



RCA VICTOR



MODEL V84B

Spring Wound Record Player

TECHNICAL INFORMATION AND SERVICE DATA

1948 No. 1

GENERAL SERVICE DIVISION

RCA VICTOR COMPANY LTD.

GENERAL DESCRIPTION

The RCA Victor Model V84B Record Player attachment is designed for use with a battery-operated receiver where a mechanical type unit is required having the characteristics necessary for record fidelity. The motor is of the mechanical, spring wound, variable speed type completely governed to maintain a constant speed. The pickup assembly is of the crystal type and incorporates a replaceable needle. A volume control is placed across the pickup output terminals providing a means of controlling the output voltage.

MOTOR SERVICE DATA

Motor.—The drive motor is of simple design and substantial construction. It should require little or no service if properly maintained. Attention to lubrication of the moving parts and occasional cleaning of the mechanism will go far to prevent faulty operation. Should it become necessary to repair the motor, the following procedure should be applied: **CAUTION.**—Allow the motor mechanism to run down completely before attempting adjustment, repairs, or replacements.

Removing Motor from Cabinet.—Remove the winding crank. Remove the four wood screws holding the base board in the cabinet. To dismount the motor, remove "C" washer from spindle shaft and remove turntable, slightly tapping the spindle while exerting an upward lift on the turntable. Loosen the screw holding the speed-regulating lever and remove the latter. The three screws holding motor to motor board should then be removed.

Replacing Main Spring Barrel.—In case of main spring failure, the entire spring barrel and gear should be replaced. Remove the spring-barrel spindle screw by **unscrewing to right**. Remove the C washer and two pillar screws holding bottom plate. Remove bottom plate, intermediate spindle shaft, and spring barrel. Reassemble parts in reverse sequence.

Winding Shaft Spring.—This spring functions as a friction ratchet. It may be removed as follows: remove pin holding winding worm on shaft; remove winding shaft; then remove screw holding spring. Replace in reverse sequence.

Speed Regulator Lever.—After assembly, adjust the speed regulator until the turntable rotates at 78 r.p.m.; loosen the speed regulator screw and set pointer to center of speed indicator scale; tighten screw and recheck turntable speed.

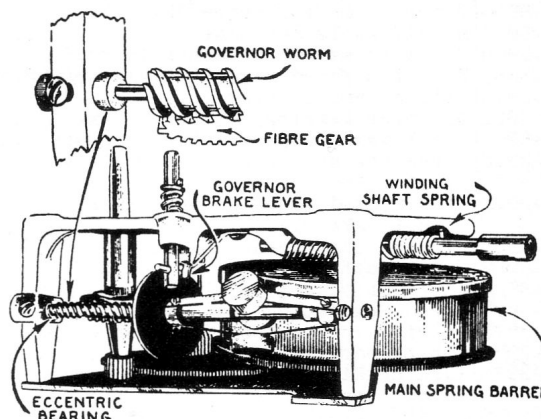
Lubrication.—All moving parts of the motor should be thoroughly cleaned and lubricated every six months to prevent excess wear and to assure proper operation. A small amount of grease should be applied to the worm gear of the governor, the gear of the winding shaft, and on the small pinion gear. All other points, including regulator friction pad, should be lubricated with light oil. All motor parts should be covered with a light film of oil to prevent rusting.



MODEL V84B

CABINET DIMENSIONS

Height	4¾ inches
Width	13½ inches
Depth	10 inches



Motor Adjustments:

Speed variations or WOWs may be experienced with these instruments due to a variety of causes. Some of the troubles and corrections are listed below:

1. A regular WOW occurring on every revolution of the turntable, or every few revolutions.

(a) A frequent cause of this difficulty is faulty adjustment of the governor springs. If the governor weights seem to oscillate in and out when the motor is in operation, the spring tension of the three weights may not be evenly balanced. Loosen the spring clamping screws and position the springs so that all three weights are held with the same tension.

- (b) Another possible cause of this trouble is faulty adjustment of the governor bearings. To adjust these bearings:

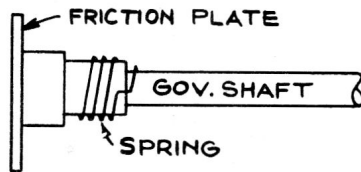
First: Set the speed regulator lever so that the face of the felt friction pad is accurately parallel to the governor friction plate.

Second: Loosen both governor bearing set screws and position the governor so that the motor revolves at rated speed (78.4 rpm).

Third: Adjust the mesh of the worm and the fiber drive gear by turning the eccentric bearings. These should be set so that the worm meshes properly with the fiber gear without binding.

Fourth: Adjust the distance between bearings so that the governor turns freely with a minimum of end-play.

