighten the clamp screw and check the adjustment.
6. A finer adjustment can now be made by turning the eccentric set-down pin (76A): See [AA] Figure 2.
 - (a) To make this adjustment, move the tone arm out over the rest post. The eccentric pin may then be adjusted through the hole in the base plate. A quarter of a turn in either direction will give the maximum adjustment. After this adjustment has been made, switch on the changer and observe the landing of the tone arm, readjust, if necessary.

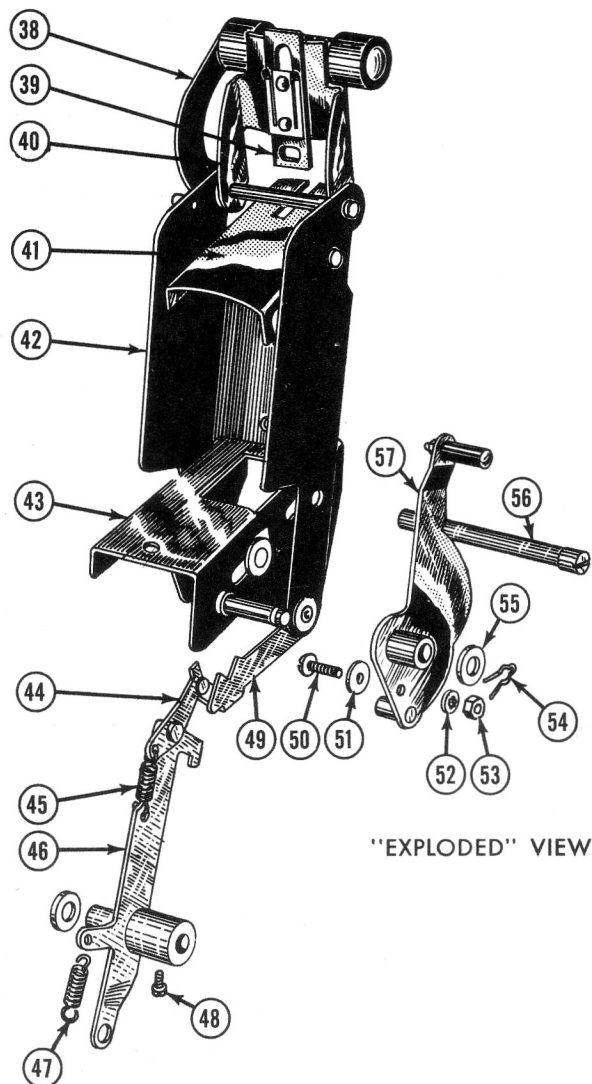


Figure 5

Record Platform Adjustment -

The platform (42) has been properly adjusted at time of manufacture to accommodate records of average dimensions.

If, for any reason, the platform has been removed, it may be adjusted as follows:

1. After the record platform has been properly mounted, move the change over lever (57) to the 10" position.
2. Loosen the screw (48) in the platform pivot collar.
3. Place a 10" record on the turntable.
4. Turn the eccentric pin (56) until the platform is in the required position.
5. Tighten the screw (48), leaving a clearance of about 1/64" between the eccentric shoulder of the pin (56) and platform support (see Figure 3).

Record Drop Adjustment -

If the record ejector pawl (44) fails to move forward

enough to drop a record to the turntable, make the following adjustment:

1. Set the platform lever to the 10" position.
2. With power removed from the changer, move knob (63) to "Reject"; then turn the turntable clockwise until the pawl (44) is in its maximum forward position.
3. Loosen the hex nut (101) and turn the eccentric adjustment screw (99) until the pawl is flush with the edge of the record support (41); then tighten the hex nut.

Velocity Trip Adjustment -

1. With power removed, push the "Start-Stop-Reject" knob to "Reject".
2. Rotate the turntable in a clockwise direction, allowing the changer to go through a complete change cycle.

NOTE: While rotating the turntable, hold the switch-off arm (19) so it will not swing in to actuate the shut-off mechanism. If the shut-off occurs, you will not be able to check the velocity trip.

3. Carefully remove the turntable.
4. Rotate the pinion clockwise, and move the tone arm all the way in.
5. Observe the automatic trip lever (94) to see if it rides up the incline of the striker. If it does not ride up the striker, but is pushed away, the trip lever will have to be raised to correct this condition.
 - (a) To adjust the automatic trip lever height, turn the adjustment screw (94A) clockwise, about 1/4 turn. Check the adjustment by moving the tone arm out over the rest post so as to reset the trip arm; then follow Steps 4 and 5.
6. Replace the turntable.

