



RCA VICTOR



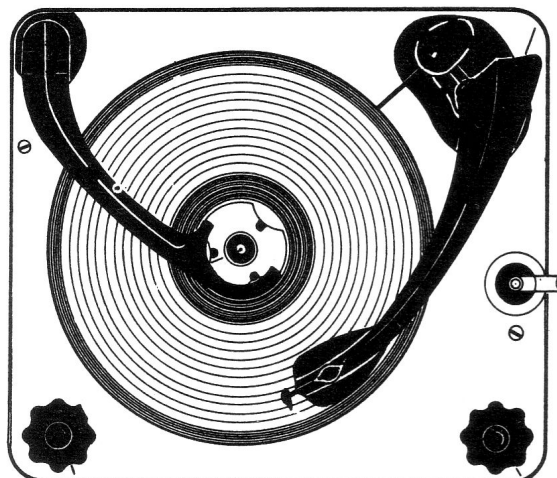
HI-FIDELITY RECORD CHANGER

MODEL MONARCH UA8 SERVICE DATA

— 1956 No. 22 —

ISSUED BY

GENERAL SERVICE DEPARTMENT
RCA VICTOR COMPANY, LTD.
MONTREAL, CANADA



MODEL UA8

GENERAL DESCRIPTION

The Monarch UA8 record changers are four-speed mechanisms designed to play, in automatic sequence, a stock of 7", 10" or 12" records, or 10" and 12" records intermixed. The mechanism will shut off automatically after the last record.

SPECIFICATIONS

Turntable Speed	16 $\frac{2}{3}$, 33 $\frac{1}{3}$, 45 or 78 r.p.m.
Record capacity	Up to 14-seven inch
or	12-ten inch
or	10-twelve inch
	10-ten and twelve inch intermixed

OPERATING INSTRUCTIONS

OPERATION

Loading — Lift the record Control Arm by holding it at the far end (i.e. end furthest away from the Centre Spindle) and then swing it clear of the records. Then, taking each record singly place it on the Centre Spindle resting the first record on the spindle ledge. Hold the record in position with the left hand and load the others with the right hand in the same way. When all records are in position, replace the Record Control Arm over the Centre Spindle. If the records are all of one diameter it may be more convenient to group the ten together, see that the centre holes are all in line and place the group on the Centre Spindle.

Starting Up — Make sure that the pickup stylus is correct, that is either 78 or 33-45 and similarly the Speed Knob. The pick-up is correctly set for 78 r.p.m. records when knob at the front of the pickup is so positioned that the number 78(Std) is upright. To position the pickup for long playing records the numbers 33-45 (LP) must be upright. Then move the On/Off/Manual/Reject Knob to the left firmly but not too roughly. That is all that is required.

Rejecting — To reject a record, merely move the On/Off/Manual/Reject Knob to the LEFT. When the last record is finished the machine will switch itself off automatically.

Manual Operation — To play records singly on the "Monarch" record changer the following procedure should be adopted. Place required record on the turntable manually and replace Control Arm in its operation position. Turn On/Off/Manual/Reject switch to the 'Manual' position only. The turntable will now revolve at the selected speed. Lift the pickup off its rest and place in position on record. The record will now play and when completed the pick-up will return to rest and the unit will switch off automatically in the normal manner.

TO REMOVE THE RECORDS — Lift the Record Control Arm and turn it out of the way. Grasp the records together and lift them gently from the Centre Spindle, easing them past the ledge on the spindle.

OPERATING INSTRUCTIONS

WHAT TO DO AND WHAT NOT TO DO

1. Never force the Pick-up Arm. This machine is robust but due to the featherweight action of the pickup and the delicate balance required, any force will upset the adjustment.
2. When playing new records a certain amount of fluff will gather on the stylus point. This should be removed gently from time to time.
3. Always remember to use the correct stylus on the Pick-up. If the wrong one is in use it may not be apparent from the music. However, the stylus itself may get somewhat damaged by continuous playing on the wrong point.
4. After loading always see that the Magidisk Record Selector Arm (M139) is out and not stuck in a vertical position. In other words it must be BELOW the records.
5. Some very old 78 r.p.m. records have no "run in" grooves on the outside edge. Such records can be played but it will be necessary to move the Pickup inwards to the first grooves manually AFTER it has descended of its own accord. It will descend and stay stationary in most cases.

ADJUSTMENTS

Needle Set Down. The set down position of the needle on the record is adjusted by manipulation of the needle adjusting screw. (Item M261). (See Dia. "1") Adjust this screw until the correct set down of the needle on a 10" record is obtained. The correct position is $\frac{1}{8}$ " from the edge of the record. It is advisable to make this adjustment with a stack of 10" records on the turntable. When correctly positioned for a 10" record, the 12" and 7" needle set down will also be correct.

Pickup Arm Height. The pickup arm height is adjusted by the pickup height adjusting screw (Item M257) (See Dia. "1") To raise the height of the pickup arm, turn this screw counter clockwise. To lower this pickup arm turn clockwise. The pickup height should be adjusted so that with a stack of ten average thickness records on the turntable, the point of the needle clears the top record by $\frac{1}{16}$ inch. A check should then be made to ensure that the pickup arm clears the under side of records loaded on the centre spindle.

