

SERVICE LETTER

DATE: 4-4-74

NUMBER: DK-3015

POSITIONER SCALE REMOVAL AND REPLACEMENT PROCEDURES
ESTIMATED TIME OF REPAIR 2 HRS.

PARTS: 1 - SCALE ASSEMBLY (102884-01)

NOTE

REMOVAL OF READ/WRITE HEADS

NOT NECESSARY.

1.0 Tool Required

1.1 Complete set of Xcelite hex drivers.

1.2 1 - 10" Phillips screwdriver.

1.3 1 - Strip or paper or mylar .005" thick, 0.6" wide and 5" long.

1.4 1 - Carriage restraint tube (106291-01)

2.0 Prepare Drive for Service

2.1 Power OFF and unplug unit.

2.2 Remove dust cover.

2.3 Place Logic and Servo PCBA in the service position.

2.4 Remove READ/WRITE Board

2.5 Lay head cables against positioner magnet.

2.6 Install carriage restraint on top bearing rail to keep heads from moving.

3.0 Remove 2 Phillips head screws that secure scale shield.

NOTE

EXTREME CARE MUST BE TAKEN TO

AVOID DAMAGE TO THE SCALE.

4.0 Remove Scale Shield

5.0 Scribe position of the reticule in the holder.

6.0 Remove two hex head screws and washers securing the reticule in the holder.

7.0 Lift reticule up enough to remove scale bracket without damaging the reticule, or to check for broken pieces if scale was broken.

8.0 Install new scale assembly (102884-01).

9.0 Leave 3 Allen screws that secure scale loose.

10.0 Reinstall reticule, using initial scribe marks as a rough adjustment.

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- 11.0 Place the .005 paper or mylar between reticle and scale. Adjust scale to reticle distance using the paper as a feeler gauge.

CAUTION

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

- 12.0 Only moderately, tighten the scale only after initial adjustment is obtained.
- 13.0 Remove paper strip.
- 14.0 Scale Adjustment; Electronic.
- 14.1 Replace READ WRITE PCBA and head cables.
- 14.2 Remove J205 and J206 from SERVO PCBA.
- 14.3 Apply power and wait for "SAFE" condition.
- 14.4 Install scratch pack and depress RUN/STOP.
- 14.5 After approximately 33 seconds, manually load heads.
- 14.6 Slowly move positioner to CYL 202 with .005 paper installed between scale and reticle. 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.

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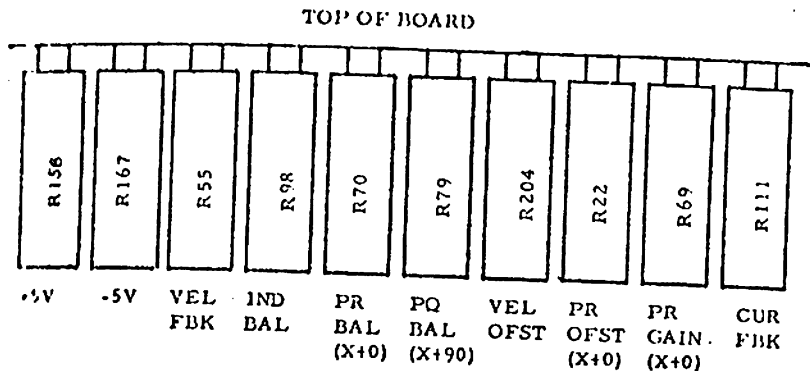
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15.0 Adjust R69, on SERVO BOARD to approximately its center range.

S E R V O B O A R D



16.0 Adjust reticule for maximum amplitude of X+0 and X+90 by using the X+0 and X+90 signal polarity and quadrature check.

(D3000 Manual, Page 6-29, 6.8.3.)

17.0 With proper amplitude and polarity achieved, observe the amplitude of the X+0 waveform. It SHALL have no more than 10% variation in amplitude during the full throw. (Cylinder 000 to 202)

NOTE

SHOULD MORE THAN 10% VARIATION IN X+0 BE OBSERVED AT FULL THROW, IMPROPER SCALE TO RETICULE ADJUSTMENT IS EVIDENT. READJUSTMENT OF THE SCALE IS NECESSARY. (REF: DK3015 Step 14.0)

18.0 After the proper percentage of variation has been achieved, Section 6 of the D3000 Manual, may be done. EXCLUDE

C. E. ALIGNMENT.

19.0 When SERVO and positioner are functioning properly, monitor the following:

- . X+0 12V peak-to-peak center at ground after adjustment of R69 to increase previously set amplitude.
- . X+0 Symmetrical over and undershoot on one

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track seeks. (See Fig. 6-13 "D"
in D3000 Manual)

- . X+0 Over and undershoot held within specifications. (See Fig. 6-22 in D3000 Manual)
- . X+90 Approximately +3V above ground reference on one track seeks.

20.0 C. E. Align, using one of the two procedures outlined below.

20.1 If READ/WRITE heads were removed, perform a normal C.E. Alignment as outlined in Section 6 of D3000 Manual.

20.2 If READ/WRITE heads were not removed, DO NOT PERFORM NORMAL ALIGNMENT.

20.3 Loosen the two nylon screws, the hex head screw (Ref: DK3016 Fig. 1, Page 3 for location) and move entire reticle holder to get on correct track.

20.4 Tighten the hex head screw and the two nylon screws after proper adjustment is obtained.

21.0 Restore unit to normal operating configuration.

22.0 Insure proper operation by operating disk drive with dust cover on.