

Title: Calibration Of Calibration Of Optical Height And Stagger Gauges

Scope

Work Instruction for the internal calibration of optical height and stagger gauges. To be used in the absence of a manufacturers calibration instruction

Preparation

Calibration must be carried out using Category A Master instruments as required.

Equipment required;-

- Calibration Rig

Method

- 3.1 Ensure both the optical unit and the light alloy stand are available and of the same serial number. If not, query the user and make arrangements for delivery accordingly.
- 3.2 Book the gauge in by creating a record in the technical records file and add the received date.
- 3.3 Complete the user, serial number and the date received on a progress label and attach to the stand and the optical unit. Complete the remaining spaces at the appropriate stages of the following process:
- 3.4 Examine the stand for damage and the condition of the electrical insulation inserted into one pair of the stand legs.
- 3.5 Place the stand on the calibration rig with the channel section feet to the right and, using the 1500mm spirit level, check the top rail is perfectly level. Correct as necessary.
- 3.6 Should any dirt be evident on the lenses and / or prisms when viewed through the eyepiece, remove the unit backplate and carefully clean the lenses and / or prisms using an air duster and / or lens tissues. Before re-assembly check the operation of the unit as in 3.7 and correct if necessary.
- 3.7 Check the optical unit for damage and the free and smooth operation of the lens focusing rings. Should the focusing rings appear stiff to turn or "gritty", remove the optical unit backplate and remove the lens from the housing. Clean the threads of the housing, lens and focusing ring. Check and replace if necessary the lens rubber "O" ring. Lightly smear the threads and "O" ring with Rocol "Kilopoise" light grease ensuring grease does not get on the lens glass. Re-assemble the lens and housing, check for correct operation and refit the unit backplate.
- 3.8 Re-assemble the optical unit to its stand and place on the calibration rig in

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accordance with Barr and Stroud pamphlet number 1265d.

- 3.9 Check the staggers left and right are correctly indicated, $\pm \frac{1}{2}$ ".
- 3.10 Check the heights 13'6", 16'6" and 19'6" are correctly indicated $\pm \frac{3}{4}$ ".
- 3.11 Correct any out of limit errors found in 3.9 and 3.10 by adjustment of the optical unit.

Repeated readings and adjustment may be necessary. Consult the PTO (Testing) should any excessive errors persist.

- All records must be kept for audit purposes

References

Barr and Stroud pamphlet number 1265d – Description and Instructions for the Optical Height and Stagger Gauge