

RCA VICTOR PORTABLE VICTROLA MODEL 2-19

(1935 Production)

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:

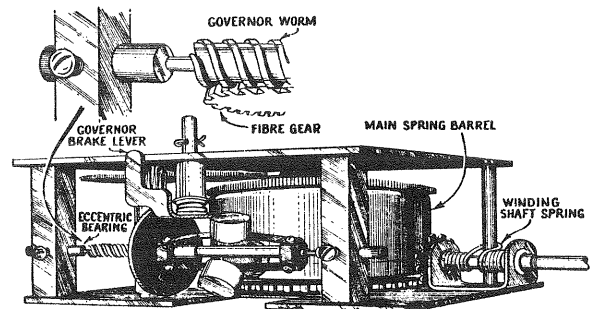
CAUTION.—ALLOW THE MOTOR MECHANISM TO RUN DOWN COMPLETELY BEFORE ATTEMPTING ADJUSTMENT, REPAIRS OR REPLACEMENTS.

Removing Motor from Cabinet. Remove the winding key. To dismount the motor, unscrew the spindle cap with a small rod or nail and remove the turntable. Remove the five screws holding the motor board and lid support to the cabinet and lift the motor board assembly clear. Loosen the set screw holding the speed-regulator lever and remove the latter. The four nuts supporting the motor to the board should be loosened to permit removal of the motor mechanism.

Motor Main Spring. In case of main spring failure, it is recommended that the entire spring barrel and gear be replaced, since the procedure of spring installation requires a good deal of care and involves slight danger. The additional cost of the spring barrel is offset by the saving in labor. To the service man who is properly qualified for handling springs of this type, and who will find it unnecessary to observe the above recommendation, the following method of replacement is suggested:

(a) Allow the motor mechanism to run down completely. Loosen the four pillar nuts which secure the motor to the top plate. Raise the plate slightly and remove the spring barrel. The barrel cover should be removed by gently tapping around its edges, firmly grasping the barrel in one hand, holding it open side downward over a large can or similar container to give protection against the sudden expansion of the spring when released. After removing the cover, pull the center turns of the spring from the barrel and as soon as the spring begins to emerge, withdraw the hand and allow the spring to escape into the protective can.

(b) The new spring is furnished coiled and clamped in shape with a heavy ring. It should be inserted by holding the barrel in one hand and forcing the spring into place with the other. The end of the spring should be placed over the barrel hook and in such position that the spring spirals in a clockwise direction toward the center. The spring should be



pushed into the case, allowing the shipping clamp to become disengaged. Apply a moderate amount of spring lubricant to the spring coils and replace the barrel cover.

(c) Return the barrel mechanism to the motor assembly in a manner reverse to the method of removal.

Winding Shaft Spring. This spring functions as a friction ratchet on the winding shaft. It can be removed by taking the main spring barrel from its mounting, clamping the lower motor plate in a vise, and turning the winding crank in the "wind" direction, at the same time forcing it inward until the spring slides off the shaft. To install a new spring, place it in position hooked around the pillar post; insert the crank through the spring and screw it into the winding shaft. Continue turning the crank in the "wind" direction, simultaneously pulling it outward until the shaft is properly fitted into the spring. Reassemble the motor.

GOVERNOR ADJUSTMENT

The mesh of the worm and fibre gears is adjustable by rotation of the two governor spindle bearings. This operation

shifts the spindle bearing holes, due to their eccentric locations in the bearing parts as shown in the illustration. To obtain the proper mesh between the gears, turn the bearings so that the worm moves in toward the fibre gear and binding occurs. Then gradually "back off" on the bearings until smooth operation is obtained. The action of the mechanism can be tested by spinning the governor during the adjustment and noting how freely it operates. It is important to have the two spindle bearing holes accurately aligned with each other. This condition is maintained by always adjusting the bearings to the same relative positions. The minimum of spindle end play which will permit smooth operation should be used. This is preferably adjustable by moving the *left* spindle bearing in or out as required.

