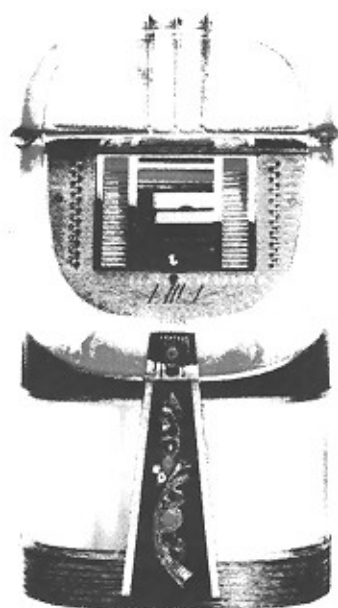


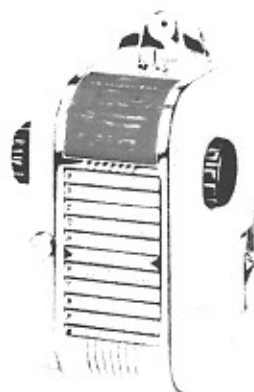
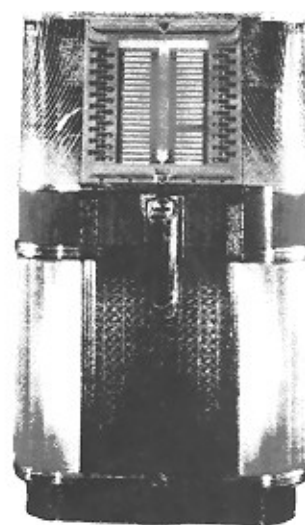
AMI

**AUTOMATIC
PHONOGRAPH
SERVICE MANUAL**

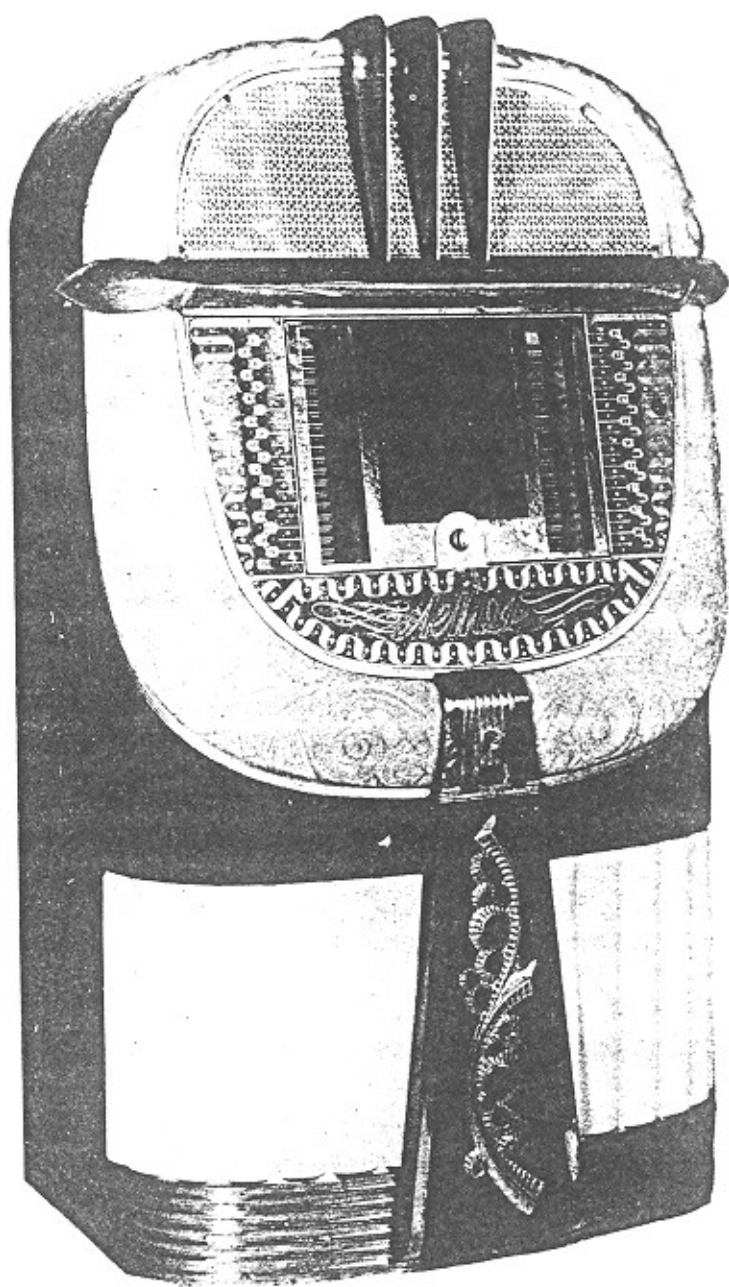
Model A



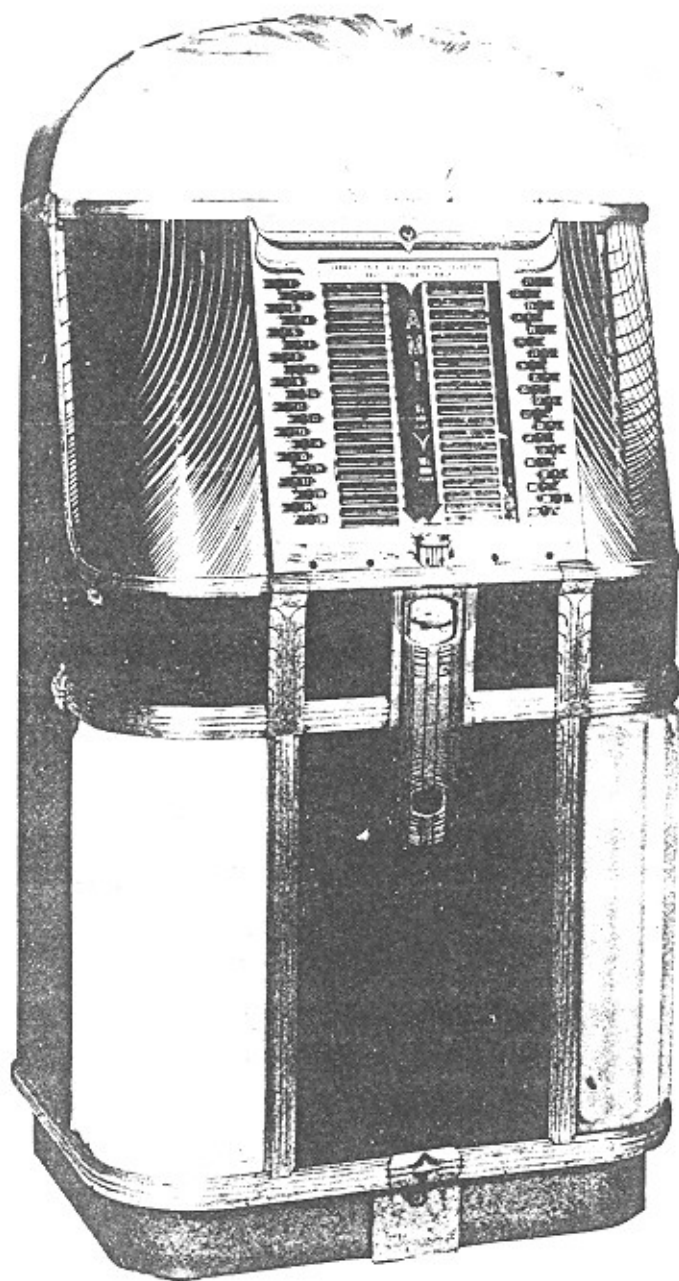
Model B



40 Selection Wall Box



AMI MODEL A



AMI MODEL B

FOREWORD

To you as the operator and owner of AMI coin operated phonographs we extend congratulations and best wishes. Into the making of our phonograph went thousands of hours of engineering and research. We earnestly believe it to be the finest, the most dependable coin operated phonograph ever offered to the operator.

Now, the machine is in your hands and in your care. Given a modest amount of attention and servicing, it will amply repay you by faithful service.

In this manual we have tried to explain how the various parts are related to each other and how they function together so as to make it possible to find quickly any minor difficulties that may arise.

Before you attempt to service the machine in any way, won't you please read this manual carefully? You'll agree that it's very unwise to attempt adjustment without understanding clearly just why you are making that adjustment. Naturally, we or our agents cannot be held accountable for damage done to the machine through "tinkering" with its operation.

If you need any special information, contact your nearest AMI distributor or write us direct, attention Service Department. And, note please — when asking for information either from the Distributor or our Service Department, please be sure to furnish serial number of cabinet, mechanism, and amplifier. Explain fully the difficulty you are experiencing and we will be able to answer quickly and intelligently.

Again, our best wishes for continued success with your new AMI.

NOTICE

In the three illustrations, pages 11, 12 and 13, we have indicated the mechanism and model "A" assemblies by numerals from 1 to 67. On page 14 we list the assembly numbers corresponding with these numerals. The same plan is followed on the model "B" on pages 15, 16 and 17. The illustrations of the mechanism on pages 11 and 12 apply also to the model "B". Merely refer to the code numbers in the illustrations and then refer to the parts lists in order to locate an Assembly Part Number.

IT WILL SPEED UP FILLING OF PARTS ORDERS IF YOU WILL SEND THE OLD PARTS (IF NOT TOO CUMBERSOME) ALONG WITH YOUR PARTS ORDER.

AMI Incorporated
Factory - 1500 Union Avenue, S. E.
Grand Rapids 2, Michigan
General Sales Department -
127 North Dearborn Street
Chicago 2, Illinois

NOTE - The numerals in brackets refer to the Code Numbers in the illustrations on pages 11 and 12

GENERAL

The Model A Phonograph consists of one Model 500 selective mechanism, amplifier, speaker, cabinet shell including decorative lighting, junction box, and credit unit.

Serial Numbers

The serial numbers of the various major parts can be located at following places:

- Mechanism - Located on the specification plate which is fastened to the mechanism base (11) just forward of the turntable.
- Cabinet - Stamped on the upper right-hand corner on the back of the cabinet.
- Amplifier - Indicated on the specification plate fastened on the front left side on top of the amplifier chassis.