Needle Pressure. Adjustments may be made by repositioning the pickup balance spring (Item M263) in the various adjusting holes provided (See Dia. "1") until the correct pressure is obtained.

- Adjusting of Speed Change.**
- (1) Set the four speed knob at the $16\frac{2}{3}$ r.p.m. position.
 - (2) Slacken grub screws on the 4-speed pulley (Item M94) and adjust until the jockey pulley (Item M32) is engaged on the smallest pulley diameter just clear of the top step. (See Dia. "2")
 - (3) Tighten grub screws.

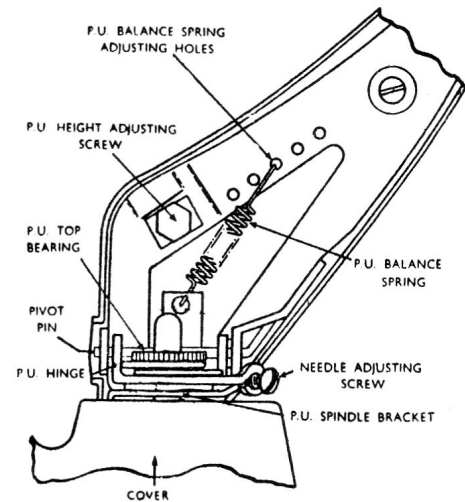


DIAGRAM 1

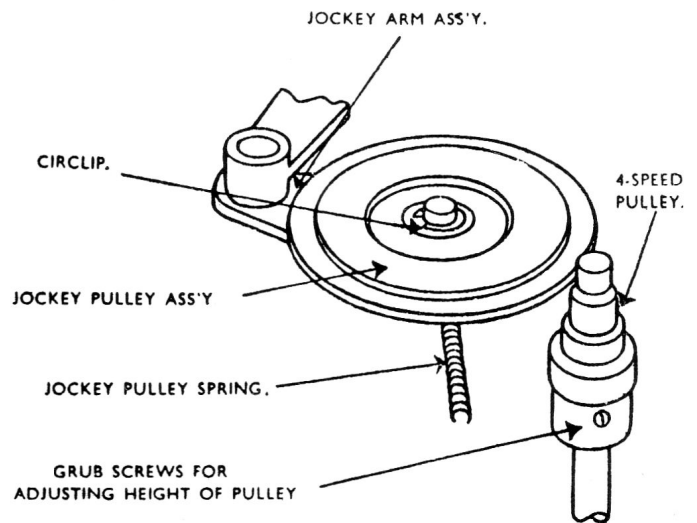


DIAGRAM 2

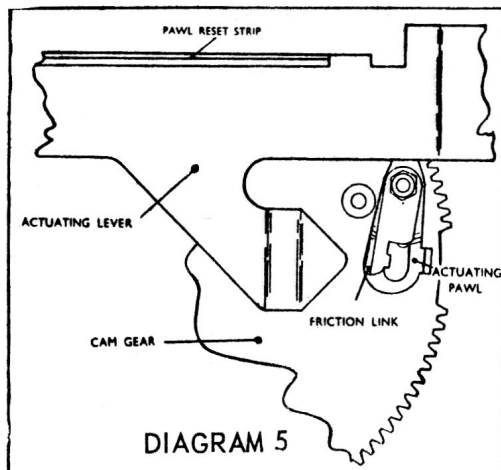


DIAGRAM 5

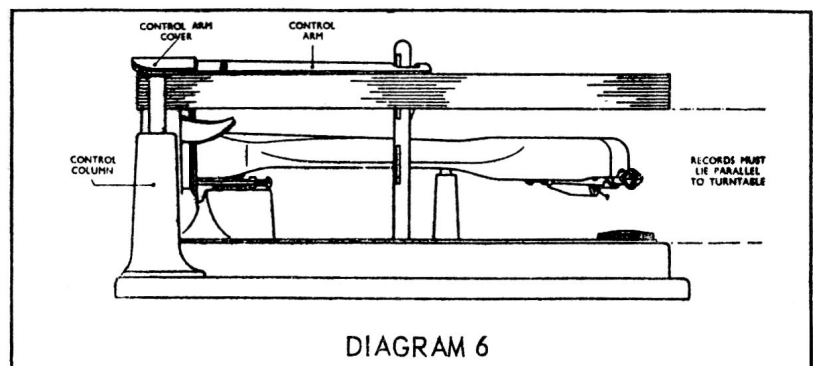


DIAGRAM 6

SYMPTOMS	CAUSE	REMEDY
I. Turntable does not rotate when On/Off/Reject knob is turned to 'ON'.	(1) No current to motor. (2) Motor Defective. (3) Jockey Pulley not engaging Turntable rim.	(a) Check that current has reached external mains lead. (b) Check that switch box assembly is functioning correctly. (c) Check all wiring and solder terminals to and from the switch box assembly. (a) Remove the turntable and allow the motor to operate without load. If motor spindle is not rotating and mains supply is reaching the motor, the motor is faulty. Repair or replace. (b) Check that the 4-speed pulley (Dia. '2') is not loose on motor spindle. If loose adjust as under "Adjustments of Speed Change." (a) Check that the jockey pulley is free to pivot. (b) Check that the jockey pulley spring is correctly positioned (See Dia. '2'). (c) Carefully clean the inside rim of turntable and rubber tyre on jockey pulley to ensure that they are free from oil and grit.
II. Turntable revolves when On/Off/Reject knob is turned to 'ON' but pickup remains stationary on its rest.	(1) Incorrect manipulation of control.	Ensure that the On/Off/Reject knob is turned to its fullest extremity in the 'ON' direction. This does not apply when operating the changer manually.
III. Pickup lifts but fails to move in when record drops. The pickup returns to rest and the turntable continues to revolve.	(1) Stop Pin (Item M199) (see Dia. '7') not dropping freely. (2) Adjusting link (Item M208) too tight (see Dia. '7'). (3) Stiffness in Stop bracket assembly bearing (see Dia. '7').	Remove all grease, oil, grit, burrs or rust carefully from the stop pin and spring (Item M201) and ensure that spring is not damaged. Slacken adjusting link by decreasing bend. Free and lightly oil.
IV. Pickup lifts but fails to move in when record drops. Pickup returns to rest and changer switches off.	(1) Cut off arm (Item M228) (see Dia. '7') not returning to neutral position. (2) Undue friction at Stop lever assembly bearing (see Dia. '7'). (3) Stiffness in Stop bracket assembly bearing (see Dia. '7').	(a) Cut off arm spring (Item M227) (see Dia. '7') damaged. Replace. (b) Friction on moving surfaces of cut off arm. This lever must be absolutely free to slide in its slots. Check for rust, frays in slots, etc. Remove, clean and lightly oil. Free and lightly oil.
