



TITLE SCALE ASSY REPLACEMENT

PIB NO.  
DK3070

4. Lower the Sensor Receiver Assy.
  - a. Loosen the  $\frac{1}{4}$  inch horizontal clamp screw.

CAUTION - DO NOT LOOSEN THE ALLEN HEAD SCREW THAT MOUNTS THE SENSOR RECEIVER MOUNTING BLOCK TO THE BASE CASTING.
  - b. In the barrel of the Sensor Receiver Assy, there is either an allen screw or phillips head; turn CCW and press down to lower the assembly.
5. Remove the Scale Assembly.
  - a. Remove the three horizontal allen screws and bar clamp that hold the Scale Assy. The Assy will still be held by the locating pin.
  - b. Apply sufficient pressure to disengage it from the locating pin.

CAUTION - WHEN REMOVING THE SCALE ASSY ENSURE THAT IT DOES NOT CONTACT THE RETICLE.

#### SCALE ASSEMBLY INSTALLATION:

The objective is to install the replacement Scale Assy parallel to the Sensor Receiver Assy, maintaining a  $0.005 \pm .001$  inch clearance and without damage.

1. Install Scale Assembly
  - a. Align the hole in the frame of the replacement Scale Assy with the locating pin of the carriage.
  - b. Press the Scale Assy firmly against the carriage.
  - c. Reinstall the three allen head screws and bar clamp, but do not tighten.
2. Adjust the Scale to Reticle clearance for  $0.005 \pm .001$  inch throughout the range of the positioner.
  - a. Raise the Reticle by adjusting the screw inside the Sensor Receiver Assy barrel.
  - b. Use a 0.005 inch Mylar Shim, PERTEC P/N 104476-02. DO NOT USE ANY METAL SHIMS.
3. Reinstall the Lamp and Lens Assembly.
4. Disconnect P205 on the Servo PCBA. (This removes power to the Positioner, so that the Positioner may be manually moved throughout its range, with power applied to the disk).
5. Apply power to the Disk but do NOT START.
6. Ensure that the Scale is parallel to the Sensor Receiver Assy.
  - a. Connect Oscilloscope between TP20 (X+0) and TP1 (ground) on Servo PCBA.
  - b. Adjust the Scale's horizontal attitude, such that the X+0 signal amplitude remains constant,  $\pm 10\%$ , from one limit to the other of the Positioner travel.
  - c. Tighten the three allen screws that hold the Scale Assy and Bar Clamp.

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7. Adjust (rotate) the Sensor Receiver Assy for proper signal phasing of X+0 and X+90. (The object is that X+0 and X+90 are 90° apart and that X+0 and X+90 are 12 volts Peak to Peak.

Test Configuration

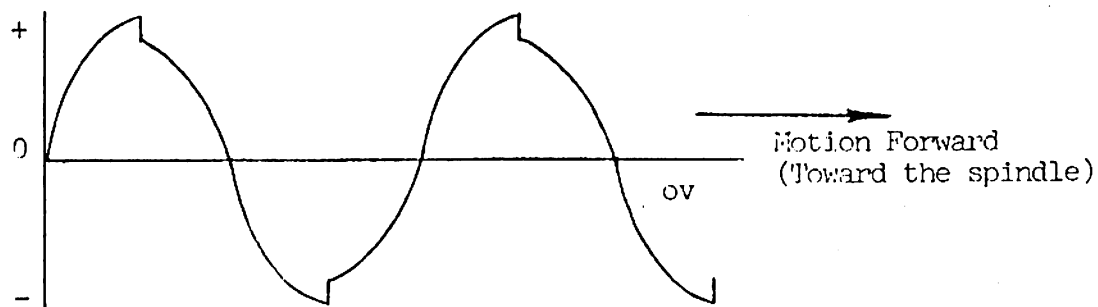
7.1 Scope, Channel A, 2V/div. monitor TP20 (X+0).

7.2 Scope, Channel B, 10V/div. monitor TP13 (X+90 digital).

7.3 Set Channel Select switch on Scope to ADD MODE. After ensuring that both signals are present by moving the positioner back and forth.

- a. Slight rotation of the Sensor Receiver Assy is required to achieve and satisfy the following proper phase relationships.

- X+90 digital (TP13) occurs at both positive and negative peaks of X+0 analog (TP20).
- While moving the positioner forward (toward the spindle) the flat part of the glitch faces toward the right of the screen.



- b. Tighten the horizontal 1/8 inch screw to clamp the Sensor Receiver Assy.  
c. Verify step 7.3a.

8. Adjust X+0 (TP20) for 12 volts Peak to Peak and balance about ground.
- a. R69 adjust the gain.
  - b. R70 adjust the balance.
9. Adjust X+90 (TP2) for 12 volts Peak to Peak and balance about ground.
- a. R226 adjusts the gain (not adjustable on older version Servo PCBA's).
  - b. R79 adjusts the balance.
10. Power off.
11. Reconnect P205 on Servo PCBA.
12. Reinstall the Read/Write PCBA.
13. Without the Heads installed see that the drive will:
- Power up and Run Mode.
  - Position to track 00.
  - Ready Mode.
- (If it does, and an exerciser is available, attempt to do seeks and proceed to step 15).

