

SERVICE NOTE

SUPERSEDES
None

HP 3960 PORTABLE ANALOG TAPE RECORDER

All Models

Procedure for Replacement of

Capstan Motor Tachometer Lamp Assembly (03960-60040)

Procedure for replacement of the tachometer lamp assembly is not contained in the manual. This service note will provide procedure for tachometer lamp replacement. Furthermore, the type of lamp has been changed to facilitate replacement and improve performance. The changing of the lamp type necessitated changing a resistor on the power supply printed circuit assembly to provide more current to lamp.

NOTE: The change on the power supply board should not be incorporated unless the tachometer lamp is replaced.

A. Parts Required

1. 1 each HP Part Number 03960-60040, Lamp Assembly
2. 1 each HP Part Number 0812-0058, Res 8.2 ohm 2W

B. Implementation

1. Refer to 3960 Operating and Service Manual, Section 9, to gain access to capstan assembly.
2. Remove four 10-32 1/2 screws holding motor on to capstan casting.
3. Using knife blade, force in between motor cover and motor base plate.
NOTE: Caution--Insert blade approximately 1/4 inch to avoid damage to capstan motor armature. Rotate blade 90° in order to peel motor cover off.
4. Caution--To prevent damage to capstan shaft, hold shaft with a screwdriver and turn nut with a 3/8 inch wrench. Remove armature and motor base plate.
5. Lift armature off of capstan shaft. Care must be taken to retain shim under armature.
6. Remove motor base plate.

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7. Lay motor cover down in machine. NOTE: Insulate motor by laying a piece of paper or plastic under motor to insure that nothing is shorted.
8. Remove 4-40 3/4 screw holding lamp assembly. NOTE: use caution to avoid dropping hardware into capstan and do not touch tachometer disc. Operation of capstan depends upon amount of light on the photocell assembly and grease may cause erratic operation.
9. Unsolder lamp assembly wires from terminal on capstan cover and terminal lug mounted on photocell assembly.
10. Install lamp assembly making sure spacer is in place and resolder lamp assembly wires. Leave screw loose enough so that lamp assembly can be moved laterally and longitudinally.
11. Plug 3960 recorder in using power cord. Turn on recorder. Caution: Do not touch exposed wires and motor contacts as potential shock hazard exists.
12. Mechanically align lamp over photocell and tighten screws.
13. Before replacing motor, make sure shims mentioned in Step 5 are in place.
14. Position motor base plate over screw holes.
15. Install armature over shaft. Hold down armature hub and use feeler gauges to check clearance between armature and top surface of base plate. Clearance must be 0.010 to 0.020 inch, add or withdraw shims as necessary to obtain proper clearance.
16. When armature clearance has been obtained, install lockwasher and nut and tighten nut.
17. Align cover and lower one edge to base plate, but place screwdriver or knife blade between motor halves before lowering cover. Caution: The strong magnet in the cover may snap the cover away from fingers and pinch skin between the cover and base plate.
18. Install four 10-32 screws and lockwasher.
19. Reverse procedure in Section 9 of the 3960 Operating and Service Manual to reassemble recorder.

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20. Remove power supply card (Part Number 03960-60130) from the 3960 recorder.
21. Locate R30 on power regulator, inspect to insure that the resistor is 8.2 ohm 2W resistor. If it is not, replace with HP Part Number 0812-0058.
22. Reinstall power supply card and check 3960 per Section 5 of Operating and Service Manual.