V. Pickup arm strikes record on spindle when it rises or needle catches on last record when it moves out.	(1) Pickup arm height not adjusted properly. (2) Control arm (Item M2) not holding records level. (3) Needle bent in crystal cartridge	See instructions for "Adjusting Pickup Arm Height" under 'Adjustment.' Hold control column securely and twist control arm until it will hold record stack parallel to top of turntable (see Dia. '6'). Replace needle, (See necessary instructions under 'Dismantling.')
VI. Turntable speed too slow.	(1) Tightness in motor bearing. (2) Binding in turntable bearing. (3) Jockey Pulley Slip. (4) Undersized 4-speed pulley. (5) Mains voltage too low. (6) Operating temperature too low.	Tap lightly the side of motor laminations to free self aligning bearings. Check turntable bearing for freedom. If it does not turn easily when disengaged from the jockey pulley assy. (Item M32A) remove turntable, clean off foreign matter and lubricate with light mineral oil. Remove turntable and clean rim of jockey pulley. Oil jockey unit joints and pivots and make sure all move freely. Remove any trace of oil on jockey pulley rubber or inside of turntable rim. Remove turntable and fit new 4-speed pulley. Pulleys are available as follows: Small - Red Pulley; Medium - Green Pulley; Large - Blue Pulley. To increase turntable speed remove existing pulley from the motor shaft and fit the next size larger, or vice-versa to reduce speed. When fitting new 4-speed pulley see "Adjustments of Speed Change under Adjustments." The mains voltage should be not less than 100 volts. If the machine has been standing in a cold place or operated in surroundings at a temperature of less than 45°F. the turntable speed may be too slow initially.
VII. Turntable speed too fast.	Oversize 4-speed pulley.	Replace 4-speed pulley as instructed at '4' under "Turntable Speed too Slow."
VIII. Changer continues to cycle. With pickup dropping on to record during every cycle.	(1) Pawl reset strip (see Dia. '5') distorted. (2) Actuating Pawl and friction link assembly (see Dia. '5') too free.	Make sure that this strip is straight and resets friction link (Item M154) and actuating pawl (Item M156) by engaging with friction link shoulder during cycle (see Dia. '5'). Damp down the bearings of this assembly by smearing with medium grease.
IX. Noise during playing of record.	(1) Motor rumble. (2) Defective turntable bearing. (3) Defective jockey pulley.	If a low pitched rumbling sound comes from the loudspeaker while the record is being played, check the motor rubber mountings to be sure the motor is freely suspended on them. The motor lead wires should have slack to allow the motor to float. Check for foreign matter in the bearings, defective balls, binding between balls, ball cage and thrust washers. Grease ball race and washers. Lubricate with light mineral oil. A rapid thumping sound while the motor is running may indicate a flat on the motor jockey pulley (Item M32). If this condition has not cleared up after 10 minutes of running time, remove the turntable and check the rubber tire on the jockey pulley. If the surface is not smooth, replace the jockey pulley. Should the bearings of the jockey assembly show signs of excessive wear, replace the jockey unit assembly.

