CANCELLED 93 31-12-90

NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

SUPPLEMENTARY CERTIFICATE OF APPROVAL No S106

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

Avery Model 8652 Digital Indicator

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

are suitable for use for trade.

The approval of the pattern and variants is subject to review on or after 31/8/85.

All instruments fitted with an indicator purporting to comply with this approval shall be marked NSC No S106 in addition to the approval number of the instrument.

Relevant drawings and specifications are lodged with the Commission.

Signed

Executive Director

Descriptive Advice

Pattern: approved 21/10/80

. Avery model 8652 digital indicator with a maximum of 3001 scale intervals.

Variants: approved 21/10/80

1. Without zero tracking.
2. Without GROSS/NET button.
3. Without semi-automatic tare.
4. Without stored tare.
5. With semi-automatic tare but without tare mass indicator and keyboard.
6. Without tare.

Technical Schedule No S106 dated 3/11/80 describes the pattern and variants 1 to 6.

Variant: approved 7/12/81

7. In an alternate housing.

Technical Schedule No S106 Variation No 1 dated 11/1/82 describes variant 7.

Variants: approved 23/6/82

8. Pattern or variants in an alternate housing.

9. Pattern or variants known as model 8652HP and with a maximum number of 8000 scale intervals.

Technical Schedule No S106 Variation No 2 dated 5/7/82 describes variants 8 and 9.

Filing Advice

Certificate of Approval No S106 dated 11/1/82 is superseded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Certificate of Approval No S106 dated 5/7/82
Technical Schedule No S106 dated 3/11/80
Technical Schedule No S106 Variation No 1 dated 11/1/82
Technical Schedule No S106 Variation No 2 dated 5/7/82
Test Procedure No S106 Variation No 2 dated 5/7/82.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S106

VARIATION No 1

Pattern: Avery Digital Indicator Model 8652

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

1. Description of Variant

1.1 Variant 7

The Avery Model 8652 digital indicator enclosed in an alternative housing. One such housing is waterproof, made from stainless steel and illustrated in Figure 4.

1.2 Sealing

The housing is sealed to prevent unauthorised access to the indicator parts.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S106

VARIATION No 2

Pattern: Avery Model 8652 Digital Indicator

Submittor: Avery Australia Ltd,
3-5 Birmingham Avenue,
Villawood, New South Wales, 2163.

1. Description of Variants

1.1 Variant 8

The pattern or variants in an alternate housing. Figures 5 and 6 show two typical housings.

1.1.1 Sealing

Access to the calibration adjustments is prevented by sealing the housing cover in place, with either a lead and wire seal or a sealing plug.

Load cell serial numbers are sealed to the indicator, or the load cell plug is sealed to the indicator socket.

1.2. Variant 9

The Avery model 8652HP, which is similar to the pattern and variants but approved for up to 8000 scale intervals.

TEST PROCEDURE No S106

VARIATION No 2

Note: This Test Procedure replaces the Special Tests included in Technical Schedule No S106 dated 3/11/80.

The following tests should be carried out in conjunction with any test procedures in the Technical Schedule of the instrument to which the pattern or variants are 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 are:

± 0.5e for loads between 0 and 500e;
± 1e for loads between 501e and 2000e; and
± 1.5e for loads above 2000e.

1. Zero Range

The maximum range of operation of the zero device should not exceed 4% of the capacity of the instrument (± 2% approximately). Satisfactory setting may be checked by the following method:

(a) With zero balance indicated apply a load of, say, 2.5% of maximum capacity to the instrument and adjust the tool-operated zero; the instrument should not re-zero.

(b) Reduce the load to, say, 1.5% of maximum capacity and again adjust zero; the instrument should indicate zero balance.

2. Zero Test

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

(b) As the automatic zero correction device (where fitted) resets zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked as described in Document 104, with a load equal to, say, 10e on the load receptor. The indications with 0.25e and 0.75e additional mass on the load receptor will then be 10e and 11e respectively.

3. Range of Indication

(a) The maximum mass indicated should not exceed the maximum capacity (Max) by more than 10 scale intervals; above this indicated mass the indicator should be blank.

(b) Below zero the indication may blank or the mass may be indicated prefixed by a minus sign.

4. Taring

(a) Attempt to tare a mass above maximum capacity using the semi-automatic push-button tare. On removal of the mass no tare should have been entered, and the indicator should display all zeroes.

