*6.1.1. Adjustment of the zero point (standstill of the pitch drive)

The PC VMA is removed and extended. The pitch control, i. e. land and depth on the control unit are turned anti-clockwise (CCW). The instruments for land and depth are in the zero position. In the control unit, the start and 33 1/3 RPM are activated.

Connect to test point 4 and to zero volt a multimeter. Adjust the trimmer potentiometer situated between IC4 and IC13 in such a manner that no voltage or a minimal voltage change occurs. This adjustment requires great care. The result of the adjustment can be checked on the right-hand knob of the leadscrew unit which should rotate two scale marks per minute, in cutting pitch direction only.

Correct Procedure.
@ measure TP 2 with screw stopped.
adjust R59 for 0.000 Volts DC.
b measure TP3 and adjust R60 to 0.000 VDC

*6.1.2. Adjustment of CAL PITCH

This adjustment can only be carried out if the above zero potential stability line-up is correct. Select 33 1/3. VMS 80 with metric calibration. The depth control is adjusted to 80 µm and then open up the land control till the pitch meter indicates 100 µm. Adjust PITCH CAL potentiometer till the leadscrew knob takes 18 seconds for one revolution. This measurement should be repeated to ensure the accuracy of the adjustment. For VMS with imperial or inch calibration the depth control should read 3 mil and on the land control the pitch meter should read 4 mil. The time for a full revolution is 17.72 seconds.

The adjustment is only carried out at 33 1/3 RPM and is valid for all turntable speeds.

Coarse calibration:

set land to 3 mils
set depth to 2 mils
observe 5 mils (200 LPI) on Meter
set Cal Pitch for 15.5 sec per rev.

Fine cal: tweek cal pitch for 5 mil centers observed through scope after cutting.

6.2.1. Mechanical adjustments to the linear potentiometer

Remove PC SPS and place onto extender board. Connect digital voltmeter between test point 5 and to 0 volt. Move carriage to 300 mm diameter, i. e. indicator ruler. The locking Allen bolt should be approx. in the middle of the elongated slot. Fig. 6.2.1.1. The digital voltmeter should now read 6.000 volts. If this is not the case, loosen bolt with Allen key and move support against carriage until voltage is achieved. Fig. 6.2.1.1.

After this setting is done, further adjustments at the ruler scale marker may only be done after loosening Allen screw, fig. 6.2.1.1. This could become necessary after exchanging the cutterhead.

☆ VMS 80 machines with imperial inch scale should be set to 12 inch. The voltage on TP 5 should be 6.096 volt. Adjustments are carried out in the same manner as described above.