TROUBLES

Tone Arm Does Not Land on Record Properly -

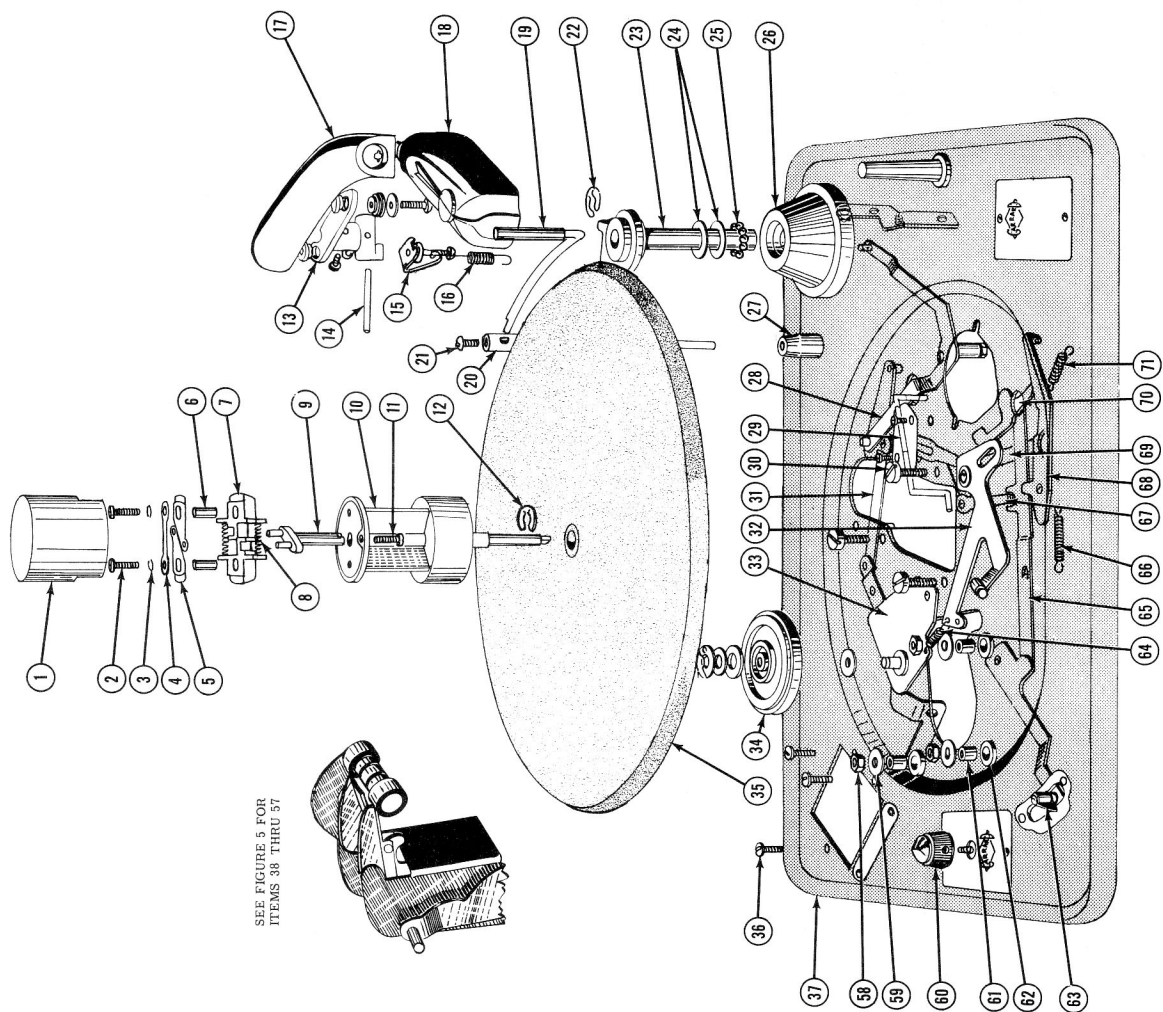
1. Tone arm not properly adjusted (See "Tone Arm Set-Down Point").

Changer Fails to Trip When "Stop-Start-Reject" Knob is Moved to "Reject" -

1. Clutch lever spring (119) loose or missing:
 - (a) If this spring is missing, the cam trip lever (98) will not move the cam (103) so as to engage the pinion (97).