SPEED REGULATOR LEVER

It is desirable to have the turntable operate at its normal speed (78 r.p.m.) when the regulator lever sets at its mid-position. To accomplish this adjustment, place the motor in operation, adjust the lever until the turntable revolves

steadily at 78 r.p.m.; loosen the set screw which clamps the lever to the brake shaft and shift the lever to the center of the speed indicator scale; tighten the set screw and re-check the turntable speed.

LUBRICATION

Premature wear and failure of parts are direct results of failure to clean and lubricate the motor at necessary intervals. The various bearings and gears of the motor should be cleaned and lubricated at least once every six months. A drop of oil should be applied at the following locations: Regulator friction pad, governor spindle bearings, governor spindle slide mechanism, top and bottom bearings of the turntable spindle, and at the upper and lower bearings of the spring barrel. A small amount of grease should be applied to the worm gear of the governor, to the gear of the winding shaft, and on the small pinion gear. Spring lubricant should be used on the spring of the winding key coupling, and when necessary on the main spring. In addition to the regular lubrication, all motor parts should be covered with a light film of oil to prevent rusting. The oils and greases required are listed under replacement parts.

REPLACEMENT PARTS

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

Stock No.	Description	List Price	Stock No.	Description	List Price
7720	Arm—Tone arm assembly.....	\$3.26	7935	Leather—Friction leather for turntable brake—Package of 10.....	\$0.20
7943	Barrel—Spring barrel—Complete with winding gear and drive gear.....	2.20	7933	Lever—Speed regulator lever and plate.....	.22
7946	Board—Motor board with horn—Less hardware and motor—Green.....	2.85	7228	Lubricant—RCA Victor spring lubricant—1 pint can.....	.65
7947	Board—Motor board and horn—Less hardware and motor—Blue.....	2.85	7931	Motor—Motor complete with spindle cap...	5.60
4113	Bracket—Sound box rest bracket.....	.50	7226	Motor grease—RCA Victor motor grease—1 pint can.....	.40
7930	Brake—Turntable brake.....	.36	7227	Motor oil—RCA Victor motor oil—1 pint can.	.50
7950	Cabinet—Complete with handle and catches—Black.....	10.85	7936	Nut—Motor mounting nut assembly—Comprising 2 nuts, 1 washer, 1 lockwasher and 1 rubber cushion.....	.10
7951	Cabinet—Complete with handles and catches—Blue.....	10.85	7941	Plate—Top plate assembly.....	.50
7932	Cap—Turntable spindle cap.....	.16	7944	Regulator shaft—Complete with friction lever and pad with cotter pin.....	.24
4116	Catch—Cabinet catch—Complete with mounting rivets—Package of 2.....	.40	4115	Screw and washer—Motor board mounting screw and washer—Package of 3.....	.25
7949	Clamp—Record clamp with rivets.....	.40	6933	Sound box—Complete with needle screw...	1.80
4109	Cup—Needle cup.....	.22	4118	Screw—Needle holding screw—Package of 10.	.65
7948	Escutcheon.....	.15	7939	Spindle—Turntable spindle—Complete with two gears.....	.72
7945	Gear—Intermediate gear, pinion and shaft..	.40	7957	Spring—Main spring for motor.....	1.00
7938	Gear—Winding gear, sleeve and shaft.....	.28	7934	Spring—Coil spring for turntable brake—Package of 10.....	.30
7940	Governor assembly—Comprising governor spindle, disc, collar, governor weights and springs.....	2.20	7942	Spring—Winding lock spring (ratchet).....	.15
7937	Governor weight and spring assembly.....	.20	4114	Support—Lid support.....	.25
6838	Handle—Carrying handle.....	.82	7928	Turntable—Green.....	1.12
7927	Holder—Needle holder.....	.35	7929	Turntable—Blue.....	1.12
7926	Key—Winding key.....	.42			