IX (Continued)	(4) Defective records.	Worn or defective records cause needle scratch and distortion of the recorded sound. If the record is warped it may slip on the other records causing 'wow'. An enlarged hole in the record can also cause 'wow'.
	(5) Squeaks.	Squeaking sounds as the changer operates indicates a lack of oil. Lubricate.
X. Distortion of recorded sound.	(1) Defective record. (2) Defective amplifier. (3) Bad cartridge. (4) Dust on needle.	(see '4' under "Noise during playing of record.") Check both amplifier and speaker. Replace. (See instructions under 'Dismantling.') Brush off dust with finger.
XI. No sound during playing.	(1) Defective cartridge. (2) Defective wiring. (3) Defective amplifier. (4) Loose cartridge socket tags.	Replace. (See instructions under 'Dismantling.') Check pickup leads for short or open lead. Check amplifier and speaker. Remove, tighten slightly and replace.
XII. Changer does not shut off after last record has been played, possibly continuing to play the last record from the 7" position.	(1) Control arm (Item M2) (Dia. '5') binding. (2) Adjusting link (Item M208) broken, disconnected or too slack (see Dia. '7'). (3) Stop pawl spring (Item M17) loose, broken or faulty (see Dia. '7'). (4) Undue friction at stop lever assembly bearing (see Dia. '7').	The record control arm must drop below the offset shoulder of the centre spindle or the changer will not shut off. Replace or repair. Tighten adjusting link by increasing bend. Replace or repair. Remove, clean and lightly oil
XIII. Changer returns pickup to rest before all records have been dropped. Turntable continues to revolve or changer switches itself completely off.	Adjusting link (Item M208) too tight (see Dia. '7').	Slacken adjusting link by decreasing bend (see Dia. '7').
XIV. 4-speed knob does not select 16, 33, 45 or 78 when registering that speed.	Speed change wrongly adjusted.	Refer to "Adjustments of Speed Change" under 'Adjustments'.
XV. Record does not drop when changer cycles.	(1) Record feed spindle (Item M107) broken. (2) Record feed lever (Item M104) broken.	Replace record feed spindle or complete centre spindle. Replace record feed lever or the complete centre spindle.
XVI. Two records drop at once.	(1) Hole in record too large. (2) Record keeper (Item M100) not fully down. (3) The record control arm (Item M2) not holding records level.	Replace record. Carefully clean and remove burrs. Do not oil. It should fall under its own weight. Refer to Dia '5'. Hold control column securely and twist control arm until it will hold record stack parallel to top face of turntable.
XVII. P.U. does not locate correctly on records.	(1) Rubber Buffer (Item M240) missing or misplaced at rear of P.U. Arm. (2) Pickup arm not adjusted properly. (3) Needle bent.	Replace rubber buffer (Item M240) in small hold in the side of the P.U. arm just behind the hinge. Slip eyelet (M239) over stem of rubber inside arm and clamp tightly. See "Needle set down" under 'Adjustments'. Replace with new needle. (See necessary instructions under 'Dismantling').
XVIII. Pickup remains on record run-out groove, or on last groove.	(1) No finishing run out groove on record. (2) Needle jumps out of groove in record. (3) Faulty Actuating Pawl and Friction Link (see Dia. '5').	Check record for eccentric run out groove in centre of record. Some old records and home recordings do not have this eccentric run out groove. (a) Check that needle pressure is correct. (b) Check that the record is not defective—the run out groove is often too shallow. (c) The needle point might be damaged or affected by excessive accumulation of dust. Replace or clean. (d) There may be binding in the pickup spindle bracket (Item M182 and Items M173 and M181). Ensure that all moving parts are free and lightly oiled. When friction link has been moved towards centre of gear wheel and then slowly pushed outwards it should also carry the Actuating Pawl outwards from the start of its movement. If the Pawl does not move freely with the link it will not engage the turntable boss to start cycle. Dismantle Link and Pawl, clean, reassemble and oil. Take care with tiny spring between the two parts.
XIX. Pickup does not move in when set down on record.	No run in groove on record.	Check that the record is of the standard type which has a run in groove from the outside edge of the record to the recorded section. Some old type records and home recordings do not have this run in groove.
XX. Needle does not track across record properly.	(1) Needle may be clogged with an accumulation of dust or be worn.	(a) Clean the foreign material from around the needle. (b) Check needle to see if the tip is broken or bent and replace if necessary. (To replace see necessary instructions under 'Dismantling').

