

RCA VICTOR

Record Demonstrator

MODEL 15E

Record Changer
and Two Speed Manual Turntable

SERVICE DATA

— 1951 No. 7 —

GENERAL SERVICE DIVISION
RCA VICTOR COMPANY LIMITED
MONTREAL, QUE.

Specifications

Tube Complement

- | | |
|--------------|----------------|
| 1. RCA 6SQ7 | A.F. Amplifier |
| 2. RCA 6SQ7 | Ph. Inverter |
| 3. RCA 6V6GT | Output |
| 4. RCA 6V6GT | Output |
| 5. RCA 5Y3GT | Rectifier |

Power Supply Rating

115 volts, 60 cycles 80 watts

Power Output

Undistorted 10 watts Maximum 11 watts

Loudspeaker

Size and type 12 inch P.M.
Voice coil impedance 3.2 ohms @ 400 cycles

Pilot Lamp Mazda #51, 6-8 volts, .2 amp.

Weight 43 lbs. net

Cabinet Dimensions (overall)

Height 17 7/8" Width 21 1/2" Depth 19 7/8"

Record Players

Automatic (RP-190A-1)

Record capacity up to 14 records
Type of records RCA "45"
Pickup (Stock No. 75770) crystal
Turntable speed 45 r.p.m.

Manual

Record capacity 1 record
Type of records up to 12 inch diameter
Pickup (Stock No. 75475) dual stylus crystal
Turntable speed 33 1/3 or 78 r.p.m.

RP-190A-1 Record Changer:

The record changer will play up to fourteen 45 r.p.m. records having a 1 1/2 inch center hole. It is identical to RP-190-2a record changer except for the omission of the power switch.

**FOR RECORD CHANGER SERVICE DATA —
REFER TO RP-190 SERIES SERVICE DATA.**

Manual Turntable:

The manual turntable will play one 33 1/3 or 78 r.p.m. record up to twelve inches in diameter. The speed is controlled by a knob on the motorboard. The correct stylus is selected by a lever knob on the end of the pickup arm.

VOLUME CONTROL STOP

This instrument is provided with a volume control stop to provide a pre-determined "maximum" volume level and yet allow normal volume control operation up to the pre-determined "maximum."

Adjusting "Maximum" Volume Level:

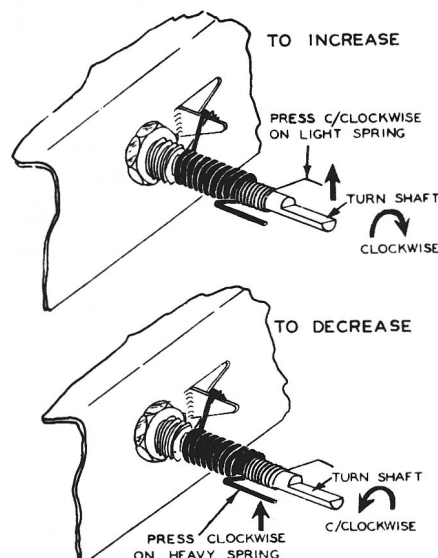
With the instrument operating, remove the volume control knob. Note the extending ends of two coil springs (one light and one heavy) on the volume control shaft.

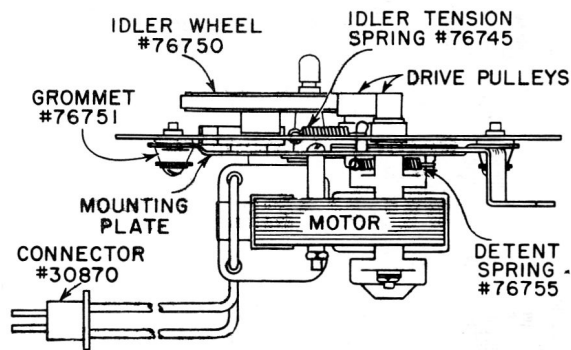
TO INCREASE

Turn control fully clockwise and then, with end of a pencil or similar item, press counterclockwise on the end of the LIGHT spring. Rotate control shaft clockwise until desired level is reached. Release pressure on the spring and replace knob.