(b) The semi-automatic push-button tare function should reset the mass indicator to zero within 0.25e at any load within its tare capacity. This may be checked as described for Zero Test - 2(a).

5. 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.

6. 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.

NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No S106

Pattern: Avery Digital Indicator Model 8652

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

1. Description of Pattern

A digital mass indicator displaying up to 3001 scale intervals (Figure 1). It may be substituted for an Avery Digital Indicator Model 8650 in any of the patterns listed in Table 1.

1.1 Zero

(a) Adjusting the tool operated zero, the instrument can be zeroed within $\pm$0,25e. The zero light marked CENTRE ZERO illuminates when zero is obtained within $\pm$0,25e.

(b) An automatic zero correction device resets zero within $\pm$0,25, whenever the mass indicator indicates zero.

1.2 Tare

1.2.1 Semi-automatic tare

A semi-automatic taring device, operated by a push button marked TARE, allows a mass on the load receptor of up to 3 000e to be tared within $\pm$0,25e.

(i) When in gross mode the NET indicator illuminates on pressing the tare button.

(ii) When in net mode the NET indicator remains illuminated on pressing the tare button.

1.2.2 Digital tare

A digital tare of up to maximum capacity is entered via the keyboard and shown on the tare mass indicator; the NET indicator illuminates.

1.2.3 Stored tare

A tare of up to maximum capacity may be stored via the keyboard in any of the eight memories. It may be recalled by pressing the DISPLAY TARE key and then the memory location, i.e. 1,2 ... 8, and entered by pressing the ENTER TARE key.

1.3 GROSS/NET button

On pressing the GROSS/NET button:-

(i) NET indicator illuminates with the mass indicator displaying the NET mass (gross mass minus the tare mass).

or (ii) GROSS indicator illuminates with the mass indicator displaying the gross mass (total mass on the platter).

1.4 Check button

Pressing the button marked CHECK causes the displays to blank; all 8's are displayed on releasing the button.

1.5 Markings

Instruments which incorporate this headwork are marked on the indicator with the following data:

Manufacturer's name	
Accuracy class in the form:	(III)
Serial number of instrument	
Maximum capacity in the form:	Max .....*
Minimum capacity in the form:	Min .....*
Verification scale interval in the form:	d_d = e = ...*
Maximum subtractive tare in the form:	T = -.....
NSC approval numbers in the form:	Headwork NSC No ..... NSC No S106 Basework NSC No .....
Load cell serial number	

*These markings are repeated in the vicinity of each reading face.

1.6 Sealing

1.6.1 A lead and wire seal passes through a retaining screw on the indicator (Figure 2).

1.6.2 The serial numbers of peripheral devices are also sealed to the indicator.

2. Description of Variants

1. Without zero tracking.

2. Without GROSS/NET button.

3. Without semi-automatic tare.

4. Without stored tare (Figure 3).

5. With semi automatic tare but without tare mass indicator and keyboard.

6. Without tare.

3. Special Tests

1. The maximum permissible errors are:

$\pm$0,5e for loads between 0 and 500e;

$\pm$1e for loads between 501e and 2000e; and

$\pm$1,5e for loads above 2000e.

2. The instrument should be tested as stated in the Technical Schedule describing the unmodified pattern, and additionally as follows:

3. Taring

(i) Tare a mass above maximum capacity; on removal of the mass no tare will be entered.

and where possible

(ii) Enter a digital tare equivalent to 100,4e and check that the indication is rounded to 100e, and

(iii) Enter a digital tare equivalent to 100,6e and check that the indication is rounded to 101e.

TABLE 1

Original Certificate	Avery Indicator Model No
6/9C/35	8650
6/9C/64	8650
6/10B/30	8650
6/10B/33	8650
6/10A/2	8650

NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

Supplementary Certificates of Approval Nos S102
S104
S106
S108
S113
S116

The changes given below are made to the descriptions of the following Supplementary Certificates:

Certificate No.	Title
S102	Toledo Digital Indicator Model 8132
S104	Toledo Digital Indicator Model 8134
S106	Avery Digital Indicator Model 8652
S108	Ultra Indicator Model 9000
S113	Avery Digital Indicator Model 8653
S116	Toledo Digital Indicator Model 8136

1. Certificate

Add to end of first paragraph:

.... or when replacing the indicator in any other Commission-approved weighing instrument.