XX. (continued)	<p>(2) Pickup leads too tight.</p> <p>(3) Changer not level.</p> <p>(4) Binding or friction in the pickup spindle bracket assembly. (Dia. '1').</p> <p>(5) Needle pressure insufficient.</p> <p>(6) Actuating Lever (Item M152) (Dia. '5') not free on slide.</p> <p>(7) Pickup hinge fouling pickup cover (Dia. '1').</p> <p>(8) Worn records or records with damaged groove.</p> <p>(9) P.U. spindle bracket (Item M185) fouling tongue on stop plate (M185) in down position of P.U. spindle bracket.</p>	<p>Give the pickup leads enough slack to allow the tone arm to move freely across the record.</p> <p>Ensure that the changer is level before use.</p> <p>Ensure that all moving parts and bearing surfaces in this assembly are free and lightly oiled.</p> <p>Check as under 'Adjustments.'</p> <p>This lever must be absolutely free to slide in slots. Check for bending, rust, frays in slots, etc.</p> <p>Bend hinge up to clear.</p> <p>Replace record.</p> <p>(a) Clear dirt.</p> <p>(b) Bend tongue to clear.</p>
XXI. P.U. does not locate on P.U. Best.	Tongue on Stop plate (Item M185) not locating in P.U. Spindle Bracket (Item M182) due to pin (M164) being out of line.	Adjust Pin (M164) by bending arm of main slide pressing so that the tongue on (Item M185) will slip into the notch on (Item M182) when the radial faces of the two pressings are against the pin.
XXII. Turntable slips or stalls	<p>(1) 4-speed knob not set in correct position.</p> <p>(2) 4-speed knob in neutral.</p> <p>(3) Jockey pulley slipping.</p> <p>(4) Insufficient tension on Jockey pulley spring (M48).</p>	<p>Move knob slightly to allow pawl (M52) to fall into notch in slide.</p> <p>Set on correct speed.</p> <p>Remove turntable and carefully clean all traces of oil off inside of arm, off jockey pulley tire and off 4 step pulley.</p> <p>Replace Spring.</p>

DISMANTLING INSTRUCTIONS

(1) Turntable Assembly (M62A).

Remove circlip (Item M109) and lift the turntable vertically upwards over the centre spindle. Take care not to lose the thin thrust washer (that sticks to underside of turntable boss), ballrace or second thrust washer. *Note:* Before replacing assembly, set speed knob to 45 r.p.m. This allows easy manoeuvrability of jockey pulley when replacing turntable, without possible danger of bending jockey arm.

(2) To Remove Control Arm Assembly (Item M2A).

Remove pin (Item M4) on underside of control arm spindle (Item M4). (See Dia. '7').

(3) Pickup Arm Assembly.

This must be done after the Changer has switched itself off. Unsolder the pickup leads from the connecting tag-strip. Unscrew the pickup top bearing (see Dia. '1') and then lift the pickup arm clear. Replace the pickup top bearing to avoid losing the spacer washer.

(4) Main Sub-Assembly.

Remove turntable and pickup arm as described and 3 screws (Items M114, M115 and M190) holding sub unit. Main sub-assembly can then be gently removed from unit-plate.

