

SERVICE LETTER

DATE: JUNE 14, 1974

NUMBER: DK3016A

NOTE

SERVICE LETTER DK3016A REPLACES SERVICE LETTER DK3016 IN ITS ENTIRETY. REMOVE AND DESTROY, SERVICE LETTER DK3016.

TITLE: POSITIONER TRANSDUCER LAMP REMOVAL AND REPLACEMENT PROCEDURE.
ESTIMATED TIME OF REPAIR - 3 HRS.

PARTS: One Positioner Lamp Assembly (102887-01)

NOTE

1. BEFORE REPLACING LAMP ASSEMBLY INCORPORATE FCN DK3006.
2. HEADS MAY NOT BE REMOVED IF DATA ON FIXED PLATTER IS TO BE RECOVERED.
3. HEADS MAY BE REMOVED IF DATA ON FIXED PLATTER IS TO BE RECONSTRUCTED BY CUSTOMER.

(Check with customer regarding
2 or 3 above before proceeding.)

1.0 Tools Required

- 1.1 1 - 10" Philips Screwdriver.
- 1.2 1 - 10" Standard Flat Blade Screwdriver.
- 1.3 1 Complete set of Xcelite Hex Drivers
- 1.4 1 Soldering Iron
- 1.5 1 Small Pair of Diagonal Cutters
- 1.6 1 Strip of paper or Mylar .005" thick, 0.6" wide and 5" long.

2.0 Preheat Soldering Iron

3.0 Prepare drive for service

- 2.1 Power OFF and unplug unit.
- 2.2 Remove dust cover.
- 2.3 Place Logic and Servo PCBA upright in the service position.
- 2.4 Install carriage restraint on top bearing rail to keep heads from moving.

4.0 If Front Load, remove receiver and remove lower disk cover.

AVOID DAMAGE TO TRANSDUCER TIP.

5.0 Removal of the lower platter is optional. If lower platter is not removed, care must be utilized as positioner mounting strip is removed.

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- 6.0 Remove READ WRITE PCBA laying head cables against magnet front plate.
- 7.0 Remove heads if applicable (See Second Note - 1st page)
EXTREME CARE MUST BE TAKEN TO AVOID DAMAGE TO GLASS SCALE.
- 8.0 Remove Scale Shield.
- 9.0 Scribe position of reticle in holder.
- 10.0 Remove reticle from holder by removing the two washers and screws.
- 11.0 Remove scale. Do not touch the surface of the scale with bare fingers.
- 12.0 Scribe position of the positioner transducer mounting strip.
Scribe end closest to the magnet.
- 13.0 Cut the two tie wraps that secures positioner transducer cable (reticle cable) closest to the holder.
- 14.0 Remove the hex head screw (from beneath the drive) that holds the positioner transducer mounting strip closest to the spindle (See Figure 1, Page 3).

CAUTION

EXTREME CARE MUST BE TAKEN TO AVOID
SCRATCHING THE LOWER PLATTER OR BEND-
ING THE POSITIONER TRANSDUCER MOUNTING
STRIP.

- 15.0 Remove the two nylon screws that secure the positioner transducer mounting strip. Remove positioner transducer assembly.
- 16.0 Unsolder gray and white wires off of both old and new assemblies. Remove old lamp assembly and clean lamp lense.
- 17.0 Install new lamp assembly (P/N 102887-01), orient lamp terminals of new assembly in the exact location of the old terminals.
- 18.0 New bulb assembly terminals shall run parallel with positioner (See Figure 1).
- 18.1 Resolder old wires to new assembly (102887-01)

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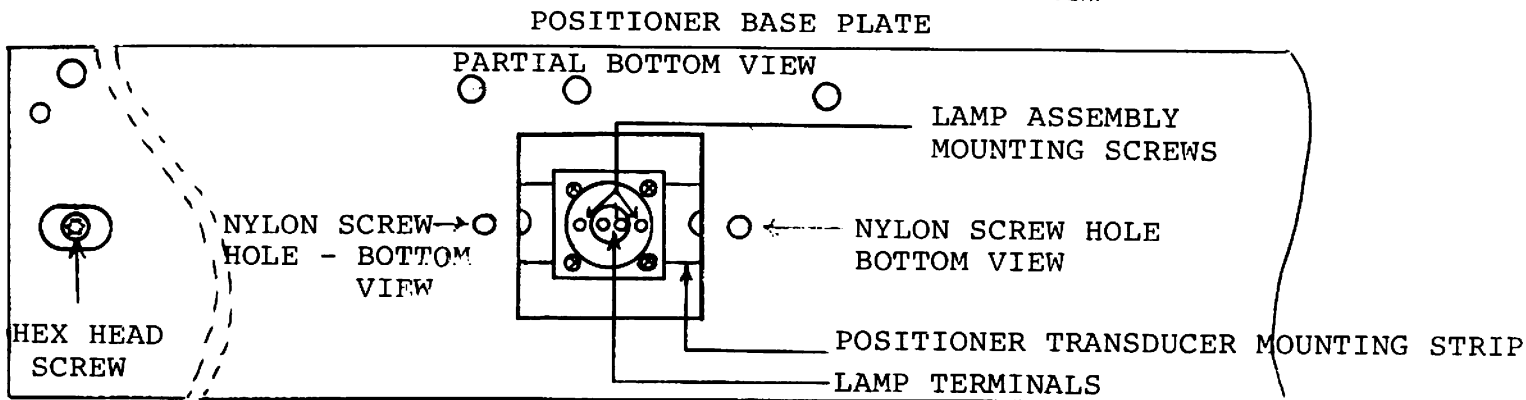


