

NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

CANCELLED d3

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S154

This is to certify that an approval has been granted by the Commission that the pattern of the

Avery Model BLB Electro-pneumatic Unit-weight-depositing Weighing System

submitted by Avery Australia Limited 3–5 Birmingham Avenue Villawood, New South Wales, 2163

is suitable for use for trade, when used to complement the resistant and indicator mechanism in a Commission-approved platform weighing instrument or weighbridge.

The approval is subject to review on or after 1/7/88.

Instruments modified by the fitting of an electro-pneumatic unit-weight-depositing weighing system purporting to comply with this approval shall be marked NSC No S154 in addition to the approval number of the unmodified instrument.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

- 1. The number of scale intervals applicable to the whole instrument shall be no greater than the number of verification scale intervals approved for the basework. In addition, the number of scale intervals applicable to each RANGE shall be no greater than the number of verification scale intervals approved for the load cell or the indicator whichever is the lesser.
- 2. The load cells to be used shall be subject to regular certification by the National Standards Commission

Signed Executive Director

Descriptive Advice

Pattern: approved 18/5/83

Avery model BLB electro-pneumatic unit-weight-depositing mechanism with an HBM Z6H2 20 kg load cell and a modified Avery 8650 indicator.

Technical Schedule No S154 dated 6/6/83 describes the pattern.

Filing Advice

The documentation for this approval comprises:

Certificate of Approval No S154 dated 6/6/83 Technical Schedule No S154 dated 6/6/83 Test Procedure No S154 dated 6/6/83 Figures 1 and 2 dated 6/6/83.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S154

Pattern: Avery Model BLB Electro-pneumatic Unit-weight-depositing Weighing System

<u>Submittor</u>: Avery Australia Limited 3-5 Birmingham Avenue Villawood, New South Wales, 2163.

1. Description of Pattern

The model BLB (Figures 1 and 2) is an electro-pneumatic unit-weight-depositing (UWD) mechanism, with an HBM Z6H2 20 kg load cell and a modified Avery 8650 digital indicator, and can be used to complement the resistant and indicator of a platform weighing instrument or weighbridge. The modification to the 8650 indicator consists of fitting a pneumatic logic control board to the 8650 indicator approved in NSC No 6/9C/64.

Up to four unit-weights are deposited and removed by levers which are actuated by pneumatic rams controlled by pneumatic logic circuitry. The pneumatic circuitry is electrically coupled to the indicator from sensors on the intermediate lever. The indicator incorporates electronics which, on receipt of a signal from the sensors, determines which and how many of the unit weights are deposited or removed. Figure 1 shows a single unit weight system, Figure 2 shows multiple unit weights.

A low-pressure cut-out switch causes the mass indicator to blank when the air pressure drops to below 350 kPa.

The Z6H2 20 kg load cell and the 8650 indicator are each approved for up to 3000 scale intervals.

1.1 Zero

Zero is indicated by the ZERO light illuminating, whenever the instrument is within 0.25e of zero. If the instrument comes to rest outside that range but within the zero reset range, zero may be reset by adjusting the tool-operated device.

1.2 Display Check

Pressing the CHECK button initiates an all-segments check.

1.3 Markings

The instrument is marked with the following data, together in one location:

Manufacturers' name or mark NSC approval numbers

Accuracy class Maximum capacity in the form Minimum capacity in the form Verification scale interval in the form Indicator serial number Load cell serial number UWD mechanism serial number UWD Mechanism NSC No S. Headwork NSC No..... Basework NSC No III Max.... e = d = ...

TEST PROCEDURE No S154

The following tests should be carried out in conjunction with any test procedures in the Technical Schedule of the instrument to which this pattern is connected.

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors for the loads applied are:

 $\pm 0.5e$ for loads between 0 and 500e; $\pm 1.0e$ for loads between 501e and 2000e; and $\pm 1.5e$ for loads above 2000e.

1. Zero Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity of the instrument ($\pm 2\%$ approximately).

2. Zero Test

Check by means of Document 104, that when the ZERO light is lit, zero is set within 0.25e.

3. Range of Indication

- (a) The maximum mass indicated should not exceed the maximum capacity (Max) by more than 10 scale intervals; above this the indicator should be blank.
- (b) Below zero the indication may blank or the mass will be indicated, prefixed by a minus sign.
- (c) During a range-changing operation the indication will be blank.

4. Test Loads

Test loads are to be applied to the complete weighing instrument increasing in not less than 5 approximately equal steps to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load.

5. Multiple Indicators

Where the existing headwork is retained and used in conjunction with the pattern, - the variation between indications or printings for the same load shall not be greater than the absolute value of the maximum permissible error for that load on the device with the largest verification scale interval.



Avery Model BLB - Single Unit Weight

6/6/83



FIGURE S154 - 2