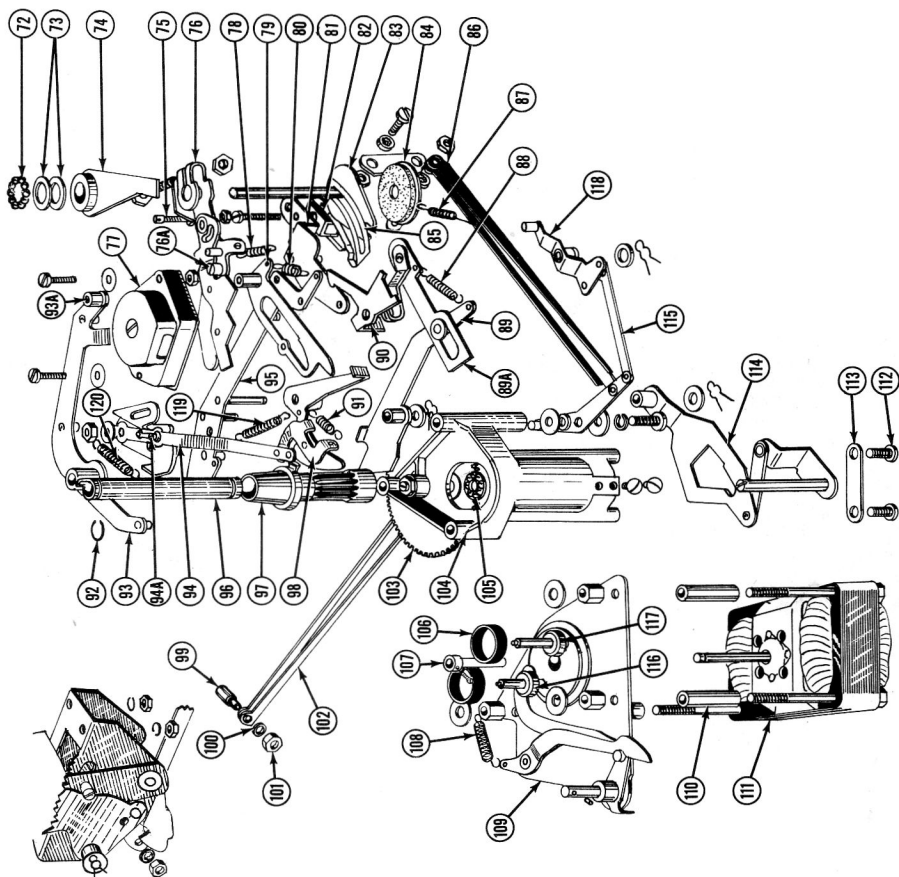
Changer Will Not Trip at the End of a Record -

1. Automatic trip lever (94) not operating the trip crank:
 - (a) See "Velocity Trip Adjustment".
2. Automatic trip pivot plate (29) may be loose; if this is true, the trip crank (29) may have slipped out of the hole in the trip catch (79):
 - (a) See that the trip crank is inserted in the



