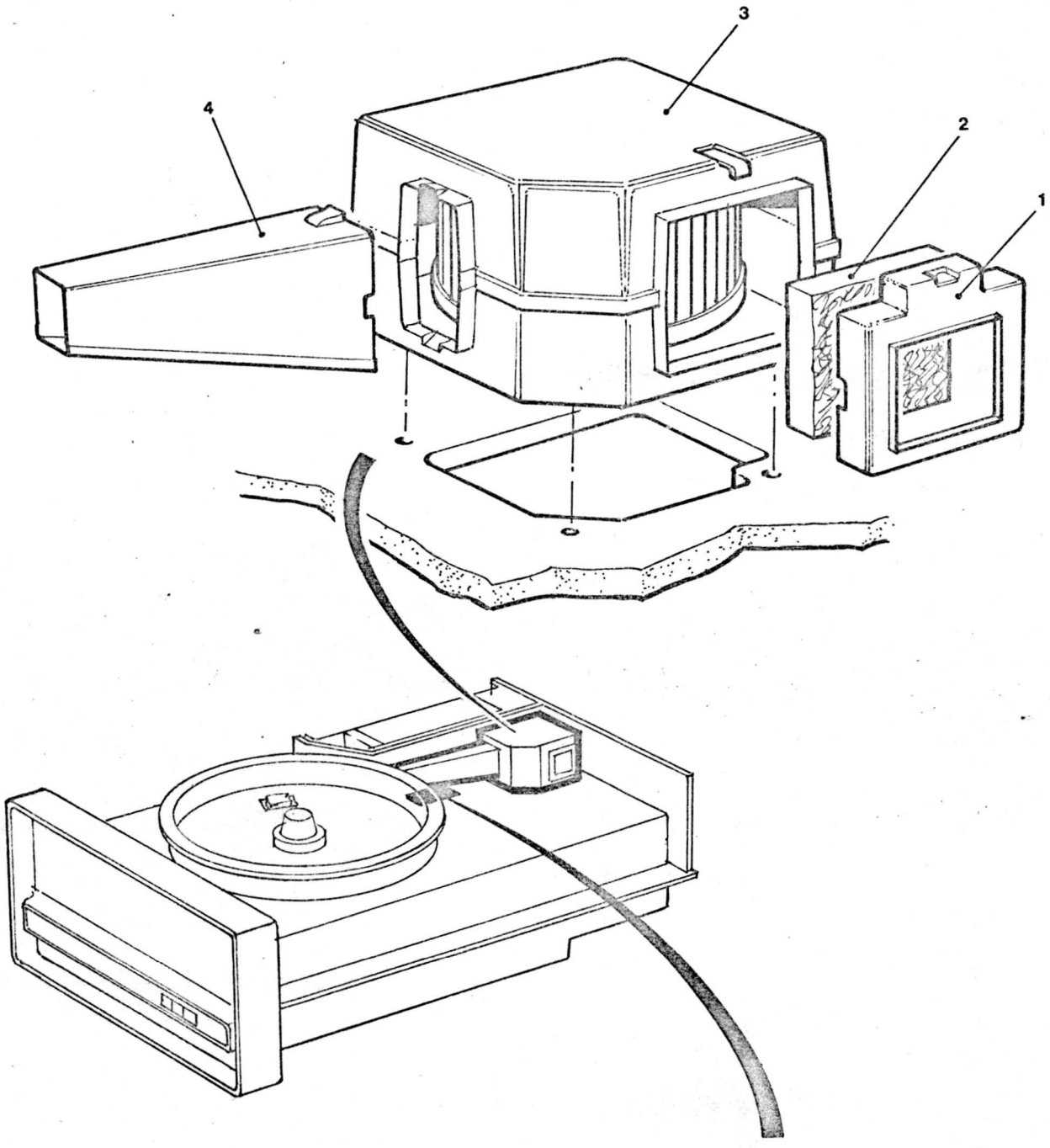
X 1210 Mono Disk Drive

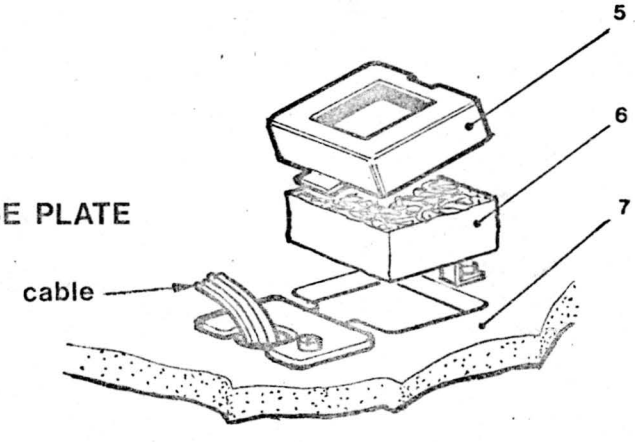
Volume 7 - Maintenance

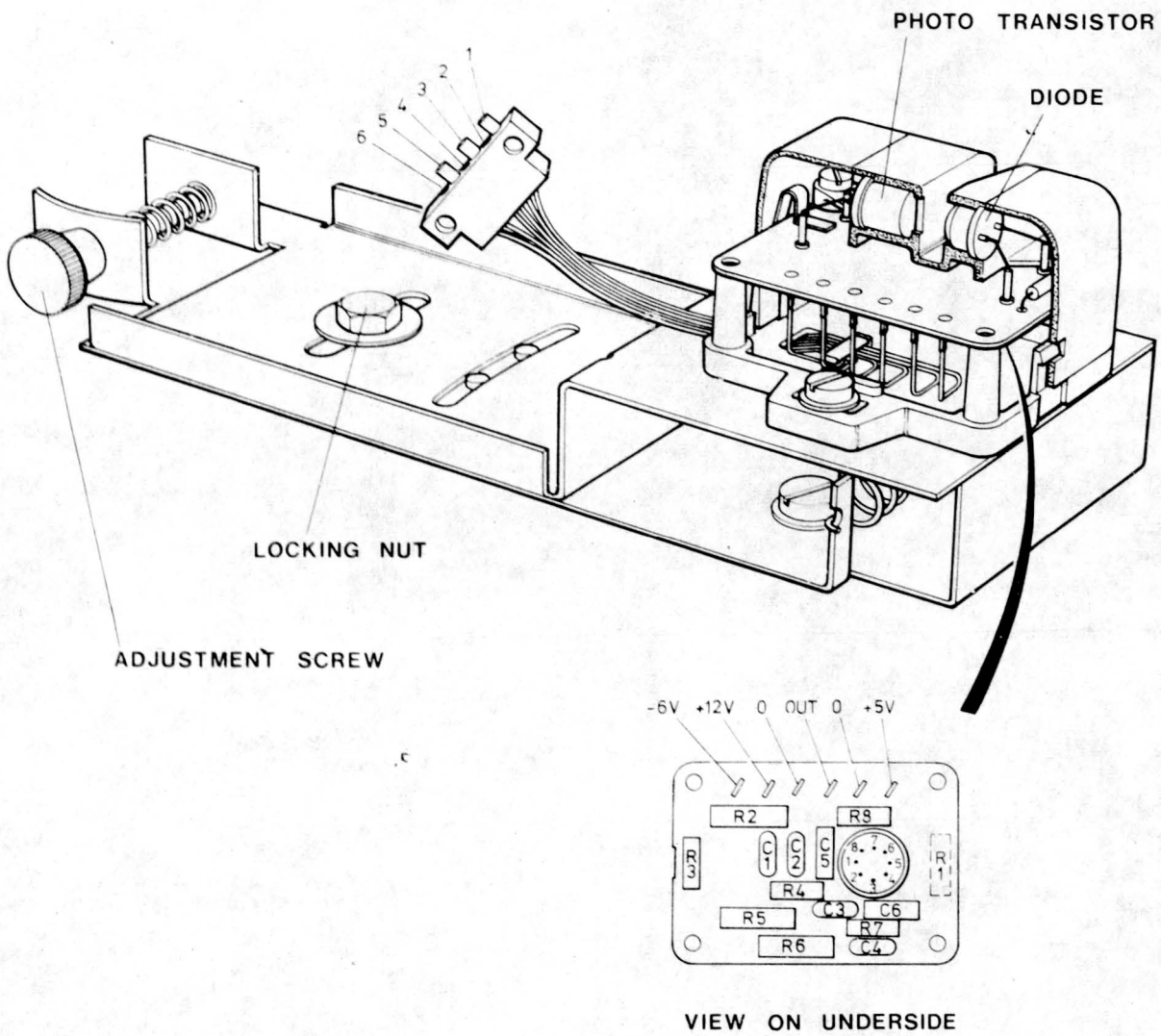
(preliminary
information)