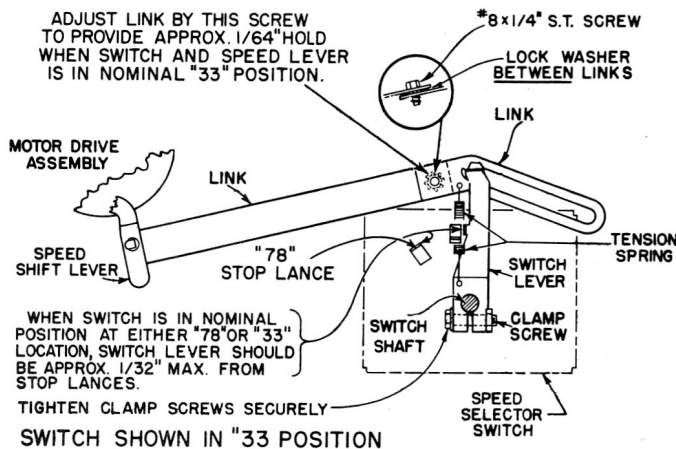
TO DECREASE

Turn control fully clockwise and then, with the end of a pencil or similar item, press clockwise on the end of the HEAVY spring. Rotate control counterclockwise to a very low level. Increase volume to desired level as described above.

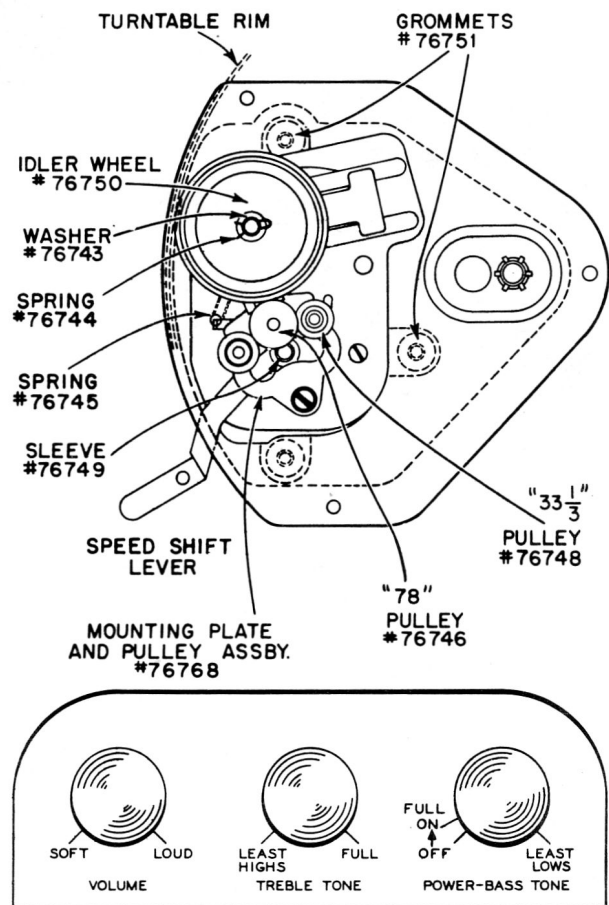




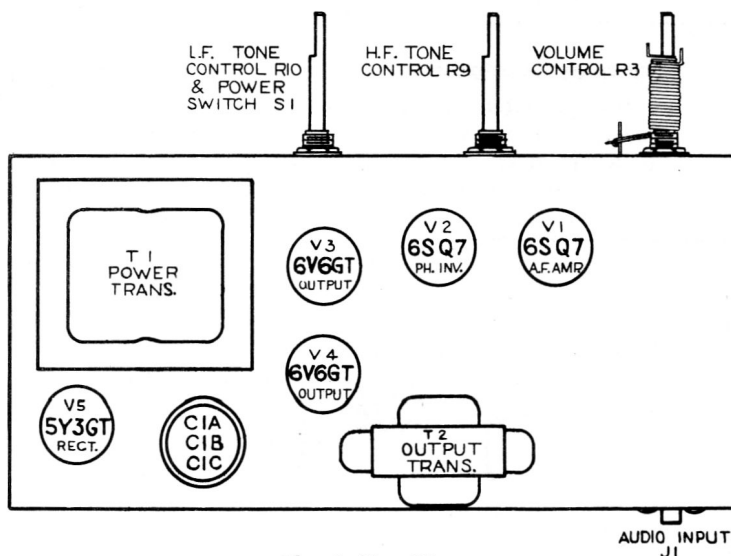
Manual Motorboard — Motor Assembly



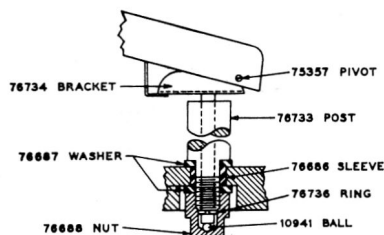
Speed Control Lever Assembly



Controls



Chassis Top View



Pickup Arm Mounting — Manual Motorboard

MANUAL MOTORBOARD SERVICE HINTS

- Stylus force of pickup arm should be 8 to 10 grams. Insufficient force resulting from use of incorrect spring or pickup may allow stylus to jump grooves. Excessive force may cause distortion and record wear.
- Pickup arm pivots should be adjusted to provide a minimum of side play — yet allowing free vertical movement. Binding may cause stylus to jump groove.
- Inner surface of turntable rim must be clean and smooth. Idler wheel and drive pulleys must have no rough spots and be free of oil and grease. Roughness may cause rumble — oil may cause wow.
- Lubricate idler wheel and drive pulleys with a good quality light oil — one or two drops for each is sufficient.
- The pickup arm pivot shaft may be lubricated with a film of light oil. The pivot post rubber mounting should not be excessively compressed. The bearing nut should be tightened only enough to elevate the pivot shaft 1/32" above the post with the steel ball in place. This ball must be in place to permit free lateral pickup arm movement.

