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trouble shooting section

Sold by:

ROWE AC SERVICES

Division of Automatic Canteen Company of America

18 South Michigan Ave.
Chicago 3, Illinois

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Manufactured by:

ROWE AC MANUFACTURING

Division of Automatic Canteen Company of America
Grand Rapids Plant

1500 Union Avenue, S. E., Grand Rapids 2, Michigan

JUNCTION BOX

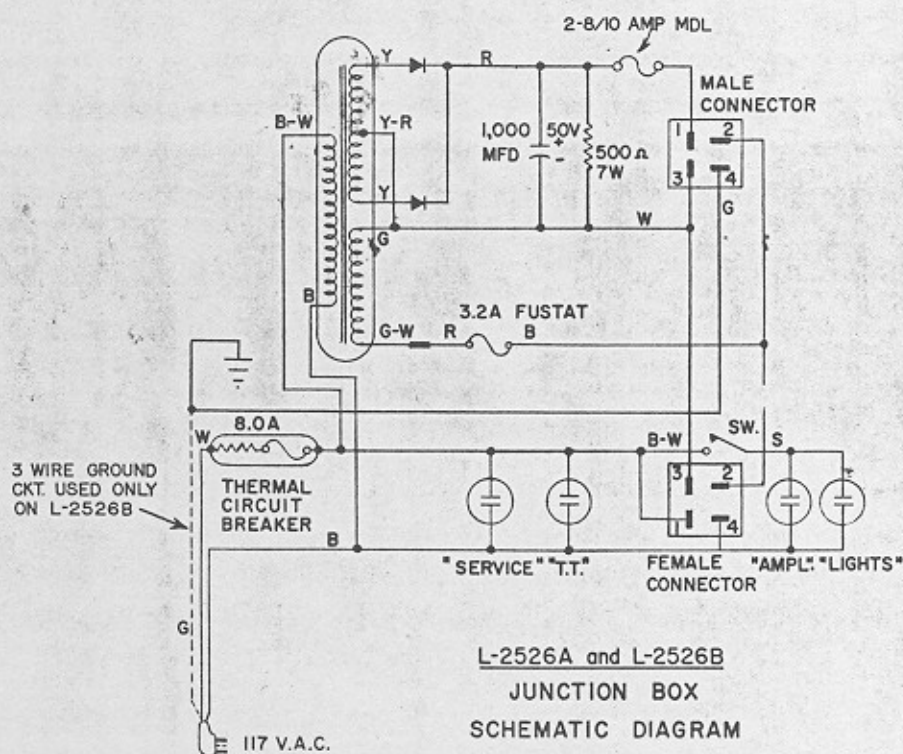
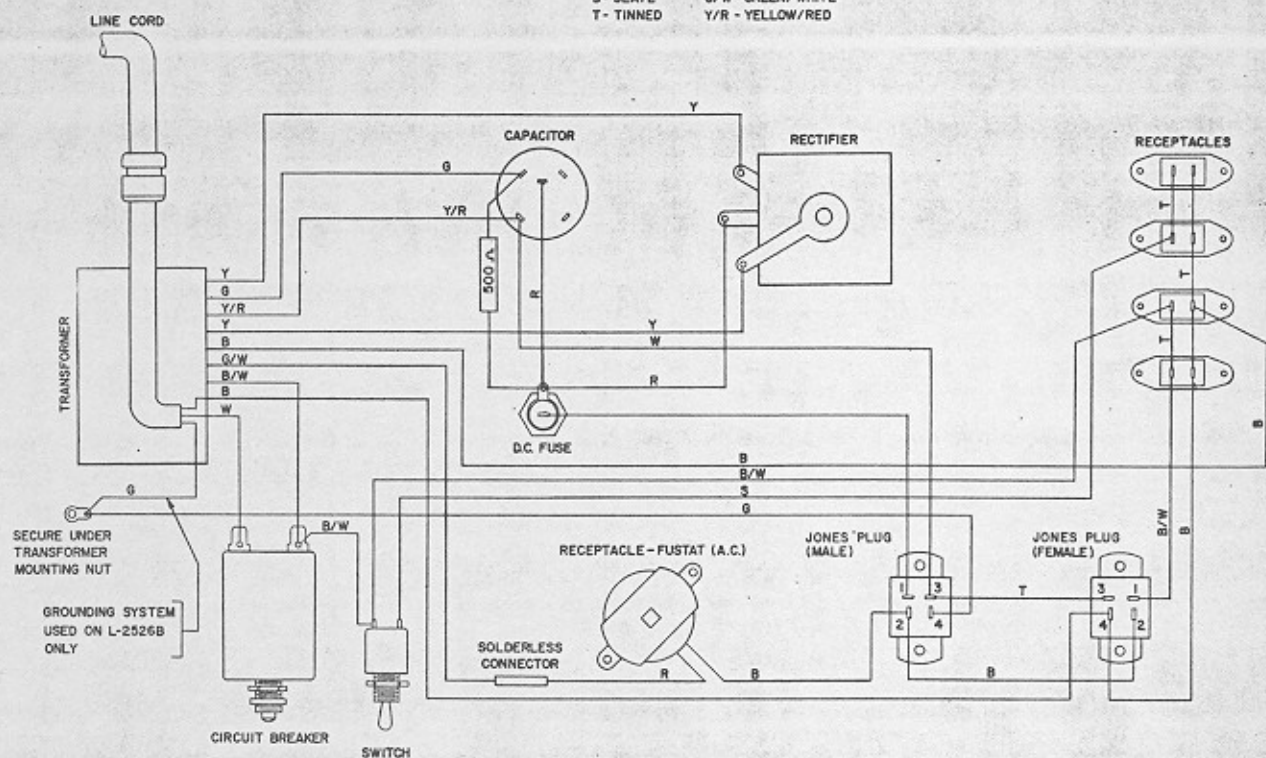
UP TO PHONO SERIAL NO. 690500

WIRE COLOR CODE

B - BLACK	W - WHITE
G - GREEN	Y - YELLOW
R - RED	B/W - BLACK/WHITE
S - SLATE	G/W - GREEN/WHITE
T - TINNED	Y/R - YELLOW/RED

L-2526A and L-2526B

JUNCTION BOX
WIRING DIAGRAM

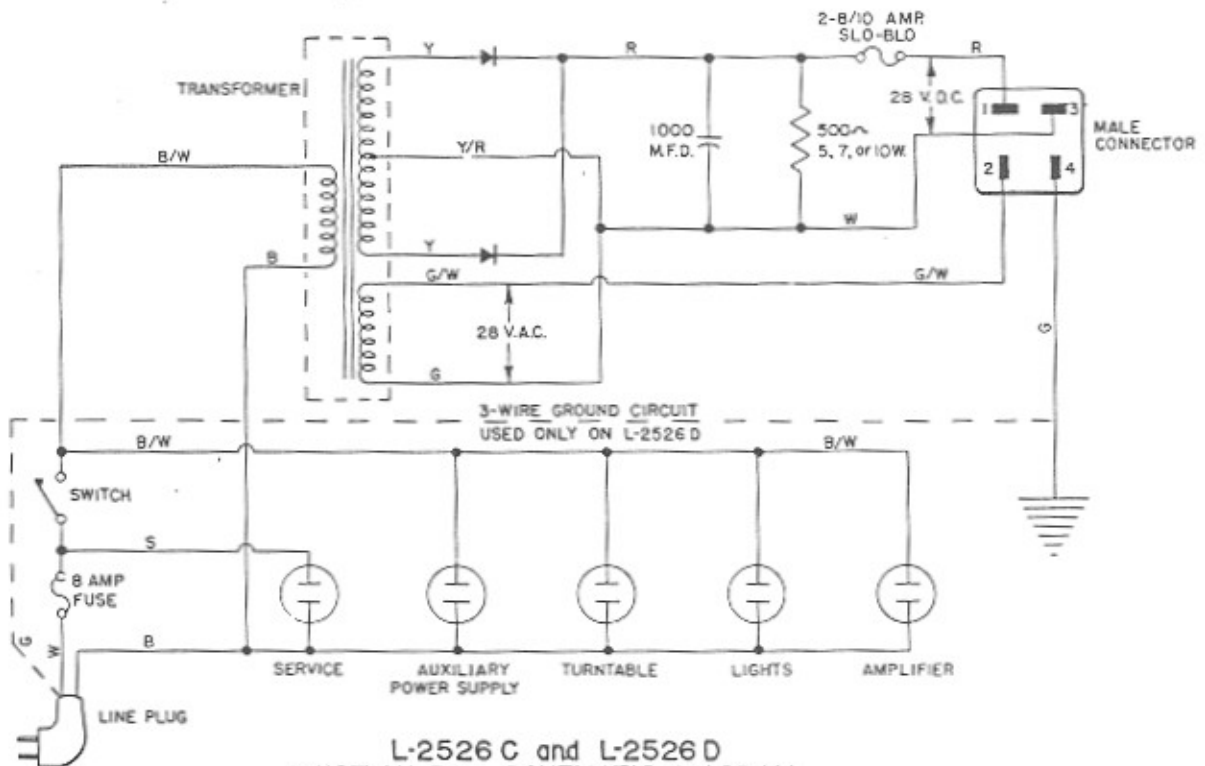
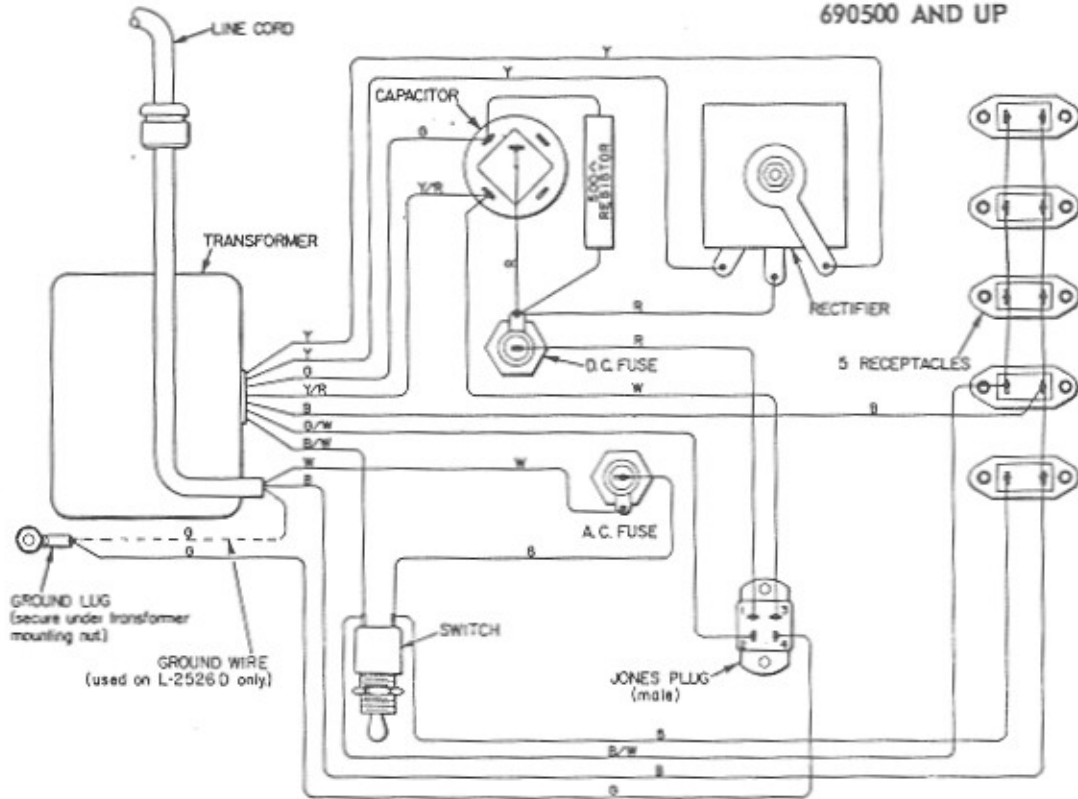