PURIFIED AIR BLOWER FILTER



AIR FILTER – BASE PLATE





VIEW ON UNDERSIDE

FIGURE INDEX AND SECTOR UNIT

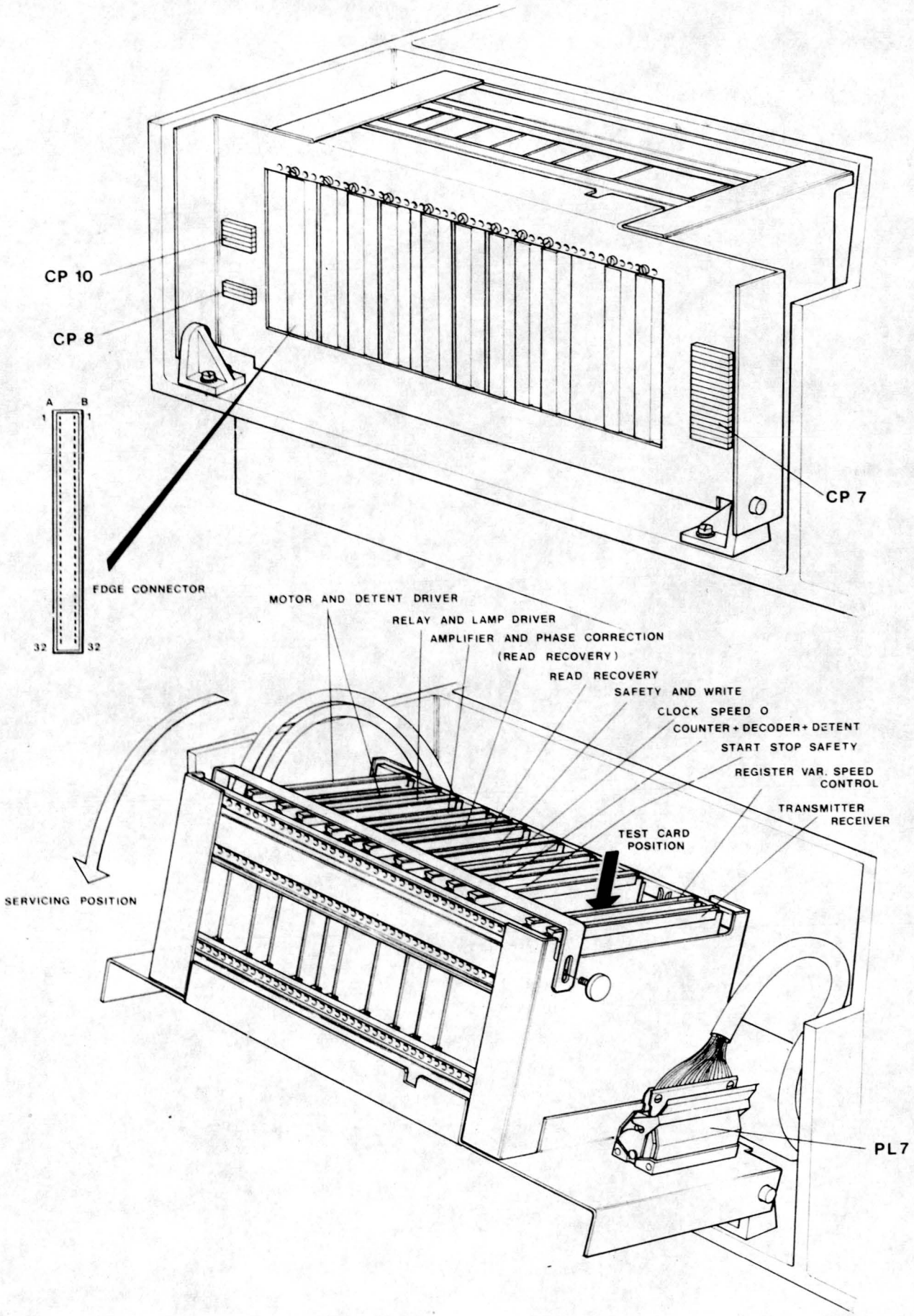


