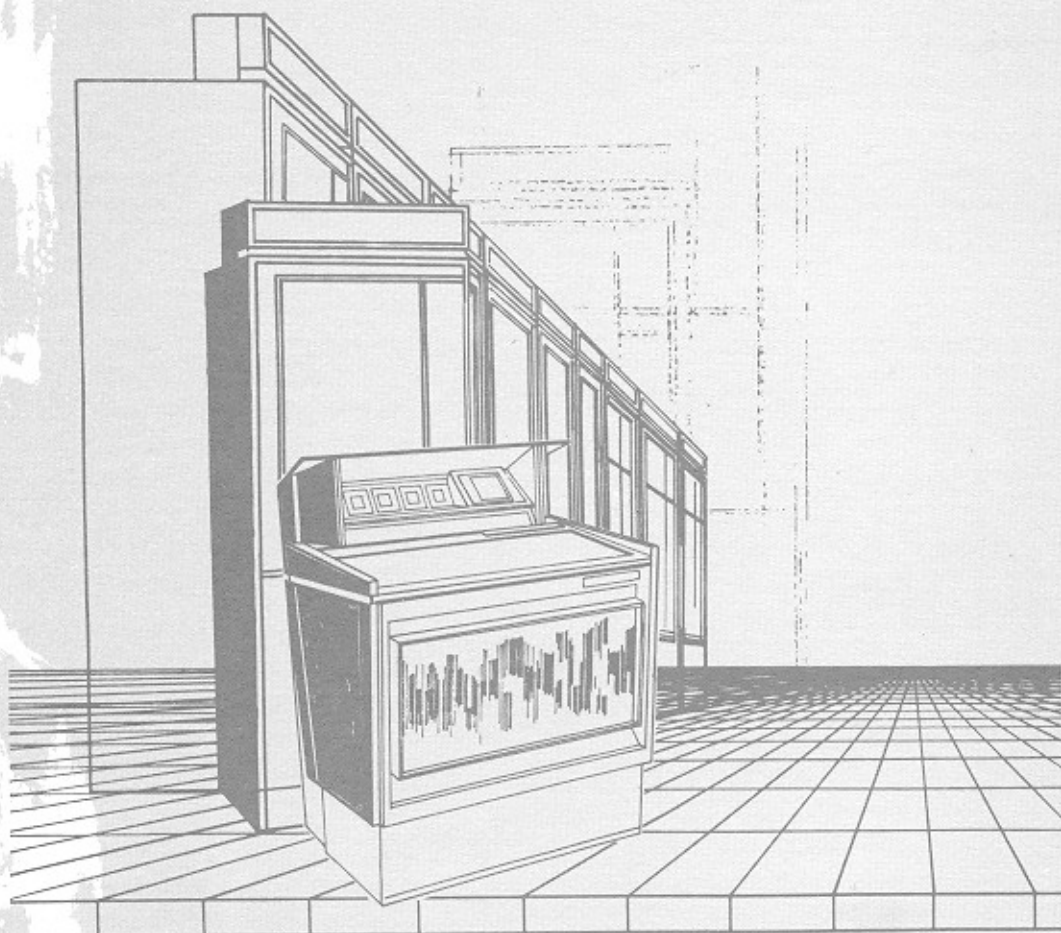


*Rowe*  
**AMI** *The Music Merchant*



trouble shooting section

## 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 or credit unit information, refer to Credit Unit and Pricing System Service Manual, Pages SM-401 through SM-407.
	Incorrect alignment of slug rejector and coin switches. Coins drop between switch levers.	
	Credit coil plunger binding may be gummed with foreign matter or coil may be burned out.	
	Fuse blown in credit unit.	Check for hanging coin switch.
	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 lighting (general phonograph information), Page SM-8.
	Broken wiper blade on credit unit wiper arm assembly.	Refer to Credit Unit and Pricing System Service Manual. Pages SM-401 through SM-407.
Coins accepted; credits not registered properly - credit unit fuse blows	Coin hanging up on coin switch. Coin switches or switch not opening, causing fuse in credit unit to blow.	Refer to servicing coin switches. (Credit and Pricing System Service Manual).
	Coin switch contacts shorted closed by metallic foreign matter, causing fuse in credit unit to blow.	Replace blown fuse.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
Continuous free-play. Credit light remains on.	Credit coil plunger binding in raised position.	Refer to Credit Unit and Pricing System Service Manual. Page SM-400.
	Cancel coil burned out.	Burned out coil will be apparent. Replace cancel coil.
	"Open" in cancel circuit.	Refer to Diagram No. 9 of Cycle of Operation Diagrams. Check all wiring and connections. Page SM-404.
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 sticking.	Manually actuate plunger to check for free operation. Clean or replace plunger and/or spring if necessary.
	Improper credit set up.	Check pricing chart on Page SM-409 of Credit and Pricing System Service Manual.
Valid coin accepted, credits are established, but pushbuttons do not latch in.	Latch coil not operating. R1 is picking up.	Check coil and relay contacts.
	Latch coil remaining de-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 "Servicing Relay Contacts" Cabinet Servicing (general phonograph information) Page SM-15.
	Open circuit between the credit unit and R1. R1 not picking up after credit is established.	Refer to Diagrams 1 through 4 of "Cycle of Operation Diagrams" Troubleshooting Section. Page SM-15..
Pushbuttons latch in but release prematurely; no selection played.	R1 time delay circuit giving short pulse. R1 is located on the selector assembly adjacent to the harness plugs.	Check center diode on selector assembly. Check relay for dirt between core and armature. Replace parts if necessary.