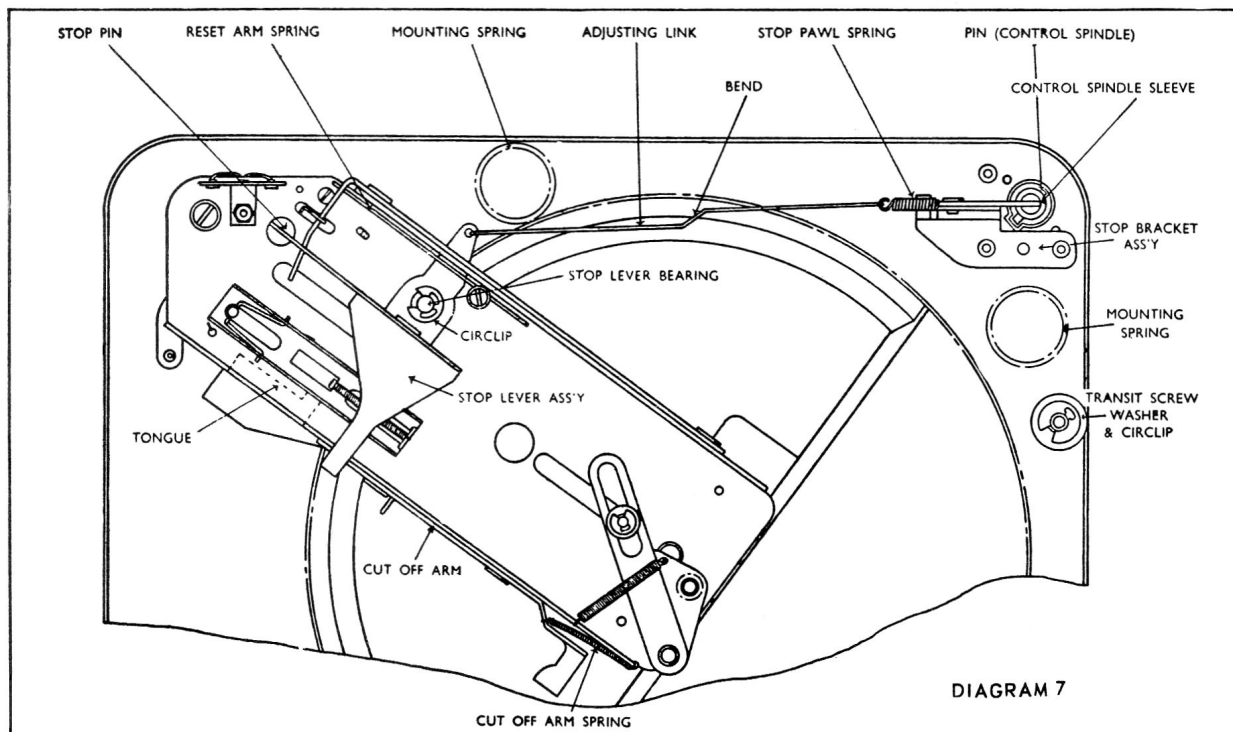
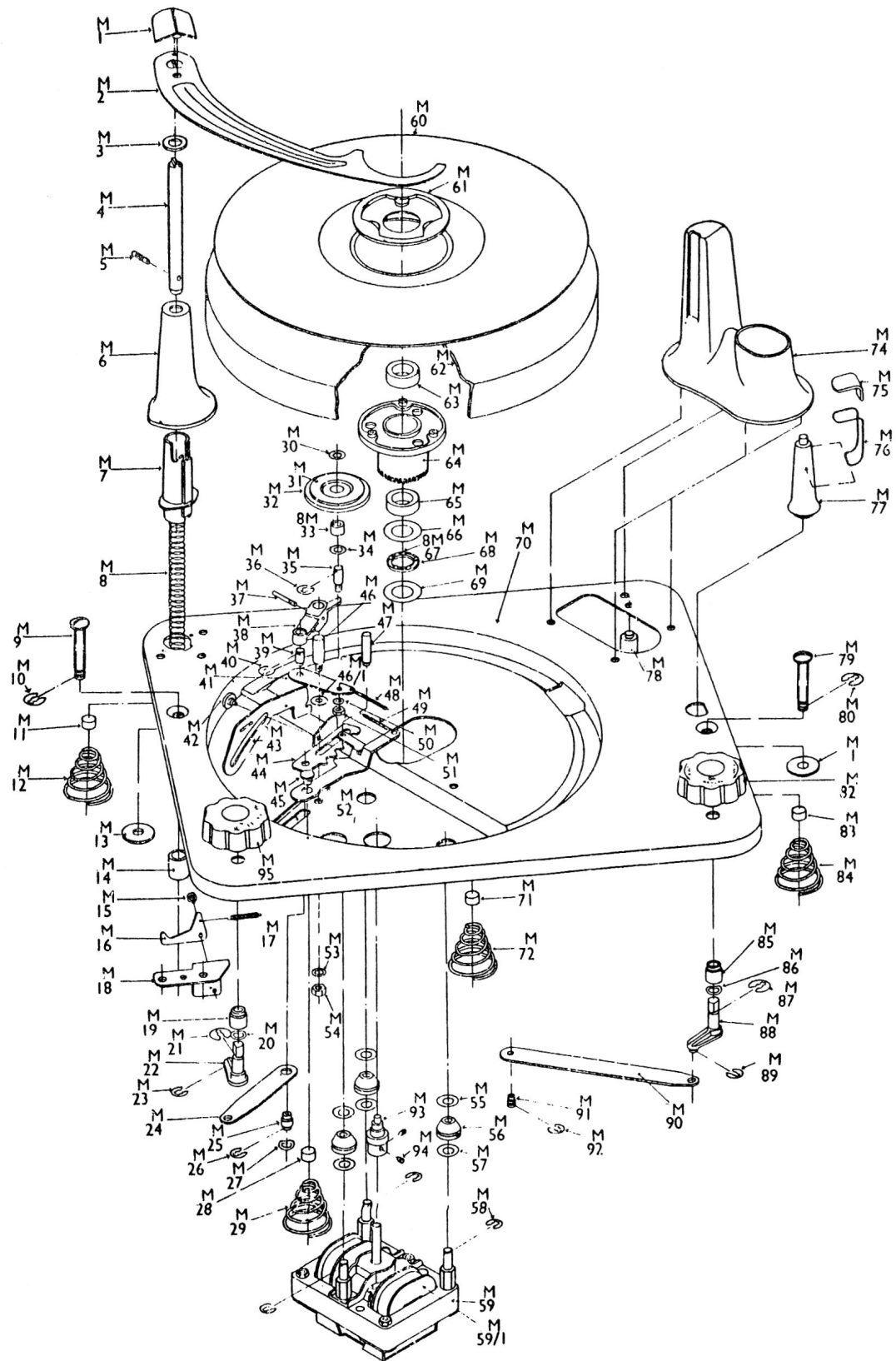