CRITICAL LEAD DRESS

- Dress all filament leads next to chassis.
- Dress power cord lead, from strain relief grommet to on-off switch, along side apron.
- Dress A.C. leads at ON-OFF switch away from all audio components.
- Dress output tube plate leads next to chassis.
- Dress C8 next to chassis and wire with as short leads as practical.
- Dress lead from arm of low frequency tone control to grid of V-3 away from A.C. leads at ON-OFF switch.

MODIFICATION

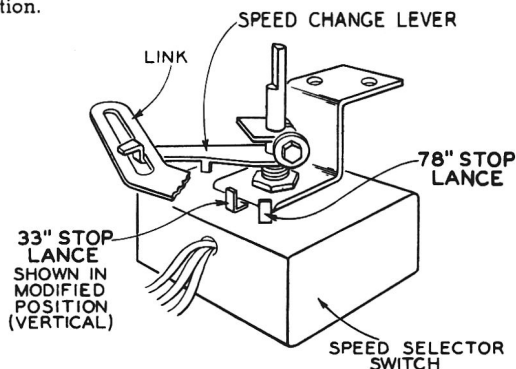
Although designed and assembled for 3-speed operation, provision is made for modification of this instrument for 33 and 45 rpm performance only. To eliminate the use of the 78 SPEED control and 78 stylus, proceed as follows:

To alter SPEED SELECTOR control

Tie both pickup arms to their rests and place the instrument on its left side (not on control knobs) on a table. Through the opening in the bottom of the cabinet, disconnect the black power plug and the phono plug from its chassis connection. While supporting the top panel, remove the hex head screw and washer, centrally located beneath the top panel at the back of the cabinet.

Place cabinet upright, move SPEED SELECTOR to 45 position, then lift off top panel assembly.

From the back, the switch can be viewed from beneath the top panel and conversion effected as shown below. Bend the 33 stop to the vertical position of the adjacent 78 stop. The speed change lever (on left) should now halt against the vertical 33 stop, eliminating the 78 speed position.



