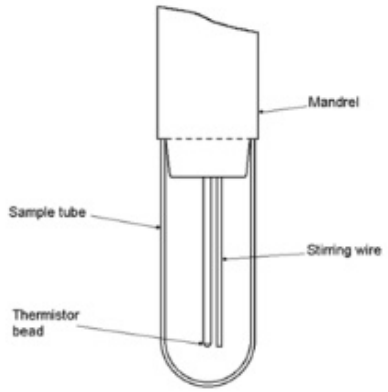
Sample Probe and Stir Wire

The alignment of the sample probe and stir wire is very critical.
The probe should be central in the sample tube with the bead equidistant from the bottom and sides of the tube. The stir wire should be parallel to the probe and about the thickness of the wire away from it. The tip of the wire should be level with the end of the probe.
A probe alignment tool should be used when parts are replaced or changes are made. Care should be taken not to damage the glass bead at the end of the probe and not to "catch" the stir wire when removing sample tubes from the cooling well.



Mandrel, probe and stir wire alignment

The stir amplitude can be checked by pressing SETUP, scroll across to Stir Amplitude and press START.
The stir wire will operate and the screen will display a number.
Viewed from the side, the total movement of the end of the stir wire should approx. 3 – 3.5mm. This movement can be adjusted by pressing the scroll buttons to obtain the desired amplitude then pressing ENTER to store this number.

Probe Replacement
Before removing any covers switch off the Cryoscope and remove the mains plug from the socket.

1/ Remove the head cover and unplug the old probe.

2/ Loosen the 2 Allen screws that secure the mandrel into the head assembly and lower the mandrel away from the head.

3/ Loosen the Allen screw in the side of the mandrel and slide the old probe out.

4/ Slide the new Cryoprobe into the mandrel and lightly tighten the securing screw.

5/ Insert the new probe and mandrel assembly into position in the head assembly ensuring that the stir wire is not obstructed.

6/ Tighten the 2 Allen screws securing the mandrel.

7/ Using a probe alignment tool set the probe height and tighten the probe securing screw.

8/ Refit the probe and guide the cables away from the stir assembly via the support hole behind.

9/ Refit the head cover.

10/ Perform a Probe Bin Test.

Probe Bin Test
1/ On the keypad, press “TEST” then scroll across to “Probe Bin Test” and press “START”.

2/ Put 2.5mL of Bin Setting Solution (tap water makes a good substitute) in a sample tube and place in the cooling well.

3/ Press “START”, the head will go down and the sample cooling will begin.

4/ After the freeze pulse the display will settle at a number on the left hand side and a Bin No. on the right hand side. This Bin No. must be entered in the instrument set up.

5/ Press “SET UP” and scroll across to “Set Sample Bin #” then press “START”.

6/ Enter the new Bin No.”, press “ENTER” and “STOP”.

7/ Recalibrate the instrument.

Note: It is quite normal for the results during calibration to be either in the thousands, zero or even a minus number.