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14. If the positioner will not position at track 00, check following signals on Servo PCBA and adjust in accordance with manual.
- TP3 index analog.
  - TP2 X+90 analog.
  - TP20 X+0 analog.
  - TP13 + TP20 phasing.
15. Install Heads.

ADJUSTMENTS:

1. Perform complete Dynamic Servo Alignment in accordance with manual.
2. Perform Head alignment in accordance with manual.

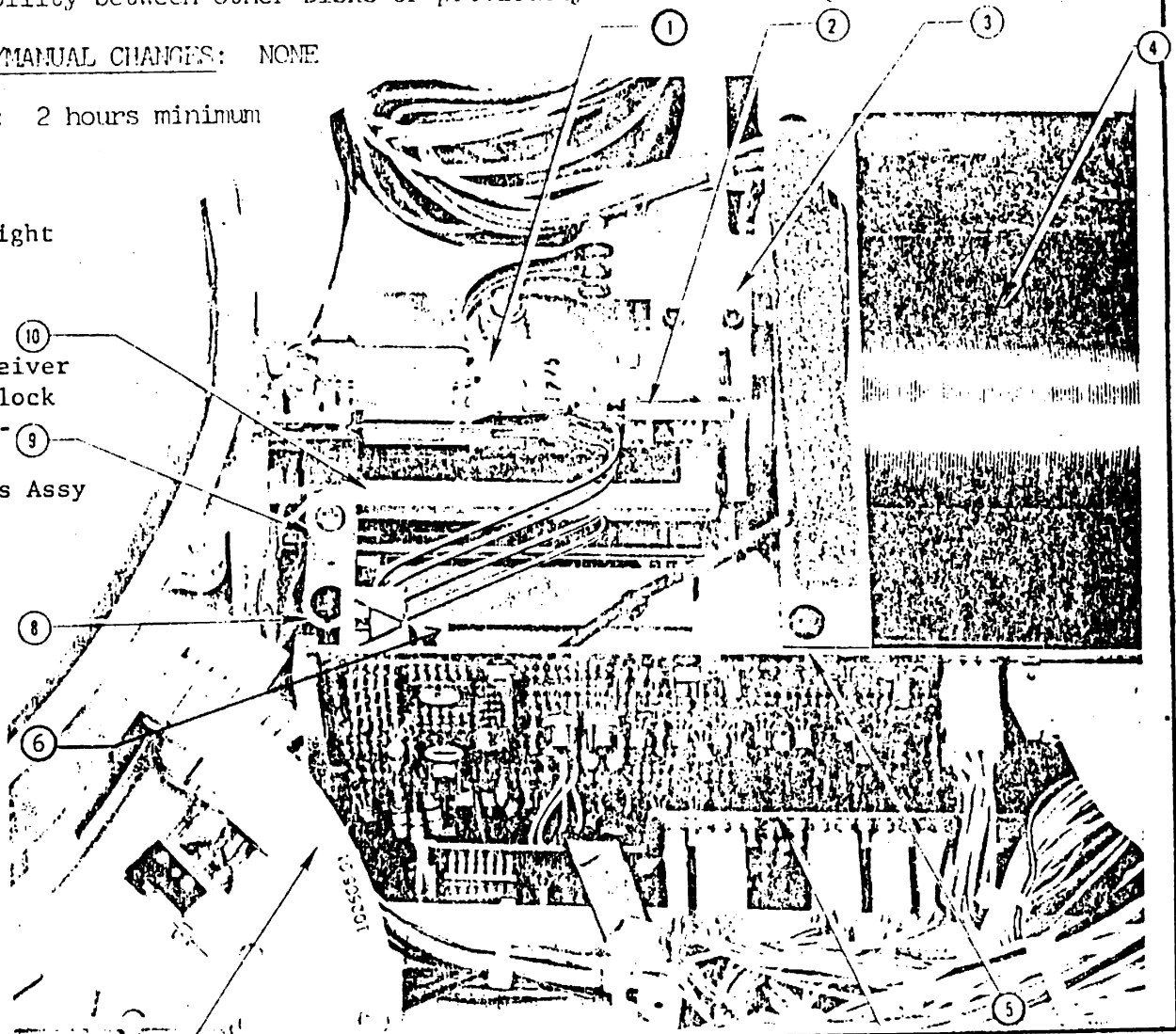
TEST PROCEDURES:

1. Ensure that Disk diagnostic test can be passed.
2. Compatibility between other Disks or previously written cartridges exists.

BOARD/DRAWING/MANUAL CHANGES: NONE

TIME REQUIRED: 2 hours minimum

1. R/W Heads
2. Head Clamp
3. Balance Weight
4. Voice Coil
5. R/W PCBA
6. Sensor Receiver Mounting Block
8. Sensor Receiver Assy
9. Lamp & Lens Assy
10. Scale Assy



(FIGURE 1)