L-2526A and L-2526B
JUNCTION BOX
SCHEMATIC DIAGRAM

L-2526C and L-2526D
JUNCTION BOX
WIRING DIAGRAM

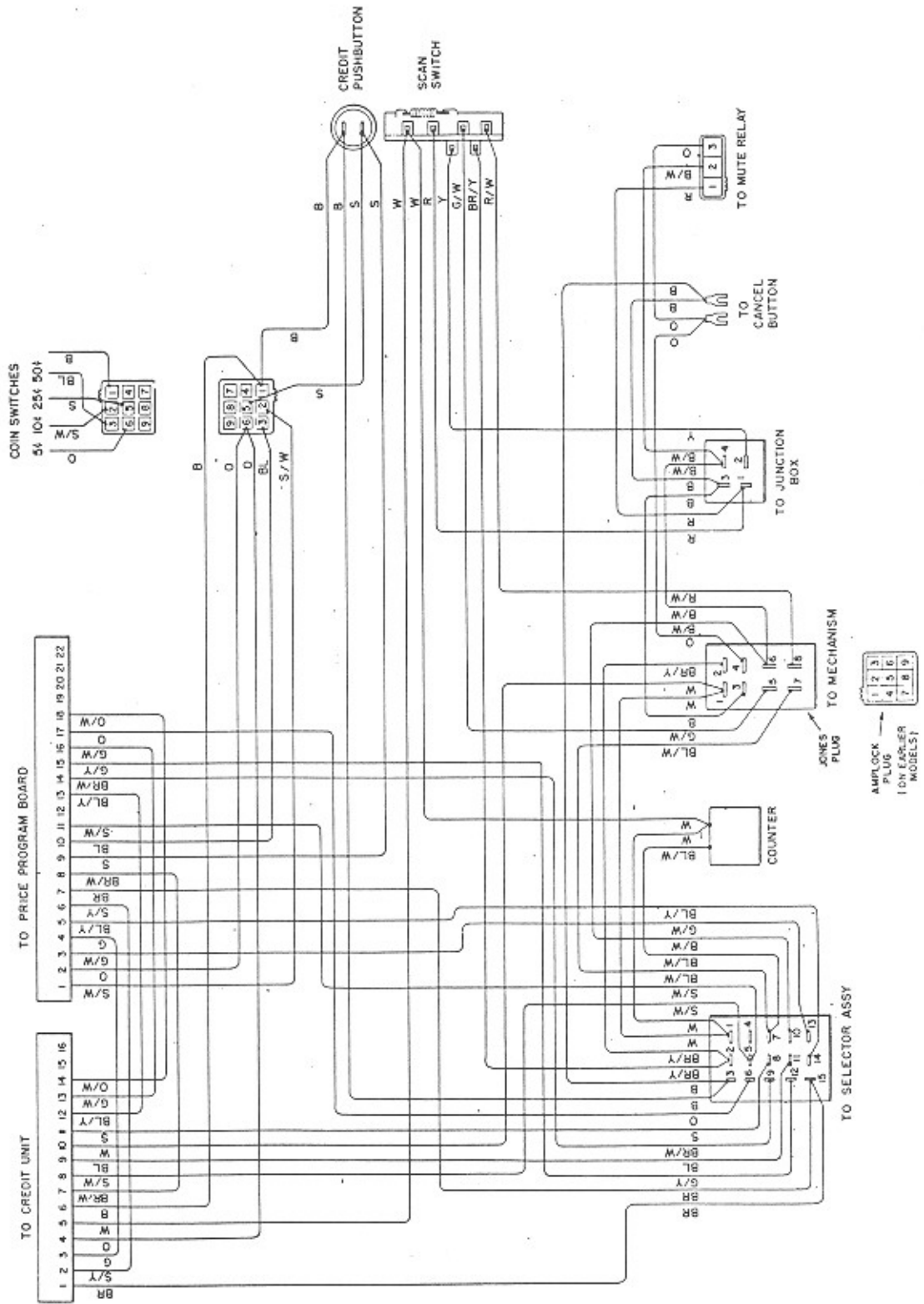
JUNCTION BOX

FOR PHONO SERIAL NO.
690500 AND UP

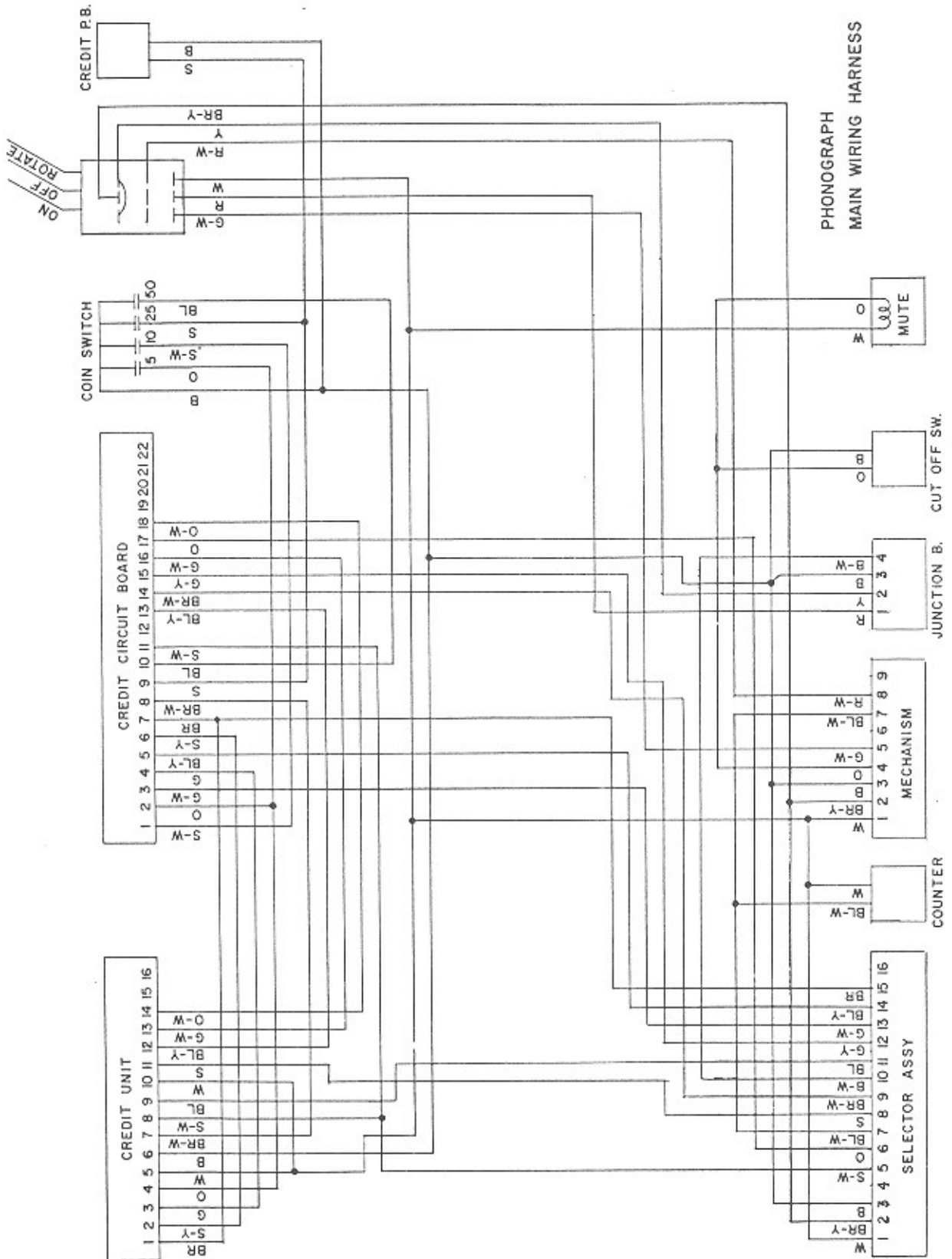


L-2526C and L-2526D
JUNCTION BOX SCHEMATIC DIAGRAM

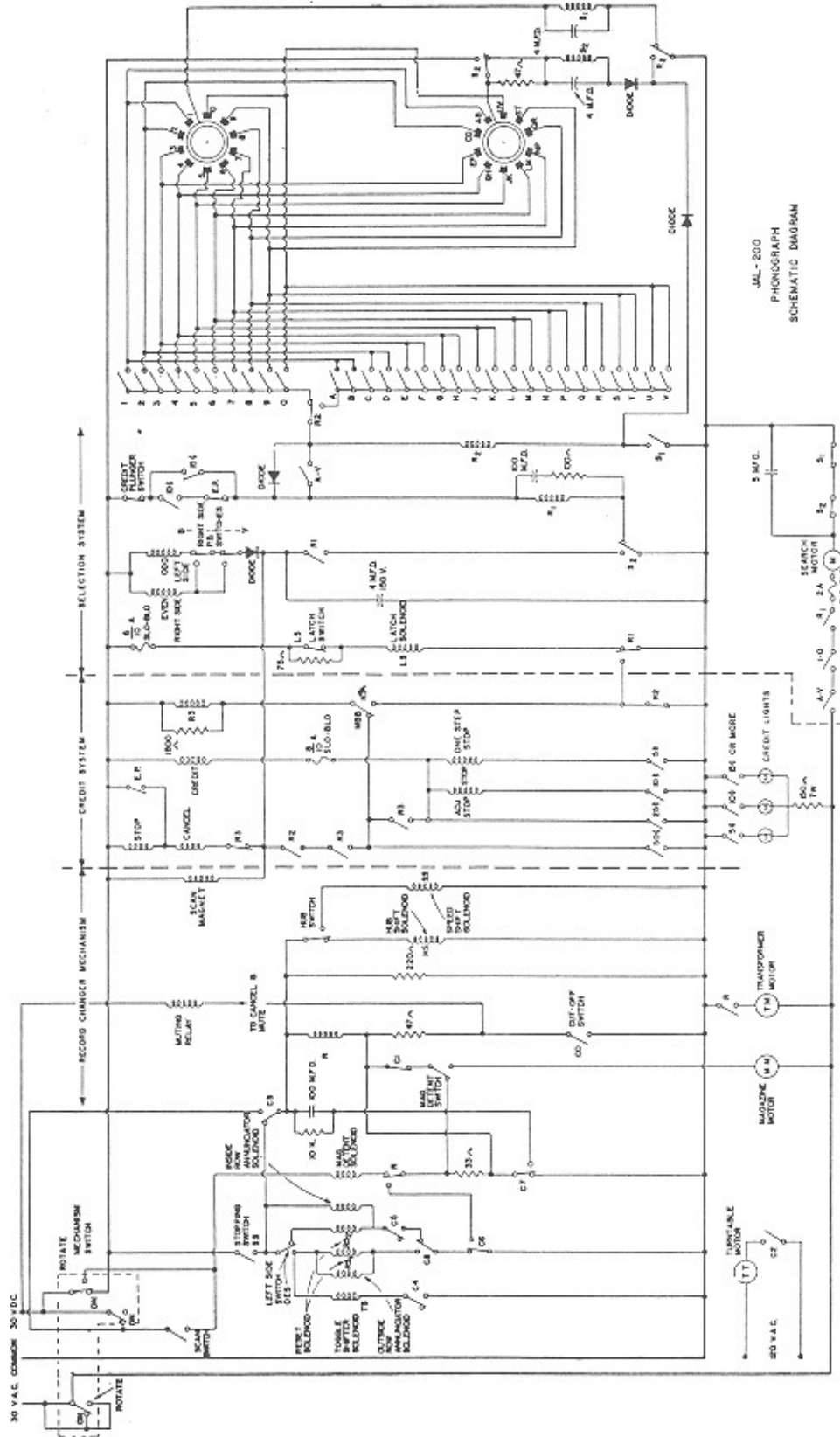
PHONOGRAPH MAIN WIRING HARNESS



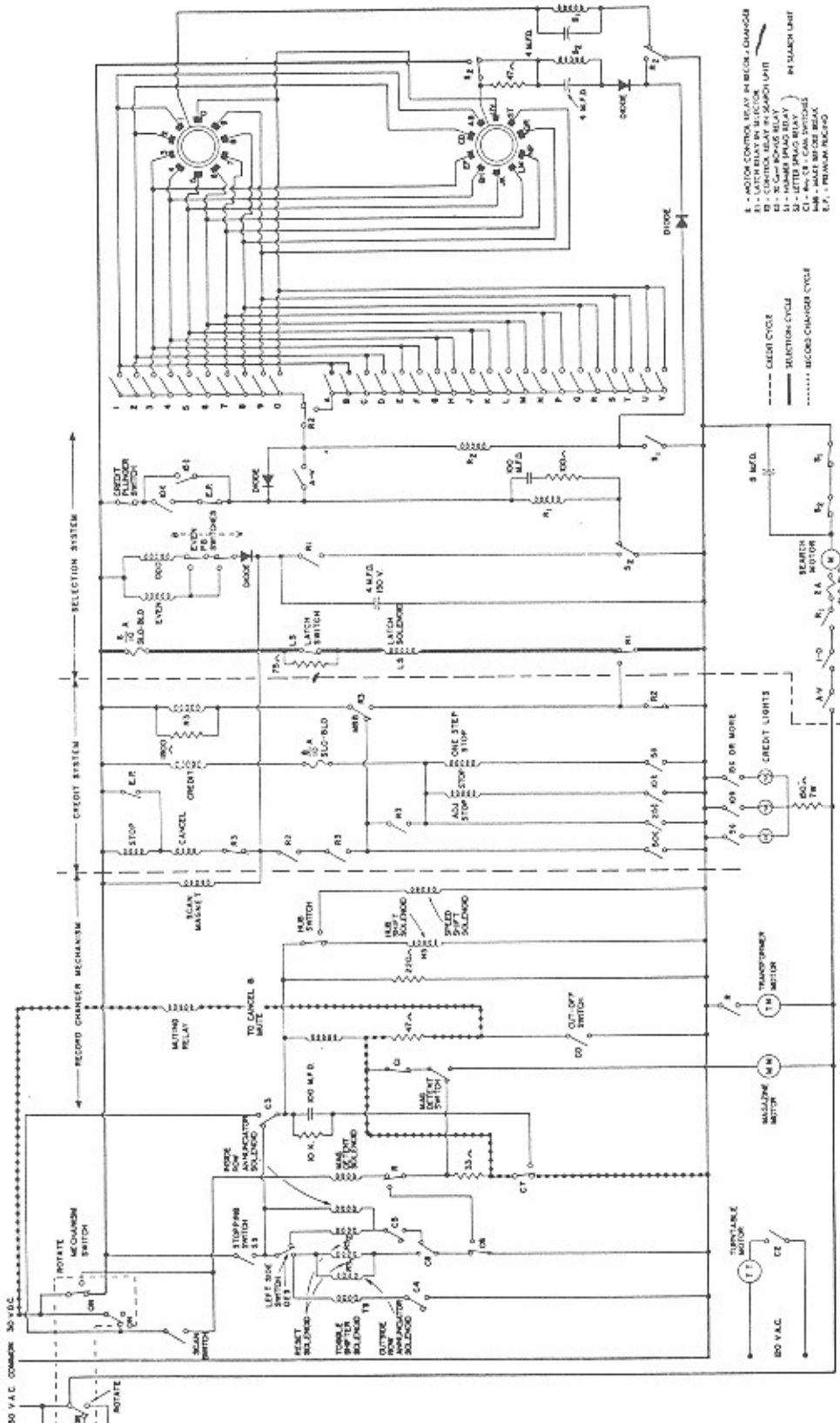
PHONOGRAPH MAIN WIRING HARNESS



PHONOGRAPH SCHEMATIC

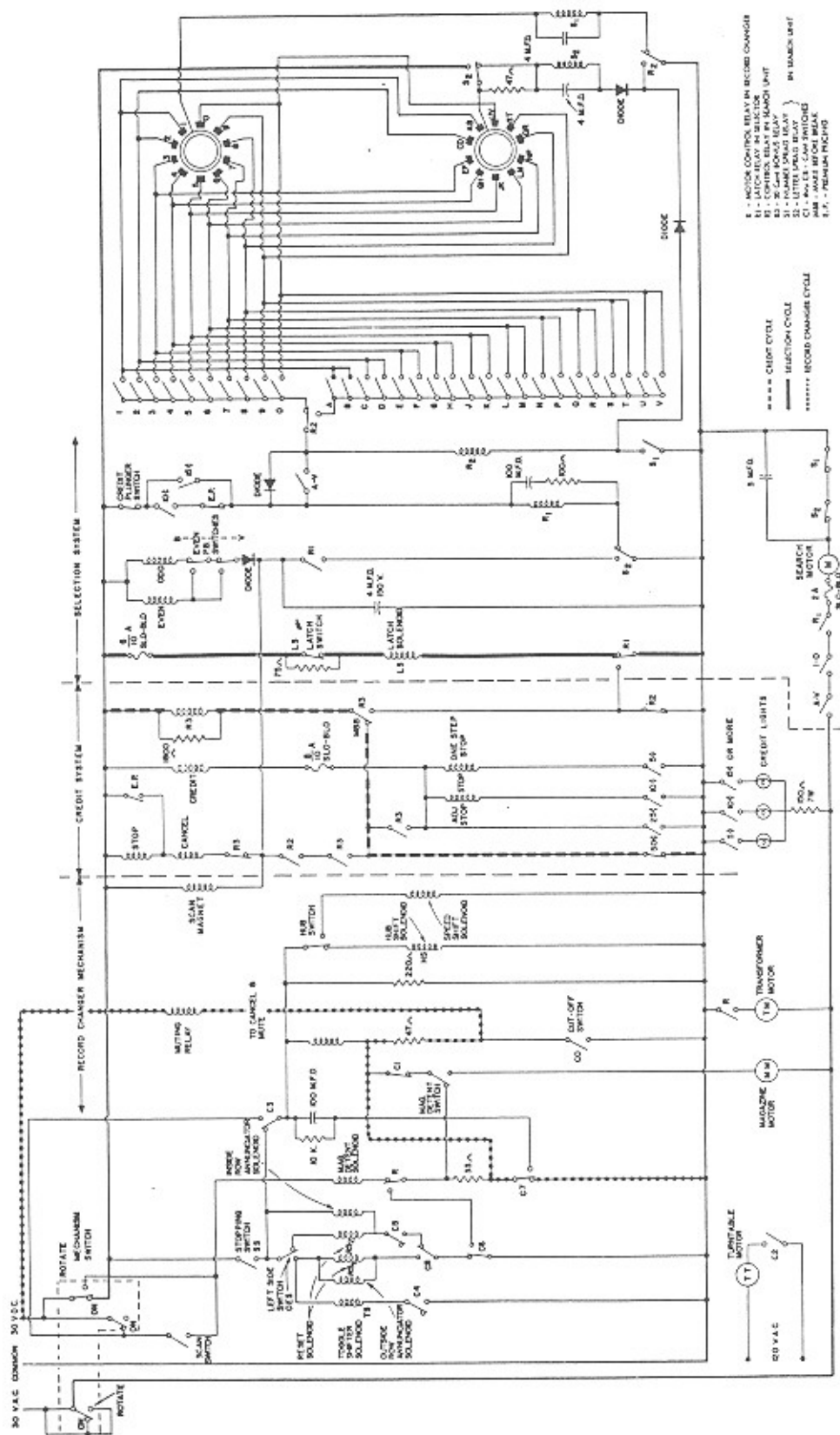


CYCLE OF OPERATION



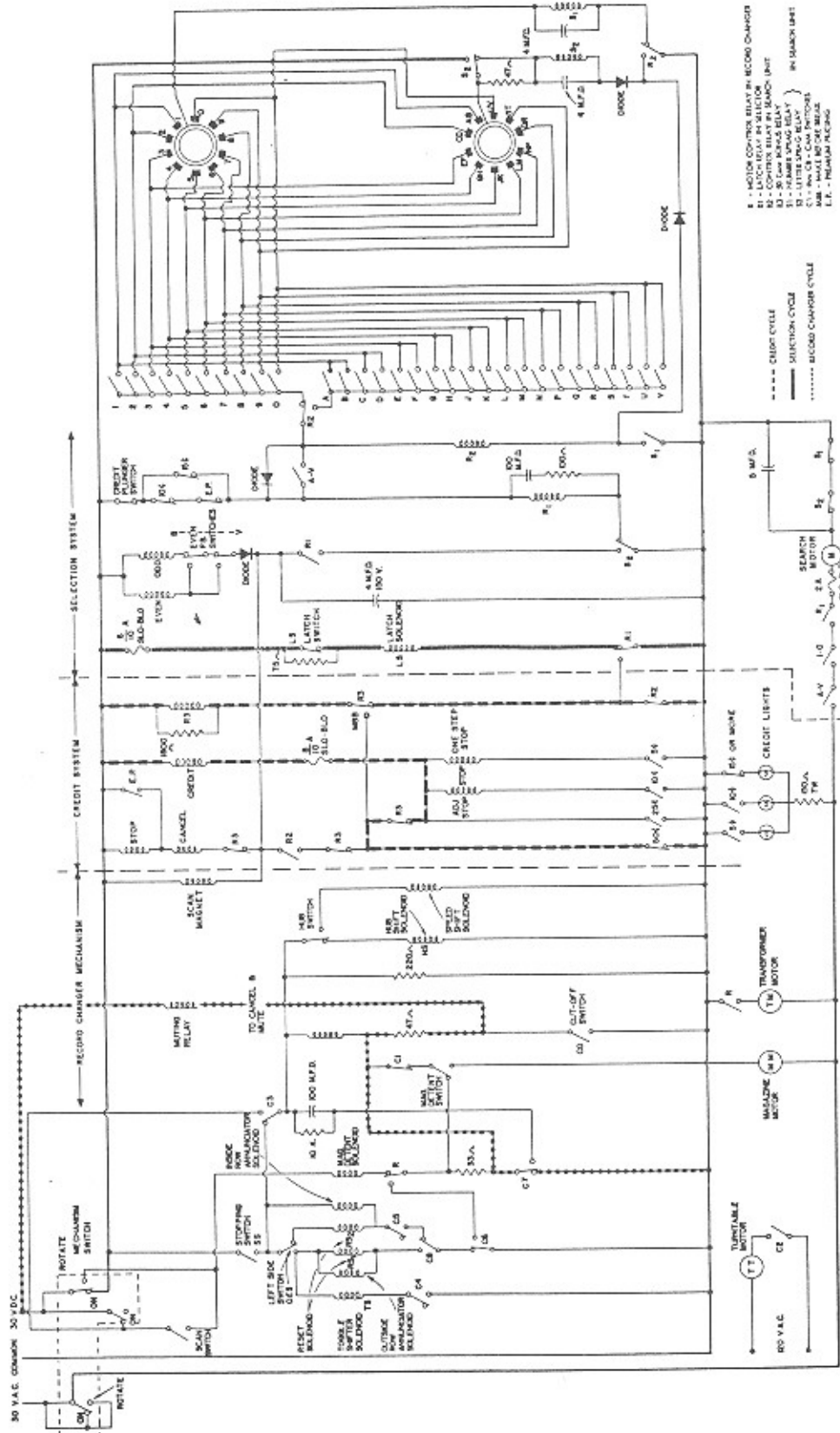
1 The Phonograph in the rest position. Mute Relay energized.