Lubrication - Monthly

Each month it is advisable that a drop or two of sewing machine oil be applied to the following parts:

- Sliding cam surfaces on cam shaft and gear assembly (37)
- Trunnion bearing and pin assembly (4)
- Each of the record rack guide rods

Lubrication - Yearly

About once a year clean, and lubricate the following with a drop or two of sewing machine oil:

- Gear motor roller chains (6)
- Record rack drive arm pin (15)
- Tone arm shaft bearing (38)
- Toggle pin unit assembly (24)
- Toggle cam assembly (25)
- Between drive gear trunnion (23) and gear (22)

Clean Trunnion Bearing and Pin Assembly (4) and repack with about a level tablespoonful of LUBRIPLATE.

DO NOT OVER OIL

CYCLE OF OPERATION

The operation of any mechanical unit is more easily understood if we consider it as an assembly of individual parts, each with a particular function to perform at a definite time.

This cycle does not vary if the machine is operating properly and in this instance is assumed to begin in rest position.

1. The transfer arm assembly (2) is on the transfer arm stop (27) over the record rack (1).
2. All selector fingers are in restored position.
3. The starting switch (29) is in normal (open) position.

When a coin is accepted, one or more plays are registered on the stepping wheel in the credit box. The movement of the wheel closes a contact to

furnish current to the selector switches.

The selecting portion of the cycle begins when a selector button is pushed, energizing the related selector magnet coil of the selector bank (17) drawing one end of a selector finger against the magnet. As this finger is pivoted, the opposite end raises the selector bail which closes the starting switch (29), removing the applied 24 V. D. C. current to the control relay located in junction box. This allows the A. C. contacts of the relay to close, completing the circuit to the turntable motor, amplifier, and lights. Closing of the starting switch also completes the D. C. circuit to the record rack motor (12).

The record rack motor moves the record rack by means of a drive arm (15) coupled to the chain which runs on a drive sprocket (13) and an idler sprocket. The record rack moves through its cycle until the trip lever of one of the record rack switches

(18) encounters the raised end of a selector finger. This actuates the record rack switch, stopping the record rack motor and closing a circuit through the reversing control relay contacts (located in (36)) to start the transfer motor (12).

The transfer motor turns a driven sprocket (3) by means of a chain (6) from the drive sprocket on the motor. The driven sprocket turns the cam shaft (37). On this shaft is mounted the tone arm cam and transfer gear (31)..

The transfer gear performs two functions. First, it turns the record release cam gear (22) allowing the inner (26) and outer (2) shoes to move toward each other thus clamping the record. Second, after clamping a record it lifts it and places it on the turntable. As the record moves toward the turntable, a slot in the transfer cam (5) engages the toggle pin unit assembly (24) which has been positioned by contact with number strip assembly (14). This action turns the record to a flat position before placing it on the turntable. The side of the record that is turned up is determined by the toggle pin that engages the transfer cam.

After the record reaches the turntable, the record release cam turns to force the inner shoe and outer shoe assembly outward, compressing the cam spring and releasing the record from the shoes. Further

rotation of the cam shaft lifts the tone arm (7), swings it over the record and places it in the starting groove. At this time the cam shaft switch lever arm (32) rides up on the high lobe of the tone arm cam closing cam shaft switch contacts. This energizes the reset solenoid (20) to restore the selector finger and release the trip lever of the record rack switch, which action breaks the circuit to the solenoid and stops the transfer motor.

While record plays, the tone arm moves toward the cut-off grooves of the record. When this point is reached a pivot lever, on the pivot bearing and plate, closes the tone arm switch (32), which operates the reversing control relay in the mechanism junction box reversing the transfer motor, (if this relay is released by cutting off the power switch during the reversing part of the cycle, it may again be energized by pushing the cancel button in the main junction box) causing the tone arm cam to turn, raising the tone arm and swinging it to clear the record. The record is then gripped, deposited in the record rack and released. The cam shaft switch lever arm enters the depression of the tone arm cam, actuating the cam shaft switch to stop the transfer motor and energize the control relay to shut off turntable motor, amplifier and lights. The components of the mechanism are now restored to rest position and the cycle completed.

ELECTRICAL CIRCUITS

The Model A Phonograph is designed for use with 100 - 120 volt, 60 cycle alternating current.

To obtain a simple and clear understanding of the electrical system, it may be divided into the following circuits:

1. Credit circuit
2. Selection and cancel circuit

3. Cabinet lighting
4. Mechanism circuit
5. Remote control circuit

The lights, turntable motor, and amplifier operate from a 110 volt A. C. source. The gear motors and selector circuit operate from a 24 volt D. C. source.

OPERATION OF ELECTRICAL CIRCUITS

Credit Circuit

Nickels, dimes, and quarters travel through a common chute to the slug rejector. At the bottom of the slug rejector are mounted three micro switches, each connected to a separate credit solenoid operated by 24 volt D. C. The coin, after it is accepted by the slug rejector, drops against and actuates the wire arm of one of the coin switches. The closing of the coin switch operates one of the three solenoids in the credit unit to register proper credit on the stepping wheel which advances one spoke for a nickel, two for a dime, and five for a quarter. The 26¢ actuated solenoid is at the back, the 10¢ in the middle, and the 5¢ at the front.

The solenoid arms release the stepping wheel release pawl permitting the wheel to turn. When the stepping wheel turns, a post on the wheel moves away from the contact blade of the main credit switch allowing it to close, thus closing the circuit to the selector switch.

To prevent a selection from being set up while credit is being registered on the wheel, the solenoid arms open a safety switch, momentarily breaking the common circuit to the selector switches.

Selection and Cancel Circuit

When a selector switch is pressed, a circuit is established thru the related selector magnet coil, selector switches, normally closed contacts on center (or "B") relay, coil on right hand (or "A") relay, safety switch, and finally, the main credit switch, thus operating the "A" relay. A circuit is thereby established thru the normally open (now closed) contacts on the "A" relay, the coil on the reset solenoid, the coil on the left hand (or "C") relay, and the main credit switch, thus operating the reset solenoid and the "C" relay. A circuit is thereby established thru the normally open (now closed) contacts of the reset solenoid switch, the coil of the "B" relay and the main credit switch, thus operating the "B" relay. This action performs two functions. First, the normally closed contacts on the "B" relay are opened, thus restoring the "A" relay to normal. Second, the normally open contacts close and establish a circuit thru the selector magnet coil, selector switch, "B" normally open (now closed) contacts, "C" normally open (now closed) contacts, reset solenoid switch normally open (now closed) contacts, the "A" relay normally closed contacts, the "C" relay coil and the main credit switch, thus operating the selector magnet and making a selection.

During this function the normally closed contacts on the "A" relay maintain a momentary field in the reset solenoid, after which the reset solenoid and the "C" relay return to normal, causing the opening of the contacts in the "B" relay coil circuit. The "B" relay does not return to normal by virtue of a circuit now established thru the selector magnet coil, selector switch, "B" relay normally open (now closed) contacts, 300 ohm resistor, the "B" relay coil and the main credit switch. No further selection is possible until the selector switch is released thereby opening the circuit and restoring the "B" relay to normal.

Cabinet Lighting

The 110 volt A. C. power to the phonograph is controlled by a master or stop-start switch and the decorative lighting is controlled by an off-on switch, both of which are located in the junction box and accessible from the rear of the phonograph. The lighting circuits are arranged to give a choice of either "continuous" illumination or illumination only during the playing of a record. The lighting consists of five fluorescent lamps in the upper "ring", two fluorescent lamps in the lower panel or rainbow units, one fluorescent lamp to illuminate the title strips, and one showcase lamp for the jewel motif. Note: All lamps should light when machine is playing.

Mechanism Circuit

When the phonograph power switch is turned on, current flows thru the rectifier, record rack motor armature, record rack switches, and the cam shaft switch causing the relay in the junction box to operate, thus opening the normally closed contacts. When a selection is made the selector finger lifts a bail that closes the starting switch that is shunted across the junction box relay causing the relay to release and close its contacts. A 110 volt A. C. circuit is now established for the amplifier, lights, and turntable motor. The starting switch also establishes a circuit through the closed contacts of the cam shaft switch, the field and armature of the record rack motor, and the record rack switches causing the record rack motor to run and move the record rack. This movement continues until one of the record rack switches is tripped by contact with a selector finger, causing shorting of the motor armature while the field current is still supplied, thereby dynamically "breaking" the record rack

motor. The tripping of the record rack switch also simultaneously completes the circuit through the transfer motor armature and field, reversing control relay contacts, and record rack switch contacts causing the transfer motor to run until the tone arm cam switch contacts close at the time the record is placed on the turntable. The closing of the normally open contacts of the cam shaft switch operates the reset solenoid thereby restoring the trip lever to normal position and releasing the record rack switch. This shorts the armature of the transfer gear motor causing it to stop.

The lever on the bottom of the pick-up arm pivot bearing, contacts the reversing switch (33) when the record has been played. Closing of these switch contacts operates the reversing control relay in the mechanism junction box whose contacts parallel the reversing switch and maintain a completed circuit when the switch opens. The relay contacts also complete a circuit which energizes the cam shaft motor, causing it to run in reverse direction until transfer arm has returned record to rack. At the end of the transfer operation the cam switch returns to normally opened position, releasing reversing relay, thereby shorting and stopping transfer motor.

The entire mechanism circuit is now restored to normal and is ready to repeat the cycle if more selections are registered. If no further selections are registered, the open starting switch allows the junction box relay to operate, stopping turntable and turning off lights and amplifier.

The cancel button switch parallels the reversing switch, and operates in the same manner. If the current is broken while the record is being returned to the rack, press the cancel button to energize the reversing control relay to continue operation.

The starting switch is paralleled by the record rack button switch. Closing of the button switch moves the record rack for ease in changing records.

Remote Control Circuit

Thru the Jones plugs the remote control circuit is wired in parallel with the selector unit coils. No. 21 of the Jones plug is for the common wire. Nos. 22 and 23 for the lights. A terminal strip in the junction box is provided for attaching a lighting transformer of proper voltage for the light circuit.