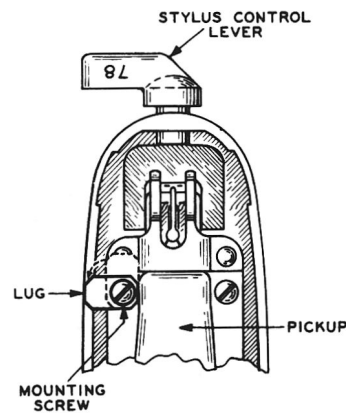
Replace top panel (rubber supporting grommets must be in place) and the hex head screw and washer.

NOTE: It is important that screw be tightened until top panel can be lifted approximately 1/16 inch only. The board should float freely on its mounts; there must be no restriction of movement.

Reconnect the black power plug and insert phono plug in the chassis socket. Place the instrument in the upright position and untie pickup arms.

To adapt STYLUS CONTROL LEVER —

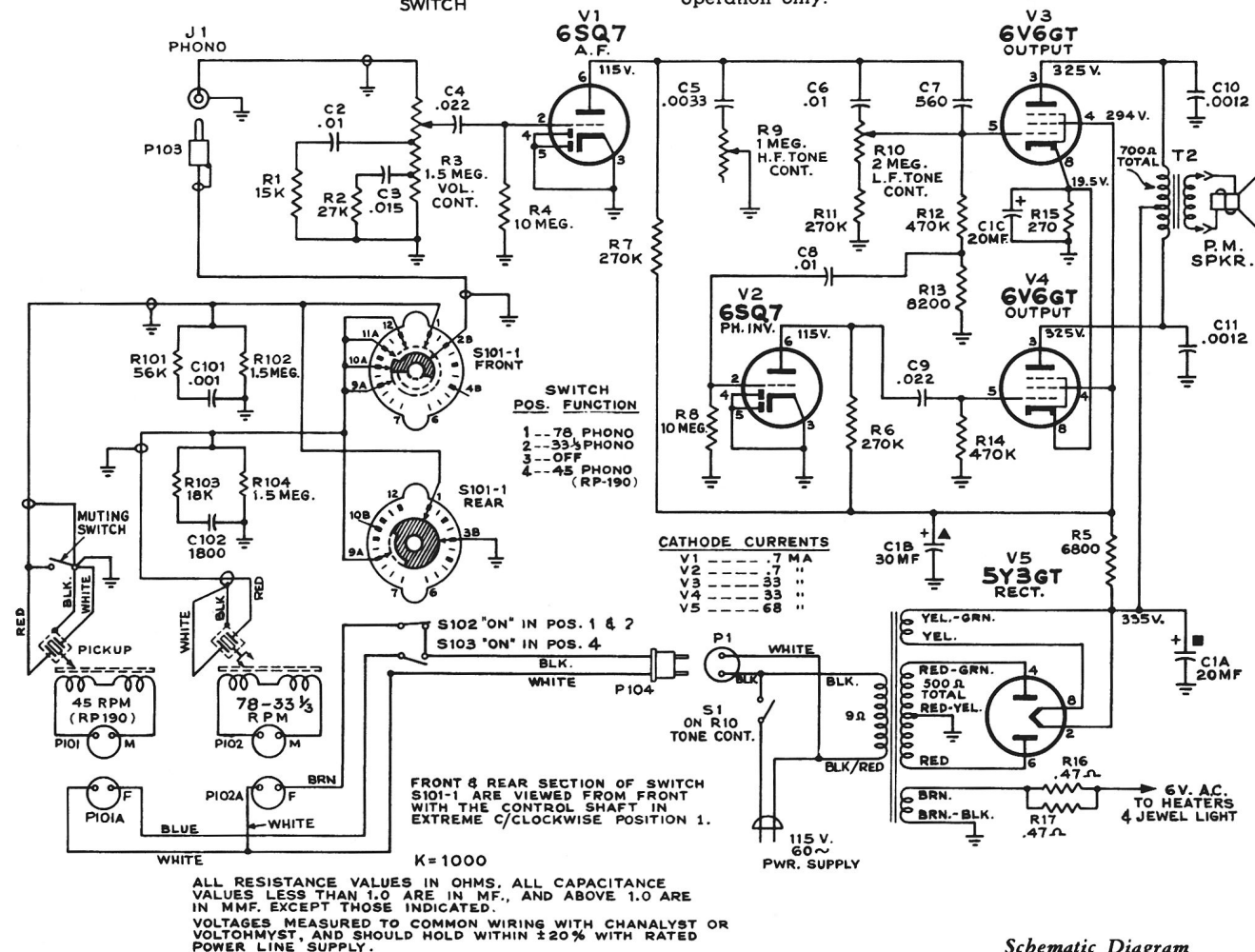
With lever in 33 position, loosen left holding screw just enough to turn lug to the position shown below and tighten screw. This will prevent the 78 stylus from being turned for use.