FIGURE ELECTRONICS RACK

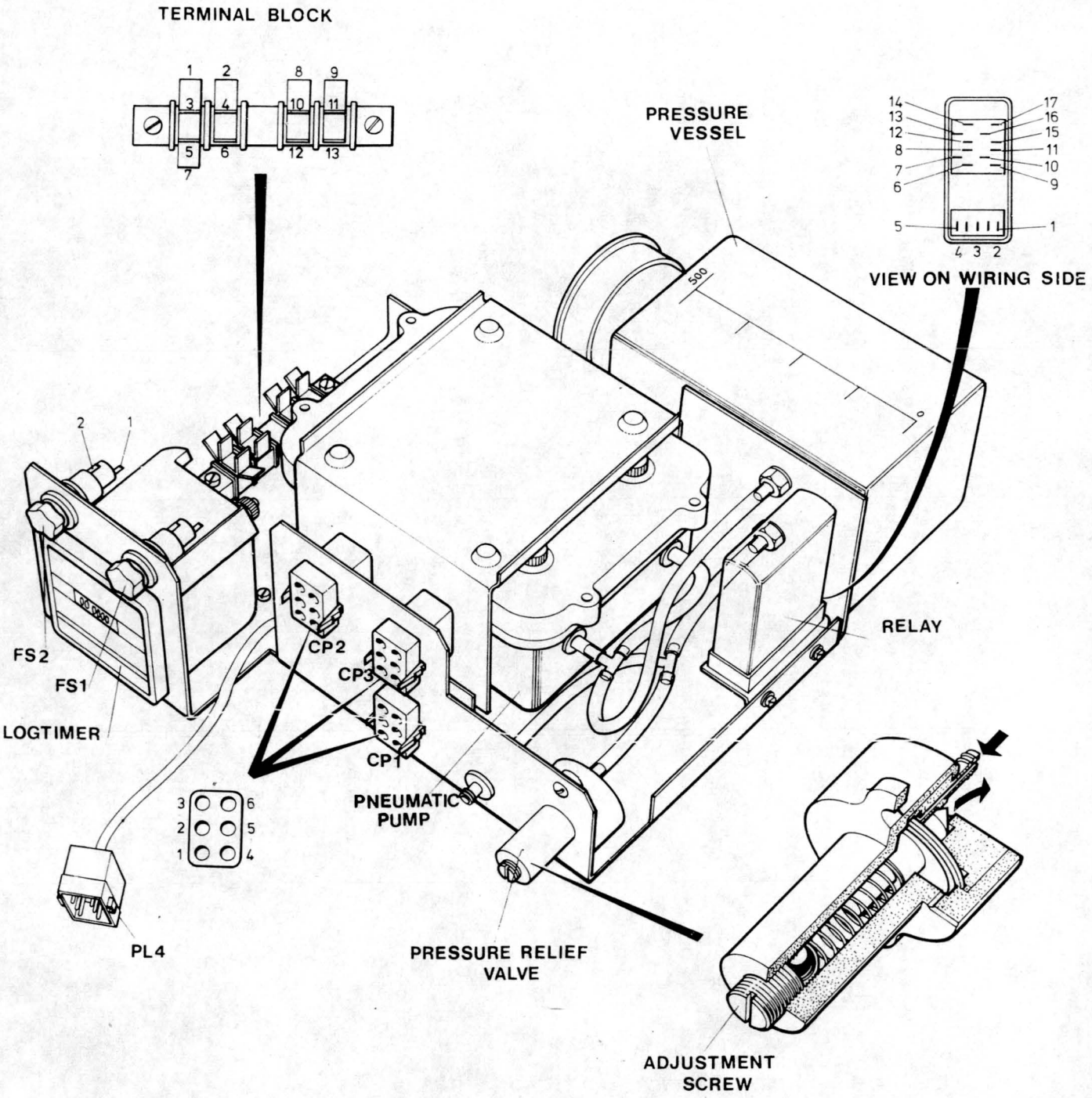
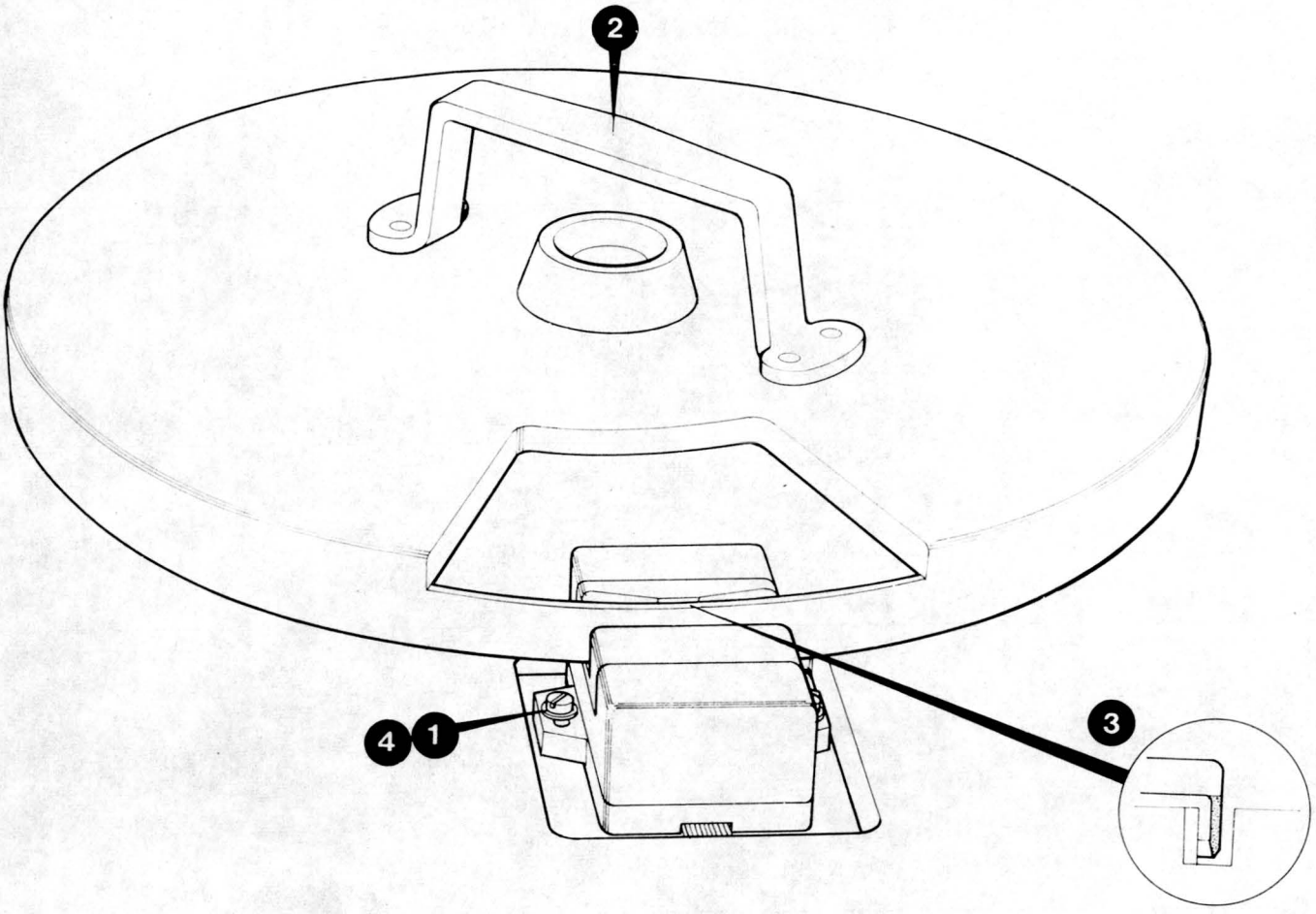