FIGURE 1

- 19.0 TAKING CARE NOT TO SCRATCH the lower surface of the LOWER PLATTER, replace positioner lamp assembly.
- 20.0 Replace socket head cap screw that holds down the positioner transducer mounting strip, but do not tighten as strip still has to be adjusted.
- 21.0 Replace nylon screws and tighten moderately after moving strip to original position marked with scribe.
- 22.0 Replace scale but do not tighten screws completely.
- 23.0 Replace reticle, aligning scribe marks and place .005 paper or mylar between scale & Reticle.
- 24.0 Slowly tighten the reticle screws and washers using the .005 paper as a feeler gauge.

CAUTION

DAMAGE TO SCALE AND RETICULE COULD
RESULT IF CARE IN ADJUSTING IS NOT
EXERCISED.

- 25.0 Moderately tighten the scale after initial adjust is obtained.
- 26.0 Remove paper strip.
- 27.0 Replace items removed in Step 4.0.
- 28.0 Regap transducers - per D3000 Manual.
- 29.0 Scale Adjustment - Electronic.

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- 29.1 Replace READ WRITE PCBA and head cables.
- 29.2 Remove J205 and J206 from SERVO PCBA.
- 29.3 Apply power and wait for "SAFE" condition.
- 29.4 Install scratch pack and depress RUN/STOP switch.
- 29.5 After approximately 33 seconds, manually load heads.
- 29.6 Slowly move positioner to CYL 202 with .005 paper installed between scale and reticule. No excessive tightness should be felt when moving the positioner its full stroke. If no tightness is observed further testing can be done.

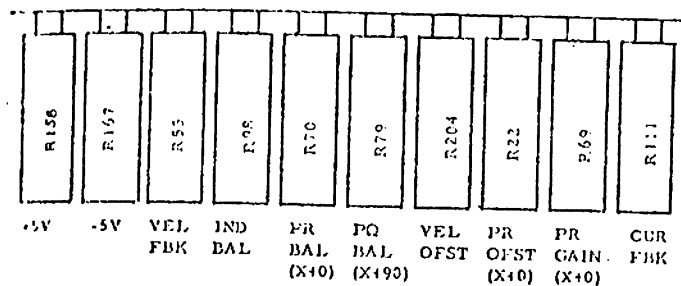
CAUTION

CARE MUST BE TAKEN AS POSITIONER IS MOVED. SHOULD POSITIONER BECOME HARD TO MOVE, STOP! SCALE BREAKAGE COULD RESULT IF POSITIONER IS FORCED.

- 30.0 Adjust R69, on SERVO BOARD to approximately its center range.
- 31.0 Adjust reticule for maximum amplitude of X+0 along with proper phase relationship using X+0 and X+90 signal polarity and quadrature check. (Ref. D-3000 Manual - Test and Adjustment Section)

S E R V O B O A R D

TOP OF BOARD



- 32.0 Observe the amplitude of the X+0 waveform. IT SHALL HAVE NO MORE THAN 10% VARIATION IN AMPLITUDE DURING THE FULL STROKE. (Cylinder 000 to 202)

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NOTE

SHOULD MORE THAN 10% VARIATION
IN X+0 BE OBSERVED AT FULL STROKE,
IMPROPER SCALE TO RETICULE ADJUST-
MENT IS EVIDENT. READJUSTMENT OF
THE SCALE IS NECESSARY.

- 33.0 After proper amplitude and variation have been achieved. Section 6 of the D3000 manual may be performed. EXCLUDE C.E. ALIGNMENT.
- 34.0 When SERVO and positioner are functioning properly, monitor the following:
- o X+0 12V peak-to-peak centered at ground after adjustment of R69 to increase previously set amplitude.
 - o X+0 Symmetrical over and undershoot on track seeks. (See Fig. 6-13 "D" in D3000 manual)
 - o X+0 Over and undershoot held within specifications. (See Fig. 6-22 in D3000 manual)
 - o X+90 Approximately +3V above ground reference on one track seeks.
- 35.0 C. E. Align, using one of the two procedures outlined below:
- 35.1 If Read/Write heads were removed, perform a normal C.E. alignment as outlined in Section 6 of D3000 manual.
- 35.2 If Read/Write heads were not removed, DO NOT PERFORM NORMAL ALIGNMENT.
- 35.3 Loosen two nylon screws and move entire reticle holder to get on correct track.
- 35.4 Tighten the hex head screw and the two nylon screws after proper adjustment is obtained.
- 36.0 Restore unit to normal operating configuration.
- 37.0 Insure proper operation by operating disk drive with dust cover on.