SPECIAL DOCUMENTATION PACKAGE
LARK 50 SPRING TENSIONED FLAT BELT

This publication when used with the LARK 50 Hardware Maintenance Manual P/N 77711050 supports the LARK 50 configuration that has a tensioning spring on the spindle drive motor for the purpose of keeping the proper tension on the the spindle drive belt. The LARK 50 units to which this document applies have serial numbers 20001 through 26000.

Insert the pages of this document in the proper places in Section 6 of the above listed Hardware Maintenance Manual. Cross out superceded pages, but do not throw away pages that still have valid information on the other side. Cross out or throw away pages which have been superceded on both sides. If the manual is to be used to support the old configuration as well as the new described herein, do not cross out or throw away any pages except 6-1 which is to be replaced in any case. The pages of this document are marked as applying to units with the above serial numbers only, so insert them in the proper place in the manual with the old ones.

6.1 INTRODUCTION

This section contains the instructions required to maintain the LARK Micro Unit (LMU). The information presented is provided in the form of corrective maintenance. There is no preventive maintenance to be performed. All maintenance should be performed by qualified and trained service personnel.

Before performing any drive maintenance, install a scratch cartridge or equivalent in the drive and secure the carriage to prevent damage. The drive must be disconnected from the subsystem and moved to a bench test area for trouble shooting. The maintenance procedures provided in this section assume that the proper test equipment is available to troubleshoot and replace selected malfunctioning parts. In reference to the LMU, parts replacement is accomplished OUTSIDE THE SEALED AREA OF THE DRIVE, ONLY. ENCROACHMENT OF THE SEALED AREA VOIDS THE UNIT WARRANTY.

6.2 SAFETY AND SPECIAL MAINTENANCE PRECAUTIONS

Before proceeding with any maintenance, maintenance personnel should become familiar with the precautions given in paragraphs 6.2.1 and 6.2.2.

6.2.1 SAFETY PRECAUTIONS

- Use care when power is applied to the LMU. AC voltages are present on the AC distribution PWA at the back of the LMU; the cover should not be removed unless absolutely necessary.
- When working with springs or spring-loaded parts wear safety glasses and work with caution to avoid possible injury.

6.2.2 SPECIAL MAINTENANCE PRECAUTIONS

CAUTION

> The LMU shall contain a cartridge at all times whether operating or not. This is necessary to insure proper sealing of the fixed disk area from environmental contaminants. UNDER NO CONDITIONS SHALL THE COVER TO THE SEALED AREA BE REMOVED FOR ANY MAINTENANCE PROCEDURE. Maintenance in the sealed area can be accomplished only at facilities especially set up for that purpose. ENCROACHMENT OF THE SEALED AREA OF THE UNIT VOIDS THE WARRANTY.

In addition to the above special cautions, the following precautions should be taken:

- Keep disk cartridge access door closed unless it must be open for insertion or removal of cartridge. Maintenance attempts should not be made through the disk cartridge access door.
- Keep all watches, disk cartridges, meters and other test equipment at least two feet away from the voice coil magnet.
- Use a scratch cartridge to perform maintenance procedures rather than a data cartridge; otherwise customer data may be destroyed.

TABLE 6-2. LIST OF REMOVAL AND REPLACEMENT PROCEDURES

PARAGRAPH NUMBER	REMOVAL AND REPLACEMENT PROCEDURE
6.4.2.1	LMU Printed Circuit Boards
6.4.2.2	Static Eliminator Brush
6.4.2.3	Spin Motor Sensor
6.4.2.4	Spin Speed Pulley Flange
6.4.2.5	Spindle Drive Belt
6.4.2.6	Spindle Drive Motor
6.4.2.7	Spindle Motor Pulley
6.4.2.8	Belt Guard
6.4.2.9	Blower
6.4.2.10	Front Panel Switch and Lens Removal and Replacement

6.4.2.1 LMU PRINTED CIRCUIT BOARD REMOVAL AND REPLACEMENT

Removal power from drive before performing any of the following procedures.

a. Base PWA (Refer to Figure 6-1).