FIGURE SWITCHING UNIT



1 FIT INDEX AND SECTOR UNIT LEAVE FIXING SCREWS LOOSE

2 FIT THE RADIUS JIG ON TO THE SPINDLE

3 ALIGN INDEX AND SECTOR UNIT SO THE JIG IS CENTRAL WITHIN THE SLOT

4 TIGHTEN THE SCREWS

FIGURE RADIAL ALIGNMENT OF INDEX AND SECTOR UNIT

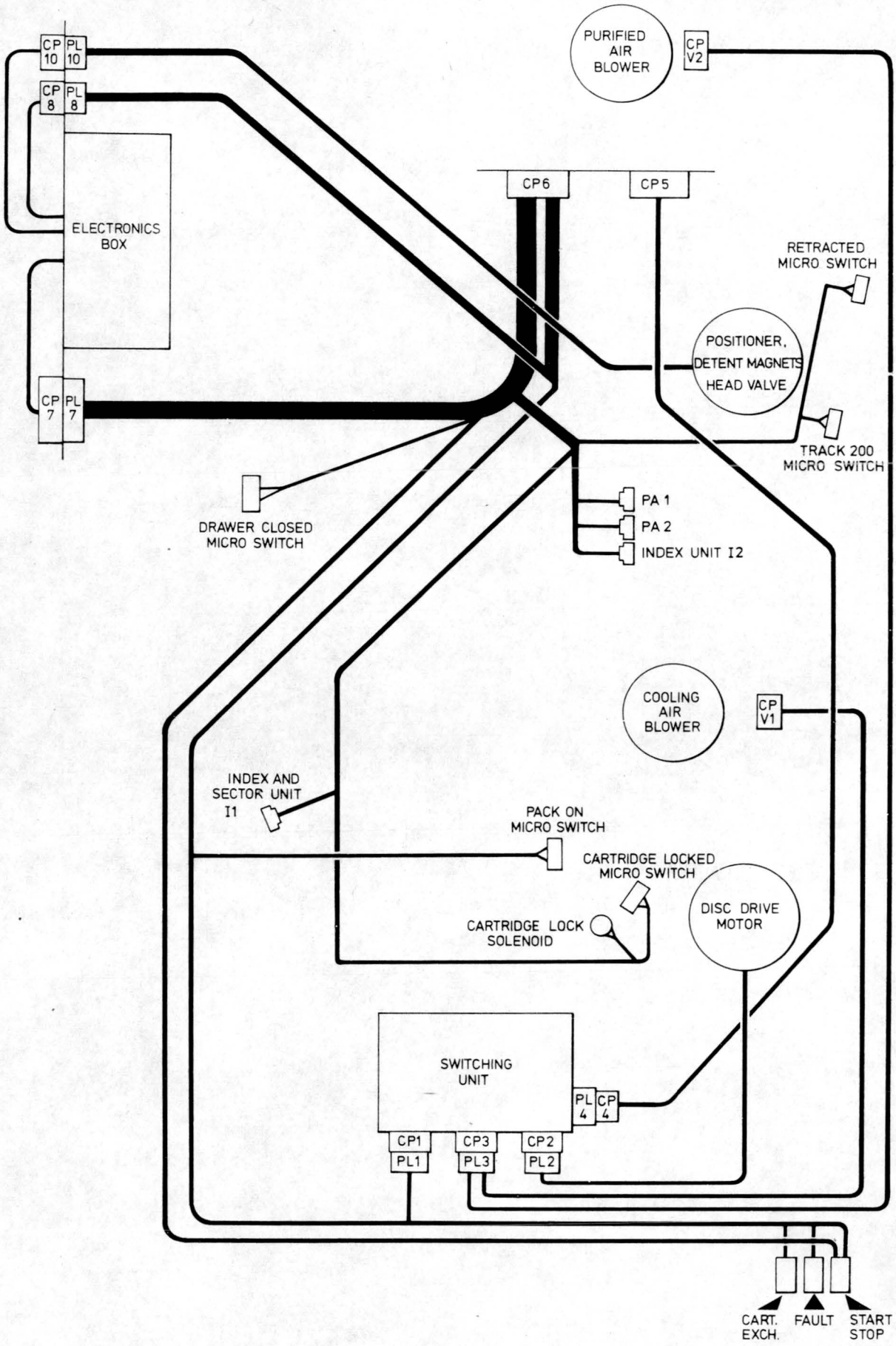
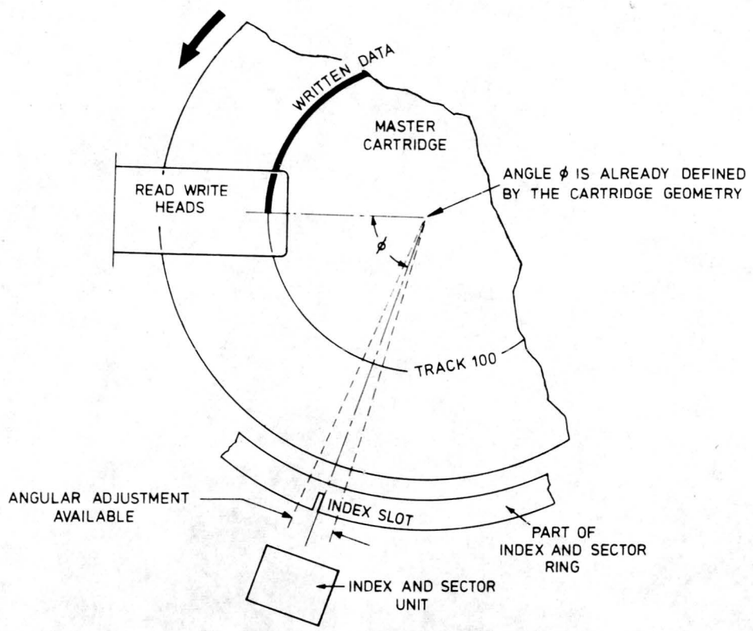
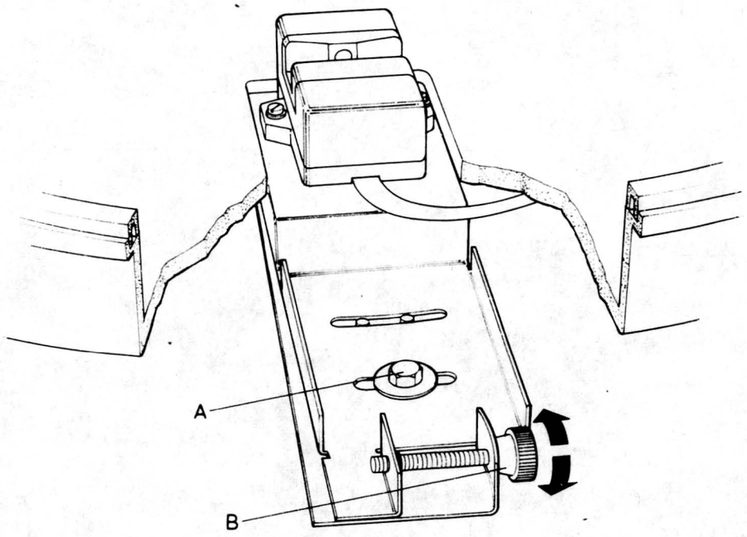