FUSES

The 110 volt A. C. power circuit is protected with a fuse while the credit and selection circuit and the mechanism circuit are protected with fusetrans.

Note: Do not use fuses or fusetrans having higher ratings than are indicated on the junction box.

ADJUSTMENTS

Credit Unit

In replacing a coin switch, make certain that the trip levers on the switch are in alignment with the coin slots in the slug rejector.

Adjust main credit switch by shifting in mounting holes so that stepping wheel with maximum credit established will stop against main credit

switch so that release pawl drops between pins on stepping wheel. Release pawl must not rest on top of stepping wheel pins as this holds safety switch open. Bend main credit switch blades, if necessary, so that opening between contacts is approximately 1/32 inch when stepping wheel is in zero credit position.

Adjust safety switch by shifting in mounting holes for good contact when release pawl is in the "up"

position and is broken when any of the coin trip solenoids are actuated.

Adjust reset pawl stop pin, by rotating, to allow tip of pawl to barely clear stepping wheel pin when reset pawl assembly is starting to move downward.

Adjust cancel credit solenoid by loosening lock nut, rotating plunger and retightening nut so that a clearance of 1/32 inch exists between the stepping wheel pin and the reset pawl when the solenoid plunger is bottomed. This clearance must exist when holding down the solenoid plunger and not the reset pawl assembly.

Adjust selector operating switch by bending contact fingers so that contacts "make" simultaneously. Contact pressure should be from 25 to 35 grams. Then shift switch in mounting holes so that contacts "make" when solenoid plunger is half way down.

Stepping wheel rotating spring should be wound eight turns when in zero credit position.

Tone Arm Cam Switch

This switch in conjunction with the record rack switches, operates to stop the transfer motor. The lever arm should operate equidistant from the regular surface of the cam. To check this, proceed as follows:

With the mechanism in rest position, remove tone arm assembly. Rotate the armature shaft of the transfer motor clockwise until the point of the cam shaft switch lever rides on the regular surface of the cam. Move the point of the lever arm away from the regular surface of the cam. At approximately 1/16 inch to 3/32 inch distance from the surface, the micro switch should operate to change the circuit. (Turntable will start rotating if power is on). Rotate the armature shaft of the transfer motor counterclockwise until point of lever drops below regular surface toward recess of cam and operates micro switch. (Turntable should stop rotating if power is on). This action should occur at 1/16 inch to 3/32 inch below regular surface of cam.

If switch does not operate at equidistant points of lever as explained, adjust set screw in switch lever arm and repeat test. Note: There must be at least 1/32 inch clearance between point of lever and bottom of recess when micro switch operates to stop turntable.

Make a selection and allow mechanism to place record on turntable and transfer motor to stop. (Shut off power to prevent cancelling accidentally). Rotate the armature shaft, of transfer motor by hand clockwise. Shaft should turn at least one complete revolution before gears bind. Turn on power and cancel selection allowing mechanism to return gripper arm to reset position and transfer motor to stop. Rotate the armature shaft of transfer motor by hand counterclockwise. Shaft should turn at least one complete revolution before gears bind.

Turntable Height

The height of the turntable should be just free of the record, when record is held in the transfer gripper arm, and so that the record will center in the gripper arm when arm is at rest on the trans-

fer arm support (21). Three adjustable posts are provided to raise or lower the turntable assembly (10).

Tone Arm Mounting Height

A clearance of approximately .005" to .015" should be maintained between the pivot bearing plate and the highest point of the tone arm cam while tone arm is in playing position. Height adjustment is made with the #8-32 x 5/8" headless set screw at top of pivot bearing.

Needle Height

Make a selection and allow needle (C) to be set on record. Turn off power switch to prevent cancelling. Lift record from turntable. By means of the #8-32 x 5/8" headless set screw on hinge clip and bracket below tone arm, adjust the tone arm height so needle will clear flock of turntable by 1/32". (Be sure shank of needle is inserted into cartridge as far as it will go). Replace record on turntable.

Needle Starting Position

Allow mechanism to operate until tone arm is ready to be placed on record. Turn off power and turn transfer motor armature shaft by hand until needle is placed on record. The needle should come to rest about 1/16" from the record groove. To adjust, loosen screw nearest pivot bearing which clamps bracket (39) to hinge clip bracket (38) and set needle in desired position, then tighten screw.

Tone Arm Cut-Off Switch

If record does not cut off, first determine if the cut-off groove of the record is faulty before making adjustment. Adjust screw in weight of tone arm cut-off switch, so that the screw is contacted by the lever arm on the tone arm pivot bearing, when the needle reaches a point on the record just past the last playing groove. It may be advisable to move the lever stop on the reversing switch to one side, so as to prevent tone arm lever from riding against the weight too soon. Check to see that switch will operate after lever is moved.

Record Rack Switches

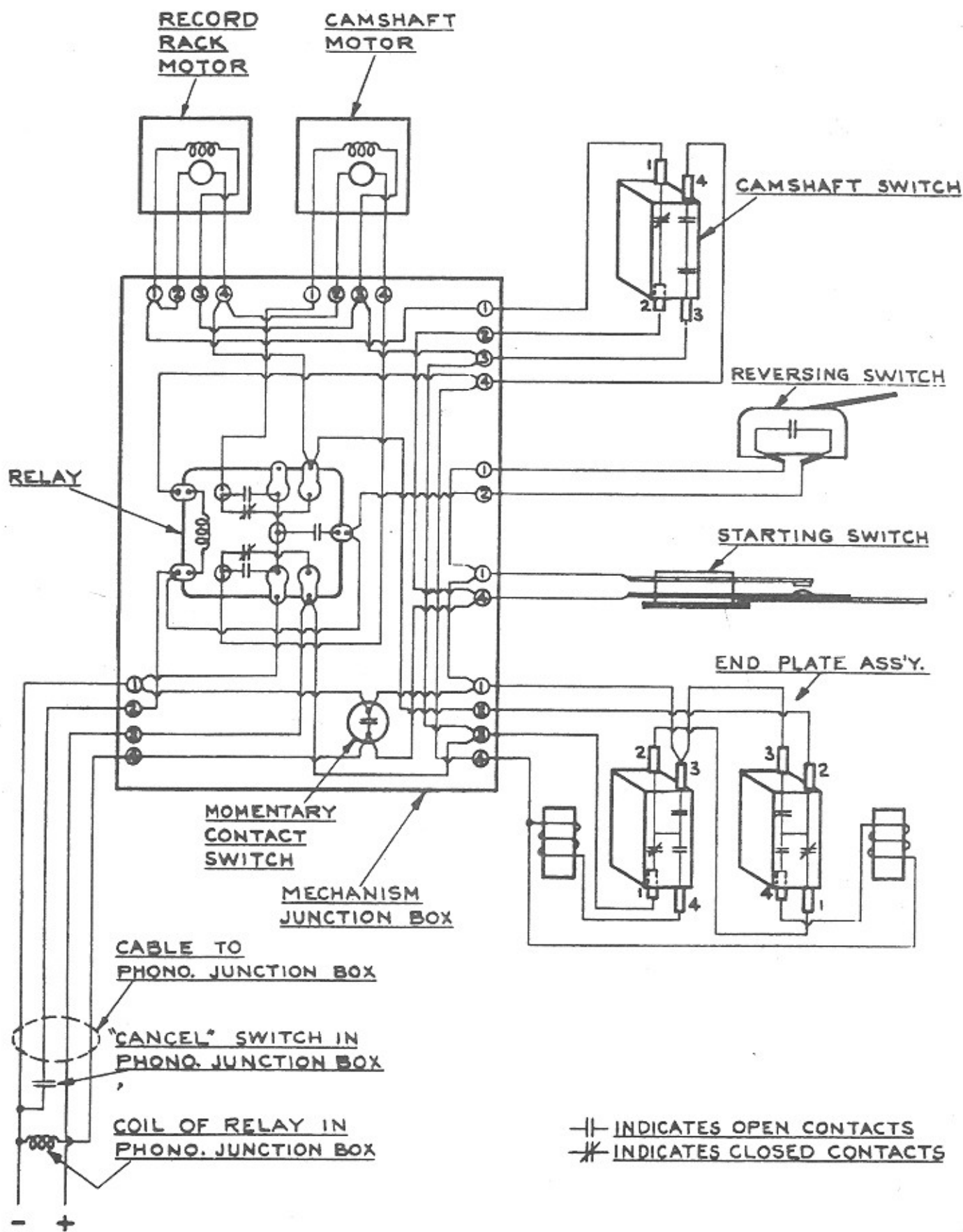
The record rack should stop with a record positioned so as to center in the grooves of the two shoes of the transfer assembly. If rack stops too soon in either forward or reverse motion, turn the set screw of the rack switch affected counterclockwise. Turn the screw clockwise if rack moves too far.

To adjust right hand switch, it will be necessary to remove the records from the rack to obtain access to the switch adjusting screw.