1. Position Drive on its left side (as viewed from front). Use spacers between drive and bench so bottom plate and covers can be removed.
2. Remove eight (8) screws that secure bottom plate to casting and remove bottom plate.
3. Remove six (6) mounting screws that secure Base PWA to casting.
4. Pivot PWA 90° clockwise to lay flat along side drive.
5. Disconnect all cables and remove PWA.

Replacement of Base PWA is reverse of removal.

b. Read Signal Processor (RSP) PWA (Refer to Figure 6-1).

1. Remove Base PWA in accordance with procedure a. except do not disconnect cables from PWA.
2. Disconnect all cables from RSP PWA.
3. Remove four (4) screws that secure RSP PWA to casting and remove PWA.

Replacement of RSP PWA is reverse of removal.

c. R/W Preamp PWA (Refer to Figure 6-2).

1. Position drive on its bottom.
2. Remove two (2) screws that secure cover to casting (two holes are provided to accommodate a screwdriver).
3. Disconnect all cables.
4. Remove three (3) screws that secure R/W Preamp PWA to casting and remove PWA.

Replacement of R/W Preamp PWA is reverse of removal.

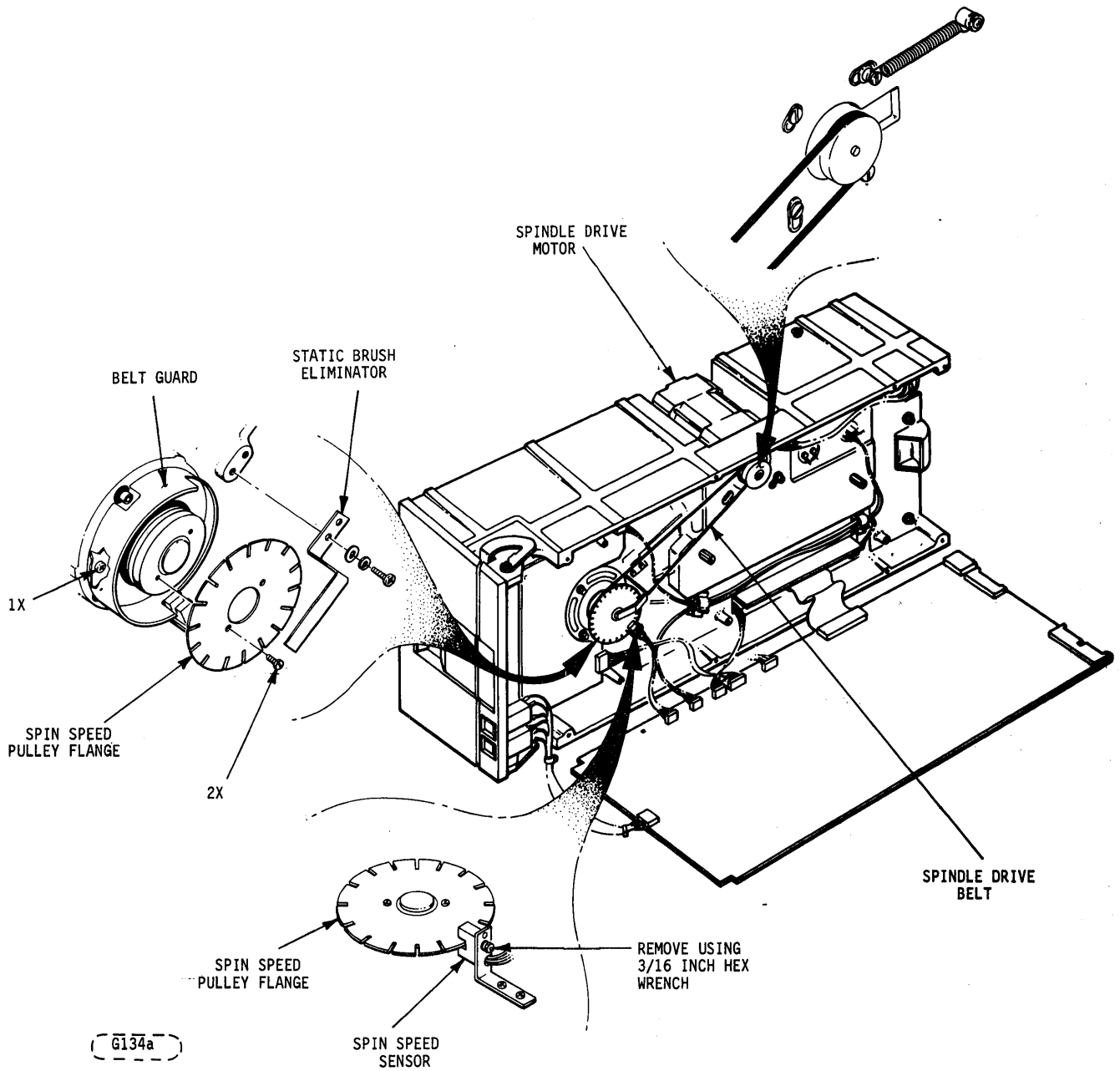

FIGURE 6-4. SUBASSEMBLY REMOVAL AND ADJUSTMENT

6.4.2.4 SPIN SPEED PULLEY FLANGE REMOVAL AND REPLACEMENT

1. Remove Base PWA in accordance with procedure a. paragraph 6.4.2.1 except do not disconnect cables.
2. Remove Static Eliminator Brush in accordance with paragraph 6.4.2.2.
3. Pivot Spin Speed Sensor in accordance with paragraph 6.4.2.3.
4. Remove two (2) screws that secure Spin Speed Pulley Flange to spindle pulley (refer to Figure 6-4).

Replacement of Spin Speed Pulley Flange is reverse of removal.

6.4.2.5 SPINDLE DRIVE BELT REMOVAL AND REPLACEMENT

1. Power down and remove bottom cover. Remove Base PWA per paragraph 6.4.2.1 except do not disconnect cables.
2. Grasp motor body and rotate it toward spindle, and while holding the motor in this position (belt tensioning spring will be exerting a force in the opposite direction), slip belt off the motor pulley. Release motor.