FIGURE CABLE LOOMS

OBJECT OF ADJUSTMENT

TO SET THE ANGULAR POSITION OF THE INDEX AND SECTOR UNIT SO THAT THE LEADING EDGE OF THE INDEX PULSE IS IN PHASE WITH THE LEADING EDGE OF THE DATA WRITTEN ON THE MASTER CARTRIDGE.





1 FIT MASTER CARTRIDGE.

2 FIT TEST MODULE INTO ELECTRONICS RACK.

3 SET ALL TEST MODULE SWITCHES TO THE LEFT.

4 START THE X1210. WHEN THE CLEANING CYCLE HAS BEEN COMPLETED AND THE POSITIONER IS AT TRACK 000, THE TEST MODULE 'ON CYLINDER' LAMP WILL LIGHT.

5 SIMULATE THE INSTRUCTIONS TO MOVE FORWARD TO TRACK 100. THIS IS EFFECTED BY SETTING THE FOLLOWING TEST MODULE SWITCHES TO THE RIGHT :

- CODE SWITCHES 2,5 AND 6
- REV/FOR
- STOP/GO

THE TEST MODULE 'ON CYLINDER' LAMP WILL EXTINGUISH BUT WILL LIGHT AGAIN WHEN THE POSITIONER HAS REACHED TRACK 100.

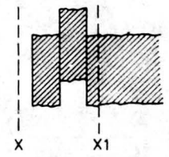
6 MONITOR THE DATA READ FROM TRACK 100 BY CONNECTING THE OSCILLOSCOPE CHANNEL A PROBE TO CARD 4 PIN A4.

7 MONITOR THE INDEX PULSE BY CONNECTING THE CHANNEL B PROBE TO CARD 9 PIN A4.

8 USING THE MAIN TIME BASE, SET UP THE OSCILLOSCOPE SO THAT CHANNEL A IS TRIGGERED BY THE POSITIVE GOING EDGE OF THE INDEX PULSE.

9 SET THE OSCILLOSCOPE TO ADD THE TWO INPUT SIGNALS.

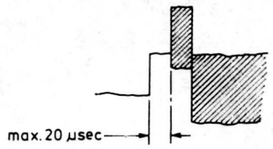
10 ADJUST THE DELAY TIME MULTIPLIER UNTIL THE COMPOSITE WAVEFORM SHOWN BELOW IS OBTAINED :



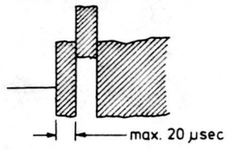
11 CHANGE THE X-DEFLECTION TO 'DEL'D TIME BASE' EXPANDING THE COMPOSITE WAVEFORM BETWEEN X AND X1. SET TO 20 µsec/div.

12 LOOSEN THE INDEX AND SECTOR UNIT LOCKNUT **A**.

13 ADJUST SCREW **B** UNTIL THE LEADING EDGES OF THE INDEX PULSE AND THE READ DATA ARE IN PHASE WITHIN A TOLERANCE OF ± 20 µsec AS SHOWN BELOW :



INDEX PULSE LEADING BY 20 µsec.



INDEX PULSE LAGGING BY 20 µsec.

14 HOLDING THE INDEX AND SECTOR UNIT STEADY, LOCK THE UNIT INTO POSITION BY TIGHTENING LOCKNUT **A**. ENSURE THAT THE COMPOSITE WAVEFORM REMAINS WITHIN THE TOLERANCES SHOWN ABOVE WHEN LOCKED IN POSITION.