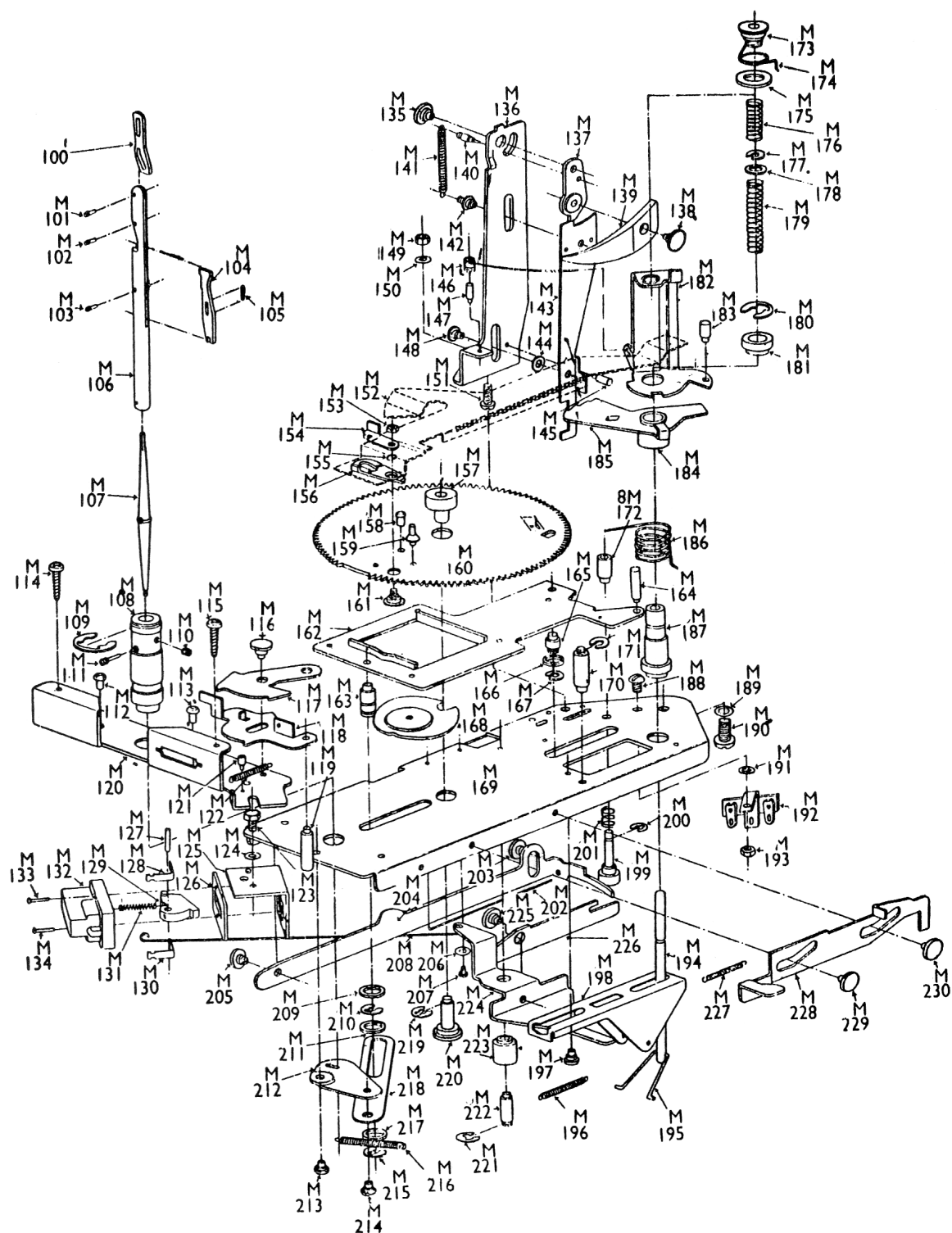