3. Remove Static Eliminator Brush by removing the sems screw and the screw, lock washer, plain washer and cable clamp that hold it to the deck.
4. Remove the pulley flange by removing the two self-locking screws that hold it to the spindle pulley.
5. Remove belt from the spindle pulley and replace with new belt.
6. Remount pulley flange and torque mounting screws to 3 lbf-in (0.33 Nm).
7. Remount the Static Eliminator Brush. Adjust the position of the button on the spring such that it rides off center of the spindle shaft.
8. Grasp the motor body and rotate it toward the spindle. Hold it in this position and slip belt over the motor pulley. Release motor and the belt tensioning spring should pull motor away from spindle to exert proper tension on the belt.
9. Remount the Base PWA and bottom cover per paragraph 6.4.2.1.

6.4.2.6 SPINDLE MOTOR REMOVAL AND REPLACEMENT

1. Power down and remove rear shield. Disconnect motor AC power connector ACP3 from the AC distribution PWA.
2. Remove bottom cover and Base PWA per paragraph 6.4.2.1 except do not disconnect cables.
3. Remove belt from motor pulley per 6.4.2.5.
4. Grasp the motor body and rotate it away from the spindle as far as it will go to relieve the tension on the belt tensioning spring.

CAUTION

Eye protection should be worn when working with springs or spring loaded parts.

Pull spring toward spindle to unhook it from the spring post stud. Remove any cable clamps that secure motor harness to deck.

5. Remove motor from the deck by removing the three motor mounting studs and the one spring post stud.

6. With the motor studs removed the motor and pulley can be lifted from the deck. This will free the four insulating washers on the top side of the deck and the one shoulder washer and three inserts on the bottom side.

7. Install new motor and pulley using shoulder washers, inserts and studs removed in step 5.

   Note: Four shoulder washers have a 0.060 in. (1.5 mm) thick flange. These go on the top side of the deck. One shoulder washer has a 0.040 in. (1.0 mm) thick flange. This goes on the bottom side of the deck in the round hole. The three inserts go in the three slots.