SEE FIGURE 5 FOR
ITEMS 38 THRU 57

**GARRARD
MODEL RC80**



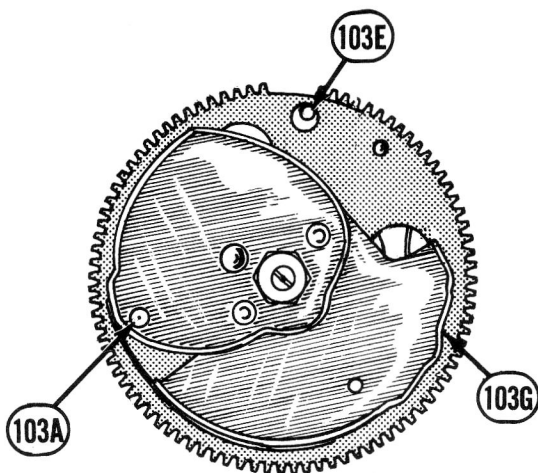


Figure 6

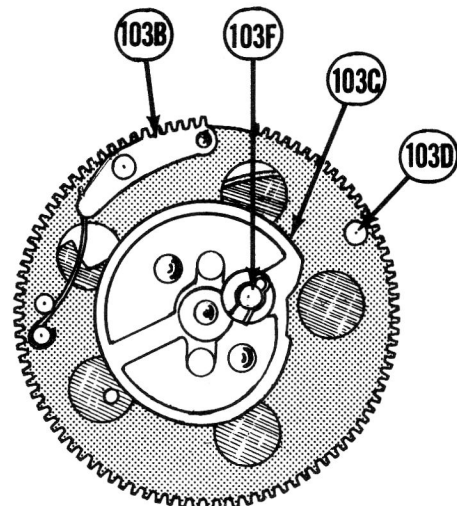


Figure 7

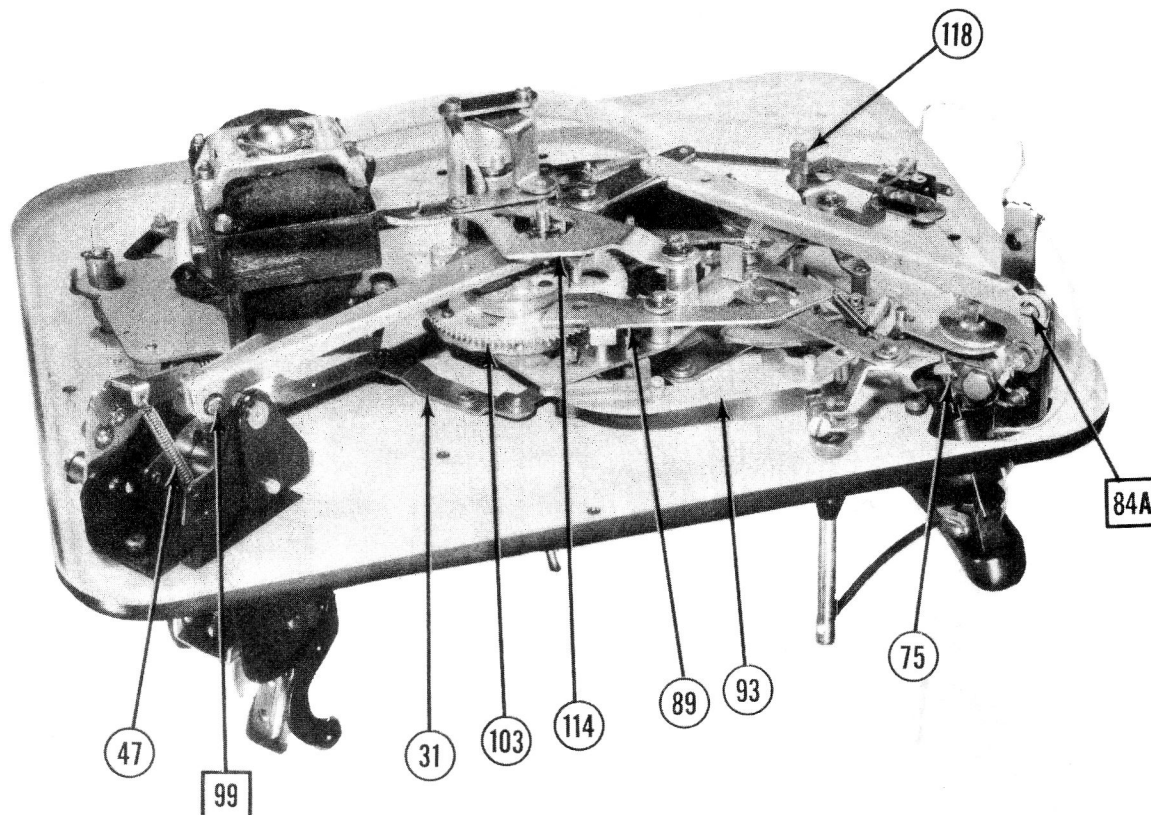


Figure 8

hole in the trip catch (79); then tighten the trip plate (29).

3. Clutch lever spring (119) loose or missing;
 - (a) Replace.

Continuous Shut-Off -

1. Spring (120) loose or missing. If this spring is not connected to the lever (93), the lever (93) will follow cam (103G) which causes the mechanism to shut-off.

Changer Fails to Shut Off After Playing Last Record -

1. Spring (88) loose or missing. If the spring is loose, the shut-off lever (89) will not be held in a position to be actuated by the pin (103D), which, in turn, actuates the switch-off arm (19) and lever that operate the shut-off mechanism.

Tone Arm Moves to a Lock Position Upon Completing Last Record, but Motor Continues to Run -

1. Shut-off link out of adjustment:
 - (a) If the screws (69A) are loose, or the long link (69) is at the end of the slot, the switch

catch will not move during shut-off operation, which then fails to release the switch lever (70). Adjust the link (69) so that it will trip the switch catch (68) as the cam trip lever (98) is being latched with the trip catch (79).

