CALIBRATING A BTP 4000 DYNO VERSION 5.xx SOFTWARE

During the service life of your SPA Dynamometer it may be necessary to recalibrate it if for any reason its configuration file is corrupted or lost. Firstly arrange the Dyno to operate under computer control but without a damper fitted and the stroke set at 1 inch.

1.   Click on configure, click on option, click on 'single speed dyno'. Ensure there is a tick in auto best fit box. Ensure that low speed mode is selected and a gearbox factor of 10.0 is entered. Click on finish.

2.   Click on configure. Click on calibration, click on motor speed. The Dyno will slowly ramp up its speed. Allow the computer to fully complete this itself. When the calibration is complete the Dyno will stop on its own.

3.   Return to the configure menu. Click on calibration. Click on velocity, click on X5. A dialogue box appears asking you to set the stroke to 1 inch. Click OK. The Dyno will accelerate to 0.6HZ. A window will appear showing the calibration taking place. The important thing from the operators point of view is to allow sufficient time to take place for an accurate calibration. Study the bottom figure in the window, at first it will change rapidly but eventually it will become fixed and it is at this point that the calibration is complete. You can now click OK.

4.   Return to the configure menu. Click on calibration, click on velocity, click on X1. A dialogue box appears asking you to set the stroke to 1 inch. Click OK. The Dyno will accelerate to 3.1HZ. A window will appear as before, when the figure is steady click OK.

5.   Return to the configure menu. Click on calibration. Click on position. Click on X4. A dialogue box appears asking you to set the stroke to 1 inch. Click OK. The Dyno will accelerate to 1HZ. A window will appear as before, but this time it will have a maximum and minimum reading both of which must settle before confirming the calibration.

6.   Change the stroke of the Dyno to 4 inches. Return to configure menu. Click on calibration. Click on velocity. Click on X0.25. A dialogue box appears asking you to set the stroke to 4 inches. Click OK. The Dyno will accelerate to 3.1HZ. A window will appear as before, when the figure is steady click OK.

7.   Return to the configure menu. Click on calibration. Click on position. Click on X1. A dialogue box appears asking you to set the stroke to 4 inches. Click OK. The Dyno will accelerate to 1HZ. A window will appear as before, but this time it will have a maximum and minimum reading both of which must settle before confirming the calibration.

8.   Return to the configure menu. Click on calibration. Click on load cell. A window appears containing the load cell calibration. To calibrate this you

must refer to the calibration certificate which is in the handbook supplied with the Dyno. Using the mouse click on the button marked KG, when this is done the bottom box will show the full scale of the load cell which is normally 1500KG. Check this with the information on the certificate (ensure that the certificate applies to the load cell fitted to the Dyno by comparing the serial numbers). If this is incorrect you can change this by double clicking the mouse of the box containing the calibration to be changed. When the display area changes colour type in the correct value, check the sensitivity of the load cell in units of mV/V on the certificate this should be entered similarly in the top box displayed. When satisfied confirm the calibration. You will then be asked if you wish to zero the load cell twice, once for each gain. Zero the load cell on both occasions.

9.   This has completely calibrated the Dyno. However, it has not yet been saved. To save the calibration leave the Dyno programme. A dialogue box will appear asking if you wish to save the calibration press confirm. The new calibration will return when you use the Dyno.