8. Rotate motor away from spindle and slip spring hook over stud post. Rotate motor toward spindle and hold in place. Slip belt over motor pulley.

9. Redress harness in its proper place in unit.

10. Reconnect connector ACP3 to AC Distribution PWA. Remount rear shield.

11. Remount Base PWA and bottom cover.

6.4.2.7 SPINDLE MOTOR PULLEY REMOVAL AND REPLACEMENT

1. Remove motor and pulley per paragraph 6.4.2.6.

2. Remove pulley from motor shaft by removing two set screws.

3. Install new pulley per Figure 6.5. Position pulley 0.380 ±0.010 in (9.65 ±0.25 mm) from motor mounting face as shown. Install set screw against flat on shaft first and torque to 12 lbf-in (1.36 Nm). Install second set screw and torque to 12 lbf-in (1.36 Nm).

4. Install motor and pulley per paragraph 6.4.2.6.

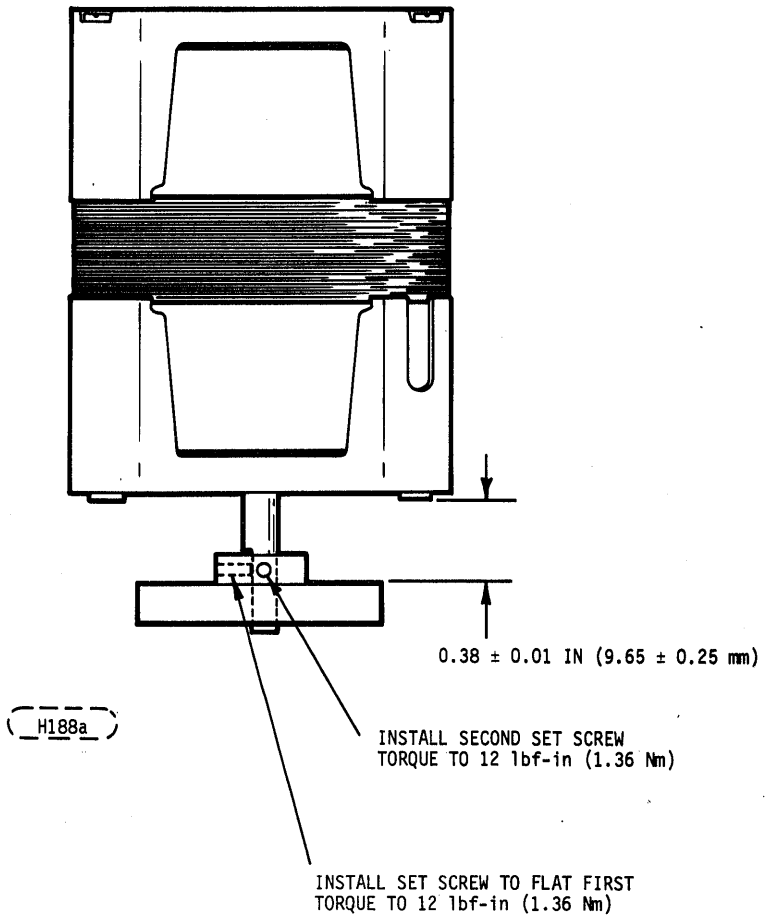

FIGURE 6-5. PULLEY POSITION DIMENSIONS

6.4.2.8 BELT GUARD REMOVAL AND REPLACEMENT

1. Remove Base PWA in accordance with procedure a. paragraph 6.4.2.1.
2. Remove Spin Speed Pulley Flange in accordance with paragraph 6.4.2.4.
3. Remove belt per paragraph 6.4.2.5.
4. Remove one (1) screw that secures plastic belt guard.

Replacement of Belt Guard is reverse of removal.

6.4.2.9 BLOWER ASSEMBLY REMOVAL AND REPLACEMENT

1. Position drive on its bottom.
2. Remove two (2) screws that secure rear cover to casting and remove rear cover (refer to Figure 6-2).
3. Disconnect motor cable from connector J2 on AC Distribution PWA.
4. Remove two (2) (with nuts) securing blower assembly to casting and remove blower.

Replacement of Blower Assembly is reverse of removal.