FIG. ANGULAR ADJUSTMENT OF THE INDEX & SECTOR UNIT

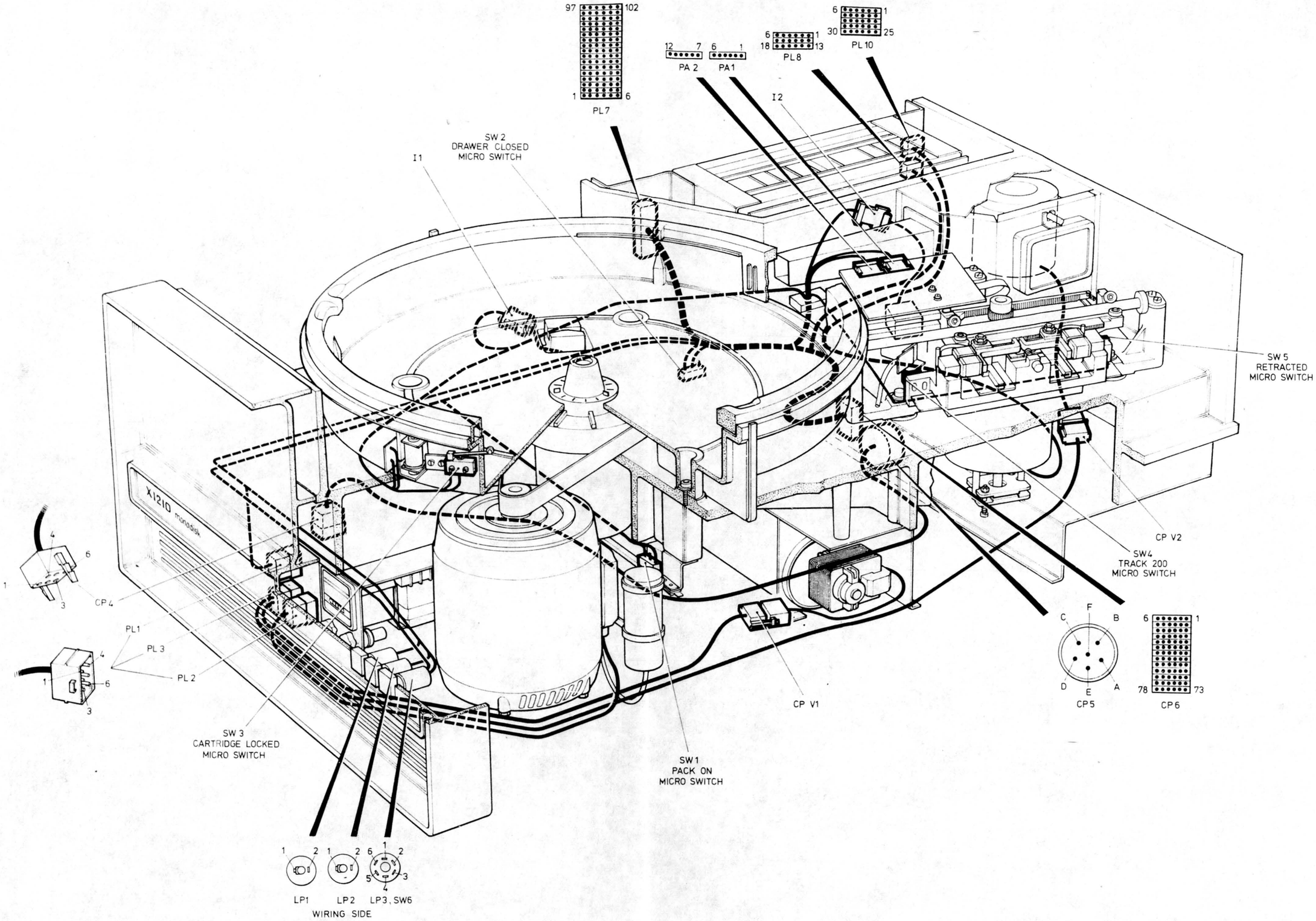
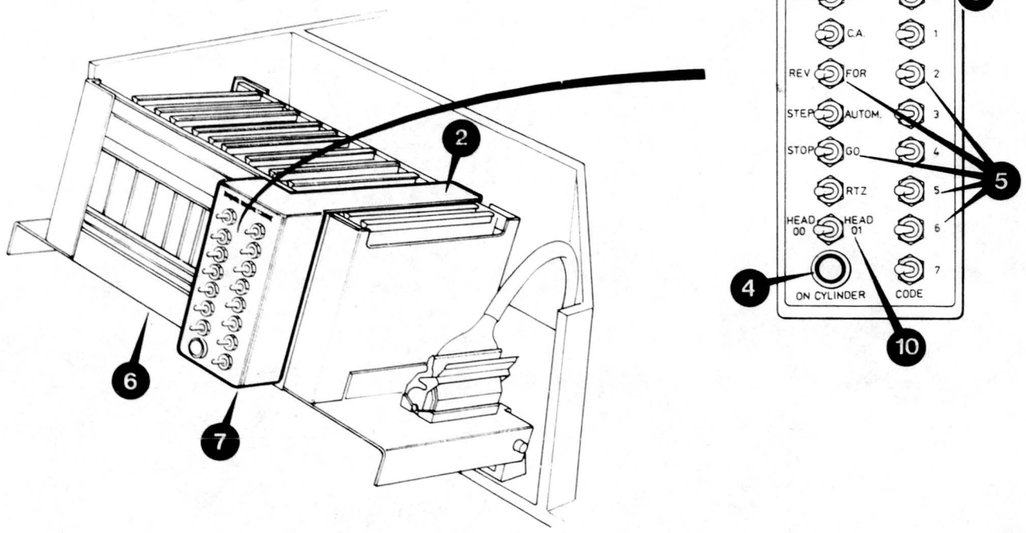
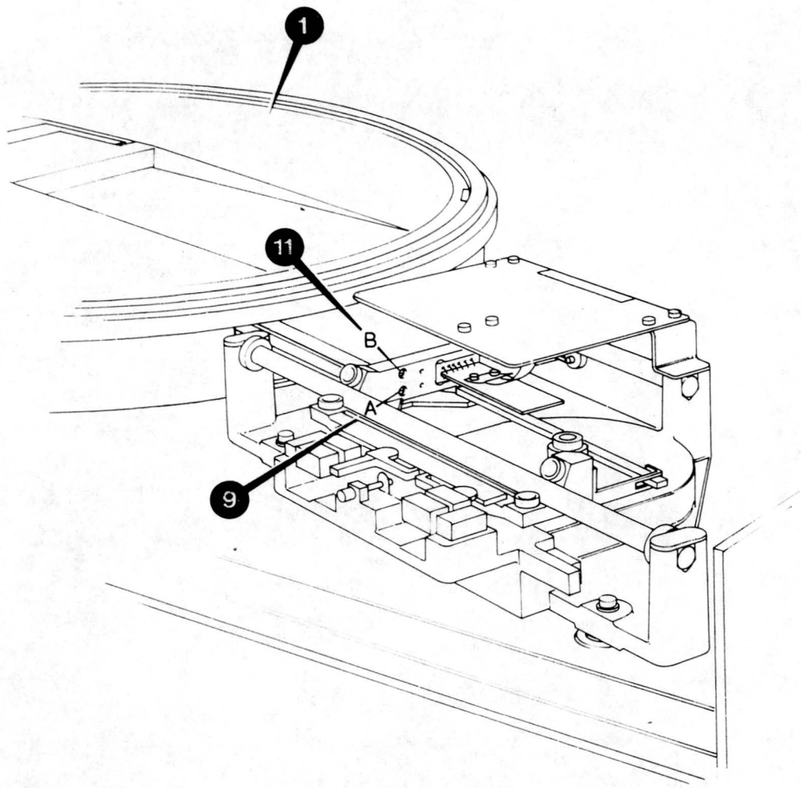