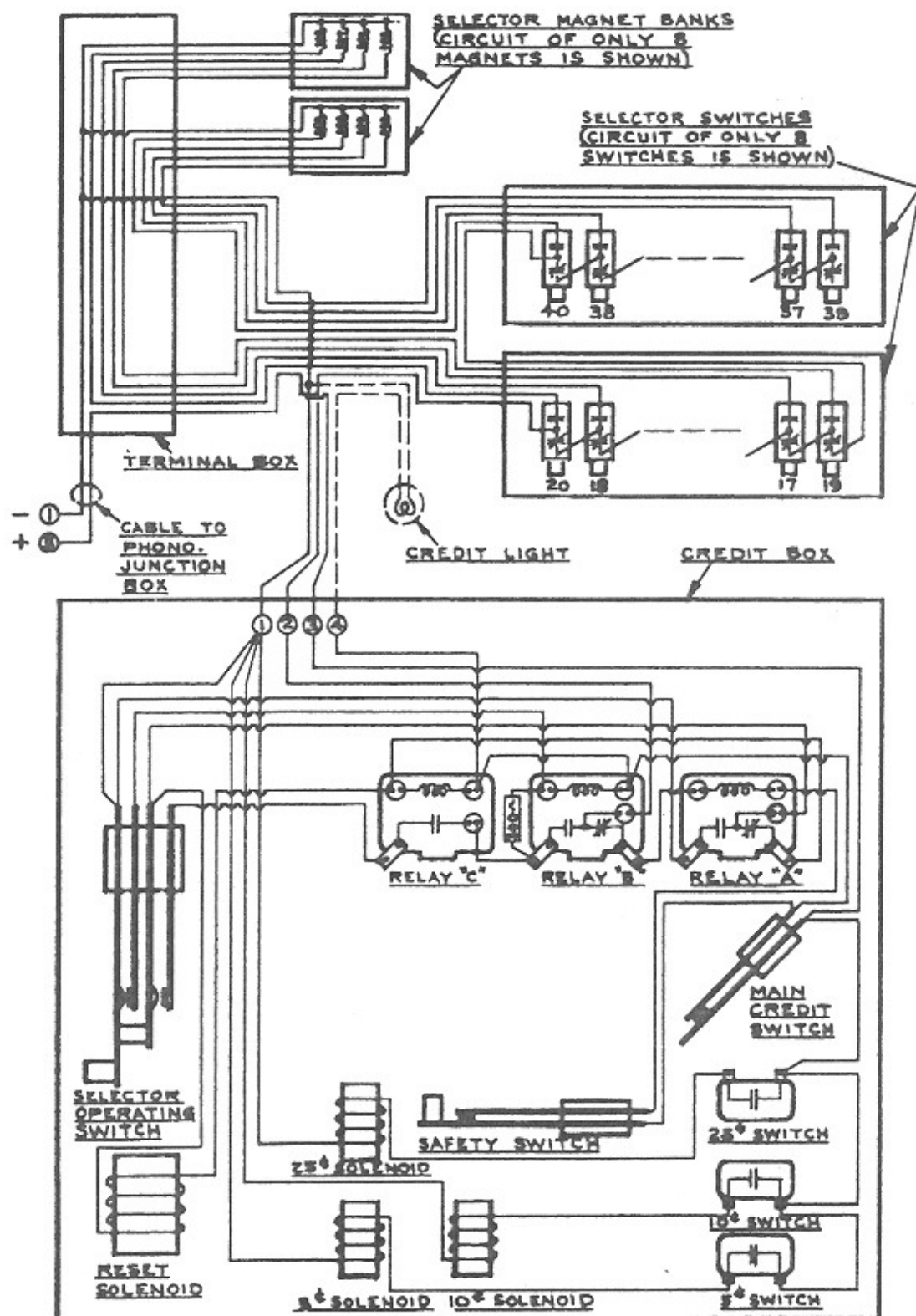
Check the trip lever to see that no bind occurs and that switch will operate in both compressed and released positions. Unless switch operates at released position transfer motor will not shut off.

Annunciator Wheel

Loosen the set screw in driven sprocket of annunciator assembly and turn number wheel so that correct number of selection playing shows in window. Tighten set screw.

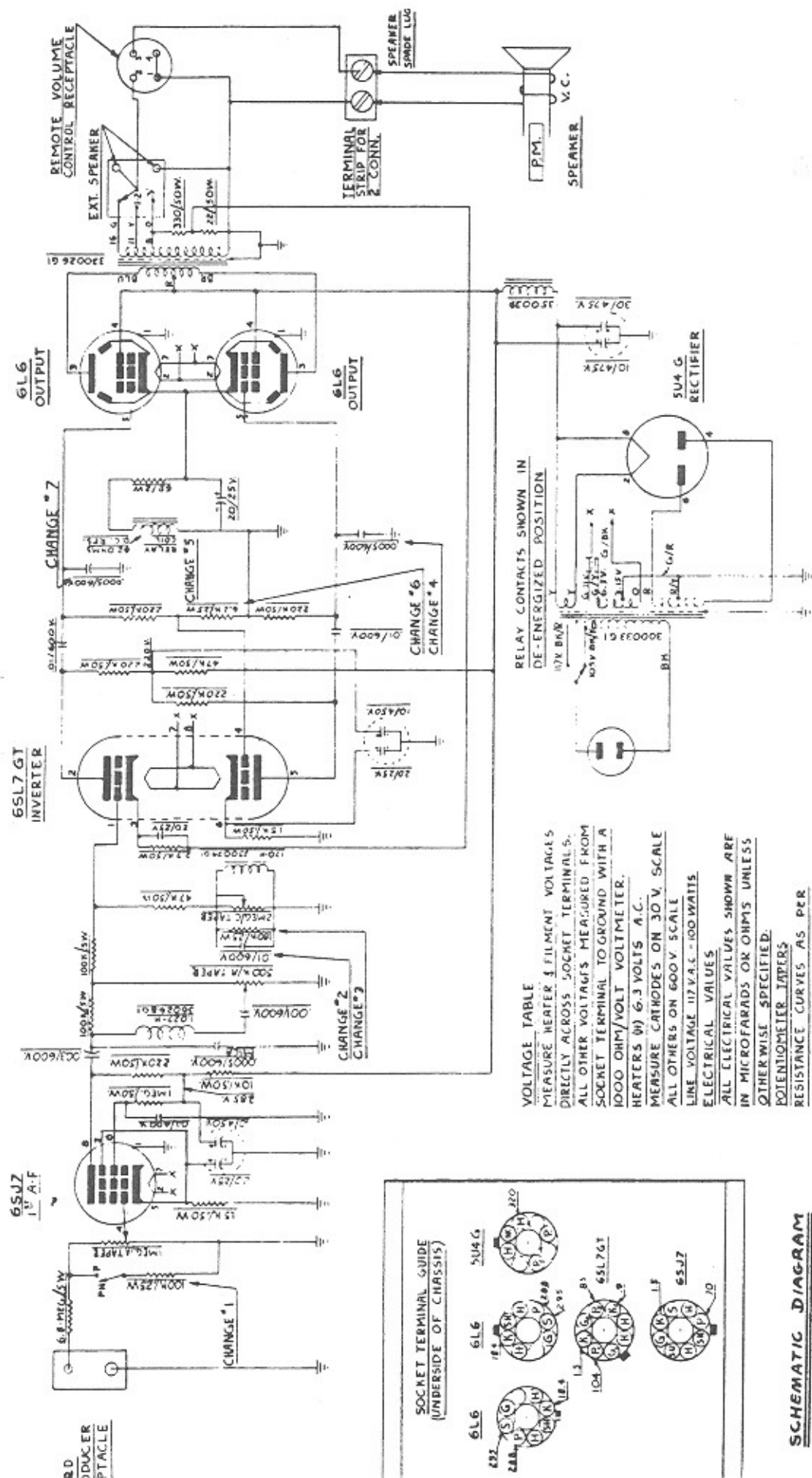


ELECTRICAL CIRCUIT OF MECHANISM
 WITHOUT SELECTOR MAGNET BANKS

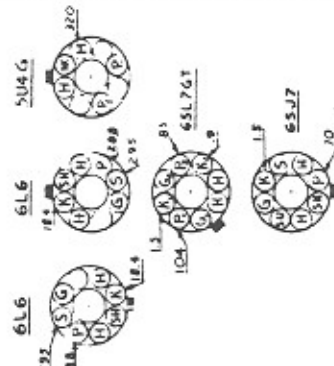


—|— INDICATES OPEN CONTACTS
—|/— INDICATES CLOSED CONTACTS

ELECTRICAL CIRCUIT
OF
CREDIT BOX, TERMINAL BOX,
SELECTOR MAGNET BANKS
AND SELECTOR SWITCHES



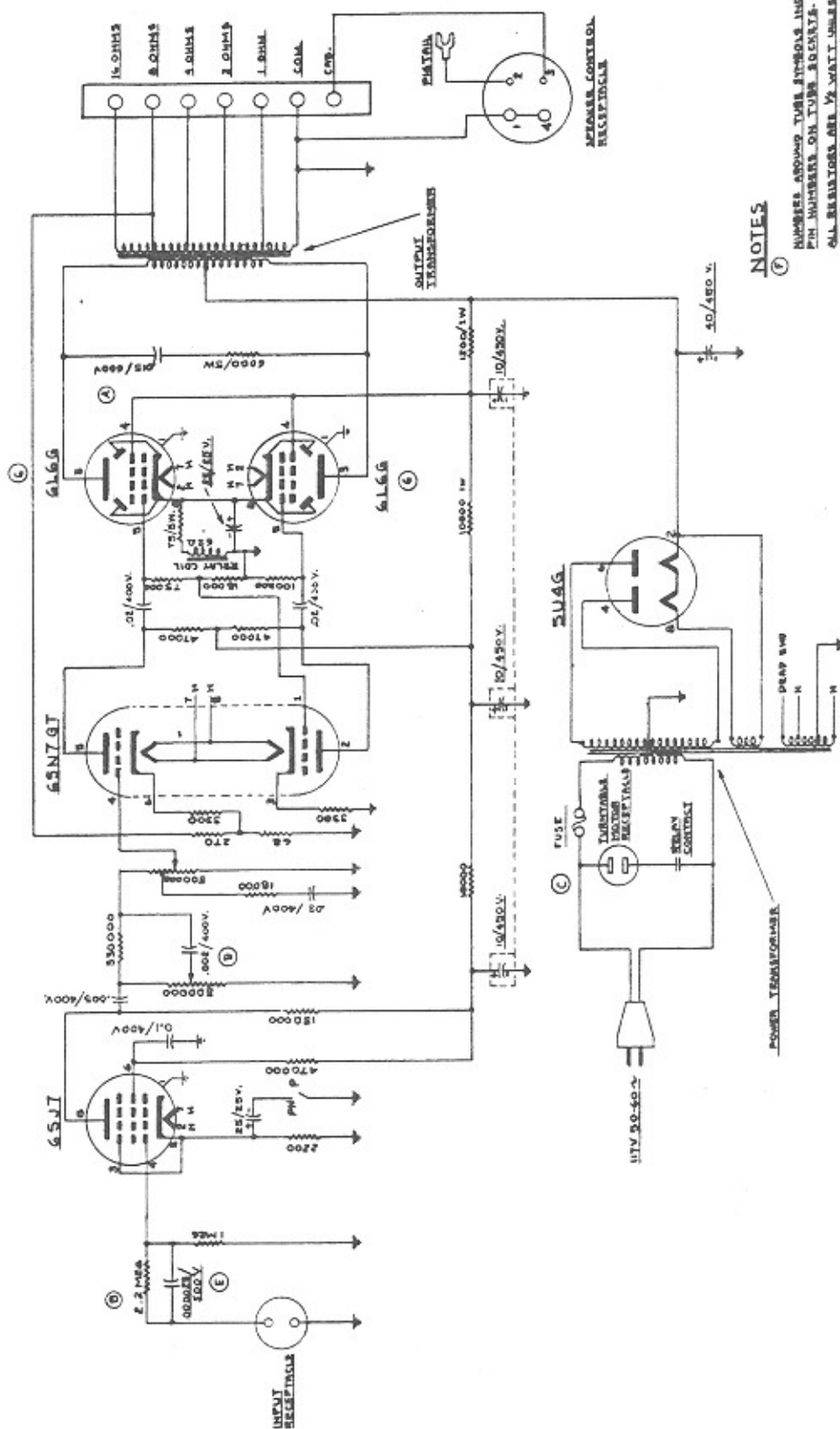
SOCKET TERMINAL GUIDE
(UNDERSIDE OF CHASSIS)



SCHEMATIC DIAGRAM
FOR L-20 (SILVER)
AMPLIFIER'S SERIAL
NUMBERS 1 TO 14,999

R-22 AMPLIFIER (BLACK)

Serial Numbers 15,000 and up.