1

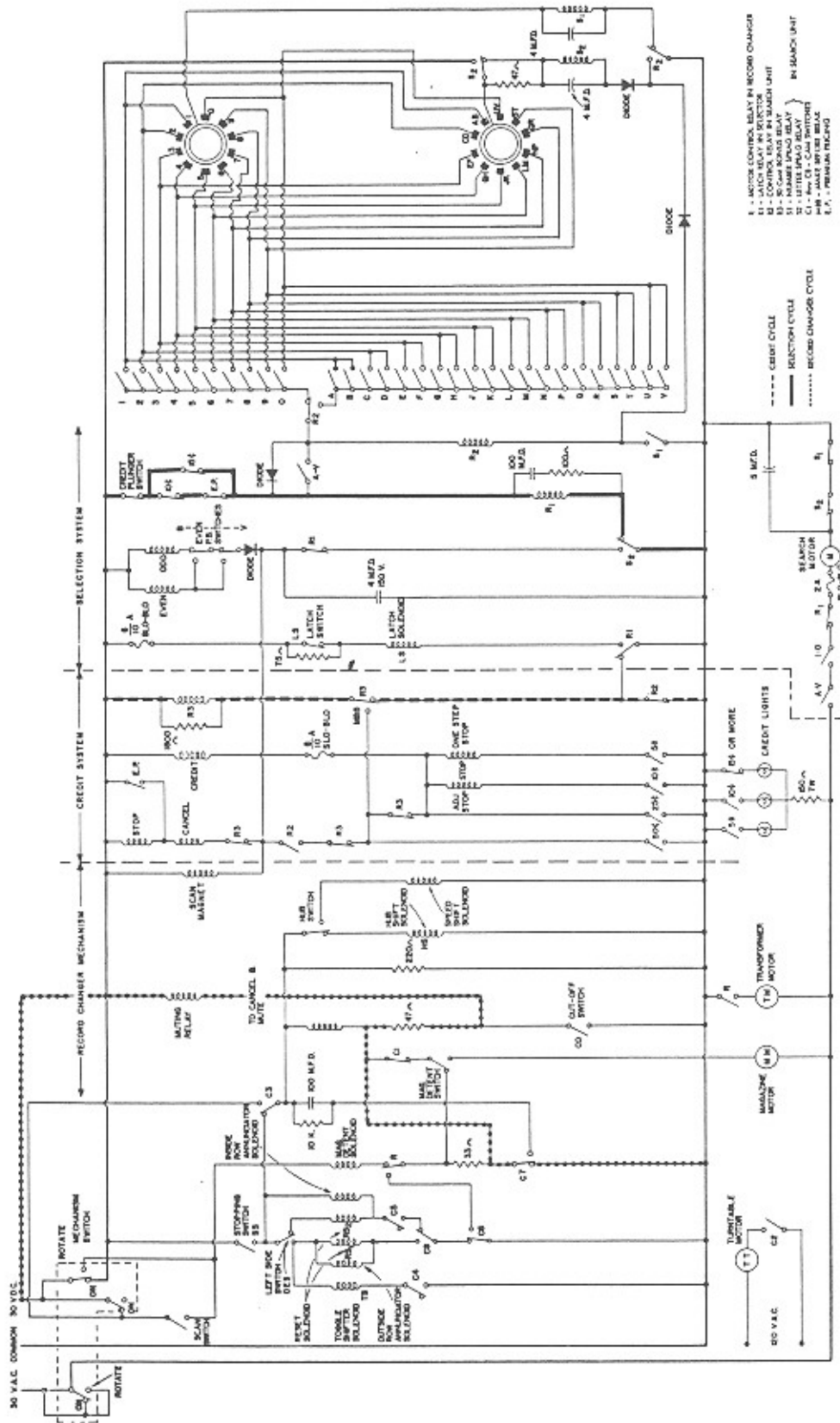


Mute Relay energized. 50¢ Coin deposited. 50¢ Coin Switch closed. R3 energized. Latch Solenoid energized.

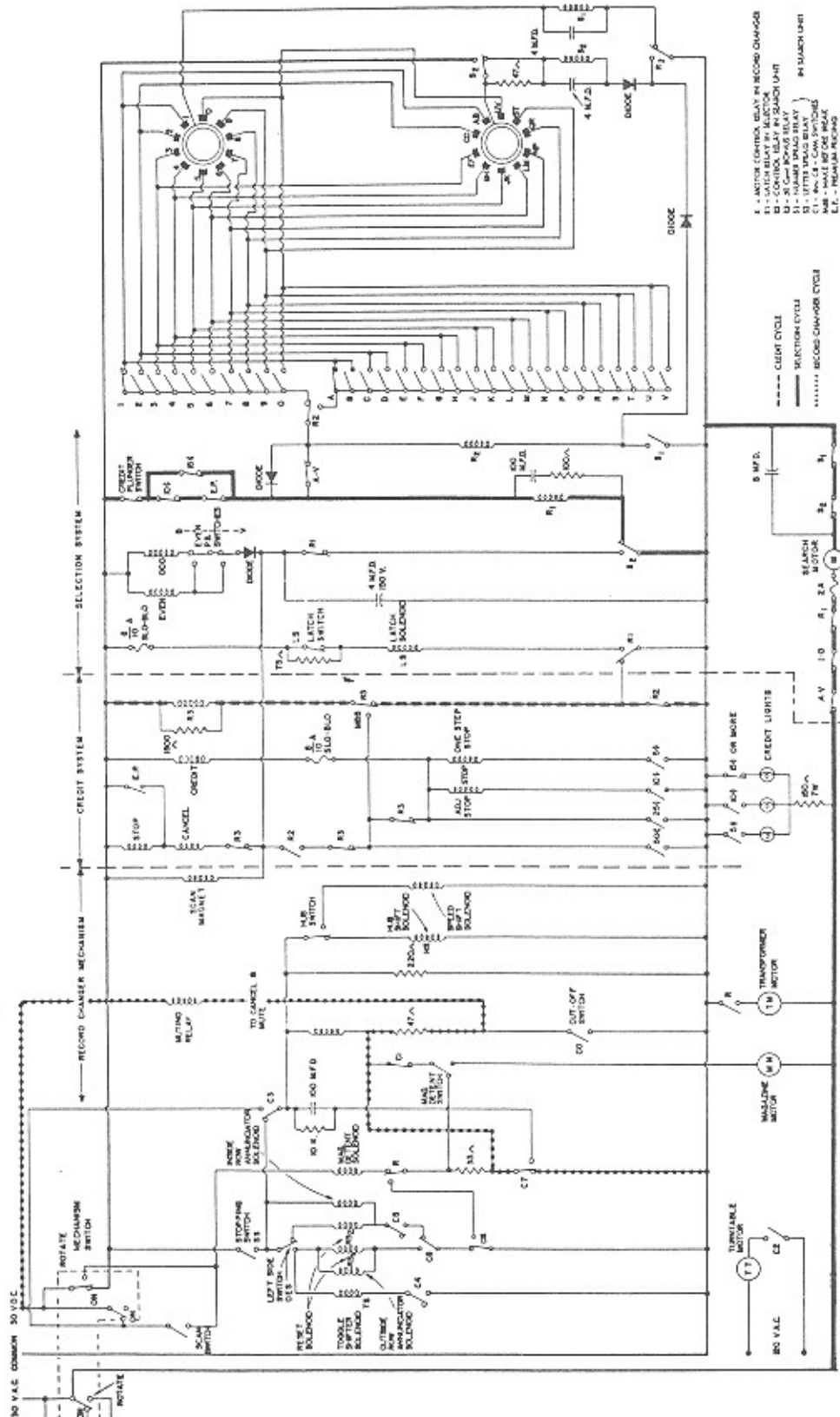
2



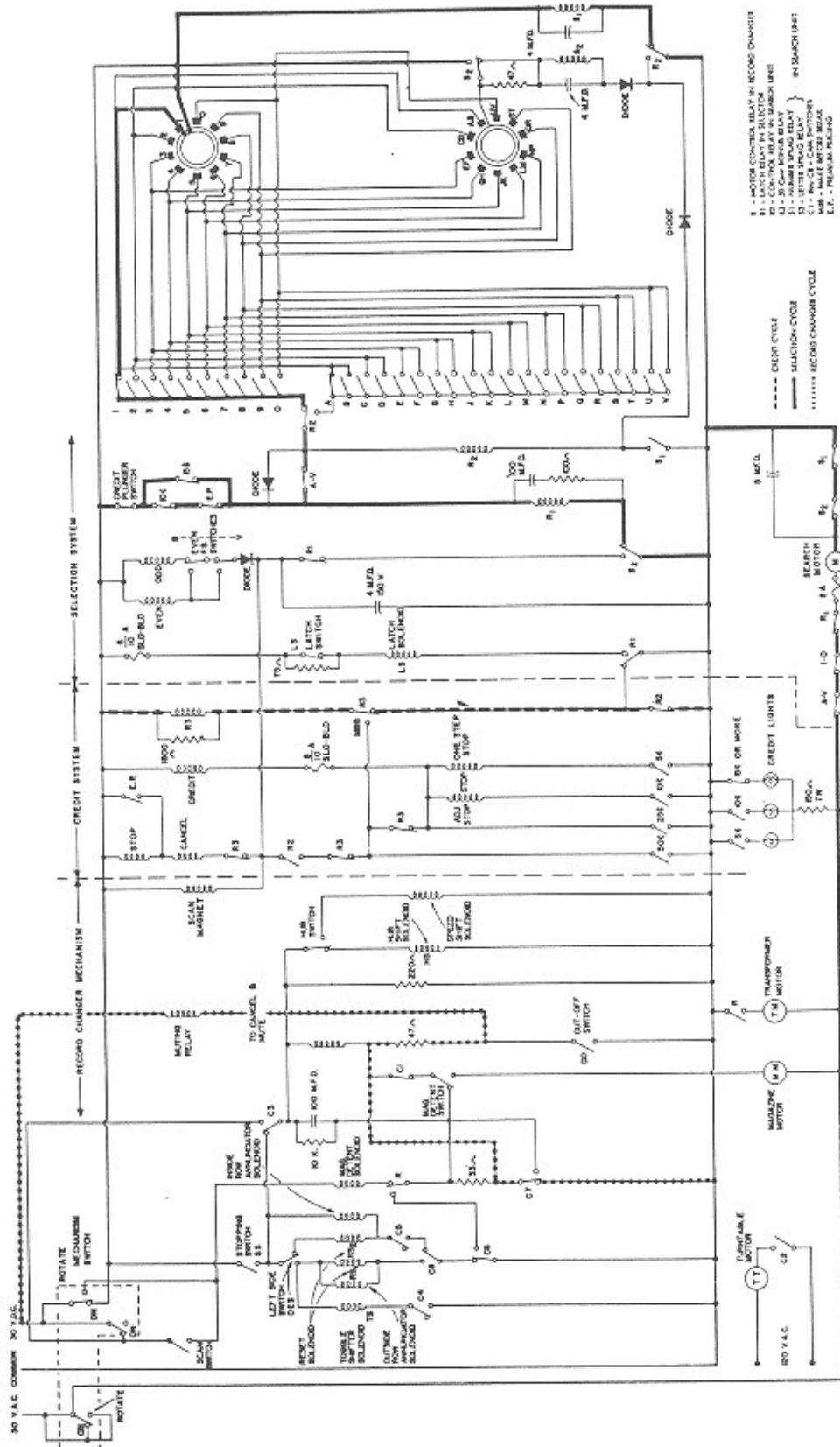
Mute Relay energized. Latch Solenoid energized. R3 pulls in. While 50¢ Switch is still closed, a pulse is sent to Credit Coil. Credit Switch Closes.



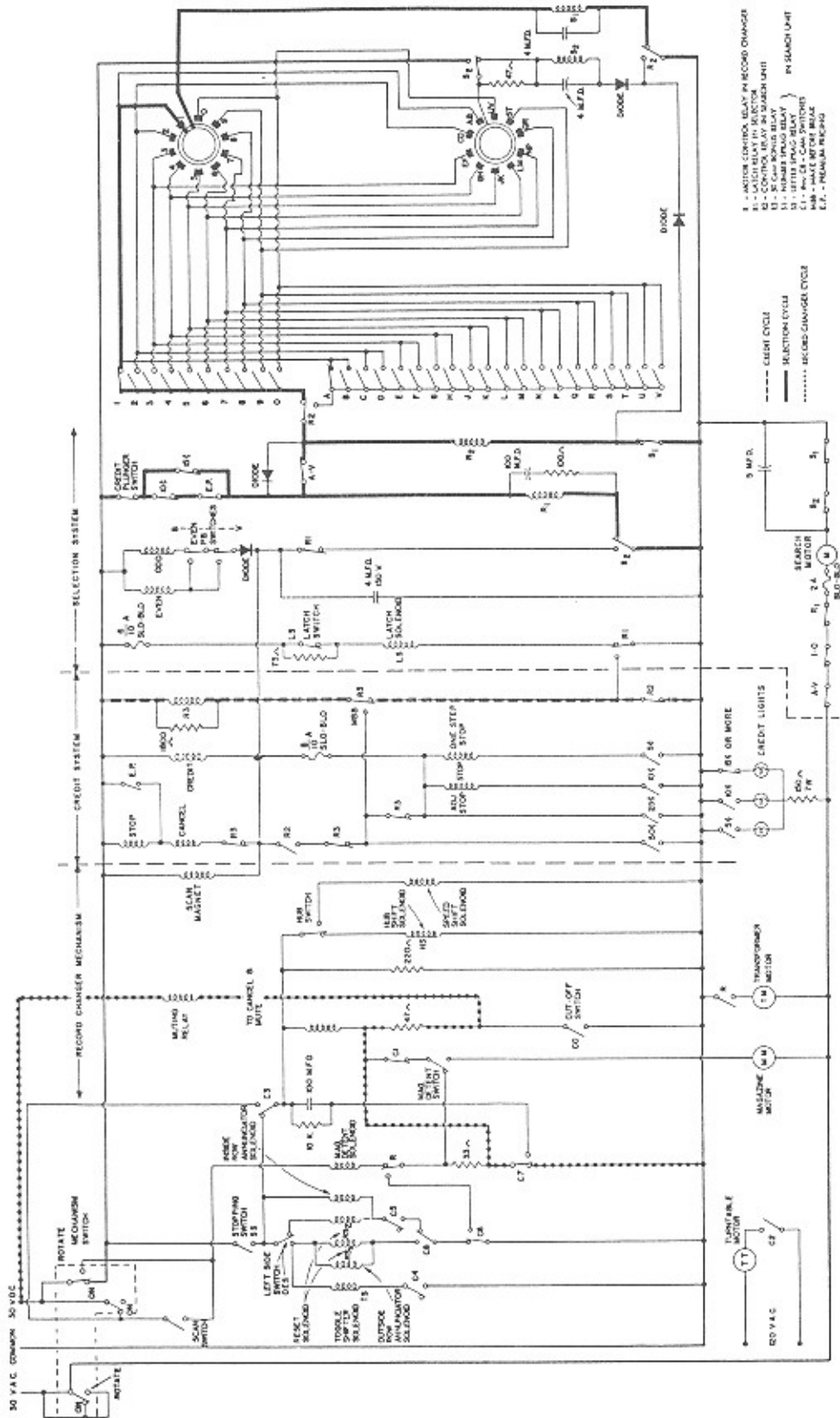
Mute Relay energized. 50¢ Coin Switch opens. R3 remains energized. Closing Credit Switch energizes R1. Energized R1 de-energizes Latch Solenoid. Push Buttons will now latch-in.



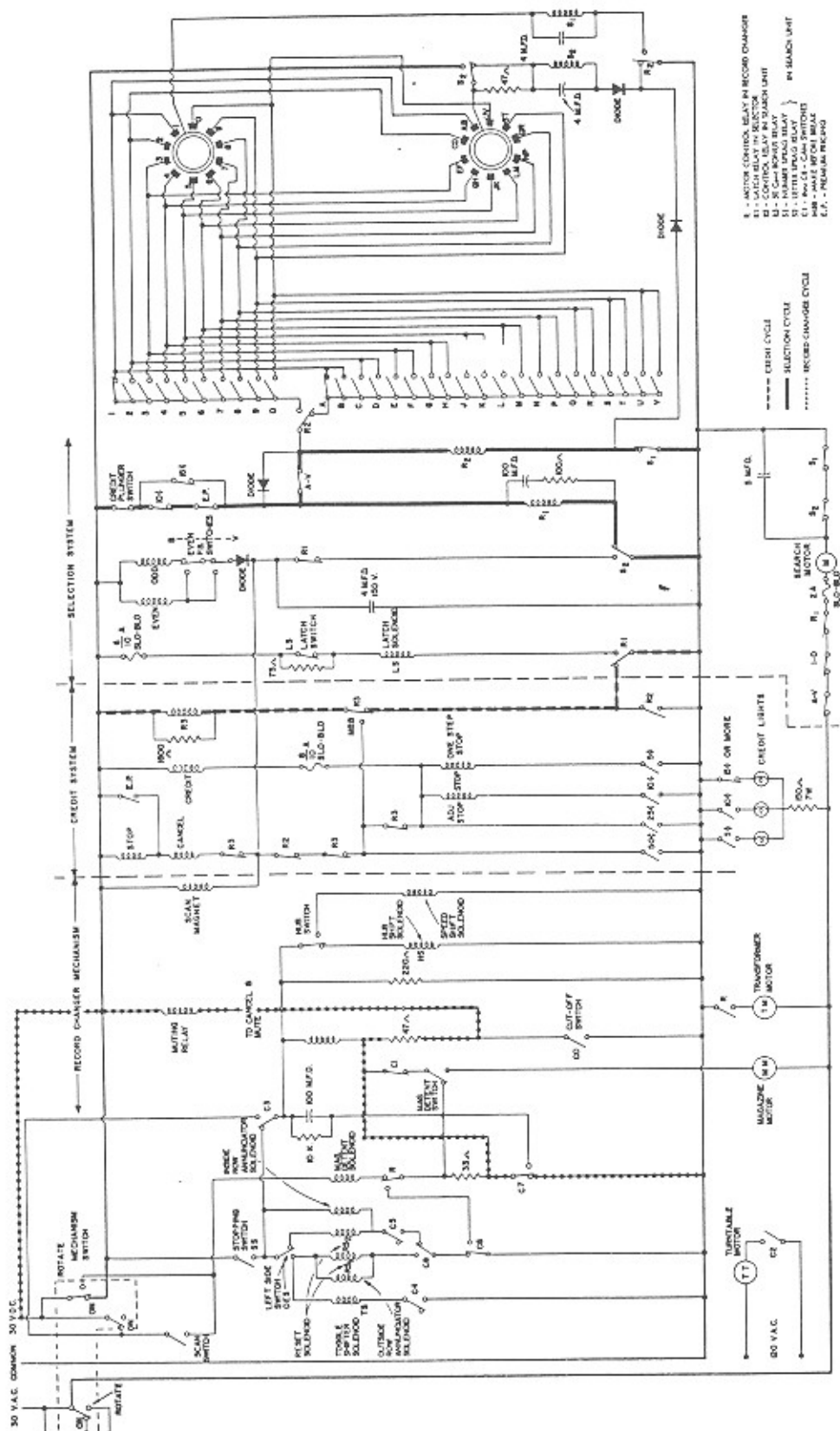
Mute Relay energized. R3 remains energized. R1 remains energized. Selector Buttons "A" and "1" are depressed. Search Motor starts. Search Wipers search for hot "A" contacts.