Before Operation —

Remove SPEED SELECTOR knob and turn over the CIRCULAR PLATE which will now show only 33 OFF 45 positions. Replace knob on shaft.

Reverse the left INSTRUCTIONS PLATE to read for 33 operation only.



Schematic Diagram

Replacement Parts

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
	TWO SPEED MANUAL TURNTABLE Pickup Arm Assembly		
76731	Arm—Pickup arm shell—less cartridge, mount, and cable	76684	Resistor—Wire wound, 0.47 ohms, 1 watt R16, R17
76734	Bracket—Pickup arm mounting bracket complete with pivot pin and counterbalance spring	523127	Resistors—Fixed, composition:—
76737	Cable—3 wire pickup arm cable complete with connectors	523268	270 ohms, $\pm 10\%$, 2 watts R15
76738	Knob—Stylus selector knob complete with screw	503282	6800 ohms, $\pm 10\%$, 2 watts R5
76732	Mount—Pickup mount and swivel assembly	503315	8200 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R13
74230	Nut—#00-112 nut and washer to mount stylus	503327	15,000 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R1
75475	Pickup—Dual stylus pickup crystal cartridge complete with two stylus	503427	27,000 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R2
75366	Pin—Pivot pin for counterbalance spring	503447	270,000 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R6, R7, R11
75357	Pivot—Pickup arm pivot (2 req'd)	504610	470,000 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R12, R14
76733	Post—Pickup arm pivot post and stop pin	504610	10 megohm, $\pm 20\%$, $\frac{1}{2}$ watt R4, R8
76736	Ring—Retaining ring for pickup arm mounting bracket	31364	Socket—pilot lamp socket
71097	Screw—#4 x $\frac{1}{4}$ " self tapping screw for pickup mount and swivel (4 req'd)	54414	Socket—Tube socket
76735	Spring—Counterbalance spring	71979	Stop—Volume control adjustable stop (two springs)
75497	Stylus—Osmium tip stylus for 78 RPM (not coded)	76695	Transformer—Output transformer T2
75496	Stylus—Osmium tip stylus for 33 $\frac{1}{3}$ RPM (coded red)	75566	Transformer—Power transformer, 117 volt 60 cycle T1
	Motor and Turntable Assembly		FUNCTION SWITCH ASSEMBLY
30870	Connector—2 contact male connector for motor leads	72437	Cable—Shielded audio cable complete with pin plug (switch to amplifier) P103
76751	Grommet—Rubber grommet to mount motor (3 req'd)	74850	Capacitor—Ceramic, 1800 mmf. C102
76753	Motor—117 volt 60 cycle motor complete with mounting plate—less #76768 plate and idler wheel	75643	Capacitor—Tubular, paper, .001 mf., 1000 volts C101
76768	Plate—Speed control pulley mounting plate complete with pulleys	30868	Connector—Two contact female connector for motor cables P101A, P102A
76746	Pulley—78 RPM pulley	30870	Connector—Two contact male connector for motor power cable P104
76748	Pulley—33 $\frac{1}{3}$ RPM pulley	76693	Lever—Speed change lever (mounted on switch shaft)
76749	Sleeve—Spring sleeve for motor shaft		Resistors—Fixed composition:
76755	Spring—Detent spring (below motor mounting plate)	503318	18,000 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R103