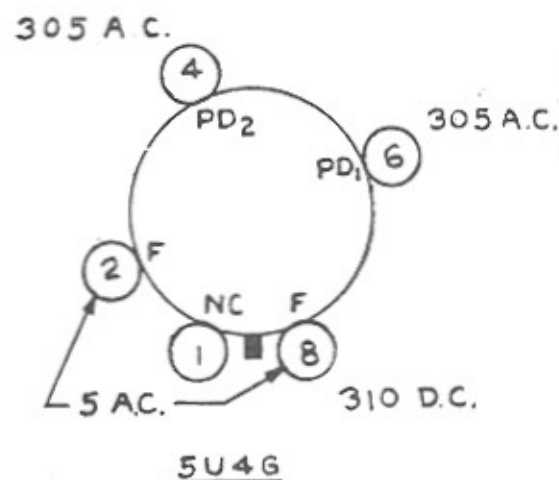
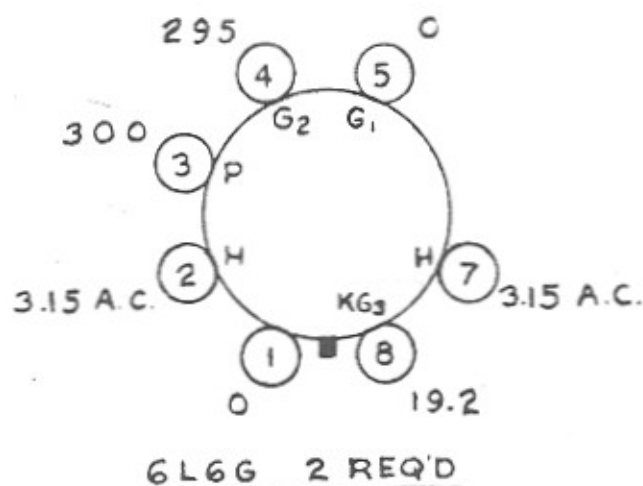
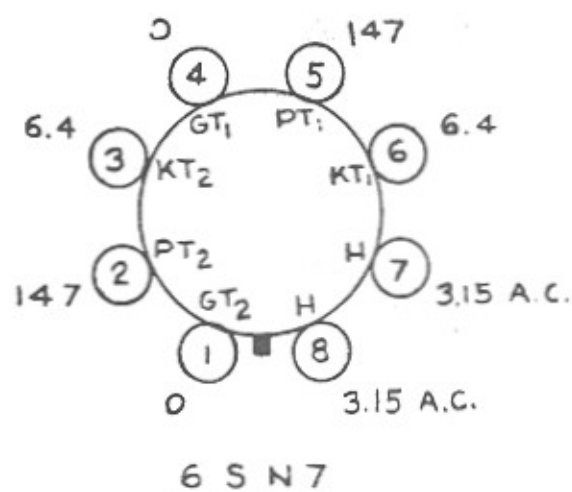
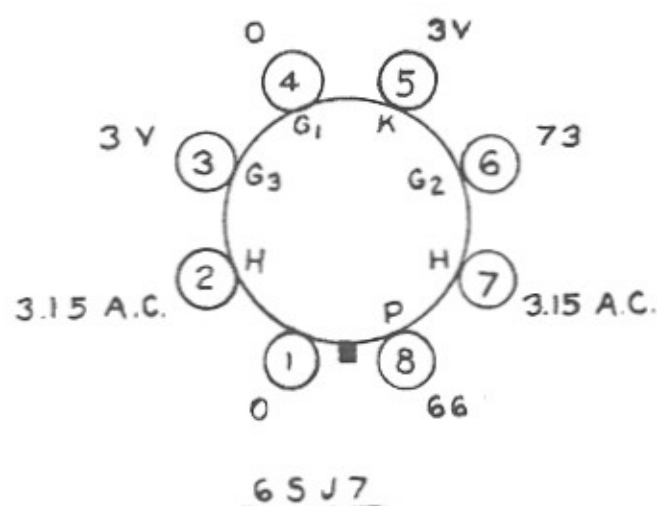
NOTES

NUMBERS AROUND TUBE INTEROLS INDICATE
PIM NUMBERS ON TUBE SOCKETS.
ALL RESISTORS ARE 1/2 WATT UNLESS
OTHERWISE SPECIFIED.
ALL CAPACITOR VALUES ARE IN
MICROFARADS.
FOR WIRING DIAGRAM SEE R-80

Incorporated

Sales Office — 127 N. Dearborn, Chicago 2
Factory — 1500 Union Ave. S.E., Grand Rapids, Mich.

VOLTAGE CHART R-22 Amplifier



CONDITIONS:

LINE VOLTAGE: 117 V. 60hz

NO SIGNAL INPUT TO AMPLIFIER

SENSITIVITY OF D.C. VOLTMETER: 20,000 OHMS/VOLT

SENSITIVITY OF A.C. VOLTMETER: 1,000 OHMS/VOLT

ALL VOLTAGES MEASURED WITH RESPECT TO CHASSIS,
UNLESS OTHERWISE INDICATED.

ALL VOLTAGES ARE D.C. UNLESS OTHERWISE INDICATED.

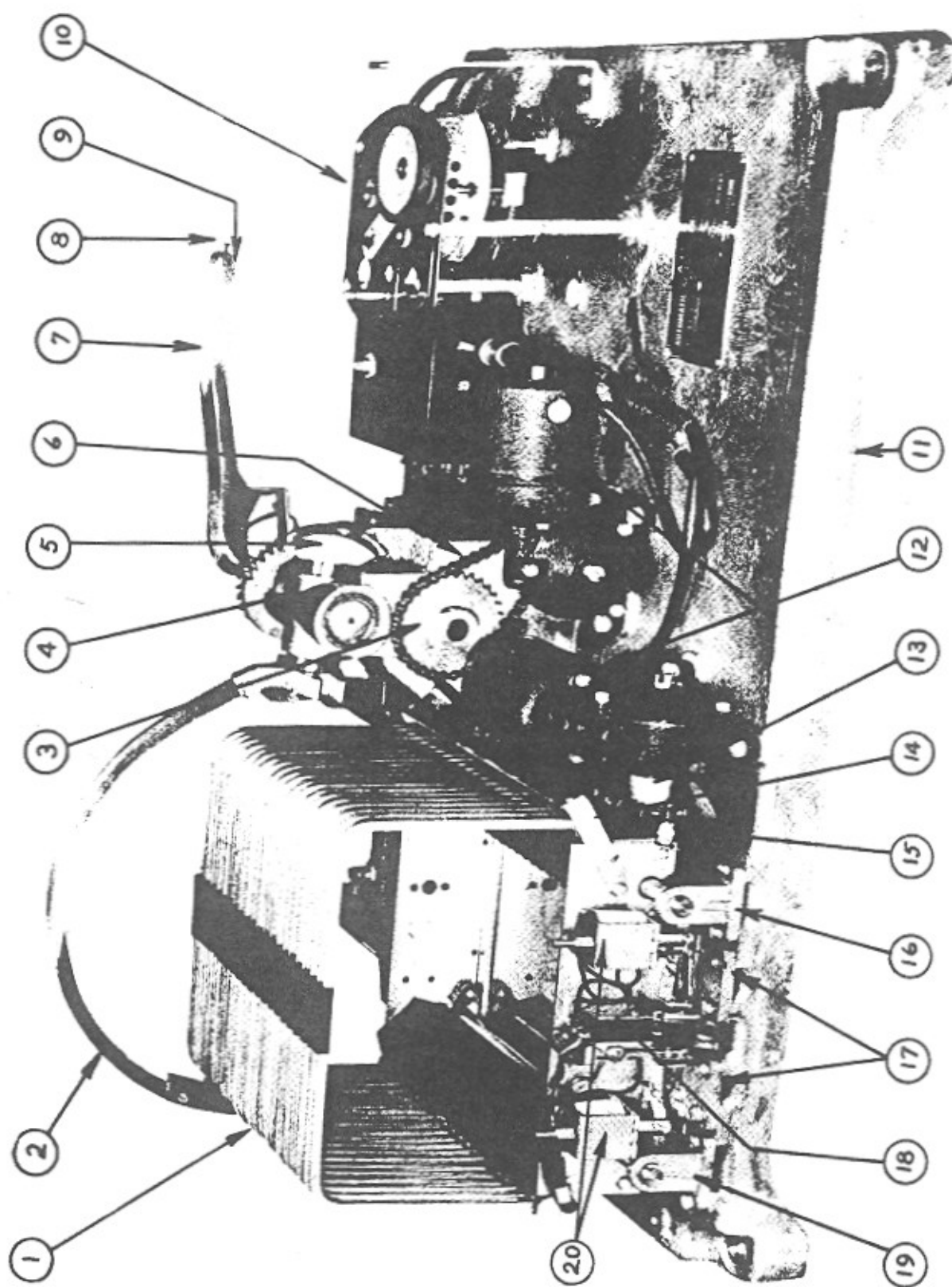
R-22 AMPLIFIER
(Black)