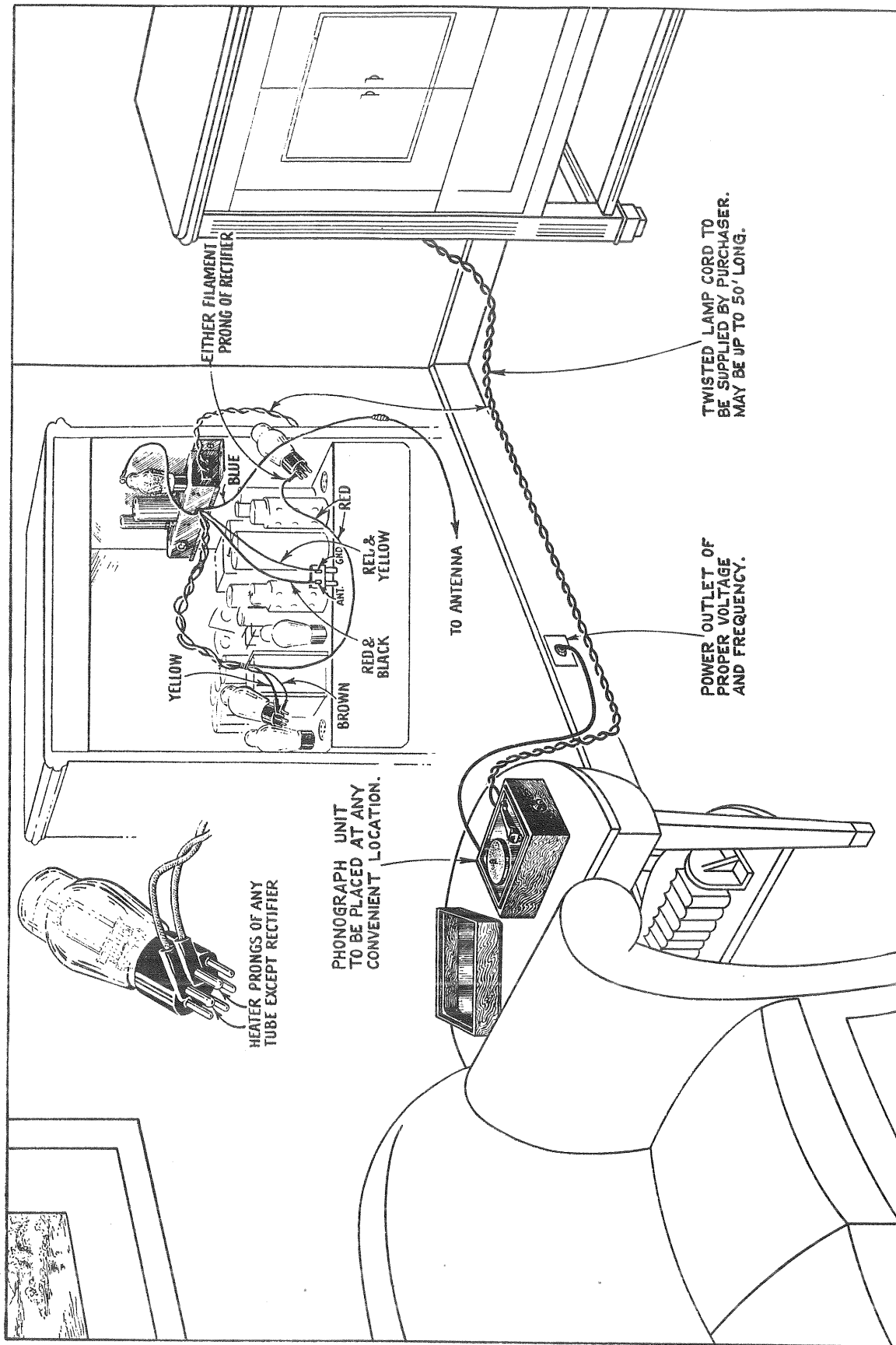


Figure 1—Typical Connections of RK-24 Phonograph Oscillator to Model R-93 Record Player