2. Technical Schedule

Add to end of paragraph 1:

.... or for the indicator in any other Commission-approved weighing instrument.

Signed

Executive Director

Note: These changes have been made as a result of increased confidence in the performance of the indicators in conjunction with widely varying makes and capacities of load cells.

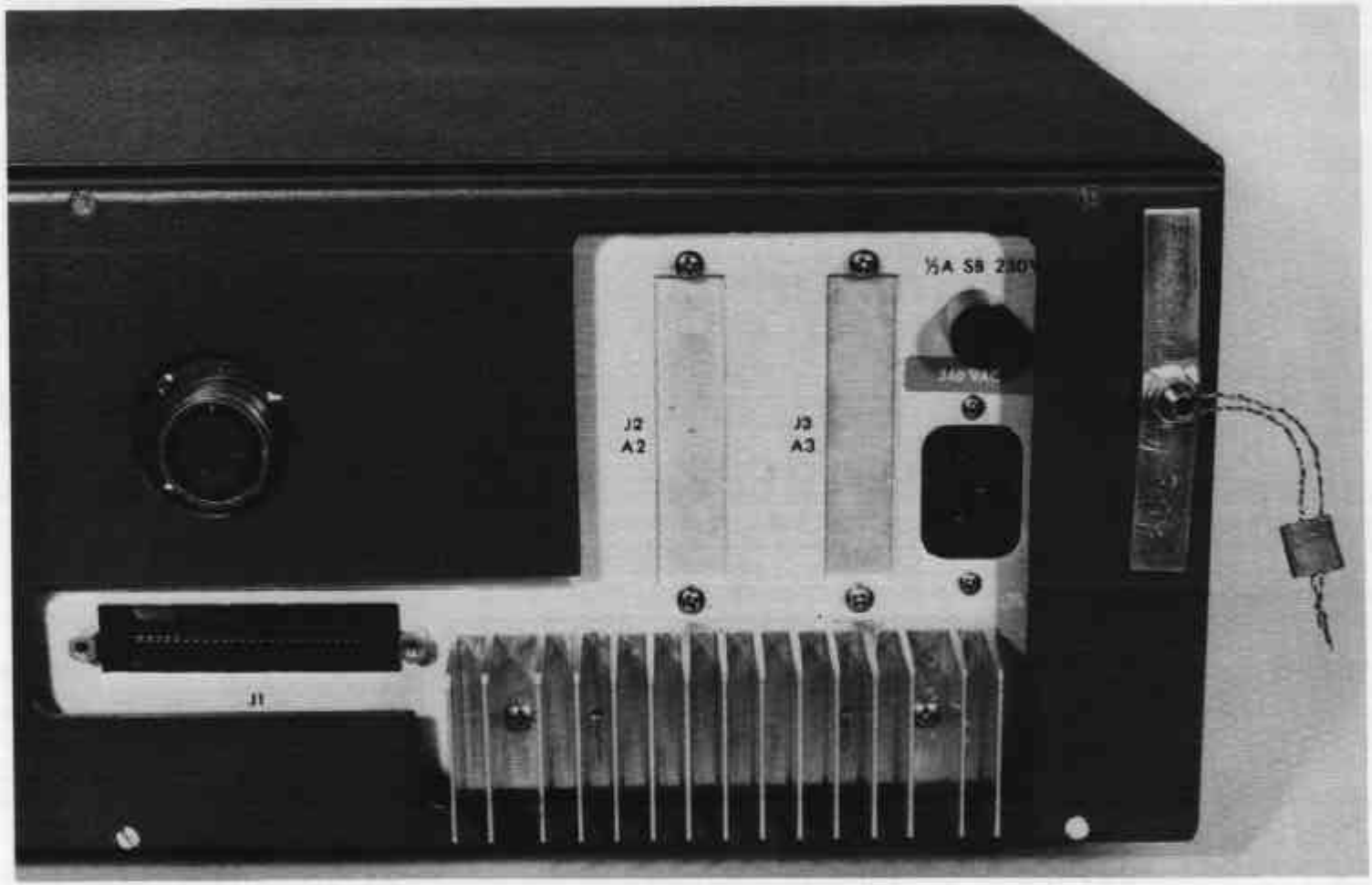
27/4/81

3/11/80

FIGURE S106 - 1

Avery Digital Indicator Model 8652

FIGURE S106 - 2

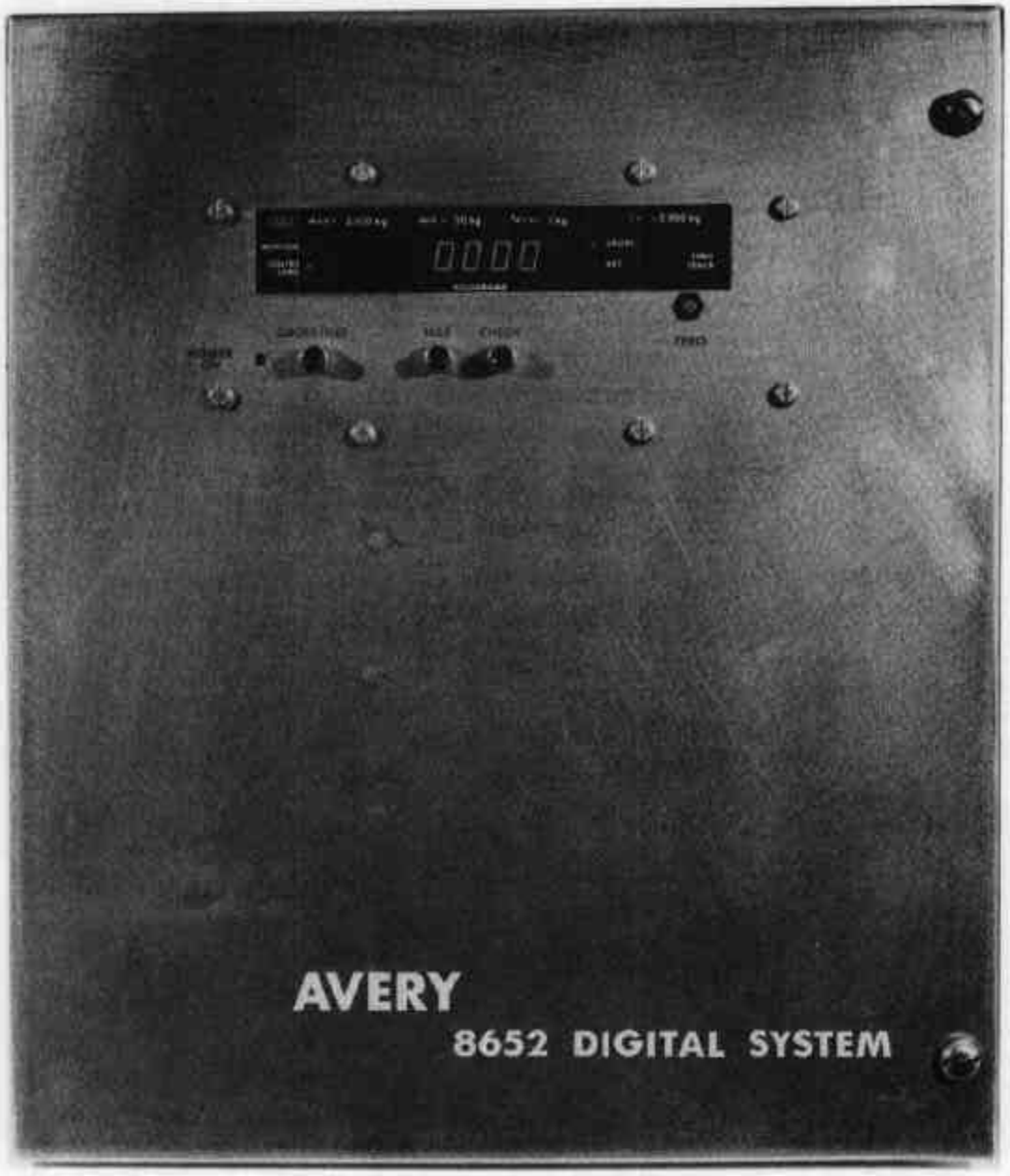


Model 8652 - Rear View

FIGURE S106 - 3

Model 8652 Without Stored Tare

FIGURE S106 - 4



Avery 8652 in Alternate Housing

11/1/82

FIGURE S106 - 5

Variant B

FIGURE 5106 - 6

5/7/82

Variant 8