FIGURE **LOCATION OF ELECTRICAL CONNECTION POINTS**





1 FIT MASTER CARTRIDGE.

2 FIT TEST MODULE INTO ELECTRONICS RACK.

3 SET ALL TEST MODULE SWITCHES TO THE LEFT.

4 START X1210. WHEN THE CLEANING CYCLE HAS BEEN COMPLETED AND THE POSITIONER STATIONARY AT TRACK 000 THE 'ON CYLINDER' LAMP ON THE TEST MODULE WILL LIGHT.

COARSE POSITIONING

5 SIMULATE THE INSTRUCTIONS TO MOVE FORWARD TO TRACK 100. THIS IS EFFECTED BY SETTING THE FOLLOWING TEST MODULE SWITCHES TO THE RIGHT :

- CODE SWITCHES 2, 5 AND 6
- REV / FOR
- STOP / GO

THE TEST MODULE 'ON CYLINDER' LAMP WILL EXTINGUISH, BUT WILL LIGHT AGAIN WHEN THE POSITIONER HAS REACHED TRACK 100.

SINCE THE TEST MODULE HEAD SELECT SWITCH IS ALREADY IN POSITION 00, THE LOWER HEAD WILL BE ENERGISED.

6 MONITOR THE DATA READ FROM TRACK 100 BY CONNECTING THE OSCILLOSCOPE CHANNEL A PROBE TO CARD 4 PIN A4.

7 MONITOR THE INDEX PULSE BY CONNECTING THE CHANNEL B PROBE TO CARD 9 PIN A4.

8 SET UP THE OSCILLOSCOPE SO THAT CHANNEL A IS TRIGGERED BY THE POSITIVE GOING EDGE OF THE INDEX PULSE. DO NOT DISPLAY THE INDEX PULSE.

FINE POSITIONING OF THE HEADS

9 USING THE SPECIAL SCREWDRIVER, TURN THE LOWER HEAD ADJUSTMENT SCREW **A** UNTIL THE SUCCESSIVE BLOCKS OF READ DATA ARE OF EQUAL AMPLITUDE :

MAIN TIME BASE 0·5 msec.

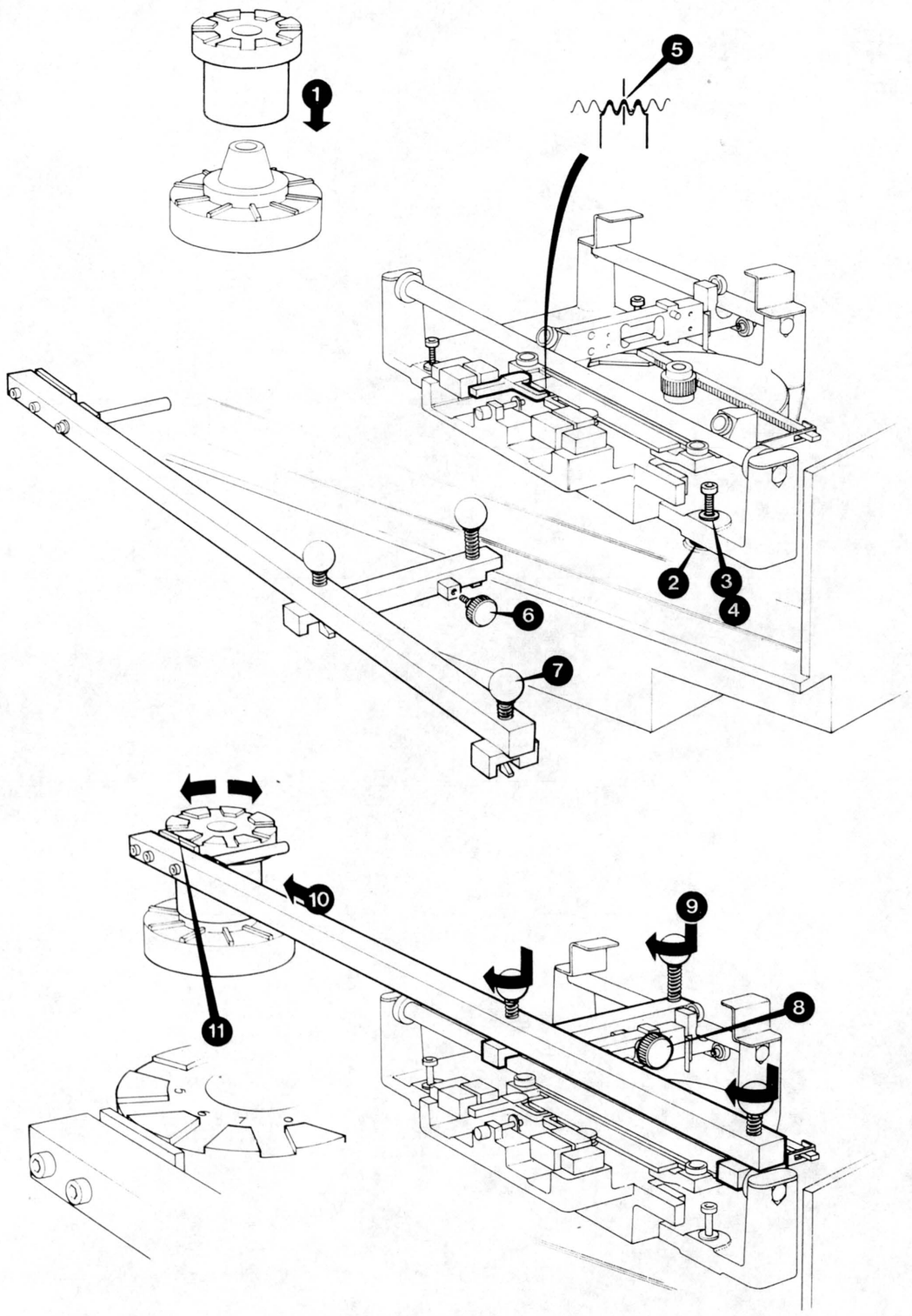
10 WHEN THE LOWER HEAD HAS BEEN SATISFACTORILY SET UP, DE-ENERGISE THE LOWER HEAD AND ENERGISE THE UPPER HEAD. THIS IS EFFECTED BY SETTING THE TEST MODULE HEAD SELECT SWITCH TO POSITION 01.