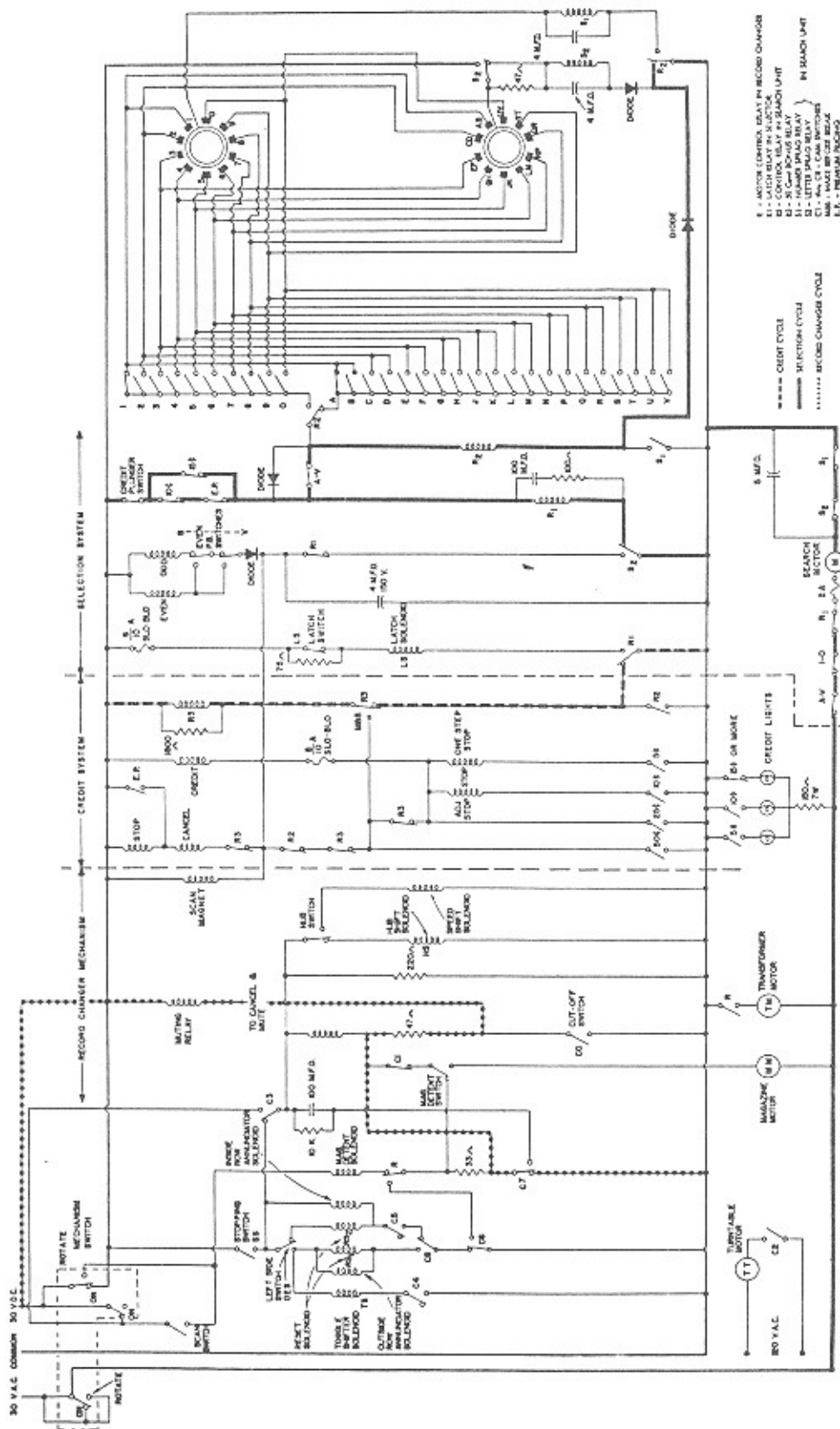
Mute Relay energized. R3 remains energized. R1 remains energized. Letter Search Wiper locates and stops on hot "A" segment. S1 becomes energized.



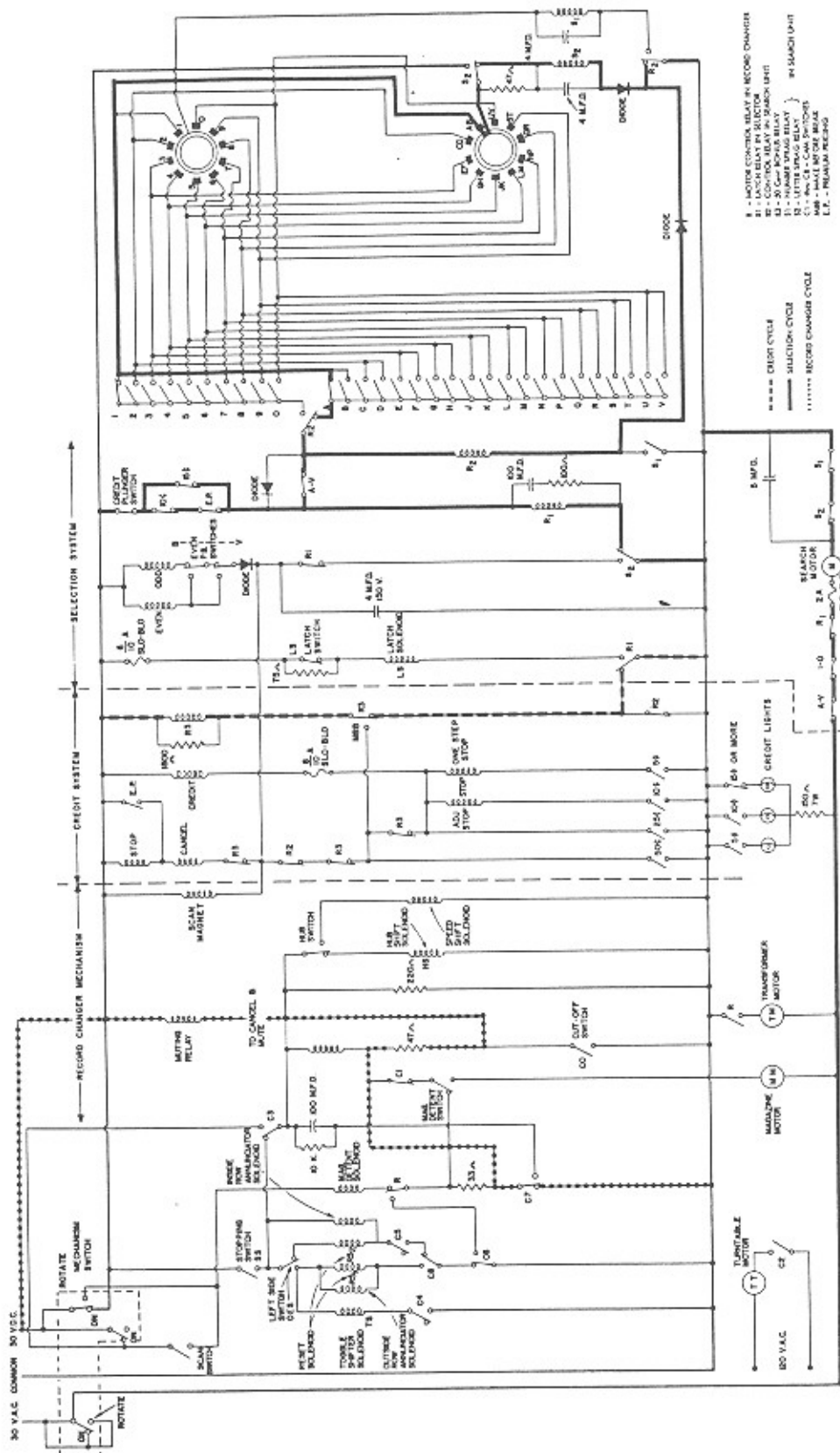
7 Mute Relay energized. R3 energized. R1 energized. S1 pulls in, shutting off the Search Motor and energizing R2.



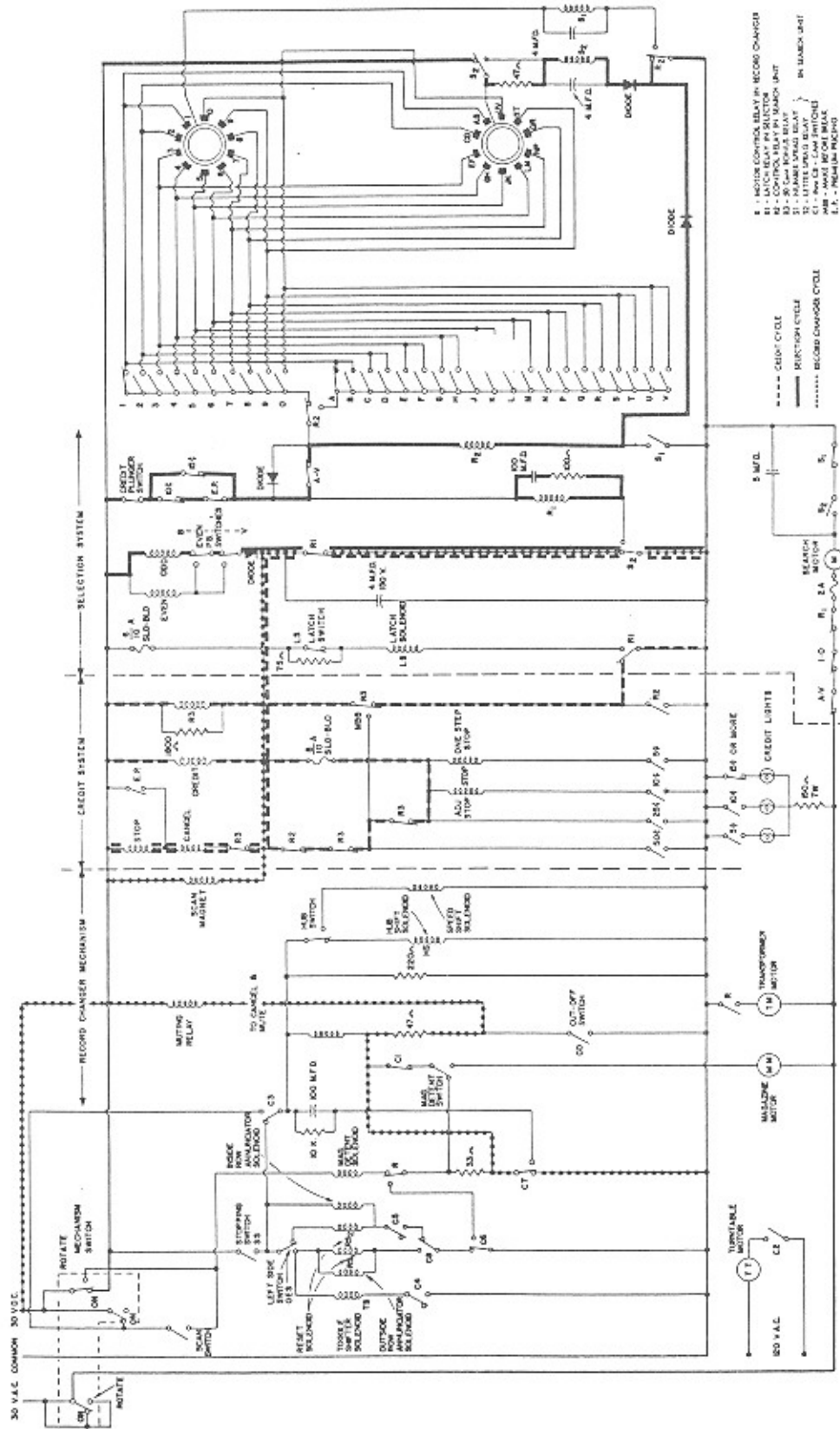
Mute Relay energized. R3 energized. R1 energized. R2 picks up and de-energizes S1. R3 now holds in through the contacts of R1.



Mute Relay energized. R3 energized. R1 energized. S1 falls out, starting the Search Motor again. R2 holds in through its own contacts.



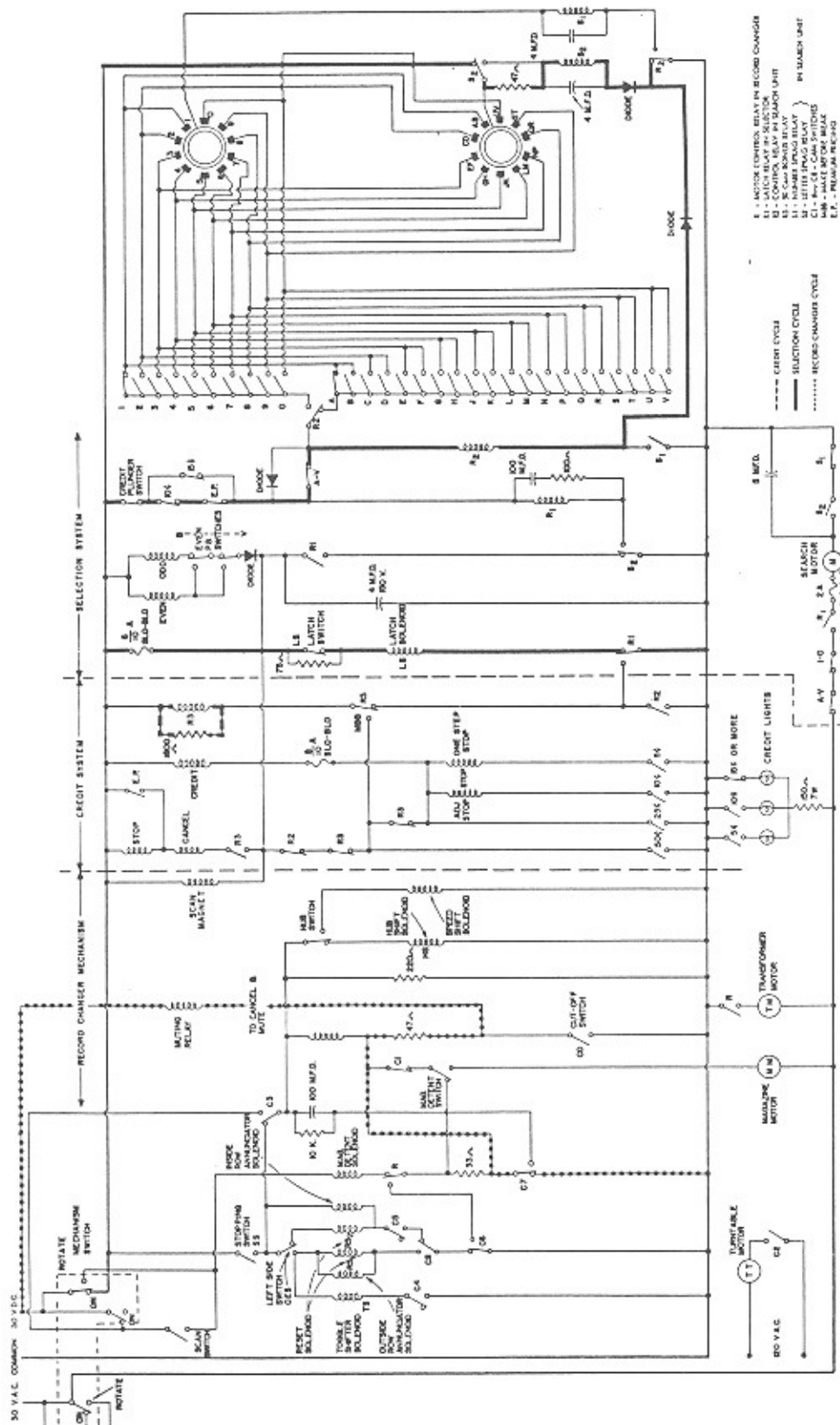
Mute Relay energized. R3 energized. R1 energized. R2 energized. Search Motor rotates the Number Wiper until it finds segment "1-2". This energizes S2.