DESCRIPTION

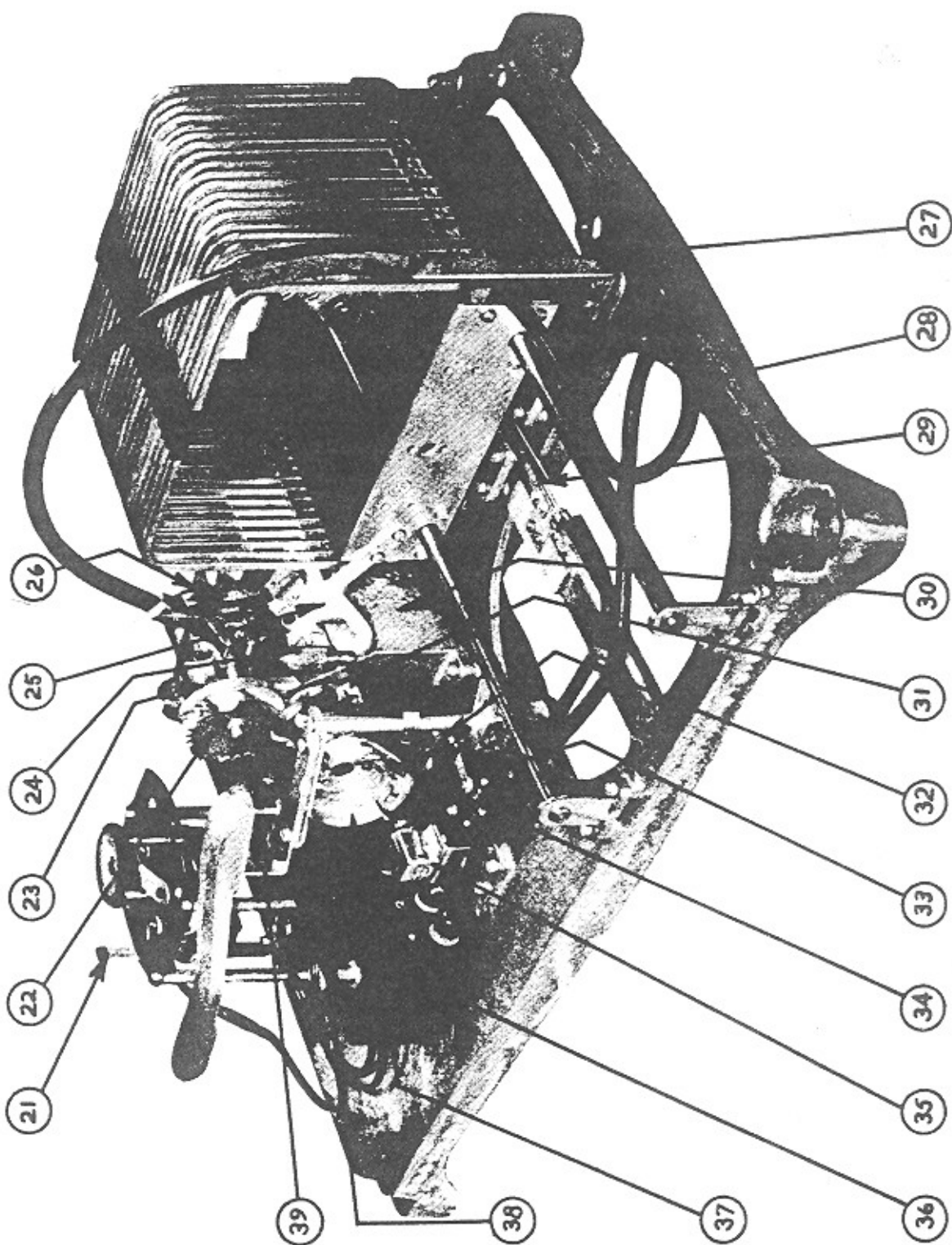
Power Transformer
Output Transformer
Turntable Relay
Gain Control

PART NO.