Pushbuttons latch in; no further action.	An "open" in the circuit to the search unit motor.	Refer to Diagram No. 5 of Cycle of Operation Diagrams (Troubleshooting Section). Check out wiring. Page SM-305.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
Pushbuttons latch in, search unit motor starts, but runs continuously.	An open circuit in the selector assy. Wiring from push button switches to segments in search unit.	Check wiring per Selector Assy. Wiring Diagram, Selection System Service Manual. Page SM-303.
	Contacts on R2 dirty, out of adjustment, or broken.	Replace R2 relay or refer to servicing relay contacts, Page SM-15.
Selection is registered, magazine rotates one complete scan cycle and stops. No record is played.	No circuit through stopping switch. Check wiring.	Check wiring. Refer to Record Changer Service Manual, Page SM-200.
	Selected pin not pushed out far enough; select coil not properly positioned.	Refer to Selection System Service Manual, Page SM-313.
Wrong selection is played every time.	Select coils on search unit in record changer mechanism out of alignment.	Refer to Selection System Service Manual, Page SM-313. Check Adj. of wipers, pages SM-310 & SM-311.
	Left-right circuit operating improperly; not differentiating between left and right selections.	Check out circuit. Refer to Diagram No. 15 of Cycle of Operation Diagrams.
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. Check for dirt on search disc or wiper contacts, clean with alcohol if necessary.	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, U10, V0.  This test combination will determine which letter or number has an open circuit.
Search unit motor energized but does not run.	Search unit "bound-up" - gears mechanically frozen.	Check for anything lodged in gear teeth. Check backlash per Selection System Service Manual, Pages SM-306.
	Tip of select coil plunger hung up on side of pin-excessive backlash causing overtravel of select coil arm.	Adjust backlash of gears per Selection System Service Manual, Pages SM-306, and SM-313.
Only one selection is made but two selections play.	Select coil plunger hitting two adjacent pins; select coil arms out of adjustment, or overtravel caused by excessive backlash in gears.	Adjust select coil arms per instructions on Page SM-313 of Selection System Service Manual.  Adjust search unit gears per instructions on Pages SM-306. of Selection System Service Manual.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
50¢ coin establishes only 25¢ credits (50¢ bonus relay or pulse doubler being used).	50¢ bonus relay not picking up, or picking up and dropping out prematurely. Pulse doubler inoperative.	Replace 50¢ bonus relay or pulse doubler.
	50¢ bonus relay not completely seated.	Check to be sure that 50¢ bonus relay is properly seated.