DIAGRAM 7



MAINPLATE ASSEMBLY



MAIN SUB PLATE

LUBRICATION

The mechanism is properly lubricated when it leaves the factory, additional lubrication should not be necessary for a long period of time.

A light machine oil (Singer sewing machine oil or equivalent) should be used to oil the bearings of the drive motor.

On all other bearing surfaces use equivalent sparingly.

Apply a medium weight clinging type of grease to points of sliding contact including tabs of cycling gear.

It is important that the drive motor spindle, all rubber tires and the inside rim of the turntable be kept clean and free of oil and grease.

Carbon tetrachloride or naphtha is recommended for cleaning these parts.

REPLACEMENT PARTS

Drawing No.	Stock No.	DESCRIPTION	Drawing No.	Stock No.	DESCRIPTION
M 1	S-21420	Control Arm Cover	M 112	S-21486	Rivet
M 2	S-21421	Control Arm	M 113	S-21487	Rivet
M 3	S-21422	Felt Washer	M 125	S-21488	Switch Bracket
M 4	S-21423	Control Spindle	M 126	S-21489	Switch Insul. Plate
M 6	S-21424	Diecast Control Column	M 127	S-21490	Switch Pin
M 7	S-21425	Diecast Control Sleeve	M 128	S-21491	Switch Contact
M 11	S-21426	Spring Mounting Cup	M 129	S-21492	Switch Rocker Arm
M 12	S-21427	Spring (Unit Mtg.)	M 130	S-21491	Switch Contact
M 15	S-21428	Rivet	M 131	S-21494	Switch Spring
M 16	S-21429	Stop Pawl	M 132	S-21495	Switch Moulding
M 18	S-21430	Stop Bracket	M 133	S-21496	Rivet
M 19	S-21431	Switch Bearing	M 134	S-21496	Rivet
M 22	S-21773	Sw. Reject Arm	M 135	S-21498	Shouldered Rivet
M 25	S-21432	Guide Pin	M 136	S-21499	Selector Column
M 28	S-21426	Spring Mounting Cup	M 137	S-21500	Trip Arm
M 29	S-21427	Spring (Unit Mtg.)	M 138	S-21498	Rivet
M 31	S-21335	Jockey Pulley	M 139	S-21502	Selector Arm Moulding
M 32	S-21436	Jockey Pulley Tire	M 140	S-21503	Trip Pin
M 33	S-21437	Jockey Pulley Bearing	M 142	S-21504	Selector Pin
M 34	S-21438	J.P. Spindle Washer	M 143	S-21505	Selector Slide
M 35	S-21439	J.P. Spindle	M 144	S-21506	Washer
M 36	S-21440	Circlip	M 145	S-21507	Tracking Pin
M 37	S-21441	Raising Pin	M 147	S-21507	Tracking Pin
M 38	S-21442	Speed Change Lever	M 148	S-21509	Rivet (Sel. Slide)
M 39	S-21443	Jockey Arm Pivot	M 157	S-21510	Cam Gear Boss
M 40	S-21444	Circlip	M 158	S-21511	Rivet
M 41	S-21445	Jockey Arm	M 159	S-21512	Cam Peg
M 42	S-21446	Rivet	M 160	S-21513	Cam Gear
M 43	S-21447	Raising Lever	M 162	S-21514	Main Slide
M 44	S-21448	Speed Change Slide	M 163	S-21515	Guide Pin
M 45	S-21446	Rivet	M 164	S-21516	Reset Pin
M 47	S-21450	Speed Change Pin	M 165	S-21517	Guide Pin
M 48		Spring (Jockey Arm)	M 168	S-21518	Cam
M 49		Spring (4-Speed Pawl)	M 169	S-21519	Main Sub Plate
M 50	S-21451	6 B.A. Lockwasher	M 170	S-21520	Lever Support Pillar
M 51	S-21452	6 B.A. Half Nut	M 172	S-21521	Stop Post
M 52	S-21453	4-Speed Pawl	M 182	S-21522	P.U. Spindle Bearing
M 59	S-21454	F.P. 10 D Motor — 60 Cycle	M 183	S-21523	Actuating Pin
M59	S-22184	F.P. 10 D Motor — 25 Cycle	M 184	S-21424	Stop Plate Bearing
M 60	S-21455	Turntable Mat	M 185	S-21525	Stop Plate
M 61	S-21456	T.T. Centre Dish	M 187	S-21526	P.U. Bearing Pillar
M 62	S-21457	Turntable	M 194	S-21527	P.U. Spindle
M 63	S-21458	T.T. Bearing Bush	M 195	S-21528	Toggle Wire
M 64	S-21459	T.T. Boss and Gear	M 197	S-21529	Rivet
M 65	S-21460	T.T. Bearing Bush	M 203	S-21498	Shouldered Rivet
M 66	S-21461	Thrust Washer	M 204	S-21531	Reset Arm
M 67	S-21462	Bell Bearing 3/32" dia(5 off 1 set)	M 205	S-21498	Shouldered Rivet
M 68	S-21463	Cage	M 208	S-21662	Adjusting Link
M 69	S-21461	Thrust Washer	M 212	S-21533	Record Feed Plate
M 71	S-21426	Spring Mounting Cup	M 213	S-21529	Rivet
M 72	S-21427	Spring (Unit Mtg.)	M 214	S-21529	Rivet
M 74	S-21467	Diecast Cover	M 218	S-21536	Record Feed Link
M 77	S-21468	P.U. Rest	M 220	S-21537	Cam Gear Bearing
M 78	S-21469	Support Pillar	M 222	S-21538	Stop Lever Bearing
M 82	S-21470	Reject Knob	M 223	S-21539	Stop Lever Bush
M 83	S-21426	Spring Mounting Cup	M 224	S-21540	Stop Lever
M 84	S-21427	Spring (Unit Mtg.)	M 225	S-21498	Shouldered Rivet
M 85	S-21473	Switch Bearing	M 226	S-21542	Stop Arm
M 88	S-21774	Sw. Reject Arm	M 228	S-21543	Cut off Arm
M 90	S-21474	Reject Link	M 229	S-21498	Shouldered Rivet
M 91	S-21475	Reject Peg	M 230	S-21498	Shouldered Rivet
M 93	S-21661	Pulley (4 Speed)	M 243	S-21550	Cartridge — Ronette Cartridge
M 94	S-21476	Grub Screw 4 B.A. x 3/10" (2 off)	M 262	S-21546	P.U. Hinge
M 95	S-21477	4-Speed Knob	M 264	S-21547	Tag Eyelet
M 100	S-21478	Record Keeper	M 241A	S-21548	P.U. Arm Assembly
M 101	S-21479	Pin (Straight Spindle)	M 262A	S-21549	P.U. Hinge Assembly
M 102	S-21479	Pin (Straight Spindle)		S-20736	Stylus — 16-2/3, 33-1/3, 45
M 103	S-21479	Pin (Straight Spindle)		S-20737	Stylus 78 r.p.m.
M 104	S-21482	Record Feed Lever		S-21682	Changer (complete)
M 105	S-21483	Spring		S-21684	45 r.p.m. adapter spindle
M 106	S-21484	Centre Spindle			
M 108	S-21485	Turntable Bearing			