76744	Spring—Hairpin spring to retain idler wheel	503356	56,000 ohms, $\pm 10\%$, $\frac{1}{2}$ watt R101
76745	Spring—Idler wheel tension spring (above motor mounting plate)	503515	1.5 megohm, $\pm 10\%$, $\frac{1}{2}$ watt R102, R104
76752	Turntable—Finished turntable (9" dia.)	76694	Switch—Function switch—less speed change lever S101, S102, S103
76743	Washer—Flat fibre washer for idler wheel		SPEAKER ASSEMBLIES
35969	Washer—"C" washer to retain turntable on shaft	75023	Cap—Dust cap
76750	Wheel—Idler wheel	76296	Cone—Cone and voice coil (3.2 ohms)
	45 R.P.M. AUTOMATIC RECORD CHANGER	76389	Speaker—12" P.M. speaker complete with cone and voice coil (3.2 ohms)
	Same as listed for RP 190-2a in RP 190 Series Service Data except for the omission of the on-off switch and switch housing		NOTE:—If stamping on speaker instrument does not agree with above speaker number, order replacement parts by referring to model number stamped on speaker and full description of part required.
	AMPLIFIER ASSEMBLIES		MISCELLANEOUS
76685	Capacitor—Ceramic, 560 mmf. C7	X3240	Baffle—Baffle board and grille cloth
71976	Capacitor—Electrolytic comprising 1 section of 20 mfd., 450 volts, 1 section of 30 mfd., 350 volts and 1 section of 20 mfd., 25 volts C1A, C1B, C1C	10941	Ball—Steel ball ($\frac{1}{8}$ " dia.) for pickup arm mounting
73850	Capacitor—Tubular, paper, oil impregnated, .0012 mfd., 1000 volts C10, C11	71599	Bracket—Pilot lamp bracket
73795	Capacitor—Tubular, paper, .0033 mfd., 600 volts C5	13103	Cap—Pilot lamp cap.
73561	Capacitor—Tubular, paper, .01 mfd., 400 volts C2, C6, C8	72113	Foot—Rubber foot (4 req'd)
73797	Capacitor—Tubular, paper, .015 mfd., 600 volts C3	75697	Grommet—Rubber grommet for mounting 45 RPM changer (3 req'd)
73562	Capacitor—Tubular, paper, .022 mfd., 400 volts C4, C9	72856	Grommet—Rubber grommet for motor board (4 req'd)
35787	Connector—Phono input connector (socket) J1	74979	Knob—Selector switch knob—tan
72776	Connector—Single contact male connector for speaker leads (2 req'd)	72118	Knob—Tone control or volume control knob—brown
30868	Connector—2 contact female connector for motor power P1	11765	Lamp—Pilot lamp—Mazda 51
38405	Control—H.F. tone control R9	76692	Link—Motor speed change link (bent-end section only)
38402	Control—L.F. tone control and power switch R10, S1	76691	Link—Motor speed change link (slotted section only)
71980	Control—Volume control—less stop R3	76688	Nut—Pickup arm pivot shaft bearing nut
74838	Grommet—Power cord strain relief (1 set)	73634	Nut—Speed nut for speaker mounting screws (4 req'd)
		76689	Rest—Pickup arm rest (for 33 $\frac{1}{3}$ -78 RPM arm)
		76686	Sleeve—Rubber sleeve (39/64 O.D. x 7/16" I.D. x 11/32") for pickup arm pivot post
		14270	Spring—Retaining spring for knob 74057
		30900	Spring—Retaining spring for knob 72118
		76690	Spring—Speed change link and lever tension spring
		76687	Washer—Rubber washer (13/16" O.D. x 7/16" I.D. x $\frac{1}{8}$ ") for pickup arm pivot post (2 req'd)

APPLY TO YOUR RCA DISTRIBUTOR FOR PRICES OF REPLACEMENT PARTS