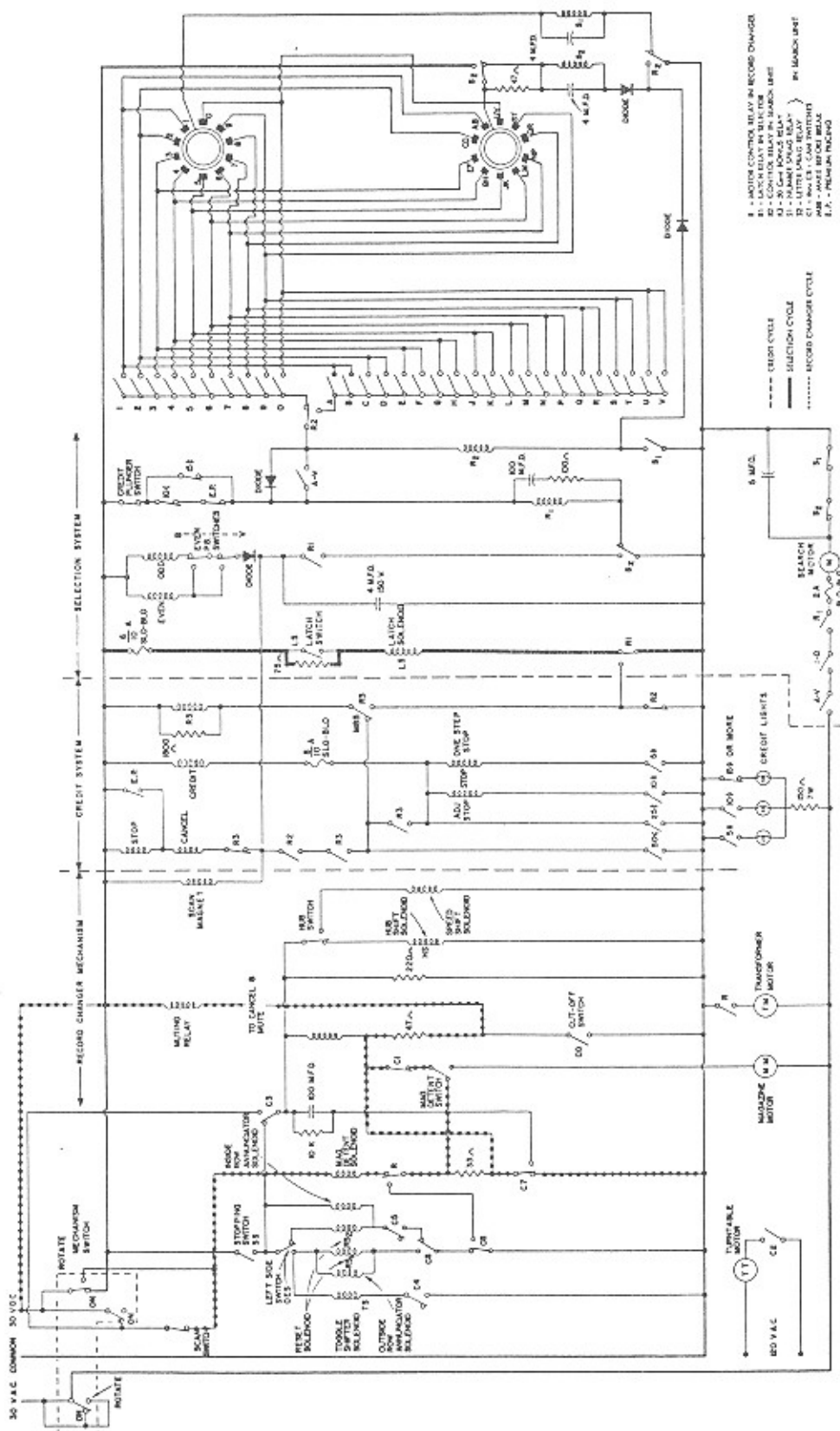
Magnet is energized. Credit Coil is energized again, giving another 25¢ credit (If R3 had not been energized, no extra credit would have been given at this point, instead, credit would be removed by the Cancel Coil as shown by the dotted line).

Mute Relay energized. R3 energized. R2 energized. S2 pulls in and causes the following: The Search Motor is shut off. R1 is shut off, but holds in because of its time delay network. The "left" Pin Pusher coil is energized (if "right" Number Pushbutton had been depressed, a "right" Pin Pusher coil would be energized). The Scan

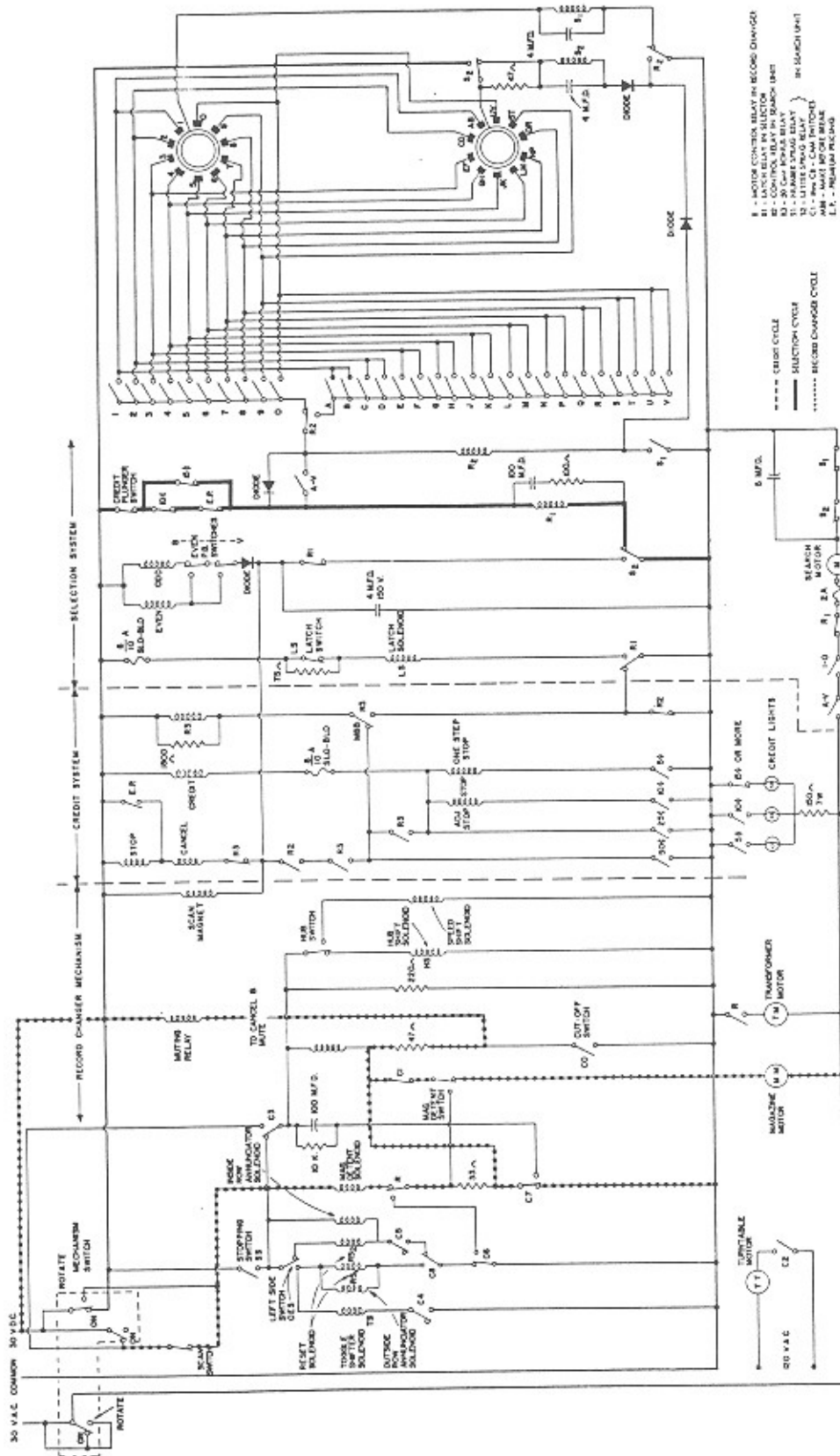
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Mute Relay energized. R2 energized. S2 energized. R1 drops out, causing the following: The "left" Pin Pusher coil is de-energized. The Credit Coil (or Cancel Coil as shown in the preceding diagram) is de-energized. R3 is de-energized. The Scan Magnet is de-energized. The Latch Solenoid is energized.

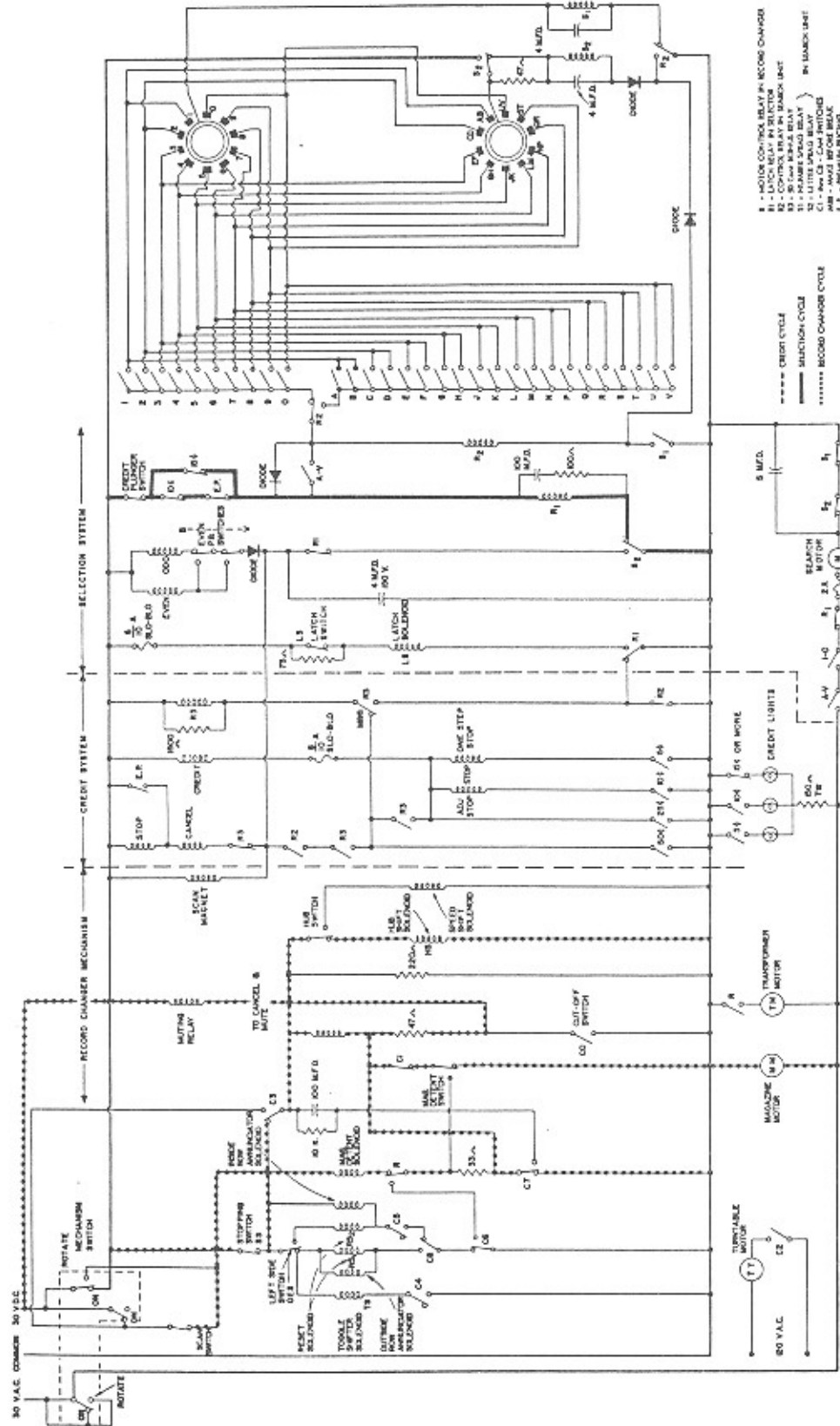


Mute Relay energized. Latch Solenoid pulls in, releasing pushbuttons. This de-energizes R2 which falls out, and de-energizes S2. The Scan Switch being closed by the Scan Magnet, energizes the Magazine Detent Solenoid.



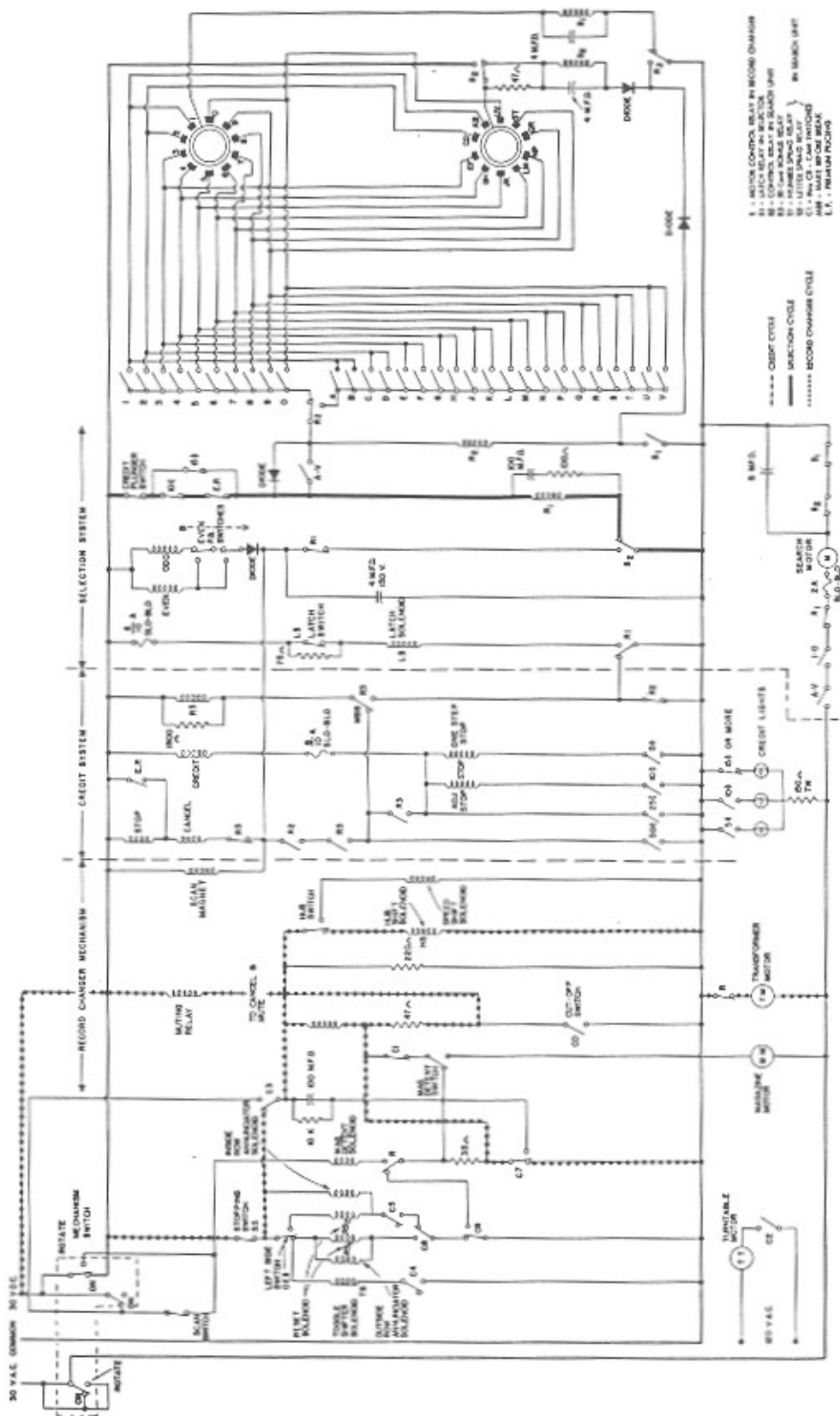
The Magazine Detent Solenoid pulls in, releasing the Magazine and operating the Detent Switch. This starts the Magazine Motor. The Detent Solenoid holds in through the 33 ohm resistor in the circuit.

Mute Relay energized. When S2 falls out, R1 is again energized because of the Credit Switches remaining closed. R1 de-energizes the Latch Solenoid, and the Selector is now ready for the next selection to be made.