- (c) A take-up spring is mounted on the governor friction plate shaft to ensure against lost motion and erratic operation of this plate. It is essential that this spring be in place and adjusted to provide adequate tension. It should be positioned as indicated in the sketch below.
- (d) Marred or broken teeth on either gear on the turntable shaft or on the intermediate gear shaft may cause this trouble. If inspection shows this to be the case, the defective gear should be replaced.



Correct Position of Take-up Spring

2. The turntable loses speed or WOWS on the louder parts of a record:

- (a) This may be caused by failure of the governor to respond accurately to speed changes, due to excessive or irregular friction between the sliding friction plate and the governor shaft. When this occurs it may be corrected by removing the weights and working the plate back and forth until it frees up. If the governor shaft does not have a smooth surface it may be necessary to smooth it down slightly using "Crocus Cloth" or to replace the governor.
- (b) This condition may also be caused by excessive friction in any part of the motor. Be sure that the governor bearings are properly adjusted as described in section 1 (b). Lubricate all bearings in the motor using a high grade light oil. The governor shaft, friction plate, and felt friction pad should also be lubricated with this oil. Lubricate the worm with a light grease such as RCA Stock No. 10975 Electric Motor Grease. Remove the main spring and pack it with a graphite lubricant.

3. The turntable speed changes erratically over long periods of time.

- (a) This may be caused by binding of the main spring due to improper lubrication. To correct this condition pack the spring with graphite grease as described in section 2 (b).
- (b) Make sure that the top of the main spring housing does not rub on the end of the winding shaft.
- (c) Inspect the gear teeth on the main spring gear. If these are marred or broken, it may be necessary to replace the spring assembly.

ELECTRICAL SPECIFICATIONS

A 500,000 ohm Volume Control is connected across the output of the crystal cartridge. The centre lug of the control is connected to the common side by a 470,000 ohm resistor in series with a 470 micro-micro farad capacitor. The output cable is connected across the 470 MMF capacitor.

REPLACEMENT PARTS FOR MODEL V84B

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK NO.	DESCRIPTION	STOCK NO.	DESCRIPTION
MOTOR ASSEMBLIES			
S-3956	Governor Spring Screw (Pkg.3).....	S-3989	Turntable brake.....
S-3957	Metal Handle Escutcheon.....	S-3990	Spring barrel shaft rivet.....
S-3960	Screw to attach Governor to Shaft....	S-3997	Rubber washer for mounting screw (Pkg.3).....
S-3962	Felt for speed regulating lever(Pkg.3)	S-3999	Governor shaft.....
S-3963	Spring barrel cover.....	S-4000	Intermediate gear complete.....
S-3964	Governor Bearing Set Screw (Pkg.3)...	S-4001	Governor bearing.....
S-3965	Steel washer for mounting screw(Pkg.3)	S-4002	Motor frame.....
S-3966	Screw for attaching bottom plate to motor frame (Pkg.3).....	S-4004	Governor bearing.....
S-3967	Washer used under speed regulator post (Pkg.3).....	S-4153	Turntable.....
S-3968	Winding shaft gear.....	S-4156	Speed Indicator Dial.....
S-3969	Motor bottom plate.....	PICKUP ARM ASSEMBLIES	
S-3970	Speed Indicator pointer.....	S-3481	Arm-Pickup arm shell.....
S-3971	Speed Regulating lever with felt....	S-3693	Crystal-Crystal cartridge.....
S-3973	Tension spring used on speed Reg.Post	S-3482	Base and pivot shaft.....
S-3974	Spring barrel cup and gear.....	S-3484	Needle screw (Pkg.2).....
S-3975	Tubular Rivet for attaching Regulating lever to Motor frame (Pkg.3)...	S-3513	Screw-Crystal retaining screw (Pkg.10).....
S-3976	Spring barrel complete.....	MISCELLANEOUS ASSEMBLIES	
S-3977	Mainspring.....	31986	Cable-Pickup Cable.....
S-3979	Governor Spring and Weight.....	31054	Grommet-Pickup base grommet.....
S-3980	Spring barrel shaft winding gear.....	S-4159	Knob.....
S-3981	Governor tension spring.....	31048	Plug-Pickup cable plug.....
S-3982	Spring barrel shaft used with S-3980.	S-3515	Rest-Arm rest.....
S-3984	Fibre Handle Escutcheon.....	S-4158	Volume Control-500,000 ohms.....
S-3985	Winding Shaft.....	30643	Resistor-470,000 Ohms.....
S-3986	Winding Handle.....	S-4195	Capacitor-470 MMFD.....
S-3988	Clip to hold spring barrel shaft to bottom plate.....		

All parts and prices subject to change or withdrawal without notice.