

SUBJECT: 2600 Series Phonographs - Replacement of ball thrust bearing and adjustments of 33/45 turntable motor and gear assembly to correct waver.

The early production of the above subject turntable motor and gear assembly used a 1/4" ball bearing which is seated in the end of the double worm gear on the motor shaft. In the 45 R. P. M. drive position the gear thrust is in the direction of the delrin tip on the thrust adjusting screw. The 1/4" ball, in some cases, did not seat squarely in the center bore of the worm gear. This caused the ball to run in an elliptical motion setting up an undesirable vibration which could affect the tone quality of the music. Also, difficulty was sometimes experienced in centering the adjustable thrust bearing bracket so that the 1/4" ball would clear the brass ferrule on the delrin tip.

This has been corrected by removal of the brass ferrule, using a $7/32^{"}$ diameter Ball Bearing, Part No. 46107, and a change in adjustment of the delrin thrust tip which should now be from zero clearance to a maximum of .002" between the delrin tip and the ball bearing. The foregoing improvements were incorporated in production as of June 5, 1962.

The adjustment procedure for the setting of the drive gear mesh has been revised from that which appears in the 2600 Manual to the following:

- 1. Disconnect the turntable motor Amplok Plug shown in the 2600 Manual on Page 26, Figure 59, Item 13.
- 2. Make any selection without a record in place.
- 3. When the mechanism is in play position insert a .070" thickness gauge between the Shift Lever, Figure 59, Item 4 and the Lower Stop Screw, Item 6.
- 4. Adjust the Lower Stop Screw so that when the turntable flywheel is turned manually, the teeth on the 45 R. P. M. delrin gear drag lightly on the worm gear.
- 5. Remove the .070" thickness gauge and hold it in position between the Upper Stop Screw, Item 3 and the Shift Lever, Item 4.

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- 6. With the gauge held in position, momentarily close the Cam Lever Switch to energize the Shift Solenoid. This will clamp the gauge in position.
- 7. Adjust the Upper Stop Screw so that, when the turntable flywheel is turned manually, the teeth on the 33 1/3 delrin gear drag lightly on the worm gear.
- 8. Remove the .070" thickness gauge.
- 9. Loosen the two mounting screws which hold the Shift Solenoid to the mounting bracket.
- 10. While the solenoid is energized place the left thumb under the body of the solenoid at the center and the first two fingers over the top of the frame and resting on the edge of the mounting bracket. Lift the solenoid and shift lever until the shift lever is stopped by the upper stop adjusting screw. Tighten the solenoid mounting screws at this position. Release the interlock solenoid by lifting the flat latching spring to release the shift solenoid. Check the shift linkage action to make sure that solenoid and plunger are in line and free from binds.
- 11. Operate the reject button to return the changer mechanism to rest position and connect the turntable motor plug.
- 12. Should a waver still persist, remove the complete turntable motor and gear assembly and closely examine the worm gear for sharp and rough edges. This condition may be corrected by applying a paste mixture of light oil and Ajax or similar kitchen cleaner to the gears. Run-in, under load, for one hour at each speed, adding the paste occasionally to burnish the worm gears. Thoroughly wash the abrasive paste from the gears and lubricate with Houghton Absorbed Oil, Part No. 21934-A. Motor bearings and shafts should be lubricated with S. A. E. No. 10 Motor Oil. Worn delrin gears in need of replacement may be ordered by Part No. 119744 for 33 1/3 and Part No. 119745 for 45 R. P. M.