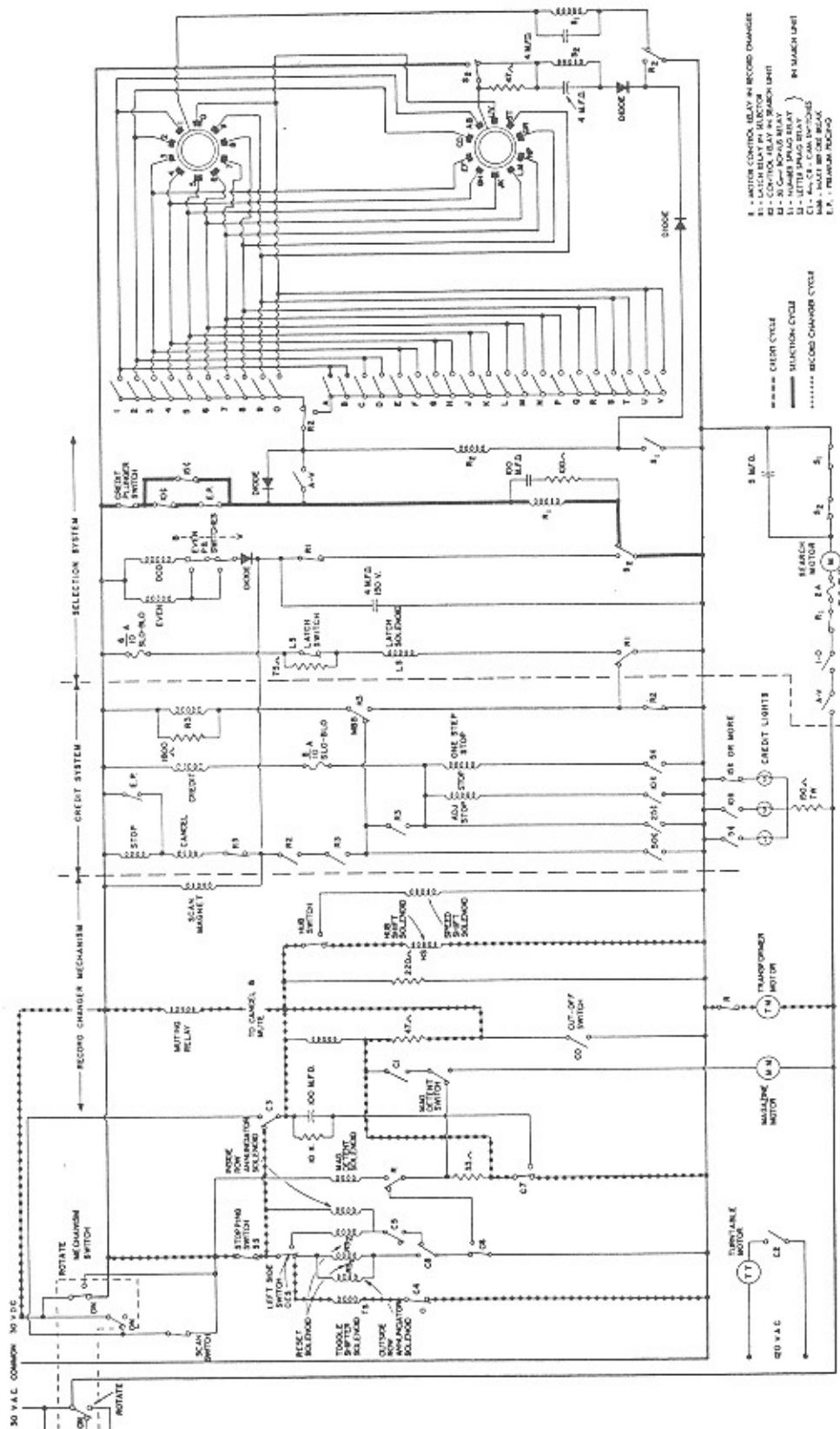


Mute Relay energized. Detent Solenoid energized. Magazine Motor running. R1 energized. The Magazine will rotate until the "left-right" Switch (LR) and Stopping Switch (SS) are operated. The "LR" will operate first.

The SS energizes the Motor Relay in the Record Changer (R), and the Turn Table Hub Solenoid. The Hub Solenoid drops the 45 RPM Hub.

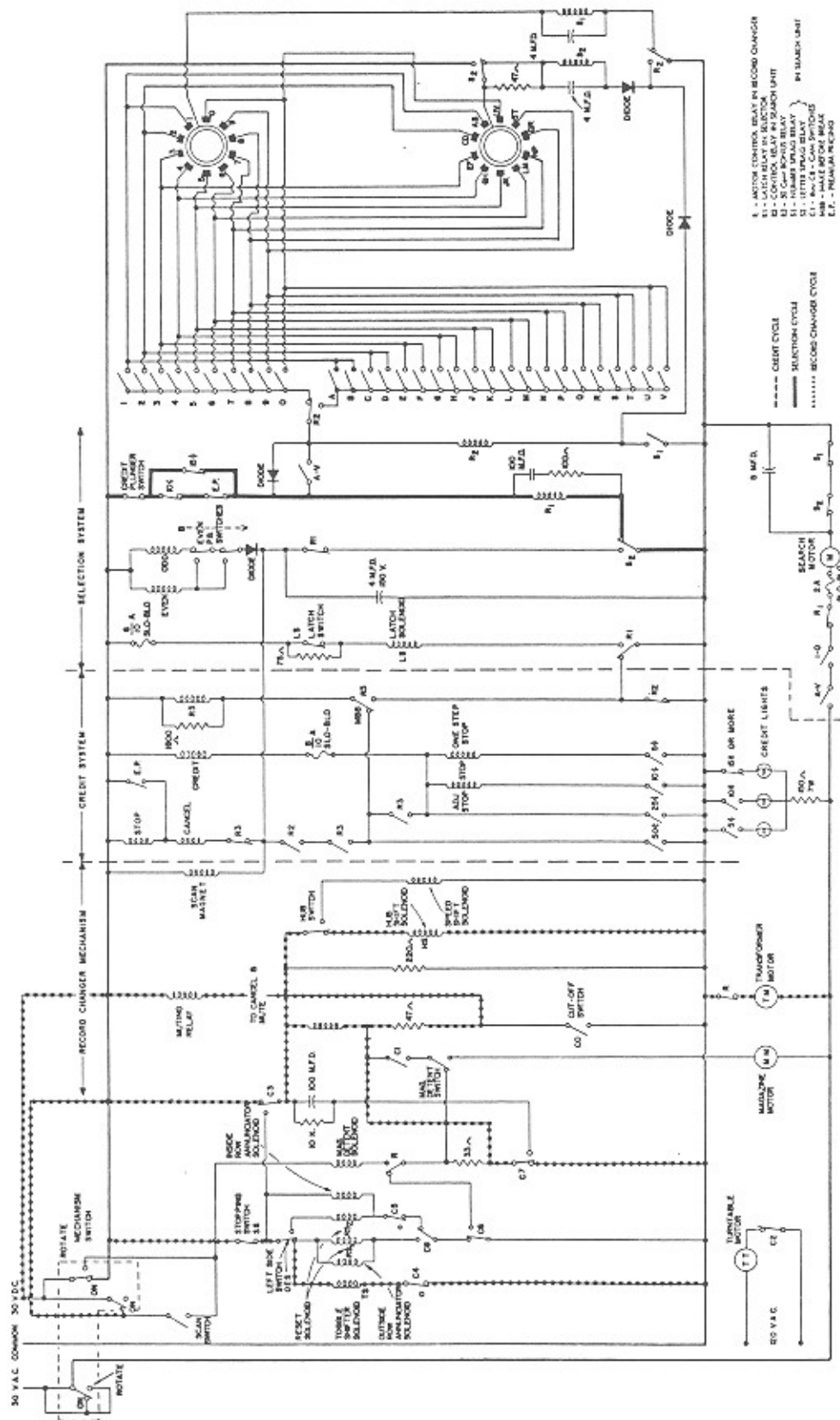


Mute Relay energized. Motor Relay energized. Hub Solenoid energized. R1 energized. R pulls in, de-energizing the Detent Solenoid and starting the Transfer Motor. The Magazine Detent locks the Magazine in place and operates the Detent Switch, which shuts off the Magazine Motor.



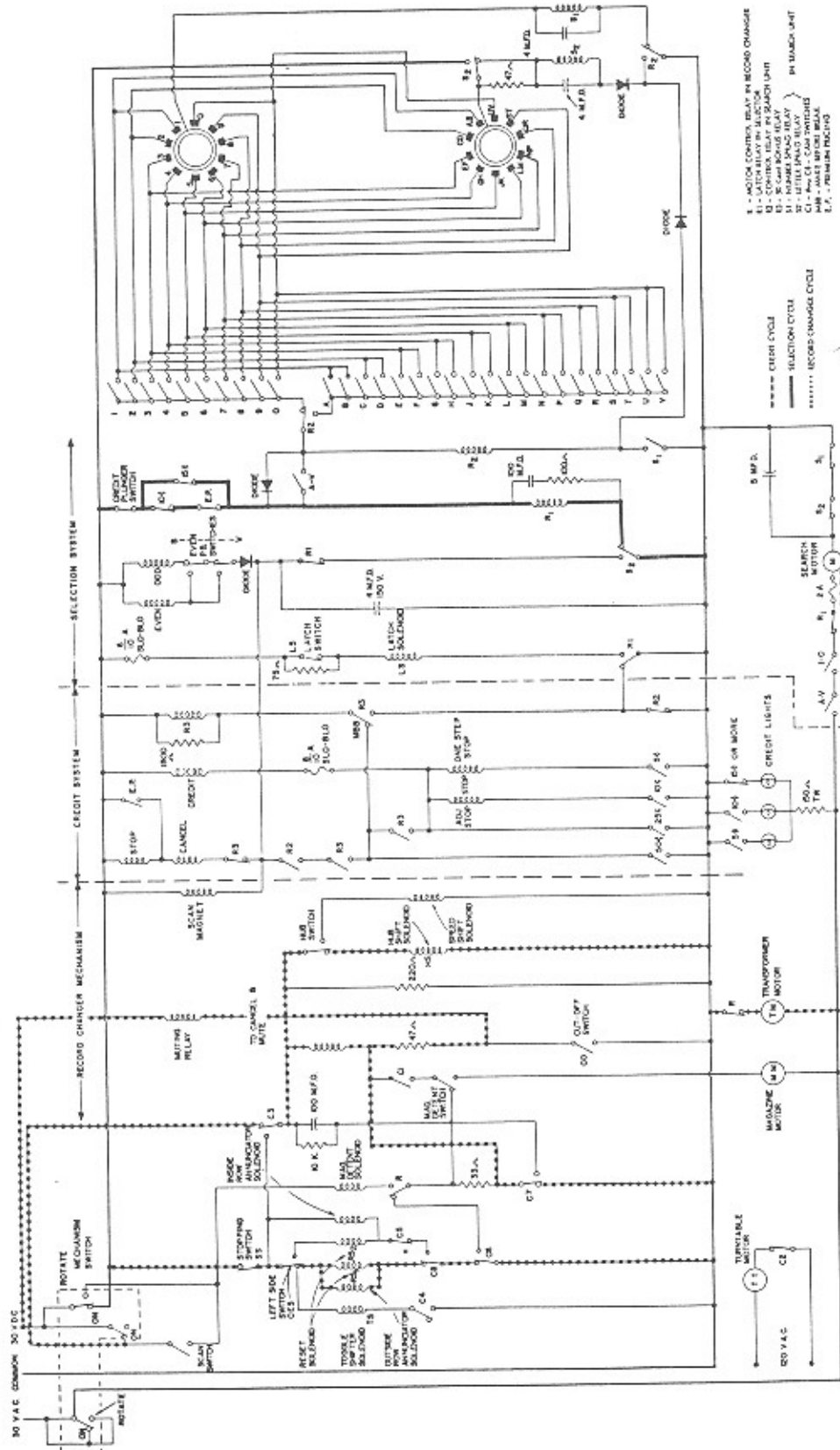
Mute Relay energized. R energized. Hub Solenoid energized. Transfer Motor running. R1 energized. The Transfer Motor begins to move the record toward the Turn Table. The Cam Switches begin to operate. C1 opens. C4 closes and energizes the Toggle Shifter Solenoid.

17

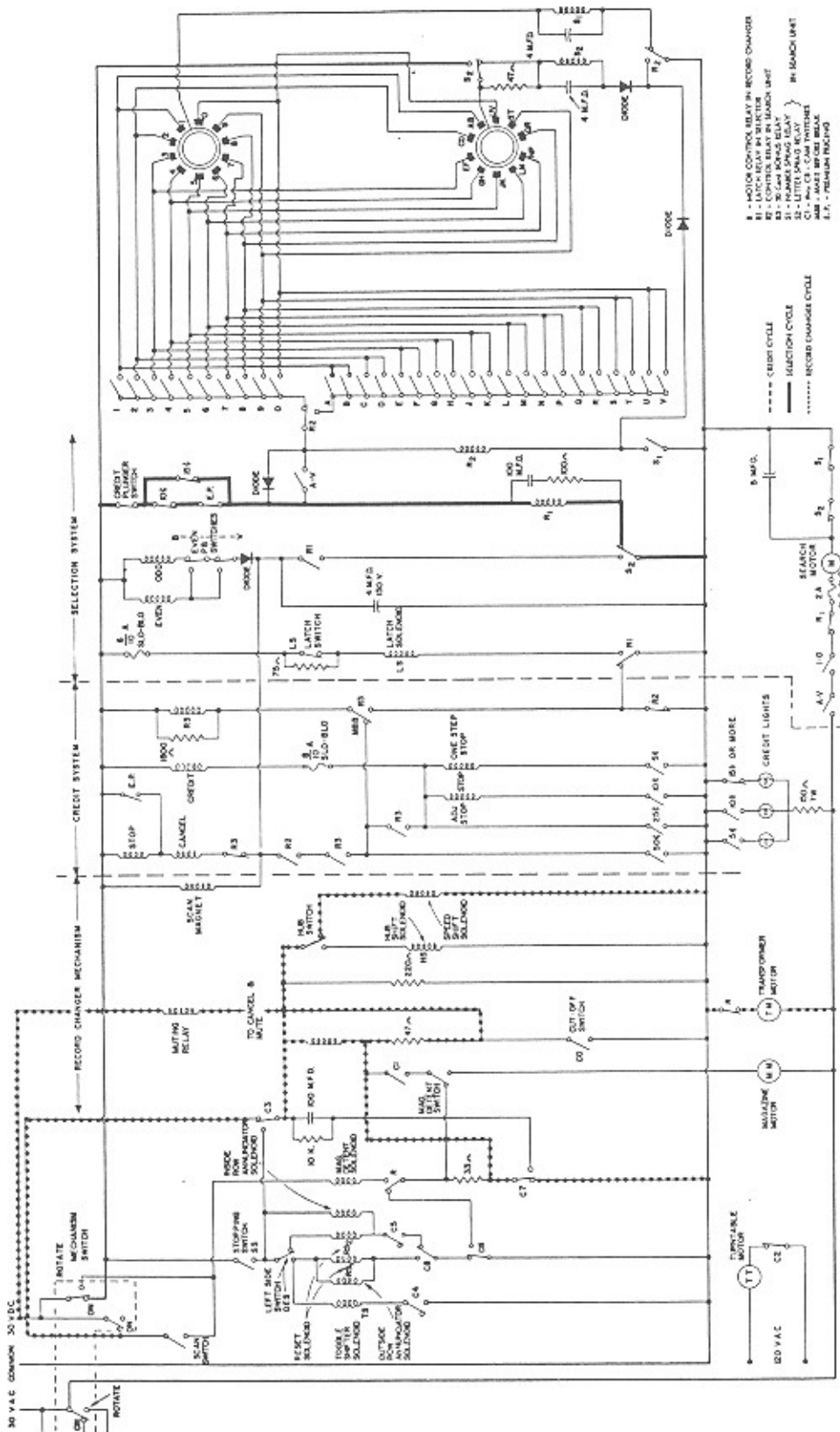


Mute Relay energized. R energized. Transfer Motor running. Hub Solenoid energized. Toggle Shifter Solenoid energized. R1 energized. C3 transfers its contacts, changing connections for R and the Hub Solenoid. C2

closes, starting the Turn Table Motor. C5 closes. C6 transfers its contacts and then transfers back. C4 opens and de-energizes the Toggle Shifter Solenoid.

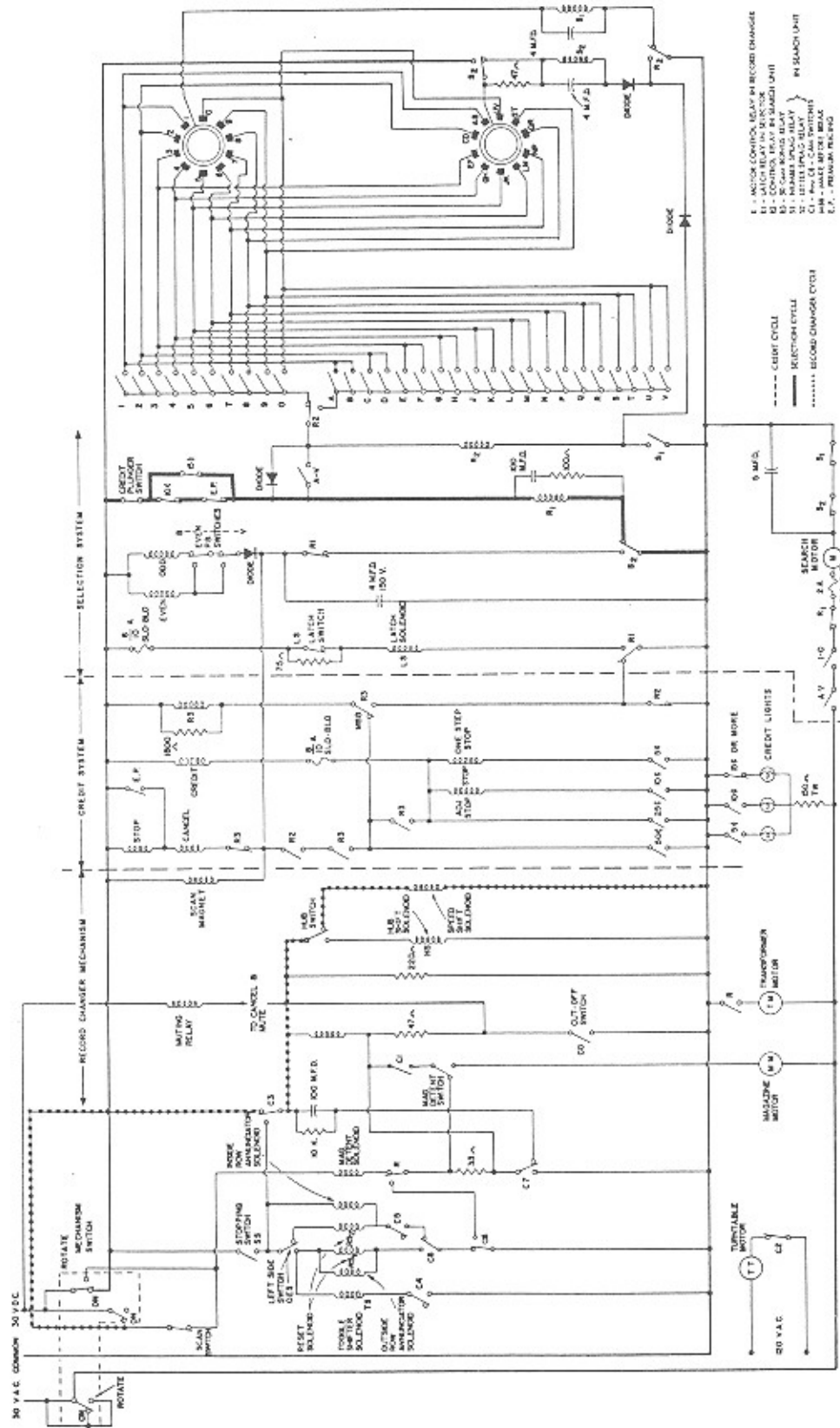


Mute Relay energized. R energized. Transfer Motor running. Hub Solenoid energized. Turn Table Motor running. R1 energized. C8 transfers its contacts, energizing RS1 (Reset Solenoid). RS1 resets the Pin representing the selected record.