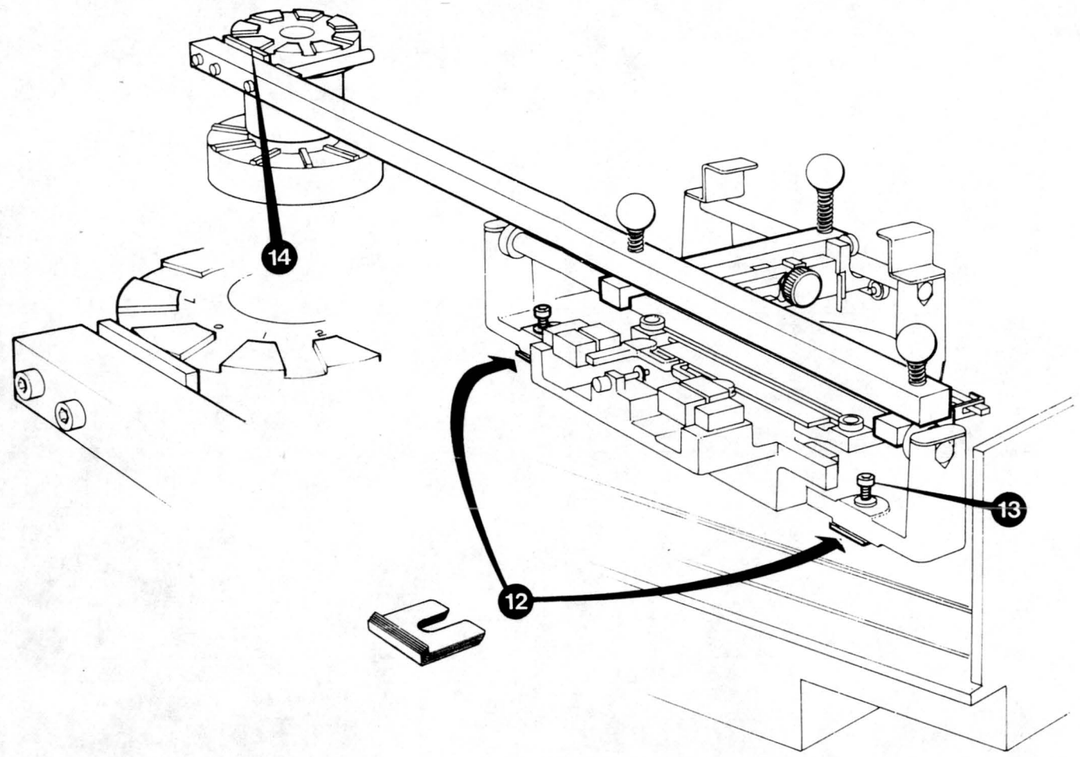
11 ADJUST THE UPPER HEAD BY TURNING ADJUSTMENT SCREW **B** UNTIL THE REQUIRED WAVEFORM IS OBTAINED ON THE CRO — AS ABOVE.

OSCILLOSCOPE SETTINGS (FOR TYPE PM 3250 CRO)

		CHANNEL A	CHANNEL B
MAIN TIME BASE	———	0·5 ms/cm	
TRIGGER SELECTOR SWITCH	———	TRIGGER	
TRIGGER MODE SWITCH	———	HF	
Y SENSITIVITY (x10 PROBE)	——	0·2 mV/div.	0·2 mV/div.
		AC	DC
GAIN	———	x1	OFF

RADIAL ADJUSTMENT OF THE HEADS





1 WITH CARTRIDGE HOLDER REMOVED, PLACE TURRET ONTO SPINDLE.

2 PLACE AN INSULATING WASHER ON EACH OF THE THREE BASE PLATE PADS.

3 FIT AN INSULATING BUSH INTO EACH OF THE THREE HOLES ON THE POSITIONER.

4 INSERTING THE STEPPING MOTOR THROUGH THE BASE-PLATE, ALIGN THE THREE HOLES ON THE POSITIONER OVER THE THE THREE PADS. INSERT THE THREE SECURING BOLTS AND GIVE EACH BOLT TWO TURNS.

5 ENGAGE PAWL SO MARKS ARE ALIGNED

6 REMOVE THE LOCKING SCREW FROM THE JIG.

7 OPEN THE THREE JIG CLAMPS.

8 POSITION THE JIG AS SHOWN. INSERT THE LOCKING SCREW THROUGH THE REAR OF THE CARRIAGE AND TIGHTEN.

9 RIGIDLY ATTACH THE JIG TO THE GUIDE RAILS BY TIGHTENING THE CLAMP SCREWS AS SHOWN.

10 MOVE THE POSITIONER FORWARD SO THAT THE JIG IS PRESSED HARD AGAINST THE TURRET.

11 ROTATE THE TURRET UNTIL ONE OF THE RAISED SURFACES IS LEVEL WITH THE JIG TOP SURFACE. THIS CAN BE CHECKED BY RUNNING THE FINGERTIP ACROSS THEIR INTERFACE.

12 READ OFF THE NUMBER ON THE TURRET TOP SURFACE THAT ALIGNS WITH THE JIG AND INSERT A CORRESPONDING NUMBER OF SHIMS ON EACH PAD. THE SHIMS SHOULD BE INSERTED ABOVE THE INSULATING WASHERS.

13 TIGHTEN THE THREE SECURING BOLTS. ✻

14 ROTATE THE TURRET UNTIL SURFACE '0' IS ADJACENT TO THE JIG. THIS SURFACE SHOULD NOW BE LEVEL WITH THE JIG.

✻ ENSURE THAT THE POSITIONER IS HELD COMPLETELY STEADY WHILE TIGHTENING THESE BOLTS

SETTING UP THE POSITIONER