Needle Does Not Track Across Record Properly -

1. Needle may be clogged with accumulation of lint, dirt, etc.
2. Insufficient weight of the tone arm:
 - (a) The weight of the tone arm is increased by pulling down on the tone arm weight adjusting screw (75) until the nut is clear of the bracket; then unscrew the nut to increase the weight. Approximately 6 grams can be added to the pickup weight by using the adjusting screw.

Speed Variation -

1. Oil, grease or foreign material on the drive surfaces of the mechanism:
 - (a) Check the idler wheel, rubber drive belts, drive pulleys and turntable hub for grease, lint, etc. If there is foreign material on these parts, clean them with carbon tetrachloride.

2. Check the two belts to see if they run centrally on their pulleys;

(a) If the belts don't run on their pulleys properly, turn the belts over; if this does not check the trouble, belts should be replaced.

3. Pinion (97) may be binding:

(a) Remove the turntable and grip the pinion (97), lifting it up and down. If no movement is felt, loosen the two screws (104A), raise the pinion a very small amount, and retighten the screws (see Figure 4).

AC POWER CONNECTIONS

Connect both bars as illustrated for 200/250 volts

Connect both bars as illustrated for 100/130 volts

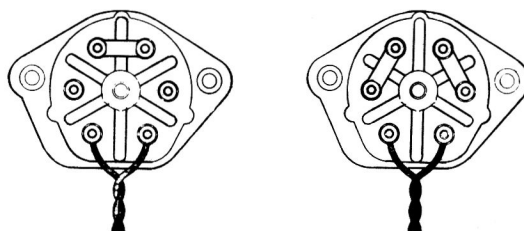


Figure 9

PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	A48506	Spindle Cap	28	A48715	Velocity Trip Link
	A48480	Spindle Assembly, complete	29	A48672	Trip Rod
2	A40218	Pawl Unit Mounting Screw		A48673	Mounting Plate for Trip Rod
3	A42527	Spring Washer, two used		A40014	Mounting Screw
4	A48502	Retaining Plate	30	A40027	Spindle Housing Mounting Screw
5	A48501	Separator	31	A48610	Selector Link
6	A48500	Pawl Bushing	32	A49256	Spring Tension Lever, with Felt Pad
7	A48496	Pawl, with Spring Pins		A45064	Felt Pad
8	A41604	Spring, two used		A42006	Rivet
9	A48503	Crank, with Pins		A45210	Collar
10	A48481	Support, with Spindles and Operating Collars		A40514	Washer
	A48487	Support only	33	A48614	Support Plate
10A	A48494	Record Center	34	A46524	Idler Wheel and Tire
11	A40130	Spindle Cap Mounting Screw		A41560	Spring Clip
12	A45087	Spring Clip		A40611	Felt Washer
13	A48941	Pickup Arm Mounting Bracket		A40614	Steel Washer
14	A48696	Pivot Pin, Pickup Arm Mounting Bracket		A40597	Presspahn Washer
15	A48933	Anchor Plate	35	A48743	Turntable, complete
16	A41534	Counterbalance Spring	36	A40000	Mounting Screw, Record Platform Assembly
17	B48691	Pickup Arm Assembly, complete		A42501	Spring Washer
	B48940	Pickup Arm, with Bracket, Bushings and Screws		A41012	Nut
	C48693	Pickup Arm only	37	C48601	Baseplate Assembly
18	A49024	Pickup Head complete		C48603	Baseplate only
19	A48931	Discriminating Lever	38	A48686	Record Arm, with Weight and Spindle
20	A48645	Bushing, Discriminating Lever		A48689	Rubber Sleeve
21	A40309	Screw		A40504	Washer
22	A45087	Spring Clip		A41621	Spring Clip
23	A48694	Pickup Arm Shaft, includes Pivot Bracket	39	A48685	7" Pawl
24	A40558	Thrust Washers		A48934	Friction Plate
25	A43200	Ball Bearings		A42009	Rivet
26	A46706	Pickup Arm Mounting Base		A45180	Collar
27	A48932	Discriminating Lever Mounting Base	40	A48683	7" Platform, with Pawl and Friction Plate
				A48684	7" Platform only