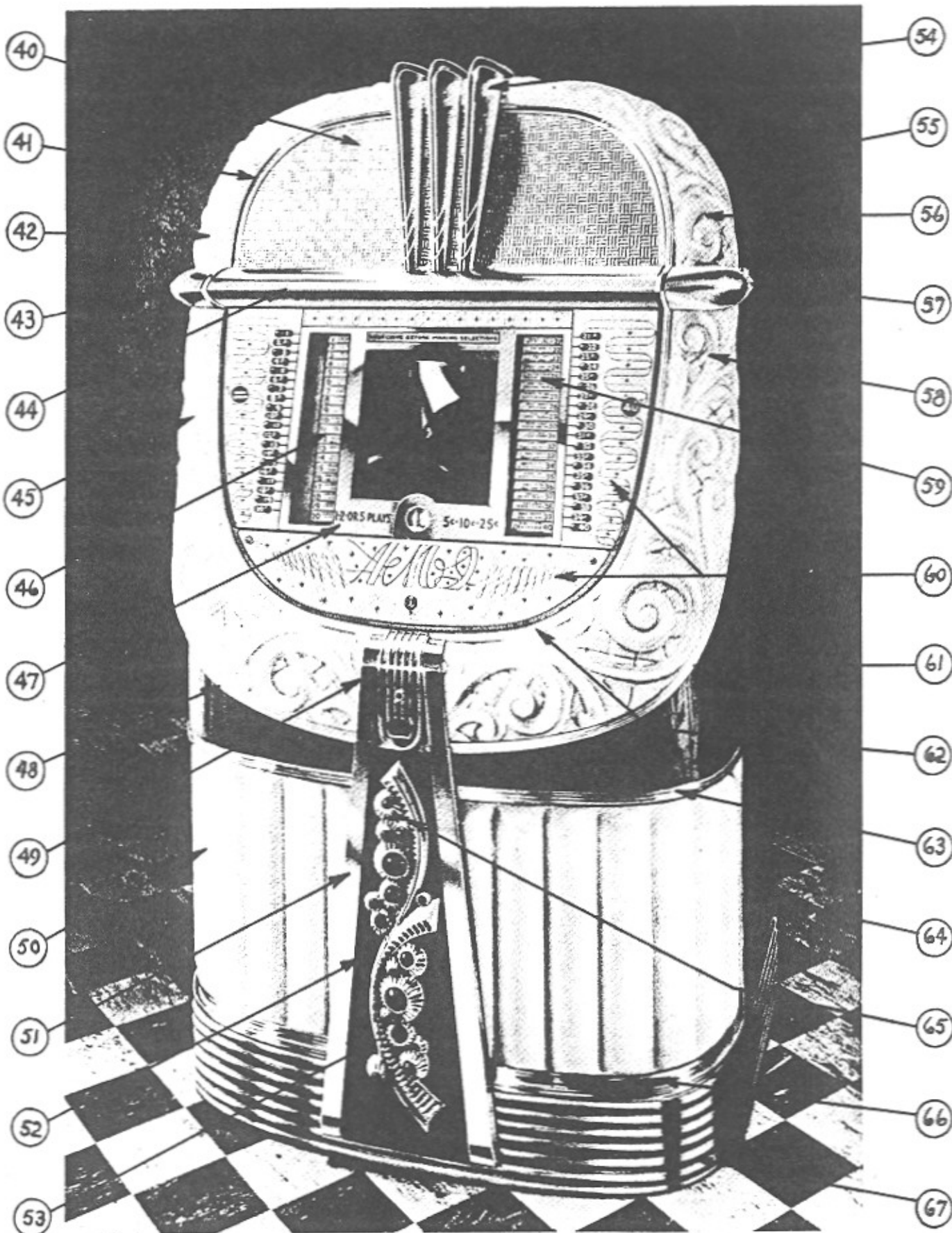
L-88
L-87
F-255
H-75



FRONT VIEW - MECHANISM



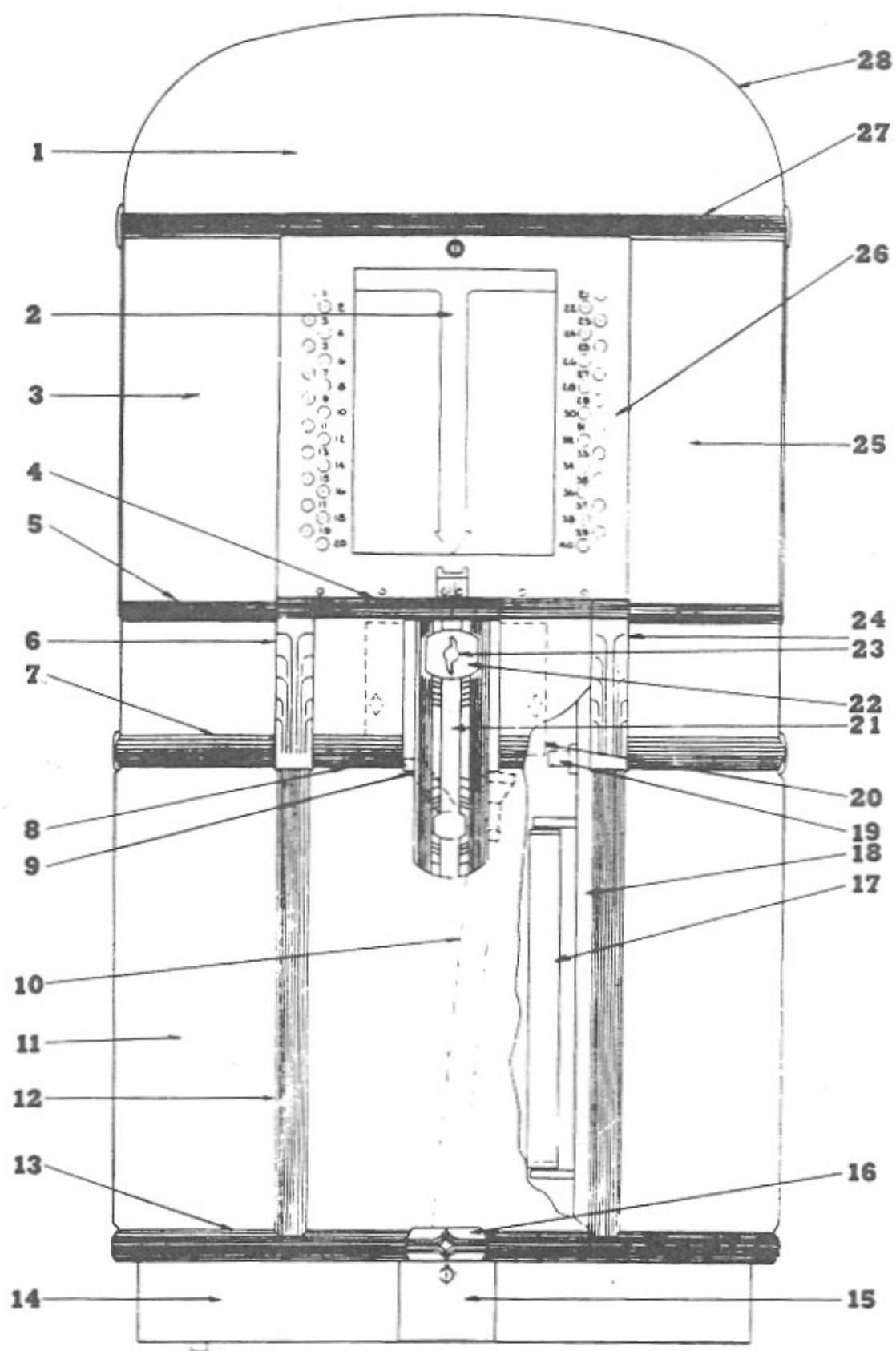
RIGHT REAR VIEW - MECHANISM



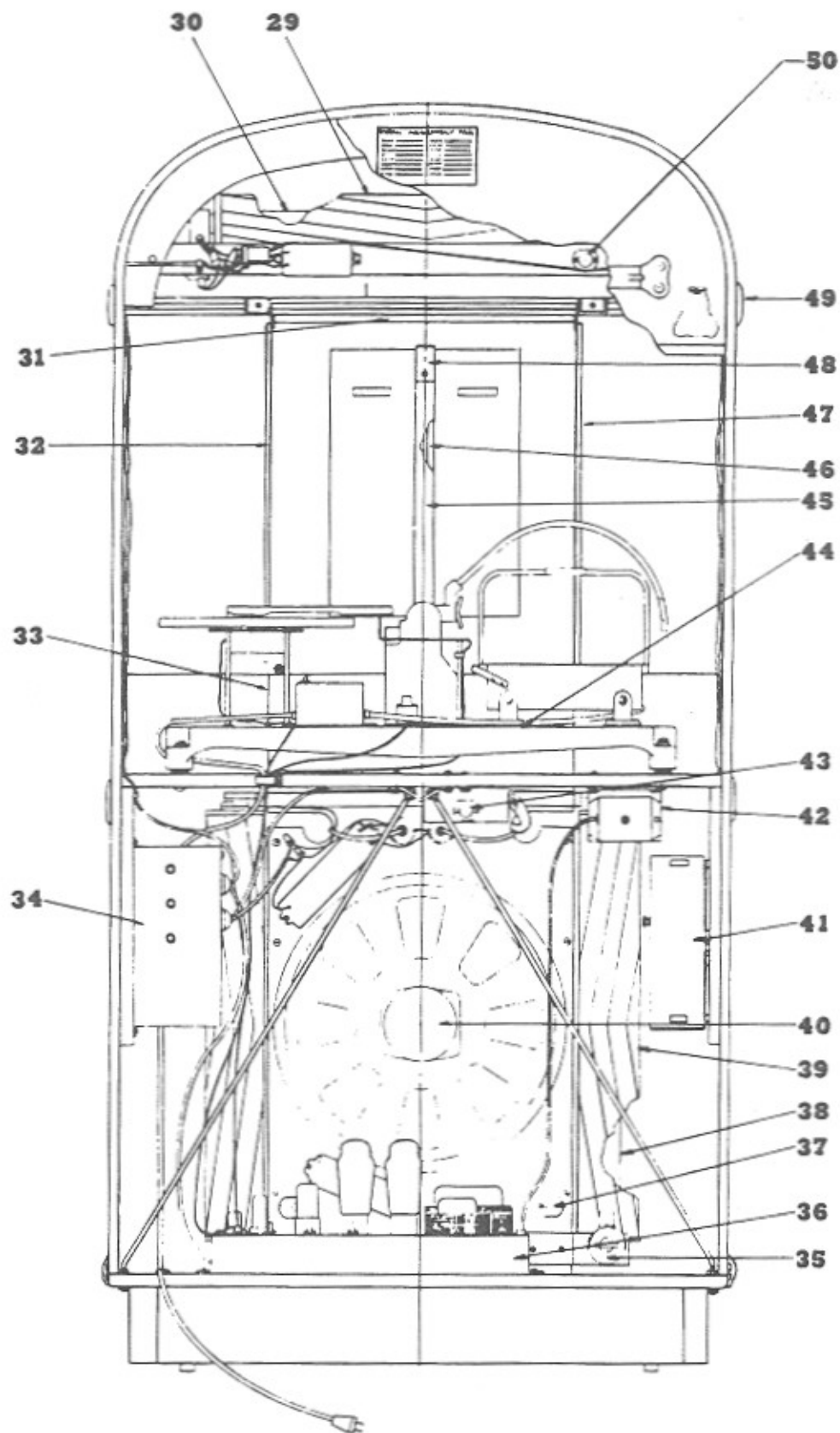
FRONT VIEW - MODEL A PHONOGRAPH

PARTS LIST

1 - L-22	Record Rack Assembly (including (14) (15) (18) (20))	34 - F-14	Spring (Cam)
2 - L-29	Transfer Arm & Outer Shoe Assem.	35 - F-174	Counter & Bracket Assembly
3 - F-52	Driven Sprocket Cam Shaft	36 - L-25	Junction Box Assembly (Mechanism) contains - Reversing Control Relay - Part #F-107
4 - F-69	Trunnion Bearing And Pin Assembly	37 - H-25	Cam Shaft & Gear Assembly (includes No. (31))
5 - F-249	Transfer Cam & Sleeve	38 - H-22	Pivot Bearing & Plate
6 - F-54	Driven Chain (Cam Shaft)	39 - F-172	Hinge Clip & Mounting Bracket Assembly
7 - H-60	Pick-up Arm Assem. (includes (8))	40 - H-725	Grill Assembly
8 - H-24	Crystal Pick-up Cartridge	41 - H-729	Retainer - Grill
9 - F-151	Phonograph Needle	42 - R-909	Plexiglass Panel - Left - Upper
10 - L-23	Motor (including L-27 Turntable)	43 - L-946	Elbow Left & Pin Assembly
11 - H-45	Base & Locating Pin Assembly	44 - L-704	Shield - Phonograph
12 - L-8	Gear Motor	45 - U-907	Plexiglass Panel - Left - Lower
13 - F-276	Drive Sprocket Record Rack	46 - H-679	Title Strip Rack Assembly - Left
14 - F-157	Number Strip Assembly	47 - R-664	Mask Door
15 - H-63	Drive Arm (Record Rack)	48 - R-920	Moulding Plastic Retainer - Lower Left
16 - H-13	Guide Rod Bracket	49 - R-974	Coin Return & Chute Assembly
17 - L-26	Selector Assembly	50 - R-758	Panel - Plastic - Lower Door
18 - Record Rack Switch Assembly consisting of:		51 - R-624	Frame Assembly - Motif
F-198	Trip Lever Assembly	52 - R-605	Panel - Wood - Motif
F-31	Switch & Lever Mounting Plate	53 - R-620	Ornament & Jewel Assembly - Motif
F-30	Switch Mounting Bracket	54 - R-420	Knee
F-103	Switch	55 - R-919	Shell Moulding - Upper
19 - H-14	Guide Rod Bracket (slotted)	56 - R-910	Plexiglass Panel - Right - Upper
20 - F-38	Reset Solenoid (Record Rack)	57 - L-947	Elbow Right & Pin Assembly
21 - F-149	Transfer Arm Support Assembly	58 - U-908	Plexiglass Panel - Right - Lower
22 - H-52	Gear (Record Release Cam)	59 - H-680	Title Strip Rack Assembly - Right
23 - H-43	Drive Gear Trunnion	60 - R-638	Mask Assembly - Phonograph
24 - H-34	Toggle Pin Unit Assembly (includes (25))	61 - R-921	Moulding Plastic Retainer - Lower Right
25 - F-29	Toggle Cam	62 - R-700	Frame Assembly - Face
26 - F-18	Inner Shoe	63 - R-757	Horizontal Moulding - Upper Right & Lower Left - Lower Door
27 - F-42	Transfer Arm Stop	64 - H-756	Vertical Moulding - Lower Door
28 - Record Rack Switch Cable consisting of:		65 - S-1600C	Lock
F-173	Selector Switch Cable	66 - R-759	Horizontal Moulding - Upper Left & Lower Right - Lower Door
F-121	Shielded Plug	67 - H-106	Moulding - Base Cabinet
29 - F-181	Switch, Cable & Plug Assembly		
30 - L-7	Transfer Housing with Pins & Bushing Assembly		
31 - H-42	Gear		
32 - H-44	Cam Shaft Switch, Cable, Plug & Bracket Assembly		
33 - Reversing Switch Assembly consisting of:			
F-179	Switch, Cable & Plug Assembly		
F-67	Lever Stop		
F-66	Lever Weight		