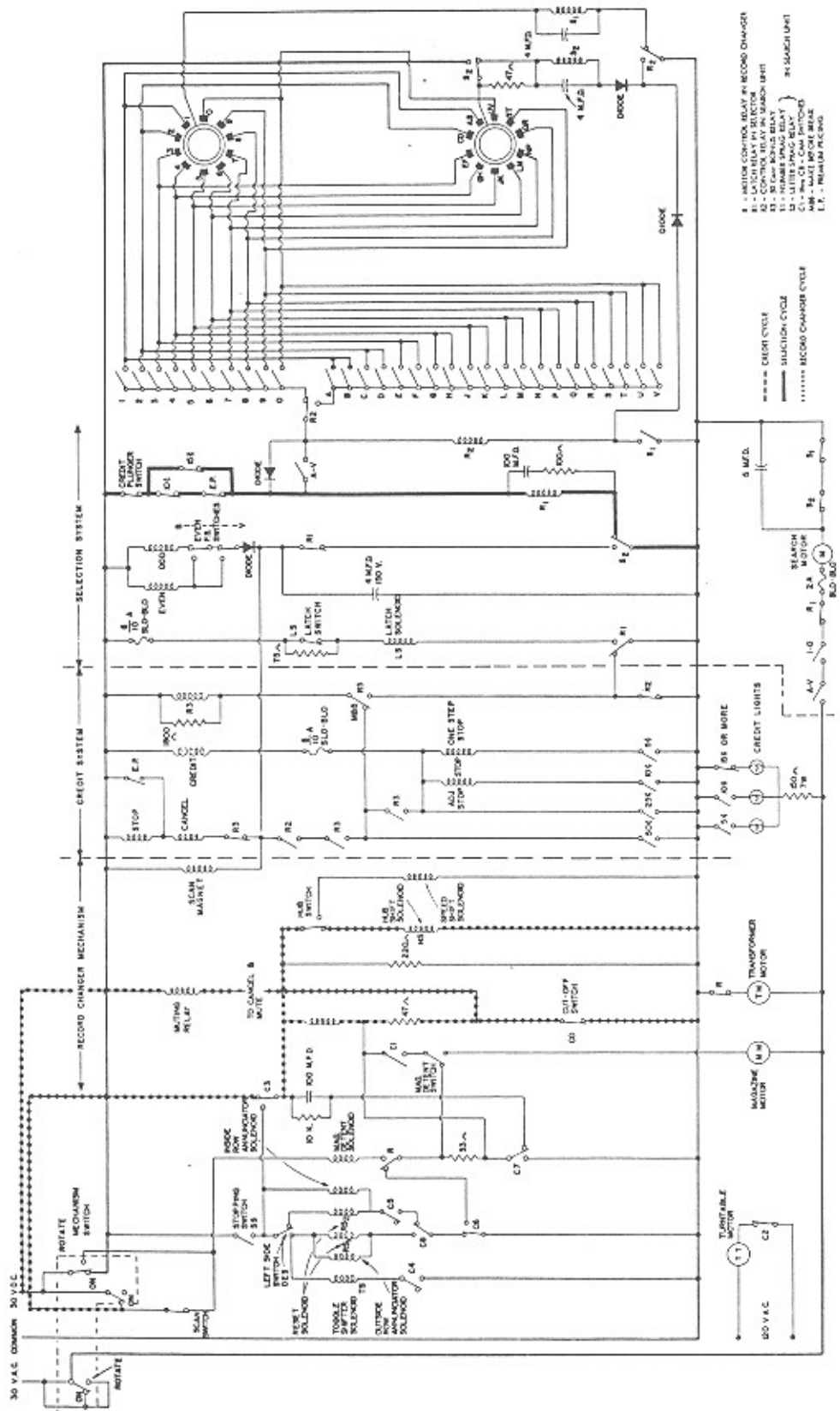


Mute Relay energized. R energized. Transfer Motor running. Turn Table Motor running. R1 energized. The reset Pin allows LR and SS to snap back to their normal positions. This de-energizes the Reset Solenoid. When a small hole record (stereo) is placed on the Turn Table, it operates the Hub Switch. The Hub Switch in turn de-energizes the Hub Solenoid and energizes the Speed Shifter. C5 closes. C8 transfers its contacts.

Mute Relay energized. R energized. Transfer Motor running. Turn Table Motor running. R1 energized. The reset Pin allows LR and SS to snap back to their normal positions. This de-energizes the Reset Solenoid. When a small hole record (stereo) is placed on the Turn Table, it operates the Hub Switch. The Hub Switch in turn de-energizes the Hub Solenoid and energizes the Speed Shifter. C5 closes. C8 transfers its contacts.

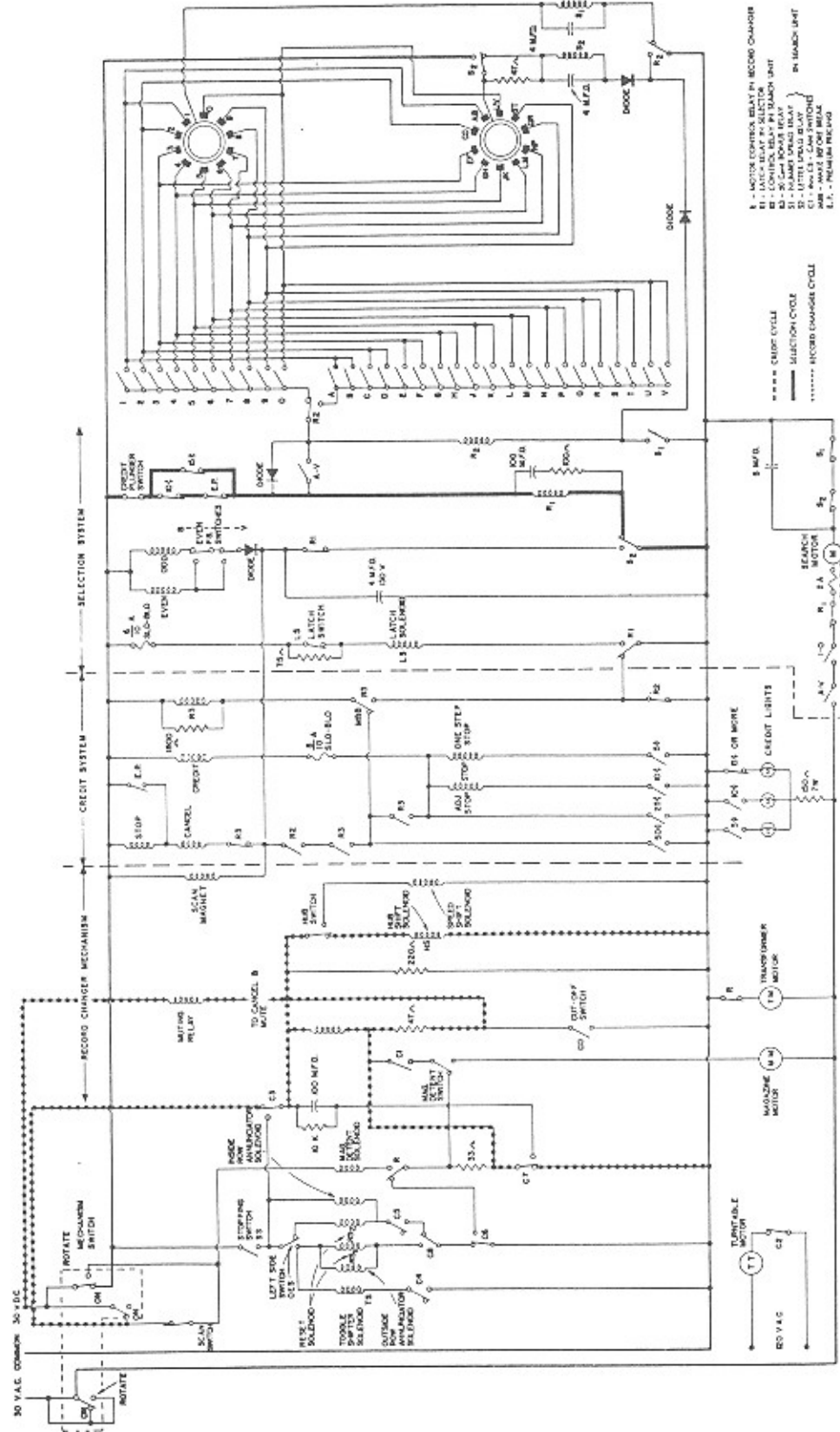


Turn Table Motor running. Speed Shifter Solenoid energized. R1 energized. C7 transfers its contacts, de-energizing R and the Mute Relay. R drops out, shutting off the Transfer Motor. Mute Relay drops out, turning on the Sound System. Record plays (33-1/3 RPM)



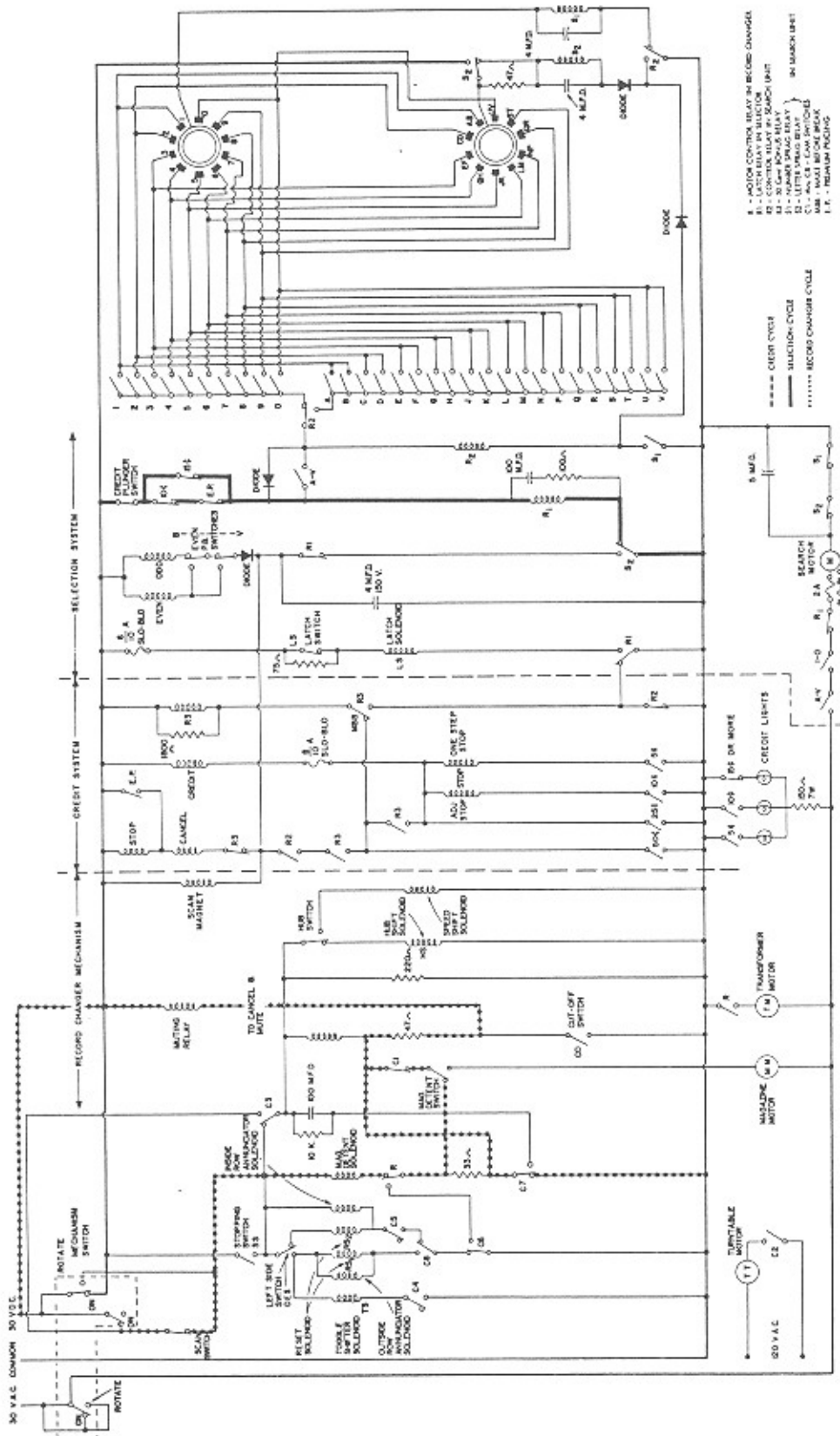
a time-delay network made up of the 47 ohm resistor and the 10K-100 MFD capacitor combination. R picks up, turning on the Transfer Motor.

Turn Table Motor running. Speed Shifter Solenoid energized. R1 energized. As record play is completed, Cutoff (or cancel) Switch closes. This energizes both the Mute Relay, and R. The Mute Relay picks up first because of



opens. C7 transfers its contacts. This changes the connections for R and the Mute Relay. C2 opens, shutting off the Turn Table Motor. C6 transfers its contacts again. C2 closes again, starting the Turn Table Motor once more. C8 transfers its contacts again. C4 closes. C2 opens. C4 opens. C1 closes. C3 transfers its contacts. This will de-energize R and the Hub Solenoid.

Turn Table Motor running. Mute Relay energized. R energized. Transfer Motor running. R1 energized. The Transfer Assembly picks the record up from the Turn Table and moves it toward the Magazine. The Hub Switch is released, which de-energizes the Speed Shifter Solenoid and energizes the Hub Solenoid. C8 transfers its contacts. C6 transfers its contacts. The Cutoff Switch



Mute Relay energized. R1 energized. R drops out, shutting off the Transfer Motor and energizing the Magazine Detent Solenoid.

TROUBLESHOOTING CHARTS

The Troubleshooting charts on the following pages are provided as an aid to the Serviceman in localizing and correcting troubles which may occur in the field.

The purpose of these charts is to point out the direction in which a solution to a problem can be achieved. Coverage starts at the point at which a phonograph is ready for operation at location. Troubles of a general nature such as faulty power outlet, power cord, blown fuses, or burned out lamps, are not covered since the solution is usually simple and obvious.

● CREDIT AND SELECTION SYSTEM

TROUBLE	CAUSE	CORRECTION
Valid coins sometimes fail to go through Slug Rejector to Cash Box, remaining jammed in the Rejector.	Dirt or foreign matter clogging coin passages in the Rejector.	Refer to Service Manual for rejector model 1-22-003 of National Rejectors, Inc. 5100 San Francisco Avenue, St. Louis 15, Missouri.
	Scavenger binding-Rejector out of adjustment.	
Valid coins pass through Rejector to Cash Box but no credits are established.	Coin Switch or Credit Switch contacts dirty, bent, or broken.	For Coin Switch adjustments, refer to Cabinet Servicing (General Phonograph Information) Page SM-20.
	Incorrect alignment of Slug Rejector and Coin Switches. Coins drop between Switch Levers.	
	Credit Solenoid Plunger binding may be gummed with foreign matter or coil may be burned out.	For Credit Unit information, refer to Credit Unit and Pricing System Service Manual. Page SM-117.
	Credit Solenoid Plunger may be held in place by overheated Bobbin.	
Coin Switch Connector not properly seated.	If connector is properly seated check for broken wire in Common Line.	
Valid coins are accepted, credits are established, but credit lamp does not light.	Lamp burned out or wiring broken or shorted.	Refer to Cabinet Servicing (General Phonograph information). Pages SM-12 and 13.
	Broken Wiper Blade on Credit Unit Wiper Arm Assembly.	Refer to Credit Unit and Pricing System Service Manual. Page SM-126.
Continuous free-play credit light remains on.	Coin hanging up on Coin Switch. Coin Switch or Switches not opening.	Refer to Cabinet Servicing (General Phonograph Information) Page SM-20.
	Coin Switch contacts shorted closed by metallic foreign matter.	

