

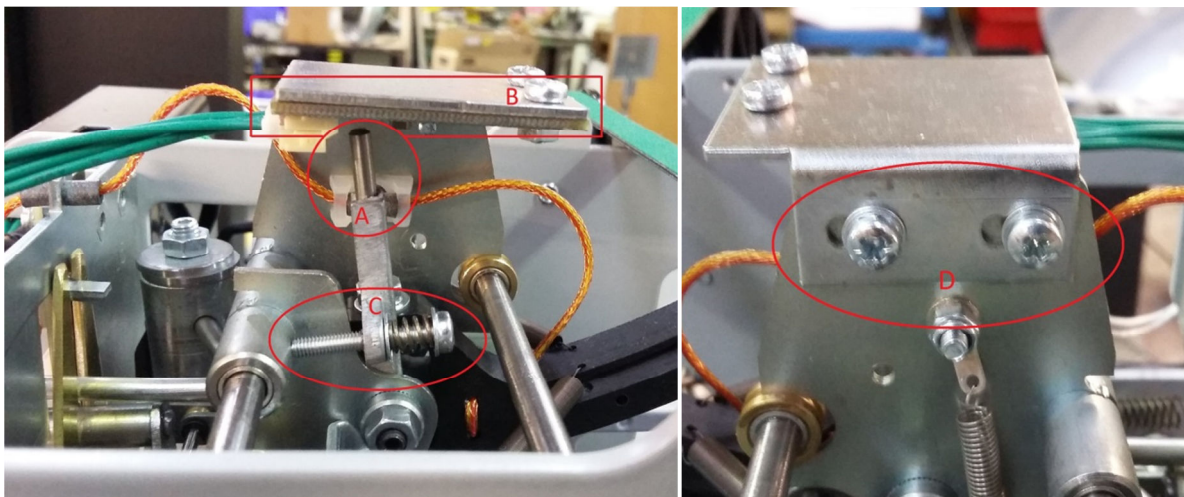
Calibrating the Vinyl Tracking Sensor

This document describes how to calibrate the magnetic tracking sensor on the V140 Vinyl Mechanism. The sensor is used to set the lead-in/lead-out position of the record and also reject any records that are constantly jumping or sticking.

The sensor is calibrated during production and should only be adjusted if the mechanism is not playing records correctly, i.e. rejecting records early. If the mechanism is struggling to play a single record but plays all other records perfectly, it is more likely a problem with the single record rather than the mechanism calibration.

The images below identify the 4 main parts of the magnetic sensor system:

- A) A magnet attached to the tone arm assembly
- B) A circuit board containing 3 Hall Effect Sensors
- C) Record contact point setting screw
- D) Circuit board B) slide adjustment



The following steps describe how to ensure the Stylus makes contact with the record at the correct point and that the record is played correctly:

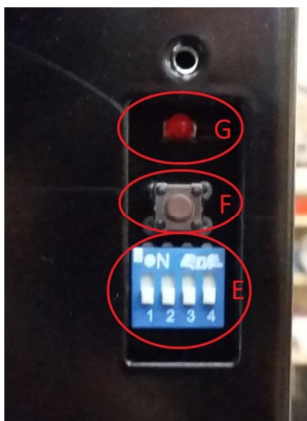
- 1) Ensure the magnet A) is securely glued into the tone arm assembly. The assembly is very delicate, do not apply too much pressure.
- 2) Check circuit board B) is securely attached to its mounting bracket and slide adjustment D) is also secure.
- 3) Select a record and ensure the Stylus makes contact with the record during the lead-in, make small adjustments to setting screw C) to change the contact point. The setting screw is very delicate, only adjust by a maximum of one half turn per adjustment. Reject the record before making any adjustment and re-select the record once an adjustment is made.

Adjustments to setting screw C) may cause records to be rejected after 5 seconds, this is normal at this point and the following steps will outline how to calibrate the tracking sensor.

Record sizes vary and the lead-in may be different on A and B sides, ensure any adjustments to the contact point are tested across a wide range of records.

A compromise will be required to ensure all records can be played as the perfect setting for a slightly oversized record may cause the Stylus to completely miss a slightly undersized one.

- 4) The control board is mounted on the right side of the mechanism and consists of the following parts:



- E) Switch Bank
- F) Push Button
- G) LED

5) Turn on switches 1 and 3 of Switch Bank E), this is done by sliding the switches upwards, see image right. The mechanism is now ready to calibrate the lead-in position.

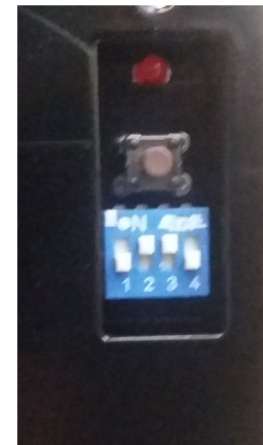
6) Select a record and when the Stylus makes contact and begins to track down, press button F), if not already lit LED G) will turn on.

7) Turn off switches 1 and 3, the lead-in position is now set. Reject the record.



8) Turn on switches 2 and 3 of Switch Bank E), this is done by sliding the switches upwards, see image right. The mechanism is now ready to calibrate the lead-out position.

9) Select a record and allow it to play all the way through until it reaches the lead-out. The record will **not** automatically reject at this point, instead the record will continue spinning with the Stylus in the lowest lead-out groove. Once this occurs press button F), if lit LED G) will turn off.



10) Turn off switches 2 and 3, the lead-out position is now set and the record will automatically reject.

Test the new settings on a wide range of records to ensure they are correct.

The lead-in and lead-out positions do not need to be set using a single record. If you find a record that will not start to play, use this to set the lead-in point. If you find a record that will not automatically reject, use this to set the lead-out point.