Title: Calibration of Thermit Pre-heaters (Propane, Acetylene)

1 Scope

Work Instruction for the calibration of Thermit pre-heaters (Propane, Acetylene). To be used in the absence of a manufacturer's calibration instruction.

2 Preparation

Calibration must be carried out using Category 'A' master instruments.

Equipment required:

- Lawton Tools pre-heater checking equipment LT/RG/53
- The equipment comprises:

  a) Base board (not calibrated)

  b) Adjustable stand (not calibrated)

  c) Combination gauge

  d) Magnetic spirit level (not calibrated)

The combination gauge must have the appropriate certificate of calibration traceable through the United Kingdom Accreditation Service and must be rechecked at intervals of no more than 5 years.

3 Method

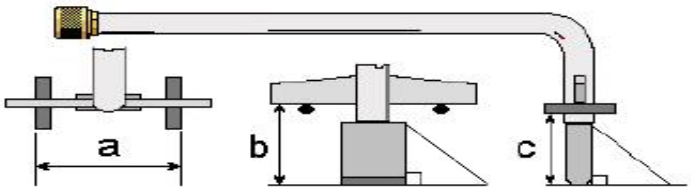
3.1 The base board shall be placed on a level flat surface to provide a flat datum and checked for being level using the spirit level.

3.2 The pre-heater is positioned on the base board and levelled using the adjustable stand and magnetic spirit level.

The dimensions specified in figure 1 at positions A, B, C shall be checked using the Lawton Tools combination gauge.

PREHEATER.

The position of the locating wings and pins can be checked by reference to the drawing . If damaged the preheater must be replaced or repaired by an approved supplier.



Preheater		A		B		C	
Fuel gas	Part No	max	min	max	min	max	min
Propane	100701	107	105	82	80	72	70
acetylene	100101	107	105	67	65	57	55

Figure 1

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3.3 All dimensions (with the exception of the width across the pins and length of pins) are taken from the base board surface and comply with Thermit's specification as shown in figure 1. Please note: extra to Thermit's own standard instruction, it is required that the length of the pins should also be checked. This is achieved by using the two recesses within the gauge marked Pin Min and Pin Max.

3.4 Dimensions are checked for both the acetylene and propane pre-heaters using the Lawton Tools LT/RG/53 combination gauge which is engraved on both sides with the required measurement for each pre-heater type identified in Red for propane and Blue for Acetylene. Some dimensions are also common to both types of pre-heater and are therefore identified in Black.

3.5 Check that the identification number is clearly visible on the pre-heater.

3.6 Check the pre-heater for visible signs of damage.

3.7 Check that the side face of the pre-heater head is vertical (to within 1º) by positioning each end of the Lawton Tools LT/RG/53 combination gauge against the side face of the pre-heater head.

3.8 Check that the front face of the pre-heater head vertical (to within 1º) by positioning each end of the Lawton Tools LT/RG/53 combination gauge against the front face of the pre-heater head.

3.9 Record results on the calibration form Appendix A. Calibration result sheets must be retained for audit purposes.

4 References

Appendix A Thermit Pre-heater Calibration Record.

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