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
Continuous free-play. Credit light remains on (con'td)	Credit Solenoid Plunger binding in raised position.	Refer to Credit Unit and Pricing System Service Manual. Page SM-125.
	Cancel Solenoid Coil burned out.	Burned out coil will be apparent. Replace Cancel Solenoid.
	"Open" in Cancel Circuit.	Refer to Diagram No. 11 of Sequence of Operation Diagrams. Check all wiring and connections. Page SM-45.
More than normal number of credits established for coin deposited.	Appropriate Stop Coil not being energized.	Look for intermittent open circuits, loose wires, or poor solder connections.
	Appropriate Stop Coil Plunger or Spring binding occasionally in de-energized position.	Manually actuate Plunger to check for free operation—replace Plunger and/or Spring if necessary.
	Improper credit set up.	Check pricing chart on Page SM-127 of credit and pricing System Service Manual.
Valid coin accepted, credits are established, but Pushbuttons do not latch-in.	Latch Solenoid binding in energized position. R1 is picking up.	Refer to Selection System Service Manual. Pages SM-105, 106, 107, and 115.
	Short circuit between the normally closed contacts of R1 and the Latch Solenoid Coil.	Refer to Diagrams 1 through 4 of "Sequence of Operation Diagrams" (General Phonograph Information). Page SM-35.
Valid coin accepted, credits are established, but Pushbuttons do not latch-in.	Latch Solenoid remaining energized due to defective R1 coil. R1 not picking up.	Check coil. Replace R1 if necessary.
	R1 contacts dirty; broken, or out of adjustment. R1 not picking up after credit is established.	Refer to "Inspection and Adjustment of Relays", Cabinet Servicing (General Phonograph Information) Pages SM-28, 29.
	Open circuit between the Credit Unit and R1. R1 not picking up after credit is established.	Refer to Diagrams 1 through 4 of "Sequence of Operation Diagrams" (General Phonograph Information). Page SM-35.
Pushbuttons will not unlatch.	6/10 Amp Slo-Blo Fuse on Selector Unit blown.	Carefully check circuit before replacing fuse. Latch switch or 75 ohm resistor may be shorted. Do not use higher amp fuse.

Continued on Following Page

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TROUBLE	CAUSE	CORRECTION
Pushbuttons will not unlatch (cont'd)	Latch Solenoid Plunger and Link Assembly out of adjustment. Cam jaws not actuating Latch Bars.	Refer to Selection System Service Manual, Pages SM-115, 116.
	Latch Switch improperly positioned. Not being actuated.	
	Open circuit in Selector Unit wiring.	Refer to Selection System Schematic in Selection System Service Manual. Page SM-107.
	Burned out Latch Solenoid Coil.	Burned out coil will be apparent-replace Latch Solenoid if necessary and INSTALL PROPER SIZE FUSE.
Pushbuttons latch in but release prematurely no selection played.	100 Ohm resistor or loomed capacitor (time-delay) in parallel with R1 is shorted.	Replace shorted part.
Pushbuttons latch in-no further action.	An "open" in the circuit to the Search Motor.	Refer to Diagram No. 5 of Sequence of Operation Diagrams (General Phonograph Information). Check out wiring. Pages SM-39 and SM-105.
Pushbuttons latch in, Search Motor starts, but runs continuously.	An open circuit in the Selector Unit wiring from push button switches to segments in search unit.	Check wiring per Selector Unit Wiring Diagram, Selection System Service Manual. Page SM-105.
	Contacts on R2 dirty, out of adjustment, or broken.	Correct adjustments per instructions in Selection System Service Manual Page SM-109 and SM-28.
Selection is registered, credit light is on but Magazine rotates one complete scan cycle and stops-no record is played.	No circuit through stopping switch - check wiring.	Check wiring. Refer to Mechanism Service Manual, Page SM-76.
	Selected pin not pushed out far enough-Pin Pusher Solenoid not properly positioned.	Refer to Selection System Service Manual, Page SM-114.
Wrong selection is played every time.	Pin Pusher Solenoids out of alignment.	Refer to Selection System Service Manual, Page SM-114.
	Left-Right circuit operating improperly-not differentiating between left and right selections.	Check out circuit. Refer to Diagram No. 11 of Sequence of Operation Diagrams, Page SM-45.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
One particular letter or number, in combination with all letters or numbers, will not register.	An open circuit in the particular letter or number wiring.	To locate the open circuit make 20 selections in the following order: A1, B1, C2, D2, E3, F3, G4, H4, J5, K5, L6, M6, N7, P7, Q8, R8, S9, T9, U0, Y0. This test combination will determine which letter or number has an open circuit.
First selection plays but second selection cycle is not completed.	2 Amp Slo-Blo fuse mounted on Selector Unit has blown.	Check fuse and replace if necessary. Check wiring for short circuit. Page SM-105.
	Open circuit in wiring to Search Motor.	Check Search Unit wiring. Refer to Search Unit Wiring Diagram, Selection System Service Manual, Page SM-106.
	Search Unit "bound-up" - gears mechanically frozen.	Check for anything lodged in gear teeth. Check backlash per Selection System Service Manual, Pages SM-108, 109.
	Tip of Pin Pusher Solenoid Plunger hung up on side of pin-excessive backlash causing overtravel of Pin Pusher Arm.	Adjust backlash of gears per Selection System Service Manual, Pages SM-108, 109.
	Pin Pusher Solenoid Frames hung up on Sprag Relay mounting screws or on pins-Pin Pusher Arm Assembly improperly positioned.	Adjust Pin Pusher Arms per instructions on Page SM-114 of Selection System Service Manual.
Only one selection is made but two selections play.	Pin Pusher Solenoid Plunger hitting two adjacent pins-Pin Pusher Arms out of adjustment, or overtravel caused by excessive backlash in gears.	Adjust Pin Pusher Arms per instructions on page SM-114 of Selection System Service Manual. Adjust Search Unit gears per instructions on Pages SM-108, 109 of Selection System Service Manual.
Left side of record is selected, right side plays.	Left and right wiring reversed or shorted.	Check the positions of the Orange/White and Blue/White leads on the face of the Search Unit Wiring Diagram, Selection System Service Manual, Page SM-106.

Continued on Following Page

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TROUBLE	CAUSE	CORRECTION
Wrong Selection is played whenever the number "1" is used in the letter-number combination.	The Letter and Number Sprag Relays are picking up simultaneously-the Diode connected to R2 is shorted.	Replace Diode. Refer to the Search Unit Wiring Diagram, Page SM-106 of the Selection System Service Manual.
50¢ coin establishes only 25¢ credits (50¢ Bonus Play)	R3 not picking up, or picking up and dropping out prematurely.	Check to see that the Yellow jumper, attached to one end of the Diode on the double Terminal Strip, (Selector Unit) has been cut. Refer to the Selector Unit Wiring Diagram, Page SM-105 of the Selection System Service Manual.
	R3 or Edge Connector not completely seated.	Check to be sure that R3 and the edge connector are properly seated.
Continuous buzzing is detected from R2 in the Search Unit after a Letter Pushbutton is depressed.	The Diode on the face of the Search Unit circuit board is shorted.	Replace Diode. Refer to the Search Unit Wiring Diagram, Page SM-106 of the Selection System Service Manual.
Excessive "arcing" is observed in the Search Unit.	Possible failure of any one of the three, 4 mfd "Arc Suppressing Capacitors in the Search Unit.	Check out values of all three Capacitors: One is mounted on the bottom of each sprag Relay and the third is mounted on the small terminal strip behind the Search Motor. Refer to the Selection System Schematic on Page SM-107 of the Selection Service Manual.

● **RECORD CHANGER MECHANISM**

TROUBLE	CAUSE	CORRECTION
All selections register properly but Magazine does not move.	"Open" circuit to the Magazine Motor. Magazine Motor not being energized.	Refer to Sequence of Operation Diagram No. 14, Page SM-48 of General Phonograph Information. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	Cam Switch No. 1 is not being actuated-switch improperly positioned-switch failure.	Refer to Cam Switch adjustment instructions, Page SM-79 of Record Changer Service Manual.
	"Open" circuit to Cam Switch No. 1.	Refer to Record Changer Schematic, Page SM-77 of Record Changer Service Manual.
	Detent Solenoid Plunger Binding-Detent Pawl remains in locked position.	Manually actuate plunger to check for free movement. Replace Plunger or Solenoid as necessary. Pages SM-78, 89.
	"Open" circuit to Detent Solenoid.	Check circuit wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	Magazine Gear not meshed with small nylon Drive Gear.	Refer to Page SM-89 of the Record Changer Service Manual.
Selection is properly registered, Magazine rotates to bring selection to top center but Transfer Assembly does not operate.	Relay "R" not energized. Cam Switch No. 3 not being actuated-switch improperly positioned-switch failure.	Refer to Cam Switch adjustment instructions, Page SM-79 of Record Changer Service Manual.
	Relay "R" not energized. "Open" circuit to Cam Switch No. 3.	Check circuit wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	Relay "R" is picked up but there is an open circuit in wiring to Transfer Motor. Motor not being energized.	Check contents on Relay "R". Check wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
Magazine stops with Transfer Arm not aligned with Record. Transfer Arm moves to Turntable without record, or wrong selection is played.	Magazine stopping alignment out of adjustment.	Refer to adjustment instructions, Page SM-90 of Record Changer Service Manual.

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TROUBLE	CAUSE	CORRECTION
Transfer Arm stops in midtravel between Magazine and Turntable-Phonograph power is off-no lights.	2 Amp Slo-Blo fuse in Junction Box has blown.	Carefully check, toggle shifter for short wiring before replacing fuse. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual, also Page SM-32.
Transfer Arm moves each selected record from Magazine to Turntable and back without record being played-all other functions normal.	Cutoff Switch improperly positioned-closes before Tone Arm reaches starting grooves of record.	Refer to adjustment instructions, Page SM-98 of Record Changer Service Manual.
	Short circuit in wiring between Mechanism Control Relay (R) and the Common Line.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	Short circuit in wiring associated with cutoff switch or cancel button.	Refer to Sequence of Operation Diagrams 16 through 21, Pages SM-50 thru 55 of General Phonograph Information.
Wrong side of record plays. Selection is properly registered.	The Toggle Shifter Solenoid is not being energized-Cam Switch No. 4 improperly positioned.	Refer to adjustment instructions, Pages SM-77, 79 Record Changer Service Manual.
	Toggle Shifter Solenoid Plunger Binding. Improperly positioned.	Refer to adjustment instructions, Page SM-94 of Record Changer Service Manual.
	Short Circuit to Cam Switch No. 4.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	Slip Ring Wiper Blade No. 1 broken or out of adjustment.	Replace or adjust Slip Ring Wiper Blade as necessary. Refer to adjustment instructions, Page SM-92 of Record Changer Service Manual.
Wrong record played, selection is properly registered.	"200" mark on Stopping Switch Gear not properly aligned with "Step" in Search Unit Mounting Bracket.	Refer to adjustment instructions, Page SM-92 of Record Changer Service Manual.

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TROUBLE	CAUSE	CORRECTION
Selections occasionally play over and over-Pins not being reset.	Slip Ring Wiper Blade No. 2 (Inside row pins) broken or out of adjustment.	Replace or adjust Slip Ring Wiper Blades as necessary. Refer to adjustment instructions Page SM-92 of Record Changer Service Manual.
	Slip Ring Wiper Blade No. 3 (outside row pins) broken or out of adjustment.	
	"Open" in wiring to Slip Ring Wiper Blade No. 2 or No. 3.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	"Open" in wiring to Cam Switch No. 8 (RS1 and RS2)	
	"Open" in circuit to Cam Switch No. 5 (RS2)	
	"Open" in circuit to Cam Switch No. 6 (in circuit to C8)	
	"Open" in circuit to Reset Solenoid No. 1 or No. 2.	Refer to adjustment instructions, Pages SM-80, 92 of Record Changer Service Manual.
Reset Pawl out of adjustment.		
Magazine runs continuously Registered selections do not play-Stopping Switch Pawl "hopping" pins-no Stopping Switch action.	Slip Ring Wiper Blade No. 4 (odd-even circuit) broken or out of adjustment.	Replace or adjust Slip Ring Wiper Blades as necessary. Refer to adjustment instructions, Page SM-92 of Record Changer Service Manual.
	Slip Ring Wiper Blade No. 5 (DC+) broken or out of adjustment.	
	"Open" in circuit to Slip Ring Wiper Blade No. 4 or No. 5.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	"Open in circuit to Left Side Switch (OES).	
	"Open in circuit to Stopping Switch.	
Stopping Switch out of adjustment or complete failure of switch.	Adjust or replace Stopping Switch as necessary. Refer to adjustment instructions, Page SM-80, 93 of Record Changer Service Manual.	
Magazine scans continuously after last selection is played.	Scan Switch out of adjustment or complete failure of switch. To pen. - Switch shorted.	Adjust or replace Scan Switch as necessary. Refer to adjustment instructions, Page SM-94 of Record Changer Service Manual.

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TROUBLE	CAUSE	CORRECTION
Magazine scans continuously after last selection is played. (con'td)	Short in circuit to Scan Switch.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
	Detent Solenoid Plunger Binding-Detent Assembly out of adjustment.	Manually actuate Plunger to check locking action of Pawl. For adjustment instructions, refer to Page SM-78 of the Record Changer Service Manual.
Scan cycle incomplete-too short-registered selections not played.	Scan Control out of adjustment.	Adjust scan cycle. Refer to adjustment instructions, Page SM-94 of Record Changer Service Manual.
Turntable Motor not operating-all other functions normal in phonograph.	Cam Switch No. 2 out of adjustment-possible complete failure of switch.	Replace or adjust Cam Switch No. 2, as necessary. Refer to adjustment instructions, Page SM-79 of Record Changer Service Manual.
	"Open" in circuit between Cam Switch No. 2 and Turntable Motor, or between Turntable Motor and 120 volt line, or between Cam Switch No. 2 and 120 volt line.	Check all associated wiring. Refer to Record Changer Wiring Diagram, Page SM-76 of Record Changer Service Manual.
Erratic operation of Turntable Motor-audible change in record speed.	Self-Sealing Bearing on Motor Shaft wedged in cocked position.	Move the Motor Shaft up and down manually-the bearing should right its self. Grip the end of the shaft with thumb and forefinger, do not use pliers or other tools.
	Speed Shifter Solenoid Plunger binding-partially actuated.	Actuate Plunger manually, replace Plunger if defective.
	Hub Switch out of adjustment or defective.	Replace or adjust Hub Switch as necessary, refer to instructions on Page SM-82 of Record Changer Service Manual.
	Sensing Wire improperly positioned.	For adjustment information, refer to Page SM-82 of Record Changer Service Manual.
	Idler Wheel and linkage improperly positioned.	
	Oil or dirt and idler wheel or turntable rim.	Clean with lint-free dry cloth.

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TROUBLE	CAUSE	CORRECTION
Tone Arm hangs up on the edge of a record.	Set-down position adjusted for larger size record.	Re-adjust set-down position for smallest diameter record. Refer to adjustment instructions, Page SM-98 of Record Changer Service Manual.
Stylus hits Transfer Arm in Tone Arm travel to and from Turntable.	Tone Arm height improperly adjusted.	For adjustment instructions, refer to Page SM-97 of Record Changer Service Manual.
Stylus occasionally "hopping" grooves.	Stylus pressure out of adjustment.	For adjustment instructions, refer to Page SM-99 of Record Changer Service Manual.
Wrong selection indication on Annunciator.	Annunciator Letter and Number Wheels improperly adjusted.	For assembly and adjustment information, refer to Page SM-95 of Record Changer Service Manual.
	Annunciator Gear not properly meshed with Scan Gear.	
	Annunciator Solenoid Plunger binding-Lever not moving to expose proper selection number.	
	"Open" in circuit to Annunciation Solenoid or Solenoids.	

● **SOUND SYSTEM**

TROUBLE	CAUSE	CORRECTION
No sound-mechanical operation of Phonograph normal.	3 Amp fuse in Stereo Power Amplifier blown due to a short circuit in the wiring.	Check all wiring and plug connections. Refer to the phonograph Harness Wiring Diagram, Page SM-30 and Pages SM-137, 139 and 140. NOTE: It is not likely that all of the amplifier tubes have blown, to cause the "no sound" problem. However, it is a good policy to also check the tubes when this type of problem occurs.
	Mute Relay holding-in-contacts shorted closed.	
	Pickup Cartridge leads shorted or broken.	
	Pickup Cord Plugs not properly seated.	
Partial or distorted sound.	Damaged Stylus.	Carefully check Stylus, replace if necessary. Check Stylus pressure. Page SM-99.
	Defective tubes in either channel.	Check all tubes, replace all questionable tubes.
	Partial short in local or remote volume control.	Check volume control connections per Stereo-Round Sound System Connection Chart, Page SM-137 of Sound System Service Manual.
	Amplock Plug not completely seated.	Check all plugs and wires for adequate contact.
High volume apparent in one area of sound.	Defective Cartridge-unbalanced.	Replace Cartridge if necessary. Check by substituting a Cartridge which is known to be good. Page SM-99.
	Poor tube in either channel.	Check all tubes, replace as necessary.
	Balance Control not properly adjusted.	Refer to Page SM-138 of the Sound System Service Manual.
	Either Pickup Cord Plug Unplugged.	Check both jacks.
Constant high volume-cannot be adjusted at Volume Control.	Short in Volume Control circuit.	Check all wiring. Refer to Stereo-Round Sound System Connection Chart, Page of Sound System Service Manual.

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TROUBLE	CAUSE	CORRECTION
Fading volume.	Harness plugs not completely seated.	Check all harness plugs for firm connection. Gently press down on the top of all tubes.
	One or more tubes not fully seated in their sockets.	
	Partially defective tube-intermittent filament.	Replace all questionable tubes.
Excessive record scratch evident through speakers.	Old records, which may appear grayish in color.	Replace old records.
	Damaged Stylus.	Check by substituting an unused Stylus. Check Stylus pressure. Page SM-99.
	Treble Range Switch set too high for condition of records used.	Refer to instructions on Page SM-138 of the Sound System Service Manual.
Excessive hum-low volume.	7868 Tube failure.	Replace tube.
	Shorted shielding of ground leads on pickup cord.	Be sure that shielding is not shorted at any point between the Cartridge and the input plug of the Amplifier.
	Input Plugs not completely seated.	Check both input jacks.
Constant high or low pitch hum-cannot be adjusted.	(120 cps hum) Defective power output tube.	Check tube 12AX7, replace if necessary.
	(60 cps hum) Defective tube other than power output tube.	Check all tubes, replace as necessary.