● 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 Cycle of Operation Diagram No. 11, Page SM-133 of Troubleshooting Section.  Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
	Cam switch C1 is not being actuated. Switch improperly positioned; switch failure.	Refer to cam switch adjustment instructions, Page SM-206 of Record Changer Service Manual.
	"Open" circuit to Cam switch C1.	Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
	Detent coil plunger binding. Detent pawl remains in locked position.	Manually actuate plunger to check for free movement. Replace plunger or coil as necessary. Page SM-205
	"Open" circuit to detent coil.	Check circuit wiring. Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
	Magazine gear not meshed with small nylon drive gear.	Refer to Page SM-215 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 C3 not being actuated. Switch improperly positioned; switch failure.	Refer to Cam switch adjustment instructions, Page SM-206 of Record Changer Service Manual.
	Relay "R" not energized. "Open" circuit to cam switch C3.	Check circuit wiring. Refer to Record Changer Wiring Diagram, Page SM-203 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 contacts on Relay "R". Check wiring. Refer to Record Changer Wiring Diagram, Page SM-203 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-216 of Record Changer Service Manual.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
Transfer arm stops in midtravel between magazine and turntable. Phonograph power is on.	Slo-Blo fuse in junction box has blown. Check 2 8/10 Slo-Blo and 6 1/4 Slo-Blo fuses.	Refer to Pages SM-7 for short wiring before replacing fuse. Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
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-223 of Record Changer Service Manual. Check stylus height.
	Short circuit in wiring between mechanism control relay (R) and the common line.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
	Short circuit in wiring associated with tone arm cutoff switch or cancel button.	Refer to Cycle of Operation Diagram 18.
	Cam switch 6-7 fails to open.	Refer to Page SM-206
Wrong side of record plays. Selection is properly registered.	The toggle shifter coil is not being energized. Cam Switch C4 improperly adjusted.	Refer to adjustment instructions, Page SM-206 Record Changer Service Manual.
	Toggle shifter coil plunger binding. Improperly positioned.	Refer to adjustment instructions, Pages SM-212, 220 of Record Changer Service Manual.
	Short circuit to cam switch C4.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
	Center slip ring wiper broken or out of adjustment.	Replace or adjust slip ring wiper blade as necessary. Refer to adjustment instructions, Page SM-218 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-218 of Record Changer Service Manual.
	Faulty stopping switch adjustment.	Refer to Page SM-219 for switch adjustment procedure.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
Selections occasionally play over and over - pins not being reset.	Slip ring wiper blade No. 2 (inside row pins) out of adjustment.	Replace or adjust slip ring wiper blades as necessary. Refer to adjustment instructions, Page SM-218 of Record Changer Service Manual.
	Slip ring wiper blade No. 3 (outside row pins) 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-203 of Record Changer Service Manual.
	"Open" in wiring to cam switch C8 (RS1 and RS2).	
	"Open" in circuit to cam switch C5 (RS2).	
	"Open" in circuit to reset coil.	
	Reset pawl out of adjustment.	Refer to adjustment instructions, Page SM-207 of Record Changer Service Manual.
Magazine runs until scan switch resets. 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-218 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-203 of Record Changer Service Manual.
	"Open" in circuit to left side switch.	
	"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-207, 219 of Record Changer Service Manual. (Check solder connections on stop switch assembly).
Magazine scans continuously after last selection is played.	Scan switch out of adjustment or complete failure of switch to open. Switch shorted.	Adjust or replace scan switch as necessary. Refer to adjustment instructions, Page SM-220 of Record Changer Service Manual.

Continued on Following Page



TROUBLE	CAUSE	CORRECTION
Stylus occasionally "hopping" grooves.	Stylus force out of adjustment.	For adjustment instructions, refer to Page SM-224 of Record Changer Service Manual.
	Worn or damaged stylus.	Replace stylus
	Stylus height not adjusted properly.	Check Stylus height Page SM-223
	Vertical pivot too tight.	Check vertical pivot adjustment, Page SM-222
Wrong selection indication on Annunciator.	Annunciator letter and number wheels improperly adjusted.	For assembly and adjustment information, refer to Page SM-221 of Record Changer Service Manual.
	Annunciator gear not properly meshed with scan gear.	
	Annunciator coil plunger binding lever not moving to expose proper selection number.	
	"Open" in circuit to Annunciator coil or coils.	Check wiring. Refer to Record Changer Wiring Diagram, Page SM-203 of Record Changer Service Manual.
Magazine stops at correct selection, then moves on to next selection and plays it.	Cam switch C3 transferring too slowly.	Replace switch.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
No sound. Mechanical operation of phonograph normal.	Blown fuse in amplifier: 3.2A primary fuse 3A output circuit fuse 5A dc supply fuse	Replace fuses after correcting fault condition which caused them to blow.
	Faulty mute relay.	
	Pickup cartridge leads shorted or broken.	
	Pickup cord plugs not properly seated.	
Partial or distorted sound.	Damaged stylus.	Carefully check stylus, replace if necessary. See page SM-224.
	Defective output transistors in either channel.	Check all transistors. Replace defective transistors.
	Partial short in local or remote volume control. Improper remote speaker hookup. Improper remote volume control hookup	Check volume control connections per Stereo-Round Sound System Connection Chart, Page SM-500 of Sound System Service Manual.
	Mate-N-Lok plugs not completely seated.	Check all plugs and wires for adequate contact.
Low volume apparent in one channel.	Defective cartridge-unbalanced.	Replace cartridge if necessary. Check by substituting a cartridge which is known to be good. Page SM-224.
	Faulty pre-amplifier board.	Replace as necessary.
	Balance control not properly adjusted.	Refer to Page SM-502A 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 SM-507 of Sound System Service Manual.

Continued on Following Page

TROUBLE	CAUSE	CORRECTION
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 force. Page SM-224.
	Treble range switch set too high for condition of records used.	Refer to instructions on Page SM-505 of the Sound System Service Manual.
Excessive hum—low volume.	Broken ground leads on pickup cord.	Be sure that shielding or wires are not broken at any point between the cartridge and the input plug of the amplifier.
	Input plugs not completely seated.	Check both input jacks.
Intermittent sound. Amplifier cycles on and off.	Overheated output transistors cause protective thermostats mounted on heat sink to cycle.	Check amplifier vent screen.
		Check for shorted or partially shorted speaker lines.
		Check for component failure which may cause high heat dissipation in the output stages.