Parts List (Cont'd.)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
41		10 and 12" Record Platform			and Leatheroid Washer
42	B48654	Platform Bracket and Lever	84	A49263	Lifting Crank, with Disc
43		Assembly		A40609	and Bracket
44		Platform Pivot Channel		A41618	Felt Washer
45	A41503	10 and 12" Record Ejector Pawl	85	A41618	Lifting Spring
46	A48674	Spring for Pawl	86	A46728	Lifting Link
		Operating Lever, with Pawl	87	A41506	Spring for Lifting Crank
		and Spring	88	A41508	Shut-off Spring
	A48675	Operating Lever Only	89	A48732	Shut-off Cam Lever, with
47	A41506	Spring			Bushing
48	A40000	Set Screw	89A	A48734	Shut-off Link
49	A48671	Locating Lever		A45161	Collar
50	A40023	Screw		A40514	Washer
51	A40515	Washer		A42005	Rivet
52	A42501	Spring Washer	90	A48731	Shut-off Lever, with Shut-off
53	A41012	Nut			Cam Lever and Link
54	A41560	Spring Clip		A40018	Screw
55	A40504	Washer		A40504	Washer
56	A48939	Pivot Spindle		A41006	Nut
57	A48657	Change-Over Lever, with	91	A41506	Spring for Cam Stop Lever
		Bushing and Roller	92	A45372	Retaining Ring
	A45271	Roller Pin	93	A48712	Swing Lever, with Bushing,
	A47981	Roller			Pin and Roller
	A40511	Washer	93A	A47981	Roller
58	A41012	Nut	94	A48721	Grip Lever, with Spring Clip
59	A40560	Washer			and Felt Pad
60	B48762	Knob		A41625	Spring Clip
	A40307	Screw		A42002	Rivet
	A41004	Nut		A48724	Pad Clip
61	A46653	Rubber Collar		A48834	Felt Pad
62	A46652	Rubber Bushing	94A	A48835	Friction Pad Screw, with Friction
63	A47438	Knob			Pad
	A42527	Spring Washer	95	A48705	Bridge, with Pivot Pins
	A41008	Nut	96	A48652	Fixed Spindle
64	A41614	Spring	97	A48640	Main Spindle
65	A47158	Switch Link	98	A47277	Impulse Lever
66	A41602	Spring for Switch Link	99	A46733	Eccentric Adjusting Screw
67	A48612	Reject Lever	100	A42501	Spring Washer
68	A47261	Catch Lever, with Trip Link	101	A41012	Nut
		Extension	102	A46735	Coupling Link
	A46972	Catch Lever only	103	B48647	Cam Unit complete, with
69	A47282	Grip Link Extension			Gear Assembly
70	A49254	Switch Lever, with Insulator	104	B48639	Main Spindle Housing
		and Contact	105	A46522	Thrust Race
71	A41503	Spring for Catch Lever		A40558	Thrust Washer
72	A43200	Ball Bearings		A43200	Ball Bearings
73	A40558	Thrust Washers	106	A48581	Rubber Belt
74	A48725	Setting Lever, with Bushing	107	A48594	Motor Pulley-60 Cycles
	A40040	Mounting Screw for Setting		A49329	Motor Pulley-40 Cycles
		Lever		A48595	Motor Pulley-50 Cycles
75	A40310	Needle Pressure Adjusting	108	A41627	Spring
		Screw	109	B48752	Motor Mounting Plate Assembly
	A48938	Spring Bracket, with Stud			complete, with Levers, Pulley and
	A41008	Nut			Bushings
76	A48697	Pickup Lever, with Pickup	110	A48886	Spacer
		Selector Lever	111	C48751	Motor, Model D18 (for A.C. units)
	A48698	Pickup Lever only		C49160	Motor, Model D.C.18 (for D.C. units)
76A	A46989	Eccentric Adjusting Pin	112	A48923	Center Plate Mounting Screws
	A41582	Spring	113	A40023	Center Plate
	A40515	Washer	114	A48737	Center Cam Lever, Link and
	A43311	Split Pin			Center Spindle Unit
77	A48243	Change-over Block Assembly	115	B48701	Lifting Lever, with Lifting Link,
78	A41506	Spring for Pickup Lever			Connecting Link and Muting Switch
79	A48710	Trip Lever, with Bushing			Lever
80	A41602	Spring for Trip Lever	116	A48861	Pulley, with Bearings-33-1/3 R.P.M.
81	A48907	Switch Plate, with Pin	117	A48858	Pulley, with Bearings-45 R.P.M.
82	A48909	Switch Block, with Blades	118	A48911	Muting Switch Lever, with Pin and
83	A46597	Lifting Spindle, with Lifting Plate			Roller