MODEL B
Front



MODEL B
Rear

MODEL B - CABINET PARTS LIST

Code Parts No. No.	Description	Code Parts No. No.	Description
1 R-38	Plastic Dome	29 H-1516	Color Tube & Bank Assembly Upper
2 L-82	Program Glass	30 S-600L	Fluorescent Lamp - White
3 R-69	Vision Panel - Left	31 F-1227	Door Stop
4 F-1247	Program Door Hinge	32 H-98	Top Support - Right Hand
5 R-37	Vision Panel Retainer - Left	33 L-67	Slug Rejector Cover
6 L-57	Stationary Hinge - Left	34 R-13	Junction Box Assembly
7 H-93	Horizontal Trim - Corner L. H. or R. H.	35 H-1508	Motor - Clockwise for L. H. & Upper Color Tubes
8 F-1288	Horizontal Trim - Front L. H. or R. H.	H-1507	Motor - Counter Clockwise for R. H. Color Tube
9 F-1264	Chute Assembly - Slug Return	36 R-22	Amplifier, AMI
10 F-1261	Coin Chute Assembly - Funnel & Chute	37 S-800A	Fluorescent Starter
11 L-79	Plexiglass Panel - Lower L. H. or R. H.	38 S-600L	Fluorescent Lamp - White
12 H-94	Vertical Front Trim L. H. or R. H.	39 L-1508	End Cap & Color Tube Assembly - Lower L. H. or R. H.
13 L-65	Lower Horizontal Trim L. H. or R. H.	40 R-9	Speaker, 16 ohm
14 H-96	Scuff Plate - L. H. or R. H.	41 L-74	Credit Box Assembly
15 H-118	Coin Box Assembly with Lock	42 H-760	Volume Control Assembly
F-1224	Coin Box Trim	43 S-800B	Fluorescent Starter for Program Lamp
L-60	Coin Box	44 R-11	Mechanism, Selective Play
S-1600B	Lock - Coin Box	45 F-1523	Light Diffuser - Program Lamp
16 L-53	Base Trim Casting	46 S-600K	Fluorescent Lamp, Program
17 S-600H	Fluorescent Lamp - Gold - For Grille	47 H-99	Top Support - Left Hand
18 L-1506	Grille Lamp Assembly - L. H. or R. H. (Less Lamps & Starter)	48 H-107	Lamp Holder & Bracket Assembly - Program Door
19 H-86	Mounting Plate - Slug Rejector	49 L-59	Top Trim Casting - L. H. or R. H.
20 R-1503	Motif & Slug CNP Assembly	50 S-800A	Fluorescent Starter
21 F-263	Knob Plate For Slug Rejector	S-210-H	Condenser For Color Wheels (3 Required)
22 H-89	Slug Rejector Actuating Knob		
S-1200A	Spacer for H-89		
F-1211	Bushing for H-89		
F-1225	Slug Rejector Actuating Lever		
23 L-58	Stationary Hinge - Right		
24 R-36	Vision Panel Retainer - Right		
25 R-68	Vision Panel - Right		
26 R-40	Program Door (only)		
27 L-63	Dome Retainer - Front		
28 L-64	Dome Retainer - Top		

DIAGNOSIS CHART

Complaint	Symptom	Cause	Remedy
Instrument will not operate or light up.	Instrument inoperative.	10 amp. fuse blown.	Replace fuse.
		Broken line connection.	Trace wiring from power supply to Junction Box. Make sure instrument receives the 110 AC supply.
1/10 Amp. fusatron blown.	Mechanism inoperative, turntable, amplifier and Rainbow Unit Motors operate.	Cam shaft Switch out of adjustment.	See Section on cam shaft switch adjustment.
		End of transfer arm caught behind the transfer arm rest.	Bend transfer arm rest slightly outward.
		Shorted record rack motor.	Replace motor.
		Short in transfer motor or mechanism circuit.	Replace motor or remove short from mechanism circuit.
		Open in transfer motor or its circuit.	Replace motor or repair open in circuit.
1/10 Amp. fusatron blown, mechanism in playing position.	Mechanism inoperative, turntable, amplifier and Rainbow Unit Motors operate.	Cam shaft switch out of adjustment.	See section - cam shaft switch adjustment.
		Record rack switches not operating correctly.	See section - record rack switch adjustment.
		Short in D. C. Motor or mechanism circuit.	Replace motors or remove short from mechanism circuit.
1/2 Amp. fusatron blown.	No credits can be registered or selections made.	Trip lever on one of the coin trip switches remains in operated position.	Remove coin from trip lever. See that lever operates freely. Line up slots in coin switch with coin selector slots.
		Credit and selection circuit shorted or grounded.	Check circuit with an ohmmeter.
10 plays for coin.	Credit unit does not register any coin.	1/2 Amp. fusatron blown.	See complaint - 1/2 Amp. fusatron blown.
		Credit wheel does not revolve.	Check credit wheel for binding or a defective spring.
		Credit solenoids do not operate.	Check common line to coin trip switches and credit solenoids. See if plug is in socket at credit unit and junction box.
	Credit unit registers coin but no selection can be made.	Main credit switch does not complete circuit.	Adjust main credit switch to make contact as soon as the post on back of credit wheel moves away from switch.
		Safety switch does not complete circuit.	Adjust safety switch so that it is closed when the Release Pawl is in non-operated position.
	Credit unit relays do not operate.		Check windings of A, B, C relays and cancel credit solenoid. Check contact points of credit unit. Check wiring circuit of credit unit. Check plug and socket of credit unit.
		B relay of credit unit holds closed.	Free keyboard switch from closed position.

DIAGNOSIS CHART

Complaint	Symptom	Cause	Remedy
No plays for coin.	Credits lost but no selection made.	Selector fingers do not trip.	Check input voltage. Check selector assembly springs. Check selector finger adjusting screws.
		Poor contact of starting switch.	Check tension of lower blade of starting switch on selector balls. See section on starting switch.
	Selector fingers trip but mechanism does not start.	Starting switch does not make contact.	Adjust starting switch.
		8/10 Amp. fuse blown.	See section 8/10 Amp. fuse blown.
		Record rack motor won't run.	Check Mechanism Junction Box for a short or open and check contacts of the Reversing Control Relay therein.
Selections can be made without coins being inserted.	More than one credit removed and only one selection made.	Terminals of selector operating switch shorted.	Separate terminals.
	All or some of the selector buttons dead.	Stepping wheel spring weak.	Add 1 or 2 turns to stepping wheel spring.
	Selection made and no credits removed.	Series circuit through selector switches open.	Check for selector switch sticking in operated position. Check for loose connection or an open, in series circuit through selector switches back to rectifier.
	All credits removed and selections can still be made.	Credit wheel does not reset.	Check cancel coil to see if operative. Check to see that the four prong plug is inserted correctly in receptacle of Credit Unit Assembly.
	Mechanism in playing position - no record on turntable.	Main credit switch remains closed.	Adjust main credit switch so that the post on back of credit wheel will open switch when all credits are removed.
Transfer arm does not pick up records from the rack.		Inner shoe stuck in hub of transfer arm.	Clean and remove burrs from bearing surfaces.
Transfer arm does not pick up records from turntable.	Two records on turntable or records not placed back on rack.	Transfer arm bent.	Correct arm.
		Lubricant stiff or gummy.	Place 4 or 5 drops of sewing machine oil on bearing surfaces of Transfer Unit.
		Inner shoe sticks in hub of Transfer arm.	Clean and remove burrs from bearing surfaces.
Transfer arm does not grip records properly.		Outer shoe sticking on rubber bumper of transfer arm support.	Eliminate stickiness.
	Record not gripped properly when removed from rack.	Record rack does not stop in correct position.	Adjust record rack switches. See section record rack switch adjustment.
		Transfer arm bent.	Correct arm.

DIAGNOSIS CHART

Complaint	Symptom	Cause	Remedy
Transfer arm does not grip records properly.	Record not gripped properly when re-moved from turntable.	Transfer arm bent.	Correct arm.
Transfer motor does not stop after placing record on turntable.	8/10 Amp. fusetron blown. Mechanism remains in playing position.	Turntable assembly out of alignment.	Adjust height and position of turntable assembly.
Transfer motor does not stop after placing record in rack.	8/10 Amp. fusetron blown. Mechanism remains at rest in restored position.	Cam shaft switch out of adjustment.	Adjust cam shaft switch. See section on cam shaft adjustment.
Transfer assembly does not operate smoothly.	Transfer arm moves in an unsteady manner.	Record rack switches not returning to normal position.	Bend the stop bracket on the switch lever mounting plate to allow the trip levers to make and break circuits in both operated and non-operated positions. Make sure the trip lever operates freely.
Turntable, amplifier and Rainbow unit motors operate continuously.	Mechanism won't operate.	Cam shaft switch out of adjustment.	Adjust cam shaft switch. See section on cam shaft adjustment. Check nut on cam switch lever for looseness.
Instrument does not operate after placing record on turntable.	Circuits to all three not broken.	One or both of the Allen set screws in the cam shaft drive sprocket and the cam shaft driven sprocket loose.	Tighten both set screws with an Allen wrench.
Mechanism jams.	Transfer cam jams against toggle pin unit.	8/10 Amp. fusetron blown.	See section on 8/10 Amp. fusetron blown.
	Sluggish action of mechanism.	Contacts of the control relay do not break.	Check armature of relay for binding. Check contacts of relay for correct gap. Check winding of relay (275 ohm) Check circuit to relay.
	Gears lock just as record shoes grip record on turntable.	Open circuit through the contacts of the control relay.	Check contact points and circuit for continuity.
	Misses record entirely.	Binding in toggle pin unit.	Free toggle pin unit. Clean and remove burrs.
	Needle misses first part of record.	Operating mechanism in extremely cold location.	Place a few drops of fine machine oil on bearing surfaces of trunnion bearing and between inner shoe shaft and hub of outer shoe.
		Binding in transfer assembly.	Clean and remove burrs from all bearing surfaces.
		Incorrect height of transfer arm on support and rubber bumper.	Straighten support and replace rubber bumper if necessary. Over all height of support and bumper from top of boss must be $5\frac{1}{16}" + \frac{1}{64}"$.
		Transfer arm bent to one side.	Straighten transfer arm.
		Tone arm assembly out of adjustment.	Check tone arm assembly adjustment. See section on tone arm assembly adjustment.
		Pick up cable on top of adjusting screw.	Straighten cable.
		Tone arm assembly hangs up on pillar post.	Remove sharp edges, burrs, etc. from pillar post and inside of tube. If necessary apply light film of machine oil.
		Cam spring bent or out of adjustment.	Straighten cam spring and adjust so that needle is placed on record just before pin on bottom of pickup arm hinge clip releases from cam spring.